Item # 83

Exhibit 1
Design Criteria Package
Books 1, 2 & 3

ADDITIONAL MATERIAL
Regular Meeting
OCTOBER 20, 2020

SUBMITTED AT THE REQUEST OF

COUNTY ADMINISTRATION

DCP

Design Criteria
Joint Government Center Campus

BROWARD COUNTY AND CITY OF FORT LAUDERDALE
BOOK 1

SEPTEMBER 14, 2020

Design Criteria for Joint Government Center Campus

CITY OF FORT LAUDERDALE

BROWARD COUNTY FLORIDA

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Letter from UDPA

BROWARD COUNTY FLORIDA

CITY OF FORT LAUDERDALE

Unified Direct Procurement Authority

We are happy to present this Design Criteria Package (DCP) to the Unified Direct Procurement Authority (UDPA), consisting of the City Commission of the City of Fort Lauderdale and the Broward County Board of County Commissioners. It represents the considerable time and effort of the many individuals that put it together, including the Zyscovich Architects team and numerous City and County staff, and the aspirations of our communities and our governments. We have high but attainable goals of providing our employees, residents, businesses, visitors, and others with an appealing, healthy, safe and productive work environment to provide quality services to our community.

The City of Fort Lauderdale (City) and Broward County (County) respectively occupy a City Hall and Government Center within blocks of one another. Both facilities are aging, require considerable investment to maintain, and are unable to meet many of the technological and other needs of the modern era. Over the years, the idea of partnering in the development of a joint facility has been brought up several times.

At a May 2017 joint workshop of the Broward County Board of County Commissioners (Board) and the City Of Fort Lauderdale City Commission (Commission), a unanimous decision was made to support moving forward with the development of a joint government center campus (JGCC) in downtown Fort Lauderdale to serve as new offices for both the City and the County. A Working Group was established to advance this project and overcome some initial issues.

In May of 2019, both entities approved an Interlocal Agreement (ILA) which established that the City and County would work together on the joint development of the JGCC to be located at the site of the County's current downtown bus terminal, immediately adjacent to Broward Boulevard. The ILA established a basic framework for the oversight of the procurement and development process of the Project, including the designation of the Board and Commission to act jointly as the Unified Direct Procurement Authority (UDPA). In the spirit of partnership, all decisions of the UDPA require a majority vote of the respective memberships of the Board and Commission.

There are different paths to take when pursuing the development of the JGCC. Regardless of how the UDPA decides to move forward, it can maximize the opportunities for innovation when it allows for reasonable flexibility to create efficient solutions during the development process. This is done by specifying measurable outcomes (performance requirements) that align with the user, operational, structural, functional, budgetary, and delivery objectives of the City and County. The most effective way to specify these desired outcomes is through the development of a DCP. The

Fort Lauderdale City Commissioners
Mayor Dean J. Trantalis • Vice-Mayor Steven Glassman • Ben Sorensen • Robert L. McKinzie • Heather Moraitis

Broward County Board of County Commissioners
Mayor Dale V.C. Holness • Vice-Mayor Steve Geller • Mark D. Bogen • Lamar P. Fisher • Beam Furr • Nan H. Rich • Tim Ryan • Barbara Sharief • Michael Udine

ILA also provided for the procurement of a design consultant to perform a programming and space needs assessment and to develop a DCP.

The UDPA procured an architect-led team to develop a DCP and awarded the contract to Zyscovich Architects (Zyscovich). The Zyscovich team worked extensively with the various stakeholders of the JGCC to determine the needs of the City and County organizations and the resultant performance requirements of the new facility. This document is the product of those efforts. It contains design, construction and operating performance criteria for the JGCC, including space needs, material quality standards, systems performance standards, specialty uses, shared spaces, sustainability and resiliency requirements, and the security and technology requirements of the City and County. The DCP does not mandate a specific architectural direction but does include architectural elements important to the City and County that should be included in design proposals.

This DCP provides a common foundation upon which competing proposers can base their proposals and provides the UDPA with a common standard for evaluating competing proposals (an apples-to-apples comparison). It also provides information upon which negotiations can be based. The final design of the JGCC will ultimately be based on the criteria in this DCP, yet development proposals and final design documents for the JGCC may contain alternative solutions equal to or better than the DCP performance requirements, including operating and maintenance considerations.

We look forward to working with the UDPA on advancing this important initiative.

Chris Lagerbloom, City Manager
City of Fort Lauderdale

Bertha Henry, County Administrator
Broward County

Chapter 1
Executive Summary

1.0 Executive Summary
1.1 Purpose
1.2 Goals and Objectives
1.3 Project Overview

1.0 Executive Summary

The City of Fort Lauderdale (City) and Broward County (County) are committed to designing and constructing a Joint Government Center Campus (JGCC) to be occupied by both entities, with the intent of creating a worldclass, environmentally responsible campus and facilities in which to conduct Government business safely and serve the public effectively. The new JGCC must also reach beyond its function by embracing the public at large, creating a sense of community, and instilling the trust that is essential to making our democracy successful. This requires an integrated, holistic design, development and implementation approach in which County and City, its employees, the design team, users, and the construction team collaborate fully and communicate effectively. Through these collaborative partnerships, County and City seek to implement the following goals in the development of the JGCC.

The JGCC calls for seizing a generational opportunity to transform the traditional government campus and the surrounding Fort Lauderdale community into a new cohesive and progressive campus expressive of the forward-thinking values and goals of both County and City government entities for the next fifty years. To ensure that the new Joint Government Center Campus will be a success, the County and City seek creative and innovative ideas to re-envision the County and the City's government facilities and functions, buildings, and uses with an eye toward progressive, cost-effective, welcoming, safe, and state-of-the-art development resulting in a blueprint for the planning and design of a new combined facility as well as the construction, relocation, expansion, and/or consolidation of the physical and programmatic functions of both entities.

This effort represents a collaborative and cross-disciplinary effort by both County and City to produce a new joint government center with the intent of creating a campus that will embody a sense of place and express a shared and positive image of efficiency and cooperation between both entities. To assist in the County and the City's desired evolution and to optimize their potential, both entities are committed to providing world class services to their diverse populations as well as provide opportunities for each to interact, share and collaborate.

The evaluation of the current government campus facilities to determine the program requirements for the new JGCC addresses all future needs representative of the County and the City of Fort Lauderdale as well as identifies best options for building the new campus and required facilities. It also creates a unique opportunity to develop a plan that serves the public and the organization of both entities within a more urbanized, vibrant environment capable of promoting a mix of viable social and economic opportunities, including commercial and public uses, and enhancing connectivity and linkages throughout the campus area. General design goals for the new JGCC are summarized as follows:

- Provide requisite facilities in an architectural style and form that is distinguished and that will reflect the dignity, enterprise, vigor, and stability of County and City government. Major emphasis should be placed on designs that embody creative and contemporary architectural thought.

- Specific attention should be paid to incorporating into such designs the qualities that reflect the architectural traditions of the region. The form and aesthetics of the campus will express the forward-thinking values and goals of both government entities with the intent of obtaining efficient facilities and provide opportunities for each to interact, share and collaborate and present a positive image of efficiency and cooperation between both entities for residents and visitors.

- Designs must adhere to sound construction practice and use materials, methods and equipment of proven dependability. The JGCC buildings must be economical to build, operate, and maintain over its projected 100-year life and should be accessible to the disabled.

- The County and City are committed to incorporating principles of sustainable design and energy efficiency into all of its building projects. For the JGCC, sustainable design seeks to design, construct, and operate buildings to reduce negative impact on the environment and the consumption of natural resources. Sustainable design improves building performance while keeping in mind the health and comfort of building occupants. It is an integrated, synergistic approach, in which all phases of the facility lifecycle are considered. The result is an optimal balance of cost and environmental, societal, and human benefits, with the mission and function of the intended facility and campus.

The proposed +3-acre project site is located at the existing Broward County Central Bus Terminal at 101 NW 1 Street, Fort Lauderdale, FL 33311. The new JGCC is intended to replace the existing County Governmental Center East and City Hall and to produce a new joint governmental center; a new bus transit terminal for Broward County's Transportation Department and associated administration offices; a multi-story parking garage with the potential to be converted to future office space, if needed; possible retail uses; and, combined amenities for all County and City employees. The new combined facility is anticipated to be a multi-story Class "A" office building or series of buildings approximately 920,138 gross square feet, inclusive of City use, in addition to the parking garage structure and bus terminal. The new joint facility is intended to house each entity's Commission Chambers and administrative service agencies.

JGCC Concept Plan | Facade Detail

Illustration highlights the main facade and stepped entrance of the JGCC Tower.

L10 AIRPORT - CITY CENTER
L10
nastransit

1.1 Purpose

The Joint Government Center Campus (JGCC) Design Criteria Package (DCP) and accompanying documents formalizes the programming and planning input of County and City leadership and staff filtered through the design team, into a plan representation of the vision for the County and City's joint use campus and facilities. The DCP represents a design solution that incorporates the identified project needs discovered through the programming process and responds to the strategic analysis and recommended planning and programming considerations for the project.

The project as defined in this document reflects the planning and logistics for the relocation of most of the services that currently reside in the County at Government Center East and existing downtown (Central) Broward County Bus Terminal; and in the City at City Hall in Fort Lauderdale, Transportation and Mobility Building in Fort Lauderdale, centralization of the City Attorney's Office and City Auditor's Office and other City opportunities for centralization of services and other associated City buildings.

The JGCC Design Criteria Package (DCP) set forth in this document establishes design standards and criteria for the new JGCC campus and facilities. This document contains policy and technical criteria to be used in the programming, design, construction and documentation of the JGCC and facilities.

The DCP as a mandatory standard is defined by Section 60D-13.004 - Design Criteria Package Requirements, Fla. Admin. Code Ann. R. 60D-13.004 Specific Authority 255.29(4) FS. Law Implemented 255.29 FS. New 6-23-87, Formerly 13D-23.004. The DCP specifies performance criteria for the building(s) including, but not limited to, size, net interior space provisions, location, material quality standards, cost, construction schedule, site development requirements, landscaping, grading, utility provisions for water, power, telephone, storm water disposal and parking provisions. The purpose of the package is to furnish sufficient information upon which firms may prepare bid proposals or upon which negotiations may be based. The firm to whom the design contract is awarded will be responsible for creation of the project design based on the criteria in the JGCC Design Criteria Package (DCP) herein.

The DCP is not a guideline, textbook, handbook, training manual, nor substitute for technical competence. The DCP represents the current state of practice in designing the JGCC and building facilities to meet County and City goals and commitments, maximize the efficiency of business processes, and comply with the requirements as set forth in this document. In the DCP the words "must" and "shall" means the requirement is mandatory; the word "should" indicates a preferred approach that the selected team including architect/engineer (A/E) needs to consider in developing their design solution for the JGCC and facilities. The DCP must be used in conjunction with the design criteria standards referenced in this document, as well as the building program for each project component. If conflicts exist between the described criteria and a specific program and/or project requirement, County and City will address for resolution.

The County and City must review compliance with the building program at each stage of the project to ensure that the requirements of the DCP and the relevant codes and standards have been met and to guard against unplanned expansion of the program because of design and engineering choices.

In order to enable the County and City's goals for the JGCC, the Zyscovich Team was selected to bring the best perspective, vision, expertise and knowledge to the exciting challenges of the project. Carefully formed to marshal nationally-renowned and locally-grounded resources toward achieving the goals of the County and the City, the following firms represent the disciplines required to address each aspect of the project and inform all others in order to arrive at a cohesive vision for the future JGCC.

The JGCC Design Criteria Team is represented by the following firms:

ZYSCOVICH ARCHITECTS
Prime Consultant. Program Management, Master Planning, Programming, Facilities Needs Assessment and Space Needs Analysis, Strategic Campus Planning, Urban Design, Architecture and Interior Design. Stakeholder / Public Outreach.

COLLIERS INTERNATIONAL
Programming, Needs Assessment, Workplace Strategy, P-3 Assist, Development Services.

CMTA, INC.
Energy Efficiency, Net-Zero Consulting and Life Cycle Costs.

UL (HEALTHY BUILDINGS)
LEED and IEQ (WELL).

WSP COMPANY
Life Safety, Bus Terminal and Parking Flow Analysis, and Traffic Analysis.

LOUIS BERGER U.S. INC., A WSP COMPANY
Structural and BLAST Construction.

HAMMOND & ASSOCIATES
Mechanical, Electrical, Plumbing and Fire Protection.

CHEN MOORE
Civil Engineering and Landscape Architecture.

CORDOVA RODRIGUEZ & ASSOCIATES
Civil Engineering.

ROSS & BARUZZINI, INC.
Security, Low Voltage, and Risk Management Technology.

BRIZAGA, INC.
Resiliency - Sea Level Rise.

ED+A ACOUSTICS
Acoustics Consulting.

CMS CONSTRUCTION CO.
Cost Estimating.

PANGEO CONSULTANTS, LLC.
Geotechnical Engineering.

1.2 Goals and Objectives

The New Joint Government Center Campus (JGCC) must address the campus planning imperatives that challenge a world class city in the 21st century: innovative and emerging interaction, diversity, connectivity, sustainability and resiliency. Clearly, this transformative project will reshape the County and the City's government functions and organization for coming decades and beyond.

While the focus of the new JGCC is to establish a dynamic and vibrant presence, and, express the forward-thinking values and goals of both government entities, it must do so with an understanding of how better business, planning and design can create more value for new public gathering spaces, for stronger community identity, for safer and better transportation alternatives, for better environmental outcomes, and for better business and service.

In planning for the future, there are several important occupancy and project typology issues and trends that the Joint Government Center Campus (JGCC) project has considered in order to create and deliver a plan and project that better serves users and the public and most importantly, embodies the value of design thinking to transform delivery to its constituents.

- **Programming, Needs Assessment and Spatial Analysis.** Understanding the County and the City's needs and space program requirements establishes the critical framework for decision making moving forward. The JGCC Programming and Needs Assessment tasks, supported by unique spatial, massing and movement analysis and visualization tools, defines the current and potential future uses of the new government center campus, site, and building(s).

- **Master Development Planning.** The selected Concept Plan for the JGCC closely links the short and long-term physical master planning strategies with organizational and financial planning. The Concept Plan for the JGCC addresses building design criteria, siting, circulation, access, zoning and other urban planning criteria, as well as links the plan to institutional goals and objectives in order to develop the campus to attract private development and non-traditional revenue opportunities.

- **Place-Making and Design.** The physical campus setting for the JGCC responds to locational assets and enhances the quality of the user-experience through the creation and seamless connectivity between institutional functions and welcoming, integrated environments ensuring multimodal access and seamless connectivity to create a unique campus and enhanced urban district in Downtown Fort Lauderdale.

- **Cost-Effectiveness and Efficiency.** The JGCC government campus proposes to change its current model to resemble today's state-of-the-art hospitality and healthcare campuses by consolidating some functions into this central hub, while placing others closer to the communities they serve.

- **Technology and Services.** The impact of technology is changing user services as well as creating compelling changes in government organizational structures. For the JGCC, information technology plays a key role in connecting each organization's strategic plans, facilities and operations to deliver real outcomes. A clear technology vision and strategy is seen as a critical enabler that will enhance the client experience, improve quality and safety, increase workflow efficiencies and build consumer brand loyalty.

- **Safety and Security.** To enhance security, physical barriers are proposed to be supplanted by active, technology-enabled surveillance that allows for a welcoming environment yet protects the JGCC government buildings and workers. The JGCC demands the use of intelligent technologies, communications infrastructure, sustainable energy and security management reflected in state-of-the-art, cost effective and responsive solutions as relates to security and electronic information systems as well as emergency preparedness.

- **Public/Private Partnerships.** The County and the City may seek design-build and/or public-private partnerships to develop, manage and operate their facilities without losing sight of goals for resilience, wellness and productivity.

- **Development and Growth.** All new campus planning will need to support and be supported whenever possible by the City's downtown financial, educational, entertainment, medical and cultural hubs to create a synergistic, engaged and mutually beneficial relationship between the JGCC and the community.

- **Resiliency and Sustainability.** While many new building designs focus on green buildings, the JGCC vision and goals embody a focused commitment to applying sustainability and resiliency principles to the full range of campus and facility planning activities and implementation. Through the extensive modeling systems to provide cost/benefit analysis for all areas of sustainability and by integrating multiple innovative energy reduction initiatives into the design of the JGCC buildings and campus, County and City shall ensure its commitment to all government agencies and a broad range of institutions to develop and maintain a high level of resiliency and an appropriate preparedness posture and solutions in all development activities.

For purposes of new campus planning, the JGCC shall be distinguished by virtue of its functions, site character, and development but most importantly by how well it integrates facility uses and co-location strategies, where appropriate, in order to create a symbiotic relationship between surrounding neighborhoods, the campus and urban district. By doing so, the planned government uses and the opportunities for new public/private development become more than the sum of the parts.

Ultimately, the physical form and aesthetics of the new JGCC will be most successfully expressed through a plan that embodies a long-range vision for the campus as well as recommended short-range actions. The campus planning process has been organized, at each phase of the DCP work, to ensure the physical plan is aligned with all programming and strategic planning considerations and its various components.

In conjunction with the planning for the overall new JGCC campus and new combined facilities, the JGCC Concept Plan contains strategies for long-term development of the sub-areas that make up the overall campus and ensures that the established design criteria addresses qualitative and performance standards for all building components including plans for resiliency and sustainability as well as LEED, Net-Zero building, and IEQ (WELL); as well as factors such as land and building uses, building locations and massing, landscape strategies and typologies, and circulation, connectivity, access, transit, traffic and parking, and the development of surrounding open urban areas as part of a concept or theme that can be adhered to by the selected Development Team.

1.3 Project Overview

The Joint Government Center Campus project will consist of the design and construction of the following program and building components to be developed by County and City at the identified project site:

1. New County and City Administrative Building, including County and City Commission Chambers, public meeting rooms and planned amenities;
2. New Broward County Transportation (BCT) Department Administrative Offices Building;
3. New Transit Terminal and transit mall streetscape improvements along Brickell Avenue for BCT buses, drop-off areas and bike/pedestrian access; and,
4. New multi-level Parking Garage with the potential to be converted in the future for office use.

The proposed JGCC Concept Master Plan responds to the required spatial needs to meet current County and City needs and those in the near future as well as initiates a transformation from a basically prototypical government building into a catalyst for shared campus facilities and functions. The notion of a stand-alone government building is traded for the creation of a unique campus and district, recognizing synergies among both organizations.

Based on the programmatic spatial needs assessment and building requirements, the total gross square foot (GSF) area of development, as represented in the Concept Master Plan, has been determined to be 1,734,384 GSF, including the floors of the parking garage and the projected future growth through the year 2050.

The transformation begins instantly with the immediate impact of a new building and campus and over 50,000 GSF of public meeting spaces including both chambers, 32,062 SF of occupiable outdoor roof gardens, and over 220,300 GSF of amenities spaces within the total development. Further improvements within the campus' footprint as well as nearby venues and linkages within the surrounding Downtown district further contribute to the overall unified vision. Refer to Section 4.0 for Concept Master Plan program details.

The following provides a brief summary description of each of the major building components required for the JGCC, explaining the basic overall functional requirements and the relationships to adjacent programs. Refer to Book 2 for Preferred Concept Plan illustrating detailed site, campus and building designs.

Main Building | New County & City Administrative Offices
901,873 GSF

The Main Building of the JGCC is located at the northwest corner of Broward Blvd and Brickell Avenue and occupies the southern portion of the project site. Designed to accommodate the new County and City Administrative Offices including Commission Chambers for County and City, public meeting rooms and planned amenities, the Main Building Tower is planned as a twenty-nine-story structure. At the ground level, the main lobby and public access areas are designed to be accessed from Brickell Avenue and additional frontage along Broward Blvd with direct views to the stepped public plaza/terrace. Planned amenities within the JGCC for County and City employees shall include a cafeteria, childcare center, gym/health center, and wellness center.

New Administrative Offices Building | Broward County Transportation (BCT) Department
90,967 GSF

The JGCC program includes an independent building facility to be located on top of the bus terminal/parking garage structure. This new building will house BCT's administrative staff totaling 171 people, currently residing at Government Center West (GCW), and future staff projections for a total of 315 employees at this location. The building is planned as a five-story structure with a secured entry lobby, office spaces, meeting facilities, support spaces, and amenities. Public access to the building will be through the Main Building. Secured employee access shall be provided directly from the transit terminal and parking garage.

New Transit Terminal | Broward County Transportation
70,912 GSF

BCT's New Transit Terminal is planned to replace the existing Broward Central Terminal at the project site and will be located on the ground floor of the new multi-level Parking Garage. The Transit Terminal shall occupy the northern portion of the Project Site.

The creation of a new transit center at this location will continue to provide bus service throughout the County area and enable a more efficient approach to transit with intermodal capacities and connections to transfers using the adjacent Fort Lauderdale Brightline Station (FEC) within walking distance from the site and the County's planned light rail system in downtown Fort Lauderdale along Broward Blvd. It is expected that climate-controlled pedestrian connections to both the Brightline Station and potential light rail station

on Broward Blvd will be accommodated in the final project design. While not included in the concept plan design, the inclusion of an air taxi operation utilizing the roof of the BCT offices is being considered.

The new transit terminal is planned to accommodate up to (18) eighteen dedicated bus bay areas (platforms) and accessory areas including ticketing/waiting area for passengers. As part of the DCP, two terminal layout options are included to illustrate different bus-bay orientations and access and egress configurations as follows:

- Option 1 layout shows bus bays configured in an east/west orientation with all bus access from a reconfigured one-way (west) NW 2nd Street and bus egress along Brickell Avenue/NW 1st Avenue.
- Option 2 layout shows bus bays configured in a north/south orientation with all bus access from Brickell Avenue. Bus egress from the terminal is planned along a reconfigured one-way (east) NW 2nd Street.
- Refer to Appendix M for structural considerations based on selected layout option.

In both options, Brickell Avenue shall be reconfigured as a new Transit Mall streetscape with landscaped pedestrian walkways to connect the terminal to the Main Building. The bus bays shall be designed to accommodate 60' (l) articulated buses and 45'(l) buses within the covered terminal and a dedicated bus bay area along the east curbside of Brickell Avenue shall allow for (3) three additional bus bays with covered canopy areas to maximize bus storage capacity during peak operations. This concept will maintain capacity for BCT operations at this location and reinforce the potential for creating a transit-oriented component to the JGCC project in connection with existing and future potential passenger rail service on the FEC and on Broward Boulevard.

New Parking Garage
670,632 GSF

A multi-level parking garage is planned at the JGCC with capacity for 1,347 parking spaces over nine (9) levels of parking. The proposed garage is not expected to address the initial projected parking demand for the JGCC. Additional parking shall be required to accommodate JGCC needs within City and County owned parking facilities and private facilities located within walking distance of the campus or accessible via a future JGCC transit circulator. Vehicular access to the garage is currently planned from two parking ramp entryways located along Brickell Avenue/NW 1st Avenue and on NW 2nd Street. The JGCC Parking Garage shall be planned for potential future conversion into office space use. Secured employee access to the Main Building shall be provided on several levels directly from the parking garage.

TABLE 1.3.1: Concept Plan Building Program Components		GSF Area
	Main Building - Tower	**901,873 GSF**
	Main Floors - Level 1 thru 3	
	Amenity Floor - Level 4	
	Amenity Floor - Level 9	
	Office Floors - Level 5 thru 8 and 10 thru 27	
	Executive Suite - Level 28	
	Mechanical - Level 29	
	Broward County Transportation (BCT) Department Administrative Offices	**90,967 GSF**
	Office Floors (5 Levels) - Level 9 thru 13	
	Broward County Transportation (BCT) Transit Terminal	**70,912 GSF**
	Bus Terminal Area on Ground Level + Mezzanine Level of Parking Garage	
	Accessory Uses - incl Ticketing Waiting Area/Security	
	Parking Garage (1,347 parking Spaces)	**670,632 GSF**
	Level 2 thru 10 incl CEP (Central Energy Plant) on Level 10 of Parking Garage	
	Roof Deck / Roof Garden Areas	**79,882 GSF**
	On Amenity Floors - Level 4, Level 9 and Level 10	
	On Executive Suite Level - Level 28	

Chapter 2
Project Context

2.1 Urban Context and Trends
2.2 Project Site
2.3 Site and District Analysis

2.1 Urban Context and Trends

Located in Downtown Fort Lauderdale, the JGCC Project Site is centrally located to support continued government services to the County and City's residents and visitors. Clearly the current and future market, the site and surrounding capacities of the area, ongoing strategies to increase redevelopment opportunities in the surrounding neighborhoods, and existing and future transit options all align to take advantage of existing assets in the development of the JGCC.

Downtown Fort Lauderdale is an area of continued transition where new development projects continue to shape the area as a vibrant, active and walkable urban center. After a period of slower growth caused by the 2009 global recession, Downtown Fort Lauderdale has experienced and continues to support an influx of new residential development and built projects and continues to grow and mature as a world-class City and the County seat. Over the years, planning efforts have encouraged new development to be integrated into the existing urban fabric and have resulted in a seamless pattern of beautiful streets, public spaces and buildings of the highest quality, all within easy access to various modes of transportation. Enhancing mobility options will be essential to keep people moving throughout the City and for the continued economic health and vibrancy of the Downtown. As is, continued investments in multimodal transportation options and creating a safe and walkable city were identified as top ranked priorities of Fast Forward Fort Lauderdale: the City's 2035 Vision Plan. Several transformative projects support the growth of Downtown Fort Lauderdale while ensuring safe and efficient mobility including the possible addition of Tri-Rail Coastal Link commuter rail and All Aboard Florida intercity passenger rail on the Florida East Coast (FEC) railway within walking distance of the JGCC site.

The following maps highlight existing uses and conditions surrounding the JGCC project site.

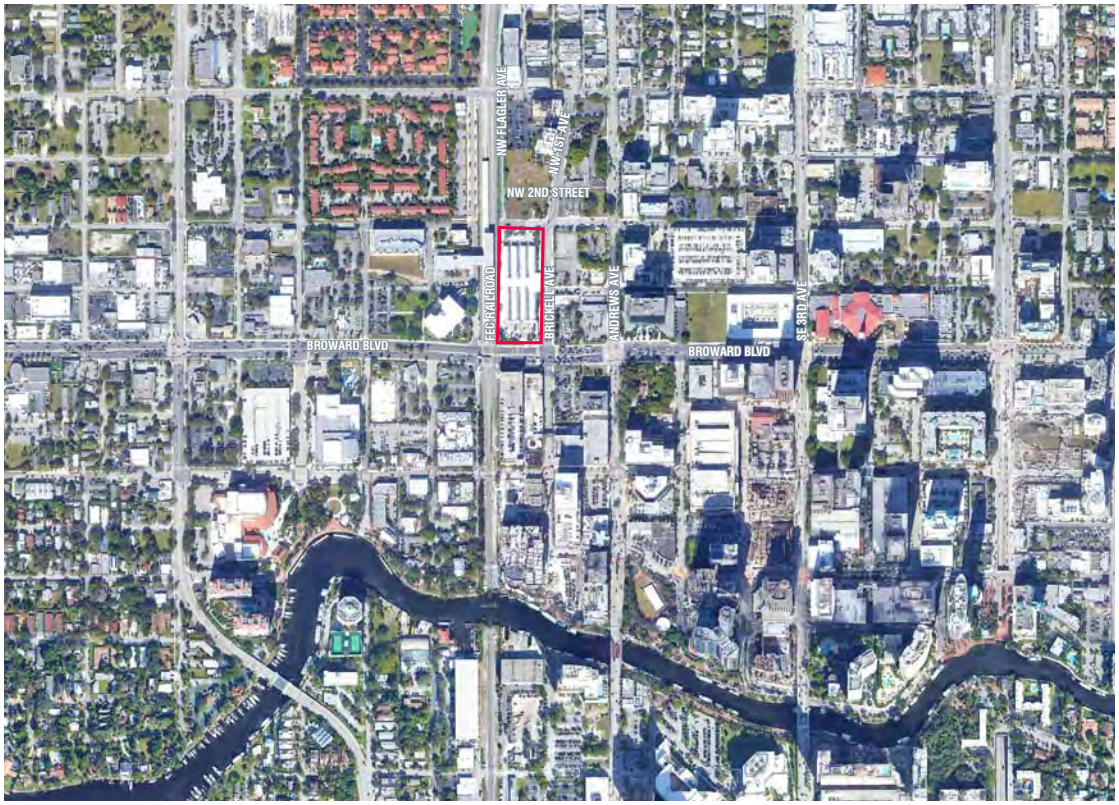


Figure 2.1.1: Location Map

The JGCC Project Site is located in Downtown Fort Lauderdale on the NE corner of Broward Blvd and the FEC railroad tracks.

Figure 2.1.2: Public and Civic Buildings

Downtown Fort Lauderdale Public and Civic Buildings

1. U.S. Federal Building and Courthouse

2. Greater Fort Lauderdale Convention and Visitors Bureau

3. Juvenile Justice Department

4. Museum of Discovery and Science

5. Broward County Governmental Center East (GCE)

6. Broward Center for the Performing Arts

7. Broward County Main Library

8. Broward Center for the Performing Arts

9. Arts and Science Garage

10. Government Center Parking Garage

11. FAU - Broward College Parking Garage

12. City of Fort Lauderdale City Hall Building

13. City Hall Parking Garage

Figure 2.1.3: Open Space Framework

Open Space Framework

A coherent, connected and generous open space network is critical to the success and livability of Downtown. The City's emphasis on the quality of open spaces are intended to transform existing assets into a sum that is greater than the individual parts. Streets, as well as parks, are treated as important public spaces with existing Downtown parkland and public open spaces varying in quality and often lacking strong connections. While the Riverwalk has transformed Downtown as its most successful open space, it still has the potential for improvement and for greater connectivity.

As indicated in the adjoining map, Downtown Fort Lauderdale has significant existing green spaces including Bubier Park, Stranahan Park, and the Riverwalk. The mapping illustrates the location of these parks with respect to the JGCC Project Site. The City is currently developing a series of multipurpose paths to link parks and open spaces into an interconnected recreational and pedestrian network of trails and linear parks including the creation of the Flagler Greenway, stretching generally alongside the FEC rail line on the north and south sides of the river. Building upon past proposals, this landscaped greenway would contain bicycle and pedestrian trails connecting to the more extensive Broward County Trail system.

The new JGCC shall create additional green space and streetscape improvements along Brickell Avenue to safely connect the Flagler Greenway south from the JGCC to existing parks and open space framework of the district.

Map Legend

- Existing Bike Trail Network
- Proposed Bike Trails
- Flagler Greenway Extension
- A JGCC Project Site

1. Stranahan Park
2. Bubier Park
3. Esplanade Park
4. North Riverwalk
5. South Riverwalk
6. Flagler Greenway

Figure 2.1.4: Land Ownership - Public

Land Ownership - Public

A mapping of publicly owned land indicates major land holdings under the ownership of the County, City, State, and the Federal government. These listed public entities, and especially the County, are the predominant property owners in and around the proposed JGCC Project Site.

Over the past few decades, public and private investment have transformed Downtown Fort Lauderdale. Through a strategic mix of public projects including housing, cultural projects, parking, transportation, and, a focus on the riverfront as an exceptional, continuous public open space, Fort Lauderdale has regained its role as the civic hub of the region. With an extensive wave of private investment primarily of office and commercial uses and more recent development focused on housing, Downtown is continuing to transform at a rapid pace. The emerging pattern of development reflects a strong shift to residential development with a majority of current or pending projects reflecting a great demand and interest in housing for downtown. Planning for a reasonable target for Downtown residential growth and density that coordinates transportation, infrastructure, capacity loads, and public amenities will ensure the district achieves the critical mass of population necessary to create a vibrant 24/7 community.

Refer to Map 06 for location and listing of Approved, Under Construction and Completed Projects within the vicinity of the JGCC Project Site.

Map Legend

- County
- State
- City
- Federal

City - Existing Parking Data		
1	938 Parking Spaces	Performing Arts Center Garage *This garage is owned by the DDA and Broward Performing Arts Center. City manages parking and maintenance for the Facility.*
2	1374 Parking Spaces	100 North Andrews Avenue *(585 City Spaces / 789 One Corporate Center Spaces*
3	2032 Parking Spaces	Riverwalk Center - 150 SE 2nd Street *(1682 City Spaces / 350 Leased Space (FAU/BC)*
	TOTAL = 4344 Parking Spaces	
County - Existing Parking Data		
4	91 Parking Spaces	County Lot 2 / Annex Lot (Surface Parking) *(Owned by County / Managed by City)*
5	335 Parking Spaces	350 Garage - 151 SW 2nd Street
6	1133 Parking Spaces	1200 Garage - 151 SW 2nd Street
	TOTAL = 1556 Parking Spaces	
Private Garages		
7	52 Parking Spaces	201 S Andrews Avenue
8	536 Parking Spaces	200 SW 1st Avenue
9	580 Parking Spaces	Fort Lauderdale Brightline Station Parking Garage
	TOTAL = 1168 Parking Spaces	

Figure 2.1.5: District Parking

District Parking

Within a half-mile radius from the JGCC project site, there are a series of publicly-owned parking garages as summarized below and indicated on the map. The availability of parking within walking distance form the site can support a district-wide parking strategy for the campus. The County and City wish to explore potential strategies for reducing on-site parking demand at the Joint Government Center Campus (JGCC) facility.

Techniques that could be considered in the planning, design and operation of parking demand and supply for the facility has benn evaluated, with an interest in identifying polices and strategies that the County and City could implement to incentivize transit, carpooling, cycling, and other alternatives while also discouraging visitors and employees from driving.

Fort Lauderdale Demand

A study completed about five years ago documented visitors to City Hall, excluding commission meeting days, at about 70 per day. Refer to Appendix N. However, what the report did not include was visitors to Water Billing. According to staff in Water Billing, they average about 160 walk-in customers per day. In addition, conference commission meetings on the eighth floor can vary from maybe 20 to 50 attendees and regular commission meetings can vary from maybe 50 or 75 to well over 300 (although not at the same time), depending on the items on the agenda. Because the City Commission chambers can only accommodate 256 people per Fire Code, there might be some citizens that would like to attend commission meetings but do not. A larger facility would allow more attendees.

Taking the above into consideration, Fort Lauderdale should expect anywhere from 300 to 580 visitors per day.

Broward County Government Demand

The County logs the number of daily visitors that visit its current government center facility. For the week of March 2nd through 6th, 2020, the County averaged approximately 626 visitors per day. The County's West Government Center sees an additional 124 visitors a day. Combining these two, on average, there are approximately 750 visitors to Broward County Government offices on a daily basis.

At peak periods, it is likely that between 3,000 and 3,500 individuals will be working or visiting the JGCC facility. While the development is anticipated to have 1,347 parking spaces as illustrated in the DCP Concept Plan, including ADA and EV ready stalls, the difference between number of planned parking spaces and the potential number of visitors presents challenges that must be mitigated by strategies that encourage transit usage and disincentivize driving.

From a transit connectivity standpoint, the JGCC facility is in a unique position, with several major transit services in the immediate vicinity. By reinforcing these connections through good design that encourages transit commuting, the city and county can encourage a commuting modal shift away from passenger vehicles and into transit.

The JGCC will be built on what is anticipated to be the largest transit node in the county. At present, the facility is served by two significant transit linkages: The first is the existing Broward County Central Terminal, which serves as a transfer point for 16 different Broward County Transit (BCT) bus routes and 2 externally run routes . As part of the JGCC redevelopment of the area, the Central Terminal will be rebuilt and integrated into the overall project design.

Second, the facility is adjacent to Fort Lauderdale's Brightline station, linking the community to a regional rail service that has substantially reduced transit travel times to Miami and West Palm Beach downtown attractions, with service to Orlando expected in the coming years.

Finally, more than one of the proposed nine rapid transit corridors envisioned in the county's 'Penny Surtax' initiative for transportation is anticipated to have a route terminus or major transfer point somewhere in the vicinity of the JGCC.

A combination of the above-mentioned services, combined with access to several express bus routes and more commuter rail service at the Broward Boulevard Tri-Rail Station two miles away, lays out a strong case for the JGCC to be a significant transit-oriented commuting hub in Broward County.

Refer to Appendix N for additional information on Parking Mitigation Strategies for the JGCC.

Figure 2.1.6: FAA Height Requirements

Federal Aviation Administration (FAA) Height Requirements

The John Fuhrer Fort Lauderdale Downtown Helistop is situated above the Riverwalk (Central Park Mall) Parking Garage in the heart of Fort Lauderdale's downtown. The helistop offers convenient access to the City's Central Business District and many of Broward County's government, financial, educational and cultural attractions located in Fort Lauderdale.

The Downtown Helistop is conveniently located just three miles north of Fort Lauderdale-Hollywood International Airport and six miles south of Fort Lauderdale Executive Airport. Miami International Airport is 25 miles to the south and easily accessible by air. The helistop operates 24 hours a day, seven days a week with no fees to users. The lobby is available with advance reservations.

Based on the the JGCC Preferred Concept Plan, The City's Airport consultant performed a preliminary analysis to determine the maximum height of obstructions within the approach surface (middle of trapezoid) for the Helistop pad. As indicated in the map included in Appendix L: DT1 Part 77 Airspace Plan, the northeast quadrant of the proposed building is in the approach surface, which essentially would restrict the proposed building height to 293.5' - 313 .5' MSL number.

There is a possibility that the City will relocate its helistop or eliminate altogether in lieu of an air taxi incorporated into the JGCC. Given this information, further discussions with the City of Fort Lauderdale, FAA and FDOT are warranted.

Figure 2.1.7: Development Projects - Site Location Map

Development Projects

A. Approved
B. Under Construction
C. Completed

Located in Downtown Fort Lauderdale, the JGCC Project Site is surrounded by recently Approved, Under Construction and Completed Development Projects as indicated on the following maps.

Within an urban core surrounded by a world-class beach, an international airport, a cargo and cruise port, interstate roadways and now, high speed rail service connecting neighboring cities to the north and south, and, a future planned commuter rail system connecting to downtown Miami and a light rail system connecting east-west along Broward Boulevard, the new JGCC once completed will be in the geographic center of a growing Southeast Florida region.

A desirable location for investment, commerce, relocation and startups, Downtown Fort Lauderdale is a walkable, livable city with iconic public spaces, dynamic cultural and civic institutions, and inclusive and diverse neighborhoods. More than 400 hotel rooms are under construction, 500,000 square feet of new Class A office space is planned, and over 5,000 new residential units are being built.

Snapshot of Downtown Fort Lauderdale Real Estate Market Conditions

Office Sector:
- 6.8 million square feet of existing office space
- 68% of all office inventory is Class A space
- Fort Lauderdale Central Business District (CBD) has represented approxImately 15 to 20 percent of the Broward County office inventory for the past 20 years.
- The long term health of office employment growth is reasonably strong .

Retail Sector:
- Over one million square feet of existing retail space
- 70 percent of projected retail demand comes from new residents and workers.

Hospitality Sector
- 1440 hotel rooms built and approved
- Another 440 hotel rooms currently under construction
- $900 million expansion at Greater Fort Lauderdale Convention Center

Residential Sector:
- 18,700+ residential units built and approved
- The luxury rental market is heavily driven by Downtown and nearby employment trends.
- The for-sale market relies on a combination of downtown employees, lifestyle purchasers, and second home purchasers.
- There is a strong, largely untapped market for housing beyond the luxury market at various price points.
- There is a continued critical need to provide “workforce” housing in the Downtown area to ensure housing options for the whole community.
- The City is advocating for a comprehensive set of solutions to housing affordability, including the use of public land, public financial contributions, and development incentives to support new subsidized housing.

Additional highlights:
- 32.5 million annual passengers at Fort Lauderdale Airport (FLL), the 7th fastest growing airport in the U.S.
- Congress approved $190 million to build a new federal courthouse in Downtown Fort Lauderdale
- Improved multi-modal mobility is critical to support continued investments. The Metropolitan Planning Organization (MPO) together with Broward County, the City of Fort Lauderdale and the Downtown Development Authority (DDA), are evaluating whether Andrews Avenue and 3rd Avenue can be used as one-way pairs to improve traffic flow while adding safe and welcoming streetscapes and sidewalks to the urban core.

The following maps indicate the location and current listing of Approved, Under Construction and Completed Projects within the vicinity of the JGCC Project Site.

Figure 2.1.7(A): Development Projects - Approved

Development Projects

A. Approved

1. Fat City
300 N. Andrews Ave
30 Stories, 612 residential units
88,192 SF Restaurant/Retail
183,011 SF Office
Developer NEWJAG,LLC

2. 1st Avenue Residence
477 SW 1st Avenue
35 Stories, 380 Residential Units
2,700 SF Restauramt/Retail
Developer: SWFA, LLC

3. 440 NE 3rd Ave
440 NE 3rd Avenue
3 stories - 18,697 SF Restaurant/Retail
15,914 SF Office
DeveloperL KMAJCTL,LLC

4. Riverparc Square
501 S. Andrews Avenue
43 Stories, 879 residential
Unit rooms
52,000 SF Restaurant/Retail
207,000 SF office

48. The Forge Lofts
401 NW 1st Avenue
7 Stories, 33 Resudential units
Developer: Hooper Construction

54. 488 Residences
444 SW 1st Avenue
38 stories, 362 residential units
6,200 SSF Restaurant/ Retail
Developer: SWFLB LLC

23. Aloft Hotel
313 NE 2nd Street
12 stories, 199 hotel rooms,
6,208 SF Restaurant/ Retail
Construction Value: 24,000,000
Developer FEDEQ DV003 LLC

36. New River Central
100 SW 6th Street
35 stories, 407 residential units
5,697 SF Restaurant/Retail
Developer: New River Central, LLC

81. Broward County Court-
house Phase II
201 SE 6th Street
5 stories, 516 parking spaces
24,000 SF Office
Public Plaza
Developer: Broward County

16. New River Yacht Club West
401 SW 1st Avenue
36 stories, 349 residetial units
1,800 SF Restaurant/Retail
Developer: Related

46. Riverwalk Residences
333 N New River Drive
42 stories, 297 residential units
(with ACLF and memory care)
1,616 SF Restaurant/Retail, 16,871
SF Office
Developer: John Ropes Riverwalk
Plaza

78. Marina Lofts
400 SW 3rd Avenue
Three-25 story towers, 856 resi-
dential units
19,2000 SF Restaurant/Retail
Developer: Cymbal Development

SOURCE:
Regional Activity Center Development Projects | Downtown Regional Activity Center Development Projects
https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/property-zoning-and-land-use-information

Figure 2.1.7(B): Development Projects - Under Construction

Development Projects

B. Under Construction

82. Flagler Village Hotel
315 SW 1st Avenue
18 stories, 195 hotel rooms
2,227 SF Restaurant/Retail
Developer: 315 Flagler, LP

55. Sailboat Bend Apartments
425 SW 4th Avenue
9 stories, 110 AFH units
Developer: Housing Authority

61. Main Las Olas - North
212 SE 2nd Avenue
28 stories, 348 residential units
32,368 SF Restaurant/Retail
Developer: 212 Partners, LLC

10. The Rise
405 NE 2nd Street
30 stories, 191 residential units
2,200 SF Restaurant/Retail
Developer: Encore Housing Opportunity Fund

28. 550 Justice Building
524 S. Andrews Avenue
7 story building
10,030 SF Restaurant/Retail
62,250 SF Office
Developer: Blackhawk Properties

63. Next Las Olas
419 SE 2nd Street
31 stories, 374 residential units
2,733 SF Restaurant/ Retail
Developer:

97. 550 Building Parking Garage
500 S. Andrews Avenue
8 Story parking garage
14,000 SF Restaurant/Retail
Developer: Blackhawk Properties

53. Main Las Olas - South
201 E. Las Olas
15 story office building
16,500 SF Restaurant/Retail
373,400 SF Office

40. Alluvion Las Olas
200 E. Las Olas Blvd
42 stories, 419 residential units,
4,450 SF Restaurant/Retail
Developer: TREH 200 E LAS OLAS HOLDCO, LLC

32. 100 Las Olas
46 stories, 121 residential units, 228 hotel rooms
6,983 SF Restaurant/Retail
Developer: KG Las Olas Trustee, LLC

SOURCE:
Regional Activity Center Development Projects | Downtown Regional Activity Center Development Projects
https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/property-zoning-and-land-use-information

Figure 2.1.7(C): Development Projects - Completed

Development Projects

C. Completed Projects

4. The Whitney

7. The Pearl

2. New River Yacht Club

85. Broward County Courthouse

29. Brightline Fort Lauderdale Station and Parking Facility

88. Shato Asian Tapas

90. Flagler Storage

SOURCE:
Regional Activity Center Development Projects | Downtown Regional Activity Center Development Projects
https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/property-zoning-and-land-use-information

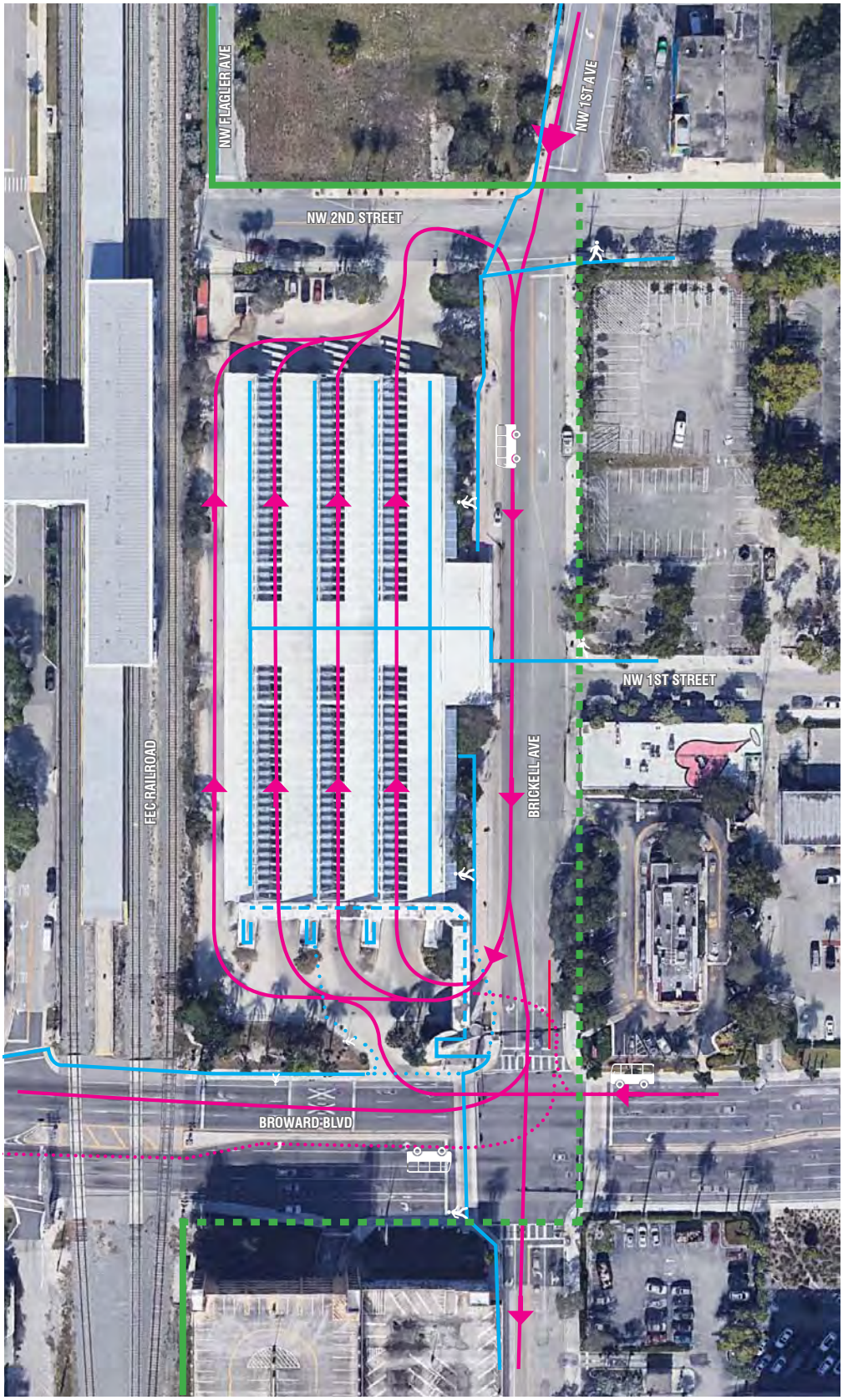


Figure 2.2.1: Existing Central Bus Terminal Circulation

- Bus - Illegal Turn
- Bus
- Bicycle Path
- Proposed Shared Use Bike and Pedestrian Path
- Pedestrian Path Ground Level
- Pedestrian Path - Overhead
- Pedestrian Path - Dangerous

2.2 Project Site

The JGCC Project Site is located at the Broward County Central Bus Terminal at 101 NW 1 Street, Fort Lauderdale, FL 33311. The site is bound by Broward Boulevard to the south, NW 1st Avenue/Brickell Avenue to the east, NW 2nd Street to the north and to the west the FEC railroad tracks and Fort Lauderdale Brightline Station.

The Broward Central Terminal currently occupies the site and is the main bus station of Fort Lauderdale and the rest of Broward County. Located in the heart of the downtown Fort Lauderdale area, the terminal serves routes to all the main destinations county wide. The Terminal itself stands out for its so-called "Stair #1", an elliptical, yellow roofed, black-and-white checked tile structure that serves as a visual gateway to the downtown business and entertainment area. This building feature is located on the southeast corner of the station at the intersection of NW 1st Avenue and Broward Boulevard.

The majority of the site is the Bus Terminal building footprint at 66,775 square feet, with the rest of the site dedicated on the east and west sides of the building to the bus drop-off and pick-up areas and passenger loading and unloading with recessed entry drop-offs and large sidewalks, which are landscaped with palms and shade trees as well as some ground cover. The north and south sides of the building front Broward Blvd and NW 2nd Street respectively.

Immediately to the south of the project site is the existing Main County Governmental Center East (GCE), the employee parking garage, a County surface parking lot managed by the City of Fort Lauderdale, and privately owned land within the CRA boundaries. Large vacant parcels border the site on the north and along the east with commercial uses between NW 1st Street and Broward Blvd.

Utilities are located under the site with the connections primarily to the west side of the terminal. The majority of these utilities serve the neighboring areas – refer to Section 5.2 for further information on existing site utility conditions.

The following site photos indicate existing uses on the site today. Refer to the Site Survey in Appendix H for additional detailed information.

Figure 2.2.2: Project Site

The JGCC Development Site is located in Downtown Fort Lauderdale on the NW corner of Broward Boulevard and Brickell Avenue.

Figure 2.2.3: Broward Central Terminal

View of "Stair #1" at the Broward Central Bus Terminal from the intersection of Broward Boulevard and Brickell Avenue.

Figure 2.2.4: Broward Central Terminal | Existing Conditions

1, 2, 6 - View looking South
3, 4, 7 - View looking North
5 - View looking South from corner of Brickell Avenue and NW 2nd Street
8 - View looking from West to East, across site
9 - View from corner of Broward Boulevard and Brickell Avenue

6

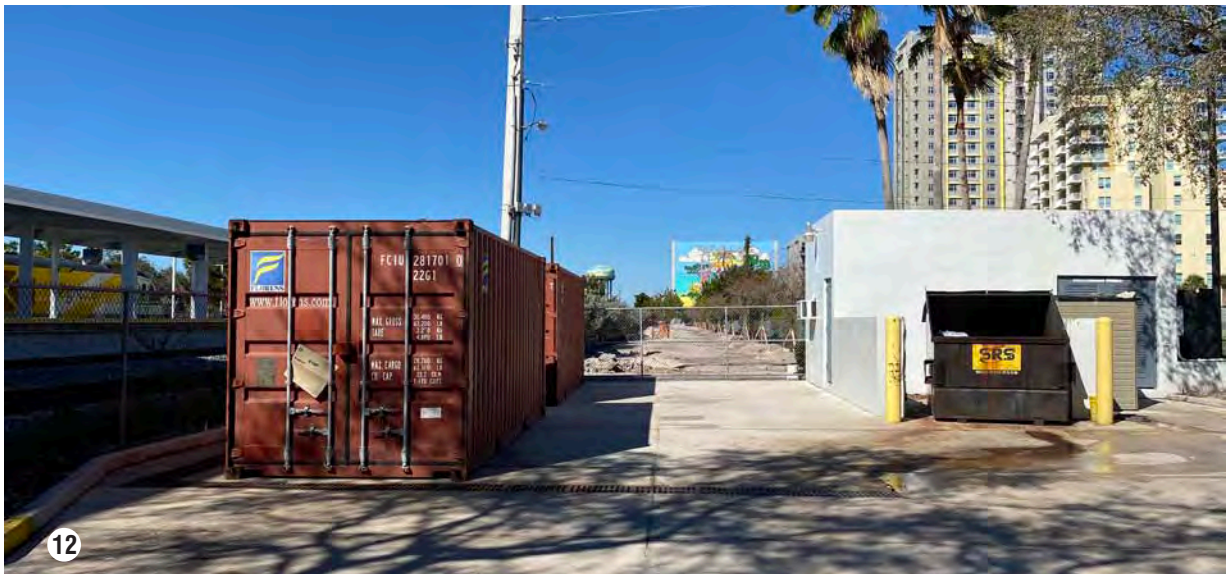
7

8

Broward Blvd
9

Figure 2.2.5: Broward Central Terminal | Existing Conditions

10 - View across street along Broward Boulevard
11 - View from Broward Boulevard, West edge of the Terminal
12, 13 - View along service alley, NW corner of the site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13

Figure 2.2.6: Broward Central Terminal | Existing Conditions

14 - View looking South, middle bus bay
15, 16 - View looking South, westernmost bus bay, paralell to the FEC tracks
17 - View looking south, easternmost bus bay and passenger waiting area

16

17

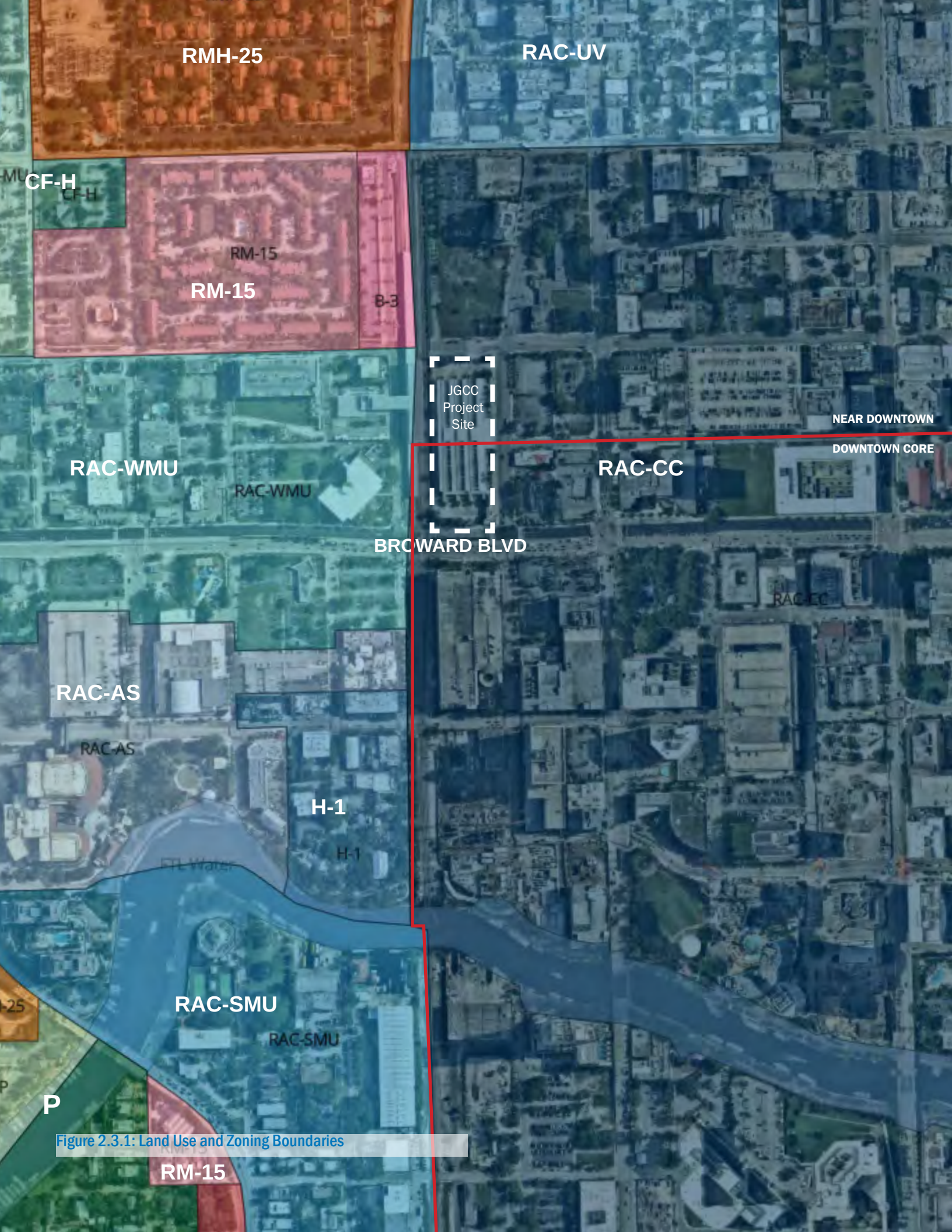


Figure 2.3.1: Land Use and Zoning Boundaries

2.3 Site and District Analysis

The adjoining map indicates the future land use and zoning district designations applicable to the JGCC Project Site. The site is located within the Downtown Regional Activity Center - City Center District (RAC-CC), the city's high-intensity downtown zoning district. It is also located within two Downtown Character Areas - Downtown Core and Near Downtown.

Density, building height and maximum plot coverage is defined by the requirements set forth under the RAC-CC.

Dimensional requirements related to setbacks, streetwall length, floor plate size, step back, separation and podium height is defined by the Downtown Core and Near Downtown Core character area requirements.

The City of Fort Lauderdale Planning staff understands the complexity of uses proposed for the JGCC project and would consider increasing the maximum podium height provided architectural design considerations are taken into account in the final design.

The links below provide specific information governing applicable requirements and restrictions for the design and development of the JGCC including:

- Zoning Requirements
- Site Plan Approval Process
- Building Code Requirements
- Development Review Process
- Building Department Process
- Permitting Requirements

PROPERTY ZONING AND LAND USE:
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/property-zoning-and-land-use-information

CODE OF ORDINANCES:
- https://library.municode.com/fl/fort_lauderdale
- https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances

UNIFIED LAND DEVELOPMENT CODE:
- https://library.municode.com/fl/fort_lauderdale/codes/unified_land_development_code

COMPREHENSIVE PLAN:
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/comprehensive-plan

FLORIDA BUILDING CODE:
- https://floridabuilding.org/bc/bc_default.aspx
- https://codes.iccsafe.org/category/Florida?format[]=PDF&page=1

SUSTAINABILITY:
- https://www.fortlauderdale.gov/departments/public-works/sustainability-division
- https://gyr.fortlauderdale.gov/greener-government/responsible-development-land-use/sustainable-building/updated-building-codes
- https://gyr.fortlauderdale.gov/greener-government/responsible-development-land-use/sustainable-building
- https://gyr.fortlauderdale.gov/greener-government/responsible-development-land-use/sustainable-building/green-building-standards

DEVELOPMENT REVIEW:
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/development-applications-boards-and-committees
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/property-zoning-and-land-use-information
- Additional development review will be required, as applicable, for Infrastructure, Traffic, Civil, Landscape and Fire. Refer to Section 5.2.2 for specifics.

CITY CONTACTS:
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/contact-urban-design-and-planning

PLANNING INITIATIVES:
- https://www.fortlauderdale.gov/departments/sustainable-development/urban-design-and-planning/planning-initiatives/downtown-master-plan

Chapter 3
Project Summary

3.1 Site Limits and Development Sub-Areas
3.2 Building Program Summary
3.3 Programming and Workplace Approach
3.4 Planning and Programming Process
Executive and Steering Committee Meetings
County and City Staff Meetings
Focus Sessions / Workshops
Workplace Programming Process - Workshops, Surveys and Interviews

3.1 Project Site Limits and Development Sub-Areas

The site program and design for the Joint Government Center Campus (JGCC) shall be a direct extension of the building design and make a positive contribution to the surrounding urban context, in terms of urban design and environmentally responsible practices. The site plan shall take into consideration all design issues related to local zoning, official planning initiatives, and design guidelines wherever practicable. In order to have meaningful consideration and to effectively incorporate appropriate recommendations, relevant research and collaboration must occur well before completion of the design. Unless there is an overriding reason and justification to the contrary, the development shall respect restrictions on setbacks, height, massing, and site design requirements as noted herein.

Due to planned and committed funding sources identified by the County for the project, the project site shall be subdivided into two sub-areas for development:

- A southern sub-area fronting Broward Boulevard shall be dedicated to accommodating the new County and City Administrative Offices. This is termed the Main Building or Tower.
- The northern sub-area is planned for the development of the New Broward County Transportation Department (BCT) Transit Terminal, the Broward County Transportation Department (BCT) Administrative Office Building and the JGCC Parking Garage.

The approach to the redevelopment of the site is influenced by two important considerations:

1. The existing conditions surrounding the site and various influences between the planned JGCC and the surrounding downtown area. Access to the transit terminal and garage will require vacating / new dedication of existing right-of-way along Brickell Avenue between 1st and 2nd streets and along NW 2nd Street between Brickell Avenue and Flagler Avenue to facilitate access, egress and circulation. Along Brickell Avenue, new streetscape areas will remain public right-of-way and designed to serve as a 'Transit Mall'.
2. The site limitations imposed by applicable planned/ committed funding sources will need to be addressed by the County and the City.

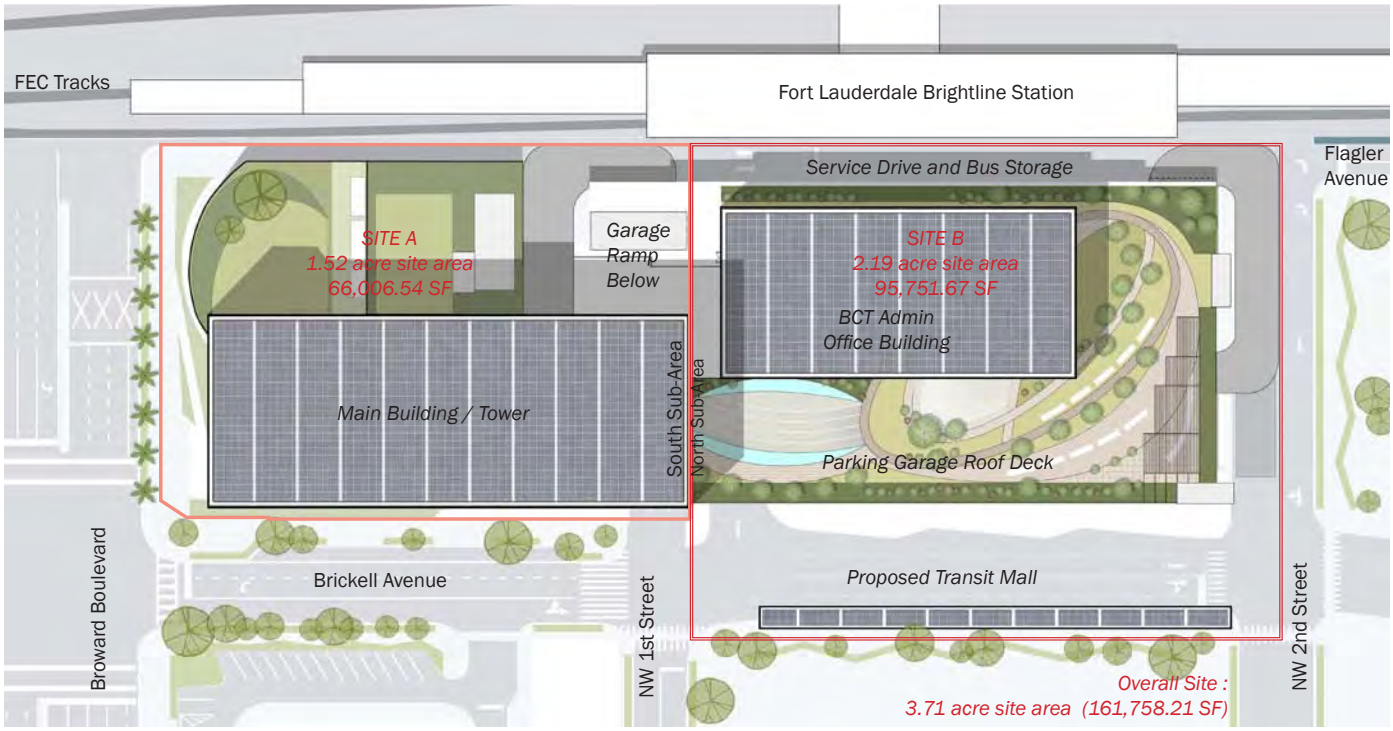


Figure 3.1.1: JGCC Project Site | Development Sub-Areas

Plan illustrating the JGCC Project Site and Development Sub-Area boundaries. Refer to Appendix H for Site Survey information.

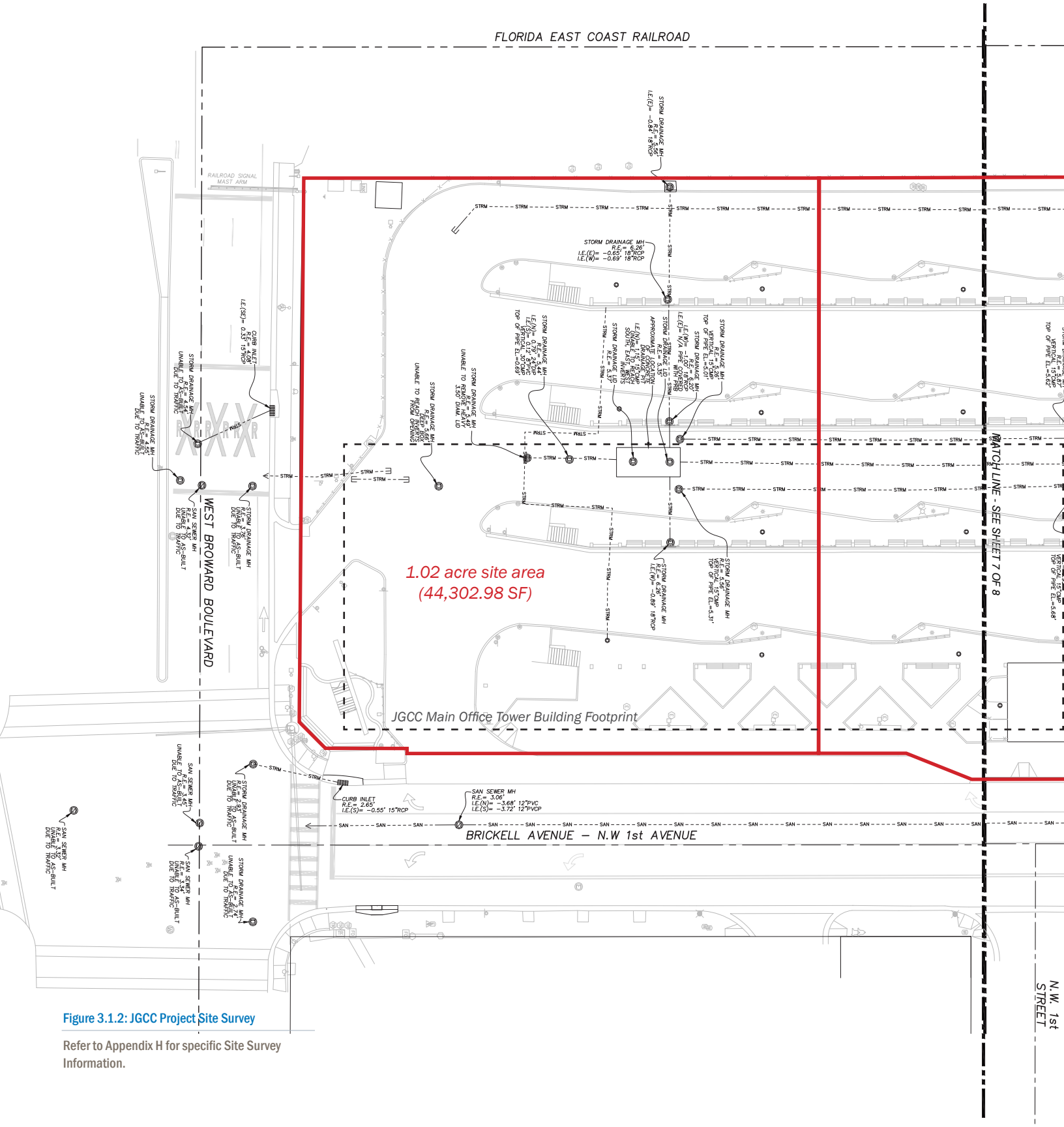
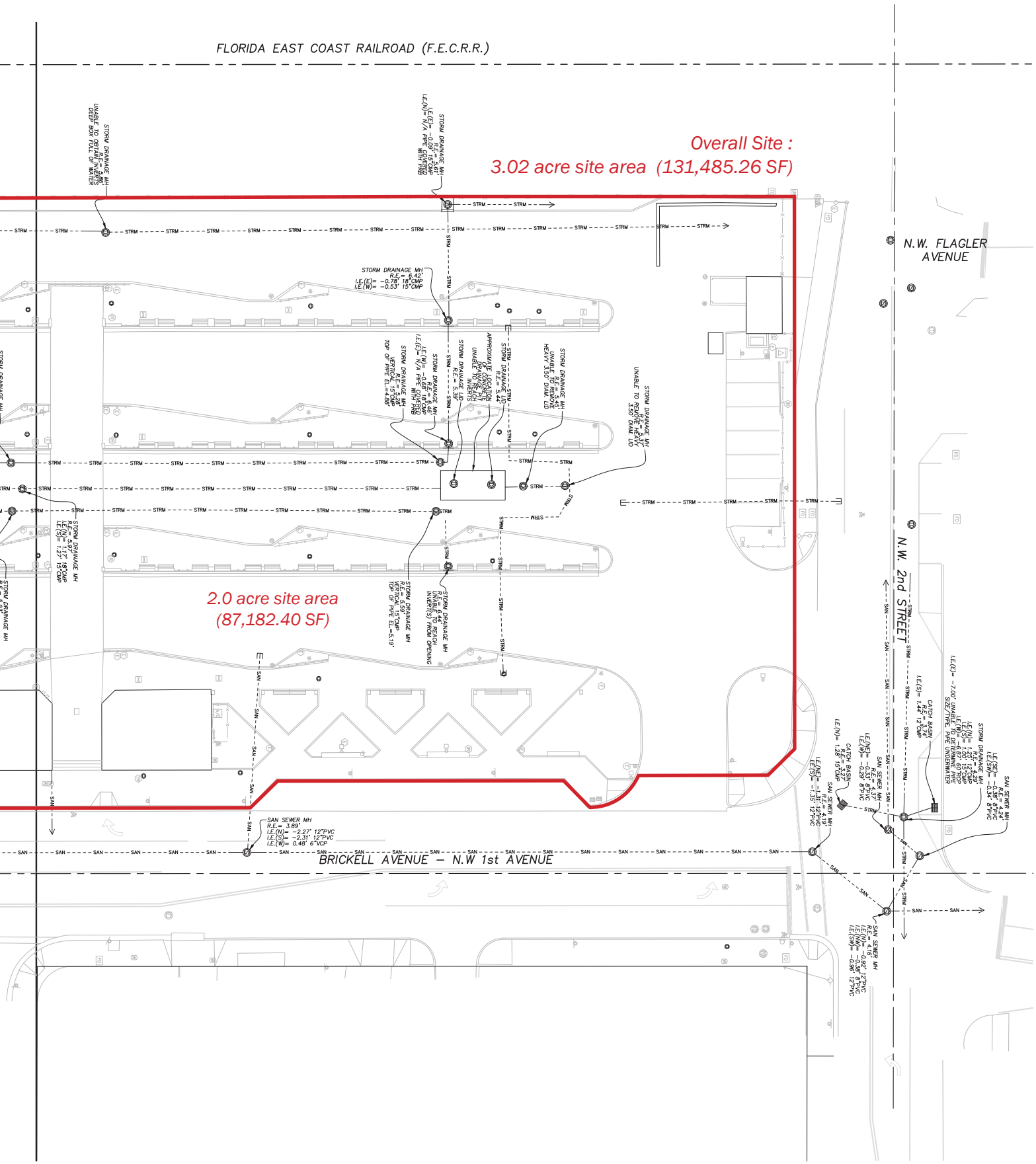


Figure 3.1.2: JGCC Project Site Survey

Refer to Appendix H for specific Site Survey Information.


FLORIDA EAST COAST RAILROAD (F.E.C.R.R.)
Overall Site :
3.02 acre site area (131,485.26 SF)
N.W. FLAGLER AVENUE
N.W. 2nd STREET
2.0 acre site area
(87,182.40 SF)
BRICKELL AVENUE – N.W 1st AVENUE

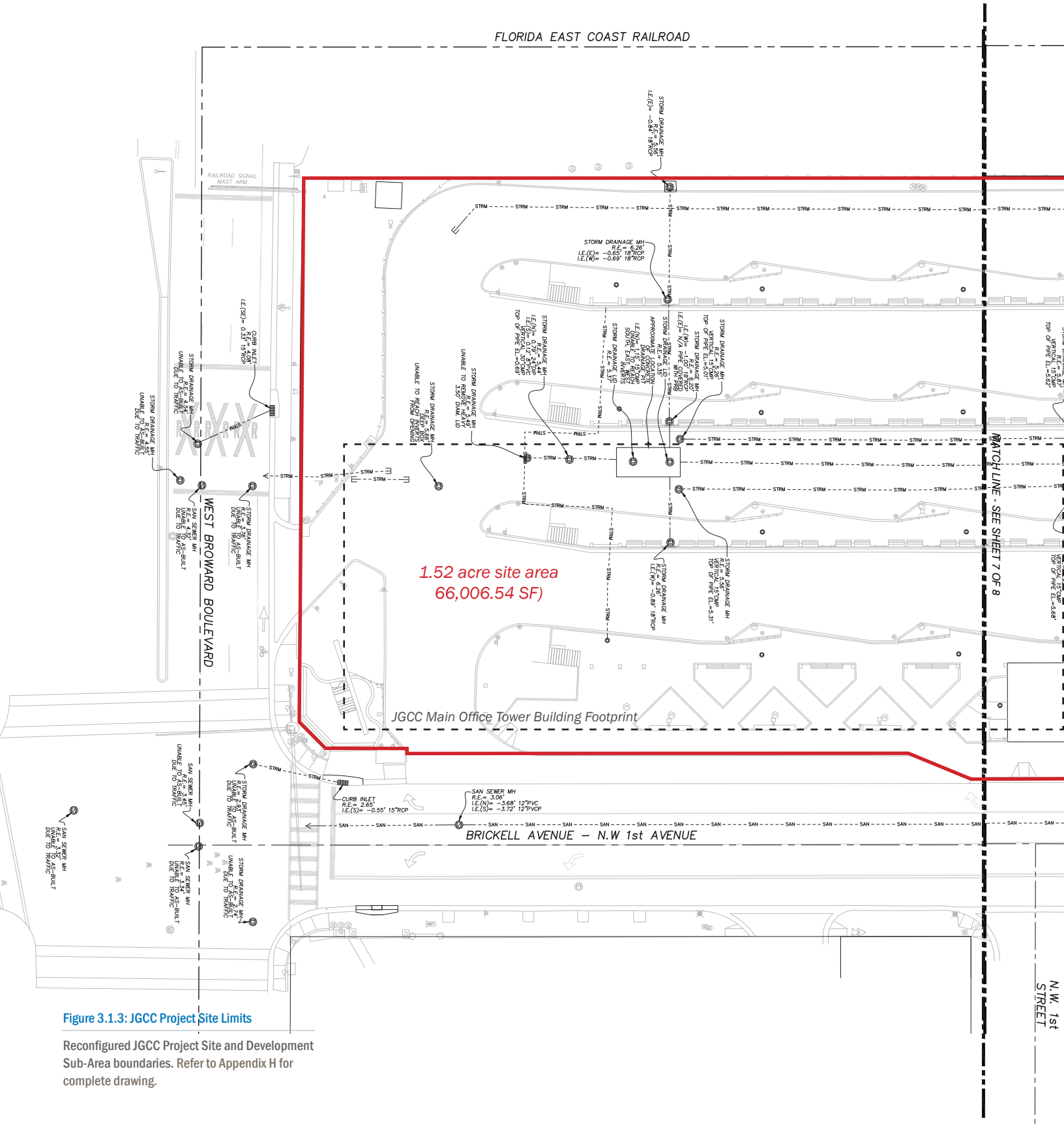
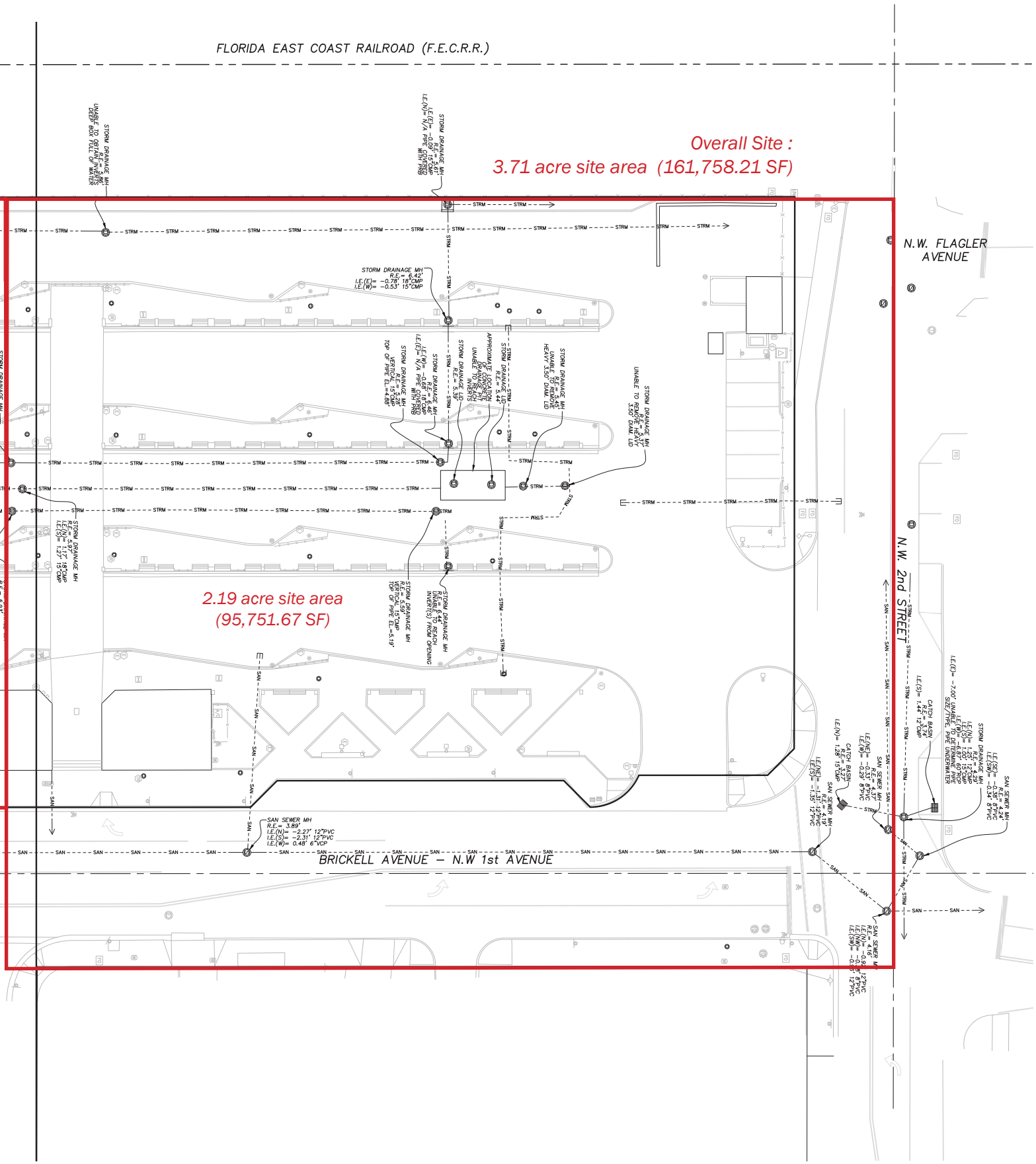


Figure 3.1.3: JGCC Project Site Limits

Reconfigured JGCC Project Site and Development Sub-Area boundaries. Refer to Appendix H for complete drawing.


FLORIDA EAST COAST RAILROAD (F.E.C.R.R.)
Overall Site :
3.71 acre site area (161,758.21 SF)
N.W. FLAGLER AVENUE
N.W. 2nd STREET
2.19 acre site area
(95,751.67 SF)
BRICKELL AVENUE – N.W 1st AVENUE
STORM DRAINAGE MH
R.E.= 6.42'
I.E.(E)= -0.78' 18"CMP
I.E.(W)= -0.53' 15"CMP
SAN SEWER MH
R.E.= 3.89'
I.E.(N)= -2.27' 12"PVC
I.E.(S)= -2.31' 12"PVC
I.E.(W)= 0.48' 6"VCP

Traffic Analysis

An overview of the existing traffic conditions near the JGCC site and the potential traffic impacts due to the trips generated by the new JGCC are included in Appendix O: Traffic Analysis based on the proposed JGCC Concept Plan.

Given the JGCC Development Program requirements and uses, proposed roadways improvements are recommended to mitigate the traffic impact associated with trips generated by the JGCC. One of the main concerns identified from the traffic analysis is that the existing left turn bay for vehicles accessing the site from eastbound Broward Boulevard to northbound Brickell Avenue during the morning peak might not be long enough. The proposed site is contemplating a parking garage with a capacity for 1,347 parking spaces and many of the County and City employees using those parking spaces are expected to originate travel west of or at I95. For that reason, it is important that the intersections leading to the site provide enough capacity for such left turns to prevent the formation of queues that could spillback to the FEC railroad crossing.

In order to address these concerns, improvements are proposed to restrict left turns at Broward Boulevard onto Brickell Avenue. Instead, left turns will be re-routed to the intersection at Andrews Avenue, where the existing left turn bay would be extended. In order to avoid extending the length of the routes for buses arriving at the new terminal from eastbound Broward Boulevard, it is recommended to keep the left turn at Brickell Avenue available for buses only. This means that the left turn restriction will only be enforced for vehicular traffic only.

No traffic issues are expected for vehicles leaving the new JGCC site. The right turn movements for the southbound approaches of the intersections at Brickell Avenue and at Andrews Avenue have exclusive right turn lanes and relative low volumes for both the AM and PM peak hours.

JGCC Parking Garage

Two parking garage ramps are proposed for access to the new JGCC Parking Garage. Traffic operational issues are not expected for the access point at Brickell Avenue and NW 1st Street given the limited number of conflicting movements at the intersection and the fact that traffic will be entering the bus terminal with a free flow movement. However, a traffic signal should still be considered given that the proposed geometry deviates from a traditional 4-legged intersection and potential conflicts with pedestrians.

A second garage ramp is planned at the intersection of Brickell Avenue and NW 2nd Street. Vehicles coming out of the parking structure will not have adequate visibility of conflicting traffic driving eastbound on NW 2nd Street. For this reason, a traffic signal is recommended at this location as well.

For the garage design, including planned number of parking spaces and selection of technology for the entry gates should be considered. A queuing analysis will be required to assess and plan for all impacts to the surrounding street network and should follow the methodology outlined in the Institute of Transportation Engineers (ITE) Transportation and Land Development to make sure queues at the entrance of the parking facility do not impact nearby facilities.

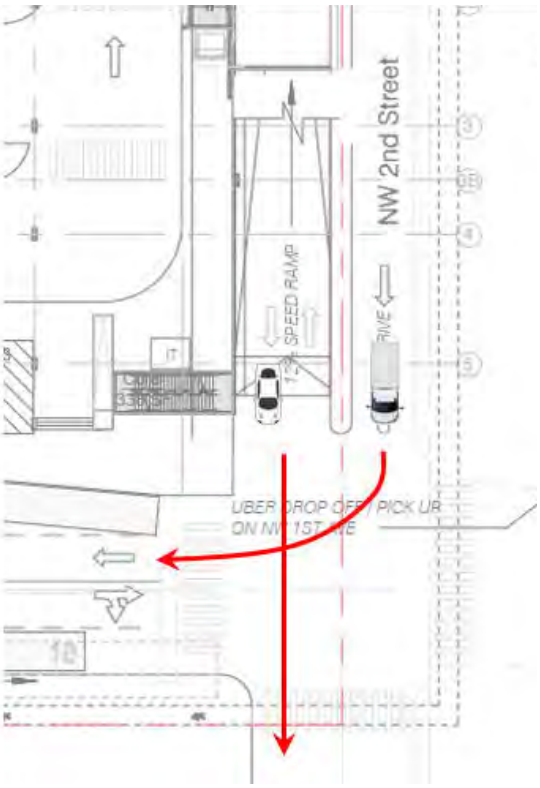


Figure 3.1.4: Parking Garage | North Ramp

For Transit Terminal Option 2, diagram indicates circulation at garage entry ramp located at the intersection of Brickell Avenue and NW 2nd Street.

Figure 3.1.5: Traffic Analysis | Option 1

Proposed Roadway Configuration

Figure 3.1.6: Traffic Analysis | Option 2

Proposed Roadway Configuration

3.2 Building Program Summary

The Joint Government Center Campus project will consist of the design and construction of the following program and building components to be developed by County and City at the identified project site:

1. New County and City Administrative Building, including County and City Commission Chambers, public meeting rooms and planned amenities;
2. New Broward County Transportation (BCT) Department Administrative Offices Building;
3. New Transit Terminal and transit mall streetscape improvements along Brickell Avenue for BCT buses, drop-off areas and bike/pedestrian access; and,
4. New multi-level Parking Garage with the potential to be converted in the future for office and retail use.

The proposed JGCC Concept Master Plan responds to the required spatial needs to meet current County and City needs and those in the near future as well as initiates a transformation from a basically prototypical government building into a catalyst for shared campus facilities and functions. The notion of a stand-alone government building is traded for the creation of a unique campus and district, recognizing synergies among both organizations.

Based on the programmatic spatial needs assessment and building requirements, the total gross square foot (GSF) area of development, as represented in the Concept Master Plan, has been determined to be 1,734,384 GSF, including the floors of the parking garage and the projected future growth through the year 2050.

The transformation begins instantly with the immediate impact of a new building and campus and over 50,000 GSF of public meeting spaces including both chambers, 32,062 SF of occupiable outdoor roof gardens, and over 220,300 GSF of amenities' spaces within the total development. Further improvements within the campus' footprint as well as nearby venues and linkages within the surrounding Downtown district further contribute to the overall unified vision. Refer to Section 4.0 for Concept Master Plan program details.

The following provides a brief summary description of each of the major building components required for the JGCC, explaining the basic overall functional requirements and the relationships to adjacent programs. **Refer to Section 4.0 and Book 2: Preferred Concept Plan for detailed program areas and site and building designs.**

Main Building | New County & City Administrative Offices

The Main Building of the JGCC is located at the northwest corner of Broward Blvd and Brickell Avenue and occupies the southern portion of the project site. Designed to accommodate the new County and City Administrative Offices including Commission Chambers for County and City, public meeting rooms and planned amenities, the Main Building Tower is planned as a twenty-nine-story structure. At the ground level, the main lobby and public access areas are designed to be accessed from Brickell Avenue and additional frontage along Broward Blvd with direct views to the stepped public plaza/terrace. Planned amenities within the JGCC for County and City employees shall include a cafeteria, childcare center, gym/health center, and wellness center.

New Administrative Offices Building | Broward County Transportation (BCT) Department

The JGCC program includes an independent building facility to be located on top of the bus terminal/parking garage structure. This new building will house BCT's administrative staff totaling 171 people, currently residing at Government Center West (GCW), and future staff projections for a total of 315 employees at this location. The building is planned as a five-story structure with a secured entry lobby, office spaces, meeting facilities, support spaces, and amenities. Public access to the building will be through the Main Building. Secured employee access shall be provided directly from the transit terminal and parking garage.

New Transit Terminal | Broward County Transportation

BCT's New Transit Terminal is planned to replace the existing Broward Central Terminal at the project site and will be located on the ground floor of the new multi-level Parking Garage. The Transit Terminal shall occupy the northern portion of the Project Site.

The creation of a new transit center at this location will continue to provide bus service throughout the County area and enable a more efficient approach to transit with intermodal capacities and connections to transfers using the adjacent Fort Lauderdale Brightline Station (FEC) within walking distance from the site and the County's planned light rail system in downtown Fort Lauderdale along Broward Blvd. It is expected that climate-controlled pedestrian connections to both the Brightline Station and potential light rail station on Broward Blvd will be accommodated in the final project

design. While not included in the concept plan design, the inclusion of an air taxi operation utilizing the roof of the BCT offices is being considered.

The new transit terminal is planned to accommodate up to (18) eighteen dedicated bus bay areas (platforms) and accessory areas including ticketing/waiting area for passengers. As part of the DCP, two terminal layout options are included to illustrate different bus-bay orientations and access and egress configurations as follows:

- Option 1 layout shows bus bays configured in an east/west orientation with all bus access from a reconfigured one-way (west) NW 2nd Street and bus egress along Brickell Avenue/NW 1st Avenue.
- Option 2 layout shows bus bays configured in a north/south orientation with all bus access from Brickell Avenue. Bus egress from the terminal is planned along a reconfigured one-way (east) NW 2nd Street.
- Refer to Appendix M for structural considerations based on selected layout option.

In both options, Brickell Avenue shall be reconfigured as a new Transit Mall streetscape with landscaped pedestrian walkways to connect the terminal to the Main Building. The bus bays shall be designed to accommodate 60' (l) articulated buses and 45'(l) buses within the covered terminal and a dedicated bus bay area along the east curbside of Brickell Avenue shall allow for (3) three additional bus bays with covered canopy areas to maximize bus storage capacity during peak operations. This concept will maintain capacity for BCT operations at this location and reinforce the potential for creating a transit-oriented component to the JGCC project in connection with existing and future potential passenger rail service on the FEC and on Broward Boulevard.

New Parking Garage

A multi-level parking garage is planned at the JGCC with capacity for 1,347 parking spaces over nine (9) levels of parking. The proposed garage is not expected to address the initial projected parking demand for the JGCC. Additional parking shall be required to accommodate JGCC needs within City and County owned parking facilities and private facilities located within walking distance of the campus or accessible via a future JGCC transit circulator. Vehicular access to the garage is currently planned from two parking ramp entryways located along Brickell Avenue/NW 1st Avenue and on NW 2nd Street. The JGCC Parking Garage shall be planned for potential future conversion into office space use. Secured employee access to the Main Building shall be provided on several levels directly from the parking garage.

TABLE 1.3.1: Concept Plan Building Program Components		GSF Area
	Main Building - Tower	**901,873 GSF**
	Main Floors - Level 1 thru 3	
	Amenity Floor - Level 4	
	Amenity Floor - Level 9	
	Office Floors - Level 5 thru 8 and 10 thru 27	
	Executive Suite - Level 28	
	Mechanical - Level 29	
	Broward County Transportation (BCT) Department Administrative Offices	**90,967 GSF**
	Office Floors (5 Levels) - Level 9 thru 13	
	Broward County Transportation (BCT) Transit Terminal	**70,912 GSF**
	Bus Terminal Area on Ground Level + Mezzanine Level of Parking Garage	
	Accessory Uses - incl Ticketing Waiting Area/Security	
	Parking Garage (1,347 parking Spaces)	**670,632 GSF**
	Level 2 thru 10 incl CEP (Central Energy Plant) on Level 10 of Parking Garage	
	Roof Deck / Roof Garden Areas	**79,882 GSF**
	On Amenity Floors - Level 4, Level 9 and Level 10	
	On Executive Suite Level - Level 28	

3.3 Programming and Workplace Approach

The Joint Government Center Campus (JGCC) program requirements and needs, as identified through this planning process, will accommodate approximately 2,100 County and City employees, in addition to the visiting public.

In order to determine the current and future needs of the County and the City, a Workplace Program Analysis was undertaken with the use of development tools and processes in order to analyze existing space performance and needs requirements, space constraints, and organizational mission and goals and provide design criteria that directly addresses the workplace programming and future building needs of the JGCC through the year 2050.

The Workplace Program Analysis derived design concepts and solutions from an understanding of both organizations' goals, culture, and current and desired work practices. This included gathering quantitative and qualitative data, gaining in depth knowledge of the employee and customer organization, conducting on-site observations, interviews, surveys and focus groups, and developing written program and guidelines to inform the design and design review processes. The resulting framework directly links the building workplace program and solutions to each organization's goals.

Program Overview and Intent

A robust workplace strategy and programming data-gathering process was undertaken with key leaders and staff from Broward County and the City of Fort Lauderdale. The work completed is intended to directly impact the planning, design, and build-out of the new Joint Government Center Campus (JGCC). The programming process has culminated in a series of deliverables including a programmatic summary and workplace playbook.

The work conducted is intended to be used as a summary of all identified drivers, organizational goals, and workplace opportunities to inform the design and development of the new JGCC. The information serves as a toolkit to be leveraged as the basis for creating a work environment that will support the culture and work behaviors desired by the leaders and employees of the City of Fort Lauderdale and Broward County in the new JGCC.

This multi-layered programming process to develop the go-forward plan for a visionary, efficient and cost-effective campus representing the aspirations and values of both entities is critical because the workplace can make an essential contribution to achieving the County and City's organizational goals. Addressing the following in workplace solutions, leadership modelling, technology and work process will ensure future success of both organizations.

The guidelines and programmatic recommendations included in this DCP is not intended to serve as a detailed architectural design program or an over-dictation to the selected project development team. There remains a need for the architect and selected team to be creative and respond to new information and building realities. These guidelines inform, but do not replace, the need for future clarifications and design development.

These guidelines determine the quantity and characteristics required to develop a state-of-the-art Government Center for City of Fort Lauderdale and Broward County, through a comprehensive examination of current and future headcount and operating requirements, integrated with a vision of future workplace strategies.

The programming results in this document examines both the "what" – the spatial requirements of the workforce and operations, and the "how" - a workplace strategy to guide the design and management of the workplace, to enable both organizations to create a productive, sustainable and inspiring new Joint Government Center campus and facilities.

Present Conditions

Both the City and the County occupy very old and outdated office space. The current Fort Lauderdale City Hall was opened in 1969. This 51-year-old structure appears to be well past its useful life and the floor size and layout impedes modern ways of working. It is too small to co-locate all city services management. The site can support a much larger facility and the City can redeploy it for other uses. To accommodate the growth in demand for city services, the City has had to occupy several other administrative buildings in the city.

At the 1960 Census, Ft. Lauderdale had a population of ~84 thousand people. A 2020 population estimate is ~183 thousand people. City population has grown ~8% from 2000 to 2010. Today the city has an active, diverse economy and hosted over 14 million business and leisure travelers in 2018. Most of the land mass in Ft. Lauderdale was built out by the 1970's. Future population growth will be housed from redeveloped lower density sites, and a recent building boom of high rise residential is transforming the Downtown Las Olas area.

Fort Lauderdale is the County Seat for the Broward County government. The current Broward County government center at the corner of Andrews and SW 2nd Street was originally built in 1947 as Burdine's department store. In 1980 the store closed, and the County purchased the building and retrofitted it to office use. Because the building was originally a store, the floorplates are deep and the building exterior lacks windows. Much of the building interior is also "poured in place" concrete, which is inflexible, making it very difficult to reconfigure the interior to house large footprint departments and provide easy adjacency to related departments. Public access circulates throughout the building, requiring card key access to every office suite. Both Chambers are embedded inside the building on the second floor, requiring additional security. In addition, the building site has future redevelopment potential and value to leverage its present locational assets.

At the time of the building's conversion in 1980, there were about one million residents in Broward County. In the ensuing 40 years, the County population has nearly doubled to almost 2 million. Only 35% of the County's land mass is urbanized – the remainder is conservation land in the Everglades. Most developable land is in active use. County population is projected to increase at a steady but modest rate.

While both buildings feel crowded and lack access to natural light due to their exterior fenestration and internal layouts, the use of space per person is high due to the high loss factor from building corridors and core areas. Many oversized closed offices are found in the legacy space, while many other areas are very densely occupied, with pockets of underutilized spaces and most of the spaces have not been reconfigured or "restacked" due to costs. Many of the conference spaces originally included in the spaces have been taken over to accommodate workforce growth, resulting in a severe lack of meeting space.

It is important to keep these present conditions in mind when assessing future workplace needs. Since there is limited collaborative space (as conference rooms were lost to individual workspaces) it may be that today's organizational processes are based upon these limitations and would benefit from more collaborative space and a wider choice of work environments. Therefore, while it is certainly useful to ask employees about a future vision of their workplace, this vision may very well be constrained by their experience within present conditions.

Highlights JGCC Workplace Program

A detailed listing of each Department and Division programming requirements and workplace strategy recommendations for the new JGCC can be found in Appendices A, B C and D. **Note Appendix D is to be used for background purposes only as additional information was collected subsequent to the issuance of that report that necessitated a number of changes in the final recommendations included herein.**

Key highlights of the JGCC Workplace Program are as follows:

1. Program Requirements – High-level findings at the building level
2. Workplace Strategy - High-level findings
3. Strong Consensus and Desire to Transform
4. Visitor Experience
5. Employee Experience
6. Key Themes for a New JGCC Workplace including strategies for addressing the following:
    - *Productivity: Accelerate Performance*
    - *Innovation and Collaboration: Create Connections to Drive the Organizations Forward*
    - *Enhance Efficiencies and Support Adaptability Over Time*
    - *Technology*
    - *Connection to Mission, and,*
    - *Wellness Principles*

Summary of JGCC Program Requirements

The Joint Government Center Campus (JGCC) Workplace Programming Requirements and Recommendations are organized into three parts as follows:

1. Adjacency Analysis Stacking Plans for City and County Departments and Divisions.

2. JGCC Workplace Guidelines and Standards.

3. JGCC Shared Spaces which have been designated as "Main Floor" meeting spaces on Levels 2, 3, 4, 9 and 28 (Executive Suite).

Refer to Section 4.5 and to the following Appendices for specifics on City and County Workplace Program by Department and Division:

- Appendix A: Adjacency Analysis Stacking Plans
- Appendix B: Workplace Guidelines and Standards
- Appendix C: Meeting Room Conceptual Layouts for Main Building on Levels 2, 3, 4 and 9

For background, refer to Appendix D: Program of Requirements and Workplace Strategy Report dated May 20, 2020.

JGCC Workplace Programming Process

A workplace strategy and programming data-gathering process was undertaken during January and February 2020 with key leaders and employees from the City of Fort Lauderdale and Broward County. The work completed is intended to directly impact the planning, design, and build-out of the new JGCC. The Discovery process, and a series of read-outs and decision workshops, culminated in deliverables associated with Phase 1A including a programmatic summary and workplace playbook.

The programming work conducted by the DCP design team is intended to be used as a summary of all identified drivers, organizational goals, and workplace opportunities that will begin to inform the design and development process for the new JGCC in Fort Lauderdale. The information serves as a toolkit that the selected design team will leverage as the basis for creating a work environment that will support the culture and work behaviors desired by the leaders and employees of the City of Fort Lauderdale and Broward County in the new JGCC.

This multi-phase programming is essential because the workplace can make an essential contribution to achieving organizational goals. Addressing and implementing new workplace solutions, leadership modelling, technologies and work processes will ensure the future success of both organizations.

The work summarized in the DCP shall serve as guidelines and programmatic recommendations. This is not a detailed architectural design program or an over-dictation to the selected design team. There remains a need for the design team to be creative and respond to new information and building realities. These guidelines inform, but do not replace, the need for future clarifications and design development.

To determine the quantity and characteristics required to develop a state-of-the-art Government Civic Center for the City of Fort Lauderdale and Broward County, a comprehensive examination of current and future headcount and operating requirements, integrated with a vision of future workplace strategies, is required.

This document examines both the "what" – the spatial requirements of the workforce and operations, and the "how" - a workplace strategy to guide the design and management of the workplace, and to enable both organizations to create a productive, sustainable and inspiring new Joint Government Center.

Programming Workshops, Surveys and Interviews

A multi-stage process developed the "what", the Program of Requirements. First, a questionnaire was distributed to department/agency heads, division directors and city leaders as identified by the Steering Committee and cross referenced to organizational charts, as available.

Second, follow-up in person interviews were conducted by at least two members of the design programming team, accompanied by representatives of the County's Construction Management Division. The open ended discussion reviewed the questionnaire responses (when available prior to the interview time) and sought to gain a better understanding of

the mission, work process, typical personnel, patterns of interaction, potential growth, contraction or reorganization, security, technology, and other operational requirements related to the use of space and facilities.

The work was also supported by researching trends in government office design and development and by consulting with economic development forecasts to model and develop a plan that will be well oriented to future requirements over the next two to three decades.

A model profiling each department and divisions requirements was developed based upon both the questionnaire responses and knowledge gained through the interviews. Spatial requirements (size of office footprint, sizing of support spaces and circulation factors) were quantified and headcount numbers were assigned to major job function categories.

Space allocations were informed by the findings of the Workplace Strategy process. Rolled up common space requirements and the development of a Program for "Main Floor" spaces that will be shared by the City and the County were identified.

The findings of the Programming and Workplace Strategy were regularly communicated with the City and the County to inform the sizing requirements of the administrative and common space leading to the building massing studies and site development requirements conducted as part of the development ofthe JGCC Concept Plan options.

The Program Requirements were revised by representatives of the County and the City after a review period (March-April-May 2020) and the Revised Appendix A incorporates their feedback.

The resulting Program Requirements, detailed by Department and by Division for both City and County, are compiled in Appendix A to this DCP document.

Workplace Strategy Development

Technology – how we access, analyze and communicate information - has radically changed how, where and when we perform the work of organizations. Planning for a new building is not simply a matter of a "box" for every "body". The workplace must support complex social processes that enable us to process, interpret and act upon information in an efficient and effective manner. It is essential to not only understand the headcount, job functions, and operational requirements in planning for the future, but to understand how the work is done, the culture that informs it, and how we can best support the most important and most expensive part of the organization – the workforce.

Parallel with the programming process, and with frequent points of integration, a series of activities to discover current workplace dynamics and to develop a Workplace Playbook - refer to Appendix B - to provide design guidance for the JGCC workplace were conducted. The overall questions explored were as follows:

- How do we prepare for the future?
- What does it look like?
- How big and how much?

Multiple methods were applied to answer these questions:

Leader and focus groups: workshops were conducted with senior leaders and employees to discuss meta-trends impacting the City and County and to explore cultural and work factors that will impact the office environment. 44 County employees and 16 City employees participated in focus groups. In total, 18 leaders from both organizations participated in the Steering Committee which also held a workplace visioning session.

Individual interviews: Interviews were conducted with key leaders from the various departments to understand the goals that are driving success and how the new workplace can aid in completing those objectives. Nine county and three city interviews were held.

Work environment survey: All employees identified to occupy the new building were invited to participate in a detailed workplace survey to better understand what they do, with whom they work, what they value, and the culture they desire. 47% of County and 44% of City employees returned completed surveys, which is considered a good response rate.

Site tour and observations: The existing locations were toured by the team to get a sense of how the spaces are currently organized and used.

Review of existing data: Current City and County workplace standards and earlier studies were reviewed.

The findings from these activities, and the resulting Workplace Strategy recommendations were developed into a "Joint Government Center Campus Workplace Playbook" which is attached as Appendix B, C and D to this DCP.

Integration of Programming and Workplace Strategy

The Colliers Programming team coordinated with the Colliers Workplace Strategy team and Zyscovich team members to develop the space allocation data for budgeting space. Space standards for office workers are simplified and updated, while referring to the current County and City standards. At the request of the County and City after the recommendations were reviewed, the County's 2009 space standards were applied to the final Program Requirements presented in this document.

Based on these standards, the following workspace typologies highlight general considerations for the new JGCC workplace design.

- "Executive Suites" are budgeted for 320 USF, an amount which allows for a conference table or soft seating in the closed office.
- "Executive offices" are budgeted for 225 USF, an amount which allows for a small conference table or soft seating in the closed office.
- "Offices" at 125 USF or 150 USF and can accommodate one or two visitor chairs.
- Individual workstation sizes vary between 64 USF, 100 USF and 125 USF are shown in Appendix A.

Refer to Appendix B for applicable JGCC Workplace Guidelines and Standards.

Visitor chairs in workstations are not recommended as the workplace strategy approach accounts for additional adjacent small conference and other collaborative spaces. This will serve the needs of both types of work most frequently performed – administrative, concentrative work performed by financial and other types of analysts, and design oriented "studio" type work by planners and project managers.

Headcount assignments are based upon an estimate of headcount at year five, when it is presumed that the building/s will be operational. Future headcount projections through year 2050 were revised in the Review phase and are reflected in Appendix A. Further discussion of growth projections and methodologies are also covered.

Support spaces were assigned based upon ratios to the number of office workers each space supports. Conference room allocations were also based on headcount ratios, but qualitatively adjusted for smaller and larger departments. A more detailed discussion of how conference space was assigned is detailed in Appendix B.

Shared collaborative spaces are provided throughout the space, to both encourage informal interactions, short meetings and personal breaks. Small rooms for personal phone calls, small group "huddles" and periods of high concentration work are generously distributed.

Special Spaces were allocated based on the special needs of each department and/or division and were identified during the interviews with each lead.

Detailed department and division summaries, containing the quantitative assignments as well as notes from the interviews, are contained in Appendix A and D.

Note that the programming requirements and adjacency analysis stacking plans included in this DCP are for planning purposes only and will require validation at the design development stage as different building and floor configurations can impact adjacencies and resulting space requirements.

3.4 Planning Process

Overview

The JGCC planning process was conducted over an eight-month time period starting in January 2020. The process involved the programming, planning and creation of a design criteria package (DCP) containing the technical specifications for the design, construction and maintenance of the new building(s) and campus.

As detailed herein, a series of programming and planning meetings were held as part of the planning and development of the JGCC Design Criteria Package (DCP) work.

Executive Committee and Steering Committee Meetings

A JGCC Executive Committee was formed to provide leadership, guidance and feedback to the project team throughout the programming and planning process. The Executive Committee is represented by the following members:

- Chris Lagerbloom, City Manager, City of Fort Lauderdale
- Alan Cohen, Assistant County Administrator, Broward County
- Ariadna Musarra, Director of Construction Management Division/County Architect, Broward County

A JGCC Project Steering Committee was created in an effort to obtain a wide variety of input and feedback from a range of viewpoints. The committee includes representatives from both County and City and are as follows:

Broward County (11 members)

1. Alan Cohen - Assistant County Administrator
2. Scott Campbell - Director, Facilities Management
3. Steve Hammond, Acting Director, Public Works
4. Ariadna Musarra - Director of Construction Management Division / County Architect
5. Rob Dennis, Capital Program Administrator, Construction Management
6. Michael Ritus, Construction Project Management Supervisor, Construction Management
7. Keith Wolf - Chief Information Officer, Enterprise Technology Services
8. Dr. Jennifer Jurado - Director and Chief Resilience Officer, Environmental Planning and Community Resilience
9. Chris Walton - Director, Transportation
10. Bruce Ferguson - Capital Program Administrator, County Administration
11. David Kahn – Director, Human Resources Administration

City of Fort Lauderdale (6 members)

1. Greg Chavarria, Assistant City Manager
2. Tarlesha Smith, Assistant City Manager
3. Jodi Hart, Chief Procurement Officer, Procurement Services
4. Susan Grant, Director of Finance
5. Andrew Parker, Chief Technology Officer and Director of Information Technology Services
6. Phil Thornburg, Director, Parks and Recreation

The Steering Commitee along with other invited participants first met on January, 08, 2020 to kick-off the project and review the expected programming and planning processes, goals of the project both short and long term, and project schedule, organization and protocols.

County and City Staff Meetings

During the JGCC planning process, a series of bi-weekly review and coordination meetings were held between County and City project staff and the DCP consulting team led by Zyscovich Architects (Consultant). These bi-weekly meetings were separate from the Programming work involving stakeholder coordination and focus sessions. At each of the review and coordination meetings, Consultant and Contract Administrator reviewed the Schedule and Scope of Services and Consultant's progress to date on the Phases and Tasks, and any special problems related to the continuing progress of Consultant's performance of the Services. For each project review meeting, Consultant provided progress sketches, 3D Building Information Models (BIM) and other documents sufficient to illustrate the level of progress and any issues, for the Contract Administrator's review.

The initail kickoff meeting for the JGCC Planning and Programming work was held on January 08, 2020 and included the Consultant and representatives of each Subconsultant and representatives of the Executive Committee and Steering Committee members from City and County. The Kick-Off meeting privided a forum to review goals and performance expectations for each Phase and/or Tasks to be addressed by the Consultant.

JGCC Focus Sessions / Workshops

A series of focus sessions / workshops were organized and led by Zyscovich Architects together with subconsultant representatives ofthe DCP design team specializing in key areas to discuss and address key issues related to the planning, design and construction of the JGCC. These meetings were held on March 5, 2020 and were attended by the Executive Committee and Streering Committee Members as well as representatives from various County and City agencies and City and County project staff. The Focus Sessions format included brief presentations by members of the Consultant Team followed by detailed discussions and Q&A. Refer to Appendix P for a copy of each Focus Session presentation.

The three key topic areas covered during these sessions included the following:

1. Sustainability
2. Technology
3. Security

Focus Session on Sustainability - Summary

The Sustainability Focus Session was conducted to establish priorities for net-zero energy strategies, resilience and Wellness goals for the JGCC project with the understanding that incorporating sustainable goals and milestones at every step of the design process is key to achieving overall performance gains. As a result of these discussions, the JGCC Design Criteria Package includes sustainable design criteria to meet LEED Silver rating as minimum target (United States Green Building Council Leadership in Energy and Environmental Design). The design intent is also to develop a Net-Zero Energy building complex inclusive of WELL Building features and criteria. LEED Platinum certification is anticipated if Net Zero Energy design is implemented.

The Focus Session discussions were facilitated by the DCP Design Team and included the following topics:

- Energy Efficiency, Net Zero and Microgrids
- LEED, Net Zero and WELL
- Resiliency and Sea Level Rise

Discussions covered the potential strategies for alternative energy systems, Broward County's NatureScapes program, and other innovative sustainability features proposed for the development of the JGCC. Sustainable design features and strategies shall be part of all aspects of the Project including those on- and off-site areas improved to provide campus connectivity.

Focus Session on Security - Summary

Security of JGCC personnel and building is a critical design component of the JGCC Program. During the Security Focus Session, general security considerations and guidelines addressing public entry screening, circulation patterns and separation of public and private uses, Commission Chambers, feature meeting rooms, and safety were discussed with particular attention to the impact of new technologies upon security considerations. Security considerations were grouped into topic areas covering the following issues:

Building Infrastructure Security

- Structural design
- Façade design
- Glazing design
- Door construction
- Utility support structures
- Points of entry (POE) for all major incoming utility and communication services to support redundancy and life safety operations

Building Security Systems

- Access Control and Alarm Monitoring
- Duress/Call for Help Systems
- Video Surveillance Systems
- Specialty VoIP Intercom Systems
- Radio and DAS Systems
- Mass Notification System, Staff Specific (Not Fire Life Safety)
- Law Enforcement Specific Systems
- Sheriffs Detainee Physical and Operational Layouts
- Door Locking (Holding Cells)

Site Security

- Site layout and access pathways by vehicles and pedestrians

- Vehicle interdiction for vehicles, deliveries, staff parking, public parking, special visitor parking, vehicular screening.
- Assess need to modify with the county and city, existing or proposed traffic patterns on adjacent streets

Site BLAST Risk Assessment

- Possible Exterior Explosion Locations
- Building Vulnerabilities including internal vehcular and pedestrian circulation and unsecured areas
- Site Limitations
- Countermeasures to limit BLAST effects

Focus Session on Technology - Summary

The role of existing and future technological applications were discussed with County and City's information technology personnel in the Technology Focus Session to define high-level parameters and guiding principles of technology in order and understand impact upon space needs and potential technology applications for each major space within the government center environment. Space implications of the various technology applications were addressed and quantified as feasible and included the following discussion topics:

- The "dynamic tension" between tradition and technology, reviews of appropriate applications, and research of emerging trends that will impact JGCC space requirements in the future.
- Basic technology applications and the need to be equipped with appropriate workstation architecture
- The technological implications of "high profile" Board Meetings that attract extensive media attention and demand electronic interface with many different aspects of the Campus operation will be included in the focus session discussions and the general spatial implications for dealing with such contingencies.

In an effort to anticipate the spatial implication of technological change throughout the Campus system, an overview of the current technologies utilized within the major functional components were discussed such as the administrative areas, main lobby space, chamber access, etc. A discussion of the future philosophy regarding the application of the technological systems that impact space and the role of existing and future technological applications, such as these, were discussed with County and City operations and information technology personnel.

Chapter 4
Project Implementation

4.1 Concept Plan Options
4.2 Preferred Site Concept Plan
Site Plan Summary
Site Plan Graphics
4.3 Preferred Building Concept Plan
Building Concept Plan Summary
Building Concept Plan Graphics
4.4 Concept Plan Development Components
4.5 Adjacency Analysis and Stacking Plan
Standard Method of Measurement
Departmental Spatial and Planning Principles

4.1 Concept Plan Options

As part of the programming and planning efforts for the JGCC project, the DCP Design Team developed three conceptual options for analysis and selection of a preferred option for further development. The three options tested various locations and configurations for siting of the Main Building (New County and City Administrative Building) program components for review by the City and the County.

Option 1 proposed an L-shaped building configuration with an L-shaped building core. Office floor main views are to the east and south of the site.

Option 2 proposed a U-shaped building configuration with a U-shaped building core. The three main facades of the building face south, east and north with a central courtyard/atrium.

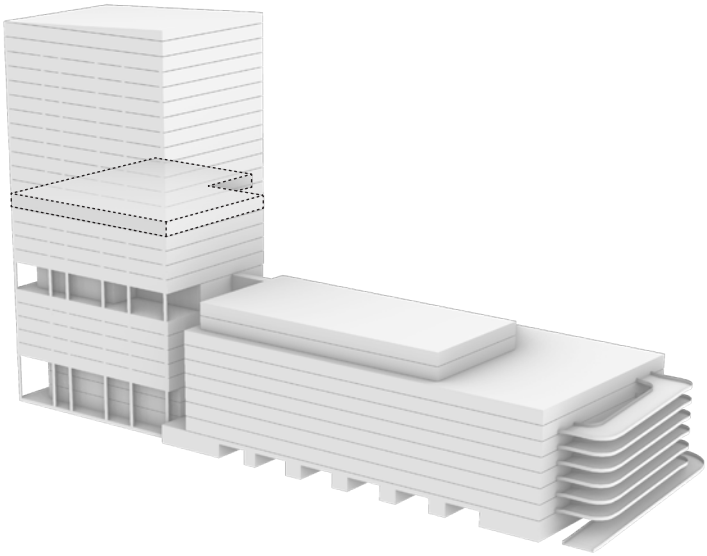
Option 3 arranges the program in a rectilinear floor plate / tower configuration. Office floor main views are to the east and west of the site.

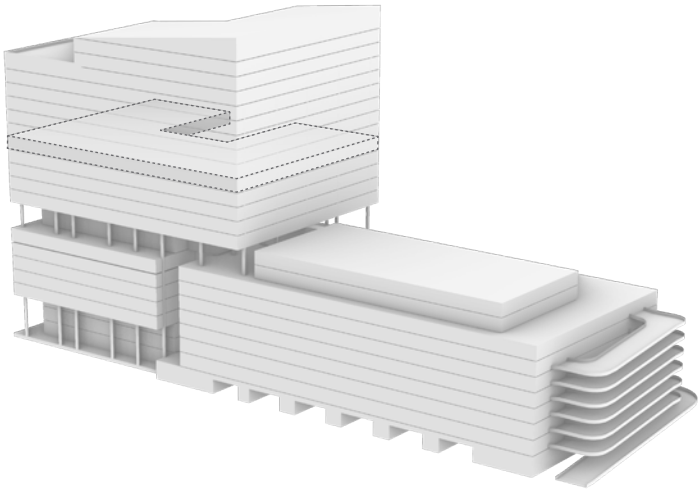
A Series of Common Elements and Key Differentiators were explored between Concept Plan Options 1, 2 and 3, summarized as follows:

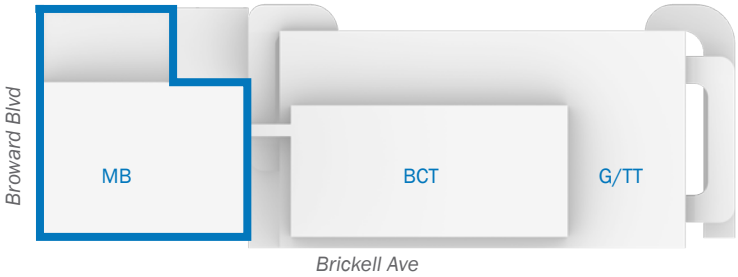
1. Access to Bus Terminal and Garage are same for all three options
2. Site Boundaries vary depending on option
3. Building Height varies between options - Option 3 has more office floors than Options 2 and 3 due to floor plate size
4. Building Core location is same for Option 1 and 3
5. Office Floor Plate Size (SF area) and dimensions affects Efficiencies
   - Typical Office Floor Plate size - Varies between Options
   - Layout - Open Workplace Strategy vs Enclosed Office Layout (15% efficiency loss factor)
6. Amenities - Common Central Spaces were considered for each Office Floor
   - TOTAL SF area varies as depends on Building Height (# of office floors)
7. Location of Chambers and Commissioners Offices. Two options were considered: Offices above Chambers vs Upper Floors
8. Main Floor Uses - Location Options vary for Utility Department (City) and Print Shop (City and County)
9. Transportation Department - Standalone Building at Transit Terminal/Garage Building for ALL Options.

Figure 4.1.1: Concept Plan Options 1, 2 and 3

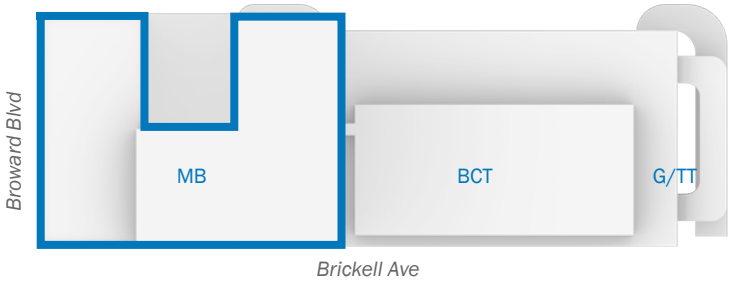
From top to bottom, 3D massing renderings depicting studies for JGCC Concept Plan Option 1: L-shaped; Option 2: U-shaped; and, Option 3: Tower Hybrid building configurations.







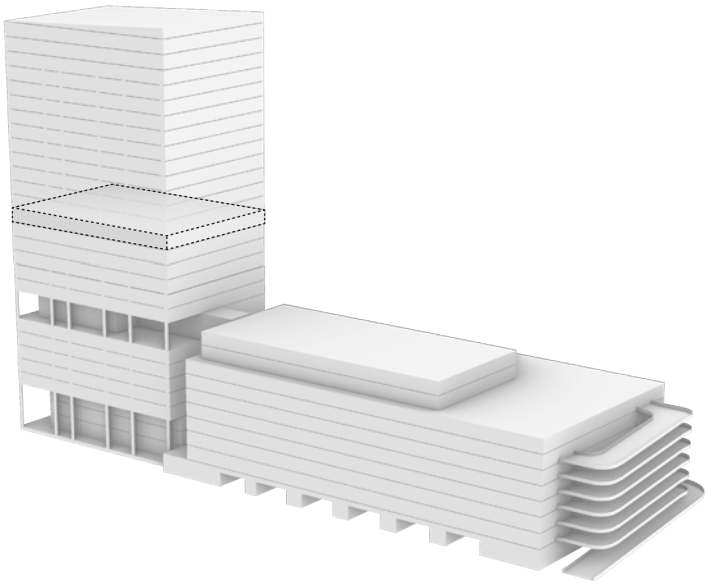
Concept Plan Option 1
L-Shaped

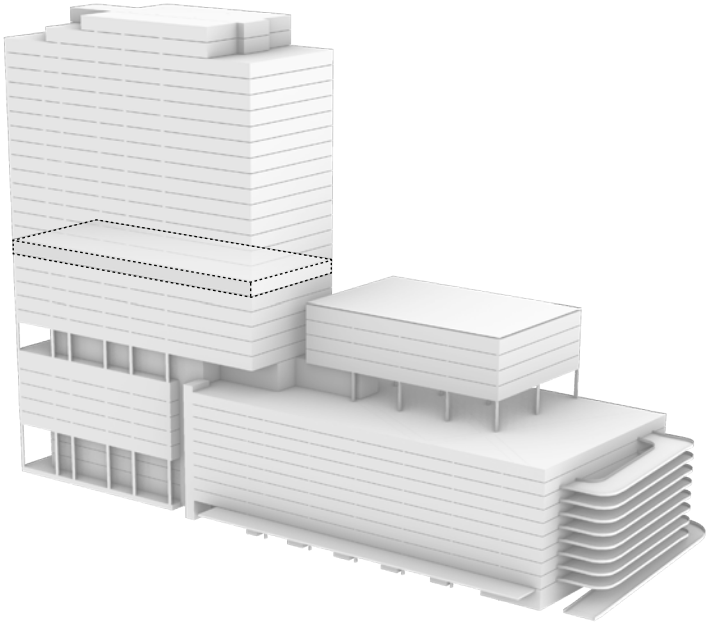


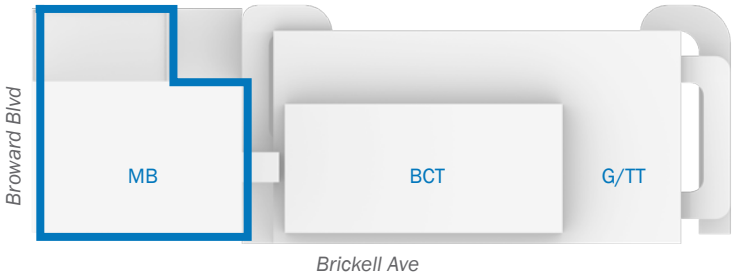
Concept Plan Option 2
U-Shaped

Figure 4.1.2: Concept Plan Options 1, 2 and 3

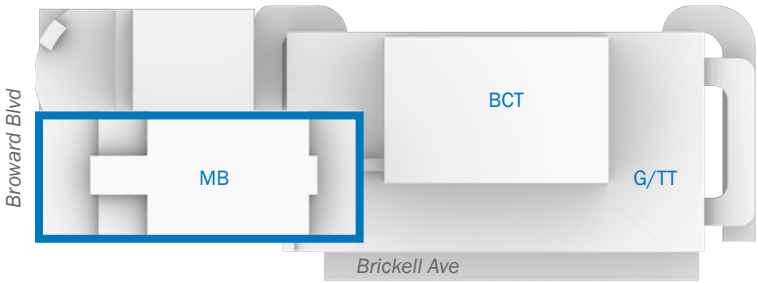
MB - Main Building
BCT - County Transportation Admin Offices
G/TT - Garage and Transit Terminal







Concept Plan Option 3
Tower



PREFERRED OPTION

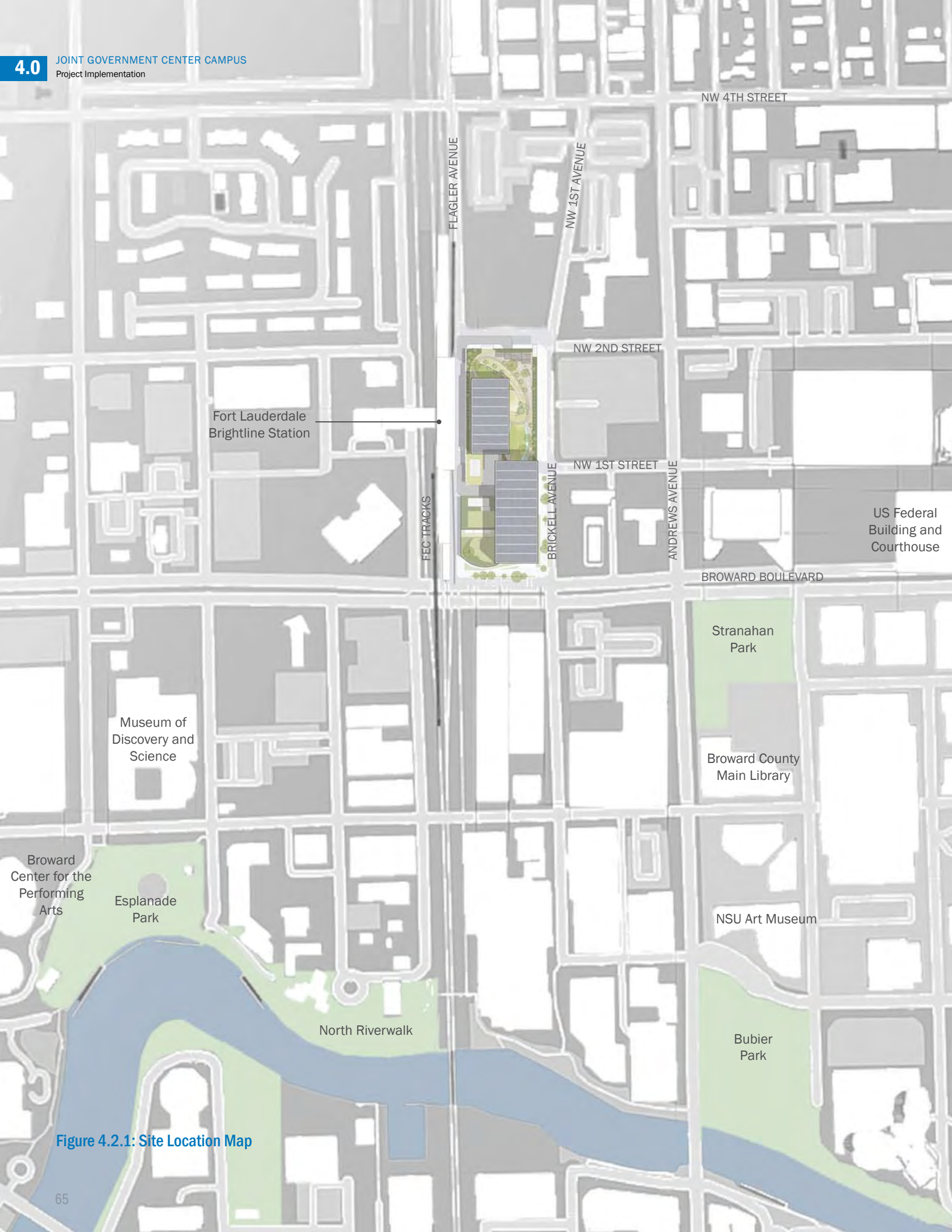


Figure 4.2.1: Site Location Map

4.2 Preferred Site Concept Plan

The Joint Government Center Campus (JGCC) will transform downtown into a more walkable destination, increase the number of employees and visitors supporting downtown businesses, and provide a catalyst for new mixed use redevelopment in the surrounding area. Through the development of the JGCC, the County and City will have enormous influence and control over downtown's evolution as redevelopment improvements will undoubtedly impact other public- and privately-owned properties in the vicinity of the site.

The planning and urban design goals for the project create a highly visible new urban gateway into Downtown Fort Lauderdale by opening up the site to front Broward Boulevard so it is much more accessible to the public as well as expands the boulevard's role as the major east/west corridor within Downtown. Using these as guiding principles, the approach to the site layout is more than a collection of buildings and program surrounded by public streets. The project is a desire to create meaningful physical and programmatic connections between the new government campus, the site's multimodal transit opportunities, access to the Riverwalk and to Downtown Fort Lauderdale's cultural, entertainment, and civic uses.

The redevelopment of the site for the JGCC will try to connect well established assets and attractions and draw from their energy and success. While the architecture of the buildings will be absolutely important, however, what is more important are the spaces created around connectivity and scale to build a signature image for the downtown, and create a true sense of place.

For the DCP Concept Plan included herein, careful thought was given to each building placement on the site and the overall configuration of the campus. Bordered by Broward Boulevard to the south, Brickell Avenue/NW 1st Avenue to the east, NW 2nd Street to the north and the FEC railroad tracks and Fort Lauderdale Brightline Station to the west, the site presents unique opportunities as well as constraints for its redevelopment.

The JGCC is proposed to be oriented with main frontages to the north of Broward Boulevard and west of Brickell Avenue, which is where the main entry is proposed to be located given the existing conditions and boundaries of the site as well as the planned uses and required functional adjacencies between uses.

Most importantly, the principal means of integrating the JGCC with the surrounding downtown area is to have its main frontage be to the south of the site since the shortest distance to public/civic uses and downtown amenities within the area and including the Riverwalk is to the south, within walking distance of the planned campus.

The design of safe crosswalks or a pedestrian bridge from the JGCC across Broward Boulevard shall be considered for improved efficiency, safety and connectivity.

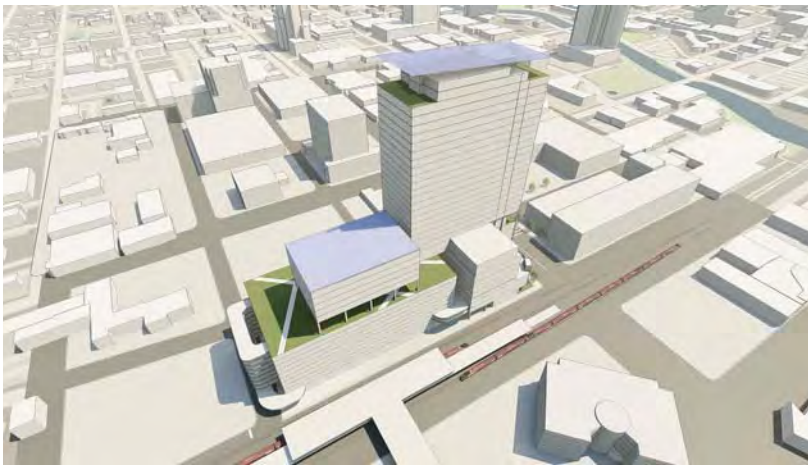


Figure 4.2(A): Preferred Concept Plan

View 1 - looking southeast.

Figure 4.2(B): Preferred Concept Plan

View 2 - looking northwest

Figure 4.2.2: Site Concept Plan and Location Map

Site Plan Summary

As illustrated in the adjoining Site Plan, the main design criteria elements for the Proposed Site Concept Plan are as follows:

1. At the site's most prominent corner, Broward Boulevard and Brickell Avenue/NW 1st Avenue, a raised podium lines both sides of the southern portion of the site to create a landscaped and welcoming raised Civic Plaza. Lined by a three story colonnade, this space is civic in its presence and location creating a true new gateway into downtown. The western portion of the site frontage across the railroad tracks is defined by a curved multi-story space with a rooftop deck.

2. Along the eastern edge of the site, a reconfigured Brickell Avenue is designed to function as a 'transit-mall' between Broward Blvd and NW 2nd Street: a newly landscaped avenue flanked by new shade trees and palm trees, lighting, site furnishings and paving for access by pedestrians, bicyclists, buses, trolleys, and cars. A drop-off area between Broward and NW 1st Street will be available for ride-hailing or peer-to-peer ride sharing services. By the Transit Terminal area, located between NW 1st and NW 2nd streets, a covered canopy area on the eastside of Brickell Avenue will accomodate passengers waiting for trolley or bus service. The design of the street will create activity and general ownership (eyes on the street) along this important edge.

3. On the northern two-thirds portion of the site, the new transit terminal is located on the ground floor of the planned parking garage. Two transit terminal options are proposed based on bus bay configuration. The top deck of the garage structure will house the separate BCT Admin Offices building surrounded by a landscaped roof garden serving as an amenity space for JGCC employees and visitors - a space for respite, for exercise, for sitting and access for visitors and employees to enjoy lunch outdoors. The design of this space shall include sustainable design practices with regards to plant palette, irrigation, and required soil design.

4. Along the FEC railroad tracks, running paralell to the entire length of the western edge of the project site, a new service drive shall provide access to BOH functions and the loading dock area as well as for use by emergency vehicles and bus storage during evening hours.

5. Parking garage access and egress is provided from two separate ramp locations: one at midpoint of the block, at NW 1st Street and Brickell Avenue, and a second one located on the northern side of the JGCC site, at NW 2nd Street and Brickell Avenue.

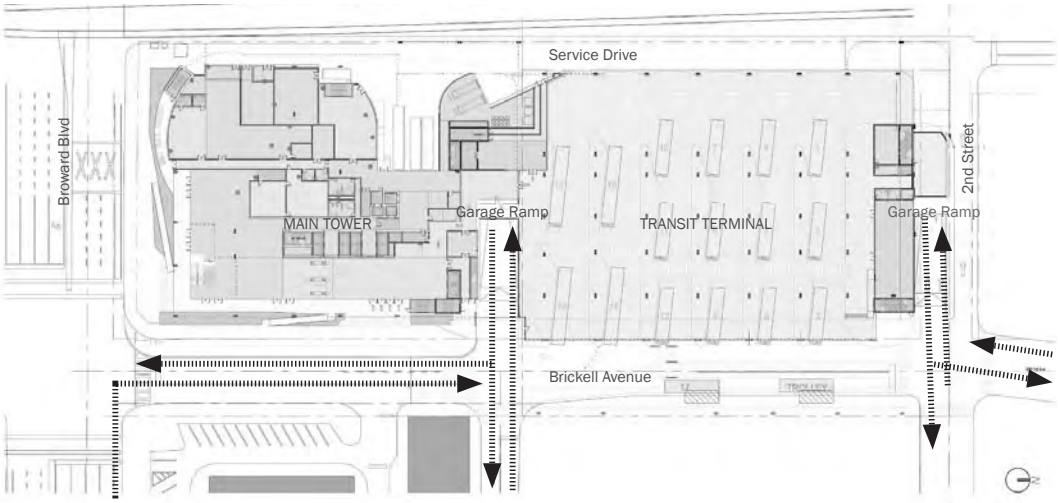
Figures 4.2.3 and 4.2.4 illustrate two proposed site circulation patterns and access, dependent on the two Transit Terminal configuration Options 1 and 2.

Figure 4.2(C): Preferred Concept Plan

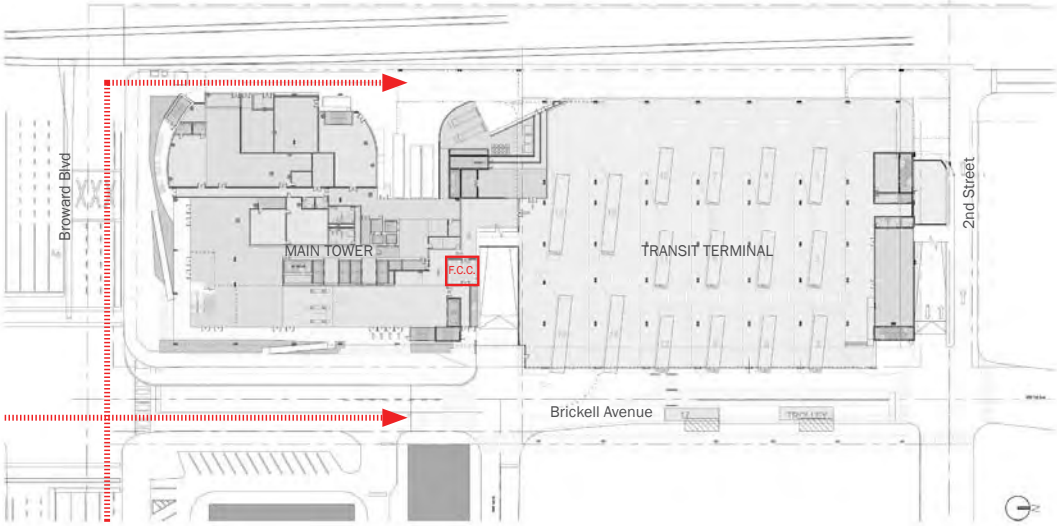
View looking southwest

Figure 4.2(D): Preferred Concept Plan

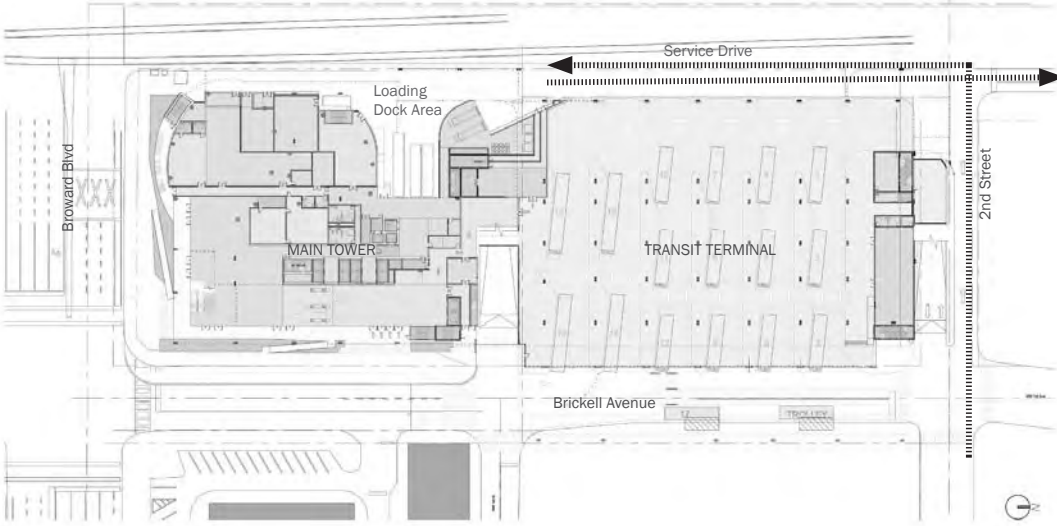
View looking northeast



Vehicular



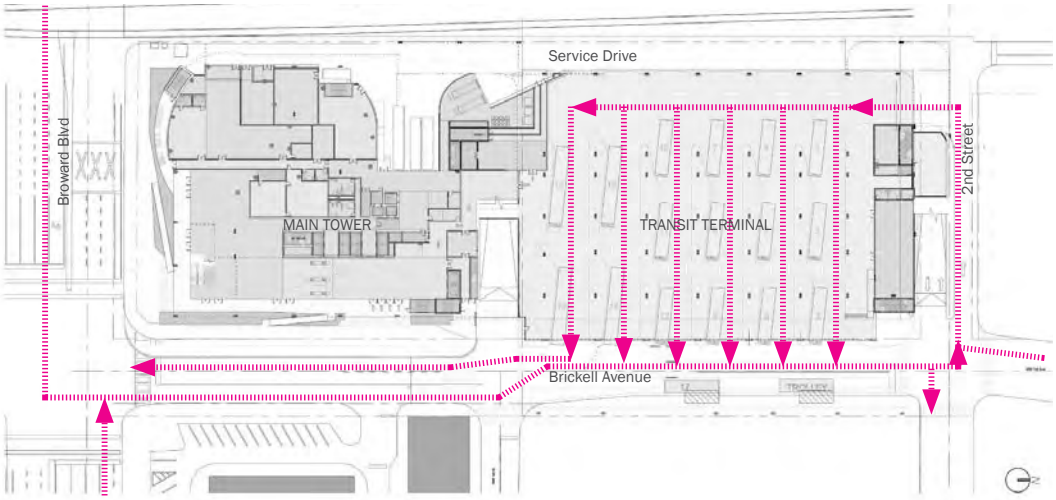
Fire Truck Access



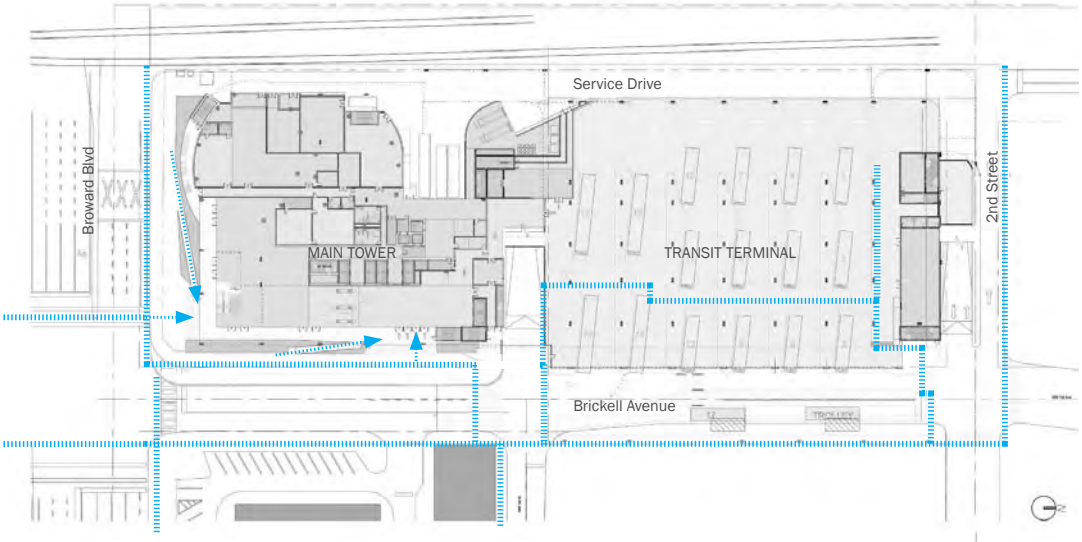
Service / Loading

Figure 4.2.3: Site Circulation Diagams | JGCC TRANSIT TERMINAL OPTION 1

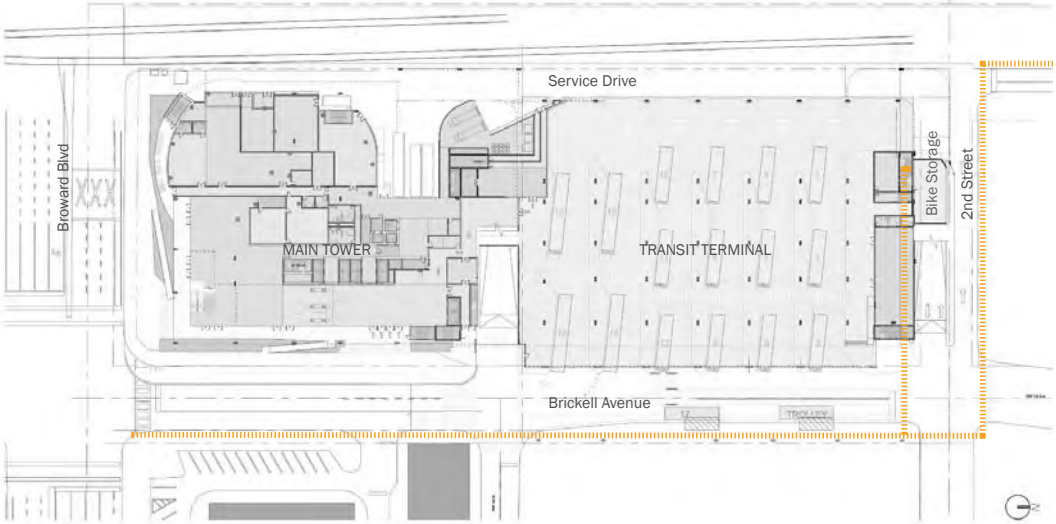
East/West Bus Bay Configuration with proposed access and egress to the site as illustrated in these diagrams.



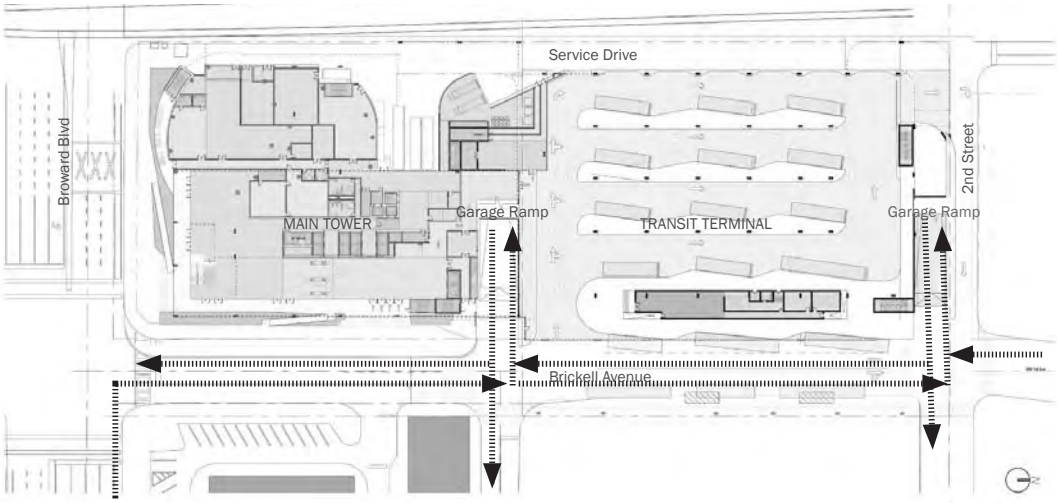
Bus | Option 1 Transit Terminal with East/West Bus Bay Orientation



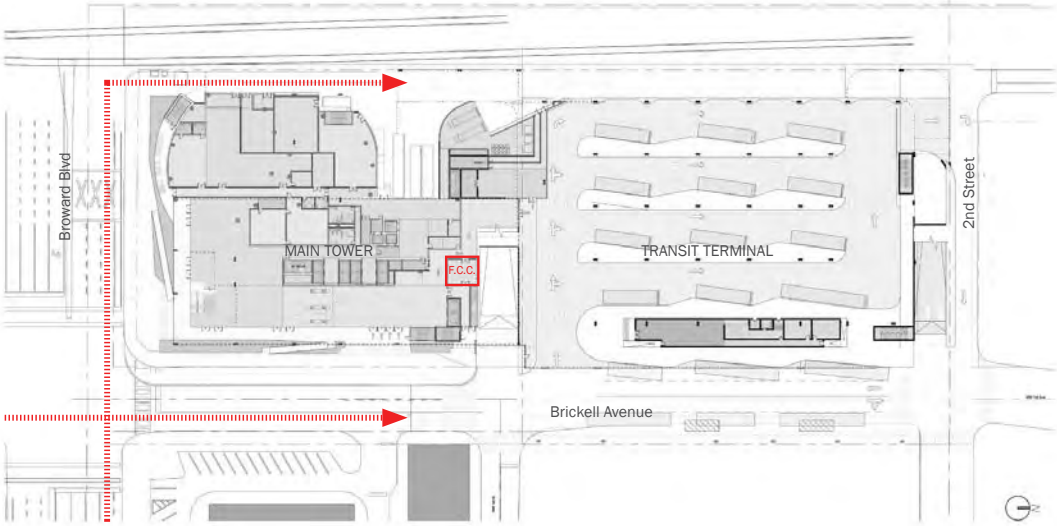
Pedestrian



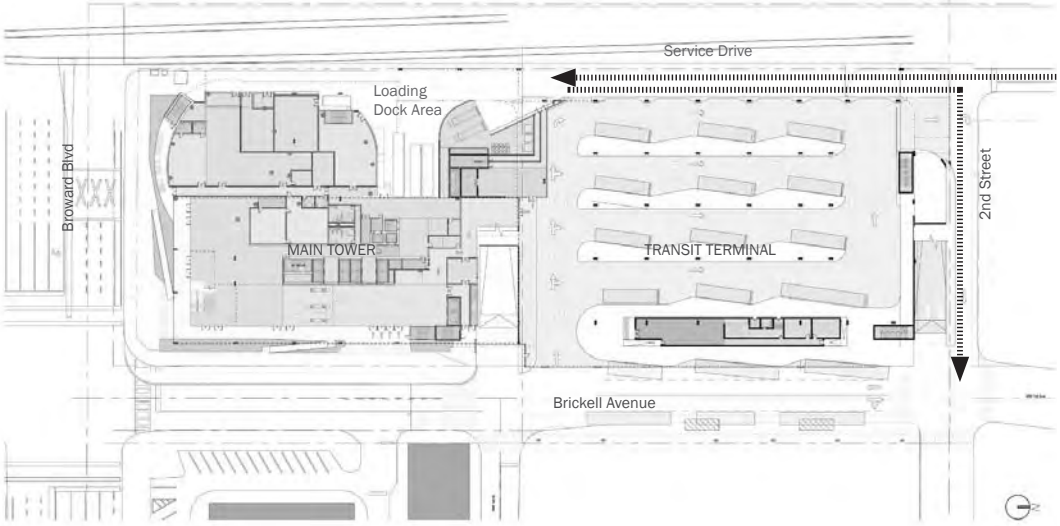
Bikes



Vehicular



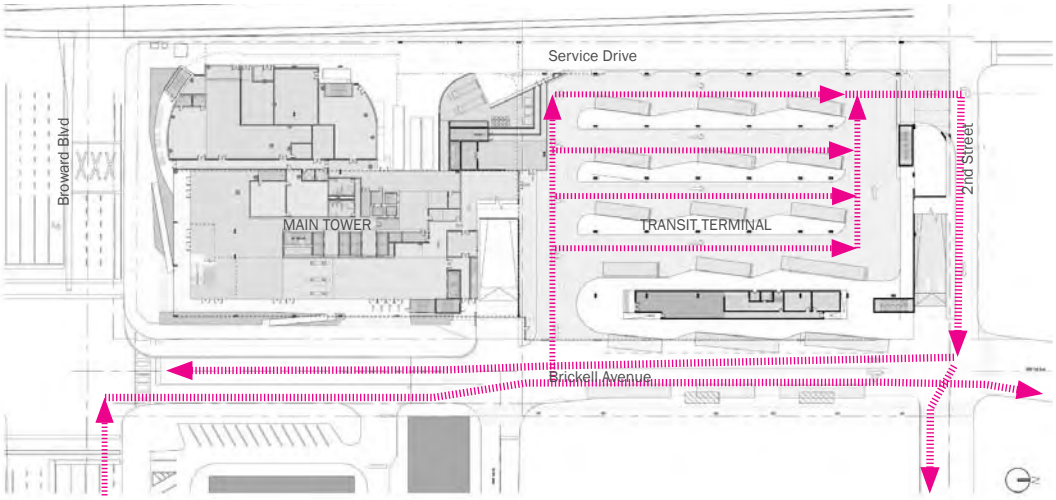
Fire Truck Access



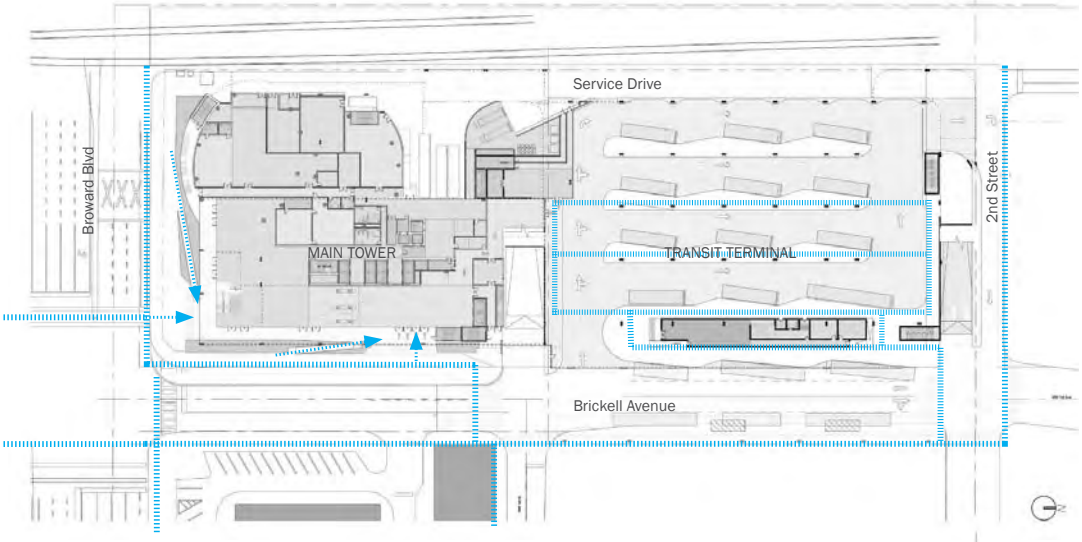
Service / Loading

Figure 4.2.4: Site Circulation Diagams | JGCC TRANSIT TERMINAL OPTION 2

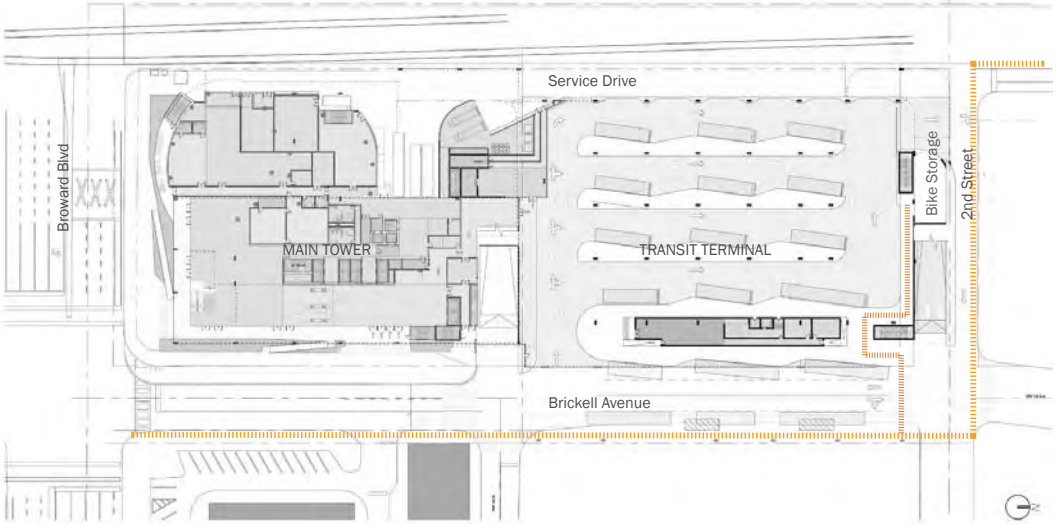
North/South Bus Bay Configuration with proposed access and egress to the site as illustrated in these diagrams.



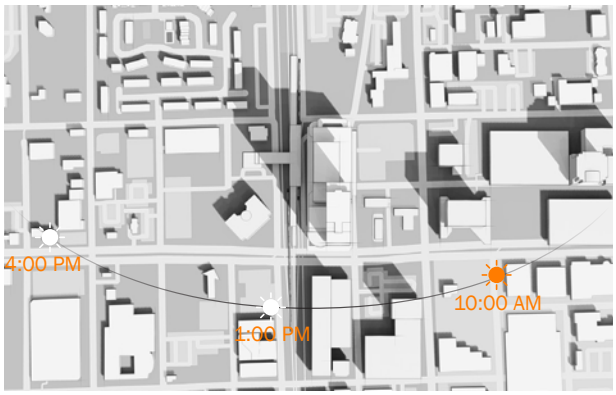
Bus | Option 2 Transit Terminal with North/South Bus Bay Orientation



Pedestrian



Bikes



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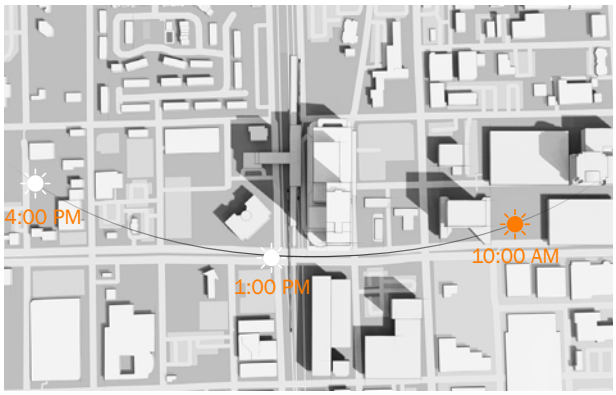

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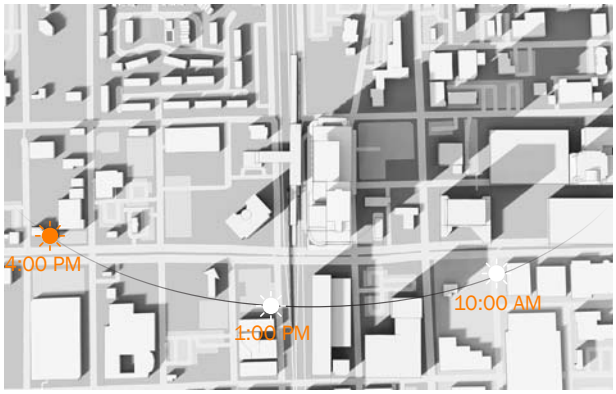
DECEMBER 1:00 PM

FEBRUARY 1:00 PM



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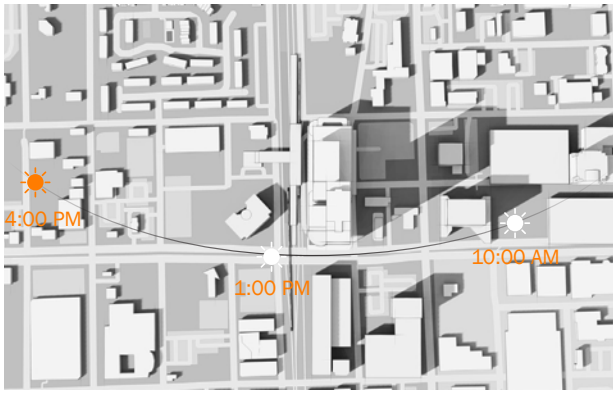

FEBRUARY 4:00 PM

Figure 4.2.5: Shadow Study and Building Heights

The JGCC project will be designed to attain at a minimum LEED Silver Certification and WELL Building Standards Certification. Shadow Studies and Heat Gain Analysis shall be required to address optimal site and building strategies.

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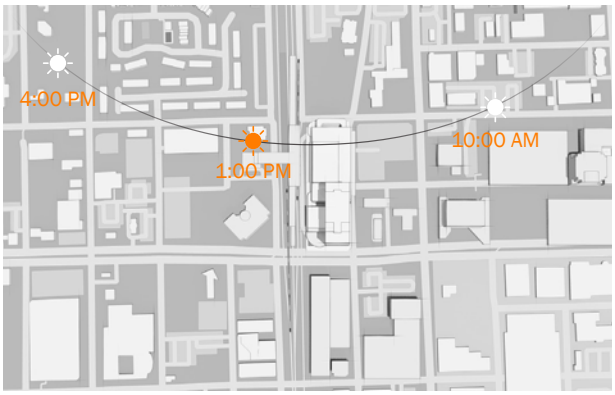
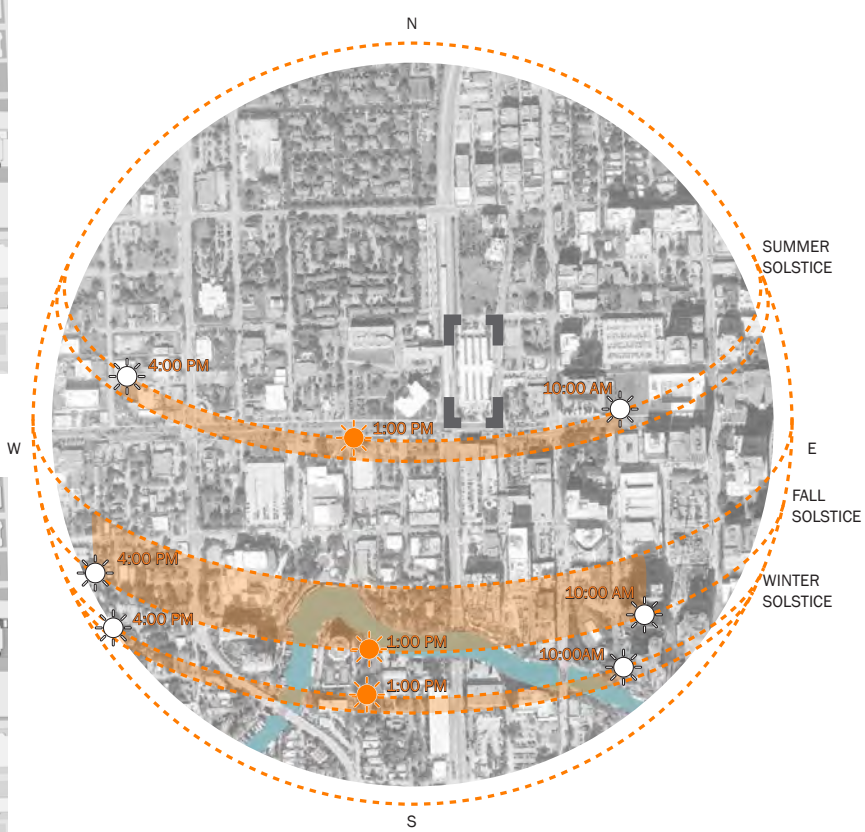


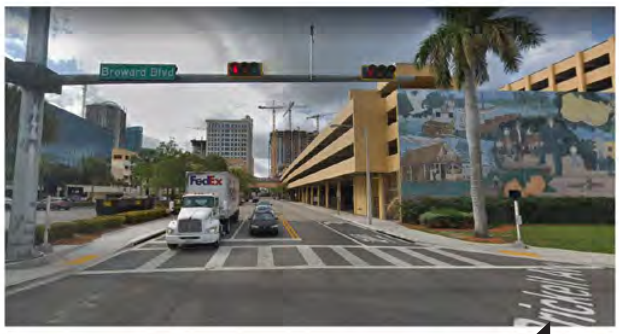
JULY 1:00 PM

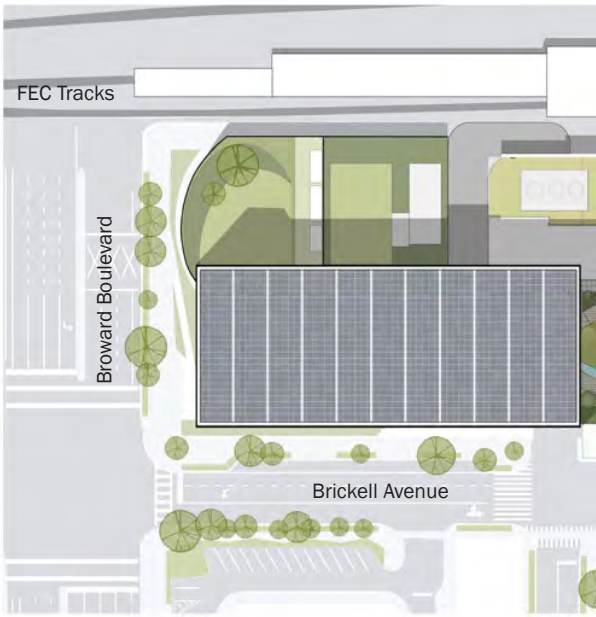
JULY 4:00 PM

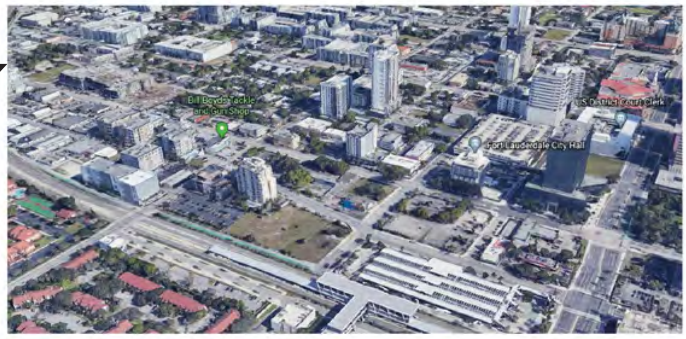


West View

South View





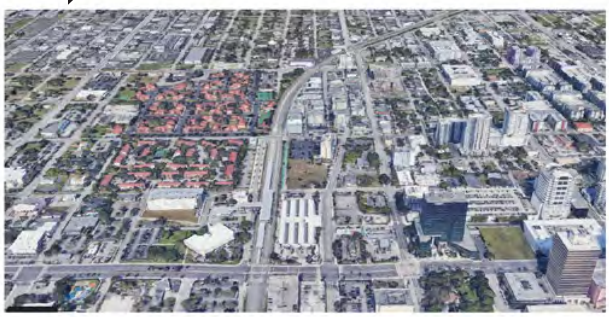


East View

Figure 4.2.6: Views Study

The JGCC project will be designed to maximize views and lighting across all levels of the building. The location of program and uses within each office floor shall be designed to optimize views based on use and function.

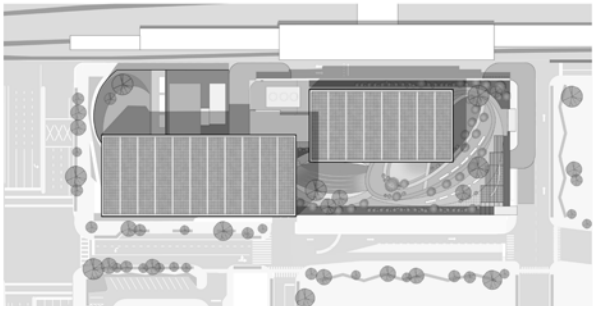
North View



SITE PLAN

Figure 4.3.1: Concept Plan Massing and Stacking Diagram

- Main Building Office Floors
  Levels 5 thru 8 and Levels 10 thru 27
- Main Building Common Areas and Amenities
  Levels 1 thru 4, Level 9, Level 28
- BCT Administrative Offices
  Levels 9 thru 13
- Parking Garage - (9) Levels
- BCT Transit Terminal
  Ground Floor and Mezzanine Level



4.3 Preferred Building Concept Plan

The new Joint Government Center Campus (JGCC) organizes the programming requirements for the City and the County within four (4) building component areas as identified in the Proposed DCP Concept Plan and illustrated in Figure 4.3.1:

1. New County and City Administrative Building, including County and City Commission Chambers, public meeting rooms and planned amenities;
2. New Broward County Transportation (BCT) Department Administrative Offices Building;
3. New Transit Terminal and transit mall streetscape improvements along Brickell Avenue for BCT buses, drop-off areas and bike/pedestrian access; and,
4. New multi-level Parking Garage with the potential to be converted in the future for office and retail use.

Each building element shall be organized on the site to optimize site dimensions, views and access. The Preferred Concept Plan was conceived as a composition of horizontal and vertical planes with a vertical office tower extending adjacent to the horizontal parking podium with a rooftop landscaped deck. This elevated 'green park' space extends and connects across the site.

Main design criteria elements for the JGCC Preferred Building Concept Plan are as follows:

- At twenty-nine stories, the Main Building 'tower' is located at the most visible corner of the site, in a north/south orientation. This configuration maximizes views and optimizes the layout of the site and buildings.

- The building entrance opens to a raised Civic Plaza.The plaza is accessed from the main frontage of the building along Broward Boulevard and along Brickell Avenue. Flanked on the western edge by the civic chamber spaces, the plaza is lined by a three-story colonnade, creating a civic open space and an iconic new gateway into downtown. Upon entering the building, visitors are greeted by a large and welcoming entrance lobby area with dynamic art installations and security checkpoints for safe access.

- The interaction between the site and the buildings is the fundamental concept behind the design of the JGCC. The design concept is about defining individual identities for each organization while enhancing overall the sense of a public community. Spaces such as the amenity areas provided on Level 9 with access to the site roof garden will act as an intersection would in a public street: a place where people come together to enjoy interaction, collaboration and working together.

- The building design is intended to clearly express sustainability and resiliency gestures and measures throughout the entirety of the project, from the very simple initial planning to intricate building systems and strategies. Sustainability needs to be front and center of the project design and implementation from the beginning, not as an afterthought.

- All four buildings on the site - *Main Building, Transit Terminal with Parking Garage above, and Broward County Transportation (BCT) Department Office Building* - shall meet, at a minimum, the Leadership in Energy and Environmental Design (LEED) Silver rating for New Construction.

- Optimal solar orientation, and utilization of the space between buildings shall be planned in such a way that the design encourages outdoor activities. The planned amenity spaces shall be spread throughout the building and site to ensure social connectivity for all employees and visitors within a diversity of space sizes and types.

- The buildings' architectural elements including proposed shading provided by building screening will be incorporated to deflect heat and reduce cooling costs. Natural daylighting and occupancy control lighting sensors are required to reduce the reliance on artificial lighting, enhancing health while reducing operational costs.

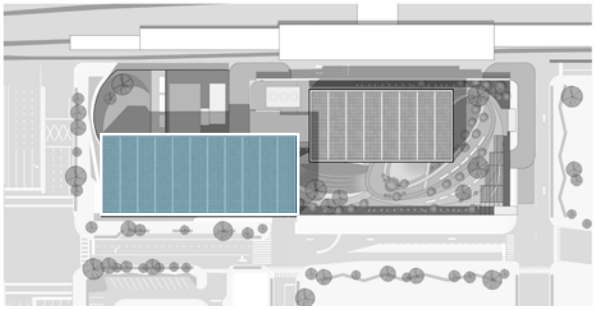
- The architecture of the skin of the building shall balance the ratio of metal to window glass to help minimize solar impact and glare while allowing to bring in natural daylight into the space, creating a healthier work environment.

Section 4.4 summarizes the Development Program gross square feet (GSF) areas for each JGCC development component as described herein. Refer to Book 2 for the Proposed DCP Concept Plan site plan and building plans.

Figure 4.4.1: Concept Plan Massing and Stacking Diagram

Office Floors
Levels 5 thru 8, 10 thru 27

Main Floors - Common Areas and Amenities
Levels 1 thru 4, Level 9, Level 28 (Executive Suite)



4.4 Concept Plan Development Components

Main Building
City and County Administrative Offices

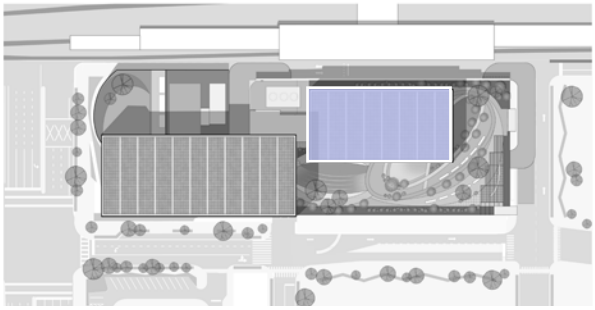
The interaction between the site, buildings and landscape is the fundamental concept behind the design of the JGCC layout. The Main Building of the JGCC is located at the most prominent corner of the site: at the northwest corner of Broward Blvd and Brickell Avenue and occupies the southern one-acre portion of the project site. Designed to accommodate the new County and City Administrative Offices including Commission Chambers for County and City, public meeting rooms and planned amenities, the Main Building Tower is planned as a twenty-nine story structure. At the ground level, the main lobby and public access areas are designed to provide access along NW 1st Avenue/Brickell Avenue and along the frontage on Broward Blvd with direct views to the stepped public plaza/terrace. Planned amenities within the JGCC and for County and City employees shall include a cafeteria, childcare center, gym/health center, and wellness center.

Table 4.4.1 summarizes the proposed DCP Concept Plan Development Program for the Main Building. At 901,873 GSF, the program includes three (3) levels of expansion space (10% of Total GSF) to meet potential future growth requirements and needs for both organizations. Figure 4.4.1 illustrates the location of office floors and main common areas and amenities. Refer to Book 2: Proposed DCP Concept Plan site plan and building plans. Additional information including GSF and USF area breakdown by floor for City Offices and County offices can be found in Section 4.5 and Appendix A.

TABLE 4.4.1: Concept Plan Development Program SUMMARY	GSF Area
Program Breakdown:	
Main Floors - Common Areas and Amenities	
Main Floors - Level 1 thru 3 incl Mezzanine	*131,027 GSF*
Amenity Floor - Level 4	*33,963 GSF*
Amenity Floor - Level 9	*34,550 GSF*
Executive Suite for City and County - Level 28	*20,809 GSF*
Sub-Total	***220,349 GSF***
Office Floors - City (8 Floors Total)	
Levels 5 thru 8	
Levels 10 thru 12	
Level 26	
Sub-Total	***248,191 GSF***
Office Floors - County (11 Floors Total)	
Levels 16 thru 25	
Level 27	
Sub-Total	***332,200 GSF***
Office Floors - Growth Area for City and County	
Levels 13, 14 and 15 (at 30,200 GSF per Floor)	
Sub-Total	***90,600 GSF***
Mechanical	
Level 29 Only. Refer to Parking Garage for CEP (Central Energy Plant) on Level 10	
Sub-Total	***10,533 GSF***
TOTAL GSF for Main Building - Levels 1 thru 28	**901,873 GSF**

Figure 4.4.2: Concept Plan Massing and Stacking Diagram

BCT Administration Office Floors
Levels 9 thru 13



Broward County Transportation Department (BCT) Administrative Offices

The JGCC program includes an independent building facility to be located on top of the bus terminal/parking garage structure. This new building will house the Broward County Transportation Department's (BCT) administrative staff totaling 171 people, currently residing at Government Center West (GCW) and future staff projections for a total of 315 employees at this location.

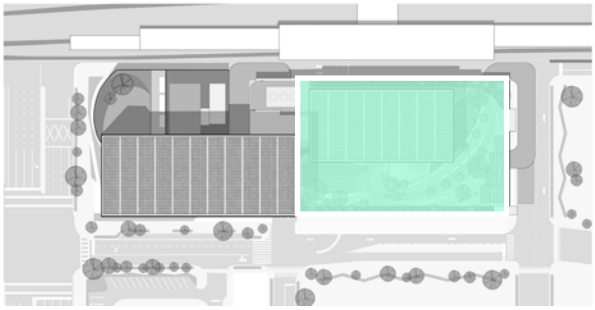
The building is planned as a five-story structure with a secured entry lobby, office spaces, meeting facilities, support spaces and amenities. Public access to the BCT Administrative Offices will be through the Main Building with BCT expecting to have regular visits from varying entities including FDOT, consultants, and capital program interested parties, among others. Secured employee access shall be provided directly from the transit terminal and parking garage. Photovoltaic panels are proposed to be located on the roof deck of the BCT Admin Building as well as on the Main Building of the JGCC.

Refer to Book 2: Proposed DCP Concept Plan site plan and building plans.

TABLE 4.4.2: Concept Plan Development Program SUMMARY	GSF Area
Program Breakdown:	
BCT Administration Office Building	
Level 1 (Main Building Level 9) - Lobby Area	*5,907 GSF*
Sub-Total	***5,907 GSF***
Level 2 (Main Building Level 10)	*21,265 GSF*
Level 3 (Main Building Level 11)	*21,265 GSF*
Level 4 (Main Building Level 12)	*21,265 GSF*
Level 5 (Main Building Level 13)	*21,265 GSF*
Sub-Total	***85,060 GSF***
TOTAL GSF for BCT Administrative Offices	**90,967 GSF**

Figure 4.4.3: Concept Plan Massing and Stacking Diagram

BCT Transit Terminal
Ground Floor and Mezzanine Level



Broward County Transportation Department (BCT) Transit Terminal

BCT's New Transit Terminal is planned to replace the existing Broward Central Terminal at the project site and will be located on the ground floor of the new multi-level Parking Garage. The Transit Terminal will occupy the northern portion of the Project Site. As part of this DCP, two options are proposed for the terminal layout:

- Option 1 layout with East/West bus bay configuration and resukting bus access from NW 2nd Street
- Option 2 layout with North/South bus configuration and resulting bus access from Brickell Avenue.

The creation of a new transit center at this location will continue to provide bus service throughout the County area and enable a more efficient approach to transit with intermodal capacities and connections to transfers using the adjacent Fort Lauderdale Brightline Station within walking distance from the site and via a future JGCC transit circulator.

The terminal is planned to accomodate up to 18 dedicated bus bay areas (platforms) and accessory areas including ticketing/waiting area for passengers with bays aligned depending on selected option. The bus bays shall be designed to accomodate 60' (l) articulated buses and 45'(l) buses within the covered terminal. A dedicated bus bay area along the east curbside of Brickell Avenue shall allow for (3) three additional bus bays with covered canopy areas to maximize bus storage capacity during peak operations.

Brickell Avenue shall be reconfigured as a new Transit Mall streetscape with landscaped pedestrian walkways to connect the terminal to the Main Building. This concept will maintain capacity for BCT operations at this location and reinforce the potential for creating a transit-oriented development component to the JGCC project in connection with existing and future potential passenger rail service on the FEC and on Broward Boulevard.

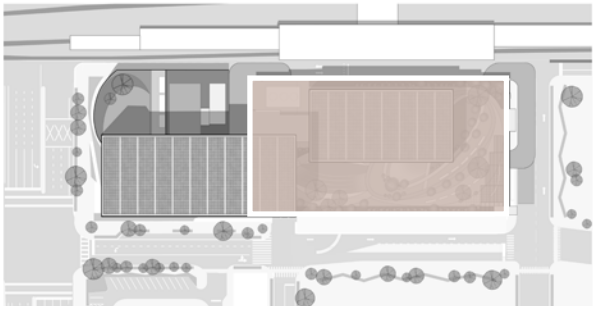
Refer to Book 2: Proposed DCP Concept Plan for detailed site plan and building plans illustrating the BCT Transit Terminal Option 1 and Option 2 layouts.

TABLE 4.4.3: Concept Plan Development Program SUMMARY	GSF Area
Program Breakdown:	
BCT Transit Terminal	
Level 1 incl Ticketing/Waiting Area and Ancillary Spaces	*63,933 GSF*
Mezzanine Level incl Security Area and Employee Lounge	*6,979 GSF*
Sub-Total	*70,912 GSF*
TOTAL GSF for BCT Administrative Offices	**70,912 GSF**

Figure 4.4.4: Concept Plan Massing and Stacking Diagram

Parking Garage
Nine (9) Levels with 1,347 Parking Spaces

Main Building CEP (Central Energy Plant)
located in Parking Garage, Level 9



JGCC Parking Garage

A multi-level parking garage is planned at the JGCC with capacity for 1,347 parking spaces over nine (9) levels of parking including required ADA and EV ready stalls. The proposed garage is not expected to address the initial projected parking demand for the JGCC. Additional parking shall require to be accomodated within City/County owned parking facilities and private facilities located within walking distance of the campus or accessible via a future JGCC transit circulator.

Vehicular access to the garage is currently planned from two parking ramp entryways located (1) along NW 1st Avenue/ Brickell Avenue and (2) on NW 2nd Street. All levels provide elevator access to the ground floor of the Main Building. Secured employee elevator access shall be provided on all levels with direct access into the Main Building from Level 1, Level 4 and Level 9 only. By way of design and structure, the JGCC Parking Garage shall be designed and constructed to accomodate potential future conversion to office use.

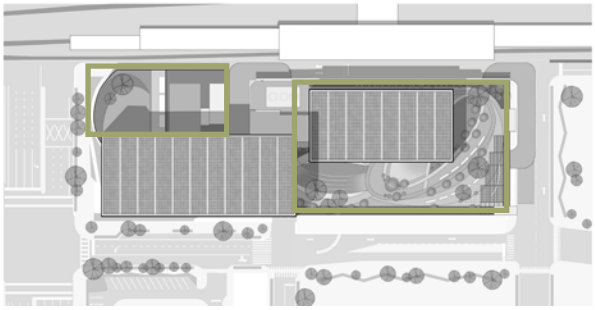
For the garage design, the selection of technology for the entry gates shall be considered and be based on the planned number of parking spaces. A queuing analysis will be required to assess and plan for all impacts to the surrounding street network and should follow the methodology outlined in the Institute of Transportation Engineers (ITE) to ensure that queues at the entrance(s) of the parking facility do not impact nearby facilities.

Refer to Book 2 for the proposed DCP Concept Plan site plan and building plans.

TABLE 4.4.4: Concept Plan Development Program SUMMARY	GSF Area
Program Breakdown:	
Parking Garage *with total 1347 Parkings Spaces incl ADA and EV ready*	
*Levels 1 thru 9 - includes CEP Area on Level 9**	
Level 1 - 156 parking spaces	81,559 GSF
Level 2 - 137 parking spaces	80,328 GSF
Level 3 - 159 parking spaces	71,658 GSF
Level 4 - 154 parking spaces	73,414 GSF
Level 5 - 159 parking spaces	72,719 GSF
Level 6 - 159 parking spaces	72,719 GSF
Level 7 - 159 parking spaces	72,719 GSF
Level 8 - 159 parking spaces	72,719 GSF
Level 9 - 105 parking spaces*	54,532 GSF
** A portion of Level 9 houses the CEP (Central Energy Plant) at 18,265 GSF for the Main Building Mechanical Systems*	*18,265 GSF*
Sub-Total	*670,632 GSF*
TOTAL GSF for Main Building (Tower)	**670,632 GSF**

Figure 4.4.5: Concept Plan Massing and Stacking Diagram

Roof Decks / Garden Areas
Levels 4, 9, 10, 28



JGCC Roof Decks / Gardens

A series of landscaped rooftop decks or terraces are arranged across the site to provide outdoor space for use and enjoyment by JGCC employees and visitors as follows:

- On Level 4, the outdoor deck provides play area for the Child Care Center and a landscaped terrace for use by the suite of Meeting Rooms located on this level.
- On Level 9, an elevated 'green park' connects across the site. This landscaped roof deck extends the full length of the parking garage podium below and provides a series of amenities including outdoor seating areas, shaded planting areas, a running-exercise track, and space for outdoor functions. as well as access to the JGCC Wellness Center and Gym/Health Center within the Main Building.
- On Level 10, adjoining office space can utilize the outdoor terrace for meetings and events.
- On Level 28, outdoor terraces are located on the north and south ends of the building tower and provide extended city views towards downtown and to the west.

The collection and storage of rainwater for irrigation of landscaped areas on Levels 9 and 28 shall be provided. Due to site constraints, collection and treatment of greywater for any other non potable purposes is not anticipated. refer to Section 5.2 and 5.4 for additional design criteria.

Due to occupancy load and egress requirements, the occupiable area of the planned roof decks and gardens totals 32,062 SF. Refer to Section 5.11: Life Safety and Book 2: Preferred Concept Plan for site plan and building plans.

TABLE 4.4.5: Concept Plan Development Program SUMMARY	GSF Areas
Program Breakdown:	
Roof Deck Gardens - Levels 4, 9, 10 and 28	
Level 4 - For Day Care and Meeting Rooms	7,951 GSF
Level 9 - Covered	21,696 GSF
Level 9 - Uncovered / Open to Sky	35,422 GSF
Level 10 - with mechanical area	5,321 GSF
Level 28 - City and County Executive Suite	9,492 GSF
Sub-Total	*79,882 GSF*
TOTAL GSF for Roof Decks / Gardens	**79.882 GSF**

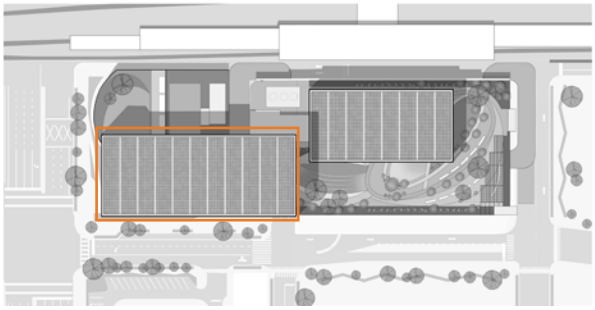
Figure 4.5.1: Concept Plan Massing and Stacking Diagram - MAIN BUILDING ONLY

Main Building - County Office Floors (11 levels)
Levels 16 thru 25, Level 27

Main Building - City Office Floors (8 levels)
Levels 5 thru 8, 10 thru 12, Level 26

Main Building - Common Areas and Amenities
Levels 1 thru 4, Level 9, Level 28 (Executive Suite)

Note:
(1). Levels 13 thru 15 are planned for Future JGCC Growth requirements and needs at 10% of Total GSF.
(2). REFER to pages 96 thru 99 for detailed breakdown of program area requirements.



4.5 Adjacency Analysis and Stacking Plan

Table 4.5.1 indicates the total GSF area for the City and County within the Main Building of the proposed DCP Concept Plan. The Stacking Diagram in Figure 4.5.1 is based on identified adjacency requirements and programming space needs for both organizations. At 901,873 GSF, the Main Building development area includes three (3) levels of expansion space (10% of Total GSF) to meet potential future growth needs of both the City and County through year 2050.

TABLE 4.5.1: Concept Plan Development Program - MAIN BUILDING ONLY	GSF Area	USF Area
Program Breakdown:		
Main Floors - Common Areas and Amenities		
Main Floors - Level 1 thru 3 incl Mezzanine	*131,027 GSF*	*67,304 USF*
Amenity Floor - Level 4	*33,963 GSF*	*19,184 USF*
Amenity Floor - Level 9	*34,550 GSF*	*20,892 USF*
Executive Suite for City and County - Level 28	*20,809 GSF*	*13,815 USF*
Sub-Total	***220,349 GSF***	***121,195 USF***
Office Floors - City (8 Floors Total)		
Level 5	*31,875 GSF*	*22,519 USF*
Level 6	*31,891 GSF*	*22,519 USF*
Level 7	*31,891 GSF*	*22,519 NSF*
Level 8	*31,734 GSF*	*22,534 USF*
Level 10	*30,200 GSF*	*23,352 USF*
Level 11	*30,200 GSF*	*23,352 USF*
Level 12	*30,200 GSF*	*23,352 USF*
Level 26	*30,200 GSF*	*23,352 USF*
Sub-Total	***248,191 GSF***	***183,499 USF***
Office Floors - County (11 Floors Total)		
Level 16	30,200 GSF	*23,352 USF*
Level 17	*30,200 GSF*	*23,352 USF*
Level 18	*30,200 GSF*	*23,352 USF*
Level 19	*30,200 GSF*	*23,352 USF*
Level 20	*30,200 GSF*	*23,352 USF*
Level 21	*30,200 GSF*	*23,352 USF*
Level 22	*30,200 GSF*	*23,352 USF*
Level 23	*30,200 GSF*	*23,352 USF*
Level 24	*30,200 GSF*	*23,352 USF*
Level 25	*30,200 GSF*	*23,352 USF*
Level 27	*30,200 GSF*	*23,352 USF*
Sub-Total	***332,200 GSF***	***256,872 USF***
Office Floors - Growth Area for City and County		
Levels 13, 14 and 15	*90,600 GSF*	*70,056 USF*
Sub-Total	***90,600 GSF***	***70,056 USF***
Mechanical Areas *(Level 29 only)*		
Sub-Total	***10,533 GSF***	***NA***
TOTALS for Main Building - Levels 1 thru 28	**901,873 GSF**	**631,622 USF**

City of Fort Lauderdale Adjacency Analysis and Stacking Plan

FLOOR LEVEL	TOTAL USF	DEPARTMENT NAME	PROGRAM REQUIRED BY DEPARTMENT USABLE SF	PROGRAM PROVIDED PER LEVEL / SF	OFFICE SF USABLE (NET) PER LEVEL	CONTINGENCY SPACE PER LEVEL	SF "THE COMMONS" shared amenities	NOTES
5th		City Information Technology	18,283	18,283				
		Contingency Space				1,803		
	22,519	TOTAL	18,283	18,283	20,086	1,803	2,433	Shared Commons - 1 Dept
6th		City Public Works	18,570	18,570				
		Contingency Space				1,516		
	22,519	TOTAL	18,570	18,570	20,086	1,516	2,433	Shared Commons - 1 Dept
7th		City Transportation and Mobility	11,522	11,522				
		City Housing and CD	4,031	4,031				
		Contingency Space				4,533		*requires 1,568 SF ground level Service Counter
	22,519	TOTAL	15,553	15,553	20,086	4,533	2,433	Shared Commons - 2 Depts.
8th		City Sustainable Development		1,389				*23,443 SF on 10th level (total 24,741 SF)
		City Budget and Management	5,020	5,020				*Moved from 28th (Colliers) level to 8th
		City Utility Billing	5,762	5,762				
		City Auditor	3,123	3,123				
		City Pension and Audit	2,845	2,845				
		Contingency Space				3,268		
	23,352	TOTAL	16,750	18,139	21,407	3,268	1,945	Shared Commons - 5 Depts.
10th		City Sustainable Development	24,741	23,352		0		*1,389 SF Overflow on 11th level (total 24,741 SF)
	23,352	TOTAL	24,741	23,352	23,352	0	0	Commons included within SF required
11th		City Human Resources	10,227	10,227				
		City Neighborhood Support	3,100	3,100				
		City Strategy & Communication	3,326	3,326				
		Contingency Space				4,754		
	23,352	TOTAL	16,653	16,653	21,407	4,754	1,945	Shared Commons - 3 Depts.
12th		City Attorney	9,265	9,265				
		City Finance - Administration, Accounting, Treasury	9,153	9,153				
		Contingency Space				2,989		
	23,352	TOTAL	18,418	18,418	21,407	2,989	1,945	Shared Commons
26th		City Manager	5,509	5,509				
		City Commission	11,448	11,448				
		City Clerk	4,143	4,143				
	23,352	TOTAL	21,100	21,100	21,407	307	1,945	Shared Commons - 3 Depts.
TOTAL	184,317		150,068	150,068	169,238	19,170	15,079	

USF/Floor Plate - "L" shaped including Commons Floors 5,6,7 and 8	22,519
USF/Floor Plate - Tower including Commons Floor 10 - 28	23,352
The COMMONS "L" shaped - Varies	2,433
THE COMMONS Tower	1,945

Contingency Space at Floors	19,170
Shared Amenity Space - The Commons	15,079
City only total SF required	150,068
City only total SF provided	150,068
Total USF including Commons	184,317
Total of Floors	8
City Utility Service Counter Grounf Floor	1,568
Sub-Total	1,568

Figure 4.5.2: City of of Fort Lauderdale | Summary of Program Area Requirements

Table summarizes the Program Area requirements for the City of Fort Lauderdale. Refer to Appendix A for detailed information listing each Division/Department's Required Usable SF area based on the Programming and Workplace Strategy Assessment work conducted by the DCP Design Team. Note the Floor Plate Size, Floor Level and SF Area Provided are based on the proposed DCP Concept Plan.

Refer to Page 98 for definition of Contingency Area.

Tables 4.5.2: City of Fort Lauderdale | Adjacency Area Stacking Plan

The Adjacency Area Stacking Plan represented herein was developed for illustrative purposes only. The Plan is based on the proposed DCP Concept Plan and indicates identified adjacencies and program area requirements for each City Division/Department.

Broward County Adjacency Analysis and Stacking Plan

FLOOR LEVEL	TOTAL USF	DEPARTMENT NAME	PROGRAM REQUIRED BY DEPARTMENT USABLE SF	PROGRAM PROVIDED PER LEVEL / SF	OFFICE SF USABLE (NET) PER LEVEL	CONTINGENCY SPACE PER LEVEL	SF "THE COMMONS" shared amenities	NOTES
16th		Community Partnership	10,576	10,576				
		Economic & Small Business Development	7,078	7,078				One-stop shop - ground level
		Contingency Space				3,753		
	23,352	TOTAL	17,654	17,654	21,407	3,753	1,945	Shared Commons - 2 Depts.
17th		Housing Finance & Community Redevelopment	8,816	8,816				
		Human Services	9,106	9,106				
		Contingency Space				3,485		
	23,352	TOTAL	17,922	17,922	21,407	3,485	1,945	Shared Commons - 3 Depts.
18th		Public Works	4,110	4,110				
		Facilities Management	11,099	11,099				
		Public Communication (excluding Print Shop)	4,178	4,178				
		Film Room	2,020	2,020				
	23,352	TOTAL	21,407	21,407	21,407	0	1,945	Shared Commons - 3 Depts.
19th		Construction Management	13,294	13,294				
		Planning & Development Management	7,735	7,735				
		Contingency Space				378		
	23,352	TOTAL	21,029	21,029	21,407	378	1,945	Shared Commons - 2 Depts.
20st		Enterprise Technology Services	17,266	17,266				
		Environment Protection and Growth Management	3,107	3,107				
		Contingency Space				1,034		
	23,352	TOTAL	20,373	20,373	21,407	1,034	1,945	Shared Commons - 2 Depts.
21nd		Purchasing	12,460	12,460				
		Intergovernmental Affairs	2,121	2,121				
		Record Tax & Treasury	5,494	5,494				Multiple Service Desks - ground level
		Contingency Space				1,332		
	23,352	TOTAL	20,075	20,075	21,407	1,332	1,945	Shared Commons - 3 Depts.
22rd		Human Resources	10,041	10,041				
		Accounting	9,464	9,464				
		Contingency Space				1,902		
	23,352	TOTAL	19,505	19,505	21,407	1,902	1,945	Shared Commons - 2 Depts.
23th		Risk Management	7,889	7,889				
		Finance and Administration	4,340	4,340				
		Office of County Auditor	9,066	9,066				
		Contingency Space				112		
	23,352	TOTAL	21,295	21,295	21,407	112	1,945	Shared Commons - 3 Depts.
24th		County Attorney	25,000	23,352				* 1,648 SF overflow on level 29
	23,352	TOTAL	25,000	23,352	23,352	0	0	Commons included within Dpt. SF
25th		Environmental Planning & Community Resilience	7,640	7,640				
		Office of Management and Budget Adm.	6,167	6,167				
		County Attorney		1,648				*23,352 SF on level 27
		Contingency Space				5,952		
	23,352	TOTAL	13,807	15,455	21,407	5,952	1,945	Shared Commons - 3 Depts. (reduced to meet dept. needs)
27th		County Commissioners	16,720	15,600			800+120+40% circulation	-Deluxe conference room moved to Level 28
		County Administration	7,752	7,752				
	23,352	TOTAL	24,472	23,352	23,352	0	0	
28th	1,120	County Commision		1,120			800+120+40% circulation	-Deluxe conference room moved from Level 27
				1,120	13,980	0		
TOTAL	257,992		222,539	222,539	253,347	17,948	17,505	

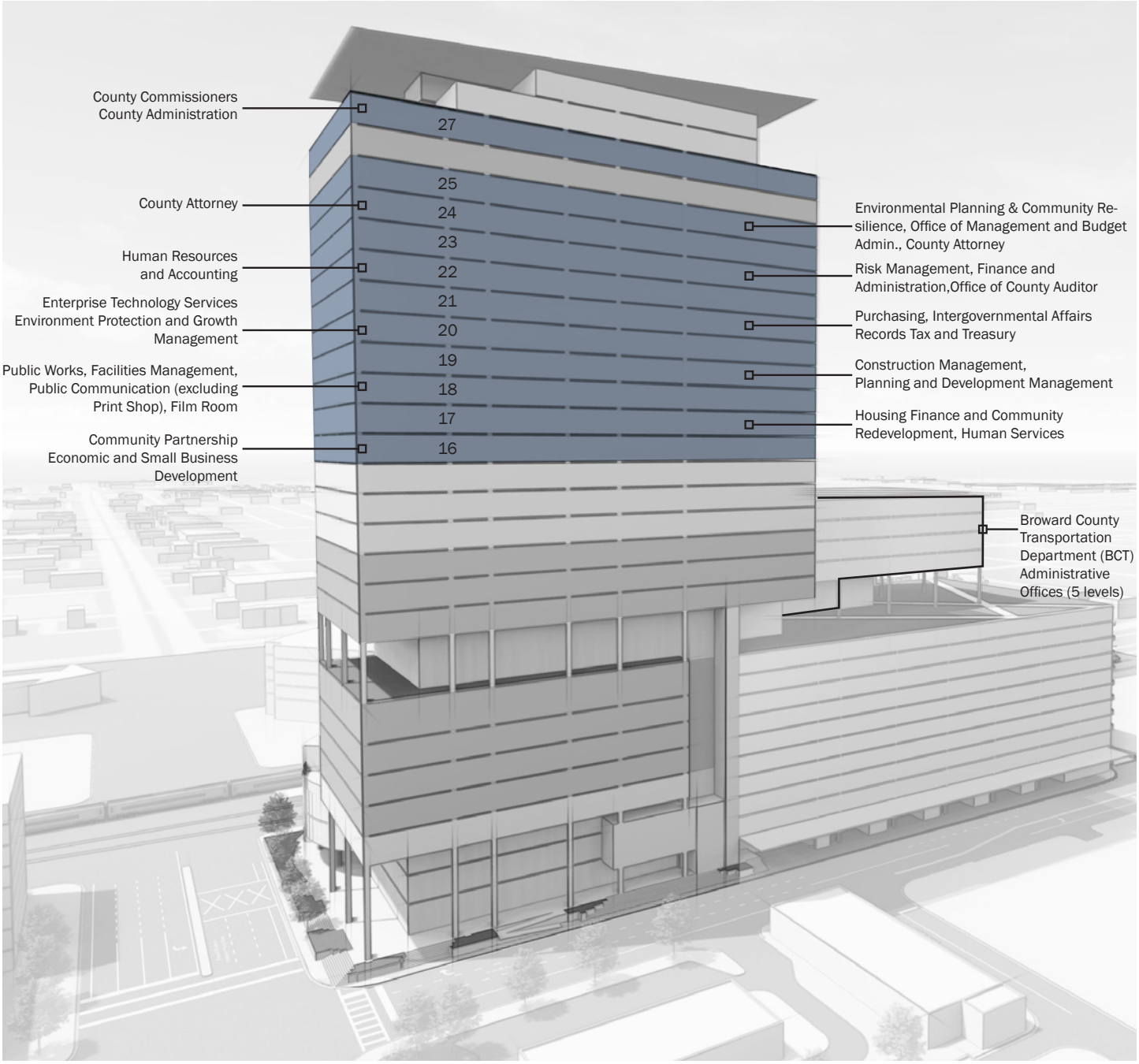
USF/Floor Plate - "L" shaped including Commons Floors 5,6 and 7	22,519
USF/Floor Plate - Tower including Commons Floor 18 - 27	23,352
The COMMONS "L" shaped - Varies	2,433
THE COMMONS Tower	1,945

Contingency Space at Floors	17,948
Shared Amenity Space - The Commons	17,505
County only total SF required	222,539
County only total SF provided	222,539
Total USF including Commons	257,992
Total of Floors	11 + 1,120 SF on Level 28
County Fleet Operations	455
Transportation Department	66,179
Print Shop	6,000
Coommand Center, Staff and Equipment	18,531
Sub-total	91,165
County Total SF required	313,704

Figure 4.5.3: Broward County | Summary of Program Area Requirements

Table summarizes the Program Area requirements for Broward County. Refer to Appendix A for detailed information listing each Division/Department's Required Usable SF area based on the Programming and Workplace Strategy Assessment work conducted by the DCP Design Team. Note the Floor Plate Size, Floor Level and SF Area Provided are based on the proposed DCP Concept Plan.

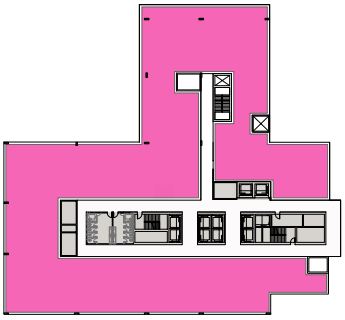
Refer to Page 98 for definition of Contingency Area.



Tables 4.5.3: Broward County | Adjacency Area Stacking Plan

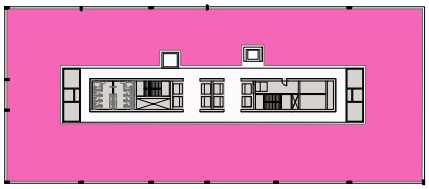
The Adjacency Area Stacking Plan represented herein was developed for illustrative purposes only. The Plan is based on the proposed DCP Concept Plan and indicates identified adjacencies and program area requirements for each County Division/Department.

A



Typical Floor Plan – 10th through 27th "L" shape building

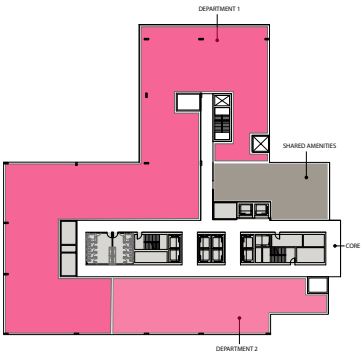
B



Typical Floor Plan – 10th through 27th "Tower building

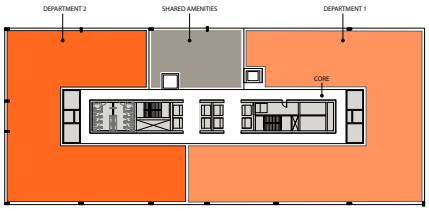
DEPARTMENT USABLE AREA

C



Typical Floor Plan – 10th through 27th Level "Tower" Building

D



Typical Floor Plan – 5th through 8th Level "L" Shaped Building

FLOOR USABLE AREA

Standard Method of Measurement

The Standard Method of Measurement of all program areas for the JGCC Workplace Program Requirements and resulting Adjacency Area Stacking Plans defined herein is based on ANSI/BOMA Z65.1-2017.

Basic Rentable Area: Basic rentable area is the usable area occupied by a tenant plus their proportion of the floor common areas. It is calculated by:

Usable Area X Floor R/U Ratio = Basic Rentable Area Building Common Area.

Building Common Area: Building Common Area is usable area allocated to provide services to building tenants but is not included inside a tenant space. Building common areas include lobbies, atrium floor space, concierge areas, security desks located in public areas, conference rooms, lounges or vending areas, food service facilities, health or fitness centers, daycare facilities, locker or shower facilities, mail rooms, fire control rooms, fully enclosed courtyards, and building core and service areas such as mechanical or equipment rooms. Excluded from building common areas are floor common areas, parking spaces and loading dock areas outside the building line.

Building R/U Ratio: Building R/U ratio is the factor used to distribute building common areas to all tenants on a prorated basis. Note that this figure will be constant for the entire building but could change over time if portions of the ground floor are converted from common areas to store areas.

Building Rentable Area: Building rentable area is the sum of the floor rentable areas. It is also equal to the gross measured area of the building minus vertical penetrations.

Floor Common/Core Area: Floor common/core area includes toilets/washrooms, janitorial closets, electrical rooms, telephone rooms, mechanical rooms, elevator lobbies, and public corridors that are available primarily for the joint use on that floor. Note that this will vary floor to floor based on public corridor configurations. For single-tenant floors, corridor and lobby spaces may be included in the office or store usable area because they will be for the exclusive use of that floor's only. On main ground floors, floor common areas would only include corridors created because of store area configuration and telephone, janitor closet and electrical closets added because of the addition of store area on the ground floor.

Floor R/U Ratio: Floor R/U ratio gives the basic rentable area. It is calculated by the following formula:

Floor Rentable Area/Floor Usable Area = Floor R/U Ratio

Note that this ratio will vary from floor to floor based on public corridor configurations.

Floor Rentable Area: Floor rentable area is the gross measured area minus the exterior wall and major vertical penetrations. Floor rentable area is calculated by:

(Sum of Office and Store Usable Areas on the floor) X Floor R/U Ratio = Floor Rentable Area

It is also equal to the sum of the basic rentable areas for that floor. Full floor tenants will be assessed the gross measured area of a floor minus building common spaces as their floor rentable area. Note that because it includes building common area, floor rentable area is not necessarily indicative of space demised for a single tenant's use.

Floor Usable Area: Floor usable area is the sum of all office, store and building common usable areas. Floor usable area is the floor rentable area minus floor core areas which are available primarily for the joint use of tenants on that floor.

Gross Building Area or Constructed Area: Gross building area or constructed area is the total constructed area of a building. This is the area GSA budgets for construction purposes.

Gross Measured Area: Gross measured area is the total area within the building, minus the exterior wall. Office Area. Office Area: is the usable area within the tenant space including internal partitions and half of the demising wall separating the space from other tenants. It is measured to the tenant side finished face of all building common areas.

R/U Ratio: R/U ratio is the factor used to convert usable area to rentable area. It is the product of the Floor R/U ratio and the Building R/U ratio. It is derived by the following formula:

Floor R/U Ratio X Building R/U Ratio = R/U Ratio

It accounts for the allocation of floor common areas and building common areas. Note that it will be different for each floor.

Rentable Area: This is the figure that will be assessed each tenant for their space charges. Rentable area includes the usable area, the prorated share of the floor common area, and the prorated share of the building common areas. It is calculated by the following formula:

Usable Area X R/U Ratio = Rentable Area

It may also be calculated by the following two-step formula:

Step 1-
Usable Area X Floor R/U Ratio = Basic Rentable Area

Step 2-
Basic Rentable Area X Building R/U Ratio = Rentable Area

Store Area: Store area is the usable area of a structure that is directly served by permanent public lobbies or has direct access from outside. BOMA describes these spaces as suitable for retail occupancies. The term store area was developed for main ground levels to allow the public lobby and other building common areas to be prorated to all tenant spaces in the building measured in SF. Most common space on main ground levels normally falls within building common areas rather than floor common areas, so rentable figures for store areas will not normally be significantly impacted by floor common areas.

Usable Area: Usable area is the actual area the agency occupies in a tenant suite measured in square feet. It is the office area, store area or building common area. It is calculated by measuring from the dominant portion of the exterior wall to the outside face of major vertical penetrations. It includes all structural elements, openings for vertical cables, and vertical penetrations built for the private use of the tenant

Departmental Spatial and Planning Principles

The Main Building

The JGCC Main Building should be viewed as a vertical Joint Campus for Broward County and the City of Fort Lauderdale.

The Building should provide opportunities for interaction between floors and amongst departments and agencies.

With (8) eight Levels dedicated to the City and (11) eleven Levels dedicated to the County, sitting above 4 levels of shared Entry Point, Security and shared Public Interface, City and County Chambers, and The Conference Hub or Conference Axis, comprised of 14 large Meeting Rooms and areas of social interaction, located on levels 2, 3, 4 and 9.

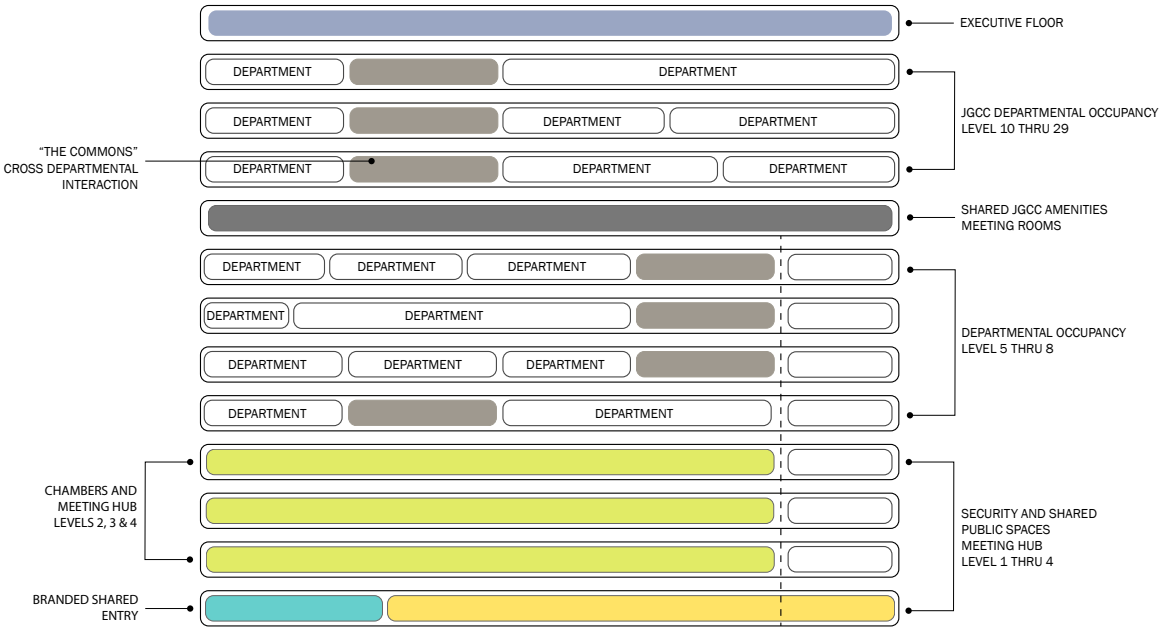
Common shared spaces and employee dedicated functions – The Commons - are located at each office level, to encourage the employee to use the building as an extension of their workplace.

Wellness and Fitness Center, Cafeteria and Meeting Rooms are located at Level 9 with access to outdoor terraces.

Departmental "Placement"

Stacking Plans are based on an average of 22,519 USF floorplate (excluding the core) for levels 5 through 8 and 23,352 USF floorplate (excluding the core) for levels 10 through 27. The stacking plans illustrate the potential vertical distribution of departments for both agencies and the location of the shared amenities (for now branded as "The Commons"). The City requiring 8 levels and the County requiring 11 levels as identified in the workplace needs assessment analysis.

- Floors 5 through 8 - 22,519 USF
- Floors 10 through 27 – 23,352 USF



Building Spatial and Planning Principles Diagram

Diagram indicates organization and relationship between building program elements.

Adjacency Analysis and Stacking Scenarios

Levels of interaction to be integrated into the building envelope.

- Interactions within a department
- Interaction between departments
- Interaction with outside of County or City personnel regarding formal citizen participation on boards, committees or other formal consultations
- Interaction with individuals or small groups of citizens on an ad-hoc basis.

Interaction within a department

The new site will allow for larger floorplates than the City currently has, and with more contiguous open space that most parts of the County's current facility, which is divided up with multiple corridors.

Interaction between departments

Detailed interdepartmental adjacencies are presented under the Adjacency Analysis.

Individual department adjacency requests are also documented in Appendix A and D.

Adjacency analysis and stacking scenario

Adjacency optimization and placement within stacking scenarios were developed in multiple stages. The interdepartmental relationship is based on responses to the questionnaire, the findings of the Workplace Survey and it relates to the floor size provided.

Vertical distribution of departments is based on the degree to which the department has frequent public visitors. Also, Departments with higher degree of interaction where located within adjacent floors.

An amenity area has been carefully placed at the majority of the levels to promote social interaction between departments and agencies.

The placement of the Departments within floor levels and building levels is based on the information gathered during the Workplace 'discovery and interview' period with members of both agencies and their programmatic adjacency requirements.

THE COMMONS

Centrally located facing West with proximity to the main core of each office floor plate, with natural light, transparency and great views to the city, a variety of comfortable furniture configuration, data and power for easy "plug and play", large monitors for presentations and good acoustics, the space is intended to bring people together throughout the day for coffee breaks, individual or group lunches and potential all-hands meetings. The Meeting Room could be used as an extension of the Departments.

It will also be the first touch point for visitors and employees when they land at each level. This will repeat at every floor and should be used to express the branding of the departments located on that floor. The brand could be expressed through color, environmental graphics, art or through the expression of the design different on each level. Materials, patterns, textures and graphics will characterize every floor.

CONTINGENCY AREA

Option 1

When available, this area is located between departments, allowing either department its use for future growth or any other unexpected or non-accounted circumstances. Meanwhile, it is suggested to be used as a lounge or open collaboration/meeting area between departments. This adds another layer of natural light, views and life into the core and the unassigned space doesnt become an empty box.

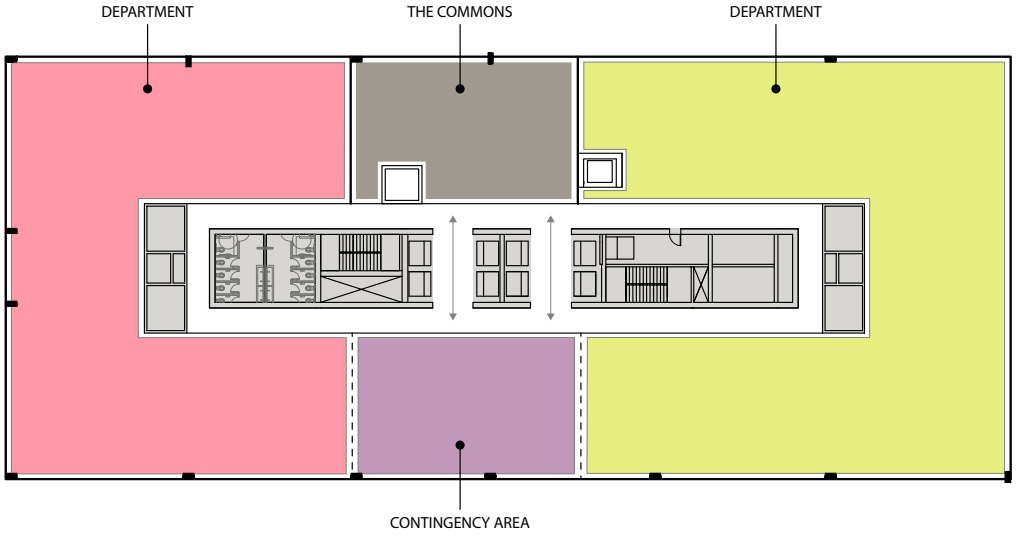
It is frequently located on the opposite side of the shared floor amenity area "The Commons", facing East.

Refer to diagram below and to Appendix A for more specific location and size.

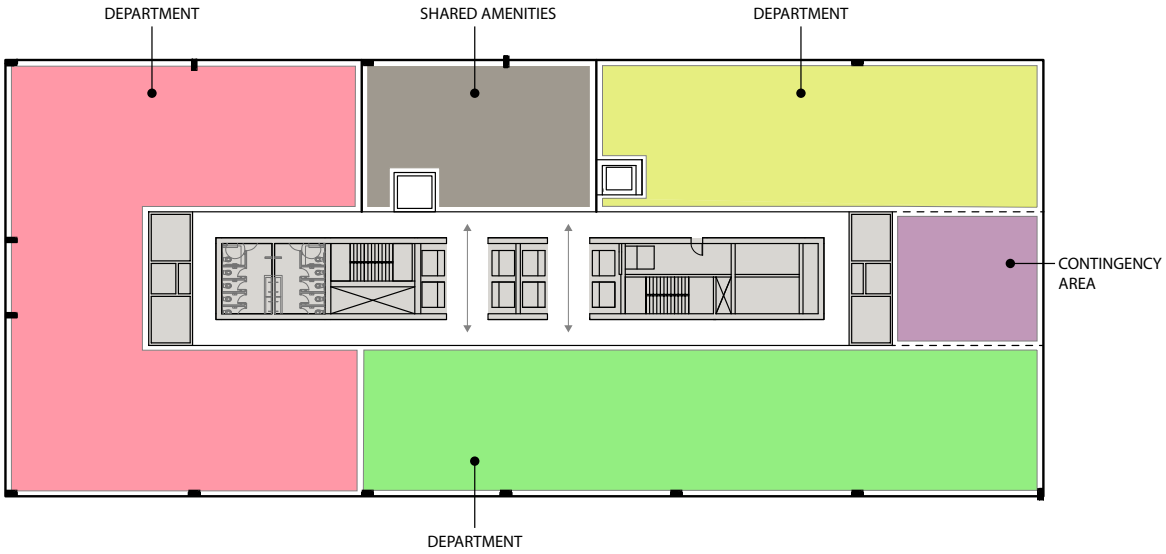
Option 2

In this option, this area will be located between departments on the North side of the floor plate, expanding to the West based on the amount of Contingency Area for any particular Floor. This are will be unused and available for future growth or any other unexpected or non-accounted circumstances.

Refer to diagram below and to Appendix A for more specific location and size.



Option 1



Option 2

Typical Office Level - Main Building

Diagram indicates organization and relationship between office space, shared amenities and contingency area, within the floor plate.

Chapter 5
Project Design Criteria

5.0 PROJECT DESIGN CRITERIA

5.1 General Requirements
5.2 Site Engineering and Landscape Design
5.3 Architecture and Interior Design
5.4 Sustainability and Resiliency
5.5 Structural Engineering
5.6 Mechanical Engineering
5.7 Electrical Engineering
5.8 Plumbing Systems
5.9 Technology and Security
5.10 Fire Protection
5.11 Life Safety

5.1 General Requirements

Purpose of the Design Criteria Package

The JGCC Design Criteria Package (DCP) set forth in this document establishes design standards and criteria for the new JGCC campus and facilities. This document contains policy and technical criteria to be used in the programming, design, construction and documentation of the JGCC and facilities.

The DCP as a mandatory standard is defined by Section 60D-13.004 - Design Criteria Package Requirements, Fla. Admin. Code Ann. R. 60D-13.004 Specific Authority 255.29(4) FS. Law Implemented 255.29 FS. New 6-23-87, Formerly 13D-23.004. The DCP specifies performance criteria for the building(s) including, but not limited to, size, net interior space provisions, location, material quality standards, cost, construction schedule, site development requirements, landscaping, grading, utility provisions for water, power, telephone, storm water disposal and parking provisions. The purpose of the package is to furnish sufficient information upon which firms may prepare bid proposals or upon which negotiations may be based. The firm to whom the design-build contract is awarded will be responsible for creation of the project design based on the criteria in the JGCC Design Criteria Package (DCP) herein.

The DCP is not a guideline, textbook, handbook, training manual, nor substitute for technical competence. The DCP represents the current state of practice in designing the JGCC and building facilities to meet County and City goals and commitments, maximize the efficiency of business processes, and comply with the requirements as set forth in this document. In the DCP the word “must” means the requirement is mandatory; the word “should” indicates a preferred approach that the selected architect/engineer (A/E) needs to consider in developing their design solution for the JGCC and facilities. The DCP must be used in conjunction with the governing standards referenced in this document, as well as the building program for each project component. If conflicts exist between the described criteria and a specific program and/or project requirement, County and City will address for resolution.

The County and City must review compliance with the building program at each stage of the project, as required in Appendix A, to ensure that the requirements of the DCP and the relevant codes and standards have been met and to guard against unplanned expansion of the program because of design and engineering choices.

5.1.1 Applicable State and Local Codes

Resiliency / Sustainability / Health and Wellness
Building Operations and Maintenance
The use of Broward County’s future conditions groundwater surface map that includes projected sea level rise projections is required to obtain a surface water management license through the County. The Broward County Board of Commissioners enacted Ordinance No. 2017-16 which amended Section 27-200 (b) (5) a. 3. b) of the Broward County Code of Ordinances.

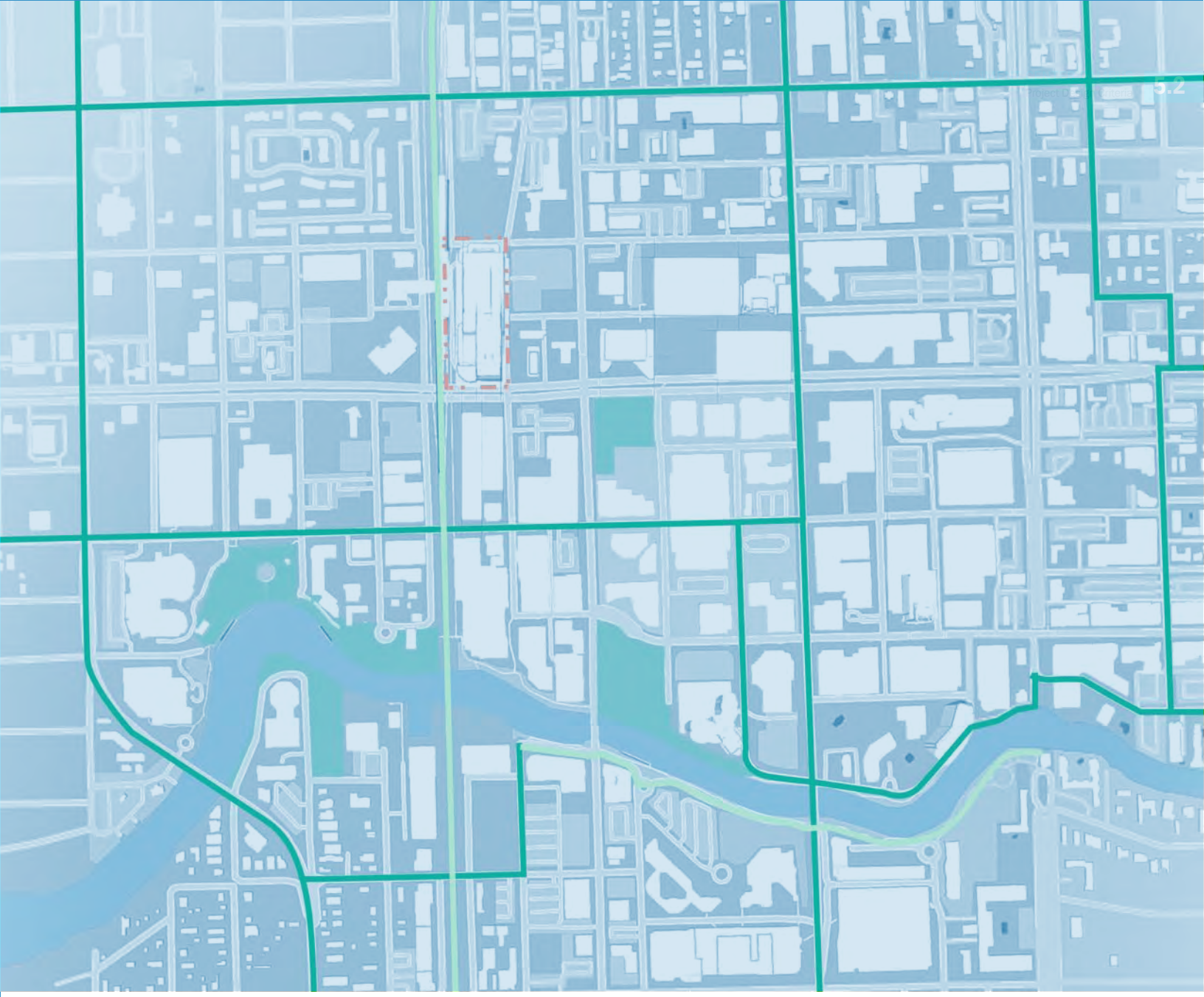
While not currently in effect, Broward County is developing a similar future conditions map to be utilized for the siting of new development within the County., which incorporates future precipitation projections. It is recommended that these projections be included when designing the stormwater management plan for the project.

Construction Inspections
Special Inspection on Threshold Building
Special inspections for threshold building shall be provided in compliance with The Florida Building Code and Florida Statute. A structural inspection plan providing specific inspection procedures and schedules in order for the buildings to be adequately inspected for compliance with permitted documents shall be prepared by the engineer or architect of record.

Testing
Material testing shall be done in accordance with the Florida Building Code and relevant American Society of Testing and Materials. All fenestration, roofing, facade components and cladding shall be rated for the appropriate wind design pressures and blast pressures and have a Miami-Dade Notice of Approval or Florida Product Approval.

Section 5.2
Site Engineering and Landscape Design

5.2.1 Goals and Objectives
5.2.2 Programmatic Requirements
5.2.3 Site Analysis
5.2.4 Site Planning
5.2.5 Grading
5.2.6 Site Utilities
5.2.7 Pavements and Curbs
5.2.8 Landscape Design
5.2.9 Planting Practices
5.2.10 Site Lighting
5.2.11 Site Furniture
5.2.12 Site Signage



Section 5.2
Site Engineering and Landscape Design

NW 1st Ave

5.2.1 Goals and Objectives

The intent of the civil engineering and landscape architecture Design Criteria Package (DCP) for this project is to develop a framework for the design and construction of a resilient, code compliant, and constructible facility with a logical and secure layout that is both aesthetically pleasing and efficient.

As defined in further detail below, this DCP's objective is to define performance-based criteria for the following site and landscape features and characteristics:

- Infrastructure, including, but not limited to:
  - Potable Water
  - Fire Protection
  - Sanitary Sewer
  - Drainage
  - Power
  - Telecommunications
  - Natural Gas
- Stormwater Management
- Vehicular, Pedestrian, and Multi-Modal Accessibility
- Adjacent Roadways
- Hardscape
- Pavement Markings and Signage
- Wayfinding
- Landscape
- Irrigation

5.2.2 Programmatic Requirements

Coordination with Local Governments
This project will be regulated by various federal, state, and local regulatory agencies. The following includes, but is not limited to, a list of regulatory jurisdictions for this project.

Federal

Environmental Protection Agency (EPA)
The EPA has delegated the National Pollutant Discharge Elimination System (NPDES) Program for stormwater runoff of construction activities to the Florida Department of Environmental Protection (FDEP). An Erosion and Sedimentation Control Plan will need to be developed for the Notice of Intent (NOI).

Federal Emergency Management Agency (FEMA)
FEMA regulates the floodplains and floodways under the National Flood Insurance Program (NFIP). This site falls within a FEMA Flood Zone and will need to comply.

Federal Aviation Administration
Federal law requires that the FAA determine whether a structure that is proposed to be built or altered, 200 feet above ground level (AGL) or higher, or near an airport, does not pose a hazard to the airspace. A FAA Form 7460-1 Notice of Proposed Construction or Alteration will need to be submitted to the FAA. This form will need to be submitted at least 45 days before the start date of the proposed construction.

State

South Florida Water Management District (SFWMD)
The SFWMD is the primary regulating agency with jurisdiction over stormwater issues in Broward County but delegates authority to Broward County for areas in the eastern part of the County. Since the property is owned by Broward County, this will be the agency to obtain surface water management approval. An Environmental Resource Permit for the surface water management system will need to be obtained.

Florida Department of Environmental Protection (FDEP)
FDEP regulates environmental programs in the State. FDEP also regulates public water systems through the Source and Drinking Water Program. A Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs will need to be obtained.

Florida Department of Transportation (FDOT)
FDOT owns and maintains Broward Blvd. Coordination with this agency will be required for access, drainage, and utility connections.

Local

Broward County Environmental Protection and Growth Management Department (BCEPGMD)
Broward County EPGMD is a primary regulating agency for stormwater in the City. Coordination with Broward County will be required for the surface water management system through the Environmental Engineering and Permitting Department (EEPD) Surface Water Management Section. However, since this property is owned by Broward County, approvals will be obtained from SFWMD.

Through its delegated authority for the state Domestic Wastewater Licensing Program by FDEP, Broward County will also be regulating the sanitary sewer system. A license will be required for construction/modification of the wastewater collection and transmission systems, including reuse application systems.

City of Fort Lauderdale
The City of Fort Lauderdale, besides being a project owner, will also be reviewing the project for site plan, utilities, and drainage issues.

The Engineering Division reviews site plans and construction permits for both major developments and minor work in the right-of-way to ensure projects meet concurrency/adequacy requirements and are designed and constructed in accordance with applicable engineering standards, building codes, and environmental regulations, and permitted through the appropriate regulatory agencies.

The scope of review generally encompasses the following areas:

Site Plans (Development Review Committee)

- Safe/Adequate Access/Circulation for Vehicles and Pedestrians (On-Site and in Right-of-Way)
- Adequacy of Stormwater Management Systems
- Adequacy of Water and Wastewater Service
- Dedication or Vacation of Public Rights-of-Way and Easements
- Development Agreements and Revocable Licenses

Construction Permits

- Roadway, Sidewalk and Driveway Improvements
- Connections to the Public Water and Wastewater Systems, Water Meters and Services
- Stormwater Collection Systems
- Franchise Utilities and Communications Facilities
- Crane Permits (in Right-of-Way)
- Construction Traffic Plans (in association with the Transportation Department)
- Pollution and Sediment Control Plans

5.2.3 Site Analysis

Water Retention Requirements
The project will require retention (aboveground and/or underground) in order to meet water quality volume and water quantity attenuation for the 25-year, 72-hour and 100-year, 72-hour storms. The water quality will be 1 inch over the entire site area or 2.5 inches times the percentage of imperviousness, whichever is greater, based on the requirements of South Florida Water Management District (SFWMD). Since this project has a high percentage of imperviousness, the 2.5 inch requirement will govern. In addition, Broward County EPGMD requires additional stormwater storage to keep peak flood stages at or below the Broward County 100-year flood map elevation. The acreage/volume needed will be dependent on the surveyed elevations and the site plan. Given the program and typical developments in urban environments, it is anticipated that the stormwater retention will be provided entirely underground, potentially with exfiltration trenches, underground storage chambers, and/or stormwater drainage well(s). Depending on the available head, the stormwater drainage wells may function by gravity alone or may be pump-assisted.

The design shall meet all municipal and County requirements for storm water retention.

Flood Zone
FEMA regulates the floodplains and floodways under the National Flood Insurance Program (NFIP). The current maps are from 2014. FEMA recently conducted a new study for Broward County and new maps were proposed in December 2019 for adoption in the fall of 2020. The minimum finished floor elevation (FFE) will be determined by a few different factors. First, it will depend on whether the proposed facility will be considered an “essential facility”. If so, the Minimum FFE would be 2-feet above Base Flood Elevation (BFE) or the peak 500-year, 72-hour routed flood stage, whichever is greater. This will not be confirmed until the site plan is finalized. If the building is not considered an “essential facility” then the minimum FFE will be 1-feet above BFE or above the 100-year, 72-hour routed flood stage.

Per the current map, the site is designated in the FEMA Flood Zone AE with BFE 5.0 ft-NAVD88. The FFE will either

be 6.0 ft-NAVD88 for a non-essential facility and 7.0 ft-NAVD88 for an essential facility. This is subject to change depending on the surveyed elevations and the proposed site plan, which will impact the flood routing elevations.

Per the new Preliminary Maps dated 12/31/2019, the site will be in Zone AE with BFE 6.0 ft-NAVD88. These maps will most likely be adopted prior to this project being constructed and therefore prior to obtaining a C.O. The elevation certificate at time of C.O. will be based on the map that is adopted at that time. The project would need to be designed based on this future map which would require the FFE to be 7.0 ft-NAVD88 if the building is classified as a non-essential facility or 8.0 ft-NAVD88 if the building is classified as an essential facility. This is subject to change depending on the surveyed elevations and the proposed site plan, which will impact the stormwater calculations.

Both the current 2014 FIRMette and 2019 Preliminary FIRM Panel are included in Appendix E1.

In addition to flood zone requirements, resiliency for the lifespan on the facility shall be considered. Based on analysis incorporating sea level rise and potential storm surge threats in a Category 5 hurricane, an elevated finished floor elevation of a minimum of 9.3 ft-NAVD88 may be considered.

Based on the above listed requirements, a Finished Floor Elevation of 9.50 ft-NAVD88 is recommended for higher resilience. Refer to Appendix E1: FEMA for maps.

5.2.4 Site Planning

The project will need to be submitted to the City of Fort Lauderdale for site plan approval. Projects located in the Downtown Regional Activity Center – City Center (RAC-CC) have site plan review processed through Design Review Team (DRT). This is a City project and will need to be coordinated with the applicable master plan design guidelines and standards for the area.

The RAC-CC City Center District is the city's high-intensity downtown zoning district and is intended to be applied to the central downtown core area as a means of accommodating a wide range of employment, shopping, service, cultural, higher density residential and other more intense land uses. The RAC-CC zoning district will permit mixed use development including high intensity commercial uses, as well as downtown residential housing. Commercial retail uses will be required on the ground floor of buildings on those streets where pedestrian activity is encouraged. In order to ensure that development along the boundaries of the RAC-CC district will be compatible with adjacent zoning districts, properties abutting the edges of the RAC-CC district will be subject to regulations that provide a transition from the very intense and dense uses found within the central urban core.

5.2.5 Grading

The site grading shall be designed such that accessible pedestrian routes meet the regulations and Design Standards of the Americans with Disabilities Act (ADA), specifically the 2010 Standards of State and Local Government Facilities and the most current Florida Building Code – Accessibility Section. All walking surfaces (including sidewalks) shall have a maximum longitudinal/running slope not steeper than 1:20 and cross slopes not steeper than 1:48. Ramp runs shall have a longitudinal/running slope not steeper than 1:12 and cross slope not steeper than 1:48, with a maximum rise of 30 inches. Ramps shall have landings at the top and bottom of each ramp run with slopes not steeper than 1:48. Curb ramps shall have a longitudinal/running slope no steeper than 1:12, with flared sides no steeper than 1:10.

For asphaltic concrete pavement, the minimum longitudinal slope shall be 0.5% and minimum cross slope shall be 1%. For Portland cement concrete pavement, the minimum longitudinal slope shall be 0.3% and the minimum cross slope shall be 1%.

Grading for unpaved areas shall be no steeper than 1:4 vertical to horizontal, unless otherwise approved by the Engineer.

5.2.6 Site Utilities

During site design, the location and coordination of all utilities, including but not limited to water, sanitary sewer, electricity, gas, communications, storm drainage, etc. must be coordinated with other site design features, utility providers, and the Owner.

Coordination with Service Providers
A vicinity site investigation was conducted by contacting each of the service providers for utilities for this site. Below is the information received from each of the utility.

Utility Location
The following is a report of the existing utilities in the vicinity of the project.

Fiber - Crown Castle
Crown Castle fiber facilities/equipment are present within the project's work area. There are two (2) lines running north-south along the east side of Brickell Ave (NW 1st Ave) and one (1) line running east-west on the north side of the site on NW 2nd St. The maps provided by Crown Castle are included in Appendix E2.

FPL
The power for the project will be provided by Florida Power and Light (FPL). Facilities are available in the vicinity. Drawings provided by FPL show facility lines along NW 2nd St and along Brickell Ave (NW 1st Ave) adjacent to the project site. The maps provided by FPL are included in Appendix E2.

Gas
TECO Peoples Gas will be the provider for natural gas for this project. There are facilities located along the south side of the project site within W Broward Blvd as shown on the figure below. Coordination will be through the Distribution Engineering office located in Tampa, FL. The maps provided by TECO Gas are included in Appendix E2.

Cable
Comcast would be the service provider for this project. According to a sketch provided by Comcast, there are existing aerial comcast facilities on the north side of the property, running along NW 2nd Street. There are also facilities going north on NW 1st Avenue starting at the intersection of NW 2nd Street. The maps provided by Comcast are included in Appendix E2.

Inteligent Transportation System (ITS)
TThere is a possible conflict along the FDOT Fiber Optic Duct Bank. As-built plans provided by FDOT show the locations of the fiber optic communications cable and ITS devices for the FDOT Intelligent Transportation System.There are existing BCTED fiber optic duct banks and conduits on the north side of W Broward Blvd. These facilities need to be protected during construction from any damage that could cause failure or disruption of normal operations. This includes, but is not limited to, protection of Telecomunications, Camera Systems, Vehicle Detection System, Dynamic Message System (DMS) and Power Systems.

The Design Team contractor will need to be informed that they shall repair or replace any damage to the existing communications equipment (fiber optic cable, conduit, pull boxes, splice vaults, cabinets, hubs, etc.).

Refer to the as-builts plans provided by FDOT in Appendix E2.

Traffic Engineering
Information provided by the Broward County Traffic Engineering Division (BCTED) shows the presence of Fiber Communications cables from the County and from FDOT on Broward Blvd as well as lines belonging to the County on Brickell Ave. The maps provided by BCTED are included in Appendix E2.

Water
Potable water for the site is provided by the City of Fort Lauderdale. A 12 inch water main is proposed on the west side of the property, adjacent to the F.E.C. right-of-way, to create a looped service for the proposed tower and bus terminal. This proposed water main will require an easement to the City of Fort Lauderdale. The looped water main will tie into an existing 16 inch water main along W Broward Blvd to the south and an existing 12 inch water main on NW 2nd St to the north. An existing water main along NW 2nd St is proposed to be removed to accommodate the parking garage ramp. There is an existing abandoned 2-inch water main running north-south along the east portion of the site. The Development Team shall confirm the required sizing for the domestic water services to the tower and bus terminal based on demand. The projected demand for the tower and transportation offices is approximately 200,000 gallons per day.

There are two existing fire hydrants adjacent to the site and three additional proposed fire hydrants as required to maintain a minimum spacing of no more than 300 feet to any part of the building exterior and to maintain no more than 150 feet to the Fire Department Connection (FDC). Fire flow tests are not currently available for this site. The Design-Build Firm shall confirm that the available fire flow and pressures are sufficient to meet NFPA, Florida Building Code, County, and

City regulations. The tower is required to have redundant fire services, which are proposed to connect to the proposed 12-inch water main to the west and an existing 8-inch water main along Brickell Ave to the east. Should the proposed development demand a water main connection along Brickell Avenue greater than 8-inch, the existing water main shall be replaced with a sufficient size water main to serve this connection.

The water main extension will require authorization from the Florida Department of Environmental Protection under the General Permit for Construction of Water Main Extensions for PWSs. The plans and application will need to be approved/signed by the City of Fort Lauderdale Department of Sustainable Development. The Development Team shall submit Utility Services application packages to the City to install the proposed offsite fire hydrants. Utility Service applications will also be required if the City will be performing the water main or fire taps. If the Development Team opts to perform the water connection, a ROW Water permit application must be provided along with the signed and sealed cost estimate and bond. A minimum 10-foot by 15-foot easement to the City of Fort Lauderdale will be required for each 4-inch or larger water meter vaults.

Sanitary Sewer

Sanitary sewer service is provided by the City of Fort Lauderdale. The tower is proposed to connect to the City system via two sanitary sewer mains, connecting to an existing 10-inch sanitary sewer main on W Broward Blvd and an existing 12-inch sanitary sewer main on Brickell Ave. The projected sanitary sewer average daily demand for the tower and transportation offices is approximately 200,000 gallons per day. A sanitary sewer lateral is proposed to connect the bus terminal restroom facilities to the existing 12-inch sanitary sewer main along Brickell Ave. The existing 8-inch sanitary sewer main along NW 2nd Ave is proposed to be relocated further north to accommodate the proposed parking garage ramp. For all sanitary sewer laterals, cleanouts shall be provided 5 feet from the face of the building, at all turns, at right-of-way lines, and at a minimum every 75 feet on straight runs. The maximum distance between sanitary sewer manholes shall be 400 feet. All sanitary sewer mains and laterals shall be designed and constructed per the Recommended Standards for Wastewater Facilities (10 States Standards), Florida Department of Environmental Protection, and City of Fort Lauderdale requirements.

The private sanitary sewer system will require authorization from the Florida Department of Environmental Protection, via Broward County Environmental Protection and Growth Management Division (BC EPGMD) to construct a domestic wastewater collection/transmission system. The City of Fort Lauderdale will require a minimum 10-foot by 15-foot easement for the first private sanitary sewer manhole located within the proposed development and outside of existing City right-of-way to facilitate City maintenance access. New sewer connections in City rights-of-way must be performed by a licensed engineering contractor or certified underground utility and excavation contractor in Broward County as per City Ordinance C-14-49. A ROW Sewer permit will be required for any proposed connection to City sewer main or manhole, along with cost estimate and bond. Further, permit approvals from Broward County will be required for any improvements and/or work to be performed adjacent or within Broward County rights-of-way, including Maintenance of Traffic.

Storm Drainage

The level of service criteria for the stormwater management system within the City is defined based on the guidelines from SFWMD and Broward County EPGMD. The flood level should not exceed the finish floor elevation during the 100-year, 3-day storm event. Should this facility be considered "essential", the 500-year, 3-day storm event will control. The County's future conditions modeling includes a recommendation for a 13% increase in rainfall volumes for the 100-year, 3-day design storm.

For water quality, these standards require treatment of the first inch of stormwater runoff generated from the entire site area or 2.5 inches of stormwater runoff generated from all impervious areas within the site area (whichever is greater). Given the amount of impervious area, the 2.5 inches is anticipated to govern. Typical methods for providing water quality treatment of stormwater runoff are the installation of dry retention areas, grass swales, and exfiltration trench to adequate storage volume to meet these requirements.

The drainage infrastructure for this project is anticipated to consist of a combination of exfiltration trenches, drainage wells, and/or underground storage chambers.

Included as Appendix E3 are preliminary stormwater modeling calculations indicating the anticipated infrastructure to meet the design criteria. Calculations for the onsite stormwa-

ter management system are included for the recommended FFE of 9.50 ft-NAVD88.

Existing Storm Drainage Facilities

Survey Information shown on the Downtown Mobility Hub Streetscape Improvements Project drawings from the City of Fort Lauderdale show drainage lines running within the right-of-way along the north side of NW 2nd St. Elevations shown on those drawings are based on the North American Vertical Datum of 1988 (NAVD88). An existing storm sewer manhole with rim elevation of 4.52 feet and a depth of 12.8 feet, shows a 60 inch RCP drainage line to the south, entering the proposed project. The invert elevation of this line is (-)7.28 feet. These drawings are included in Appendix E2.

Further research of SFWMD permit records for the current transit facility indicates the 66 inch RCP storm line was relocated west within the subject property to avoid the current bus terminal structure.

The City of Fort Lauderdale Storm Atlas, included in Appendix E2, shows existing storm drainage onsite of varying size, including unknown diameter (shown as 99" on the atlas), 72-inch, and 66-inch storm pipe.

The surveyor was unable to verify the size and inverts of the existing onsite storm drainage due to the following: baffles installed within storm structures blocking storm pipe inverts, heavy structure lids that the surveyor could not remove without special equipment, and standing water in drainage structures. Please refer to Appendix E for Existing Conditions Plan based on information provided by the survey, utility coordination, and permit research. The Development Team will be responsible for verifying the existing onsite stormwater infrastructure and relocating public infrastructure as needed for the final design.

Future-Proofing Site Utilities

Design of all site utilities shall consider the future demand for the ultimate build-out of the site and adjacent developments. Additionally, the Development Team shall ensure that the proposed site utilities offer ease of maintenance and replacement.

Design of the stormwater management system shall comply, at a minimum, with adopted 2017 Future Conditions Groundwater Table Map, but it is recommended that this elevation be adjusted upward by 1 foot, consistent with forthcoming revision to this map based on adopted 2019 Sea Level Rise (SLR) Projection.

5.2.7 Pavements and Curbs

All onsite pavement subject to vehicular traffic shall be designed for H20 loading at a minimum, to accommodate buses and service/delivery vehicles. Asphaltic concrete and Portland cement concrete shall meet the requirements of Florida Department of Transportation (FDOT) Standard Specifications.

Curb and gutter design and construction shall follow FDOT Standard Plans and Specifications, latest edition.

Given the desire to create a resilient development, there shall be considerations for offsite roadway improvements, including elevating existing adjacent roads to future-proof for sea level rise and associated groundwater levels. Therefore, the offsite roadway improvements may include elevating roads to have a minimum crown of road elevation of 5.00 ft-NAVD to ensure the roadway cross section is maintained above the seasonal high groundwater table elevation and to ensure that proposed utilities will have sufficient cover. The extents of off-site roadway may either connect to existing roadways using Florida Greenbook requirements for vertical alignments for each roadways design speed or treat intersections with adjacent roads as driveways with lower design speeds to minimize offsite work and avoid impacts to Broward Boulevard.

5.2.8 Landscape Design

Civic or government buildings, cultural facilities, and other special monuments should have particular prominence within the Downtown. In the tradition of great examples from many cities around the world, these buildings should have greater freedom in form and architectural expression. These signature landmarks of city-wide importance will stand out by being the "exception to the rule", and have a greater impact when surrounded by strong and well-defined streetscapes which are encouraged elsewhere in this chapter

Streetscape

The southern boundary of the property, along Broward Blvd. is considered an Image Street (per Code Section 47-13.20.H.2.d.). An Image Street is a street identified with-

in the downtown RAC that are currently accommodating, or are intended to accommodate, intensive pedestrian traffic, or which serve as major pedestrian streets and major vehicular entryways/getaways into downtown. This requires adjacent developments to accommodate said pedestrian and vehicular usage and aesthetic considerations. For the JGCC site, the following should be taken into consideration in the streetscape design along Broward Blvd.

Building Frontage Setback
A minimum of seventy-five percent (75%) of the linear frontage of a parcel along the Image Street shall be occupied by a ground floor building wall located ten feet from the front property line. All other portions of the building shall be located a minimum of five feet from the property line. (See Code Sections 47-13.20.I.1.a. and 9., Building Step-Backs.).

Street Trees
Within the RAC districts, certain streets are limited to specific tree species. Broward Boulevard is limited to Royal Palm trees, Roystonia elata (per Code Section 47-21.14.A.1.a.). Shade trees shall be provided at least every 40 linear feet along the area fronting the Image Street. Palm trees may be planted every 20 linear feet along the frontage. At time of installation, shade trees shall be a minimum of 14 feet in height and 8 foot in spread, with a minimum 6-foot ground clearance. Palm trees shall be a minimum of 18-foot height with a minimum of 8 feet of gray wood at time of installation.

Landscape Maintenance and Building Operations
The owner, tenant and/or agent shall be responsible for the proper maintenance and protection of landscaping and irrigation systems existing or hereafter installed. Maintenance shall include watering, weeding, mowing, fertilizing, treating, mulching, trimming, removal or replacement of dead or diseased plants and removal of refuse and debris on a regular basis so as to continue a healthy growing condition and present a neat and well-kept appearance at all times. (See Code Section 47-21.11.A.)

Shade trees shall be maintained at a minimum canopy diameter of thirty (30) feet in accordance with the American National Standards Institute, A-300 standards or similar accepted standards as published. (See Code Section 47-21.11.B.)

A landscaped sight triangle shall be provided and visibility maintained. Plant materials which block visibility shall be removed by the property owner or maintained so as to allow clear visibility of oncoming traffic. (See Code Section 47-21.11.C-D.)

Landscape Elements
Certain design practices can help to ensure successful longevity and ease of maintenance throughout the life of the project after landscape installation is completed. Design the landscape by grouping plants of similar watering needs to reduce or eliminate over and underwatering. Review plant lighting culture and microclimate needs to ensure that they will thrive in a specific location. Obtain soil testing and specify possible soil amendments or improvements where necessary. Ensure health and quality of planting materials per FL Grades and Standards and ensure that plants are a minimum grade of FL Grade #1 prior to installation. Specify and confirm execution of all industry appropriate standards for installation procedures including care during freight, proper container extraction and removal, staking and guying, soil preparation, appropriate planting depth and functioning irrigation. Plant selection should be limited to native species, with specific justification and approval for use of any non-native species.

5.2.9 Planting Practices

Soils
Where landscape plans are required, applicants shall, as determined by Zoning Administrator or designee, seek a soil test and analysis performed by a reputable soil testing lab to determine soil texture, percentage of organic matter, measurement of pH, total soluble salts, and estimated soil infiltration rate. Existing horticulturally-suitable topsoil shall be stockpiled and respread during final site grading. Any new soil required shall be similar to the existing soil in pH, texture, permeability, and other characteristics, unless demonstrated to the City that a different type of soil amendment approach is justified. (See Code Section 47-21.7)

Irrigation for Landscaping
Sufficient irrigation, as determined by Zoning Administrator or designee in accordance with the design of the landscaped area and the requirements of the plant material to be used, shall be supplied to all landscaped areas. When required, ir-

rigation systems shall be installed to provide coverage to target areas, minimizing spray upon public sidewalks, streets or adjacent properties. Irrigation systems compatible with Florida-Friendly Landscaping™ principles shall be encouraged. This may include the use of low volume, low pressure, subsurface irrigation systems, and other such methods, such as rain barrels, cisterns and hand watering, which encourage water conservation. All automatic lawn or landscape irrigation systems shall be equipped with and operate a moisture sensor or approved automatic switch which overrides the irrigation cycle when adequate rainfall has occurred. All irrigation systems shall meet the irrigation standards developed pursuant to Section 373.228, Florida Statutes, as amended. All landscape areas, excluding single-family residences and duplex dwellings, shall be provided with an automatically operating, underground irrigation system designed to have head-to-head one hundred percent (100%) coverage. Drip, trickle, or other low-volume or micro-irrigation systems shall be required for non-turf areas unless the owner demonstrates and the City agrees that the size of the area makes such systems financially infeasible or a tripping hazard associated with these systems has been identified. Irrigation systems shall be designed to minimize application of water to impervious areas. (See Code Section 47-21.10.)

Rainwater reuse for irrigation is a viable option for this site. Rainwater can be collected on site in an above ground silo-type container. This type of system is more cost effective than an underground system. Rainwater would be collected from storm water runoff from the roof and not from the ground level, as ground level runoff would contain an undesirably high concentration of contaminants.

For the proposed DCP Concept Plan, the above ground tank can be located on the Amenity Deck (Level 9) to serve landscape areas on that level as well as levels below. The water flow could be inline from the above 29th story roof and overflow down to the ground floor with a bypass line. The above ground rainwater storage tank size would depend on the area to be served and the desired capacity of reserve water. In the event of drought, a potable water connection for refill would be desired. For the irrigation system itself, drip irrigation would be preferred to minimize pump requirements as well as reduce water treatment standard requirements.

Based on the final design, The Development Team shall assess the requirements for rainwater collection and the estimated landscape water requirements. Due to site constraints, the collection and treatment of greywater for any other non potable purposes is not anticipated as a higher level of treatment would be required for either gray water use and/or higher pressure spray type irrigation.

5.2.10 Site Lighting

Pedestrian street lighting is encouraged as a security measure, but also to create vibrant commercial streets. Well-designed lighting is intended to animate the streets after dark and more intensive details and lighting are encouraged at street level. Lighting must comply with county dark-sky lighting ordinance which was adopted as required standard for county facilities, per administrative code Chapter 39-112.

Minimize 'light trespass' (light shining in windows) by precluding unshielded floodlights, high wattage pedestrian lights, wall packs, and other unshielded light sources that are improperly located and poorly aimed. Minimize light pollution (uncontrolled light traveling into atmosphere) that contributes to "sky glow" by avoiding unshielded light sources and excessively high lighting levels that are improperly located and aimed. Minimize glare by utilizing lighting to maintain the perception of safety without contributing to excessive light pollution. Light "temperature" (color): yellow light (low pressure sodium) is discouraged and white light (metal halide and others) is encouraged. The use of LED lighting is encouraged.

5.2.11 Site Furniture

Seating

The Downtown Master Plan encourages pedestrian-oriented design. Consider the amount of seating that might be necessary for an outdoor space to be used and to ensure that pedestrians are comfortable. Consider the amount of light, air, and visibility that a seating area receives. Also, consider the location of outdoor seating and seasons. Some seating should be provided in the sunlight for winter months, while other seating areas should be protected from environmental elements of extreme heat or rain. Allow visual access from seating areas to the street for CEPTED purposes.

Trash and Recycling Containers

Consider the appropriate amount of trash receptacles for the site and their location. Trash receptacles shall be placed so

they are easily visible, in areas where people readily pass by (not significantly out of the way), and adjacent to gathering spaces and they should be spaced appropriately. Depending on the size of pedestrian space, more receptacles shall be placed and spaced accordingly. Consider placement near but not too near areas where people gather. For example, place a receptacle near a seating area, but not necessarily directly next to a bench or seat wall. And, if possible, recycling shall be practiced on site. Choose trash receptacles with connected, yet separate receptacles for recycling.

Bicycle Racks

A well-connected system of bike lanes is critical to make Downtown bicycle-friendly. While the Downtown Master Plan includes provisions for bicycle lanes, an appropriate amount of bicycle storage on site encourages use and connectability of the mass transit facility to Downtown bicycle users. This further encourages the use of mass transit and can help to reduce car traffic.

Micromobility Program

Micromobility shall be taken into consideration in the site plan and streetscape design. The micromobility program is a regulatory system whereby micromobility devices, including motorized bicycles, also known as electric-assist or e-bikes and motorized scooters, are intended for point to point trips and are intended to remain in the public right-of-way, even when not being rented by a user. Micromobility devices are parked on the sidewalk and out of the way of pedestrians, parked cars or other users, ready to be rented by the next user.

The Fort Lauderdale City Commission originally adopted an ordinance in 2018, which was revised in 2020, that allows micromobility devices within the City. Subsequently four (4) permits were awarded for a total of 1,700 motorized scooters to operate within the City's boundary. Following the adoption of the new Florida Statues that authorize local governments to govern the operation of micromobility devces, the City of Fort Lauderdale amended Chapter 27 of the Code of Ordinanaces on February 18, 2020 to streamline the permitting process and create new regulations. The regulations include that a maximum of three (3) permits may be issued for the operation of an initial fleet of up to 500 motorized scooters per permit.

Micromobility devices (motorized bicycles and motorized scooters) shall use public sidewalks for parking but shall not adversely impact the streets or sidewalk, inhibit pedestrian movement, or inhibit ingress and egress to or from vehicles or loading areas along the roadway. A minimum of a four (4) foot pedestrian path must remain clear and no scooters shall be parked in a manner than in any way violates the ADA's (Americans with Disability Act's) accessibility requirements. Micromobility devices shall not be parked within travel lanes, on-or off-street parking, loading zones, bicycle lanes, bicycle storage facilities, shoulders, driveways or parking garages. They shall not block fire hydrants, street furniture or any ingress/egress from any structures.

Parking corrals may be utilized. These are parking facilities that can accommodate a group of micromobility devices which may include markings on the pavement or sidewalk, signage, or may be designated within an operator's smartphone.

Micromobility devices are authorized to be utilized on bicycle paths and bicycle lanes only, and in the event that no bicycle path of bicycle lane is available, micromobility devices may be utilized on sidewalks or sidewalk areas. The City Manager may restrict the operation and use of micromobility devices on certain sidewalks where use of micromobility devices may be considered a hazard to pedestrians.

Materials

Durable materials are encouraged for ground floor cultural uses, including metal stone, glass, concrete and plaster. Materials such as plywood sheeting, vinyl/aluminum siding and EIFS are discouraged. Richer material palette, more intensive details and lighting are encouraged for the street level. When a parking garage is exposed to the street, high quality and durable exterior materials must be used. Incorporate and promote recycled materials where feasible.

5.2.12 Site Signage

Standard signage and marking design and placement shall follow the Manual on Uniform Traffic Control Devices (MUTCD), latest edition. Pavement markings shall meet the requirements of FDOT Standard Specifications.

The Downtown Master Plan, Chapter 3, Movement and Access section encourages development of an integrated 'image' for the new transit system. This can consist of appealing vehicle design, clear graphics, transit stop design, and publicity. Transit, including stops, signage, lighting, pavement markings, and related landscaping, should be integrated with the overall street design and relate to street design principles in Chapter 4 of the Master Plan.

Signage within the RAC District

According to ULDC Section 47-22.4.C.13., freestanding detached signs, pylon signs, projecting signs, roof signs, billboards, window signs, message center signs and time and temperature units shall be prohibited. Notwithstanding this prohibition, ground signs shall be permitted in accordance with the requirements of this section.

Marquee signs shall be limited to an area of ten percent (10%) of the marquee area upon which the sign is to be erected or sixty (60) square feet, whichever is less.

Ground signs shall be permitted and shall be limited to five (5) feet in height and thirty-two (32) square feet in surface area and shall be set back five (5) feet from any property line if both sides of such a sign have copy. If copy appears only on a single side of such sign, then two (2) such signs of sixteen (16) square feet each shall be permitted on either side of an entranceway and said signs shall be setback five (5) feet from property line and not within five (5) feet of the edge of any pavement or sidewalk.

Flat signs shall be permitted and shall be limited as follows:

- If such sign is to be located within sixty (60) feet of ground level, then such sign shall be no larger than ten percent (10%) of the wall area upon which it is to be erected or one hundred twenty (120) square feet, whichever is less.
- If such a sign is to be located between sixty-one (61) feet and one hundred (100) feet above ground level, then such a sign shall be no larger than ten percent (10%) of the wall area upon which it is to be erected or two hundred (200) square feet, whichever is less.
- If such sign is to be located over one hundred (100) feet above ground level, then such a sign shall be no larger than ten percent (10%) of the wall area upon which it is to be erected or three hundred (300) square feet, whichever is less.
- A flat sign is a painted sign or any sign erected flat against the face of, or not more than eighteen (18) inches from the face of the outside wall of any building and not extending more than eighteen (18) inches above the wall upon which it is placed and supported throughout its length by such wall. No protruding portion of such sign shall be nearer than nine (9) feet to a walk or any area where there is pedestrian traffic; nor shall it extend beyond the wall in a horizontal direction; provided, however, that a sign placed on a mansard fascia shall be permitted to be erected vertically if the bottom section of this sign does not extend more than eighteen (18) inches from the mansard fascia.

Undercanopy signs shall be permitted in the ABA zoning district and within the RAC districts. Signs shall be limited to one (1) sign per separate entranceway for a business and such signs shall not exceed eight (8) square feet in total area.

Directional signs shall be permitted and shall be limited to four (4) square feet in total, two (2) square feet per side, four (4) feet in height.

Flags shall be permitted and shall be limited in number to one (1) flag for each fifteen (15) lineal feet of street frontage per building site.

See Section 47-22.2. for sign definitions.

Site Wayfinding

Site wayfinding signage shall provide clear direction for pedestrians, passenger vehicles (both visitors and employees), buses, and service/delivery vehicles. Design and placement of site wayfinding signage shall be coordinated with the Owner.

The Downtown Master Plan, Chapter 3, states that an integrated signage and a wayfinding system shall be introduced to better connect the downtown into an integrated urban experience.

Section 5.3
Architecture and Interior Design

5.3.1 Goals and Objectives
5.3.2 Codes Standards and Guidelines
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Section 5.3
Architecture and Interior Design

5.3.1 Goals and Objectives

This chapter includes architectural planning and design objectives for creating a lasting architectural legacy for the JGCC. The selected P3 or Design-Build Team must be committed to excellence in architectural design and project development. This includes an integrated approach that achieves the highest quality of aesthetics in meeting County and City requirements, and cost effective operation and maintenance throughout a building's useful life.

Integrated Design

To achieve the County and City's goals and to create a high-performing and sustainable campus and buildings, the JGCC Design Criteria Package establishes a blueprint for performance based on the use of a collaborative, integrated design process. The JGCC DCP, as developed by the Design Criteria Team, outlines the following:

- Sets specific goals for building orientation, energy, water, materials, and indoor environmental performance,
- Seeks to involve all relevant parties working together from the beginning of the project
- Establishes and documents comprehensive design and performance goals including program data and performance based criteria for use by the County and City's selected development team
- Considers all stages of the building's life cycle, including operations, maintenance and deconstruction

Performance Measures and Functional Objectives

The JGCC DCP requires that all design supports quality based performance measures for County and City satisfaction, energy consumption, and reduced operations and maintenance.

The DCP identifies all functional expectations and establishes alternative features that support attainment of these expectations. To the maximum extent possible, the selected development team must apply with the architectural elements identified in the DCP to optimize building performance and functional capabilities.

Urban Context

The JGCC campus and buildings' design and orientation should be consistent with existing and planned development patterns and nearby uses. The building's exterior should be consistent with existing local design guidelines, where applicable.

5.3.2 Codes, Standards and Guidelines

Codes and Standards

The codes and standards that apply to the JGCC are provided in Chapter 1. LEED and WELL requirements are found in Section 5.4.

Land Use and Zoning Regulations

Applicable local land use and zoning regulations are listed in Section 2.3. All other applicable codes and standards are listed in each section as applicable.

5.3.3 Site Design

Building Entrances

The JGCC shall have one main entrance for staff, visitors, and the public. Additional multiple entrances may be designated for employees only. Buildings may have additional doors used for egress or access to service areas. These doors should not be used as entrances.

Closure of ceremonial entrances and redirecting public access to other secondary entrances for security or accessibility purposes is discouraged. Refer to Chapter 5.9 for Security design criteria for access controls and detection systems.

Plazas and Courtyards

The most important consideration in designing exterior plazas and public spaces is the future potential use of those spaces. Potential uses should include shared and alternate uses. The treatment of elements such as seating, shade, water, art, security features, landscape, circulation, and flexibility of the space are important to consider. Plazas should be designed with sufficient infrastructure (electrical outlets, water, etc.) to support future flexibility and a wide range of uses. Egress should be designed to meet NFPA 101 for the maximum expected occupant load.

5.3.4 Facility Planning

Refer to Section 4.0 for specifics on the JGCC Proposed DCP Concept Plan selected by the County and City for the new Joint Government Center Campus and buildings.

Security Design
Criteria for site and building security are also described in detail in Section 5.9. Some of the planning concepts are stated here because of their importance to building planning.

General Layout
Future security problems can be prevented by planning a clear, simple circulation system that is easy for staff and visitors to understand and by avoiding mazes of hallways and hidden corners. Exterior doors should be readily visible.

Planning for Future Security Provision
The JGCC must be planned to allow for controlled access, both to the entire Main Building and BCT Transportation Administration Office Building and to individual floors and implement CPTED strategies and safety measures.

Elevators
See applicable section in this chapter for criteria. Elevator control panels must have lockout provisions for all floors (passenger and freight).

Mechanical and Electrical Spaces
Refer to Sections 5.6 and 5.7. Provide access to mechanical and electrical spaces from secure areas inside of the building.

Space Efficiencies
Space efficiency is defined as the minimum necessary space for the desired functions to be properly accommodated, with minimum 'waste' between usable area and gross area. For the JGCC, space efficiency must be balanced against effectively achieving space requirements and desired aesthetics. The plan configuration, floorplate depth, planning module, and circulation patterns together determine the space efficiencies of a building.

The JGCC Proposed Concept Plan configuration illustrates the geometry of the Main Building, BCT Transportation Administration Office Building and the typical individual floors within each building. The L-shaped and rectangular plans, with a single central core, will be inherently more efficient than a plan that is highly irregular, with distributed service cores.

Primary circulation in the JGCC is defined as the areas on a floor necessary for access to egress stairs, elevator lobbies, public toilets, building lobbies, and entrances. Secondary circulation refers to circulation inside the tenant's space and is not included in primary circulation. The efficiency of both primary and secondary circulation has been determined by proposed core placement, depth, planning modules, and plan configuration.

Planning Module
The planning module describes the internal dimensions for the placement of structural columns and window mullions. The planning module for the JGCC determines the ease with which internal space can be planned.

The planning grid is based on a 5-foot module, which allows for highly efficient and flexible partitioning. The minimum recommended bay size is 30 ft. by 30 ft.. Workstations should be designed to align with the planning module and bay size dimensions. An open plan using flexible furniture typically results in higher efficiencies than increased use of floor to ceiling partitioning. Furniture workstations should be planned early in the design to align with the planning module and bay size dimensions.

Core and Shell
The building core and shell comprise the complete enveloping structure, the base building systems, and finished common areas.

Circulation
The primary circulation connects the building's exits and all public spaces. Secondary circulation refers to other circulation leading off of primary circulation, usually inside the office spaces. The efficiency factor of both primary and secondary circulation types will be determined by core placement, depth, planning modules, and plan configuration. The JGCC shall have clear circulation systems. Utility system backbone pathways should be routed in circulation spines, providing service access to utilities without disrupting the building's occupants. Access to the building exits must be maintained from public areas (e.g., elevator lobbies, corridors) without having to pass through locked office spaces.

Wayfinding
Wayfinding must connect programmatic elements and clearly organize the buildings and the campus both horizontally and vertically. Circulation patterns must be efficient and minimize travel distances. Wayfinding should be intuitive and not solely dependent upon signage.

Core Placement and Configuration
Core placement must address the depth of the occupiable space between the core and perimeter walls. The optimum depth of this space between core and window wall in an office building is approximately 30 feet or less for providing access to daylight. More depth will reduce the level of natural light. The most efficient design approach is to vertically stack or align building core functions such as elevators, staircases, mechanical and electrical closets, restrooms, and any other similar function that serve all or part of the entire facility.

Planning for cores must provide for 40-foot nominal distances to the exterior and between core elements for occupiable space both for systems functionality and code requirements. Not all service functions need to be placed at each core location. Occupant needs and the following maximum distances must govern how often each element is repeated. Locate building cores within the floor plate to maximize access to daylight and views by all occupants.

Vertical Transportation
Elevators and escalators must comply with ASME A17.1. See Section 5.10 and Section 5.11, Fire Protection and Life Safety, for additional information regarding requirements for elevators, fire service access elevators, and occupant evacuation elevators.

The selection of type and quantity of conveying systems, such as elevators, escalators, and wheelchair lifts, must be made in conjunction with a thorough vertical transportation traffic analysis of the facility and shall account for morning and evening rush hour traffic.

Vertical Transportation/Elevator Traffic Analysis
The elevator traffic analysis must be performed by an independent consultant to determine the type, quantity, capacity, and speed requirements of elevators. Separate calculations must be performed for each elevator classification.

The criteria by which the traffic analysis calculations should be judged are “average interval” and “handling capacity.” Average interval is defined as the calculated time between departures of elevators from the main lobby during the morning up-peak period. Calculated intervals during the up-peak period should not exceed 30 seconds for a typical elevator bank. Handling capacity is defined as the number of persons the elevator system must move in any given 5-minute period of up-peak traffic used to measure average interval. Elevator cab sizes must be in accordance with the standards established by the National Elevator Industries, Inc. (NEII). Elevator cabs must be designed to reflect the architectural character of the building design.

Elevator
A minimum ceiling height of 9 ft.is required in service elevator cabs. Freight elevators must have a ceiling height of not less than 3,700 mm (12 ft.). The number of freight elevators provided should be determined by the elevator traffic analysis. The use of more than one freight elevator will provide better freight service for the tenants as well as provide redundancy for normal maintenance and during times when repair work is conducted.

Where equipment penthouses are provided, service elevators or freight elevators must provide access to that level.

An elevator must service all maintenance floors. Trap doors and hoist beams must be provided at the elevator machine rooms for traction elevators where the machine room is not served by a freight or service elevator for removal of equipment for service and repair.

Elevator Classifications

Passenger
Passenger elevators must be sized to qualify for the disabled. Capacities of 1,590 kg to 1,810 kg (3,500 to 4,000 pounds) must be used for passenger elevators.

Service
A passenger elevator designed to meet the ASME A17.1 Code requirements for “Carrying Freight on Passenger Elevators” is required. The minimum rated load must be based on the inside net platform area for passenger elevators. See Figure 8.2.1.2 ASME A17.1 – 2007. The car doors must be horizontal sliding type. The car platform must be designed to the applicable freight class loading.

Freight/Service
A passenger elevator designed to meet the ASME A17.1 Code requirements for "Carrying Freight on Passenger Elevators" qualifies for freight purposes. Freight Elevators traveling the entire height of the building shall be oversized to accommodate ease of moving furniture and equipment within the building and between floors.

Security
Security or specific purpose elevators are designed to transport designated groups of people such as commissioners. These will be custom designed to meet specific program requirements.

Shuttle
Typically a passenger elevator that services a limited number of landings, e.g., parking garage to main lobby.

Escalators
Escalators are proposed in the Main Building lobby area for access to the Chambers on Level 2 and can serve as a supplement to the ground floor elevators when vertical transportation is required for a large unpredictable volume of public traffic. These escalators shall be located to be visible from the building entry and convenient to the areas they serve.

5.3.5 Facility Energy Goals

Energy Use Intensity (EUI)
Building efficiency is measured in thousands of British Thermal Units per square foot per year (kBTU/sf-yr). This metric is referred to as Energy Use Intensity (EUI). This allows the energy consumption for buildings of various sizes to be fairly compared. A Net-Zero Energy building is one which completely offsets all of its site energy with renewables during the course of one year. Figure 5.3.6 (A).

According to the 2012 Commercial Buildings Energy Consumption Survey (CBECS) conducted by the U.S. Energy Information Administration (EIA), a typical office building performed at 77.8 EUI. This same data set also showed that buildings over 500,000 square feet tend to consume 31.8% higher than the mean of buildings of all sizes. This means we might expect the JGCC to hold an EUI of 102.5. Most Net-Zero Energy buildings achieve drastic energy reduction before leveraging generation due to the relatively high cost of renewables compared to energy efficiency measures. Energy consumption reductions of 70-80% compared to the baseline are typical for Net-Zero Energy buildings.

A goal of 30 EUI has been set for the JGCC in order to achieve Net-Zero Energy affordably. This represents roughly 70% energy savings compared to a typical office building of similar scale. Not only is this magnitude of energy savings characteristic of most successful Zero Energy projects but it is also a level of performance that the design team feels is aggressive yet achievable.

EUI Breakdown
The major energy consumption categories for the JGCC will be HVAC, Lighting, Plug/Process Loads, IT Loads and Food Service. See Figure 5.3.6(B) below. All of these categories must achieve drastic reductions in order to meet the 30 EUI goal. One common feature of Net-Zero Energy office buildings is that plug/process loads play an exaggerated role due to the design teams limited ability to affect drastic energy reduction for desktop computers, printers and other types of common office equipment. However, there are many strategies that can be employed here as well with buy-in from the building operator.

Renewable Energy Goals
At 894,050 gross square feet and an EUI of 30, the JGCC will need to generate 8,150,645 kWh annually in order to achieve Net-Zero Energy. If a ground mounted array were to be employed for this task, then approximately 5.2MW of solar photovoltaics would be required. However, based on analysis to date, if 100% of the renewable generation were to be provided on the project site then approximately 10MW of solar photovoltaics would be required due to a combination of shading and non-optimal array tilt-angle and azimuth.

Currently, the two main Net-Zero Energy certification systems are LEED Zero which is offered by the U.S. Green Building Council (USGC) and Zero Energy Certification by the International Living Future Institute (ILFI). Both provide avenues for off-site generation to supplement on-site generation when it is not feasible or is extremely uneconomical to accomplish 100% on-site.

Any Net-Zero Energy building will use the electric utility grid for energy storage. The building will constantly export to and draw from the local utility network. Net-Zero Energy buildings are typically net-positive during summer months and operating on a deficit during winter months due to seasonal variation as shown in Figure 5.3.6(C) graph below.

On-Site Production

Conceptual studies for the JGCC indicate that Net-Zero Energy could likely be achieved entirely with on-site renewable energy systems but only at extreme cost. Nearly all of the exterior surface area of the office tower and garage would need to be clad in high-efficiency commercial-grade solar panels. Most of these panels would need to be installed using unconventional methods and likely at a cost several times that of a more typical rooftop solar installation. In addition, most panels on-site will experience moderate to severely reduced output due to self-shading from the building and non-ideal aiming. The panels which are required to be vertically mounted on the north façade of the office tower are a prime example of this. Further, there is a risk that future high-rise construction on adjacent plots could shade these on-site resources in the future.

The electric utility provider (FPL) would be obligated by Florida law to provide a net-metering agreement to the JGCC for any renewable energy system with capacity of 2MW or below. Any systems which exceed this value would likely not be eligible for a net-metering agreement. This would likely have a negative impact on the economics of any on-site renewable energy systems.

Even with the presence of a net-metering agreement, it is likely that the JGCC will only be compensated for any energy exported back to the utility at approximately half of the rate that is being paid to FPL. This is because any utility tariff under FPL will include demand charges ($/kW) in addition energy charges ($/kWh). Net-metering agreements generally only apply to the energy component of utility bills.

A solar analysis for the JGCC was conducted which attempted to explore the economics and feasibility of a number of on-site solar schemes. Schemes ranging from 100% on-site generation to 25% on-site generation were investigated. Ultimately, the 25% generation scheme (1.02MW) was found to have the most compelling economic return. This is the

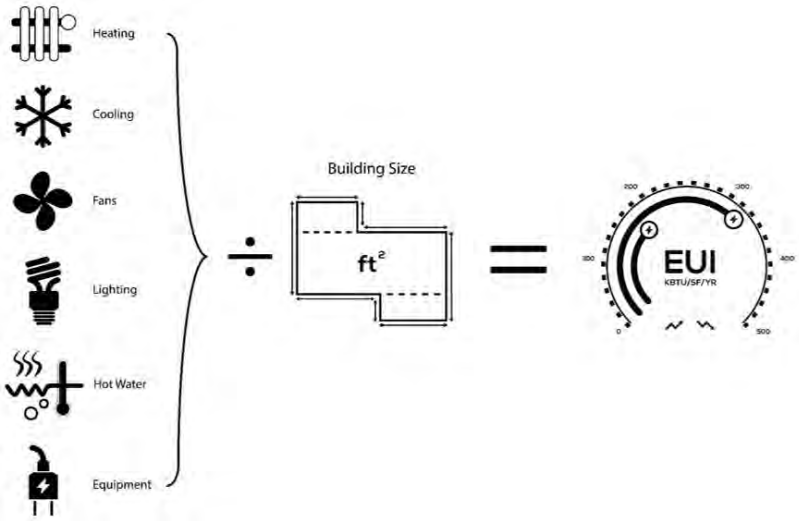


Figure 5.3.5(A) - Graphical Representation of EUI

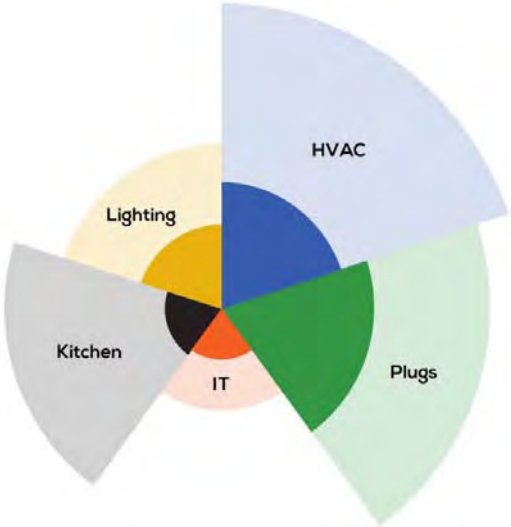


Figure 5.3.5(B) - EUI Breakdown of Typical Office vs. NZE Office

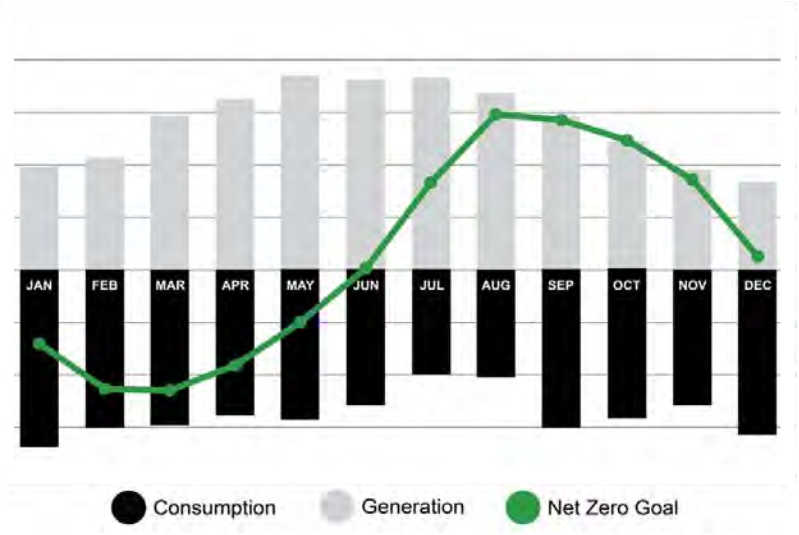
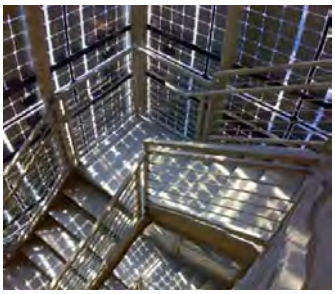


Figure 5.3.5(C) - Annual Consumption & Generation Profile of Typical

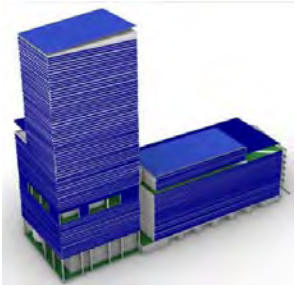
Facade Mounted Solar Panels

Transparent Solar Canopy

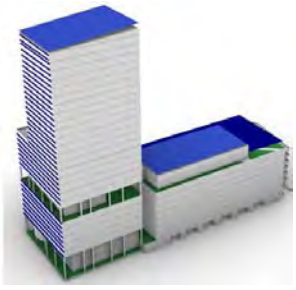


BIPV Screening

Conventional Rooftop Solar

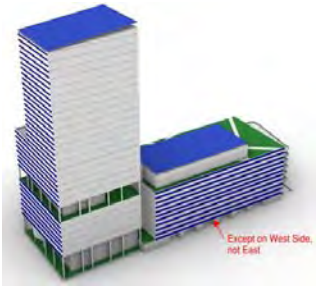


Scheme A - 100% Offset

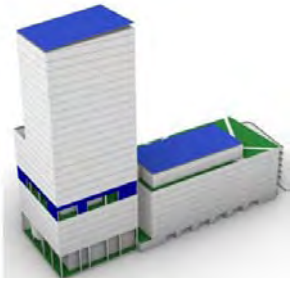


Scheme B - 39% Offset

Scheme C - 35% Offset



Scheme D - 31% Offset



Scheme E - 25% Offset

TABLE 5.3.5(D): CONCEPTUAL SOLAR ANALYSIS - ECONOMIC RESULTS			
	Levelized Cost of Energy (LCOE)	1st Cost	Payback Period
Ideal Installation	$.049/kWh	$1.25/W	12.1 Yrs
Sceme A	$.39/kWh	$5/W	49 Yrs (Never)
Scheme B	$.19/kWh	$3.5/W	32.6 Yrs
Scheme C	$.18/kWh	$3.5/W	31.5 Yrs
Scheme D	$.15/kWh	$3/W	27.8 Yrs
Scheme E	$.094/kWh	$2/W	20.2 Yrs

Figure and Table 5.3.5(D) - Conceptual Solar Analysis

recommended scheme which would still provide for a significant amount of on-site generation which is visible to building occupants and the public while also leveraging 75% off-site generation for radically improved economics. Refer to Figures and Table 5.3.6(D).

Off-Site Purchase

As previously mentioned, Net-Zero Energy certification can be achieved with some or even all off-site solar generation. There are a number of criteria which must be met in order to qualify for off-site generation but the JGCC should meet all of these requirements. However, the most important of these criteria is that the off-site generation provides additionality. This means that the solar panels providing the energy can be reasonably proved to have been installed as a result of the JGCC project. Simply buying Renewable Energy Credits (RECs) does not meet this requirement.

FPL offers a community solar program called Solar Together which the county already participates in. It is likely that the economics of this agreement are comparable to Scheme E above. Funding for this off-site energy resource is paid as an operating expense and therefore is not incurred as a construction cost to the JGCC project. Additional possibilities involving excess generation from new photovoltaic systems at nearby county owned parking garages could an option as well but likely at somewhat higher cost.

Energy Contingency

It is common but not necessarily standard practice to provide some additional renewable energy capacity beyond what is required to achieve Net-Zero Energy. The reasons for this are two-fold:

1. 1) a buffer which can account for unanticipated usage, poor weather or inaccurate modeling
2. PV panels degrade over time such that additional generation on day one is required in order to ensure that the building remains Net-Zero Energy of the lifetime of the PV system.

The recommendation is to oversize the PV array by 10% which should provide an appropriate safety margin as well as align generation with the power warranty offered by most panel manufacturers of 80% output by year twenty-five. This 10% renewable energy contingency represents approximately 800kW of additional photovoltaic capacity if pursuing 100% offset on-site. If the project were to pursuing a strategy which supplemented on-site generation with imported renewable energy then the 10% contingency would only be roughly 400kW of additional photovoltaic capacity.

Combustibles - Carbon Neutrality

It is recommended that the JGCC be 100% electric to minimize site energy usage as well as carbon emissions. An all-electric HVAC system is extremely feasible but will likely incur slightly higher initial construction costs due to the larger electric service required.

The total carbon savings over time for the JGCC to be 100% electric are limited compared with more northern climates due to the extremely limited amount of heating needed during the typical year. There is a reasonable chance that a natural gas boiler might not ever turn on during the course of many winters due to internal building load. This would be somewhat contingent on an HVAC system with heat recovery being selected such as water-source heat pumps.

Based on a high-performance HVAC design it is currently estimated that an all-electric JGCC might avoid 1,319 MT eCO2 over 30 years compared with using natural gas for heating. This is a carbon savings of approximately 2.5% and is primarily due to drastically reduced emissions that are anticipated to be achieved over time by electric utility infrastructure. It is also worth noting that carbon savings don't begin to occur until around year ten once the electric utility has become cleaner.

In addition, Zero Energy Certification from ILFI requires that no on-site combustion be utilized. However, LEED Zero is agnostic on this topic.

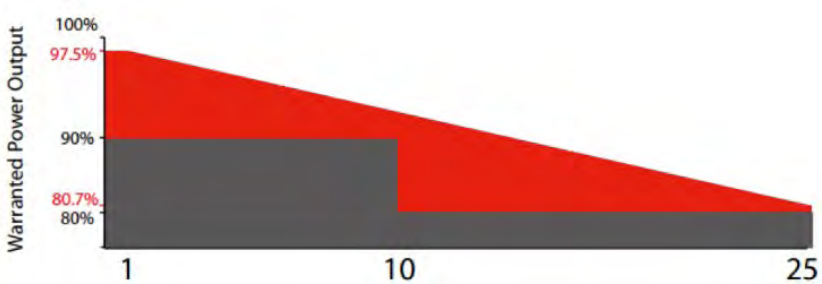


Figure 5.3.5(E) - Typical PV Panel Power Warranty Net-Zero Energy Building

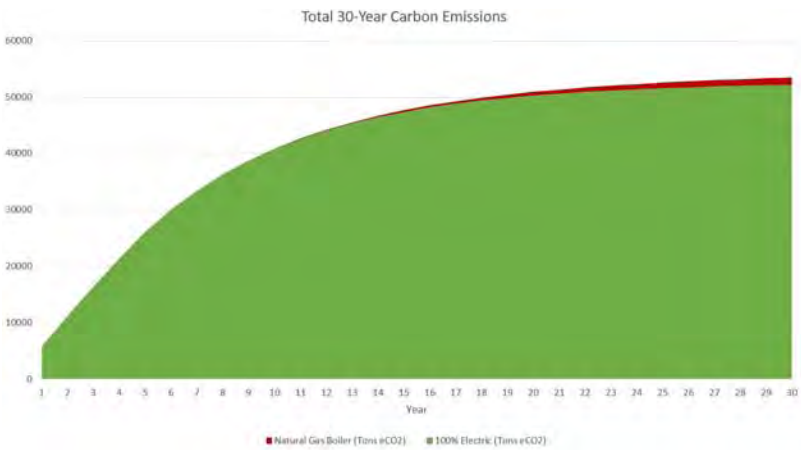


Figure 5.3.5(F) - Anticipated Carbon Emission Difference Between 100% Electric JGCC and Natural Gas Heated JGCC

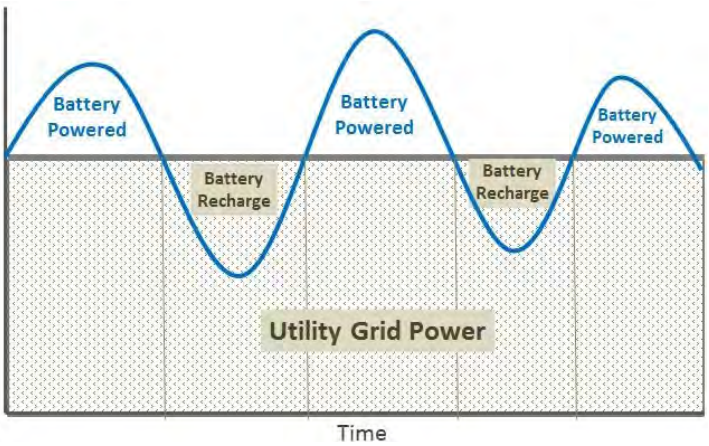


Figure 5.3.5(G) Basic Peak Shaving Example

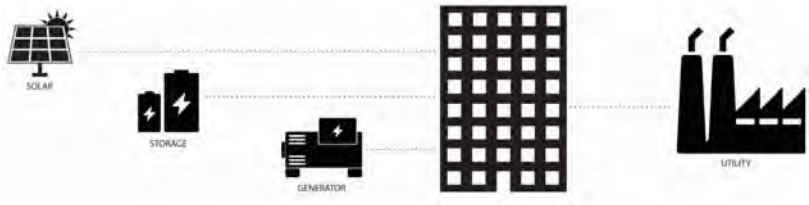


Figure 5.3.5(H) Basic Microgrid Diagram

Power Resiliency

It is anticipated that the JGCC will have a diesel generator for legally required emergency loads as well as optional standby loads. The generator shall be located above the ground floor, possibly within the parking garage, with a UL2085 storage tank.

The use of a Battery Energy Storage System (BESS) is rapidly increasing. This is mainly due to the precipitously falling costs of Li-ion cells and the important role that a deployable BESS can play to help maintain grid stability, especially when large amounts of renewable energy are present. The days of flywheels and enormous rooms full of lead-acid batteries are quickly coming to an end. Some of the many applications of a modern BESS include:

- Back-Up Power
- Peak Shaving
- Frequency Regulation
- Power Conditioning
- As an Uninterruptible Power Supply (UPS)
- Power Factor Correction
- Renewable Energy Firming
- Microgrid Support

Systems that are able to leverage multiple applications simultaneously typically enjoy the best economic returns. However, a BESS paired with on-site renewable energy creates a synergistic solution toward building resiliency. The addition of simple islanding controls to establish a microgrid would potentially allow the JGCC to operate off-grid for substantial periods of time without consuming stored diesel fuel. Energy for the microgrid would be provided from the on-site solar array and the diesel generator only as needed while the BESS provides the means to decouple generation from building loads. The BESS could be used to generate revenue during normal power operations in order to help defray the cost of the system.

Sizing of a BESS is highly dependent on project goals. However, a 1MWh system is likely an appropriate size to achieve meaningful utility savings as well as useful microgrid functionality. A 1MWh BESS would allow for additional systems beyond those typically on emergency power to remain functional. However, it would not be sufficient to keep building HVAC systems operational. A system of this size would be housed in a shipping container-like enclosure with dimensions of 8’6” x 40’0”. An elevated location within the parking garage would be the ideal location for any such system.

Prescriptive Zero Energy Design Criteria

The Design Team shall follow recommendations set forth in ASHRAE's Advanced Energy Design Guide (AEDG) for Small to Medium Office Buildings (Figure 5.3.5(J)). A version does not yet exist for large office buildings but most of the information and recommendations are valid for offices of all sizes.

Building and Site Planning

Although building massing and orientation impact energy consumption, this is rarely the main site planning design driver even for a Net-Zero Energy building. More practical considerations such as existing site conditions and preferred traffic flow usually take precedence.

However, massing and orientation energy design goals are fairly universal. Compact building massing helps conserve thermal energy and reduce solar gain. Aligning the long axis of the building East to West helps to minimize low angle solar gain which is difficult to combat and then adequately shading the southern façade neutralizes high angle solar gain. If passive heating is desired, tune the south facing external shading system such that low angle winter sun is not blocked.

Another important consideration is to preserve solar real estate for renewable energy production. Configure the building massing in a manner such that it steps up to the north so as to minimize self-shading. Reduce rooftop obstructions such as mechanical equipment, plumbing vents, etc. that can reduce photovoltaic system capacity. Maximize building footprint to increase total roof area which is most ideal for solar generation.

Envelope

Solar gain and infiltration should be the design drivers for the JGCC envelope.

There is virtually no time of year when solar heat gain will be desirable for the JGCC. Increased solar heat gain will not only consume more energy but will also require larger HVAC systems which impact first cost and ultimately the quality of systems that might be afforded. Envelope thermal performance, while not unimportant, is not a critical consideration at this latitude due to the relatively insubstantial temperature delta between outdoors and indoors when compared to other climate regions.

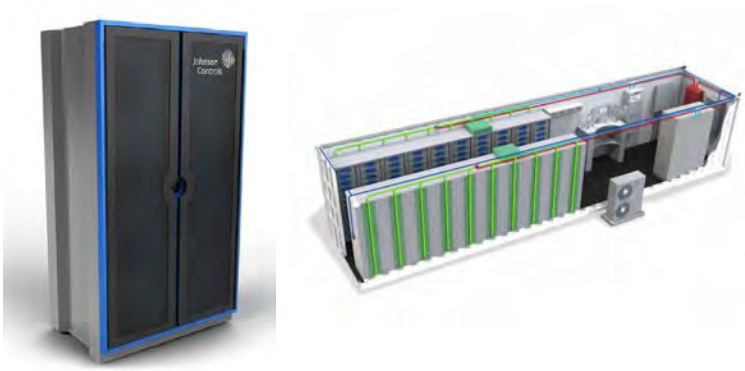


Figure 5.3.5(I) Two examples of Li-Ion Energy Storage Systems – Indoor 50kWh Unit & Outdoor 1MWh Unit

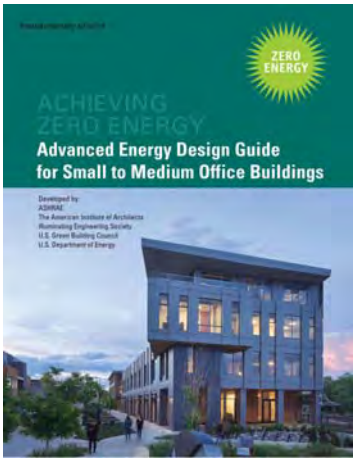


Figure 5.3.5(J) Zero Energy AEDG – Small to Medium Office Buildings

Strategies to reduce solar heat gain:

- Optimize Window-to-Wall Ratio (WWR) to reduce % of envelope which is vulnerable to solar heat gain as well as improve the effectiveness of external shades. WWR should be reduced as much as possible while still achieving daylighting, views and aesthetic design goals.
- Utilize glazing with low Solar Heat Gain Coefficient (SHGC). It is recommended that glazing SHGC be 0.23 or lower. SHGC should be balanced with Visual Light Transmission (VLT) to optimize daylighting, views and aesthetic design goals. Solarban 90 or similar is recommended.

- Provide horizontal shading or brise soleil at window openings. A projection factor 0.3 or great is recommended.

Reducing building infiltration will also be critical to energy performance due to the sensible and latent energy found in hot, humid air. Ideally, 100% of outdoor air will enter the building through the DOAS unit where it will travel through an energy recovery desiccant wheel. The desiccant wheel will transfer 75-80% of the heat and humidity from the incoming outdoor air to the outgoing relief/exhaust air. Any air that infiltrates the building through cracks will need to be addressed by zone conditioning units at drastically lower efficiency.

Figure 5.3.5(K) Interior Light Shelf & Brise Soleil – Rolex Building

Strategies to reduce solar heat gain:

- Provide building envelope details which are dedicated to infiltration reduction. Special emphasis should be paid to window openings, envelope penetrations and wall joints.
- Construct a mockup to ensure that poor envelope construction techniques are not propagated throughout the entire JGCC.
- Require jobsite checklists and training so that all trades know what a properly sealed condition looks like and do not cover up faulty work from another contractor.
- Require building pressure testing per ASTM E779-03. The JGCC will likely need to be split up into multiple sections to accomplish this testing. It is important that this testing occur prior to interior drywall going up so that substantial remediation is possible.

Daylighting

It is anticipated that each level will be very well daylit within perimeter zones. In addition to supporting occupant circadian health, energy savings will be achieved by autonomously daylight harvesting these zones using closed loop controls and local photocells.

Lighting Controls

It is recommended that a wireless networked lighting control system be implemented which primarily uses fixture integrated daylight and vacancy sensors. Many lighting fixtures are now available with integral sensor options which should present first cost savings as well as fixture level control for ease of reconfiguration.

Electric Lighting

Artificial lighting shall be accomplished using very high efficacy lighting fixtures which have been laid out in a manner so as not to over or under-light any spaces. In addition, special attention should be paid in order to ensure that the minimum number of lighting fixtures is used for all spaces. A good target for this metric is 100 square feet of floor space or greater per lighting fixture. This will help achieve first cost savings so that budget may be allocated to other purposes such as high-performance HVAC systems.

Lighting fixtures exceeding 120 lumens per watt shall be used for most spaces. Multiple lumen packages for each fixture type will be required to ensure that spaces are not being over lit.

Plug Loads

Plug and process loads for the JGCC will require an enormous amount of consideration in order to achieve the 30 EUI energy consumption goal. It is not uncommon for Net-Zero Energy buildings to observe 60%+ of their energy consumption in the plug/process category.

Desktop computer workstations are the main concern. Laptop computers are strongly preferred in order to achieve drastic energy reduction. This is not only due to the dramatically reduced power consumption but even more importantly to the fact that they can be easily turned off when not in use. Desktop computer workstations in most office environments operate 24/7 of which 16+ hours are idle time. Desktop computer workstations use nearly as much power while idling as while being actively used. If desktop computer workstations are absolutely required then it is highly recommended to employ a thin client system which could be a good fit for the JGCC. This places most of the computing hardware in a central location instead of at the desktop allowing for greatly reduced power consumption and improved control during periods of disuse. **If traditional desktop computer workstations are used at the JGCC, the goal of 30 EUI will not be achieved.**

Other focal points within the plug/process energy end use category include the cafeteria, IT services and elevators. Typical dining EUI is between 250-350 which means that the anticipated 15,000 square foot cafeteria can potentially have a meaningful impact on total building EUI. A high-performance kitchen design will be required as well as owner buy-in regarding operations in order to minimize this EUI impact. Increased usage of cloud-based services, server virtualization and wireless access points (WAPs) with low-power-listening functionality are recommended to minimize IT energy consumption. High efficiency elevators with occupancy controls and regeneration will also be required.

Service Water Heating

Low flow fixtures should be specified through the JGCC to reduce hot water demand.

Figure 5.3.5(L) LED Lighting Pendant with Integral Vacancy & Daylight Sensor

Figure 5.3.5(M) Two High Efficacy LED Options with 140+LPW: Lithonia BLT & Peerless Renna

Water-to-water heat pumps should be used for all hot water generation. This will absorb heat from the condenser water loop providing nearly free domestic hot water and increasing HVAC efficiency. 95°F hot water is recommended for all but food service or shower applications.

HVAC Systems

The HVAC system shall be designed to a total EUI of 14.9 Kbtu/sqft or less. The overall design will eliminate reheat where possible.

Strategies for Energy Use Intensity (EUI) reduction:

- Utilize an open loop geothermal system. Ground water is directly fed from a nearby aquifer to a heat exchanger within the building which feeds building neutral water loop. Neutral water passes through the heat pump's heat exchanger and exchanges heat back into the aquifer at an injection well some distance from the supply well.
- Utilize a dedicated outdoor air system (DOAS) with a desiccant energy recovery wheel for ventilation. The ventilation should be ducted directly to each space to

control air quality metrics; whereas the heat pumps will be used to maintain space conditions. Enhanced thermal comfort utilizing zone control dampers where applicable.

- Consider use of CO2 scrubbing HVAC load reducers (enVerid or equal) in tandem with the DOAS units. The CO2 scrubbers will function as side-stream filters for the return air. A portion of the airflow is diverted and introduced into the scrubber's inboard filters. These filters remove pollutants such as ozone, PM2.5, NOx, SOx, and CO2 from the air which can then be introduced back into the space.
- Demand Control Strategies including carbon dioxide sensors and occupancy sensors.

Combined Heat and Power Systems

Combined Heat and Power (CHP) systems are not recommended for the JGCC. CHP systems are most useful when hot water is needed year-round. This recovered hot water is usually applied toward HVAC zone reheat or domestic hot water end uses. **If an HVAC system which depends on zone reheat is selected for the project, the JGCC will not achieve drastic energy reduction.** A Dedicated Outdoor Air System (DOAS) is strongly recommended to eliminate zone reheat, reduce energy consumption and improve indoor air quality. Further, the JGCC will experience very little domestic hot water demand.

In addition, a CHP system would have a large negative impact on the long-term carbon emissions of the JGCC because the utility grid would be getting less carbon intense while any CHP system would remain static.

5.3.6 Interior Design and Planning

High-quality, high-performance buildings for the County and City are the goal for the JGCC design and construction process. Interior design plays a key role, and effective collaboration with the selected development team of building architects, engineers, landscape architects, and building systems engineers is essential to providing a high-quality workplace over the life of the facility.

County and City support an interior design program that creates superior workplace environments that meet the business goals of their respective organizations and enhances employee health, satisfaction, and performance. The design should provide an effective workplace for government employees reflecting their culture, business strategy, and the nature of their work.

Public Spaces

The JGCC public spaces are defined as the areas accessible to the general public, such as entrances, lobbies, and monumental spaces, stairways, elevators and their lobbies, escalators and their lobbies, and the permanent corridors at each level. Public functions such as chambers, conference facilities, training rooms, and exhibition halls, shall be located near the main lobby. Spaces accessible to the general public include entrances, lobbies, pre-function spaces, stairways, public elevator lobbies, and primary circulation corridors.

For security reasons, public use spaces must be separated from access to other areas of the building during public events. Security design must allow access to spaces programmed for public use without compromising the secure access to the remainder of the building.

The raised civic plaza and entrance lobby are the focal points of the Main Building at the JGCC. They are the landmark to which all other spaces in the facility relate. The interior is an extension of the exterior of the building. Both spaces have high levels of visibility and public use and warrant the highest degree of visual detail and finish in order to integrate the exterior and interior building design in these areas. Materials must relate and be of high quality as well as durable, moisture-resistant materials since these areas are typically exposed to weather.

The main entrance must be conveniently located for vehicular and pedestrian traffic and accessible to physically challenged individuals.

Elevator and escalator lobbies should have adequate space to accommodate the movement of pedestrian traffic to other parts of the building. Public corridors should introduce as much natural light as possible through windows, transoms, or borrowed light.

Refer to Chapter 5.9 for Main Building lobby security to effectively integrate security into all lobby areas of the building.

Entrances
The main entrance must be conveniently located for vehicular and pedestrian traffic and should be clearly identifiable. The entrance designs must be coordinated with site and security requirements. These spaces have high levels of visibility and public use and warrant the highest degree of visual detail and finish. Building approaches must direct visitors to entrances in both daytime and nighttime conditions. Clear and attractive graphics must be provided to assist visitors with directions. Landscape features must complement and enhance the building approaches and entrance.

Main Lobby
The main lobby a the JGCC Main Building shall project an image of dignity and prominence. The lobby should be clearly visible from the outside, both day and night, and present a welcoming image to the public.

Multi-Level Lobby
The JGCC Preferred Concept Plan proposes a multilevel lobby or atrium with monumental stairs and escalators. Mechanical, electrical, and communication systems must be integrated into the lobby design. Fixture and outlet locations, and forms, sizes, finishes, colors, and textures of exposed mechanical and electrical elements must be coordinated with all other interior elements. Conceal HVAC supplies and returns. Lighting and public art should be part of the lobby architecture. Indirect and spot lighting should be considered. Incandescent fixtures must be limited to accent lighting.

The main JGCC lobby shall accommodate visitors by providing information facilities, waiting areas, and access to vertical transportation and City payment centers.

Criteria for security systems in the building lobby are defined in Section 5.9, Technology and Security. The JGCC Main Building lobby serves as the collection point for all entering the building by accommodating high volumes of employee and visitor traffic. Areas such as chambers, public meeting rooms, exhibition halls, should be located and/or be easily accessible from the lobby.

Lobby Security
The building lobby must always be designed to permit subdivision into a secure and a nonsecure area. The two areas could potentially be divided by turnstiles, metal detectors, or other devices used to control access to secure areas.

Lobby Security Equipment
The selected development team must incorporate nonprescription screening devices into the lobby entrance design. There must be space on the secure side for a control desk, bag check area, metal detector and turnstiles. Adequate queuing space must be included for the future nonsecure side of the lobby.

Elevator and Escalator Lobbies
Like entrance lobbies, elevator and escalator lobbies must be designed to efficiently accommodate the movement of pedestrian traffic to other parts of the building. Provide adequate space for this movement. The elevator and escalator lobbies should be close to the main lobby. Visual supervision and physical control of the lobbies for elevators and escalators must be a prime consideration for building security.

Public Corridors
A complementary palette of materials should be used to establish a hierarchy in the treatment of spaces and corridors as they lead visitors from the entrance lobby to the main corridors and finally to departmental corridors. Introduce as much natural light as possible into corridors, through windows, transoms, or other means.

5.3.7 Main Building Office Spaces

High-performance workplaces that enable work tasks and provide best value reflect the attributes defined by the County and City for the JGCC Workplace. Good interior design incorporates these characteristics, resulting in work settings that both best fit each organization's current needs and can be easily adapted to accommodate future needs, thus offering best long-term value. The JGCC Workplace goals are reflected in the Design Criteria requirements to ensure the following:

Equitable: Design the JGCC workplace to meet the functional needs of the users by accommodating the tasks to be undertaken without compromising individual access to privacy, daylight, outside views, and aesthetics.

Sustainable: Creation of a workplace using environmentally sustainable ("green") products and processes that provide a clean, healthy workplace environment, free of harmful contaminants and excessive noise, with access to quality air, light, and water.

Flexible: Selection of workplace components that can be easily adapted to organizational or work process and functional changes and readily restructured with a minimum of time, effort, and waste.

Comfortable: All workplace services, systems, and components shall allow occupants to adjust thermal, lighting, acoustic, and furnishing systems to meet personal and group comfort levels.

Connectable: Enable full communication and simultaneous data access among distributed coworkers for both on-site workplaces (including individual workstations, team space, conference/multimedia space, "hoteling" (transients') space, etc.) and off-site workplaces (including telework or commuting centers, home offices, travel venues, etc.).

Reliable: Support the workplace with efficient, state-of-the-art heating, ventilating, air conditioning (HVAC), lighting, power, security, and telecommunications systems and equipment that require minimum maintenance and are designed with backup capabilities to ensure minimal loss of service or downtime.

Identifiable: Endow the workplace with a unique familiarity, character, image, and business identity or "sense of place" that enable and convey a sense of pride, purpose, and dedication in both the individual and the JGCC workplace community.

Safe: Provide workplaces that are healthful, free from hazards, and safe from fire.

Healthy: Focused on a workplace environment that highlights the importance of employee well-being to business productivity and success. A healthy JGCC workplace empowers all workers to make better wellness choices by providing healthy environments and promoting healthy behaviors through design and program.

Responds to a Changing, Post-Pandemic World: Ensure the JGCC buildings and campus are healthy and safe by adopting standards that measure, certify, and monitor building features impacting health and wellbeing.

When designing and planning the building office spaces, the following are required standards:

- Maximize natural light in open spaces and avoid placing enclosed rooms along the windows
- Provide adequate speech privacy and consider sound masking if necessary to ensure appropriate acoustic properties
- Circulation patterns should be clearly recognizable, and wayfinding must be user friendly. Proceeding through the office should be pleasant and intuitive for the users, encouraging informal communication
- Provide efficient and adequate storage that best meets the needs of the tenant based on their specific requirements
- Provide centrally located resource centers for files and staff to maintain documents
- Provide adequate space for the recycling program,
- Equip work settings to enable simultaneous voice, data, and video collaboration among distributed co-workers, local and remote
- Choose workplace components and furnishings that occupants can easily move themselves and reconfigure to accommodate change

Refer to Appendix B and C for detailed Workplace Strategy and Design Standards recommendations for the JGCC.

Office Space

In designing office space, all aspects and decisions must provide long-term flexibility for future floor plan changes. The success of an open plan design depends on a good floor plan, acoustics, views, daylight, and well-designed systems furniture. The open plan approach is encouraged with limited height furniture partitions. Open plans have a higher degree of efficiency and flexibility, and provide easier distribution of natural light, heating, and cooling to the working areas. It also encourages interaction between individuals and work groups. An open plan approach provides less acoustical control, less visual privacy, and less environmental control than closed offices. These drawbacks can be countered effectively by creating closed rooms for functions that are either particularly noisy or require special acoustical privacy. Examples are rooms housing copiers and conference rooms.

Workstations shall vary in size from 65 SF to 125 SF excluding circulation and support spaces, depending on the tasks to be performed. Good open plans allow for ample circulation and open space between groups of workstations. Grouping workstations around open, informal meeting areas can increase communication between workers.

Glazed partitions fronting the open area add to a feeling of spaciousness and should be used extensively where appropriate. In laying out workstations, avoid long rows of cubicles. The planning grid described in this chapter can be adapted to function with layouts that are rotated or even curved. At a minimum, grids can be set at 90 degree angles with each other and have small open spaces in between. Where glazed partitions are used between workstations, desks must be oriented so that occupants do not face each other directly.

5.3.8 Child Care Center

The JGCC shall include a Child Care Center (CCC) for use by employees and shall be designed to have a maximum capacity of 120 children. The primary mission of the JGCC Child Care program is to enhance and support County and City employees' performance and commitment by offering the opportunity for quality care program at the JGCC. Use of the CCC will be limited to County and City staff or other prescreened tenants of the building. Use by families that do not work for the County and/or City will not be permitted.

JGCC Child Care Center (CCC) Goals

The JGCC Child Care Center design must meet the needs of JGCC parents, children, teachers, and operating administrator by:

- Supporting the CCC staff's care of children by creating an environment that allows them to focus their efforts on the care and nurture of children. The design should provide features which encourage strong, positive relationships between staff and children and highly functional.
- Creating an environment that comfortably accommodates the needs of well qualified staff in order to attract and retain them and facilitating parents involvement in the center.
- Responding to local conditions, climate, and regional preferences in the design, while also considering the goals of the JGCC.
- Creating an environment that attests to the JGCC's high level of commitment in providing appropriate, well thought-out and beautiful environments for the children of employees. The appearance and functional arrangement of the center should enhance this important JGCC asset, especially since it will be a highly visible and used amenity.
- Sizing the classroom to accommodate the recommended group size and staff to child supervision ratios. The design should efficiently use space and incorporate ease of the supervisor together with features such as strategically situated storage.
- Providing durable and cost-effective materials and details. This is vital considering the intensity of use that a center receives. The design must be particularly sensitive to the life cycle cost of materials.
- The CCC design must minimize energy use. The design should use the life cycle costing methodology in estimating and comparing decisions involving capital and operating costs.
- Establishing a distinctly child-oriented environment within a government-controlled facility. The design should be welcoming and should "feel like home" for the child.
- Creating an accessible center for the disabled, staff, parents and children in a cost-effective manner.
- Providing a healthful indoor and outdoor environment. The CCC must have sufficient activity space, storage, and curriculum materials for the children. Outdoor and indoor space must be provided, with both quiet and active play areas.

The JGCC Child Care Center is intended to accommodate the following broad age groupings with age ranges as follows:

- Infants (birth to 12 months)
- Toddlers (12 to 36 months), including subgroups of:
- Younger toddlers (12 to 24 months)
- Older toddlers (24 to 36 months)
- Pre-school children (36 months and older, not in kindergarten)

The CCC is not intended to care for children over 5 years of age unless the center runs a summer program, a kindergarten, or a before and after school care program.

The CCC is planned to be outsourced to an accredited and licensed operator. In addition to complying with the National Association for the Education of Young Children (NAEYC) criteria, the CCC within the JGCC owned space must comply with the licensing requirements of the state. The selected operator will be required to comply with the Florida Department of Children and Families regulations overseeing the licensure and compliance requirements associated with childcare facilities in the State of Florida. The guidelines and regulations for facilities within the state address such concerns as, number of children that can be accommodated, background screening, etc. These factors, and others, should be considered in assessing potential liabilities and risks as well as health and safety concerns. Appropriate insurance coverages such as general liability, etc will also be required as stipulated in the state regulations.

JGCC Child Care Center (CCC) Design

The design of the JGCC Child Care Center must comply with all Federal, state, and local codes and standards which may apply. Specific requirements for the CCC must be incorporated early in the design and planning process. Given that the CCC will be operated by an organization outside of the County and City, all programming and design for the CCC will require consultation with selected operator before design concepts are finalized.

For general code and program compliance requirements, the CCC design shall comply with, but not be limited to, the following:

- Child Care Center Design Guide - FL Statute 402.26 and 402.319 for Child Care
- Accreditation Criteria and Procedures of the National Association for the Education of Young Children (NAEYC),
- Uniform Federal Accessibility Standards (UFAS) and Americans with Disabilities Act (ADA). The design must accommodate children and adults with disabilities.

The references below provide guidance on such topics as general design, emergency evacuation, food services, safety, security, mechanical, electrical, and plumbing:

The HVAC design must comply with the applicable codes described in Section 5.6. All tenant specific program requirements for HVAC design must be met.

For special Fire Protection and Life Safety requirements, the CCC design must comply with the National Fire Protection Association [NFPA 101], Life Safety Code. The code has specific requirements detailing childcare centers in a business setting. NFPA codes outline requirements for daycare facilities in the following areas:

- Egress (the methods of exiting normal operation/emergency, exit number, signage & distance)
- Hazardous areas and chemical storage onsite
- Fire alarms both visual and audible
- Fire suppression systems & quantity of fire extinguishers
- Operational features

Refer to the requirements for security and short-term parking and secure entrance to Child Care on Level 4 in Section 5.9. Also, child care centers have special requirements for finishes. see the respective design guides for finish requirements.

JGCC Child Care Center (CCC) Safety and Security

Safety of the children is the primary goal. For the CCC, careful consideration should be taken for the drop-off and pick-up sequences and emergency egress should there be a building wide or specific floor evacuation. Refer to Section 5.9 for additional Security considerations. These operations need to be planned and appropriate program space for both inside and outside be included and planned as follows:

Curbside drop off and pick up
The garage configuration will need to be planned to allow safe and secure access to the Child Care located on Level 4 of the Main Building as shown in the DCP Concept Plan. A lay by lane or drive may be best suited for the sequence and a walkway will need to be considered.

Access from the garage
The pathway from the garage to the CCC needs to be planned. The pathway should follow the pathway for all employees parking in the garage. See below and Section 5.9 for additional considerations, with the understanding that whichever option is decided on will apply to pathway to the CCC. The CCC location in the building should be away from higher threat areas, including the loading dock, public lobby, large glazed areas, and bus areas as examples. The occupancies above, below and adjacent to the CCC should be low threat occupancies., such as offices and program space that does not deal directly with the public. Avoid areas that have high volume of visitors, mail rooms, delivery functions, screening of visitors as examples.

Provide a dedicated “secure-lock” lobby, with security staff desk and clearing process, as well as two-way pedestrian traffic that accommodate strollers, as applicable. The guard/receptionist must see each person coming and going so a single file pathway at the desk area is needed. Queueing should be anticipated.

The secure lock lobby can have access from the outside as well access from the inside for those coming from the garage or other building entry points. Current location is higher in the building so this will not apply unless the CCC is moved to a different location.

Ability to implement a "lock-down" needs to be included in the design. Efficient response pathways by building security and city PD should be included in the location and spatial program considerations.

Limited areas of glazing that are in direct view of the CCC child spaces, or enhanced levels of security glazing that meets blast and forced entry standards should be added to the design. If located at ground level, glazing should be shaded to not allow direct views from the outside.

The CCC should employ dedicated ingress and egress routes where possible. A well-planned egress during an evacuation must be included in the design. Considerations of staff available to manage an evacuation, number of trips and equipment needed, such as strollers, hand-held carriers, etc. and the staff to manage both ends of the process are critical. A protected exterior "muster area" away from the building needs to be planned and included in the site design. An area that will allow parents to meet with staff and pick-up their child in an orderly controlled environment, consider a fenced in area to control the "rush" by others on the children in this circumstance. Specific operational security must be included in the design.

5.3.9 Specialty Areas (Amenities)

Civic Chambers – City and County
Training and Major Conference Rooms
City and County Executive Suite
Cafeteria
Gym / Health Center
Wellness Center
Structured Parking Garage

Civic Chambers - City and County

The JGCC Civic Chambers shall be designed to symbolize civic transparency and public access to government and is one of the most important reasons people shall visit the JGCC. Designed as two separate spaces, both the County Chamber and the City Chamber are the primary public spaces where residents and stakeholders interact with their elected officials and commissioners. It is the meeting place for the City of Fort Lauderdale City Commission and the Broward County Board of County Commissioners. It is where ordinances are crafted, land use is designated, taxes are sent to the ballot, and plans and projects are approved.

The proposed DCP Concept Plan illustrates the Chambers function as two separate spaces – one for the County and one for the City – located on the second level of the Main Office Tower. The location of both chambers next to each other, with a shared pre-chamber lobby space and direct views across the main building frontages along Broward Boulevard and Brickell Avenue, is representative of the process of public governance. The visibility from the interior as well as from the exterior of the Civic Chambers level is the focal point at the most prominent corner of the site and the campus, symbolizing government transparency at both the pedestrian and vehicular scale.

The new County Chambers encompasses 7,141 net square feet (NSF) comprised of a 2,686 GSF dais accommodating up to 11 County Commissioners and staff and 4,455 GSF of public space for 350 seats. The new City Chambers 4,784 net square feet (GSF) comprised of an 1,800 NSF dais accommodating 5 City Commissioners and staff and 2,984 NSF of public space for 250 seats. . A shared secured access area shall be designed within the pre-chamber lobby area for screening visitors before allowing entry into the chamber spaces. Refer to Section 5.9: Technology and Security, for design criteria specific to security.

Designing a more equitable and comfortable Civic Chambers is essential in being able to properly serve the public. Each chamber space shall provide American Disabilities Act (ADA)-compliant seating for people in wheelchairs or with other mobility limitations, with aisles in place of stairways and a floor gradient of less than two percent. Each chamber space shall also accommodate people with hearing or visual impairments.

In designing this layout, the selected design-build A/E design team shall also test sight lines. The seats shall be offset row to row to allow for the best views possible to and from

the dais. The dais shall be elevated by three feet and allow direct line of sight and physical connection to the Chamber floor as well as to administrative officers and Commission members. The design and layout of the dais shall allow for adequate program depth (ie. for commissioners', circulation) behind the dais and provide space for seating to accommodate one support staff person for each seat on the dais. The interior of the Chambers' space shall be defined by vertical wood slats that are functional as well as decorative: the small spaces in between each slat create better acoustics, as do the double platform floors.

Technological improvements shall include state-of-the-art easily visible video screens for the audience and a laptop at each dais seat. In this manner, the Commissioners will not have to turn their backs to the audience in order to view a presentation on screen. Power outlets are available in the public seating areas. TV stations shall be set up in chambers.

As illustrated in the proposed JGCC Concept Plan, a City and County Commissioners Private Waiting Area or Lounge planned at 3,350 NSF shall be provided with direct access from the dais for use by the Commissioners in advance of chamber sessions or during and/or after breaks. Located on the same level as both Chambers, this area shall provide a private short-term waiting area for the Commissioners and include private access to elevator and stairs, re¬strooms, and back entries to City and County Chambers. Simple lounge furni¬ture will support a quick phone call or prep before a meeting and furniture arrangement will allow for lounging, eating, and coffee breaks.

County Staff and City Staff shall also have access to a separate and private staff area for use while chamber meetings are in session. The City & County Private Staff area provides a private long-term waiting area for staff. The area includes private access to elevator and stairs, restrooms, and private access to City and County Chambers. Furniture arrangements will support lounging, eating, coffee, quick meetings, and touchdown stations for working.

Refer to Section 5.5: Structural Engineering and Appendix F: Acoustics Report for specific structural and acoustics design criteria requirements for the Chamber Spaces.

Media Room

Both the County and the City's Technical AV (Media) Teams shall require direct visual and physical connection to the Chamber floor, Dais and Administrative heads. In the proposed DCP Concept Plan, the Media Room is located on Level 3, within the Chamber Space with access by stairs. The Media Room must have two entry/egress point; Server/equipment room in Control Room along with storage for equipment and Seating space for print journalists in Control Room. The Storage and Video/Edit Room can be located adjacent to the Media Room or within the County's Public Communication's Administrative offices

Training and Major Conference Rooms

The JGCC programming requirements identified the need for major conference spaces and training rooms to be used by both the County and City. These individual training, meeting and conference rooms shall be located within the Main Office Tower building to best suit the City and the County's conferencing needs. Such spaces shall be grouped to form a large training or conference facility and can be located near the ground floor to avoid excessive loading of vertical transportation and to provide immediate egress for large groups of people.

Defined as the JGCC 'Conference Hub or Conference Axis', these spaces combined shall function as a conference center and shall be designed to host conferences, exhibitions, large meetings, seminars, training sessions, etc., and offer first-rate meeting and conference accommodations for building employees and the public with a range of amenities in a secure venue.

As illustrated in the proposed DCP Concept Plan, the JGCC 'Hub' shall include at a minimum a total of (14) fourteen Meeting Rooms distributed across four levels of the Main Office Tower - on levels 2, 3, 4 and 9. On level 9, the programmed meeting spaces shall have direct access to the roof deck/garden terraces. Located on top of the parking garage, this outdoor amenity space can function as an event green, outdoor social lounge, and spacious courtyard that also allows use as a meeting area and collaborative outdoor workspace, making the JGCC an amenity-rich office campus offering a differentiated workplace environment and experience.

The 'Hub' shall feature state-of-the-art integrated technology, easy scheduling app, flexible seating and table arrangements and equipped with hospitality credenzas. All rooms shall be located along the perimeter of the building, with daylight and city views and accessible break-out lounges. Pre-function rooms and lounges should offer vending areas with coffee, healthy snacks and beverages.
All rooms shall be designed for video teleconferencing or training should have a minimum clear ceiling height of 3,000 mm (10 ft.). The design should address how unusually large pieces of prefabricated millwork, furniture, such as conference tables, or equipment will be transported into place and /or stored.

For the meeting room locations and sample layouts as illustrated for the proposed JGCC Concept Plan "Hub", refer to Appendix C: JGCC Meeting Room Conceptual Layouts Levels 2-3-4-9.

City and County Executive Suite

Located on the top floor of the Main Building Tower, the Executive Suite shall be planned as an assembly space for use by both City and County for special public functions and events including ceremonies, conferences and invited speakers and guests.

As indicated in the proposed DCP Concept Plan, a large conference room for County Commissioners with adjoining catering kitchen area, storage and connecting open stairs shall also be provided between Levels 27 and 28. The remaining floor plate will be a green deck.

The City and the County have expressed a desire to maximize the amount of SF area allocated for this function on the Executive Suite level of the Main Building Tower. To accomplish this goal, considerations for reconfiguring the fire service access elevator to also serve as an occupant evacuation elevator should be considered as well as other potential strategies to increase usable SF area for desired functions.
Refer to Section 5.11 Life Safety for specific requirements regarding occupancy and egress requirements.

Cafeteria

For the JGCC, a cafeteria space shall be programmed and planned as a key amenity for employees and visitors use and shall be operated under concession agreements. Finishes are governed by health regulations and the requirements of the concessionaire.

In most cases, food service areas perform better when not isolated within a facility. Consider making food service directly accessible for employees use and integrated with the site and building design. Mitigate security concerns by placing food service within freestanding structures or by providing hardened partitions. The entrances to the dining area should be visible from main circulation paths but should not impede lobby traffic or building core elevator areas. They should be located to take advantage of natural light and outdoor eating areas whenever possible. Food service areas should be laid out to minimize waiting times for customers. Scramble service is recommended.

As illustrated in the proposed JGCC Concept Plan, the new Cafeteria encompasses 11,078 net square feet (NSF) and is proposed to be located within the Main Office Tower on Level 9, which is planned as the main amenity level for the building and shared with the Wellness Center, Gym/Health Center, Public Meeting Rooms and exterior roof deck/garden terrace areas. The space is calculated on an in-building population of 1,890, rather than estimated 2,100 employees, based on a 10% factor of people not being in the building due to sickness, vacation and travel.

A participation rate of 50-55% shall be planned, which will have an impact on the final square footage needs and require to have extended hours for the meal periods.

Outdoor Eating Areas

To the extent possible, outdoor eating areas should be encouraged. When incorporating outdoor eating areas, the security of the building or facility must be considered. Special consideration should be given to capture those opportunities to engage the building's exterior/landscaping with the environment in which it is placed.

Outdoor eating areas are indicated in the proposed JGCC Concept Plan, on Level 9 and can also be incorporated into public areas including the roof deck areas and/or ground level plaza design by providing adequate amenities and a comfortable environment. Outdoor eating areas should provide seating, shading elements, landscape, and trash and recycling containers to maintain a clean, organized, and inviting public space for employees as well as visitors. If located along the perimeter of the building, the eating area must follow all applicable site security guidelines.

Gym / Health Center

The JGCC Gym/Health Center is intended to provide access to and/or instruction of personal fitness training including, but not limited to, weight and resistance training and fitness classes; and must follow guidance by state and local codes. While these standards permit the operation of both indoor and outdoor fitness facilities, the JGCC Gym and Health Center facility shall offer an outdoor walking/running track and outdoor classes / activities to reduce the risk of disease transmission. Located on Level 9 of the Main Office Tower and with direct access to the rooftop deck/garden terraces, the Gym/Health Center at 2,247 NSF shall have adjoining locker rooms and shower facilities. Depending on the final design of this facility, the Gym shall require the floor to be structurally capable of supporting the loads of the equipment it may contain. HVAC must be adequate to serve the space use. Finishes will be cleanable, and glass must be tempered safety type.

Wellness Center

The JGCC Wellness Center shall be programmed and designed to engage County and City employees on the benefits of a healthy lifestyle through the educational, wellness and recreational programs and facility amenities provided at the center including free health screenings, nutrition consultations and wellness seminars during wellness events. The proposed DCP Concept Plan accommodates a 2,960 NSF area, including a Yoga Studio at 1,500 NSF, for this function with adjoining locker rooms and shower facilities. Located on Level 9 of the Main Building Tower, the Wellness Center shall have direct access to the roof deck/garden terraces.

Structured Parking Garage

The JGCC Parking Garage shall occupy the northern portion of the JGCC site and accommodate on the ground floor and mezzanine level the requirements for the new JGCC Broward County Transportation (BCT) Transit Terminal. The design of the garage shall be based on a transportation management plan and aligned with the numbers and types of vehicle parking spaces required. Refer to Appendix N: JGCC Parking Mitigation Strategies for additional information.

When locating entrances, exits, and ramps, consider internal and external traffic flow, queuing during peak periods, and required security features. The parking garage must have at least two exits. Two entrances are preferable, but one with multiple inbound lanes is also acceptable. The design shall provide for stacking and queuing for peak hours. Appendix O: JGCC Traffic Analysis.

The JGCC Parking Garage as illustrated in the proposed DCP Concept Plan is designed to be 9 levels and accommodates a total of 1,347 parking spaces including handicap and electric charging stations/stalls. The garage ramp locations and design are planned for potential conversion of the garage into future office use.

The selected design team shall address the following components for the parking garage:

- Parking layout requirements to maximize efficiency. To the extent possible, parking spaces should be arranged around the perimeter of the parking deck for maximum efficiency. Two-way drive aisles should be used with 90-degree vehicle parking stalls on each side.
- Address dimensional requirements for drive aisles and stalls as required by local codes;
- Drive ramps must not exceed 8.3 percent slope. Sloped parking garages must not exceed 5 percent slope;
- Stairs and Elevator Lobbies - To enhance security, stairs and elevator lobbies serving the structured parking may be glazed and located so they can be observed from public street;
- Pedestrian walkways should provide a safe link to entry areas that are to be used by employees and visitors.

Circulation from JGCC building entrances to the parking structure, transit terminal and to the child-care facility (shown on Level 4) should have designated pedestrian walkways that are protected from traffic. Provide curbs, bollards, low walls, landscaping, or other barriers to prevent vehicles from encroaching upon pedestrian walkways. Provide security measures such as painted crosswalks and signage to identify pedestrian crossings of vehicular traffic lanes.

All garage or service area entrances for JGCC-controlled or employee-permitted vehicles that are not otherwise protected by site perimeter barriers must be protected by devices capable of arresting a vehicle of the designated threat size at the designated speed. This criterion may be adjusted if the access circumstances prohibit a vehicle from reaching the designated speed and weight. Mitigating risks requires creative design and planning, including parking restrictions, perimeter buffer zones, barriers, structural hardening, and other architectural and engineering solutions. Refer to Section 5.9 for specifics regarding JGCC parking garage, service drive and security.

5.3.10 Building Support Spaces

General
Loading Dock
Loading Berths
Staging Area
Recycling and Trash Rooms
Building Management Office
Security Operations Center (SOC)
Emergency Operating Center (EOC) - City
Mail Room
Fire Command Center (FCC)
Custodial Spaces
Storage Rooms
Janitors Closets
Restrooms
Locker Rooms
Print Shops – County and City

Building Support Spaces include back of house (BOH) spaces as illustrated in the proposed JGCC Concept Plan and located within the ground level and mezzanine level of the Main Office Tower and throughout the building. These BOH support spaces shall include at a minimum the following spaces as indicated in the proposed JGCC Concept Plan, Level 1 and Mezzanine Level.

- Office and Storage needs for maintenance functions to be managed by the County's Facilities Management Division or a private entity
- Space shall be provided for the following functions:
  - 1 office for a superintendent
  - 1 office for a maintenance supervisor.
  - 1 cubicle for a maintenance scheduler
  - 1 muster room with a sink, refrigerator, micro wave, lockers and tables to accommodate about 15 tradespeople
  - 1 paint storage and clean up room.
  - About 4500 sf of storage space with 3000 sf be ing at ground level for filter staging, attic stock and bulk storage; 500 sf at about floor 10, 500 sf at about floor 20 and 500 sf at top floor
- Two freight elevators
- Facilities Management Division (FMD) Building Management offices for 3-4 employees at approximately 1200 -1500 SF including space for Building Engineer - see below
- FMD Building Maintenance work area and storage at approximately 750-1000 SF
- Janitorial Contractor's Custodial Work Room Space to be allocated strategically within the building for Janitorial / Day Porters/ Cleaners at 100 SF
- Janitorial Bulk Supply at approximately 1000 SF on the ground level or distributed throughout the building at strategic locations
- 90-gallon stations at strategic locations throughout the building to collect and manage recycling office paper for LEED, Sustainability purposes
- Recycling Station at 150 SF at ground floor and adjacent to loading dock/ freight elevators for recycling disposal
- Screening Area within Mail Room for incoming mail and deliveries
- Allow for two 8-yard dumpsters – cardboards etc. Print Shop should have access.
- Allow for 30-40 yard compactor – access and storage

Loading Dock

The loading dock areas must be separated and visually screened from the main public building entrance(s) and have a direct route to freight elevators and be sized to accommodate the transport of supplies, equipment replacement parts, and building goods. Service circulation shall be separated from public areas such as lobbies, corridors, and elevator core spaces. Loading dock stairs must be located on the driver's left when backing into the dock.

The grade of the apron must slope away from the loading dock and it should not exceed an 8.3 percent slope. At least one loading berth must be equipped with a dock leveler. The dock must be protected with edge guards and dock bumpers. Separate or dedicated loading docks should be considered for food service areas.

A dock manager's room must have visual control of the entire dock area as well as and the building entrance and exit. Loading dock area shall not be used as emergency egress paths from the building.

Loading Berths

Provide at least four off-street berths for loading and unloading. Loading berths must be located adjacent to the loading dock areas. Unless otherwise specified by the program and/or local zoning regulations, a single berth must be a minimum of 4,600 mm (15 ft.) wide and sized for the longest vehicle serving the building as determined by the facility manager.

Additional loading berths do not need to be wider than 3,600 mm (12 ft.) if they are contiguous with another loading berth. An apron space must be provided in front of the loading berth for vehicle
maneuvering equal to the length of the berth plus 600 mm (2 ft.). The apron must be relatively flat and have positive drainage with a minimum slope of 2 percent.

The minimum headroom in the loading berth and apron space is 4,600 mm (15 ft.). If programming forces a steeper slope in the apron area, the headroom should increase with a gradient allowance to allow trucks to traverse the grade change.

A ramp should be provided from the loading dock to the truck parking area to facilitate deliveries from small trucks and vans. This ramp should have a maximum slope of 12:1 to ensure that it may be easily maneuverable for deliveries on carts and dollies

Staging Area

An internal staging area must be provided adjacent to the loading dock. The staging area must not interfere with emergency egress from the building.

Recycling and Trash Rooms

Trash rooms must be adjacent to loading docks or service entrances. Trash rooms must be sized to accommodate the trash handling equipment required and provide storage for trash and recycling generated during a three-day occupancy of the building. Space must be allowed for sorting and recycling of paper, bottles and cans, metals, and other materials. The facility shall use trash containers that are picked up by vendors and must have at least one loading berth for the trash container. No trash chutes were requested by the County's Facilities Management Division (FMD). Trash / Recycling shall be via the freight elevator

A digestor shall be provided for use by the onsite cafeteria to provide the following benefits: reduce hauling costs by eliminating food waste on-site; natural green technology diverts food waste from distant landfills; measures food waste capture through sophisticated machine utilization & waste diversion metrics; easy to use with no grinding or pre-processing required. No solids to manage after digestion; and, safe and odorless aerobic digestion and requires no chemical additives with s enclosures to keeps pests away.

The large, high volume digestor machine shall process more than 2400 lbs (1100 kg) of food waste per day and be equipped with cloud-based technology solution to analyze the type and amount of waste that is being processed and thereby help reduce food waste generation.

Recycling Holding Space

Recycling space must be provided on each floor or within each department spaces as well as at the loading dock, and must be sized to contain at least three days of
recycled materials.

Building Management Office

For the Facilities Management Division (FMD), provide Building Management offices for 3-4 employees at approximately 1200 -1500 SF including space for Building Engineer. Most government buildings require such a space, which houses the consoles for the building automation system (BAS). This space can be accommodated within the Building Management space on the ground level or located near the loading dock or main mechanical spaces.

Refer to Section 5.6: Mechanical Engineering for specific BAS requirements for the JGCC.

Security Operations Center (SOC) or Command Center

The JGCC campus and facilities shall require an on-site security control center. At 1,676 NSF, the proposed DCP Concept Plan has located this function on the building mezzanine level.

Refer to Section 5.9 Technology and Security for specifics on location, design and requirements.

Emergency Operating Center (EOC) – City

The JGCC Main Building shall be treated as a critical construction as far as telecom and security systems are concerned. For the City's Emergency Operating Center (EOC) located within the Main Building, the criteria delineated under Section 5.9 Technology and Security with regards to telecom and security shall apply and supports enough redundancy in order to be carried through to the City's EOC. At 1,060 NSF, additional input shall be required from the City regarding specifics for programming, operations and final space requirements. The proposed DCP Concept Plan shows the EOC on the Mezzanine Level. For programming purposes, the City's EOC shall have, at a minimum, the following areas:

- Main operations room with video wall and stations for different agencies
- Breakout meeting rooms
- Media room
- Sleeping quarters
- Small kitchen/Cold Storage/Dry Storage
- Locker rooms/showers/restrooms.
- Dedicated Electrical/Mechanical/Technology rooms.

Mail Room

Where mail sorting is conducted in the JGCC Main Office Tower building rather than in a separate controlled facility with screening capabilities, the mail sorting room must be located near the loading dock and segregated from other building spaces and vital services in the same way as the loading dock.

At 1,985 NSF, both City and County shall have separate mail room areas and accomodate a screening area within the mail room for scanning incoming mail and deliveries as indicated in the proposed DCP Concept Plan.

Fire Command Center (FCC)

The JGCC Fire Command Center (FCC) is located on the ground floor with direct access to Brickell Avenue. Refer to Section 5.6: Mechanical Engineering; Section 5.10: Fire Protection; and, Section 5.11: Life Safety for detailed requirements for the JGCC Fire Command Center.

Custodial Spaces

Custodial spaces are devoted to the operation and maintenance of the building and include maintenance storage rooms, stockrooms, and janitor's closets. Locations and configurations of all custodial spaces must be coordinated and approved by the JGCC operations and building management staff.

Storage Rooms

Storage rooms must be configured with an efficient layout to accommodate the specified contents and/or functions. Access to and from the room and internal room circulation must be sized to accommodate the delivery and removal of contents.

Janitor's Closets

Janitor's closets must be centrally located on each floor adjacent to the restrooms. Janitor closets must have direct access from the corridor; they must not be accessed through the restrooms. The closet must accommodate all the maintenance equipment, cleaning gear, and supplies required to serve the adjacent work areas. At a minimum, the closet

must have a 24 in. square mop basin, a wall-mounted mop rack, and 3 ft. by 10 in. wide wall shelving; the floor area should be a minimum of 18 sq. ft.

Restrooms

Plumbing fixture counts must be sized to meet occupant loads for each floor and applicable building code requirements. Counts for large assembly functions must be sized to accommodate short-term, high-volume demands. Sight lines into restrooms must be completely screened without the use of double door entrance vestibules. All gender/family restrooms are excluded from this screening requirement. Every building floor with men's and women's rooms will also have an all gender/family restroom.

Refer to Section 5.8 Plumbing Systems for plumbing fixture count requirements based on occupancy type as shown in the proposed DCP Concept Plan.

Locker Rooms

Locker rooms are finished spaces. Wet areas (toilet rooms and showers) must be separated from dry areas. Sight lines into locker rooms must be completely screened without the use of double door entrance vestibules. Locker rooms shall be provided and located adjacent to the Wellness Center and the Gym/Health center as indicated in the JGCC Concept Plan.

Print Shop

As indicated in the proposed DCP Concept Plan, both the County and City Print Shops are proposed to be located on the mezzanine level above the ground floor, within close proximity to the freight elevator near the loading dock as each operation, after production, send out palettes of finished goods which are loaded onto the outgoing trucks. The County print shop shall require approximately 6,200 NSF area and the City will require 2,600 NSF area.

At heavy production times, each facility has as many as 13 palettes of paper in a storeroom: 6 on the floor and 7 on the shelving. Each palette is 4'x3' in size and can weigh between 1500-2000 lbs requiring the floor substructure to be reinforced or for storage to be located on the ground floor.

If ground floor storage is provided, the freight elevator should have at least a 2-ton weight capacity. The hand operated palette jack weighs over 1400 lbs. However, splitting operations over two floors can be challenging but could be split on the same floor if necessary.

Allow for 28-foot long print equipment to be installed. Access to be reviewed. Control Temperature @ 72-degrees - Humidity @ 50%. Required 24 hrs. a day. Paper weight 2400lbs using forklifts to move about. County to discuss offering services to City. City operates as a "copy center" and has used the County as a provider in the past. County also provides printing for other municipalities.

5.3.11 Systems Support Spaces

Mechanical and Electrical Rooms

These spaces include, but are not limited to, mechanical and electrical equipment rooms, elevator machine rooms; communications equipment rooms; and shafts and stacks. Mechanical and electrical equipment rooms must be designed with adequate aisle space and clearances around equipment to accommodate maintenance and replacement. The working environment in equipment rooms should be reasonably comfortable. Doors and corridors to the building exterior must be of adequate size to permit replacement of equipment.

Refer to Section 5.6: Mechanical Engineering; Section 5.7: Electrical Engineering; and Section 5.9: Technology and Security, for systems support spaces design criteria and requirements.

5.3.12 Daylight and View

Daylighting typically refers to two separate concepts: the ability of occupants to see outdoors and the displacement of electric lighting due to the harvesting of daylight. The design of the JGCC interior spaces shall aim to provide daylighting and views for the occupants. The natural light throughout the JGCC facilities shall bring additional comfort to employees and visitors. Daylighting is the practice of harvesting natural light to supplement or replace a portion of the building's internal artificial lighting. Views of the exterior environment give building occupants visual comfort along with physiological and psychological benefits. Daylighting design must mitigate the adverse effects of glare and solar heat gain.

The proposed JGCC Concept Plan addresses this goal in part by designing a long, narrow building rather than a square one that is dark at its center. The reduction of the width of the building allows the opportunity for views and light all the way through the building and allows one to stand in one space and have views to both sides.

Daylight Design Criteria

The JGCC daylighting design shall require an integrated design approach involving the selected design A/E team, the lighting designer, the mechanical engineer, interior designers, and operation and maintenance staff. The architecture of the JGCC shall balance the ratio of metal to window glass to help minimize solar impact and glare while also allowing to bring in a lot of natural daylight so the use of artificial lighting into the spaces is minimized, creating a healthier environment.

Daylighting design for the JGCC shall address two separate criteria for design: the ability of building occupants to see outdoors and the displacement of electric lighting due to the harvesting of daylight. The design shall also allow for automatic controls for lighting in daylight zones in order to reduce lighting power in response to available daylight without noticeable changes to the occupant and environment.

Well-designed lighting shall provide for a comfortable and healthy visual environment and support the activities of the JGCC occupants. Note that even when excellent daylighting components or technologies are selected, poor integration can lead to unreliable building performance and uncomfortable work environments.

Critical design elements shall address building orientation, fenestration size, lighting and control systems optimization, commissioning, and proper maintenance.

Daylight Design Concept and Integration Process

The daylight design process shall include the following steps:

- Concept design basis
- Building orientation and form
- Daylighting the perimeter
- Daylighting the core
- Windows and glazing identification and selection
- Shading, daylight controls, and visual comfort
- Utilization of a daylight design software
- Mechanical coordination,
- Auxiliary lighting integration
- Commissioning

To further increase energy savings, occupancy sensors should be used in all daylighted zones with enclosed spaces such as: small offices, pantries, conference rooms, restrooms, and storage areas. In these spaces all occupancy sensors must have “manual on” “automatic off” local controls.

Whenever daylighting systems are to be included in the design for daylight harvesting, the design must ensure adequate illumination, avoid glare issues, and assist in the integration of the lighting and thermal performance with the architectural, interior, and daylighting designs.

Refer to Appendix G: JGCC Outline Specifications for additional information

5.3.13 Lighting

Lighting for the JGCC is a critical and energy-intensive component of the office building design. Good lighting design shall address and ensure a careful integration of daylight and artificial lighting to enhance the appearance of the space, save energy, and support the performance of the JGCC building occupants. Lighting design shall use a combination of ambient and task lighting to provide light levels that support occupant productivity. Brightness and glare shall be balanced from both natural and artificial lighting sources to reduce high contrast and prevent eyestrain and use appropriate controls to balance daylighting, occupant needs, and energy efficiency.

Refer to Appendix G: JGCC Outline Specifications for additional information.

Lighting Design Concept and Integration Process

The lighting design process shall address the following components:

- Artificial lighting is a combination of direct and indirect sources provided by ambient and task lighting fixtures and should complement, not duplicate, natural lighting. Separating lighting into several categories, or layers, increases visual comfort, provides user flexibility, and creates visual interest. These include architectural and local ambient lighting, task lighting, and accent lighting.
- For Ambient Lighting, the JGCC office spaces shall be designed to be no less than 12'-0" high and shall use suspended pendants that are 80 percent indirect and 20 percent direct. For specific tasks, other combinations of direct and indirect lighting may be considered. Office space that is less than 9 feet-6 inches may use lay-in lighting units in a suspended ceiling, using perforated baffles to create a direct/indirect distribution similar to pendant fixtures. Coordinate ambient light with daylighting and the reflectance levels of furniture, walls, ceilings, and floors.
- Task Lighting shall be provided as described below.
- Accent Lighting shall be designed to balance contrast on window walls, and enhance the workspace by highlighting special areas, artwork, or architectural features. Synchronize color and light levels as required.

Indoor Lighting and Daylighting Criteria

Task/ambient lighting systems shall provide the best opportunities for providing a quality illuminated environment while maximizing energy savings. The ambient lighting system shall be designed to provide an overall reduced level of general illumination throughout the space. The ambient illumination shall be provided via natural lighting, recessed ceiling luminaires, pendant mounted luminaires, or wall-mounted indirect luminaires. To minimize sources of glare and strong directional downlighting with shadows, ceiling recessed luminaires shall provide appropriate optical distribution for illuminating the vertical surfaces within the space. This will provide a more visually balanced and comfortable environment.

The ambient illumination shall be supplemented when required by individual focused task lights. The task lighting shall be provided by LED sources. The task lights can be installed below overhead storage units or can be free-standing lamps. The locally controlled task lights shall provide individual occupants flexibility in creating their own customized working illuminated environment as some individuals may prefer working in lower ambient environments and often do not even require the supplemental task illumination.

Exterior Lighting Design Criteria

The exterior lighting system shall provide for the security and safety of the JGCC occupants and passersby, as well as enhance the architectural aesthetics of the buildings and facilities. The properly designed exterior lighting system shall provide the required illumination while simultaneously preventing light pollution and light trespass, minimizing glare, and avoiding over-lighting.

Architectural Lighting

Architectural lighting shall be provided to illuminate the architectural building form and shall be designed as uplighting from the ground with minimum use of downlighting from the building in order to minimize light pollution.

Site Lighting

Site lighting shall be provided as exterior lighting that illuminates the areas around the JGCC buildings in order to define entrances and exits or to enhance traffic flow. Site lighting must adhere to the following criteria:

- Illumination must be well-controlled and ensure that no light trespasses off the building property.
- Implement bollards or pedestrian scale poles for pathway illumination.
- Landscape and building illumination lighting must be controlled by clock, photocell control, or the BAS.

Parking Structure

Fixtures for the parking structure areas shall be designed to be either light emitting diode (LED), or high intensity discharge (HiD). Care must be taken in locating fixtures to conform to the traffic patterns and to maintain the required vehicle clearance.

5.3.14 Acoustics

General Criteria for Room Acoustics

RT is the time taken for sound pressure levels in a space to decay 60 dB in a given octave band mid-frequency (typically 125, 250, 500, 1,000, 2,000, and 4,000 Hz). RT is primarily influenced by a room's size, shape, and surface materials. Acoustically absorptive materials (typically porous and/or soft) reduce RT by preventing or reducing acoustical reflections as opposed to hard reflective surfaces which allow sound to linger for longer periods of time (increasing RT). While these reflections can be complimentary in performance spaces, they are often detrimental to speech and hearing in spaces used for conversation. Thus, this effect should be kept to a minimum. The average RT at 500 Hz, 1 kHz, and 2 kHz is a useful metric in evaluating how occupants with normal hearing will perceive speech within a space.

Refer to Appendix F for Acoustics Report.

RT Models

RT models were developed for all areas that would require acoustical treatment. The models provided RT based on each area's proposed room volume and surface areas. In areas where the RT were above the recommended time range, the amount of acoustically absorptive material was increased to reduce RT until an appropriate averaged RT (between 500 Hz, 1 kHz, and 2 kHz) in each area were achieved (see Figures 2–6). Published absorption coefficient data were used for all material utilized in RT models. The following spaces at a minimum should achieve the following RT values:

1.	County Chamber	RT < 0.70-seconds
2.	City Chamber	RT < 0.70-seconds
3.	Command Center	RT < 0.80-seconds
4.	Offices and Similar	RT < 0.80-seconds
5.	Media Rooms	RT < 0.60-seconds

No RT models were developed for office spaces. However, the recommended RT can be achieved with high NRC ceiling tiles (NRC > 0.70) covering the ceiling of office spaces.

The County Chamber and City Chamber, as shown in the Concept Plans, features curved perimeter walls. Curved walls can create acoustic focusing which is an undesirable effect in meeting rooms. Therefore, we recommend adding absorptive acoustical treatment applied to the interior surface of the curved perimeter walls from 2 feet above the finished floor to 10 feet above the floor finish.

The minimum surface area to be treated with either a stretch fabric system, an acoustical plaster system, perforated wood panel system, or an acoustical ceiling tile system for each space. The minimum octave-band frequency absorption coefficient each respective acoustical system should achieve are in Table 9. The material chosen should have a minimum Noise Reduction Coefficient (NRC) of > 0.70.

The recommended minimum surface area to be treated with either a stretch fabric system, an acoustical plaster system, perforated wood panel system, or an acoustical ceiling tile system would still apply if County Chamber and City Chamber are redesigned to avoid curved walls acoustic focus. However, for all the other rooms most of the acoustical treatment would not have to be applied to wall surfaces—it could be applied to the ceiling surface or a combination of ceiling and wall surfaces.

Refer to Appendix F for proposed room volume, proposed room surface area, and the recommended minimum surface area to treat with an acoustical material for the JGCC spaces listed above.

Sound Isolation

Wall Assemblies

A common single-number rating used to evaluate the-sound-insulating qualities of partitions is sound transmission class (STC). STC is a unitless value that is used to describe a partition's effectiveness of insulating sound over the human speech frequency range (125 Hz to 4 kHz). Appendix F provides the minimum STC ratings to be achieved in adjacency combinations of JGCC. Typical wall details that can achieve the recommended STC values are included and contain descriptions of speech privacy that can be achieved at different STC ranges.

Gym

Gym areas should have 1" thick neoprene isolation mats installed on the floor to minimize vibration transmission to adjacent spaces resulting from gym activity. If high intensity gym activity is expected (dropping free-weights or high-loaded weight-lifting equipment), a floated floor system is to be installed in addition to the neoprene isolation floor mats.

Doorways

Single set doorways leading to and from noise sensitive areas should have full set perimeter door seals. All double set of doors should have an astragal installed and full set perimeter door seals.

Exterior Doors and Windows

Immediately West of the JGCC site is an existing Florida East Coast Railway (which is an active freight) and Brightline. The new Transit Terminal within the JGCC it to be located on the ground level of the JGCC parking garage. Exterior noise (street traffic, train, bus, helipad, etc.) can be minimized by using appropriately designed walls that meet the Building Code for hurricane protection and by having exterior walls achieve a minimum STC 60 or greater rating. Any doors or windows in these walls should also have impact resistant exterior windows and doors with a minimum STC rating of 45.

Office Spaces

The general design criteria for building office spaces shall address four key concepts to govern the quality of office acoustics.

1. Speech Privacy - The degree to which a conversation cannot be overheard in an adjacent space.
2. Background Sound - Continuous background sound may have to be supplemented with additional electronically generated sound to provide for masking of speech while private conversation is being conducted. The selected design-build A/E team shall differentiate between enclosed and open office environments to meet these objectives.
3. Equipment Vibration and Reverberation - Office equipment noise levels must meet the standards at the workstations. Reverberation and echoes must be controlled in meeting rooms, conference, team, and training room spaces that may require professional acoustical engineers to meet the standards. Sound transmission through building frames must be inhibited.
4. Exterior Noise – Given the JGCC's location, adjacency to the FEC corridor with potentially significant environmental noise levels shall require building envelope assemblies controlling noise intrusions to the required standards.

Depending on the spatial layout of the department by department program requirements, for work that does not require acoustic and/or visual privacy, an open plan environment with low or no partitions between workstations is permitted. For work that requires a balance between ongoing, active collaboration, easy workgroup reconfiguration, flexible settings, and minimized unwanted acoustic distraction, an open plan setting with a well-engineered acoustical design is recommended.

Key components of such engineered open plan designs are highly absorptive ceilings, suitable height partition panels that both absorb and block sound, suitable levels of background sound (typically provided by electronic sound masking systems), and ready access to acoustically private (closed-office) meeting spaces.

Closed offices must be provided for employees who routinely require extended periods of concentration, in-office meetings, and/or confidential conversation. Meeting spaces and closed offices that require speech security must be designed in conjunction with a qualified acoustical consultant.

Refer to Appendix A thru D for additional information on programming requirements and typical workplace standards.

Noise Isolation, Room Acoustics, and Speech Privacy

Absorptive materials are required in speech-sensitive spaces to control reverberation and echoes. Spaces such as meeting rooms and training facilities, private offices, and open plan offices require absorptive finishes. Design must address the minimum level of the material's performance and the minimum percentage of the ceiling or wall that must have finishes achieving this performance.

Mechanical and Plumbing Noise

All mechanical equipment must be vibration isolated from the building frame as required by Chapter 5.4. Ambient noise from mechanical equipment must not exceed noise criteria (NC) values described in Appendix F. Diffusers with an NC rating 5 points less than the noise criterion for the space being served must be used where occupied space occurs adjacent to, above, or below mechanical or electrical equipment or machine rooms, or adjacent to HVAC or elevator shafts. The intervening
structure (partitions, shaft walls, doors, floor and ceiling assemblies, etc.) must be sufficient to control noise intrusion to no greater than the maximum NC or room criteria (RC) values.

Where an elevator shaft or equipment room occurs adjacent to noise-sensitive spaces (NC/RC
35 or lower), the maximum intrusion level of elevator noise must be limited to 5 dB below the maximum NC/ RC for the space in all octave bands.

In the walls, ceilings, and floors enclosing noise-sensitive spaces, all water, wastewater, and
drain piping must be vibration-isolated from the structure, finishes, and other piping. Install R-11 batt insulation in all wall spaces where such piping is located and install the piping at least 200 mm (1 in.) away from the gypsum wall board.

Mechanical Noise Control
The following spaces should achieve the outlined Room Criteria (RC) which can be achieved by following the Mechanical Guidelines.

1.	County Chamber	RC 20-25
2.	City Chamber	RC 20-25
3.	Media Rooms and similar	RC 25-30
4.	All Office/Centers and similar	RC 30-35
5.	Child Care Center and similar	RC 35

Room Criterion (RC) contours are used to evaluate the sound pressure levels generated by mechanical systems into a given space. The RC method assigns a descriptor to subjective evaluations of sound pressure levels and perceivable vibration induced noise.

1. Neutral Spectrum (N) — descriptor having a neutral sound quality and is desired in most spaces due to having no distinguishable sound characteristics.
2. Rumbly Spectrum (R) — descriptor having a rumbly sound quality and is desired in sound masking applications but can be perceived as an annoyance.
3. Hissy Spectrum (H) — descriptor having a hissy sound quality and can be perceived as an annoyance.
4. Tonal Spectrum (T) — descriptor having tonal sound quality, very distinct sound in perception and measurements, is an annoyance in noise sensitive areas.
5. Acoustically Induced Vibration (RV) — descriptor resulting in perceivable vibration in light weight building constructions and should be avoided.

Refer to Appendix F: Acoustics Report for examples of RC levels and space use compatibility.

Generators

Generators should be located on grade, away from noise sensitive areas, and be installed on resilient isolation mounts to provide stable support. Resilient isolation mount requirements apply even if generators are located above grade. Steel springs, rubber mounts, and fiberglass blocks or pads are commonly used for this purpose. Mounts should evenly distribute the load of the generator.

Other Vibration Isolation Considerations

Operating equipment will transmit vibrations to the structure via machine mounts or attached piping, ductwork, or other connections, which in turn radiate sound and/or structure borne vibration. It is therefore important to provide vibration isolation at all attachments, including structural mounts and connections to piping, ductwork, and electrical systems. Vibration can be isolated or reduced with resilient mounts between equipment and supporting structures so long as the structure has sufficient stiffness and mass.

5.3.15 Exterior Building Elements

The Joint Government facility shall be designed under LEED Version 4.1 or latest available version for Building Design and Construction (BD+C). All applicable LEED principles and guidelines to achieve minimum LEED Silver certification will

be taken into consideration. The design intent is also to develop a Net-Zero Energy building complex inclusive of WELL Building features and criteria. LEED Platinum certification is anticipated if Net Zero Energy design is implemented. All sustainability measures throughout the project, from the very simple initial planning to intricate building elements, materials and building systems and strategies shall be designed to meet these goals.

All exterior elements of the building shall address individual materials, assemblies of materials, equipment, or assemblies of materials and equipment. The selected design-build A/E team is responsible for specifying construction materials and systems appropriate to the final design that are lasting, provide enduring quality, and are maintainable. Selection of construction materials shall take into consideration these factors as vital to building performance.

Refer to Book 2: DCP Concept Plans for building massing.

Refer to Appendix G: JGCC Outline Specifications for performance-based specs addressing Wall Systems; Masonry and Concrete Materials; Fenestration Systems including Glazing; Entrance Doors; Roof Systems.

Building Enclosure

The building enclosure is an environmental separator for thermal, moisture, air, acoustic, and daylighting properties, and also provides structural protection for blast, wind, and other hazards. Since the building enclosure has a major impact on energy conservation and on blast mitigation, the A/E must coordinate all systems selection and design with the requirements in Chapter 5.5: Structural Engineering and Section 5.9: Technology and Security, for hardening and blast mitigation and Chapter 5.6: Mechanical Engineering, for building energy analysis. Exterior wall assemblies must be designed to work in concert with HVAC systems to optimize energy performance.

Fenestration Systems

The architecture of the skin of the JGCC buildings shall balance the ratio of metal to window glass to help minimize solar impact and glare, while allowing natural light and minimizing the use of artificial lighting in the building spaces. Energy savings shall be built into the windows with the recommended use of dual- or triple-glazed windows to reduce heat loss. Significant modeling shall be required to decide on the makeup of the high-performing glass to also ensure high visibility. Whereas a lot of older buildings are tinted light blue or green to help shield the hot afternoon sun, the JGCC buildings shall have clear windows to preserve an authentic view. Refer to Section 5.3.5 for Facility Energy Goals for the JGCC.

Sun Control Devices

To reduce solar gain, provide exterior sunscreens in addition to interior daylight control devices. Steeply angled fins or large-scale scrims are preferred to flat horizontal fins.
Where sun control devices are used, operable and fixed sun control devices must be used, which allow for ease of maintenance, repair, and replacement. Window washing systems used for the facility must also be compatible with any sunscreens or sun control devices.

Daylight shading controls must be programmable and calibrated with a daylight sensor to control direct sun penetration and minimize energy consumption.

Projecting exterior sunscreens may be used in addition to interior daylight control devices where they are beneficial for building operation and energy conservation. Sunscreens and sun control devices must be compatible with the window washing system.

5.3.16 Interior Facility Elements

Partitions
Partitions should be selected for use based on the type of space and the anticipated activity within that space.

The following should be evaluated: the volume of people; their activities; the type, size, weight and function of equipment (mail carts, forklifts, etc.) that will be used in the space; and any free-standing, moveable or wall mounted equipment that will impose lateral loads (built-ins, wall-mounted televisions, etc.).

Each potential wall system must be evaluated for structure, backing, sound transmission, finish and protection factors. GSA prefers partition systems that are simple to construct,

made from readily available materials, economical and easily moved and reassembled by common laborers.

Metal stud systems must meet the requirements ASTM C754. The application and finishing of gypsum board should follow standard ASTM C840. Adequate tolerances should be designed where the top of a partition abuts the underside of the building structure; allow for deflection and long-term creep.

Partitions used at the perimeter of a humidified space must include a vapor barrier. In computer rooms the need for air plenum dividers below the floors must be checked.

Refer to Appendix G: JGCC Outline Specifications, Division 9 – for Assembly

Interior Doors

Interior doors in tenant spaces should be glass for allow daylight transmission. Flush, solid-core wood doors in other general areas or offices that require privacy. Steel door frames should meet the requirements of SDI Recommended Erection Instructions for Steel Frames. Provide matching-edge veneers for transparent-finished wood doors. Avoid the use of wood door frames except to match wood doors in specially designed areas.

Refer to Appendix G: JGCC Outline Specifications, Division 8 – for Sustainability conformity, Quality Assurance and Performance addressing Openings.

Ceiling Suspension Systems

The design of suspension systems for acoustical ceilings must meet the requirements of ASTM C.635 for heavy-duty systems and ASTM C.636.
Refer to Appendix G: JGCC Outline Specifications, Division 9, Sections 09 51 13, 09 54 26 and 09 84 36 – for Sustainability conformity, Quality Assurance and Performance

Facility Specialties

Waste Removal Equipment

Waste is normally removed by contract maintenance firms. The firm will usually collect the waste from receptacles in the occupied spaces int carts, which will be taken to larger containers at the waste pick up station. The firm will usually provide the containers as part of its contract.

The minimum architectural requirements for waste removal are: Access for waste handling equipment from the occupied areas of the building to the pickup station; housing for the on-site containers; and maneuvering space for the collection vehicles. In calculating numbers of container, assume separate containers for recyclable materials (paper, bottles and cans, metals, and other materials). Waste handling stations must be completely screened by walls and doors or gates constructed of materials complementary to those of the building.

Toilet Partitions and Accessories

Toilet partitions must be ceiling hung. They should be metal or similarly durable construction. A large, continuous mirror must be provided on at least one wall of each toilet room.

Stainless steel is preferred for toilet accessories. Accessories should be integrated into the design of toilet rooms. Recessed and multi-function accessories that do not clutter the room are preferred.

The following toilet room accessories must be reviewed and coordinated with the operations and building management staff. Verify and get approval from the building management for the selection and placement of the following commercial grade products:

- Commercial toilet paper dispensers
- Waste receptacles
- Grab Bars
- Mirrors (A large, continuous mirror must be provided on at least one wall of each toilet room)
- Clothing Hooks
- Soap dispensers.
- Paper towel dispensers.
- Paper towel trash receptacles.
- Feminine hygiene products dispenser.
- Feminine products disposal.
- Toilet seat cover dispenser.

Refer to Appendix G: JGCC Outline Specifications, Division 10, Sections 10 21 13, 10 28 00 – for Sustainability conformity, Quality Assurance and Performance.

Locker Rooms at Gym/Health Center
Locker rooms shall be in finished spaces. The shower area should be separated from the locker area. Regular gypsum wallboard is not to be used as a substrate for any shower room surface. Sight lines into locker rooms must be completely screened without the use of double door entrance vestibules.

Cover floors with hard surfaces that can be disinfected. Lockers should be raised off of the floor for cleaning. Locker rooms will have the following elements:

- Lockers with integrated combination locks or padlocks (by employees)
- Benches, z Separate wet and dry locker room functions
- Toilet room fixture counts coordinated with occupant load
- Floor drains
- Shower stall curtains
- Shower room accessories: Soap dish, shampoo/soap niche ledge, shower curtains, benches
- Hair dryers (hand dryers mounted high)
- Individual stalls
- Full-length mirrors (for dressing)

Refer to Appendix G: JGCC Outline Specifications, Division 9 and 10, for Sustainability conformity, Quality Assurance and Performance

Drinking Fountains
At least one water fountain should be provided on every floor near toilet rooms and other floors, near auditoriums and other common areas as required by code. One drinking fountain per location, and 50 percent of all fountains in the facility, shall be accessible to disabled persons per ADAAG Guidelines.

Window Covering
Manual Roller Window shades to be provided at exterior windows. Automated shades might be considered for certain locations, to respond to sun angle and internal temperatures. They should be made out recycled content as well as the aluminum fascia and endcaps should have recycled content. The shade cloth – PVC free – in 1,3,5 or 10 percent light transmittance depending on the location and the use of the room.

Refer to Appendix G: JGCC Outline Specifications, Division 12, Section 12 24 13, for Sustainability conformity, Quality Assurance and Performance

5.3.17 Interior Finishes

Building Design Standards

Building Design Standards are created in order to maintain certain guidelines for all future interventions and alterations. This will ensure a cohesive, consistent, and streamlined approach for the building's long-term design.

Minimum Standards for Finishes

Interior Finishes
Finishes should contain recycled, renewable, and/or reusable materials and should eliminate or minimize the release of harmful substances during installation and use. Finishes must be specified based on the value they provide over their useful life; considerations include maintenance and disposal costs in addition to first cost.

Carpet
If used, all carpet selections must meet the NSF/ANSI 140 Standard, USDA Biobased carpet recommendations. Colors to be in the medium range to show the least amount of stain and soiling. Dark and light colors should be avoided, especially in high-trafficked areas. Carpet tile is preferred, this will ensure ease of maintenance in carpet replacements. The amount of foot traffic should be considered when selecting carpet types and colors.

Textile Composite Flooring - Kinetex
As a substitute to the carpet tile, Kinetex is an advanced textile composite flooring that combines key attributes of soft-surface floor covering with the long-wearing performance characteristics of hard-surface flooring. It offers the highest Noise Reduction Coefficients (NRC) and Impact Insulation Classifications (IIC) rating of any commercial flooring product. The breathable nature of this product allows vapor transmission, so it will perform on elevated RH slabs up to 100% without costly moisture mitigation when using Prefix Pre-Applied Releasable Adhesive.

Resilient Floor

Resilient flooring materials include products such as linoleum, rubber, cork, and vinyl. All linoleum products must be made with ether recycled or renewable ingredients, linseed oil, cork dust, natural jute fiber, or wood powder salvaged from sawdust. Adhesives used to install resilient flooring must be 100 percent solvent-free and meet low-VOC requirements. Avoid surfaces that require extensive use of volatile cleaning and waxing compounds. Resilient flooring may be used in office spaces to support tenant requirements and promote improved indoor air quality, and in offices adjacent to utilitarian spaces such as loading docks.

Materials Selection as Best Practice

Materials to Avoid

The intent is to remove the worst known offending materials from a health standpoint, and to reduce and offset the environmental impacts associated with the construction process. the ideal is a future where all materials in the built environment are safe and replenishable and have no negative impact on human and ecosystem health.

It is recommended to avoid any products containing any of these materials or chemicals:

- no added formaldehyde
- halogenated flame retardants (halogenated flame retardants include PBDE, TBBPA, HBCD, Deca-BDE, TCPP, TCEP, Dechlorane Plus, and other retardants with bromine or chlorine)
- PVC (an exception is made for PVC in wiring applications where it is mandated by code)
- Mercury (an exception is made for low-mercury fluorescent lighting)
- CFCs
- HCFCs
- neoprene (chloroprene)
- Cadmium
- Chlorinated polyethylene and chloro-sulfonated polyethylene (HDPE and LDPE are excluded)
- Wood treatments containing creosote, arsenic, or pentachlorophenol
- Polyurethane
- Lead (an exception is made for solder and off-grid solar battery systems only)
- Phthalate

Materials to use

Biobased and Rapidly Renewable Content in Construction Materials, the project material selection will prioritize biobased and rapidly renewable content in construction materials per executive orders 13423 and 13514.

Products should be biobased products made from rapidly renewable resources and certified sustainable wood products either through FSC (Forest stewardship Council) or SFI (Sustainable Forestry Initiative) or from salvaged sources.

Recycled Content in Construction Materials

Construction Material selection must prioritize recycled content materials (postconsumer preferred) per executive order 13423, exceptions will be permitted only if written justification is provided when a product is not available competitively, not available within a reasonable period, does not meet appropriate performance standards, or is only available at an unreasonable price. For other products, the sum of postconsumer recycled content plus one-half of the pre-consumer content must constitute at least 10 percent (based on cost) of the total value of the materials in the project.

Finish Selections for Indoor Air Quality

Paints and Coatings

All interior paints and coatings used on the JGCC campus must meet the following standards for volatile organic compound (VOC) off-gassing:

- Topcoat paints: green seal standard gs-11, Paints, First edition, May 20, 1993.
- All other architectural coatings, primers, and undercoats: south Coast Air Quality Management District (SCAQMD) rule 1113, Architectural Coatings, effective January 1, 2004. Architectural paints, coatings, and primers applied to interior walls and ceilings, grams per liter, Flats , 50 (g/L), non-flats 150 g/L, Anticorrosive and antirust paints applied to interior ferrous metal substrates , 250 g/L, Clear wood finishes: Varnish , 350 g/L, Lacquer, 550 g/L, Floor coatings, 100 g/L, sealers: Waterproofing sealers , 250 g/L, sanding sealers , 275 g/L, All other sealers , 200 g/L, shellacs: Clear , 730 g/L, Pigmented, 550 g/L, stains, 250 g/L, use reprocessed latex paint in accordance with EPA's CPG and biobased paint on all painted surfaces where feasible. Follow the manufacturer's recommendations

for the application and maintenance of all paint products.

For Painting Application, Sustainability Requirements and Performance, refer to Appendix G, JGCC Outline Specifications, Section 09 91 00.

Adhesives and Sealants

All adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) must comply with the requirements of the following reference standards:

- Biobased adhesives and sealants in accordance with USDA's Bio Preferred guidelines
- Adhesives, sealants, and sealant primers: SCAQMD rule 1168 with a corresponding effective date of July 1, 2005, and rule amendment date of January 7, 2005.
- Aerosol adhesives: green seal standard for Commercial Adhesives gs-36 requirements in effect on October 19, 2000. Architecture and Interior Design Interior Finishes 3.16 Architectural Applications, Indoor carpet adhesives , VOC Limit (g/L Less Water,) 50, Carpet pad adhesives , 50, Wood flooring adhesives , 100, rubber floor adhesives , 60, subfloor adhesives , 50, Ceramic tile adhesives , 65, VCt and asphalt adhesives , 50, Drywall and panel adhesives , 50, Cove base adhesives , 50, Multipurpose construction adhesives , 70, structural glazing adhesives , 100, Specialty Applications, PVC welding , 510, CPVC welding , 490, ABs welding , 325, Plastic cement welding , 250, Adhesive primer for plastic, 550, Contact adhesive , 80, special-purpose contact adhesive , 250, structural wood member adhesive, 140, sheet applied rubber lining operations , 850, top and trim adhesive , 250,Substrate-Specific Applications, Metal to metal, VOC Limit (g/L Less Water), 30, Plastic foams, 50, Porous material (except wood), 50, Wood, 30, Fiberglass, 80, Sealant Primers.

For Adhesives and Sealants, Sustainability Requirements and Performance, refer to Appendix G, JGCC Outline Specifications, Division 09.

Floor Perimeter Base

Preferred base includes a low-emitting, natural, and recyclable material such as, wood, stone, terrazzo, ceramic tile, and recycled vinyl or rubber. Where specified, floor perimeters must use a wall base made of materials that provide long-term durability for the use intended.

Wall Covering

Use wall covering will be limited and will be used to reinforce the JGCC brand through graphics. The material will maintain an acceptable appearance in the location used for a minimum of 10 years. These Wallcoverings must be those that use nontoxic, permeable, PVC free, bio-based, renewable or recyclable, materials with low-VOC (volatile organic compound) or VOC-free adhesives weighing not less than 13 ounces per square yard or equivalent.

Examples of these materials include, but are not limited to, recycled cotton, sustainably harvested wood, jute, sisal, wool, polyester, polyethylene, and vinyl. Other wall covering examples include, but are not limited to, stone and other hard surface elements that meet code requirements and Building Design Standards.

In the event the JGCC chooses to install a high-performance paint coating in lieu of a wall covering, the minimum standard is low-VOC Green Seal Standard GS-11.

Window Covering

Provide adjustable window coverings at all windows that are appropriate to the elevation, sun exposure and daylighting, and operable window strategies, including temperatures. Blinds and sun-filtering shades are preferred over draperies, which have limited adjustments and are difficult to clean and maintain.

Refer to 5.3.16 Interior Facility Elements and 5.3.15 Sun Control Devices.

Interior Doors

All doors in general office spaces should be glass, or glass front to allow daylight transmission. Paint grade finish, wood or wood veneers in selective areas or offices that require privacy.

Glass doors may be used at entrances to tenant suites. For all installations of wood products, use independently certified forest products. For information on certification and certified wood products, refer to the Forest Certification Re-

source Center (www.certifiedwood.org), the Forest Stewardship Council United States (www.fscus.org), or the Sustainable Forestry Initiative (www.aboutsfi.org).

Wood products used must not contain wood from endangered wood species, as listed by the Convention on International Trade in Endangered Species. The list of species can be found at the following website: www.cites.org/eng/resources/species.html

Plywood materials must not emit formaldehyde in excess of 0.2 parts per million (ppm), and particleboard materials must not emit formaldehyde in excess of 0.3 ppm. All materials composed of combustible substances, such as wood plywood and wood boards, must be treated with fire retardant chemicals by a pressure impregnation process or other method that treats the materials throughout as opposed to surface treatment.

Finishes for Public Space, Entrances and Vestibules

Durable, moisture-resistant materials for entrances and vestibules, possibly terrazzo or large format porcelain. Walk-off mats and grate systems will be used to prevent dirt and moisture from accumulating on the entrances to the Lobby or any other exterior entrance.

Corridors and Public Corridors

Should be designed in such a way that the JGCC branding is reflected and each space of the building correlates with each other, keeping a holistic and consistent design approach.

Wayfinding should reflect the branding of each Department and should be accomplished through the use of the material, textures, colors, and placement of finishes.

Corridors that carry significant foot traffic and provide major circulation pathways throughout the building must have materials selected that are extremely durable and require low maintenance. To improve acoustic control in corridors adjacent to workspaces, hard materials should be only in selective areas.

Doors along public corridors should be of a quality equivalent to that of other elements in these spaces and higher quality than those in the interior spaces. The finish on both sides of the door should match. At interior spaces with high levels of public use, provide glazed entry door systems along public corridors.

Stairways

For all open, internal, and circulation stairways finishes that match or relate to the adjacent spaces. For stair treads, use noncombustible resilient materials with nonslip nosing on the treads. Wall surfaces in these areas should be drywall substrate with a simple, straightforward finish such as paint or wall covering. Absorptive materials are desirable in stairways for their acoustic effect. Stair runs should have painted gypsum board soffits where appropriate.

Doors between adjacent building areas and stairways should match other doors in the building areas. Doors should have the same finish on the interior and exterior. In stairways used for utility purposes or only for emergency egress, unfinished or painted surfaces are appropriate. Always provide nonslip nosing on the treads.

Utility and egress stair doors should be painted metal. Elevators, Passenger elevators usually receive the highest amount of traffic in the facility. Their finishes should relate to the entrance and lobby areas and should be focal points for the interior design of the building. Although finishes need to be durable, high-quality architectural design of cabs and entrances is a priority. Surfaces should be scratch resistant and easily replaced or refinished.

Hard surface floors, such as stone, or tile, are usually poor choices because cab floors tend to be unstable. Over time, grouted materials often loosen or crack. Carpet, Kinetex, wood, or high-quality resilient materials are better choices and perform well acoustically. If carpet material, shall be low pile height and high density. Wall materials must present a high-quality image and be sufficiently durable to take some abuse.

Materials must be installed on removable panels or other replaceable devices to facilitate maintenance and renewal of finishes. Ceilings must be replaceable. In passenger elevators recessed down-lights or indirect fixtures should be used. Finishes for freight elevators must be very durable and easy to clean. Stainless steel walls and doors are preferred. Flooring must be sheet vinyl or resilient vinyl tile.

Ceiling light fixtures must be recessed and protected from possible damage. Elevator and Escalator Lobbies, Elevator and escalator lobbies should harmonize with the finishes used in the main entrance lobby or atrium. These elements are functionally related to the public entrance and lobby areas and, therefore, should be treated with the same level of finish and compatible materials as those spaces. It is appropriate to introduce special floor, wall, and ceiling treatments, and distinctive lighting that should be repeated on the upper floors for consistency.

Finishes for Office Space

This category of space comprises a large portion of the JGCC building facilities. Recycled content materials that are local or regional should be specified, easy to replace and reconfigure when modification occur in tenant spaces.

Office spaces characteristically change with their occupants, occupancy configurations, and utility requirements. Moveable wall systems should be considered for maximum flexibility. Interior finishes should allow these transformations to occur with minimal disturbance and cost.

The majority of the ceiling system for general office space must be suspended acoustical materials to allow for accessibility. Grid size and spacing should be based on the building-planning module and the design intent per area.

Drywall soffits must be used to delineate space and provide relief from open expanses of acoustical tile materials. Drywall ceilings must be located only where maintenance access is not required. The finish for solid core wood doors in general office spaces should be limited to a paint grade finish and stained or painted with low-VOC or VOC-free paints and stains. Glass doors may be used at entrances to tenant suites.

Finishes for Training and Conference Rooms

The material selection and spatial configurations should be appropriate for the use of the space. In addition, the application of tackable acoustic wall panels, whiteboard and rails for the display of presentation materials within these spaces is required.

All lighting, audiovisual, communication, and technology requirements should be coordinated with the building systems.

Area Specific Finishes

Chambers, Executive Floor, Cafeteria, Wellness Room, Gym and Health Club and Child Care Center have special requirements for finishes.

Finishes for Building Support Spaces

Toilet Rooms

- Continuous vanities of stone, or solid surface material must be designed for lavatories, sinks must be under-mounted, toilets are part of the permanent building core and must be designed with good quality, long-lived finishes.
- General-use toilets are part of the permanent building core and must be designed with good quality, long-lived finishes. they are an extension of the public spaces of the building.
- Toilet partitions must be suspended from the ceiling or extended from walls to expedite cleaning and avoid soil buildup at floor supports.
- Use ceramic or porcelain tile for the floors and walls in toilet rooms. Carefully chosen patterns and colors that enhances the JGCC branding per floor.
- Provide a large, continuous mirror on at least one wall of each toilet room.

Locker Rooms

Use ceramic or porcelain tile for the floors and walls in locker rooms. Ceilings must be solid with water resistant finishes.

Storage Rooms

Storage rooms will have painted walls and VCT flooring. Mechanical, Electrical, and Communication Spaces, Walls and ceilings of all equipment and maintenance shops should be gypsum board, concrete masonry surfaces or other durable surfaces; exposed batt or other forms of insulation should not be used at wall surfaces. Paint walls and ceilings in mechanical and electrical spaces. Floors will be sealed or painted concrete. Table 3-6, Construction Waste Management, the A/e must specify that the contractor develop a plan for construction waste management to divert at a minimum 50 percent of construction waste materials. As industry best practice, these percentage levels per material type are strongly encouraged: Material, Best Practice Percentage Diverted, Metals, 95%, Paper and cardboard and plastic wraps, 95%, rigid foam, carpet, and insulation, 90%, All others combined weighted average, 80%, Asphalt; concrete and concrete

blocks; brick, tile, and masonry materials; untreated lumber; plywood, oriented strand board, and particle board; gypsum wallboard scrap; glass; plumbing fixtures; windows; doors; cabinets; architectural fixtures; millwork, paneling, and similar; electric fixtures, motors, switch gear, and similar; HVAC equipment, duct work, control systems, switches.

Custodial Spaces

Janitor's closets will have painted walls and ceramic tile floor and base. Maintenance Shops, Maintenance shops will have painted walls and waterproof floors. Building Engineer's Office and Security Control Center, the building engineer's office and security control center will have painted walls and vinyl tile floors. Finishes for Specialty Areas, Food Service Areas, these areas are operated under concession agreements. Finishes are governed by health regulations and the requirements of the concessionaire.

Kitchens/ Coffee Lounge Areas

Flooring in these kitchens should be resilient. Walls should have durable, washable finishes such as vinyl wall covering or ceramic tile, depending on intensity of use. Ceilings should be acoustic material with consideration given to the use of moisture resistant ceiling materials in kitchens with higher humidity.

5.3.18 Art in Public Places

The Broward County Public Art and Design program, established in 1976 as Art in Public Places, allocates two percent of the total new construction budget for Broward County governmental facilities for commissioned artists to provide design expertise and to create artworks within a broad range of capital improvement projects. The program contributes to the enhancement of urban design through the creation of commissioned works of art that create a sense of place; that improve the visual environment for the citizens of Broward County; and that advance the missions of the county departments where the projects reside. A dynamic interaction between selected artists and interested constituent groups during the design stages of the projects has resulted in artworks in public places throughout the county.

For the JGCC, the selected design build team shall ensure the integration of art into the design of the new campus and facilities. The Art in Public Places program for the JGCC begins concurrently with the selection of the design-build A/E team and is timed so that the artist or artists have sufficient time to collaborate with the A/E on integrating their work into the overall design concept for the buildings. Please consult the with the County and the City on Program Policies and Procedures.

5.3.19 Signage

The JGCC wayfinding signage, identification graphics, and interior building graphics shall provide an opportunity for creative innovation and branding of the campus and facilities.

Newly-branded wayfinding signage shall direct visitors to the Main Office Tower building as well as to all other facilities within the overall JGCC campus including the BCT Transit Terminal and BCT Administrative Office Building.

Once inside the Main Building, a further expansion of the wayfinding is supported by a directory, but more importantly, all of the key face-to-face services where staff interact directly with the public are on the first and second floors. Easier access to often-used services shall be provided with first floor payment windows to allow residents to pay utility bills and parking tickets, ask general questions, and request records from the city clerk. Pneumatic ticket-pulling systems shall be considered to direct customers to the correct counters.

Signage Master Plan

A proposed Signage Master Plan shall be required by the selected design build team A/E and reviewed by the County and City for consistency and design before fabrication and installation. Signage must identify site entrances, transit terminal entrances, parking, and the main building entrances.

Graphics and signs must be clear and simple, and must be standardized to ensure easy identification of the building entrance, parking, and all the department agencies and services located in the building. Signs combining pictograms and printed messages are recommended for a more universal understanding.

Sign design must comply with ABAAS; Underwriters Laboratory (UL)— Illuminated Signs Standard; and OSHA standards for safety signs. Typefaces must be acceptable within ABAAS requirements; signs required to comply with ABAAS must have sans serif characters.

Signage must be designed to be adjustable for department moves and changes. These techniques should be specified to ensure easy maintenance and compatible expansion.

Integrating electronic monitors and other available new technology is an important design consideration. Employing electronic means to display building amenities; sustainability initiatives; job postings, building-related messages, and other public notices makes updating easier and reduces clutter. While using new technology is useful and conveys progress, it is important that these installations be successfully integrated into the overall architecture of the JGCC buildings and campus design.

Cornerstone

A cornerstone shall be required for the JGCC as part of the exterior wall of the Main Building at ground level on the corner of Broward Blvd and Brickell Avenue. The sign can be in the form of a free-standing monument sign at ground level or at the building parapet or both.

Emergency Evacuation Route Signage

All emergency evacuation signage for the JGCC must comply with the requirements as set forth in Florida Building Code, Florida Accessibility Code, and Florida Fire Prevention.

Standard Public Signs

This sign list addresses mandatory lobby messages. Signage must mitigate clutter and be designed to be adaptable. A comprehensive, permanent, aesthetic system must be used.

Mandatory, (messages that must be displayed before passing through security):

- Nonsmoking signs (with symbol) are to be placed by entry doors. (No smoking is allowed within 25 feet of a building entrance or opening).
- Accessible entry signs (with symbol) are to be placed at entry doors.
- Signs prohibiting weapons are to be placed by the security approach.
- Signs regarding search procedures are to be placed by the security guards' desk.
- Signs requiring display of government identification are to be placed by the security guards' desk.
- Rules and Regulations Concerning Public Buildings and Grounds, as required.

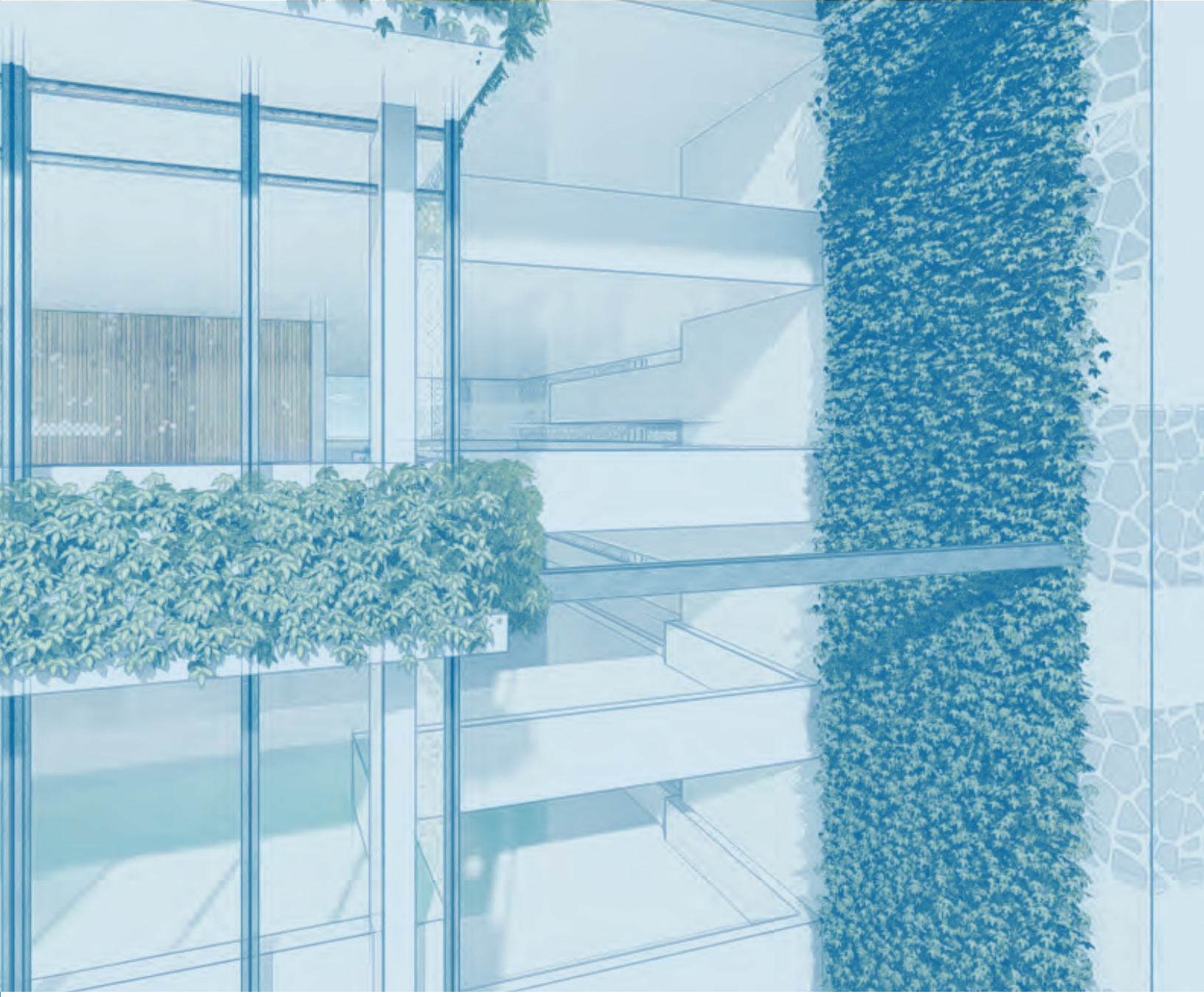
Registry of Builders and Designers

All signage in public areas of the JGCC must comply with Federal, State, and local code requirements.

A plaque must be placed inside the building with the names of the respective City and County officials and individuals on the JGCC project design team, the consultant architects and engineers, the on-site construction managers, and the construction team inscribed on the plaque. The project manager shall provide the specifications for the design and construction of the plaque.

Section 5.4
Sustainability and Resiliency

5.4.1 Sustainability - Goals and Objectives
5.4.2 Strategies for Inclusion
5.4.3 Strategies for Consideration
5.4.4 LEED Scorecards - Silver and Platinum
5.4.5 WELL Certification Matrix
5.4.6 Resiliency - Goals and Objectives
High Winds and Tropical Storms
Sea Level Rise, Flooding, and Stormwater Management
Heat
Sumary of Resiliency Criteria



Section 5.4
Sustainability and Resiliency

5.4.1 Goals and Objectives

Design Intent

The Joint Government facility shall be designed under LEED Version 4.1 or latest available version for Building Design and Construction (BD+C). All applicable LEED principles and guidelines to achieve minimum LEED Silver certification will be taken into consideration. The design intent is also to develop a Net-Zero Energy building complex inclusive of WELL Building features and criteria. LEED Platinum certification is anticipated if Net Zero Energy design is implemented.

Note two (2) LEED scorecards are included herein to document what it would take to meet minimum goals as a requirement, LEED Silver, and identifying what it would take to meet optimum goal of LEED Platinum certification.

Design Criteria

This section of the JGCC Design Criteria Package (DCP) contains a summary of suggested strategies based on the project's intent for LEED and WELL certification, while also focusing on owner goals of health and wellbeing during the current COVID19 pandemic, Zero Net Energy (ZNE), and establishing a showcase case study for what a public project can do.

To focus on anticipated building performance metrics, the JGCC DCP aligns key metrics across both LEED and WELL rating systems into one list. Instead of defining strategies by credit or feature, these describe the specific suggested requirements for the project and list out the aligned credits and features in both LEED and WELL This is further expanded with the inclusion of industry best practices pertaining to the JGCC project's goals of Zero Net Energy (ZNE), and Health & Wellness. The DCP re-organizes the suggested strategies into 10 categories, similar to the LEED checklist but unique to this project.

When aggregating the design-based criteria for the JGCC project, two distinct types of recommendations fit this project: those that can be readily applied to the project, and those that will need further consideration during the design phase. The DCP has therefore organized these criteria into two sections for ease of reference and application.

Section 1 represents strategies that have been demonstrated in several case studies, and solutions that can be achieved without many barriers. These are listed as **Strategies for Inclusion, "Off the Shelf"** and includes:

- Site
- ZNE and Energy Efficiency
- Air Quality
- Thermal Comfort
- Envelope
- Lighting
- Acoustics
- Water
- Occupant Wellness
- Materials and Waste

Section 2 represents three distinct areas for consideration during the design phase of the project. These require up-front commitment by City and County and an understanding of the potential barriers to adoption. However, these are critical to the goals and commitment by both entities to create a sustainable and resilient project and campus. The DCP's criteria for **Section 2 as Strategies for Consideration, "Cutting-Edge"** includes:

- Resilience
- Water
- Enhanced Materials Transparency and Optimization

Given the current COVID19 viral pandemic, additional strategies have been evaluated to plan for future pandemic response strategies for the JGCC. There are many WELL and LEED features and credits that have been prioritized that best align with this response planning, as well as additional features mentioned within this document for inclusion in the project planning, design and implementation. These strategies represent the best of our knowledge today and may be updated as our collective knowledge about the response to COVID19 improves, and future planning standards from organizations such as OSHA, USGBC, IWBI, ASHRAE, CfAD, WHO, CDC and others are released and updated.

Lastly, there are several credits within the LEED rating system and features within WELL that require operational policies or are focused on interior design decisions further down the line. These have been included in the scorecards, but not expanded on in the 100% DCP to focus on design strategies.

5.4.2 Section 1 | Strategies for Inclusion "Off-the-Shelf"

SITE

Associated LEED Credits:

- Sensitive Land Protection
- Bicycle Facilities
- Reduced Parking Footprint
- Green Vehicles
- Site Assessment
- Site Development - Protect or Restore Habitat
- Open Space
- Rainwater Management
- Heat Island Reduction
- Light Pollution Reduction

Associated WELL Features:

- M02. Access to Nature
- C13. Accessibility and Universal Design

Electric Vehicles

Provide level 2 electric charging stations for all county and city fleet vehicles and for min 2% of all employees parking stalls, plus 20% of all parking stalls to be "EV Ready" (i.e. - raceway with 208/240-volt 40-amp dedicated branch circuit for future level 2 chargers).

Provide site-specific charging solutions for electric transit bus fleet. 100% of the transit buses are anticipated to be all electric by 2030.

Rainwater Management

Design site drainage and infiltration via LID/GI (low-impact development/green infrastructure) strategies to accommodate 70th percentile (or 80th percentile for additional points) OR local standard, whichever is more stringent

Heat Island Reduction

SRI of 82 or higher (with aged SRI of 64) for low-sloped surfaces, and SRI of 39 or higher (with ages SRI of 32) for steep-sloped surfaces

Light Pollution Reduction

Design all exterior lighting (bollards, wall packs, etc.) aligned with the BUG standards for backlight, uplight, and glare.

ZNE AND ENERGY EFFICIENCY

Associated LEED Credits:

- Fundamental Commissioning and Verification
- Minimum Energy Performance
- Building-Level Energy Metering
- Fundamental Refrigerant Management
- Enhanced Commissioning
- Optimize Energy Performance
- Advanced Energy Metering
- Demand Response
- Renewable Energy Production
- Enhanced Refrigerant Management
- Green Power and Carbon Offsets

Associated WELL Features:

- A06. Enhanced Ventilation
- A10. Combustion Minimization
- T01. Thermal Performance
- T02. Enhanced Thermal Performance
- T03. Thermal Zoning

Energy Metering

Sub-meter energy by major end-uses (lighting, hvac, plug loads, exterior lighting) and by floor in order to best manage energy efficiency and zero net energy in operations

Enhanced Commissioning

Consider inclusion of both monitoring-based commissioning and envelope commissioning in project requirements to expand on commissioning benefits into ongoing monitoring of building systems functionality and into performance of the building envelope

Renewable Energy

ZNE goals already achieve all LEED points (ownership of any off-site systems must be documented for ZE certification through ILFI, Zero Energy certification through GBCI, and for LEED points).

Third-party long term purchased offsets are not to be counted towards the ZNE goals.

Backup power storage systems are to be incorporated as pat of the ZNE scope of the project to ensure computer network stability, continuity of government, and avoid air quality concerns.

Demand Response and Grid Harmonization
Install active energy-source controls responding to grid characteristics

Design building systems to incorporate permanent load-shifting/shedding when compared to conventional strategies

AIR QUALITY

Associated LEED Credits:
- Minimum Indoor Air Quality Performance
- Environmental Tobacco Smoke Control
- Enhanced Indoor Air Quality Strategies
- Low-Emitting Materials

Associated WELL Features:
- A01. Fundamental Air Quality
- A02. Smoke-Free Environment
- A03. Ventilation Effectiveness
- A05. Enhanced Air Quality
- A06. Enhanced Ventilation
- A08. Air Quality Monitoring and Awareness
- A09. Pollution Infiltration Management

- A10. Combustion Minimization (including café)
- A11. Source Separation
- A12. Air Filtration
- A14. Microbe and Mold Control

Enhanced Air Quality
Incorporate prevention strategies to ensure transportation hub emissions are not recirculated into office tower air intakes, with natural ventilation system design for parking decks.

Design outdoor air ventilation through current DOAS to achieve 30% above ASHRAE 62.1-2013, or 30% above local code (whichever is more stringent)

All outside air systems to have filtration of a minimum of MERV 13

Implement sensors for ongoing Air Quality Monitoring: PM2.5, PM10, CO2, O3, NO2, TVOC, HCHO (recommend either RESET or UL 2905 equivalency) & ongoing Thermal Conditions Monitoring: temperature, relative humidity, surface temperature or wet bulb

Implement advanced air filtration considering systems such as UV for microbial treatment, Carbon for off gassing (ensure UL 867A for prevention of ozone leakage/creation if applicable)

Design conditioning systems and “hot-gas reheat” to maintain relative humidity between 30-60%

Design for preventing condensation in high humidity climate (interior finishes, air leakage, interstitial spaces, cold surfaces) including the prevention of oversized AC units

Design for self-closing doors and exhaust fans (direct to outdoors, prevent recirculation with other air intakes) for bathrooms, cleaning/chemical storage, and centralized printing/copy rooms (or any other spaces with airborne contaminants)

Design commercial kitchen hood and range tops (and associated appliances) to meet source separation requirements under WELL Feature A11: https://v2.wellcertified.com/v/en/air/feature/11)

Include in design a pressurized vestibule for all main entrances & outdoor pollutant prevention strategies such as 10-foot walk-off mats or grates

THERMAL COMFORT

Associated LEED Credits:
- Minimum Indoor Air Quality Performance
- Enhanced Indoor Air Quality Strategies
- Low-Emitting Materials
- Indoor Air Quality Assessment

Associated WELL Features:
- T01. Thermal Performance
- T02. Enhanced Thermal Performance
- T03. Thermal Zoning
- T07. Humidity Control

Thermal Comfort Design
ASHRAE 55-2013 for mechanically ventilated spaces and during all standard occupied hours of the year, all regularly occupied spaces achieve thermal conditions representing Predicted Mean Vote (PMV) levels within +/- 0.5; PPD ≤ 10% (as per ASHRAE 55-2013, ISO 7730:2005 or EN 15251:2007

Free Address and Thermal Gradients

Free Address or Thermal Zoning - Thermal Planning to accommodate either free address with a variation of 5 degrees F between open office or conference room spaces OR provide dedicated 'open-work' stations with a thermal range for optional use. Thermal comfort criteria are to be set based on minimum and maximum thermostat set points agreed upon by city and county employees and key decision makers following methodology set under ASHRAE 55 -2013.

ENVELOPE

Associated LEED Credits:

- Enhanced Commissioning
- Daylight
- Quality Views
- Acoustic Performance

Associated WELL Features:

- L01. Light Exposure and Education
- L04. Glare Control
- L05. Enhanced Daylight Access

Envelope Commissioning

Envelope Commissioning per ASHRAE Guideline 0-2013 (coordinate with design early for maximum performance)

All glazing should have a minimum 40% VLT

Glazing should be minimum of 10% of floor area per floor + 30% of workstations within 20 feet of glazing and 70% of workstations within 25 feet of glazing

All exterior envelope glazing has interior either manual or automatic roller shades. Atria or lobbies may be excluded. The shading to be controllable by occupants or set to automatically prevent glare.

LIGHTING

Associated LEED Credits:

- Minimum Energy Performance
- Interior Lighting
- Daylight

Associated WELL Features:

- L01. Light Exposure and Education
- L02. Visual Lighting Design
- L03. Circadian Lighting Design
- L04. Glare Control
- L05. Enhanced Daylight Access
- L06. Visual Balance
- L07. Electric Light Quality
- L08. Occupant Control of Lighting Environment

Daylighting

Daylight modeling for Spatial Daylight Autonomy and Glare Exposure (SDA 300, 50% for greater than 55% of regularly occupied floor area, with an ASE 1000, 250 for no more than 10% of regularly occupied floor area)

Lighting Controls

Ensure lighting controls for open office banks of 500 sf or less

Lighting Quality

Ensure CRI>90 for all lighting or equivalent

Glare Control

Direct overhead lighting for workstations

Solar shades or building external fins/overhangs or light shelves for occupied perimeter workstations

Interior Finishes for Visual Balance

Surface reflectance management (between walls, ceiling and workstations)

ACOUSTICS

Associated LEED Credits:

- Acoustic Performance

Associated WELL Features:

- S01. Sound Mapping
- S02. Maximum Noise Levels
- S03. Sound Barriers
- S04. Sound Absorption
- S05. Sound Masking

Sound Mapping
Illustrated floor plans considering loud and quiet zones appropriate to space function and sized for design occupancy (includes anticipated Noise Criterion and dBAd/dBC values for each space type)

Interior Finishes for Acoustic Comfort
Surface materials, flooring and wall construction to consider: Reverberation Time, Noise Isolation, and Impact Insulation

WATER

Associated LEED Credits:
- Rainwater Management
- Building-Level Water Metering
- Outdoor Water Use Reduction
- Indoor Water Use Reduction
- Cooling Tower Water Use
- Water Metering

Associated WELL Features:
- W01. Fundamental Water Quality
- W02. Water Contaminants
- W03. Legionella Control
- W04. Enhanced Water Quality
- W05. Water Quality Consistency
- W06. Drinking Water Promotion
- W07. Moisture Management
- W08. Handwashing

Process Water Systems
Incorporate ASHRAE 188 into MEP strategies for Legionella prevention

Assess control parameters and implement a plan to meet the maximum cycles of concentration for cooling towers without compromising on functionality and efficiency.

Water Efficiency (Landscaping)
Recommend no permanently installed irrigation, all native/adaptive plantings on green roof (if urban agriculture is desired, this would be hand-watered)

Water Efficiency (Indoor Fixtures)
At a minimum all fixtures are WaterSense flow and flush-rates, with a preference for dual-flush water closets (with appropriate controls and education) and pint-flush or waterless urinals

See Section 2 to expand on this with the use of recycled water (on-site or municipally sourced) for non-potable uses such as flushing toilets

Water Metering
Sub-meter all process water (kitchen, cooling tower or conditioning systems), all restroom water, and alternative water sources

Water Quality and Filtration Systems (Overlaps with Occupant Wellness)
Drinking water Point-Of-Use filtration for all WELL Preconditions + W04 drinking water taste properties (locations of dispensers within 100ft of all occupant workstations (see access to filtered water below).

Drinking water filtration systems to include: suspended solids filtration with pore size of 1.5 um or less, UV disinfection rated by NSF/ANSI Standard 55 or NSF/ANSI Standard 53 or 58 for cyst removal, rated for NSF/ANSI standard 53 or 58 for copper or lead reduction. Only models that include bottle filler with plastic bottle avoidance count are to be installed.

OCCUPANT WELLNESS

Associated LEED Credits:

Associated WELL Features:
- V01. Active Buildings and Communities
- V02. Visual and Physical Ergonomics
- V04. Active Commuter and Occupant Support
- V05. Site Planning and Selection
- V06. Physical Activity Opportunities
- V07. Active Furnishings
- V08. Physical Activity Spaces and Equipment
- V10. Enhanced Ergonomics
- V11. Physical Activity Promotion
- V12. Self-Monitoring
- M01. Mental Health Promotion
- M02. Access to Nature
- M03. Mental Health Support
- M04. Mental Health Education
- M06. Restorative Opportunities
- M07. Restorative Spaces
- M08. Restorative Programming
- M09. Enhanced Access to Nature
- C09. New Mother Support

Visible and Centralized Staircases
Incorporate strategies that promote staircase use. Such as banking series of floors together that are used by one department, county or city staff, glazing at staircase at all staircase doors.

Egress staircase to be designed with access to daylight, views and artwork and glazing for all doors.

Staircase and Circulation Corridor Design
Minimum of 215 lux, gamification, views - music - natural design elements - or artwork, glazing on all staircase entry doors, and width of minimum 56 in

Point-Of-Decision Signage Encouraging Stair Usage
At elevator/escalator or motorized circulation banks, bases or stairwells, and junctions in corridors

Access to Filtered Drinking Water Systems
Drinking water access is to be provided at least 30m/100 ft from each designed workstation (vacant or occupied). Access to drinking water in pantry/ break areas and stand-alone drinking fountains (consider only models that include bottle filler with plastic bottle avoidance count) count towards these criteria.

Visual Display of Health-Related Indicators
Design impact of including locations for display systems - this can be tied into an education program on screen signage (at a minimum: eating healthy, fitness programs,

Mindful Eating Spaces
Eating spaces to accommodate 25% of design occupancy (includes café, outdoor seating, and any other dedicated non-work seating)

Food Preparation / Pantry Areas
For each floor, pantry areas for building occupants and back-of-house staff that includes the following: cold storage, countertops, sink (dish and handwashing), reheating (microwave, toaster oven), cabinets/storage, reusable eating utensils plates and cups

Urban Gardening
For well feature this would be 1 sf per design occupant

In-Site Dedicated Acitivity Spaces
For well feature with would be 200 sf + 1 sf per employee of outdoor space

Bike Storage
Short-term storage for 2.5% of peak occupancy + long-term storage (lockers or valet) for 5% of regular occupants + bike tools available on site

Showers for Active Occupants
Provide 14 showers (for estimated 2000 employees) + locker storage for 400 occupants

On-Site Pedestrian Destinations
Two of the following: outdoor plaza, fountain or water feature, walking path with wayfinding signage, drinking fountain, trees/landscaping, artistic installations/murals

Indoor Restorative Spaces
Minimum of 2,075 sf (dispersed across building if needed) or 'restorative spaces': accessible design, dimmable lighting, visual privacy, etc.

New Mother Support Spaces
At least four designated lactation room (minimum of 50sf each) with the following: work surface and comfortable chair, 2 outlets, user-operated lock, room-booking system, access to sink/handwashing, access to refrigerator for milk storage, dedicated storage for pumping supplies

Community Gathering Space
Designated space at least 2000 sf, open at all operating hours, accessible to community organizations and general public

Interior Finihes for Biophilia
Incorporate natural patterns in wayfinding, interior finish designs and materials to encourage use of biophilic elements.

Access to Nature
Provide occupant access to nature within the building and project site (external to the building) through the following: Plants, Water, Light and Nature views. Indirect connection to nature through use of natural materials, patterns, colors or images.

Consider placement of natural elements along common circulation routes, shared seating areas and rooms (e.g., conference rooms, common spaces) and workstations (as applicable) to enhance occupant exposure.

The design of all landscaped area should meet Certified Wildlife Habitat requirements as per national wildlife federation guidelines. The project is to achieve wildlife habitat status and be counted as one of the properties towards the City of Fort Lauderdale's Certified Wildlife Community requirements.

MATERIALS & WASTE

Associated LEED credits:

- Building Life-Cycle Impact Reduction -Building Product Disclosure and Optimization - Environmental Product Declarations"
- Building Product Disclosure and Optimization - Sourcing of Raw Materials
- Building Product Disclosure and Optimization - Material Ingredients

Associated WELL Features:

- X08. Hazardous Material Reduction
- X10. Volatile Compound Reduction
- X11. Long-Term Emission Control
- X12. Short-Term Emission Control
- X13. Enhanced Material Precaution
- X14. Material Transparency

Waste Management Collection and Storage Areas

Design waste collection on each floor to accommodate trash, recycling, hazmat, and organic waste in a safe manner. Waste and recycling collection are to be centralized as much as possible with clear signage and instruction plaques.

Organic waste recycling is to be evaluated based on availability of pickup services at the time of building operation. Organic waste generated in the kitchen area may be managed through the use of a digestor. Options for location and use of digestor in back of house areas is to be considered during design stage.

Waste and recycling collection areas are to be designed with overall operations and building aesthetics in mind. Collection area is to be designed to ensure adequate accommodations at the point of pickup so as to not impact traffic flow. Provide appropriate clearances in all directions including overhead clearance for solid waste collection vehicles. Collection and pickup areas are to be sensitively located in order to avoid negatively impacting adjacent work areas due to noise and odor issues.

Materials Specifications

Include requirements for minimum levels of transparency within specifications for

- VOC limits
- No Added Urea Formaldehyde
- Chemical Transparency (Health Product Declarations, HPDs) and Environmental Transparency (Environmental Product Declarations, EPDs) - requiring a minimum number (20) of each HPDs and EPDs
- FSC Certified Wood

5.4.3 Section 2 | Strategies for Consideration, "Cutting Edge"

RESILIENCE

This section is suggesting the incorporation of a number of resilience related strategies, starting with a strict no combustion requirement expanded into the cafeteria area/commercial kitchen (i.e. requiring electric ovens and induction stoves). The suggestions expand into diverse areas as well, such as pandemic response and risk management, future planning for space flexibility, flood response, and community engagement. This is not a comprehensive list of strategies already discussed for JGCC such as Zero Net Energy (ZNE) and Flood Control, rather it is meant to build upon those with additional considerations.

Associated LEED Credits:

- Renewable Energy Production
- Rainwater Management

Associated WELL Features:

- A05. Enhanced Air Quality
- A06. Enhanced Ventilation

- A09. Pollution Infiltration Management
- A12. Air Filtration
- A14. Microbe and Mold Control
- W02. Water Contaminants
- W03. Legionella Control
- W07. Moisture Management
- W08. Handwashing
- A10. Combustion Minimization

Decarbonization / Resilience
Consider no Natural Gas including the café – strong recommendation for induction stoves and electric ovens

Flood Response
Ensure that flood response strategies tie into mold/moisture management for ongoing operations

Future Planning and Flexibility
Incorporate design practices in office tower for 'design for future use' should the occupancy type change down the road (this would also include material passports for future material reuses)

Community Engagement
Strategies to include public communications and shelter-in-place if needed

Pandemic Response
Touch-free main entry doors, restroom doors, elevators, and any other high-touch surfaces

Sizing of entrances and vestibules for proper social distancing

Adequate sink sizes for Handwashing (9" by 9" minimum basin widths with a minimum 10" water column, and water column is 3" away from any sink basin sides)

Additional hand sanitizer stations (flexible for temporary response situations)

Large screens and/or kiosks in main foyer area that can be used to communicate with employees and visitors.

Please see the graphic above from Joseph Allen and the Harvard School of Public Health outlining risk factors for public health in office buildings:

WATER

This section is suggesting the inclusion of enhanced water collection of stormwater and rainwater, treatment on-site of greywater for storage, and the reuse of water for non-potable purposes. This would showcase water resiliency and reuse opportunities realizing the adage "the right water for the right purpose", and indirectly also reduce carbon emissions associated with treating potable water and transporting it to the site.

Associated LEED credits:
- Rainwater Management
- Outdoor Water Use Reduction
- Indoor Water Use Reduction

Associated WELL Features:
- N/A

Dual Plumbing for Reclaimed Water Use
Plumbing design that would allow for either on-site treated rainwater or stormwater to be used for flushing toilets, irrigation, or other non-potable uses (if applied), or could be connected to a municipal reclaimed water system if preferred.

Rainwater Collection

Enhancing rainwater collection and pursuing a permitting pathway for reusing rainwater to flush toilets could build upon a dual-piped plumbing design and use collected rainwater from cisterns to flush toilets.

Rainwater reuse for irrigation should also be considered with the following recommendations:

- An above ground tank on the amenity deck level to serve landscaping at that level is recommended. The flow is to be inline from the above 29th story roof and overflow down to the ground floor with the bypass line.
- Drip irrigation is preferred to minimize pump requirements and also water treatment standard requirements.
- The tank size is to be calculated based on the area to be served and the desired capacity of reserve water.
- Runoff from vehicle travel areas is not desired due to a higher level of contaminants. Roof level runoff to be used.

On-Site Water Treatment

Treatment of greywater and captured rainwater could be treated using an NSF 350 certified treatment system to allow for on-site storage of treated non-potable water for later reuse in flushing toilets or other non-potable water uses.

ENHANCED MATERIALS TRANSPARENCY AND OPTIMIZATION

This section is suggested for consideration to include enhanced materials specifications for building upon transparency requirements and focusing on optimizing materials used (as related to embodied carbon, life cycle analysis, and chemical toxicity).

Associated LEED Credits:

- Building Life-Cycle Impact Reduction -Building Product Disclosure and Optimization - Environmental Product Declarations
- Building Product Disclosure and Optimization - Sourcing of Raw Materials
- Building Product Disclosure and Optimization - Material Ingredients

Associated WELL Features:

- Long Term VOC Emissions
- Short Term VOC Emissions
- Hazardous Materials

Materials Specifications

Include additional specifications requiring: Emissions restrictions, Chemical Transparency, and Environmental Transparency

Embodied Carbon Calculations

Incorporate embodied carbon and EPD reporting for all specified materials to allow for embodied carbon calculations and require offsets

Life Cycle Impact Reduction

Iterative design practices incorporating decisions that reduce overall environmental life-cycle impact reduction (aligned with ISO 14025-2006 for life cycle accounting), where possible without sacrificing durability and material performance.

5.4.4 LEED Scorecard - SILVER

LEED v4 for BD+C: New Construction and Major Renovation
Project Checklist

Y	?	N			
1			Credit 1	Integrative Process	1
10	**0**	**6**	**Location and Transportation (LT)**		**16**
		16	Credit 1	LEED for Neighborhood Development Location	16
1			Credit 2	Sensitive Land Protection	1
		2	Credit 3	High Priority Site	2
2		3	Credit 4	Surrounding Density and Diverse Uses	5
5			Credit 5	Access to Quality Transit	5
1			Credit 6	Bicycle Facilities	1
		1	Credit 7	Reduced Parking Footprint	1
1			Credit 8	Green Vehicles	1
7	**2**	**1**	**Sustainable Sites (SS)**		**10**
Y			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Assessment	1
	1	1	Credit 2	Site Development - Protect or Restore Habitat	2
	1		Credit 3	Open Space	1
3			Credit 4	Rainwater Management	3
2			Credit 5	Heat Island Reduction	2
1			Credit 6	Light Pollution Reduction	1
4	**2**	**5**	**Water Efficiency (WE)**		**11**
Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
2			Credit 1	Outdoor Water Use Reduction	2
1	1	4	Credit 2	Indoor Water Use Reduction	6
	1	1	Credit 3	Cooling Tower Water Use	2
1			Credit 4	Water Metering	1
10	**6**	**17**	**Energy and Atmosphere (EA)**		**33**
Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
4	2		Credit 1	Enhanced Commissioning	6
4		14	Credit 2	Optimize Energy Performance	18
1			Credit 3	Advanced Energy Metering	1
	2		Credit 4	Demand Response	2
		3	Credit 5	Renewable Energy Production	3
1			Credit 6	Enhanced Refrigerant Management	1
	2		Credit 7	Green Power and Carbon Offsets	2

5.4.4 LEED Scorecard - SILVER

LEED v4 for BD+C: New Construction and Major Renovation
Project Checklist

7	4	2		**Materials and Resources (MR)**	**13**
Y			Prereq 1	Storage and Collection of Recyclables	Required
Y			Prereq 2	Construction and Demolition Waste Management Planning	Required
2	1	2	Credit 1	Building Life-Cycle Impact Reduction	5
1	1		Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit 5	Construction and Demolition Waste Management	2

11	5	0		**Indoor Environmental Quality (IEQ)**	**16**
Y			Prereq 1	Minimum Indoor Air Quality Performance	Required
Y			Prereq 2	Environmental Tobacco Smoke Control	Required
2			Credit 1	Enhanced Indoor Air Quality Strategies	2
2	1		Credit 2	Low-Emitting Materials	3
1			Credit 3	Construction Indoor Air Quality Management Plan	1
2			Credit 4	Indoor Air Quality Assessment	2
1			Credit 5	Thermal Comfort	1
2			Credit 6	Interior Lighting	2
1	2		Credit 7	Daylight	3
	1		Credit 8	Quality Views	1
	1		Credit 9	Acoustic Performance	1

6	0	0		**Innovation (IN)**	**6**
1			Credit 1.1	Innovation: LEED O+M Starter Kit (Green Cleaning Policy, Integrated Pest Management)	1
1			Credit 1.2	Innovation: Purchasing - Lamps	1
1			Credit 1.3	Innovation: Design for Active Occupants	1
1			Credit 1.4	Innovation: Green Building Education	1
1			Credit 1.5	Innovation: Occupant Comfort Survey	1
1			Credit 2	LEED Accredited Professional	1

3	1			**Regional Priority (RP) (only 4 out of 6 are awarded)**	**4**
1			Credit 1	Regional Priority: Outdoor water use reduction, thrshold 2	1
		1	Credit 2	Regional Priority: Renewable energy production, threshold 2	1
		1	Credit 3	Regional Priority: Optimiize energy performance , thrshold 8	1
1			Credit 4	Regional Priority: Bicycle Facilities	1
1			Credit 5	Regional Priority: Light Pollution Reduction	1
	1		Credit 6	Regional Priority: Site Development Protect or Restore Habitat	1

59	20	31	**TOTALS**	Possible Points:	**110**

Certified: 40 to 49 points **Silver: 50 to 59 points** Gold: 60 to 79 points **Platinum:** 80 to 110

5.4.4 LEED Scorecard - PLATINUM

LEED v4 for BD+C: New Construction and Major Renovation
Project Checklist

Y	?	N			
1			Credit 1	Integrative Process	1
10	**0**	**6**	**Location and Transportation (LT)**		**16**
		16	Credit 1	LEED for Neighborhood Development Location	16
1			Credit 2	Sensitive Land Protection	1
		2	Credit 3	High Priority Site	2
2		3	Credit 4	Surrounding Density and Diverse Uses	5
5			Credit 5	Access to Quality Transit	5
1			Credit 6	Bicycle Facilities	1
		1	Credit 7	Reduced Parking Footprint	1
1			Credit 8	Green Vehicles	1
7	**2**	**1**	**Sustainable Sites (SS)**		**10**
Y			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Assessment	1
	1	1	Credit 2	Site Development - Protect or Restore Habitat	2
	1		Credit 3	Open Space	1
3			Credit 4	Rainwater Management	3
2			Credit 5	Heat Island Reduction	2
1			Credit 6	Light Pollution Reduction	1
4	**2**	**5**	**Water Efficiency (WE)**		**11**
Y			Prereq 1	Outdoor Water Use Reduction	Required
Y			Prereq 2	Indoor Water Use Reduction	Required
Y			Prereq 3	Building-Level Water Metering	Required
2			Credit 1	Outdoor Water Use Reduction	2
1	1	4	Credit 2	Indoor Water Use Reduction	6
	1	1	Credit 3	Cooling Tower Water Use	2
1			Credit 4	Water Metering	1
31	**2**	**0**	**Energy and Atmosphere (EA)**		**33**
Y			Prereq 1	Fundamental Commissioning and Verification	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Building-Level Energy Metering	Required
Y			Prereq 4	Fundamental Refrigerant Management	Required
4	2		Credit 1	Enhanced Commissioning	6
18			Credit 2	Optimize Energy Performance	18
1			Credit 3	Advanced Energy Metering	1
2			Credit 4	Demand Response	2
3			Credit 5	Renewable Energy Production	3
1			Credit 6	Enhanced Refrigerant Management	1
2			Credit 7	Green Power and Carbon Offsets	2

LEED Scorecard - PLATINUM

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

7	**4**	**2**		**Materials and Resources (MR)**	**13**
Y			Prereq 1	Storage and Collection of Recyclables	Required
Y			Prereq 2	Construction and Demolition Waste Management Planning	Required
2	1	2	Credit 1	Building Life-Cycle Impact Reduction	5
1	1		Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit 5	Construction and Demolition Waste Management	2

11	**5**	**0**		**Indoor Environmental Quality (IEQ)**	**16**
Y			Prereq 1	Minimum Indoor Air Quality Performance	Required
Y			Prereq 2	Environmental Tobacco Smoke Control	Required
2			Credit 1	Enhanced Indoor Air Quality Strategies	2
2	1		Credit 2	Low-Emitting Materials	3
1			Credit 3	Construction Indoor Air Quality Management Plan	1
2			Credit 4	Indoor Air Quality Assessment	2
1			Credit 5	Thermal Comfort	1
2			Credit 6	Interior Lighting	2
1	2		Credit 7	Daylight	3
	1		Credit 8	Quality Views	1
	1		Credit 9	Acoustic Performance	1

6	**0**	**0**		**Innovation (IN)**	**6**
1			Credit 1.1	Innovation: LEED O+M Starter Kit (Green Cleaning Policy, Integrated Pest Management)	1
1			Credit 1.2	Innovation: Purchasing - Lamps	1
1			Credit 1.3	Innovation: Design for Active Occupants	1
1			Credit 1.4	Innovation: Green Building Education	1
1			Credit 1.5	Innovation: Occupant Comfort Survey	1
1			Credit 2	LEED Accredited Professional	1

4	**0**	**0**		**Regional Priority (RP) (only 4 out of 6 are awarded)**	**4**
1			Credit 1	Regional Priority: Outdoor water use reduction, thrshold 2	1
1			Credit 2	Regional Priority: Renewable energy production, threshold 2	1
1			Credit 3	Regional Priority: Optimiize energy performance , thrshold 8	1
1			Credit 4	Regional Priority: Bicycle Facilities	1
			Credit 5	Regional Priority: Light Pollution Reduction	1
			Credit 6	Regional Priority: Site Development Protect or Restore Habitat	1

81	**15**	**14**	**TOTALS**	Possible Points:	**110**

Certified: 40 to 49 points **Silver: 50 to 59 points** Gold: 60 to 79 points **Platinum:** 80 to 110

5.4.5 WELL Certification Matrix

WELL Building Standard v2

Project:	JGCC 100% DCP
Location:	Broward County | Ft. Lauderdale
Updated By:	UL (Bharati Bhosale and Ravi Bajaj)
Date:	July 20th, 2020

AIR

Y	?	N		
Y			P	A01. Fundamental Air Quality
Y			P	A02. Smoke-Free Environment
Y			P	A03. Ventilation Effectiveness
Y			P	A04. Construction Pollution Management
3		1	O	A05. Enhanced Air Quality
3			O	A06. Enhanced Ventilation
		2	O	A07. Operable Windows
2			O	A08. Air Quality Monitoring and Awareness
	1		O	A09. Pollution Infiltration Management
1			O	A10. Combustion Minimization (including café)
1			O	A11. Source Separation
1			O	A12. Air Filtration
		1	O	A13. Active VOC Control
1		1	O	A14. Microbe and Mold Control
12	1	5	TOTAL	

WATER

Y	?	N		
Y			P	W01. Fundamental Water Quality
Y			P	W02. Water Contaminants
Y			P	W03. Legionella Control
1			O	W04. Enhanced Water Quality
2			O	W05. Water Quality Consistency
1			O	W06. Drinking Water Promotion
3			O	W07. Moisture Management
2			O	W08. Handwashing
9	0	0	TOTAL	

NOURISHMENT

Y	?	N		
			P	N01. Fruits and Vegetables
			P	N02. Nutritional Transparency
		3	O	N03. Refined Ingredients
2			O	N04. Food Advertising
	1		O	N05. Artificial Ingredients
1			O	N06. Portion Sizes
1			O	N07. Nutrition Education
	2		O	N08. Mindful Eating
1		1	O	N09. Special Diets
		1	O	N10. Food Preparation
	1		O	N11. Responsible Food Sourcing
		2	O	N12. Food Production
		1	O	N13. Local Food Environment
5	4	8	TOTAL	

LIGHT

Y	?	N		
			P	L01. Light Exposure and Education
			P	L02. Visual Lighting Design
1	2		O	L03. Circadian Lighting Design
3			O	L04. Glare Control
1	2		O	L05. Enhanced Daylight Access
	1		O	L06. Visual Balance
2			O	L07. Electric Light Quality
1		1	O	L08. Occupant Control of Lighting Envir
8	5	1	TOTAL	

5.4.5 WELL Certification Matrix

MOVEMENT				
Y	?	N		
Y			P	V01. Active Buildings and Communities
Y			P	V02. Visual and Physical Ergonomics
		1	O	V03. Movement Network and Circulation
2		1	O	V04. Active Commuter and Occupant Support
	2		O	V05. Site Planning and Selection
		3	O	V06. Physical Activity Opportunities
2			O	V07. Active Furnishings
	1	1	O	V08. Physical Activity Spaces and Equipment
		2	O	V09. Exterior Active Design
1			O	V10. Enhanced Ergonomics
	1		O	V11. Physical Activity Promotion
	1		O	V12. Self-Monitoring
5	5	8	TOTAL	

THERMAL COMFORT				
Y	?	N		
			P	T01. Thermal Performance
3			O	T02. Enhanced Thermal Performance
	2		O	T03. Thermal Zoning
		3	O	T04. Individual Thermal Control
		2	O	T05. Radiant Thermal Comfort
		1	O	T06. Thermal Comfort Monitoring
1			O	T07. Humidity Control
4	2	6	TOTAL	

SOUND				
Y	?	N		
Y			P	S01. Sound Mapping
3			O	S02. Maximum Noise Levels
	3		O	S03. Sound Barriers
3			O	S04. Sound Absorption
2			O	S05. Sound Masking
8	3	0	TOTAL	

MATERIALS				
Y	?	N		
			P	X01. Fundamental Material Precautions
			P	X02. Hazardous Material Abatement
			P	X03. Outdoor Structures
1			O	X04. Waste Management
2			O	X05. In-Place Management
		2	O	X06. Site Remediation
1			O	X07. Pesticide Use
	1		O	X08. Hazardous Material Reduction
2			O	X09. Cleaning Products and Protocol
		3	O	X10. Volatile Compound Reduction
	3		O	X11. Long-Term Emission Control
	3		O	X12. Short-Term Emission Control
	2		O	X13. Enhanced Material Precaution
	2		O	X14. Material Transparency
6	11	5	TOTAL	

5.4.5 WELL Certification Matrix

MIND				
Y	?	N		
Y			P	M01. Mental Health Promotion
Y			P	M02. Access to Nature
3			O	M03. Mental Health Support
2			O	M04. Mental Health Education
		2	O	M05. Stress Support
1			O	M06. Restorative Opportunities
		1	O	M07. Restorative Spaces
	1		O	M08. Restorative Programming
1			O	M09. Enhanced Access to Nature
		1	O	M10. Focus Support
		2	O	M11. Sleep Support
		1	O	M12. Business Travel
	3		O	M13. Tobacco Prevention and Cessation
	3		O	M14. Substance Use Education and Services
	3		O	M15. Opioid Emergency Response Plan
7	10	7	TOTAL	

COMMUNITY				
Y	?	N		
Y			P	C01. Health and Wellness Awareness
Y			P	C02. Integrative Design
Y			P	C03. Occupant Survey
	3		O	C04. Enhanced Occupant Survey
2		1	O	C05. Health Services and Benefits
		3	O	C06. Health Promotion
	2		O	C07. Community Immunity
	3		O	C08. New Parent Support
	3		O	C09. New Mother Support
		2	O	C10. Family Support
		1	O	C11. Civic Engagement
		2	O	C12. Organizational Transparency
	3		O	C13. Accessibility and Universal Design
		2	O	C14. Bathroom Accommodations
3			O	C15. Emergency Preparedness
		1	O	C16. Community Access and Engagement
5	14	12	TOTAL	

INNOVATION				
Y	?	N		
1			O	I01. Innovate WELL
1			O	I02. WELL Accredited Professional
1			O	I03. Educate WELL
1			O	I04. Gateways to Wellness
1			O	I05. Green Building Rating Systems
5	0	0	TOTAL	

SUMMARY			
Y	?	N	Notes
74	55	52	*Note that the total is above 110, and we will create a unique scorecard for this project which totals 110 points*

5.4.6 Resiliency

Goals and Objectives

This DCP section summarizes the specific resilience considerations of the Joint Government Center Campus (JGCC). Recommendations are interspersed throughout the DCP in a greater level of detail within the sections for which they hold the highest level of relevance. As an emerging concept, resilience considerations are presented to provide a basis of design for the recommended design criteria for the JGCC design and implementation of the project.

Resilience goes hand-in-hand with sustainability, particularly in an era of a changing environment. In order for a project to be sustainable over the long-term, it must be resilient to discrete, disruptive events. As the seat of government for nearly 2 million residents of Broward County including the 185,000 residents of the City of Fort Lauderdale, it is of the utmost importance to build a resilient building that considers future conditions.

Overall, the JGCC is well-positioned to include resilience measures to consider future conditions associated with a changing climate. However, one important resilience consideration for the JGCC that is not typical of standard site planning and programming is the vulnerability of the surrounding access roads and properties. These conditions shall require a broader resiliency plan for the development of the JGCC site.

HIGH WINDS & TROPICAL STORMS

The JGCC site is located in an area vulnerable to high winds from tropical storms and hurricanes. Based on historical records of hurricanes in the Atlantic Ocean, 91 tropical cyclones, including 27 tropical depressions, 27 tropical storms, and 36 hurricanes have come within 100 miles of Fort Lauderdale. These include 18 major hurricanes (Category 3 or greater). In addition to the annual threat of tropical systems, the frequency of the most intense hurricanes is expected to increase with a changing climate.

It is helpful to relate these threats to major hurricanes in recent history. Major Hurricanes since 1970 that have passed within 100 miles of the project site include Andrew (1992), Jeanne (2004), Wilma (2005), Matthew (2016), and Irma (2017). Hurricane Dorian (2019) also passed within 100 miles of Fort Lauderdale and made landfall at an impressive 185 miles per hour (mph) sustained wind speed. Wind gusts associated with Hurricane Dorian were measured at over 220 mph.(1) This is important to consider as a possibility when determining the design criteria for the JGCC. Although the Florida Building Code provides guidance for extreme wind events, the importance of the building requires that the “what if” scenario be examined.

For the design and implementation of the JGCC project, specific considerations shall require evaluating structural and budgetary impacts of designing for wind gusts of 220 mph, consistent with recently observed storms.

SEA LEVEL RISE, FLOODING, AND STORMWATER MANAGEMENT

No climate threat gets more attention than sea level rise for South Florida. Sea level rise is a risk multiplier that will increase the frequency and severity of tidal flooding, storm surge, and precipitation events. This section discusses sea level rise projections, as well as precipitation, high tide, and storm surge events. Also included is a discussion of groundwater table considerations, directly affecting precipitation events.

Sea Level Rise

Sea level rise is the most obvious and challenging consequence of a changing climate for the South Florida region. The Southeast Florida Regional Climate Change Compact (the Compact) has published a Unified Sea Level Rise Projection, which is the standard used for the recommendations herein as noted in Table 5.4.6(A)-SLR. Broward County adopted the projections on March 10, 2020.

(1) Hurricane Dorian Tropical Cyclone Update, 600 PM EDT Sun Sep 01 2019, Available at: https://www.nhc.noaa.gov/archive/2019/al05/al052019.update.09012153.shtml

TABLE 5.4.6(A)-SLRC: RELATIVE SEA LEVEL RISE PROJECTIONS AT JGCC				
PLANNING HORIZON	2000	2020	2040	2070
NOAA Intermediate High	0”	7”	17”	40”
NOAA High	0”	9”	21”	54”

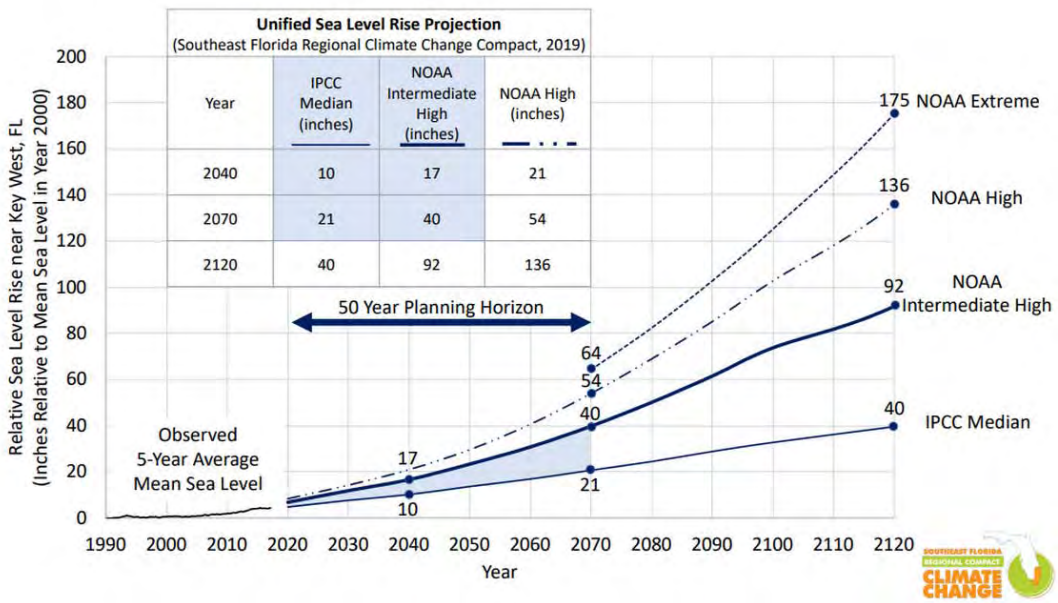


Figure 5.4.6(A)-SLRC. The 2019 Unified Sea Level Rise Projections from the Southeast Florida Regional Climate Change Compact.

Based on the previously observed rates in the 20th century, the best projections amount to a two hundred to four hundred percent increase in the rate of sea level rise. This is best illustrated as future projections from the Unified Sea Level Rise Curves (Figure 5.4.6(A)-SLRC). Use guidance provided by the Compact state that the NOAA High Curve be utilized as the upper boundary for medium and long-term use while weighing the adaptability, interdependencies, and costs of such infrastructure. The minimum amount of sea level rise considered for the project design should be 40”, but the impact on the design and operability of the building with 54” of sea level rise should be examined and strongly considered.

Precipitation

South Florida experiences heavy rainfall associated with tropical systems, afternoon thunderstorms associated with sea breeze fronts, and winter storms, including cold fronts. As the climate changes, so do the patterns of precipitation. It is anticipated that the intensity of storms will increase, causing larger volumes of rain to fall in shorter durations, increasing the likelihood of flash flooding. As such, on-site retention standards may need to be revisited by jurisdictions having authority. Since future conditions precipitation design criteria has not yet been codified, design criteria recommendations are provided herein.

Broward County is nearing the end of a study that will project future rainfall conditions and provide design guidance for storm events. While the recommendations are not final, preliminary results of the study reveal a 20% increase in precipitation for shorter duration storms, and a 13% increase in precipitation for longer duration storms.(2)(3) This is reflected in the criteria for design storms in Table 5.4.6(B) - RAIN.

The Broward County future precipitation conditions should be considered for the design of stormwater management systems, site retention, and pretreatment. While current standards do not take into account the increase in precipitation and it is not likely to be mandated prior to the construction of the JGCC, it is recommended that the additional precipitation above the current required volume be detained or retained on site. Opportunities for additional storage capacity, and sustainable treatment and use as potable/graywater within the building envelope should be further explored.

Tidal Flooding

Seasonally high tides, or King Tides, are now higher than they previously were due to rising sea levels. Tidal elevations in Fort Lauderdale generally fluctuate around one foot above and one foot below mean sea level. For Southeast Florida, the "King Tide Season" generally occurs in autumn, when coastal waters are the warmest. Sea level rise has also caused King Tides to occur at other times of the year.

Flooding depth caused by King Tides (based on a current "King Tide" elevation of 2.1 ft. NAVD88) for the area surrounding the JGCC site is shown in Figure 5.4.6(B)-KT. While the existing project site, comprised of an elevated bus terminal, does not appear to be at direct risk of tidal flooding, the area surrounding the site heading toward the downtown core is at risk. Broward Boulevard is a main thoroughfare for the downtown core and is especially vulnerable to King Tide flooding. Off-site improvements to adjacent critical transportation infrastructure should be considered and coordinated as part of the design.

TABLE 5.4.6(B) - RAIN: EXISTING AND FUTURE RAINFALL AMOUNTS OF SPECIFIC DESIGN STORMS.

DESIGN STORM	25-year 1-day	100-year 1-day	100-year 3-day
Existing Conditions	11.9"	16.3"	18.7"
Future Conditions	14.3"	19.6"	21.1"

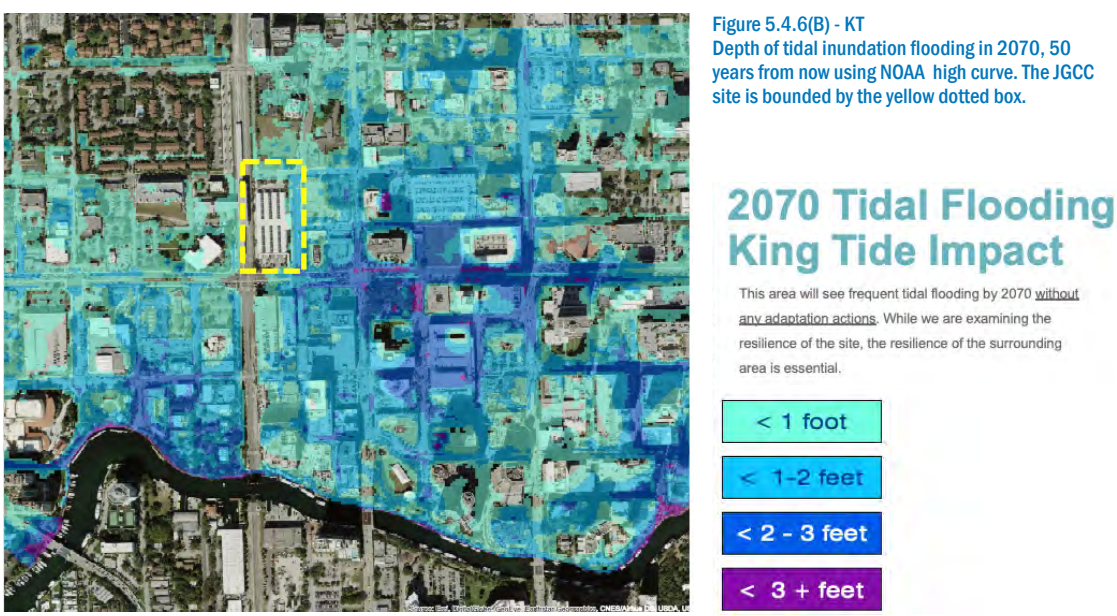


Figure 5.4.6(B) - KT
Depth of tidal inundation flooding in 2070, 50 years from now using NOAA high curve. The JGCC site is bounded by the yellow dotted box.

Storm Surge

Storm surge associated with tropical systems is a significant risk to the JGCC, particularly given its close proximity to the New River. To explore storm surge risk, the Sea, Lake and Overland Surges from Hurricanes (SLOSH) model published by NOAA was reviewed and utilized. The model provides the Maximum of Maximum (MOM) storm surge for each storm condition, otherwise known as the worst-case scenario, associated with each hurricane category. Detailed coastal modeling or catastrophic risk modeling was not performed on the site. The likelihood of experiencing a tropical system is examined in the High Winds section. However, storm surge is not directly related to hurricane category, but rather the size of the storm, wind speed, forward speed, approach angle, and local bathymetry and topography.

The effect of sea level rise on storm surge elevation is presented as an addition to the current storm surge elevations for the purposes of this assessment (Table 5.4.6(C)-SS). In reality, the effect of sea level rise on storm surge is far more complex. However, in the absence of complex coastal modeling and for the purposes of developing resiliency plans based upon unknown future conditions, it is a reasonable estimation.

TABLE 5.4.6(C)-SS: STORM SURGE ELEVATIONS AT JGCC SITE WITH SEA LEVEL RISE (FROM SLOSH).

PLANNING HORIZON (NOAA HIGH)	Current	2040	2070
Category 3 Hurricane (feet NAVD88, NOAA High)	4.0’	5.0’	7.7’
Category 5 Hurricane (feet NAVD88, NOAA High)	5.6’	6.6’	9.3’

Groundwater

As sea levels rise, so too will the groundwater table. This creates an added complication when considering stormwater management in the future. In addition to heavier rainfall and higher tailwater conditions for stormwater discharge, a higher groundwater table will reduce the onsite soil storage capacity, increasing the volume of runoff that must be managed.

Broward County already provides for such considerations through the publication of its Future Conditions Average Wet Season Groundwater Map. The map shows expected future average wet season groundwater elevations throughout Broward County based on varying geologic conditions and other localized factors. The groundwater elevations presented in the map is based on model outputs for the months of May through October over the period of 2060-2069. For this site, the future conditions wet season groundwater elevation is projected to be 2 feet NAVD by 2060. Given an additional foot of sea level rise (NOAA high curve from 2060 to 2070), this could equate to the groundwater table being located at an elevation of 3 feet NAVD by 2070 and should be considered within the context of the JGCC site stormwater management.

Specific Considerations:

- Implications of more intense rainfall and higher groundwater table as specified herein on building foundation, stormwater management, and landscaping.
- Evaluation of tidal flooding within a radius of the site and how off-site conditions may affect JGCC operations.
- Locate the specific Finished Floor Elevation to be above the Category 5 2070 storm surge value to the extent possible.

(2) Project Update: Future Rainfall Projections, Future Conditions 100 Year Flood Elevation Map, Presentation to the Broward County Water Advisory Board Technical Advisory Committee on December 20, 2019.
(3) Dicussions with Broward County staff.

HEAT

One of the key signatures of a changing climate is an increase in temperature. In the tropical region of South Florida, it is anticipated that the average temperature of every month will increase. Florida, and specifically South Florida, is expected to experience more hot days, shown in Figure 5.4.6(D)-HEAT as the number of days per year with a maximum temperature of 95°F or greater. The number of hot days is expected to increase ten-fold by the turn of the next century or sooner. By 2070, greater than 50 days per year may have a maximum temperature of 95°F or greater, compared to fewer than ten days now, on average. This has implications for design of energy systems, shading, glazing, and other uses that must be appropriately considered. (4)

Specific Considerations:

- As part of the sustainability measures, consider the effects of hotter days on building operations and maintenance, including HVAC and energy usage, ingress and egress, access to garage, and outdoor space and landscaping.

(4) Data from U.S. Climate Resilience Toolkit Climate Explorer, Available at: https://toolkit.climate.gov

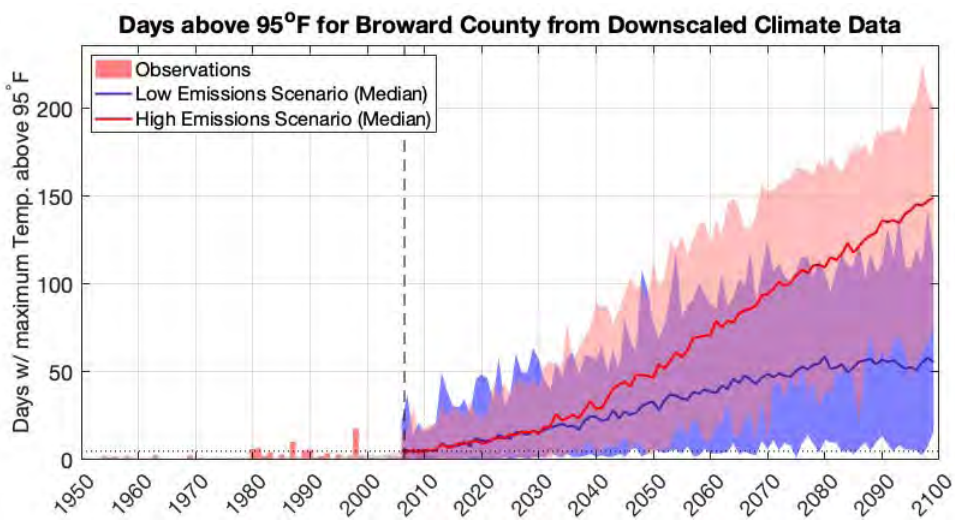


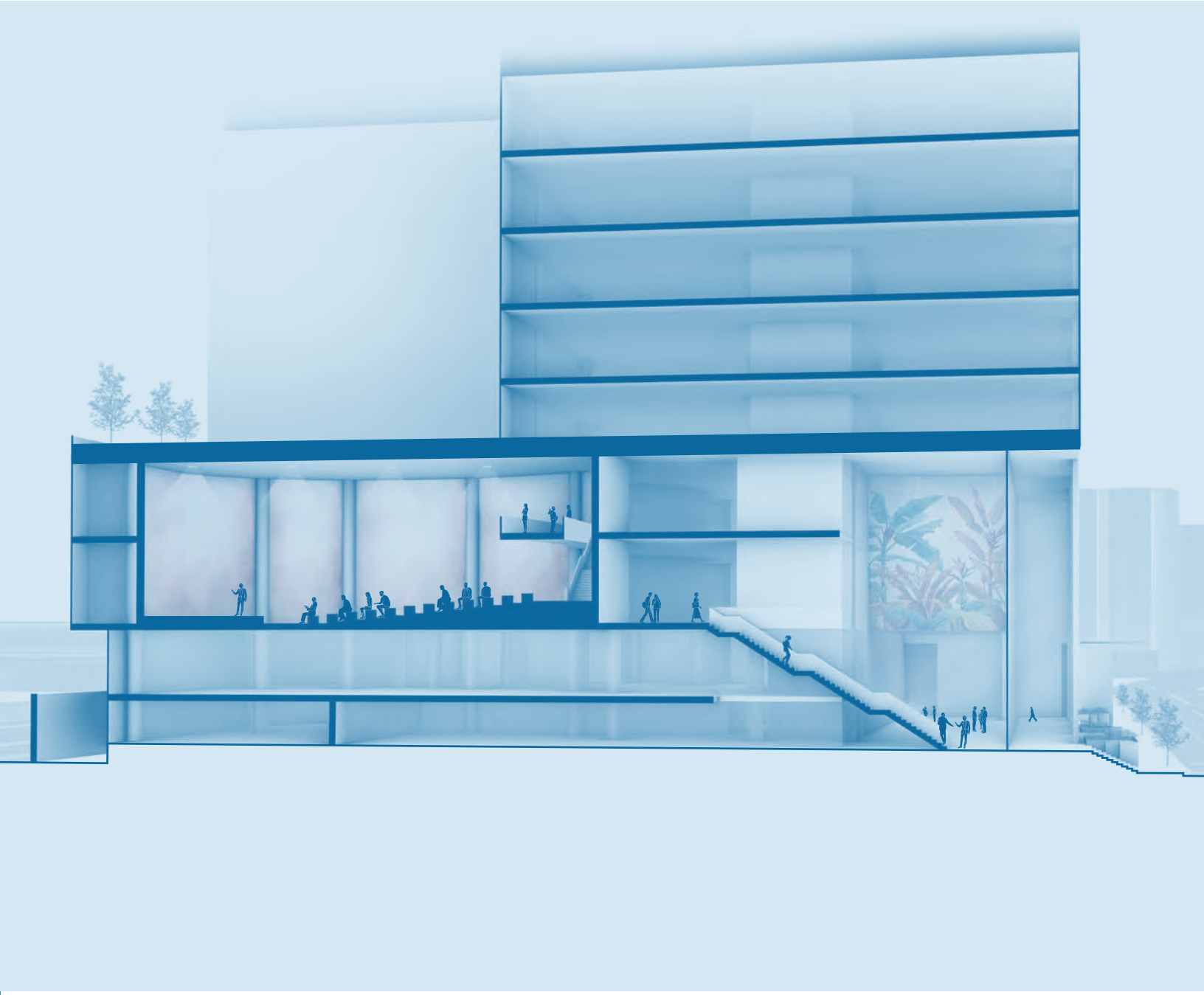
Figure 5.4.6(D)-HEAT: Number of days per year with maximum temperature above 95°F from 1950 to 2100 (observed prior to 2006 and projected after 2006 using downscaled climate model data from NOAA'S Climate Explorer).

Summary of Resiliency Criteria:

- Locate the specific Finished Floor Elevation to be above the Category 5 Hurricane storm surge value in 2070 utilizing NOAA High Projection, which is 9.3 feet NAVD, to the extent possible.
- Elevate the transit terminal above the 50-year Adaptation Action Elevation utilizing the NOAA High Projection, which is 5.9 feet NAVD. Additionally, consider future conditions rainfall and groundwater elevations in Level of Service criteria for the terminal.
- Consider the impact of hotter days on building operations and maintenance, including HVAC and energy usage, ingress and egress, access to garage, and outdoor space and landscaping.

Section 5.5
Structural Engineering

5.5.1 Goals and Objectives
5.5.2 References
5.5.3 Design Standards
5.5.4 Structural Systems
5.5.5 Building Materials
5.5.6 Building Elements
5.5.7 Structural Loads
5.5.8 Structural Analysis
5.5.9 Serviceability



Section 5.5
Structural Engineering

5.5.1 Goals and Objectives

Design Intent

The engineer of record shall design all structural components necessary to provide a complete system capable of resisting all forces acting on the structure as described herein and further described in ASCE 7 Minimum Design Loads for Buildings and Other Structures. The design shall comply with the Design Criteria Document and all applicable codes and standards, accepted design practices, and building regulations. Serviceability considerations outlined in ASCE 7 and the requirements of the Florida Building Code (FBC) shall be incorporated in the design. The structural design of buildings, parking garages, and other ancillary structures shall be completed in conjuncture and coordinated with the other building system's design criteria described herein.

Anti-Terrorism / BLAST Protection

The structural design shall incorporate applicable design recommendations in FEMA 426 Reference Manual to Mitigate Potential Terrorist Attacks against Buildings and UFC 3-340 Structures to Resist the Effects of Accidental Explosions. A mid-level threat was assumed for the creation of this document. Location and severity of potential attacks is to be verified by a threat and risk assessment.

5.5.2 References

Codes and Standards

The structural design of the proposed Joint Government Center Complex buildings shall be in compliance with the requirements and recommendations of the codes and standards listed herein. The current edition at time of permitting shall be used in the performance of this work.

Florida Building Code for New Buildings

The High-Velocity Hurricane Zones (HVHZ) provisions of the Florida Building Code shall be applied as the location of the proposed structures are located in Broward County.

ISC Security Standards

5.5.3 Design Standards

- American Concrete Institute (ACI) 318 – Building Code Requirements for Structural Concrete
- American Institute of Steel Construction (AISC) - Steel Construction Manual
- American Iron and Steel Institute (AISI) S200 – North American Standard for Cold-Formed Steel Framing – General Provisions
- American Society of Civil Engineers (ASCE) 7 – Minimum Design Loads for Buildings and Other Structures
- American Society of Civil Engineers (ASCE) 37 – Design Loads on Structures during Construction
- American Society of Civil Engineers (ASCE) 49 – Wind Tunnel Testing for Buildings and Other Structures
- American Society of Testing and Materials (ASTM)
- American Welding Society (AWS) D1.1 – Structural Welding Code – Steel
- Federal Emergency Management Agency (FEMA) 426 – Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings
- General Services Administration (GSA) PBS-P100 - Facilities Standards for the Public Buildings Service
- Precast Prestressed Concrete Institute (PCI)
- Post-Tensioning Institute (PTI)
- Steel Deck Institute (SDI)
- The Masonry Society (TMS) 402 - Building Code for Masonry Structures
- The Masonry Society (TMS) 602 – Specification for Masonry Structures
- United Facilities Criteria (UFC) 3-340 – Structures to Resist the Effects of Accidental Explosions
- United Facilities Criteria (UFC) 4-023 – Design of Buildings to Resist Progressive Collapse

5.5.4 Structural Systems

This section describes the Design Criteria for the structural systems of the proposed Joint Government Center Campus buildings and parking garage. These criteria intend to provide design requirements while allowing the engineer of record the ability to develop the detailed design documents in an innovative manner. The structural systems shall be designed in accordance with the referenced codes, standards, and references in the design criteria package and any other standard the engineer of record deems necessary that is al-

lowed by the Florida Building Code and Florida Statutes. The structural systems shall be designed to provide redundancy and have sufficient ductility to prevent collapse in case of blast loading. The criteria stated herein was created based on concrete structures.

Refer to Appendix M for diagrams indicating structural design criteria for structural components.

Buildings

Except for the parking garage, the gravity load bearing and lateral load resisting structural systems of the Joint Government Center buildings shall be designed and built of cast-in-place concrete, prestressed concrete, reinforced concrete masonry, structural steel, or any combination thereof. Wood and other organic material is not to be used in the main load resisting structural system.

The main Joint Government Center Campus high-rise structure shall be designed with rigid, braced frames to resist lateral forces induced on the building. The secure service/loading dock, county chambers, and city chambers shall be free of obstructions from columns.

Structural elements on level 1 enclosing the lobby and mail room, the security operation center (command center) located on Level 1.5 approximately between gridlines A-B and 4-5, exterior county and city chambers, abutting the parking garage and speed ramp at all parking garage levels, shall be designed to resist blast loading for a mid-level threat as determined by a threat and risk assessment. These locations and additional locations requiring blast hardening are indicated in the attached drawings.

A five level office building for Broward County Transportation Departmenet's administrative staff, as shown in the detailed plans, is proposed to be located on top of the garage structure. The gravity load bearing and lateral load resisting structural systems of structure shall be designed and built of cast-in-place concrete, prestressed concrete, reinforced concrete masonry, structural steel, or any combination thereof. Wood and other organic material is not to be used in the main load resisting structural system. A helipad at the roof level of this structure shall be accounted for in the design of the structural system. Location of helipad and predicted helicopter type is to be determined by the design team in compliance with FAA regulations. There is a possibility that the City will relocate the helistop or eliminate altogether in lieu of an air taxi facility incorporated into the JGCC.

Parking Garages

The gravity load bearing and lateral load resisting systems shall be cast-in-place and/or precast concrete conforming to the relevant codes and standards listed in the design criteria. Wood or other organic materials are not allowed for the parking garage structural elements.

All parking levels are to be designed for potential future conversion to office space. The garage structural slab shall be flat or level with bond breaker membrane atop over which a sloped topping slab, not exceeding six inches added thickness must be provided. This allows for a future removal of the topping and account for a minimum future superimposed service (unfactored) load of 95 PSF. The most demanding load case for parking garage, construction, or office use shall control the design of the parking garage. The ramp, located between gridlines G-N and 4-5 is to be designed to be demolished to create a multi-level courtyard space at the time of the conversion to office use and is thus required to be designed for parking garage and construction loads only.

5.5.5 Building Materials

Reinforced Concrete

The materials, design, construction, strength evaluation, stability, serviceability, durability, and integrity of structural concrete structures utilized in the project shall meet or exceed the minimum requirements of the FBC and ACI 318 *Building Code Requirements for Structural Concrete.*

Mild Reinforcing
Mild steel reinforcement shall be a minimum of 60 ksi. Design and detailing of mild steel reinforcement shall be such to provide sufficient ductility of the structural system.

High Strength Reinforcing
High-strength reinforcing (i.e. prestressed tendons, wires, and bars) shall be a minimum of 270 ksi. Care is to be taken of use in areas determined to be susceptible to blast loading.

Masonry

Masonry materials, design, and construction shall be designed in accordance with TMS 402 - *Building Code for Masonry Structures* and TMS 602 - *Specification for Masonry Structures*

Reinforced Masonry
Reinforced masonry at locations determined to be affected by blast pressures shall be minimum 8 inch solid grouted with vertical and horizontal reinforcement sufficient to demonstrate good ductility and blast resistance.

Unreinforced Masonry
Unreinforced masonry is prohibited from use on this project.

Structural Steel

Structural steel materials, design, fabrication, erection utilized in this project shall be in compliance with the FBC and AISC 360 Specification for Structural Steel Buildings. The design of structural steel includes but is not limited to strength, stability, serviceability, fatigue, fire protection, and corrosion effects.

Structural steel members, components, systems, and connections shall be designed with ductility considerations for blast effects as determined by the threat and risk assessment (TARA) to be provided.

Material Strength

Structural steel utilized in this project shall be 50 ksi minimum.

5.5.6 Building Elements

Building Facade and Envelope Cladding

Exterior building façade and envelope cladding shall be able to withstand design wind pressures as determined by the wind tunnel testing as described in the loads section in this document and designed in accordance with the FBC. Elements included but not limited to are exterior soffits, exterior walls not resisting gravity loads, exterior doors, exterior façade elements, exterior windows and glazing systems. Exterior façade, doors, window and glazing systems shall comply with NOA or State of Florida Product Approval and FBC. Non-structural façade components shall be designed with connections adequate to transfer the collected loads to the structural system and detailed to absorb significant amounts of energy by means of controlled deformation.

Exterior building façade and envelope cladding designed by delegated engineer shall have drawings, signed and sealed by a licensed Florida engineer, submitted to the engineer of record for verification of compliance with structural design documents

Exterior Walls
Exterior walls at locations determined to be in areas of influence for blasts, as determined by the threat and risk assessment to be conducted, shall be designed to absorb energy from the explosion to reduce the transfer of blast forces to the main structural elements. As such, exterior walls shall transfer lateral loads only to the structure unless the walls are utilized for vertical circulation.

Glazing
Glazing at locations determined to be in areas of influence for blasts, as determined by the threat and risk assessment to be conducted, shall be rated to limit the distance that shards are projected due to explosions. Protection level determination of glazing failure and fragment projection shall be determined in the development of the threat and risk assessment.

Annealed, wire-reinforced, heat-strengthened glass are not permitted for use at locations in areas of influence for blasts.

Exterior Doors
Exterior doors at locations determined to be in areas of influence for blasts, as determined by the threat and risk assessment to be conducted, shall be rated to resist and absorb energy from the explosion to reduce the transfer of blast forces to the main structural elements.

Foundations

The foundation system shall be such to support all loads imposed on it by the structural system and occupancy as per the FBC.

Deep Foundations
Based on the proposed building and project location, deep foundations of concrete grade beams at perimeter walls and pile caps under columns and shear walls are required. Pile capacity recommendations shall be determined by geotechnical analysis of the site soil characteristics. Location of geothermal wells shall be such that there is no interference with deep foundation requirements.

Columns

Columns shall be constructed out of either structural steel or reinforced concrete in the Joint Government Center Campus Main Building and reinforced concrete for the parking garage. Columns shall be designed and proportioned to resist all loads imposed on them by the structural system and occupancy as per the FBC. The JGCC Concept Plan indicates columns at gridline G/4-7 to support loads from both the garage and tower building. Columns at locations determined by the threat and risk assessment to be affected by blast pressures shall be designed with an unbraced length double that of actual constructed unbraced length. Structural steel columns at locations determined to be affected by blast pressures shall be incased in concrete extending a minimum of 4 inches beyond the width and depth of the steel flanges.

Load Bearing Walls

Load bearing walls shall be constructed of either reinforced concrete masonry or reinforced concrete. Walls at vertical circulation shall be constructed of reinforce concrete. Walls for vertical circulation at locations determined to be affected by blasts, shall be design such that the residual capacity after a blast is sufficient to support design loads.

A wall is to be constructed at the site of the emergency entrance/service entry lane providing separation from the railroad to the west of the site. The wall shall extend to a depth below grade and be of a thickness to mitigate vibration from rail traffic to the building. The wall shall extend north past the building a distance sufficient to mitigate impact of an threat from the railway as determined by a threat and risk assessment.

Non-Load Bearing Walls

Non-load bearing walls may be constructed of either concrete masonry units or cold formed steel.

Beams

Beams shall be constructed out of either structural steel or reinforced concrete in the Joint Government Center building and reinforced concrete for the parking garage. Beams and the connections of beams shall be designed to provide sufficient ductility to prevent collapse in a blast event. Structural steel Beams at locations determined to be affected by blast pressures shall be incased in concrete extending a minimum of 4 inches beyond the width and depth of the steel flanges.

Floor Slabs

Floor slabs shall be constructed of either reinforced concrete or a composite metal deck supported on steel members and shall be designed to resist all loads imposed upon them.

Floor slabs located above the mailroom, loading dock, level 1 lobby, supporting the county and City chambers and chamber lobbies shall be designed to resist blast loading for a mid-level threat as determined by a threat and risk assessment.

Additional loading for a 10,000 gal cistern is to be accounted for on the 9th level garage deck located approximately at gridline 3 between gridlines H & I and on the 29th level of the tower building located approximately at gridline 6 between gridlines C and E. Refer to the proposed DCP Concept Plan and Section 5.2 for cistern location and requirements.

5.5.7 Structural Loads

Load Combinations

Design load combinations shall be those set forth in the Florida Building Code and ASCE 7. Load combinations for checking capacity and residual capacity of the structural system in the occurrence of an extraordinary event shall be considered.

Dead Loads

The structural system shall support the weight of all materials of the building including, but not limited to walls, floors, roofs, ceilings, stairways, fixed partitions, finishes, cladding, and fixed service equipment.

Live Loads

Live loads produced by the occupancy of the buildings as specified by FBC and ASCE 7 shall be accounted for in the design of structural elements, components, and systems. Reduction of uniform live loads shall be in accordance with the FBC and ASCE 7. Distribution of uniform live loads shall be such to generate the greatest load effect at each location under consideration. Impact loads from debris due to explosions shall be accounted for in the design.

LOCATION	LIVE LOAD CATEGORY	
	Building	Parking Garage
Level 1	Assembly lobby	Heavy vehicular
Level 1.5	Print shop, generator room, office, office storage, office corridor	N/A
Level 2	Assembly fixed seat (chambers), assembly lobby, other assembly (exhibit spaces)	Vehicular parking or office use
Level 3	Media control room, office and office corridor	Vehicular parking or office use
Level 4	Daycare, balcony deck for daycare, office and office corridor	Vehicular parking or office use
Levels 5-7	Office, office corridor, office file storage,	Vehicular parking or office use
Level 8	Office, office corridor, office file storage, mechanical room	Vehicular parking or office use
Level 9	Assembly (cafeteria), kitchen, gymnasium	Vehicular parking or office use Vegetative and landscaped roof, office lobby
Level 10	Office, office corridor, office file storage	Office lobby, office use and storage
Level 11	Office, office corridor, office file storage	Office lobby, office use and storage
Levels 12 & 13	Office, office corridor, office file storage	Office use and storage
Level 14	Office, office corridor, office file storage	Mechanical, photovoltaic
Levels 15-28	Office, office corridor, office file storage	N/A
Level 29	Executive Suite, balcony deck	N/A
Level 30	Mechanical equipment	N/A

BLAST Loads

Blast loads shall be determined using the requirements of the threat and risk assessment, that is to be developed, and in accordance with UFC 3-340 Structures to Resist the Effects of Accidental Explosion.

Wind Load Requirements

All above ground structures shall be designed to withstand wind forces in accordance with the FBC High-Velocity Hurricane Zones provisions and ASCE 7 with a minimum wind speed of 170 mph for Risk Category II and 180 mph for Risk Category III or IV. Structural members, systems, and components shall resist wind-induced overturning, uplift, sliding and provide continuous load paths to the foundations for these forces.

Wind Tunnel Testing
Wind Tunnel Testing in compliance with ASCE 7 and ASCE 49 shall be used to determine wind forces for the main wind force resisting system (MWFRS) and components and cladding.

Rain Loads

Rain loads due to blockage of primary drainage system and ponding of susceptible bays, as defined in ASCE 7, shall be accounted for in the design of the structural elements, components, systems.

Flood Loads

Any and all subaqueous structural elements as determined by the FEMA flood elevations shall be designed for hydrostatic loads at the determined risk category.

Earth Pressures

Structures below grade shall be designed to resist lateral soil loads as determined by the geotechnical report or the minimum design lateral loads specified in the FBC. Where applicable, lateral pressure from surcharge loads shall be added to the lateral soil loads.

Hydrostatic Pressures / Buoyancy

Horizontal elements at or below grade shall be designed to resist uplift loads due to hydrostatic pressures where applicable. The water table elevation shall be included in the geotechnical report. Refer to Appendix I for Geotech Report analysis and findings.

Temperature Loads

Forces from the expansion and contraction of building components due to changes in temperature shall be applied to the structural elements, components, and systems.

Construction Loads

Construction loads shall be determined in accordance with ASCE 37. Construction loads exceeding the design load criteria shall not be applied to the structure. Construction loads shall not be placed on unshored structural elements, components, and systems until erection is completed or concrete has cured to full design strength.

5.5.8 Structural Analysis

3D Modelling

Proportioning of the elements and components of the structural system shall be carried out by the use of 3D analysis software. Any and all software must be directly link to the BIM graphic and coordinated database.

QA & QC Peer Review

A peer review of the analysis and design of the structural system shall be executed to ensure compliance with all codes, standards, accepted practices, and this design criteria package. The peer review will be such as to verify adequacy of the structural system to resist all loads imposed upon it at various stages of construction. The peer review required will be an in depth evaluation that checks designs of all primary members by actual calculation review, including structural frame response.

Progressive Collapse

Analysis and design to prevent progressive collapse shall be either the indirect method, alternate load path method, or specific local resistance method as described in FEMA 427. The recommendations in UFC 4-023 shall be implemented in the analysis and design of the structural system.

5.5.9 Serviceability

Serviceability requirements of the structures shall be in accordance with the FBC and considerations in ASCE 7.

Deflection

Deflections caused by loads imposed on the structure, effects of temperature, creep, differential settlement, construction tolerances and errors shall be determined to mitigate detrimental effects to building elements.

Drift

Drift of the structure due to wind loads shall be limited to minimize the damage of cladding and nonstructural walls and partitions. Wind loads based on serviceability wind speeds shall be used when determining short-term drift effects.

Vibrations

The structure shall be designed as to prevent resonant amplification. In addition to equipment and human activity, the vibration caused by the adjacent railroad shall be investigated.

Expansion & Contraction

Expansion joints to allow for expansion and contraction of the structures shall be located at the interface of the JGCC Main Building and parking garage along gridline G, as shown in the preferred concept plan. Other expansion joints are to be considered, as required, to prevent cracks caused by restraint of thermal, shrinkage, and prestressing deformations. All joints shall be determined by engineer of record and submitted prior to final design.

Durability

Design to limit the effect of weathering, corrosion, staining or undectected changes in material shall be considered.

Fatigue (Where applicable)

Fatigue, where applicable, shall be accounted for in steel structures in accordance with AISC 360.

Fire Resistance

Performance objectives of the structure in regards to fire effects shall implement recommendations in ASCE 7. All structural members shall be provided with fire ratings in compliance with the architectural specifications and the National Fire Protection Code.

Section 5.6
Mechanical Engineering

5.6.1 Goals and Objectives
5.6.2 Codes Standards and Guidelines
5.6.3 HVAC Performance Characteristics
5.6.4 Design Criteria
5.6.5 Special Areas HVAC Systems
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5.6.11 Piping Systems
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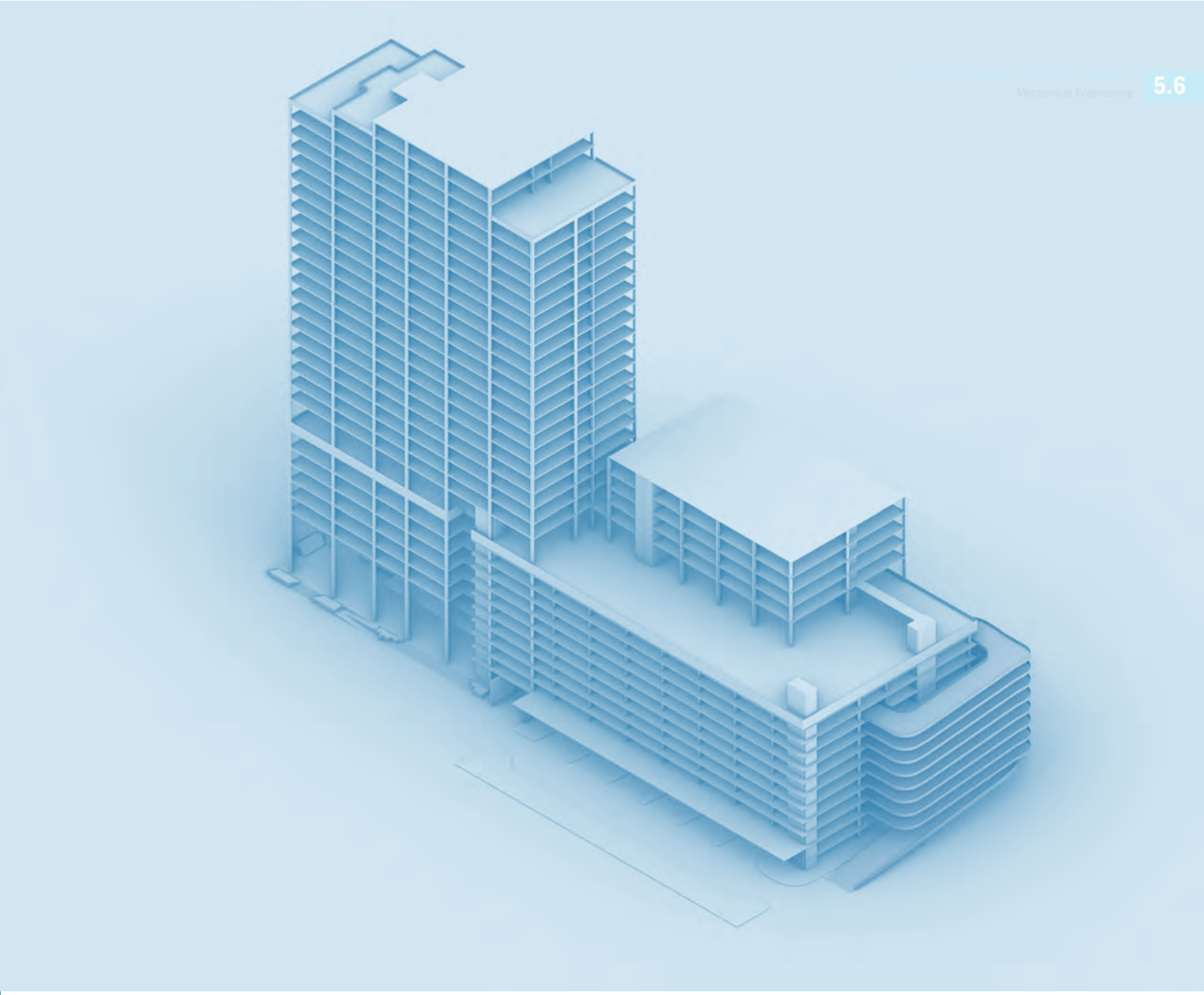
5.6.13 Building Automation Systems (BAS)
5.6.14 Testing, Adjustment and Balancing



Section 5.6
Mechanical Engineering

5.6.1 Goals and Objectives

Design Intent
These specifications outline the Mechanical requirements for the new JGCC Facility.

5.6.2 Codes, Standards, and Guidelines

- The Florida Building Code, Latest Edition
- NFPA 90A, Installation of Air Conditioning and Ventilating Systems.
- NFPA 101, Code for Safety to Life from Fire in Buildings and Structures only to the extent that this Standard applies to air conditioning and ventilating systems.
- ASHRAE 62 (Latest Adopted Version)
- Standards of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
- ASHRAE 90.1 -2016

5.6.3 HVAC Performance Characteristics

The HVAC system shall be an Open Loop Geothermal System. The design build team shall require a geothermal design professional with a minimum of 10 years of experience utilizing the aquafer for heating/ cooling systems.

The geothermal water shall be isolated from the building heat pump loop through a plate and frame heat exchangers. Materials for the heat exchanger shall prevent corrosion and damage from salt water. The heat exchanger source side shall utilize ground water and is anticipated to require 3 to 4 supply and 3 to 4 return wells on opposite ends of the property. The supply and injection wells will need to be as far apart as possible with the supply wells on the north end and injection wells on the south. They would be 20-24" in diameter depending on the HVAC loads and approximately 160' depth (to be determined by the design build professional). The design will require maintaining a minimum of 100ft separation between all the wells (drainage, supply and injection). One set of well shall be provided for redundancy. The location of the wells shall allow access from above for servicing and cleaning. (Refer to civil section for additional information)

The load side of the heat exchanger shall service Water Source Heat Pumps (WSHP) loop. The water from the geothermal wells shall not be circulated (pumped) directly to the WSHP's within the building.

Design team shall be required to verify the following:

- Existing Water Quality – Determine the presence of minerals which can cause scaling and corrosion on equipment.

- Water Supply – Determine the quantity of water required for the building and if the building is subject to water-resource restrictions.

- Determine proper means of discharging water after it returns from the heat pumps. Designer shall verify if the preferred discharge method (through a separate well) complies with local codes and regulations.

- The design professional shall coordinate all permitting requirements.

The heating and cooling of the building will be decoupled from the ventilation. The spaces will be conditioned with airside water source heat pumps. The heat pumps will be floor mounted on stands in closets for easy access and serviced through the corridor without entering the tenant space. This allows service without disruption of the tenant, secures the equipment, and reduces the sound associated with the HVAC equipment. The heat pumps will not require a ladder to service. Each heat pump will include a local disconnect. Each heat pump will have a valve that will cycle open when the compressor cycles on. Flexible stainless-steel braided hoses will be used at the connection of each unit. The hose kits will include shut-off valves on each the supply and return and a strainer on the supply hose. Each heat pump will have an exterior mounted filter racks to allow one standard filter size 24"X24"X4" MERV 13 filter. Design shall take into consideration the additional pressure drop associated with the more efficient filter. One spare filter will be provided for each piece of equipment.

The ventilation will be served through a three (3) dedicated outside air systems with energy recovery wheels or plate. The units will provide dehumidified neutral discharge air temperature to ventilate the building. The units will provide chilled/ hot water from the central water to water heat

pumps. The unit shall utilize face and bypass dampers for the dual temp coil and condenser water reheat strategies to meet the energy goals for the building.

- The toilet, breakrooms and janitors' closets shall utilize a constant volume DOAS with energy recovery plate for code exhaust and ventilation of the common areas. The plate provides separation of the code exhaust from the ventilation while recovering energy.

- The tenant spaces shall utilize two (2) variable volume DOAS with OA VAV terminal units serving the zones. They will utilize occupancy/vacancy and CO2 sensors for demand control ventilation and smaller spaces will utilize occupancy/vacancy sensors only.

CO2 levels to be measured at the air exhaust diffusers or in occupied space at 3.6-5.6 ft above the floor (away from doors, windows, air supply and zones where occupants may exhale directly into the sensor). At least one sensor is used for each major occupancy zone (or per air handling unit if a single zone is served by multiple air handling units). If occupancy density/pattern/usage is different in two adjacent areas, each area must be considered a separate zone.

Code and Program Compliance

The design and construction of this facility shall comply with the requirements of the Florida Building Code Mechanical (FBCM), ASHRAE, and NFPA.

This Section provides the mandatory criteria that shall be used to program and design HVAC systems for the building. The design of the HVAC systems and other building components shall all combine together to produce a building that meets the project's programmed sustainability rating (LEED rating) and assigned energy targets.

Occupant Health and Comfort

Air Quality is critical in maintaining building occupants' health and comfort. Controls shall be provided to ensure that proper outside air intake rates are maintained during occupied hours. WSHP's shall be provided with filters having a rating of MERV 13. In addition to enhanced filtering, the HVAC system must be designed to provide zoning planning to avoiding migration of air from one zoning area to another. This department compartmentalization will make the facility more responsive to air pathogen threats preventing migration of air between tenants and allowing for easy isolation or closure of a compartment should it become necessary.

Each Zone shall be provided with temperature and humidity sensors. Hot-Gas reheat shall be utilized for humidity control. When the Zone relative humidity exceeds the upper limit (60% RH) the reheat valve in the WSHP shall divert hot refrigerant vapor from the compressor through the reheat coil, this allows the compressor to operate to dehumidify the air, while warming the supply air to avoid overcooling the zone.

The project shall utilize 30% increased ventilation with CO2 setpoint of 950 PPM. All areas with the exception shall utilize demand control ventilation. When a space is unoccupied via the occupancy sensor the space shall continue to ventilate until the CO2 level is within 100PPM of outdoor CO2 levels for 20 minutes flushing out the space than reduce to the code minimum ventilation based on the square footage calculation.

Conservation of Water

This building shall utilize Geothermal Water Systems coupled with Water Source Heat Pumps (WSHP) to provide heating and cooling. The Geothermal Water Systems shall utilize the groundwater wells and considerably reduce the dependency on potable water.

5.6.4 Design Criteria

Design Conditions - Design temperatures and parameters shall follow ASHRAE guidelines, and comply with the following:

Heating Outside Temperature – 44 deg F
Cooling Outside Temperatures – 91/78 deg F DB/WB

Envelope Load Criteria

Design of the building HVAC equipment shall take into consideration building envelope that will be specified for low solar heat gain (SHGC of 0.4 or less) and high visual light transmittance (VLT greater than 40%).

Envelope Commissioning per ASHRAE Standard 0 shall be provided and coordinated with envelope design from early design and throughout.

JGCC MAIN BUILDING SPACE	DESIGN TEMPERATURE		INTERNAL HEAT GAIN	
	Htg. (F)/RH	Clg. (F)/RH	Light (W/SF)	# of People
Mechanical	70/65	75/55	.95	NA
Equipment Rooms	70/65	75/55	.74	NA
Toilet Rooms	70/65	75/55	.98	NA
Storage Rooms	70/65	75/55	.63	NA
Lobbies	70/65	75/55	.9	150 per 1000
Chamber Room - County	70/65	72/55	.89	400
Chamber Room - City	70/65	72/55	.89	300
IT/Server Rooms	70/65	72/55	.95	2
Offices	70/65	75/55	.82	5 per 1000
Print shop	70/65	75/55	.72	9
Security Operating Center	70/65	72/55	.87	5 per 1000

Design of the building HVAC equipment sizing shall take into consideration a building envelope pressure testing to provide a performance metric to prevent oversizing of the systems that leads to short cycling, humidity, and comfort issues. Refer to building pressure testing performance requirement for a zero energy design goals

Internal Load Criteria

Design of the building HVAC equipment shall take into consideration reduced lighting loads (compared to ASHRAE baselines), lighting controls, energy efficient appliance and equipment being specified for the project and increased ventilation, and filtration requirements and reduced air recirculation.

HVAC Zoning Criteria

Each Floor shall be separated into Five (5) HVAC zones. Each zone shall be served by (1) mechanical room, each mechanical room shall hold (5) to (6) WSHP's that will each serve a subzone.

In addition to zoning and sub-zoning for temperature and humidity control purposes, as stated in the Occupant Health and Comfort section, this concept responds to the need to create independent air compartments within the facility. To prevent migration of air between tenants/compartments, mechanical equipment will not be centralized per floor as each tenant/compartment will require a dedicated mechanical room.

Within each floor, one of the five (5) zones shall be designated for the common areas, with the remaining space separated into (4) quadrants to form the (5) zones. Refer to Apendix K for HVAC Zone diagrams.

Energy Analysis Criteria

Energy Analysis shall be completed in an iterative process throughout design to meet the following goals:1. Per ASHRAE 90.1-2016 guidelines, 2. To meet any local code requirements, 3. To ensure proper variables for true operations are considered for Zero Net Energy planning, and 4. To document both anticipated annual energy cost as well as anticipated annual carbon emissions.

5.6.5 Special Area HVAC Systems

Lobbies and Entrance Vestibules

A dedicated WSHP unit shall be provided for the main lobby and other entrance vestibules to maintain temperature and humidity setpoint. The heat pump shall cycle to maintain setpoint. The ventilation shall be direct to space and utilize demand control ventilation to maintain the wellness goals for CO2 levels and maintain positive building pressure.

Stair Pressurization

Provide a stair pressurization system for all stairs located within the path of egress. A pressurization fan shall supply clean outside air to the stair enclosure to create a positive pressure to prevent smoke from entering the enclosed stairway. The pressure in the stairwell shall be greater that the adjacent fire compartment.

Smoke Control Systems

Provide a smoke control system for each floor of the tower atrium, and the multi-story transit building. Smoke control fans shall be located on the roof with each attached to a common exhaust duct chase. Smoke control system shall be activated by heat and smoke detectors within the atrium. Smoke control system shall be designed in accordance with NFPA 92.

Smoke exhaust systems shall utilize the chases provided in the building core.

Chambers

The Chambers and its ancillary spaces shall be treated as a separate zone. The units that serve the chambers space shall be dedicated to that space only. The heat pump shall cycle to maintain setpoint. The ventilation shall be direct to space and utilize demand control ventilation to maintain the wellness goals for CO2 levels.

Training and Conference Rooms

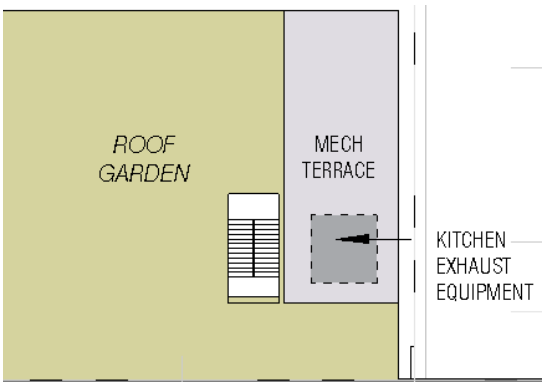
Training and conference rooms shall be provided with a dedicated thermostat for control of temperature and humidity within the space. The heat pump shall cycle to maintain setpoint. The ventilation shall be direct to space and utilize demand control ventilation to maintain the wellness goals for CO2 levels and maintain positive building pressure. The ventilation shall be direct to space and utilize demand control ventilation to maintain the wellness goals for CO2 levels and maintain positive building pressure, including all areas considered densely occupied (25 people/1000 square feet).

Information Technology Equipment Rooms

Communication and Server rooms shall be provided with dedicated Computer Room AC cooling units which shall be powered by both normal and emergency power. Secondary 100% back-up shall be provided from the building HVAC system. Backup system shall operate via a dedicated WSHP operated by a thermostat. When the backup system is engaged, a signal shall be sent to the BMS, with a notification of a failure to the primary cooling system.

Kitchens/Cafeteria

Kitchens with cooking equipment shall be provided with a dedicated WSHP, equipment shall not be shared with the cafeteria. Kitchens shall also be provided with dedicated make-up air and exhaust hood systems in accordance with NFPA 96. Kitchen hoods shall utilize demand control strategies to minimize exhaust. Makeup air shall be tempered and located at the hood to adhere to the energy goals. The refrigeration equipment shall be water cooled and served by the water source heat pump loop with variable compressors to maximize efficiency of the refrigeration equipment. Kitchen Exhaust and supply fans shall be located on the roof level above the kitchen (Mechanical Terrace).



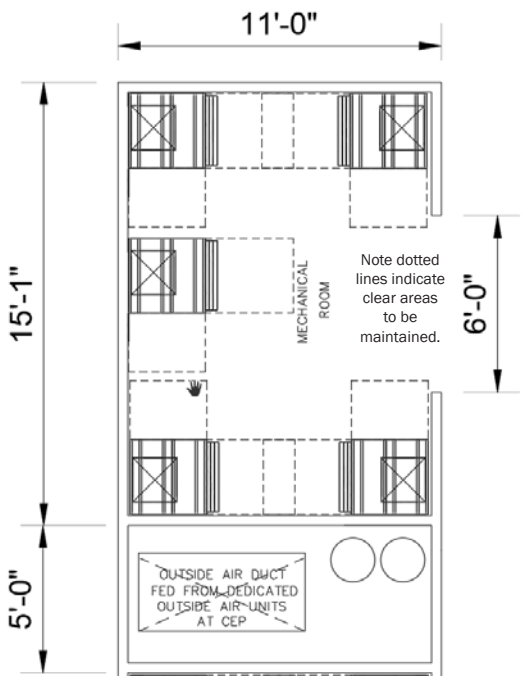
Refer to Concept Plan Level 10

5.6.6 Mechanical and Service Space Requirements

Space Requirements

Typical Mechanical room shall be 15' x 11'' to accommodate the water source heat pumps and maintain all recommended and required clearances.

A 5' x 11' chase shall be required to accommodate the outside air duct at each group of mechanical rooms. There shall be (1) chase provided for every (2) mechanical rooms in the core.



Typical Mechanical Room Layout (per zone) with Adjacent Outside Air Riser (from CEP)

Service Areas

Mechanical rooms shall be configured in a way to allow for future removal and replacement of all equipment. The mechanical rooms shall have adequate doorways to permit the replacement and removal of equipment without the need to demolish walls or relocate other equipment. Sufficient clearance for maintenance and removal of coils, filters, motors, etc. shall be provided.

Mechanical Rooms

All mechanical rooms must be mechanically ventilated to maintain room space conditions as indicated in ASHRAE 62 & ASHRAE 15. Mechanical rooms shall have floor drains in proximity to the equipment they serve to reduce water streaks or drain lines extending into aisles. Mechanical rooms shall not be used as return air, outdoor air, or mixing plenums.

Electrical Equipment Rooms

Each Electrical room shall be provided with a dedicated split HVAC system which will be powered by normal power and emergency generator power. The Building HVAC system shall function as the backup and shall be provided with 100% redundancy. If vertically stacked, consider shared twinned WSHP vertically ducted to all electrical rooms with thermostat and damper.

Elevator Machine Rooms

Each Elevator machine room shall be provided with a dedicated split HVAC system which will be powered by normal power and emergency generator power. Final Location of Elevator Machine Rooms to be coordinated with the elevator supplier during the design process.

Emergency and Standby Generator Rooms

The design of the Emergency Generator room shall meet the requirements of NFPA Standard 110: Emergency and Standby Power Systems and meet the combustion air requirements of the equipment. Rooms must be ventilated sufficiently to remove heat gain from equipment operation. The supply and exhaust louvers shall be located to prevent short circuiting. Generator exhaust shall be carried up to roof level in a flue or exhausted by way of compliance with the generator manufacturer's installation guidelines. Horizontal exhaust through the building wall is prohibited.

5.6.7 Air Distribution

Provide Water Source Heat Pumps (WSHP) units throughout the building to provide conditioned air throughout the space. The WSHP shall have ductwork for supply, Return, and Outside air. The outside air ductwork will be either ducted to the WHSP return for private offices on a single unit or ducted to the space for all open offices and high-density spaces. All ductwork shall be G90 galvanized sheet metal, installed in accordance with the requirements of the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA). Where required concealed supply and return ducts shall be insulated with minimum R-6 fiberglass duct wrap. The ductwork shall be installed above the ceiling. All exposed ductwork shall be double wall construction with sandwiched insulation. Condensate from the indoor units shall be combined into common condensate drain line where feasible and extended to single point of disposal.

Outdoor air to the WSHP's shall be supplied by three Dedicated outside Air Units (DOAS) with energy recovery incorporated into the configuration located at the Central Energy Plant (CEP).

Provide 4" MERV 13 air filtration at the WSHP units.

Air shall be returned to the common area DOAS with the energy recovery plate from the following spaces to the common WSHP unit:

- Employee Break rooms
- Public and Private Restrooms
- Janitorial
- Kitchens or Kitchenettes

5.6.8 Water Treatment

The water treatment for all hydronic systems shall be designed by a qualified specialist. The designed system shall address the three aspects of water treatment: biological growth, dissolved solids and scaling, and corrosion protection.

5.6.9 Primary Heating Systems

When the space temperature in the zone reaches the heating set point, the WSHP shall provide primary heat by utilizing the reverse cycle nature of the system.

5.6.10 Primary Cooling Systems

When the space temperature in the zone requires cooling, the WSHP shall provide cooling to the space. The WSHP shall be capable to cycle (Vary Speed) to match the changing cooling load in the zone. The Dedicated outdoor-air system shall operate to provide the required amount of outdoor air to zone for ventilation.

5.6.11 Piping Systems

All pipes, valves, and equipment in mechanical rooms, shafts, ceilings and other spaces accessible to maintenance personnel shall be identified with color-coded labeling and permanent tags indicating the system type and directional flow for piping systems.

5.6.12 Thermal Insulation

Thermal insulation for the exterior of the Building shall be provided to comply with the requirements of the overall LEED energy efficiency goals but in no case shall be less than that required to meet the
Florida Energy Efficiency requirements.

Insulation values should be coordinated with the energy model and MEP design iterations to ensure proper sizing of conditioning systems paired with insulation design. Insulation materials should be chosen considering design impact of thermal bridging and details.

5.6.13 Building Automation Systems (BAS)

Located on the ground level of the building within the Building Management's Office space, the Building Controls System shall be a DDC system comprised of temperature/humidity sensors and controls module connected to a fully automated, programmable, computerized Building Automation System (BAS). These controls should provide remote indicating and monitoring of all thermostats, air temperatures, water temperatures, damper positions, humidity levels, space CO2 levels, etc. All Mechanical Equipment shall be connected to, supervised, and controlled by the BAS. Occupied and unoccupied schedules will be programmed per zone. Temperature sensors shall have a manual push-button override (field adjustable duration) feature and a local, adjustable temperature set-point with a range of plus or minus three (3) degrees Fahrenheit. When override duration (field adjustable) is complete, units shall automatically return to unoccupied mode settings.

The BAS shall be fully integrated and installed as a complete package and shall include all computer software and hardware, sensors, transmission Equipment, required wiring, piping, preassembled control consoles, local panels, printers, PC workstation(s), and standby battery power for uninterrupted memory operation. The BMS operator shall have the capability to make on-line adjustments to various system parameters and response shall occur immediately. All temperature controls, Equipment interlocks and logic wiring, including conduits, shall be provided as required.

The BAS shall have a supervisory control center located in an area to be determined. It shall provide start-stop capabilities and run indication for all major items of Building Equipment, as referenced herein, with timers, switches, relays and critical alarms. Smoke detection and other life safety-related functions and the fire command system requirements shall be provided under the Fire Alarm System.

The BAS shall include:

1. Graphic floor layouts that show which area are controlled by each Heat Pump.
2. Graphics showing the Central Energy Plant with pumps, valves etc.
3. Graphics showing Heat Pump with supply air temp and return air temp, duct static pressure, occupied mode, RA Humidity set point, fan status, return air damper position, supply air temp set point, etc.
4. All common meeting areas must have CO2 & humidity sensors.

The BAS shall include, at a minimum, the following HVAC functions:

i. Mechanical Equipment automation and temperature controls
ii. Building management and automation
iii. Energy management
iv. Night setback programmable per zone
v. Maintenance scheduling and inventory

The BAS shall interface with and monitor the status of the following systems:

i. Fire Alarm System
ii. Lighting System
iii. UPS System
iv. Photo-Voltaic Electrical Power System

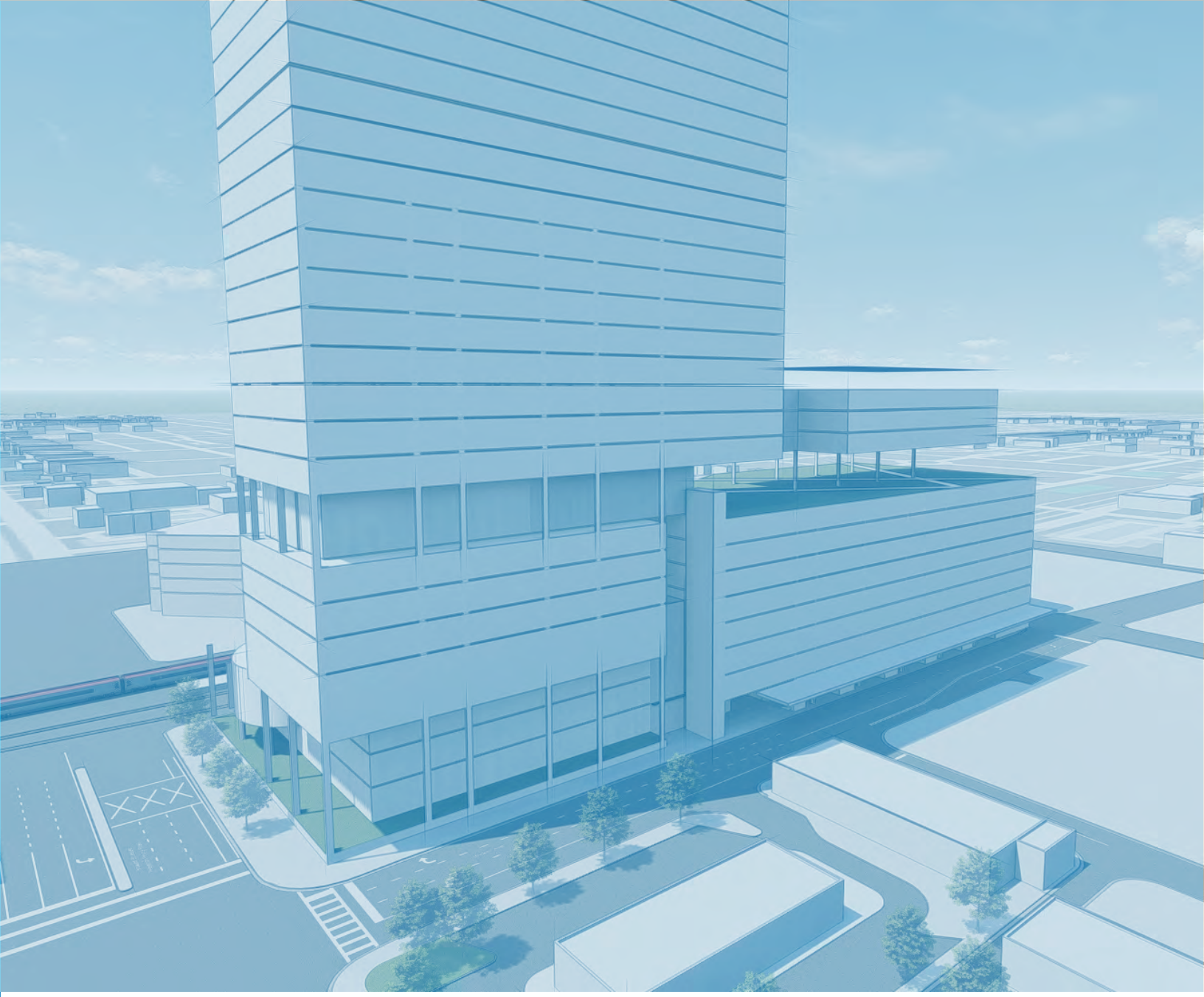
5.6.14 Testing, Adjustment and Balancing

Contractor shall be required to hire an independent Test and Balancing Company (holding current certification from the National Environmental Balancing Bureau or from the Associated Air Balance Council) subject to approval by the Owner. Balancing agency shall have experience with minimum three successfully completed projects of similar size and complexity during the last five years. Testing and Balancing should be completed in accordance with ASHRAE 111.

Should elevated air speed controllability be used for thermal comfort controllability, air speed should be verified as part of the testing and balancing scope of work.

Section 5.7
Electrical Engineering

5.7.1 Goals and Objectives
5.7.2 Codes, Standards and Guidelines
5.7.3 Design Criteria
5.7.4 Utility Coordination
5.7.5 Distribution System Alternatives
5.7.6 Main Equipment Rooms
5.7.7 Interior Lighting Technologies and Controls
5.7.8 Exterior Lighting and Controls
5.7.9 Voice and Data Distribution System
5.7.10 Emergency and Standby Power Systems
5.7.11 Grounding Systems
5.7.12 Safety Systems, Equipment and Personal Protection
5.7.13 Lighting Design Criteria for Specific Areas
5.7.14 Photovoltaic Systems



Section 5.7
Electrical Engineering

5.7.1 Goals and Objectives

Design Intent

These specifications outline the Electrical requirements for the new Joint Government Center Campus (JGCC).

5.7.2 Code Standards, and Guidelines

- Florida Building Code
- Florida Fire Prevention Code
- NFPA 101- Life Safety Code
- NFPA 70- National Electrical Code
- NFPA 110- Emergency Power Systems
- NFPA 780 – Lightning Protection System

5.7.3 Design Criteria

The Building Power Distribution System (PDS) shall utilize the following standards for electric power distribution:

- 277/480 V AC for HVAC, Elevators and general lighting
- 120/208 V AC for receptacles, small equipment and task lighting
- 5 V DC local convertors in receptacles for USB electronic devices

The main Power Distribution Equipment shall be located in the Main Electrical Room on the ground floor of the Building. The location of the utility metering Equipment shall be coordinated with FPL.

All Power Distribution Equipment wiring shall be assembled of copper conductors installed in metallic conduits. All wiring runs shall contain grounding conductors.

All PDS panels shall have twenty-five percent (25%) spare capacity and twenty-five percent (25%) of the circuit breakers shall be spare, allowing for future expansion.

Electrical Surge Suppression

- All electrical components and Equipment shall be protected from electrical spikes, surges, and transients.
- The entire electrical distribution system shall be protected with externally mounted Surge Protection Devices ("SPD") of modular construction. SPD's shall be connected to electrical distribution panels via circuit breakers mounted in the panels. The associated conductors shall be of minimum length; SPDs shall be adequately rated to prevent electrical surges and shall comply with the latest UL requirements. The local LED display of SPD status shall be integrally mounted in the units. Each SPD unit shall be capable of being interfaced with the BMS to report to a central location the normal function, alarm status, and any malfunction of the unit.
- The selection and installation of the SPD units shall be coordinated with the Master Label installer of the Lightning Protection System.
- The surge protection outlined here is in addition to the surge protection required for IT equipment, and low voltage system, as coordinated with Owner.

Electrical Noise Prevention

Configuration of the Power Distribution System shall be arranged to minimize electrical interference and transmission of electrical noise between all Building equipment and associated subsystems. Noise sensitive equipment shall be supplied via dedicated feeders, routed in metallic raceways and dedicated distribution panels. All equipment, raceways, and enclosures shall be adequately grounded. Separate grounding wires shall be provided in all runs of feeders and branch circuits. Selected equipment with low electrical noise tolerance shall be connected to the Power Distribution System via isolating transformers and UPS systems. The list of noise sensitive equipment includes: A/V equipment; Security Systems; IT and electrical equipment in the Server Room and Communications Rooms.

5.7.4 Utility Coordination

Refer to Section 5.2 for additional information.

Power Company Coordination

The Building electrical system shall consist of a service entrance voltage of 480/277v, 3-phase, 4-wire provided from the Florida Power and Light (FPL) transformer located in the first floor FPL Vault. The building shall have the following two independent sources of power:

1. FPL power distribution system, inclusive of solar
2. On Site, diesel fueled generator ("Generator")

The Building's PDS shall be connected to the two sources listed above via ATS. Service feeders shall be hardened and

installed in underground ducts encased in concrete. Service feeders' duct banks shall contain spare conduits for future expansion.

The building shall be on (1) one meter provided by the utility company. Sub-meters shall be provided for the metering of the different building tenants.

In addition, the Photo-Voltaic Electrical Power System shall be connected to the FPL power distribution system via two-way "smart" meters and shall be utilized to offset energy usage from the FPL power distribution system.

Design building team shall participate in demand response programs (if available) through load shedding or shifting, for at least 10% of the annual on-peak electricity demand or have infrastructure in place to take advantage of future demand response programs or dynamic, real-time pricing programs.

Install interval recording meters with communications and ability for the building automation system to accept an external price or control signal. Develop a comprehensive plan for shedding at least 10% of the annual on-peak electricity demand.

Communications Service Coordination

Refer to Section 5.9 for Outside Plant (OSP) and Entrance Facility (EF) requirements and design criteria.

5.7.5 Distribution System Alternatives

Panel boards and Distribution

Each new distribution or branch panel shall have a minimum of 20% spare circuit breakers when the entire installation is complete. It is required that each different electrical system be separated and routed in separate conduits and as individual systems, complete with individual conduits, wire ways, boxes, and other raceway components. Sharing of raceways and raceway components shall not be allowed, including but not limited to the following:

- 120/208 Volt Power Systems
- 277/480 Volt Power Systems
- Emergency System Power
- Optional Standby Power
- Power Circuits
- Lighting Circuits
- Telecommunication Systems
- CCTV/CATV Systems
- Building Automation Controls
- Security and Access Control

Wiring Methods

Feeders and branch circuits will utilize copper conductors with 600 Volt THWN/THHN insulation. Conductor size shall be #12 AWG minimum. Aluminum conductors will not be permitted. Conductors will be sized to limit voltage drop.

Vertical Distribution

Locations of for riser mains to feed the building electrical services on each floor shall be coordinated. Shafts shall be provided for installation of cables and bus ducts.

5.7.6 Main Equipment Rooms

Electrical and Telecommunication

The Main equipment room will be split into two rooms on the ground floor. One for the county and the other for the city. Reference plans for sizing of rooms.

Electrical Rooms

The electrical rooms to be sized based on engineering requirements. Ideal location for electrical rooms would be in a location that could be stacked throughout the tower for optimal efficiency.

Security Operations Center (SOC)

The Security Operations Center shall be located on the ground or mezzanine level. Avoid locating center next to any rooms on the same floor or above and below that produces vibration, for instance, mechanical rooms, generator, vehicular ramp, and etc. Refer to the SOC on Level 1.5 in the JGCC Concept Plans for proposed shape, size, and configuration.

Fire Command Center

The Fire Command Center (FCC) is to be located on the ground floor and be accessible and visible from the street. The final location and size is to be coordinated with the Fire Chief. The size of the room and additional items may be required for approval. The FCC shall comply with NFPA FFPC 2017 (6th Edition).

5.7.7 Interior Lighting Technologies and Controls

LED lighting fixtures direct/indirect shall be utilized wherever possible in interior spaces throughout the building. Interior lights shall be 277V/1ph circuitry and shall be UL listed. All interior lighting shall be designed to provide lighting levels in compliance with the illuminating Engineering Society of North America. The lighting load density and controls shall comply with the FBC Energy Conservation Code. Automatic Daylight Harvesting shall be implemented in all spaces with windows and shall be designed utilizing dimming equipment. Task lighting shall be utilized where applicable.

Interior lighting shall be controlled via automatic lighting controls. Occupancy sensors with local switches shall be utilized in offices spaces. Occupancy sensors shall also be utilized in low activity areas and small rooms. Automatic lighting control panels shall be utilized in high occupancy areas for individual control. A Centralized lighting control system is required that allows monitoring and controls of the entire lighting system from one location and interface with the Building Management System (BMS).

Emergency lighting shall be connected to the Emergency Power System and shall provide the code required illumination for the path of egress and all other code required spaces. Normal and emergency lighting photometry shall be provided for all spaces in the building.

Demonstrate an improvement beyond ASHRAE/ASHRAE/IESNA Standard 90.1–2016, for interior and exterior lighting and provide daylight controls.

Achieve 45% lighting power reduction and install daylight-responsive controls for 70% of connected lighting load (lighting in non-regularly occupied space with occupant sensor controls may be excluded from connected lighting load).

Electric lighting meets one of the following requirements:

CRI>90, CRI,R9

CRI>80, R9>50

1. A minimum frequency of 90 Hz at all 10% intervals from 10% to 100% light output.
2. LED products with a “low risk” level of flicker (light modulation) of less than 5%, especially below 90 Hz operation as defined by IEEE standard 1789-2015 LED.

5.7.8 Exterior Lighting and Control Systems

LED lighting fixtures shall be utilized for the building exterior lighting. Exterior lights shall be 277V/1ph circuitry and shall be UL listed. All exterior lighting shall be designed to provide lighting levels in compliance with the illuminating Engineering Society of North America and the City of Fort Lauderdale Code Ordinances for building exterior lighting.
Exterior lighting shall be controlled via the centralized lighting control System.

Classify the project under one lighting zone using the lighting zones definitions provided in the Illuminating Engineering Society and International Dark Sky Association (IES/IDA) Model Lighting Ordinance (MLO) User Guide. Do not exceed the luminaire backlight-uplight-glare (BUG) ratings, based on the specific light source installed in the luminaire, as defined in IES TM-15-11, Addendum A.

5.7.9 Voice and Data Distribution System

Refer to Data Network and Telephone System in Section 5.9.2.

5.7.10 Emergency and Standby Power Systems

The facility shall be provided with an emergency generator. The intent of the emergency generator is to allow the JGCC to continue in operation should there be an interruption of electrical power. The JGCC will need a fairly robust backup system given the nature of the County and City ’s critical work.

At a minimum all the rooms that are identified in the technology riser diagram in Section 5.9.4 of the DCP; all code mandated systems; the BAS; all security systems and security rooms; all data centers and the City EOC along with any room housing technical equipment. Along with those items there should be at least one dedicated outlet in each office and workstation tied to the backup power in the event of a power failure. The UPS will even out any surges and sags during the transition to the generator. Lighting and HVAC can operate at reduced comfort levels if need be. Additional consideration should be given to the photovoltaic roof array’s ability to augment and support the building energy requirements in an emergency mode.

The generator shall be a 480Y/277 volt, 3-phase, 4-wire, UL-2200 listed, standby diesel generator system. The generator power distribution system will utilize a minimum of two (2) transfer switches and associated switchgear for the respective emergency system circuits, and Fire Pump Circuit.

The generator power distribution system shall be sized and specified to be installed complete with automatic transfer switches, power distribution equipment, control and monitoring equipment, grounding system, and other components to present a complete and usable system. The generator system shall be considered a separately derived system and shall be grounded per NEC requirements.

Generator to be located along perimeter of building with access to an exterior facade for fresh air supply and exhaust. Generator to placed on spring vibration isolators to eliminate the transmission of the engine vibrations to the supporting structure (frame, ground, etc.) Room to be soundproofed to mitigate any noise to adjacent spaces, and above and below.

Generator fuel storage tank shall have the capacity to operate the generator, under continuous duty, for seven (7) days at 100% load without refueling.

The following spaces/systems shall be provided with emergency power:

All Security and Life Safety Systems including but not limited to:

- Emergency Lighting
- Fire Alarm
- Building Automation System
- Card Access System
- Security System (Intrusion Detection and Security Cameras)

All UPS shall be served by emergency power that includes the following:

- Main Equipment Rooms (MER) located on the 1st floor
- First Responder Radio Room
- Data Center
- Telecom Rooms
- Cellular DAS Room
- City EOC Computer Systems

Miscellaneous spaces as determined by the City/County as follows:

- City Admin Floor
- County Admin Floor
- Elected officials spaces
- City EOC
- Select HVAC equipment (to be determined by County/City)
- Select spaces/systems (to be determined by County/City)

In addition all rooms housing technical equipment and rooms identified in the technology riser diagram shall be provided with emergency power.

Provide at least one dedicated outlet in each office and workstation that is tied to back-up power.

The fuel tank serving the generator shall be underground and sufficient to operate the generator for at least 72 hours. The fuel tank shall be located a minimum of three feet clear horizontally from any other site utilities. It shall be located such that structural loads from the building and its foundation do not impact the fuel tank, unless the fuel tank is structurally designed to bear such loads. The fuel tank shall be located on the site to allow for access from vehicles which will refill the tank. The fuel tank location shall be selected to avoid being directly under the County/City chambers unless the structure above is designed for associated blast loading. The fuel tank lids shall be flush to grade and be rated for H-20 traffic loads. The fuel tank anchorage system shall resist water table buoyancy forces, considering projected future water tables for the life-cycle of the facility.

Uninterrupted Power Supply (UPS)

Refer to Section 5.9 for Technology criteria and complete listing of spaces requiring UPS power.

5.7.11 Grounding Systems

The Building's Power Distribution System shall be grounded. Grounding of the power distribution system shall consist of, but not limited to, the grounding of the service entrance to grounding rod electrodes, the water service, building steel,

telecommunications system backboards, and the routing of a "green" equipment grounding conductor with all circuits. All metallic conduit, boxes, cabinets and enclosures and non-current carrying metallic components shall be connected together to form a continuous path to ground. Refer to grounding for telecommunication spaces in Section 5.9.2 of the narrative.

5.7.12 Safety Systems, Equipment, and Personal Protection

Lightning Protection Systems

The building shall be equipped with a lightning protection system in accordance with Underwriters Laboratories (UL), Lightning Protection Institute (LPI) Standard of Practice, Master Label UL96A, and NFPA 780 to obtain a UL Master Label and LPI certification. All roof mounted metallic parts and equipment shall be bonded to the Lighting Protection System. Surge Protective devices shall be provided at the Telephone and Data Systems, Fire Alarm, CATV, and Security Systems and shall be coordinated with the Lightning Protection System and UL requirements.

The Lightning Protection System shall be installed and implemented by a UL registered Master Label Contractor.

Security Systems

Refer to design criteria requirements under Section 5.9.3.

Fire Alarm Systems

A complete Fire Alarm System (FAS) shall be provided for the building. The FAS shall supervise and monitor status of fire and smoke alarm initiating devices as well as provide monitor and control of fire control devices. There shall be one Fire Alarm System (FAS) for both the Building and the Parking Garage. The FAS shall interface with the Building Management System. The Fire Alarm System shall be an automated, fully addressable type system. The fire alarm and detection system shall include but not limited to the use of smoke detection, heat detection, manual initiation, alarm signaling, and system status monitoring and remote signaling.

The system will be ADA compliant with all pull stations, combination audio/visual signaling devices, smoke detectors, heat detectors and AHU duct smoke detectors in conformance with the National Fire Protection Association (NFPA), American Disabilities Act (ADA), and the Florida Building Code. Weather-proof combination audio/visual signaling devices shall be utilized for exterior locations of the building. A dedicated phone line shall be provided to link the fire alarm to a remote monitoring station.

Fire alarm low voltage wiring will be installed in conduit.

5.7.13 Lighting Design Criteria for Specific Areas

The following tabulation states proposed maintained illumination levels for various rooms and areas:

Training Rooms	50-60 foot-candles
General Office Area	40-60 foot-candles
Private offices	40-60 foot-candles
Chamber Rooms	50 foot-candles
Corridors	20 foot-candles
Conference Rooms	30-50 foot-candles
Storage Rooms	5 -20 foot-candles
Restroom/Toilet	20 foot-candles
Stairs	20 foot-candles
Break Rooms	30 foot-candles

5.7.14 Photovoltaic Systems

Photovoltaic "PV" system shall be provided with all the required components for a complete and functional "PV System". Required components shall be, but not limited to:

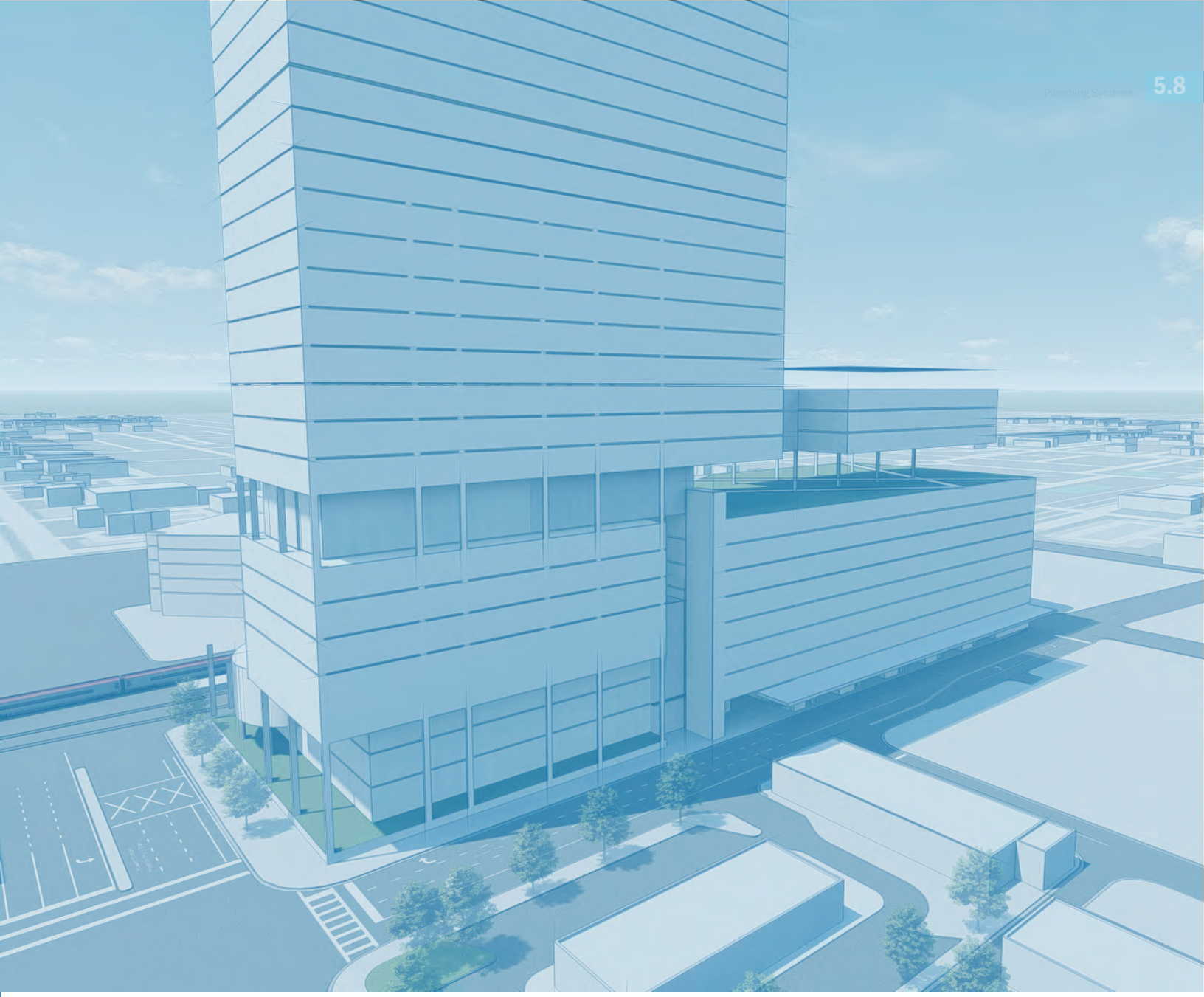
1. Solar collector photo-voltaic panels
2. DC-AC inverters
3. Conduits and Wiring to the building electrical system
4. Metering

The PV system shall an electrical generating capacity of about 400 Kwh (AC), with an average daily generation of 1600Kwh (AC). The design builder shall provide two-way, FPL electrical "smart" meters to trend and log the amount of electricity contributed into the FPL grid versus the amount of electricity consumed from the FPL grid by the building.

All off-site PV systems incorporated into Zero Net Energy planning and modeling shall be documented as under direct ownership of the project owner, retaining all carbon 'credits' or Renewable Energy Certificates for the purpose of net annual energy calculations and documentation.

Section 5.8
Plumbing Systems

5.8.1 Goals and Objectives
5.8.2 Codes, Standards and Guidelines
5.8.3 Design Criteria
5.8.4 Sanitary and Storm Drainage
5.8.5 Domestic Water
5.8.6 Parking Garage
5.8.7 Space Program Requirements
5.8.8 Rainwater Harvesting
5.8.9 Plumbing Fixtures



Section 5.7
Plumbing Systems

5.8.1 Goals and Objectives

Design Intent

These specifications outline the Plumbing requirements for the new Joint Government Center Campus (JGCC).

5.8.2 Code Standards, and Guidelines

The plumbing design shall be developed to meet the following reference standards:

- Florida Building Code, Plumbing,
- Florida Accessibility Code
- ASHRAE Handbook- Fundamentals
- ASHRAE Standard 90.1-2009: Energy Efficient Design of New Building
- ASPE Plumbing Engineer Design Handbook
- Department of Environmental Protection and Planning (DPEP)
- Standard for On-site Sewage Disposal System, 10D-6
- Plumbing and Drainage Institute (PDI)
- Occupational Safety and Health Association (OSHA)
- The National Fire Protection Association (NFPA) - all relevant sections.

5.8.3 Design Criteria

The plumbing system shall use the main sanitary and water pipe identified in the Civil Infrastructure drawings in Appendix E. All plumbing fixtures shall be new and comply with the water consumption in Plumbing fixtures per Table 709.1 of the Florida Building Code (FBC) and LEED Requirements.

5.8.4 Sanitary and Storm Drainage

Sanitary sewer pipe shall be Schedule 40 PVC Pipe below ground and Cast iron soil pipe above ground. Two (2) 8" sanitary mains shall be provided for the building; the sanitary piping shall connect to the existing 10 inch sanitary main on W Broward Blvd and the existing 12" sanitary sewer main on Brickell Ave. Refer to Section 5.2 Site Utilities for additional information.

The storm drainage system with interior rainwater leaders shall be provided. Storm Drainage Pipe shall be schedule 40 PVC pipe below grade and cast iron soil pipe above grade. Storm drainage shall connect to the drainage locations identified by Civil. Refer to Section 5.2 Site Utilities for additional information.

Condensate drainage piping shall be DWV Copper pipe. Condensate drainage shall be connected to exterior catch basin. Condensate piping above grade shall be insulated.

The Greasy Waste Piping shall be Schedule 40 PVC pipe below grade and cast iron soil pipe above grade. Grease Traps shall meet the requirements of State Code 10D-6.

An Oil and Sand Interceptor shall be provided for all locations that pose a threat of oil/debris to the drainage system.

Floor drains will be provided for all restrooms, mechanical rooms and kitchens. Provide Hose bibs/Wall Hydrants at all group restrooms and Mechanical rooms.

5.8.5 Domestic Water

All Domestic Cold Water Piping shall be Type "L" hard drawn copper. Fittings shall be wrought. Provide (1) 6" domestic water service for the building, water service shall connect to the new 12" water main at the west side of the property. Refer to Section 5.2 Site Utilities for additional information.

Sub-meters shall be provided for the metering of the different building tenants. Provide a metering System capable of monitoring sub meters and provide usage data at county desired intervals.

Domestic water pumps shall be provided and shall be quad plex pressure booster type. Domestic water pumping system shall be located in the ground floor of the tower in the domestic water pump room.

Hot/tempered water shall be provided to all hand washing lavs and hot water shall be provided to all kitchen sinks, sinks in the janitorial closets, break room sinks and showers. Local point-of-use type electric tankless water heaters shall be used where applicable.

5.8.6 Parking Garage

Parking Garage floors shall include a storm water drainage system that shall connect to the storm water drainage system identified by civil. Refer to Section 5.2.6 Site Utilities for additional information.

Wide flange floor drains specifically designed for parking structures and a trench drain shall be provides at base of top level ramp.

An Oil and Sand Interceptor shall be provided for all locations that pose a threat of oil/debris to the drainage system.

Hose bibs shall be located at the ground floor level and all parking garage levels up to and including the top level

A 2" water service is required to service the restrooms and ticketing area at the north portion of the site. In addition cold Water risers and wall hydrants shall be provided. Risers shall be located near stairs and elevators with a minimum of two locations per floor. Refer to Section 5.2 Site Utilities for additional information.

5.8.7 Space Program Requirements

All vertical pipe risers shall run in specially created chases within the cores and walls, when possible.

Vertical chases shall be specially created on the interior of the building, when necessary for pipe coming from the roofs of the building.

Vertical pipes from roof shall be strapped against columns when necessary, for delivery to the lower levels.

Provide adequate ceiling space to accommodate sanitary, storm, water and condensate

5.8.8 Rainwater Harvesting

The JGCC shall incorporate the use of Rainwater Harvesting for the purpose of irrigation. A Cistern shall be provided on Level 9 to irrigate the landscape areas of the amenity deck and Level 28 for garden deck areas. Cistern shall be sized by the design team taking into consideration the following factors:

- Irrigation Demand
- Catchment area – Transit roof and/or Tower roof.
- Structural capacity.

The cistern design shall include all necessary filtering/pumping equipment. The cistern shall collect the rainwater from the roof drains at the transit roof and/or the roof drains at the tower roof. The use of grey water shall be prohibited.

5.8.9 Plumbing Fixtures

Water Closets shall be wall mounted Vitreous China and shall be of the low flow type, 1.28 Gallons per flush. Flush Valves shall battery operated, infrared sensor operated, automatic low flow flush valves.

Urinals shall be vitreous china wall mounted type, top spud. Flush Valves shall be battery operated, infrared sensor operated, automatic low flow flush valves. Pint Urinals shall be specified.

Drinking fountains shall be electric water coolers, stainless steel, wall mounted, handicap accessible, high-low sections, with sensor operated water-bottle filling feature.

Lavatories shall be Vitreous China with concealed arm support mounted 2" off the wall. Faucets for all lavatories shall be Infrared Sensor Operated with a flow of 0.35 GPM.

Service Mop/Sinks shall be floor mounted molded one piece.

Provide hose bibs with shut-off valves and vacuum breakers. Hose bibs shall be located throughout the exterior of the facility at the rate of one near every corner of the building and one within 75 ft. maximum of every newly landscaped area. Hose bibs shall be provided in group restrooms.

No exposed plumbing lines shall be permitted.

All plumbing lines under concrete walks and driveways shall be installed in PVC sleeves.

Plumbing Fixture Requirements - Preliminary Analysis
The following tables indicate the plumbing fixture count requirements based on occupancy type as shown in the JGCC Concept Plan.

PLUMBING FIXTURES MIN. REQ. LEVEL 4 (MAIN TOWER)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
A-3 (ASSEMBLY)	713 PERSONS					1:500 PERSONS	1.426	1
	357 FEMALE	1:65 FEMALE	5.49	1:200 FEMALE	1.79			
	357 MALE	1:125 MALE	2.86	1:200 MALE	1.79			
B (BUSINESS)	77 PERSONS					1:100 PERSONS	0.77	
	39 FEMALE	1:25 <50 FEMALE	1.56	1:40 <80 FEMALE	0.98			
	39 MALE	1:25 <50 MALE	1.56	1:40 <80 MALE	0.98			
E (DAYCARE)	626 PERSONS					1:100 PERSONS	6.26	1
	313 FEMALE	1:50 FEMALE	6.26	1:50 FEMALE	6.26			
	313 MALE	1:50 MALE	6.26	1:50 MALE	6.26			
S-2 (B.O.H.)	8 PERSON					1:1000 PERSONS	0.008	
	4 FEMALE	1:100 FEMALE	0.04	1:100 FEMALE	0.04			
	4 MALE	1:100 MALE	0.04	1:100 MALE	0.04			
TOTAL	1,424 PERSON		(25)		(20)		8.47 (9)	(2)
	712 FEMALE		13.35 (14)		9.07 (10)			
	712 MALE		10.72 (11)		9.07 (10)			

PLUMBING FIXTURES MIN. REQ. LEVEL 9 (MAIN TOWER)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
A-2 (ASSEMBLY) DINING	351 PERSONS					1:500 PERSONS	0.702	1
	176 FEMALE	1:75 FEMALE	2.347	1:200 FEMALE	0.88			
	176 MALE	1:75 MALE	2.347	1:200 MALE	0.88			
A-3 (ASSEMBLY) MEETING RM. DECK	340 PERSONS					1:500 PERSONS	0.68	
	170 FEMALE	1:65 FEMALE	2.616	1:200 FEMALE	0.85			
	170 MALE	1:125 MALE	1.36	1:200 MALE	0.85			
A-3 (ASSEMBLY) WELLNESS/ GYM.	154 PERSONS					1:500 PERSONS	0.308	
	77 FEMALE	1:65 FEMALE	1.185	1:200 FEMALE	0.385			
	77 MALE	1:125 MALE	0.616	1:200 MALE	0.385			
B (BUSINESS)	90 PERSONS					1:100 PERSONS	0.9	
	45 FEMALE	1:25 <50 FEMALE	1.8	1:40 <80 FEMALE	1.125			
	45 MALE	1:25 <50 MALE	1.8	1:40 <80 MALE	1.125			
S KITCHEN (B.O.H.)	55 PERSON					1:1000 PERSONS	0.055	
	28 FEMALE	1:100 FEMALE	0.28	1:100 FEMALE	0.28			
	28 MALE	1:100 MALE	0.28	1:100 MALE	0.28			
TOTAL	990 PERSON		(16)		(8)		2.645 (3)	(1)
	495 FEMALE		8.228 (9)		3.52 (4)			
	495 MALE		6.403 (7)		3.52 (4)			

PLUMBING FIXTURES MIN. REQ. LEVEL 9 (TRANSIT TOWER DECK)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
A-5 (ASSEMBLY) OUTDOOR	1,600 PERSONS					1:500 PERSONS	3.2	1
	800 FEMALE	1:40 <1520 FEMALE	20	1:150	5.34			
	800 MALE	1:75 <1500 MALE	10.67	1:200	4.0			
TOTAL	1,600 PERSON		(31)		(10)		3.2 (4)	(1)
	800 FEMALE		20.0 (20)		5.34 (6)			
	800 MALE		10.67 (11)		4.0 (4)			

PLUMBING FIXTURES MIN. REQ. TYPICAL OFFICE LEVEL (MAIN TOWER)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
B (BUSINESS)	300 PERSONS					1:100 PERSONS	3.0	1
	150 FEMALE	1:25 <50 FEMALE 1:50 >50 FEMALE	2.0 2.0	1:40 <80 FEMALE 1:80 >80 FEMELE	2 0.88			
	150 MALE	1:25 <50 MALE 1:50 >50 MALE	2.0 2.0	1:40 <80 MALE 1:80 >80 MALE	2 0.88			
TOTAL	300 PERSON		(8)		(6)		3.0 (3)	(1)
	150 FEMALE		4.0 (4)		2.88 (3)			
	150 MALE		4.0 (4)		2.88 (3)			

LEED MINIMUM SHOWERS REQ. LEVEL 9

OCCUPANCY TYPE		SHOWERS REQUIRED	SHOWERS PROVIDED
A-3 (ASSEMBLY) WELLNESS/ GYM.	154 PERSONS		
	77 FEMALE	7	7
	77 MALE	7	7
TOTAL	154 PERSONS	14	14

PLUMBING FIXTURES MIN. REQ. LEVEL 1 (MAIN TOWER)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
B (BUSINESS)	268 PERSONS					1:100 PERSONS	2.68	1
	134 FEMALE	1:25 <50 FEMALE 1:50 >50 FEMALE	2 1.68	1:40 <80 FEMALE 1:80 >80 FEMALE	2 0.68			
	134 MALE	1:25 <50 MALE 1:50 >50 MALE	2 1.68	1:40 <80 MALE 1:80 >80 MALE	2 0.68			
S-2 (B.O.H.)	40 PERSON					1:1000 PERSONS	0.04	
	20 FEMALE	1:100 FEMALE	0.2	1:100 FEMALE	0.2			
	20 MALE	1:100 MALE	0.2	1:100 MALE	0.2			
TOTAL	308 PERSON		(8)		(6)		2.72 (3)	(1)
	154 FEMALE		3.88 (4)		2.88 (3)			
	154 MALE		3.88 (4)		2.88 (3)			

PLUMBING FIXTURES MIN. REQ. LEVEL 1 (TRANSIT / GARAGE)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
A-3 (ASSEMBLY)	222 PERSONS					1:1000 PERSONS	0.23	1
	111 FEMALE	1:500 FEMALE	0.23	1:750 FEMALE	0.15			
	111 MALE	1:500 MALE	0.23	1:750 MALE	0.15			
S-2 (B.O.H.)	10 PERSON					1:1000 PERSONS	0.01	
	5 FEMALE	1:100 FEMALE	0.05	1:100 FEMALE	0.05			
	5 MALE	1:100 MALE	0.05	1:100 MALE	0.05			
TOTAL	232 PERSON		(2)		(2)		0.24 (1)	(1)
	116 FEMALE		0.28 (1)		0.20 (1)			
	116 MALE		0.28 (1)		0.20 (1)			

PLUMBING FIXTURES MIN. REQ. LEVEL 2 (MAIN TOWER)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
A-3 (ASSEMBLY)	1,797 PERSONS					1:500 PERSONS	3.60	1
	899 FEMALE	1:65 FEMALE	13.83	1:200 FEMALE	4.50			
	899 MALE	1:125 MALE	7.20	1:200 MALE	4.50			
B (BUSINESS)	126 PERSONS					1:100 PERSONS	1.26	
	63 FEMALE	1:25 <50 FEMALE 1:50 >50 FEMALE	2 0.26	1:40 <80 FEMALE	1.58			
	63 MALE	1:25 <50 MALE 1:50 >50 MALE	2 0.26	1:40 <80 MALE	1.58			
S-2 (B.O.H.)	3 PERSON					1:1000 PERSONS	0.003	
	2 FEMALE	1:100 FEMALE	0.02	1:100 FEMALE	0.02			
	2 MALE	1:100 MALE	0.02	1:100 MALE	0.02			
TOTAL	1,926 PERSON		(27)		(14)		4.87 (5)	(1)
	963 FEMALE		16.11 (17)		6.1 (7)			
	963 MALE		9.48 (10)		6.1 (7)			

PLUMBING FIXTURES MIN. REQ. LEVEL 3 (MAIN TOWER)

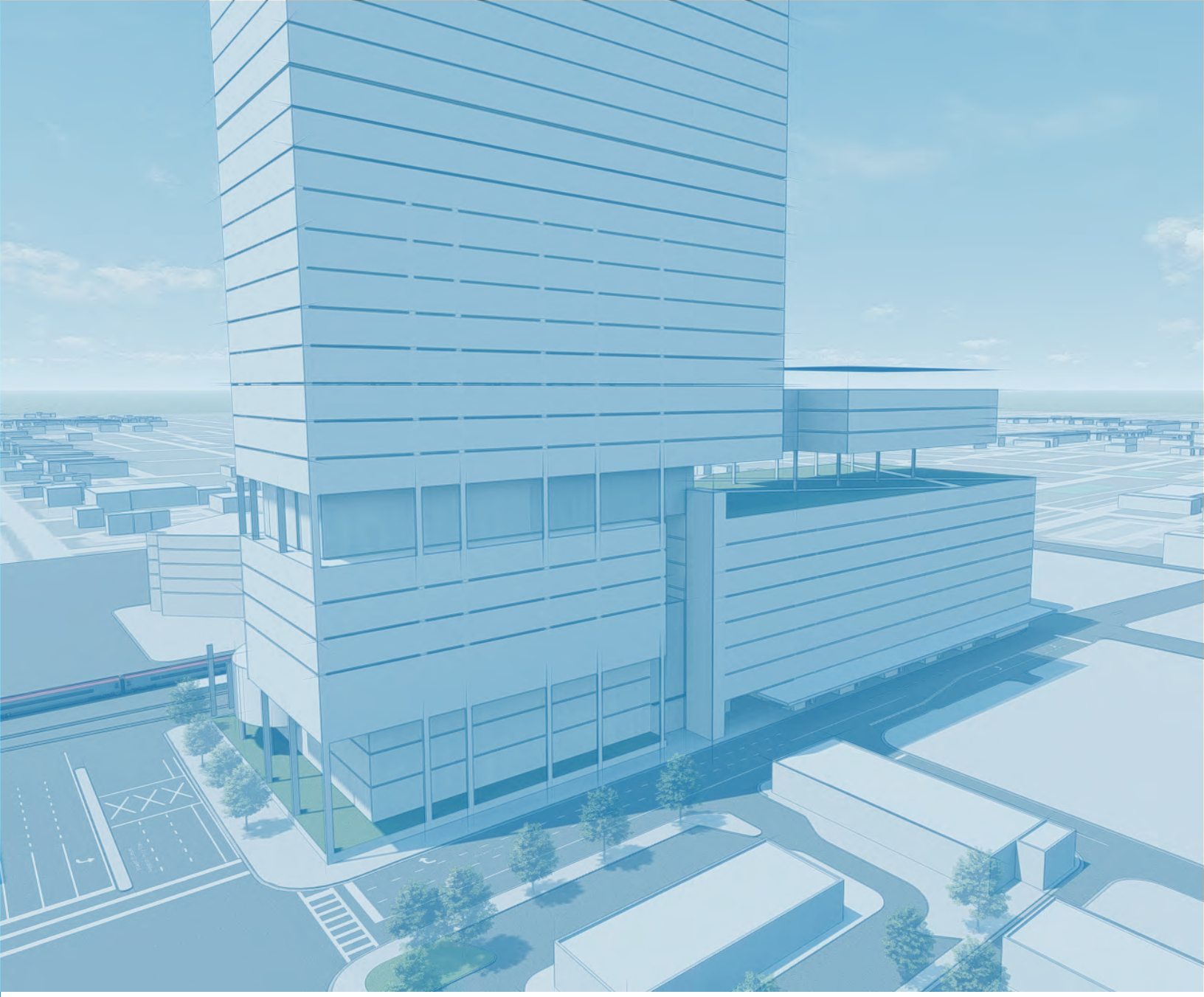
OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
A-3 (ASSEMBLY)	602 PERSONS					1:500 PERSONS	1.21	1
	301 FEMALE	1:65 FEMALE	4.63	1:200 FEMALE	1.51			
	301 MALE	1:125 MALE	2.41	1:200 MALE	1.51			
B (BUSINESS)	174 PERSONS					1:100 PERSONS	1.74	
	87 FEMALE	1:25 <50 FEMALE 1:50 >50 FEMALE	2 0.74	1:40 <80 FEMALE 1:80 >80 FEMELE	2 0.09			
	87 MALE	1:25 <50 MALE 1:50 >50 MALE	2 0.74	1:40 <80 MALE 1:80 >80 MALE	2 0.09			
S-2 (B.O.H.)	10 PERSON					1:1000 PERSONS	0.01	
	5 FEMALE	1:100 FEMALE	0.05	1:100 FEMALE	0.05			
	5 MALE	1:100 MALE	0.05	1:100 MALE	0.05			
TOTAL	790 PERSON		(14)		(8)		2.96 (3)	(1)
	395 FEMALE		7.42 (8)		3.65 (4)			
	395 MALE		5.2 (6)		3.65 (4)			

PLUMBING FIXTURES MIN. REQ. TYPICAL OFFICE LEVEL (TRANSIT TOWER)

OCCUPANCY TYPE		WATER CLOSET		LAVATORIES		DRINKING FOUNTAINS		SERVICE SINK
	LOAD	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	RATIO	# OF FIXTURES	# OF FIXTURES
B (BUSINESS)	213 PERSONS					1:100 PERSONS	2.13	1
	107 FEMALE	1:25 <50 FEMALE 1:50 >50 FEMALE	2.0 2.0	1:40 <80 FEMALE 1:80 >80 FEMELE	2 0.34			
	107 MALE	1:25 <50 MALE 1:50 >50 MALE	2.0 2.0	1:40 <80 MALE 1:80 >80 MALE	2 0.34			
TOTAL	213 PERSON		(8)		(6)		2.13 (3)	(1)
	107 FEMALE		4.0 (4)		2.34 (3)			
	107 MALE		4.0 (4)		2.34 (3)			

Section 5.9
Technology and Security

5.9.1 Goals and Objectives
5.9.2 Telecommunications Systems
Structured Cabling System
Entrance Facility (EF)
Technology Equipment Room
Telecommunications Rooms (TR)
Grounding for Telecommunications Spaces
Data Network and Information Systems
Telephone System
Public Address System
Television
Audio Visual Systems
Distributed Antenna System
Materials
5.9.3 Security Systems
5.9.4 Responsibility Matrix
5.9.5 Fiber and Copper Riser Counduit Pathway Diagram and Details
5.9.6 Fiber and Copper Riser Schedule
5.9.7 Typical Telecommunication Room Layout
5.9.8 Preliminary Data Center Layout



Section 5.9
Technology and Security

5.9.1 Goals and Objectives

The IT/Low Voltage System Design Criteria Narrative is based on typical system design requirements based on projects of similar size and scope, Technology Focused User Group sessions and owner follow up/coordination.

The project planning philosophy, as we understand it, is to initially equip the facility with mature technologies that make good business sense now and build capacity for future planning. This philosophy places special emphasis on flexible, expandable infrastructure design that is affordable from the beginning, but will continue to grow with the evolving nature of Technology.

This narrative focuses on the strategic planning and Design Criteria for IT/Low Voltage System technologies as well as Physical and Electronic Security.

5.9.2 Telecommunications Systems

Structured Cabling System

The Structured Cabling System (SCS) will consist of passive infrastructure to support the building's computer network and telephone system.

Additionally, with the owner's approval, other systems other technology and building control systems may be connected through the structured cabling system.

The SCS will consist of:

- Cat6A universal cabling system & workstation outlets
- Provide (2) Cat6A cables for wireless access point outlet locations
- Copper & fiber riser cable and termination hardware
- 19" data racks, 48 port angled patch panels, 10" vertical wire management between data racks and horizontal wire management in network switch rack
- Server racks and 4-post racks in Telecommunication Equipment Rooms

The SCS will also include network patch panel racks, equipment racks, cable management and ladder racks within communication spaces, as shown on the drawings.

The system design will initially support the systems listed here, and will accommodate growth due to facility expansion, additional services that may be offered in the future, and introduction of new technology.

The structured cabling system will be contractor furnished and contractor installed except as noted herein.

Outside Plant Infrastructure will be contractor furnished and contractor installed.

All rough-in for the structured cabling system, and all cable tray and other conduit, sleeves, and raceway required for installation of the structured cabling systems will be furnished and installed by the selected design team.

Approximate size for cable tray shall be minimum 4" deep x 18" wide. Where cabling is serving both city and county spaces, provide two sections of tray on each side of the corridor. One side to be dedicated to city and the other side dedicated to county.

Conduit sleeves through corridors to connect cable tray horizontal routing to be minimum 4" conduit and quantity provided to support cabling plus 20% growth.

Conduit sleeves through floor to support vertical riser cabling in TR's to be EZ Path sleeve type. Minimum size 4". Reference detail for vertical riser conduit needs.

Entrance Facility (EF)

Entrance Facility (EF) will house the point at which an outside carrier data and voice circuits and services enter the facility and outdoor cabling interfaces with the buildings cabling infrastructure.

Provide redundant entrance point feeds into the building.

Provide separate infrastructure and EF room locations for City and County requirements.

EF will be a size adequate to provide proper space to meet working clearance requirements per NFPA 70.

EF buildout as required per NFPA 99.

Provide fire rating as required per NFPA 72.

Provide a minimum of 1-hour wall rating. 2-hour wall rating required for rooms that will house distributed emergency radio communications equipment.

Temperature Control systems will be designed to maintain environmental conditions recommended in ASHRAE's Thermal Guidelines for Data Processing Environments or the requirements for the specific equipment installed.

Access to EF will be controlled.

The EF is planned to be separate space and allow for a minimum size of 8'x8' or per service provider requirements.

Technology Equipment Room (TER)

Facility will have one Technology Equipment Rooms (TER) for the County

The existing County Data Center is not expected to be relocated as part of the JGCC project.

TER will be used for housing data storage, processing and network equipment and meets minimum requirements of facility needs.

TER will be a size adequate to provide proper space to meet working clearance requirements per NFPA 70.

- Minimum design to be around (12) 4-post server racks and approximately 400 square feet

TERs do not require a finished ceiling; lighting should be provided in front of and behind data racks at 8'-6" AFF with minimum 500 lux (50-foot candles).

TERs should be lined with painted ¾" fire retardant plywood from the floor to 96" AFF.

TER buildout as required per NFPA 99.

Provide fire rating as required per NFPA 72.
Provide minimum of 1-hour wall rating. 2-hour wall rating required for rooms that will house distributed emergency radio communications equipment.

Temperature Control systems will be designed to maintain environmental conditions recommended in ASHRAE's

- Thermal Guidelines for Data Processing Environments or the requirements for the specific equipment installed.
- TER will contain (1) centrally located rack mounted PC so that staff can access the network and remotely troubleshoot.

Access to TER will be controlled.

The TER will not be combined with the Entrance Facility.

City Data Center

The City Data Center will be relocating to the JGCC building.

The Data Center (DC) will be used for housing data storage, city information systems, processing, fiber infrastructure and network equipment.

DC will be a size adequate to provide proper space to meet working clearance per NFPA 70 and manufacturer requirements.

DC buildout as required per TIA-942 and Tier 3 level of reliability and per design parameters below.

- Flooring to be sealed concrete
- Drop ceiling will not be installed
- Automatic transfer switch to be located outside of DC footprint
- Adjustable ladder rack and cable tray to be utilized for horizontal and vertical cable routing
- Lighting should be provided in front of and behind server racks at 8'-6" AFF with minimum 500 lux (50-foot candles) and integrate properly with hot aisle containment system.

Provide fire rating as required per NFPA 72.
Provide minimum of 1-hour wall rating. 2-hour wall rating required for rooms that will house distributed emergency radio communications equipment.

No mechanical equipment or fixtures (e.g. water or drainage piping of any kind, ductwork, pneumatic tubing) not directly related to the support of the DC will not be installed in, pass through or enter the DC.

Temperature Control systems will be designed to maintain environmental conditions recommended in ASHRAE's

- Thermal Guidelines for Data Processing Environments or the requirements for the specific equipment installed.
- DC will contain (1) centrally located rack mounted PC so that staff can access the network and remotely troubleshoot.

DC will be designed around a Schneider Electric hot aisle containment system. Power and cooling for the server racks will be integral with the hot aisle containment system. Reference drawing below for proposed layout and space requirements.

Access to the DC will be controlled via access control.

Telecommunications Rooms (TR)

There will be a minimum of one TR on each floor of the facility. TR's will be located as central as possible to the floor plan and service data outlets a maximum of 250' horizontal length (including work area and TR patch cords).

Provide separate infrastructure for City and County riser cable requirements.

TR will be a size adequate provide a minimum 3' clearance on all sides of the equipment rack (s).

Minimum dimensions will be 10'x12' for TR with 3 racks and minimum dimension of 10'x15' for TR with 4 racks.

- As rack requirements increase, size of room will increase as well

Proper working clearances will be provided as required per NFPA 70.
TR buildout as required per NFPA 99.

TR room walls must be finished to the deck above and floors must be sealed concrete. Dropped ceiling will not be installed.

No mechanical equipment or fixtures (e.g. water or drainage piping of any kind, ductwork, pneumatic tubing) not directly related to the support of the TR will not be installed in, pass through or enter the TR.

Provide fire rating as required per NFPA 72.

Provide a minimum of 1-hour wall rating. 2-hour wall rating required for rooms that will house distributed emergency radio communications equipment.

TRs do not require a finished ceiling; lighting should be provided in front of and behind data racks at 8'-6" AFF with minimum 500 lux (50-foot candles).

Telecommunications rooms should be lined with painted ¾" fire retardant plywood from the floor to 96" AFF.

TR will contain normal power and power from a central UPS.

Temperature Control systems will be designed to maintain environmental conditions recommended in ASHRAE's Thermal Guidelines for Data Processing Environments or the requirements for the specific equipment installed.

TRs should be stacked wherever possible to reduce the overall space needed for riser chases. When rooms are stacked, they serve as their own pipe chases thereby eliminating the need for additional chases and simplifying riser routing.

Wherever possible, telecommunications rooms and riser conduit should be sized and built to accommodate planned expansion or shell space build-out.

TR's provide a secure, flexible and easily managed location for structured cabling systems, network electronics, public address systems, security systems and other technology equipment installed throughout the building. Typical systems located in TR's include but not limited to the following:

- Structured Cabling System
- Data network and voice communication equipment and cabling
- Fire Alarm components
- Building Automation system components and equipment
- Security equipment and cabling (Access Control and CCTV)

- Distributed Antenna System equipment and cabling
- Paging equipment and cabling
- Cable access television (CATV) equipment and cabling

Separate TR's to be provided for Audio Visual equipment and cabling and will be in direct line of sight for chamber room areas

Access to TR will be controlled.

Provide separate infrastructure and room locations be planned between County and City requirements.

Grounding for Telecommunication Spaces

Grounding, bonding and electrical protection will meet the requirements of NFPA 70 and TIA 608.

Telecommunications main grounding bus (TMGB) bar will be installed in TER and/or EF. The TMGB bar will be connected back to the building main electrical service ground.
The TMGB bar will not be bonded to anything other than the building's main electrical service ground.
Bonding conductor will be colored green and labeled appropriately.

Telecommunications Grounding Bus (TGB) bar will be installed in each TR. The TGB will be connected back to the TMGB.

TGB will be drilled with holes according to NEMA standard
All racks, cabinets, sections of cable tray, sections of ladder rack and metal components of the technology system that do not carry electrical current will be grounded to the TGB bar.

TGB bars will be connected by a backbone of insulated, #6 (minimum) to 3/0 AWG stranded copper cable.

Data Network and Information Systems

The data network will include network hubs, switches, routers, and patch cords. Work area outlets will be 10/100/1000 Ethernet with PoE+.

Separate networks (including wireless) will be provided for various systems as required by the City and County.

Data Network hardware and software to be provided in accordance with Broward County Enterprise Technology Service standards.

Network backbone uplinks will be 100 gigabit Ethernet or greater.

Data Network hardware and software to be provided in accordance with City of Fort Lauderdale technology standards. Network backbone uplinks will be 100 gigabit Ethernet or greater.

Wireless access points will be PoE and compliant with 802.11 a/b/g/n, 802.11ac and 802.11AX specifications.
Campus will support City WiFi initiative and provide provision on roof. Pathway will be provided to allow connectivity from City Data Center to roof.

Data network and information systems equipment will be connected through the structured cabling system.

Data network and information systems will be owner furnished and owner installed including any equipment that must be relocated from the existing buildings.

Network service entrance cable and head end terminations will be provided by local service provider (e.g. – AT&T, Comcast) and coordinated with design team. Owner responsible for procuring network services for facility.

Telephone System

The telephone system will consist of a VoIP system, digital and analog telephone instruments, attendant consoles, and other related equipment and accessories as required. Telephone system will integrate to fire alarm system. Confirm operational configuration with Owner.

The voice service entrance cable and head end terminations will be provided by local service vendor (e.g. – AT&T) and coordinated with design team. Owner will be responsible for procuring voice services for facility.
The telephone system will be connected through the structured cabling system.

Public Address System

A building-wide public address paging system will be provided for general and emergency announcements. This will be a new system.

The system will be capable of broadcasting owner provided background music source.

The system will consist of:

- Loudspeakers located in corridors, public and work areas
- Local volume controls in conference and meeting room
- Local amplifiers for local paging access and wiring
- Background music system

The system will be interfaced with the telephone system for paging through the operators' consoles.

A "push-to-talk" desk microphone will be provided for back up paging access in the event of a telephone system failure.

Television

Televisions and cable TV wiring will be provided

Provide & install Cat6A cabling for IPTV locations.

Televisions will be wall or ceiling mounted and will using UL listed wall or ceiling brackets installed with proper blocking and bracing.
All television brackets and installations will comply with ADA requirements.

Vendor will provide wall, ceiling, and shelf (or furniture brackets), as required, to the general contractor for installation by the general contractor. The Vendor will coordinate blocking requirements for wall and ceiling mounts with the architect, general contractor and facilities manager. The Vendor will coordinate shelf (and/or furniture) mounts, dimensions and clearances with the architect, furniture planner, and general contractor. All in-wall and/or above ceiling reinforcement required for proper installation of televisions brackets will be provided by the GC.

The television distribution system will be contractor furnished and contractor installed except as noted herein.

The CATV service entrance cable and head end terminations will be provided by local CATV Service Company (e.g. –DirecTV, etc.) and coordinated with design team. Owner responsible for procuring CATV services for facility.

TVs and TV brackets will be owner furnished / owner installed.

All rough-in for the television system, and all cable tray and other conduit, sleeves, and raceway required for installation of the television system will be furnished and installed by the GC.

Power connections for the television system will be as shown on the selected vendor's shop drawings and will be furnished and installed by the GC.

Audio Visual Systems

Vendor will provide wall, ceiling, shelf, and furniture brackets, as required, to the general contractor for installation by the general contractor. The Vendor will coordinate blocking requirements for wall and ceiling mounts with the architect, general contractor and facilities manager. The Vendor will coordinate shelf and furniture mounts, dimensions and clearances with the design team's project architect, furniture planner, and general contractor. All in-wall and/or above ceiling reinforcement required for proper installation of brackets will be provided by the electrical contractor.

The system will consist of audio-visual components for each space as noted below:

Emergency Operations Center (E.O.C.)
Reference Security design criteria for AV components of this space

City Chamber
- Reference City Audio Visual standards for AV components of this space
- Requires Broadcasting and webcasting equipment
- Assistive Listening Systems as required by code and per user requirements

County Chamber

- Reference County Audio Visual standards for AV components of this space
- Requires Broadcasting and webcasting equipment
- Requires TV control room equipment. Coordinate requirements with City Audio Visual standards.
- Requires TV Control Room equipment
- Assistive Listening Systems as required by code and per user requirements

Conference Room (typical)

- Audio Visual wall outlets (HDMI, VGA, DVI, Cat6, etc.)
- Audio Visual switching equipment
- LED Screens required hardware & wiring
- Digital Signage

WiFi to be included as part of typical AV package for Conference Rooms and audio-visual spaces.
Simple web-based video teleconferencing in selected areas.

All brackets and installations will comply with ADA requirements.

Audio/Visual system will be owner furnished / owner installed.

All rough-in for the AV systems, and all cable tray and other conduit, sleeves, and raceway required for installation of the security systems will be furnished and installed by the GC.

Power connections for the AV systems will be as shown on the selected vendor's shop drawings and will be furnished and installed by the GC.

Emergency Operations Center - City

The final space requirements and programming for the Emergency Operations Center (EOC) will need to be verified with the City. Regarding Technology Systems, below references shall be taken into account for programming development and final space design:

Provide primary and redundant fiber to Emergency Operations Center to service dedicated network equipment that services this space
Provide UPS power to all electronics
Provide conduit to roof for satellite radio
Provide video wall and associated AV as required
Provide access control and video surveillance systems as required
Provide integration with emergency operations center software as required
Coordinate final Technology Systems with owner for exact requirements

Distributed Antenna and Radio System

Distributed Antenna System (DAS) will include enhancement of EMS Radio & cellular service.

EMS Radio is also referred to as Emergency Radio Responder Coverage (ERRC) system, which is required per NFPA. Design will need to be submitted for review and approval to local AHJ. TR's that house ERRC system amplifiers will need to be 2-hour rated.

Radio system will support Broward County Public Safety (P25) trunking system

Based on layouts of TR's, it is recommended that all TR's be 2-hour rated to provide proper vertical pathway requirements per NPFA.

Cellular DAS is referred to as system that provides in-building coverage for cellular service frequencies.

Space and power circuits, and extra riser conduit capacity, will be provided in each TR to support installation of retransmission equipment for distribution of radio paging and other radio signal, if necessary.

Cellular DAS Head end equipment and service provider equipment racks will be located in dedicated Cellular DAS Service Provider room.

Cellular DAS Service Provider room will be located on 1st floor and allow for service providers head end equipment. Head end equipment will be located in data racks. Cellular providers will provide fiber entrance cable for cellular service to be distributed throughout building.

Dedicated Radio room for Emergency Radio Responder Coverage (ERRC) head end system and amplifiers will be provided on the upper floor of the building. Room will be minimum of 10'x12' and provide (3) 3" conduits with weather heads to

dedicated location on room for ERRC antennas.
Owner has requested that selected design team review potential desire to lease roof space to cellular carriers.

The Cellular DAS and Emergency Responder Radio systems will be owner furnished and owner installed except as noted herein.

All rough-in for the radio systems, and all cable tray and other conduit, sleeves, and raceway required for installation of the radio systems will be furnished and installed by the GC.

Time and Attendance System

Time and Attendance system will include PoE based time clocks. Basis of design will be Kronos.

Time clocks will be wall mounted and require Cat6 cable at each location.
All rough-in for the radio systems, and all cable tray and other conduit, sleeves, and raceway required for installation of the radio systems will be furnished and installed by the GC.

Materials

All cable will be properly rated for installation within the area intended.

Plenum cable will be provided in areas where required by code or in ceilings used as return air plenum.

Non-plenum cable can be used where ducted air returns are provided and allowed by code. Non-plenum cable will only be allowed with the Owner's prior agreement.

Riser rated cable will be used for vertical cable runs.

Outside plant cable will be used where cable is installed outdoors.

5.9.3 Security Systems

Security Systems Basis of Design

The Design Criteria has been developed based on a security operational program that will be supported by the security systems, as tools to monitor and control, modify and enhance or relax the security program. This facility will house multiple users, city and county functions, many of which involve and allow the public to areas that may normally be closed off. Thus, a flexible and evolving use program is the minimum requirement which the security program and staff will be responsible for monitoring, controlling and keeping staff and public safe to the extent plausible

Site Security

The site and immediate perimeter of the building will be provided with a rated or engineered equivalent vehicle interdiction program. A vector analysis must be performed to determine the speeds of both 15,000 pound and 5,000-pound vehicles can achieve at 85 to 105 degrees angle of incident with respect to perpendicular to the building faces. The speeds to be analyzed will be 30 MPH, 40 MPH and 50 MPH for each of the two vehicle categories. The results of the vector analysis will be presented to the client team for consideration and the resultant design will include a physical interdiction design to maintain the maximum reasonable distance from the primary structural members of the building.

Vehicle Interdiction

The site vehicle interdiction will be around the entire site and shall meet ASTM F2656 "M" and DOD "K" standards. This applies to size, height and spacing. Engineered solutions that meet these requirements are encouraged, through furniture and landscaping. Site elevations between the street and the building of 36 inches or greater is one of the best and easiest methodologies to consider in achieving a competent vehicle interdiction program and keeping costs and future maintenance at a minimum.

Should any portion of the garage or other structure be used as the secure vehicle perimeter, the vector analysis shall apply as stated above. The secure wall or structure used, shall be a minimum of 36 inches in height, and have all the properties and criteria as stated in ASTM F2656 to meet the speed and weight of the vehicle agreed to in the final vector analysis criteria.

Loading Dock Entry and Access

The entry to the loading dock for all vehicles will be from the north and NW 2nd Street. An inspection area adjacent to

the garage will be developed and will be covered to allow inspections, screening and validations to be done out of the weather. Rated operable vehicle interdiction will be provided to allow the screening and validation to occur and force the vehicle to stop. The options for screening, validation and clearing will be further developed with the client team.

The equipment and operations in this document allow for many options and operations. Once the vehicle is cleared the operable devices will be lowered by the Security Operations Center operator via voice communication. There will not be local controls at the truck screening area. A second set of operable devices will be provided to the south of the loading dock, to ensure no vehicles can access the site from West Broward Blvd. These devices will be lowered also from the SOC. Cameras will be located to cover the vehicle paths from both north and south to have a complete vehicle path and ability to view the immediate area around the operable devices. Staff may be required to assist in "clearing" the area around the devices and allow moving of vehicles on the roadway. Pedestrian fencing or similar will be required to keep a safe area for the truck lanes.

Lobby Access and Security

The lobby will be designed to include pedestrian screening and the potential queuing that will occur. Screening equipment will be detailed in the Main Lobby
design with specific queues shown in the lobby, should all visitors and/or staff need to undergo screening. The County and City will determine when the screening equipment will be installed.

The necessary power and low voltage connections necessary for multiple types of magnetometers and x-ray equipment shall be designed and installed under base contract and located in the floor of the lobby. The screening design will also include tables for emptying pockets and doing bag checks should x-ray equipment not be used. The space needed for the staffing of the screening will be shown in the design of the overall operation in the main lobby. Refer to concept drawing of lobby screening shown in the drawings.

A flexible design is required to allow ramping up and down for access to and through the lobby. Turnstiles will be included in the lobby design. Staff may be allowed to bypass screening and have access to the elevators and internal spaces. Turnstiles and the screening equipment will be used when directed by the County and/or City.

Access Control/Visitor Management kiosks on public side of screening. Each will include integration with access control, video management, and signage/wayfinding/building directories. Each kiosk will be provided with facial recognition/visitor management video camera.

All infrastructure for screening, turnstiles and kiosks shall be in place as part of the base design. Equipment purchase and installation will be directed by the owner.

Commissioners Meeting Rooms on Level 2

Access to the Commissioners' meetings and other meetings using the large meeting spaces currently do require weapon screening, similar to TSA screening. The meeting rooms can each seat 375 persons and if two meetings are scheduled at the same time the number of screening stations will need to process the public in a reasonable amount of time, which is fifteen minutes. This must be included as part of the lobby design, and access to the pre-function space including appropriate queuing area needed for 375 to 750 people. Refer to the drawings for screening equipment, staffing and area needed for screening in the pre-function area. Design must include calculations for screening times, quantity of people screened in 15 minutes, and correct number of screening stations laid out in the room and queueing lines leading up to the screening stations.

Screening of all persons attending a Commissioners meeting is required. Ideally, a design that allows this second screening location to occur prior to the second floor is desired. However, there cannot be any way to bypass the screening prior to entering the Commissioners meeting rooms. This includes escalator, elevator, stairs or any other pathway to the entry doors of the meeting rooms. The use of ropes and temporary barriers is not allowed in the design of this screening process. Permanent walls, glass partitions or similar methodologies is required.

The screening operation, methodology and equipment shall be the same as the main lobby. The necessary power and low voltage connections necessary for multiple types

of magnetometers and x-ray equipment shall be designed and installed under base contract and located in the floor of the lobby. The screening design will also include tables for emptying pockets and doing bag checks should x-ray equipment not be used. The space needed for the staffing of the screening will be shown in the design of the overall operation in the pre-function space prior to meeting room doors. Refer to concept drawing of lobby screening shown in the drawings. The design criteria require that no one can enter the meeting rooms without going through screening. Current operations dictate a weapon free area in the meeting rooms. Those with weapons will be turned away, and no storage of weapons at the screening location is planned.

Emergency, Rescue and Recovery Systems

The following systems are critical to the life safety of all occupants in the facility. These systems shall be designed to not have a single point of failure and shall remain operational in event of power outage or other extraordinary events.

Emergency Rescue and Recovery
Special consideration shall be given to the design of Emergency Rescue and Recovery (ERR) systems. The ERR systems' survivability is critical in assisting with evacuation and first responder services during an incident. The following list represents the minimum critical ERR systems that fall under this design requirement:

- Fire protection systems
- Fire alarm and audible evacuations systems
- Stair pressurization systems
- Smoke purge systems
- ATS switch gear
- Emergency power systems
- Video surveillance systems
- Access Control Systems
- Specialty VoIP intercom systems
- Radio and DAS systems
- Vertical transportation
- Exit stairs

The design criteria for each of these systems is to allow a back-up to each system should the primary system fail or be compromised in any way, that the backup system is NOT affected. Examples include:

1. Primary power for the building
   (a). Should the primary power be compromised, or the POE room be unusable, the generator power cannot be affected. The automatic transfer switches, or any equipment that will transfer to generator power cannot be located in the primary power room/space.

2. Fire protection/sprinkler system
   (a). Should any portion of the sprinkler system be compromised, that only a limited area is affected. Zoning and loop distribution system design is required to ensure water can be delivered throughout the building with the exception of the affected floor/limited area.

This design criteria shall be the required design for each of the above listed systems.

Vertical Transportation

Vertical transportation will be access controlled. Elevators will be equipped with access control and may be turned on or off on a cab by cab basis, from the SOC as well as elevator control locations. The technology for the "readers" will be determined at the time of design and shall include the latest hands-free options and devices, biometrics and encrypted formats. A fully software integrated access and elevator control system will be included, to allow flexibility through programming, for both access control levels on a user by user basis, as well the ability to limit floors accessible based on a specific event or scenario for the building. Cameras will be provided in each elevator cab.

Elevator Design Criteria

Video Camera Surveillance of Elevator Cabs (Passenger and Freight)
The elevator cabs are to be provided with the capability to support the installation of a video surveillance camera. Each elevator cab/traveler cable, conduit and junction boxes related to security equipment should be provided by the Elevator Contractor. The traveler cable (for each elevator) shall include video signal and power cabling. This cabling should be in the Elevator Specifications and should include the cabling requirements for a suitably flexible Coax RG59/U cable, a CAT6 UTP cable and a 2 conductor, #16 gauge stranded twisted and shielded copper cable for power, if needed for

short-run power requirements. The coax cable should include a #20-gauge copper center conductor of adequate flexibility to tolerate the flexible requirements of an elevator traveler cable. The #16-gauge power cable should also be a rated traveler cable constructed of adequate flexibility to withstand the movement of the elevator traveler cable.

The power and video cabling should be provided in a coil at the top of the elevator cab with approximately 10' to 15' of slack so that the final camera location can be appropriately located and wired by the Security Contractor. The final location of the camera shall be as shown in the approved elevator cab drawings and based on the security floor plan drawings. We suggest a junction or pull box, which would be provided by the Elevator Contractor, on the top of the elevator cab so that the wiring may run from the roof of the elevator cab to the interior cab camera. This junction box should be accessible either from the top of the elevator cab or from within the elevator cab.

The other end of the power and video cables, which are routed through the elevator traveler cable, need to land and/or pass through the elevator machine room and/or elevator controller and should be run wherever exposed, via conduit by the Elevator Contractor, to the Security Contractor installed security system elevator Demarc junction box specifically installed for this purpose. The security design drawings shall include the information relating to the location, componentry and integration of this elevator/security Demarc junction box. These cables should be individually labeled/tagged by the Elevator Contractor to segregate them from any other elevator function to assist the Security Contractor in landing them on the security Demarc/junction box terminal blocks.

Elevator cab video camera preparations need to be incorporated into the elevator scope of work. They also need to be represented in the Elevator Specifications and Cab Shop Drawings as specific camera mounting and/or cut outs to provide a means for the proper installation of said camera by the Security Contractor. The location of the elevator camera may be in a rear corner of the elevator opposite the elevator control panel or mounted in the elevator control panel at a height of not less than 7 feet.

Camera power supplies for the elevator cameras should be provided by the Security Contractor and installed by the Elevator Contractor on the roof of the elevator cab unless the maximum distance from the power supply to the camera is verified to be 250' or less and terminated to a 120VAC power feed. The Security Contractor will wire the power from the power supply to the camera in the elevator cab.

Monitoring of Elevator Cabs and Elevator System

All elevators in the project are to be monitored by the security staff from the Security Operations Center (SOC). The Security Contractor shall provide location and space for an Elevator Control workstation in the SOC. The elevator contractor shall provide cabling and workstation PC, monitor and final terminations of the workstation in the SOC. The termination of the elevator network cabling shall be by the elevator contractor. The elevator workstation in the SOC will allow the security staff to monitor, and control each cab individually, 24/7/365. This includes switching between access-controlled functions of the security system and elevator controls, ability to lock out any floor on any cab, and recall all or any cab, go into "lock-down" mode, etc. See access control section for lock-down requirements

Elevator Card Readers (Destination Dispatch Keypads for Passenger Elevators)

All the Destination Dispatch (DD) touch screen/keypads at the elevator vestibules shall be provided with the capability to support the installation of an access control system card reader. The locations which are to have the card reader installed will be included in the security design drawings. The Security Contractor needs to coordinate with the elevator contractor and/or destination dispatch keypad manufacturer for the card reader cut-outs and/or specific card reader mounting criteria, cabling installation and termination points. The access control and elevator interface shall be software integration with both access control and elevator manufacturers agreeing on the interface. A separate elevator manufacturer proprietary access control system is not allowed.

Elevator Cab Card Reader (Freight Elevators/Non-DD Cabs Only)

The elevator cabs are to be provided with the capability to support the installation of an access control system card reader in the cab and at all hall-call stations. The Security

Contractor needs to coordinate with the Elevator Contractor and/or cab manufacturer for the card reader cut-outs and/or specific card reader mounting criteria. The Security Contractor shall wire the card readers using the cable provided in the elevator traveler cable and install the card reader in the cab in coordination with the Elevator Contractor. Approved card reader style, mounting heights and any specific physical integration with the cab needs to be coordinated and approved with the Architect prior to it being represented in elevator shop drawings.

Card reader traveler cabling to support the card reader shall be furnished by the Elevator Contractor as part of the traveler cable and cab construction. The cable shall consist of an eight-conductor copper stranded #20-gauge cable which is manufacturer approved. The cable shall be of an adequate flexibility to withstand the elevator traveler cable environment and be left with between 10' to 15' of coiled slack cable to allow the flexibility of installation of the card reader within the cab. The other end of the card reader traveler cable shall land and/or pass thru the elevator machine room and/or control room and should be run in conduit where exposed, by the Elevator Contractor, to the Security Contractor installed security Demarc junction box. This cable will be integrated/terminated by the Security Contractor. The card reader cabling run by the Elevator Contractor needs to be identified/tagged as to which elevator it is associated with.

In order to effect control over the cab station floor call buttons, the presentation of a valid access control card to the cab card reader shall be required. The security system design shall provide a dry contact relay, or other means coordinated between the Elevator and Security Contractors, for each floor served by the elevator.

The elevator cab floor buttons shall illuminate in order to signify that a valid card has been presented and a valid floor call registration has been placed. Additionally, the Elevator Contractor shall provide any needed and/or code dictated means of disconnect, which would be manually operated, between the security and elevator control systems.

Elevator Recall Switch and Security Lockdown Control

All elevator cabs (freight and passenger) shall be configured to operate in a lockdown or security recall mode. This will be triggered via an interface with the security (access control) system or, if possible, the elevator control shall provide a recall switch/button, with a protective cover that can be quickly removed, at the Lobby security/reception desk. A second recall button/switch location shall also be provided in the SOC or through the elevator controls fully software integrated with the access control system. The SOC will have the ability to reset the elevator recall activation and return the elevators to normal operation.

When the button/switch is pressed (at either location), the elevator system shall be programmed to send all elevators, passenger and freight, to the lobby level or other floor level specified by the Owner, depending on emergency scenario. Once the elevators "recall" the elevator doors shall open, and the elevator cabs shall automatically lock out operation until the recall or lockdown mode is cleared by the reset switch located in the SOC. Sequence of operations and final programming shall be coordinated with and approved by the client. In the case of a real fire emergency, normal emergency fire protocol would take precedence and override the lockdown mode.

Fire Stair Design Criteria

Fire stairs will be designed with code compliant egress standards with electrified locking hardware and the ability to install access control from the stair side, either as part of day 1 build-out or day 2 installation. All conduit, backboxes and stub-ups will be part of the day 1 design. The electrified locks powered by the fire alarm system will be installed day 1. Provisions for cameras on the stair side of the doors, at each fire stair door will be included. This will allow a day 1 or day 2 install without penetrating the walls or ceilings. Backboxes and conduit stub-ups for both access control and cameras run to the secure side of the stair doors will be included in day 1 design.

Electronic Security Systems

Security systems shall include video surveillance, access control, and access control credential issuing/badge production system and may be an extension of an existing County or City system if approved by the respective parties. If not, then all electronic security systems shall be designed to meet Enterprise level requirements and be one of four largest manufacturers in each system category. As part of the system evaluation process, the inventory and cataloging of all systems currently being monitored by the County

Security Operations Center must be requisitioned and confirmed by the County. The new electronic security systems for this facility will be added to that inventory and will be the primary responsibility of the Security Operations Center in this building. All other County (and City facilities) that are or will be monitored and incorporated as part of the new SOC design will be included in this design and allow for future additions and operating capabilities.

Video System

The video surveillance system shall consist of:

- IP cameras of varying mega-pixel levels.
- Standard video shall be 40 pixels per foot on target. Digital video storage for 45 days. The calculations shall be based on 24/7/365 recording of all cameras.
- Monitors, wiring, terminations, and software interface with the access control system.
- Cameras shall be positioned to provide optimal scenes of view and monitoring activities in public areas and other security sensitive areas throughout the interior and exterior of the facility.
- All access-controlled doors will have video coverage. Locate cameras such that multiple doors can be viewed by single camera to the extent practical. Use the pixels on target criteria when location cameras.
- All separations, and access between public and back-of-house doors and exits will be covered.
- Garage will be covered to 60% of the space. All elevators, elevator lobbies, access doors, fire doors, general pedestrian pathways will be covered with night vision capable cameras.
- Building perimeter will include a video tour of the entire perimeter of the building, garage and truck roadway. There will be no “blind spots” of the perimeter of the building.
- Provide infrastructure for video cameras that have ability to provide facial recognition and visitor enrollment in the kiosks located on the public side of the Main Lobby screening area.
- All video will be able to be monitored from the Security Operations Center, (SOC), offsite and via mobile devices issued to the staff

Access Control System

The access control system shall consist of:

- Card readers, latest technology cards, biometric devices or cell phone integration, door contacts, door release buttons, and request to exist devices, self-enrollment kiosks, turnstiles in main lobby, or elsewhere if needed from garage access points.
- Distributed access control terminal equipment located in communications closets.
- Interface with the JGCC IT network to permit remote systems control and monitoring
- County and City may require separate VLAN system architecture and system separation.
- Interfaces with the fire alarm system, elevators and automatic doors, video system and all other systems as designated by the client team and consultants.
- Visitor management system fully integrated and part of the access control system.
- Lobby kiosks for self-enrollment and badge production.

Programmatically, the following doors require access control:

1. All perimeter doors to the building.
2. Fire stair exits may be ‘no external hardware” if agreed to by the client team.
3. All MEP closets and rooms, including floor HVAC spaces, generator spaces, fuel oil, Point of Entry spaces, electrical closets, etc. If multiple doors access the same space, only one access point needs control. Others will be monitored with door position switches.
4. All IT spaces, closets.
5. All access points from the garage.
6. Access to Commissioner meeting rooms
7. Access to Child Care Center
8. Data Center consider dual authentication and “one person at a time turnstile”.
9. Emergency Operations Center
10. Person trap access to SOC
11. All doors to SOC, not used as main entry will be “no external hardware” and monitored for position.
12. Access from elevator lobbies, both freight and passenger to the respective floors. These may be unlocked during certain hours of the day and will be controlled through time zones and/or from the SOC.
13. Special offices as directed by the owner.

Security Operation Center (Command Center)

The new Security Operations Center (SOC) will in part be a relocated program from the current County SOC.

The County's existing systems, manufacturers and software versions will need to be confirmed as part of the design development and construction document phases. Refer to the Concept drawing for the SOC included in the drawing package. In addition, the SOC shall include minimum standards and requirements as called out herein.

Minimal Construction requirements for the SOC include, for the perimeter walls and infrastructure of the Security Suite:

1. Force resistant exterior walls, 10-minute FE
2. STC rating of 45, includes doors, walls, ceilings, and Duct work.
3. Command Center shall be acoustically isolated from balance of the space.
4. Slab to slab construction
5. No utilities or infrastructure, not directly feeding the space shall cross the ceilings.
6. Raised floor area for rack room, command center and conference room, 6 inch is acceptable.
   (a) Raised floor ramp if necessary, will be within the SOC, and not occur in the adjacent corridors.
7. Dedicated entrance, accessible to stairs and elevators, especially freight.
8. If entry is adjacent to or "off of" a public or staff corridor, a "person trap" is required.
9. Normal power, generator power and UPS power shall be provided for all systems, lighting and power in the space.
10. 'Dedicated HVAC must be 24/7/365, separate T Stats for each major space.
11. Rack room cooling may be separate, designed to IT closet standards.
12. Sprinkler system is only allowable "system" to have water crossing the space, all other plumbing shall circumvent the perimeter.
13. Dedicated electrical distribution panel for all circuits in the space shall be mounted in the suite proper.
14. Lighting shall be multi-level, dimmable and include workstation task lighting.
15. Floor types shall be non-static and allow smooth rolling of chairs
16. SOC Systems and Operations.

SOC Systems and Operations

1. Monitor and Control all video systems
2. Monitor and control all access control and intrusion systems
3. Monitor cable TV stations as desired
4. Monitor all County (and City) remote facilities
5. Monitor all building fire and sprinkler systems
6. Monitor and control all elevator cabs
7. Maintain communications by radio, (see radio system design)
8. Maintain IP phone communications
9. Maintain POTS phone communications
10. Monitor all generators status
11. Monitor power, (normal and UPS) for IT, security and ERR systems
12. Monitor cooling status of IT closets and spaces
13. Monitor and control loading dock and truck roadway vehicle interdiction equipment

Child Care Center

Safety of the children is the primary goal. Careful consideration of the drop-off and pick-up sequences and emergency egress should there be a building wide or specific floor evacuation. These operations need to be planned and appropriate program space for both inside and outside be included.

For curbside drop off and pick up:

- The site plan includes a "vehicular interdiction line" which will maintain a prescribed distance of all vehicles as far from the structure as possible. A lay-by lane or drive may be best suited for the sequence and a canopy or walkway may wish to be considered.

For access from the garage:

- The pathway from the garage to the CCC needs to be planned. The pathway should follow the pathway for all staff and anyone parking in the garage. See below for additional considerations, with the understanding that whichever option is decided on will apply to pathway to the CCC. The CCC location in the building should be away from higher threat areas, including the loading dock, public lobby, large glazed areas, vehicle parking, train and bus areas as examples. The occupancies above, below and adjacent to the CCC should be low threat occupancies, such as offices and program space that does not deal directly with the public. Avoid areas

that have high volume of visitors, mail rooms, delivery functions, screening of visitors as examples.

- Provide a dedicated "secure-lock" lobby, with security staff desk and clearing process, as well as two-way pedestrian traffic that accommodate strollers. The guard/receptionist must see each person coming and going so a single file pathway at the desk area is needed. Queueing should be anticipated.
- The secure lock lobby can have access from the outside as well access form the inside for those coming from the garage or other building entry points. Current location is higher in the building so this will not apply unless the CCC is moved to a different location.
- Ability to implement a "lock-down" needs to be included in the design. Efficient response pathways by building security and City Police Department should be included in the location and spatial program considerations.
- Limited areas of glazing that are in direct view of the CCC child spaces, or enhanced levels of security glazing that minimally meets blast and forced entry standards should be added to the design. If located at ground level, glazing should be shaded to not allow direct views from the outside.
- The CCC should employ dedicated ingress and egress routes where possible. A well-planned egress during an evacuation must be included in the design. Considerations of staff available to manage an evacuation, number of trips and equipment needed, such as strollers, hand-held carriers, etc. and the staff to manage both ends of the process are critical. A protected exterior "muster area" away from the building needs to be planned and included in the site design. An area that will allow parents to meet with staff and pick-up their child in an orderly controlled environment, consider a fenced in area to control the "rush" by others on the children in this circumstance. Cover from the weather may wish to be considered. Specific operational security must be included in the design.

5.9.4 Responsibility Matrix

RESPONSIBILITY MATRIX		
	Plan, Design Specify, Budget, Procure and Install	
TECHNOLOGY SYSTEMS	BY CONTRACTOR	BY OWNER
Structured Cabling System	X	
Telecom Rooms (EF, TER, TR)	X	
Grounding for Technology Systems	X	
Data Network and Information Systems		X
Telephone System		X
Public Address	X	
Television System	X	
Audio Visual System	X	
Distributed Antenna System (ERRC and Cellular)	X	

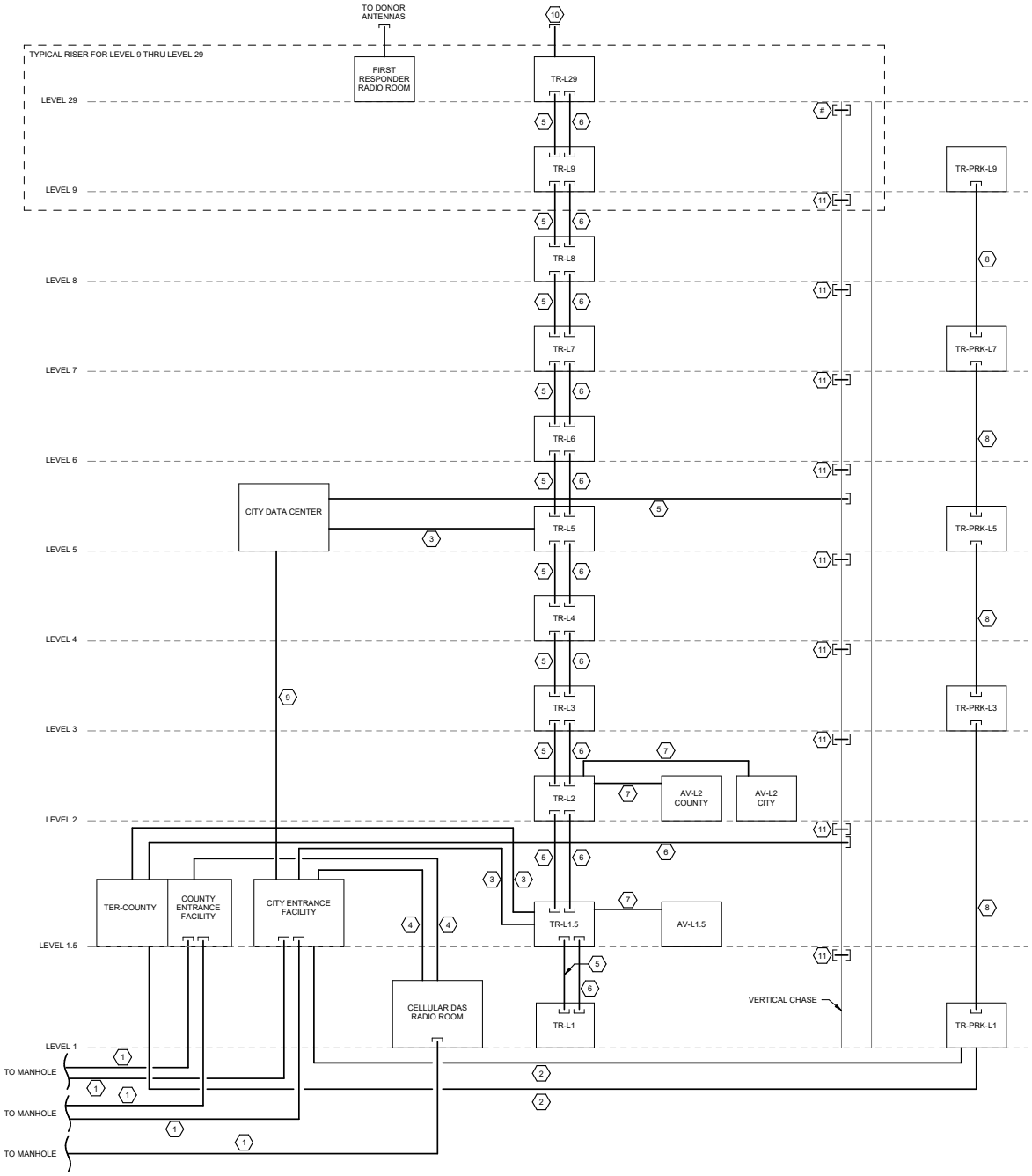
Notes:

1. *Preliminary Responsibility Matrix identifies responsibilities to plan, design, specify, budget, procure and install systems noted above. Selected development team to develop detailed matrix to be reviewed and approved by Owner.*
2. *Responsibility Matrix does not account for quantities and/or locations for the project.*
3. *Reference technology criteria document for additional information related to general contractor and electrical contractor specific requirements related to technology system coordination.*

5.9.5 Fiber and Copper Riser Conduit Pathway Diagram and Detail

INFRASTRUCTURE PATHWAY SCHEDULE		
DIAGRAM NOTE #	PATHWAY	NOTES
1	(2) SETS OF (10) 4" CONDUITS	(6) 4" CONDUITS FOR INFRASTRUCTURE. (4) 4" CONDUITS FOR REDUDANCY
2	(2) 4" CONDUITS	
3	(6) 4" CONDUITS	
4	(2) 4" CONDUITS	
5	(4) 4" CONDUITS	FOR COUNTY INFRASTRUCTURE
6	(4) 4" CONDUITS	FOR CITY INFRASTRUCTURE
7	(1) 4" CONDUITS	FIBER FROM LOCAL TR ROOM TO AV ROOM
8	(3) 4" CONDUITS	
9	(4) 4" CONDUITS	FIBER FOR CITY TO DATA CENTER
10	(6) 3" WEATHER HEADS	
11	(2) 4" CONDUITS	TO ACCESSIBLE CEILING SPACE ON LEVEL

*COUNTY AND CITY INFRASTRUCTURE TO BE KEPT SEPERATED.



5.9.6 Fiber and Copper Riser Schedule

FIBER PRIMARY AND SECONDARY & COPPER RISER SCHEDULE - COUNTY			
Telecom Room Label	**Cable Type**	**From**	**To**
TER-COUNTY	OSP FIBER (PRIMARY AND SECONDARY)	SERVICE PROVIDER MANHOLES	TER-COUNTY
CELLULAR DAS RADIO ROOM	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 12 STRAND SMF (SECONDARY)	TER-COUNTY	CELLULAR DAS RADIO ROOM
TR-L1*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	TER-COUNTY	TR-L1
TR-L1.5*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	TER-COUNTY	TR-L1.5
AV-L1.5 (COMMAND CENTER)	12 STRAND SMF (PRIMARY) 12 STRAND SMF (SECONDARY)	TR-L1.5	AV-L1.5
TR-L2*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	TER-COUNTY	TR-L2
AV-L2 COUNTY	12 STRAND SMF (PRIMARY)	TR-L2	AV-L2 COUNTY
TR-L3*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	TER-COUNTY	TR-L3
TR-L4*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	TER-COUNTY	TR-L4*
**TYPICAL TR L1 THRU L29 – REFERENCE ARCHITECTURAL STACKING DIAGRAM FOR CITY AND COUNTY OCCUPIED FLOORS. PROVIDE FIBER AND COPPER ABOVE TO CITY FLOOR AS NOTED IN STACKING DIAGRAM.*			

FIBER PRIMARY AND SECONDARY & COPPER RISER SCHEDULE - CITY			
Telecom Room Label	**Cable Type**	**From**	**To**
DC-CITY	OSP FIBER (PRIMARY AND SECONDARY)	SERVICE PROVIDER MANHOLES	TER-COUNTY
CELLULAR DAS RADIO ROOM	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 12 STRAND SMF (SECONDARY)	DC-CITY	CELLULAR DAS RADIO ROOM
TR-L1*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	DC-CITY	TR-L1
TR-L1.5*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	DC-CITY	TR-L1.5
AV-L1.5	12 STRAND SMF (PRIMARY)	TR-L1.5	AV-L1.5
TR-L2*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	DC-CITY	TR-L2
AV-L2 CITY	12 STRAND SMF (PRIMARY)	TR-L2	AV-L2 CITY
TR-L3*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	DC-CITY	TR-L3
TR-L4*	24 STRAND SMF (PRIMARY) 12 STRAND MMF (PRIMARY) 50 PAIR COPPER (PRIMARY) 12 STRAND SMF (SECONDARY)	DC-CITY	TR-L4*
**TYPICAL TR L1 THRU L29 – REFERENCE ARCHITECTURAL STACKING DIAGRAM FOR CITY AND COUNTY OCCUPIED FLOORS. PROVIDE FIBER AND COPPER ABOVE TO CITY FLOOR AS NOTED IN STACKING DIAGRAM.*			

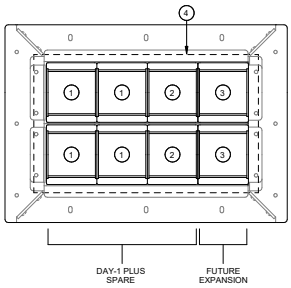
DEFINITIONS:
COPPER = CAT3 VOICE RISER CABLING
MMF = MULTI MODE FIBER
OSP = OUTSIDE PLANT FIBER (BY SERVICE PROVIDER)
SMF = SINGLE MODE FIBER
TER = TELECOMMUNICATIONS EQUIPMENT ROOM
TR = TELECOMMUNICATIONS ROOM
AV = AUDIO VISUAL TELECOMMUNICATIONS ROOM

5.9.6 Fiber and Copper Riser Schedule (cont'd)

FIBER AND COPPER RISER SCHEDULE – PARKING GARAGE			
Telecom Room Label	**Cable Type**	**From**	**To**
DC-CITY	OSP FIBER	TER-CITY	TR-PRK-L1
TER-COUNTY	OSP FIBER	TER-CITY	TR-PRK-L1
TR-PRK-L3	24 STRAND SMF 25 PAIR COPPER	TR-PRK-L1	TR-PRK-L3
TR-PRK-L5	24 STRAND SMF 25 PAIR COPPER	TR-PRK-L1	TR-PRK-L5
TR-PRK-L7	24 STRAND SMF 25 PAIR COPPER	TR-PRK-L1	TR-PRK-L7
TR-PRK-L9	24 STRAND SMF 25 PAIR COPPER	TR-PRK-L1	TR-PRK-L9
FIBER PRIMARY AND SECONDARY RISER SCHEDULE – DAYCARE			
Telecom Room Label	**Cable Type**	**From**	**To**
DAYCARE-IT	24 STRANS SMF	TER-COUNTY	DAYCARE-IT
FIBER PRIMARY AND SECONDARY RISER SCHEDULE – TRANSIT STATION			
Telecom Room Label	**Cable Type**	**From**	**To**
TRANSIT-IT	24 STRANS SMF	TER-COUNTY	TRANSIT-IT
FIBER PRIMARY AND SECONDARY RISER SCHEDULE – EMERGENCY OPERATIONS CENTER (E.O.C.)			
Telecom Room Label	**Cable Type**	**From**	**To**
EOC-IT	24 STRANS SMF	TER-COUNTY	EOC-IT
FIBER PRIMARY AND SECONDARY RISER SCHEDULE – TRANSIT STATION			
Telecom Room Label	**Cable Type**	**From**	**To**
SOC-IT	24 STRANS SMF	TER-COUNTY	SOC-IT

DEFINITIONS:
COPPER = CAT3 VOICE RISER CABLING
MMF = MULTI MODE FIBER
OSP = OUTSIDE PLANT FIBER (BY SERVICE PROVIDER)
SMF = SINGLE MODE FIBER
TER = TELECOMMUNICATIONS EQUIPMENT ROOM
TR = TELECOMMUNICATIONS ROOM
AV = AUDIO VISUAL TELECOMMUNICATIONS ROOM

5.9.7 Typical Telecommunication Room Layout



PLAN VIEW

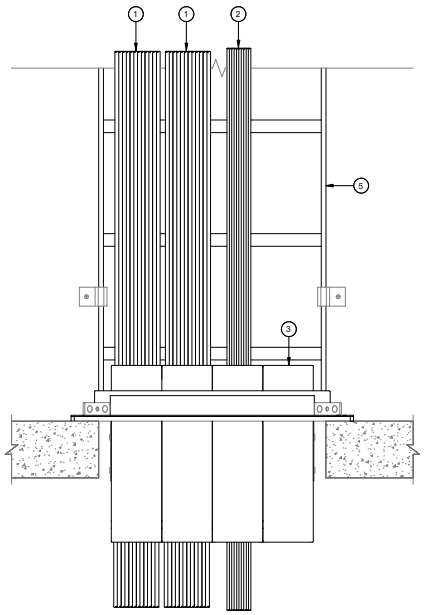
(#) DETAIL KEYED NOTES:

1. COPPER CAT3 BACKBONE CABLING
2. SINGLE-MODE OPTICAL FIBER BACKBONE CABLING
3. SPARE SLEEVE FOR FUTURE EXPANSION
4. APPROXIMATE SLAB OPENING 19.5" x 12"
5. 18" WIDE LADDER RACK FOR CABLE SUPPORT.

BASIS OF DESIGN CABLE CRITERIA

- 100-PAIR COPPER CAT3 = .76" OD (MAX 17 CABLES PER SLEEVE)
- 12-STRAND SM FIBER = .34" OD (MAX 88 CABLES PER SLEEVE)

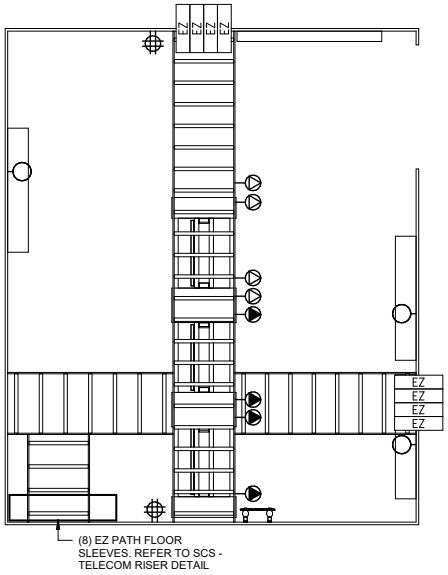
SPARE CAPACIY: DAY-1 SHALL BE NO MORE THAN 50% OF AVAILABLE SPACE



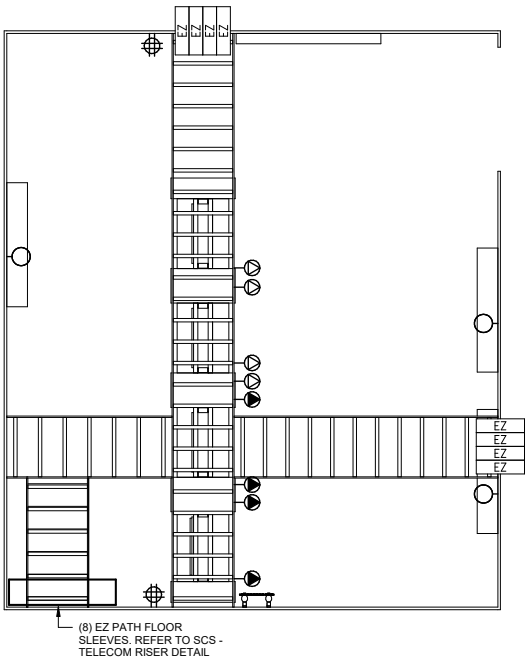
SECTION VIEW

(4) SCS - TELECOM RISER DETAIL
N.T.S.

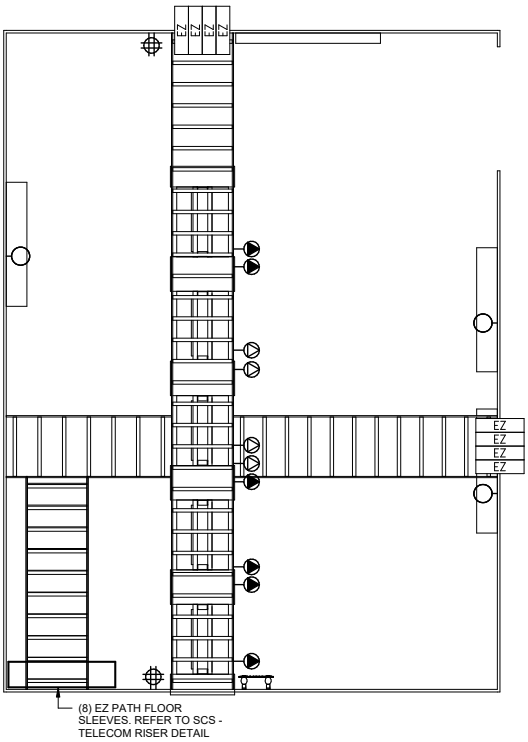
5.9.7 Typical Telecommunication Room Layout (cont'd)



1 TYPICAL 3 RACK TELECOM ROOM
1/2" = 1'-0"



2 TYPICAL 4 RACK TELECOM ROOM
1/2" = 1'-0"



3 TYPICAL 5 RACK TELECOM ROOM
1/2" = 1'-0"

5.9.8 Preliminary Data Center Layout

* Preliminary Layout for reference only. Final Design to be conpleted by selected development team

Electrical Connections by EC

Electrical Contractor to install:

Each InRow Cooling Unit Requires 480/3/60 50 AMP breaker and feeder terminated to each of the 3 precision Cooling Units and 40 AMP breaker to the 3 cooling only InRow units.

EC to provide 480/3/60 450 amp Shunt trip breaker and terminate to each APC Symmetra 250 I/O cabinet.

EC to provide 480/3/60 15 amp breaker to each of the 6 roof mounted windstorm rated condensers.

EC to provide feeder from UPS A to InRow Modular PDU A, and feeder from UPS B to InRow Modular PDU B.

EC to provide 120/1/60 power supply to Fire suppression panel in the data center.

Design Considerations

Data Center designed to 2(N+1) power redundant APC Symmetra PX250 UPS's. UPS's are scalable in 25 kW increments to a maximum of 250 kW with pf 1.0. UPS's confingured with three subfeed breakers for anciliary secure power loads outside of the data cernter such as IDF and MDF rooms.

UPS c/w maintenance bypass panels, static switches, hot swappable power modules, hot swappable battery modules, redundant intelligenc modules. 96% efficient double conversion at all loads.

UPS Complete with subfeed breakers for secure power to floor by floor IDF rooms.

Power input to UPS's 480/3/60
Power output to PDU 480/3/60
Power output to Racks 208/3/60

Modular Power Distribution Racks with metered hot swappable circuit breakers and quick connect whips (No SHUT Down for power modifications to racks with modular PDU's)

Zero U metered rack PDU's, A & B feed to each rack

APC 750 mm wide 48U Networking Racks, wider for better cable management
QTY 20 - 750 mm W x 1070 mm Deep,

(6) APC DX InRow Cooling Units designed for N+1 Redundancy, c/w Windstorm rated Condensers

ECO Aisle hot aisle containment with sliding end doors

ECO Aisle LED lighting system with automatic motion detection

APC Netbotz camera systems for data center surveillance c/w motion detection recording and event logging three (3) tempereature sensors per rack, 1 humidity sensor per rack for environmental monitoring and control.

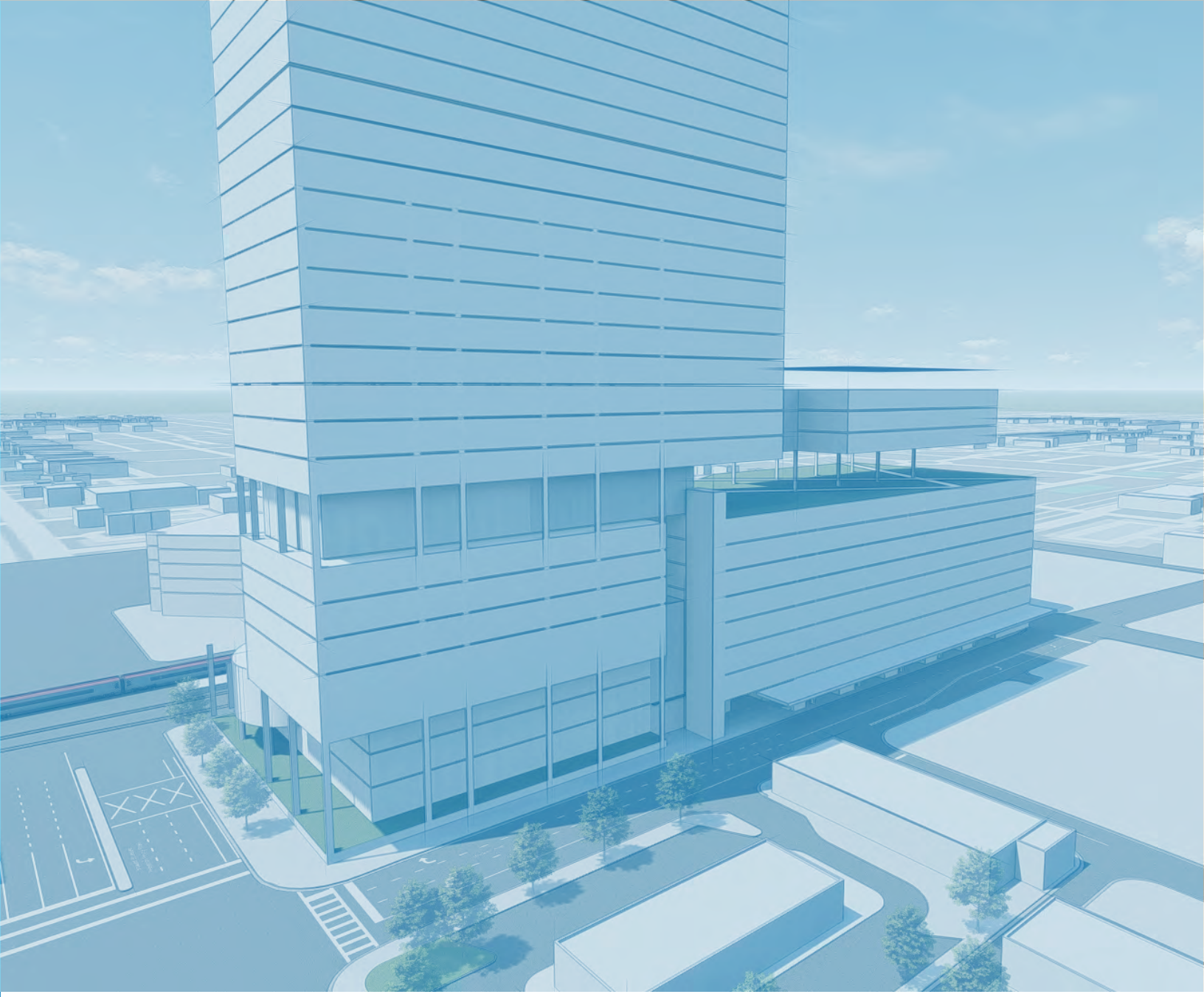
EPO Switch integrated with UPS

Integrated Structureware Data Center Information Management System, DCIM

FM200 Fire Suppression System for data cernter

Section 5.10
Fire Protection

5.10.1 Goals and Objectives
5.10.2 Overview Requirements
5.10.3 References
5.10.4 General Design Requirements
5.10.5 Means of Egress
5.10.6 Interior Finishes
5.10.7 Fire Alarm and Emergency Communications Systems
5.10.8 Water Supply for Fire Protection
5.10.9 Automatic Sprinkler and Standpipe Systems
5.10.10 Elevator Systems
5.10.11 Special Fire Protection Requirements
5.10.12 Commissioning Fire Protection and Life Safety Systems
5.10.13 Microbial Induced Corrosion Prevention



Section 5.10
Fire Protection

5.10.1 Goals and Objectives

The goal of this section covering fire protection and life safety design criteria program is to outline the fire protection and life safety systems that are effective in detecting, extinguishing, or controlling a fire event, thereby improving overall building safety to an acceptable level with the goal of protecting human life from fire and products of combustion. This section provides the fire protection and life safety requirements for the JGCC to meet the goals identified above.

A fire protection engineer must be a full participant of the selected design team for each phase of the project from concept through design, construction, and occupancy. The design team fire protection engineer must perform the following analysis of:

- Building construction,
- Occupancy classification,
- Means of egress,
- Fire alarm system,
- Water-based fire extinguishing system(s),
- Non-water-based fire extinguishing system(s),
- Smoke control system(s),

And, Calculations for:

- Egress,
- Water supply,
- Smoke control (fire dynamics) and timed egress,
- Audibility for fire alarm system,

Design of all fire protection and life safety systems, including, but not limited to:

- Fire alarm system,
- Water-based fire extinguishing system(s),
- Smoke control systems and stair pressurization systems

5.10.2 Overview Requirements

The Joint Government Center Campus shall be provided with an automatic wet pipe fire sprinkler system. All areas including, any overhangs, storage areas, offices, equipment rooms, and parking garages shall be sprinklered. Automatic sprinkler heads shall be Quick Response Type.

Temperature ratings of fusible link to be in accordance with NFPA - 13, and unless otherwise indicated, shall activate at 160 degrees F.

Sprinkler heads in locations with ceilings to be concealed pendent. Provide brass upright heads in open ceiling spaces, and provide sidewall heads as required.

The fire pump room shall be located on the first floor of the building. The fire pump room will house two (2) 1000 GPM Fire Pumps and Two (2) Jockey Pumps. The building shall be protected by an automatic fire protection system; the system shall be divided into two zones, an upper and a lower zone. The lower systems shall serve floors 1 – 18, and an upper system shall serve floors 19 – 29. The first set of pumps will serve the lower zone (floors 1 – 18) and the 2nd set of pumps will serve the upper zone (floors 19 – 29). The fire pumps shall be provided in accordance with NFPA 20.

The new fire protection system shall be designed with a maximum of 40,000 Sq Ft per zone. Fire protection zones shall match the HVAC Smoke Control Zones. Floor Control Valves shall be provided for each floor. Wet standpipes and Hose Valves shall be provided as required by code.

O.S.&Y Gate valves shall be provided with tamper switches and flow switches.

All material shall comply with the latest applicable specifications of the American Society for Testing and Materials (ASTM).

5.10.3 References

- American Society for Testing and Materials (ASTM).
- ASTM A-53 Standard Specifications for Pipe
- NFPA 13 – Sprinkler Systems.
- NFPA 14 – Installation of Standpipe & Hose systems
- NFPA 3 – Commissioning of Sprinkler Systems.

The Fire Protection (sprinklers) Documents shall comply with the latest Applicable Codes and Guidelines.

- NFPA 13 – Sprinkler Systems.
- NFPA 101 – Life Safety Code
- NFPA 10 – Portable Fire Extinguisher

- NFPA 14 – Installation of Standpipe & Hose systems
- NFPA 15 – Standard For Water Spray Fixed Systems For Fire Protection
- NFPA 20 – Standard for the Installation of Stationary Fire Pumps for Fire Protection
- Florida Building Code (FBC)

5.10.4 General Design Requirements

The design criteria shall be based on NFPA 13 Fire Sprinkler System with a design density of 0.10 GPM/Sq. Ft. over 1,500 Sq. Ft. for the office areas and 0.20 Gpm per SF over 2000 SF for the Equipment Rooms, mechanical rooms, and Parking Garage spaces.

Systems and Equipment to be addressed under the Fire Protection Design are:

- Fire Pumps
- Standpipes
- Hose Valves
- Wall Fire Hydrants – Horizontal Only
- Controllers
- Zone Control Valves
- Double Detector Check Valve Assembly

Delivery system - Above ground Piping shall be Schedule 40 Black Steel Pipe for 2" and smaller and Schedule 10 Black Steel Pipe for 2-1/2" and larger, ASTM A-53 for sprinkler pipes. Underground Fire Protection piping shall be Ductile Iron Pipe. Appropriately sized water supply pipes of at least 8 inches diameter, shall be run into the building, to serve each system or zone. Piping shall be in vertical risers to provide the required water supply to each floor and to the roof.

Controls - All zone control valves shall be monitored at the safety and security room, using water flow and tamper switches. Valves shall be in Wall Mounted Cabinets. The Fire Protection System shall be fully supervised by the Automatic Fire Alarm System

Occupancy Classification
The occupancy classification approach is determined on a floor-by-floor basis. The design approach is Mixed Use Non-Separated Occupancy within groups A, B, E, and S-2. Refer to Section 5.11: Life Safety criteria for additional Occupancy Information.

First Response and Emergency Access
Refer to Section 5.11 for Fire Department Access criteria and information relating to First Response and Emergency Access.

5.10.5 Means of Egress

The Means of Egress shall be provided with Active Fire Protection including Fire Sprinklers, Standpipes and Smoke Control Systems. Fire Alarm Devices shall also be provided, at intervals within the corridor and generally, within the paths of egress and The Place of Refuge.

Refer to Section 5.11 for additional Fire protection and Life Safety design requirements.

5.10.6 Interior Finishes

Refer to Section 5.3 for Interior Finishes design criteria and Appendix G, Outline Specifications.

5.10.7 Fire Alarm and Emergency Communication Systems

Refer to Section 5.11 for Fire Alarm requirements.

5.10.8 Water Supply for Fire Protection

The water supply for the sprinkler system shall be from at least an 8 Inch Underground Fire Main as per civil drawings. A Double Detector Check Valve Assembly shall be provided.

5.10.9 Automatic Sprinkler and Standpipe Systems

The new Automatic Sprinkler Systems shall be hydraulically designed. The Sprinkler System shall be provided with an automatic wet pipe fire sprinkler system. Standpipe system shall be Class III with hose Valves in accordance with NFPA -14.

Fire Protection bulk piping shall be routed from the fire pump room on the ground floor to the (2) stairwells located in the building core. Standpipe risers shall be located in the core stairwells.

5.10.10 Elevator Systems

Elevators
For Information relating to Elevators refer to Section 5.3 and Section 5.11.

Fire Service Access Elevators
For Information relating to Fire Service Access Elevators refer to section 5.11 Fire Department Access of the design criteria.

Occupant Evacuation Elevators
For Information relating to Occupant Evacuation Elevators, refer to section 5.9.9 of the design criteria.

5.10.11 Special Fire Protection Requirements

Air Distribution Systems
Refer to Mechanical Section 5.6 for Stair Pressurization Requirements.

Information Technology Equipment Rooms
Clean Agent Fire Suppressions Systems shall be provided for the following rooms:

- Chamber A/V and Video production rooms.
- The Main Equipment Rooms (MER).
- Data Center
- Telecommunications Rooms (TR) and Technology Equipment Rooms (TER)

Standard wet pipe system with high temperature heads shall be used for the telecom rooms.

Clean Agent Suppression Systems shall be FM 200 or Sapphire system.

Clean agent coverage area shall include below raised floors (where applicable).

Places of Confinement (Holding Areas)
Vandal Resistant Sprinkler heads shall be provided in all secured holding areas.

5.10.12 Commissioning Fire Protection and Life Safety Systems

Provide commissioning of systems based on NFPA 3 guidelines, to ensure that all Building Systems function according to the Design Criteria and will meet operational needs.

Refer to Section 5.11 for Life Safety Systems.

5.10.13 Microbial Induced Corrosion Prevention

The design team shall address possible corrosion prevention measures that can be used for any new wet, dry and preaction sprinkler system. Methods for new systems should be considered based on the occupancy and exposure present. Refer to Appendix G: Outline Specifications in the DCP - Section 21 13 00 Fire Supression Sprinkler System.

Section 5.11
Life Safety

5.11.1 Goals and Objectives
5.11.2 Applicable Codes
5.11.3 Occupancy Classifications
5.11.4 Required Fire Resistance Rated Space
5.11.5 Lot Line Analysis - Exterior Wall Ratings and Allowable Openings
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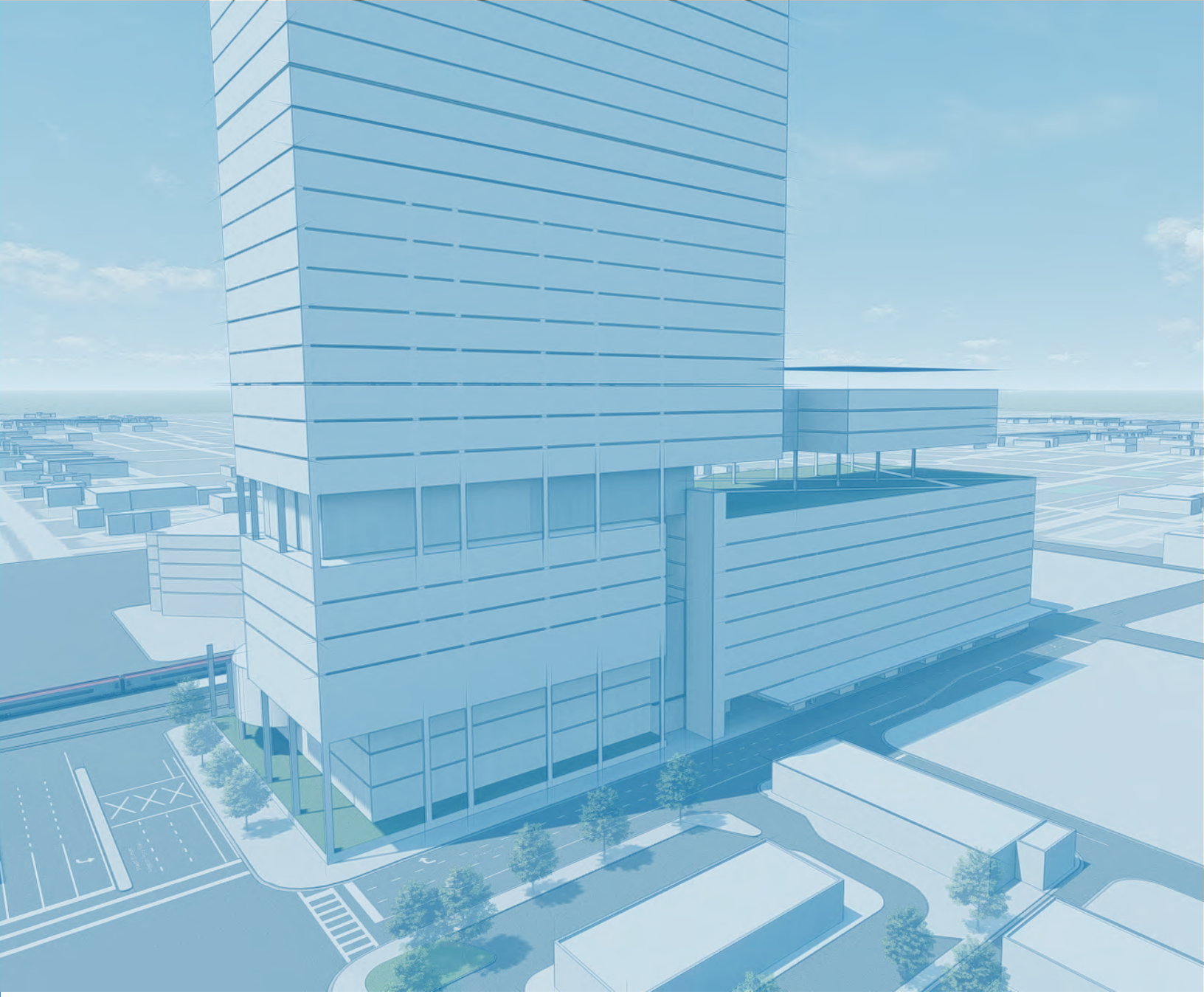


Section 5.11
Life Safety

5.11.1 Goals and Objectives

The Life Safety Design Criteria is intended to outline the following major requirements as they relate to the proposed JGCC:

- Construction Type;
- Means of Egress (e.g., occupant loading, number of exits, egress capacity, etc.);
- High Rise Requirements;
- Fire Protection Systems (e.g., sprinkler protection, fire alarm, smoke control, firefighter communication, etc.);
- Means of Egress Lighting and Markings;
- Emergency Power Requirements;

It is noted that this criteria is not intended to be "all inclusive" of fire protection/life safety requirements, but rather is intended to address major code compliance requirements and will need to be reviewed and approved by a dedicated life safety consultant as a member of the project team. This narrative is intended only to serve as a preliminary design validation tool and will be updated as the project design progresses to final design. Compliance to below requirements is shown in diagrams in section 5.11.17 of this section. Refer to these diagrams for building specific occupancy calculations, egress locations, exit separation distances, and location of critical life safety related design infrastructure.

Design Intent

The proposed new JGCC will be a mixed used building composed of 29-stories above grade and is intended to replace the existing County Governmental Center East (GCE) and City Hall and to produce a new joint governmental center; a new bus transit terminal for Broward County's Transportation Department and associated administration offices; multi-story parking garage; additional future office space; etc.

The building has a primary use of Business [B], Assembly [A-2] & [A-3], Education [E] along with [S-2] Low Hazard Storage at the parking garage level(s), as per Florida Building Code 6TH Edition Chapter 3 Sections 301-312.

The building will be protected throughout by automatic sprinklers designed in accordance with NFPA 13, Standard for the Installation of Sprinklers and an emergency-voice alarm communication system designed in accordance with NFPA 72, National Fire Alarm and Signaling Code.

5.11.2 Applicable Codes

The major applicable codes for the project include, but are not limited to, the following:

Building Code
- FBC Florida Building Code, Sixth Edition or latest.

Fire Prevention/Life Safety Code
- FFPC Florida Fire Prevention Code, Sixth Edition.

Electrical Code
- NFPA 70 National Electrical Code® (NEC), 2020 Edition.

Mechanical Code
- FBC-M Florida Building Code - Mechanical, Sixth Edition.

Plumbing Code
- FBC-P Florida Building Code – Plumbing, Sixth Edition.

Major NFPA Standards
- NFPA 10 Standard for Portable Fire Extinguishers, 2018 Edition.
- NFPA 13 Standard for the Installation of Sprinkler Systems, 2019 Edition
- NFPA 14 Standard for the Installation of Standpipe and Hose Systems, 2019 Edition.
- NFPA 20 Standard for Installation of Stationary Fire Pumps for Fire Protection, 2019 Edition.
- NFPA 72® National Fire Alarm and Signaling Code®, 2019 Edition.
- NFPA 88A Standard for Parking Garage Structures, 2019 Edition.
- NFPA 90A Standard for the Installation of Air-Conditioning and Ventilating Systems, 2018 Edition.
- NFPA 92 Standard for Smoke Control Systems, 2018 Edition.
- NFPA 105 Standard for Smoke Door Assemblies and Other OpeningProtectives, 2019 Edition
- NFPA 110 Standard for Emergency and Standby Power Systems, 2019 Edition.

5.11.3 Occupancy Classifications

The Joint Government Center Campus project is designed as a *mixed-use* facility. As such, there will be a number of different *occupancies and uses* within the building, as summarized by Table 5.11.3(A) below. Refer to Tables under Section 5.11.8 for Occupant Load data.

Building Classification Approach & Mixed Use Approach

The occupancy classification approach is determined on a floor-by-floor basis. The design approach is *Mixed Use Non-Separated Occupancy* in accordance with FBC Section 508.3 and Table 508.4. Therefore, fire rated separation is not required between the occupancies except as indicated in Table 5.11.3(B) below.

Construction Type

Due to the proposed occupancies classifications, building height, and number of stories in the Joint Government Center Campus, the construction type for the building has to be Type IA Construction in accordance with FBC Tables 504.3, 504.4 and 506.2. The fire resistance rating requirements shown below for Type IA Construction are obtained from Table 601 of FBC.

Open Parking Garage

This project has been designed to be considered an "open" parking garage structure. For natural ventilation purposes, the exterior side of the structure shall have uniformly distributed openings on two or more sides. The area of such

TABLE 5.11.3 (A): OCCUPANCY CLASSIFICATIONS

OCCUPANCY GROUP CLASSIFICATIONS (FBC)	OCCUPANCY CLASSIFICATIONS (FFPC)	SPECIFIC USE / LOCATION
Use Group B - *Business* occupancies (FBC §304)	Business (*Chapter 38* - LSC)	Offices
Use Group A-2 *Assembly* occupancies (FBC §303.3)	Assembly (Chapter 12 - LSC)	Cafeteria
Use Group A-3 *Assembly* occupancies (FBC §303.4)	Assembly (Chapter 12 - LSC)	Chamber Rooms (s)
Use Group S-2 *Low Hazard Storage* occupancies (FBC §311.3)	Storage (Chapter 42 - LSC)	Parking, General Storage, and M/E/P Support Spaces
Use Group E *Education* occupancies (FBC §305)	Education (Chapter 16 - LSC)	Day Care

5.11.3(B): MINIMUM FIRE RESISTANCE RATING FOR BUILDING ELEMENTS FOR CONSTRUCTION TYPE: "1A"

BUILDING ELEMENT	FIRE RESISTANCE RATING
Structural Frame	3 hours
Bearing Walls (Interior and Exterior)	3 hours
Nonbearing Walls and Partitions	0 hours
Floor Construction (Including secondary members)	2 hours
Roof Construction (Including secondary members)	1 1/2 hours

openings in exterior walls on a tier shall be not less than 20 percent of the total perimeter wall area of each tier. The aggregate length of the openings considered to be providing natural ventilation shall be not less than 40 percent of the perimeter of the tier. Interior walls shall be not less than 20 percent open with uniformly distributed openings. Enclosed vehicle parking garages and portions thereof that do not meet the minimum requirements to be considered open parking garages shall be provided with a mechanical ventilation system in accordance with the Florida Mechanical Building Code per FBC §406.5.1 – 406.5.11 and §406.6 It shall also be equipped with an automatic sprinkler system per FBC §406.6.

5.11.4 Required Fire Resistance Rated Space

Table 5.11.3(C) indicates the spaces within the Joint Government Center Campus project where fire resistance rated separations should be provided. This includes incidental accessory occupancies.

FFPC, NFPA 101, Section 6.1.14 requires walls separating incidental uses to be smoke resistant whenever FBC Section 509 allows sprinkler protection instead of fire barriers.

TABLE 5.11.3(C): REQUIRED FIRE RESISTANCE RATED SPACES

SPACES	REQUIRED RATING (Note 1)	REFERENCE
Information technology equipment - Critical	1-hour fire barriers	NFPA 75 §5.1.3
Fire Alarm equipment	2-hour fire barriers	NFPA 72 Chapter 12
Electrical Rooms with dry-type Transformers > 112.5 kVa	2-hour fire barriers(*)	NFPA 70 §450.21
Transformer Vaults (oil-insulated)	3-hour fire barriers	NFPA 70 §450.42
Mechanical Shafts	2-hour fire/smoke barriers	FBC §eve & FFPC §8.6.5
Stair Shafts (Note 2 and 4)	2-hour fire/smoke barriers	FFPC §7.1.3.2.2 & FBC §1022.1
Fire Service Access Elevator/Occupant Evacuation Elevator Lobby	1-hour smoke barriers	FBC §3007/FBC §3008
Elevator Lobby (other than above)	1-hour fire partitions	FBC §3007 & §708 Exceptions for smoke partition if Auto Sprinkler
Chambers	1-hour fire partitions	FBC §508.4
Fire Command Center	1-hour fire barriers	FBC §911
Trash Collection Rooms	1-hour fire barriers	FFPC T-30.3.2.1.1& FBC §509
Emergency Switchgear Room	2-hour fire barriers	NFPA 110 §7.2.1.1
Fire Pump Room	2-hour fire barriers	NFPA 20 §5.12.1.1 & FBC §509
Elevator Machine Rooms and Shafts (connecting 4 stories or more) (2)(4)	2-hours fire barriers	FBC §713
Generator rooms (inside bldgs.)	2-hours fire barriers	NFPA 110 §7.2.1.1 and FBC §403
Garage to all other occupancies	2-hour fire barriers	NFPA 88A
Note 1 - Fire Barriers are rated walls that are continuous from floor slab to slab above. Fire partitions are rated walls that are continuous from floor to underside of the rated floor/ceiling assembly.		
Note 2 - All smoke control equipment (e.g., fans, VFDs, etc.) associated with stair and elevator pressurization is required to be enclosed in dedicated two (2) hour fire rated enclosures.		
Note 4 - In accordance with FBC 713.4, the shaft enclosure rating must not be less than the floor rating for the construction type.		

Each new fire wall, fire barrier, fire partition, smoke barrier, smoke partition, or any other new wall required to have protected openings shall be permanently identified with signs or stenciling above any decorative ceiling and in concealed spaces with the wording, "FIRE AND/OR SMOKE BARRIER – PROTECT ALL OPENINGS". Such signs or stenciling shall be in 4-inch high letters, ½ inch stroke, and not more than 15 feet on center. This requirement is mandated by both the FFPC, NFPA 101, Section 8.3.2.4 and FBC, Section 703.7. Recommended to use FFPC code as it is the most restrictive of both codes.

All openings and penetrations on fire/smoke rated walls described above must be protected in accordance with FBC, Chapter 7, *Fire and Smoke Protection Features*, FFPC, NFPA 1, Chapter 12, *Features of Fire Protection*, and FFPC, NFPA 101, Chapter 8, *Features of Fire Protection*.

- Openings in a fire barrier shall be protected in accordance with FBC 716 and Section 8.3 of FFPC. Openings shall be limited to a maximum aggregate width of 25% of the length of the wall, and the maximum area of any single opening shall not exceed 156 sq.ft.
- Single opening limit of 156 sq.ft. does not apply, where adjoining floors are protected by an automatic sprinkler system.
- Single opening limit of 156 sq.ft. does not apply, where the opening protective is a fire door serving exit stairs, exit ramps, exit access stairs, or exit access ramps.
- Single opening limit of 156 sq.ft. does not apply, where the opening protective has been tested in accordance with ASTM E 119 or UL 263. The fire resistance rating of the opening must be equal to or more than the fire resistance rating of the wall.
- The 25% limit of the fire barrier does not apply, where the opening protective is a fire door serving exit stairs, exit ramps, exit access stairs, or exit access ramps.
- The 25% limit of the fire barrier does not apply, where the opening protective has been tested in accordance with ASTM E 119 or UL 263.

5.11.5 Lot Line Analysis - Exterior Wall Ratings and Allowable Openings

The fire separation distance is measured to the property line or to the centerline of the public street (distance to the centerline of the street should be confirmed by the Architect of Record).

A lot line analysis has been completed. Building design complies with greater than 20' separation on all street /right of way facades of the building allowing for unlimited opening area(s) on these facades. On the 10th through 14th levels of both the Main tower and Transit tower the separation is less than the minimum 20' separation that is required for unlimited openings for a small percentage of the North Façade (Main Building) and South Façade (Transit building.) These specific areas have been designed to comply with the 15'-0" to 20'-0" separation distance and 75% maximum allowable opening area. Refer to diagrams within section 5.9.17 for additional details.

FBC, Table 705.8 provides the designer with information pertaining to the unprotected areas allowed based upon fire separation distance as summarized on Table Table 5.11.5(A) below.

TABLE 5.11.5(A): MAXIMUM AREA OF OPENING ON EXTERIOR WALL (FBC, TABLE 705.8)

FIRE SEPARATION DISTANCE (FEET)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA	FIRE RATING REQUIRED A, B, E, S-2
0 to less than 3 ft	Unprotected, Sprinklered	Not Permitted	1
3 to less than 5 ft	Unprotected, Sprinklered	15%	1
5 to less than 10 ft	Unprotected, Sprinklered	25%	1
10 to less than 15 ft	Unprotected, Sprinklered	45%	1
15 to less than 20 ft	Unprotected, Sprinklered	75%	1
>20 ft	Unprotected, Sprinklered	No Limit	0

5.11.6 Vertical Opening Code Compliance Approach

Any unprotected vertical openings anticipated within the Joint Government Center project are to be protected by fire-resistance rated construction in accordance with Section 8.6 of the FFPC and FBC 712.

As illustarted in the DCP Concept Plan, There is an Exit Access Stairway proposed within the double height space connecting Level 1 to the Level 2 (Refer to Figures 2 and 2.1) below. which will serve as one of the means of egress from the 2nd floor Assembly areas. This stair shall complies with the requirements of FBC 2017 (Sixth Edition) Section 1019 and Section 404 as well as FFPC 12 "New Assembly Occupancies". In addition, the stairway and opening protections must be constructed to comply with the requirements of FFPC 8.6.7 "Atriums" which allows for egress and access to exits to be located within the atrium/ double height space. Maximum travel distance from second floor assembly space to the exit on the level of exit discharge is less than the 200'-0 maximum travel distance required by FFPC Chapter 12. (Maximum travel distance is to be measured along a path parallel to the stair profile) Exit doors have been located directly in front of the landing on the level of exit discharge. Refer to diagrams below.:

There is a convenience stair proposed between Level 27 and 28. (Refer to Figures 23) This stair shall comply with the requirements of FFPC 12.3.1 (4) and FBC 1019.3 (4).

FFPC 12.3.1 (4) states: Assembly occupancies protected by an approved, supervised automatic sprinkler system in accordance with Section 9.7 shall be permitted to have convenience stair openings in accordance with 8.6.9.2.
FFPC 8.6.9.2 where permitted by Chapter 11 through 43, unenclosed vertical openings created by a convenience stairway shall comply with all of the following:

1. The convenience stair openings shall not serve as a required means of egress.
2. The building shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.
3. The convenience stair openings shall be protected in accordance with the method detailed for the protection of vertical openings in NFPA 13.

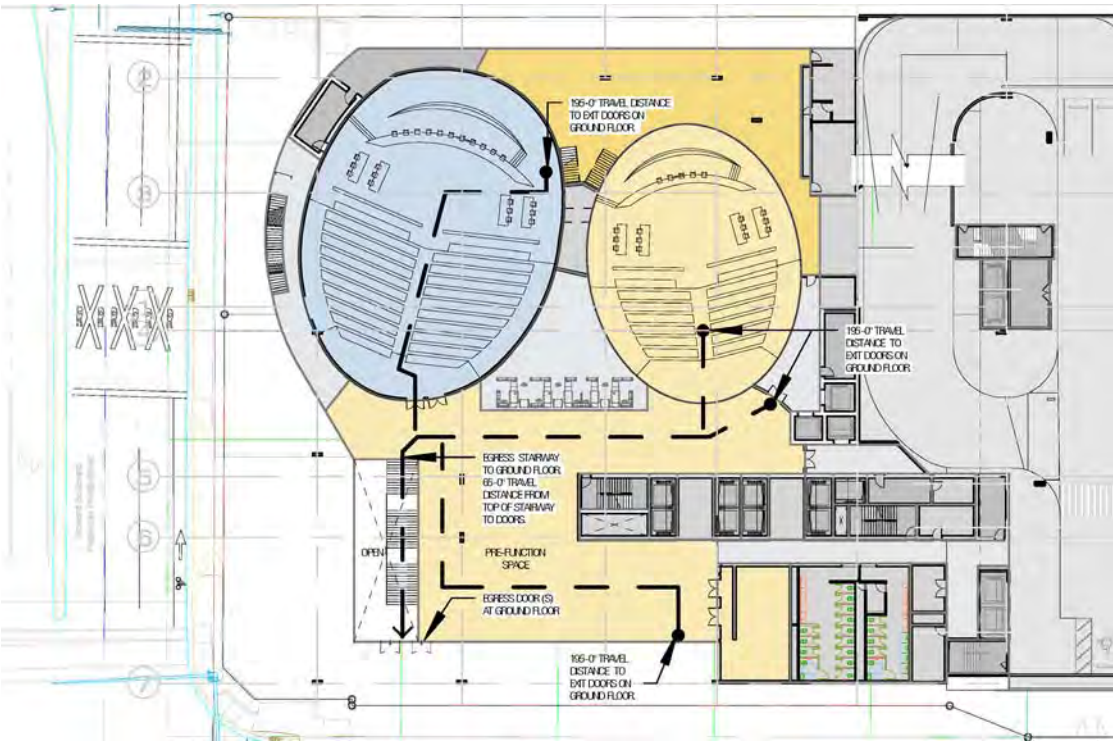


Figure 5.11.6(A): Lobby Stair Egress Diagram

4. In new construction the area of the floor opening shall not exceed twice the horizontal projected area of the stairway.
5. For new construction, such openings shall not connect more than four contiguous stories, unless permitted by Chapter 11 through 43.

FBC 1019.3 (4) states: In other than Group I-2 and I-3 occupancies, floor openings containing exit access stairways or ramps that do not comply with one of the conditions listed in this section shall be enclosed with a shaft enclosure constructed in accordance with Section 713.

(4) Exit access stairways and ramps in buildings equipped throughout with an automatic sprinkler system in accordance with 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to opening that do not connect more than four stories.

Shafts

Shaft enclosures in the project must be designed in compliance with Section 713 of the FBC. The shaft enclosures shall have a fire resistance rating of not less than 2 hours and not less than the floor assembly penetrated but need not exceed 2 hours. The construction shall be as fire barriers in accordance with Section 707 of the FBC.

Elevators

Elevators shafts enclosure that connects more than three (3) stories must be provided with an enclosed elevator lobby in accordance with FBC, Section 3006.3 (1) or be provided with pressurization per FBC 3006.3 (4). Because of the total building height and the current design with open elevator lobbies all elevator shafts are to be provided with pressurization.

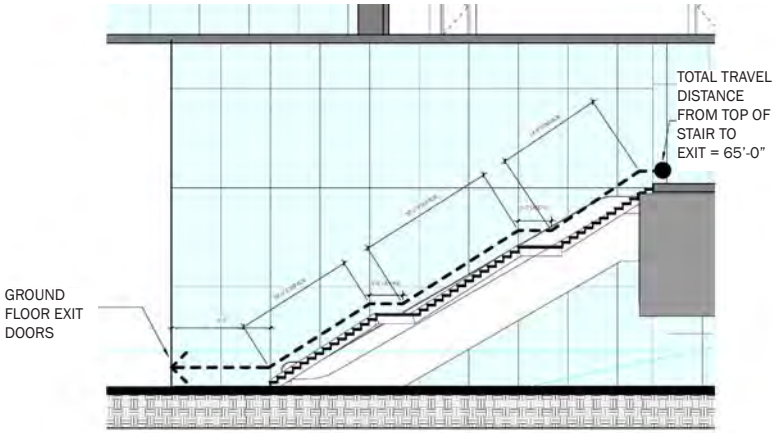


Figure 5.11.6(B): Lobby Stair Egress Section Diagram

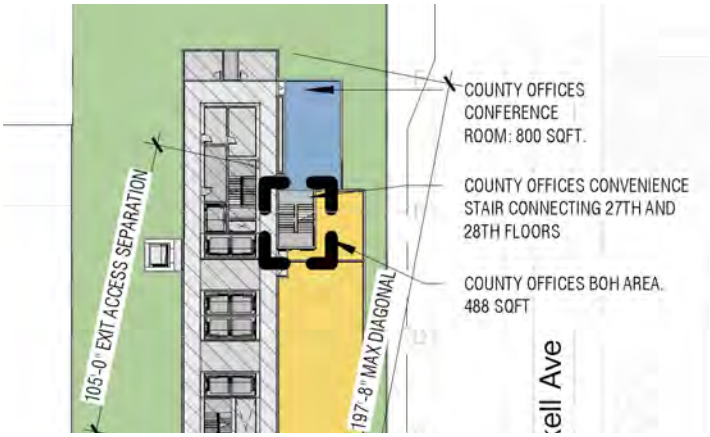


Figure 5.11.6(C): Level 27 and 28 Floor Convenience Stair

5.11.7 Interior Finish Requirements

Interior finishes within the Joint Government Center Campus project are designed to comply with the requirements of the FBC and the FFPC. The major interior finish requirements for the project are summarized in Table 5.11.7(A) below (FBC T-803.9 & FFPC T-A10.2.2). The sprinkler system reduction allowed by code has been applied.

All combustible materials used as interior wall, ceiling, and floor finishes must have proper documentation indicating that the finishes comply with the requirements above.

It is recommended that the design for unique or custom interior finishes (e.g., wood finishes, textile wall coverings, foam finishes, material applied to fire doors, etc.) within the project be identified early in the design/construction process. Interior finishes consisting of unique materials or assembly of different materials will have to be tested by a nationally recognized laboratory.

Interior wall and ceiling trim and incidental finishes must be identified by the project team and must be included for assessment. Interior floor trim material used as wall base or decorative border would also be included and tested as a wall finish or floor finish.

Interior wall and ceiling finishes are normally tested as a single layer on noncombustible substrate. If the material is installed in any other manner, then the assembly of all materials must be tested in accordance with the standards above.

Wood interior finish (e.g., millwork, wood lockers, etc.) must be tested as an assembly of all the components exactly how it will be installed including the adhesives, lacquers, glazing's, etc.

It is noted that normally the authority having jurisdiction will not accept the application of a flame-retardant treatment or coating in order to achieve the proper rating for new interior finishes.

Depending on the occupancy classification, the furnishings in common areas, such as upholstered furniture, must also be evaluated before the furniture is installed in the facility.

The fire department may require a Third (3rd) Party Evaluation of the interior finishes to Ascertain compliance with above ratings.

TABLE 5.11.7(A): INTERIOR FINISH

OCCUPANCY CLASSIFICATIONS	FLOOR FINISH REQUIREMENT	INTERIOR WALL AND CEILING FINISH REQUIREMENTS (FBC AND FFPC)
Assembly A-2 & A-3	Exit: Class II Corridors: Class II Spaces not separated from corridor: Class II	• Exit Enclosure: Class B • Corridors & Exit access stairs: Class B • Rooms & Enclosed Spaces: Class C • Lobbies: Class C • Other Spaces: Class C Note 2
Business	Exit: Class I or II	• Exit Enclosure: Class B • Corridors & Exit access stairs: Class C • Rooms & Enclosed Spaces: Class C • Other spaces: Class C
Education	Exit: Class I or II	• Exit Enclosure: Class B • Corridors & Exit access stairs: Class C • Rooms & Enclosed Spaces: Class C • Other spaces: Class C
Storage	Exit: Class I or II	• Exit Enclosure: Class C • Corridors & Exit access stairs: Class C • Rooms & Enclosed Spaces: Class C • Other Spaces: Class C
Note 1: The ratings shown are from FBC, which has the most stringent requirements		
Note 2: The ratings shown are from FFPC, which has the most stringent requirements		

5.11.8 General Means of Egress Requirements

Maximum Allowable Travel Distances

As a building protected throughout by automatic sprinklers, the following maximum allowable travel distances are applicable to the Joint Government Center Campus project as required by FBC T-1006.2.1 and T1017.2 and FFPC T-A.7.6. See Table 5.11.8(A) below.

TABLE 5.11.8(A): MEANS OF EGRESS		
OOCCUPANCY GROUP CLASSIFICATIONS (FBC)	OCCUPANCY CLASSIFICATIONS (FFPC)	DISTANCES
Use Group A, Assembly occupancies	*Assembly*	• Max Travel Distance: 250 feet • Max Dead End Distance: 20 feet • Max Common Path Distance: 75 feet
Use Group B, Business occupancies	*Business*	• Max Travel Distance: 300 feet • Max Dead End Distance: 50 feet • Max Common Path Distance: 100 feet
Use Group E, Education occupancies	*Education*	• Max Travel Distance: 250 feet • Max Dead End Distance: 50 feet • Max Common Path Distance: 75 feet
Use Group S-2, Low Hazard Storage occupancies	*Storage - Low*	• Max Travel Distance *Enclosed Parking: 200 feet* *Storage: 400 feet (FBC)* • Max Dead End Distance *Enclosed Parking: 50 feet* *Storage: 50 feet (FBC)* • Max Common Path Distance *Enclosed Parking: 50 feet* *Storage: 100 feet (FBC)*

As indicated in Figure 5.11.8(A), travel distances to exits are well below the 300 feet limit for a Business Occupancy. Travel distances on other levels, which have access to many more stairs are also within the code allowed limits. Refer to diagrams in section 5.11.17: Concept Plan Analysis Diagrams for additional details.

Number of Required Exits per Floor

Each floor of the building is provided with the following minimum number of exits as required by T-1021.2 of the FBC and FFPC §7.4.1.2.

TABLE 5.11.8(B): NUMBER OF EXITS	
FLOOR OCCUPANT LOAD	MINIMUM NUMBER OF EXITS REQUIRED
0-500 occupants	2 Exits
501-1,000 occupants	3 Exits
>1,000 occupants	4 Exits

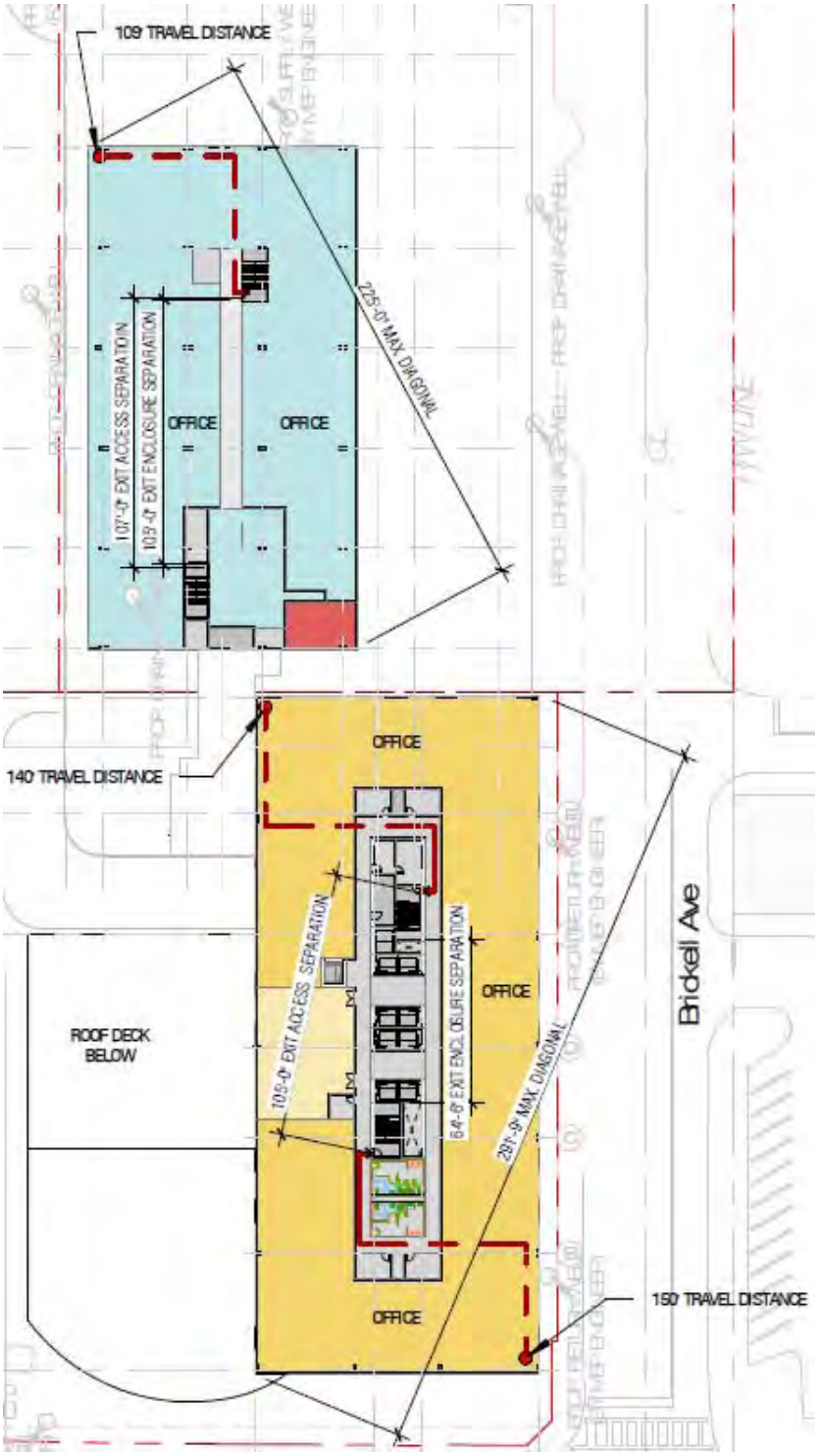


Figure 5.11.8(A): Travel Distance Diagram

The building has 12 main stair exits in the project. Each with varying dimensions and sizes according to location and area served.

Per FBC §403.5 AND §403.6 for buildings exceeding 420'-0" in height an additional interior exit stairway meeting the requirements of Sections FBC §1011 and FBC §1023 shall be provided in addition to the minimum number of exits required by Section FBC §1006.3. An Occupant evacuation elevator can be provided in lieu of an additional stairway given that it complies with the requirements for Occupant Evacuation Elevators as set forth in FBC §3008.

Pending more detailed interpretation and guidance from the Life Safety professional on the design team of record, the current interpretation is that this requirement will affect the "tower" portion of the project, from levels 10 thru 31 because levels 9 and below have a much larger floor plate, are way below the 420' of height threshold, and contain a substantially larger number of egress stairs and capacity available.

The main core contains two elevator lobbies of equal size, as shown in Figure 5.11.8(B). However, the core has been sized with sufficient flexibility to allow the designer of record to adjust one of the two lobbies to have the footprint required to designate one of all the elevators served by that lobby as occupant evacuation elevators if recommended by the life safety professional on the designer of record's team. Figure 5.11.8(C) illustrates an elevator lobby configuration that would allow such designation within the same core footprint including accommodation for 25% of the floor's occupant load @3sf/person and shall accommodate one wheelchair space of 30inches by 48 inches (760 mm by 1220 mm) for each50 persons, or portion thereof, of the occupant load of the floor area served by the lobby.

Electrical Room Exit

Electrical rooms with equipment rated 1200 Amps or more, and 6 feet wide that contain overcurrent devices, switching devices or control devices shall have two (2) exit access doors (one at each end of the working space). The doors must swing in the direction of egress and must be equipped with panic hardware or fire exit hardware.

Electrical rooms with equipment rated 800 Amps or more that contain overcurrent devices, switching devices or control devices, and the exit door is less than 25 feet from the working space, the door shall swing in the direction of egress and must be equipped with panic hardware or fire exit hardware. FFPC, NFPA 101, Section 7.4.2 and NFPA 70, Article 110.26.(C)(2). FBC, Section 1008.1.10.

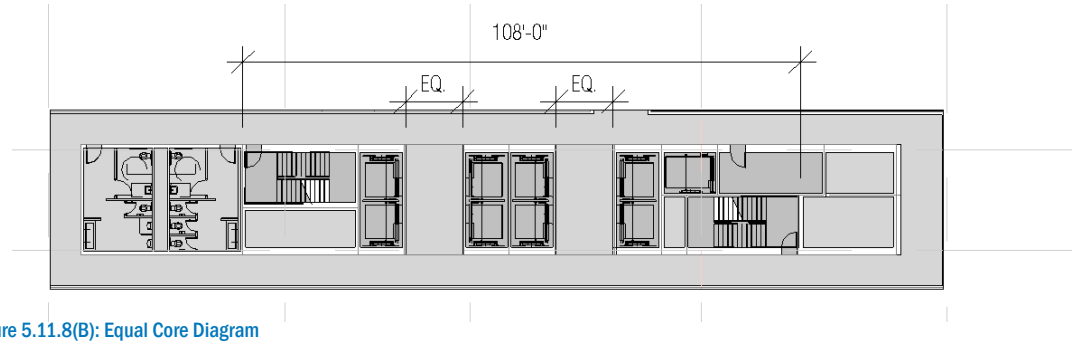


Figure 5.11.8(B): Equal Core Diagram

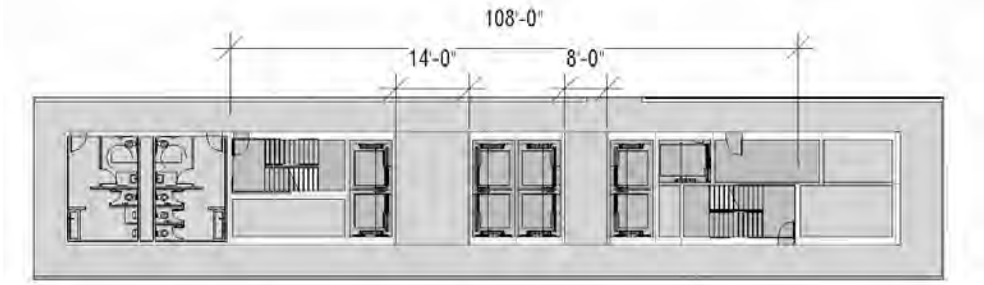


Figure 5.11.8(C): Un-Equal Core Diagram

Electrical rooms with equipment used in circuits over 600 volts with switchgear and control panels exceeding 6 feet in width shall have two (2) exit access doors (one at each end of the working space). The doors must swing in the direction of egress and must be equipped with panic hardware or fire exit hardware. FFPC, NFPA 101, Section 7.4.2 and NFPA 70, Article 110.33(A)

Mechanical Equipment Rooms

Mechanical equipment rooms including boiler rooms, furnace rooms, and similar spaces shall be arranged to limit common path of travel to a distance not exceeding 100 feet for building protected by sprinkler system. Stories used for mechanical equipment rooms (including the roof) shall be permitted to have a single means of egress where the travel distance to an exit on that story does not exceed the common path of travel. FFPC, NFPA 101, Section 7.13.2.

Elevator Lobby Exit

Each elevator lobby must have access to at least one door leading to an exit per FFPC, NFPA 101, Section 7.4.1.6 and FBC, Section 3007.6.1. In addition, occupants cannot pass through an elevator lobby to reach both exits.

Exit Access Remoteness Requirements

Where two (2) exit doors or exit access doors are required to be provided, the exits are designed in order to be remote from one another in accordance with FBC§1007.1.1 Exception 2 and FFPC §7.5.1.3.3. The exits must be separated by more than one-third of the maximum diagonal distance of the floor, space, or area served. Compliance with the Exit Remoteness requirements has been verified as shown on the diagrams on section 5.11.17 and is summarized in Table 5.11.8(C), separated by more than one-third of the maximum diagonal distance of the floor, space, or area served.

TABLE 5.11.8(C): EXIT ACCESS REMOTENESS REQUIREMENTS

FLOOR	MAXIMUM DIAGONAL	1/3 OF DIAGONAL	EXIT REMOTENESS
1 (Main Tower)	284’-9”	94’-3”	136’-0
1 (Garage)	377’-0”	125’-6”	254’-6”
Mezz (Main Tower)	250’-0”	83’-4”	85’-0”
Mezz (Garage)	134’-3”	44’-9”	105’-6”
2 (Main Tower)	274’-10”	91’-10”	105’-0”
2 (Garage)	377’-0”	125’-8”	332’-9”
3 (Main Tower)	267’-0”	89’-0”	105’-0”
3 (Garage)	377’-0”	125’-8”	332’-9”
4 (Main Tower)	267’-0”	89’-0”	105’-0”
4 (Garage)	401’-9”	133’-11”	332’-9”
5-7 (Main Tower)	267’-0”	89’-0”	105’-0”
5-7 (Garage)	401’-9”	133’-11”	332’-9”
8 (Main Tower)	267’-0”	89’-0”	105’-0”
8 (Garage)	401’-9”	133’-11”	332’-9”
9 (Main Tower)	267’-0”	89’-0”	105’-0”
9 (Garage)	401’-9”	133’-11”	218’-10”
10 (Main Tower)	291’-9”	97’-3”	105’-0”
10 (Transit Tower)	225’-0”	75’-0”	107’-0”
11-13 (Main Tower)	291’-9”	97’-3”	105’-0”
11-13 (Transit Tower)	225’-0”	75’-0”	107’-0”
14-27 (Main Tower)	291’-9”	97’-3”	105’-0”
28 (Main Tower)	197’-8”	66’-3”	105’-0”

Physical Exit Separation Requirements

In the high-rise buildings, the exit stairs within the project must be designed to be physically separated from one another by 30-feet or one-fourth of the maximum diagonal of the area served (whichever is less) in accordance with Section 403.5.1 of the FBC. The distance is measured in a straight line between the nearest points of the stair enclosures. Compliance with the Exit Separation requirements has been verified as requirements has been verified as shown on the diagrams on Section 5.11.17 and is summarized in Table 5.11.8(D) below:

TABLE 5.11.8(D): PHYSICAL EXIT SEPARATION REQUIREMENTS			
FLOOR	MAXIMUM DIAGONAL	MIN. 1/4 DIAGONAL AND 30'	EXIT SEPARATION
13TH FLOOR (TYPICAL ALL LEVELS MAIN TOWER)	291'-9"	30'-0"	64'-6"
13TH FLOOR (TYPICAL ALL LEVELS TRANSIT TOWER)	225'-0"	30'-0"	157"-6"

Exit Discharge Configurations

All the exits must discharge to the outside in accordance with FFPC §7.7.1 and Section 1027.1 of FBC. The exit discharge provided complies with remoteness requirements of one-third of the maximum diagonal distance of the building. However, the Codes allow for a maximum of 50% of the number and 50% of the capacity of exits to discharge through the interior of the building provided that the following criteria are met. Refer to diagrams in Section 5.11.17:

- Exterior Exit Visibility: The exit enclosure discharges to a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the exit enclosure (in accordance with FBC §1027.1 Exception 1.1 and FFPC §7.7.2.
- Floor Separation: The entire area of the level of exit discharge is separated from areas below by construction having a two (2) hour fire resistance rating (FBC §1027.1 Exception 1.2 and FFPC §7.7.2).
- Sprinkler Protection: The egress path is protected throughout by automatic sprinklers (FBC §1027.1 Exception 1.3 and FFPC §7.7.2).

Stair Re-Entry

Interior exit stairway doors must be designed to allow re-entry into the building at each floor in accordance with FFPC §7.2.1.5.8. If the doors are normally locked to prevent access into the floors, then the doors must automatically unlock upon initiation of the fire alarm system in accordance with FFPC §7.2.1.5.8. In a high-rise building, if the doors are locked from the stair side, then there must be a two-way communication system provided in the stairway on at least every 5th floor. The system must be connected to an approved constantly attended station. In addition, the doors must be capable of being unlocked simultaneously (but remain latched) upon signal from FCC. (FBC, Section 403.5.3)

Door hardware requirements

Panic hardware (or fire exit hardware for fire doors) must be installed in all doors serving rooms or spaces with an occupant load of 50 persons or more in a Group A, B, OR E, occupancy per FBC, Section 1010.1.10. The FFPC has a similar requirement for assembly occupancies where the occupancy load is 100 or more. Therefore, the FBC has the more stringent requirement and must be implemented. Panic hardware must be installed in electrical rooms as stated in other sections of this DCP.

Occupant Load Factors

Table 5.11.8(E) below indicates the occupant load factors used to calculate the occupant load of the spaces within the JGCC as required by FBC T-1004.1.2 and FFPC T-7.3.1.2.

TABLE 5.11.8(E): OCCUPANT LOAD (FBC)	
USE OF SPACE	OCCUPANT LOAD FACTORS
Chambers	Per number of fixed seats : City Chamber - 300 Total occupants County Chamber - 400 Total occupants
Offices	100 gross ft2 per occupant
Day Care	35 gross ft2 per occupant
Cafeteria	15 net ft2 per occupant
Kitchen	300 gross ft2 per occupant
Exercise Room/Gym	With Equipment – 50 gross ft2 per occupant Without Equipment – 15 gross ft2 per occupant
Deck	15 net ft2 per occupant
Exhibition Hall	30 net ft2 per occupant
Storage Areas	300 gross ft2 per occupant
Parking Garage	200 gross ft2 per occupant
Mechanical Spaces	300 gross ft2 per occupant

Spaces with One Means of Egress Requirements

As indicated in Table 5.11.8(F) below, spaces with one (1) means of egress within the Joint Government Center project shall comply with the following means of egress requirements as required by FBC T-1006.2.1 and FFPC §7.4.1.1.

TABLE 5.11.8(F): OCCUPANT LOAD (FBC)		
OCCUPANCY	MAXIMUM OCCUPANT LOAD	MAX. EXIT ACCESS / COMMON PATH OF TRAVEL DISTANCE (FEET)
Assembly	49	75 feet
Business	49	100 feet
Education	49	75 feet
Storage and Mechanical	29	100 feet

The number of accessible means of egress from a space shall equal the number required for the means of egress or two (whichever is less), in accordance with Section 7.5.4 of FFPC and Section 207.1 of the FBC-Accessibility.

Egress Capacity Factors

The egress capacity for the means of egress is designed using the capacity factors indicated in the table below. In addition, the minimum width of the means of egress components must also be considered in the design. The minimum width is specified for each occupancy classification as stated in FFPC CH. 7 and FBC 1005.3.1

TABLE 5.11.8(G): EGRESS CAPACITY PER FFPC		
OCCUPANCY	STAIRWAYS (IN/OCC)	DOORS, RAMPS & OTHER HORIZONTAL EGRESS COMPONENTS (IN/OCC)
Occupancies in this project	0.3 inches per occupant	0.2 inches per occupant
Stairways wider than 44 inches	Wn-44 / .218 + 146.7	

TABLE 5.11.8(H): EGRESS CAPACITY PER FFPC		
OCCUPANCY	STAIRWAYS (IN/OCC)	DOORS, RAMPS & OTHER HORIZONTAL EGRESS COMPONENTS (IN/OCC)
If Building is equipped with sprinkler system and voice evac fire alarm system	0.2 inches per occupant	0.15inches per occupant
All other buildings	0.3 inches per occupant	0.2 inches per occupant

Corridor Width

The minimum clear width is 44 inches and must be increased to accommodate the occupant load. FBC 1020.2

Occupant Load and Egress Capacity

Sufficiency of egress capacity based on occupant load has been verified on a floor by floor basis. Occupant loads per area and use are indicated on the diagrams in section 5.11.17, and egress sufficiency is summarized on the tables that follow:

TABLE 5.11.8(J-1): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 1					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
1 (Main Tower)	Lobby / Business	26,754	100	268 persons	
	BOH / Storage	12,038	300	40 persons	
Total Level 1 (Main Tower)				**308 persons**	**720” / 2,400 persons**
1 (Garage)	Transit Lobby (A-3)	3,324	15	222 persons	
	Transit BOH	2,730	300	10 persons	
Total Level 1 (Garage)				**232 persons**	**72” / 360 persons**

TABLE 5.11.8(J-2): OCCUPANT LOAD AND EGRESS CAPACITY - MEZZANINE					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Mezzanine (Main Tower)	Business	19,697	100	197 persons	
	BOH	3,733	300	13 persons	
Total Mezzanine (Main Tower)				**210 persons**	**216" / 720 persons**
Mezzanine (Garage)	Business	4,310	100	44 persons	
Total Mezzanine (Garage)				**44 persons**	**96" / 320 persons**

TABLE 5.11.8(J-3): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 2					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 2 (Main Tower)	City / County Chambers	-	700** seats	700 persons	
	Pre-Chamber	7,412	7	1,059 persons	
	Presentations	1,186	15	80 persons	
	Business	12,734	100	128 persons	
	BOH	900	300	3 persons	
Total Level 2 (Main Tower)				**1,970 persons**	**444" / 1,982 persons**

**Note: Occupancy of Chambers is based on Audience seated capacity plus commissioners, aides, administrators, or special guests and speakers in addition to the stated seated capacity in the audience. Load Accounted for in City Chambers = 300 Total Persons. (250 Audience Seating) Load Accounted for in County Chambers = 400 Total Persons. (350 Audience Seating)

TABLE 5.11.8(J-4): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 3					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 3 (Main Tower)	Meeting Space	973	7	139 persons	
	Meeting Space	8,050	15	537 persons	
	Business	17,465	100	175 persons	
	Pre-Function	1,950	7	279 persons	
	BOH	2,718	300	10 persons	
Total Level 3 (Main Tower)				**1,140 persons**	**270" / 1,183 persons**
Level 2 (Garage)	Garage - S-2	69,495	200	345 persons	
Total Level 3 (Garage)				**345 persons**	**270" / 1,183 persons**

TABLE 5.11.8(J-5): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 4					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 4 (Main Tower)	Meeting Space/ Outdoor Deck	9,748	15	650 persons	
	Meeting Space Lobby	514	7	74 persons	
	Business	10,642	100	107 persons	
	Daycare (Educational Uses)	11,656	20	583 persons	
	BOH	2,520	300	9 persons	
Total Level 4 (Main Tower)				**1,423 persons**	**324" / 1,431 persons**
Level 4 (Garage)	Garage - S-2	69,495	200	345 persons	
Total Level 4 (Garage)				**345 persons**	**270" / 1,183 persons**

TABLE 5.11.8(J-6): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 5-7					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 5-7 (Main Tower)	Business	34,246	100	343 persons	
Total Level 5-7 (Main Tower)				**343 persons**	**162" / 687 persons**
Level 5-7 (Garage)	Garage - S-2	69,495	200	345 persons	
Total Level 5-7 (Garage)				**345 persons**	**270" / 1,183 persons**

TABLE 5.11.8(J-7): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 8					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 8 (Main Tower)	Business	31,487	100	315 persons	
Total Level 8 (Main Tower)				**315 persons**	**216" / 720 persons**
Level 8 (Garage)	Garage - S-2	47,704	200	239 persons	
	Mechanical	18,596	200	93 persons	
Total Level 8 (Garage)				**332 persons**	**378" / 1,260 persons**

TABLE 5.11.8(J-8): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 9					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 9 (Main Tower)	Kitchen / Server	5,405	100	55 persons	
	Assembly (Dining) (A-2)	5,257	15	351 persons	
	Gym (A-3)	2,635	50	53 persons	
	Wellness (A-3)	1,508	15	101 persons	
	Assembly (Deck) (A-3)	2,340	15	90 persons	
	Corridor (B)	8,983	100	90 persons	
Level 9 (Stairs)					270” / 900 persons
Level 9 Horizontal Exit					96” / 480 persons
Total Level 9 (Main Tower)				**990 persons**	**366” / 1,380 persons**
Level 9 (Garage)	Assembly	24,000	15	1,600 persons	
	Gym/Locker Room (A-3)	3,225	50	65 persons	
Level 9 (Stairs)					378” / 1,260 persons
Level 9 Horizontal Exit					96” / 480 persons
Total Level 9 (Transit Tower)				**1,665 persons**	**474” / 1,740 persons**

TABLE 5.11.8(J-9): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 10					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 10 (Main Tower)	Business	30,195	100	302 persons	
	Assembly	3,570	15	238 persons	
Total Level 10 (Main Tower)				**540 persons**	**162” / 540 persons**
Level 10 (Transit Tower)	Business	21,266	100	213 persons	
Total Level 10 (Transit Tower)				**213 persons**	**96” / 320 persons**

TABLE 5.11.8(J-10): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 11-13					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 11-13 (Main Tower)	Business	30,000	100	300 persons	
	Assembly	3,570	15	238 persons	
Total Level 11-13 (Main Tower)				**300 persons**	**108" / 360 persons**
Level 11-13 (Transit Tower)	Business	21,266	100	213 persons	
Total Level 11-13 (Transit Tower)				**213 persons**	**96" / 320 persons**

TABLE 5.11.8(J-11): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 14-27					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 14-27 (Main Tower)	Business	30,000	100	300 persons	
Total Level 14-27 (Main Tower)				**300 persons**	**108" / 360 persons**

TABLE 5.11.8(J-12): OCCUPANT LOAD AND EGRESS CAPACITY - LEVEL 28					
FLOOR	OCCUPANCY TYPE	SQ. FT.	LOAD FACTOR	OCCUPANT LOAD	TOTAL EGRESS WIDTH / CAPACITY PROVIDED
Level 28 (Main Tower)	County Offices Conference Room (A-3)	800	15	54 persons	
	County Offices - BOH Area	488	100	5 persons	
	Main Core Area (Business)	5,504	100	56	
	Main Common Use Assembly Area (A-3)	3,631**	15	242 persons	
Total Level 28 (Main Tower)				**357 persons**	**108" / 360 persons**

**Note: Occupancy of floor may be increased to allow for either a larger Common Assembly Area, or Common use outdoor terrace by configuring the fire service access elevator to also serve as an occupant evacuation elevator. The current fireman's service elevator lobby area would need to be increased in size by approximately 275 SQFT and accommodate a minimum of 90 occupants with one wheelchair space per 50 persons. This would allow for an increase of approximately 1,350 SQFT of additional interior/exterior assembly space on the 28th floor. Refer to Section 5.11.09 herein titled "Additional Interior Exit Stairway/ Occupant Evacuation Elevator" for additional requirements and criteria.

Horizontal Exit

A horizontal Exit is being provided on the 9th level to serve as a required to serve as a means of egress system complying with the requirements set forth in FBC §1026. Horizontal Exits. Not more than one-half of the total number of required exits nor exit minimum width of the required capacity are being used to comply with egress requirements using the horizontal exit.

The refuge area of the horizontal exit will be the interior corridor space of the main tower indicated in the diagram below and occupied by the same tenant and is adequately sized to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment is based on the capacity of the horizontal exit doors entering the refuge area.

The capacity of the refuge area is calculated using 3-sqft per occupant net. The refuge area into which a horizontal exit leads is provided with exits which are adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering the refuge area through horizontal exits from other areas. All penetrations and openings must maintain the minimum fire rating of 2hrs / 90 minutes (doors) as specified in FBC. 2017, Sixth Edition Chapter 1026.2 Separation. Not less than one refuge area exit leads directly to the exterior at the level of exit discharge. Refer to Figure 5.11.8(D) below:

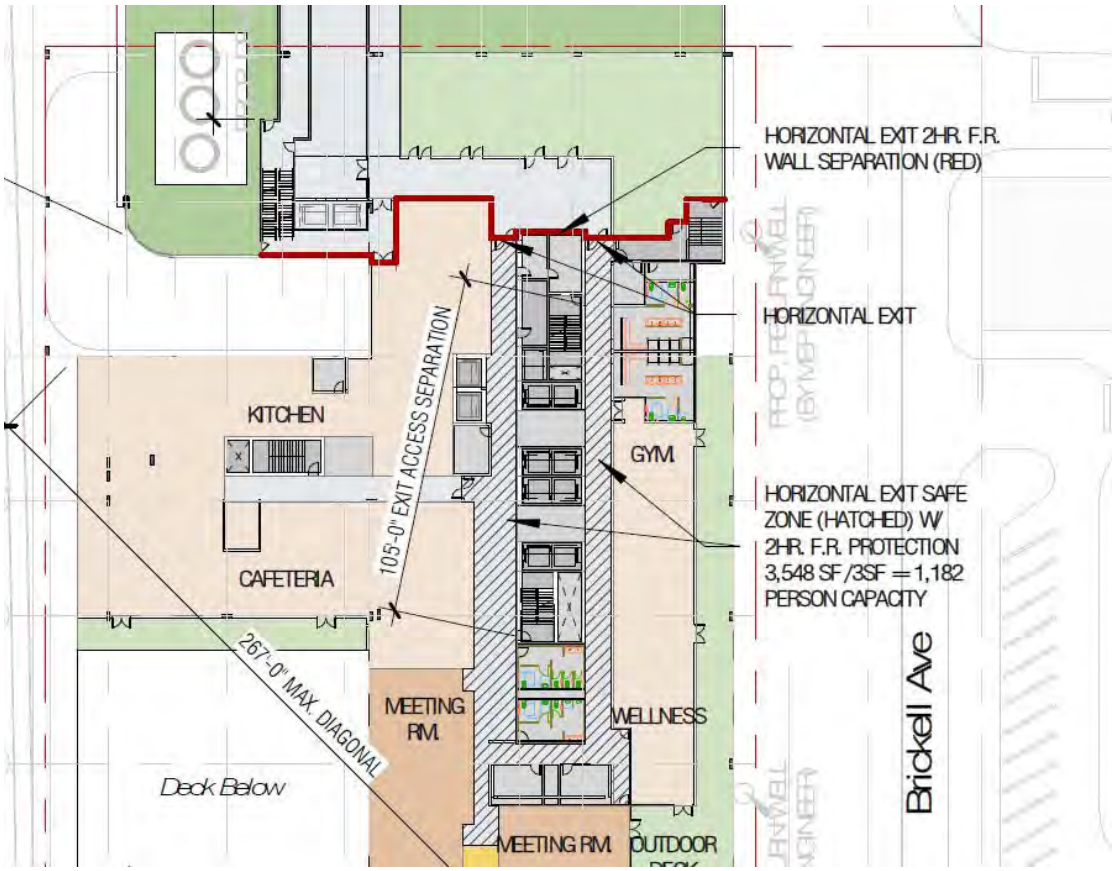


Figure 5.11.8(D): Horizontal Exit Diagram

One Exit Unavailable Analysis

The means of egress is designed with adequate width and capacity such that the loss of one exit leaves the other exits available to handle at least 50% of the occupant load. Analysis and calculation is shown on diagrams in section 5.9.17 of this package. FBC, Section 1005.5 and FFPC, NFPA 101, Section 7.3.1.1.2.

Exterior Doors (NOA)

All exterior windows and doors must comply with the requirements of Section 1710 of the FBC. The designer must consider the potential conflict between the manufacturer's notice of approval (NOA) and the required swing of exit doors. The conflict may occur in assembly areas located outdoors that require occupants to egress through the building. All exit doors serving an occupant load of 50 or more people must swing in the direction of egress travel. The doors equipped with panic hardware would swing into the building or into the stairwells. These exit doors must have the proper NOA as required by Section 1710 of the FBC.

Exit Signage

Exit signs are required at all exit doors and directional signs are required within the means of egress where the path of egress is not apparent. Exit sign placement shall be such that no point in the exit access corridor is more than 100 feet from the nearest exit sign.

Luminous Egress Markings

As a high-rise building, FBC §403.5.5 states that approved luminous egress path markings delineating the exit path must be provided in Group A, B, & E occupancies in accordance with FBC §1025. Markings within the exit enclosures are required to be provided on steps, landings, handrails, perimeter demarcation lines, and discharge doors from the exit enclosure. Materials should comply with either UL 1994 or ASTM E2072.

Rooftop Occupancy

The Joint Government Center Campus project has been designed with occupancy on the roof tops on levels 4, 9, 10, 28. The proposed use for the roof top is for building occupant amenity spaces. The roof top must be designed to comply with all means of egress requirements for Assembly occupancy. Refer to Figure 6 below for example of roof top occupancies.

Means of Egress

Normal lighting must be designed to provide a minimum of 1 ft-candle measured at the floor within exit access routes, exits, and the exit discharge routes. In the stairs, the minimum illumination shall be at least 10 ft-candle measured at the walking surface. The elevator code requires adequate lighting (10 ft-candle) at the landing sill of elevators measured with doors open/closed. FBC, Section 1008, FFPC, NFPA 101, Sections 7.8 and 7.9 and ASME A17.1, Section 2.11.10.2.

Figure 5.11.8(E): Rooftop Occupancy

Additionally, lighting is required to be arranged such that the failure of a single lighting unit does not reduce illumination levels to less than 0.2 ft-candle as required by FFPC, NFPA 101, Section 7.8.1.4 and FBC, Section 1008.2.1

Emergency lighting is required for this occupancy per FFPC, NFPA 101, Section 28.2.9 and 30.2.9. The emergency lighting must provide an average of 1 ft.-candle measured at the floor throughout the means of egress with a minimum of 0.1 candle at any point. The illumination of 10 ft-candle for the elevator threshold is still required under emergency lighting conditions.

It is noted that the FDPT Fire Department and BDPT Building Department strictly enforce the reliability of emergency lighting and require that the system be arranged to provide the required illumination automatically in the event of interruption of normal lighting due to any of the following as required by FFPC, NFPA 101, and Section 7.9.2.3:

- Failure of a public utility or outside electrical power supply;
- Opening of a circuit breaker or a fuse;
- Manual acts including accidental opening of a switch controlling normal Lighting

As per standard practice, it is recommended that the project team ensure that battery back-up lighting is provided in the following locations; emergency generator room, fire command centers, fire pump room, and the emergency responder radio coverage room (if provided).

Emergency lighting must be provided in mechanical rooms and electrical rooms as required in NFPA 70, Articles 110.26(D) and 700.16.

Emergency lighting is required on the egress side of delayed egress door and access control doors when provided in the building in accordance with FFPC, NFPA 101, and Section 7.2.1.6.

5.11.9 Major Life Safety Accessibility Requirements

Accessibility requirements are indicated in FBC-Accessibility Code Sixth Edition. The Joint Government Center Campus project must comply with all the applicable accessibility requirements mandated for each occupancy. The complete review of accessibility code compliance is outside the scope of this Design Criteria Package. The items listed below are not all inclusive of the requirements in FBC and FFPC. However, the list below provides a quick reference of some basic requirements related to fire and life safety that may be missed during the design.

Accessible Means of Egress

Two accessible means of egress are provided whenever two exits are required from the space, floor, or building. If one means of egress is permitted by the Code, then only one accessible means of egress needs to be provided. Travel distance and common path of travel limits must be followed equal to the required means of egress. Each accessible means of egress shall be continuous from each accessible occupied space to a public way or area of refuge.

Required portions of an area of refuge shall have access to a public way via a) an exit or b) an elevator without requiring return to the building spaces through which travel to the area of refuge occurred.

1. Exit stair must comply with clear width of landings and stair of minimum 44 inches measured between handrails.
2. Elevators must comply with firefighters' emergency operations, power supply shall be protected against interruption, and must be located in a smoke-proof enclosure. (FFPC, NFPA 101, Section 7.5.4 and 7.2.12.2) Note: The smoke-proof enclosure is not required in buildings protected by an automatic sprinkler system.
3. In areas where a 1-hr separated corridor is not able to be provided on typical office floors due to office open plan design constraints/ requirements. An enclosed 2-hr separated elevator lobby is to be provided at all elevators and a protected egress access path to all stairways is to be maintained.

Elevators

In buildings where a required accessible floor is four or more stories above the level of exit discharge (5-story bldg.), then at least one required accessible means of egress shall be an elevator. The elevator must comply with the emergency operation and signaling requirements of ASME A17.1 Section 2.27. Standby power shall be provided. (FBC-Accessibility, Section 207)

Additional Interior Exit Stairway and Occupant Evacuation Elevator

The final building design exceeds the 420' height requirement and has been designed to be equipped with an Occupant Evacuation Elevator per FBC §403.2.6 complying with all requirements of FBC §3008. Minimum lobby size and integration of Elevator control system for emergency operations is required. The occupant evacuation elevator and associated lobbies have been sized to be able to be incorporated and accommodated into the current core footprint and are intended to service floors 10 and up only. From level 9 and below the egress capacity through use of stairways only is sufficient to comply with FBC §403.2.6. Should an occupant evacuation elevator be provided as part of one of the central banks of elevators, fire separation complying with FBC §3008 shall be provided on every floor where such elevator(s) has an opening/ landing with the exception of the ground floor/ level of exit discharge.

Exit Door Signage

Tactile signage shall be provided to meet all the following criteria in accordance with FFPC, NFPA 101-Section 7.10.1.3: a) tactile signs shall be located at each exit door requiring an exit sign; b) tactile sign shall read EXIT; and c) tactile signs shall comply with ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities.

5.11.10 General Fire Protection and Life Safety Systems Overview

Equipment Locations and Flood Zone

All fire protection and life safety equipment is required to be located above the minimum base flood elevation. Equipment cannot be located below flood level even if the story is protected with flood proofing systems.

Fire Command Center (FCC)

The building will have a Fire Command Center as required for high-rise buildings. The fire command center must be located near the entry point and must be at least 200 sq. ft. in size with a minimum dimension of 10 ft. The fire command center must be constructed of at least 2-hr fire barrier enclosure and requires a door opening into the lobby and additional door opening to the outside to provide direct access without entering the lobby.

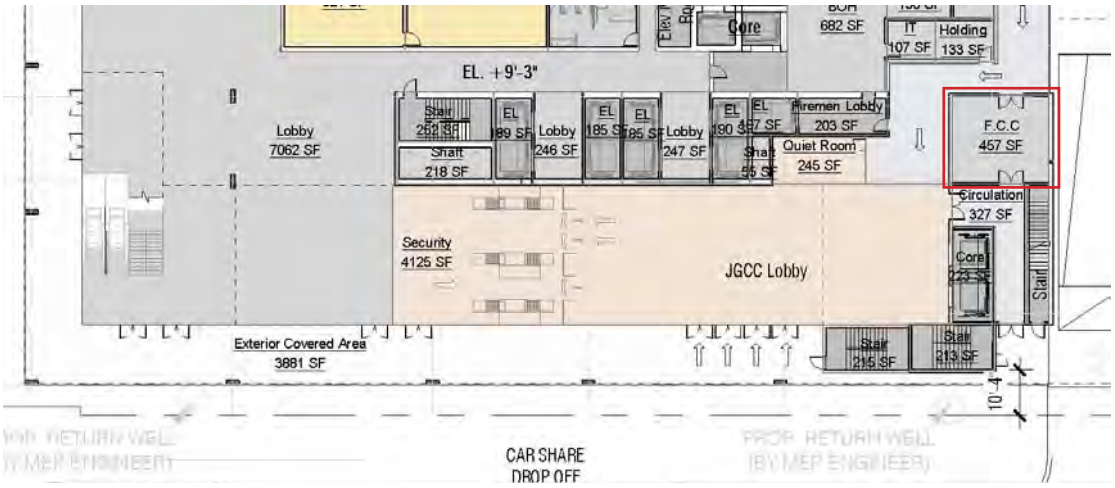


Figure 5.11.10(A): Fire Command Center (FCC)

It is noted that the lighting and HVAC system in the fire command center must be tied into emergency power. The following items must be provided in the fire command center:

- The emergency/voice alarm communications system;
- The fire department communication systems; two-way telephone communication service panels and controls;
- Fire detection and alarm system annunciator;
- Annunciator unit visually indicating the location of the elevators and whether they are operational;
- Status indicators and controls for air distribution systems;
- The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building;
- Controls for unlocking stairway doors simultaneously;
- Sprinkler valve and water flow detector display panels;
- Emergency and standby power status indicators;
- A telephone for fire department use with controlled access to the public telephone system;
- Fire pump status indicators;
- Schematic building plans indicating the typical floor plan and detailing the building core, fire protection systems, fire-fighting equipment and fire department access and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions;
- Worktable;
- Generator supervision devices, manual start and transfer features;
- Public address system, where specifically required by other sections of this code;
- Elevator fire recall switch in accordance with ASME A17.1;
- Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

5.11.11 Fire Protection Systems Overview

Site Water Supply Systems

The site water supply for fire protection systems shall be provided in accordance with the requirements of Chapter 23 of NFPA 13, Standard for the Installation of Sprinkler Systems. Fire hydrants must be installed within 100 feet of the fire department connections in accordance with NFPA 14. Backflow preventer must be designed and installed as required by the local water department jurisdiction. Refer to Section 5.2 of this DCP for additional information pertaining to site water supply requirements.

Sprinkler Systems

Per FBC §903.2.1, FBC §903.2.6, FBC §903.2.7 and FFPC §11.8.3.1, sprinkler protection (designed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems (2010)) shall be installed throughout the buildings. This building will have the protection system connected to the city water supply.

Standpipe Systems

Per FFPC §11.8.3.2 & FBC §905.3.1, Class I automatic standpipes shall be provided within the Joint Government Center Campus project since the top floor is more than 30 feet above fire department access road. The installation of standpipes shall be designed and installed in accordance with NFPA 14, Standard for the Installation of Standpipe and Hose Systems.

Sprinkler Zoning

Based on the height of the building, one (1) flow control valve must be provided per floor.

Standpipe Zones: Based on the height of the building, an automatic standpipe system shall be provided in accordance with NFPA 14.

Fire Pump

This building will have a fire pump to supply the sprinkler and standpipe systems. The installation of the fire pump shall be designed and installed in accordance with NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection, 2019 Edition.

Access to fire pump room from outside is required. Refer to Figure 5.11.11(A) for location as indicated in the proposed DCP Concept Plan.

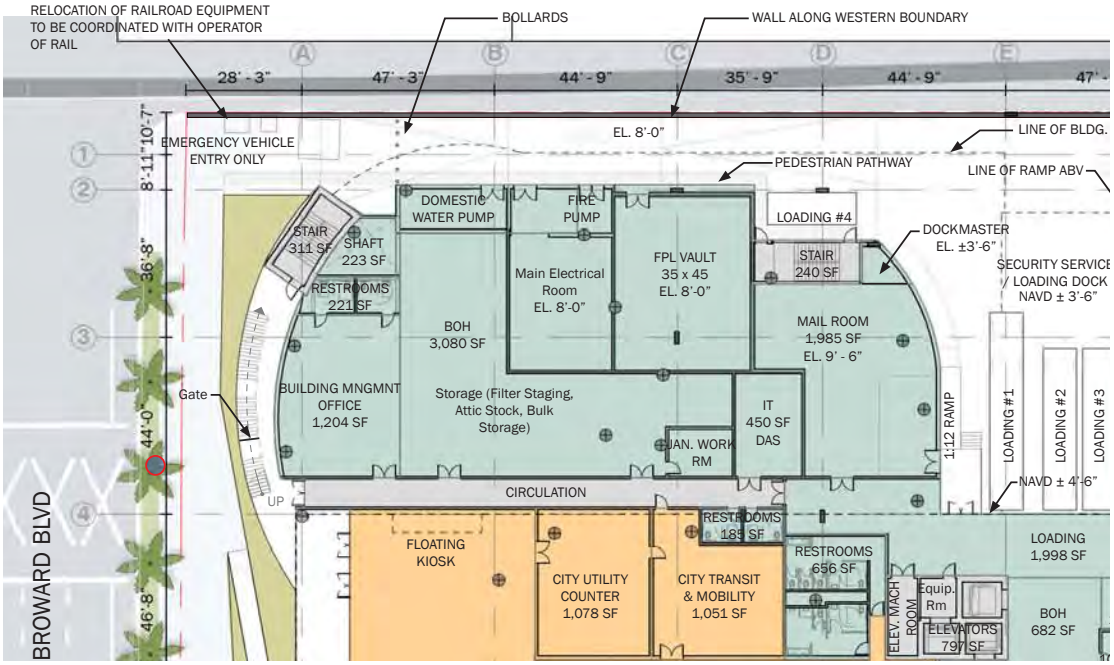


Figure 5.11.11(A): Fire Pump Room Location

Fire Department Connections

A high-rise building is required to have two fire department connections located at remote points of the property. At least one of the fire department connections must be located within 100 ft. of a fire hydrant. The fire department connections must be visible, accessible, and clearly marked for fire department use.

Fire Extinguishers

Fire extinguishers must be provided throughout the building as required by FFPC, NFPA 1 and Section 906 of the FBC. The fire extinguishers must be installed in accordance with NFPA 10, Standard for Portable Fire Extinguishers. Table 5.11.11(A) below provides a brief overview of the installation requirements.

TABLE 5.11.11(A): FIRE EXTINGUISHERS

HAZARD AREA	MINIMUM SIZE AND TYPE	MAX TRAVEL DISTANCE TO A FIRE EXTINGUISHER	MAX FLOOR AREA PER UNIT OF A	MAX FLOOR AREA FOR A FIRE EXTINGUISHER
Low Hazard (Business, Assembly, Education	2A:10B:C Increase rating based on limits	75 ft.	3,000 SF	11,200 SF
Moderate Hazard (Parking Garage, Storage)	2A:20B:C Increase rating based on limits	50 ft.	1,500 SF	11,200 SF

5.11.12 Fire Alarm and Emergency Responder Radio Systems Overview

Fire Alarm Systems

As a high-rise building, and in accordance with FBC §403.6 and FFPC §11.8.4.1, an emergency / voice communication fire alarm system shall be provided. The fire alarm system must be designed and installed in accordance with NFPA 72, The National Fire Alarm and Signaling Code. Audible and visual appliances must be installed in accordance with FBC and FFPC. Selective evacuation signal is permitted where general evacuation is impractical due to building configuration per FFPC, NFPA 101 Section 9.6.3.6.2.

The fire alarm system must be designed to interface or monitor other life safety systems in the building such as automatic sprinkler system, fire pump, smoke control system, generator, etc.

In Group A, B, and E uses Manual Fire alarm systems that activates the occupant notification system in accordance with FBC §907.

Fire Alarm Monitoring

The fire alarm system of the Joint Government Center Campus shall be monitored by a central station in accordance with Section 13.7.1.4.11.1 of the FFPC (NFPA-1).

Fire Fighter Telephone Jacks

The Fire Department will require that fire fighter telephone jacks be provided in accordance with FBC §907.2.13.2 despite consideration that the building shall also be provided with an emergency response radio coverage system.

Emergency Responder Radio System

In addition to fire-fighter telephone jacks provided (as required by NFPA 72, *National Fire Alarm and Signaling Code*, the building shall be provided with emergency responder radio coverage as required by FBC §403.4.4 and NFPA 1, Section 11.10. The requirements of the Emergency Responder Radio System are listed in NFPA 72, Section 24.5. The fire department will also have specific requirements for their radio system in addition to the basic items below.

Radio Signal Strength: Signal strength measurements in 95% of all areas of each floor of the building should the following minimum signal strengths:

- -95 dBm minimum signal strength within the building;
- -95 dBm minimum signal strength should be received by the agency's radio system when transmitted from within the building.

Secondary Power: The emergency responder radio coverage system shall be provided with an approved secondary source of power capable of providing an 8-hour supply.

Carbon Monoxide Alarms

Carbon monoxide detection shall be provided in accordance with the requirements of the FBC, Section 916 and FFPC, Sections 28.3.4.6 and 30.3.4.6. Carbon monoxide detectors are required in buildings having fuel burning appliances, a fireplace, an attached garage, or other element that emits carbon monoxide as a byproduct of combustion. Carbon Monoxide detection shall be installed in accordance with NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*.

Smoke Alarms

FBC §907.2.1-907.2.3 and FFPC §12.3.4 states that manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

In addition, Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.

Smoke Detection System

FBC Section 907 states that smoke detection shall be provided in the following spaces that are not protected by sprinkler system: mechanical equipment, electrical transformer, telephone equipment, or similar room. In addition, smoke detection must be provided in each elevator machine room and in elevator lobbies.

A corridor smoke detection system is normally required for hotel occupancies in accordance with FBC and FFPC, but it may be omitted for buildings with sprinkler system protection. However, a smoke detection system would be required to initiate the smoke control system.

5.11.13 Emergency and Standby Power Systems

Emergency Power Systems

The emergency power systems shall be designed in accordance with the following (FBC §2702.1 and FFPC §7.9.2.2):

- NFPA 70, National Electrical Code (NEC)
- NFPA 110, Standard for Emergency and Standby Power Systems;
- NFPA 111, Standard on Stored Electrical Energy Emergency and Standby Power Systems.

The standby system shall have the capacity to supply the following:

- Fire Command Center lighting and HVAC (FBC §911.1 and LSC §11.8.4.2.4);
- Elevators used as accessible means of egress elevators (FBC §1007; FAC 207);
- Electrical generator and main switchgear room lighting circuits (NFPA 110);
- Essential floor, sewage ejector and sump pumps;
- Fire pump room lighting circuit (NFPA 20);
- Jockey pump (LSC §11.8)
- Electric fire pumps (LSC §11.8.4.2.4)
- Smoke control systems (FBC §2702.2.2);
- Stair Pressurization Systems and Controls (FBC §2702.2.2 and LSC §11.8.4.2.4);
- Horizontal sliding doors (FBC §2702.2.7);
- Emergency voice communication systems (FBC §2702);
- Elevators (FBC §3003.1);

The emergency system should have the capacity to supply the following:

- Exit Signs (FBC §2702.2.3);
- Means of Egress Lighting (FBC §2702.2.4);
- Elevator Car Lighting and Emergency Operation (FBC §403.11.1);
- Automatic detection systems (FBC §403.1.1);
- Fire Alarm and Communication systems (FBC §403.11.1).
- Occupant Evacuation Elevator (FBC §403.6.1).

Elevator machine room ventilation and/or air conditioning should be connected to the Building's standby power source. Where more than one (1) elevator is provided, all elevators should be provided with standby power and return to the designated level. After this point, one (1) elevator should remain operable from the standby power source (FBC §3003.1.3).

A 72-hour fuel supply shall be provided on life safety equipment within the building. It is noted that it is common practice and is to include at a minimum the following systems: elevators, emergency lighting, emergency MEP Systems as determined by MEP Engineer, domestic water pumps; jockey pumps; telephone and security systems.

5.11.14 Smoke Control Systems Overview

The building will have a smoke control system designed in accordance with FBC, Section 909. The design of the smoke control system for the Joint Government Center project will incorporate active and passive protection. The building components that will require smoke control system protection are listed below. All smoke control equipment (e.g., fans, VFDs, etc.) is required to be enclosed in a dedicated 2-hour fire rated enclosure. The smoke control system interfaces with the fire alarm system for activation (i.e., automatic or manual) and for supervision (e.g., monitoring of the disconnect switches for voltage and current loss).

Stairs

Stairs serving floors more than 75-feet above the lowest level of fire department vehicle access will be designed as smoke proof enclosures in accordance with Section 909.20.5 and Section 1022 of the FBC. The stairways in the high-rise building must be pressurized to comply with the requirements in FBC.

Elevators

The elevator hoist-ways and associated elevator machine rooms must be protected in accordance with the requirements of Section 3006 of the Florida Building Code (FBC). The elevator hoist-ways must be protected by lobby enclosure or by pressurization when the elevator shaft connects more than three (3) floors.

Floor-to-Floor/Zoned System

The corridors on each floor of the high-rise building must be provided with the ability to be either exhausted or pressurized by mechanical systems designed in accordance with FBC. It is noted, that each floor within the building is considered a dedicated smoke zone and, as such, shall be separated by passive smoke barriers (constructed in accordance with the requirements of Table 601 and Section 909.5 of the FBC).

Parking Garage

The parking garage designed to be an open parking garage. In areas where adequate ventilation as determined by MEP Engineer and FBC requirements is not met, provide with mechanical ventilation and exhaust as required by the FBC-Mechanical and NFPA 88A, Standard for Parking Structures.

Smoke Removal system is required for high-rise buildings as indicated in FBC Section 403.4.7. Natural or mechanical ventilation must be provided for this project to facilitate smoke removal in post-fire salvage and overhaul operations in accordance with Section 403.4.7. Natural ventilation involves manually operable windows or panels distributed around the perimeter of each floor based on the criteria in Section 403.4.7(1) of FBC. If natural means is not feasible, then mechanical ventilation must be provided to achieve one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.

Atrium

The Joint Government Center Campus building has been designed with a double height atrium space in the lobby area connecting 2nd floor County and City Chambers through use of 2 escalators and a Stair. In the event of a fire the escalators are to be shut off and not considered as part of the egress path / means of egress. The Atrium area is to comply with FBC 2017, Section 404 and provided with an automatic sprinkler system in accordance with Section 903.3.1.1. Smoke control, management and removal must be accounted for as part of the overall building smoke management system and comply with the FBC 2017 Mechanical Code.

Smoke Control Rational Analysis for this project must be provided with a detailed design criteria for the required smoke control systems by project life safety consultant.

5.11.15 Hazardous Materials Approach

The quantities of hazardous materials will be below the exempt amounts / maximum allowable quantities (MAQ's) and no Use Group H, High Hazard occupancies are proposed or intended. It is noted that the fuel located within vehicles are exempted by the Florida Building Code, the FFPC and NFPA 30. All rooms containing hazardous materials within the Joint Government Center Campus project (e.g. fuel storage room/emergency generator room, pool chemical rooms, etc.) should be provided with an NFPA 704 Hazmat placard.

5.11.16 Fire Department Access

Site Access and Set-Up Sites

The site must comply with FFPC, NFPA 1, and Chapter 18 for the minimum fire department site access requirements.

Site access shall be provided from West Broward Blvd. And NW 2nd Street to an emergency service drive along the entire western perimeter of the site dedicated to Service/ Emergency Use Only. In addition, a drop off area located along Brickell Ave shall provide direct access to the Fire Command Center and main elevator lobby. See Figure 5.11.16(A).

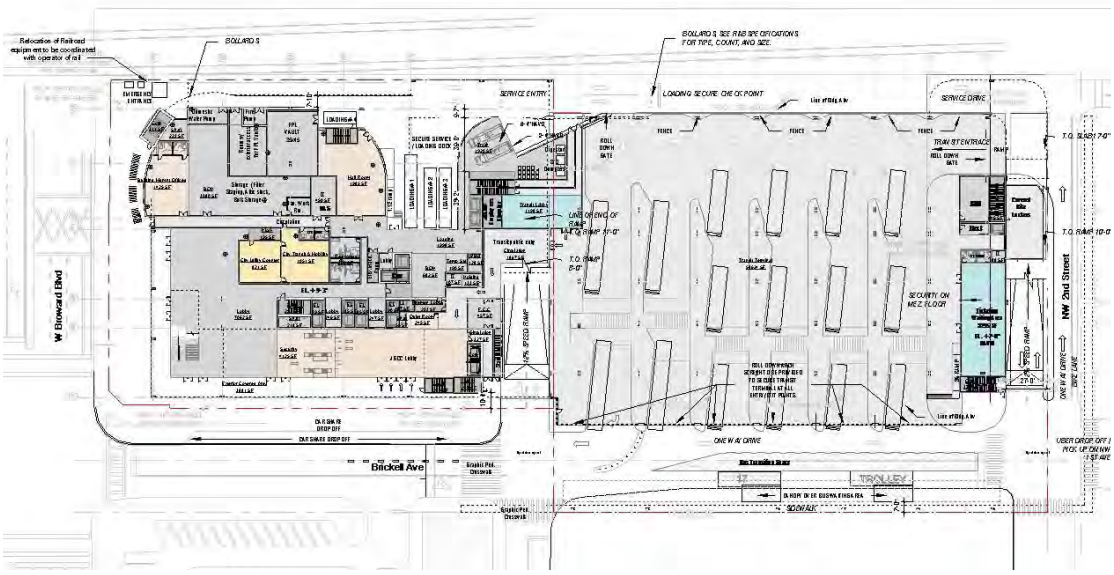


Figure 5.11.16(A): Site Access

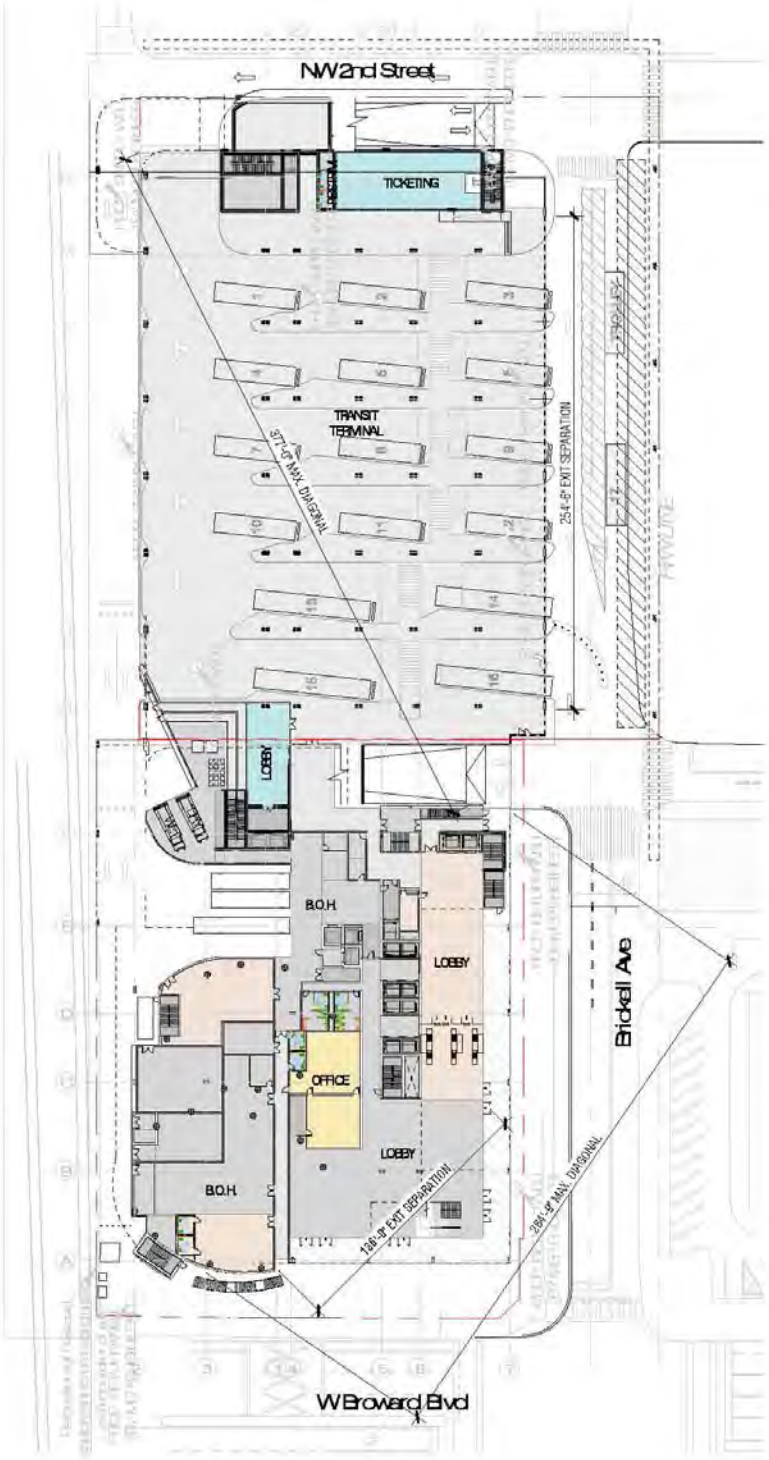
Elevator – Emergency Medical Services

Any building that is more than three stories or where the vertical distance to the top landing exceeds 25 feet, must contain at least one passenger elevator that is operational for building occupants and fire department access to all floors. The elevator car shall be able to accommodate an ambulance stretcher (24 inches x 76 inches) with 5 inches radius corners. The elevator car must be identified by the international symbol for emergency medical services (star of life). The symbol must be at least 3 inches high and located inside on both sides of the hoist-way door frame. FBC, Section 3002.4

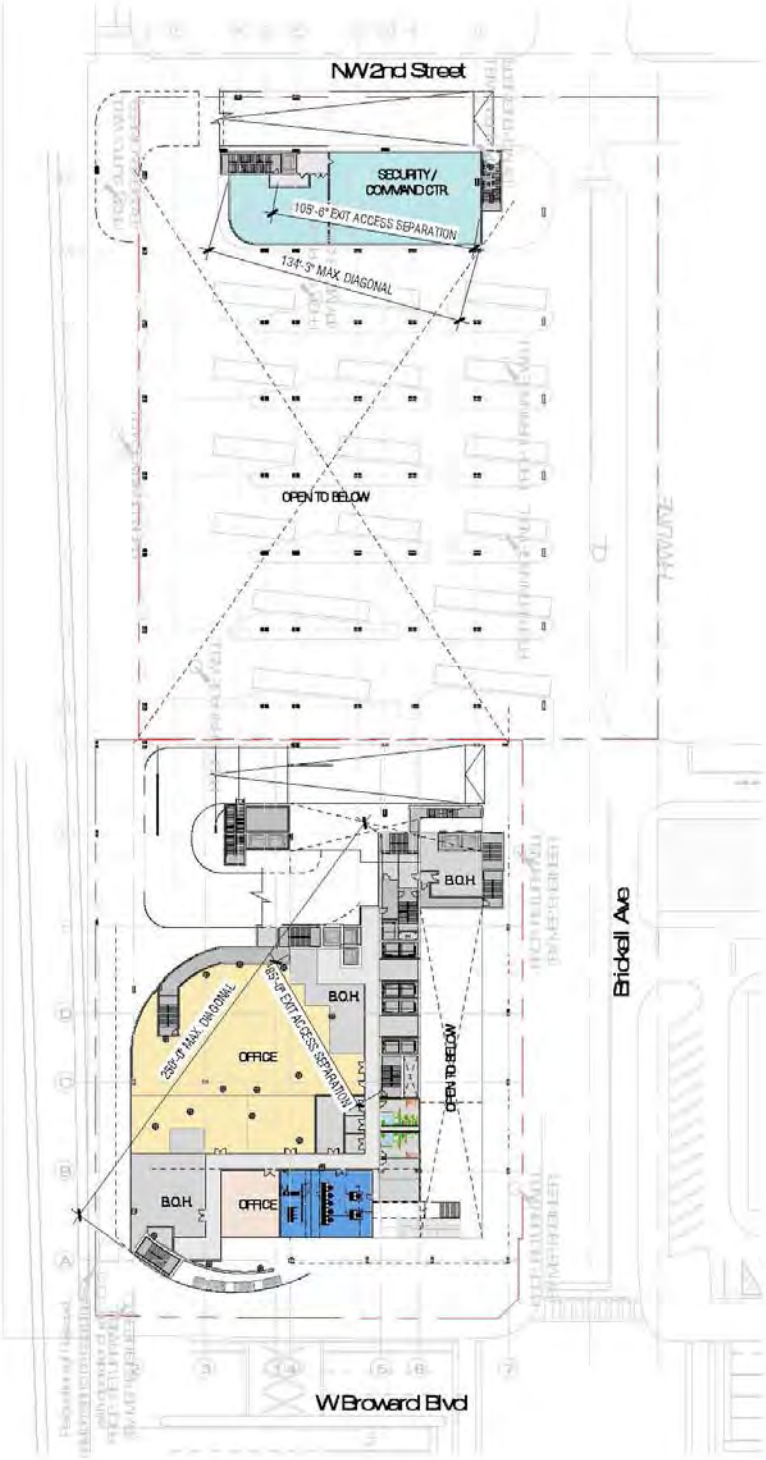
Fire Service Access Elevators

This building has been designed with One (1) Fire Service Access Elevator and accompanying lobby per FBC, Section 3007.6. Lobbies have been sized to at least 6ft wide and is at minimum 150sqft. In addition, direct access to one exit stairway has been provided per FBC Section 3007.6.1.

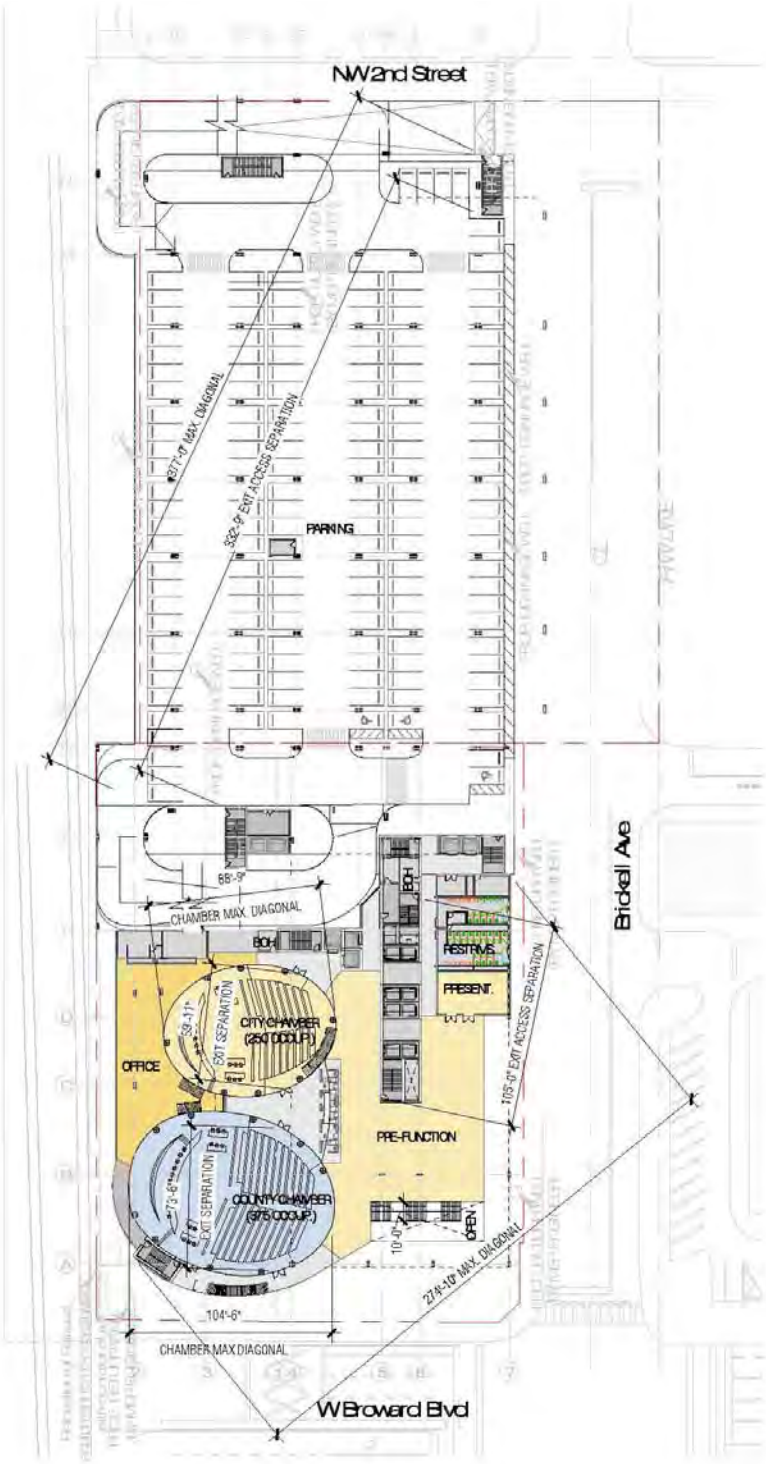
5.11.17 Concept Plan Analysis Diagrams



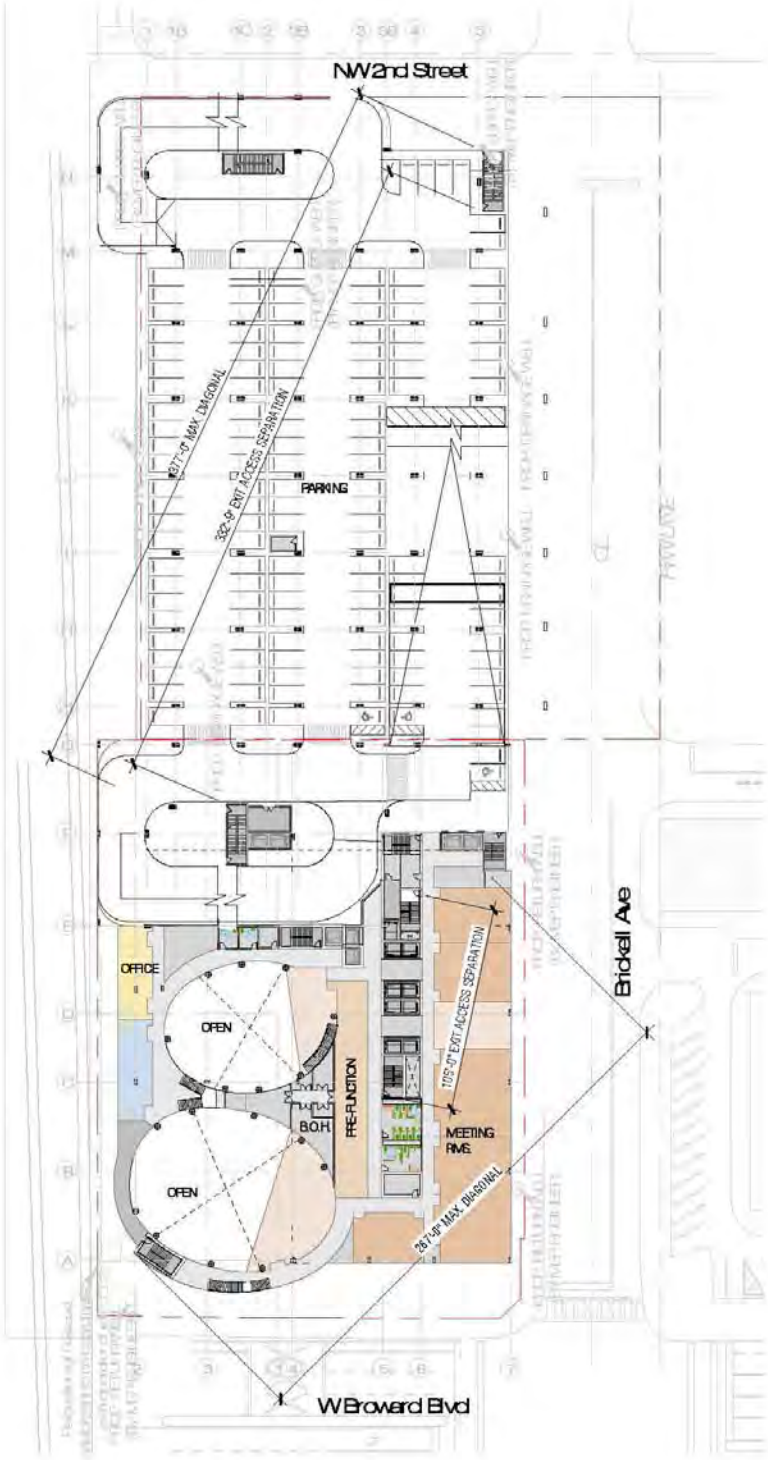
Level 1 - Life Safety Analysis Diagram



Level 1.5 (Mezzanine) - Life Safety Analysis Diagram

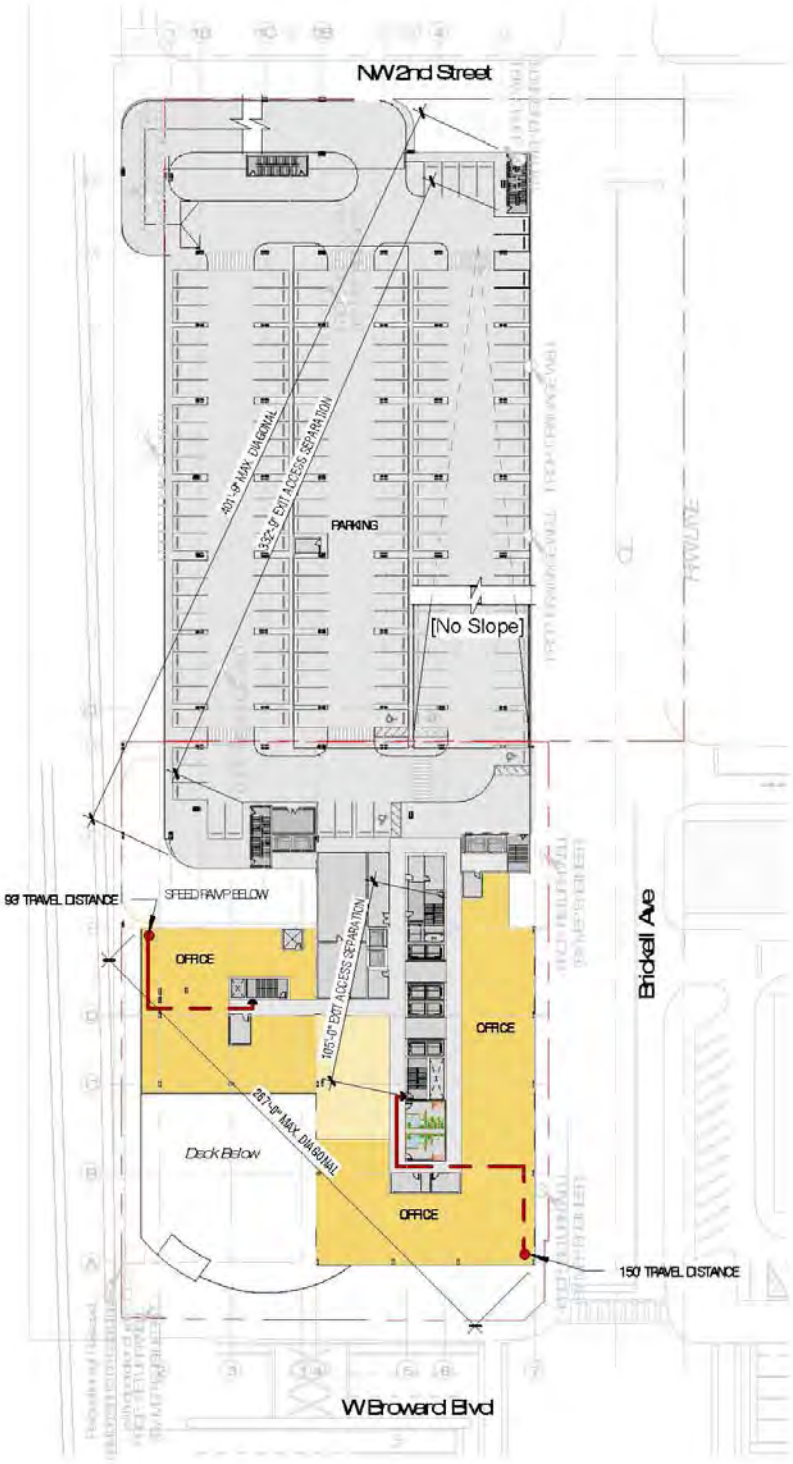


Level 2 - Life Safety Analysis Diagram

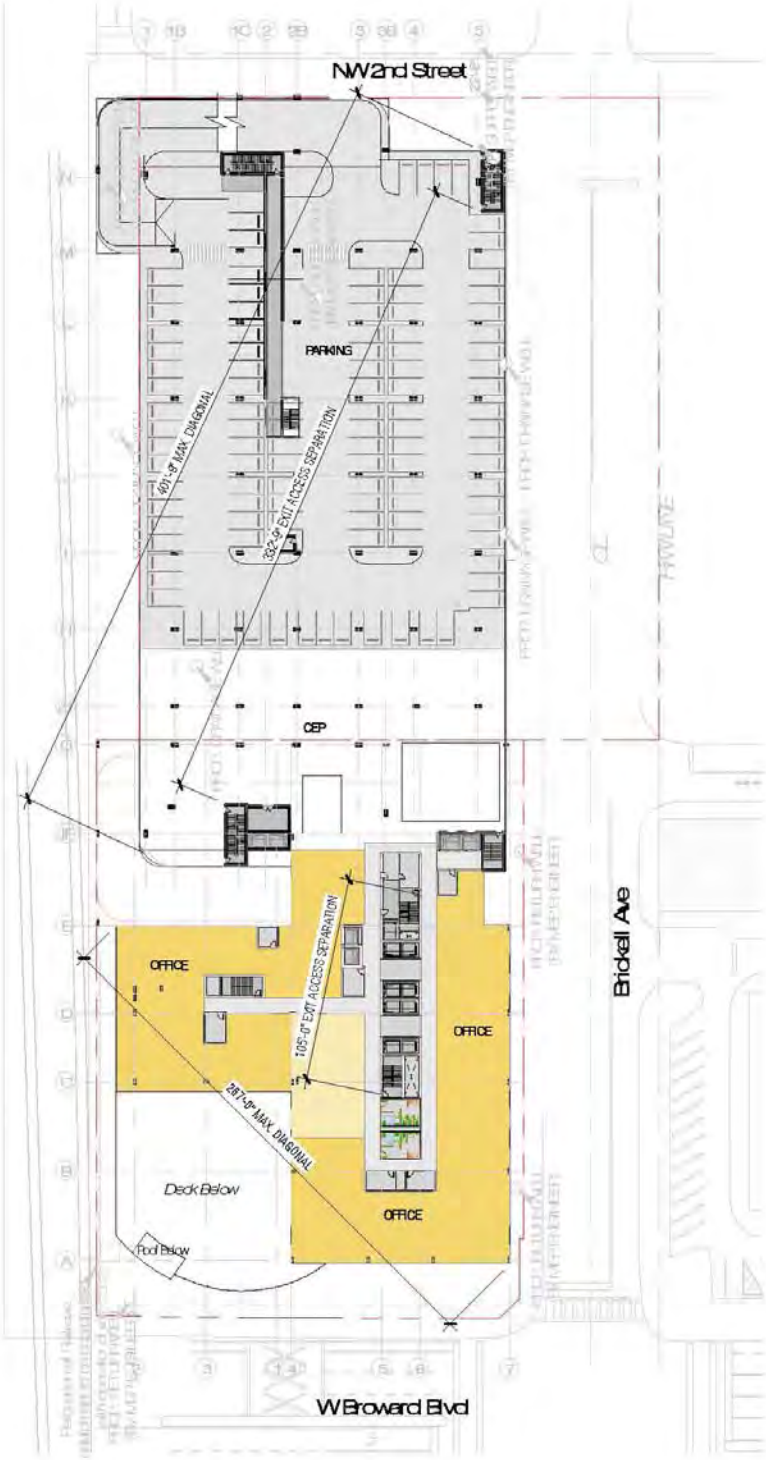


Level 3 - Life Safety Analysis Diagram

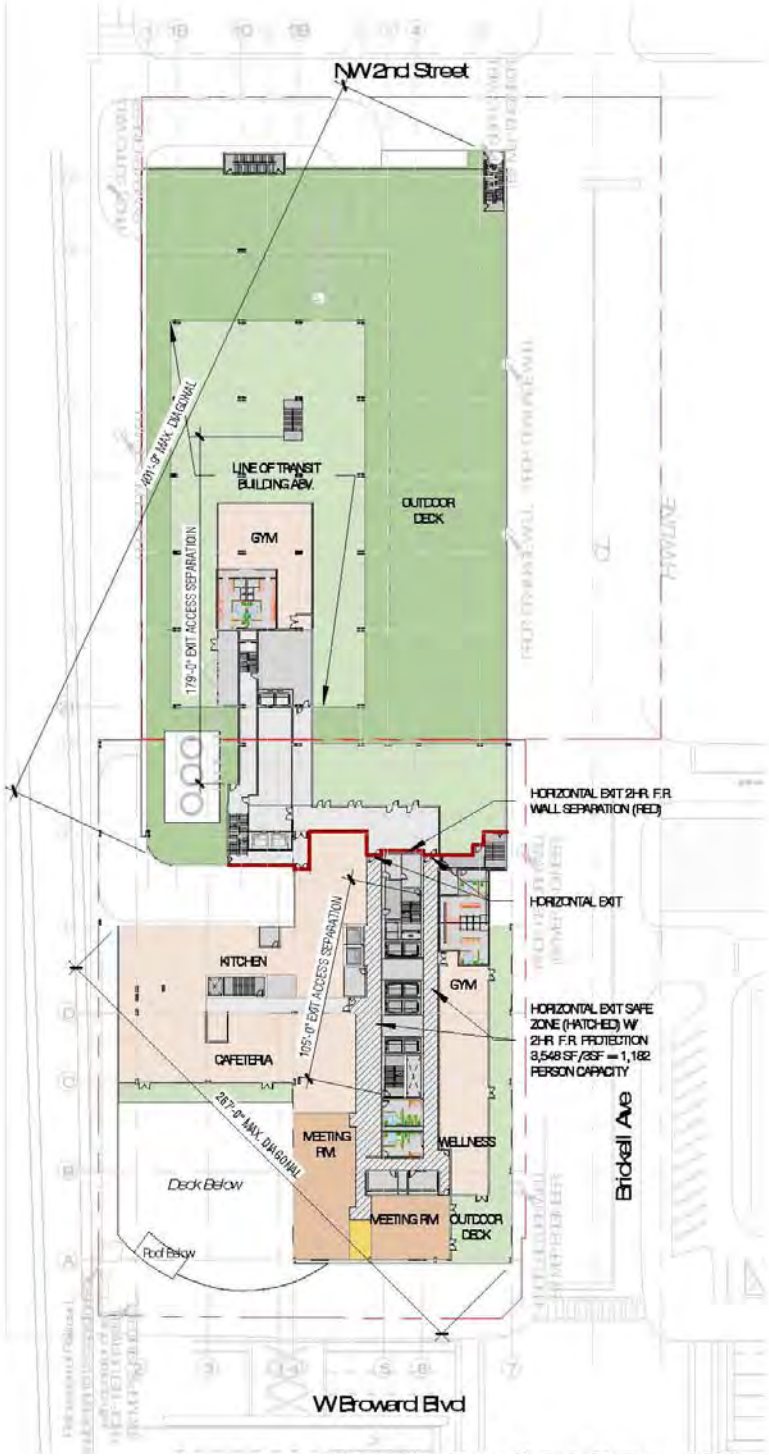
Level 4 - Life Safety Analysis Diagram



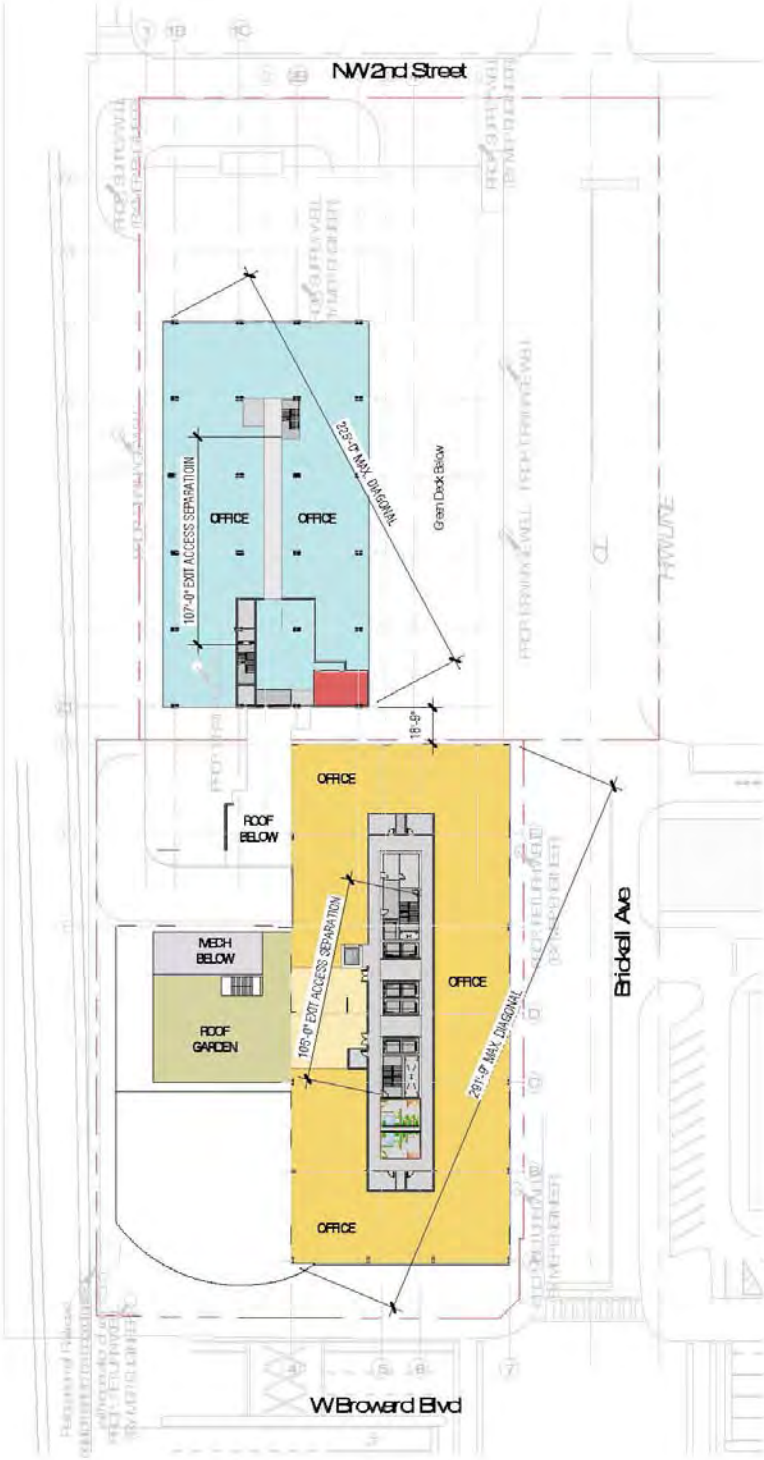
Level 5 thru 7 - Life Safety Analysis Diagram



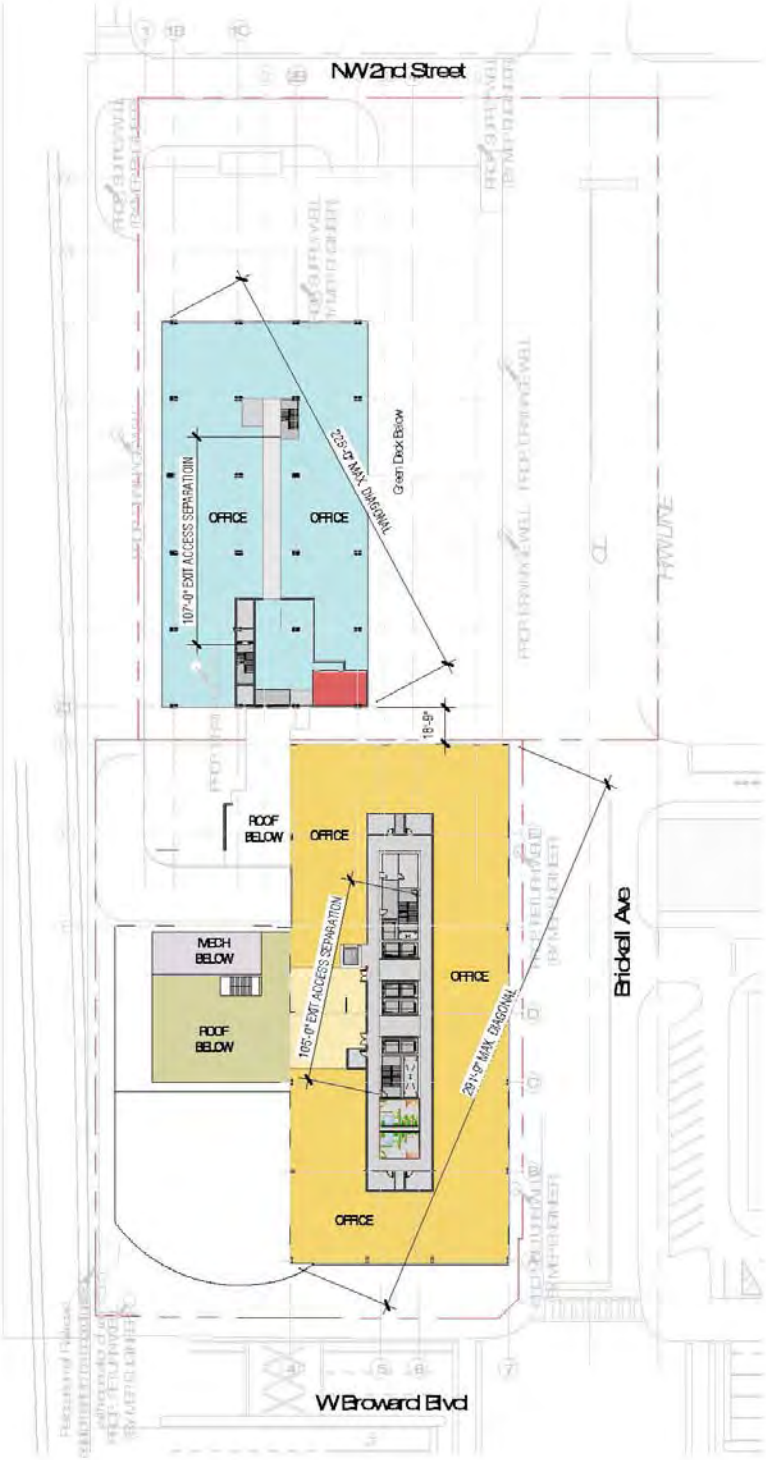
Level 8 - Life Safety Analysis Diagram



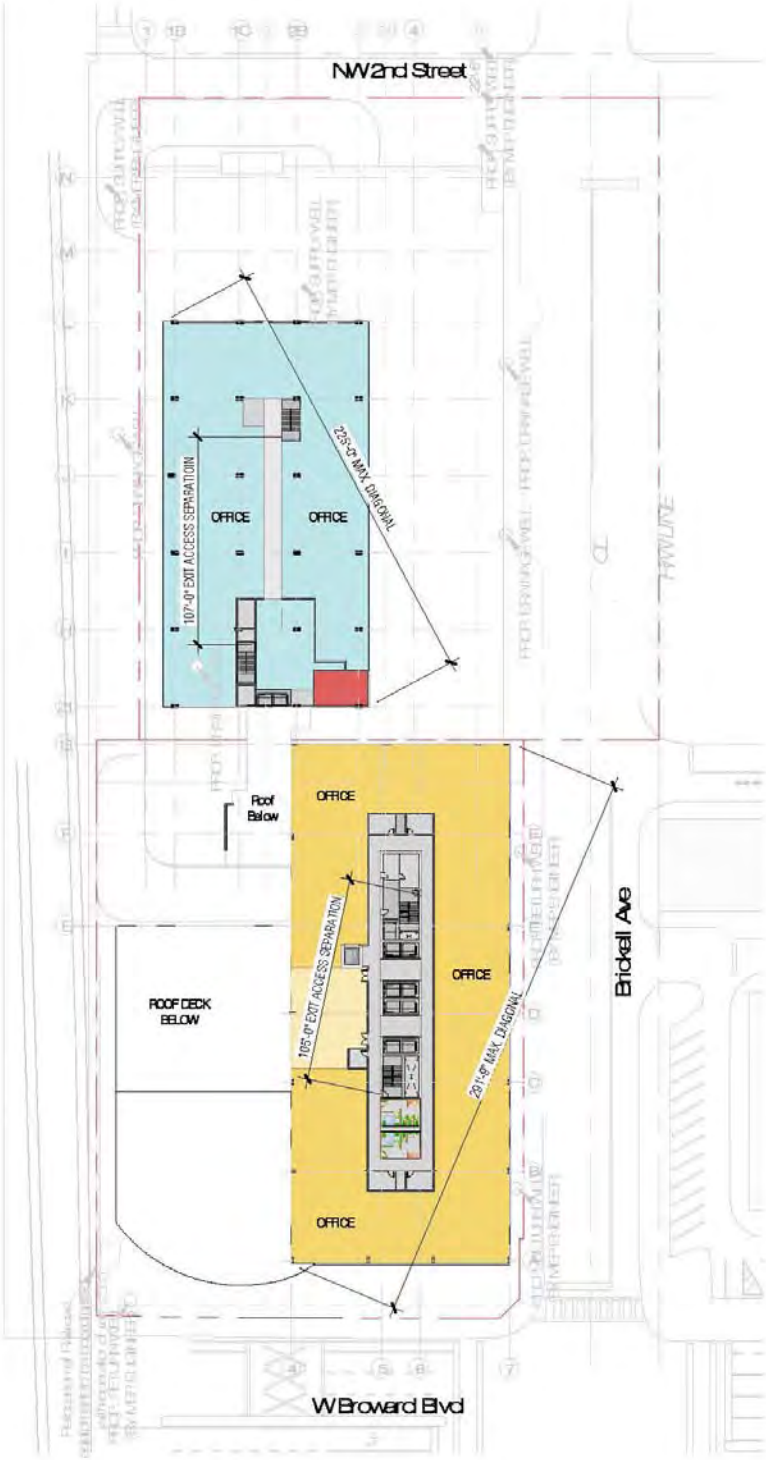
Level 9 - Life Safety Analysis Diagram



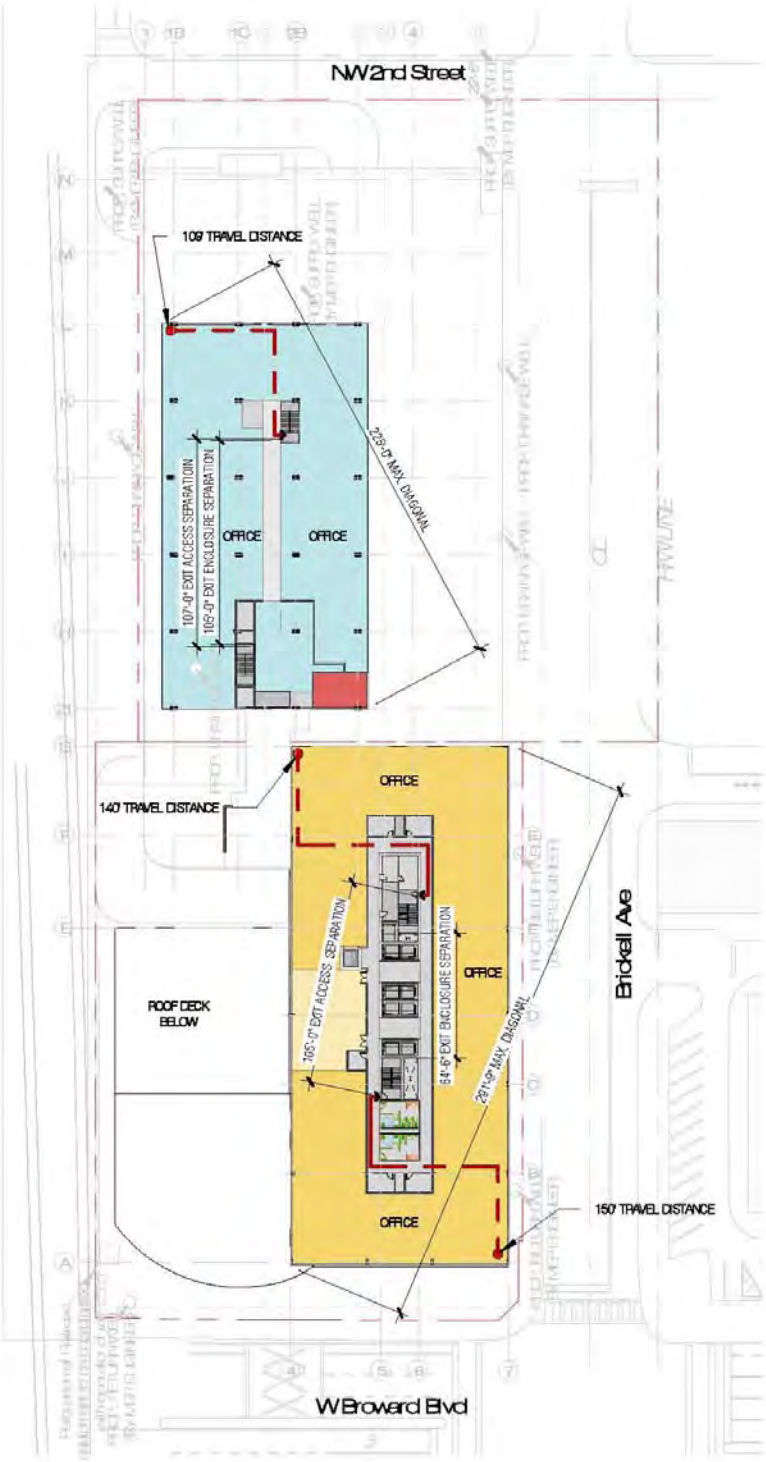
Level 10 - Life Safety Analysis Diagram



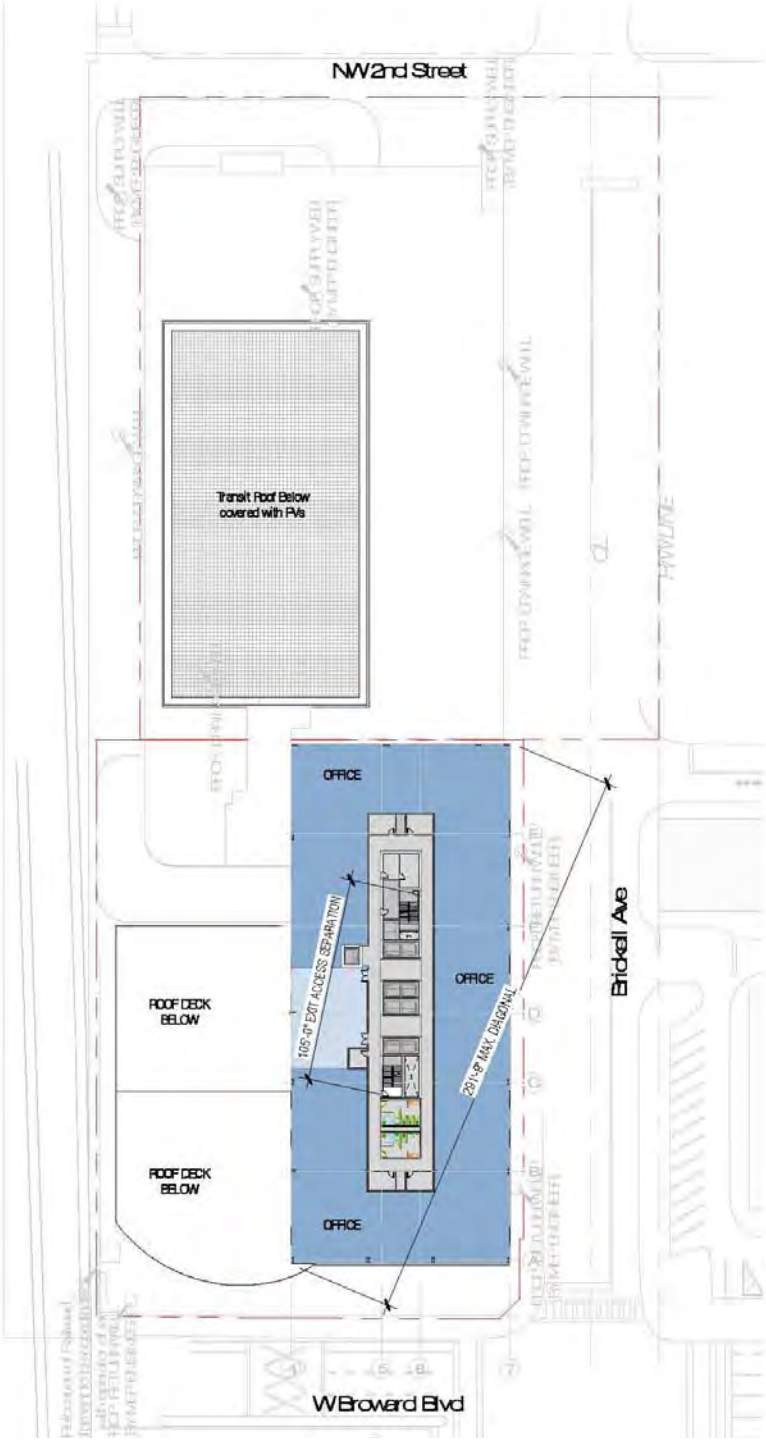
Level 11 - Life Safety Analysis Diagram



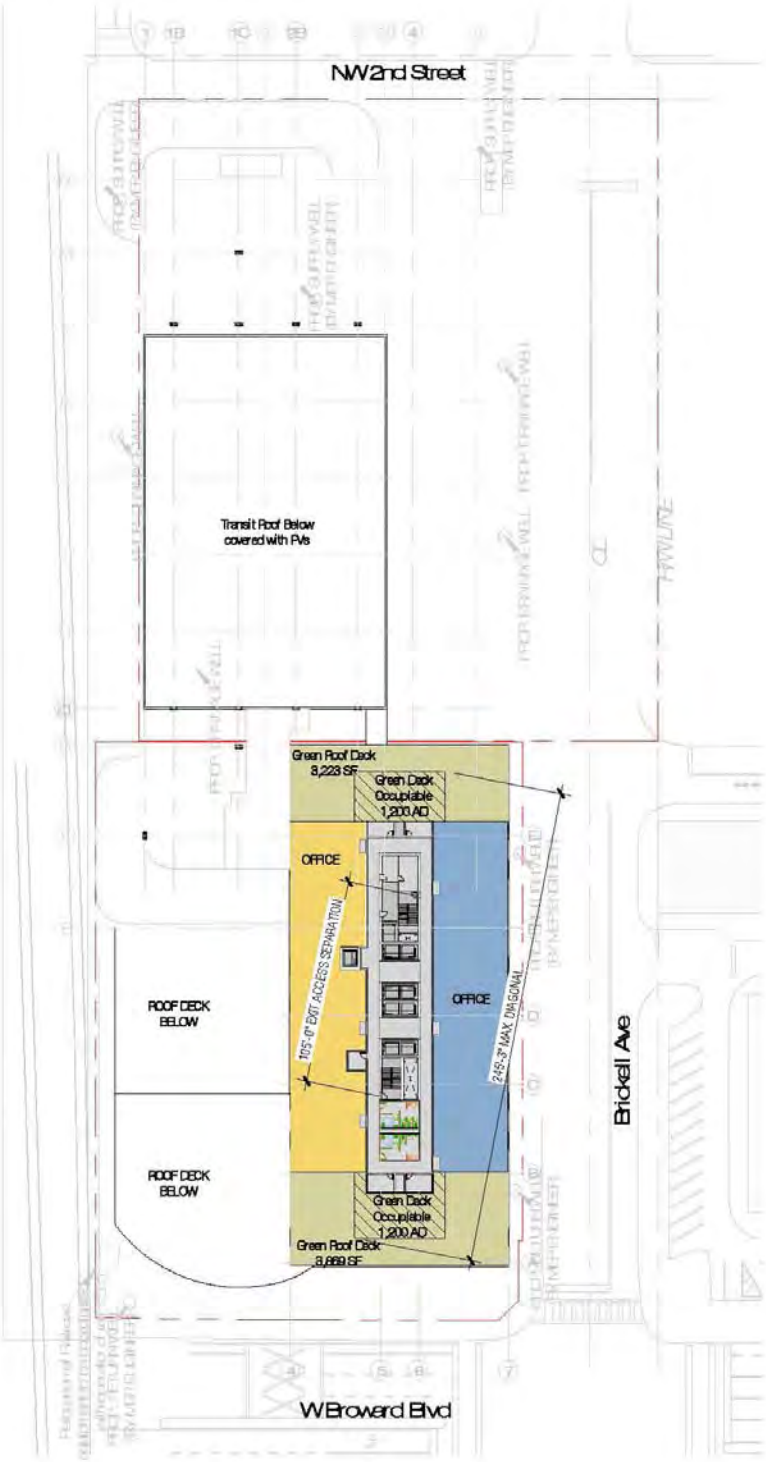
Level 12 - Life Safety Analysis Diagram



Level 13- Life Safety Analysis Diagram



Level 14 thru 27 - Life Safety Analysis



Level 28 - Life Safety Analysis Diagram

Refer to BOOK 2
For DESIGN CRITERIA PACKAGE CONCEPT PLANS

SEPTEMBER 14, 2020

ZYSCOVICH

DCP

Design Criteria for Joint Government Center Campus

BROWARD COUNTY AND CITY OF FORT LAUDERDALE
BOOK 2

DESIGN CRITERIA PACKAGE CONCEPT PLAN
BOOK 2

September 14, 2020

ZYSCOVICH

DCP

DESIGN CRITERIA PACKAGE CONCEPT PLAN
BOOK 2

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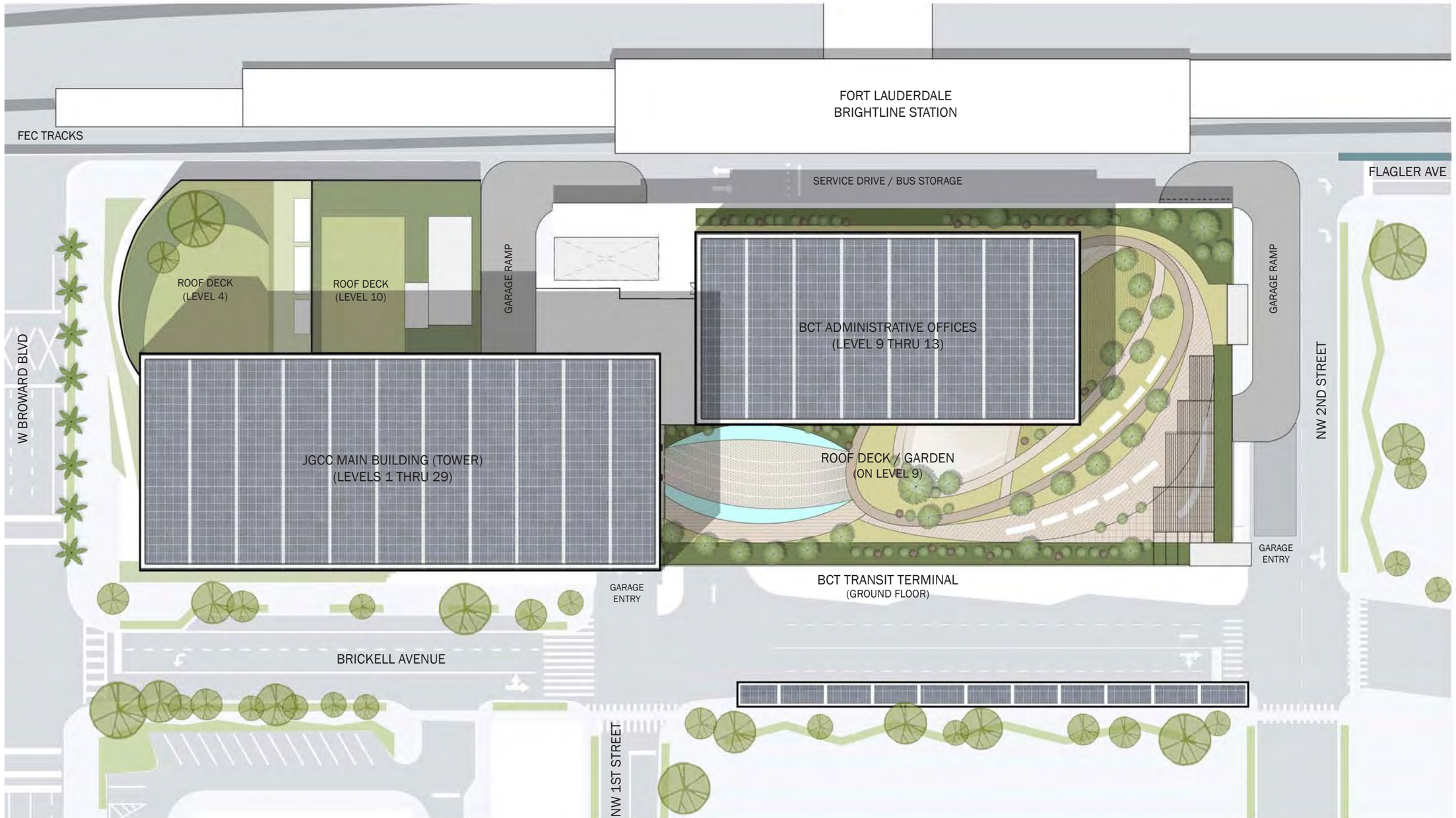
JGCC | CONCEPT RENDERING . *VIEW FROM BROWARD BLVD AND BRICKELL AVENUE*

JGCC | CONCEPT RENDERING . *TRANSIT TERMINAL | VIEW FROM NE CORNER OF BRICKELL AVE AND NW 2ND STREET*

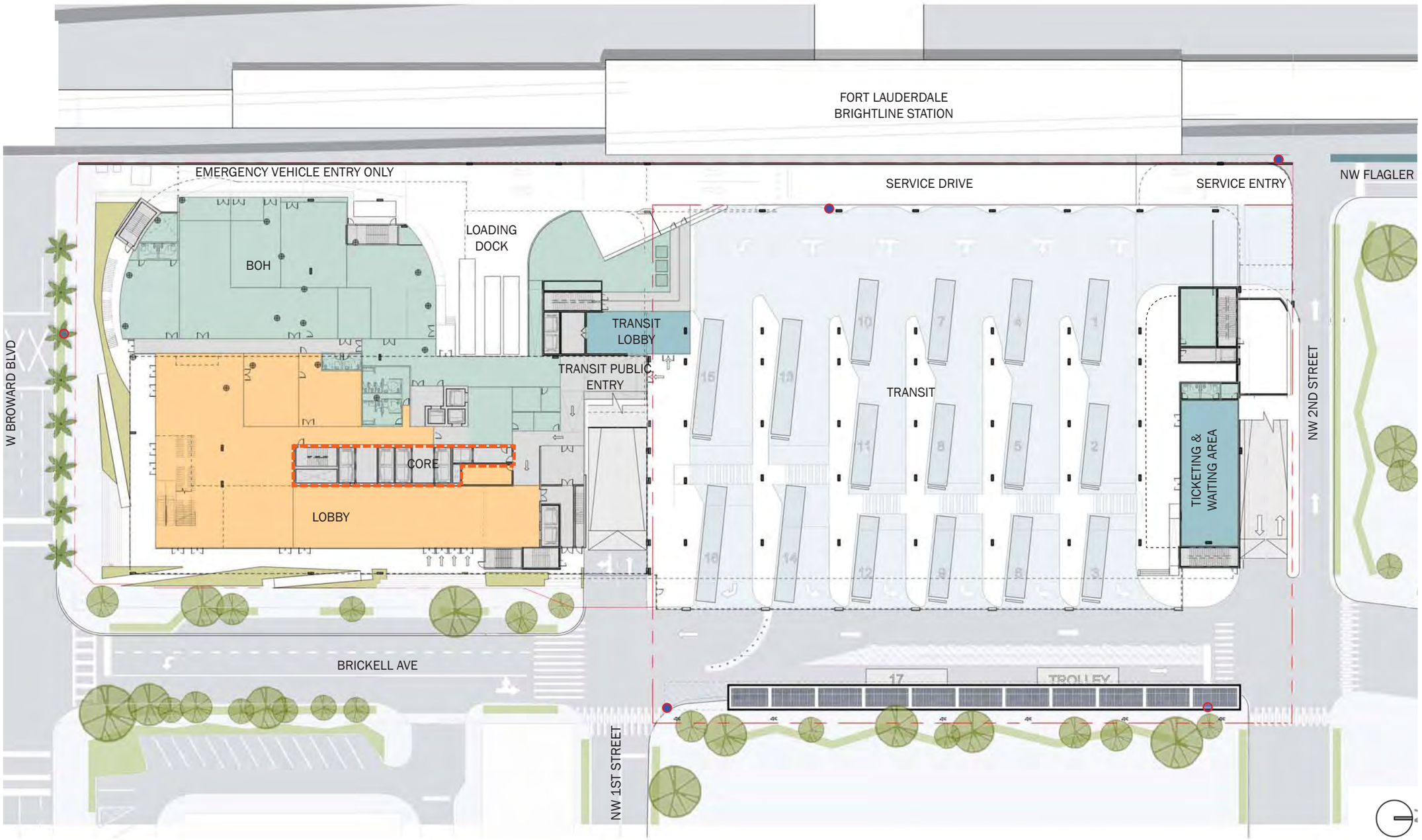
JGCC | CONCEPT RENDERING . *VIEW FROM BROWARD BLVD AND FEC TRACKS*

DCP

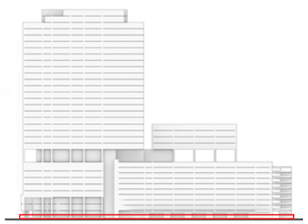
OVERALL MASTER PLAN | Site PLan



OVERALL MASTER PLAN | Level 1 Ground Floor *with Transit Terminal Option 1 - East/West Configuration*



KEY DIAGRAM
LEVEL 1



COLOR LEGEND
LEVEL 1

- LOBBY
- BOH
- CIRCULATION
- TRANSIT SPACES
- BUS STATION
- GARAGE
- CORE
- PVs ON CANOPY
- Existing Fire Hydrant to remain
- Proposed Fire Hydrant

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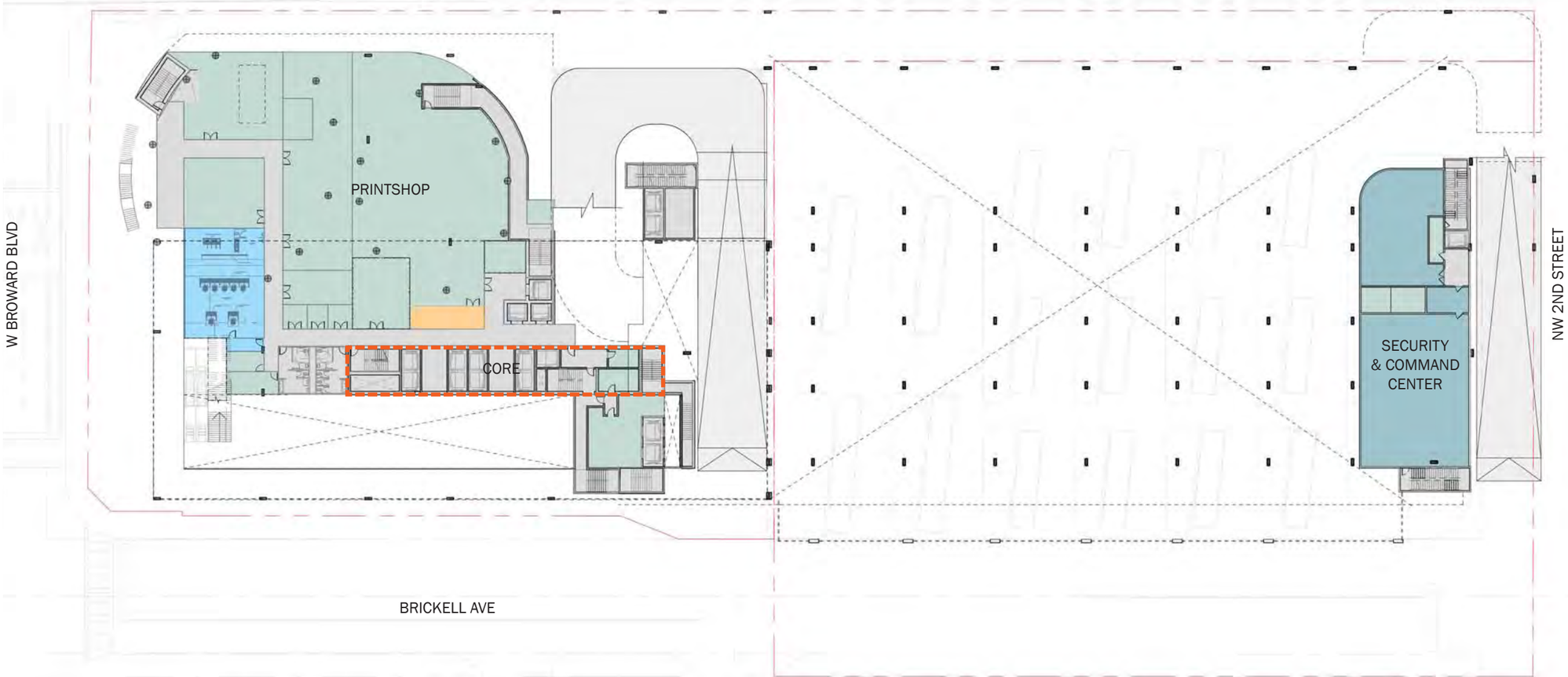
OVERALL MASTER PLAN | Mezzanine Level *with Transit Terminal Option 1 - East/West Configuration*

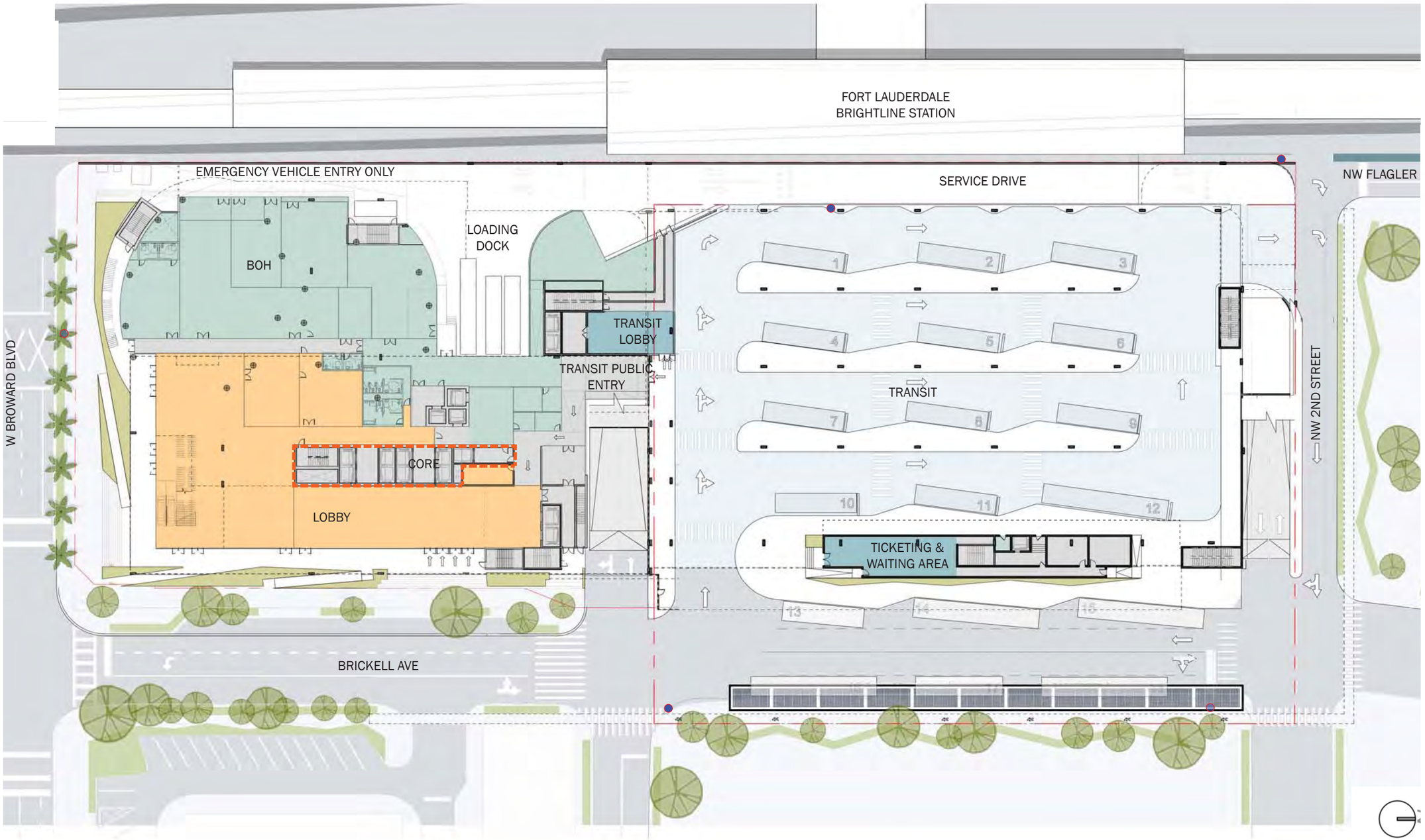


KEY DIAGRAM
MEZZANINE

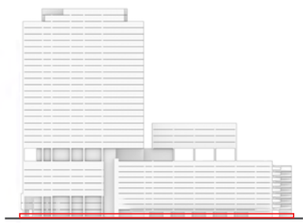
COLOR LEGEND
MEZZANINE

- LOBBY
- BOH
- CIRCULATION
- TRANSIT SPACES
- BUS STATION
- GARAGE
- CORE

OVERALL MASTER PLAN | Level 1 Ground Floor *with Transit Terminal Option 2 - North/South Configuration*



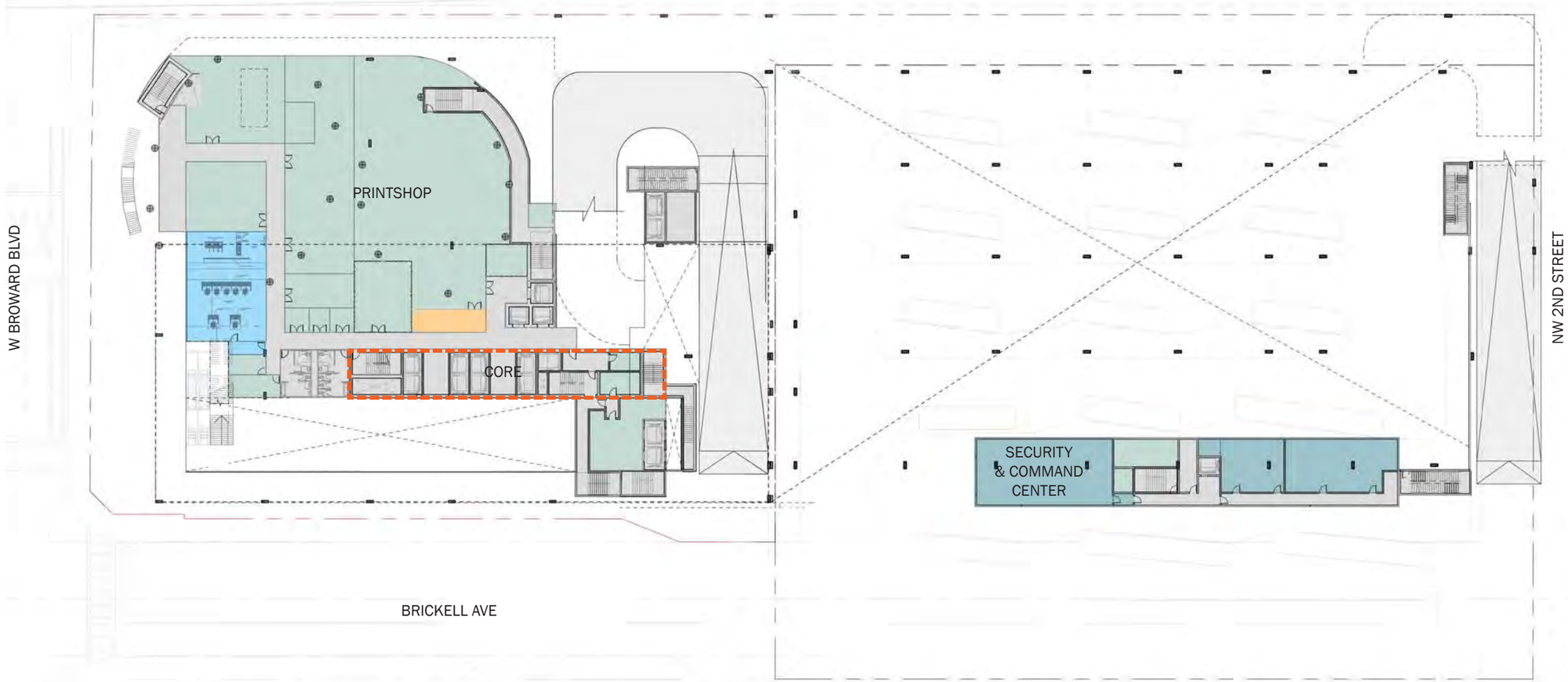
KEY DIAGRAM
LEVEL 1



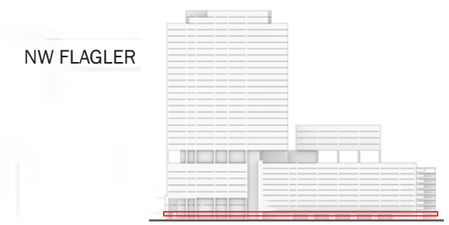
COLOR LEGEND
LEVEL 1

- LOBBY
- BOH
- CIRCULATION
- TRANSIT SPACES
- BUS STATION
- GARAGE
- CORE

OVERALL MASTER PLAN | Mezzanine Level *with Transit Terminal Option 2 - North/South Configuration*



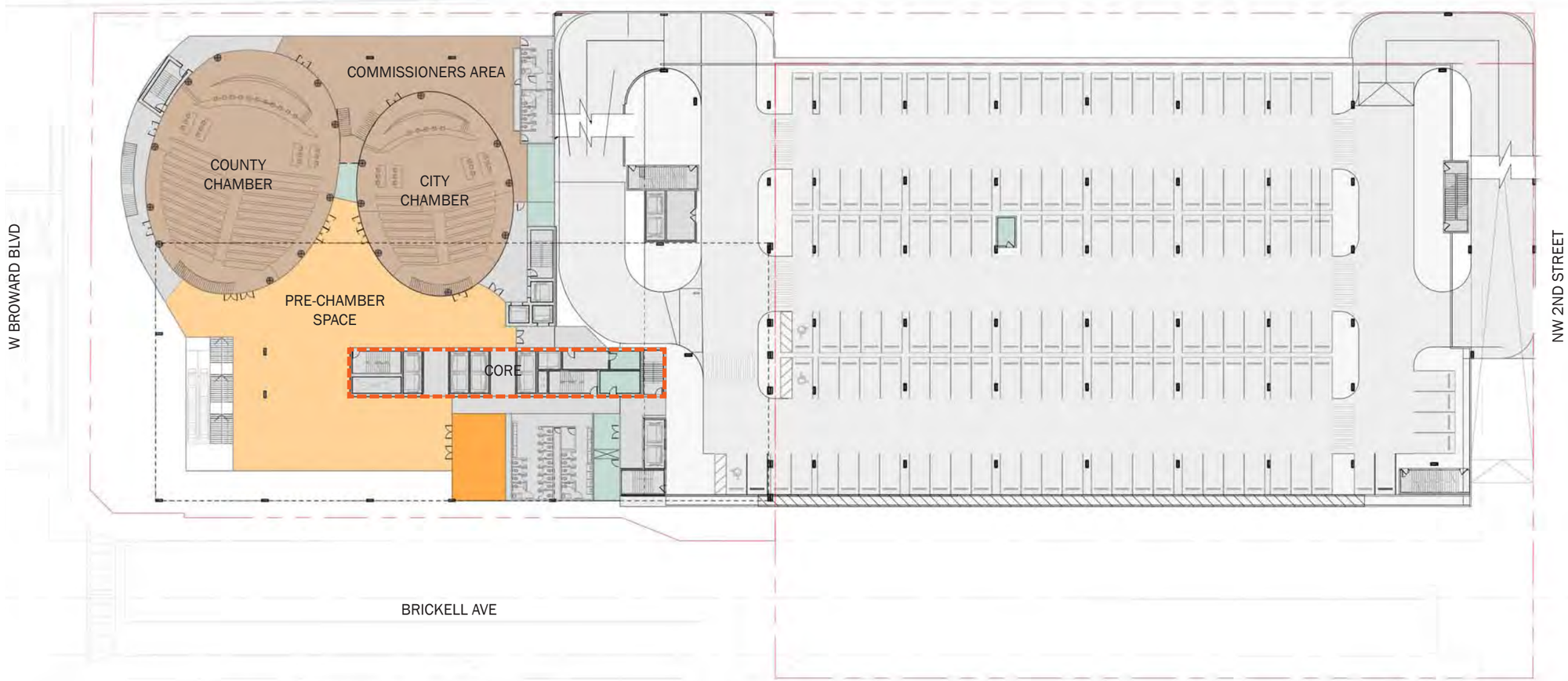
KEY DIAGRAM
MEZZANINE



COLOR LEGEND
MEZZANINE

- LOBBY
- BOH
- CIRCULATION
- TRANSIT SPACES
- BUS STATION
- GARAGE
- CORE

OVERALL MASTER PLAN | Level 2

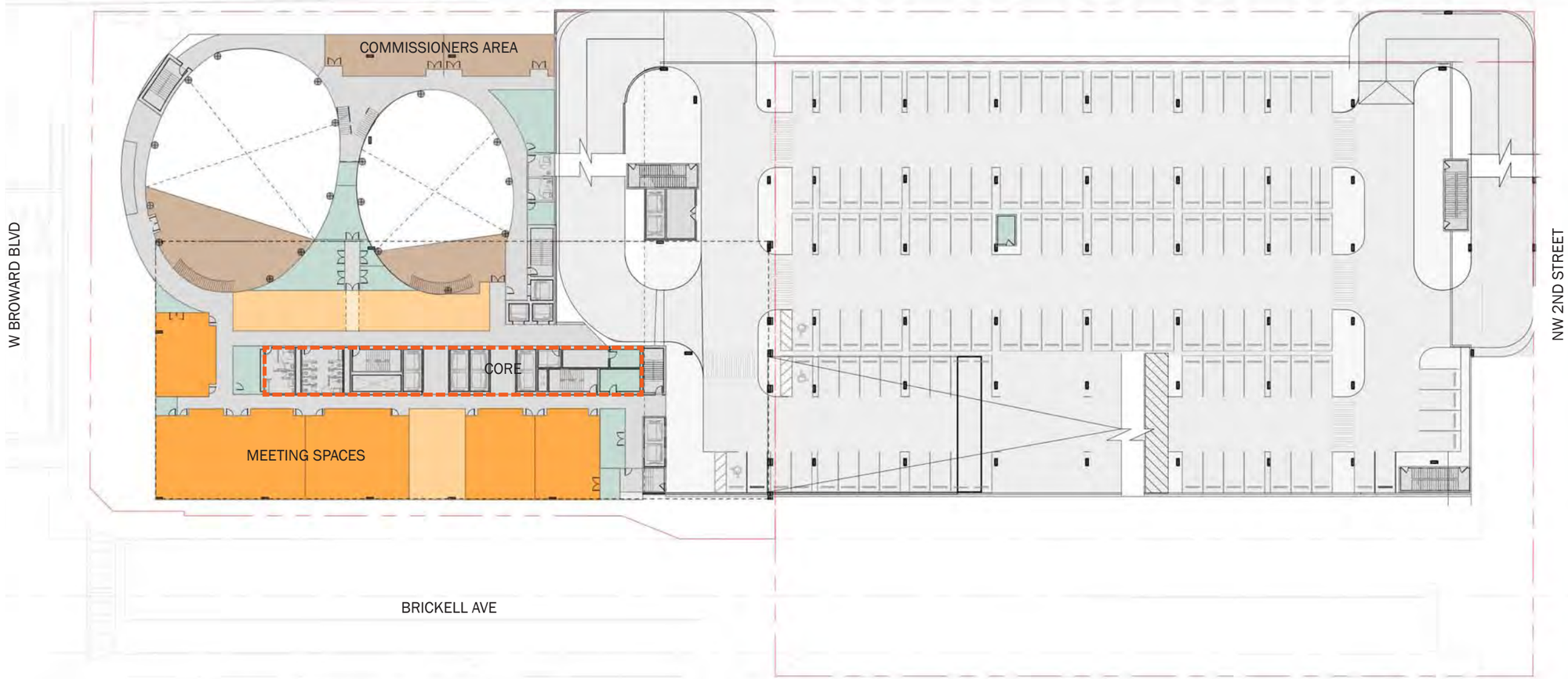


KEY DIAGRAM
LEVEL 2

COLOR LEGEND
LEVEL 2

- CHAMBERS
- LOBBY
- MEETING SPACES
- CIRCULATION
- BOH
- GARAGE
- CORE

OVERALL MASTER PLAN | Level 3



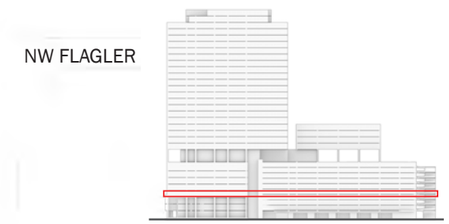
KEY DIAGRAM
LEVEL 3

COLOR LEGEND
LEVEL 3

- MEDIA ROOMS
- MEETING SPACES
- CIRCULATION
- BOH
- GARAGE
- CORE

OVERALL MASTER PLAN | Level 4

KEY DIAGRAM
LEVEL 4



COLOR LEGEND
LEVEL 4

- DAYCARE
- LOBBY
- MEETING SPACES
- CIRCULATION
- BOH
- GREEN DECK
- GARAGE
- CORE
- SCREENING

OVERALL MASTER PLAN | Level 5

KEY DIAGRAM
LEVEL 5

COLOR LEGEND
LEVEL 5

- OFFICES
- CIRCULATION
- BOH
- GARAGE
- CORE
- SCREENING

OVERALL MASTER PLAN | Level 6 and 7

KEY DIAGRAM
LEVEL 6 AND 7

COLOR LEGEND
LEVEL 6 AND 7

- OFFICES
- CIRCULATION
- BOH
- GARAGE
- CORE
- SCREENING

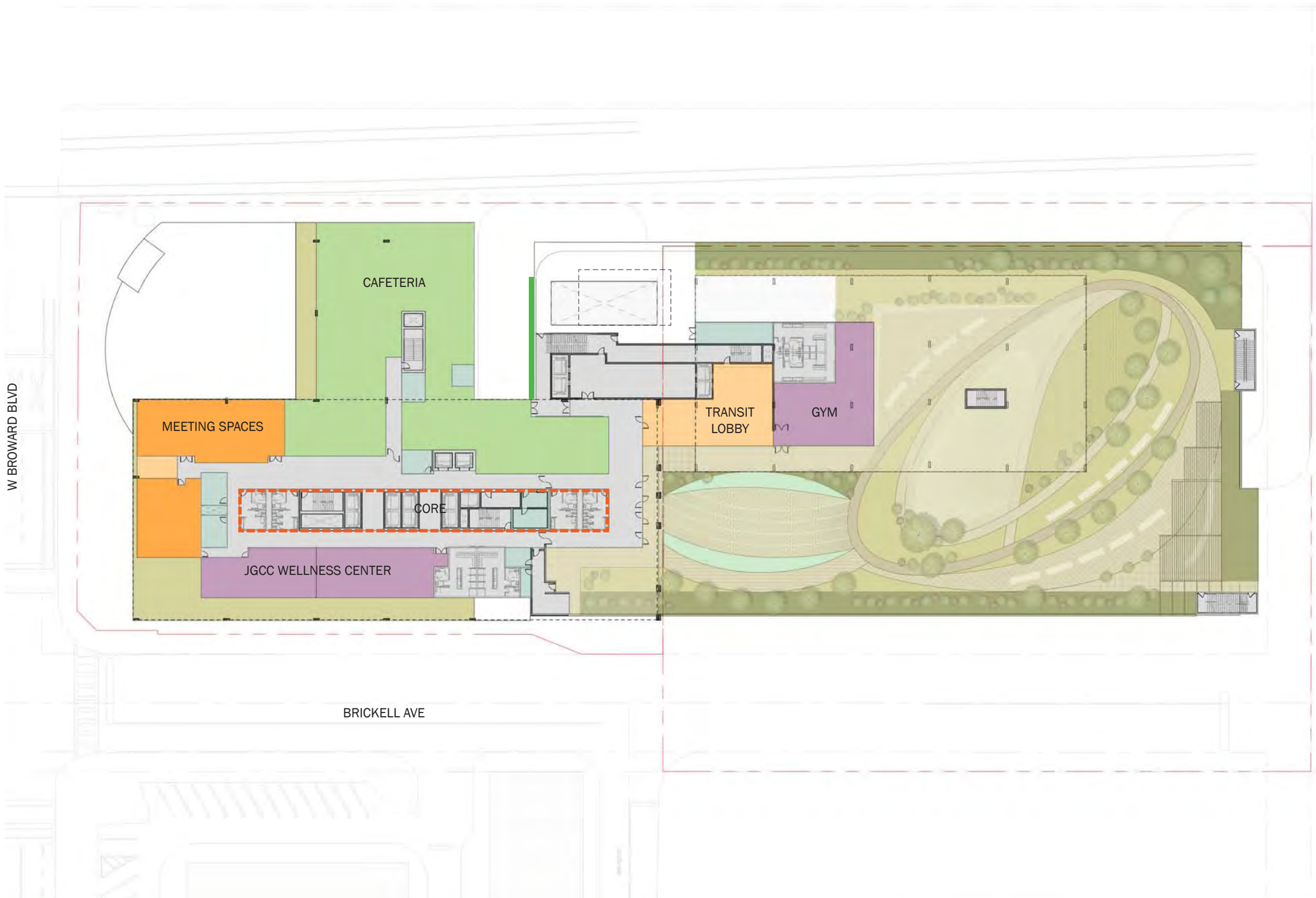
OVERALL MASTER PLAN | Level 8

KEY DIAGRAM
LEVEL 8

COLOR LEGEND
LEVEL 8

- OFFICES
- CIRCULATION
- BOH
- GARAGE
- CORE

OVERALL MASTER PLAN | Level 9

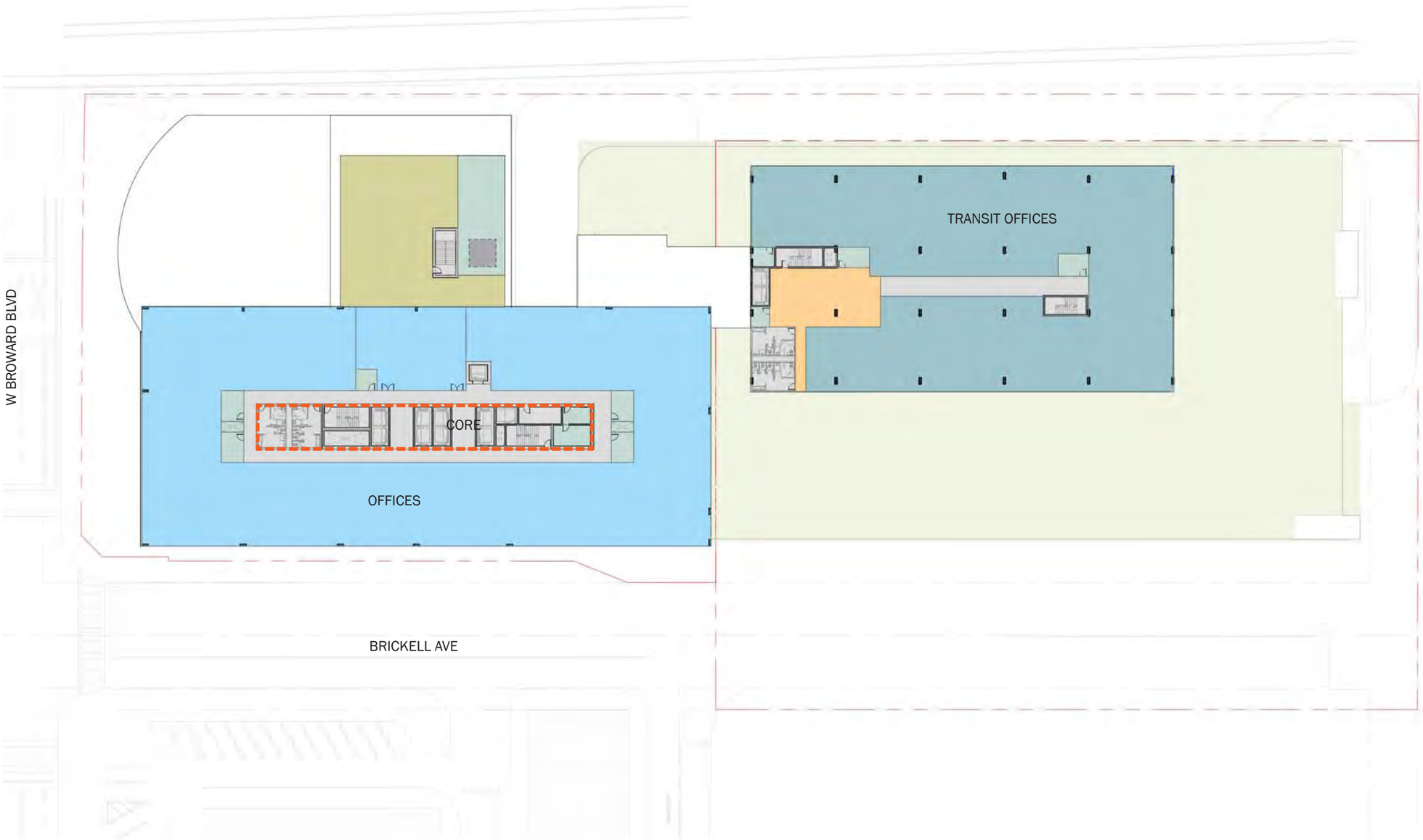


KEY DIAGRAM
LEVEL 9

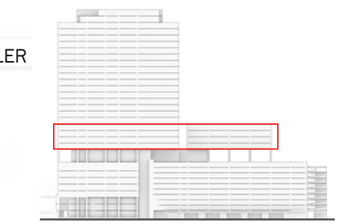
COLOR LEGEND
LEVEL 9

- CAFETERIA
- GYM / HEALTH CENTER
- MEETING SPACES
- BCT ADMIN LOBBY
- GREEN DECK
- CIRCULATION
- BOH
- CORE
- SCREENING

OVERALL MASTER PLAN | Level 10 thru 13



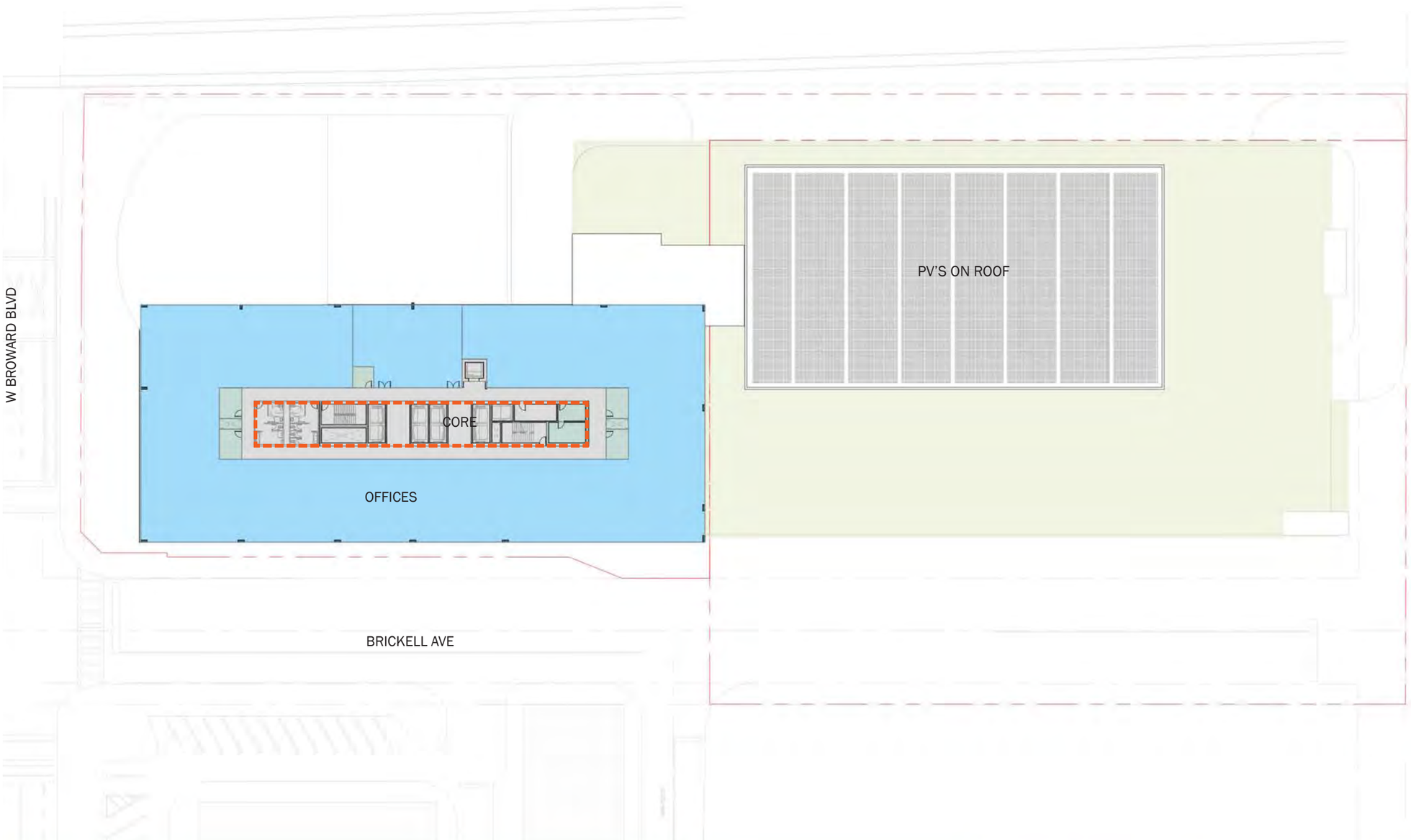
KEY DIAGRAM
LEVEL 10 THRU 13



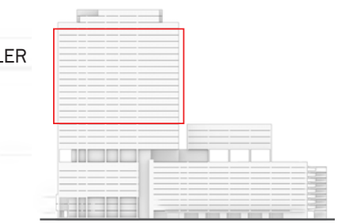
COLOR LEGEND
LEVEL 10 THRU 13

- OFFICES
- BCT ADMIN LOBBY
- BCT ADMIN OFFICES
- GREEN DECK
- CIRCULATION
- BOH
- CORE

OVERALL MASTER PLAN | Level 14 thru 26



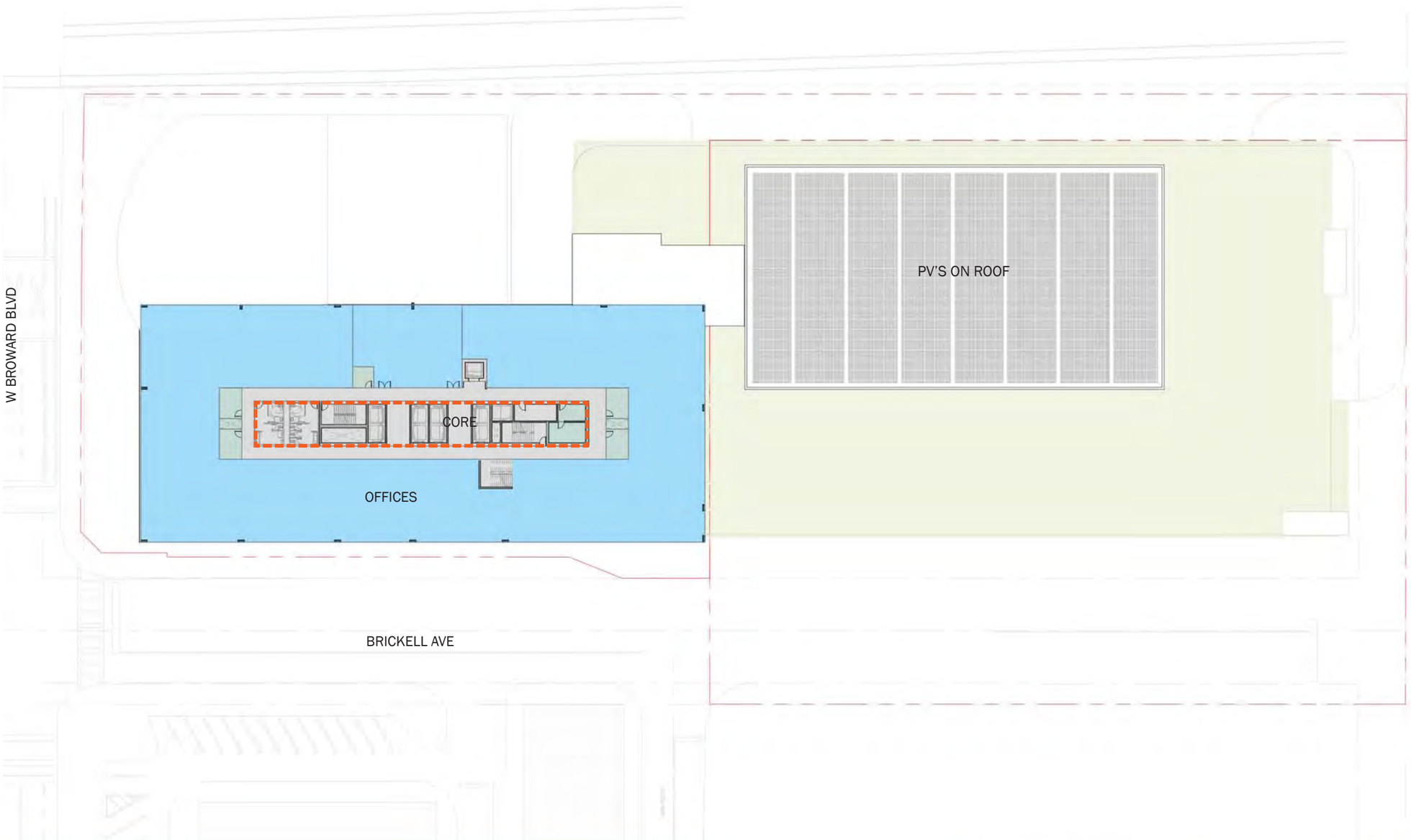
KEY DIAGRAM
LEVEL 14 THRU 26



COLOR LEGEND
LEVEL 14 THRU 26

- OFFICES
- CIRCULATION
- BOH
- CORE
- PVs ON ROOF

OVERALL MASTER PLAN | Level 27

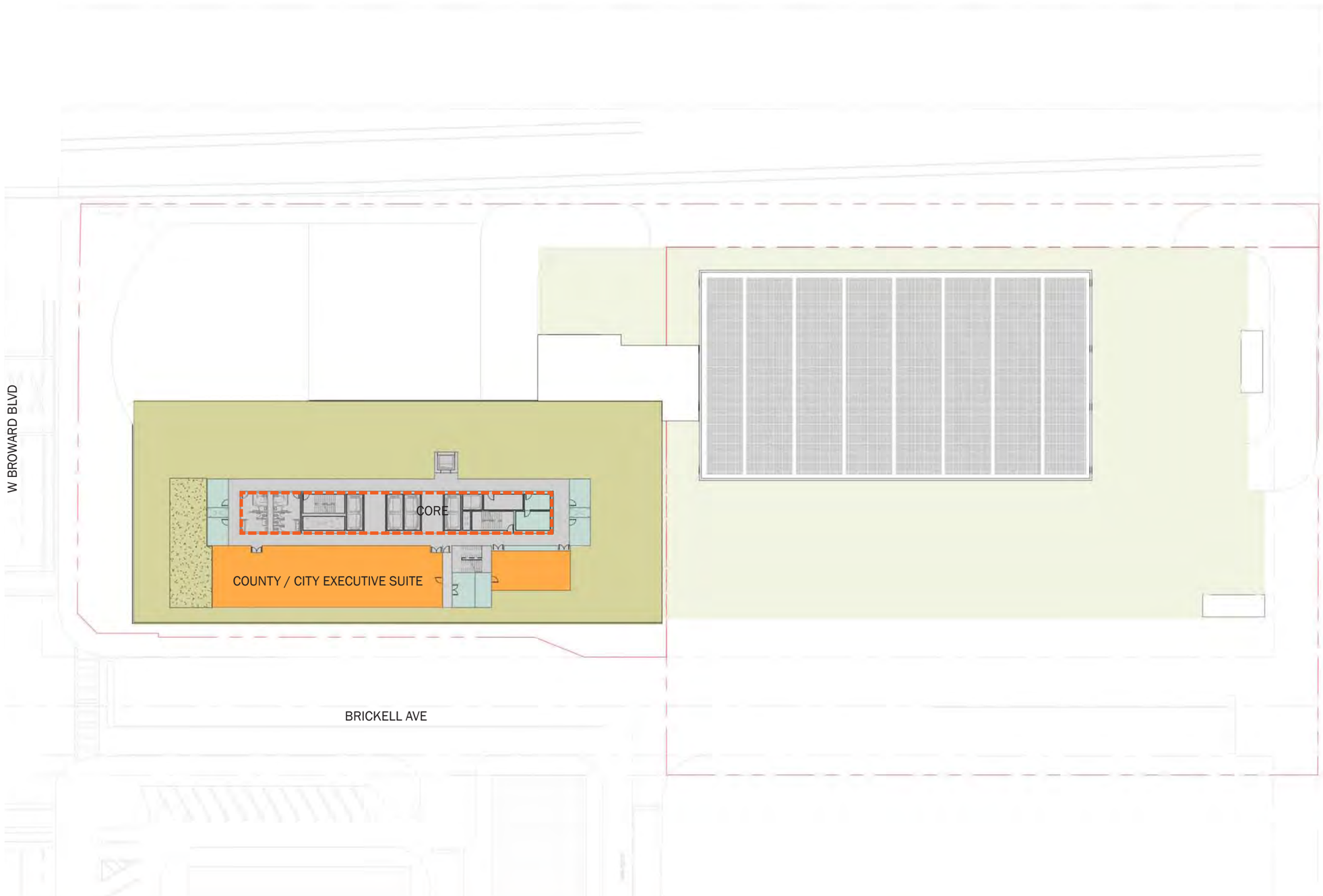


KEY DIAGRAM
LEVEL 27

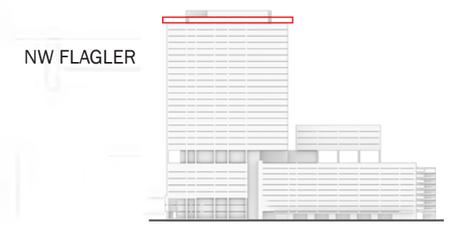
COLOR LEGEND
LEVEL 27

- OFFICES
- CIRCULATION
- BOH
- CORE

OVERALL MASTER PLAN | Level 28 City and County Executive Suite



KEY DIAGRAM
LEVEL 28

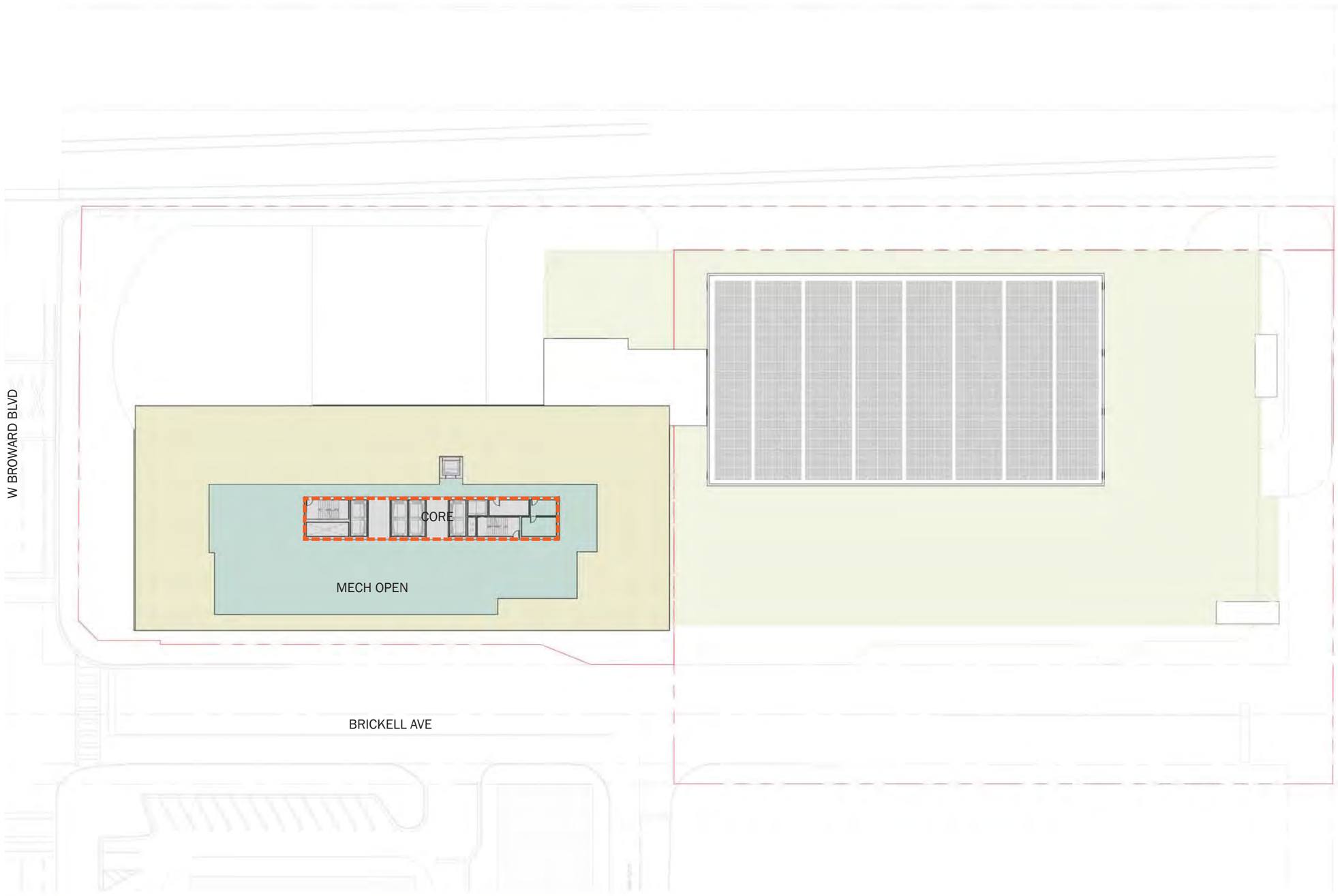


COLOR LEGEND
LEVEL 28

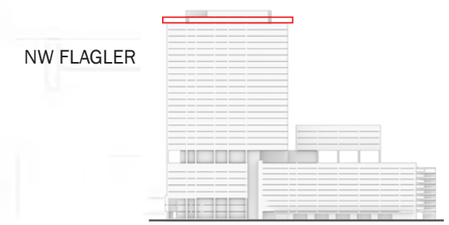
- MEETING SPACES
- GREEN DECK
- CIRCULATION
- BOH
- CORE

ZYSCOVICH

OVERALL MASTER PLAN | Level 29 Mechanical



KEY DIAGRAM
LEVEL 29 MECHANICAL



COLOR LEGEND
LEVEL 29

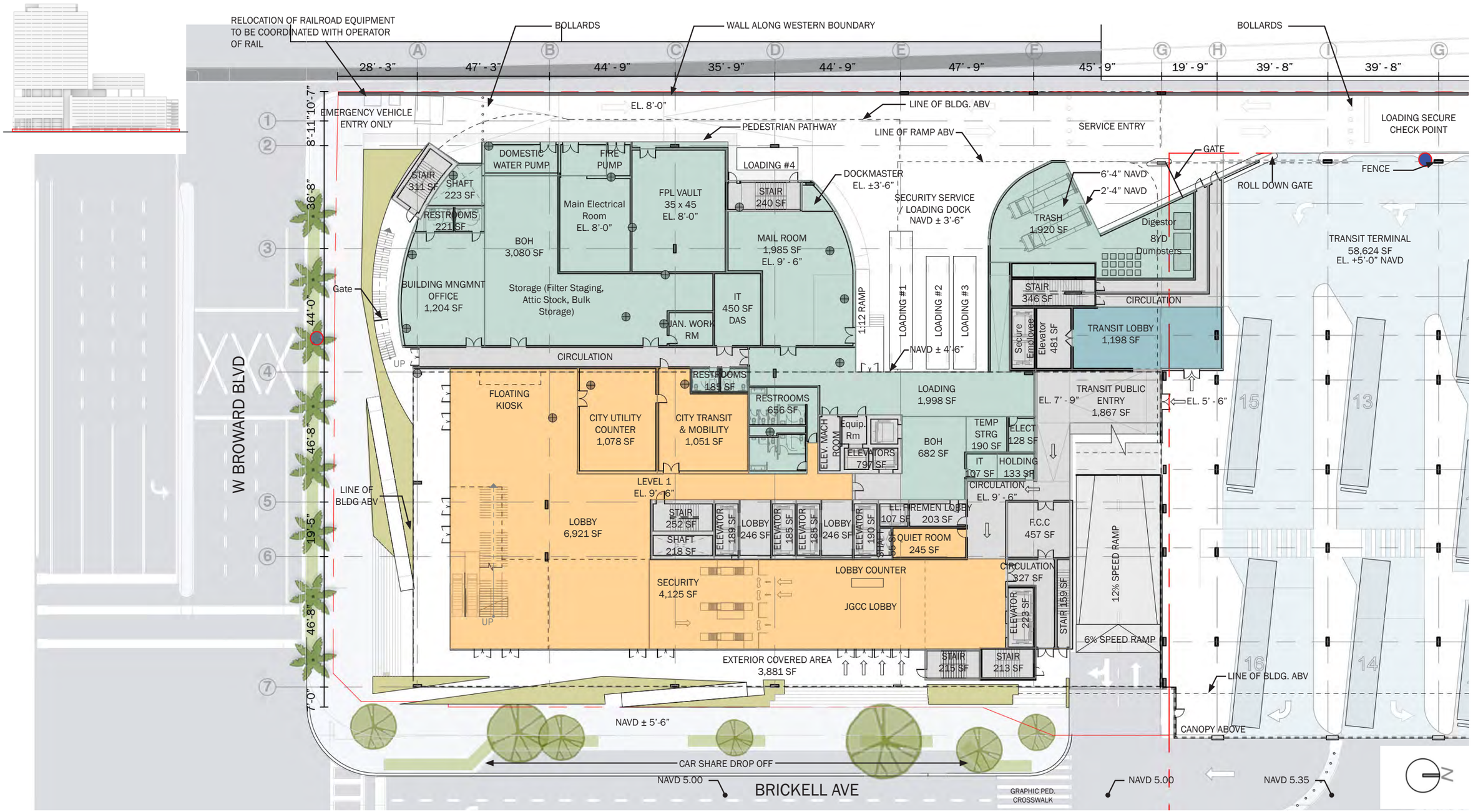
- CIRCULATION
- BOH
- CORE

DCP

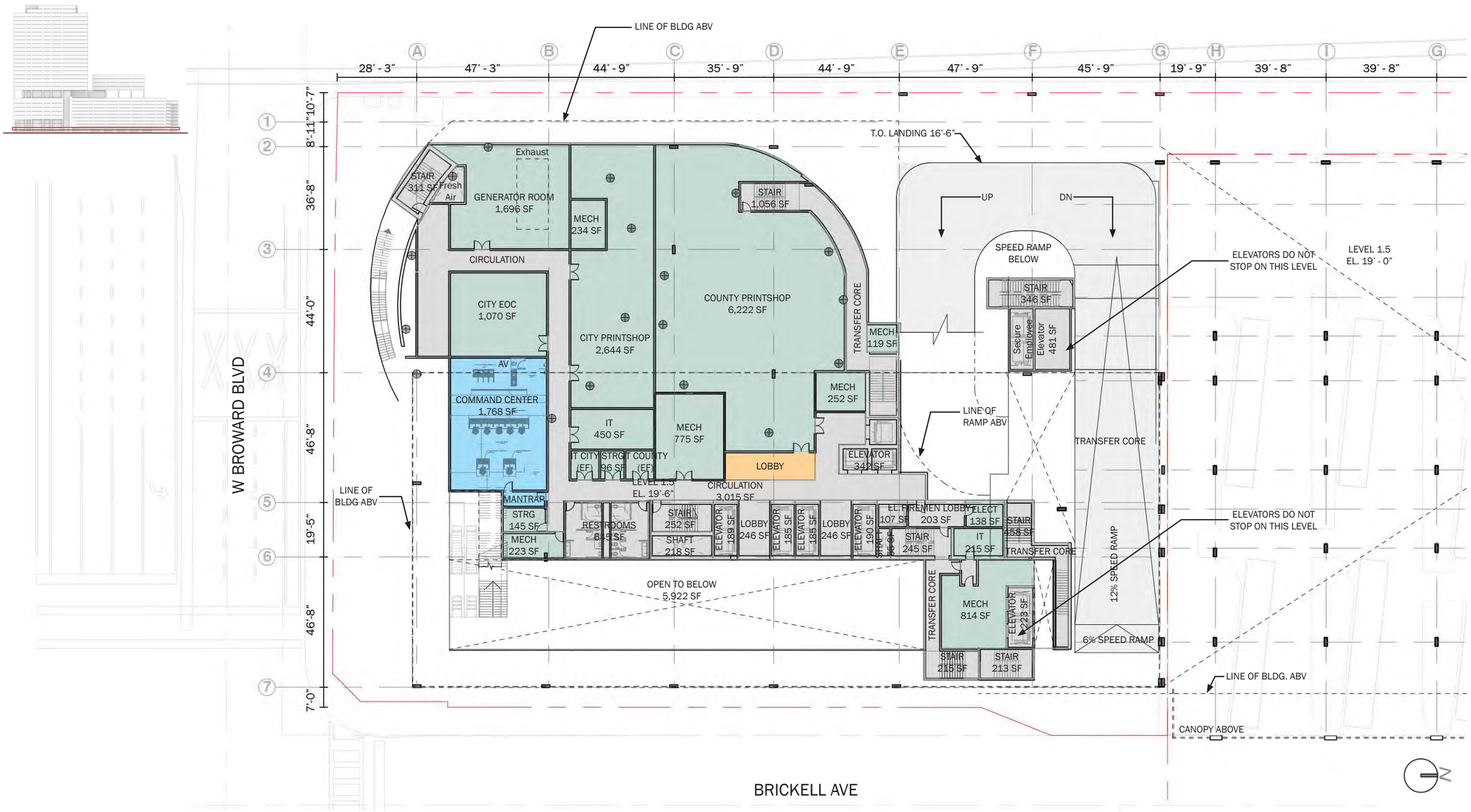
JGCC | DETAILED PLANS Main Building Levels 1 thru 29

ZYSCOVICH

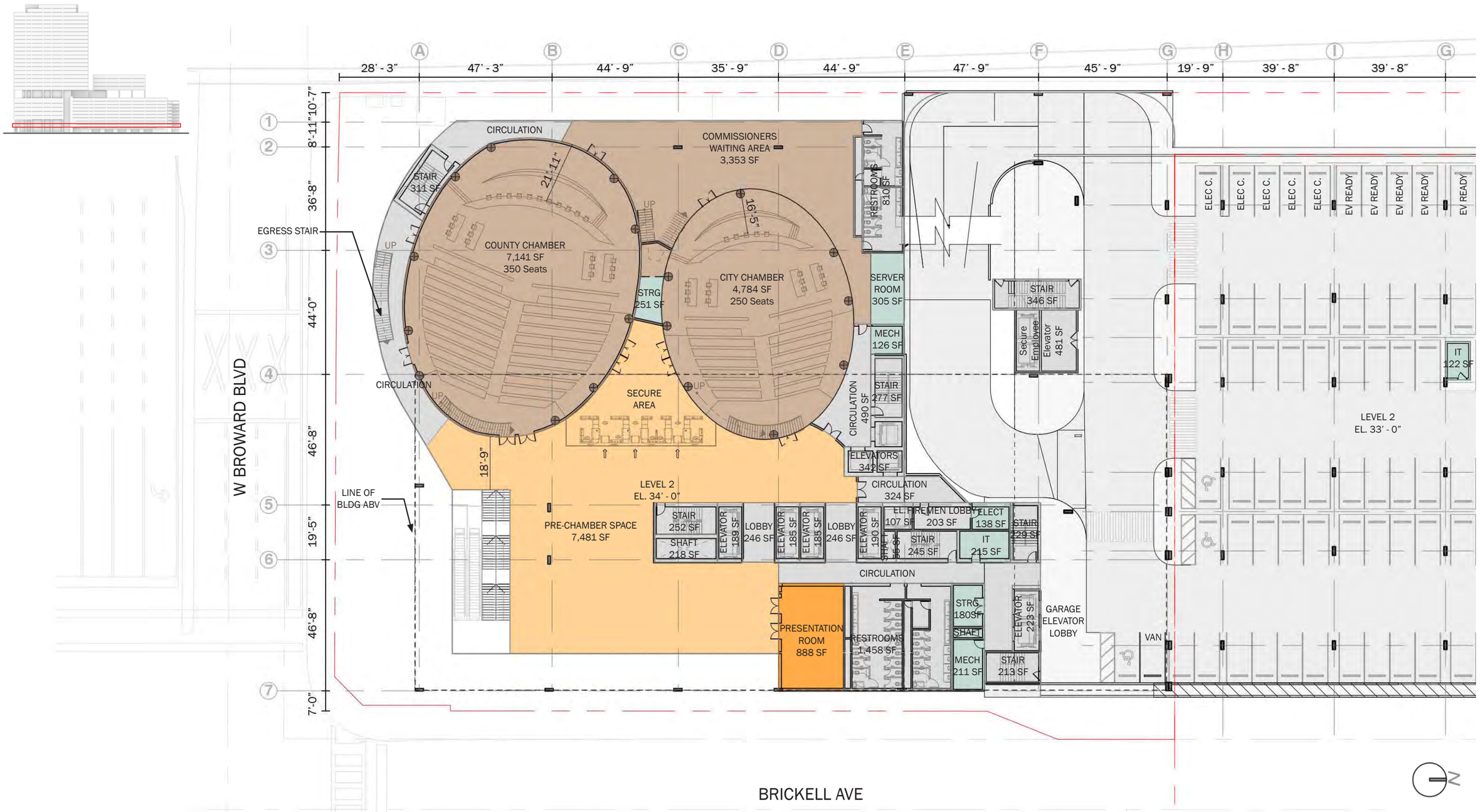
DETAILED PLAN | Main Building Level 1



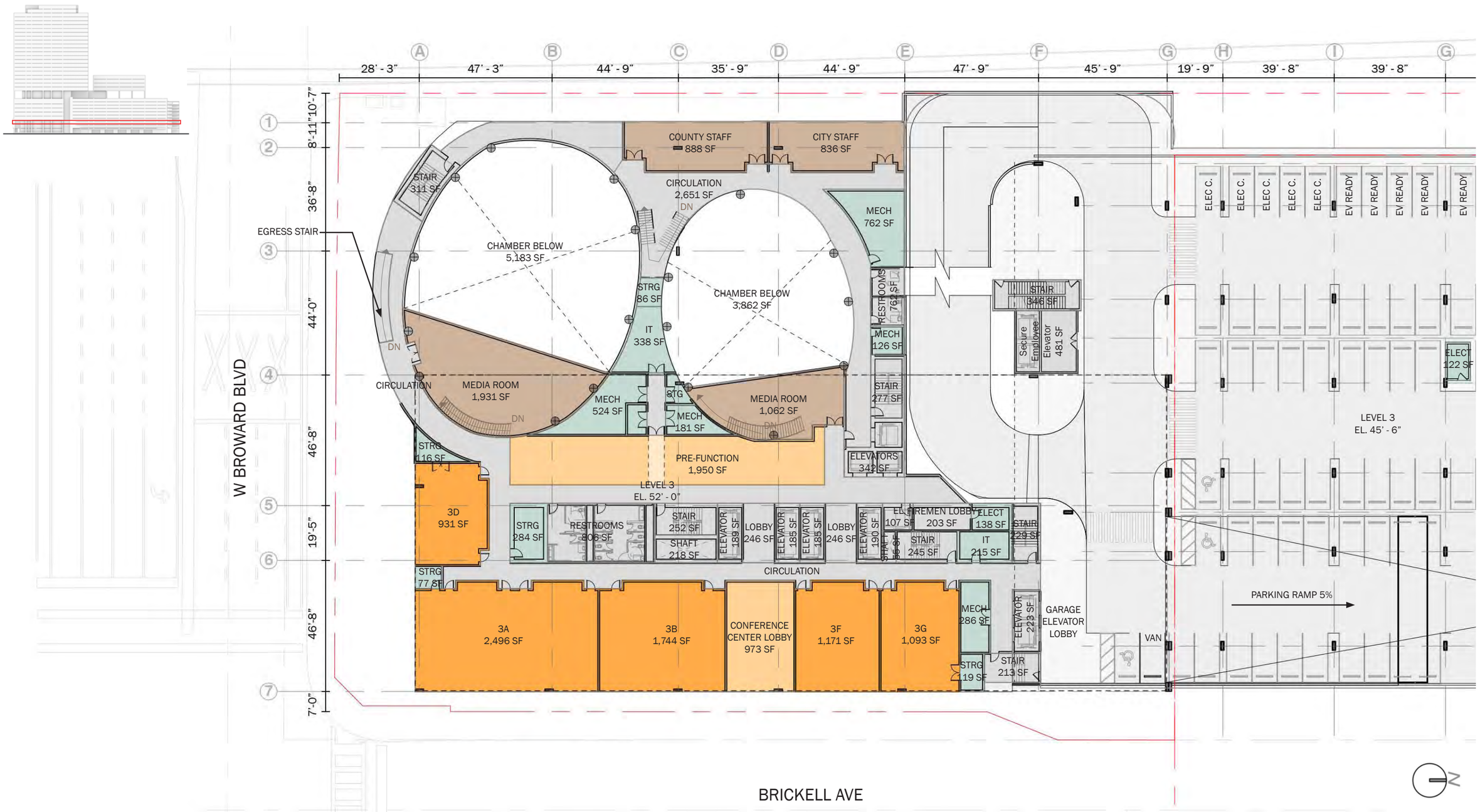
DETAILED PLAN | Main Building Mezzanine Level



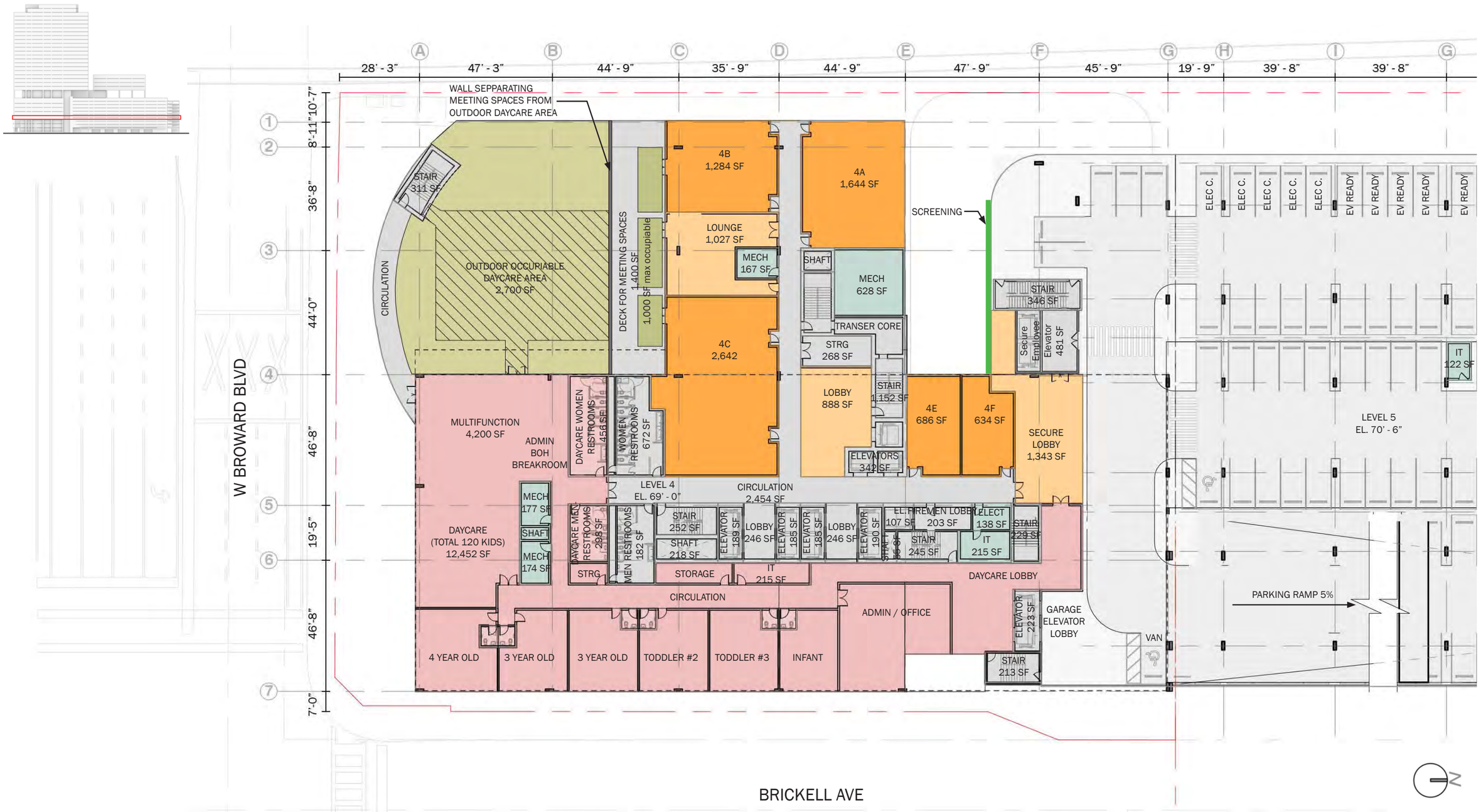
DETAILED PLAN | Main Building Level 2



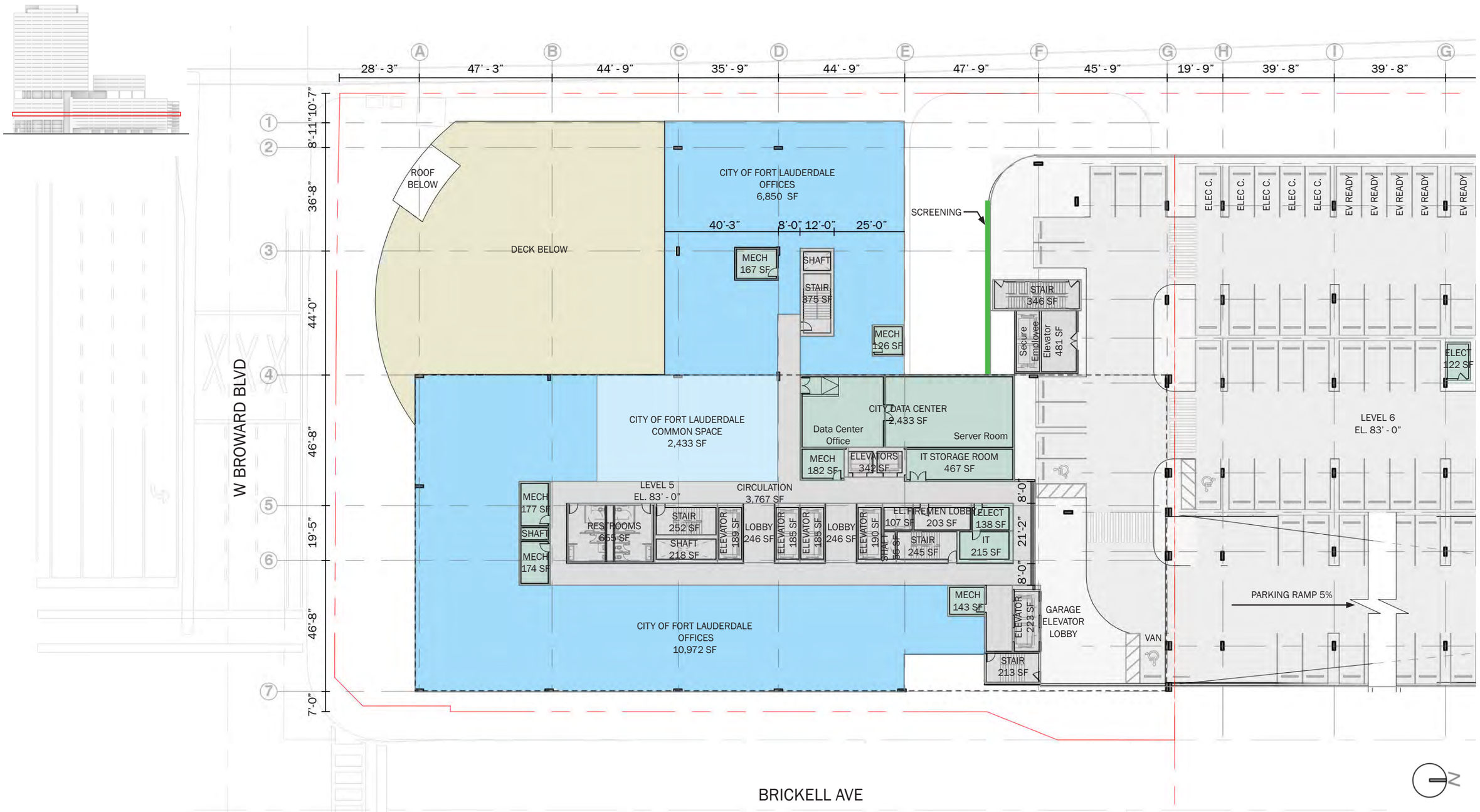
DETAILED PLAN | Main Building Level 3



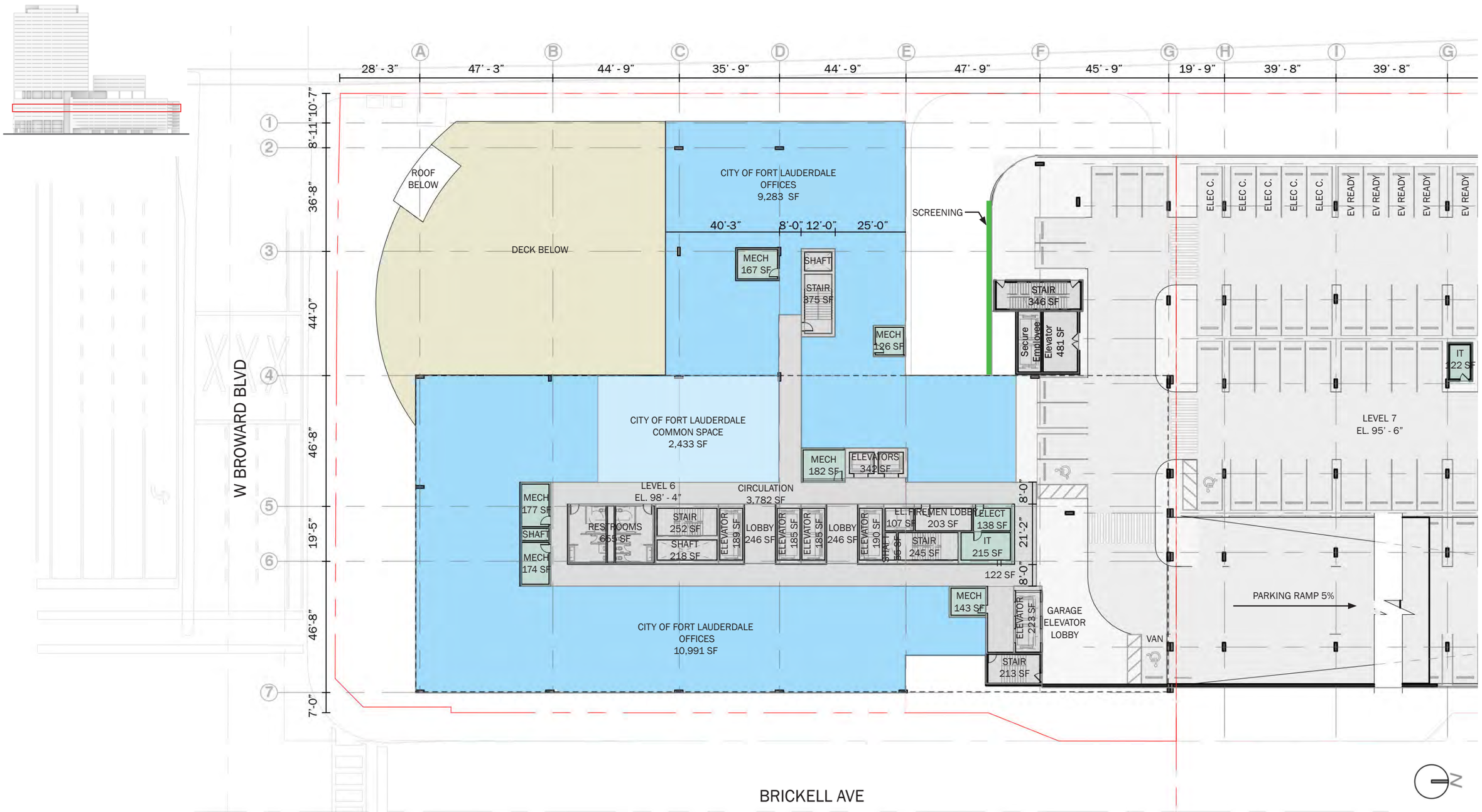
DETAILED PLAN | Main Building Level 4



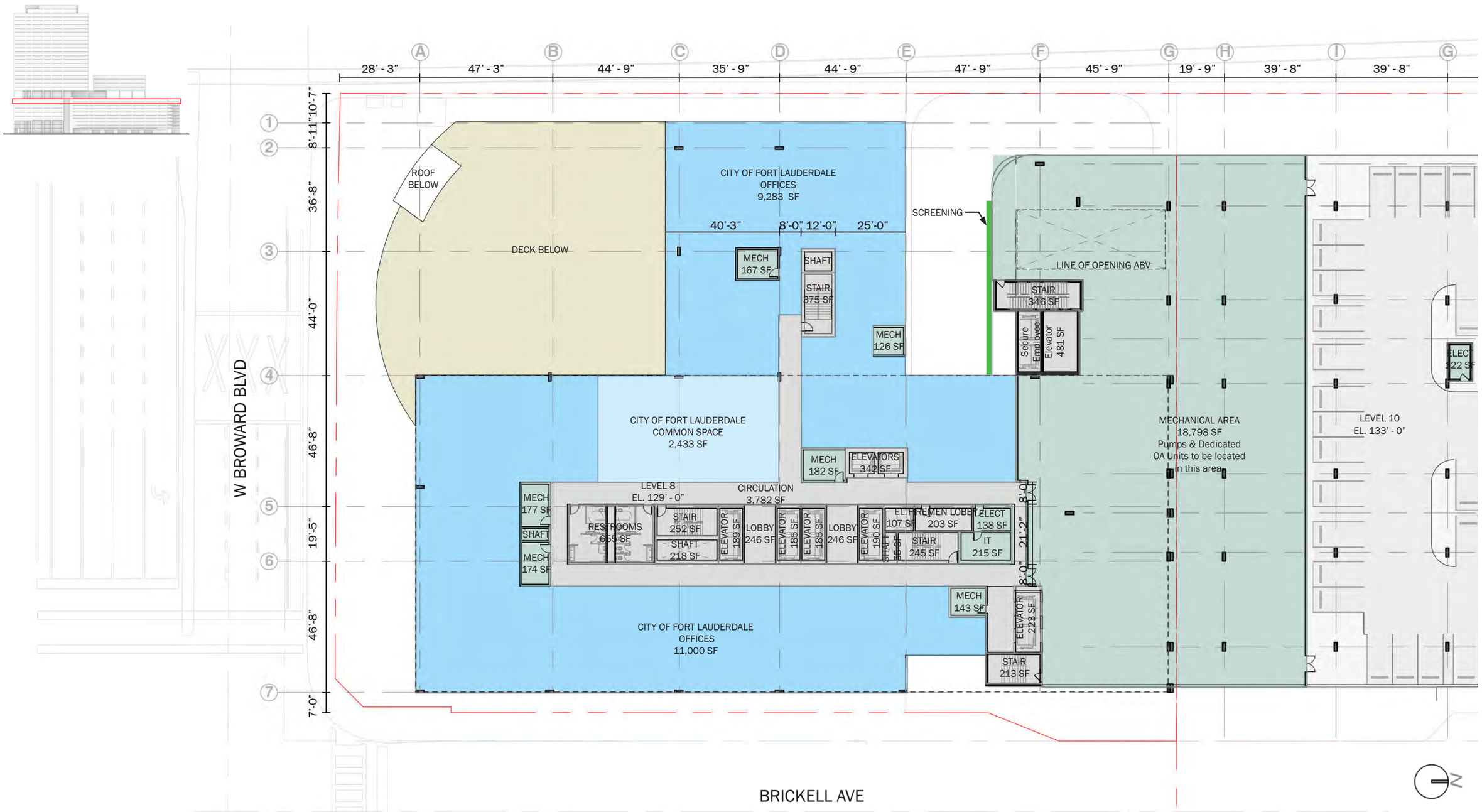
DETAILED PLAN | Main Building Level 5



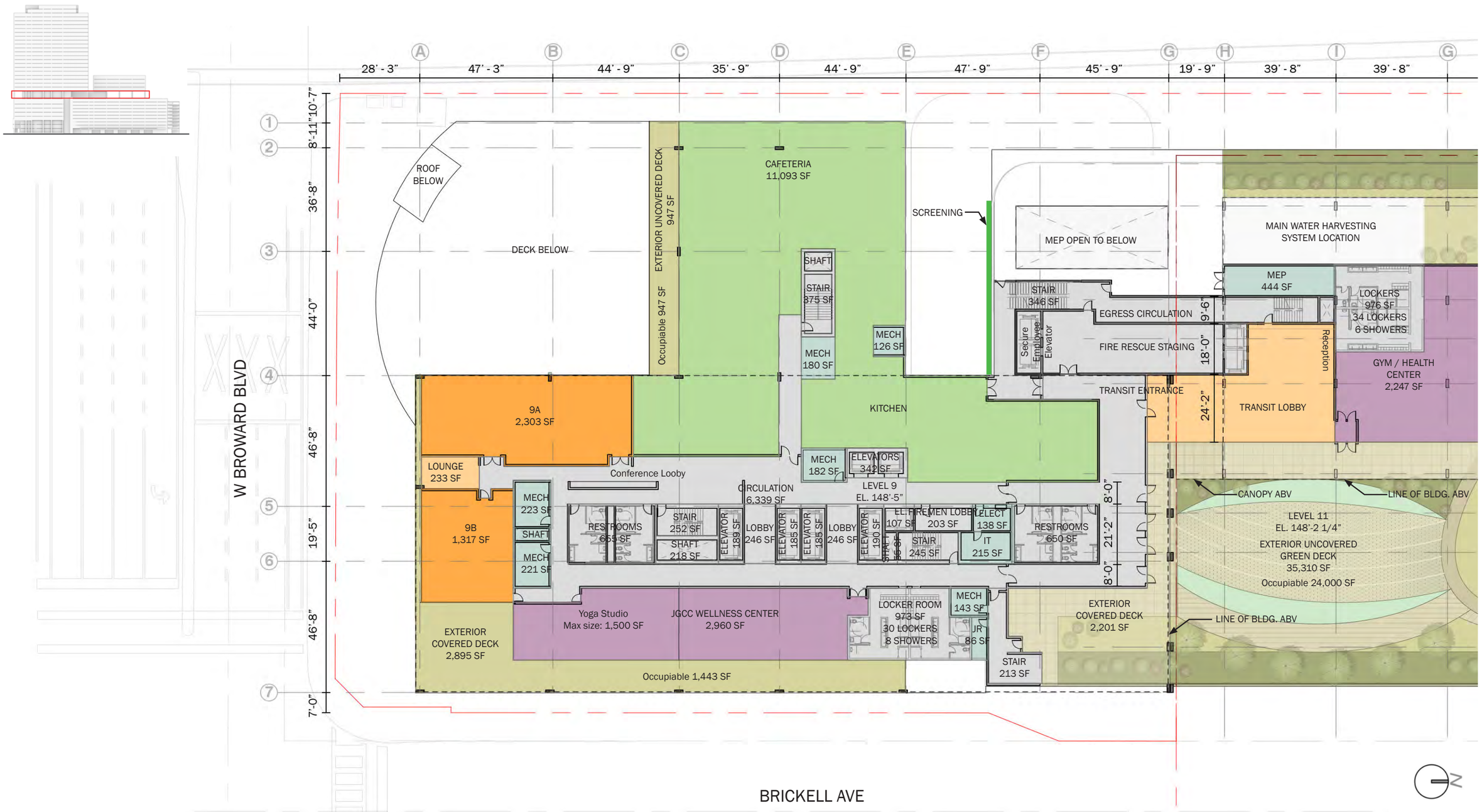
DETAILED PLAN | Main Building Level 6 and 7



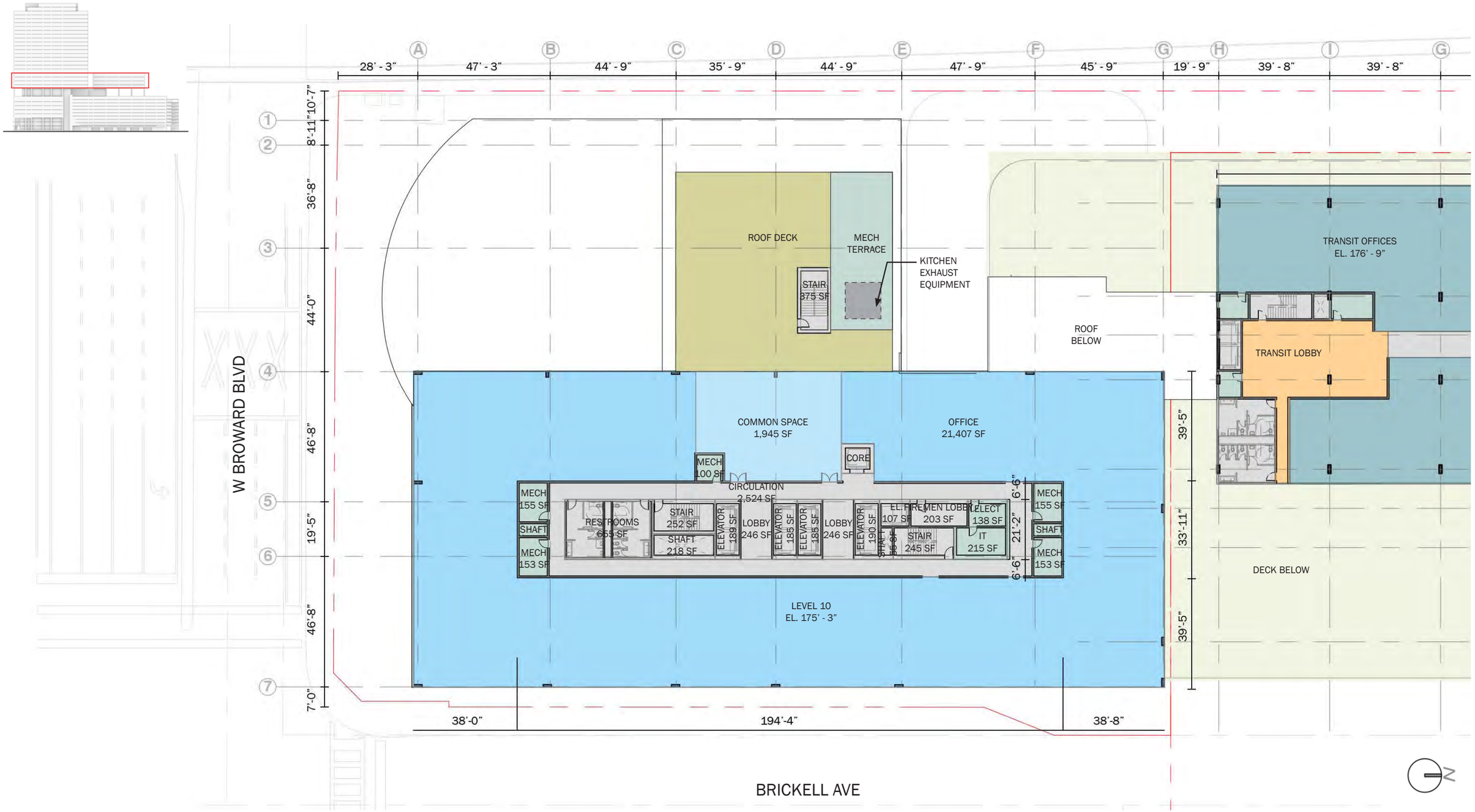
DETAILED PLAN | Main Building Level 8



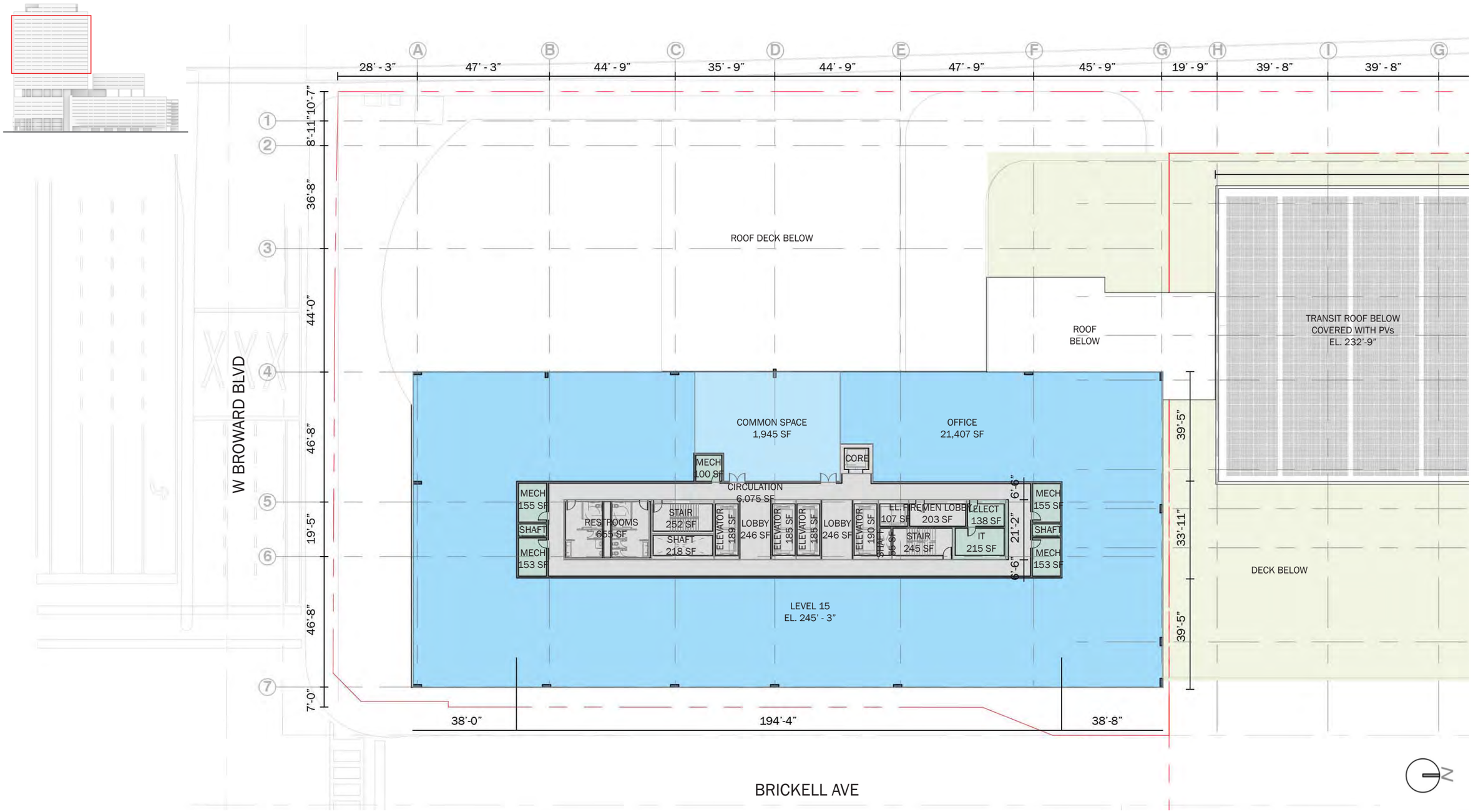
DETAILED PLAN | Main Building Level 9



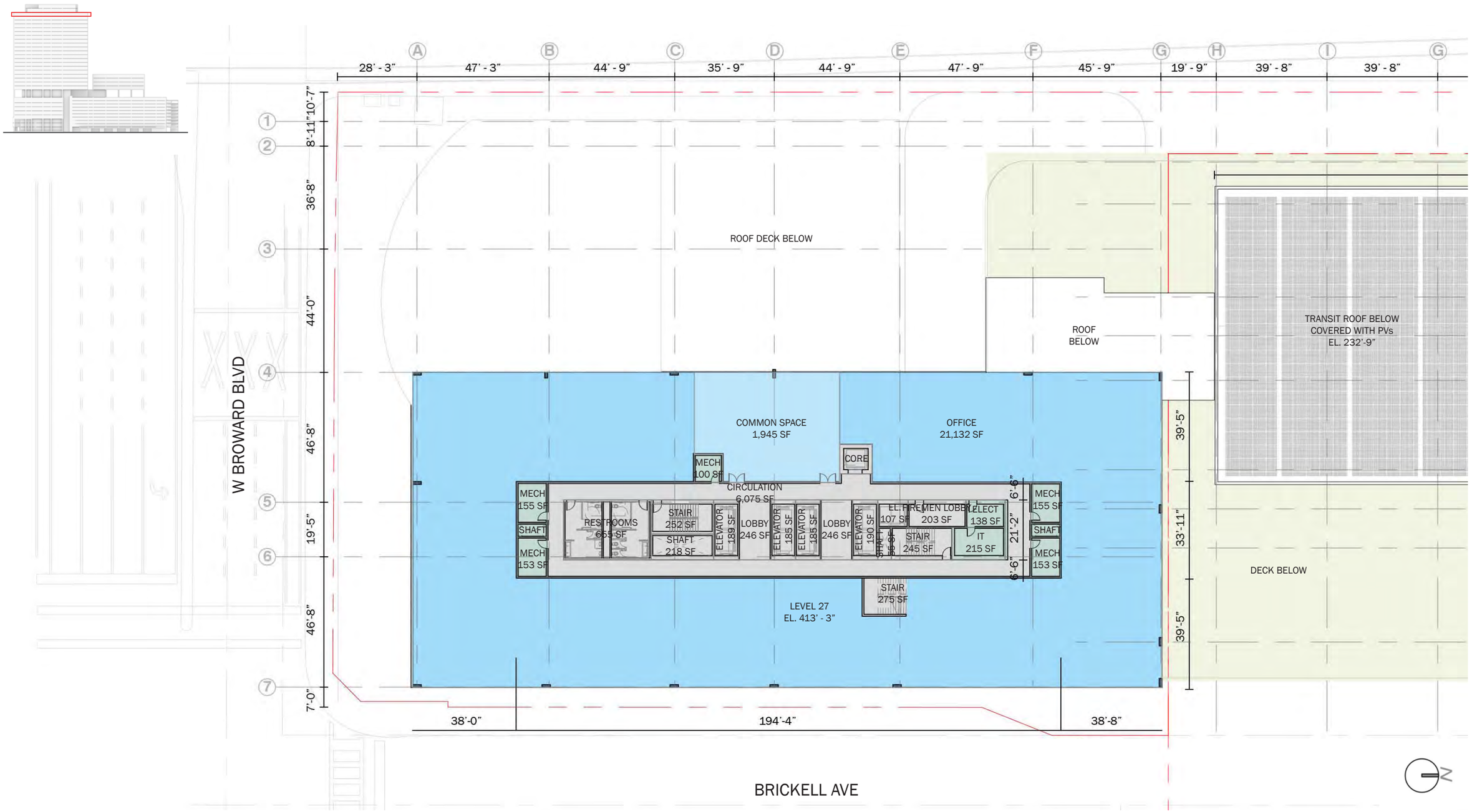
DETAILED PLAN | Main Building Level 10 thru 13



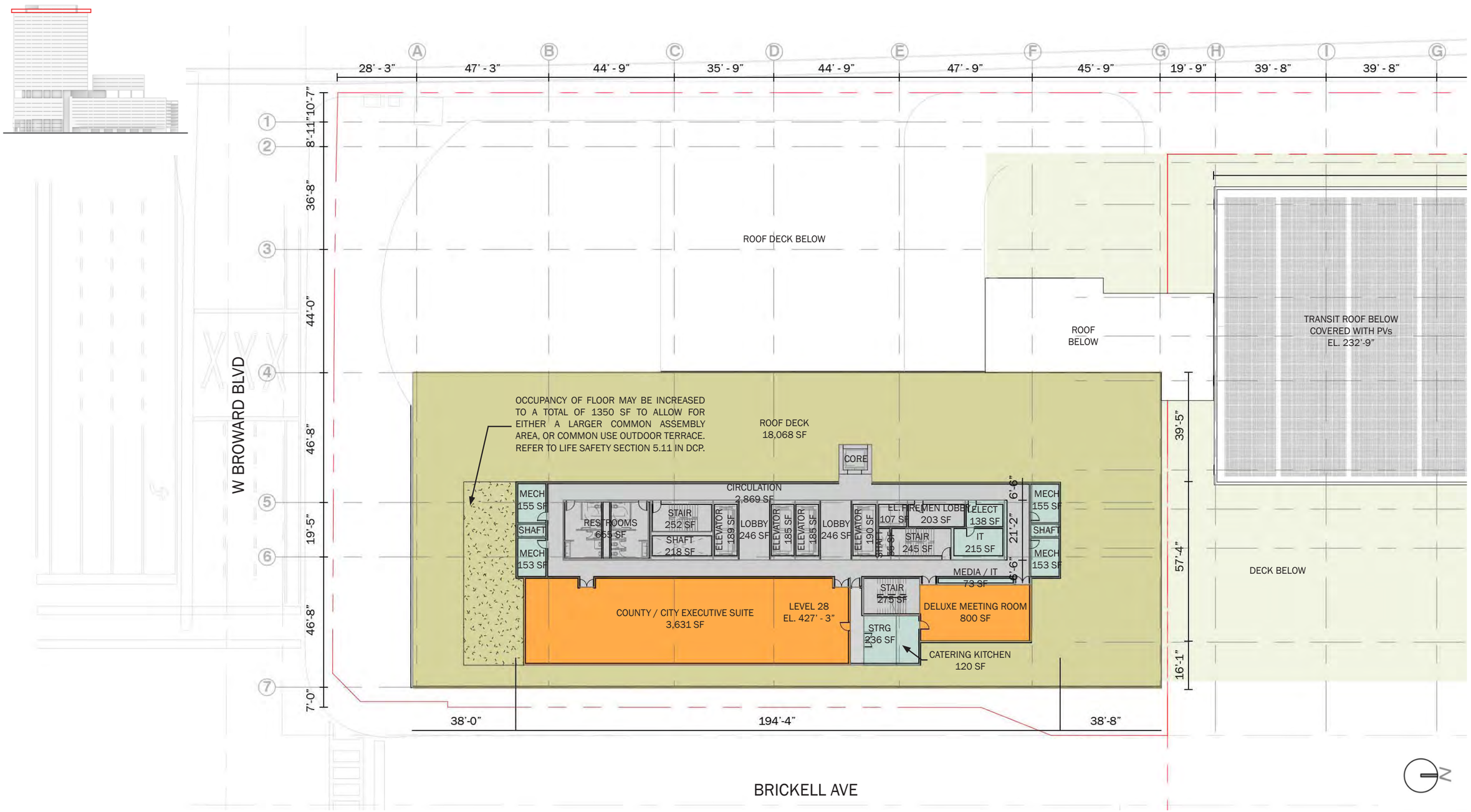
DETAILED PLAN | Main Building Level 14 thru 26



DETAILED PLAN | Main Building Level 27

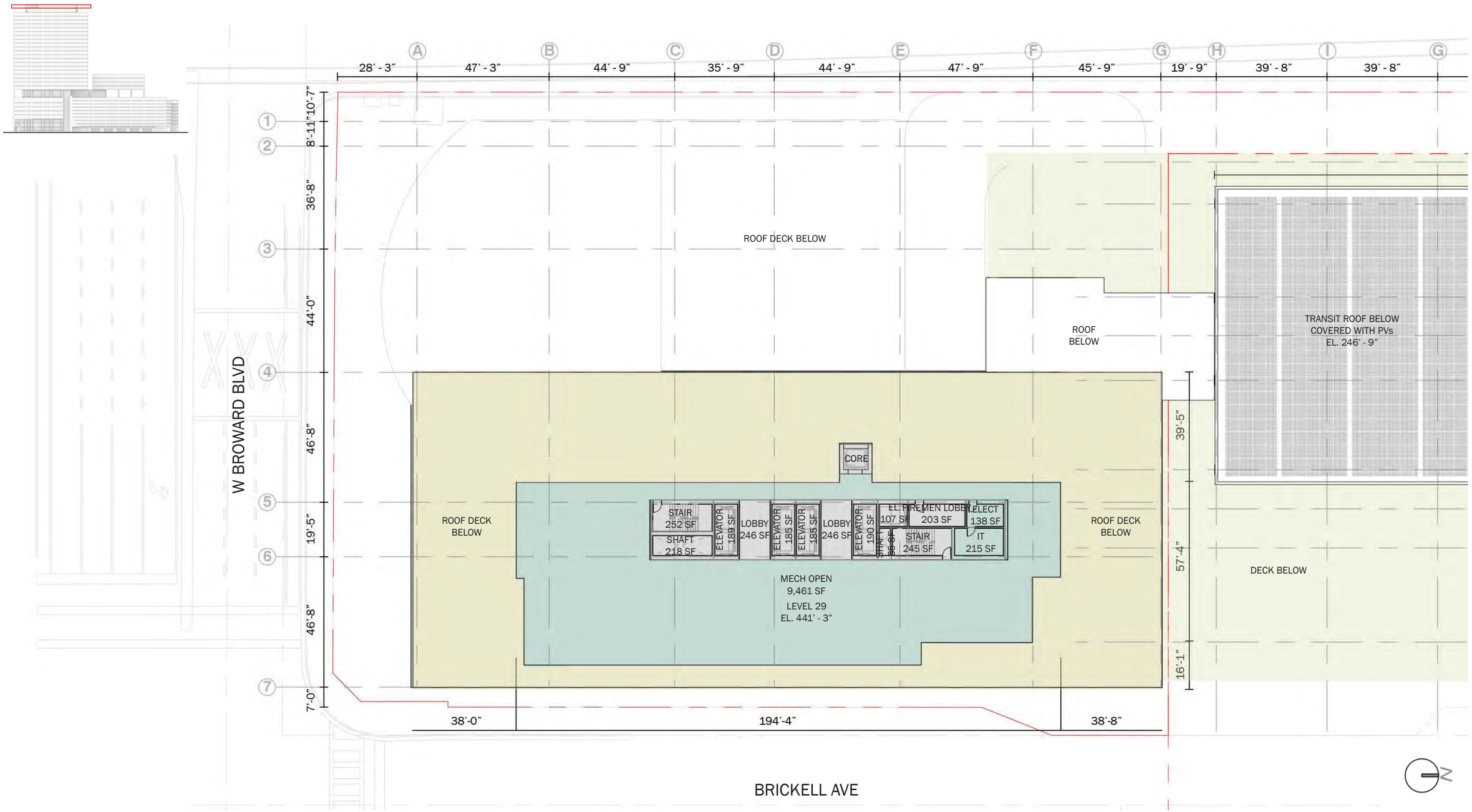


DETAILED PLAN | Main Building Level 28 - City and County Executive Suite



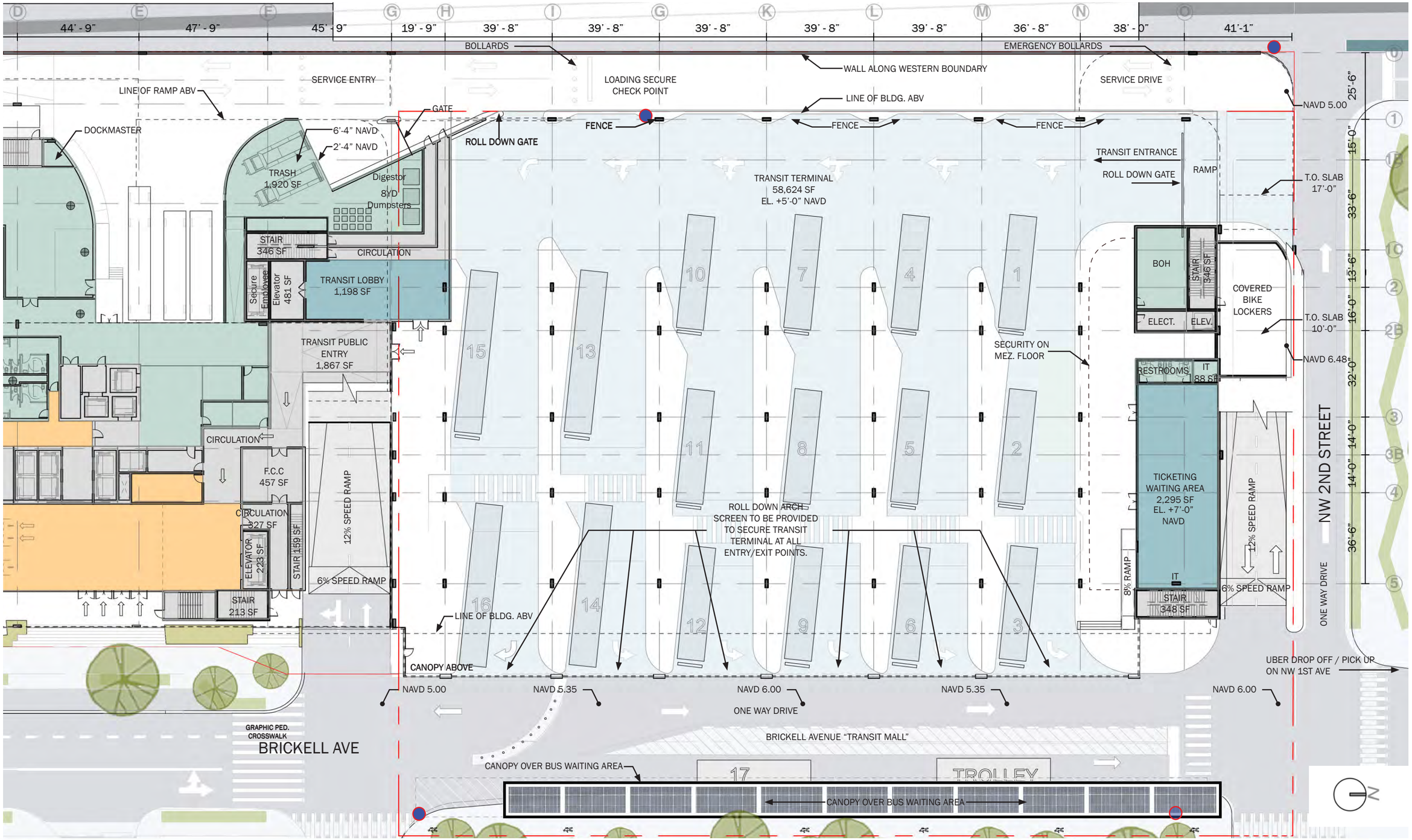
ZYSCOVICH

DETAILED PLAN | Main Building Level 29 Mechanical

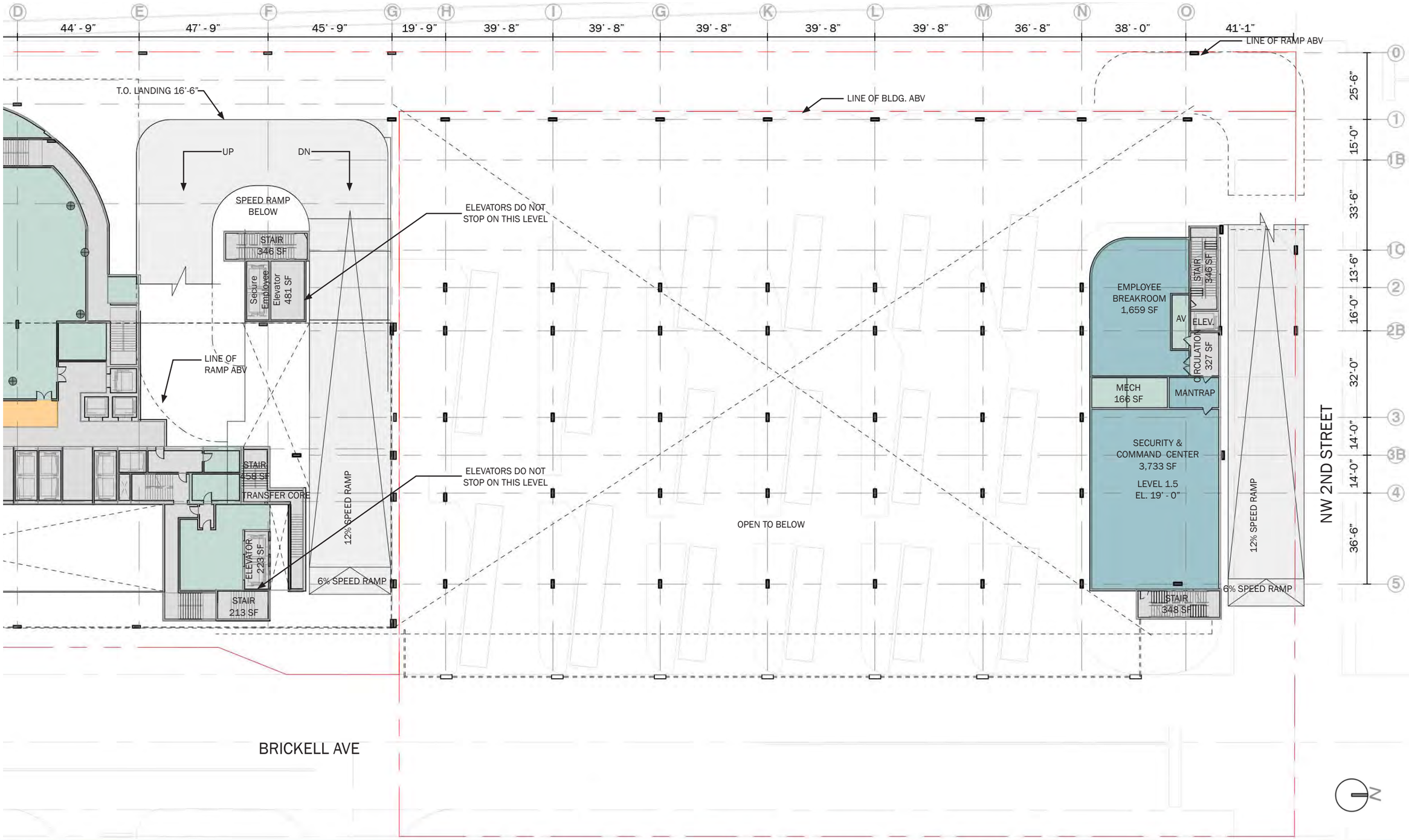


DCP

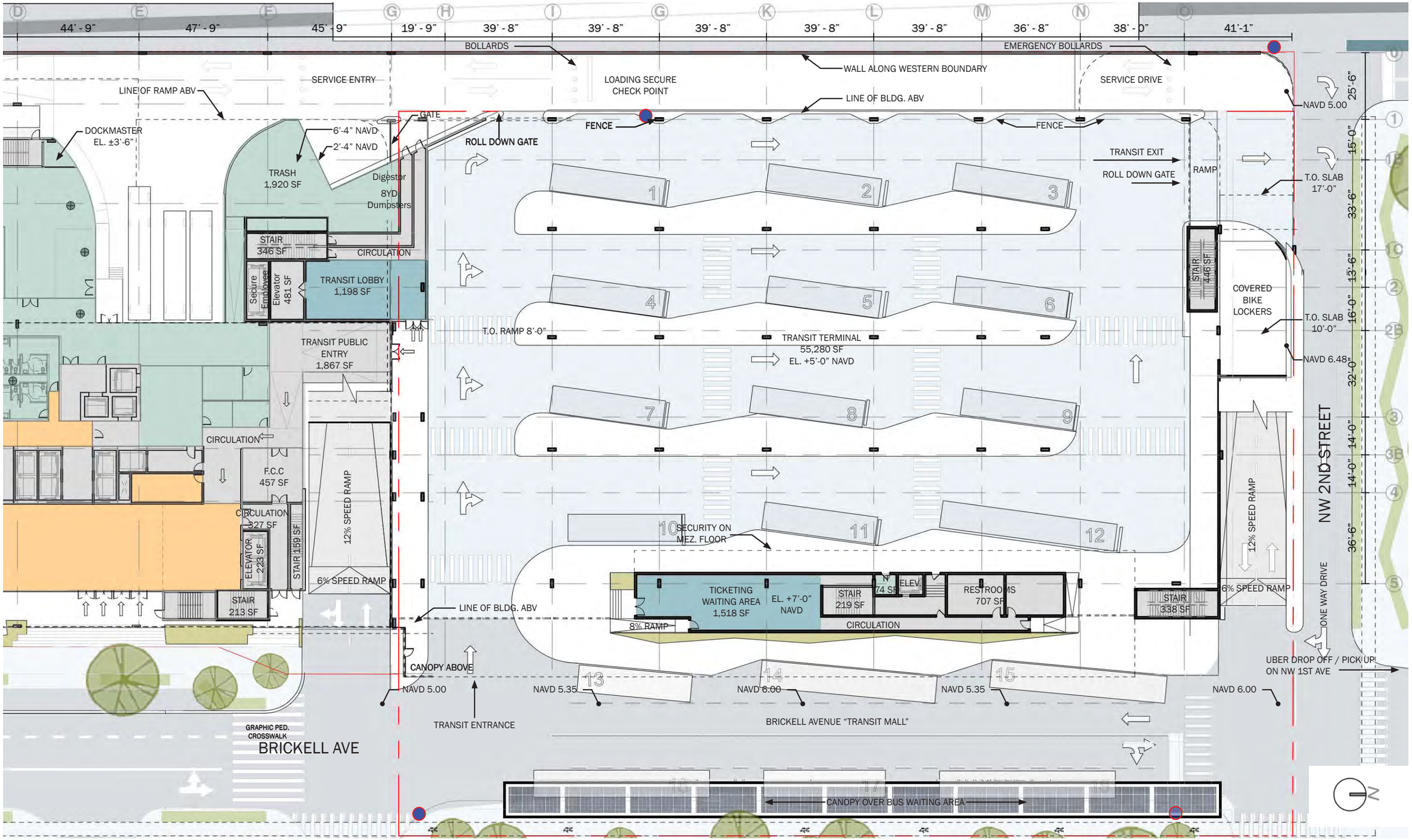
DETAILED PLAN | Transit Terminal Option 1 . Ground Level



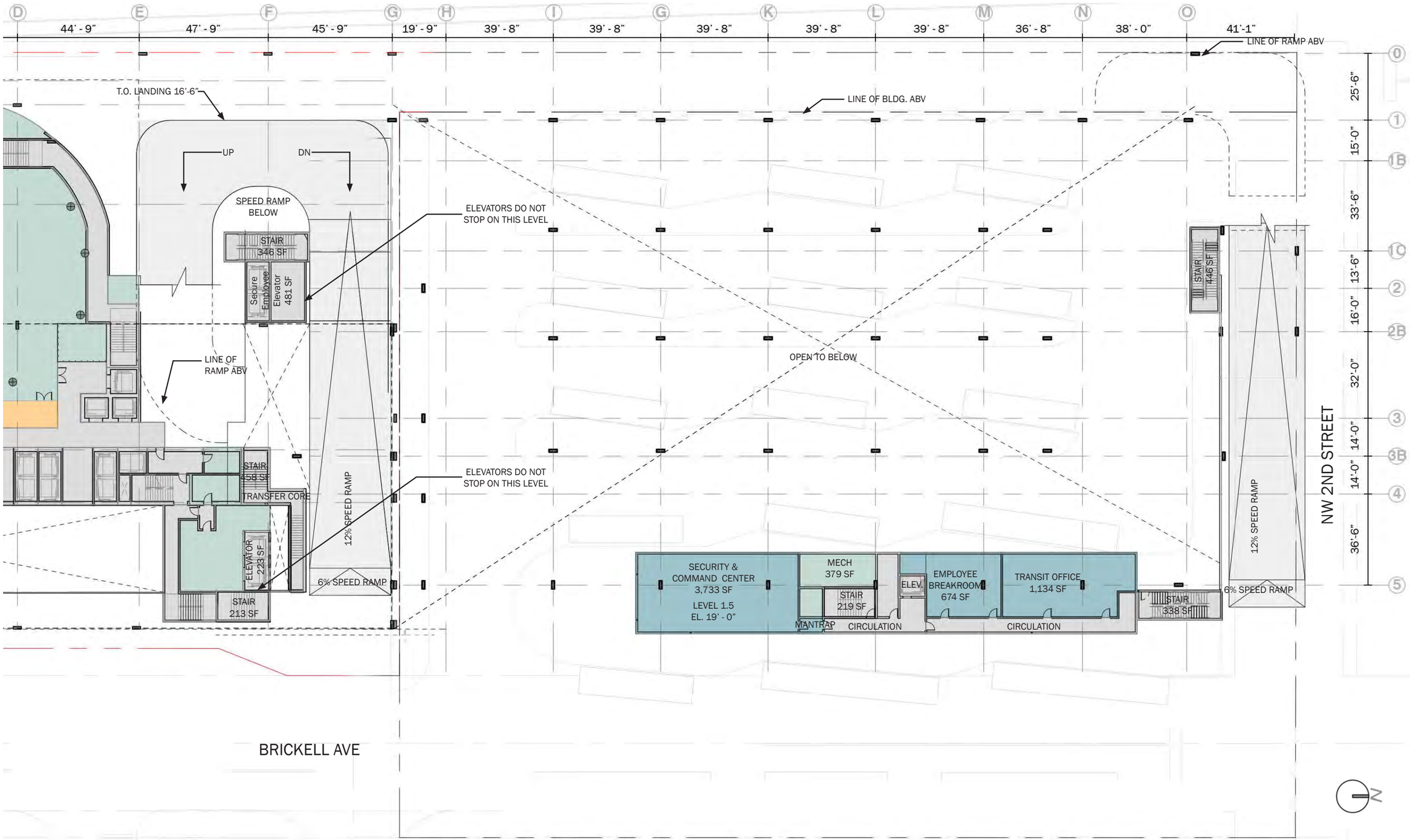
DETAILED PLAN | Transit Terminal Option 1 . Mezzanine Level



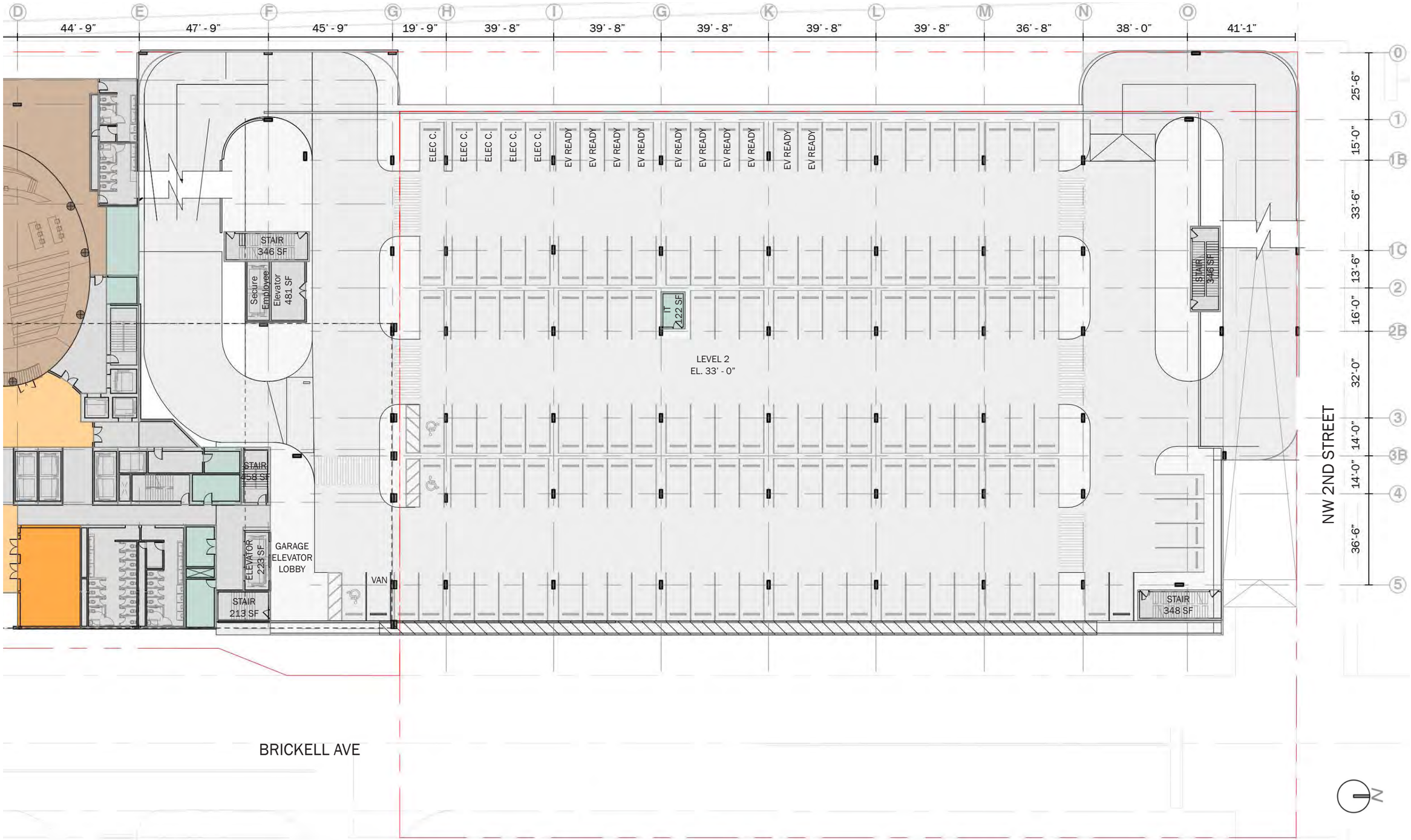
DETAILED PLAN | Transit Terminal Option 2 . Ground Level



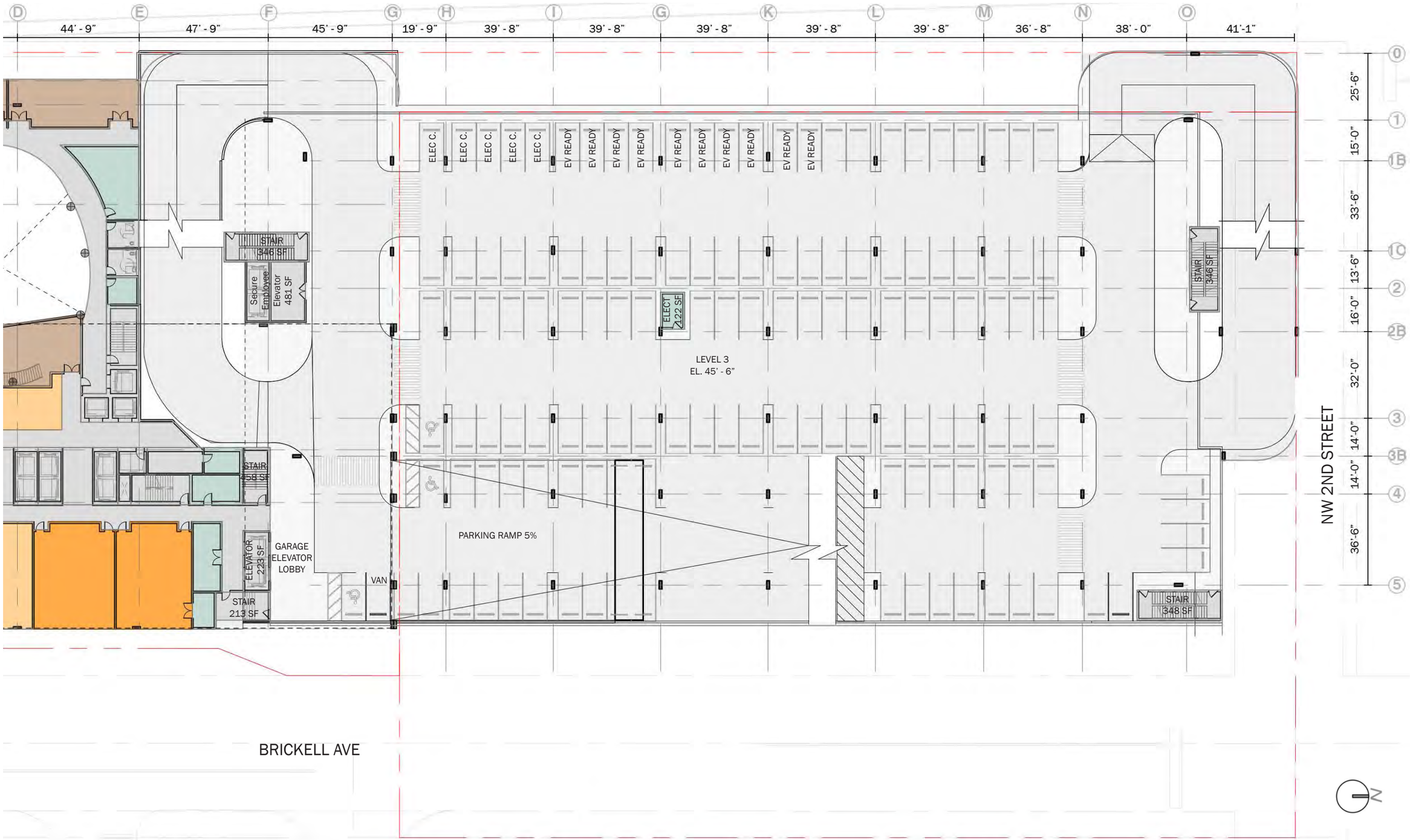
DETAILED PLAN | Transit Terminal Option 2 . Mezzanine Level



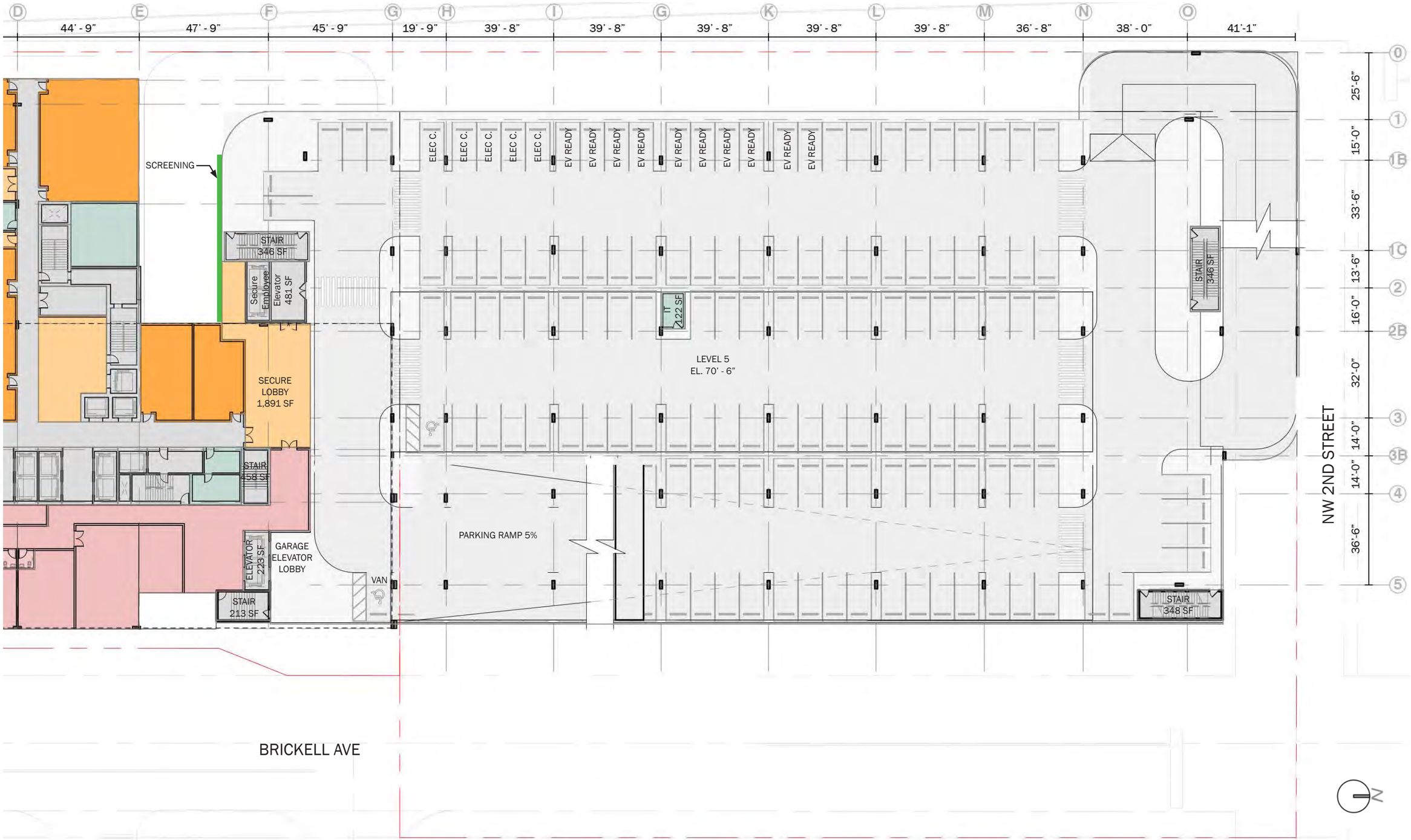
DETAILED PLAN | Parking Garage Level 1



DETAILED PLAN | Parking Garage Level 2 and 3

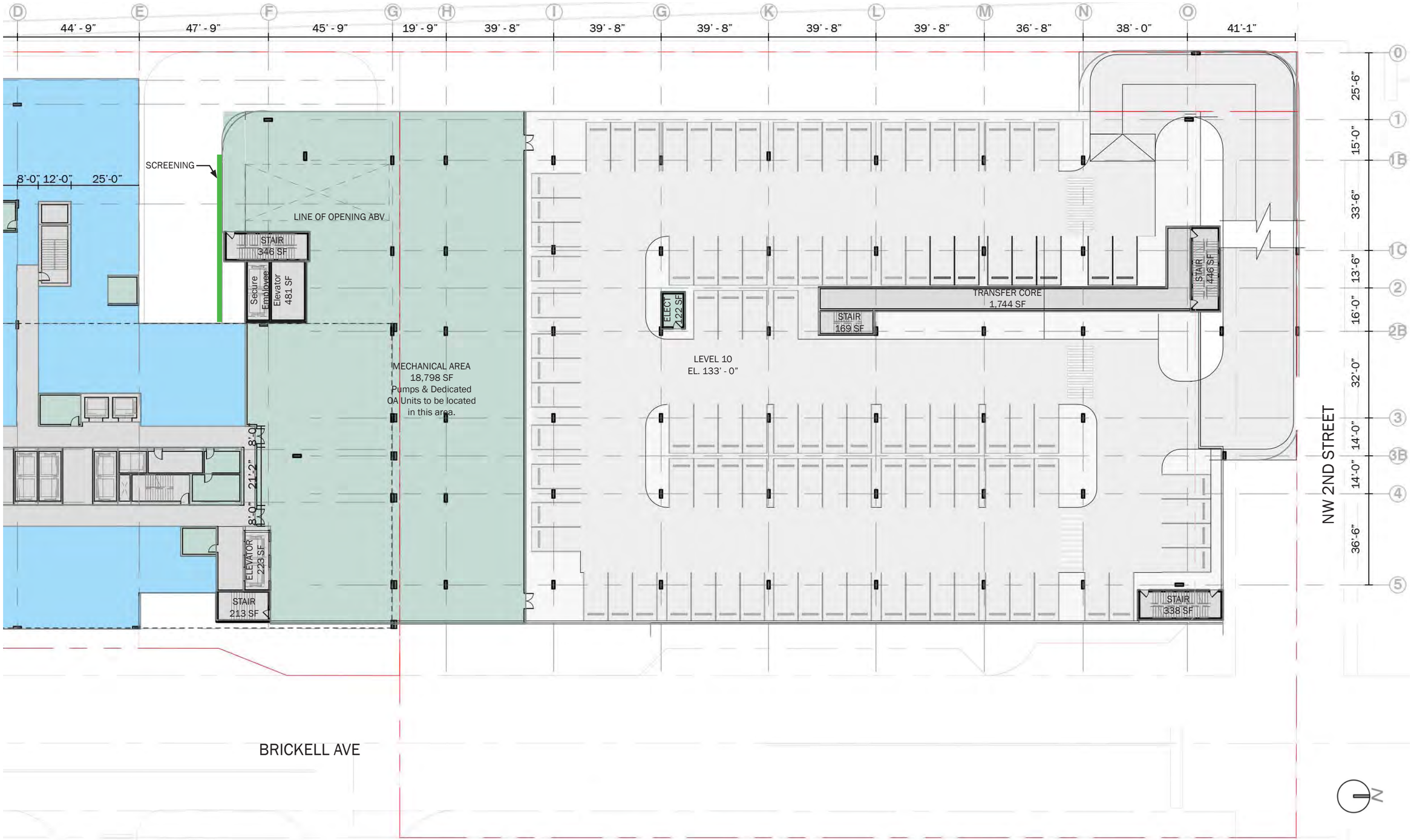


DETAILED PLAN | Parking Garage Level 4 *with secure access to Main Building Level 4*

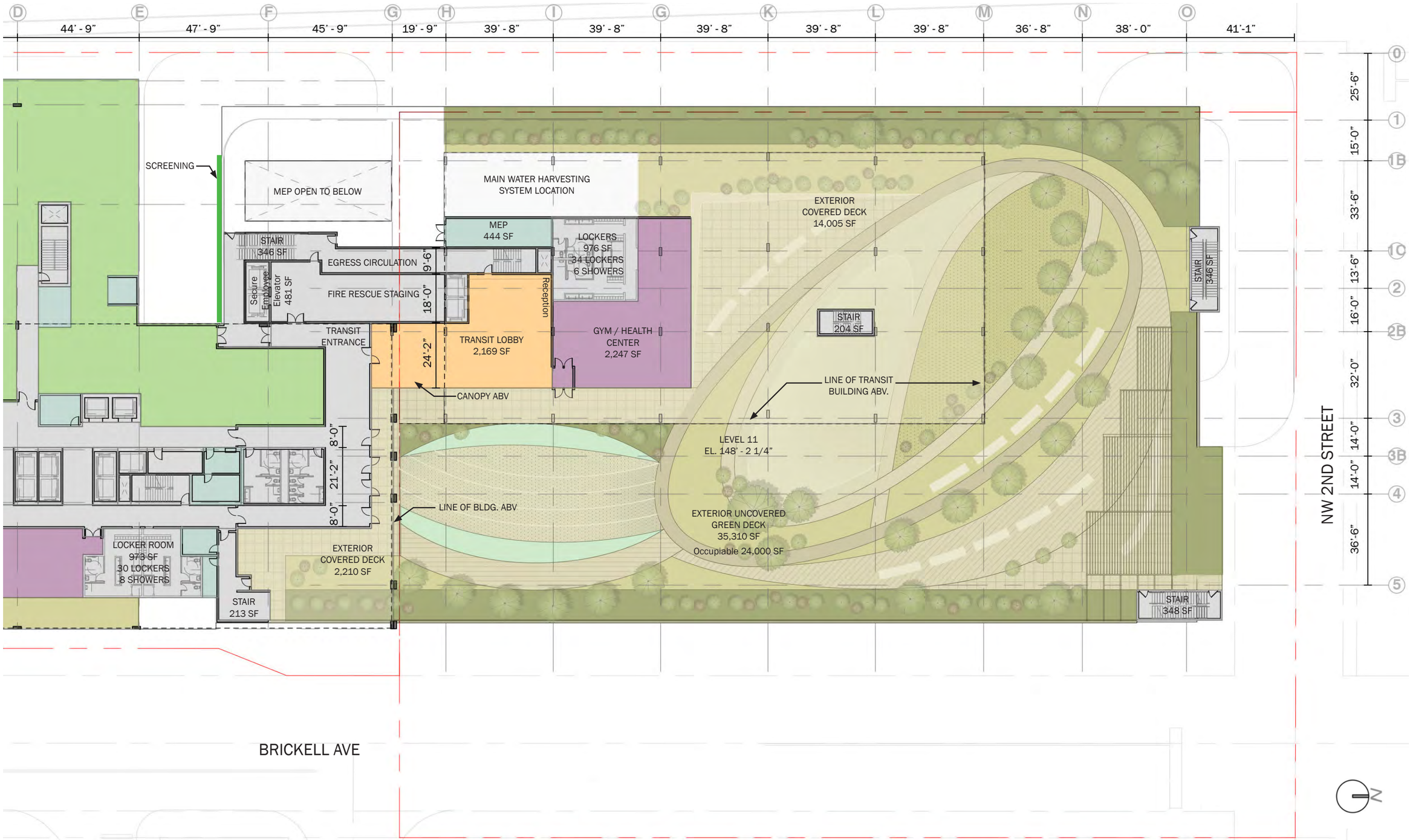


DETAILED PLAN | Parking Garage Level 5 thru 8

DETAILED PLAN | Parking Garage Level 9

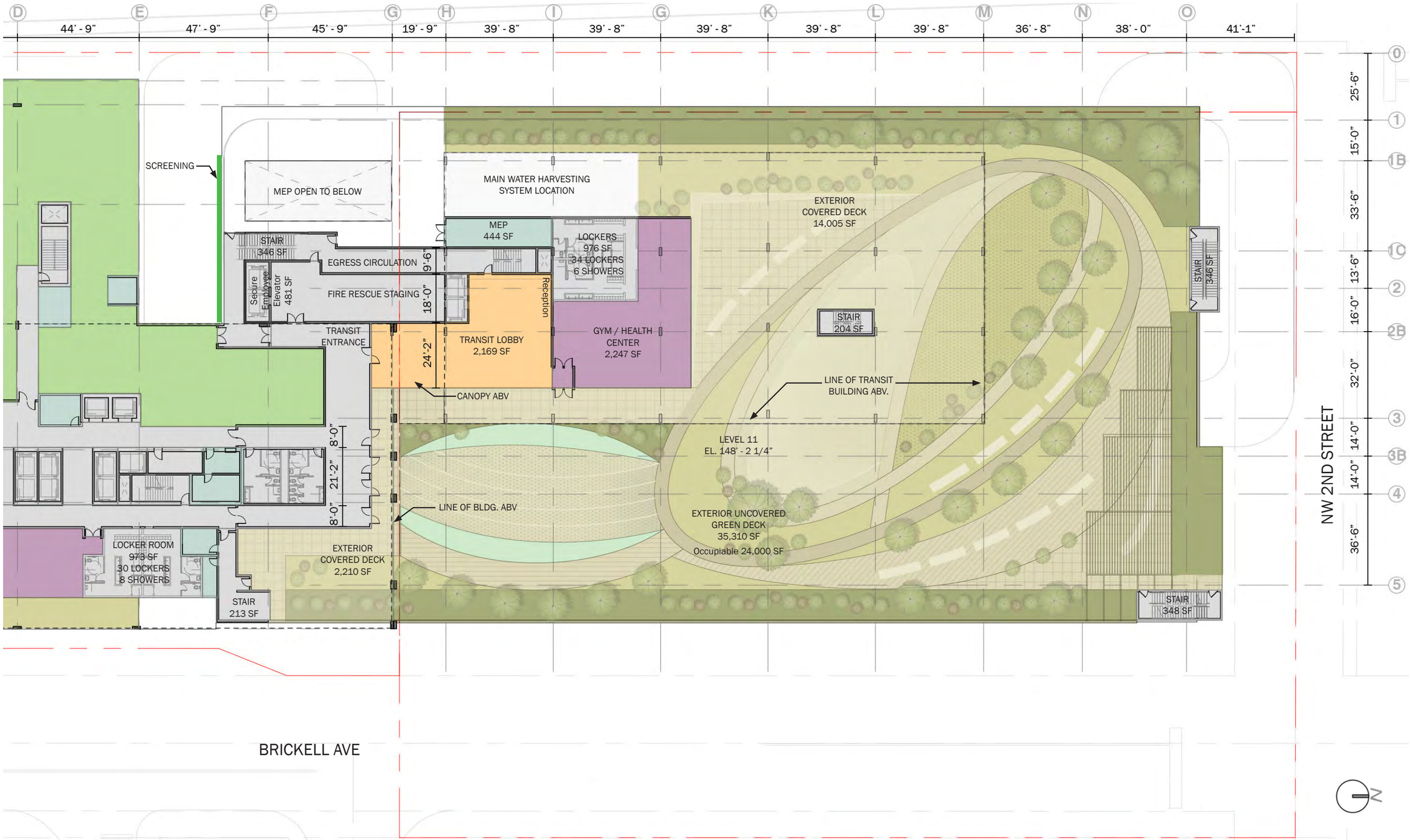


DETAILED PLAN | Roof Deck . Main Building Level 9 *with secure access to BCT Admin Offices Lobby*

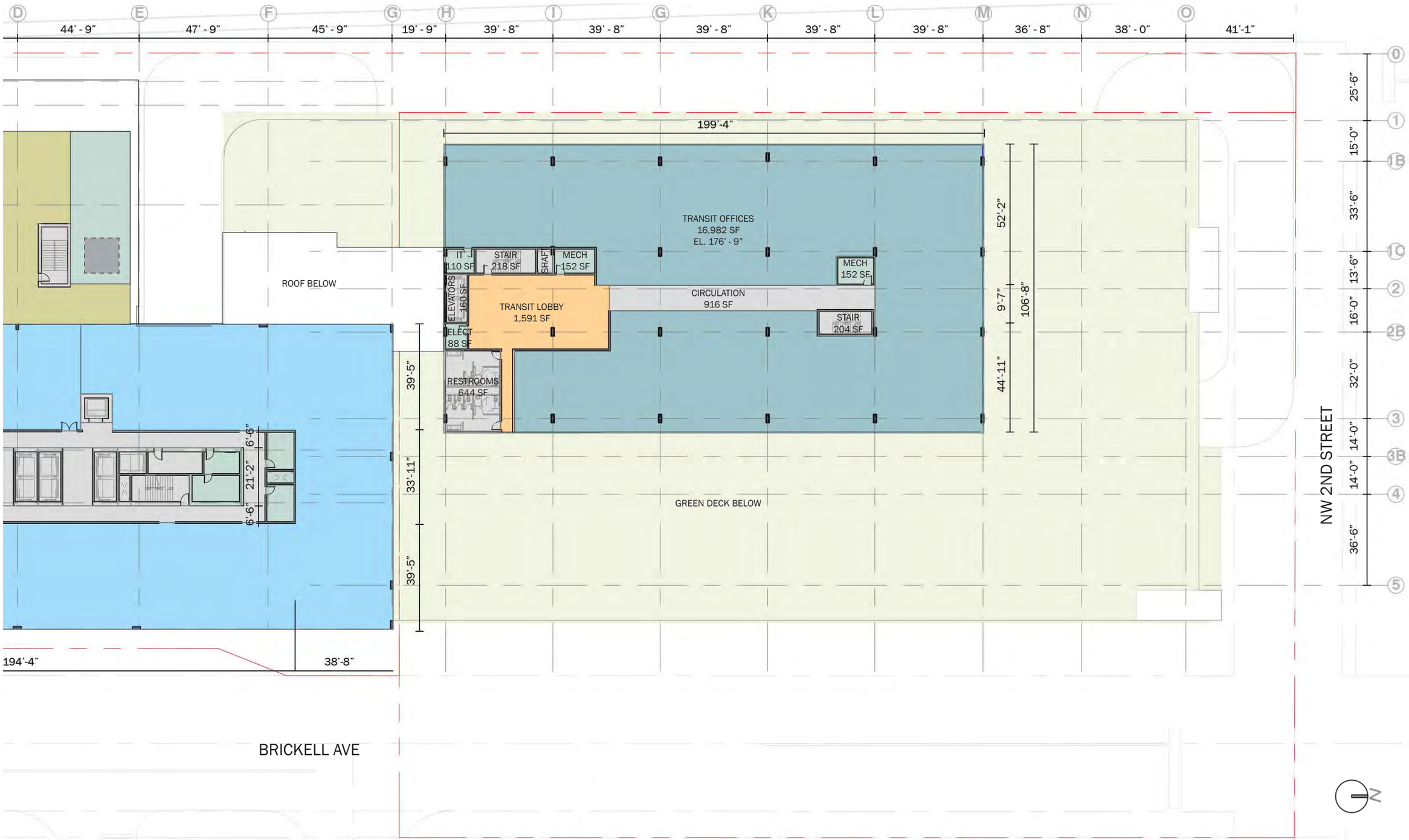


DCP

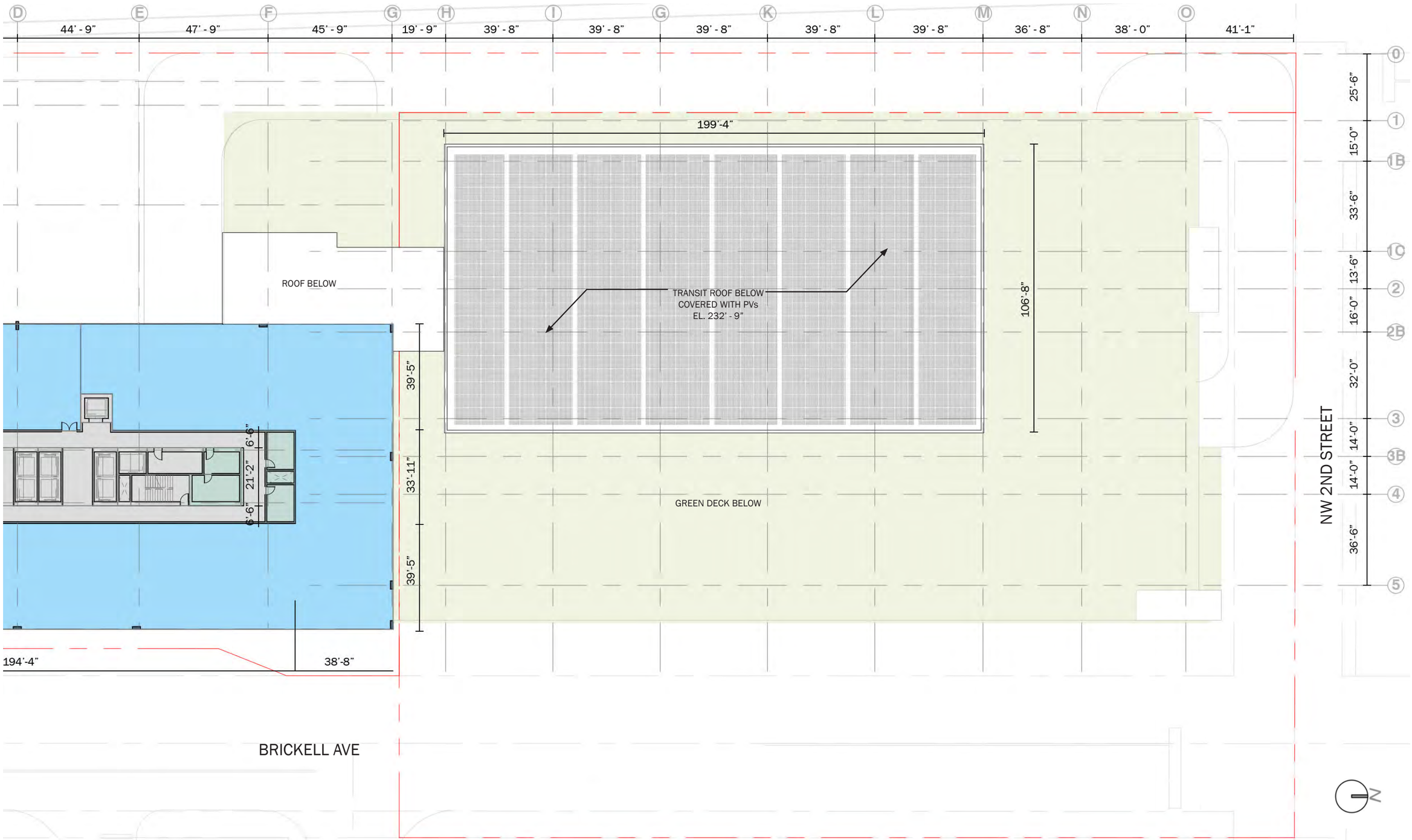
DETAILED PLAN | BCT Administration Office Building Level 1 *(Main Building Level 9)*



DETAILED PLAN | BCT Administration Office Building Level 2 thru 5 *(Main Building Levels 10 thru 13)*



DETAILED PLAN | BCT Administration Office Building Roof Deck



DCP

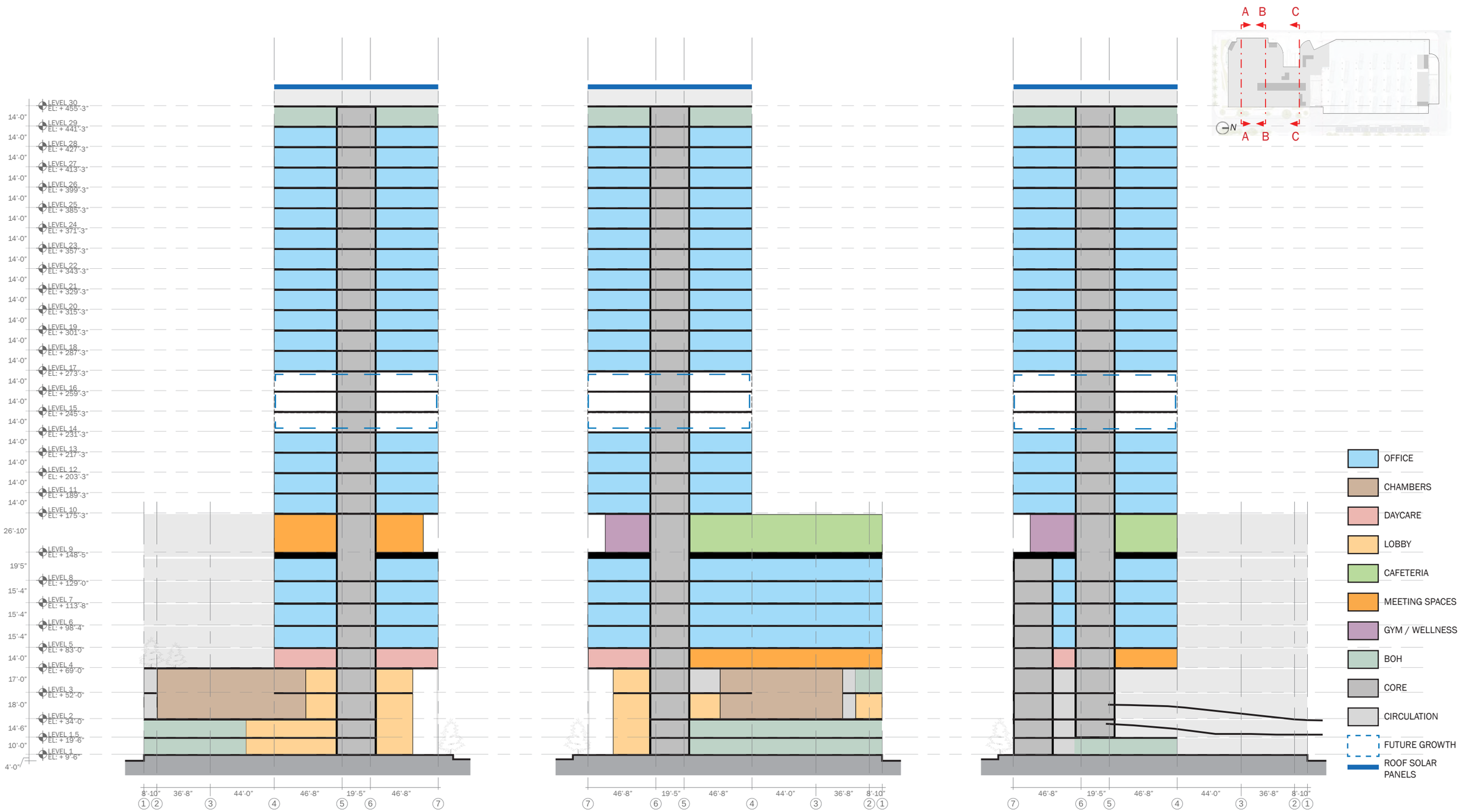
JGCC | BUILDING SECTIONS

ZYSCOVICH

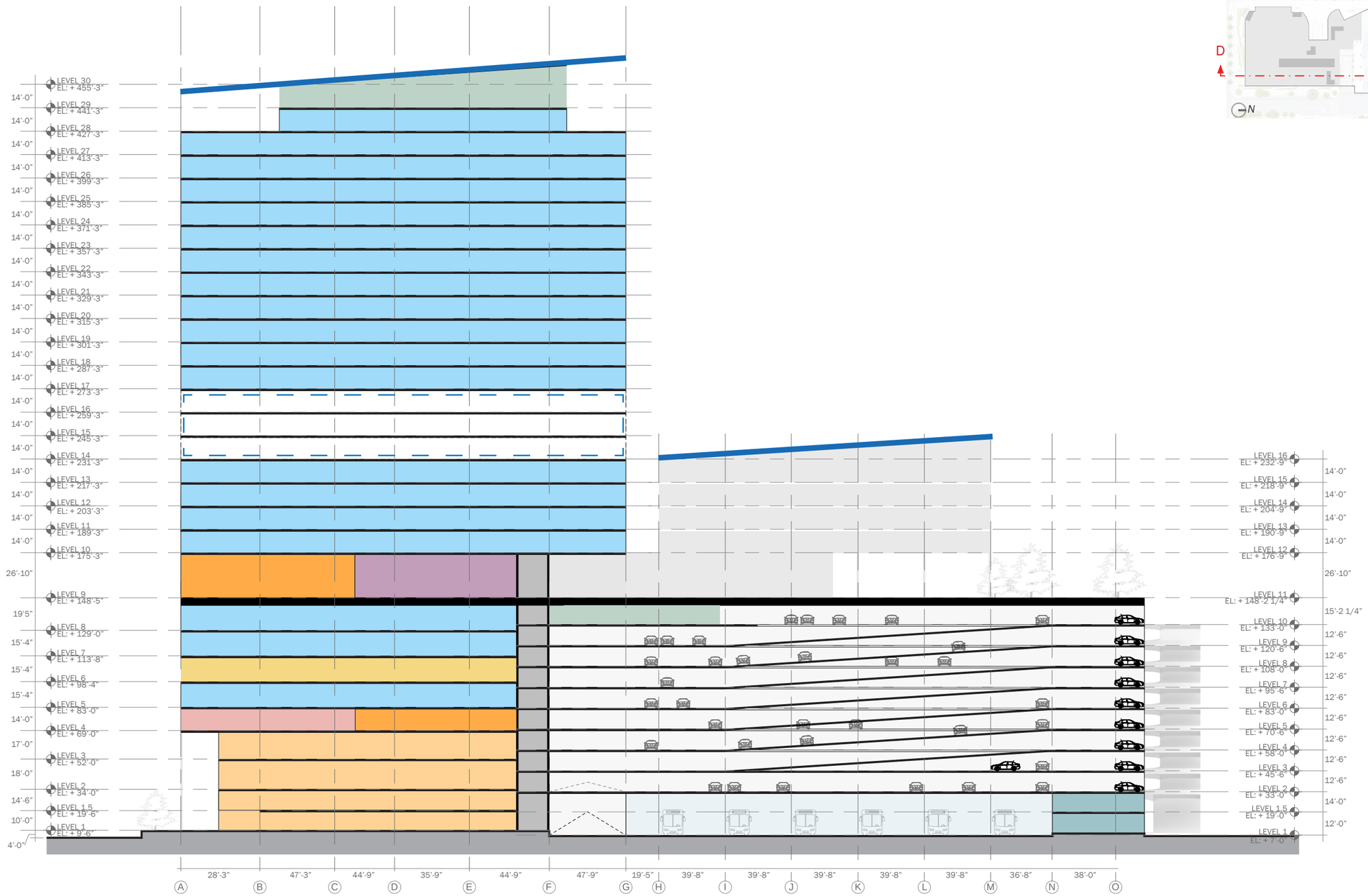
BUILDING SECTION | Main Building . Levels 1 thru 8 *with Chambers on Level 2*

South Elevation

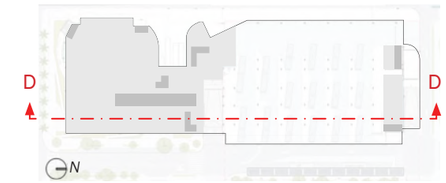
BUILDING SECTION | Main Building



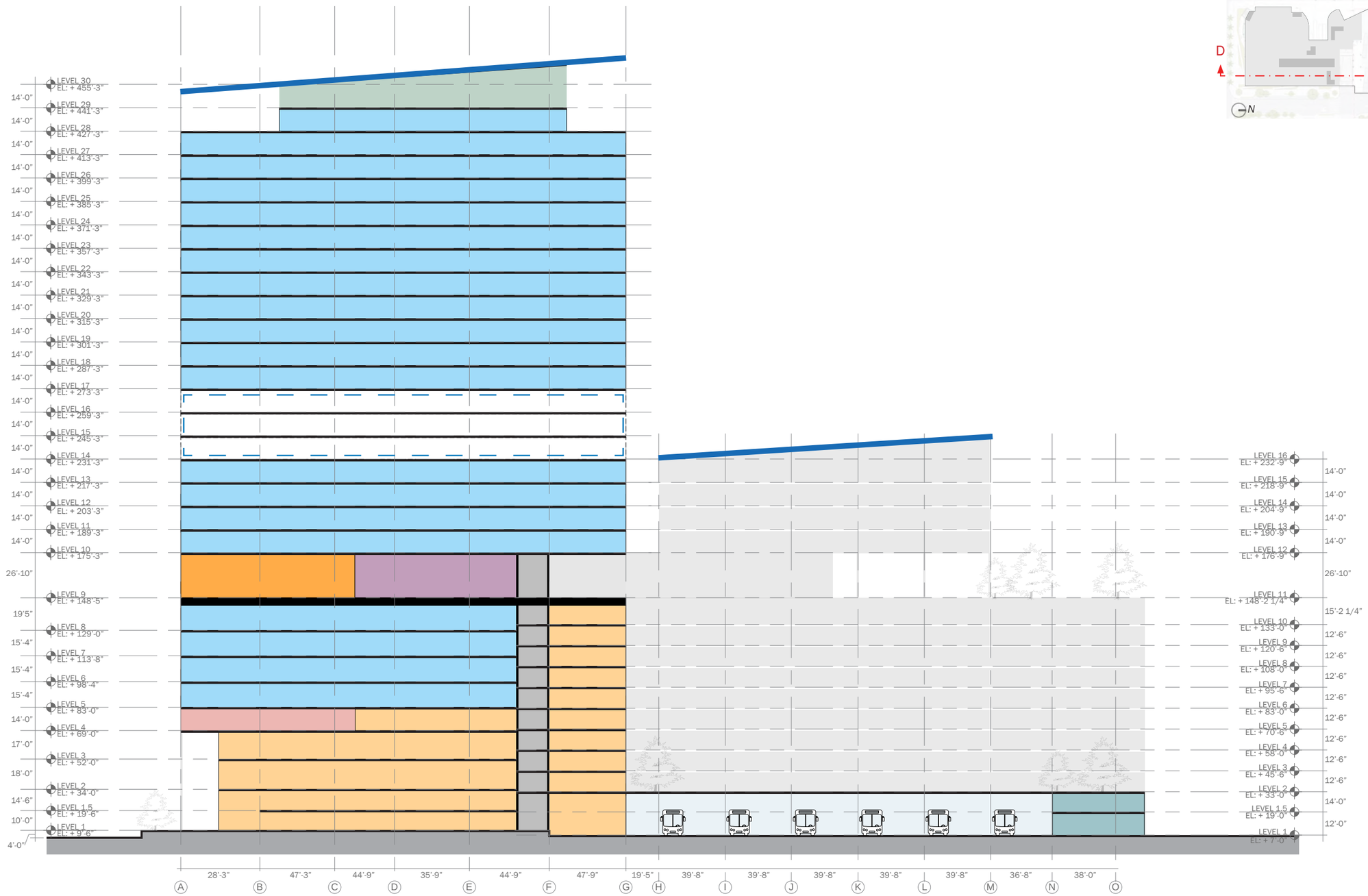
BUILDING SECTION | Main Building, Transit Terminal and Parking Garage



SECTION D-D

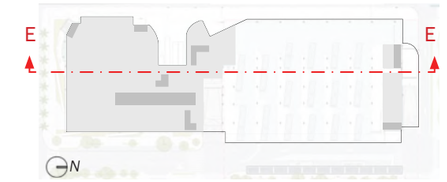


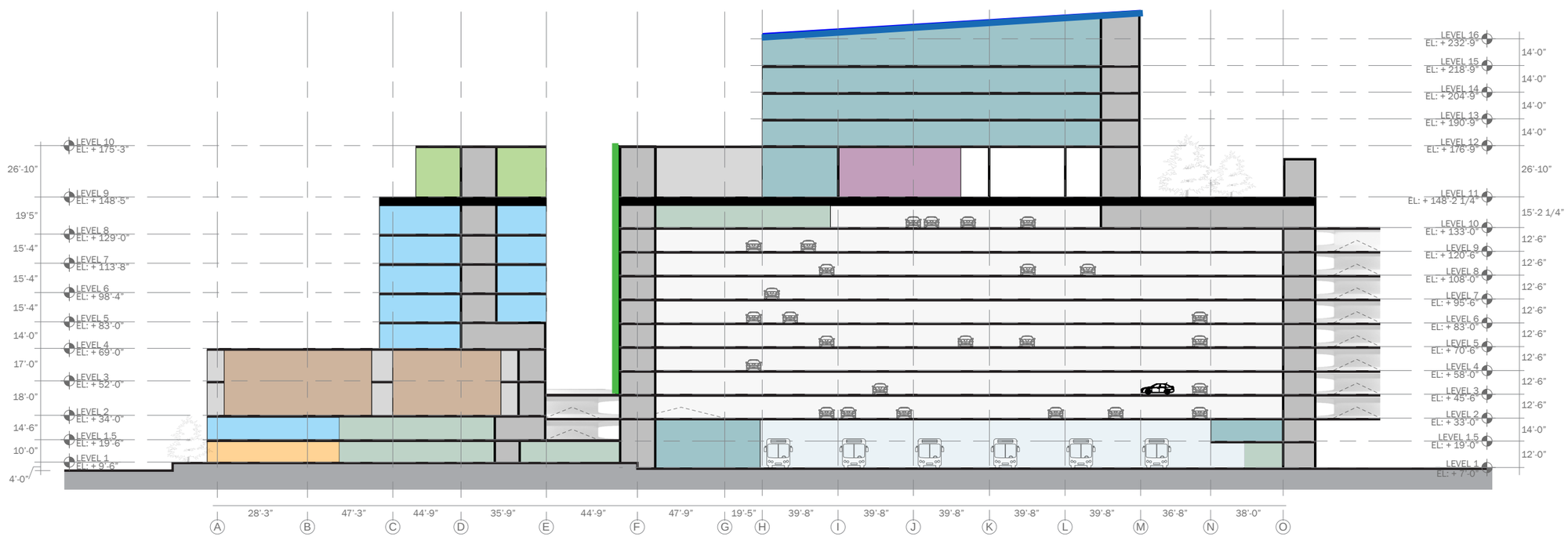
BUILDING SECTION | Main Building, Transit Terminal and Garage Converted to Office Use



SECTION D-D ALTERNATIVE - GARAGE CONVERTED TO OFFICE USE

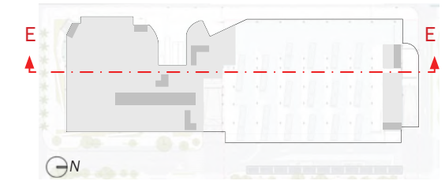
BUILDING SECTION | Main Building, BCT Admin Building, Transit Terminal and Parking Garage

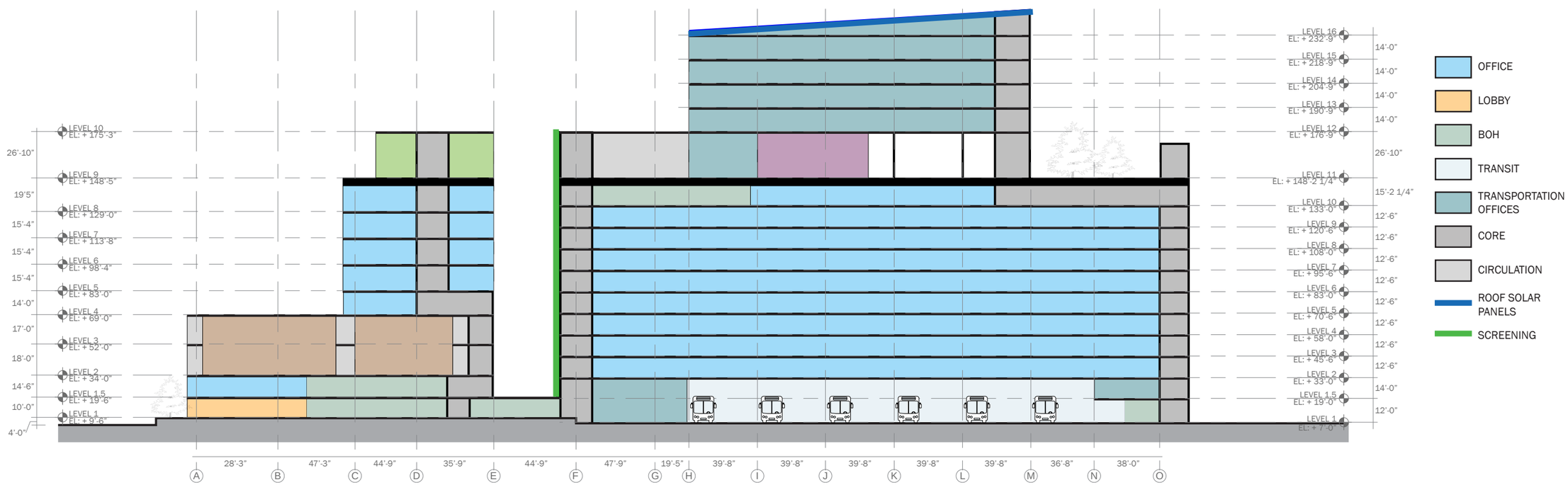




SECTION E-E

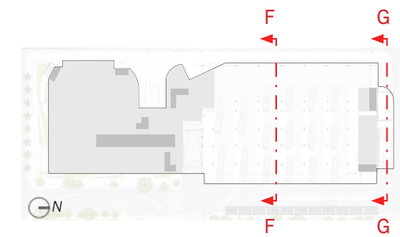
BUILDING SECTION | Main Building, BCT Admin Building and Transit Terminal with Garage Converted to Office Use

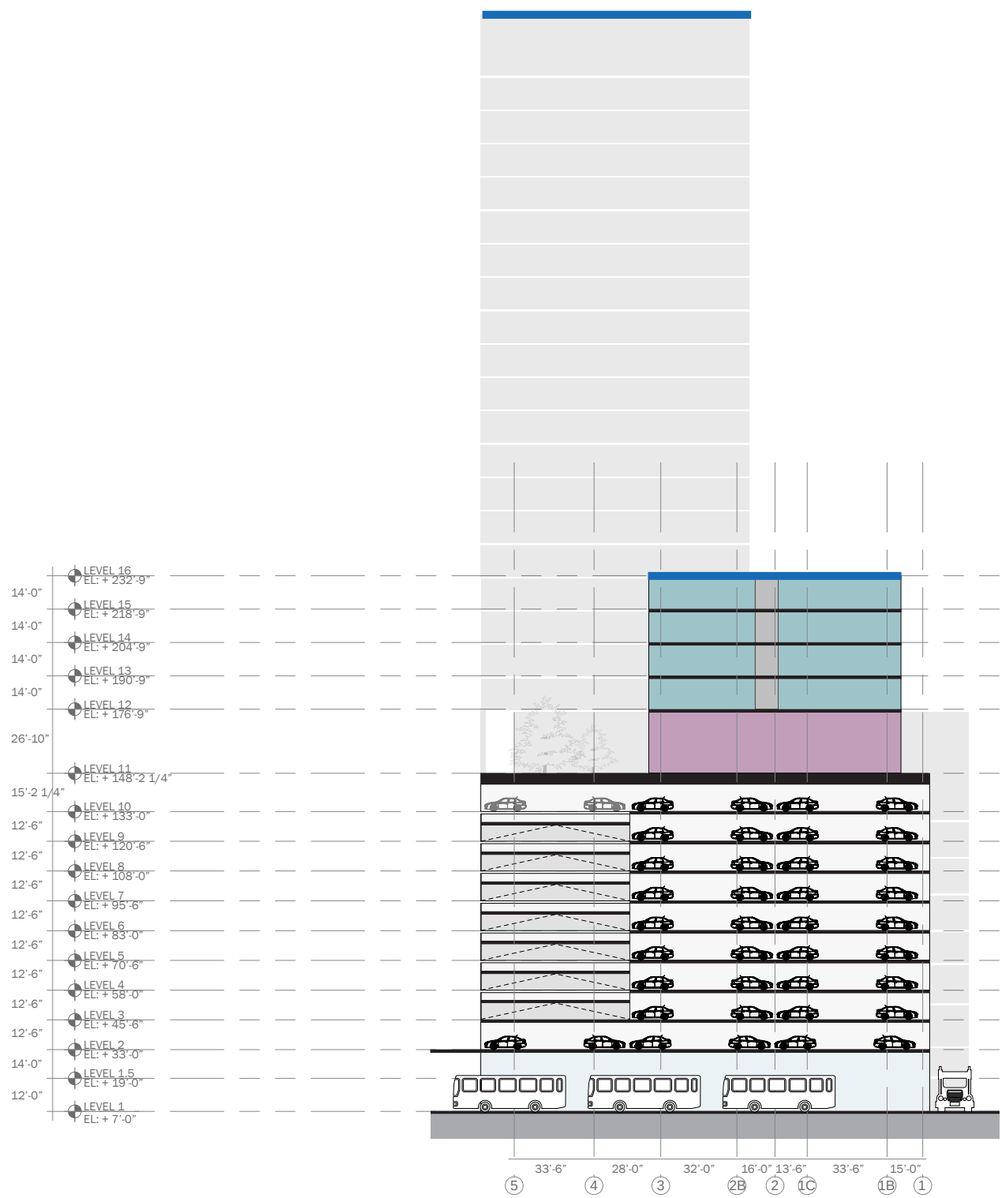




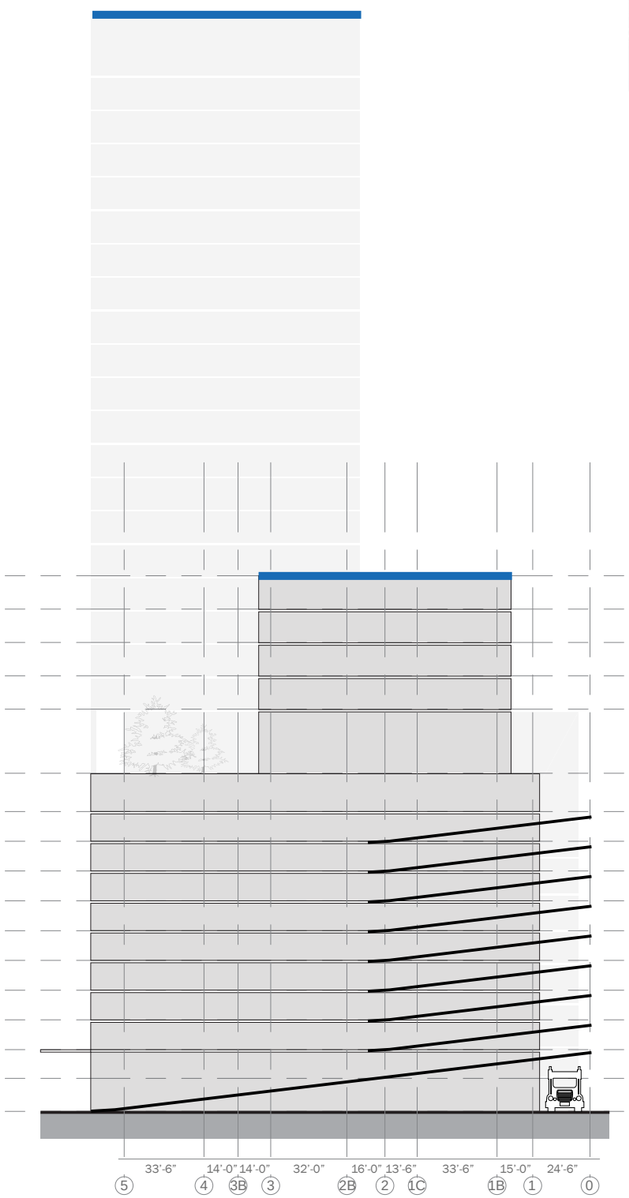
SECTION E-E ALTERNATIVE - GARAGE CONVERTED TO OFFICE USE

BUILDING SECTION | BCT Admin Building, Parking Garage and Transit Terminal





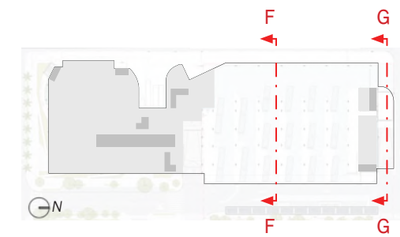
SECTION F-F

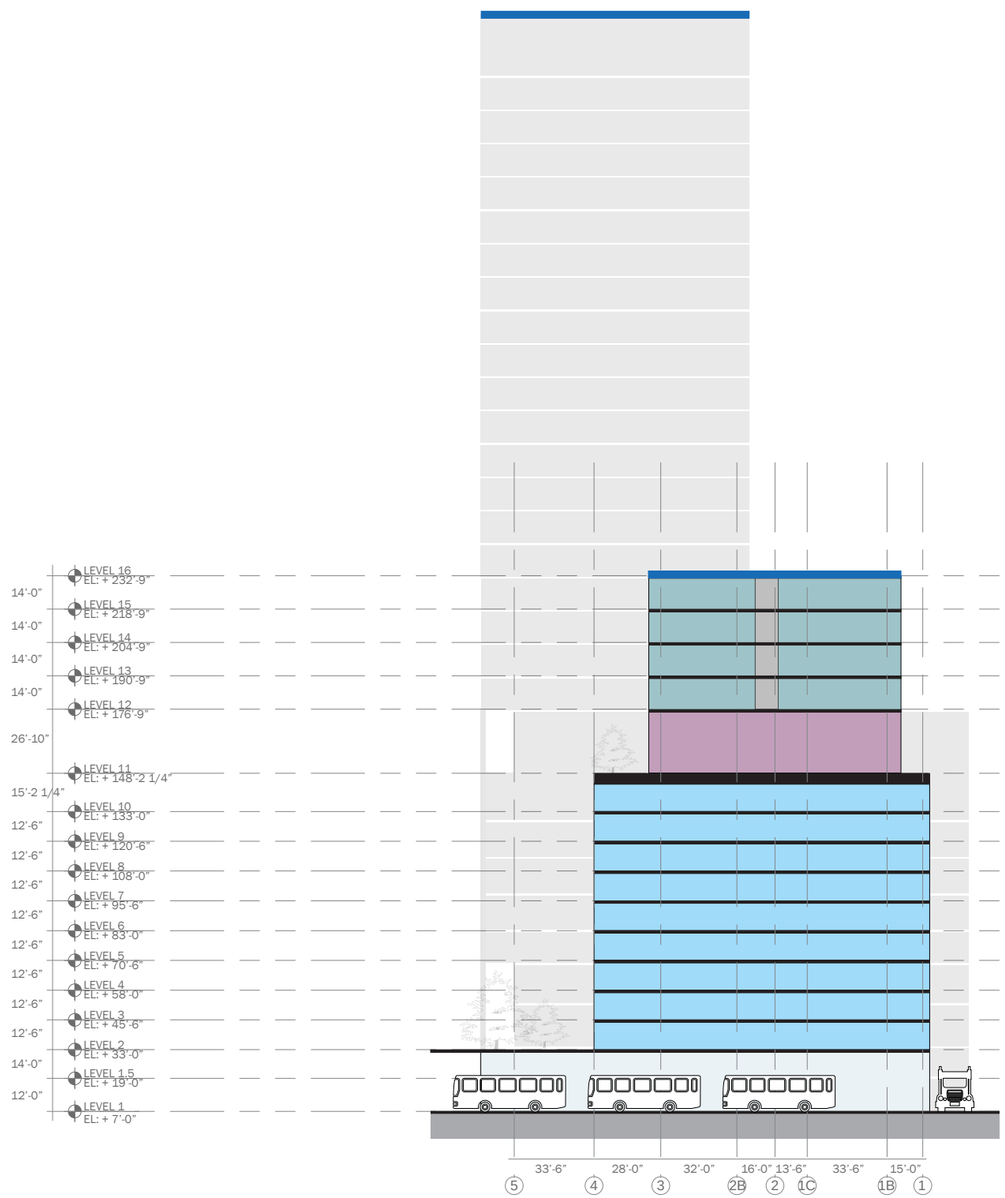


SECTION G-G

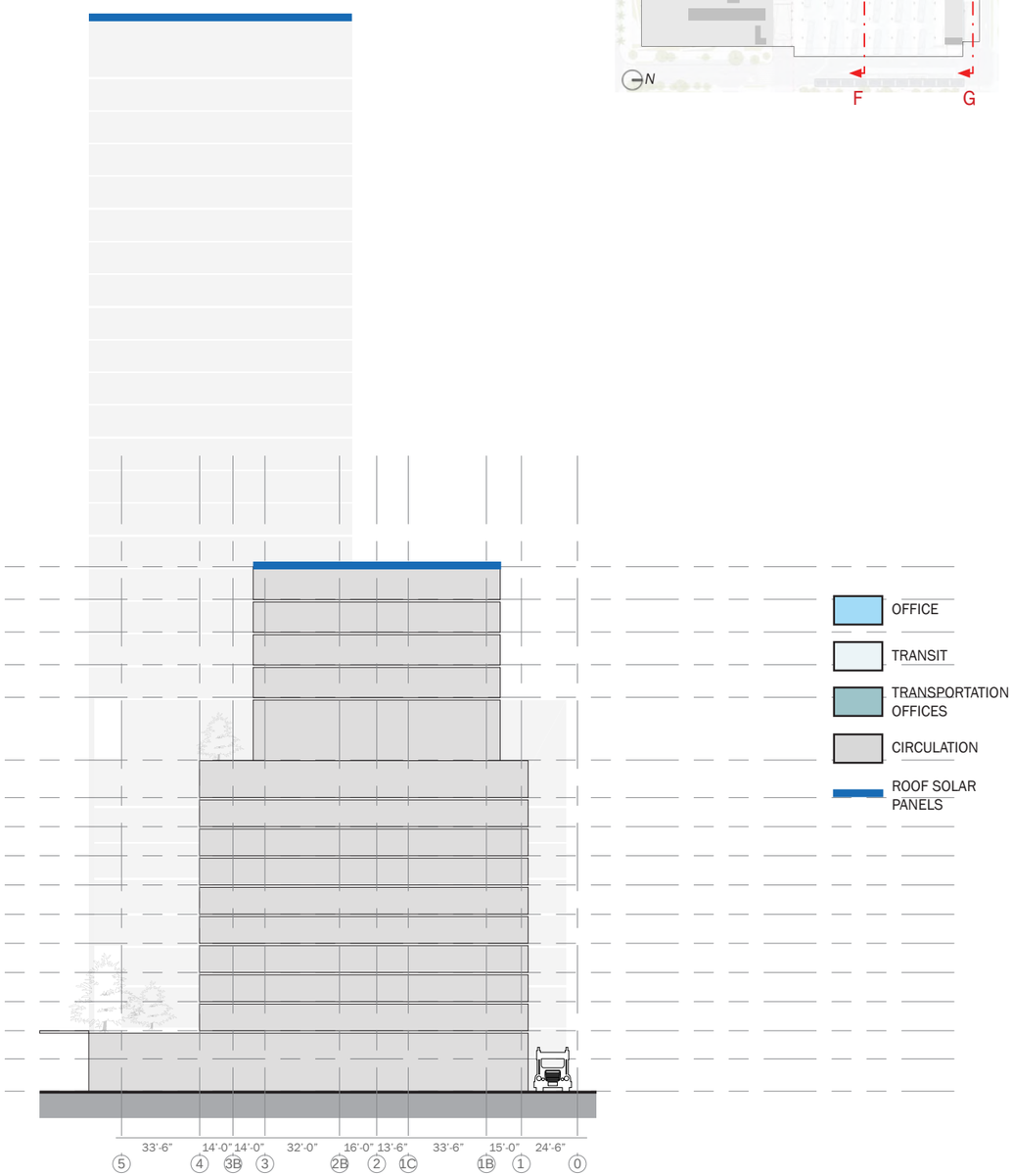
OFFICE
CARAGE
TRANSIT
TRANSPORTATION OFFICES
CIRCULATION
ROOF SOLAR PANELS

BUILDING SECTION | BCT Admin Building and Transit Terminal with Garage Converted to Office Use





SECTION F-F ALTERNATIVE



SECTION G-G ALTERNATIVE

ZYSCOVICH

DCP

Design Criteria
Joint Government Center Campus

BROWARD COUNTY AND CITY OF FORT LAUDERDALE
BOOK 3

APPENDICES A THRU P
BOOK 3

SEPTEMBER 14, 2020

Design Criteria for Joint Government Center Campus

CITY OF FORT LAUDERDALE

BROWARD COUNTY FLORIDA

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E2	Utility Coordination	
E3	Stormwater Calculations	
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G	Outline Specifications	
H	Site Survey	
I	Geotech Report	
J	BIM Requirements AND COBie ASSET MANAGEMENT	
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L	FAA Height Analysis Drawing	
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DCP

APPENDIX A

Programming | Adjacency Analysis Stacking Diagram

BOOK 3 | SEPTEMBER 14, 2020

APPENDIX A
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JGCC Program Requirements and Workplace Strategy

Development Process

In order to determine the current and future needs of the County and the City employees for The Joint Government Center Campus (JGCC) a Workplace Program Analysis was undertaken with the use of development tools and processes, where the organizational goals and mission were discussed, performance of the existing space was analyzed and space constraints and needs requirements identified. Based on the information gathered during interviews by Colliers and Zyscovich through a series of meetings and presentations to the Steering Committee and selected staff members; a design criteria that directly addresses the workplace programming and future building needs of the JGCC was established.

As it has been mentioned previously, the Workplace Program Analysis derived design concepts and solutions from an understanding of both organizations' goals, culture, and current and desired work practices—using both quantitative and qualitative data. A written program and guidelines was developed by Colliers based on the data gathered and informs the design and design review processes. This design criteria report directly links the building workplace program and solutions to each organization's goals, and suggestions of the new trends in the workplace are recommended.

Program Overview and Intent

The work completed is intended to directly impact the planning, design, and build-out of the new Joint Government Center Campus (JGCC). The programming process has culminated in a series of deliverables including a programmatic summary and workplace playbook.

The work generated during Strategy Reports submission and review process between Colliers, Zyscovich and Broward County, and City of Fort Lauderdale is intended to be used as a summary of all identified drivers, organizational goals, and workplace opportunities to inform the design and development of the new JGCC.

The information serves as a toolkit to be leveraged as the basis for creating a work environment that will support the culture and work behaviors desired by the leaders and employees of the City of Fort Lauderdale and Broward County in the new JGCC.

The programming results in this document examines both the "what" – the spatial requirements of the workforce and operations, and the "how" - a workplace strategy to guide the design and management of the workplace, to enable both organizations to create a productive, sustainable and inspiring new Joint Government Center Campus.

There has been a reciprocal process between Zyscovich and Broward County and City of Fort Lauderdale, in the development of the final Program Requirements and Workplace Strategy as part of the DCP.

A submission of 50% completion of the DCP was submitted to Broward County and City of Fort Lauderdale, with Departmental Adjacency Analysis Diagrams, Space Requirements and Workplace Strategies, based on reports generated by Colliers summarizing the data collected during the interview process. Those reports Appendix D - JGCC Program of Requirements and Workplace Strategy and the JGCC Workplace Playbook served as basis for Zyscovich to create the JGCC Program and Adjacency Analysis Diagram, Appendix A, Workplace Guidelines and Standards and Meeting Rooms Conceptual Layouts for Common Floors (2, 3, 4 and 9).

Office dimensions are based on information provided by Broward County and City of Fort Lauderdale of their Standards. The recommendations provided by Colliers on their Workplace Playbook did not meet the expectations and requirements for the future JGCC.

Adjacencies between departments are based on the information gathered during interviews, responses to the questionnaires and Floor Plate Size.

Comments received by The County and The City after the 50% completion submission and throughout the 100% subimssion have been implemented and they mostly include adjustments of the Collier's report on Office sizes and quantities, as well as Meeting Room quantities per Department.

City of Fort Lauderdale Adjacency Analysis Stacking Diagram

City of Fort Lauderdale Adjacency Analysis - Stacking Diagram

FLOOR LEVEL	DEPARTMENT NAME	PROGRAM REQUIRED BY DEPARTMENT USABLE SF	PROGRAM PROVIDED PER LEVEL / SF	OFFICE SF USABLE (NET) PER LEVEL	CONTINGENCY SPACE PER LEVEL	SF "THE COMMONS" shared amenities	NOTES
TOTAL USF							
5th	City Information Technology	18,283	18,283				
	Contingency Space				1,803		
22,519	TOTAL	18,283	18,283	20,086	1,803	2,433	Shared Commons - 1 Dept
6th	City Public Works	18,570	18,570				
	Contingency Space				1,516		
22,519	TOTAL	18,570	18,570	20,086	1,516	2,433	Shared Commons - 1 Dept
7th	City Transportation and Mobility	11,522	11,522				
	City Housing and CD	4,031	4,031				
	Contingency Space				4,533		*requires 1,568 SF ground level Service Counter
22,519	TOTAL	15,553	15,553	20,086	4,533	2,433	Shared Commons - 2 Depts.
8th	City Sustainable Development		1,389				*23,443 SF on 10th level (total 24,741 SF)
	City Budget and Management	5,020	5,020				*Moved from 28th (Colliers) level to 8th
	City Utility Billing	5,762	5,762				
	City Auditor	3,123	3,123				
	City Pension and Audit	2,845	2,845				
	Contingency Space				3,268		
23,352	TOTAL	16,750	18,139	21,407	3,268	1,945	Shared Commons - 5 Depts.
10th	City Sustainable Development	24,741	23,352		0		*1,389 SF Overflow on 11th level (total 24,741 SF)
23,352	TOTAL	24,741	23,352	23,352	0	0	Commons included within SF required
11th	City Human Resources	10,227	10,227				
	City Neighborhood Support	3,100	3,100				
	City Strategy & Communication	3,326	3,326				
	Contingency Space				4,754		
23,352	TOTAL	16,653	16,653	21,407	4,754	1,945	Shared Commons - 3 Depts.
12th	City Attorney	9,265	9,265				
	City Finance - Administration, Accounting, Treasury	9,153	9,153				
	Contingency Space				2,989		
23,352	TOTAL	18,418	18,418	21,407	2,989	1,945	Shared Commons
26th	City Manager	5,509	5,509				
	City Commission	11,448	11,448				
	City Clerk	4,143	4,143				
23,352	TOTAL	21,100	21,100	21,407	307	1,945	Shared Commons - 3 Depts.
TOTAL 184,317		150,068	150,068	169,238	19,170	15,079	

USF/Floor Plate - "L" shaped including Commons Floors 5,6,7 and 8	22,519
USF/Floor Plate - Tower including Commons Floor 10 - 28	23,352
The COMMONS "L" shaped - Varies	2,433
THE COMMONS Tower	1,945

Contingency Space at Floors	19,170
Shared Amenity Space - The Commons	15,079
City only total SF required	150,068
City only total SF provided	150,068
Total USF including Commons	184,317
Total of Floors	8
City Utility Service Counter Grounf Floor	1,568
Sub-Total	1,568

Summary of City and County Department Program Area and Adjacencies / Stacking

Tables summarize the Program Area requirements for the City of Fort Lauderdale and Broward County.

Refer to following pages for detailed information listing each Division/Department's Required Usable SF area based on the Programming and Workplace Strategy Assessment work conducted by the DCP Design Team. Note the Floor Plate Size, Floor Level and SF Area Provided are based on the proposed DCP Concept Plan.

Broward County Adjacency Analysis Stacking Diagram

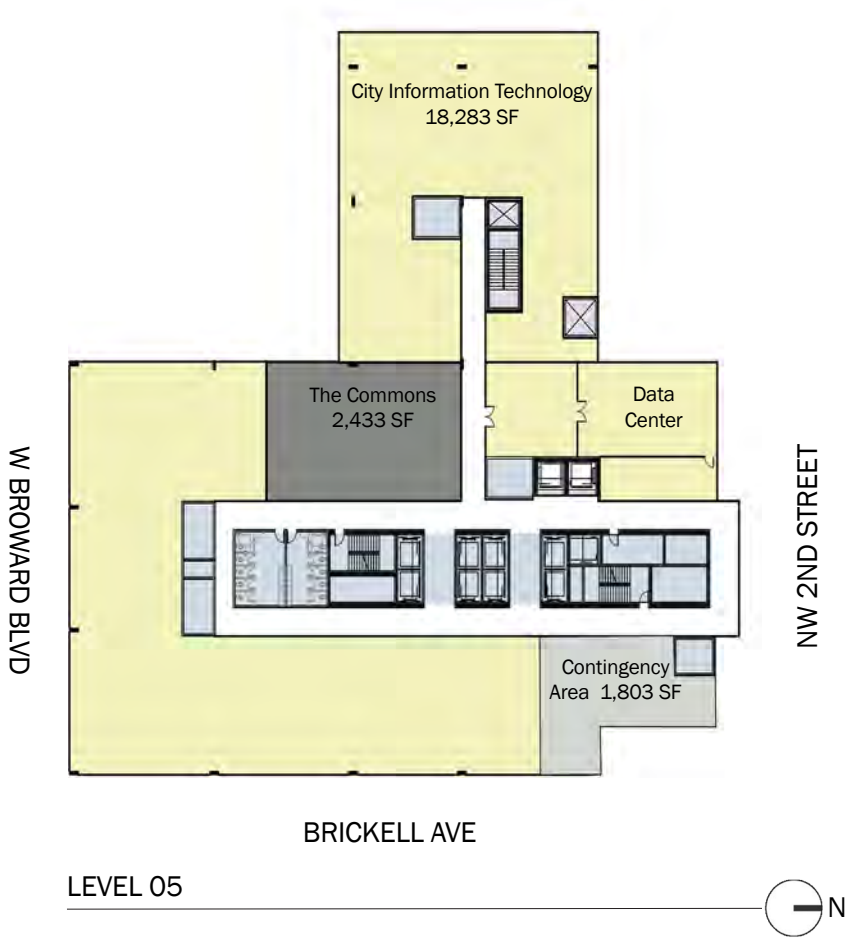
Broward County Adjacency Analysis- Stacking Diagram

FLOOR LEVEL		DEPARTMENT NAME	PROGRAM REQUIRED BY DEPARTMENT USABLE SF	PROGRAM PROVIDED PER LEVEL / SF	OFFICE SF USABLE (NET) PER LEVEL	CONTINGENCY SPACE PER LEVEL	SF "THE COMMONS" shared amenities	NOTES
	TOTAL USF							
16th		Community Partnership	10,576	10,576				
		Economic & Small Business Development	7,078	7,078				One-stop shop - ground level
		Contingency Space				3,753		
	23,352	TOTAL	17,654	17,654	21,407	3,753	1,945	Shared Commons - 2 Depts.
17th		Housing Finance & Community Redevelopment	8,816	8,816				
		Human Services	9,106	9,106				
		Contingency Space				3,485		
	23,352	TOTAL	17,922	17,922	21,407	3,485	1,945	Shared Commons - 3 Depts.
18th		Public Works	4,110	4,110				
		Facilities Management	11,099	11,099				
		Public Communication (excluding Print Shop)	4,178	4,178				
		Film Room	2,020	2,020				
	23,352	TOTAL	21,407	21,407	21,407	0	1,945	Shared Commons - 3 Depts.
19th		Construction Management	13,294	13,294				
		Planning & Development Management	7,735	7,735				
		Contingency Space				378		
	23,352	TOTAL	21,029	21,029	21,407	378	1,945	Shared Commons - 2 Depts.
20st		Enterprise Technology Services	17,266	17,266				
		Environment Protection and Growth Management	3,107	3,107				
		Contingency Space				1,034		
	23,352	TOTAL	20,373	20,373	21,407	1,034	1,945	Shared Commons - 2 Depts.
21nd		Purchasing	12,460	12,460				
		Intergovernmental Affairs	2,121	2,121				
		Record Tax & Treasury	5,494	5,494				Multiple Service Desks - ground level
		Contingency Space				1,332		
	23,352	TOTAL	20,075	20,075	21,407	1,332	1,945	Shared Commons - 3 Depts.
22rd		Human Resources	10,041	10,041				
		Accounting	9,464	9,464				
		Contingency Space				1,902		
	23,352	TOTAL	19,505	19,505	21,407	1,902	1,945	Shared Commons - 2 Depts.
23th		Risk Management	7,889	7,889				
		Finance and Administration	4,340	4,340				
		Office of County Auditor	9,066	9,066				
		Contingency Space				112		
	23,352	TOTAL	21,295	21,295	21,407	112	1,945	Shared Commons - 3 Depts.
24th		County Attorney	25,000	23,352				* 1,648 SF overflow on level 29
	23,352	TOTAL	25,000	23,352	23,352	0	0	Commons included within Dpt. SF
25th		Environmental Planning & Community Resilience	7,640	7,640				
		Office of Management and Budget Adm.	6,167	6,167				
		County Attorney		1,648				*23,352 SF on level 27
		Contingency Space				5,952		
	23,352	TOTAL	13,807	15,455	21,407	5,952	1,945	Shared Commons - 3 Depts. (reduced to meet dept. needs)
27th		County Commissioners	16,720	15,600			800+120+40% circulation -Deluxe conference room moved to Level 28	
		County Administration	7,752	7,752				
	23,352	TOTAL	24,472	23,352	23,352	0	0	
28th	1,120	County Commision		1,120			800+120+40% circulation -Deluxe conference room moved from Level 27	
				1,120	13,980	0		
TOTAL	257,992		222,539	222,539	253,347	17,948	17,505	

USF/Floor Plate - "L" shaped including Commons Floors 5,6 and 7	22,519
USF/Floor Plate - Tower including Commons Floor 18 - 27	23,352
The COMMONS "L" shaped - Varies	2,433
THE COMMONS Tower	1,945

Contingency Space at Floors	17,948
Shared Amenity Space - The Commons	17,505
County only total SF required	222,539
County only total SF provided	222,539
Total USF including Commons	257,992
Total of Floors	11 + 1,120 SF on Level 28
County Fleet Operations	455
Transportation Department	66,179
Print Shop	6,000
Coommand Center, Staff and Equipment	18,531
Sub-total	91,165
County Total SF required	313,704

City of Fort Lauderdale City Information Technology



City Information Technology Area: 18,283 SF

Contingency Area: 1,803 SF

The Commons Area: 2,433 SF

Core Area

INFORMATION TECHNOLOGY

Comments:
- To be integrated as part of the JGCC
- Integrated staff
- To be located on a lower floor with Data Center integrated and visible to the team, but not visitors.
- Provide adequate Storage, Collaboration Areas and Training Room
- Computer Build Lab
- Service Counter

Adjacency: Would like to be located on lower floors

General Notes:
- Mailroom staff will require FOUR workstation 64 units
- Printshop staff will require THREE workstation 64 units
- May need a training room contingent on conference room shared space availability

Approach:
Located on the first-floor level dedicated to offices, occupying the majority of the floor plate. Views to the North, West, South and East.
Data Center accessible to the department and elevator lobby. Floor amenity area "The Commons" located equidistant from all areas.

CONTINGENCY AREA

Small contingency area located on the NE corner of the floor plate.

PROGRAM DATA

Department Name: City Information Technology

Future Staff	79
Current Staff	67

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	2		2	450
Office	150	0		5	750
Office	125	0		18	2,250
Workstation	125	12		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		34	2,720
Workstation	64	53		15	960
Touchdown	48	0		5	240
		67		**Staff Space Subtotal**	**7,370**

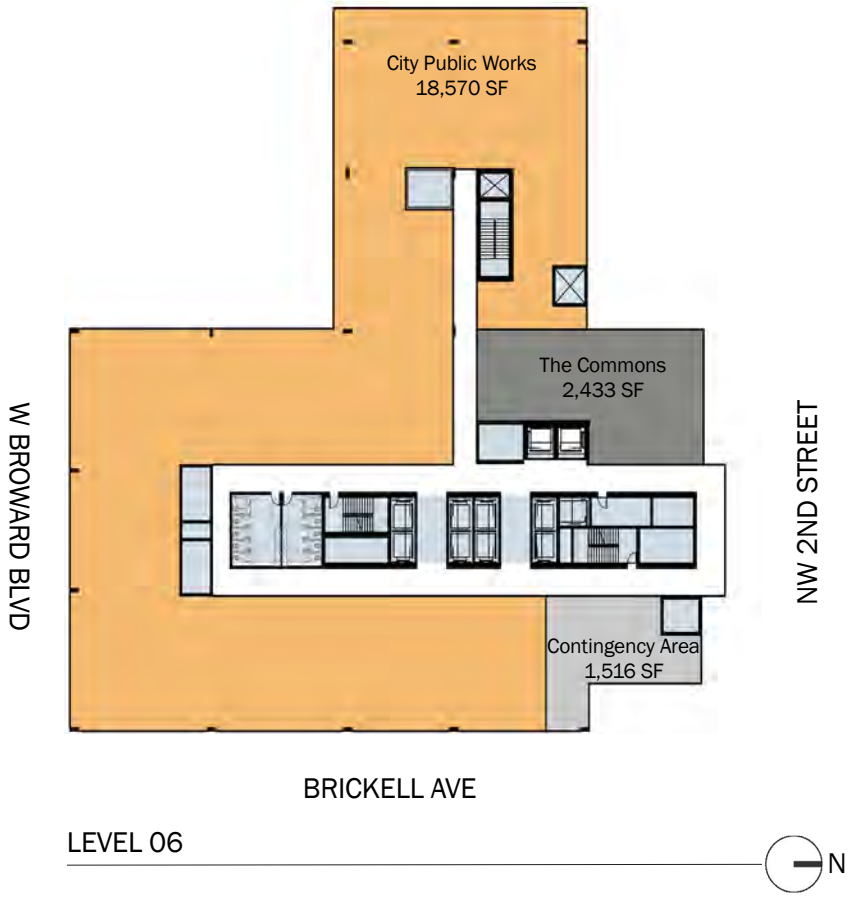
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**920**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	1	800
			Meeting Space Subtotal	**1,640**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Computer Build Lab	240	1	240
Service Counter	120	1	120
Equipment Storage	240	1	240
Data Center	2,433	1	2,433
		Special Spaces Subtotal	**3,129**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**13,059**
Circulation	0.4		5,224
		Total Net Usable Area	**18,283**

City of Fort Lauderdale City Public Works



City Public Works Area: 18,570 SF

The Commons Area: 2,433 SF

Contingency Area: 1,516 SF

Core Area

CITY PUBLIC WORKS

Approach:
Located on the 6th Level and occupying the majority of the floor plate, with 360-degree views.

Floor amenity area "The Commons"located on the Northwest of the floor plate

CONTINGENCY AREA

Contingency area located on the Northeast end of the floor plate.

Department Name: City Public Works

				Future Staff	98
				Current Staff	96
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office Suite	225	3		4	900
Office	150	0		1	150
Office	125	7		5	625
Workstation	125	0		11	1,375
Manager Workstation	100	0		40	4,000
Workstation	80	0		26	2,080
Workstation	64	82		5	320
Touchdown	48	4		6	288
		96		**Staff Space Subtotal**	**9,738**

Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	4	40
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	5	150
			Support Space Subtotal	**1,050**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	1	500
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,980**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
Plotter Area	40	1	40
Layout Space	120	1	120
Plan Storage	120	2	240
		Special Spaces Subtotal	**496**

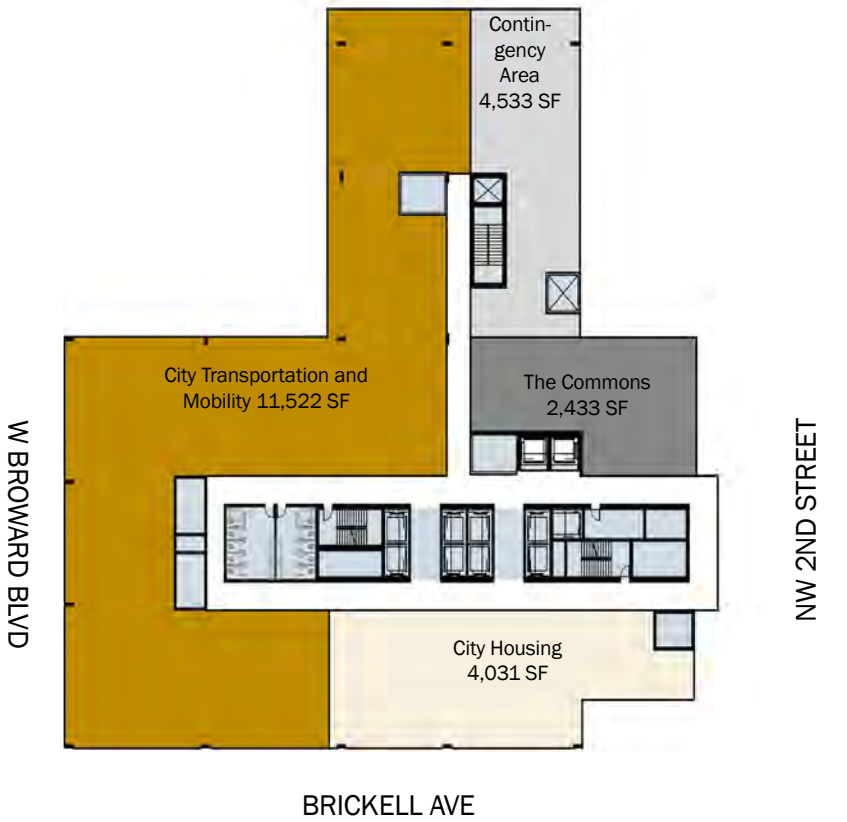
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**13,264**
Circulation	0.4		5,306
		Total Net Usable Area	**18,570**

City Of
Fort Lauderdale

LEVEL 07

City Housing & City Transportation and Mobility

City of Fort Lauderdale City Housing & City Transportation and Mobility



LEVEL 07

N

City Transportation and Mobility Area: 11,522 SF

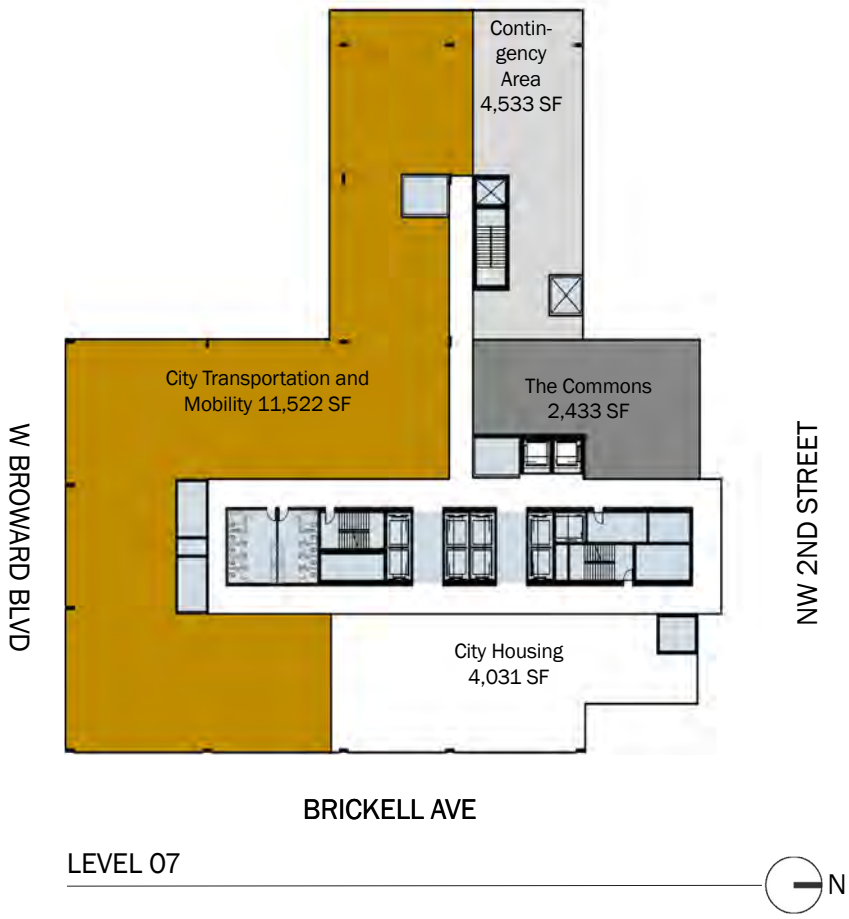
City Housing Area: 4,031 SF

The Commons Area: 2,433 SF

Contingency Area: 4,533 SF

Core Area

City of Fort Lauderdale City Transportation and Mobility



LEVEL 07

City Transportation and Mobility Area: 11,522 SF

The Commons Area: 2,433 SF

Contingency Area: 4,533 SF

Core Area

CITY TRANSPORTATION AND MOBILITY

Comments:
- Shared Service Center
- Increase adjacency among team members
- Improve adjacency with City Hall
- Offsite Storage at warehouse

Adjacency: Works with Code Enforcement
Sustainable Development, DPW and Parks and Rec

Approach:
Located on the 7th Level occupying the South and half of the West side of the floor and with views to the West, South and East.
Floor amenity area "The Commons" located equidistant from all areas with views to the Northwest

CONTINGENCY AREA - Option 1
Located on the Northwest corner of the floor plate.

Department Name: City Transportation and Mobility

				Future Staff	61
				Current Staff	56
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office Suite	225	1		2	450
Office	150	0		0	0
Office	125	11		8	1,000
Workstation	125	0		0	0
Manager Workstation	100	0		10	1,000
Workstation	80	0		0	0
Workstation	64	34		31	1,984
Touchdown	48	10		10	480
		56		**Staff Space Subtotal**	**4,914**

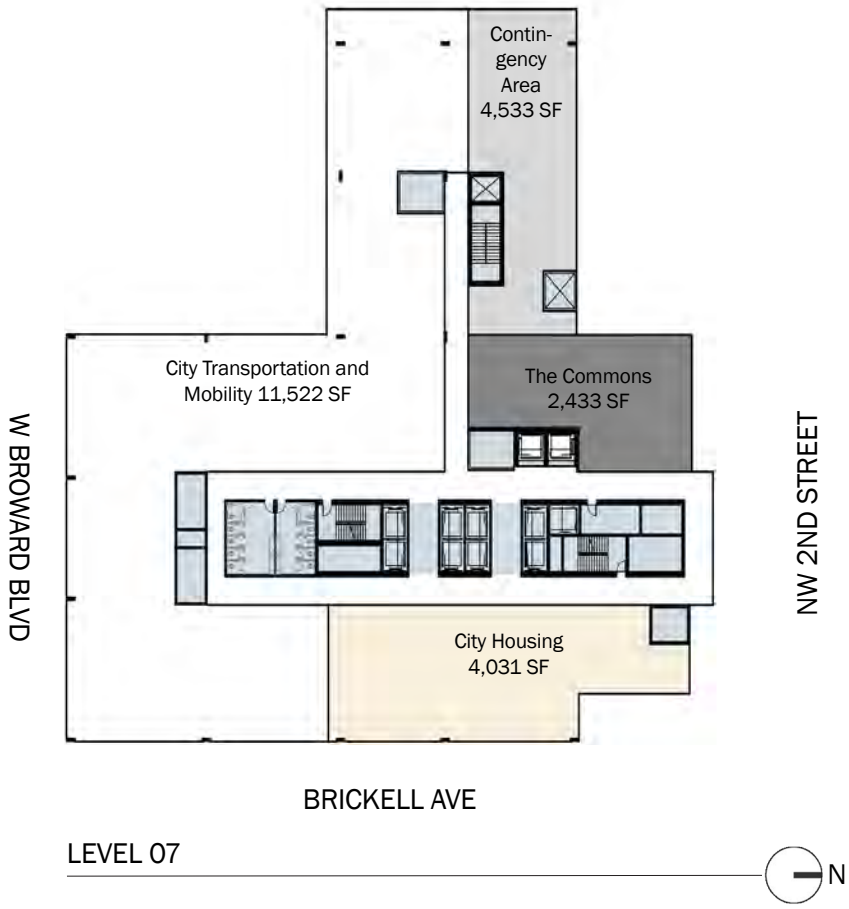
Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**920**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**520**

Special Spaces	**Area**			**Provided**	**Net Area**
Coffee/Break Room	96			2	192
Service Counter	344	customer support	3 windows plus 200 SF kiosk	1	344
Cash Room	200			1	120
Maintenance Equip. Storage	400			1	400
Lockers for Field Workers	200			2	200
Secure Loading (exterior)	100			1	100
Event Staff Storage	120			1	120
Reference Library/Layout space	400			1	400
				Special Spaces Subtotal	**1,876**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**8,230**
Circulation	0.4	3,292
	Total Net Usable Area	**11,522**

City of Fort Lauderdale City Housing



LEVEL 07

City Housing Area: 4,031 SF

The Commons Area: 2,433 SF

Contingency Area: 4,533 SF

Core Area

CITY HOUSING

Comments:
- Shared Service Center
- Increase adjacency among team members
- Improve adjacency with City Hall
- Offsite Storage at warehouse

Adjacency: Works with Code Enforcement
Sustainable Development, DPW and Parks and Rec

Approach:
Located on the 7th Level occupying the South and half of the West side of the floor and with views to the West, South and East.
Floor amenity area "The Commons" located equidistant from all areas with views to the Northwest

CONTINGENCY AREA - Option 1
Located on the Northwest corner of the floor plate.

Department Name: City Housing

				Future Staff	15
				Current Staff	13
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office Suite	225	1		1	225
Office	150	0		0	0
Office	125	0		0	0
Workstation	125	0		0	0
Manager Workstation	100	0		12	1,200
Workstation	80	0		0	0
Workstation	64	12		2	128
Touchdown	48	0		0	0
		13		**Staff Space Subtotal**	**1,553**

Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**790**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
		Special Spaces Subtotal	**96**

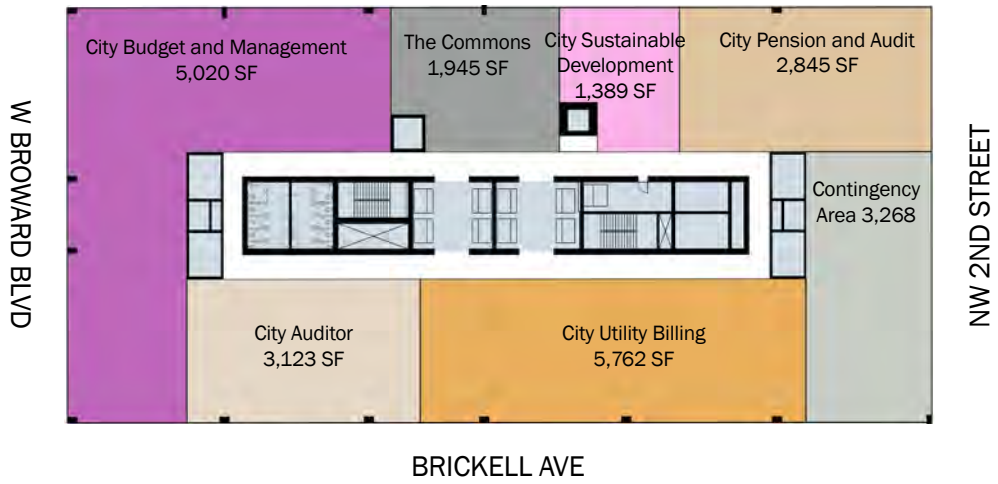
Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,879**
Circulation	0.4	1,152
	Total Net Usable Area	**4,031**

City Of
Fort Lauderdale

LEVEL 08

City Sustainable Development, City Budget and Management, City Auditor, City Utility Billings & City Pension and Audit

City of Fort Lauderdale City Sustainable Development, City Budget and Management, City Auditor, City Utility Billings & City Pension and Audit



LEVEL 08

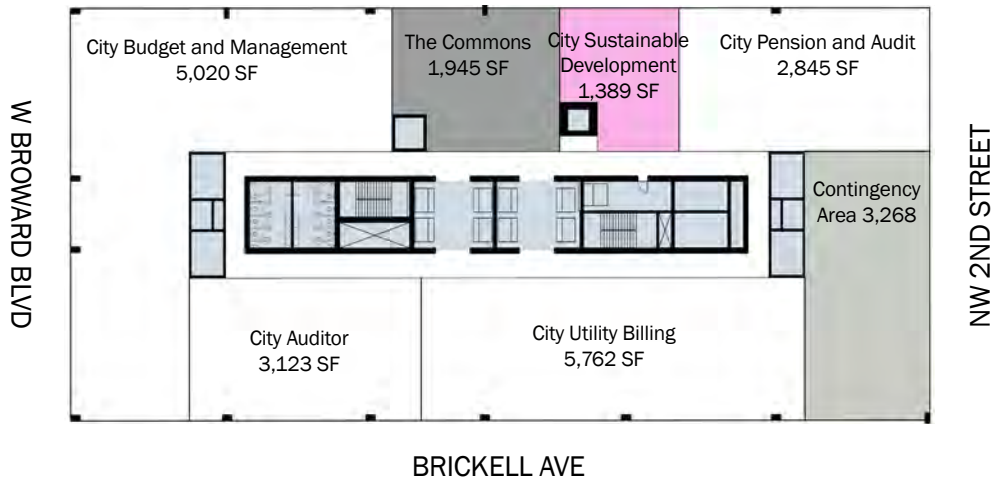
N

- City Sustainable Development Area: 1,398 SF (Overflow On Level 11 - 23,352 SF)
- City Budget and Management Area: 5,020 SF
- City Auditor Area: 3,123 SF
- City Pension and Audit Area: 2,845 SF
- City Utility Billing Area: 5,762 SF
- The Commons Area: 1,945 SF
- Contingency Area: 3,268 SF
- Core Area

City of Fort Lauderdale City Sustainable Development

CITY SUSTAINABLE DEVELOPMENT

Comments:
Refer to Level 10



LEVEL 08

N

City Sustainable Development Area: 1,398 SF (Overflow On Level 10 -23,389 SF)

The Commons Area: 1,945 SF

Contingency Area: 3,268 SF

Core Area

Department Name: City Sustainable Development

Future Staff	140
Current Staff	186

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	3		3	675
Office	150	0		0	0
Office	125	30		21	2,625
Workstation	125	0		0	0
Manager Workstation	100	0		56	5,600
Workstation	80	0		0	0
Workstation	64	133		30	1,920
Touchdown	48	20		30	1,440
		186		**Staff Space Subtotal**	**12,260**

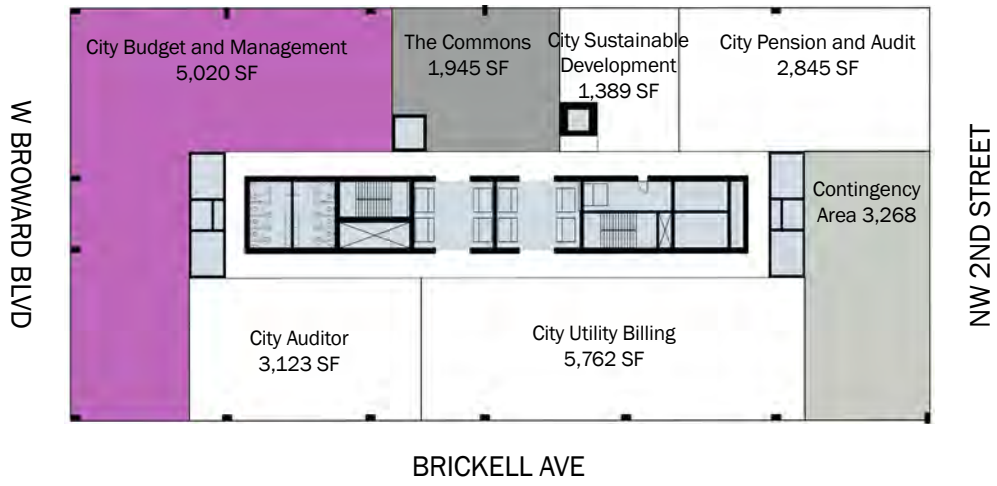
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	3	1,500
Print Station	10	1 per 20 users	6	60
Print/Work Area	40	1 per 50 people	4	160
Supply/Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	10	300
			Support Space Subtotal	**2,500**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10–12)	320	1 per 50 users	2	640
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,800**

Special Spaces	Area		Provided	Net Area
Coffee/Break Room	96		2	192
Box Staging Room	120		1	120
Service Counter	240	ID Printing	1	240
Cash Room/Secure Storage	120	HR Files	1	120
Plan Storage	120		1	120
Lockers for Inspectors	200		2	200
Layout Space	200		1	120
			Special Spaces Subtotal	**1,112**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**17,672**
Circulation	0.4		7,069
		Total Net Usable Area	**24,741**

City of Fort Lauderdale City Office of Budget and Management



LEVEL 08

N

City Budget and Management Area: 5,020 SF

The Commons Area: 1,945 SF

Contingency Area: 3,268 SF

Core Area

CITY BUDGET AND MANEGEMENT

Adjacency: City Structural Innovation has been merged with City Budget

Approach:
Located on the 08th Level occupying all South end of the Tower, with South, East and West views.
Floor amenity area "The Commons" on the West side of the floor plate with West views.

CONTINGENCY AREA - Option 1
Large contingency area on the Northeast side of the floor

Department Name: City Office of Budget and Management

Future Staff	17
Current Staff	9

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	1		1	225
Office	150	0		0	0
Office	125	2	7-Management	15	1,875
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	6	1- Management	1	64
Touchdown	48	0		0	0
		9		Staff Space Subtotal	2,164

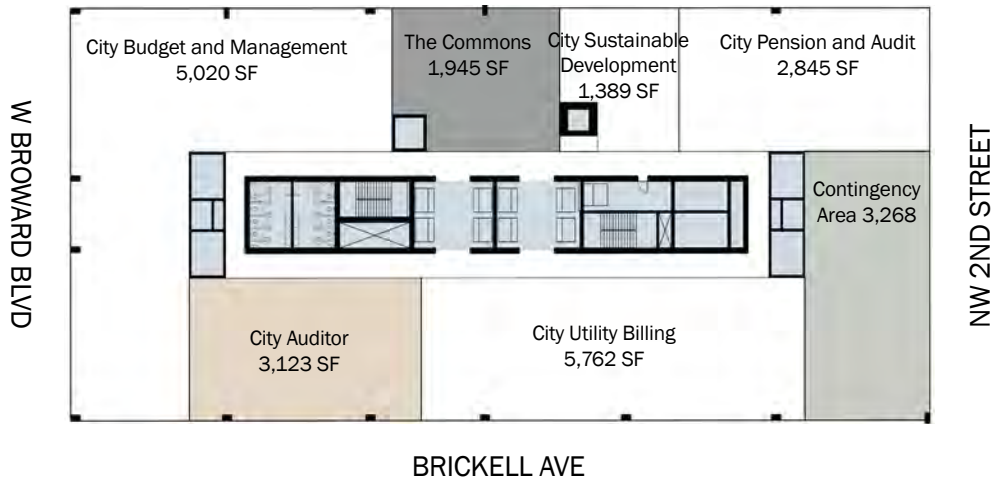
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	790

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	320

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	2	192
Box Staging Room	120	1	120
		Special Spaces Subtotal	312

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		3,586
Circulation	0.4	1,434
	Total Net Usable Area	5,020

City of Fort Lauderdale City Auditor



LEVEL 08

N

City Auditor Area: 3,123 SF

The Commons Area: 1,945 SF

Contingency Area: 3,268 SF

Core Area

CITY AUDITOR

Approach:
Located on the 8th Level and occupying a portion of the East of the floor plate, with views to the East.
Adjacent to City Utility Billing and City Budget and Management.
Floor amenity area "The Commons" located on the West of the floor plate.

CONTINGENCY AREA - Option 1
Large contingency area on e Northeast side of the floor plate.

Department Name: City Auditor

Future Staff	6
Current Staff	6

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		1	320
Executive Office Suite	225	1		2	450
Office	150	0		0	0
Office	125	0		3	375
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	5		0	0
Touchdown	48	0		0	0
		6		**Staff Space Subtotal**	**1,145**

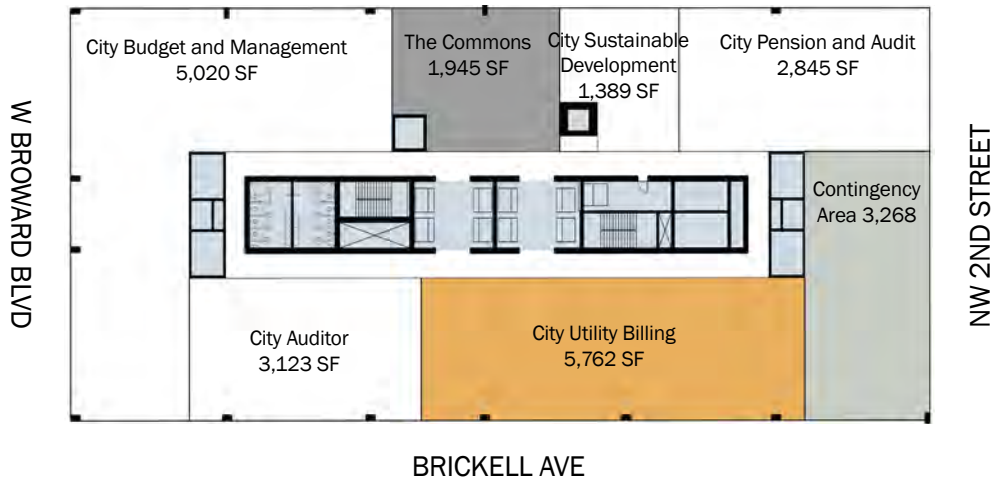
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**290**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**520**

Special Spaces	Area	Comments	Provided	Net Area
Coffee/Break Room	96	Catering Capability	1	96
Box Staging Room	60		1	60
Secured Storage	120		1	120
			Special Spaces Subtotal	**276**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,231**
Circulation	0.4	892
	Total Net Usable Area	**3,123**

City of Fort Lauderdale City Utility Billings



LEVEL 08

N

City Utility Billing Area: 5,762 SF

The Commons Area: 1,945 SF

Contingency Area: 3,268 SF

Core Area

CITY UTILITY BILLING

Comments:
Ground Level:
• Four (4) Cashier's windows for bill
payment, three (3) for utilities and
one (1) for business tax
• Secure window check printer, money
counter and safe
• Waiting area.

Adjacency: Human Resources

Approach:
Located on the 08th Level and occupying a large portion of the East side of the floor plate and next to City Auditor. Northeast views.
Direct access to and from elevator lobbies.
Floor amenity area "The Commons" located Across the elevator lobbies.
A Box Staging Room was providing to store Boxes in transit to storage.

CONTINGENCY AREA

Large contingency area on the Northeast side of the floor

Department Name: City Utility Billings

				Future Staff	34
				Current Staff	30
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office Suite	225	1		0	0
Office	150	0		0	0
Office	125	0		1	125
Workstation	125	4	Payroll Service Window	5	625
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	24		26	1,664
Touchdown	48	1		2	96
		30		**Staff Space Subtotal**	**2,510**

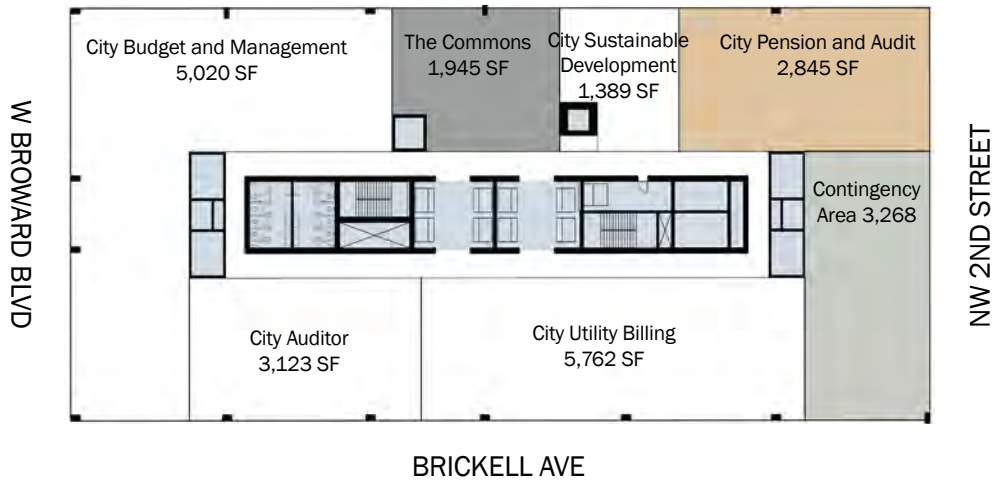
Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**830**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2/Auditors 0	0
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**560**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
Box Staging Room	120	1	120
		Special Spaces Subtotal	**216**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**4,116**
Circulation	0.4		1,646
		Total Net Usable Area	**5,762**

City of Fort Lauderdale City Pension Auditor



LEVEL 08

N

City Pension and Audit Area: 2,845 SF

The Commons Area: 1,945 SF

Contingency Area: 3,268 SF

Core Area

CITY PENSION AUDITOR

Approach:
Located on the on the Northwest corner of the building, between Sustainable Development and Contingency Area

CONTINGENCY AREA

Large contingency area on the Northeast side of the floor plate

Department Name: City Pension Auditor

Future Staff	6
Current Staff	9

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	1		2	450
Office	150	0		0	0
Office	125	1		0	0
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	7		4	256
Touchdown	48	0		0	0
		9		**Staff Space Subtotal**	**706**

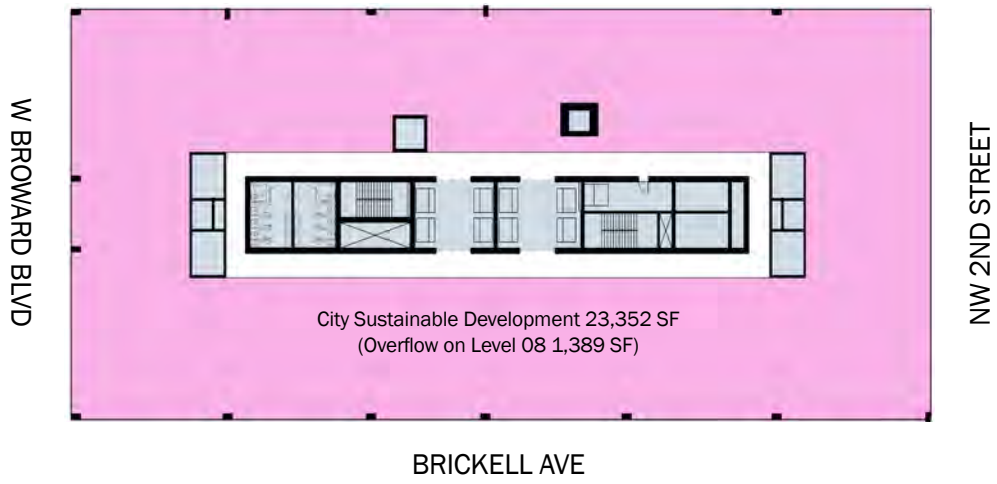
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**790**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
		Special Spaces Subtotal	**96**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,032**
Circulation	0.4	813
	Total Net Usable Area	**2,845**

City of Fort Lauderdale City Sustainable Development



LEVEL 10

N

City Sustainable Development Area: 23,352 SF (Overflow On Level 8 -1,389 SF)

Core Area

CITY SUSTAINABLE DEVELOPMENT

Comments:
- Lockers for inspectors
- Showers in the building for staff that bikes to work
- Spaces for reading and reviewing
- Spaces for private calls
- Large monitors for rotating exhibit

Adjacency: Would like to be in downtown.
Lower floors. Interacts with Urban design and planning,
Zoning, Engineering, Planning and Codes.

Approach:
Located on the 10th Level occupying all floor, with an Overflow of 1,389 SF on Level 8.
360-degrees views. Floor amenity area "The Commons" has been added to the total SF.
2- coffee breakrooms are included in this floor program.
This department will have access to their common amenities on Level 8

CONTINGENCY AREA - Option 1
No contingency area on this floor

Department Name: City Sustainable Development

Future Staff	140
Current Staff	186

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	3		3	675
Office	150	0		0	0
Office	125	30		21	2,625
Workstation	125	0		0	0
Manager Workstation	100	0		56	5,600
Workstation	80	0		0	0
Workstation	64	133		30	1,920
Touchdown	48	20		30	1,440
		186		**Staff Space Subtotal**	**12,260**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	3	1,500
Print Station	10	1 per 20 users	6	60
Print/Work Area	40	1 per 50 people	4	160
Supply/Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	10	300
			Support Space Subtotal	**2,500**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10–12)	320	1 per 50 users	2	640
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,800**

Special Spaces	Area		Provided	Net Area
Coffee/Break Room	96		2	192
Box Staging Room	120		1	120
Service Counter	240	ID Printing	1	240
Cash Room/Secure Storage	120	HR Files	1	120
Plan Storage	120		1	120
Lockers for Inspectors	200		2	200
Layout Space	200		1	120
			Special Spaces Subtotal	**1,112**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**17,672**
Circulation	0.4		7,069
		Total Net Usable Area	**24,741**

City Of
Fort Lauderdale

LEVEL 11

City Human Resources, City Strategy and Communications and City Neighborhood Support

City of Fort Lauderdale City Human Resources, City Strategy and Communications and City Neighborhood Support

LEVEL 11

N

- City Human Resources Area: 10,227 SF
- City Strategy and Communications Area: 3,326 SF
- City Neighborhood Support Area: 3,100 SF
- The Commons Area: 1,945 SF
- Contingency Area: 4,754 SF
- Core Area

City of Fort Lauderdale City Human Resources

LEVEL 11

N

City Human Resources Area: 10,227 SF

The Commons Area: 1,945 SF

Contingency Area: 4,754 SF

Core Area

CITY HUMAN RESOURCES

Comments:
- Employee service counter
- ID counter with camera
- Place for phone calls
- Secure storage

Adjacency: All employees visit HR

Approach:
Located on the 11th Level occupying the South end of the floor plate with South, East and West views.
Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby.

CONTINGENCY AREA - Option 1
Contingency area is located on the North side of the floor plate, between City Neighborhood Support and City Strategies and Communications.

Department Name: City Human Resources

Future Staff	45
Current Staff	41

Staff Space	Area	Current Staff	Comments		Provided	Net Area
Executive Suite	320	0			0	0
Executive Office Suite	225	2			2	450
Office	150	0			0	0
Office	125	16			21	2,625
Workstation	125	0			0	0
Manager Workstation	100	0			0	0
Workstation	80	0			0	0
Workstation	64	20			18	1,152
Touchdown	48	3			4	192
		41		**Staff Space Subtotal**		**4,419**

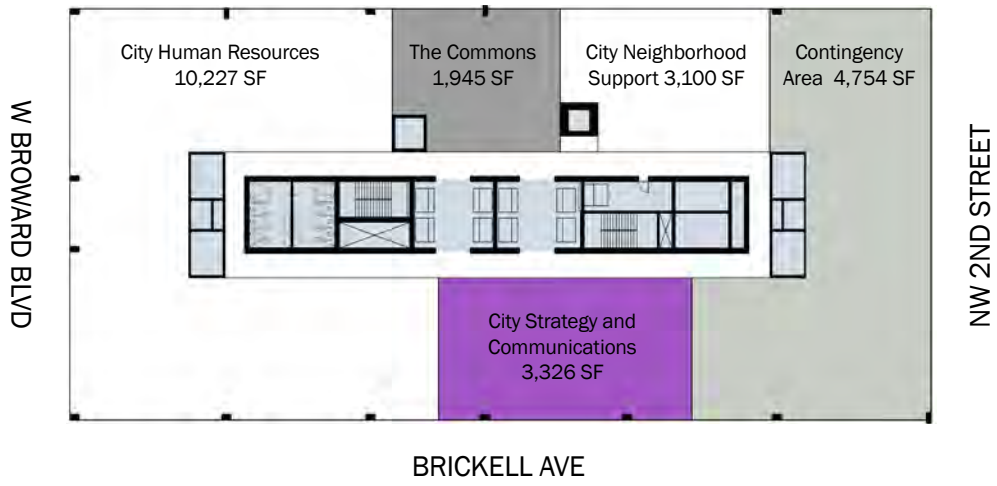
Support Spaces	Area	Comments		Provided	Net Area
Waiting/Reception	200	1 per suite		1	200
Open Collaboration	500	1 per 75 people		1	500
Print Station	10	1 per 20 users		2	20
Print/Work Area	40	1 per 50 people		1	40
Supply/Storage	20	1 per 50 people		1	20
Quick Quiet Room	30	1 per 20 users		3	90
			Support Space Subtotal		**870**

Meeting Spaces	Area	Comments		Provided	Net Area
Huddle (3-4)	120	1 per 25 users		2	240
Medium (6-8)	200	1 per 30 users	2/Auditors	1	200
Large (10–12)	320	1 per 50 users		1	320
X Large (20-22)	500	1 if over 40 occupants		0	0
X Large (20-22)	520	1 if over 40 occupants		0	0
X Large (20-22)	600	1 if over 40 occupants		0	0
X Large (20-22)	840	1 if over 40 occupants		0	0
Deluxe	800	1 if over 40 occupants		0	0
Training	800			1	800
			Meeting Space Subtotal		**1,560**

Special Spaces	Area			Provided	Net Area
Coffee/Break Room	96			1	96
Box Staging Room	120			1	120
Service Counter	120			1	120
Secure Storage	120	HR Files		1	120
			Special Spaces Subtotal		**456**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**7,305**
Circulation	0.4	2,922
	Total Net Usable Area	**10,227**

City of Fort Lauderdale City Strategy and Communications



LEVEL 11

N

City Strategy and Communications Area: 3,326 SF

The Commons Area: 1,945 SF

Contingency Area: 4,754 SF

Core Area

CITY STRATEGY AND COMMUNICATIONS

Comments:
- Employee service counter
- ID counter with camera
- Place for phone calls
- Secure storage

Adjacency: All employees visit HR

Approach:
Located on the 11th Level occupying the South end of the floor plate with South, East and West views.
Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby.

CONTINGENCY AREA - Option 1
Contingency area is located on the North side of the floor plate, between City Neighborhood Support and City Strategies and Communications.

Department Name: City Strategy and Communications

				Future Staff	8
				Current Staff	8
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office Suite	225	0		1	225
Office	150	0		0	0
Office	125	6		5	625
Workstation	125	0		0	0
Manager Workstation	100	2		2	200
Workstation	80	0		0	0
Workstation	64	0		0	0
Touchdown	48	0		0	0
		8		**Staff Space Subtotal**	**1,050**

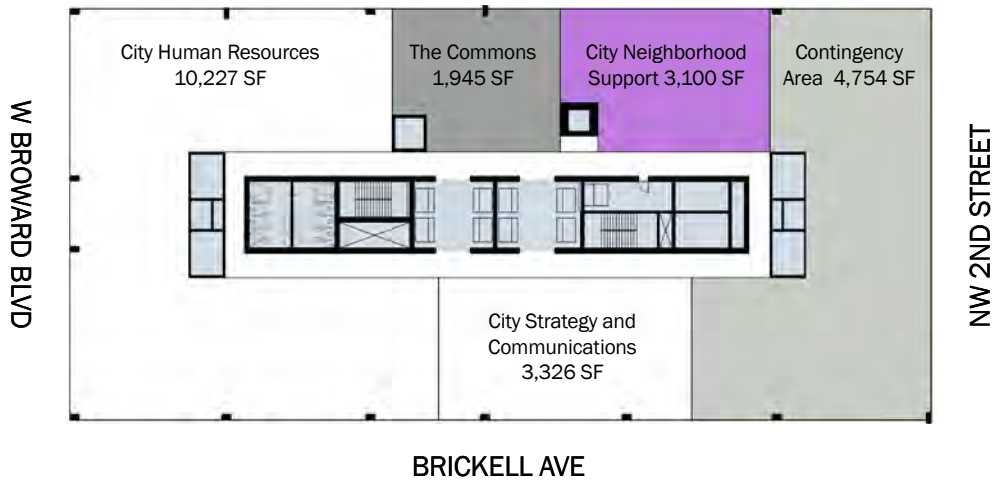
Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**790**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
		Special Spaces Subtotal	**96**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,376**
Circulation	0.4	950
	Total Net Usable Area	**3,326**

City of Fort Lauderdale City Neighborhood Support



LEVEL 11

N

City Neighborhood Support Area: 3,100 SF

The Commons Area: 1,945 SF

Contingency Area: 4,754 SF

Core Area

CITY NEIGHBORHOOD SUPPORT

Approach:
Located on the 11th Level on the West side of the floor plate.
Direct access to and from elevators for visitors.
Next to The Commons and the Contingency Area.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby.

CONTINGENCY AREA- Option 1

Contingency area located on the North side of the floor plate, between City Neighborhood Support and City Strategies and Communications.

Department Name: City Neighborhood Support

				Future Staff	14
				Current Staff	11
Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	1		1	225
Office	150	0		0	0
Office	125	0		3	375
Workstation	125	1		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	9		8	512
Touchdown	48	0		2	96
		11		**Staff Space Subtotal**	**1,208**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**790**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**120**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
		Special Spaces Subtotal	**96**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**2,214**
Circulation	0.4		886
		Total Net Usable Area	**3,100**

City Of
Fort Lauderdale

LEVEL 12

City Attorney, City Finance Administration, Accounting & Treasury, Procurement

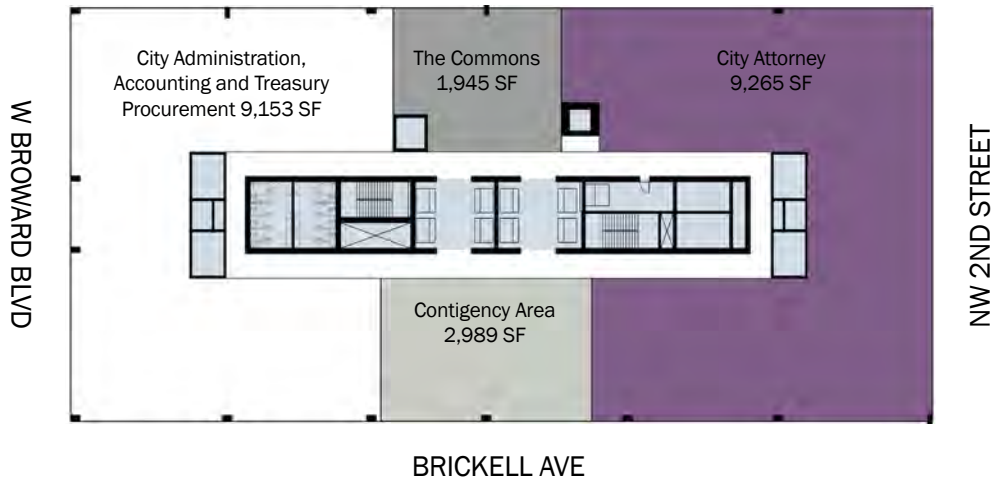
City of Fort Lauderdale City Attorney, City Finance Administration, Accounting & Treasury, Procurement

LEVEL 12

N

- City Attorney Area: 9,265 SF
- City Administration, Accounting and Treasury, Procurement Area: 9,153 SF
- Contingency Area: 2,989 SF
- The Commons Area: 1,945 SF
- Core Area

City of Fort Lauderdale City Attorney



LEVEL 12

N

City Attorney Area: 9,265 SF

The Commons Area: 1,945 SF

Contingency Area: 2,989 SF

Core Area

CITY ATTORNEY

Comments:
- Need level of separation per law firm rules.
- Assistants next to Attorneys
- Round meeting tables in offices

Adjacency: Work with every City group

Approach:
Located on the 12th Level occupying the North end of the floor with North, East and West views.
Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby.

CONTINGENCY AREA- Option 1
Contingency area located on the East side of thef floor plate, between City Attorney and Administration, Accounting and Treasury.

Department Name: City Attorney

				Future Staff	35
				Current Staff	31
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		1	320
Executive Office Suite	225	1		0	0
Office	150	0	round meeting tables	16	2,400
Office	125	15		0	0
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		16	1,280
Workstation	64	15		0	0
Touchdown	48	0		2	96
		31		**Staff Space Subtotal**	**4,096**

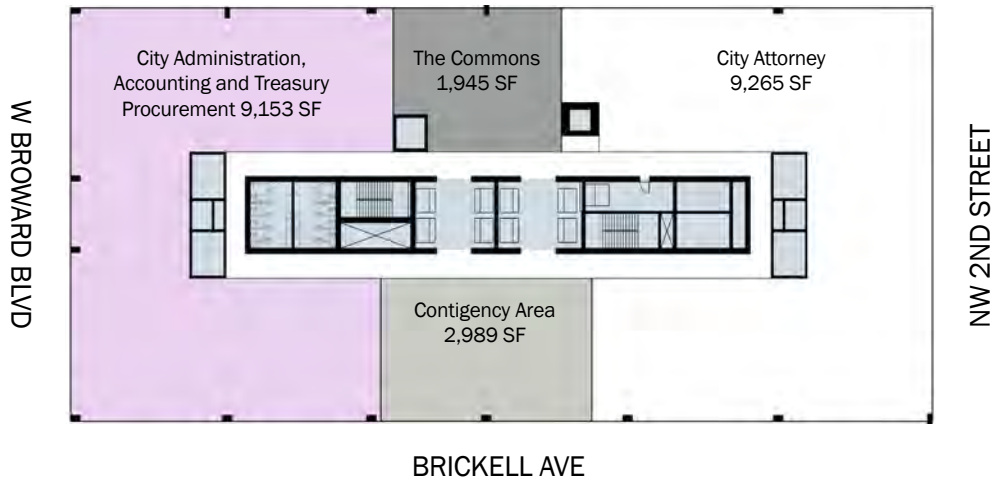
Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**830**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	1	840
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**840**

Special Spaces	**Area**		**Provided**	**Net Area**
Coffee/Break Room	96	Catering Capability	2	192
Box Staging Room	120		1	120
Secured Storage	300		1	300
Library	240		0	240
			Special Spaces Subtotal	**852**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**6,618**
Circulation	0.4		2,647
		Total Net Usable Area	**9,265**

City of Fort Lauderdale City Administration, Accounting and Treasury, Procurement



LEVEL 12

N

City Administration, Accounting and Treasury, Procurement Area: 9,153 SF

The Commons Area: 1,945 SF

Contingency Area: 2,989 SF

Core Area

CITY ADMINISTRATION, ACCOUNTING AND TREASURY

Comments:
- Payroll service window

Approach:
Located on the 12th Level occupying the South end of the floor with South, East and West views.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby.

CONTINGENCY AREA- Option 1
Contingency area located on the East side of the floor plate, between City Attorney and Administration, Accounting and Treasury.

Department Name: City Administration, Accounting and Treasury, Procurement

Future Staff	53
Current Staff	45

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office Suite	225	5		2	450
Office	150	0		0	0
Office	125	7		10	1,250
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	33		39	2,496
Touchdown	48	0		2	96
		45		**Staff Space Subtotal**	**4,292**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**830**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**960**

Special Spaces	Area	Comments	Provided	Net Area
Coffee/Break Room	96	Catering Capability	1	96
Box Staging Room	120		1	120
Payroll Service Window	240		1	240
			Special Spaces Subtotal	**456**

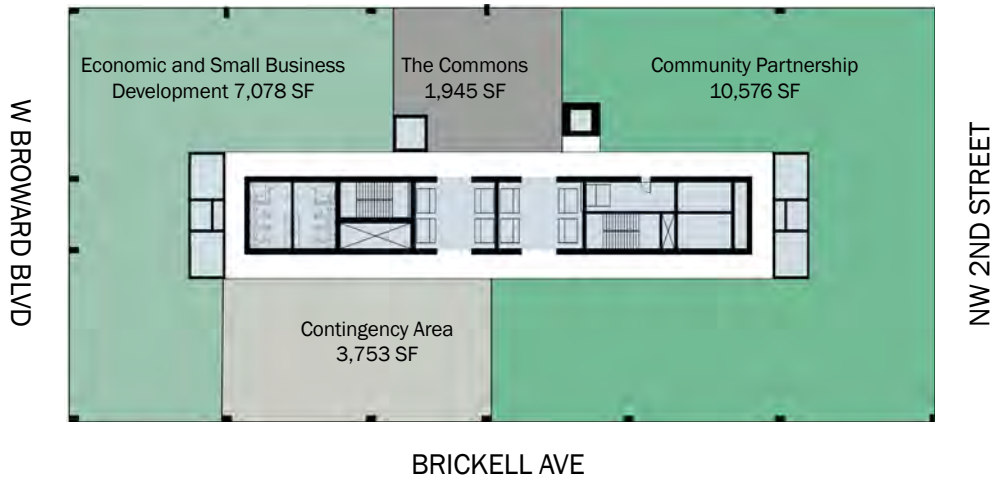
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**6,538**
Circulation	0.4		2,615
		Total Net Usable Area	**9,153**

Broward County

LEVEL 16

County Economic and Small Business Development & County Community Partnership

Broward County County Economic and Small Business Development & County Community Partnership

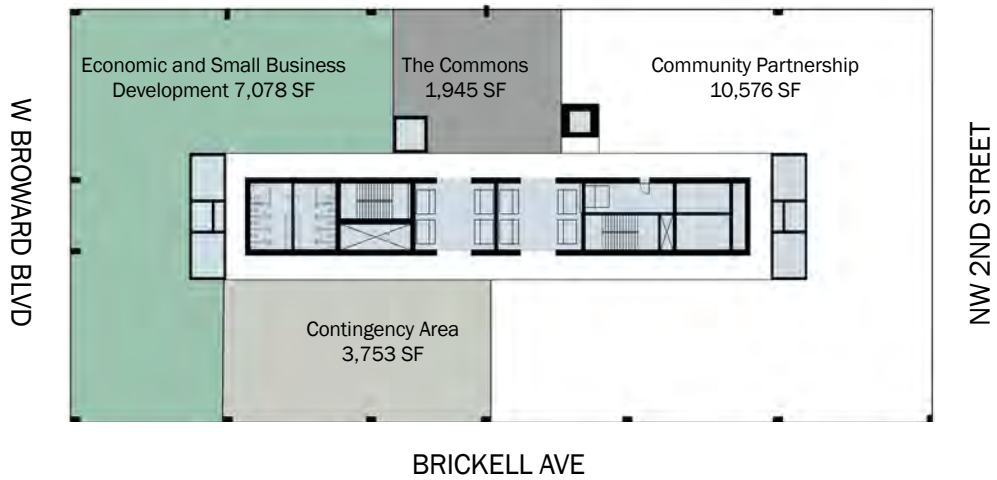


LEVEL 16

N

- Economic and Small Business Development Area: 7,078 SF
- Community Partnership Area: 10,576 SF
- The Commons Area: 1,945 SF
- Contingency Area: 3,753 SF
- Core Area

Broward County County Office of Economic and Small Business Development



LEVEL 16

N

Economic and Small Business Development Area: 7,078 SF

The Commons Area: 1,945 SF

Contingency Area: 3,753 SF

Core Area

COUNTY ECONOMIC AND SMALL BUSINESS DEVELOPMENT

Comments:
- Ground Floor storefront
- Kiosks for online access
- Webcasting ability
- Storage for promotional material, banners

Work with Community partners

Adjacency: Easy Public Access

Approach:
Located on the 16th Level and occupying most of the South side of the floor plate with East, South and West views.
Direct access to and from elevator lobbies.
Floor amenity area "The Commons" located on the West side of the floor plate, across from the elevator lobbies for visitors.
A Box Staging Room was providing to store Boxes in transit to storage.

CONTINGENCY AREA - Option 1
Located on the East side of the floor plate, between Community Partnership and Economic and Small Business Development.

Department Name: County Office of Economic and Small Business Development

				Future Staff	39
				Current Staff	32
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	4		4	500
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	22		26	1,664
Touchdown	48	4		7	336
		32		**Staff Space Subtotal**	**2,950**

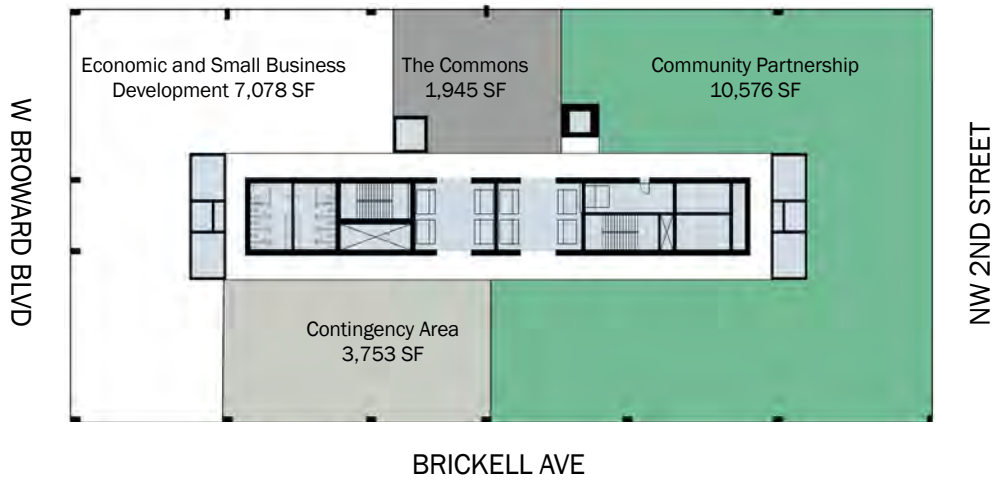
Support Spaces	**Area**		**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	12	240
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**1,060**

Meeting Spaces	**Area**		**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
Computer Lab	150	1	150
Storage	120	2	240
File Room	120	1	120
		Special Spaces Subtotal	**606**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**5,056**
Circulation	0.4	2,022
	Total Net Usable Area	**7,078**

Broward County County Community Partnerships



LEVEL 16

N

Community Partnership Area: 10,576 SF

The Commons Area: 1,945 SF

Contingency Area: 3,753 SF

Core Area

COUNTY COMMUNITY PARTNERSHIPS

Comments:
- Ground Floor storefront
- Kiosks for online access
- Webcasting ability
- Storage for promotional material, banners

Work with Community partners

Adjacency: Easy Public Access

Approach:
Located on the 16th Level and occupying most of the South side of the floor plate with East, South and West views.
Direct access to and from elevator lobbies.
Floor amenity area "The Commons" located on the West side of the floor plate, across from the elevator lobbies for visitors.
A Box Staging Room was providing to store Boxes in transit to storage.

CONTINGENCY AREA - Option 1
Located on the East side of the floor plate, between Community Partnership and Economic and Small Business Development.

Department Name: County Community Partnerships

				Future Staff	61
				Current Staff	50
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	20		22	2,750
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	28		32	2,048
Touchdown	48	0		5	240
		50		**Staff Space Subtotal**	**5,488**

Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	10	200
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**1,050**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included		0
			Meeting Space Subtotal	**760**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
Computer Lab	160	1	160
		Special Spaces Subtotal	**256**

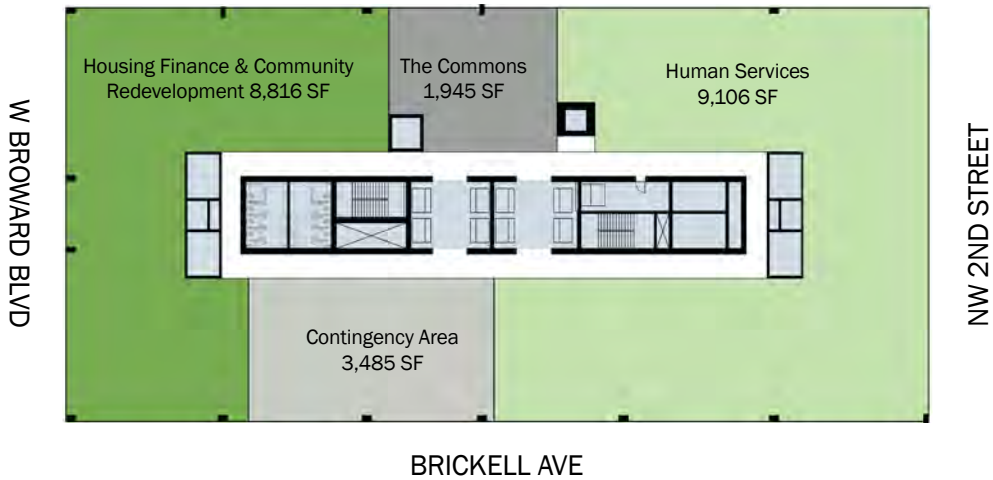
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**7,554**
Circulation	0.4		3,022
		Total Net Usable Area	**10,576**

Broward County

LEVEL 17

County Housing Finance & Community Redevelopment and County Human Services

Broward County County Housing Finance & Community Redevelopment and County Human Services

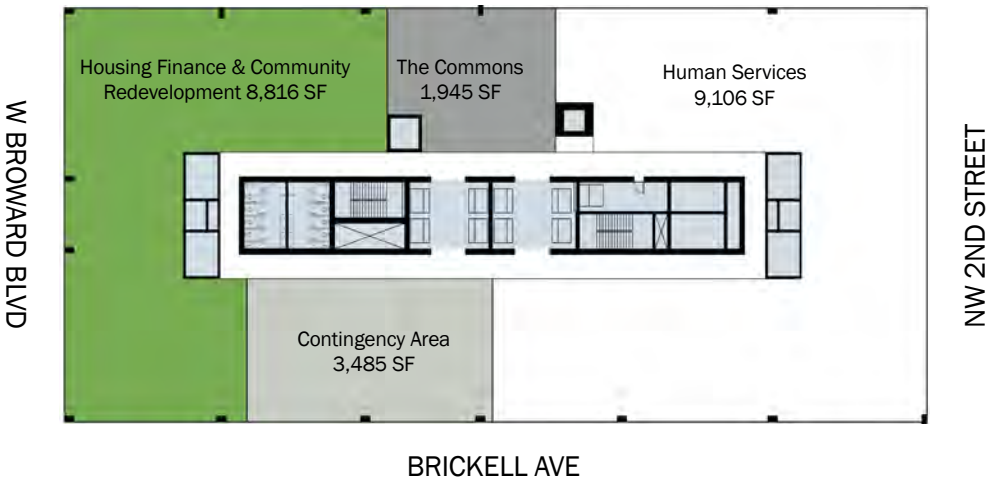


LEVEL 17

N

- Housing Finance & Community Redevelopment Area: 8,816 SF
- Human Services Area: 9,106 SF
- The Commons Area: 1,945 SF
- Contingency Area: 3.485 SF
- Core Area

Broward County County Housing Finance and Community Redevelopment



LEVEL 17

N

Housing Finance & Community Redevelopment Area: 8,816 SF

The Commons Area: 1,945 SF

Contingency Area: 3.485 SF

Core Area

COUNTY HOUSING FINANCE & COMMUNITY REDEVELOPMENT.

Comments:
- Teleconference once a week
- Confidential meetings for Grants
- Provide safe for visitors that drop-off Checks.
- File Room
- Privacy for client's discussions
- Security at entry

Adjacency: Works with Planning, Legal, Accounting, Finance, Purchasing and County Adm.

Approach:
Located on the 17th Level and occupying most of the South side of the floor plate with East, South and West views.
Direct access to and from elevator lobbies. Floor amenity area "The Commons" located on the West side of the floor plate, across from the elevator lobbies
A Box Staging Room was providing to store Boxes in transit to storage.

CONTINGENCY AREA- Option 1
Located on the East side of the floor plate, between Human Services and Housing Finance and Community Redevelopment

Department Name: County Housing Finance and Community Redevelopment

				Future Staff	37
				Current Staff	32
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	13		11	1,375
Workstation	125	0		0	0
Manager Workstation	100	17	Confirm with Colliers	22	2,200
Workstation	80	0		0	0
Workstation	64	0		0	0
Touchdown	48	0		2	96
		32		**Staff Space Subtotal**	**4,121**

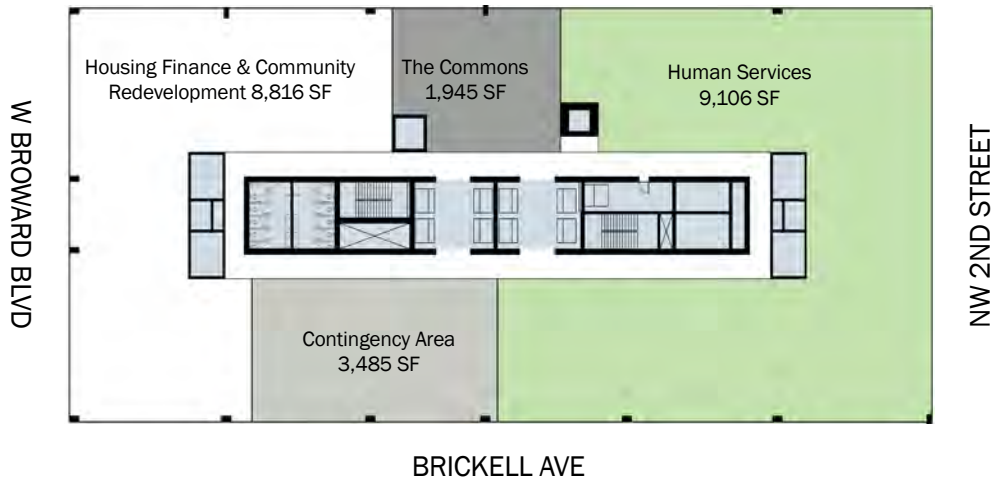
Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**840**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included	0	0
			Meeting Space Subtotal	**320**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
Box Staging Room	120	1	120
File Room with Safe	800	1	800
		Special Spaces Subtotal	**1,016**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**6,297**
Circulation	0.4	2,519
	Total Net Usable Area	**8,816**

Broward County County Human Services



LEVEL 17

N

Human Services Area: 9,106 SF

The Commons Area: 1,945 SF

Contingency Area: 3.485 SF

Core Area

COUNTY HUMAN SERVICES

Comments:
- Need document drop-off space
- Safe environment
- Hold Community events and activities

Adjacency: Works closely with Emergency Services

Approach:
Located on the 17th Level and occupying most of the North side of the floor plate with East, North and West views.
Direct access to and from elevator lobbies. Floor amenity area "The Commons" located on the West side of the floor plate, across from the elevator lobbies.

CONTINGENCY AREA- Option 1
Located on the East side of the floor plate, between Housing Finance and Community Redevelopment and Human Services

Department Name: County Human Services

Future Staff	42
Current Staff	38

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	4		4	900
Office	150	0		0	0
Office	125	9		10	1,250
Workstation	125	0		0	0
Manager Workstation	100	0	Confirm with Colliers	16	1,600
Workstation	80	0		0	0
Workstation	64	25		12	768
Touchdown	48	0		0	0
		38		**Staff Space Subtotal**	**4,518**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**890**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included	0	0
			Meeting Space Subtotal	**760**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Repository Files	240	1	240
		Special Spaces Subtotal	**336**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**6,504**
Circulation	0.4	2,602
	Total Net Usable Area	**9,106**

Broward County

LEVEL 18

County Public Works, Facilities Management and County Public Communication, Film Room

Broward County County Public Works, Facilities Management and County Public Communication, Film Room

LEVEL 18

N

- Facilities Management Area: 11,099 SF
- Public Work Area: 4,110 SF
- Public Communication Area: 4,178 SF
- Film Room Area: 2,020 SF
- The Commons Area: 1,945 SF
- Core Area

Broward County County Facilities Management

LEVEL 18

N

Facilities Management Area: 11,099 SF

The Commons Area: 1,945 SF

Core Area

COUNTY FACILITIES MANAGEMENT

Comments:
- Unlocked doors
- 50 visitors a week
- Library/Building documents
- Meet with vendors

Adjacency: Accounting and Purchasing, County Attorney, County Adm. and Construction Management

Approach:
Located on the 18th Level and occupying most of the North-east end of the floor plate wit Northeast views. Located next to the Film Room and the amenity floor space.
Direct access to and from elevator lobbies.
Floor amenity area "The Commons" located Across the elevator lobbies

CONTINGENCY AREA- Option 1
No adjacency area

Department Name: County Facilities Management

Future Staff	82
Current Staff	68

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	3		3	675
Office	150	0		0	0
Office	125	0		1	125
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	60		72	4,608
Touchdown	48	5		6	288
		68		**Staff Space Subtotal**	**5,696**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal	**960**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	2	400
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included	0	0
			Meeting Space Subtotal	**760**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	2	192
CCTV Monitoring	200	1	200
Plan Room / Library	120	1	120
		Special Spaces Subtotal	**512**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**7,928**
Circulation	0.4	3,171
	Total Net Usable Area	**11,099**

Broward County County Public Works

LEVEL 18

N

Public Work Area: 4,110 SF

The Commons Area: 1,945 SF

Core Area

COUNTY PUBLIC WORKS

Comments:
- Need auditory privacy
- Lockable file room
- Plan storage at ADD and DDD

Adjacency: Facilities Management and Construction Management

Approach:
Located on the 18th Level and occupying the Southeast corner of the floor plate, with West and South views.
Floor amenity area "The Commons" an llocated on the Northwest of the floor plate across from elevator lobbies

CONTINGENCY AREA- Option 1
No adjacency area

Department Name: County Public Works

Future Staff	16
Current Staff	11

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	1		1	225
Office	150	0		0	0
Office	125	3		5	625
Workstation	125	0		0	0
Manager Workstation	100	0		10	1,000
Workstation	80	0		0	0
Workstation	64	7		0	0
Touchdown	48	0		0	0
		11		**Staff Space Subtotal**	**1,850**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**310**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants		0
Training	800	shared in common areas/not included		0
			Meeting Space Subtotal	**440**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
File Room - locked	240	1	240
		Special Spaces Subtotal	**336**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,936**
Circulation	0.4	1,174
	Total Net Usable Area	**4,110**

Broward County County Public Communication

LEVEL 18

N

Public Communication Area: 4,178 SF

The Commons Area: 1,945 SF

Core Area

COUNTY PUBLIC COMMUNICATIONS

Comments:
- Print Shop on the lower level
- Able to access the Print Shop
- Display area to show their wor
- Video editing area
- Televise and webcast
- Bright and welcoming

Film Room next to Public Communications

Adjacency: Need to be able to access the Print Shop. Film Room is located on the same Level

Approach:
Located on the 18th Level on the Southeast corner of the floor plate, next to Public Work and the Film Room.
Floor amenity area "The Commons" located Across the elevator lobbies.

CONTINGENCY AREA- Option 1
No adjacency area

Department Name: County Public Communications

Future Staff	26
Current Staff	21

Staff Space	Area	Current Staff	Provided	Net Area
Executive Suite	320		0	0
Executive Office	225	1	1	225
Office	150		0	0
Office	125	1	1	125
Workstation	125		0	0
Manager Workstation	100		0	0
Workstation	80		0	0
Workstation	64	19	22	1,408
Touchdown	48		2	96
		21	**Staff Space Subtotal**	**1,854**

Support Spaces	Area		Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	20	1 per 20 users	2	40
			Support Space Subtotal	**810**

Meeting Spaces	Area		Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants		0
Training	800	shared in common areas		0
			Meeting Space Subtotal	**320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
		Special Space Subtotal	**96**

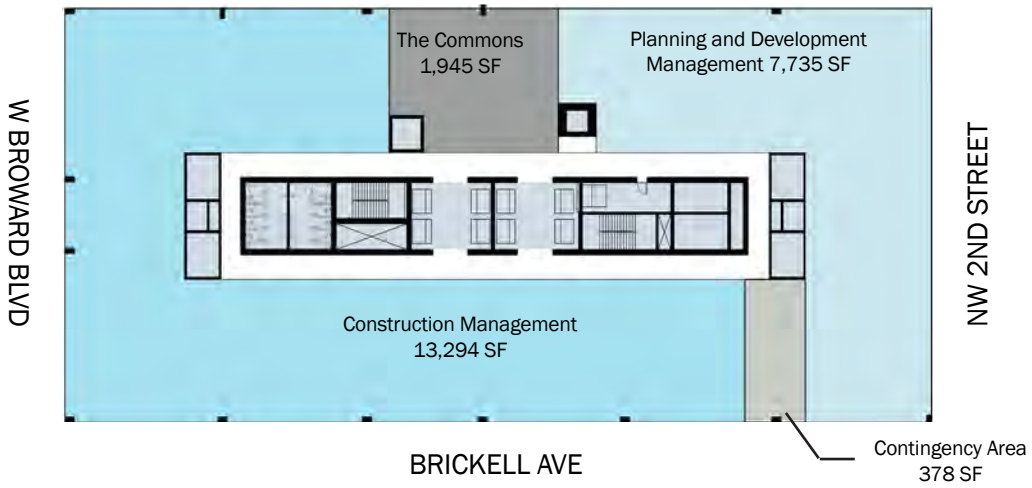
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**2,984**
Circulation	0.4		1,194
		Total Net Usable Area	**4,178**

Broward County

LEVEL 19

County Construction Management & County Planning and Development Management

Broward County County Construction Management & County Planning and Development Management

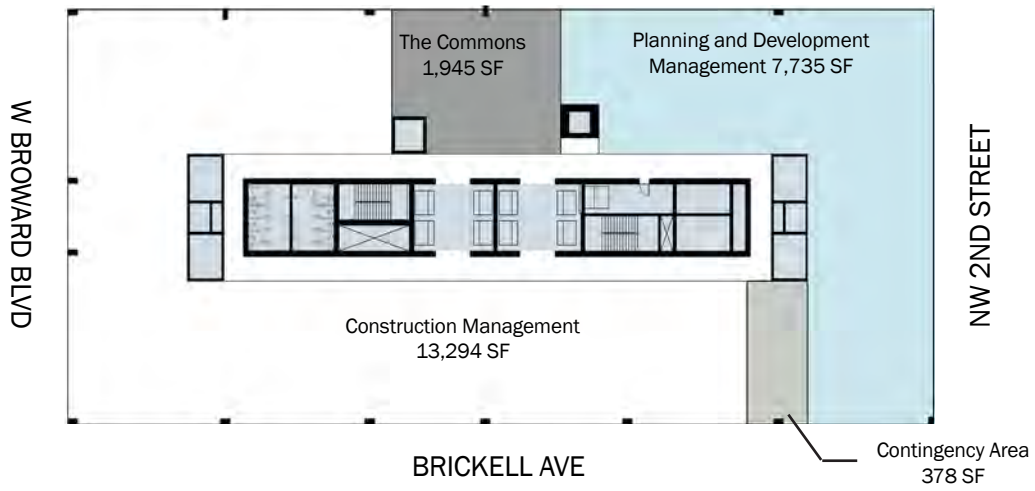


LEVEL 19

N

- Construction Management Area: 13,294 SF
- Planning and Development Management Area: 7,735 SF
- The Commons Area: 1,945 SF
- Contigency Area: 378 SF
- Core Area

Broward County County Planning and Development Management



LEVEL 19

N

Planning and Development Management Area: 7,735 SF

The Commons Area: 1,945 SF

Contigency Area: 378 SF

Core Area

COUNTY PLANNING DEVELOPMENT MANAGEMENT

Comments:
- More space for interns
- Needs good video/media for public workshops
- White boards in office and, meeting rooms

Adjacency: Code and Zoning, Development, Environmental Review and Sustainable Development, GIS works with everyone.

Approach:
Located on the 19th Level, with views of the West, North and East. Next to Construction Management
Floor amenity area "The Commons" located
Across the elevator lobbies

CONTINGENCY AREA

Small area is located on the East side between Construction Management and Planning and Development

Department Name: County Planning and Development Management

Future Staff	50
Current Staff	35

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	1	with meeting table for 4/5	1	225
Office	150	0		0	0
Office	125	3		4	500
Workstation	125	0		0	0
Manager Workstation	100	0		10	1,000
Workstation	80	0		0	0
Workstation	64	26		29	1,856
Touchdown	48	5		6	288
		35		**Staff Space Subtotal**	**3,869**

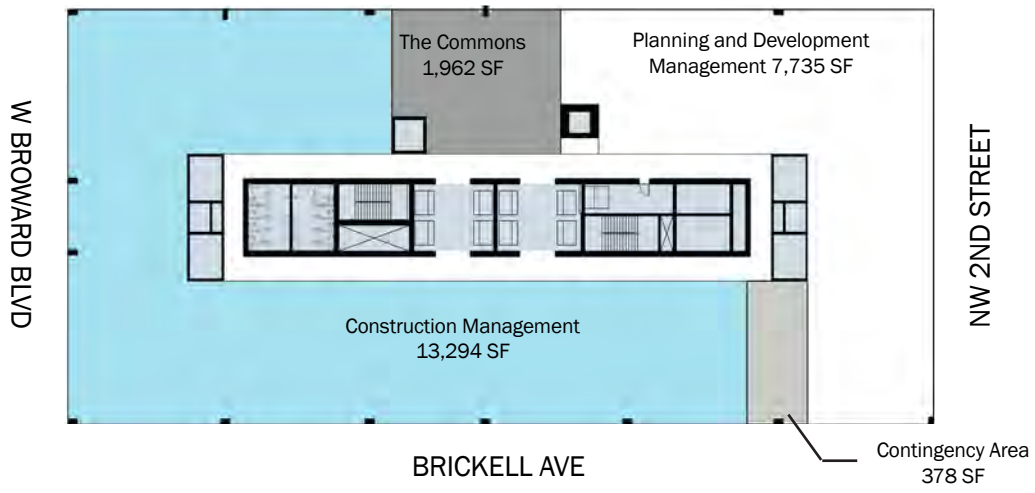
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	3	30
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**880**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Box Staging Room	120	1	120
Plotter Room	120	1	120
		Special Spaces Subtotal	**336**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**5,525**
Circulation	0.4		2,210
		Total Net Usable Area	**7,735**

Broward County County Construction Management



LEVEL 19

N

Construction Management Area: 13,294 SF

The Commons Area: 1,962 SF

Contigency Area: 378 SF

Core Area

COUNTY CONSTRUCTION MANAGEMENT

Comments:
- Opportunity to share and display work
- Increased visual connection
- Large tables to spread out drawings
- Staging area for boxes heading archives

Adjacency: Works with Attorney, Record Management Small Business Development and Intergovernmental Affairs

Approach:
Located on the 19th Level, with views of the East, South and West. Next to Planning and Development Manage Side of the plate, next to Public Work on the West and Facilities Management on the North Floor amenity area "The Commons" located Across the elevator lobbies

CONTINGENCY AREA

Small area is located on the East side between Construction Management and Planning and Development

Department Name: County Construction Management

Future Staff	53
Current Staff	46

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	3		4	600
Office	125	11		12	1,500
Workstation	125	0		0	0
Manager Workstation	100	22		24	2,400
Workstation	80	8		11	880
Workstation	64	0		0	0
Touchdown	48	0		0	0
		46		**Staff Space Subtotal**	**5,830**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	6	120
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**970**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	2	1,000
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	1	840
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**2,280**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Plotter Area	40	1	40
Layout Space	200	1	200
Plan Storage	80	1	80
		Special Spaces Subtotal	**416**

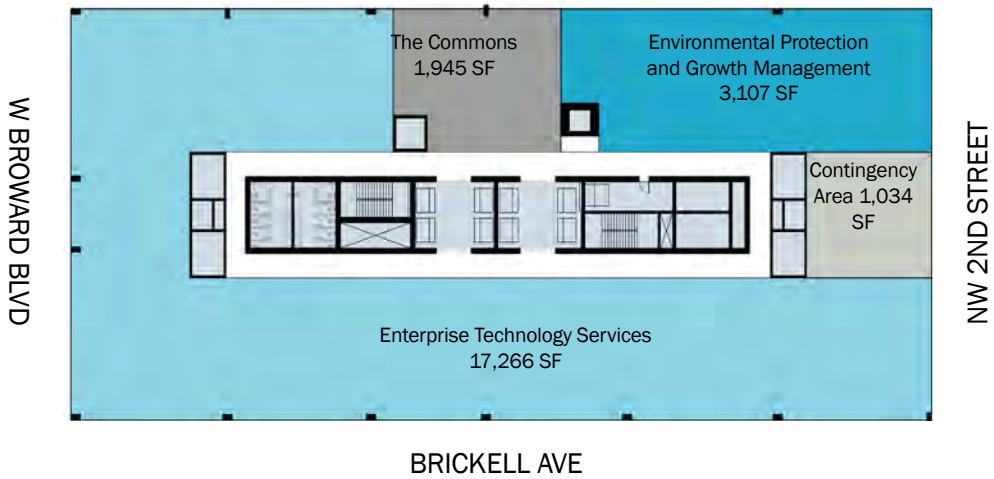
Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**9,496**
Circulation	0.4	3,798
	Total Net Usable Area	**13,294**

Broward County

LEVEL 20

County Enterprise Technology Services and County Environmental Protection and Growth Management

Broward County County Enterprise Technology Services and County Environmental Protection and Growth Management

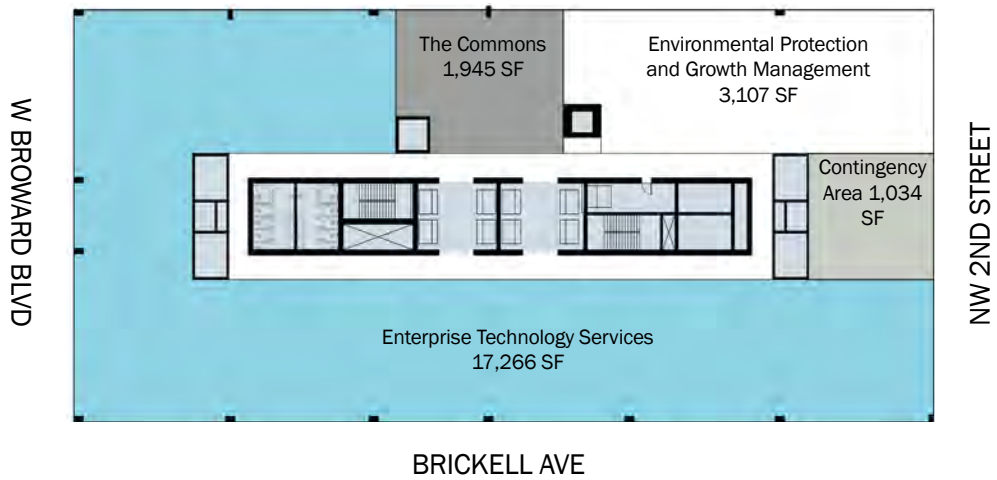


LEVEL 20

N

- Enterprise Technology Services Area: 17,266 SF
- Environmental Protection and Growth Management Area: 3,107 SF
- The Commons Area: 1,945 SF
- Contingency Area: 1,034 SF
- Core Area

Broward County County FASD: Enterprise Technology Services



LEVEL 20

N

Enterprise Technology Services Area: 17,266 SF

The Commons Area: 1,945 SF

Contingency Area: 1,034 SF

Core Area

COUNTY ENTERPRISE TECHNOLOGY SERVICES

Comments:
- Space for contractors
- Flexible training rooms
- Locked storage Room for equipment
- Workspace for technical staff
- Stand-up meeting area

Adjacency: ERP should be with Accounting and Payroll

Approach:
Located on the majority of the 20st Level with 360-degree Views. Next to the Contingence Area and the Floor Amenities. Floor amenity area "The Commons" located Across the elevator lobby

CONTINGENCY AREA

Contingency area on the North side between Enterprise technology and Environmental Protection

Department Name: County FASD: Enterprise Technology Services

				Future Staff	121
				Current Staff	40

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	1		2	450
Office	150	0		0	0
Office	125	4		9	1,125
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	30		95	6,080
Touchdown	48	5	Includes 20 Contractors	24	1,152
		40		**Staff Space Subtotal**	**8,807**

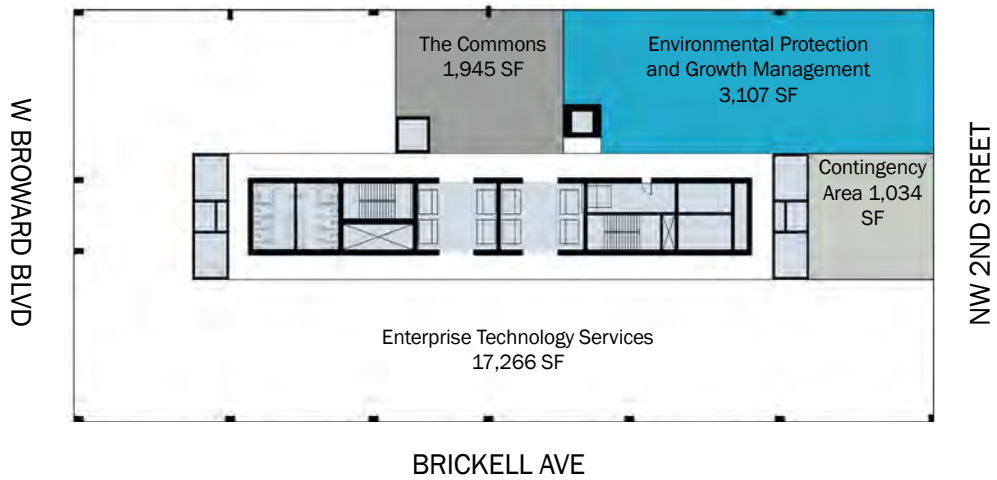
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	2	1,000
Print Station	10	1 per 20 users	4	40
Print/Work Area	40	1 per 50 people	3	120
Supply/Storage	20	1 per 50 people	3	60
Quick Quiet Room	30	1 per 20 users	7	210
			Support Space Subtotal	**1,630**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	6	720
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,240**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Equipment Storage - locked	120	3	360
Stand-up meeting Area	200	1	200
		Special Spaces Subtotal	**656**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**12,333**
Circulation	0.4	4,933
	Total Net Usable Area	**17,266**

Broward County County Environmental Protection and Growth Management



LEVEL 20

N

Environmental Protection and Growth Management Area: 3,107 SF

The Commons Area: 1,945 SF

Contingency Area: 1,034 SF

Core Area

COUNTY ENVIRONMENTAL PROTECTION AND GROWTH

Comments:
- Standing desks
- Bright colors, lots of natural light
- Space for virtual reality technology
- Flex space for Urban Mobility people

Adjacency: Interaction with County Administration. Department managers visit them

Approach:
Located on the 20st Level occupying the Northwest corner of the building.
Floor amenity area "The Commons" located
Across the elevator lobbies

CONTENGENCY AREA

Contingency area on the North side between Enterprise technology and Environmental Protection

Department Name: County Environmental Protection and Growth Management

Future Staff	17
Current Staff	9

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	1		1	225
Office	150	0		0	0
Office	125	0		0	0
Workstation	125	0		0	0
Manager Workstation	100	0		10	1,000
Workstation	80	0		0	0
Workstation	64	8		0	0
Touchdown	48	0		6	288
		9		**Staff Space Subtotal**	**1,513**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**290**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**0**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
VR Technology Space	320	1	320
Box Staging Room	120	0	0
		Special Spaces Subtotal	**416**

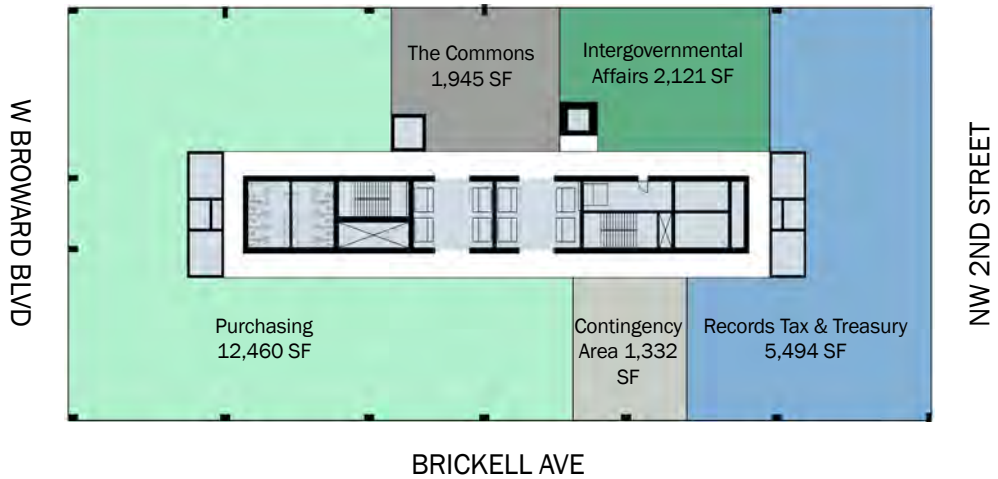
Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,219**
Circulation	0.4	888
	Total Net Usable Area	**3,107**

Broward County

LEVEL 21

County Purchasing, County Intergovernmental Affairs, County Records Tax & Treasury

Broward County County Purchasing, County Intergovernmental Affairs, County Records Tax & Treasury

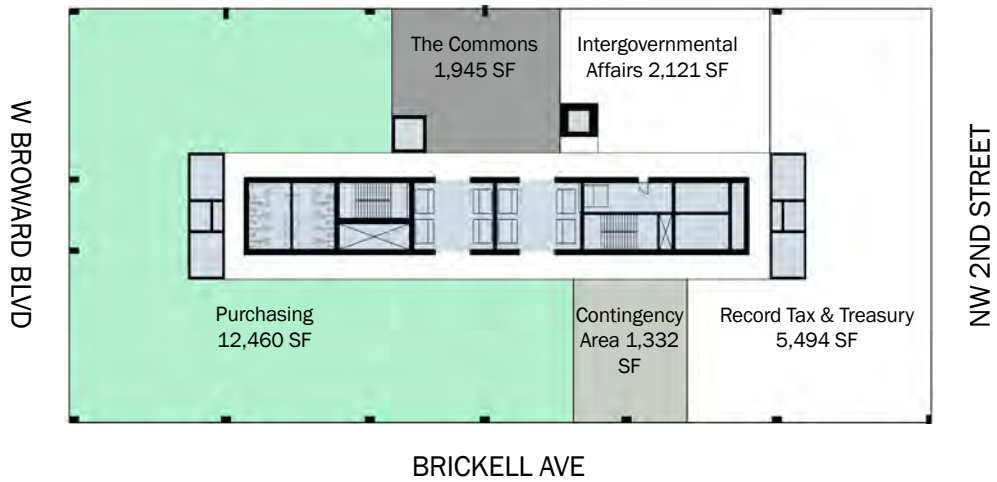


LEVEL 21

N

- Purchasing Area: 12,460 SF
- Intergovernmental Affairs Area: 2,121 SF
- Records Tax & Treasury Area: 5,494 SF
- The Commons Area: 1,945 SF
- Contingency Area: 1,332 SF
- Core Area

Broward County County FASD: Purchasing



LEVEL 21

N

Purchasing Area: 12,460 SF

The Commons Area: 1,945 SF

Contingency Area: 1,332 SF

Core Area

COUNTY PURCHASING

Comments:
- Better and more secure waiting area
- Space for employees to relax
- Transitioning to document management
- Assigned evaluation space

Adjacency: To be close to A/P and Risk Management

Approach:
Located on the 21th Level occupying the South end of the floor with South, East and West views. Next to the contingency area and floor amenities. Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby.

CONTENGENCY AREA

Contingency area located on the East side of the Floor plate, between Purchasing and Record, Tax and Treasury

Department Name: County FASD: Purchasing

				Future Staff	86
				Current Staff	76
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	0		0	0
Workstation	125	9		10	1,250
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	65		72	4,608
Touchdown	48	0		2	96
		76		**Staff Space Subtotal**	**6,404**

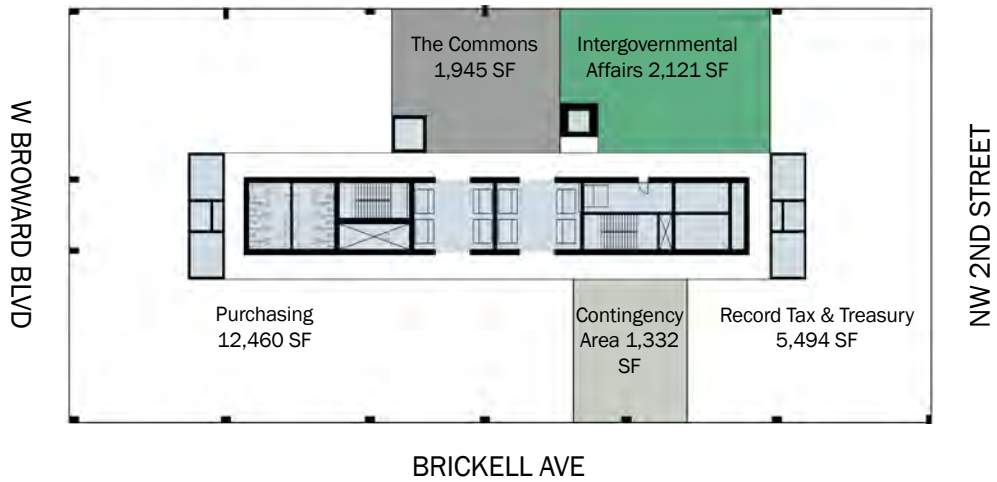
Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal	**960**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	4	480
Medium (6-8)	200	1 per 30 users	2	400
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,200**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	96
Evaluation Equipment Storage	120	1	120
Box Staging Area	120	1	120
		Special Spaces Subtotal	**336**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**8,900**
Circulation	0.4	3,560
	Total Net Usable Area	**12,460**

Broward County County Intergovernmental Affairs



LEVEL 21

N

Intergovernmental Affairs Area: 2,121 SF

The Commons Area: 1,945 SF

Contingency Area: 1,332 SF

Core Area

COUNTY INTERGOVERNMENTAL AFFAIRS

Comments:
- Breakroom with plumbing
- Support rea to decompress
- Amenities
- Access to Conference Area. Glass doors

Adjacency: Close to County Administrator, Commissioners, Communications and Attorneys.

Approach:
Located on the 21nd Level, on the West side of the floor plate, located next to Record, Tax and Treasury and the floor amenities.
Floor amenity area "The Commons" on the West side of the floor plate with West views.

CONTENGENCY AREA

Contingency area located on the East side of the Floor plate, between Purchasing and Record, Tax and Treasury

Department Name: County Intergovermental Affairs

Future Staff	6
Current Staff	6

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	1		1	225
Office	150	0		0	0
Office	125	1		4	500
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	4		1	64
Touchdown	48	0		0	0
		6		**Staff Space Subtotal**	**789**

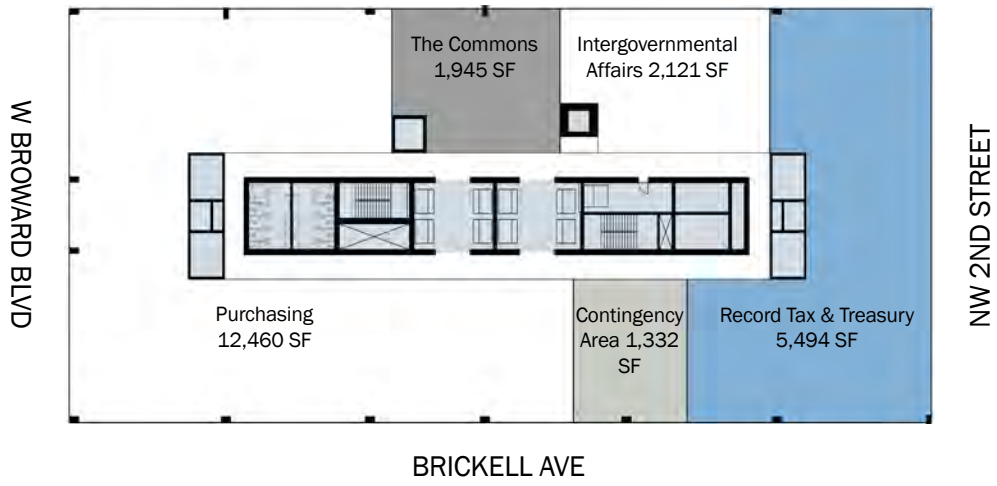
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**310**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Bookshelf Storage	0	0	0
Box Staging Room	120	0	0
		Special Spaces Subtotal	**96**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**1,515**
Circulation	0.4	606
	Total Net Usable Area	**2,121**

Broward County County FASD: Records Taxes and Treasury Division



LEVEL 21

N

Records Tax & Treasury Area: 5,494 SF

The Commons Area: 1,945 SF

Contingency Area: 1,332 SF

Core Area

COUNTY RECORDS TAXES AND TREASURY DIVISION

Comments:
- Huddle space for Treasury
- Training Room with ownership/control over it
- Adequate breakspace with hotwater
- Space for employees to decompress/relax

Adjacency: Accounting, Payroll and Purchasing

Approach:
Located on the 21nd Level occupying the Northeast corner of the floor space. Located next to Intergovernmental Affairs and Contingency Area.
East and North views.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Contingency area located on the East side of the Floor plate, between Purchasing and Record, Tax and Treasury

Department Name: County FASD: Records, Taxes and Treasury Division

				Future Staff	26
				Current Staff	30
Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320			0	0
Executive Office	225			0	0
Office	150			5	750
Office	125			4	500
Workstation	125			0	0
Manager Workstation	100			0	0
Workstation	80			0	0
Workstation	64			17	1,088
Touchdown	48			0	0
		0		**Staff Space Subtotal**	**2,338**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	1	10
Print/Work Area	40	1 per 50 people	0	0
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	0	0
			Support Space Subtotal	**250**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**320**

Special Spaces	Area		Provided	Net Area
Coffee/Break Room	96		1	96
Secure Records Storage	600	blank checks, files, etc	1	800
Box Staging Area	120		1	120
			Special Spaces Subtotal	**1,016**

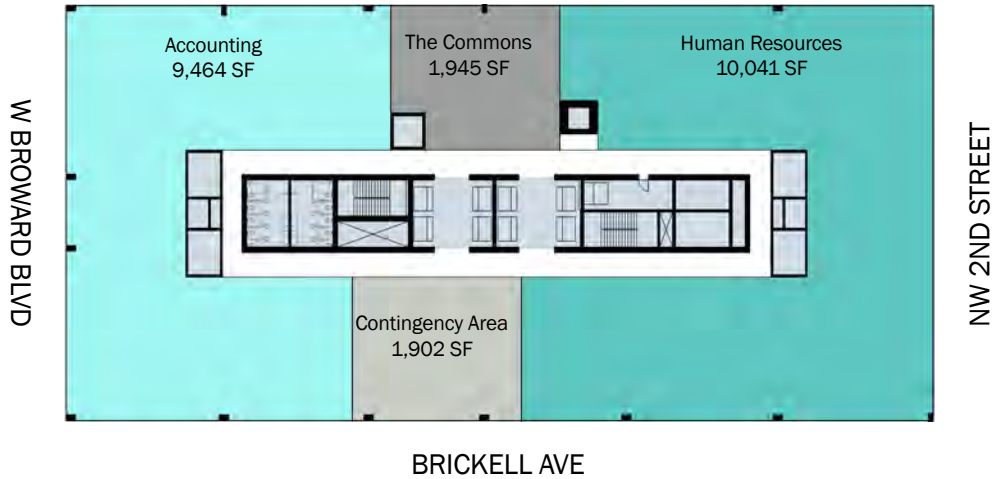
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**3,924**
Circulation	0.4		1,570
		Total Net Usable Area	**5,494**

Broward County

LEVEL 22

County Human Resources and County Accounting

Broward County County Human Resources and County Accounting

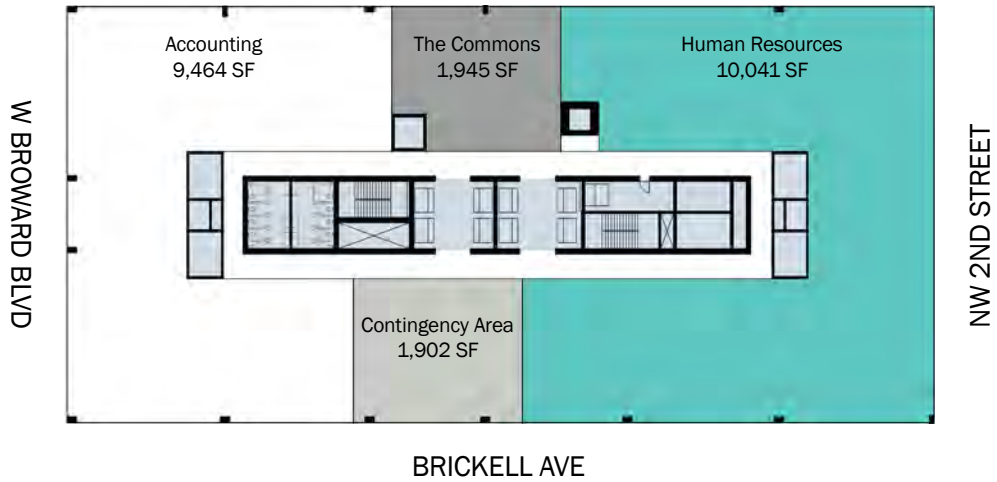


LEVEL 22

N

- County Accounting Area: 9,464 SF
- Human Resources Area: 10,041 SF
- The Commons Area: 1,945 SF
- Contingency Area: 1,902 SF
- Core Area

Broward County County FASD: Human Resources



LEVEL 22

N

Human Resources Area: 10,041 SF

The Commons Area: 1,945 SF

Contingency Area: 1,902 SF

Core Area

COUNTY HUMAN RESOURCES

Comments:
- Better office supply space
- Personnel File Area
- Service counter
- Some public interaction

-Candidates and reporters

Adjacency: Other FASD departments

Approach:
Located on the 22th Level occupying the South end of the floor with South, East and West views. Next to contingency space and floor amenity area.
Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Contingency area located on the East side of the floor plate, between Human Resources and Accounting

Department Name: County FASD: Human Resources

				Future Staff	62
				Current Staff	51

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	12		14	1,750
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	33		38	2,432
Touchdown	48	4		8	384
		51		**Staff Space Subtotal**	**5,016**

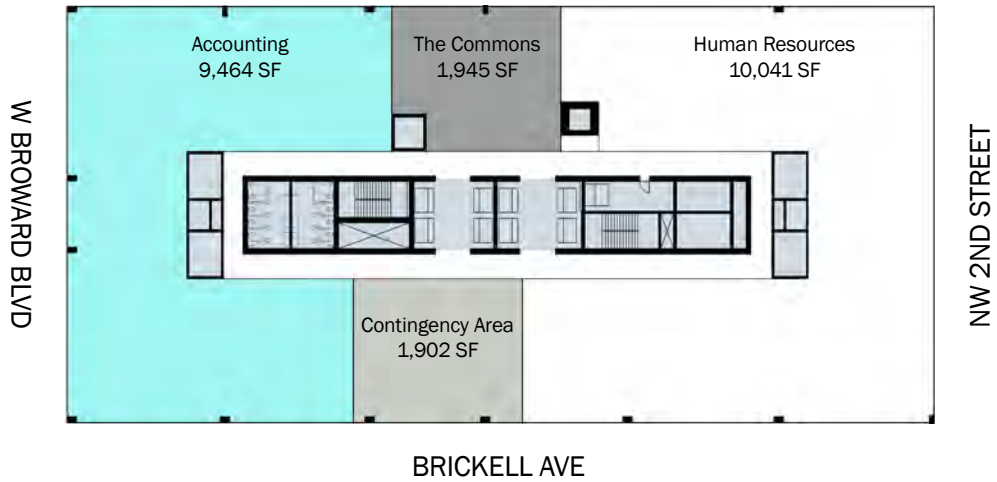
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	3	30
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**980**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	2	400
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**760**

Special Spaces	Area		Provided	Net Area
Coffee/Break Room	96		1	96
Personnel File Area	200	3 visitors and waiting	1	200
Service Counter	120	with waiting	1	120
			Special Spaces Subtotal	**416**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**7,172**
Circulation	0.4		2,869
		Total Net Usable Area	**10,041**

Broward County County FASD: Accounting



LEVEL 22

N

Accounting Area: 9,464 SF

The Commons Area: 1,945 SF

Contingency Area: 1,902 SF

Core Area

COUNTY ACCOUNTING

Comments:
- Unlocked doors
- 50 visitors a week
- Library/Building documents

Adjacency: AP Payroll and Financial reporting

Approach:
Located on the 22rd Level and occupying most of the North side of the floor late and next to City Auditor. Northeast views.
Direct access to and from elevator lobbies.
Floor amenity area "The Commons" located Across the elevator lobbies

CONTENGENCY AREA

Contingency area located on the East side of the Floor plate, between Human Resources and Accounting

Department Name: County FASD: Accounting

				Future Staff	68
				Current Staff	61
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	5		6	750
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	44		49	3,136
Touchdown	48	10		11	528
		61		**Staff Space Subtotal**	**4,864**

Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal	**960**

Meeting Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	0	0
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	1	500
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included	0	0
			Meeting Space Subtotal	**740**

Special Spaces	**Area**		**Provided**	**Net Area**
Coffee/Break Room	96		1	96
File Storage	100	Expect to go electronic	1	100
			Special Spaces Subtotal	**196**

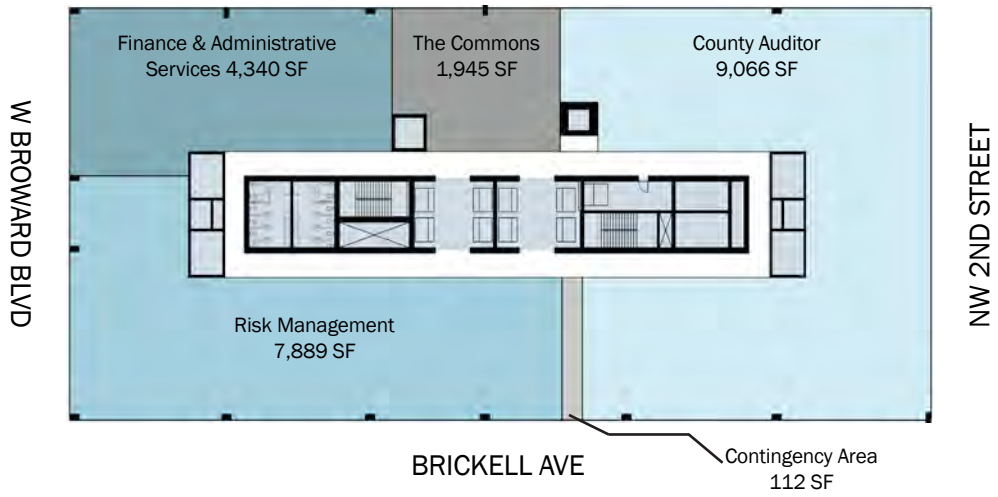
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**6,760**
Circulation	0.4		2,704
		Total Net Usable Area	**9,464**

Broward County

LEVEL 23

County Finance & Administrative Services, County Auditor and County Risk Management

Broward County County Finance & Administrative Services, County Auditor and County Risk Management

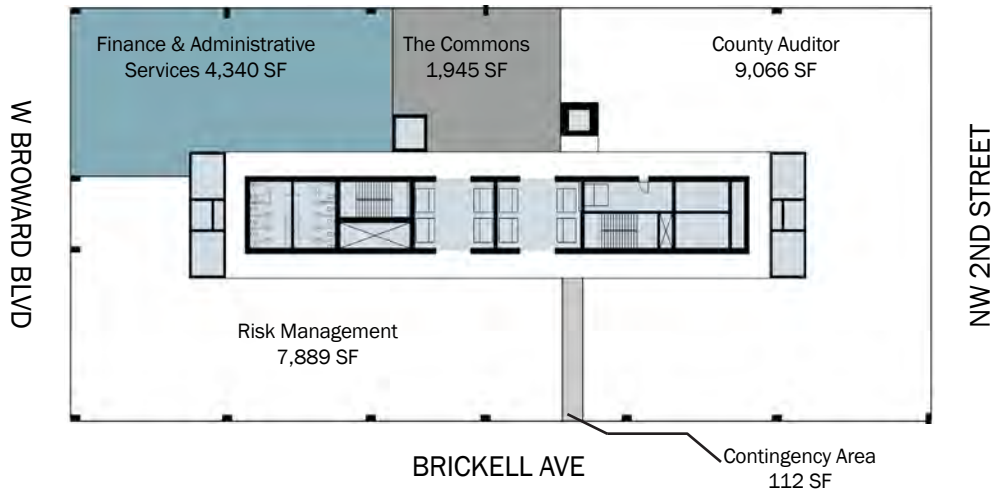


LEVEL 23

N

- Finance & Administrative Services Area: 4,340 SF
- County Auditor Area: 9,066 SF
- Risk Management Area: 7,889 SF
- The Commons Area: 1,945 SF
- Contingency Area: 112 SF
- Core Area

Broward County County Financial and Administrative Services



LEVEL 23

N

Financial and Administrative Services Area: 4,340 SF

The Commons Area: 1,945 SF

Contingency Area: 112 SF

Core Area

COUNTY FINANCIAL AND ADMINISTRATIVE SERVICES

Comments:
- Secured file storage
- Place for bound books With table to layout books
- Visitors from agencies for Meetings

Adjacency: All departments from HR

Approach:
Located on the 23th Level occupying the Southwest end of the floor with South and West views. Located next to Risk Management and the floor amenity space.
Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby.

CONTENGENCY AREA

Small Contingency area located on the East side of the floor plate, between Risk management and County Auditor

Department Name: County Financial and Administrative Services

				Future Staff	17
				Current Staff	8
Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		1	320
Executive Office	225	3		2	450
Office	150	0		0	0
Office	125	3		4	500
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	2		4	256
Touchdown	48	0	Summer Interns	6	288
		8		**Staff Space Subtotal**	**1,814**

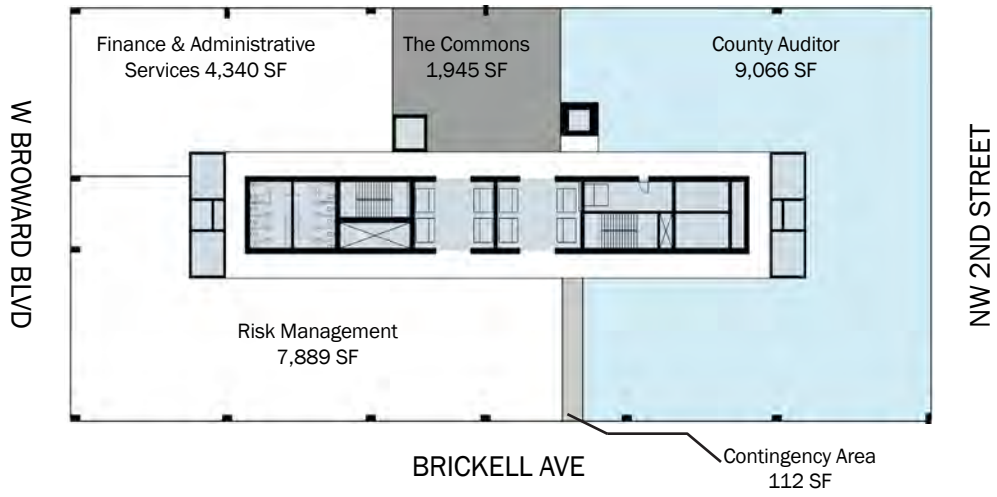
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
		Support Space Subtotal		**790**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	excluded	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included	0	0
		Meeting Space Subtotal		**200**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Box Stagging Room	120	1	120
Bond Doc. Secure Storage	80	1	80
		Special Spaces Subtotal	**296**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**3,100**
Circulation	0.4	1,240
	Total Net Usable Area	**4,340**

Broward County County Auditor



LEVEL 23

N

County Auditor Area: 9,066 SF

The Commons Area: 1,945 SF

Contingency Area: 112 SF

Core Area

COUNTY AUDITOR

Comments:
- Highly confidential work
- Frequent interviews
- Soundproof walls extremely Important
- Security is a concern
- Shredders needed in work-rooms

Adjacency: Need to be separate from other agencies

Approach:
Located on the 23th Level occupying the North end of the floor with North, East and West views and adjacent to contingency area and floor amenity area. It is buffered from any other agency.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Small Contingency area located on the East side of the floor plate, between Risk management and County Auditor

Department Name: County Auditor

				Future Staff	29
				Current Staff	25
Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite(County Auditor)	320	0		1	320
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	21		23	2,875
Manager Workstation	125	0	Growth	3	375
Manager Workstation	100	0	For External Auditors	3	300
Workstation	64	2		0	0
Touchdown	48	0		0	0
		25		**Staff Space Subtotal**	**4,320**

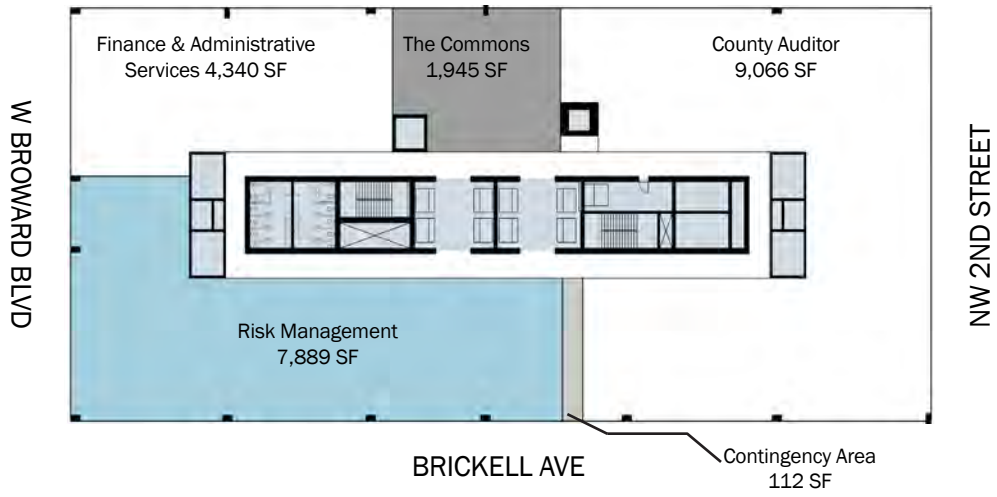
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	8	160
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**980**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	by Ext. Auditors Workstations	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	1	520
Training	800	shared in common areas		0
			Meeting Space Subtotal	**840**

Special Spaces	Area	Comments	Provided	Net Area
Coffee/Break Room	96		1	96
Evidence Room	120		1	120
Boxes Staging Room	120		1	120
				0
			Special Space Subtotal	**336**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**6,476**
Circulation	40%	2,590
	Total Net Usable	**9,066**

Broward County County FASD: Risk Management



LEVEL 23

N

Risk Management Area: 7,889 SF

The Commons Area: 1,945 SF

Contingency Area: 112 SF

Core Area

COUNTY RISK MANAGEMENT

Comments:
- Provide opportunities for focus groups
- More secured reception/ waiting area
- Large storage for Mannequins

Adjacency: Risk management Liability Claims, HR and Construction management

Approach:
Located on the 23th Level occupying the Southeast corner of the floor plate with South and East views. Located between Finance and Administrative Services and small contingency space. Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Contingency area located on the East side of the floor plate, between Risk Management and Finance and Administration

Department Name: County FASD: Risk Management

Future Staff	46
Current Staff	42

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	10		11	1,375
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	27		30	1,920
Touchdown	48	3		3	144
		42		**Staff Space Subtotal**	**3,889**

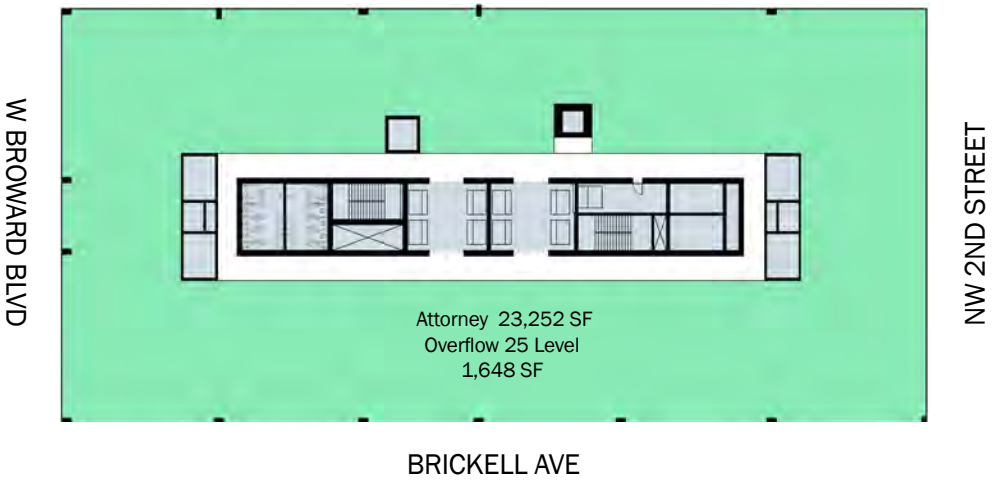
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**890**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	0	0
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Training Equipment Storage	200	1	200
Service Counter	120	1	120
		Special Spaces Subtotal	**416**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**5,635**
Circulation	0.4	2,254
	Total Net Usable Area	**7,889**

Broward County County Attorney



LEVEL 24

N

Attorney Area: 23,252 SF Overflow 25 Level 1,648 SF

Core Area

COUNTY ATTORNEY

Comments:
- Collaborate with each other frequently
- Privacy is extremely important
- Security is a concern
- Small meetings in their offices

Adjacency: Direct adjacency to Commissioners and Administration

Approach:
Located on the 24th Level occupying the entire floor plate with an overflow on the 28th Level. 360-degrees views. Floor amenity area "The Commons" has been integrated Into the department square footage. Floor amenity located On the 25th level will become their shared amenity space

CONTENGENCY AREA

No contingency area in this level

Department Name: County Attorney

Future Staff	104
Current Staff	87

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		1	320
Executive Office	225	10		10	2,250
Office	150	0		0	0
Office	125	52		57	7,125
Manager Workstation	100	0		28	2,800
Workstation	64	25		6	384
Touchdown	48	0		2	96
		87		**Staff Space Subtotal**	**12,975**

Support Spaces	Area		Provided	Net Area
Waiting/Reception	200	1 per suite and 1 for witness waiting	2	400
Open Collaboration	500	1 per 75 people	2	1,000
Print Station	10	1 per 20 users	3	30
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**1,610**

Meeting Spaces	Area		Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	3	600
Large (10--12)	320	1 per 50 users	3	960
X Large (20-22)	520	1 if over 40 occ.- to remain on floor	1	520
Training	800	shared in common areas		0
			Meeting Space Subtotal	**2,320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	2	192
Library	400	1	400
Bond Storage	120	1	120
Witnesses Waiting	120	1	120
Box Staging Room	120	1	120
		Special Space Subtotal	**952**

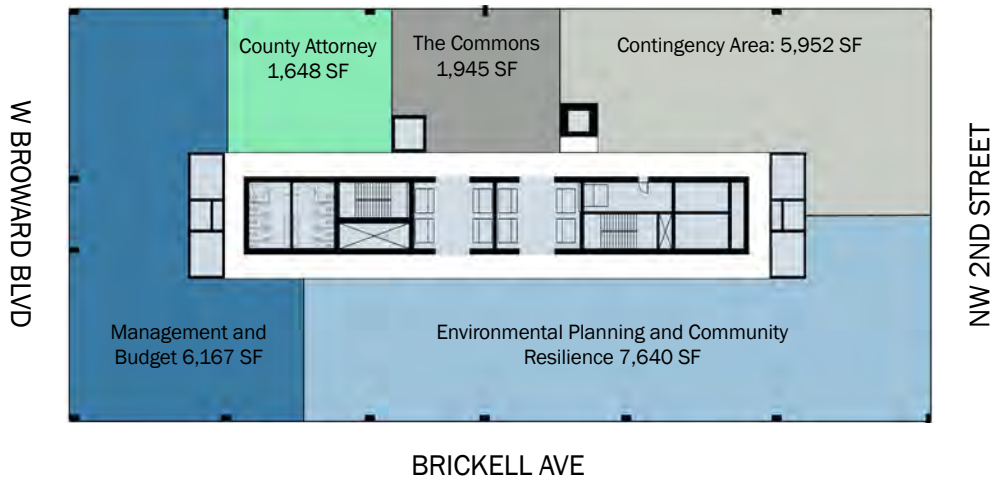
Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**17,857**
Circulation	40%	7,143
	Total Net Usable Area	**25,000**

Broward County

LEVEL 25

County Management and Budget, Environmnetal Planning and Community Resilience and County Attorney

Broward County County Management and Budget,Environmnetal Planning and Community Resilience and County Attorney

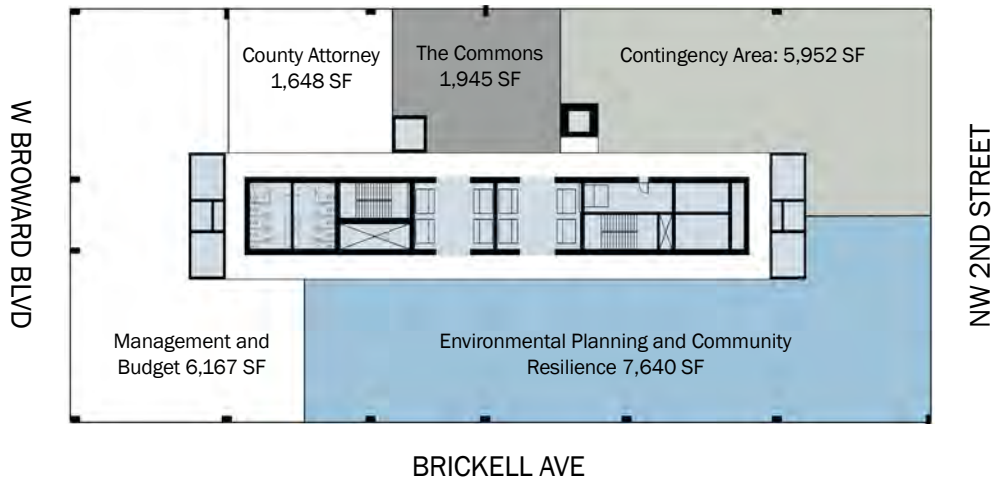


LEVEL 25

N

- Environmental Planning and Community Resilience Area: 7,640 SF
- Management and Budget Area: 6,167 SF
- County Attorney Area: 1,648 SF
- The Commons Area: 1,945 SF
- Contingency Area: 5,952 SF
- Core Area

Broward County County Environmental Planning Community Resilience



LEVEL 25

N

Environmental Planning Community Resilience Area: 7,640 SF

The Commons Area: 1,945 SF

Core Area

COUNTY ENVIRONMENTAL PLANNING COMMUNITY RESILIENCE

Comments:
- Large format drawings
- Space to display awards
- Equipment storage

Adjacency: No information provided

Approach:
Located on the 25th Level occupying the Northeast Corner of the floor with North and East views. Adjacent to Management and Budget and contingency area.
Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby

CONTENGENCY AREA
Contingency area located on the Northwest side of the floor plate, between The Commons and Environmental Planning and Community Resiliency

PROGRAM DATA

Department Name: County Environmental Planning and Community Resilience

Future Staff	45
Current Staff	34

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	4		5	625
Workstation	125	0		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		0	0
Workstation	64	28		32	2,048
Touchdown	48	0		6	288
		34		**Staff Space Subtotal**	**3,411**

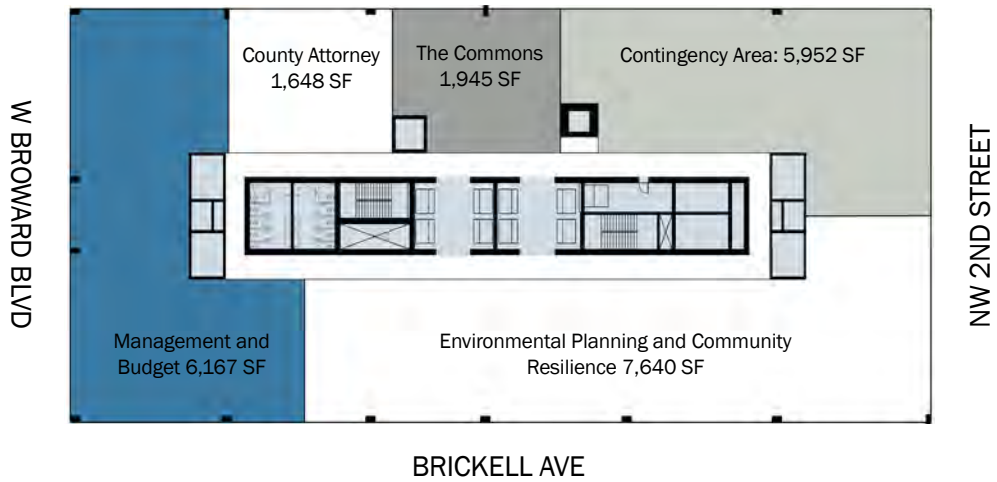
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	3	30
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	8	160
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**990**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas/not included	0	0
			Meeting Space Subtotal	**640**

Special Spaces	Area	Provided	
Coffee/Break Room	96	1	96
Box Staging Room	120	1	120
Field Equipment Storage	120	1	120
Bookshelf Storage	80	1	80
		Special Spaces Subtotal	**416**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**5,457**
Circulation	0.4	2,183
	Total Net Usable Area	**7,640**

Broward County County Office of Management & Budget



LEVEL 25

N

Management & Budget Area: 6,167 SF

The Commons Area: 1,616 SF

Core Area

COUNTY OFFICE OF MANAGEMENT & BUDGET

Comments:
- A lot of concentrative work
- Large training sessions
- File Room and Budget Books storage
- Brainstorming areas

Adjacency: Accessible to County Administration Commission Chambers

Approach:
Located on the 25th Level occupying the South portion of the floor with North and West views.
Adjacent to Environmental Planning and County Attorney.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Contingency area located on the Northwest side of the floor plate, between The Commons and Environmental Planning and Community Resiliency

Department Name: County Office of Management and Budget

Future Staff	25
Current Staff	22

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		0	0
Executive Office	225	2		2	450
Office	150	0		0	0
Office	125	4		5	625
Workstation	125	0		0	0
Manager Workstation	100	0		15	1,500
Workstation	80	0		0	0
Workstation	64	13		0	0
Touchdown	48	3		3	144
		22		**Staff Space Subtotal**	**2,719**

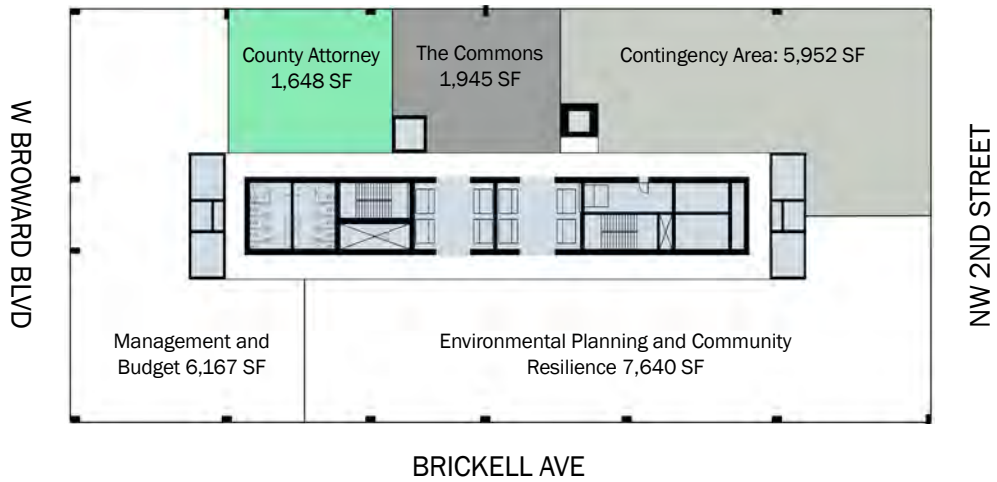
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**880**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**440**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Bookshelf Storage	150	1	150
Box Staging Room	120	1	120
		Special Spaces Subtotal	**366**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**4,405**
Circulation	0.4	1,762
	Total Net Usable Area	**6,167**

Broward County County Attorney



LEVEL 25

N

County Attorney Area: 1,648 SF

The Commons Area: 1,616 SF

Core Area

COUNTY ATTORNEY

Comments:
- Collaborate with each other frequently
- Privacy is extremely important
- Security is a concern
- Small meetings in their offices

Adjacency: Direct adjacency to Commissioners and Administration

Approach:
Located on the 25th Level on the West side of the floor plate with an overflow on the 24th Level of 23,252 SF. Located between Management and Budget and the floor amenity area. Floor amenity area "The Commons" on the West side of the floor plate with West views. Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Contingency area located on the Northwest side of the floor plate, between The Commons and Environmental Planning and Community Resiliency

Department Name: County Attorney

				Future Staff	104
				Current Staff	87
Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		1	320
Executive Office	225	10		10	2,250
Office	150	0		0	0
Office	125	52		57	7,125
Manager Workstation	100	0		28	2,800
Workstation	64	25		6	384
Touchdown	48	0		2	96
		87		**Staff Space Subtotal**	**12,975**

Support Spaces	Area		Provided	Net Area
Waiting/Reception	200	1 per suite and 1 for witness waiting	2	400
Open Collaboration	500	1 per 75 people	2	1,000
Print Station	10	1 per 20 users	3	30
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal	**1,610**

Meeting Spaces	Area		Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	3	600
Large (10--12)	320	1 per 50 users	3	960
X Large (20-22)	520	1 if over 40 occ.- to remain on floor	1	520
Training	800	shared in common areas		0
			Meeting Space Subtotal	**2,320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	2	192
Library	400	1	400
Bond Storage	120	1	120
Witnesses Waiting	120	1	120
Box Staging Room	120	1	120
		Special Space Subtotal	**952**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**17,857**
Circulation	40%	7,143
	Total Net Usable Area	**25,000**

City Of
Fort Lauderdale

LEVEL 26

City Manager, City Commission and City Clerk

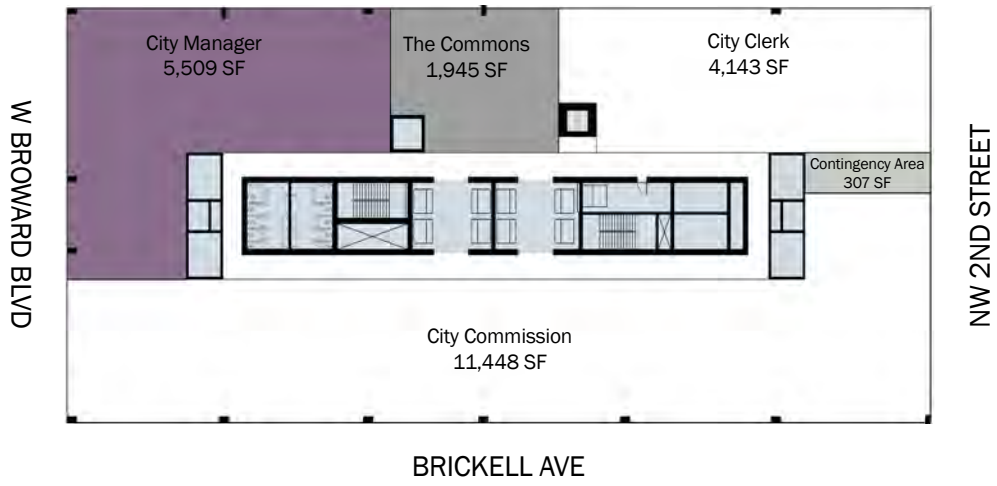
City of Fort Lauderdale City Manager, City Commission and City Clerk

LEVEL 26

N

- City Manager Area: 5,509 SF
- City Commission Area: 11,448 SF
- City Clerk Area: 4,143 SF
- Contingency Area: 307 SF
- The Commons Area: 1,945 SF
- Core Area

City of Fort Lauderdale City Manager



LEVEL 26

N

City Manager Area: 5,509 SF

Contingency Area: 307 SF

The Commons Area: 1,945 SF

Core Area

CITY MANAGER

Comments:
- Round tables for 4 in their offices
- Outside visitors by appointment
- Daily meetings and collaboration
- One stop customer service

Adjacency: City Auditor must sit separately Provide a physical separation from City Commission

Approach:
Located on the 26th Level occupying the Southwest Corner of the floor with South and West views.
Physical separation from City Commission.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Small contingency area located on the North side of the floor plate, between City Commission and City Clerk

PROGRAM DATA

Department Name: City Manager

Future Staff	13
Current Staff	12

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0	Round meeting table	1	320
Executive Office	225	4	Round meeting table	3	675
Office	150	0		0	0
Office	125	4		4	500
Workstation	125	0		0	0
Manager Workstation	100	0		5	500
Workstation	80	0		0	0
Workstation	64	4		0	0
Touchdown	48	0		0	0
		12		**Staff Space Subtotal**	**1,995**

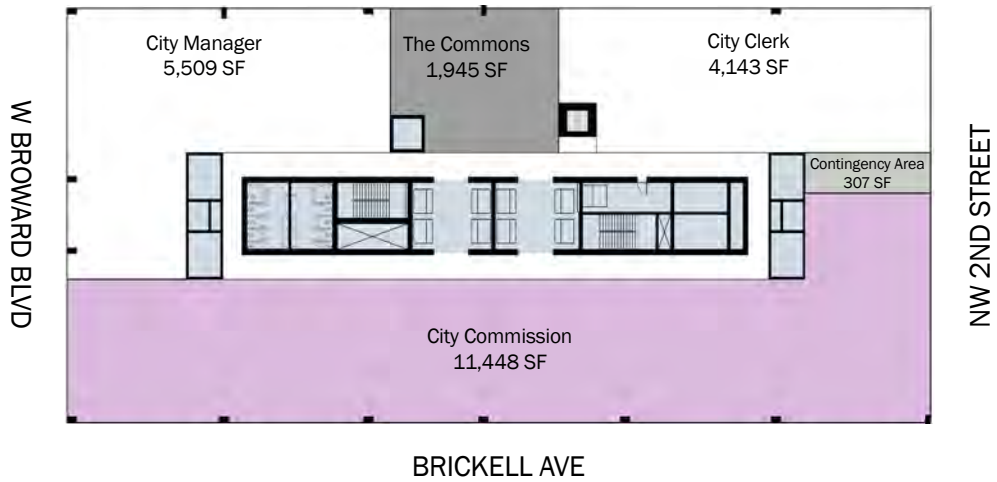
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	0.5	250
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	2	80
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**800**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**840**

Special Spaces	Area	Comments	Provided	Net Area
Coffee/Break Room	96		1	96
Training Equipment Storage	200		0	0
Service Counter	120		0	0
Secured Storage	300		1	300
			Special Spaces Subtotal	**396**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**3,935**
Circulation	0.4	1,574
	Total Net Usable Area	**5,509**

City of Fort Lauderdale City Commission



LEVEL 26

N

City Commission Area: 11,448 SF

Contingency Area: 307 SF

The Commons Area: 1,945 SF

Core Area

CITY COMMISSION

Comments:
- Conference Rooms for each Commissioner
- Private bathroom for each Commissioner
- Assistants and Interns as part of their Suite
- Catering capabilities

Adjacency: Need separation from executive function

Approach:
Located on the 26th Level occupying the Southwest Corner of the floor with South and West views.
Physical separation from City Manager.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Small contingency area located on the North side of the floor plate, between City Commission and City Clerk

Department Name: City Commission

Future Staff	22
Current Staff	8

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	385	0		5	1,925
Executive Office Suite	290	4	2 Adm. Assist.	5	1,450
Office	150	0		0	0
Office	125	0		8	1,000
Workstation	125	0		0	0
Manager Workstation	100	0		4	400
Workstation	80	0		0	0
Workstation	64	4		0	0
Touchdown	48	0		0	0
		8		**Staff Space Subtotal**	**4,775**

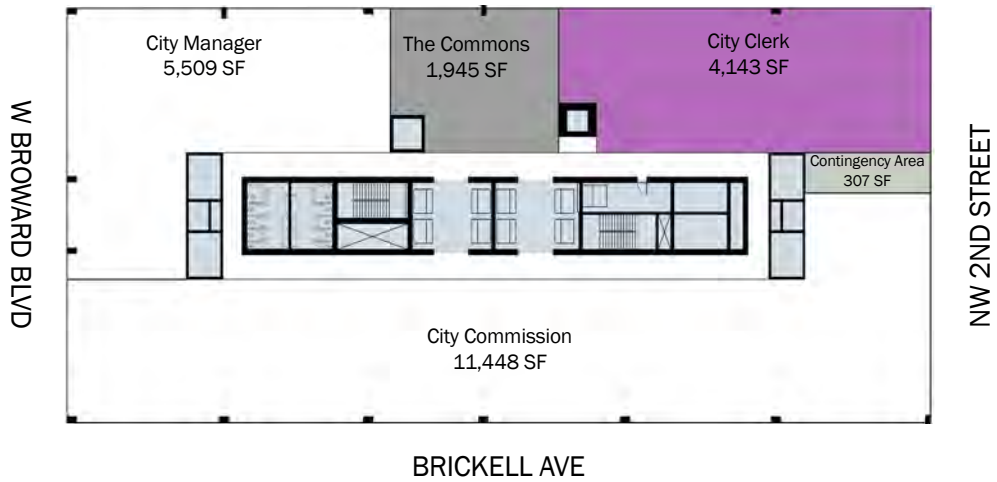
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	3	600
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	5	50
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**1,240**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	5	1,000
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	1	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,320**

Special Spaces	Area	Comments	Number Provid	Net Area
Coffee/Break Room	96	Catering Capability	2	192
Box Staging Room	60		5	300
Private Bathroom	70	1 per Commissioner	5	350
			0	0
			Special Spaces Subtotal	**842**

Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**8,177**
Circulation	0.4		3,271
		Total Net Usable Area	**11,448**

City of Fort Lauderdale City Clerk



LEVEL 26

N

City Clerk Area: 4,143 SF

Contingency Area: 307 SF

The Commons Area: 1,945 SF

Core Area

CITY CLERK

Comments:
- Manages agenda items
- Advisory Board meetings and training
- Public Comes in for record request

Adjacency: Near City Attorney and City Manager
Away from Auditor

Approach:
Located on the 26th Level occupying the Northwest Corner of the floor with North and West views.
Next to City Commission and floor amenity area.
Floor amenity area "The Commons" on the West side of the floor plate with West views.
Centrally located with direct access from elevator lobby

CONTENGENCY AREA

Contingency area located on the North side of the floor plate, between City Commission and City Clerk

Department Name: City Clerk

Future Staff	8
Current Staff	9

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	0		1	320
Executive Office Suite	225	2		1	225
Office	150	0		0	0
Office	125	0		4	500
Workstation	125	6		0	0
Manager Workstation	100	0		0	0
Workstation	80	0		2	160
Workstation	64	0		0	0
Touchdown	48	1		1	48
		9		**Staff Space Subtotal**	**1,253**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	1	40
Supply/Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal	**790**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10–12)	320	1 per 50 users	1	320
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**520**

Special Spaces	Area	Comments	Provided	Net Area
Coffee/Break Room	96	Catering Capability	1	96
Box Staging Room	60		1	60
Records/Equipment Room	120		1	120
AV Equipment Storage	120		1	120
			Special Spaces Subtotal	**396**

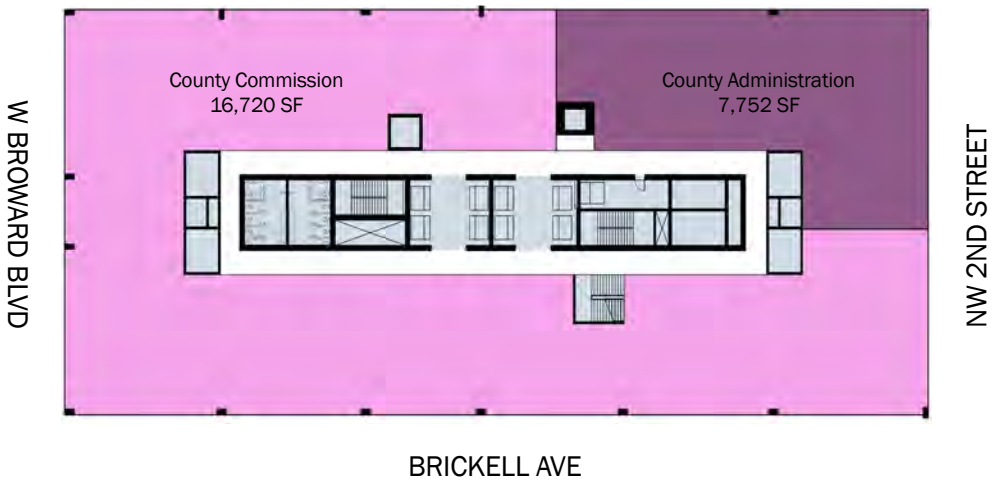
Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**2,959**
Circulation	0.4	1,184
	Total Net Usable Area	**4,143**

Broward County

LEVEL 27

County Commission and County Administration

Broward County County Commission and County Administration



LEVEL 27

N

County Administration Area: 7,752 SF

County Commission Area: 16,720 SF

Core Area

Broward County County Commission

LEVEL 27

N

County Commission Area: 16,720 SF

Core Area

COUNTY COMMISSION

Comments:
- Conference Rooms for each Commissioner
- Private bathroom for each Commissioner
- Assistants and 1 Intern as part of their Suite
- Holding area at each Commission suite
- Private corridor away from waiting and/or Common areas
- Catering capabilities
- Wood floors
- Sound privacy and acoustics extremely Important
- Individual temperature control
- No interaction between commissioners
- Deluxe Room with Catering Kitchen located on Level 28.
- Connecting stairs between Level 27 and Deluxe Meeting Room.

Adjacency: Easy access to the Chamber and County Administration

Approach:
Located on the 27th Level occupying the majority Of the floor plate, with 360-degrees views. Adjacent to County Administration.

CONTENGENCY AREA

No contingency area

Department Name: County Commission

				Future Staff	55
				Current Staff	20
Staff Space	Area	Current Staff	Comments	Provided	Net Area
Commissioner Office	385	9		11	4,235
Commissioner Suite	256	0	3 (64 SF) WS and 1- (64 SF) holding area	33	2,816
Office	150	0		0	0
Office	125	0		0	0
Manager Workstation	125	0		0	
Manager Workstation	100	0		0	0
Workstation	64	11		0	0
Touchdown	48	0		11	528
Touchdown at Suites	48	0	1 per Suite for Interns	11	528
				Staff Space Subtotal	**8,107**

Support Spaces	Area		Provided	Net Area
Waiting/Reception	150	(300SF shared with Administration)	1	150
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	2	20
Print/Work Area	40	1 per 50 people	5	200
Supply/Storage	20	1 per 50 people	5	100
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal	**560**

Meeting Spaces	Area		Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10--12)	320	1 per 50 users	1	320
X Large (20-22)	520	1 if over 40 occupants	0	0
Deluxe	800	Located on Level 28 with Catering Area	1	800
			Meeting Space Subtotal	**1,120**

Special Spaces	Area		Provided	Net Area
Coffee/Break Room	120		1	120
Catering Area	120		1	120
Boxes Staging Room	120		1	120
Private Secondary Corridor	500		1	500
Private Toilets	50	1 per Suite	11	550
Connecting Stairs	746		1	746
			Special Space Subtotal	**2,156**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**11,943**
Circulation	40%	4,777
	Total Net Usable	16,720

Broward County County Administration

LEVEL 27

N

County Administration Area: 7,752 SF

Core Area

COUNTY ADMINISTRATION

Comments:
- Meets with Public every day
- Sound privacy is critical
- Whiteboards that can be covered

Adjacency: Interact with Commissioners every day, Attorney, Management and Budget

Approach:
Located on the 27th Level occupying the Northwest end of the floor plate, with North and West views.
Adjacent to County Commission.

CONTENGENCY AREA
No contingency area

Department Name: County Administration

				Future Staff	18
				Current Staff	8
Staff Space	**Area**	**Current Staff**	**Comments**	**Provided**	**Net Area**
County Administrator	525			1	525
Executive Suite	320			1	320
Executive Office	225	5		8	1,800
Office	150			0	0
Office	125			2	250
Workstation	125			0	0
Workstation	100			0	0
Manager Workstation	100			4	400
Workstation	80			0	0
Workstation	64	3		0	0
Touchdown	48			2	96
		8		**Staff Space Subtotal**	**3,391**

Support Spaces	**Area**	**Comments**	**Provided**	**Net Area**
Waiting/Reception	150	(1 - 300 SF shared with Commission)	1	150
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print/Work Area	40	1 per 50 people	2.5	100
Supply/Storage	20	1 per 50 people	2	40
Quick Quiet Room	20	1 per 20 users	1	20
			Support Space Subtotal	**810**

Meeting Spaces	**Area**		**Provided**	**Net Area**
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10--12)	320	1 per 50 users - next to CA	1	320
X Large (20-22)	600	1 if over 40 occupants	1	600
Training	800	shared in common areas	0	0
			Meeting Space Subtotal	**1,240**

Special Spaces	**Area**	**Provided**	**Net Area**
Coffee/Break Room	96	1	**96**
			0
		Special Space Subtotal	**96**

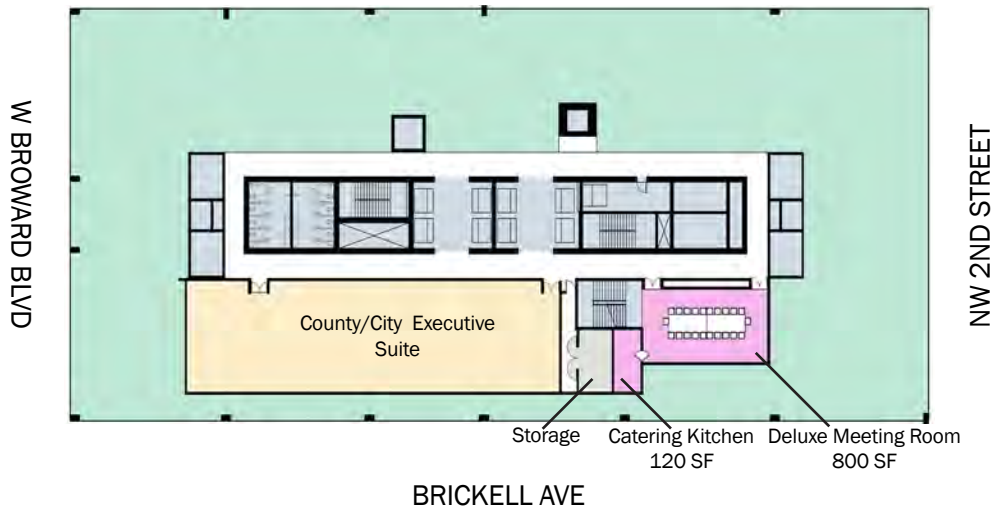
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**5,537**
Circulation	0.4		2,215
		Total Net Usable Area	**7,752**

Broward County and City of Fort Lauderdale

LEVEL 28

County and City Executive Suite and County Commission

Broward County and City of Fort Lauderdale County and City Executive Suite and County Commission



LEVEL 28

N

County/City Executive Suite

Deluxe Meeting Room Area: 800 SF and Catering Kitchen Area: 120 SF

Core Area

COUNTY/CITY EXECUTIVE OFFICE

Comments:
Located on the top floor of the Main Building Tower, the Executive Suite shall be planned as an assembly space for use by both City and County for special public functions and events including ceremonies, conferences and invited speakers and guests.

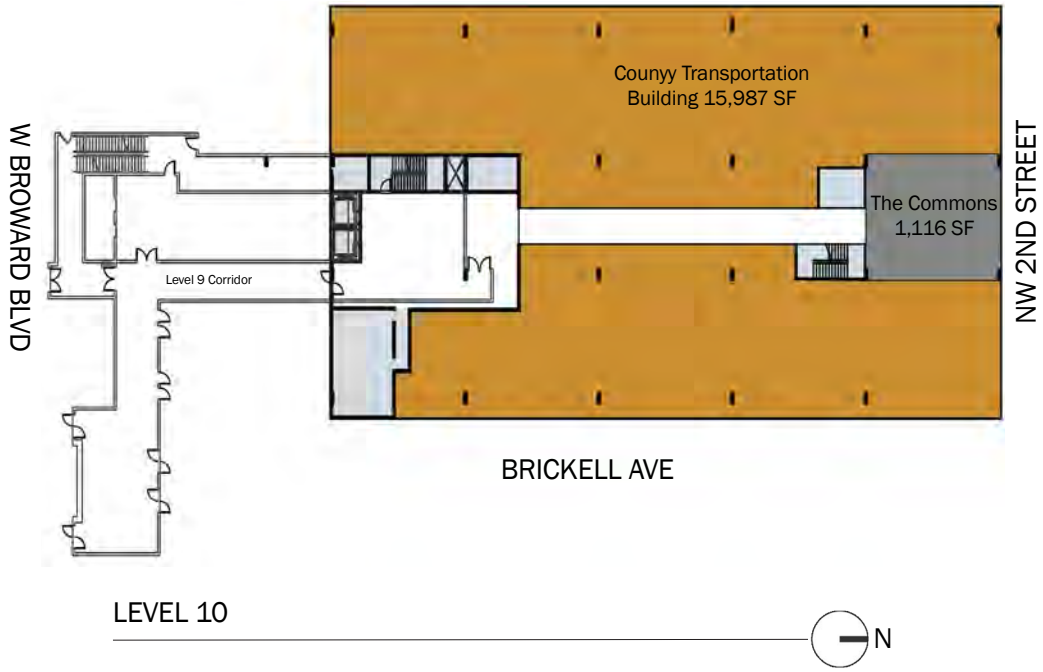
COUNTY COMMISSION

Comments:
As indicated in the DCP Concept Plan, a large conference room for County Commissioners with adjoining catering kitchen area, storage and connecting open stairs shall also be provided between levels 27 and 28. The remaining floor plate will be a green deck.

The City and the County have expressed a desire to maximize the amount of SF area allocated for this function on the Executive Suite level of the Main Building Tower. To accomplish this goal, considerations for reconfiguring the fire service access elevator to also serve as an occupant evacuation elevator should be considered as well as other potential strategies to increase usable SF area for desired functions.

Refer to Section 5.11 Life Safety for specific requirements regarding occupancy and egress requirements.

Broward County County Transportation Building



County Transportation Building Area: 15,987 SF (Overflow level 11,12,13)

The Commons Area: 1,116 SF

Core Area

COUNTY TRANSPORTATION BUILDING

County Transportation Deparment

Comment:

- Four groups will be moving to this location
  - o Administration
  - o Capital programs
  - o Service
  - o Strategic planning
- Staff meetings are weekly – about 120 people but some call in. Assistants and Interns as part of their Suite
- Professional staff requires confidentiality
- Training – can use shared training in JGCC.
- Most hiring or bus operations staff happens in the satellite garage locations.

Adjacencies:
Easy access to the Chamber

Approach:
Offices to support the Broward County Transportation Department will be located adjacent to the main JGCC building in a stand-alone facility in the footprint of the bus terminal.
The facility will house a variety of executive, legal, professional and clerical positions. An estimate of the space required is based upon the headcount submitted in the Programming Questionnaire submitted and in the Space Requirement Summary

NOTE: Due to the scale and complexity of the Transportation Department, we recommend a more in-depth study of program requirements in a subsequent phase

Department Name: County Transportation Offices

Future Staff	315
Current Staff	171

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	1		1	320
Executive Office	225	6		6	1,350
Office	150	20		31	4,650
Office	125	0		0	0
Workstation	125	100		75	9,375
Manager Workstation	100	39		142	14,200
Workstation	80	0		0	0
Workstation	64	0		55	3,520
Touchdown	48	5		5	240
		171		**Staff Space Subtotal**	**33,655**

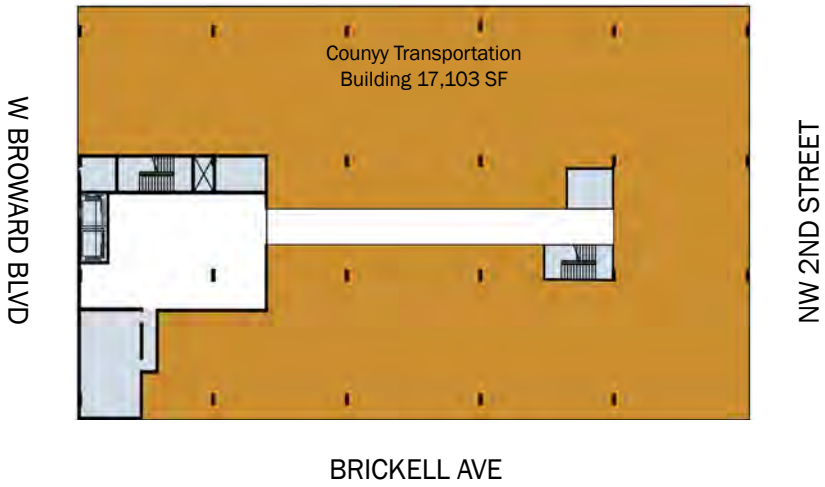
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	4	2,000
Print Station	10	1 per 20 users	16	160
Print/Work Area	40	1 per 50 people	6	240
Supply/Storage	20	1 per 50 people	6	120
Quick Quiet Room	30	1 per 20 users	16	480
			Support Space Subtotal	**3,200**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	12	1,440
Medium (6-8)	200	1 per 30 users	10	2,000
Large (10--12)	320	1 per 50 users	6	1,920
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	8	4,160
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	1	800
			Meeting Space Subtotal	**10,320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Training Equipment Storage	200	0	0
Service Counter	120	0	0
		Special Spaces Subtotal	**96**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**47,271**
Circulation	0.4	18,908
	Total Net Usable Area	**66,179**

Broward County County Transportation Building



LEVEL 11

N

County Transportation Building Area: 17,103 SF (Overflow level 12,13)

Core Area

Department Name: County Transportation Offices

Future Staff	315
Current Staff	171

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	1		1	320
Executive Office	225	6		6	1,350
Office	150	20		31	4,650
Office	125	0		0	0
Workstation	125	100		75	9,375
Manager Workstation	100	39		142	14,200
Workstation	80	0		0	0
Workstation	64	0		55	3,520
Touchdown	48	5		5	240
		171		**Staff Space Subtotal**	**33,655**

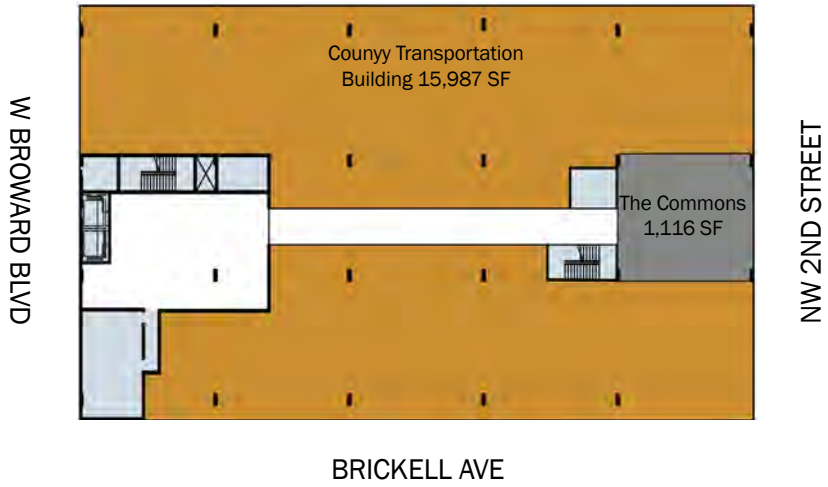
Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	4	2,000
Print Station	10	1 per 20 users	16	160
Print/Work Area	40	1 per 50 people	6	240
Supply/Storage	20	1 per 50 people	6	120
Quick Quiet Room	30	1 per 20 users	16	480
			Support Space Subtotal	**3,200**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	12	1,440
Medium (6-8)	200	1 per 30 users	10	2,000
Large (10--12)	320	1 per 50 users	6	1,920
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	8	4,160
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	1	800
			Meeting Space Subtotal	**10,320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Training Equipment Storage	200	0	0
Service Counter	120	0	0
		Special Spaces Subtotal	**96**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**47,271**
Circulation	0.4	18,908
	Total Net Usable Area	**66,179**

Broward County County Transportation Building



LEVEL 12

N

County Transportation Building Area: 15,987 SF (Overflow level 13)

The Commons Area: 1,116 SF

Core Area

Department Name: County Transportation Offices

Future Staff	315
Current Staff	171

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	1		1	320
Executive Office	225	6		6	1,350
Office	150	20		31	4,650
Office	125	0		0	0
Workstation	125	100		75	9,375
Manager Workstation	100	39		142	14,200
Workstation	80	0		0	0
Workstation	64	0		55	3,520
Touchdown	48	5		5	240
		171		**Staff Space Subtotal**	**33,655**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	4	2,000
Print Station	10	1 per 20 users	16	160
Print/Work Area	40	1 per 50 people	6	240
Supply/Storage	20	1 per 50 people	6	120
Quick Quiet Room	30	1 per 20 users	16	480
			Support Space Subtotal	**3,200**

Meeting Spaces	Area	Comments	Provided	Net Area
Huddle (3-4)	120	1 per 25 users	12	1,440
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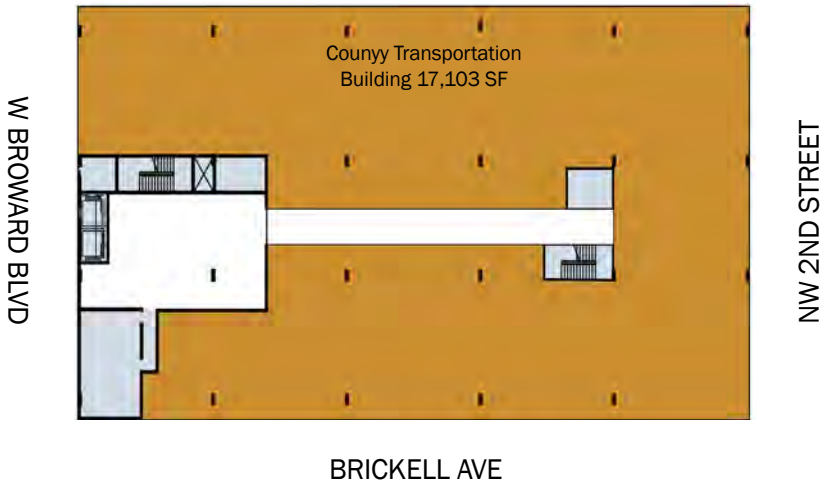
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	1	800
			Meeting Space Subtotal	**10,320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Training Equipment Storage	200	0	0
Service Counter	120	0	0
		Special Spaces Subtotal	**96**

Summary		
Subtotal (Staff+Support+Meeting+Special Spaces)		**47,271**
Circulation	0.4	18,908
	Total Net Usable Area	**66,179**

Broward County County Transportation Building



LEVEL 13

N

County Transportation Building Area: 17,103 SF

Core Area

Department Name: County Transportation Offices

Future Staff	315
Current Staff	171

Staff Space	Area	Current Staff	Comments	Provided	Net Area
Executive Suite	320	1		1	320
Executive Office	225	6		6	1,350
Office	150	20		31	4,650
Office	125	0		0	0
Workstation	125	100		75	9,375
Manager Workstation	100	39		142	14,200
Workstation	80	0		0	0
Workstation	64	0		55	3,520
Touchdown	48	5		5	240
		171		**Staff Space Subtotal**	**33,655**

Support Spaces	Area	Comments	Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
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Quick Quiet Room	30	1 per 20 users	16	480
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Meeting Spaces	Area	Comments	Provided	Net Area
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Large (10--12)	320	1 per 50 users	6	1,920
X Large (20-22)	500	1 if over 40 occupants	0	0
X Large (20-22)	520	1 if over 40 occupants	8	4,160
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	1	800
			Meeting Space Subtotal	**10,320**

Special Spaces	Area	Provided	Net Area
Coffee/Break Room	96	1	96
Training Equipment Storage	200	0	0
Service Counter	120	0	0
		Special Spaces Subtotal	**96**

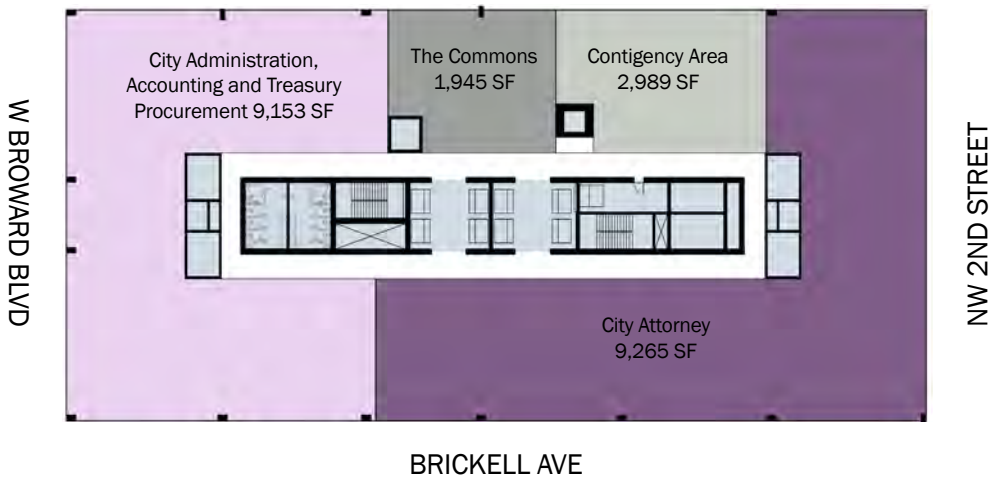
Summary			
Subtotal (Staff+Support+Meeting+Special Spaces)			**47,271**
Circulation	0.4		18,908
		Total Net Usable Area	**66,179**

Contingency Space - Option 2

In this scheme, the Contingency Area will be located between departments on the North side of the plate, extending to the East or the West depending on the SF of the Contingecy Area, and the space allowance. It could also be located on the West side, between Departments.

Levels 12, 16, 17, 19, 21, 22 and 23

City of Fort Lauderdale City Attorney, City Finance Administration, Accounting & Treasury, Procurement

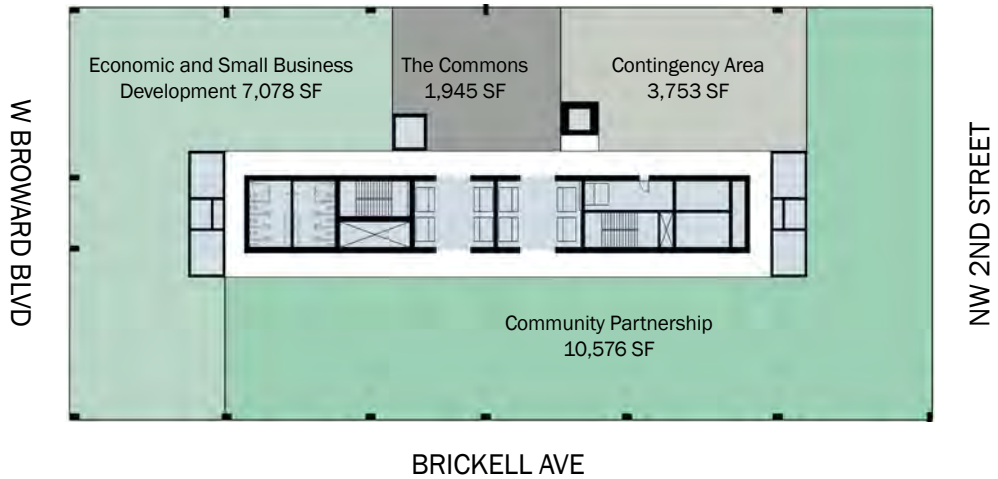


LEVEL 12

N

- City Attorney Area: 9,265 SF
- City Administration, Accounting and Treasury, Procurement Area: 9,153 SF
- Contingency Area: 2,989 SF
- The Commons Area: 1,945 SF
- Core Area

Broward County County Economic and Small Business Development & County Community Partnership

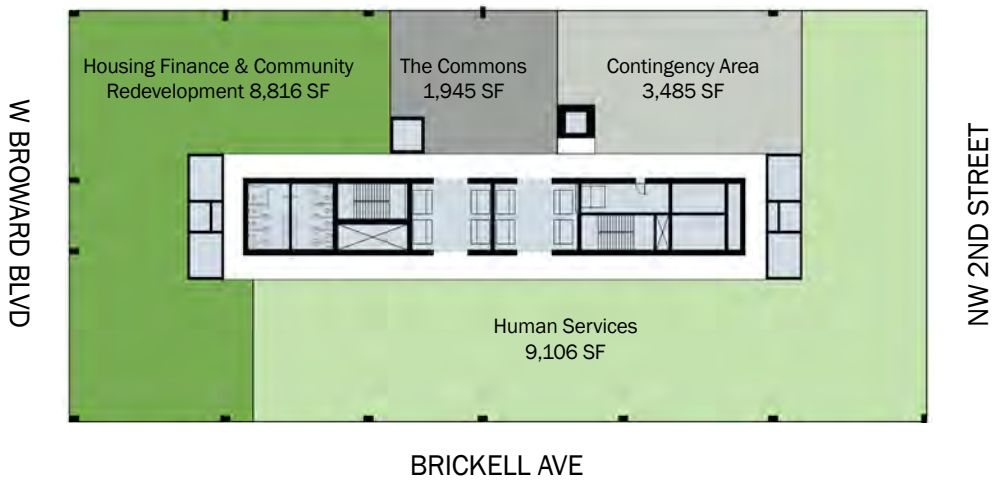


LEVEL 16

N

- Economic and Small Business Development Area: 7,078 SF
- Community Partnership Area: 10,576 SF
- The Commons Area: 1,945 SF
- Contingency Area: 3,753 SF
- Core Area

Broward County County Housing Finance & Community Redevelopment and County Human Services

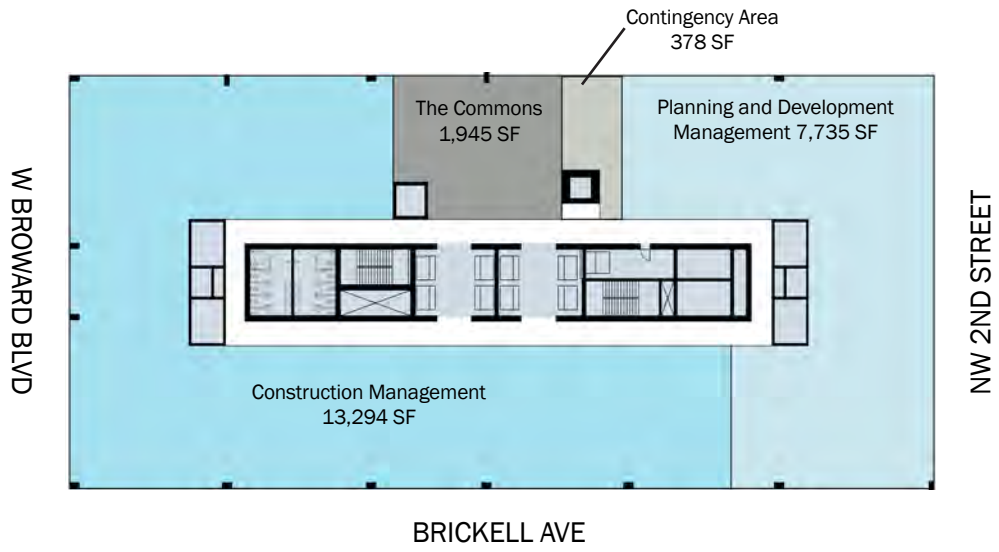


LEVEL 17

N

- Housing Finance & Community Redevelopment Area: 8,816 SF
- Human Services Area: 9,106 SF
- The Commons Area: 1,945 SF
- Contingency Area: 3.485 SF
- Core Area

Broward County County Construction Management & County Planning and Development Management

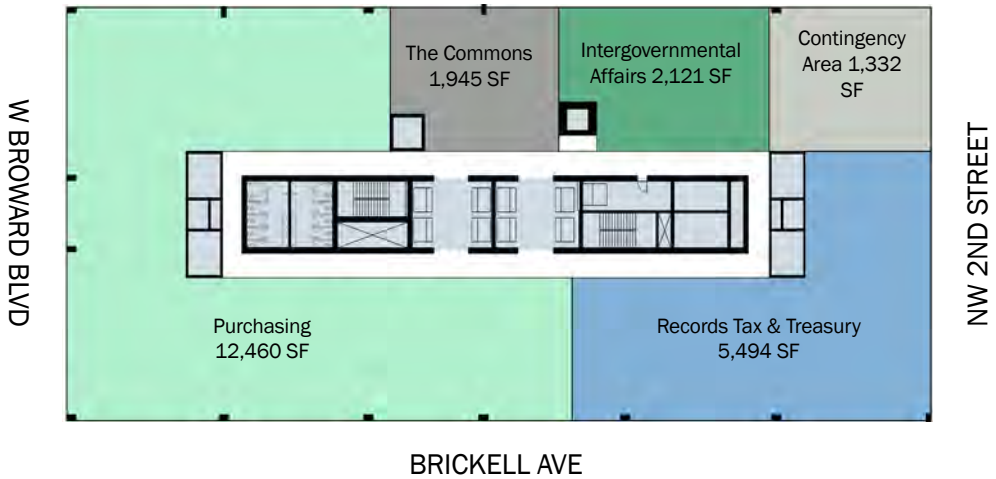


LEVEL 19

N

- Construction Management Area: 13,294 SF
- Planning and Development Management Area: 7,735 SF
- The Commons Area: 1,945 SF
- Contigency Area: 378 SF
- Core Area

Broward County County Purchasing, County Intergovernmental Affairs, County Records Tax & Treasury

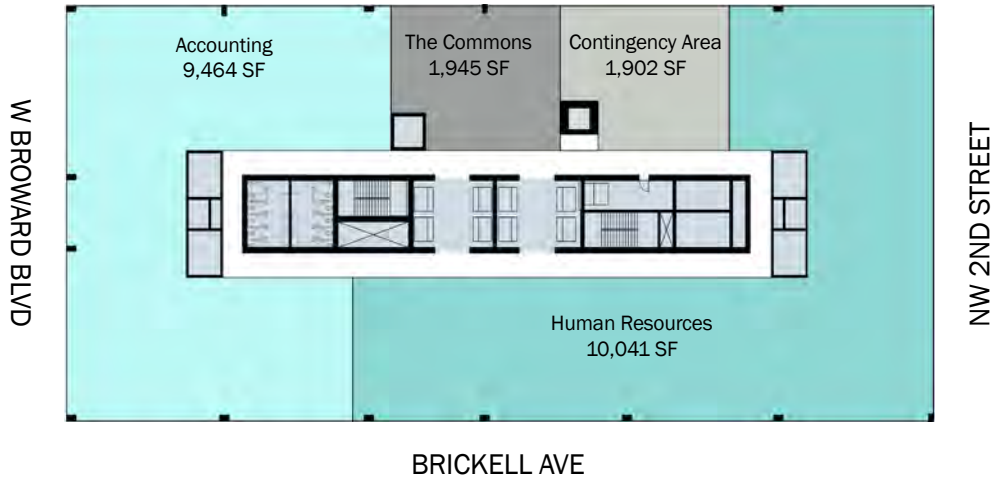


LEVEL 21

N

- Purchasing Area: 12,460 SF
- Intergovernmental Affairs Area: 2,121 SF
- Records Tax & Treasury Area: 5,494 SF
- The Commons Area: 1,945 SF
- Contingency Area: 1,332 SF
- Core Area

Broward County County Human Resources and County Accounting

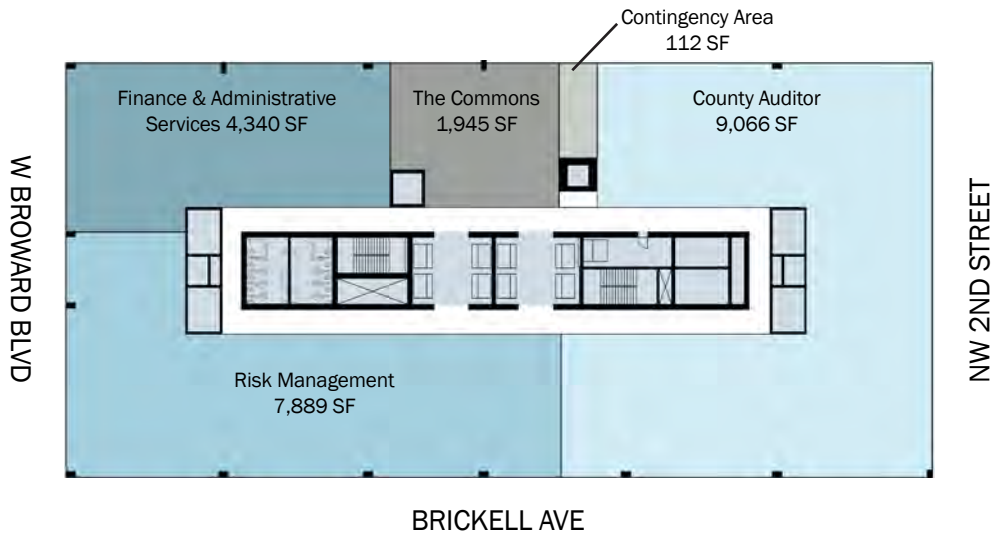


LEVEL 22

N

- County Accounting Area: 9,464 SF
- Human Resources Area: 10,041 SF
- The Commons Area: 1,945 SF
- Contingency Area: 1,902 SF
- Core Area

Broward County County Finance & Administrative Services, County Auditor and County Risk Management



LEVEL 23

N

- Finance & Administrative Services Area: 4,340 SF
- County Auditor Area: 9,066 SF
- Risk Management Area: 7,889 SF
- The Commons Area: 1,945 SF
- Contingency Area: 112 SF
- Core Area

DCP

APPENDIX B

JGCC Program | Workplace Guidelines and Standards

BOOK 3 | SEPTEMBER 14, 2020

APPENDIX B | WORKPLACE GUIDELINES AND STANDARDS

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Appendix B | Workplace Guidelines and Standards

PLACEMAKING FRAMEWORK

FINDINGS DURING THE DISCOVERY PROCESS:
Critical insights were identified:

The City and The County have similar cultures and the future goals of both agencies were very similar. Same Tasks, same Values were identified and they both engage in the same kinds of behavior and tasks. Both require a balance of collaborative and focus spaces.

The participants expressed the desire for opportunities of interaction between The City and the County, a good balance between the image of the new JGCC with the value, a desire to improve the Resident experience and to create a great Employee Experience through amenities, great technology and a balance of spaces.

Culture and Mission:
They value an organizational move towards more Leading-Edge, Strategic, Intra-Team and Egalitarian.
Culturally, create more opportunities for Collaboration and Creativity

Talent Development and Growth:
Desire for the workplace to be a place where the employees have opportunities to grow in their careers.
Innovative thinking and leadership will ensure spaces will be used.

Recommendations:
Collaborative areas with integrated technology for sharing.
Training Spaces with formalized training programs.
Comfortable rooms for 1:1 conversation.
Formal organizational recognition.

Messages to Citizens:
Indicate that a break from conventional thinking about government is desired

A balance of a bold statement through design and wise spending is critical

Recommendations:
Invest in sustainability, energy efficiency and flexibility for a building that will have longer term life-cycle benefits
The building should be a beacon for the level of expertise and community focus of the organization

Resident and Visitor Experience
Lack of way-finding was identified as a key theme and opportunity in the future location

Ease of access to the building and parking will need to be improved.

Recommendations:
Interactive and dynamic way-finding, treat like an airport

Easy access to transaction windows or payment kiosks from the entry or resident parking areas

Hospitality focus, the visitor journey to be at the center of the design process

Employee Experience
Employees desire transparency, collaboration, and more progressive work practices

Comfortable environments are key –natural light & temperature

Recommendations:
Integrate glass while still considering security between public and non-public areas

Locate workstations adjacent to the perimeter to optimize natural light

Integrate wellbeing & sustainability measures as much as possible

Workplace settings
High-level of dissatisfaction with distractions and variety of spaces.

Too few conference rooms

Improve the ability to collaborate

Private offices are not consistent in size or configuration
All offices on the perimeter, block natural light and create a "maze" of hallways

Recommendations:
Height Adjustable work surfaces

Workstations and neighborhoods on the perimeter glass

Provide space settings for privacy

Glass fronts on offices

Offices off the perimeter glass

Right sizing offices was interpreted as creating whatever size office meets the individual's need

Provide standard for offices

Provide enclosed, sound-proof spaces for focus work and private conversations for all employees regardless of their tenure or space assignment.

These recommendations call for providing additional conference rooms and introducing Focus rooms and Quick Quiet rooms.

Provide smaller conference rooms for impromptu meetings

Provide open collaborative settings like team tables and open booth seating spaces to support knowledge-share and mentorship.

GUIDELINES AND RECOMMENDATIONS

MISSION & PURPOSE
The JGCC work environment must connect employees to both the City and County's histories, values, residents and future. By connecting employees to the mission of the both organizations, they can see their work in a larger context, are more loyal, and become mission ambassadors wherever they go.

CONNECTION TO MISSION – BRAND PROMISE
Both the City and County have logos and established colors. These should form the basis for a "Look Book" that establishes a set of workplace branding standards that incorporates not just the City and County logo in the workplace but what it means to work at such an historically successful and forward-thinking organization.

The "design language" or methods by which the look and feel of the space is expressed should be integrated into to the design by the architect. This could include art, environmental graphics, color, texture, form and materials.

OBJECTIVES AND GUIDING PRINCIPLES
Following are the guiding principles defined during the Findings and the Boldness Exercise with the Steering Committee, Focus Groups and Individual Interviews.

Define Public vs. non-public spaces. Establish security perimeters so that the public access is balanced with employee needs and that the employee work areas are non-public.

Create an amenity rich workplace, with healthy foods at the cafeteria, great parking access, find and see colleagues easily and promoting collisions within the spaces. Great coffee and snacks selections in vending machines at communal kitchens, Wellness and Mother's Rooms and Fitness and Health Centers.

GUIDELINES AND RECOMMENDATIONS
The space guidelines that follow are intended to be used as a toolkit that a space designer can use as the basis for creating a work environment that will support the culture and work behaviors desired by the leaders and employees of the City of Ft. Lauderdale and the Broward County in the new JGCC.

These are guidelines. This is not a detailed architectural program or an over-dictation to the designer. There remains a need for the architect to be creative and respond to new information and building realities. These guidelines inform, but do not replace, the need for detailed programming and design.

As the project progresses, these guidelines will assist the design team to develop plans that reflect and enable the cultures desired by the City and County.

The key themes identified through the Discovery process with the teams of Broward County and City of Fort Lauderdale, should translate into the future Joint Government Center Campus and the holistic workplace.

EXPERIENCE

The experience of visiting and working at JGCC must be supported by the foundation of the Look Book. This experience is not just driven by branding. It is also influenced by management, behavior modeling, leadership support, workplace design and organizational structures.

Using the intended experience as the basis, Appendix D will specify how the JGCC brand will support both the resident and the employee experience.
For the Residents and/or visitors, following are the areas where design will influence the experience:

- The Entry experience must be easy to Find, Welcoming, Helpful, Safe and Professional whether to are visiting the City or the County. It should be accessible for the visitors that want to have a personal experience visiting a Central Desk or for the ones that rather navigate their needs through technology, via kiosks or self-service stations.

- Navigation and way-finding – screens, way-finding and signs should make it clear which steps to take to make the most of the resident/user experience. Clarity is key.

- Hospitality mentality – There should be an attitude of service, caring and professionalism. Like a hotel lobby, the JGCC is the portal for public services, especially for the City.

- Simple and welcoming access through the facility - Many visitors will need to go further into the facility for meetings or longer conversations. How a resident gains access must be clear, simple and fast, while still meeting security requirements.

- Satisfaction – After a resident conducts their business at the JGCC there should be a way for them to share the quality of their experience. Consider satisfaction surveys. The intent is to help residents feel cared for and for the City and County to learn and adjust practices.

- Secure - Incorporate high levels of personal and facility security while still maintaining an open and inviting atmosphere.
- Various levels of secure access

For the Employees, following are the areas where design will influence the experience:

- The Entry experience should be also Welcoming, Exciting and Professional, Open and Bright, Secure and with a sense of Collaboration.

- Destination Strategies – Implement strategies to get people up, moving, and encountering others they may not in a regular day:

  1. Central Kitchen Commons: One place per floor for coffee, CCTV, healthy snack options, and comfortable seating
  2. Consolidate functional resource spaces like print/copy stations and storage within the departments
  3. Consolidate waste streams like recycle, shredding and trash to reduce diversion rates, to create operational efficiencies and to get people moving more regularly
  4. Navigation and Way-finding – screens, way-finding and signs should make it clear where spaces, people, and resources are located. Clarity is key. Locate elements in the same place on each floor, as it has been done in the Commons. Where amenities are to be reserve, a scheduling app should be available. Wellness and Mother Rooms, Phone Booths and “the Commons” meeting areas that are available to staff.

- Navigation and Way-finding – screens, way-finding and signs should make it clear where spaces, people, and resources are located. Clarity is key. Locate elements in the same place on each floor.

- Hospitality Mentality – There should be an attitude of service, caring and professionalism. Consider social spaces that are central, open and welcoming.

- Proactively Understand Impacts of the Workplace – Consider satisfaction surveys or other measurement methods. The intent is to better understand how well the workplace and technology is serving the needs of employees, to learn and adjust practices over time.

KEY THEMES FOR A NEW WORKPLACE

PRODUCTIVITY:
Accelerate Human Performance

- Minimize disruption: both acoustical and visual. Define zones and provide settings for active and quiet work.
- Provide a wide range of setting types - formal and informal, open and enclosed, furniture with varying postures, collaborative and focus, small workspaces for short term privacy needs, social and rejuvenating.
- Provide an ergonomically supportive, physically comfortable, safe environment. This to include height-adjustable desks, chairs etc., better temperature control, adequate lighting levels, and better control and security in non-public zones.
- Integrate natural daylight for all wherever possible, access to the outdoors is also desired.
- Encourage active behaviors and interaction by getting people up and moving. Think ergonomic furniture, more and shorter breaks, access to exercise, destination strategies, etc.
- Creating a sense of belonging through the integration of shared organizational values and mission statements, community spaces, and informal gathering areas.

TECHNOLOGY IN THE WORKPLACE
Because the Joint Campus Center will not be built for several years, the design team must be forward thinking in developing a workplace technology strategy that will be suitable in the years to come.

JGCC employees will continue to work more flexibly and independently in the future, both inside the office and outside. IT tools and infrastructure must enable this internal and external mobility.

Recommendations:
- Remote access to documents and applications
- Strong teleconferencing tools and technology to stay connected when separate
- Digital conference room reservation system that ties into Outlook calendar scheduling
- Consider demonstrating new relevant technology in the main lobby that is used by residents of the City and County.

To enable employees to work in different settings throughout the JGCC workplace, electronic access to systems and files must be easy, quick and secure. Employees that work with laptops must be able to take them with them when they switch between workplaces and be able to quickly open documents at all workplaces, regardless of the seat they have been assigned.

INNOVATION AND COLLABORATION:
Create Connections to Drive the Organization Forward

- Make it easy and natural to share information and work with other divisions (informal & formal)
- Promoting idea-sharing, brainstorming, regular share-out of best practices
- Leverage technology (plug-n-play, virtual, access to content sharing)
- Support key adjacencies between departments
- Open and transparent – implement glass where possible
- Infuse opportunities for learning, coaching and mentoring
- Dynamic, central, shared social zones with attractors like great coffee, comfortable seating, views, and entertainment features like TV's or interactive kiosks.

ENHANCE EFFICIENCIES AND SUPPORT ADAPTABILITY OVER TIME

- Right size the size of the building floor plates to enable better adjacencies, more planning flexibility and sharing of common amenities.
- Minimize variations in private office and workstation size and design to allow for easy reconfiguration as requirements change.
- Implement neighborhood or zone planning principles to provide equitable distribution of space settings, resource spaces, and social areas.
- Position for the future through modularity, grid planning of spatial components.
- Universal planning and standardized kit-of-parts for flexible reconfigurations.
- Create multi-purpose spaces that serve different purposes throughout the day.
- Develop a technology and infrastructure strategy to ensure the building has the capabilities to support future needs.
- Components are consistent in size as to easily configure from one setting type to another.

The technical infrastructure of the office needs to facilitate this flexibility. This means that network cabling and robust, reliable Wi-Fi are necessary conditions to facilitate working on-line and in different places within the JGCC working environment.

The data collected in this study provides clear guidance for the workplace and space requirements for a new joint government center campus.

- Remote access to documents and applications
- Strong teleconferencing tools and technology to stay connected when separate
- Digital conference room reservation system that ties into Outlook calendar scheduling
- Consider demonstrating new relevant technology in the main lobby that is used by residents of the City and County.

WELLNESS PRINCIPLES
The following principles should be included in the design of the new campus:

ACCESS TO NATURAL LIGHT
Keep full-height rooms away from the exterior glass as much as possible to allow natural light to penetrate the interior.

GLASS INTERIOR WALLS
Where full height-walls are needed, use glass to allow natural light and visual connection to the rest of the space. While unfrosted glass is preferred, privacy or distraction banding 24 48" in height and 24" above finished floor for visual privacy.

RESTORATIVE SPACES
Zone open areas for active/noisy and quiet work.

SOUND MASKING
Consider a white noise system to mask noises and conversations. This may not be necessary as voice conversations can sometimes, themselves, create a white noise. Refer to Appendix "F" for recommendations.

ALL & VARIED CEILINGS
Consider a variety of ceiling heights and styles to create variety.

ACCESS TO HEALTHY FOOD OPTIONS
Ensure access to healthy food choices.

VARIABLE HEIGHT WORK SURFACES
Provide height-adjustable work surfaces in all offices and open workstations.

POWER AT THE DESKTOP
Provide power/USB outlets and network ports at the workstation surface for ease of access.

NATURAL MATERIALS AND COLORS
In addition to City and County logo colors, use natural materials and colors (blue, green, brown) in key common areas.

FITNESS CENTER
Provide an employee fitness center.

PUBLIC ACCESS AND SECURITY / SAFETY CONSIDERATIONS

Security of personnel and building is a critical design component of the Program.
Security concerns that were most often voiced in the Questionnaire responses and the interviews concerned public access to the workspaces, as well as the ability to easily exit the workspace in case of a personal attack. We discuss each of these concerns below. Specific technical recommendations will be made by the project's security consultants.

PUBLIC ACCESS
It is recommended two tiers of security. Currently it is very easy for members of the general public to enter the departmental workspaces in both City and County buildings, at least to the lobby or external corridor of those spaces, although there are key card systems in place to limit access to workspaces off of the lobbies and corridors. However, this system also inhibits the movement of government personnel from entering and interacting with other departments.

Public visitors come to the City and County for several distinct reasons:

1. To obtain a document or service: This includes at various bill paying activities with the City. The City also plans to locate the Building Department at the JGCC and although the permitting process is going on-line, this will likely generate foot traffic and require service counters. Public visitors to the County come for US Passports, and to access or review documents.

2. To attend a formal meeting for which they are an invited participant. This includes task forces, advisory committees, vendors, and other regularly scheduled meetings.
3. To observe, and potentially interact ad hoc, in a public meeting.
4. Individual or small group meetings with government personnel regarding programs, funding, research, or other concerns.
5. Candidates for job interviews.

As many as possible of these activities should take place on Lower floors where there is a single point of access screening for all non-employees entering the building. In addition, City and County government employees who work in other government buildings or in the field may have reasons to enter JGCC administrative offices for either meetings or for individual needs. The design should consider a separate check-in security desk (or one each) for City and County employees who have current Identification badges, so that they are not caught up in the more thorough public screening.

For those members of the public who have appointments with government employees within the administrative building envelope, should also have to report to a second level screening where the person they are visiting is called and the meeting is personally confirmed. It is our recommendation that the person then has a physical escort to the space, but the design and details of that process are the responsibility of the Security consultant

Departments with high or frequent public interaction include:

County
1. Commissioners
2. County Administration
3. Attorney
4. Office of economic and small business development
5. Housing Finance
6. Human Services administration and Community Redevelopment
7. Purchasing
8. Human Resources
9. Records taxes and treasury

City
1. City Manager
2. City Commissioners
3. Finance – Utility billing
4. Sustainable Development
5. Transportation and Mobility

The City currently has Service Counters for 1) tax/licensing/water, 2) utilities, and 3) business tax payments. The County has a service area for processing Passports.

The proposed program contains these elements to address public access:

- Service counters for both City and County are programmed for the main floor.
- Part of the City's Sustainable Development Department – those involved with permitting and high levels of public interaction should be considered for a main floor "storefront".
- The County's Economic and Small business Development and Human Services departments are located on lower floors in the proposed stacking.
- Task force meeting rooms and other large meeting rooms are provided on the main floor. Participating government employees should come from their office and hold these public involvement meetings on the main floor.
- Small meeting/huddle rooms are provided on the first floor. These can support one-one-one meetings, job interviews and other activities if the department prefers not to have the visitor within their department area.
- Detailed programming regarding the amount and placement of these meeting/conference rooms will be further pursued in the design development stage.

CONCEPTUAL LEVELS OF SECURITY		
Level one A	Visitor screening to Main floor of building complex for Commission meetings, service counters and other Main floor meetings	Visitors are given a badge or other technology which shows their level of access
Level one B	Employee screening – with badges who work in the building	Should there be one shared or two – once each for City and County employees
Level two A	A second screening area for visitors who have appointments with government employees working within the administrative office envelope. This controls access to the building elevators, past the Main floor.	These visitors are escorted to their meeting by their host or an administrative assistant. OR they are directed to the floor and then interact with a floor receptionist.
Level two B	Security screening for government employees who do not work in the building but have proper ID.	
Level three	Floor receptionist who manages floor core activities	

Security concerns within the administrative office space
Concerns about personal safety within the space were also voiced. Requests were made for video monitoring of corridor spaces, panic buttons at reception areas, multiple means of egress in departments and large conference rooms, multiple means of egress in Commissioner's offices, and card access. Some secure filing areas were highlighted. Garage security was also noted.

Open sight lines, clear walls, and large open spaces need to be balanced with shelter-in-place and emergency egress requirements – these issues will be addressed in Design Development.

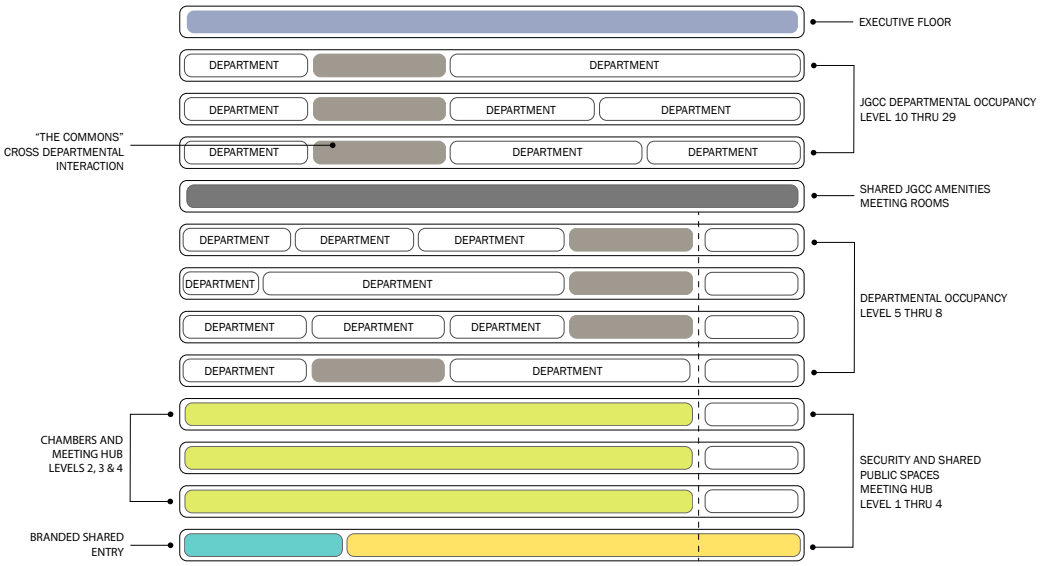
DEPARTMENTAL SPATIAL AND PLANNING PRINCIPLES

The Building Principles
The building should be viewed as a vertical Joint Campus for Broward County and the City of Fort Lauderdale. The Building should provide opportunities for interaction between floors and amongst departments and agencies. With 8 Levels dedicated to the City and 11 Levels dedicated to the County, sitting above 4 Levels of shared Entry Point, Security and shared Public Interface, City and County Chambers, and The Conference Hub or Conference Axis, comprised of 13 large Meeting Rooms and areas of social interaction, located on Levels 2, 3, 4 and 9. Common shared spaces and employee dedicated functions – **The Commons** - are located at each office level, to encourage the employee to use the building as an extension of their workplace.
Wellness and Fitness Center, Cafeteria and Meeting Rooms are located at Level 9 with access to outdoor terraces.

Departmental placement
Stacking Plans are based on an average of 22,519 USF floor plate (excluding the core) for levels 5 through 8 and 23,352 USF floor plate (excluding the core) for levels 10 through 29. The stacking plans illustrate the potential vertical distribution of departments for both agencies and the location of the shared amenities (for now branded as "The Commons"). The County requiring 11 levels and the City requiring 8, possibly 9 levels.

Floors 5 through 8 - 22,519 SF
Floors 10 through 29 – 23,352 SF

Building Spatial and Planning Principles Diagram



Adjacency Analysis and Stacking Scenarios
Levels of interaction to be integrated into the building envelope.

- Interactions within a department
- Interaction between departments
- Interaction with outside of County or City personnel regarding formal citizen participation on boards, committees or other formal consultations
- Interaction with individuals or small groups of citizens on an ad-hoc basis.

Interaction within a department
The new site will allow for larger floor plates than the City currently has, and with more contiguous open space that most parts of the County's current facility, which is divided up with multiple corridors.

Interaction between departments
Detailed interdepartmental adjacencies are presented under the Adjacency Analysis.

Individual department adjacency requests are also documented in Appendix A – Program Adjacency Analysis.

Adjacency analysis and stacking scenario
Adjacency optimization and placement within stacking scenarios were developed in multiple stages. The interdepartmental relationship is based on responses to the questionnaire, the findings of the Workplace Survey and it relates to the floor size provided.

Vertical distribution of departments is based on the degree to which the department has frequent public visitors. Also, Departments with higher degree of interaction where located within adjacent floors.

An amenity area has been carefully placed at the majority of the levels to promote social interaction between departments and agencies.

FLOOR PLANNING PRINCIPLES

THE FLOOR - LEVEL

Consider each floor – Level- an opportunity to create a coherent branded arrival experience and for allowing departments to co-live and collaborate. Elements on each floor should include uniform and intuitive branding with components that are unique and represent the departments on the floor.

THE CORE

The Core is centrally located within the floor plate, with 2 banks of elevators serving visitors and employees, restrooms and building support area. Elevator landings are visually connected to a common floor Lobby/Reception/ Waiting that serves as a branded greeting point for employees and visitors. A special treatment is recommended for the walls, that is durable and that becomes a design feature. Security requirements should be reviewed and implemented as required per each individual department. Application of way-finding to identify internal staff traffic versus visitors' traffic.

THE COMMONS

"The Commons" is an area or hub dedicated to employees with a central coffee and snack lounge, work zones, wellness/mother room and an extra-large divisible conference room. The place to connect with the buzz, for chance encounters and with a Reception/Waiting area for visitors to be greeted and directed to their final destination.

The Behaviors concentrated on community exchange activities, team building, and re-energizing activities' hub.

Common Tasks: eating/drinking, sharing and networking

Located facing West with proximity to the main core of each office floor plate, with natural light, transparency and great views and natural light, a variety of comfortable furniture configuration, data and power for easy "plug and play", large monitors for presentations and good acoustics, the space is intended to bring people together throughout the day for coffee breaks, individual or group lunches and potential all-hands meetings. The Meeting Room could be used as an extension of the Departments.

It will also be the first touch point for visitors and employees when they land at each level. This will repeat at every floor and should be used to express the branding of the departments located on that floor. The brand could be expressed through color, environmental graphics, art or through the expression of the design different on each level. Materials, patterns, textures and graphics will characterize every floor.

THE CORE "PROGRAM":

Café Lounge Commons
750-1,000 SF average depending on the Level

Shared Floor Lobby/Reception
280 SF
Wellness/Mother Room
120 SF
Extra-Large Meeting Room (divisible)
520 SF

25% Circulation	**430SF**
Total	**2,100 SF – average**

In some instances, some of these amenities will have to be reduced in order to appropriately place a Department on the assigned Level.

SIZE PER LEVEL	5th through 8th at 2,433 SF 10th Level through 27th Level at 1,945 SF

WELLNESS AND MOTHER'S ROOM

Mindful spaces that enhance the employee experience and support both their personal end functional needs.

Design elements for these spaces should include:

- Adjustable lighting
- Acoustic properties
- Comfortable furniture
- Ergonomic Support

CAFÉ LOUNGE/COMMONS

Social setting. Behaviors concentrated on community exchange activities, a place to buy for snacks, good coffee, networking and sharing and interacting with peers or relax and recharge. Areas for individual relaxation, re-charge or quiet reflection.

Design elements for these spaces should include:

- Natural Light
- Spacious setting with a variety of grouping and seating types
- Snacks vending machines
- Coffee
- Technology

MEETING ROOMS AND OPEN COLLABORATION

- Consider technology to share, call and video conference.
- Make all technology wireless, intuitive, reliable.
- Provide whiteboards in all collaborative areas.
- Consider zoning, size, and partitioning when planning

open collaborative settings.
- Configurable furniture is best.
- Areas for spontaneous collaboration
- Comfortable and functional
- Well considered acoustical properties and mindful of proximity to workstations
- Ideation and designing – writable surfaces
- Optimizing the nooks and crannies, off the beaten path

WORKPLACE SPACE TYPOLOGY

Guiding Principles

The goal of the new JGCC workplace is to create an environment that encourages collaboration and employee engagement, regardless of hierarchy, leading to productivity and higher levels of service to residents.

The design of the new workplace should include key improvements

Increase variety of workplace settings:
- There is a need for enclosed, sound-proof spaces for focus work and private conversations for all employees regardless of their tenure or space assignment.
- These recommendations call for providing additional conference rooms and introducing Focus rooms and Quick Quiet rooms.
- Many smaller conference rooms must be provided.
- Open collaborative settings like team tables and open booth seating provide spaces to support knowledge-share and mentorship.

STRATEGIES TO ENHANCE NATURAL LIGHT PENETRATION, AS WELL AS EFFICIENCIES IN ROOM SIZE AND CONFIGURATION ARE IMPORTANT:

Transparency and glass on interior walls
- Most interior walls will be glass to allow natural light into all occupied spaces.

Better, efficient support/storage spaces:
- Consolidate business supplies and print/copy locations to create efficiencies and support paper reduction. These can be either locked rooms or cabinets on the floor. Space has been allocated for storage in the program.
- Provide better storage solutions, either open or enclosed.

Reduce hard wall spaces on exterior glass:
- Most high wall elements will be built away from the exterior glass. Locate social zones and iconic conference rooms here instead.

Standardize the workstation & room sizes:
- Less variation in room and workstation sizes will provide more flexibility.
- Variation can also occur in panel heights and furniture outfitting.

CAREFUL PLANNING OF COLLABORATIVE AND FOCUS SETTINGS AS WELL AS VARIATION IN POSTURE TYPES IMPROVE EFFECTIVENESS FOR DIFFERENT TEAMS.

Balance active & quiet zones:
- Quiet and active (noisy) zones will be established in the open work area to accommodate different work styles and activities.
- Social zones like the Kitchen Commons to be placed near the primary landing area and serves as the “front door” as to drive casual collisions.
- Quick Quiet Rooms to be oriented to neighborhoods to ensure easy access for private conversations.
- Take advantage of the nooks and crannies for touchdowns or other open collaborative settings as to not disrupt work in the primary work areas.

Height-adjustable solutions for all
- All workstations and offices will be adjustable height work surfaces, including the return in an “L” shaped workstation.
- Low visual screen panels to be attached to the work surface and will raise and lower with the surface.
- Settings to include different surface heights and seat postures to support both formal and informal interactions.

CLOSED FOCUS
- Offices are located adjacent to the internal core with storefront glass to allow natural light into the office. Allowing the open office being in the center of the workspace.
- Offices to have storefront glass to enhance daylight.

OPEN FOCUS

- The panel heights and storage elements of each station can vary based on division preference or requirement.
- Adjustable height work surfaces.
- Quick Quiet Rooms and Focus Rooms that are not to be reserved and can be used by anyone, anytime.

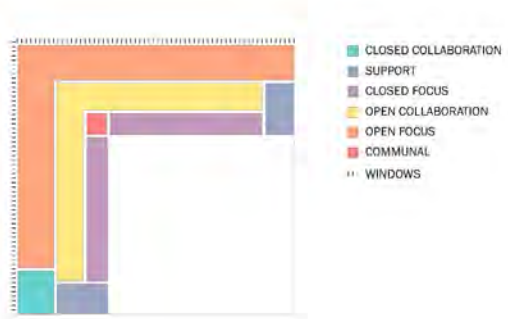
DEPARTMENTAL ZONE BLOCKING DIAGRAMS

Based on the department needs and in order to maintain the Interaction within a department and its members, the location of the enclosed areas versus the open areas should be carefully studied to protect the daylight transmission, the views and the proper adjacencies between the uses.

Implementing neighborhood or zone planning principles to provide equitable distribution of space settings, resource spaces, and social areas. Position for the future through modularity, grid planning of spatial components.
Universal planning and standardized kit-of-parts creating zones for flexible reconfigurations.

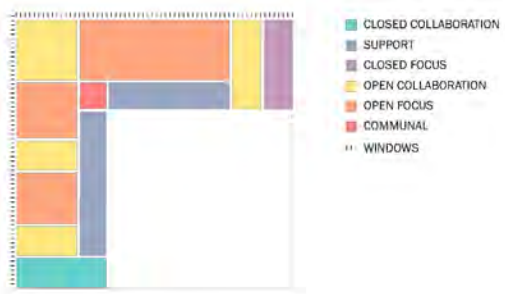
ZONING BLOCKS

Neighborhoods variations



Neighborhoods can be connected in various ways. More private areas can create visual privacy and open areas create a brighter spacer.

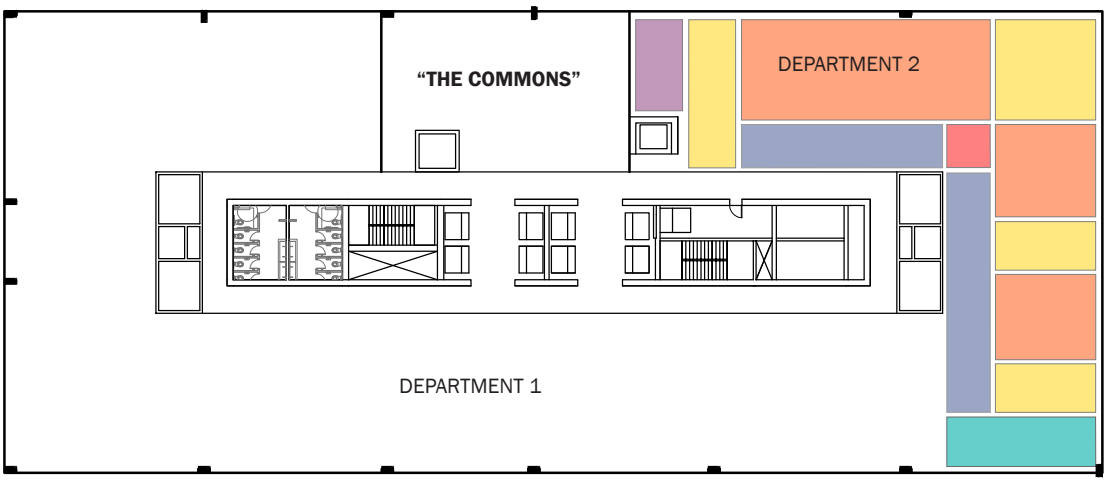
Collaboration areas could be by exterior walls to bring scale down from the inner side of the space and allow natural light to come in.



Layering the workstations with collaboration areas, promotes idea sharing and supports teams quick updates.

ZONING BLOCKS DIAGRAM

Application Diagram



TYPICAL FLOOR

Application Diagram

LEGEND

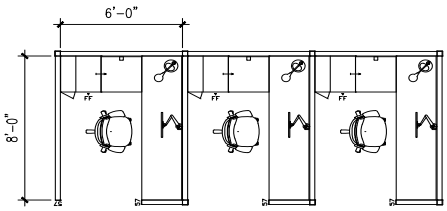
- CLOSED COLLABORATION
- SUPPORT
- CLOSED FOCUS
- OPEN COLLABORATION
- OPEN FOCUS
- COMMUNAL
- WINDOWS

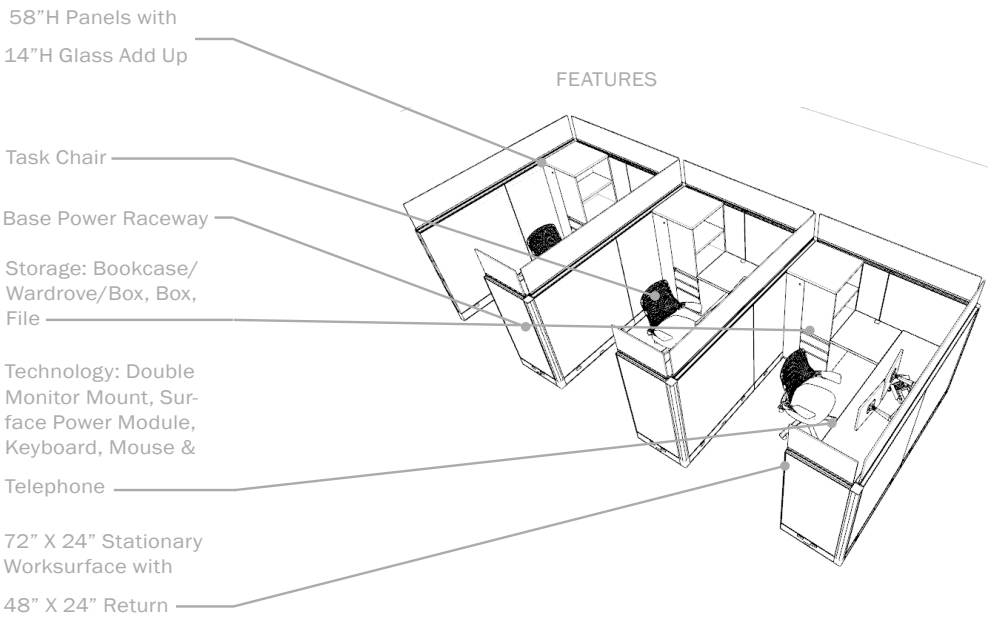
SPACE TYPES

TOUCHDOWN STATION: 48 SF

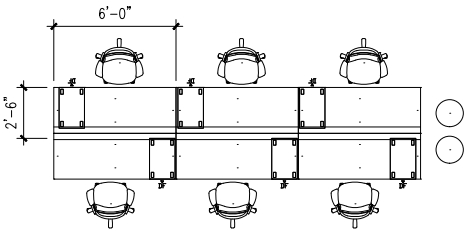
OPEN FOCUS - WORKSTATION

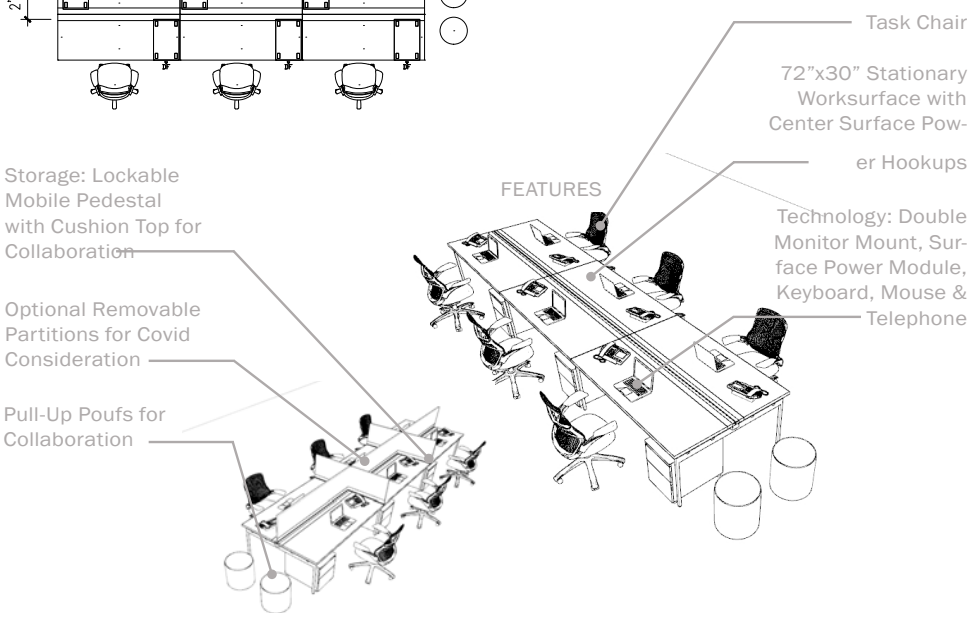
SUBTYPE A: ENCLOSED TOUCHDOWN (PRIVATE OPTION)





SUBTYPE B URBAN DESKING / COLLABORATIVE OPTION





STAFF SPACE:
Interns
External Auditors
Volunteer Positions
Visitors

AREA
48sf allocated per station
Subtype A: 6' x 8'

Subtype B: 6' Wide

worksrufaces

KEY FEATURES
DESIGN CRITERIA

Packs of 2-6 workstations should form a neighborhood

Orient touckdown stations to exterior perimeter to take advantage of natural light

Finishes: Laminate worksurfaces, Painted metal frames and storage, acoustical fabric panels

COVID CONSIDERATIONS

6' between seats

Partitions to be wipable laminate outer with acoustical antimicrobial fabric interior

14"H Glass Add Up for Subtype A; Subtype B optional

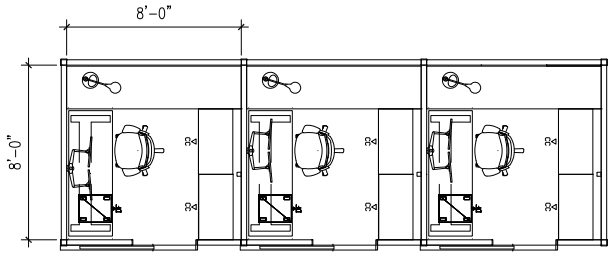
Task seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

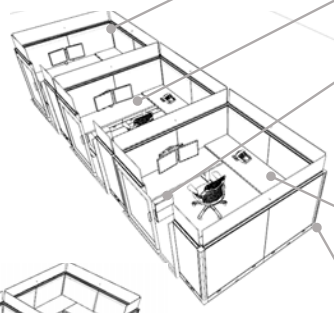
MEDIUM WORKSTATIONS: 64 SF

OPEN FOCUS - WORKSTATION

SUBTYPE A: ENCLOSED WORKSTATION WITH SLIDING DOOR



FEATURES



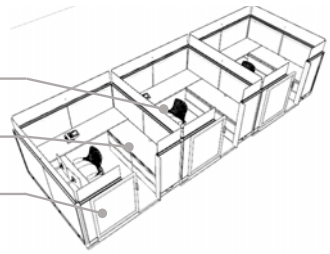
58"H Panels with 14"H Glass Add Up

70"x24" Adjustable Height Desk

Mobile Pedestal Box/ File with Cushion Top for Visitors

96" X 24" Stationary Worksurface with 72" X 24" Return

Box Power Raceway

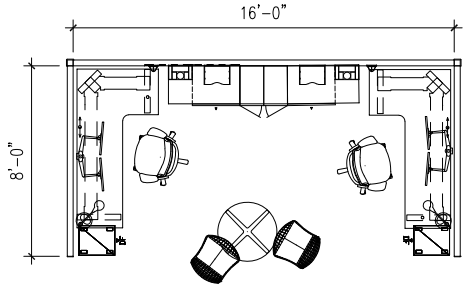


Technology: Double Monitor Mount, Surface Power Module, Keyboard, Mouse & Telephone

(2) 36"Lateral Files

Sliding Door

SUBTYPE B: DOUBLE WORKSTATION WITH COLLABORATION



FEATURES

58"H Panels with 14"H Glass Add Up

80"/41" L-Shaped Adjustable Height Desk

File/ File/ Mobile Pedestal with Cushion Top for Visitor

Task Chair

Box/ File/ Open Credenza/ Wardbrobe for Visitor

Technology: Double Monitor Mount, Surface Power Module, Keyboard, Mouse & Telephone

Base Power Raceway

30" Center Collaboration Table with (2) Guest Chairs

STAFF SPACE:
Administrative/Clerical Support

Administrative Assistant

Customer Service Specialist

Purchasing Agent

AREA
8'x8'' per Station

64sf Total per Station

KEY FEATURES DESIGN CRITERIA

Packs of 2-10 workstations should form a neighborhood

Orient stations to exterior perimeter to take advantage of natural light

Finishes: Laminate worksurfaces, Painted metal frames and storage, acoustical fabric panels

COVID CONSIDERATIONS

6' between seats

Partitions to be wipable laminate outer with acoustical antimicrobial fabric interior

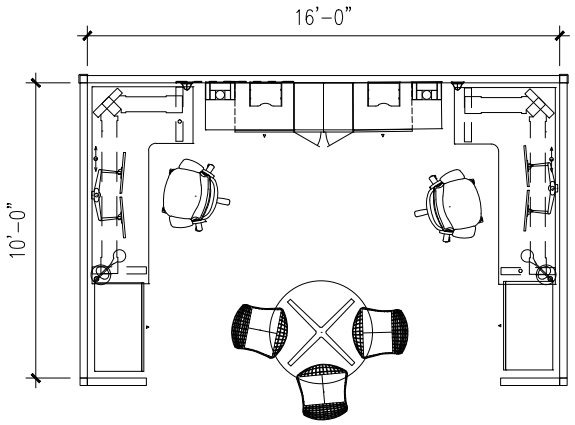
14"H Glass Add Up for Subtype A & Subtype B

Task & Guest seating upholstery to be antimicrobial/ bleach cleanable

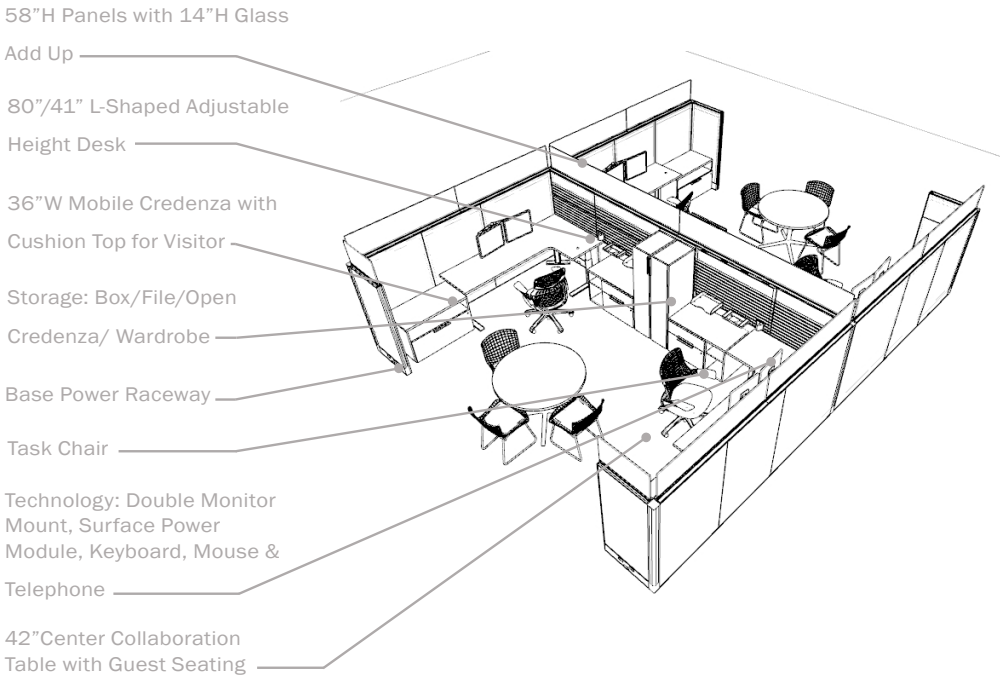
SPACE TYPES

MEDIUM WORKSTATION II: 80 SF

OPEN FOCUS - WORKSTATION



FEATURES



FUNCTION

Administrative/Clerical Support

Supervising Professional (Supervises front line service personnel)

AREA

8'x10' per Station

80sf Total per Station

KEY FEATURES DESIGN CRITERIA

Packs of 2-8 workstations should form a neighborhood

Orient stations to exterior perimeter to take advantage of natural light

Finishes: Laminate worksurfaces, Painted metal frames and storage, acoustical fabric panels

COVID CONSIDERATIONS

6' between seats

Partitions to be wipable laminate outer with acoustical antimicrobial fabric interior

14"H Glass Add Up

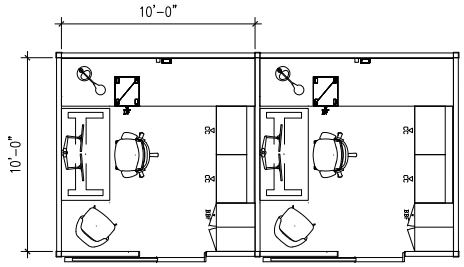
Task & Guest seating upholstery to be antimicrobial/ bleach cleanable

SPACE TYPES

MANAGER WORKSTATION: 100 SF STATION

OPEN FOCUS - WORKSTATION

SUBTYPE A: ENCLOSED WORKSTATION WITH SLIDING DOOR



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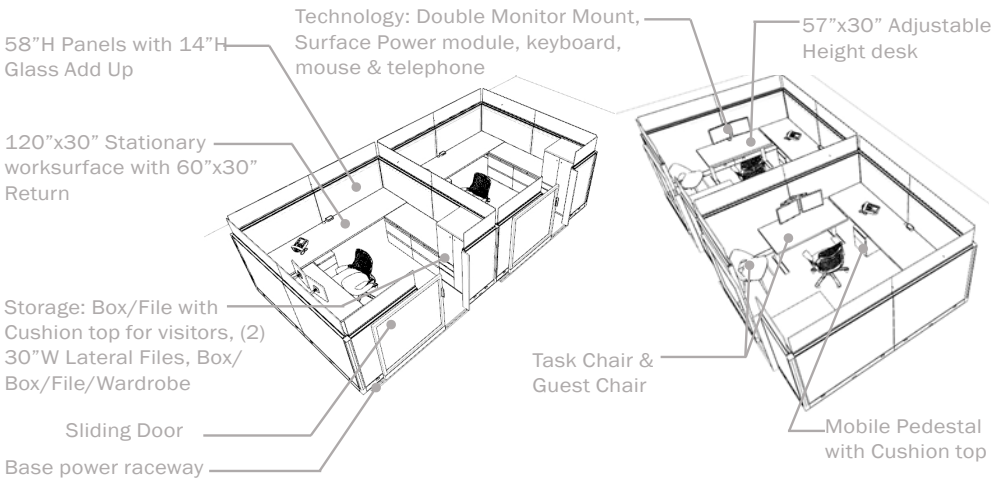
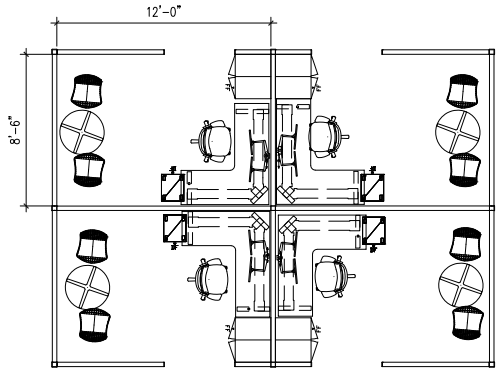
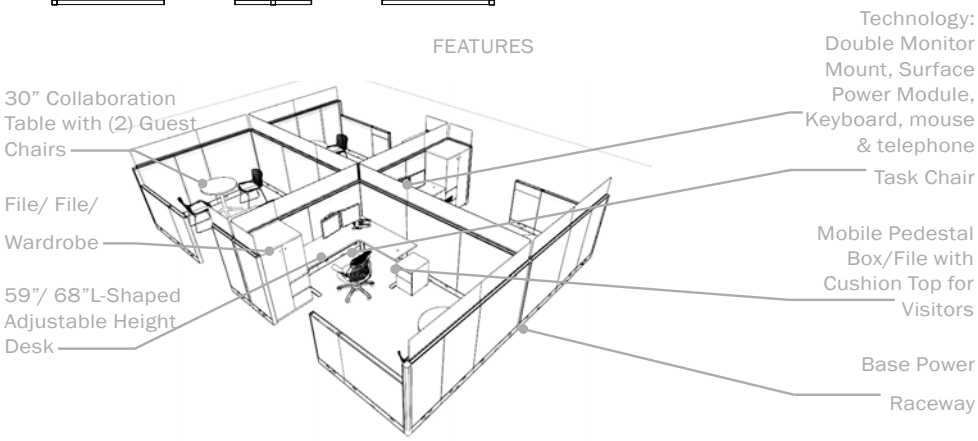


SUBTYPE B: INTERIOR COLLABORATION WORKSTATION



FEATURES



FUNCTION

Project managers
Contract/Grants Administrator

AREA

95+sf Total per Station

KEY FEATURES DESIGN CRITERIA

Packs of 2-8 workstations should form a neighborhood

Orient stations to exterior perimeter to take advantage of natural light

Finishes: Veneer worksurfaces, Painted metal frames, Metal/Veneer front storage, acoustical fabric panels

COVID CONSIDERATIONS

6' between seats

Partitions to be wipable laminate outer with acoustical antimicrobial fabric interior

14"H Glass Add Up for Subtype A and B

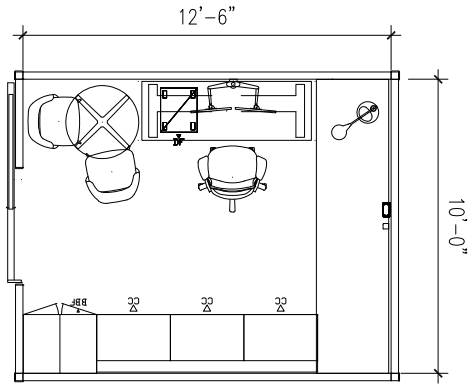
Task & Guest seating upholstery to be antimicrobial/bleach cleanable

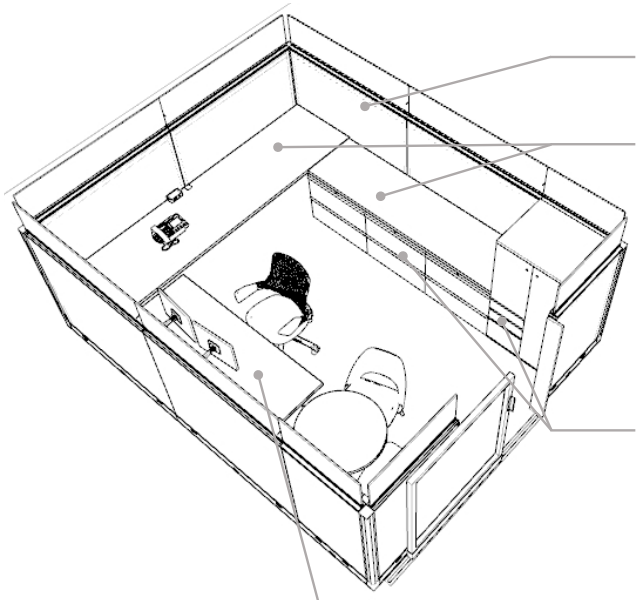
SPACE TYPES

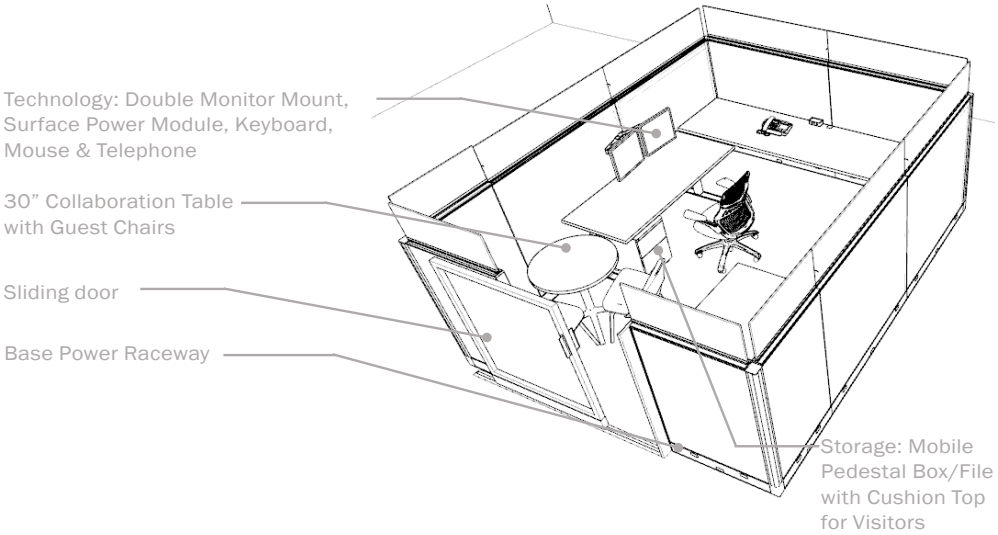
LARGE WORKSTATION: 125 SF

OPEN FOCUS - WORKSTATION

SUBTYPE A: ENCLOSED WORKSTATION WITH SLIDING DOOR







FUNCTION
Technical Professional (Auditor, or Policy/Budget Analyst, Case Worker, Paralegal)

AREA
10'x12'-6" per Station

125+sf Total per Station

KEY FEATURES
DESIGN CRITERIA

Packs of 2-4 workstations should form a neighborhood

Orient stations to exterior perimeter to take advantage of natural light

Finishes: Veneer worksurfaces, Painted metal frames, Metal/Veneer front storage, acoustical fabric panels

COVID CONSIDERATIONS

6' between seats

Partitions to be wipable laminate outer with acoustical antimicrobial fabric interior

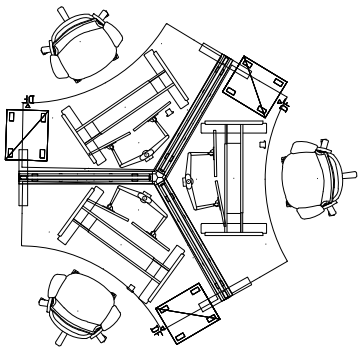
14"H Glass Add Up for Subtype A and B

Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

CALL CENTER

OPEN FOCUS - WORKSTATION



FEATURES

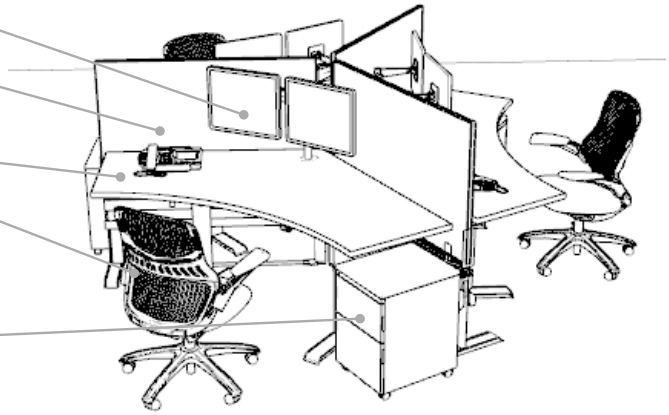
Technology: Double Monitor Mount, Surface Power Module, Keyboard, Mouse & Telephone

Height Adjustable to 6' Acoustical Partitions

120 ° Corner Adjustable Height Desk

Task Chair

Storage: Mobile Pedestal Box/File with Cushion Top for Visitors



FUNCTION

Utility Billing Call Center Staff

AREA

36sf Total per Station

KEY FEATURES DESIGN CRITERIA

Packs of 3-8 workstations should form a neighborhood

Orient stations to exterior perimeter to take advantage of natural light

Finishes: Veneer worksurfaces, Painted metal frames, Metal/ Veneer front storage, acoustical fabric panels

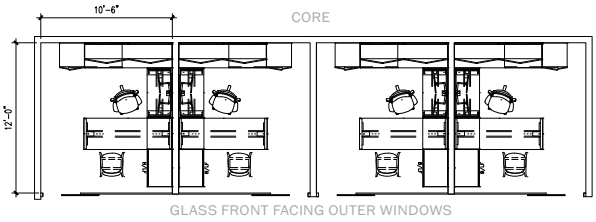
PRIVATE OFFICES

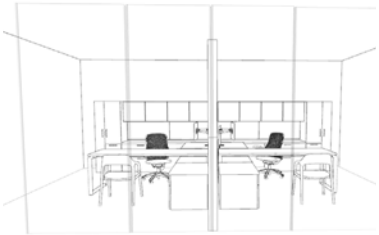
SPACE TYPES

OFFICE 125 SF

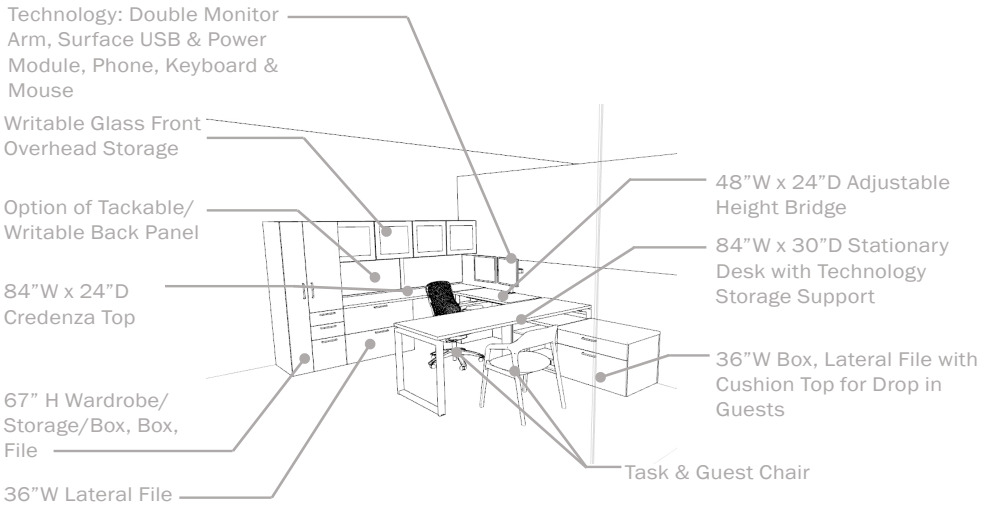
CLOSED FOCUS -PRIVATE OFFICE

SUBTYPE A: U-SHAPED DESK-STORAGE BASED

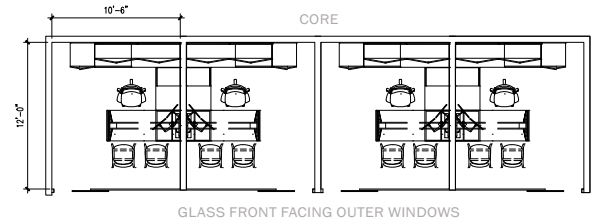




FEATURES



SUBTYPE B: U-SHAPED DESK-GUEST BASED



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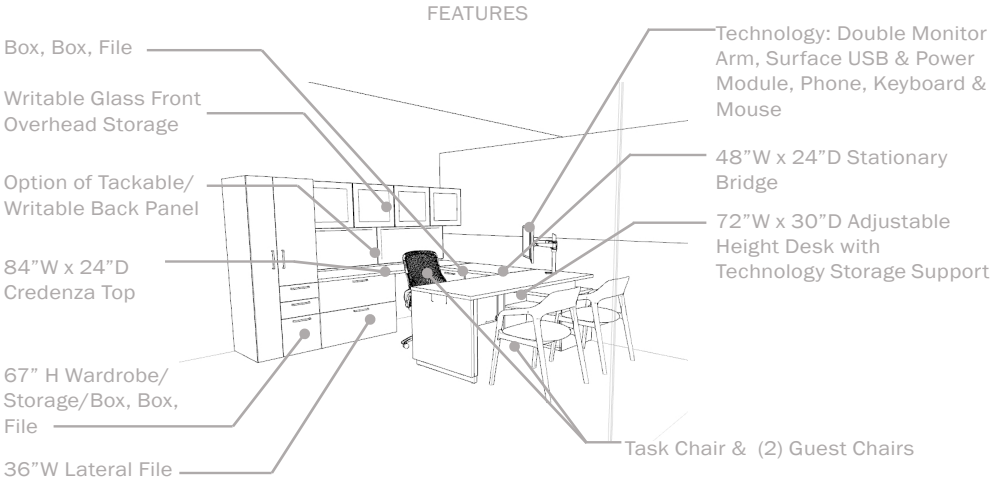


FUNCTION

Licensed Professional (Planner, Engineer, Construction Manager Supervisor, Accountant)

AREA

125 sf Total per office

KEY FEATURES DESIGN CRITERIA

Private offices to be located along core wall

Orient office fronts to exterior perimeter to take advantage of natural light

Offices to have glass fronts with privacy film and center patition transom

Finishes: Laminate worksurfaces, Painted metal frames, Laminate front storage, writable glass front storage, writable glass or tackable fabric back panels

COVID CONSIDERATIONS

Wipable laminate desk finishes

Cleanable glass front system

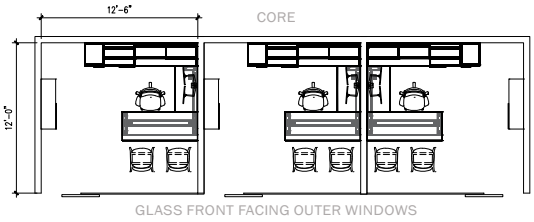
Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

OFFICE 150 SF

CLOSED FOCUS - PRIVATE OFFICE

SUBTYPE A: U-SHAPED DESK-STORAGE/GUEST BASED



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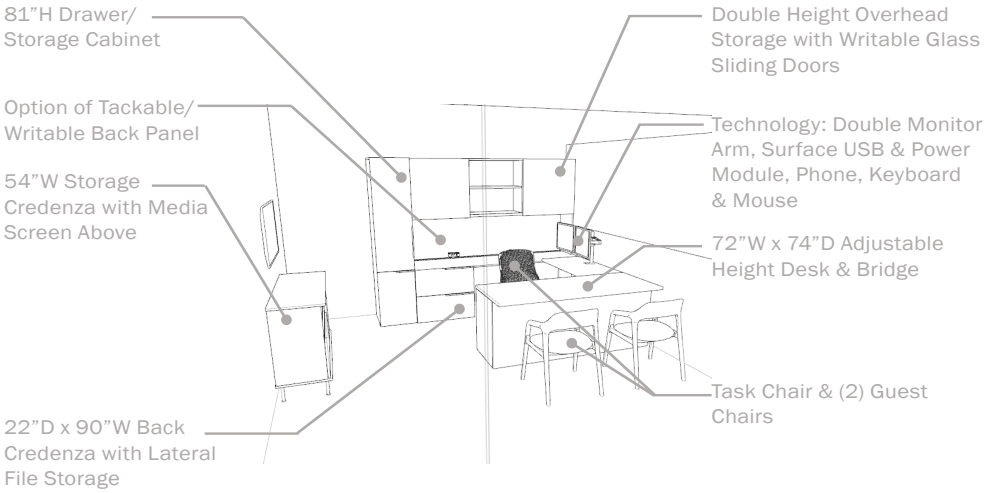
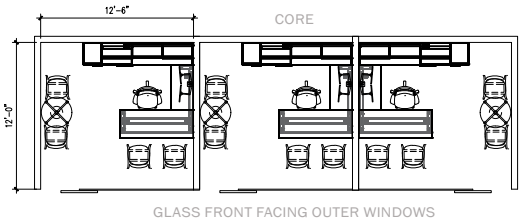
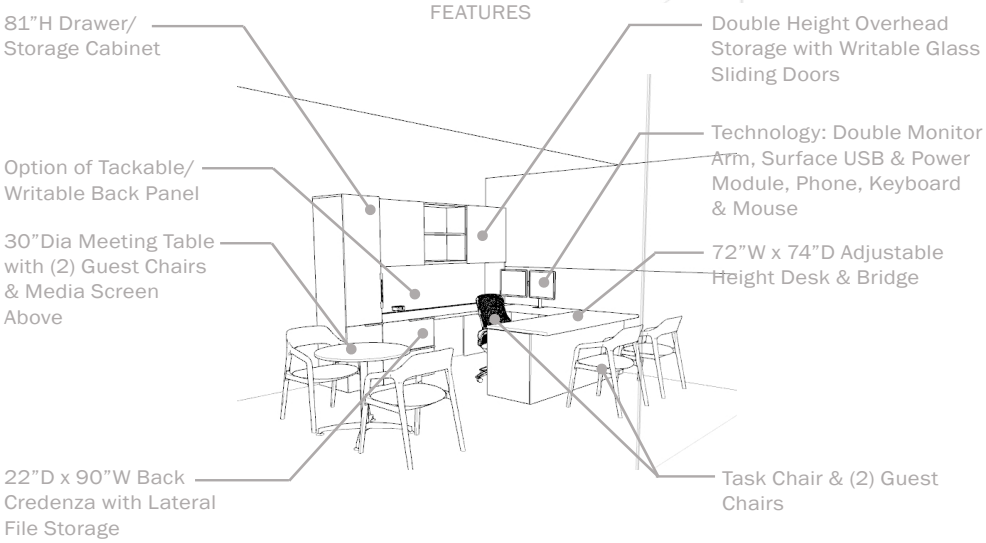


SUBTYPE B: U-SHAPED DESK-PRIVATE MEETING/GUEST BASED



FEATURES



FUNCTION

Professional (Requiring Confidentiality - Attorney, case manager, Investigator, Group Manager, Capital Program Admin)

AREA

150sf Per Office

KEY FEATURES DESIGN CRITERIA

Private offices to be located along core wall

Orient office fronts to exterior perimeter to take advantage of natural light

Offices to have glass fronts with privacy film and center patition transom

Finishes: Laminate worksurfaces, Painted metal frames, Laminate front storage, writable glass front storage, writable glass or tackable fabric back panels

COVID CONSIDERATIONS

Wipable laminate desk finishes

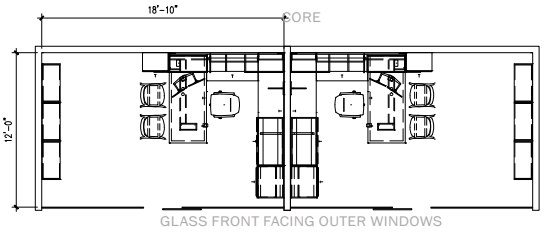
Cleanable glass front system

Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

EXWCUTIVE OFFICE SUITE 225 SF
CLOSED FOCUS - PRIVATE OFFICE

SUBTYPE A: U-SHAPED DESK-STORAGE/GUEST BASED



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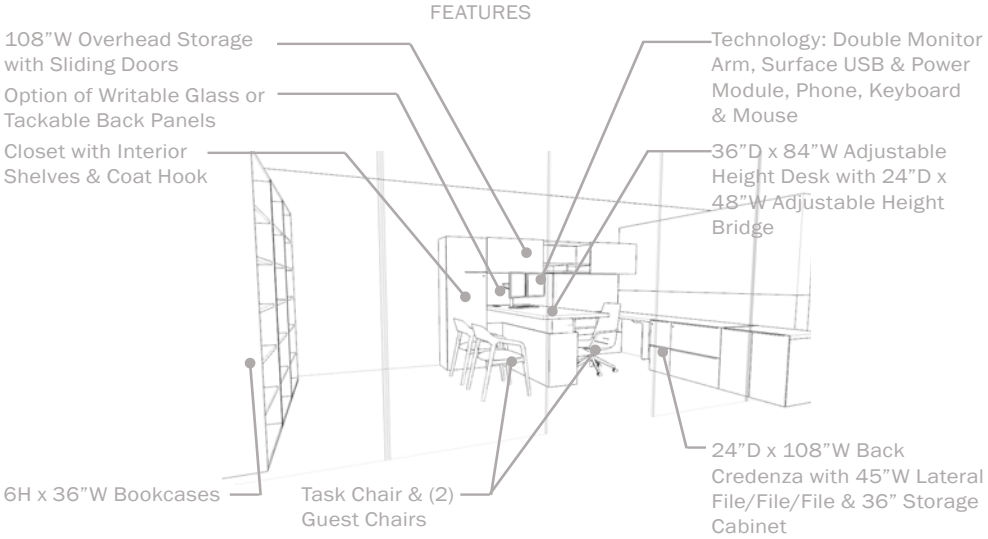
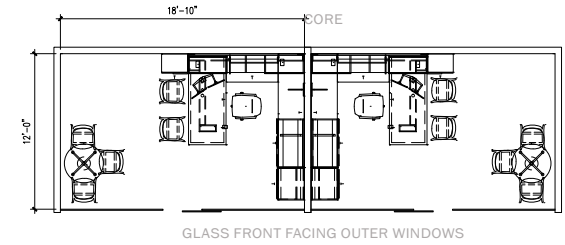
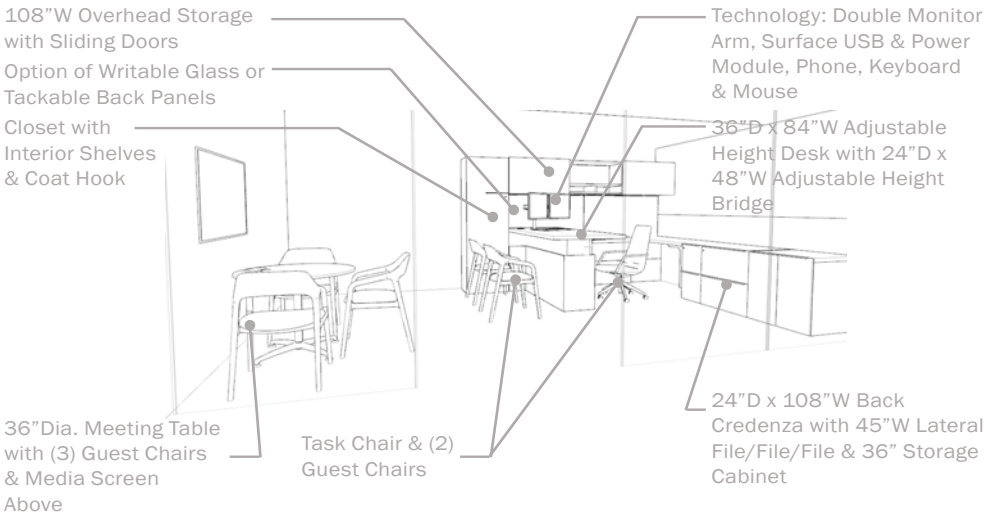


SUBTYPE B: U-SHAPED DESK-PRIVATE MEETING/GUEST BASED



FEATURES



FUNCTION
Department Head

Deputy Director

Division Director

Division Assistant Director

AREA
225 sf Per Office

KEY FEATURES DESIGN CRITERIA

Private offices to be located along core wall

Orient office fronts to exterior perimeter to take advantage of natural light

Offices to have glass fronts with privacy film and center patition transom

Finishes: Veneer worksurfaces, Painted metal frames, Veneer storage, Glass shelves, writable glass or Veneer back panels

COVID CONSIDERATIONS

Wipable laminate desk finishes

Cleanable glass front system

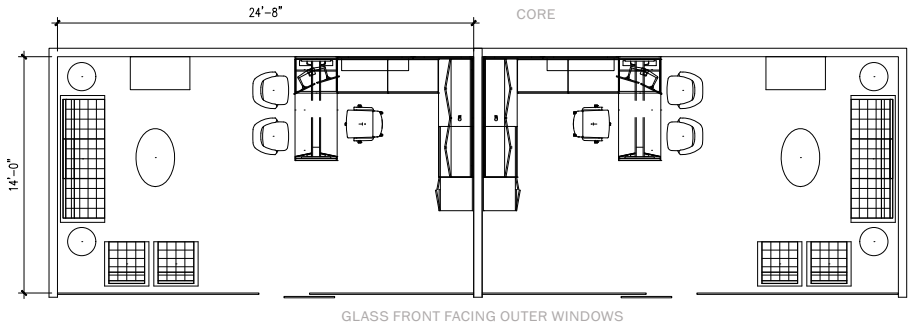
Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

EXECUTIVE SUITE 320 SF

CLOSED FOCUS - PRIVATE OFFICE WITH COLLABORATION

SUBTYPE A: U-SHAPED DESK-GUEST BASED



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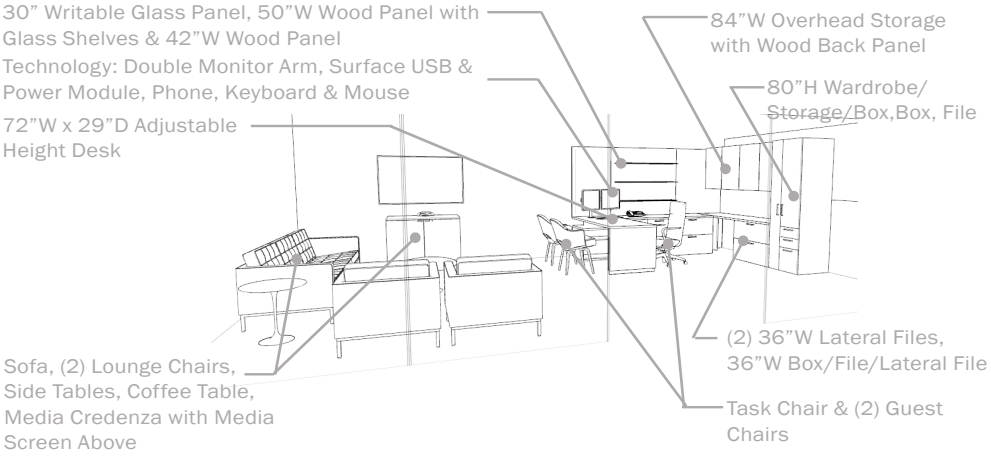
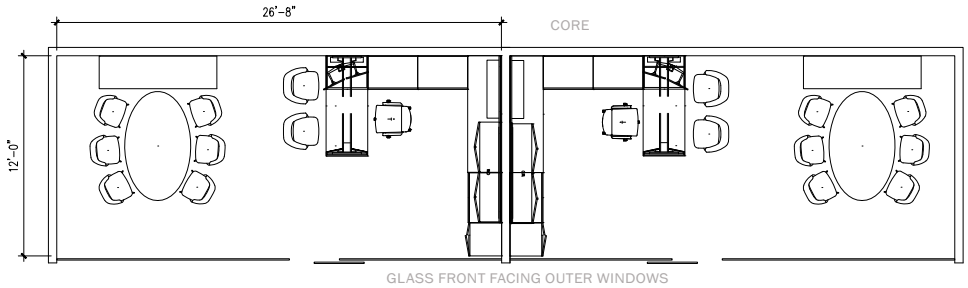


SUBTYPE B: U-SHAPED DESK-PRIVATE MEETING/GUEST BASED



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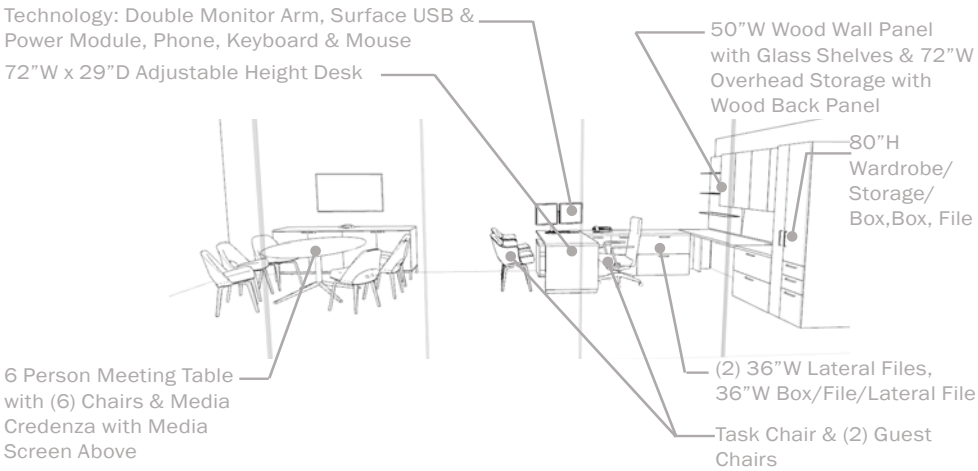


FUNCTION

Account Administrator

County Attorney

County Auditor

AREA

320 sf Per Office

KEY FEATURES DESIGN CRITERIA

Private offices to be located along core wall

Orient office fronts to exterior perimeter to take advantage of natural light

Offices to have glass fronts with privacy film and center patition transom

Finishes: Veneer worksurfaces, Painted metal frames, Veneer storage, Glass shelves, writable glass or Veneer back panels

COVID CONSIDERATIONS

Wipable laminate desk finishes

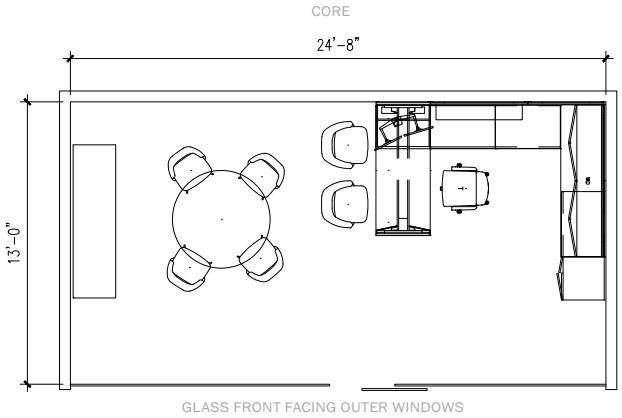
Cleanable glass front system

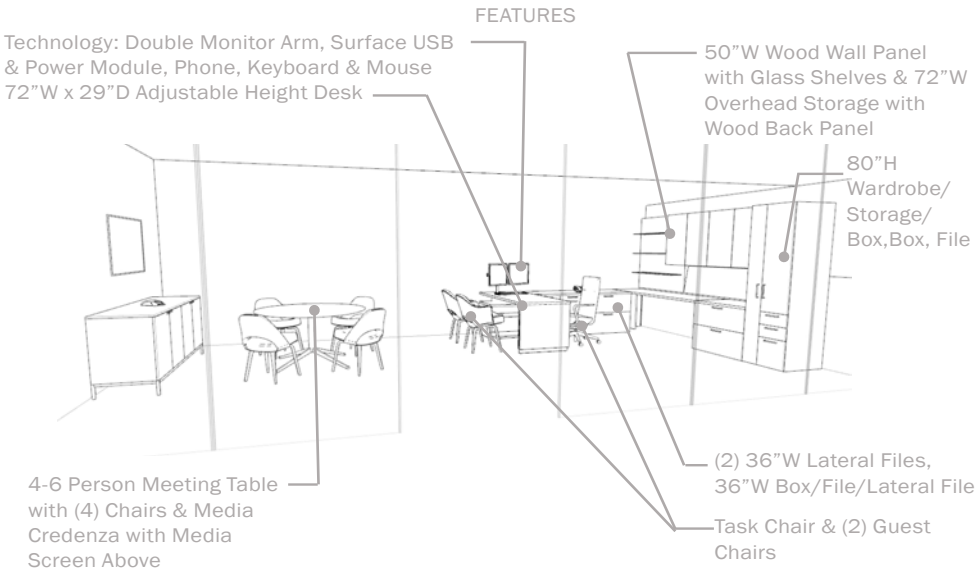
Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

CITY MANAGER'S SUITE 320 SF

CLOSED FOCUS - PRIVATE OFFICE WITH COLLABORATION





FUNCTION
City Manager

AREA
450 sf Per Office

KEY FEATURES DESIGN CRITERIA

Private offices to be located along core wall

Orient office fronts to exterior perimeter to take advantage of natural light

Offices to have glass fronts with privacy film and center patition transom

Finishes: Veneer worksurfaces, Painted metal frames, Veneer storage, Glass shelves, writable glass or Veneer back panels

COVID CONSIDERATIONS

Wipable desk finishes

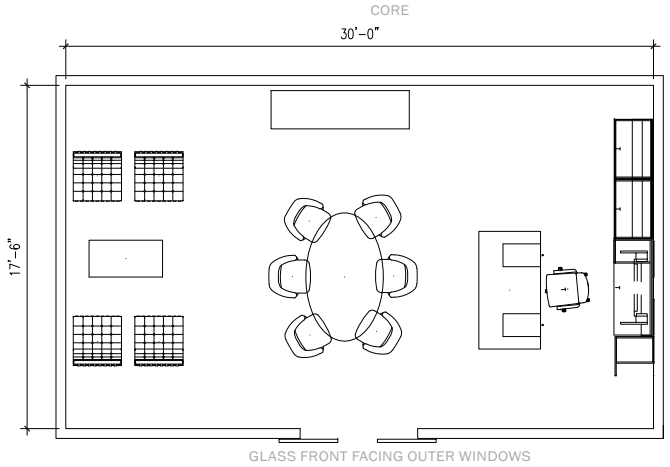
Cleanable glass front system

Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

COUNTY ADMINISTRATOR SUITE 525 SF

CLOSED FOCUS - PRIVATE OFFICE WITH COLLABORATION



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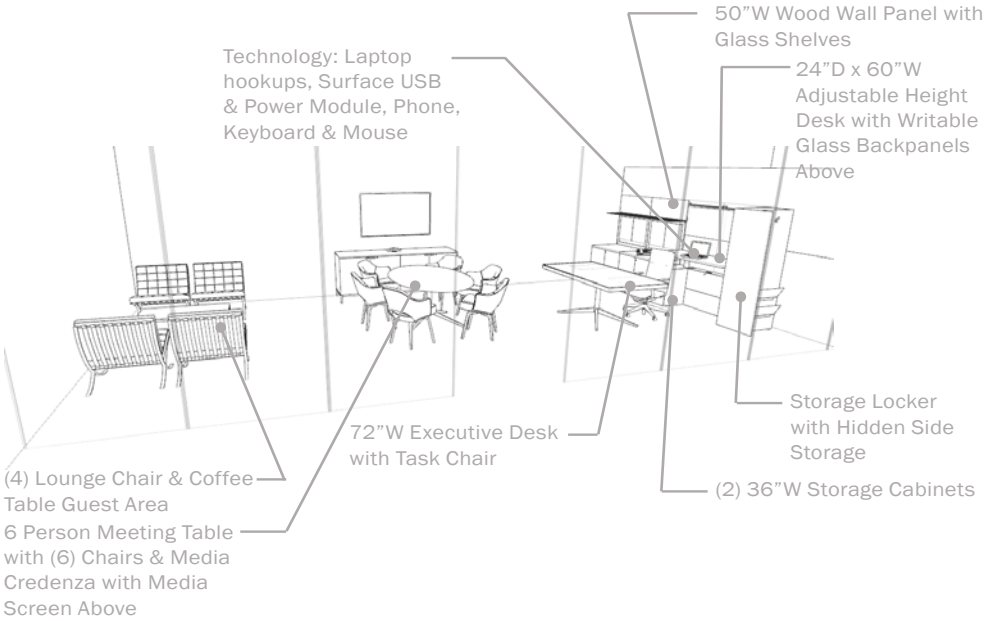


FUNCTION
County Administrator

AREA
525 sf Per Office

KEY FEATURES DESIGN CRITERIA

Private offices to be located along core wall

Orient office fronts to exterior perimeter to take advantage of natural light

Offices to have glass fronts with privacy film and center patition transom

Finishes: Veneer worksurfaces, Painted metal frames, Veneer storage, Glass shelves, writable glass or Veneer back panels

COVID CONSIDERATIONS

Wipable desk finishes

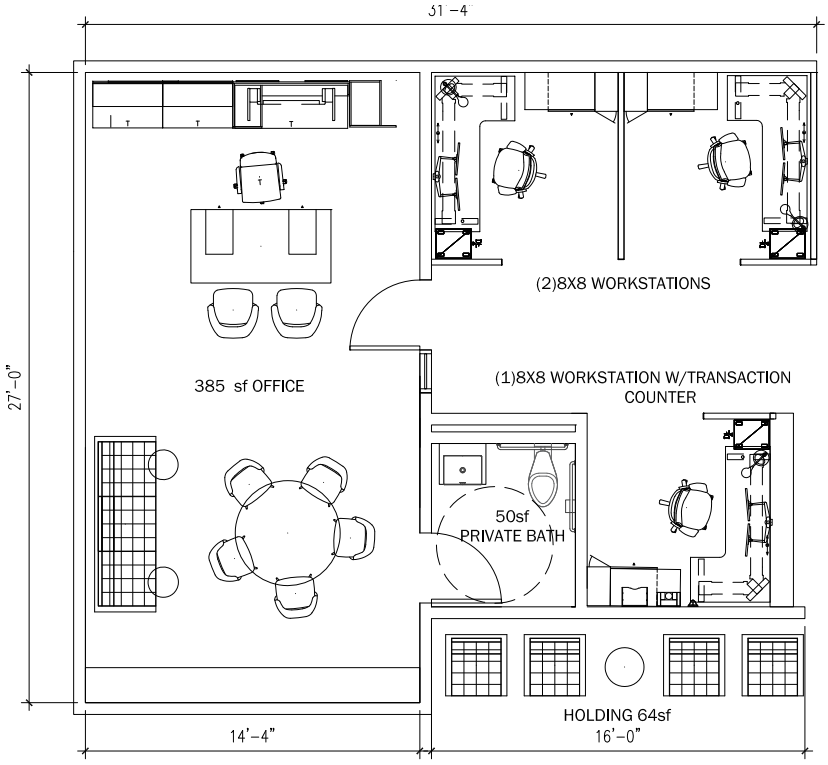
Cleanable glass front system

Task & Guest seating upholstery to be antimicrobial/bleach cleanable

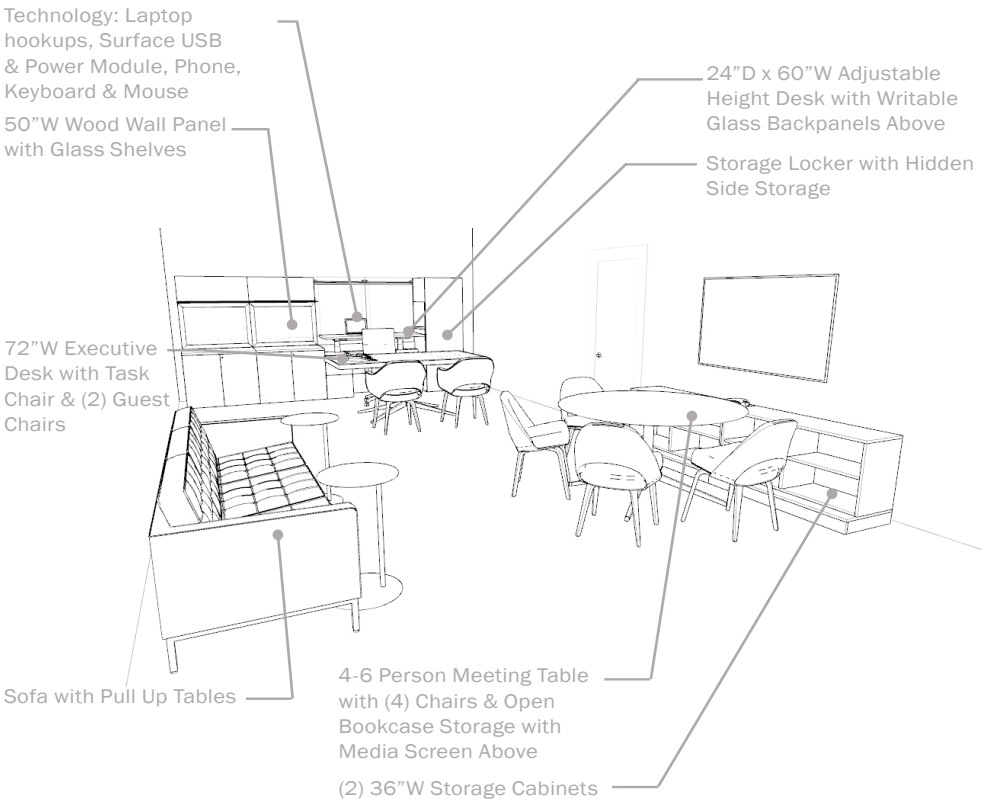
SPACE TYPES

COUNTY COMMISSIONER SUITE 385 SF

CLOSED FOCUS - PRIVATE OFFICE WITH COLLABORATION AND SUPPORT STAFF



FEATURES



FUNCTION
County Commissioners

AREA
385sf Office

50sf Private Bath

3x64sf Workstations (192sf)

64sf Waitng Area

Total Square Footage: 641

KEY FEATURES DESIGN CRITERIA

Commissioner's offices to be located along core wall

Orient open office towards exterior perimeter to take advantage of natural light

Office Finishes: Veneer worksurfaces, Painted metal frames, Veneer storage, Glass shelves, writable glass or Veneer back panels, Marble meeting table

Open OfficeFinishes: Laminate or Veneer worksurfaces, Painted metal frames and storage, acoustical fabric panels

COVID CONSIDERATIONS

6' spacing for open office

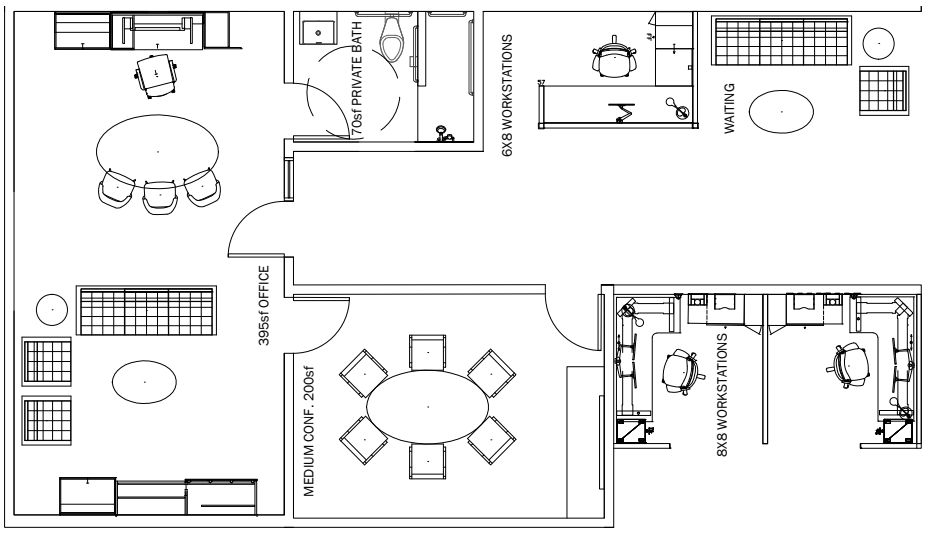
Wipable desk finishes

Task & Guest seating upholstery to be antimicrobial/bleach cleanable

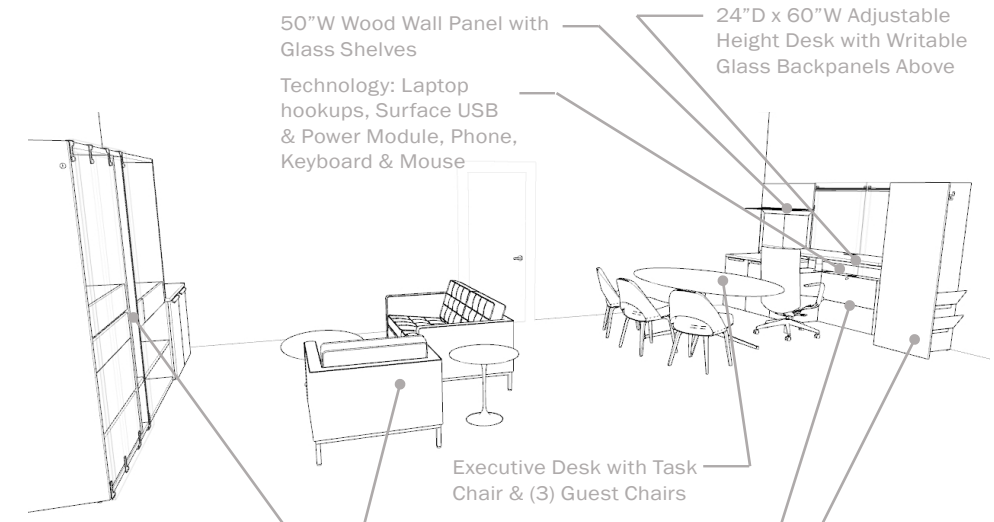
SPACE TYPES

CITY COMMISSIONER SUITE 395 SF

CLOSED FOCUS - PRIVATE OFFICE WITH COLLABORATION AND SUPPORT STAFF



FEATURES



FUNCTION
City Commissioners

AREA
395sf Office

70sf Private Bath

2x64sf Workstations (128sf)

1x48sf Workstation

200sf Medium Conference Room

Waitng Area

Total Square Footage: 755

KEY FEATURES DESIGN CRITERIA

Commissioner's offices to be located along core wall

Orient open office towards exterior perimeter to take advantage of natural light

Office Finishes: Veneer worksurfaces, Painted metal frames, Veneer storage, Glass shelves, writable glass or Veneer back panels, Marble meeting table

Open OfficeFinishes: Laminate or Veneer worksurfaces, Painted metal frames and storage, acoustical fabric panels

COVID CONSIDERATIONS

6' spacing for open office

Wipable desk finishes

Task & Guest seating upholstery to be antimicrobial/bleach cleanable

SPACE TYPES

WAITING/RECEPTION 200SF

SUPPORT SPACE

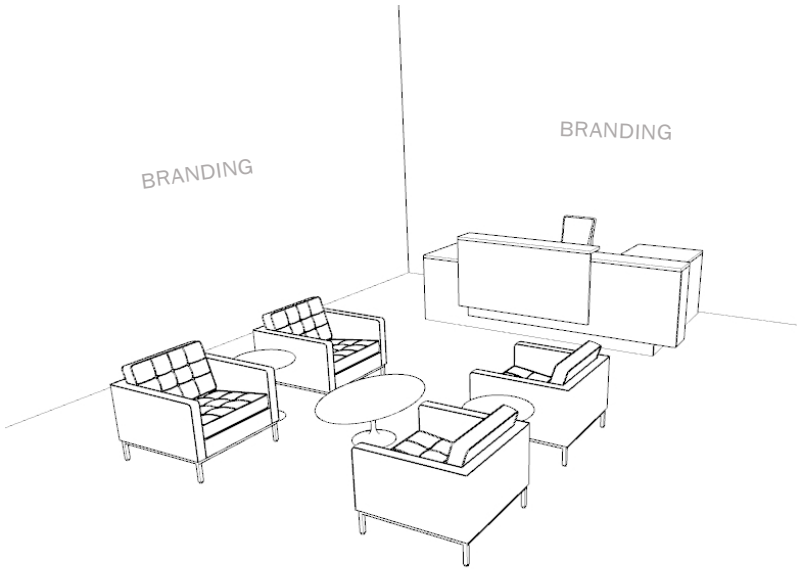
TYPICAL LAYOUT

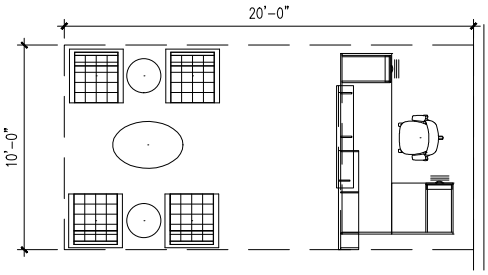
200 sf Per Space

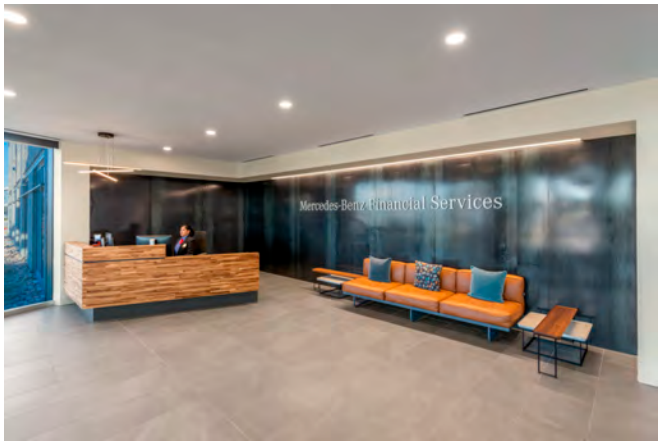
Reception Desk for 1 Person

Solid Backwall for Branding

Lounge Furniture for Waiting Guests



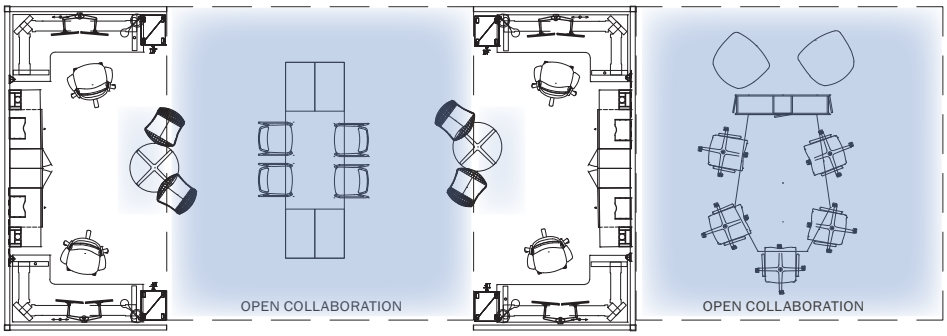


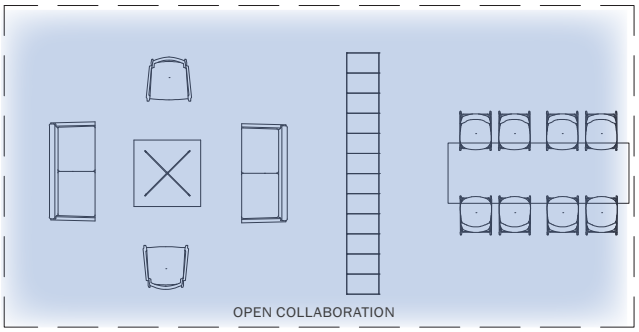


SPACE TYPES

OPEN COLLABORATION 500 SF

SUPPORT SPACE



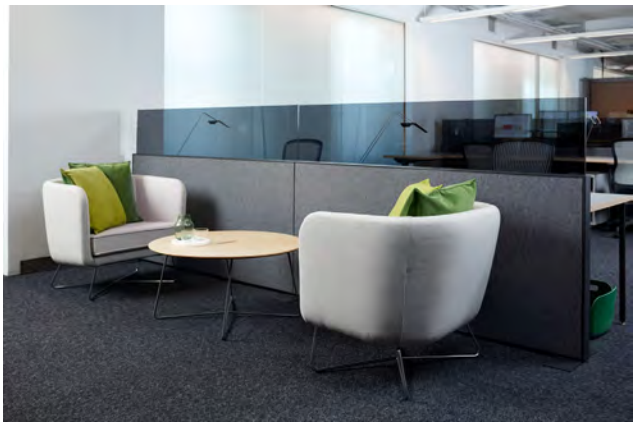


TYPICAL LAYOUT

500 sf per Space

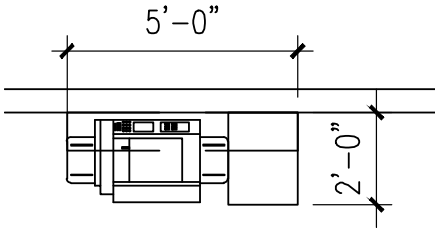
Flexible Furniture for Casual Meetings not requiring privacy

Open office meeting table or lounge cluster



SPACE TYPES

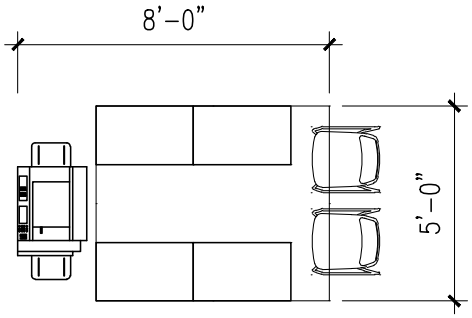
PRINT STATION 10 SF
PRINT/WORK AREA 40 SF
SUPPORT SPACE

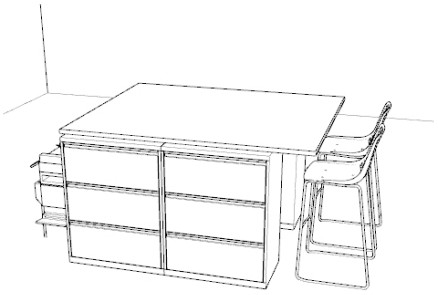


TYPICAL LAYOUT: PRINT STATION

10sf per Space

Printer/Copier & Storage





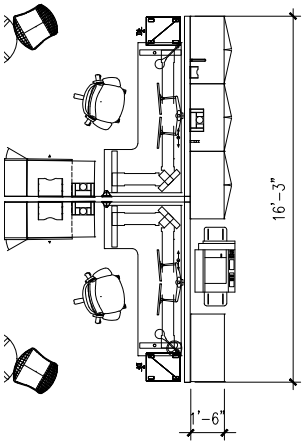
TYPICAL LAYOUT: PRINT/WORK AREA

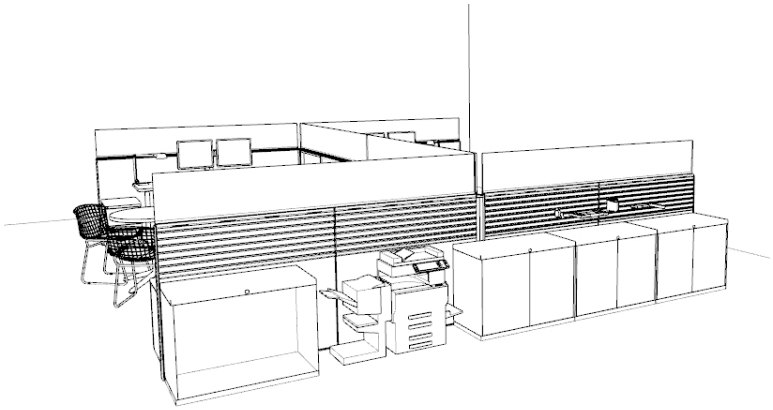
40sf per Space

Printer/Copier

Cabinet Storage

Work Area with Supplies

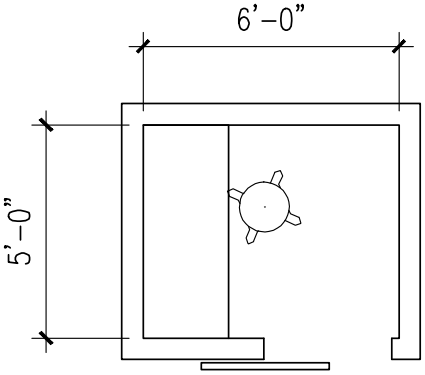


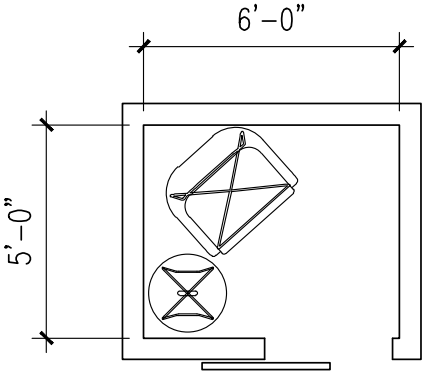


SPACE TYPES

QUICK QUIET ROOM 30 SF

SUPPORT SPACE - CLOSED FOCUS

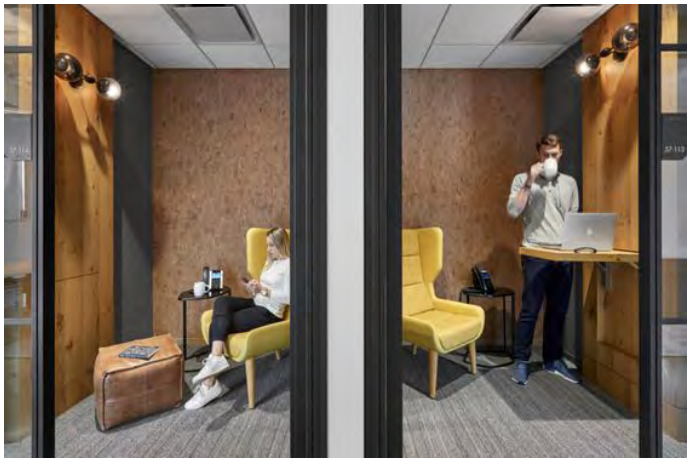




TYPICAL LAYOUT

30 sf Per Space

Built-in desk with power or movable lounge furniture



MEETING SPACES

Meeting Room by Division/Department

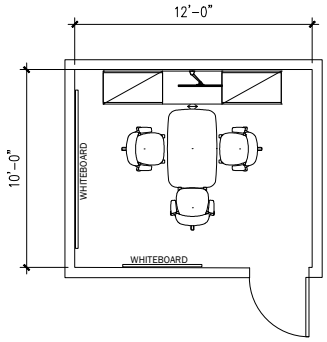
Department	Huddle	Conference Room Medium(200)	Conference Room Large (320)	Conference Room Large (500)	Conference Room XL (520)	Conference Room XL (600)	Conference Room XL (840)	Conf erence Room Deluxe (800)	Training
CITY									
City Manager	0	0	1	0	1	0	0	0	0
City Clerk	0	1	1	0	0	0	0	0	0
City Auditor	0	1	1	0	0	0	0	0	0
City Attorney	0	0	0	0	0	0	1	0	0
Ciity Finance, Adm., Acct., Treasury	2	2	1	0	0	0	0	0	0
City Utility Billing	2	0	1	0	0	0	0	0	0
City Human Resources	2	1	1	0	0	0	0	0	1
City Sustainable Develop.	2	2	2	0	1	0	0	0	0
City Information Technology	1	1	0	0	0	0	0	0	1
City Transport + Mobility	0	1	1	0	0	0	0	0	0
City Budget and Management	0	0	1	0	0	0	0	0	0
City Strategy and Communications	1	0	1	0	0	0	0	0	0
City Neighborhood Support	1	0	0	0	0	0	0	0	0
City Pension and Audit	2	1	0	0	0	0	0	0	0
City Commission	0	5	1	0	0	0	0	0	0
City Housing and CD	1	0	1	0	0	0	0	0	0
City Public Works	2	2	1	1	1	0	0	0	0
Total for City	**16**	**17**	**14**	**1**	**3**	**0**	**1**	**0**	**2**
COUNTY									
County Attorney	2	3	3	0	1	0	0	0	0
County Auditor	1	1	0	0	1	0	0	0	0
County Commission	0	0	1	0	0	0	0	1	0
County Administrators	1	1	1	0	0	1	0	0	0
County Public Communications	1	1	0	0	0	0	0	0	0
Office of Econ. and Small Bus. Dvlpmt.	1	0	1	0	0	0	0	0	0
Office of Manag. and Budget	1	0	1	0	0	0	0	0	0
Intergovernental Affairs (TBD)	0	0	1	0	0	0	0	0	0
Environment Protection and growth Manag.	0	0	0	0	0	0	0	0	0
Planning and Development Manag.	2	1	0	0	0	0	0	0	0
Housing Finance and Comm. Redvlpmt.	1	1	0	0	0	0	0	0	0
Environmental Planning and Comm. Resil.	1	1	1	0	0	0	0	0	0
Human Services	2	1	1	0	0	0	0	0	0
Community Partnerships	2	1	1	0	0	0	0	0	0
Public Works	1	0	1	0	0	0	0	0	0
Construction Management	2	1	0	2	0	0	1	0	0
Facilities Management	3	2	0	0	0	0	0	0	0
Finance and Administration	0	1	0	0	0	0	0	0	0
Accounting	2	0	0	1	0	0	0	0	0
Enterprise Tech. Services	6	1	1	0	0	0	0	0	0
Human Resources	3	2	0	0	0	0	0	0	0
Purchasing	4	2	1	0	0	0	0	0	0
Record, Tax and Treasury	1	1	0	0	0	0	0	0	0
Risk Management	2	1	0	0	0	0	0	0	0
Transportation (TBD)	12	10	6	0	8	0	0	0	1
Total for County	**51**	**32**	**20**	**3**	**10**	**1**	**1**	**1**	**1**
Grand Total	**67**	**49**	**34**	**4**	**13**	**1**	**2**	**1**	**3**

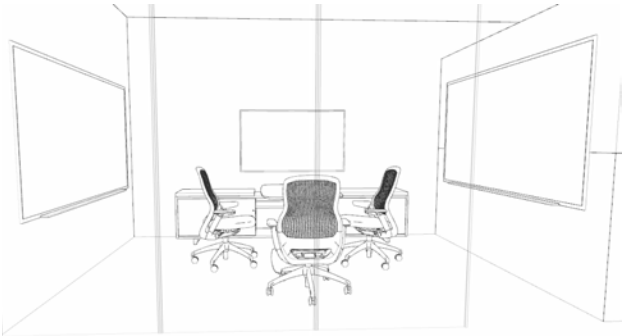
SPACE TYPES

HUDDLE ROOM (SEATS 3-4) 120 SF

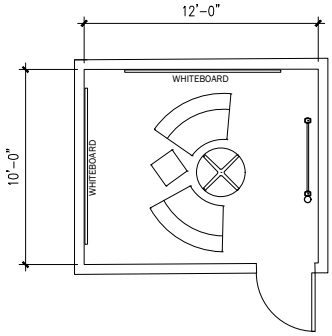
CLOSED COLLABORATION - MEETING SPACES

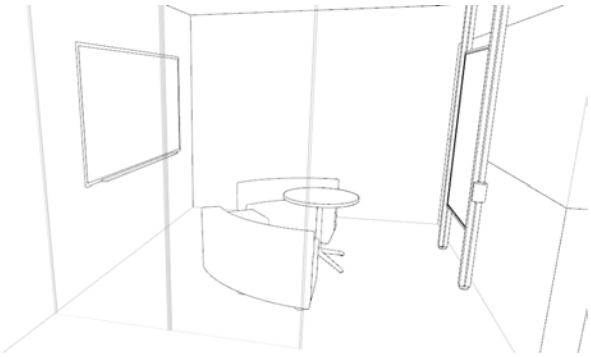
SUBTYPE A: VIDEO CONFERENCE LAYOUT





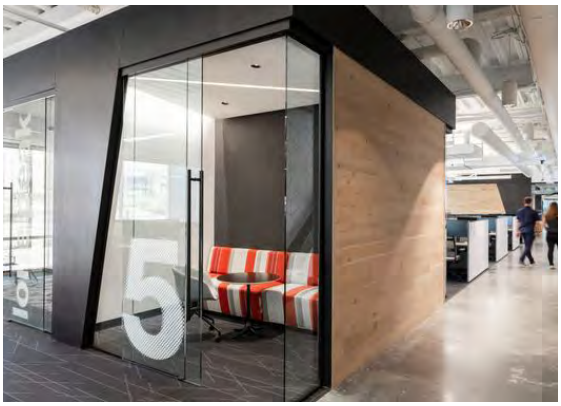
SUBTYPE B: INTIMATE LOUNGE FOR BRAINSTORMING SESSION

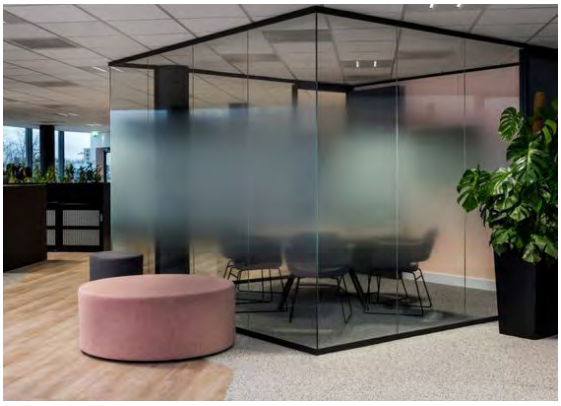




TYPICAL LAYOUT

- 120 SF Per Space
- Seats 3-4
- Small Table with Media Credenza or movable lounge furniture
- Media Screen
- Writable gass or marker boards
- Glass front system



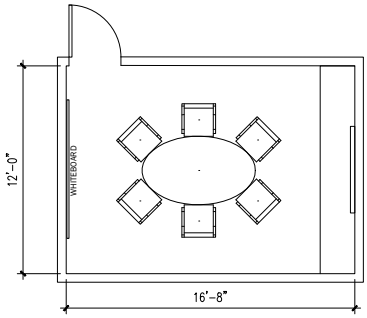


SPACE TYPES

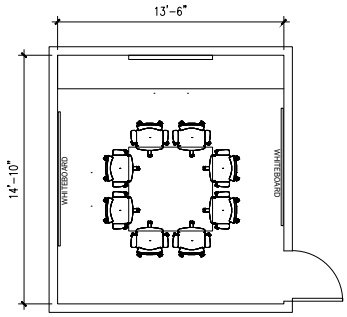
MEDIUM CONFERENCE ROOM (SEATS 6-8) 200 SF

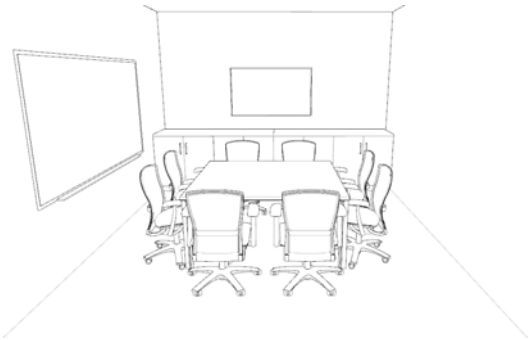
CLOSED COLLABORATION - MEETING SPACES

SUBTYPE A: VIDEO CONFERENCE LAYOUT



SUBTYPE B: INTIMATE LOUNGE FOR BRAINSTORMING SESSION





TYPICAL LAYOUT

200 SF Per Space

Seats 6-8

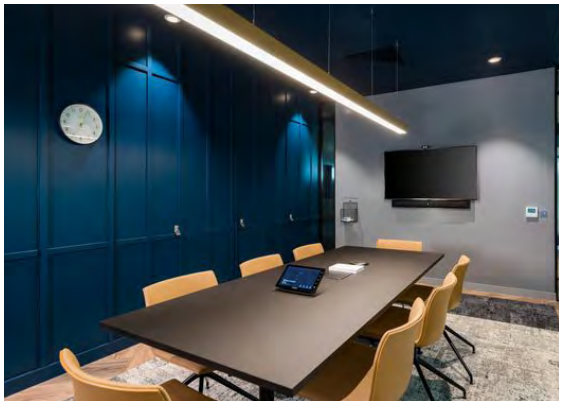
Formal or Informal Table Seating with 6-8 Chairs

Storage Credenza

Media Screen

Writable Glass or Marker Board

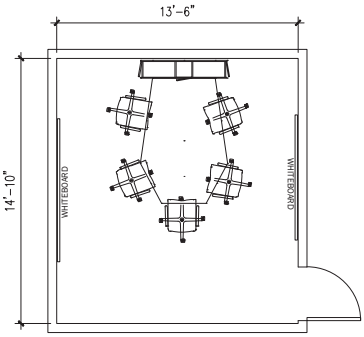
Glass Front System



SPACE TYPES

STANDING CONFERENCE ROOM (SEATS 6-8) 200 SF

CLOSED COLLABORATION - MEETING SPACES



TYPICAL LAYOUT

200 SF Per Space

Seats 5-8

Tall or Adjastable height table with or with out seating

Media Screen

Writable Glass or Marker Board

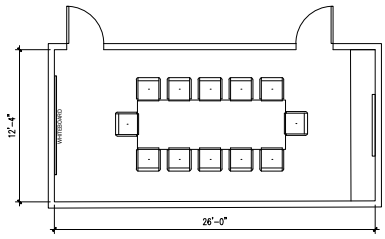
Glass Front System

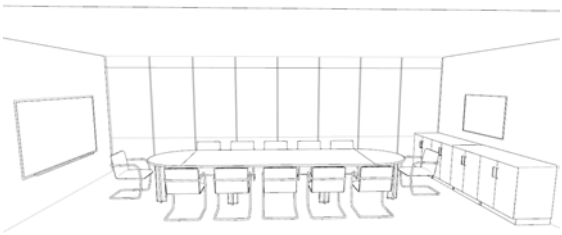
SPACE TYPES

LARGE CONFERENCE ROOM (SEATS 10-12) 320 SF

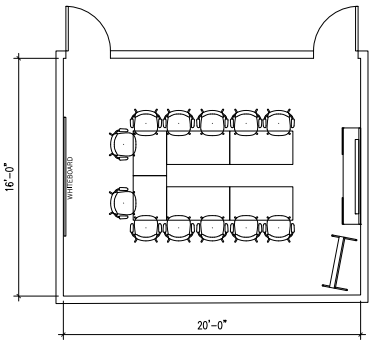
CLOSED COLLABORATION - MEETING SPACES

SUBTYPE A: FORMAL LAYOUT





SUBTYPE B: INFORMAL LAYOUT



TYPICAL LAYOUT

320 SF Per Space

Seats 9-14

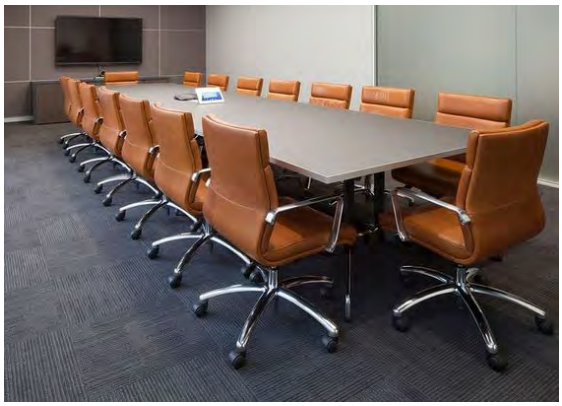
Conference Table or Movable Training Tables with seating

Storage Credenza

Media Screen

Writable Glass or Marker Board

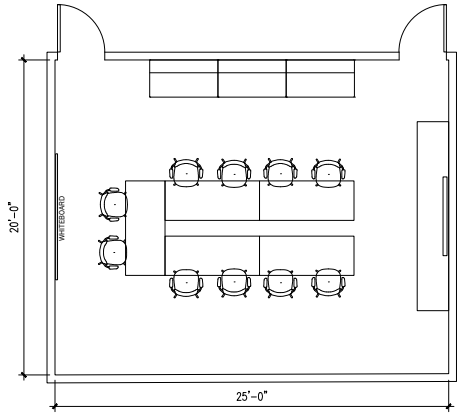
Glass Front System

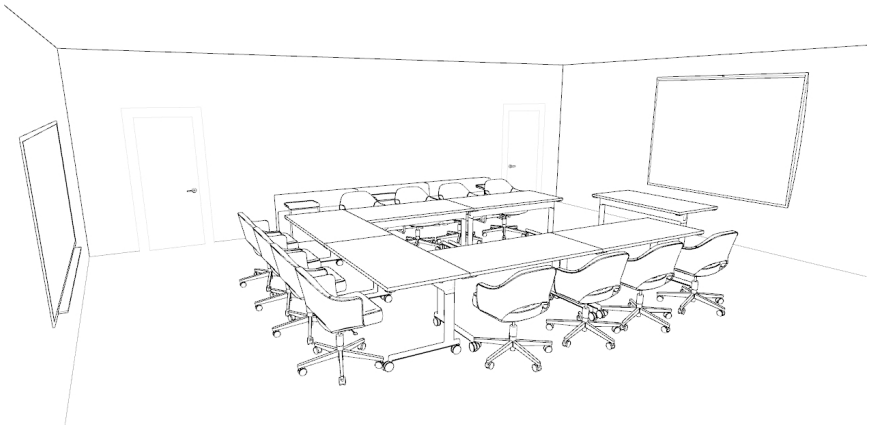


SPACE TYPES

CONSTRUCTION MANAGEMENT CONFERENCE ROOM 500 SF

CLOSED COLLABORATION - MEETING SPACES





TYPICAL LAYOUT

500 SF Per Space

Seats 16 Total: Table 10 and Perimeter 6

Conference Table or Movable Training Tables with seating

Storage Credenza

Media Screen

Writable Glass or Marker Board

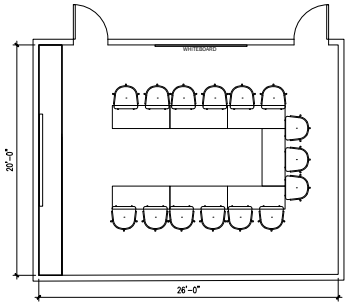
Glass Front System

SPACE TYPES

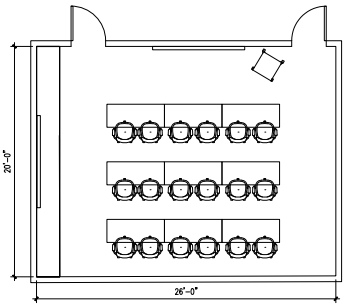
X-LARGE CONFERENCE ROOM (SEATS 20-22) 520 SF

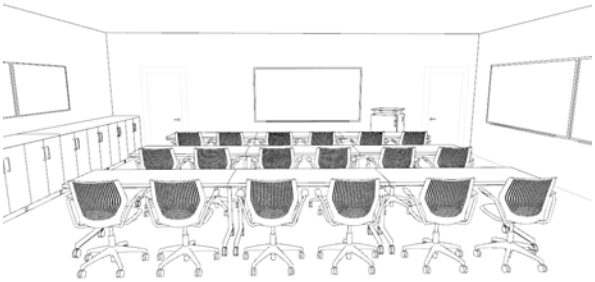
CLOSED COLLABORATION - MEETING SPACES

SUBTYPE A: CONFERENCE LAYOUT



SUBTYPE B: TRAINING LAYOUT





TYPICAL LAYOUT

520 SF Per Space

Seats 15-20

U-Shaped Table 15
Training Layout 18-20

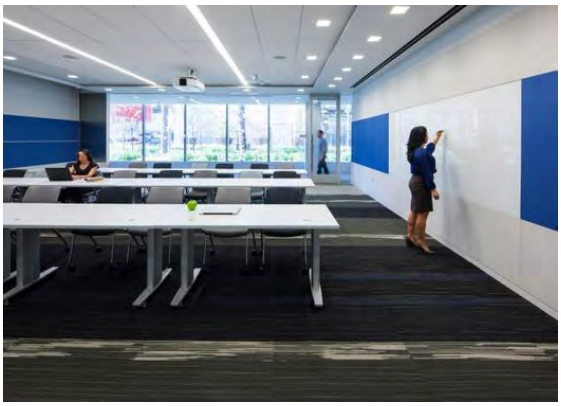
Conference Table or Movable Training Tables with seating

Storage Credenza

Media Screen

Writable Glass or Marker Board

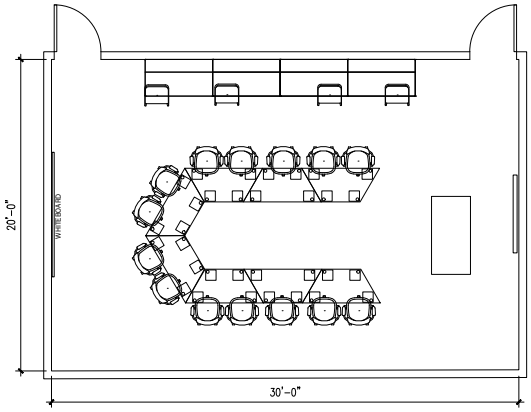
Glass Front System

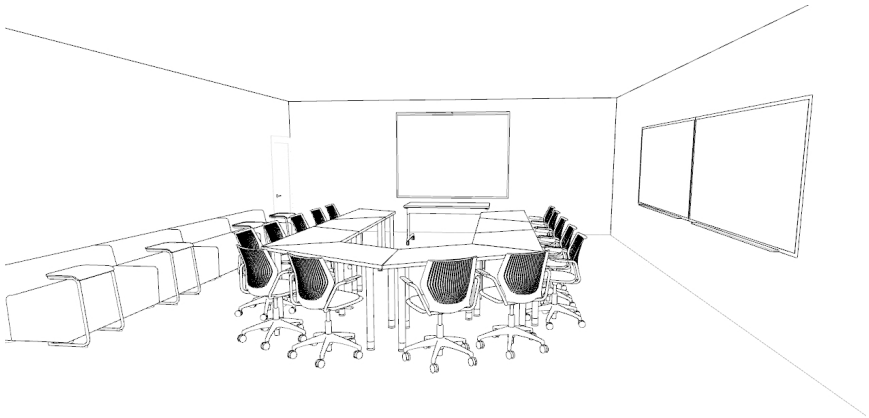


SPACE TYPES

X-TRA LARGE CONFERENCE ROOM (20-22) 600 SF

CLOSED COLLABORATION - MEETING SPACES





TYPICAL LAYOUT

600 SF Per Space

Seats 22+

U-Shaped Table 14
Perimeter Seating 8

Flexible Training Tables with Perimeter Seating

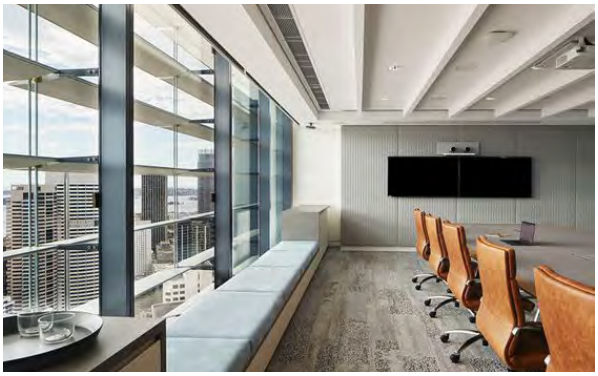
Front Presentation Table

Storage Credenza

Media Screen

Writable Glass or Marker Board

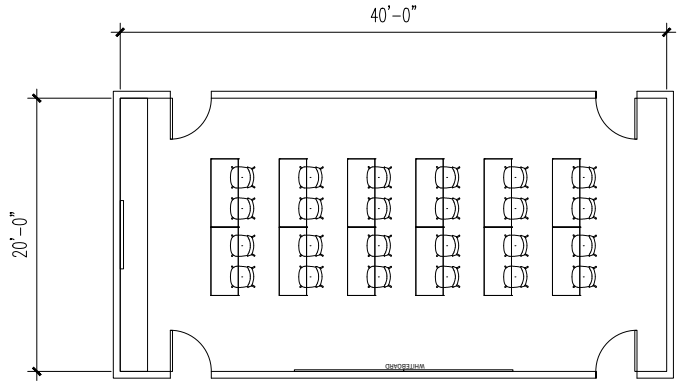
Glass Front System

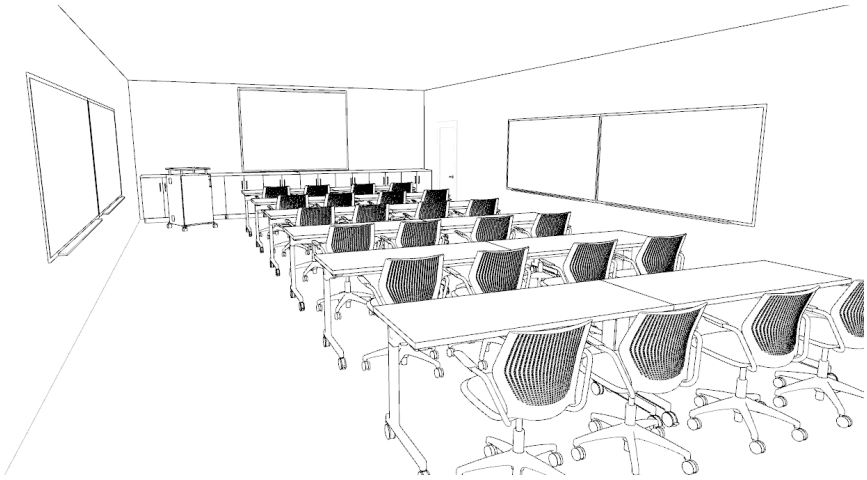


SPACE TYPES

TRAINING 800 SF

CLOSED COLLABORATION -MEETING SPACES





TYPICAL LAYOUT

800 SF Per Space

Seats 24+

U-Shaped Table 14
Perimeter Seating 8

Flexible Training Tables with Perimeter Seating

Front Presentation Table

Storage Credenza

Media Screen

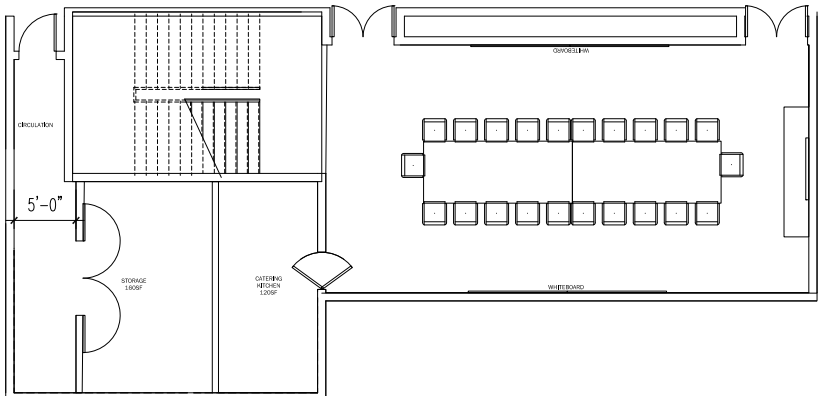
Writable Glass or Marker Board

SPACE TYPES

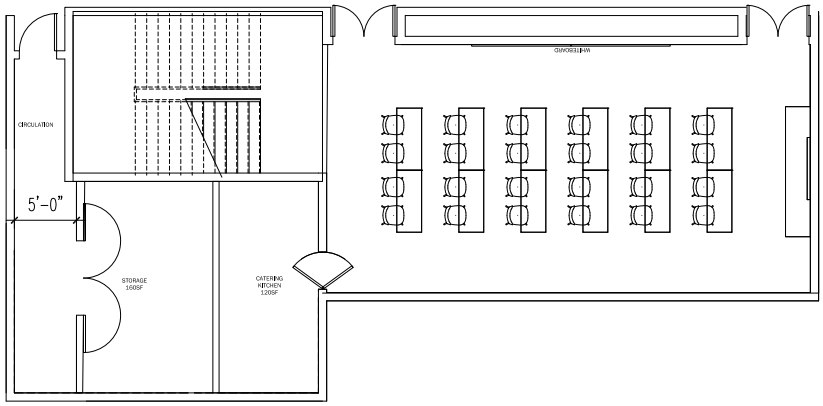
DELUXE CONFERENCE ROOM (SEATS 22-24) SF

CLOSED COLLABORATION - MEETING SPACES

SUBTYPE A: FORMAL LAYOUT



SUBTYPE B: INFORMAL LAYOUT



TYPICAL LAYOUT

800 SF Per Space

Seats 22-24

Conference Table or Movable Training Tables with seating

Storage Credenza

Media Screen

Writable Glass or Marker Boards along sides

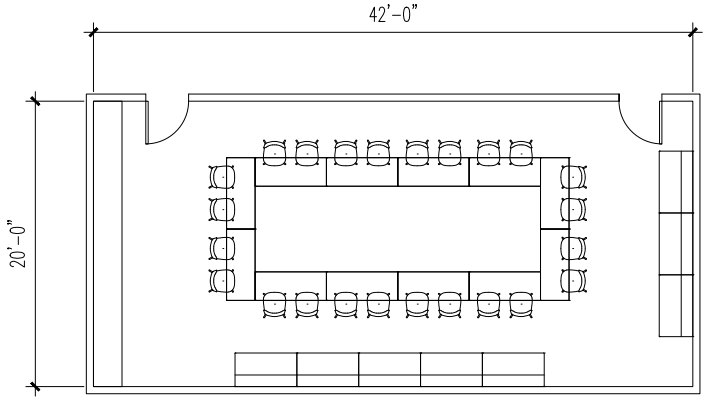
Catering Kitchen 120 SF

Storage 160 SF

SPACE TYPES

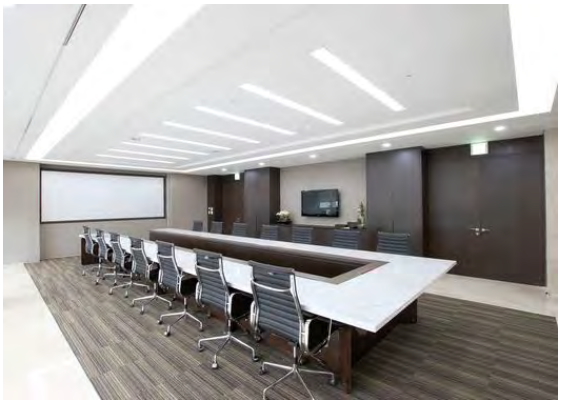
X-LARGE CONFERENCE ROOM (SEATS 40) 840 SF

CLOSED COLLABORATION - MEETING SPACES



TYPICAL LAYOUT

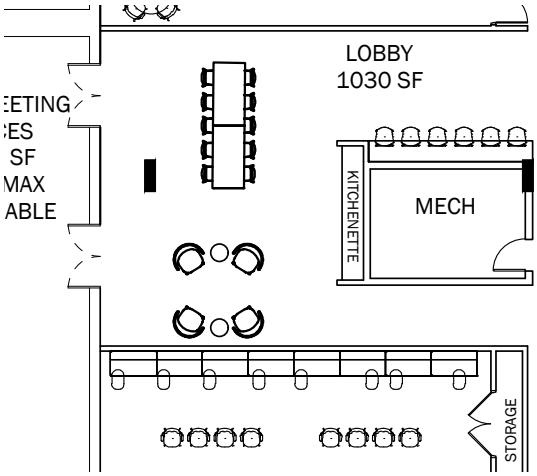
- 840 SF Per Space
- Seats 40
- Table Seating 24
- Perimeter Seating 16
- Flexible Training Tables with Perimeter Seating
- Front Presentation Table
- Storage Credenza
- Media Screen
- Writable Glass or Marker Board

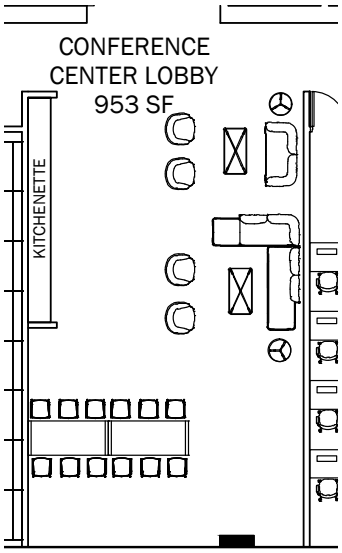


SPACE TYPES

COFFEE BREAK ROOM & COFFEE BREAK WITH CATERING 96 SF

COMMUNITY - SPECIAL SPACES





TYPICAL LAYOUT

Located in Common space per floor or within department

Small Kitchenette Bar Seating or High Tables

Lounge Seating

SPACE TYPES

SERVICE COUNTER

SPECIAL SPACES

TYPICAL LAYOUT

For Departments requiring customer service interface with intergrated technology and/or payment porcessing

All counters to be Sit-Down ADA compliant

Plexi Glass or Other Barrier between stations for COVID considerations and Privacy

Any Cash Collecting Counter to be ballistics rated

SPACE TYPES

COMMON SHARED AMENITIES - VARIES 1,945 SF APPROX.

COMMUNITY

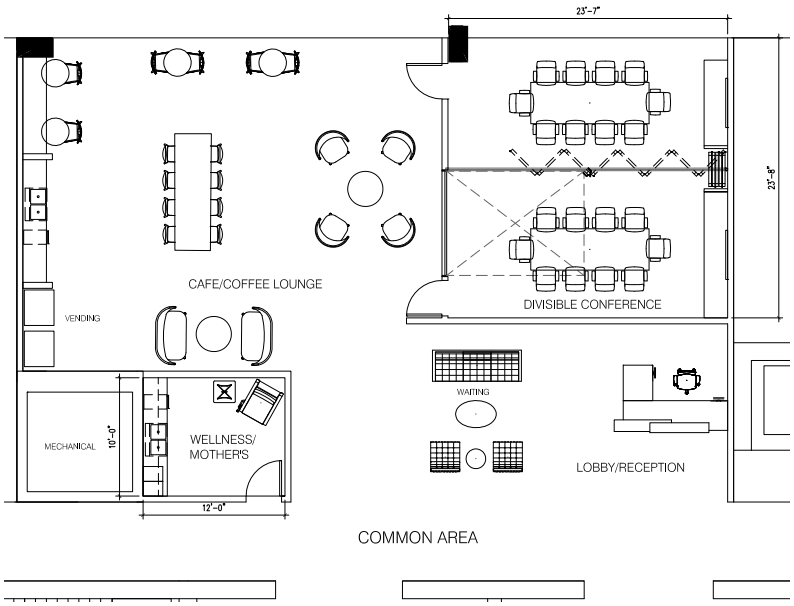
TYPICAL LAYOUT

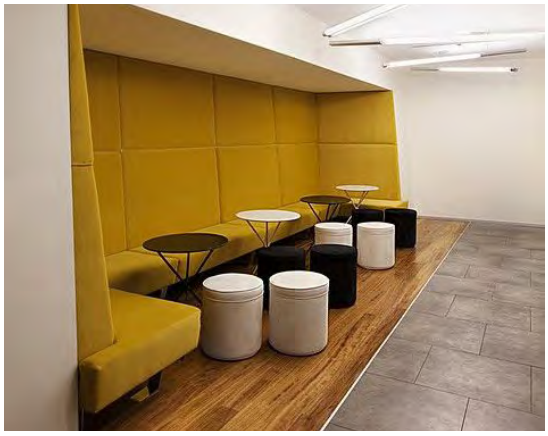
Cafe Lounge 750 SF

Lobby/Reception 280 SF

Wellness/Mother's Room 120 SF

X-Large Conference Room 520 SF





DCP

APPENDIX C

JGCC Program | Meeting Room Conceptual Layouts Levels 2-3-4-9

BOOK 3 | SEPTEMBER 14, 2020

APPENDIX C | TABLE OF CONTENTS

CONFERENCE CENTER P. 200

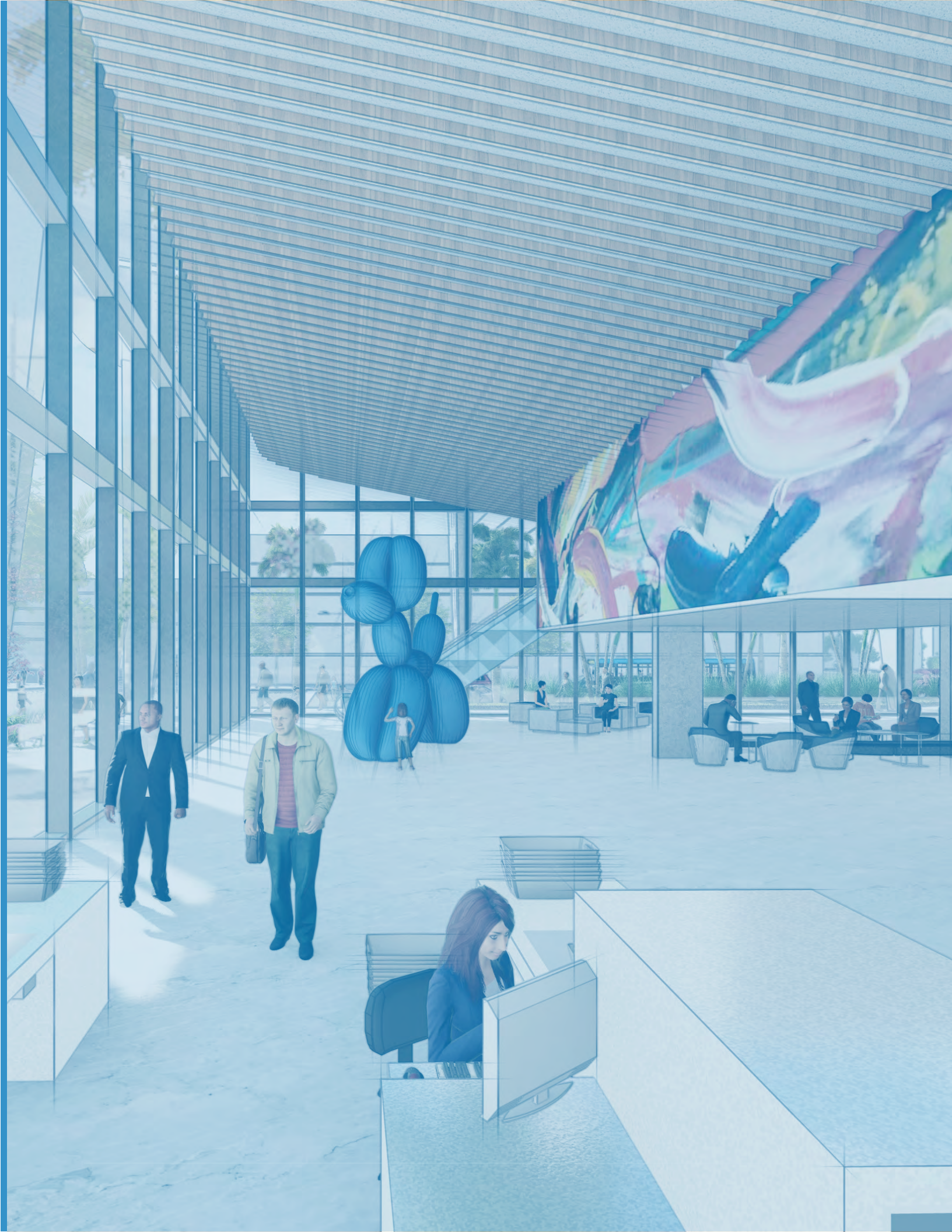
MEETING ROOMS, LOUNGES AND SUPPORT AREA TOTALS P. 201

2ND LEVEL MEETING ROOMS, LOUNGES AND SUPPORT
- City and County Private Waiting
- Pre-Chamber Waiting and Display

3RD LEVEL MEETING ROOMS, LOUNGES AND SUPPORT P. 202
- City and County Private Staff Room
- 2/3 Pre-function and Vending
- Conference Center Lobby
- 3A Conference Room
- 3B Conference Room
- 3D Conference Room
- 3F Conference Room
- 3G Conference Room
- General Furniture Storage

4TH LEVEL P. 215
- Conference Lounge
- Conference Center Lobby
- Storage
- 4A Conference Room
- 4B Conference Room
- 4C Conference Room
- 4E and 4F Conference Rooms

9TH LEVEL P. 223
- Conference Center Lobby
- Conference Center Lounge
- 9A Conference Room
- 9B Conference Room

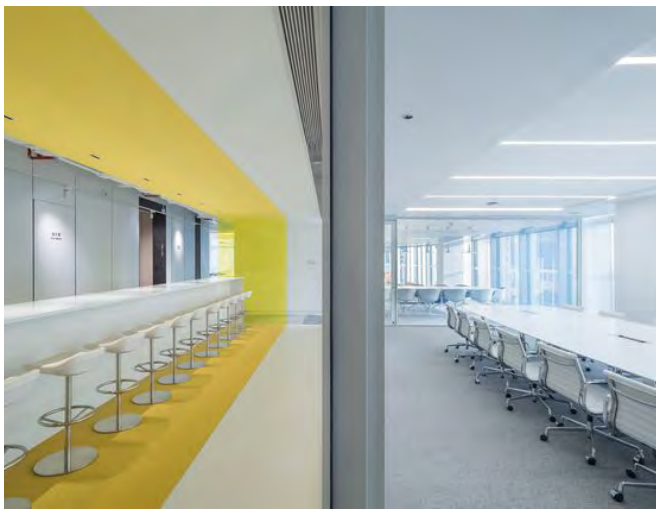


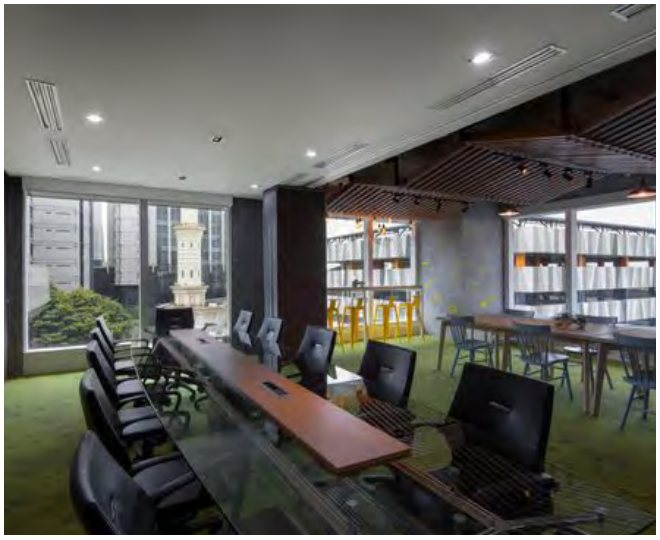
CONFERENCE CENTER: LEVELS 2, 3, 4 AND 9

CONFERENCE CENTER

The Conference Center is comprised of 14 Meeting Rooms distributed throughout 4 levels of the Joint Government Center, and should feature state-of-the-art integrated technology, easy scheduling app, flexible seating and table arrangements, and equipped with hospitality credenzas. Located at the perimeter of the building, with daylight and city views and accessible break-out lounges. Pre-function rooms and lounges should offer vending areas with coffee, healthy snacks and beverages.

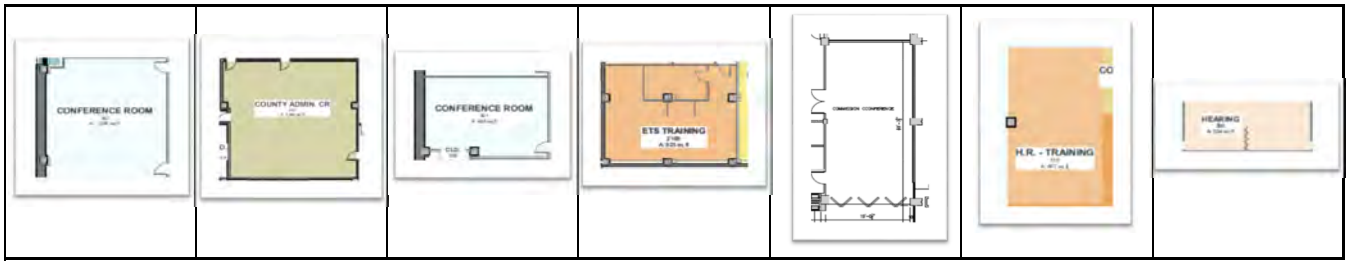
The Conference Center should offer first-rate meeting and conference accommodations in a secure venue.





Existing Meeting Rooms - Reference

GCE 302 Existing Layout	GCE 430 Existing Layout	GCE 301 Existing Layout	ETS Training Existing Layout	City 8th Floor Conf. Rm, Existing Layout	H.R. Training Room 515 Existing Layout	GCE Hearing Room Existing Layout
1,005 SF	1,480 SF	620 SF	925 SF	800 SF	807 SF	534 SF

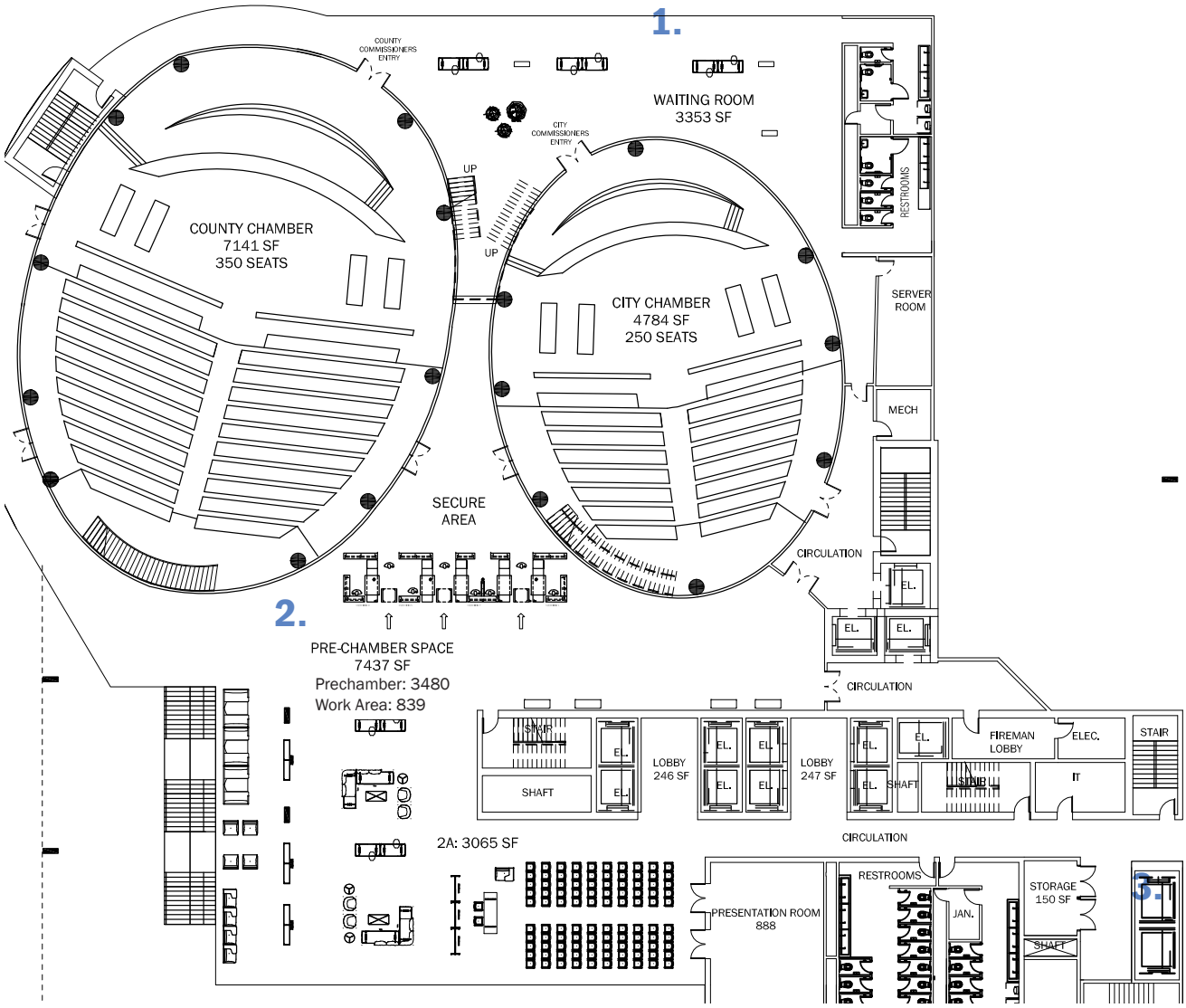


Meeting Rooms, Lounge Waiting and Support Areas for Levels 2, 3, 4 and 9

Room #	Size SF	Presentation and Waiting	Work Area	Pre-Chamber	City and County Staff Support Area	City and County Staff Lounge	City and County Chambers Pre-Function	Conference Center Lobby	Lounge	New GCE 302	New GCE 430	New GCE 301	Hearing/Board Room	New ETS Training Room	Meeting Room	City 8th Floor Meeting Room	TOTAL
2nd Level																	
2A	3,065	1															
Work Area	839		1														
Pre-Chamber	3,480			1													
Staff Support Area	3,553				1												
3rd Level																	
3A	2,446									1							
3B	1,710										1						
3D	891											1					
3F	1,065														1		
3G	1,125													1			
Staff Lounge	3,251					1											
Chambers Pre-Function	1,950						1										
Conference Center Lobby	953							1									
4th Level																	
4A	1,615															1	
4B	1,246											1					
4C	2,468										1						
4E	675												1				
4F	604												1				
Lobby	1,030																
Lounge	990								1								
9th Level																	
9A	2,301										1						
9B	1,229									1							
Lounge	215								1								
Conference Center Lobby	953							1									
Total per Room Type		1	1	1	1	1	1	2	2	2	3	2	2	1	1	1	22

This Chart represents the total Meeting Rooms, Lounges and Support Area provided on Level 2, 3, 4 and 9

2ND LEVEL



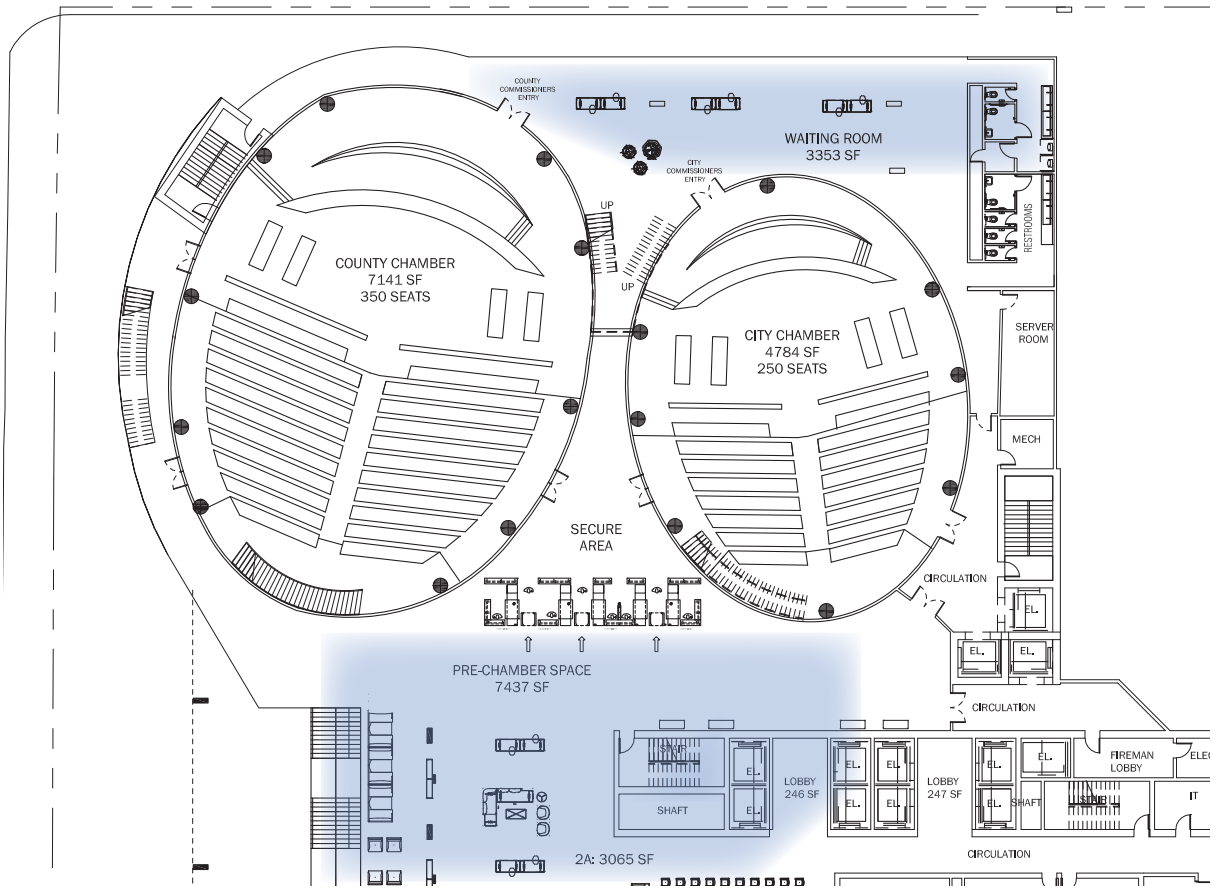
SPACES

1. City & County Staff Private Waiting with Restrooms - 3,553 SF
2. Includes Pre-Function Waiting & Display/Presentation Space - 7,866 SF
3. Accessible Storage 150 SF

CHAMBERS	TOTAL CHAMBERS SPACE	TOTAL LOUNGE, WAITING AND SUPPORT AREAS	TOTAL STORAGE SPACE
2	11,925 SF	11,419 SF	150 SF

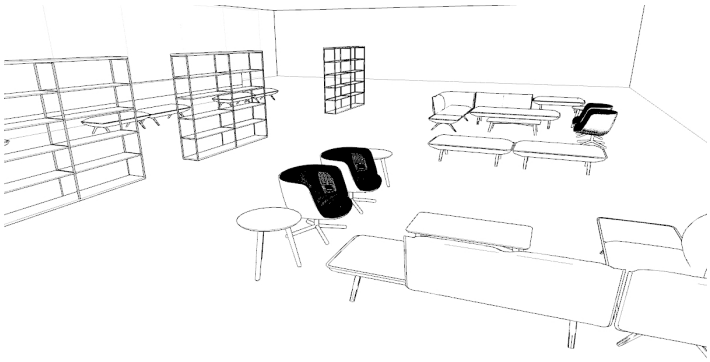
1. CITY & COUNTY CHAMBER PRIVATE WAITING

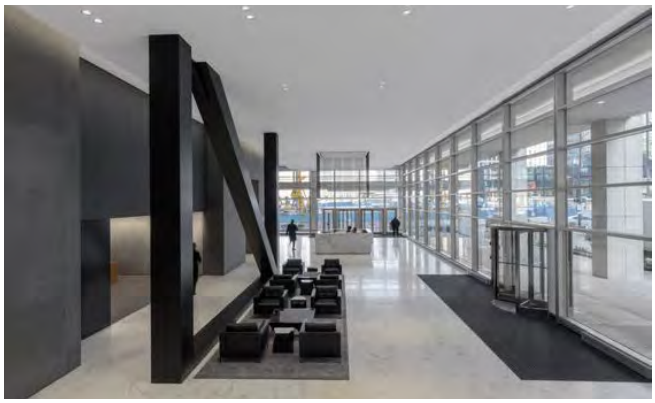
The City & County Private Waiting area provides a private short-term waiting area for staff. The area includes private access to elevator and stairs, restrooms, and back entries to City and County Chambers. Simple lounge furniture will support a quick phone call or prep before a meeting.

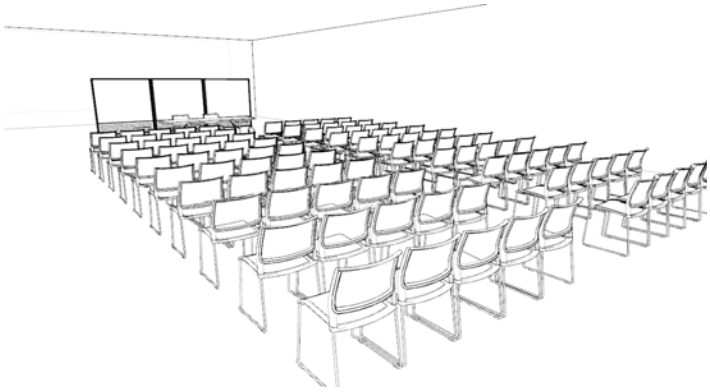


2. PRE-CHAMBER WAITING & DISPLAY

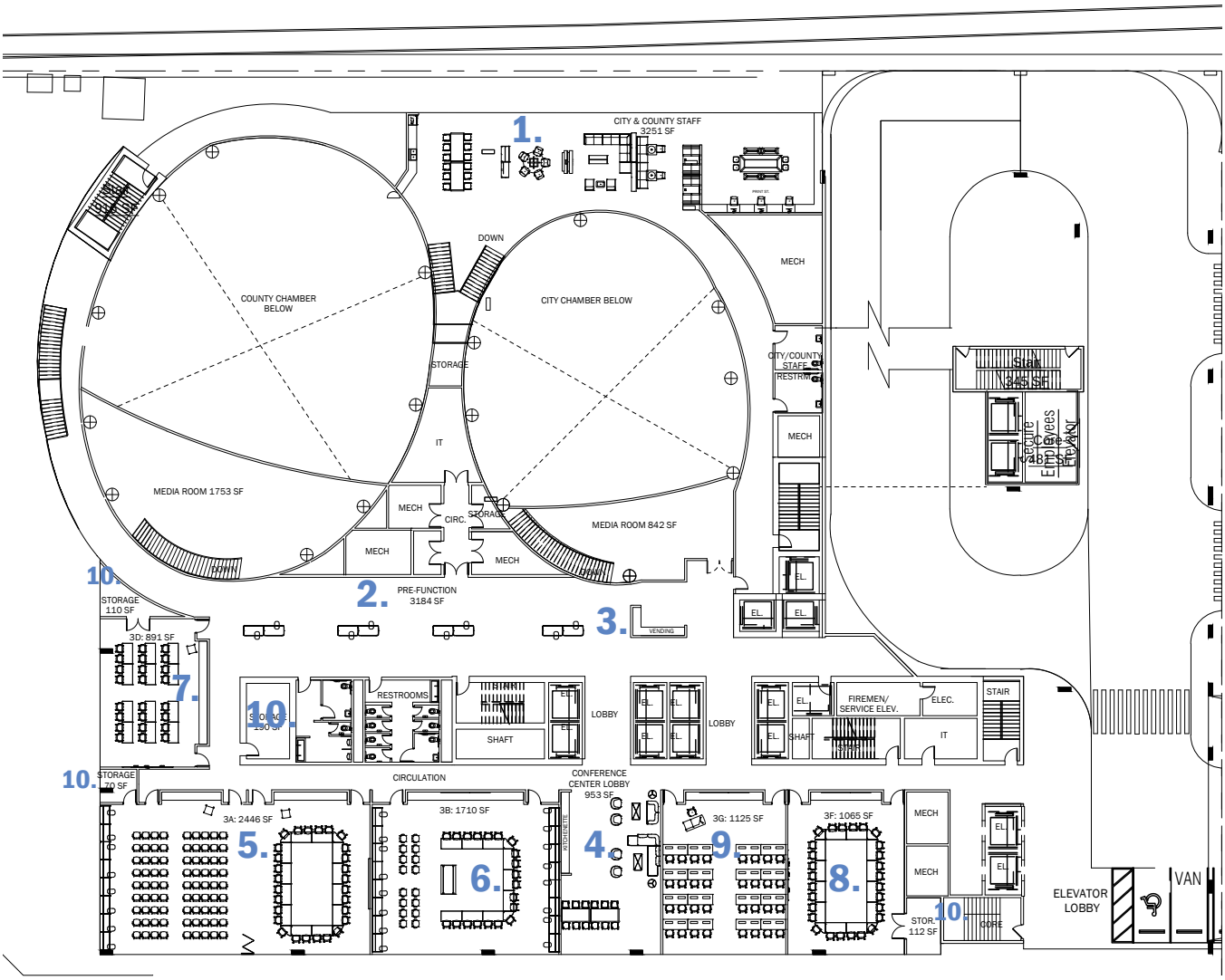
The Pre-Chamber space of 7,437sf includes a Pre-Chamber waiting space and a flexible Display & Presentation Space. The waiting space can sit 42 on lounge seating and benches and can have display cases for local events and highlights. The Display & Presentation space is shown with 100 seats that can expand if needed and is to be equipped with high quality 24 integrated video screens and personal audience response devices and speakers. It also features a private over-head viewing area also outfitted with personal audience response devices and speakers.







3RD LEVEL



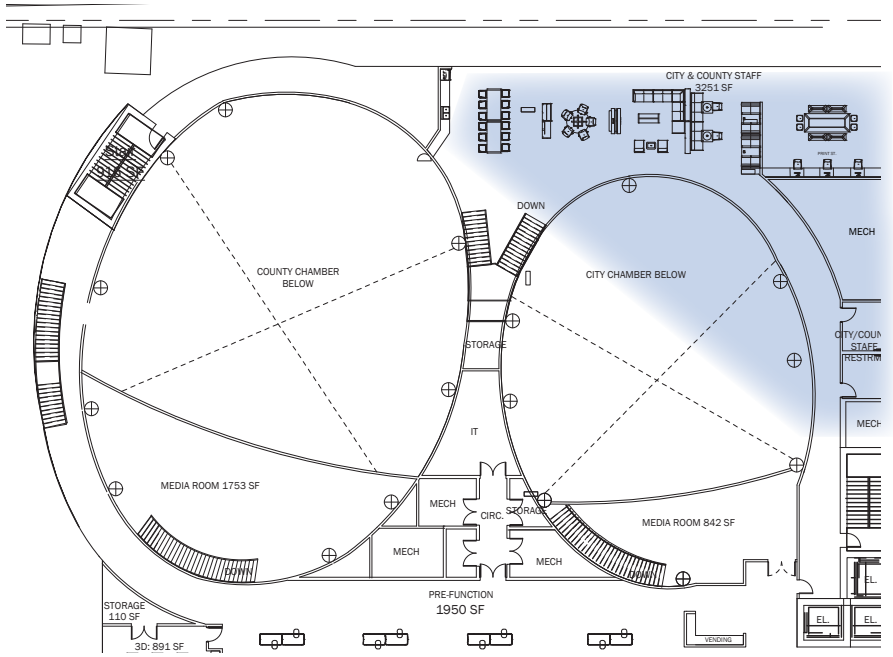
SPACES

1. City & County Staff Lounge 3,251 SF
2. City & County Chambers Pre-Function 1,950 SF
3. Vending 105 SF
4. 3RD Floor Conference Center Lobby 953 SF
5. 3A: Conference Room 2,446 SF with Millwork Storage 62 SF & Accessible Closet 70 SF
6. 3B: Conference Room 1,710 SF with Millwork Storage 54 SF
7. 3D: Conference Room 891 SF with Millwork Storage 48 SF & Accessible Closet Storage 110 SF
8. 3F: Conference Room 1,065 SF with Millwork Storage 34 SF & Accessible Closet 112 SF
9. 3G: Conference Room 1,125 SF with Millwork Storage 36 SF
10. Accessible Central Storage this Floor 190 SF

CONFERENCE ROOMS	TOTAL CONFERENCE SPACE	TOTAL LOUNGE, WAITING AND SUPPORT AREAS	TOTAL CLOSET STORAGE SPACE
5	7,237 SF	6,259 SF	482 SF

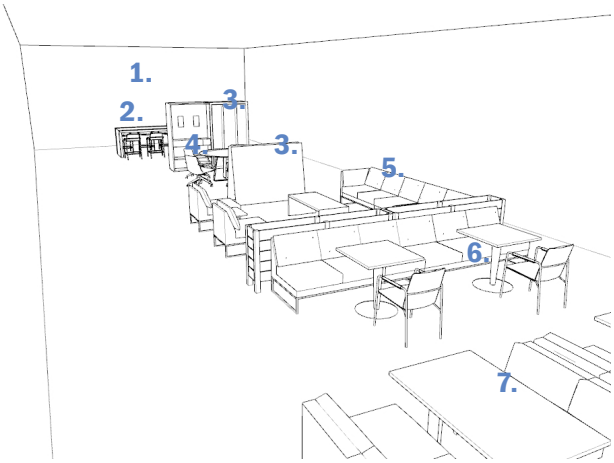
1. CITY & COUNTY PRIVATE STAFF ROOM

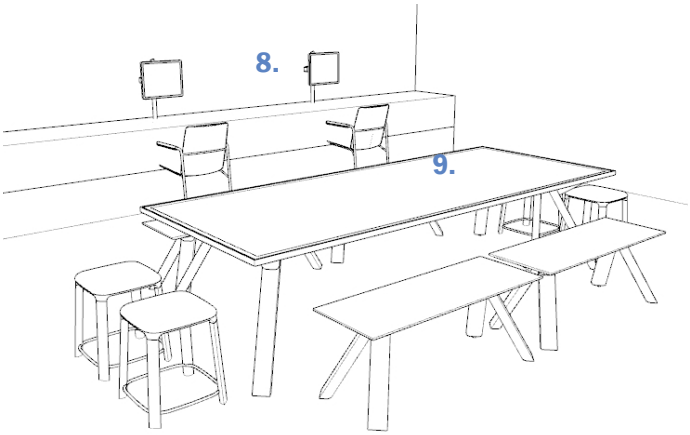
The City & County Private Staff area provides a private long-term waiting area for staff. The area includes private access to elevator and stairs, restrooms, and private access to City and County Chambers. Furniture arrangements will support lounging, eating, coffee, quick meetings, and touch-down stations.



KEY FEATURES

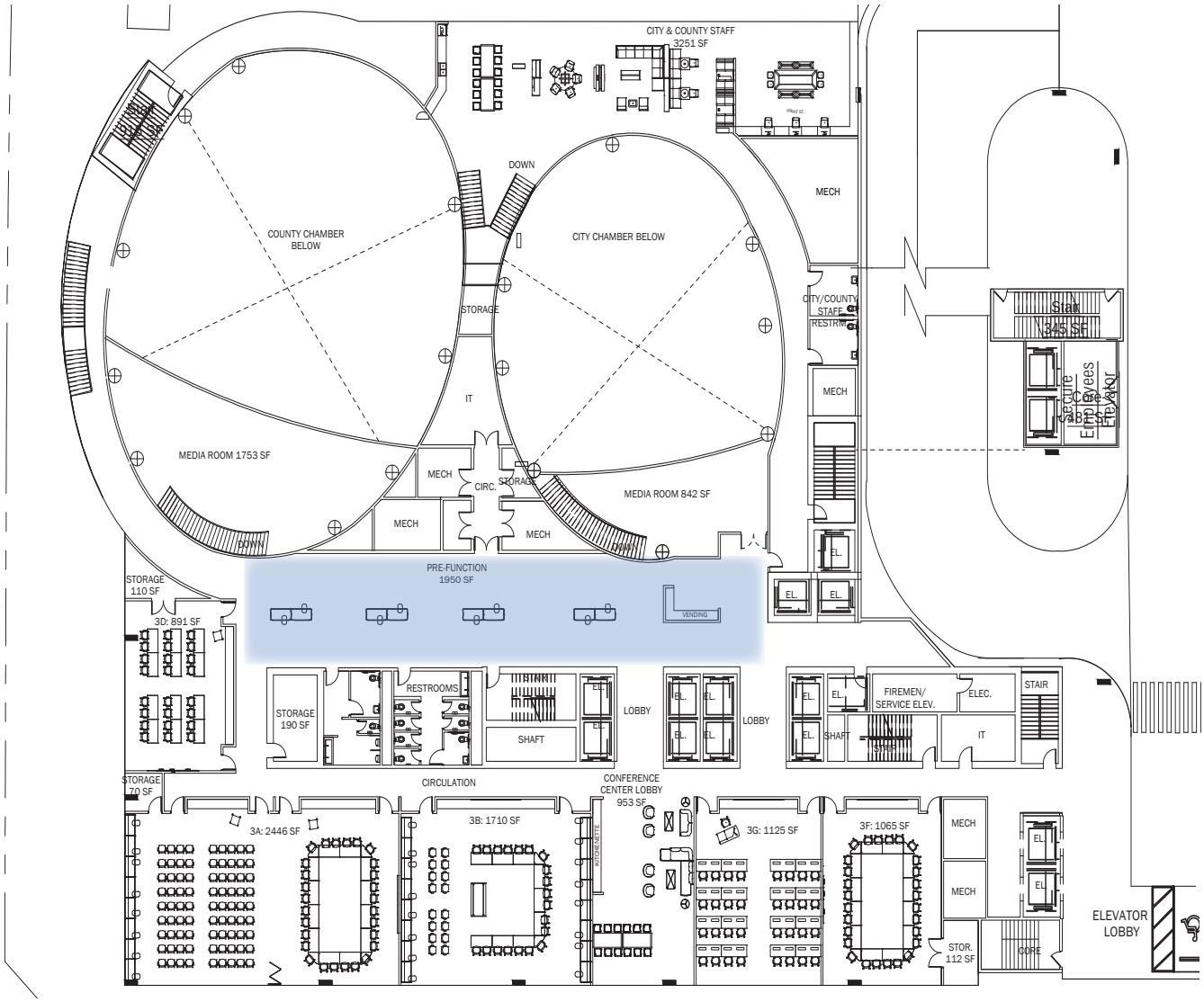
1. Kitchenette with refridgerator, coffee, and snacks
2. High Tables
3. Media Screens
4. Informal Meeting Tables
5. Lounge Seating
6. Cafe Seating
7. Banquette Seating with Power Hookups
8. Print/Work Stations
9. Private Meeting or Prep Space



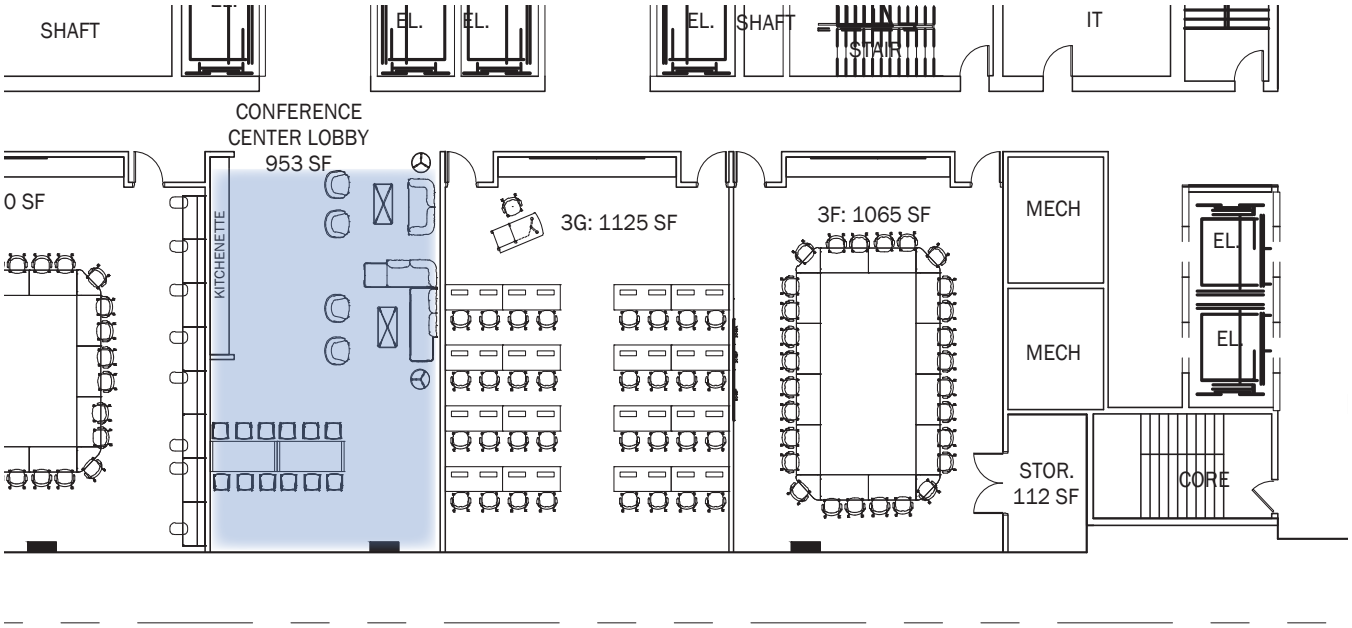


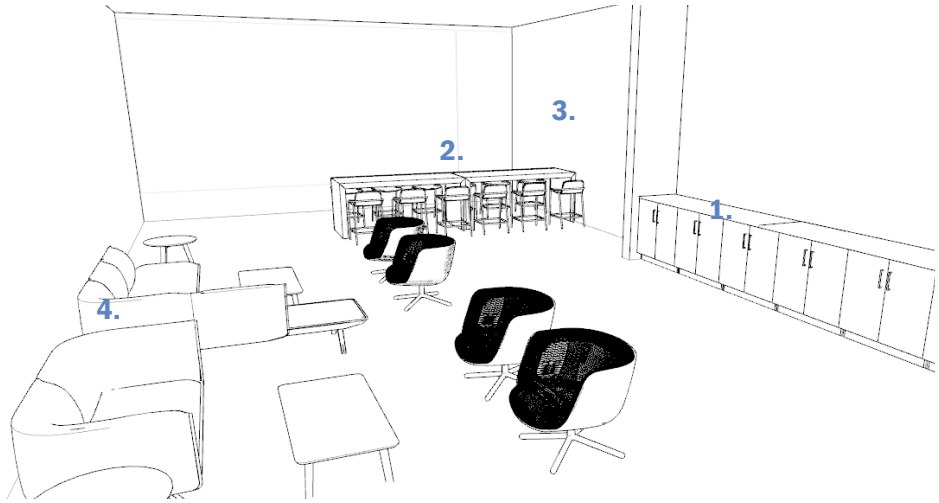
2./3. PRE-FUNCTION & VENDING

The City & County 3rd Level Pre-Function to have bench seating and a vending area to support the chamber and media room staff



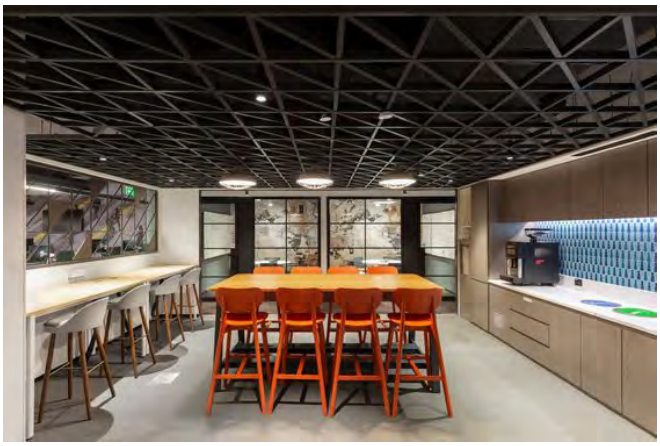
4. CONFERENCE CENTER LOBBY





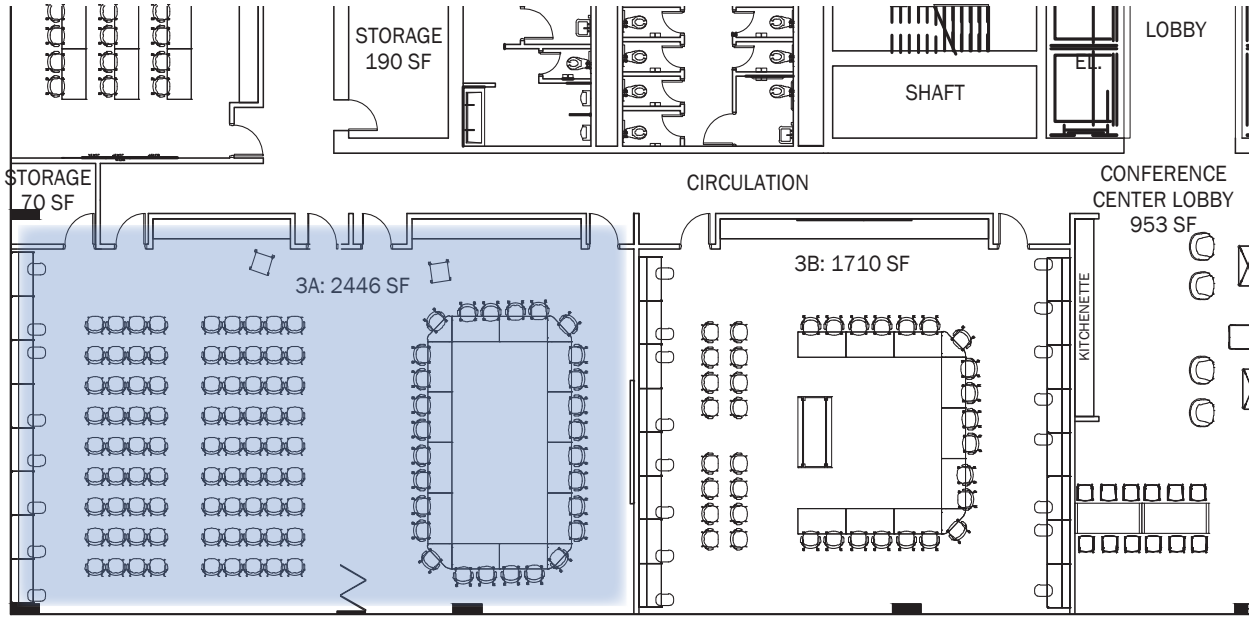
KEY FEATURES

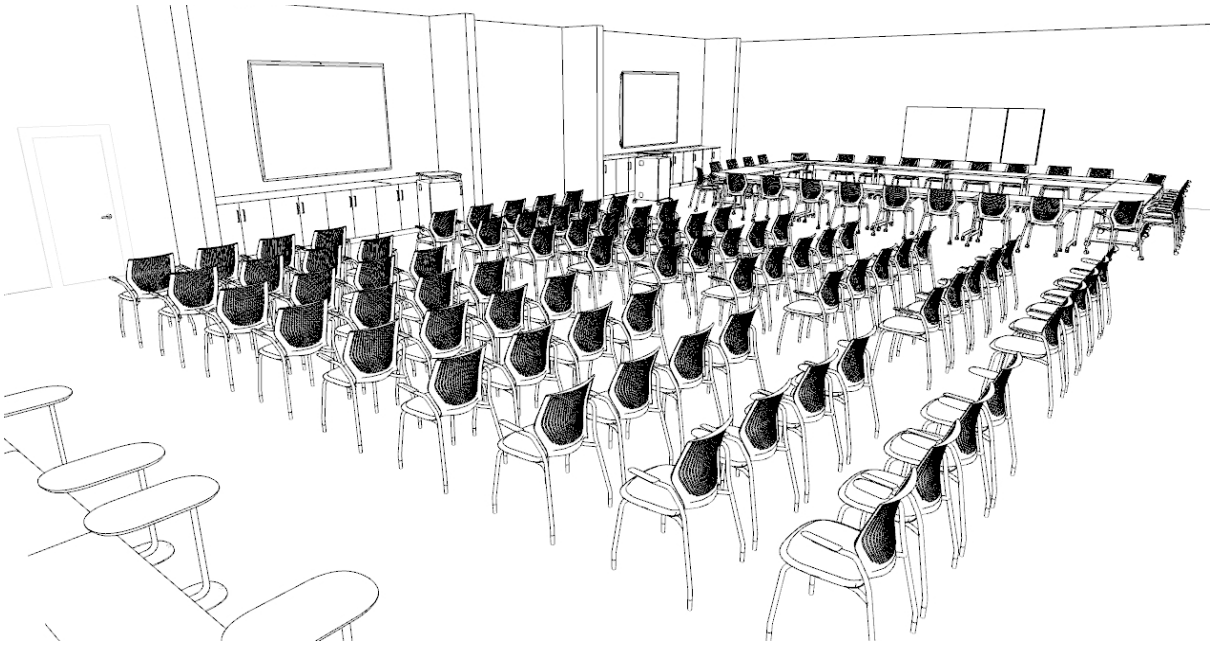
1. Kitchenette with Coffee and Snacks
2. High Tables
3. Media Screens
4. Lounge Seating



5. 3A CONFERENCE ROOM

3rd Level conference rooms to have flexible furnitue that can be arranged in multiple ways and stored away of needed for other uses. Each room to have smart media screens, power hookups and storage.





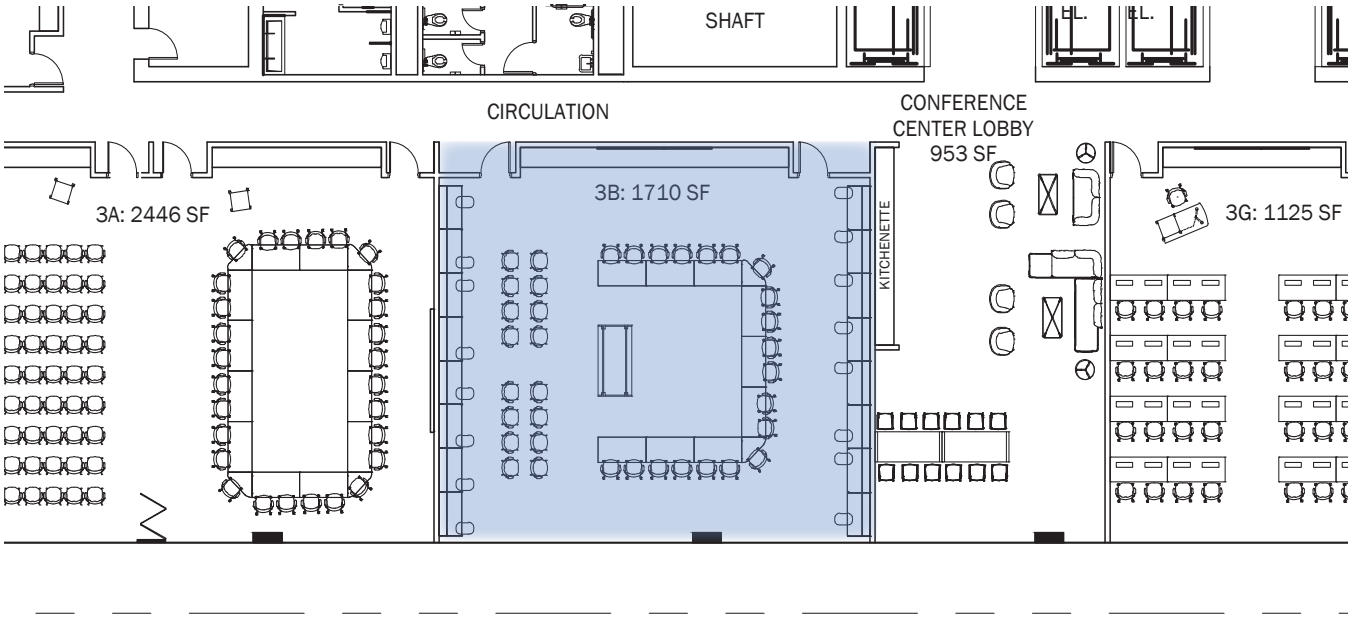
3A: KEY FEATURES
2,446 SF

Comparable to existing
GCE Room 302

1. Divisable Partition
2. 70 SF Furniture Storage
3. Lecterns
4. Low or High Front Cabinet Storage 62 SF
5. Front Media Screens
6. Side Writable Boards

Perimeter Seating: 16
Table Seating :28
Assembly Seating: 81
Total Seating: 125

6. 3B: CONFERENCE ROOM



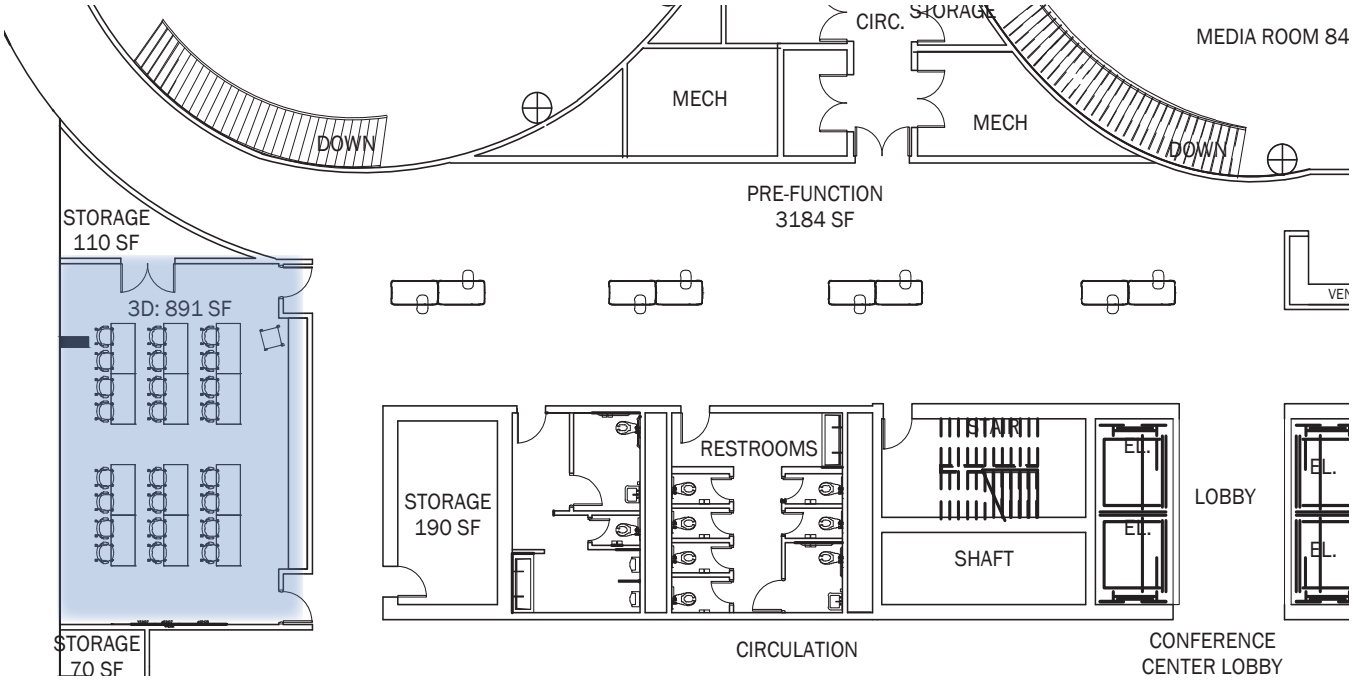
3B: KEY FEATURES
1,710 SF

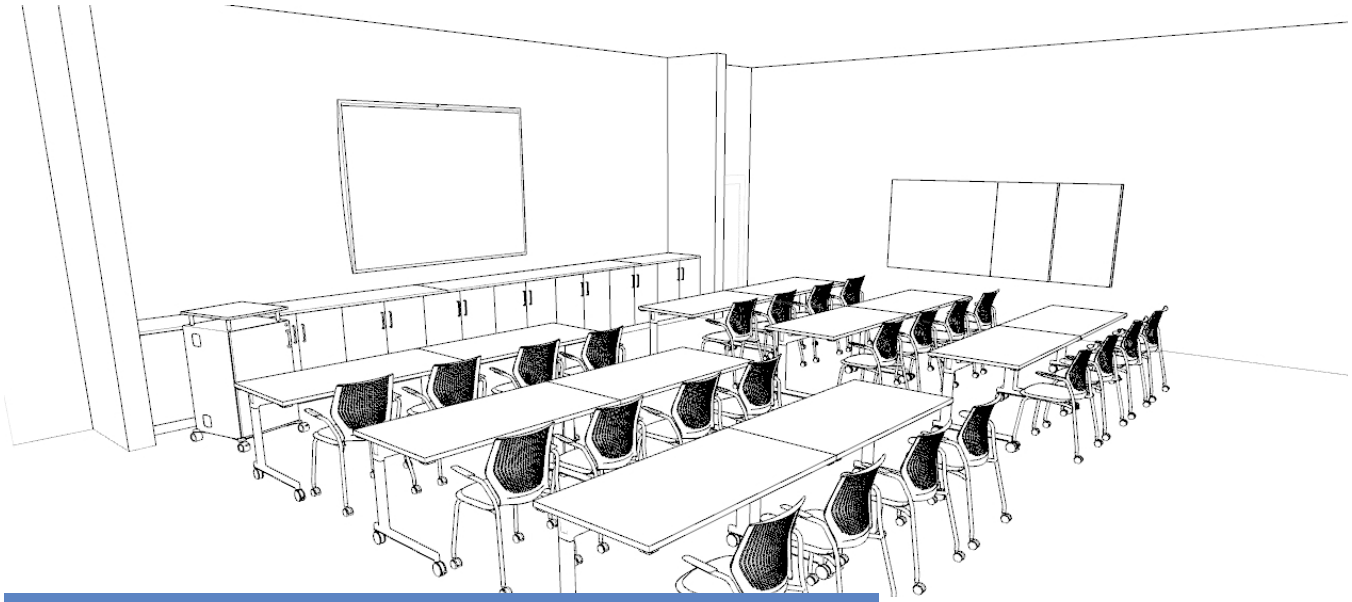
Comparable to existing
GCE Room 430

1. Low or High Front Cabinet Storage 54 SF
2. Front Media Screens
3 Presentation Tables

Perimeter Seating: 48
Table Seating: 20
Assembly Seating: 81
Total Seating: 125

7. 3D: CONFERENCE ROOM





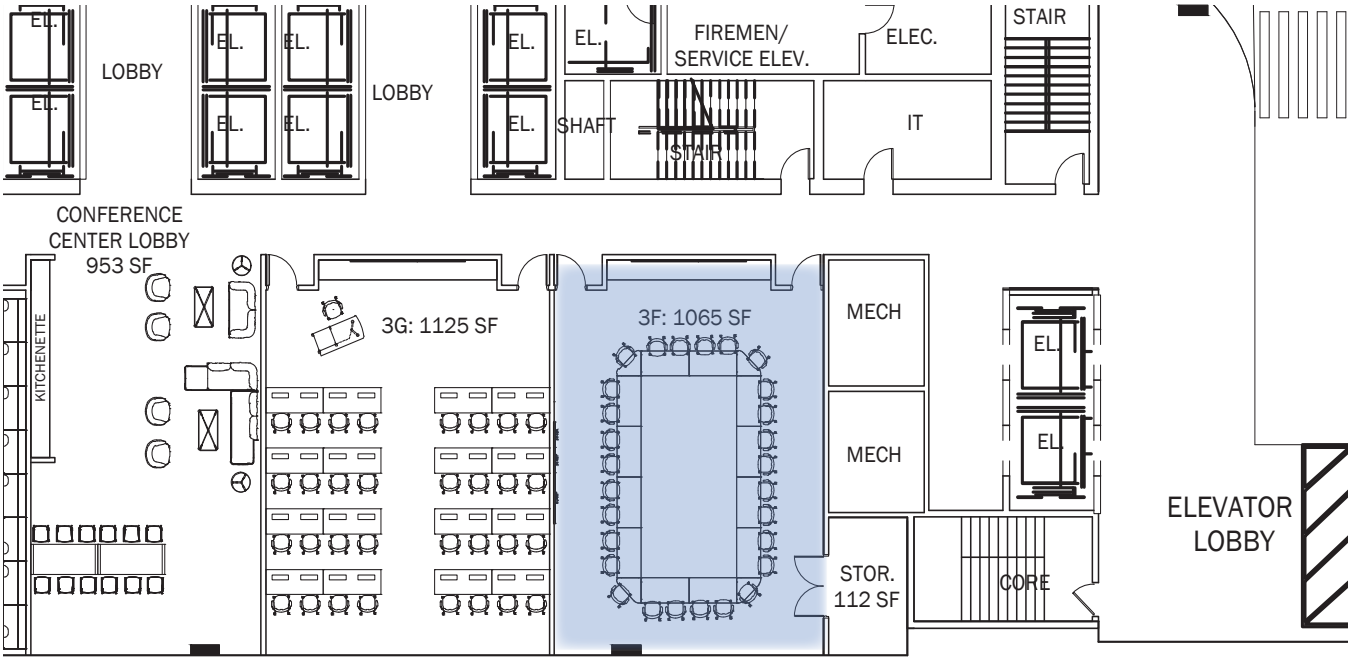
3D: KEY FEATURES
891 SF

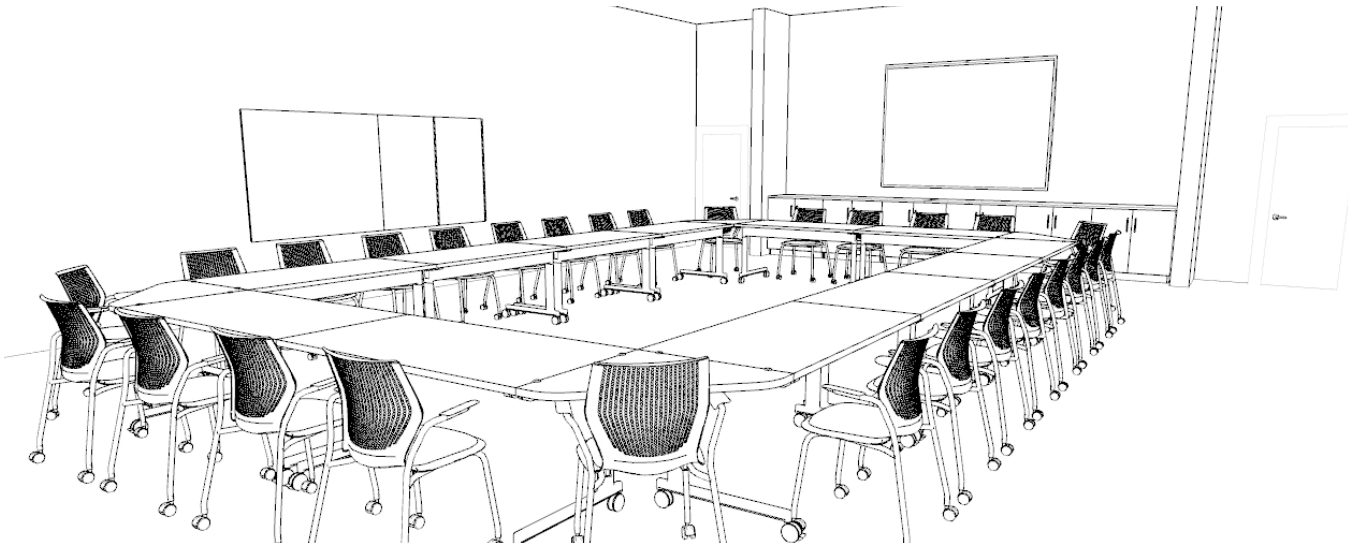
Comparable to existing
GCE Room 301

1. 110 SF Furniture Storage
2. Lecterns
3. Low or High Front Cabinet Storage 48 SF
4. Front Media Screens
5. Side Writable Boards

Table Seating: 24
Total Seating: 24

8. 3F: CONFERENCE ROOM





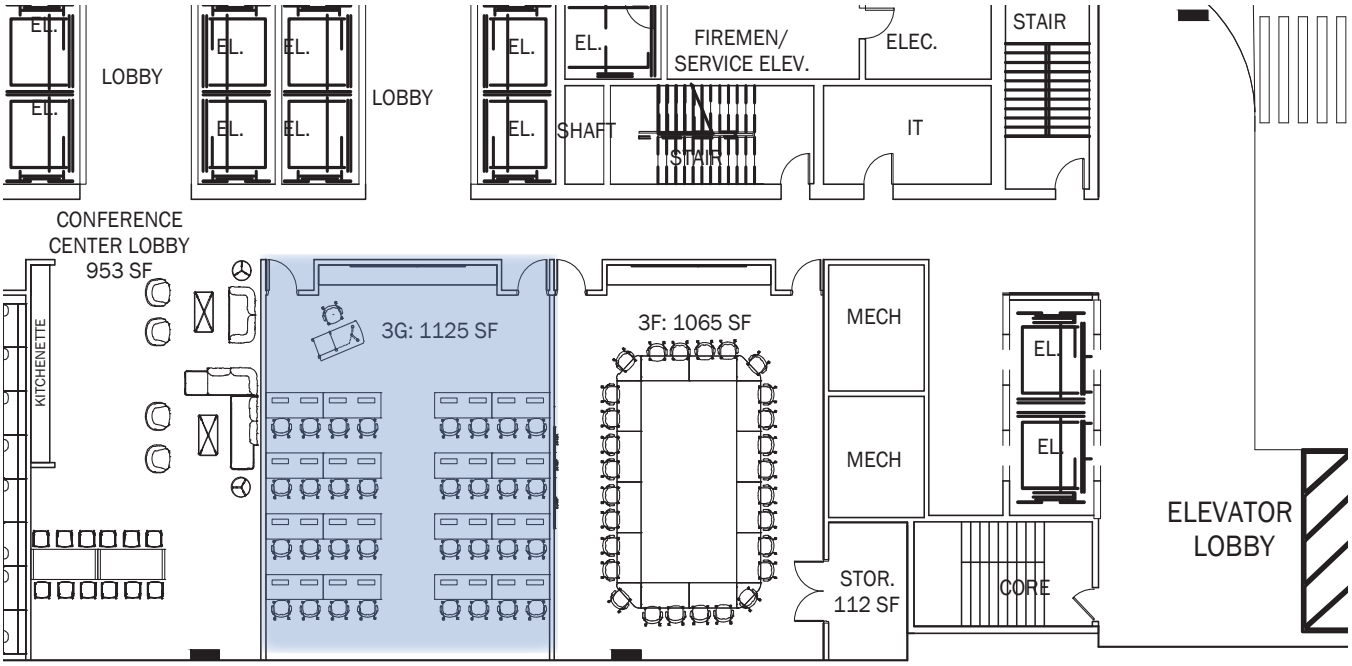
3F: KEY FEATURES
1,065 SF

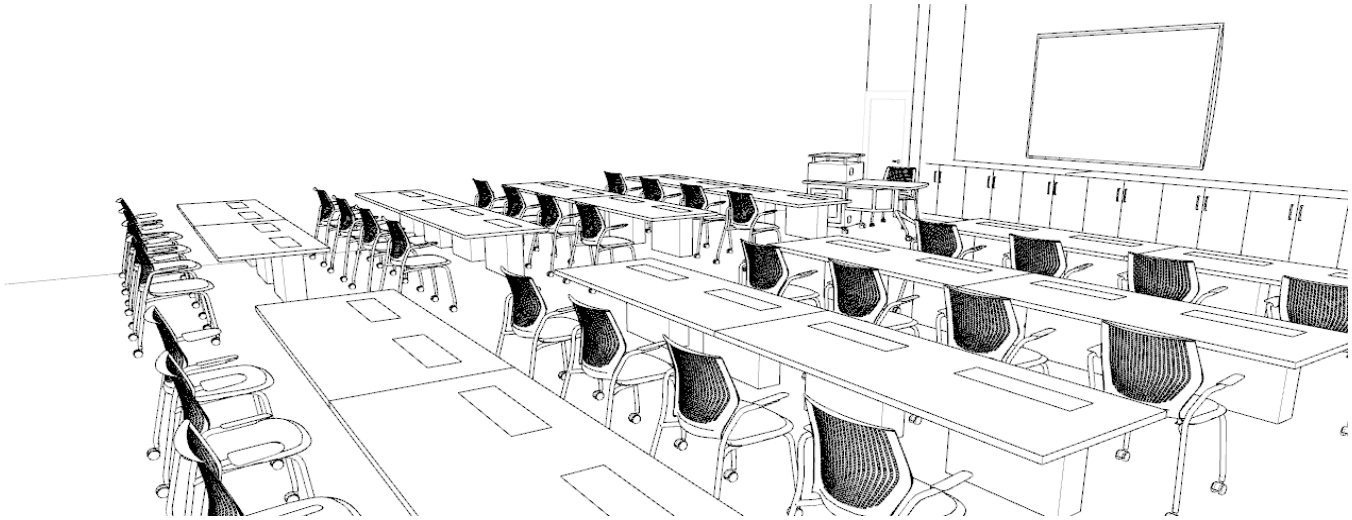
Meeting Room

1. Low or High Front Cabinet Storage 34 SF
2. Front Media Screens
3. Side Writable Boards
4. 112 SF Furniture Storage

Table Seating: 28
Total Seating: 28

9. 3G: CONFERENCE ROOM





3G: KEY FEATURES
1,125 SF

Comparable to existing

ETS Taining Room

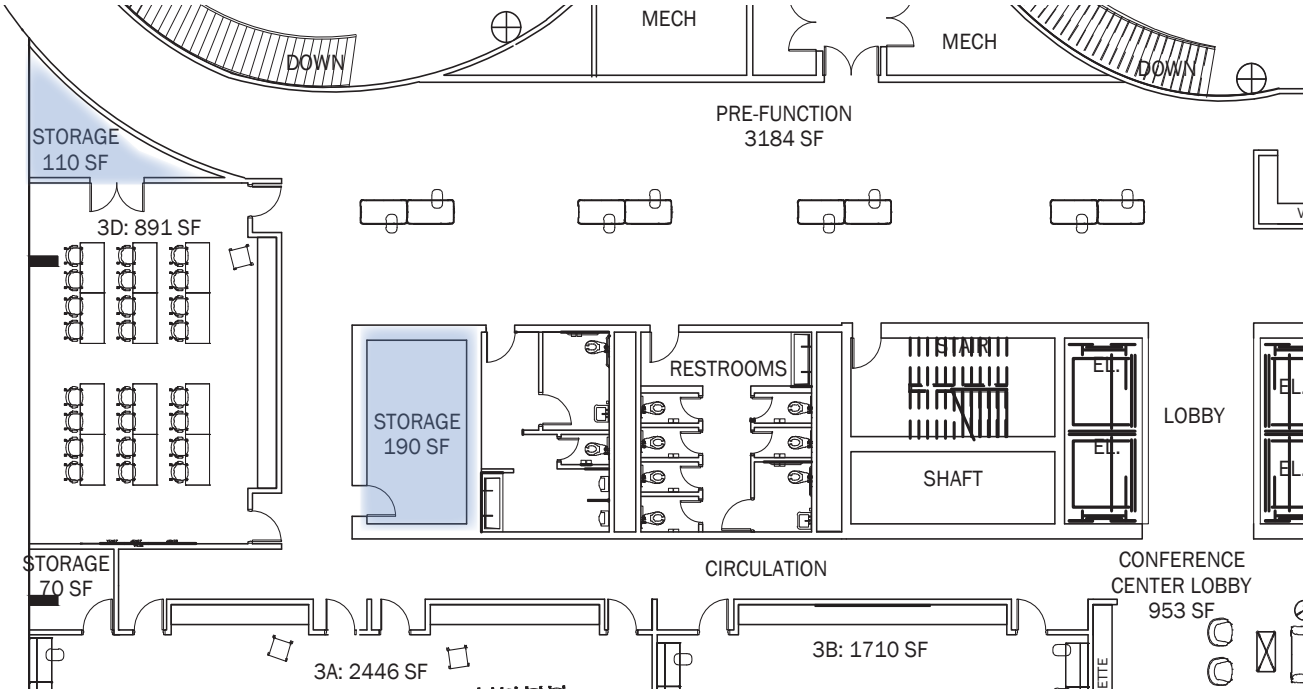
1. Teaching Table/Lecturn
2. Low or High Front Cabinet Storage 36 SF
3. Front Media Screens
4. Media tables for computer training

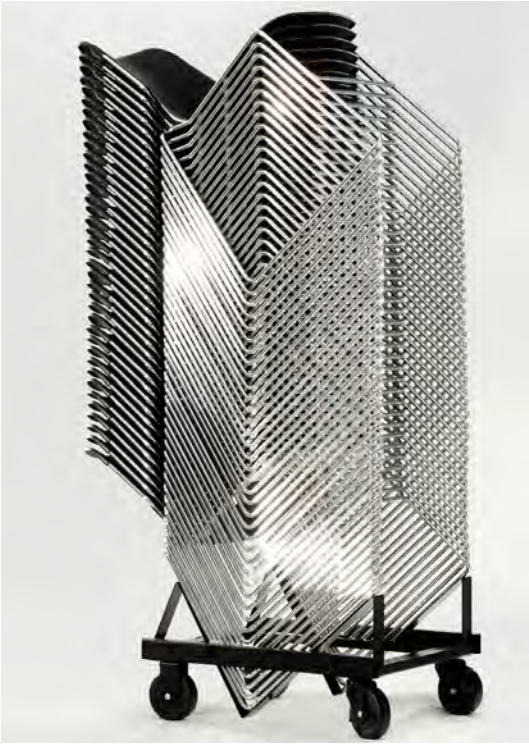
Table Seating: 32

Total Seating: 32

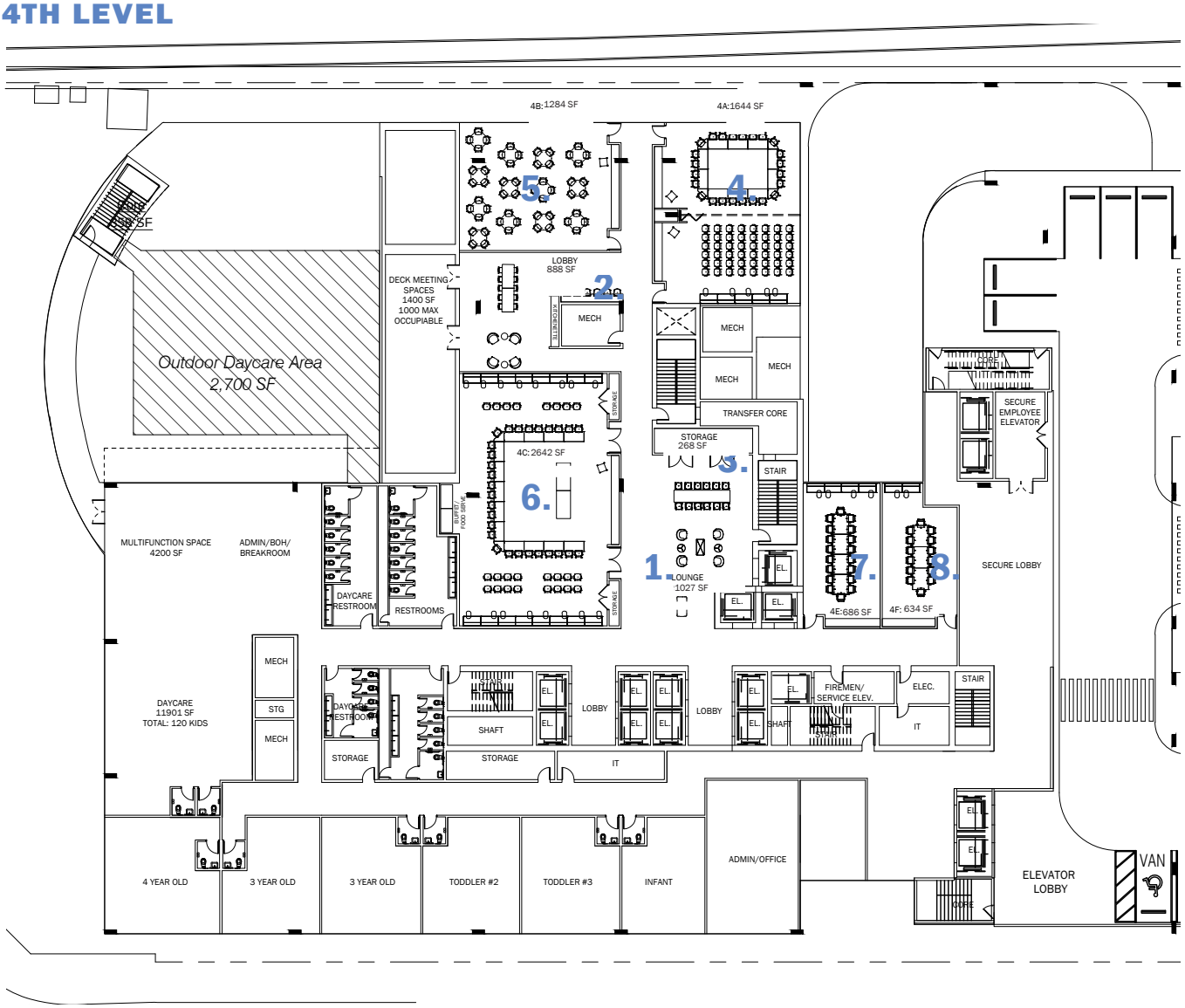
10. GENERAL FURNITURE STORAGE

General storage per floor to have adequate room for flip top training tables and stacking chairs to support the flexible furniture for meetings rooms.





4TH LEVEL



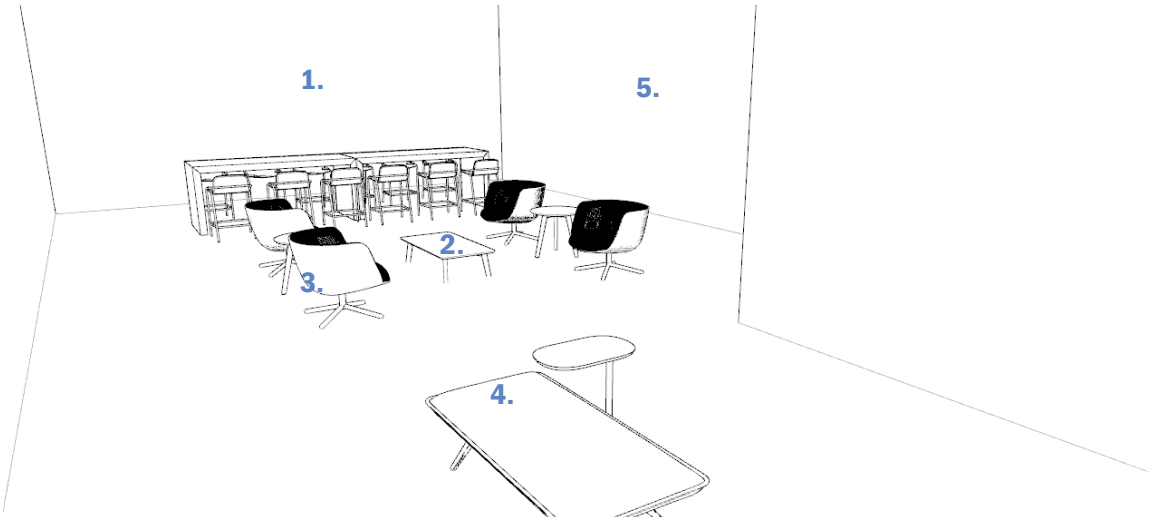
SPACES

1. Lounge 1,027 SF
2. Lobby 888 SF
3. Storage 268 SF
4. 4A: Conference Room 1,644 SF with Millwork Storage 60 SF
5. 4B: Conference Room 1,284 SF with Millwork Storage 42 SF
6. 4C: Conference Room 2,642 SF with Millwork Storage 44 SF & Accessible Closet 56 SF
7. 4E: Conference Room 686 SF with Millwork Storage 24 SF
8. 4F: Conference Room 634 SF with Millwork Storage 24 SF

CONFERENCE ROOMS	TOTAL CONFERENCE SPACE	TOTAL LOUNGE, WAITING AND SUPPORT AREAS	TOTAL CLOSET STORAGE SPACE
5	6,890 SF	1,915 SF	324 SF

1. 4TH LEVEL LOUNGE

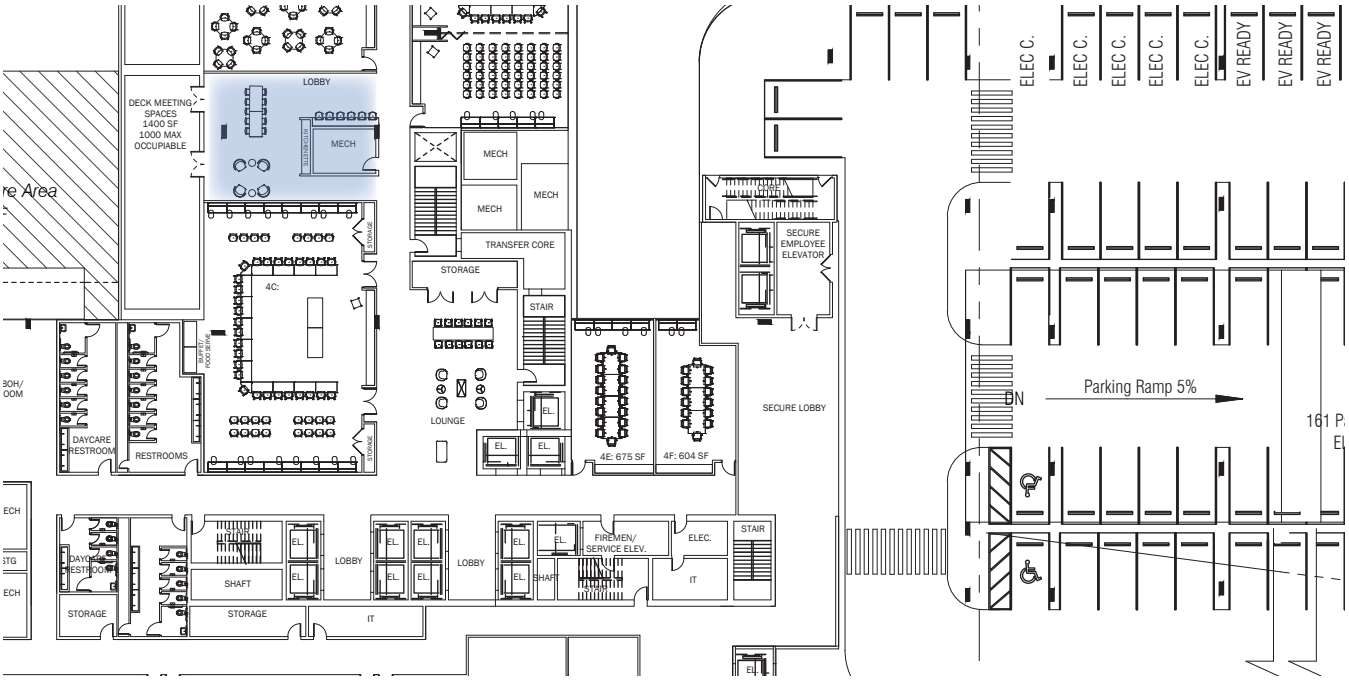
The 4th Level Lounge serves as a Pre-Function space for the 4th level conference rooms, while the Conference Center Lobby serves as a more private lounge option between meetings or to step out and take a call.

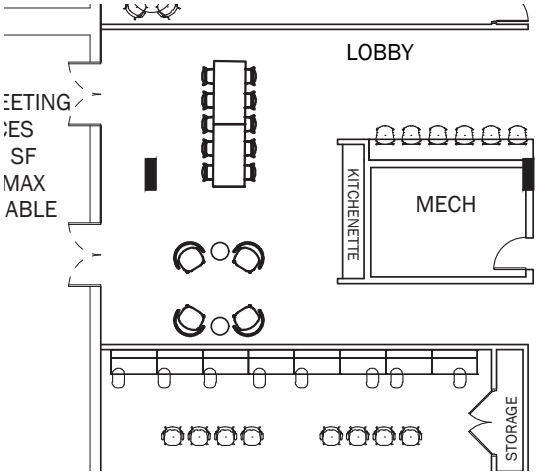


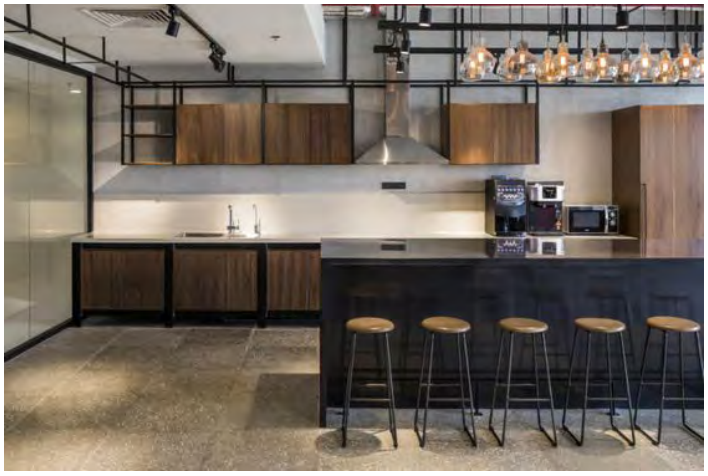
KEY FEATURES
1,027 SF

1. Media Screens or Branding
2. High Tables
3. Lounge Seating
4. Benches
5. Elevator Access

2. CONFERENCE CENTER LOBBY





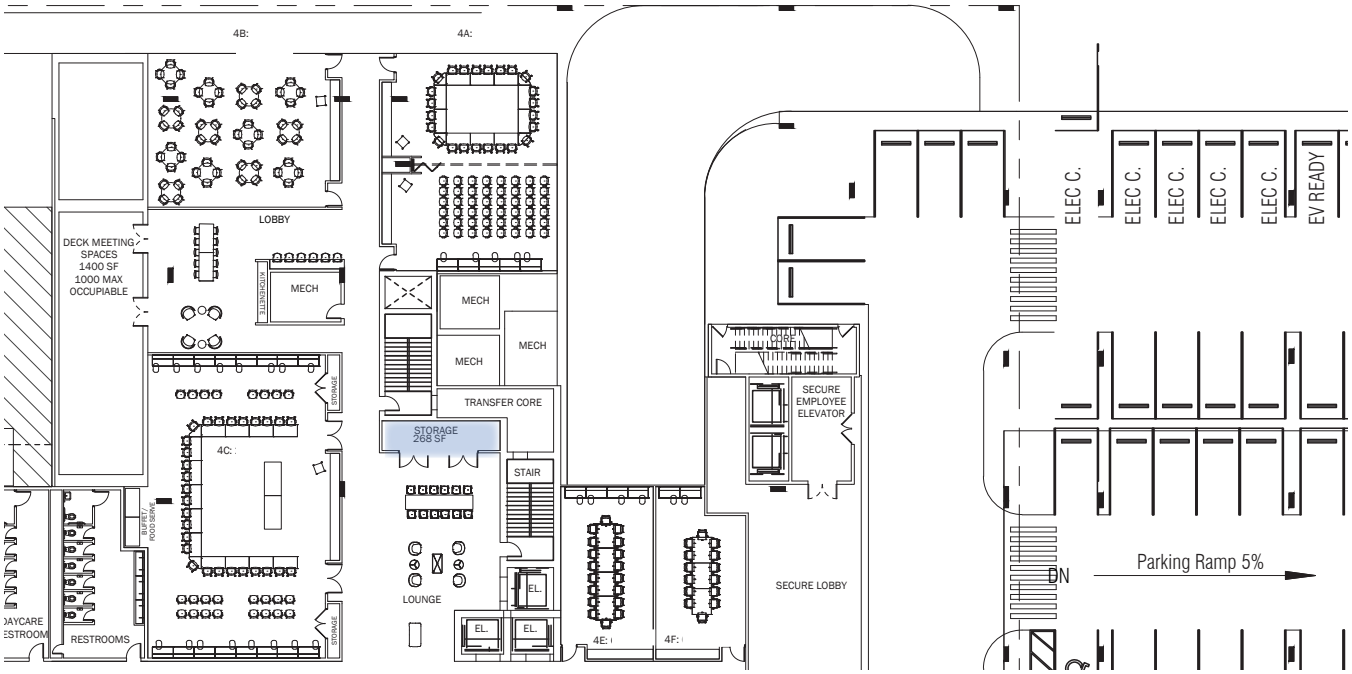


KEY FEATURES
888 SF

1. Kitchentte for coffee and snacks
2. Bar Seating
3. High Tables
4. Lounge Seating
5. Direct Access to Deck

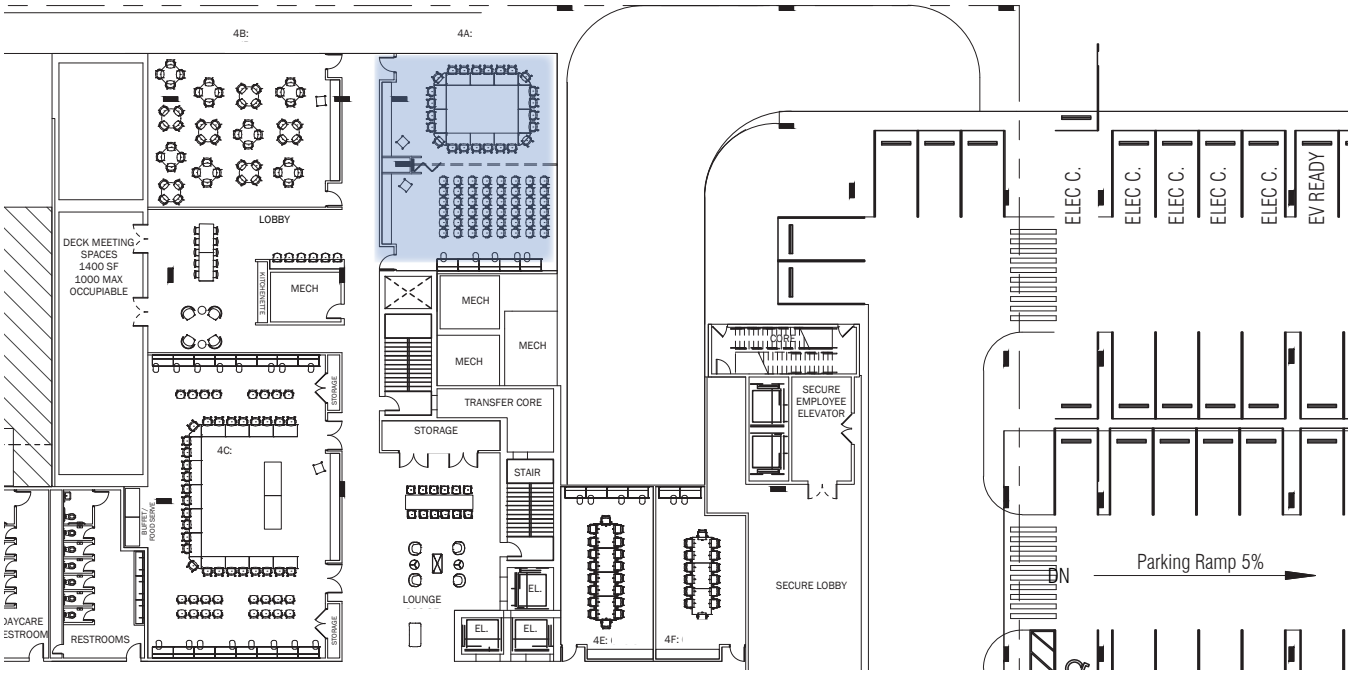
3. STORAGE

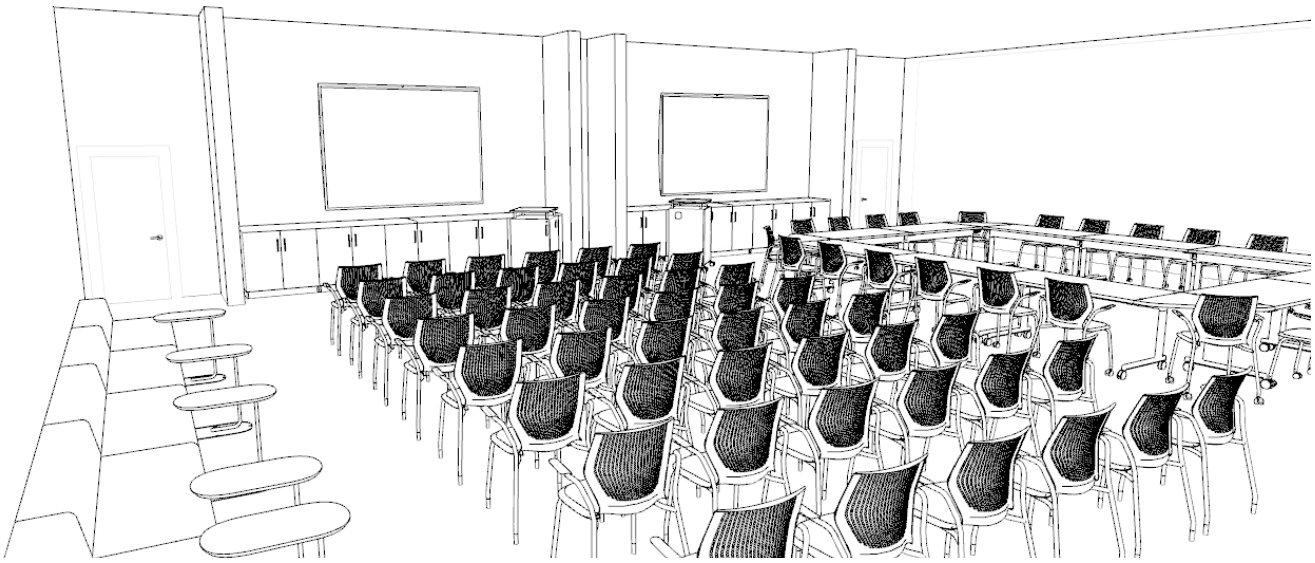
General storage per floor to have adequate room for flip top training tables and stacking chairs to support the flexible furniture for meetings rooms.



4. 4A: CONFERENCE ROOM

4th Level conference rooms to have flexible furnitue that can be arranged in multiple ways and stored away of needed for other uses. Each room to have smart media screens, power hookups and storage.





4A: KEY FEATURES
1,644 SF

Comparable to existing City **8th Floor Meeting**

1. Divisable Conference Room
2. High or Low Front Cabinet Storage 60 SF
3. Front Media Screens
4. Side Writable Boards

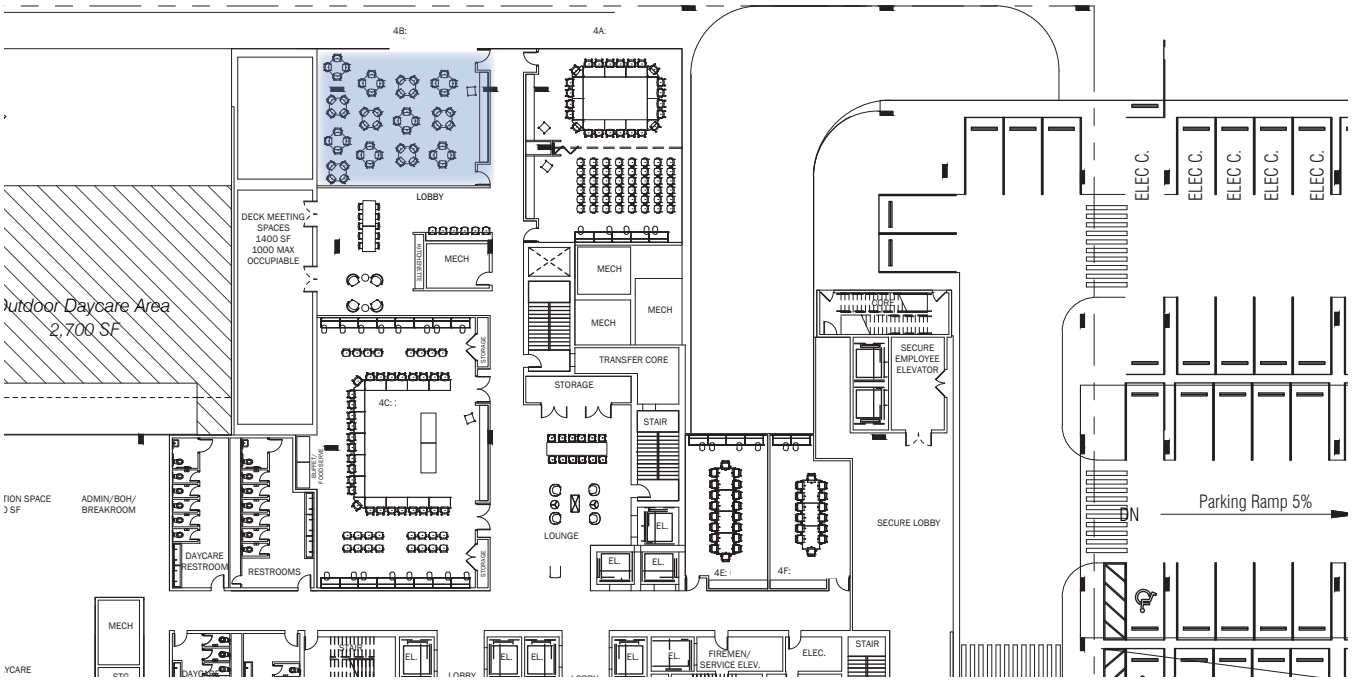
Assembly Seating: 48

Perimeter Seating: 10

Table Seating: 24

Total Seating: 82

5. 4B: CONFERENCE ROOM



4B: KEY FEATURES

1,284 SF

Comparable to existing

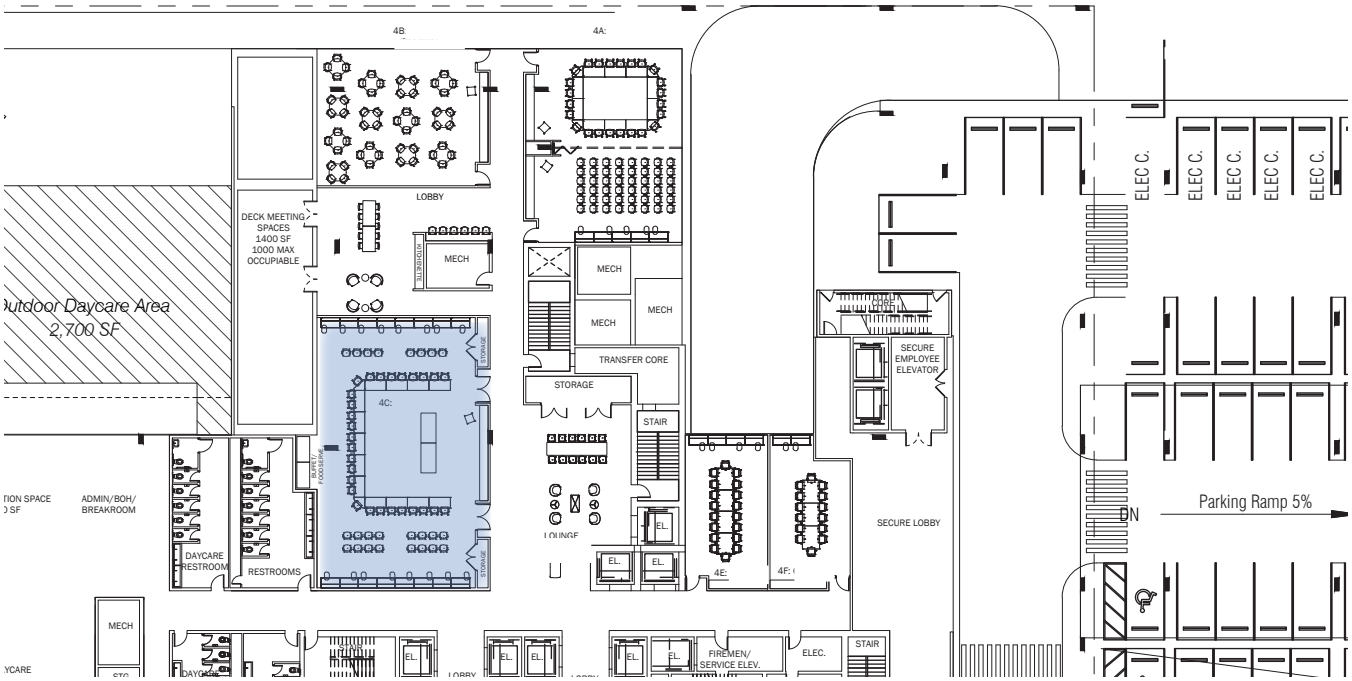
GCE Room 301

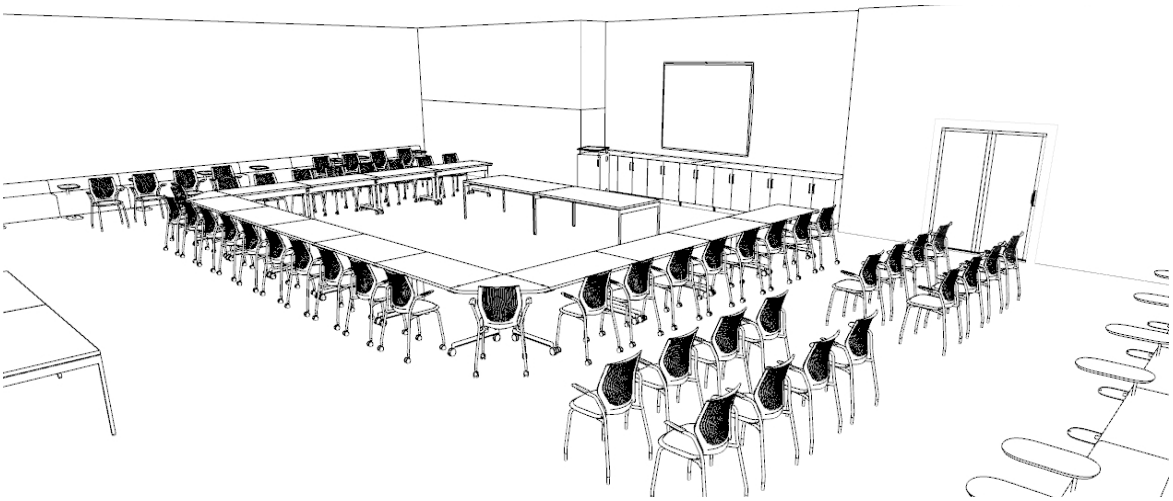
1. Lecturn
2. High or Low Front Cabinet Storage 42 SF
3. Front Media Screens
4. Side Writable Boards

Table Seating: 52

Total Seating: 52

6. 4C: CONFERENCE ROOM





4C: KEY FEATURES
2.642 SF

Comparable to existing

GCE Room 430

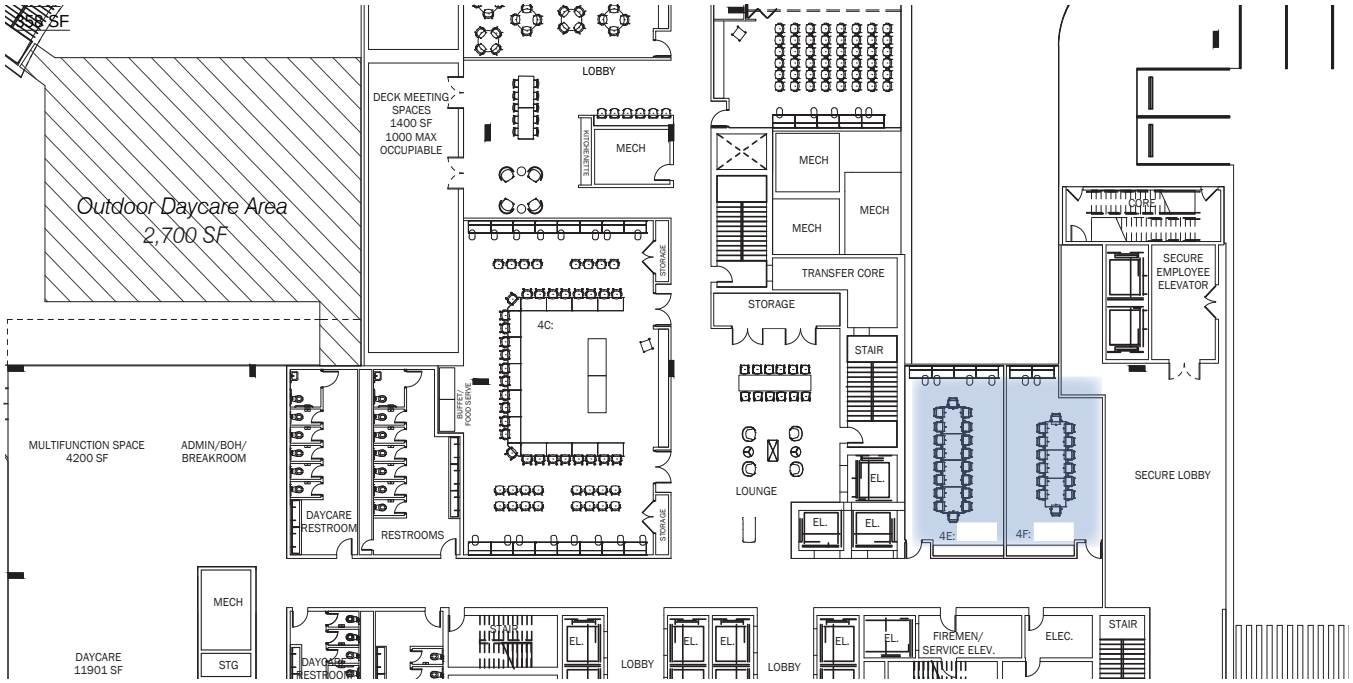
1. High or Low Front Cabinet Storage 44 SF
2. Front Media Screens
3. Center Presentation Table
4. 56 SF Closet Furniture Storage
5. Back Buffet Space

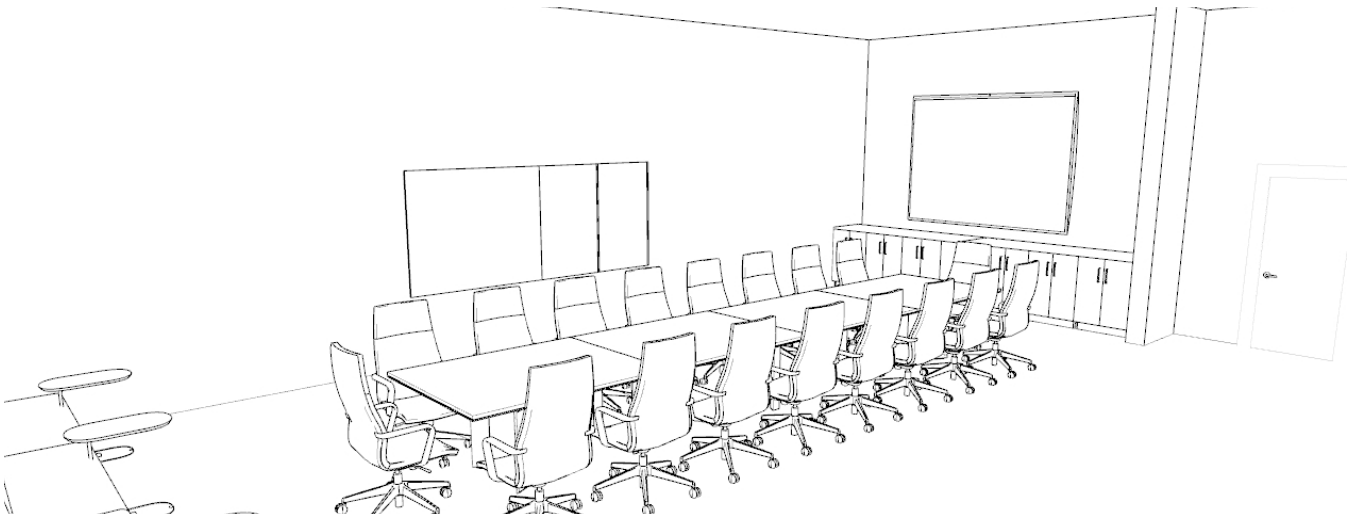
Perimeter Seating: 56

Table Seating: 28

Total Seating: 84

7. 4E & 4F: CONFERENCE ROOMs





4E & 4F: KEY FEATURES
4E: 686 SF 4F: 634 SF

Hearing/Boardroom

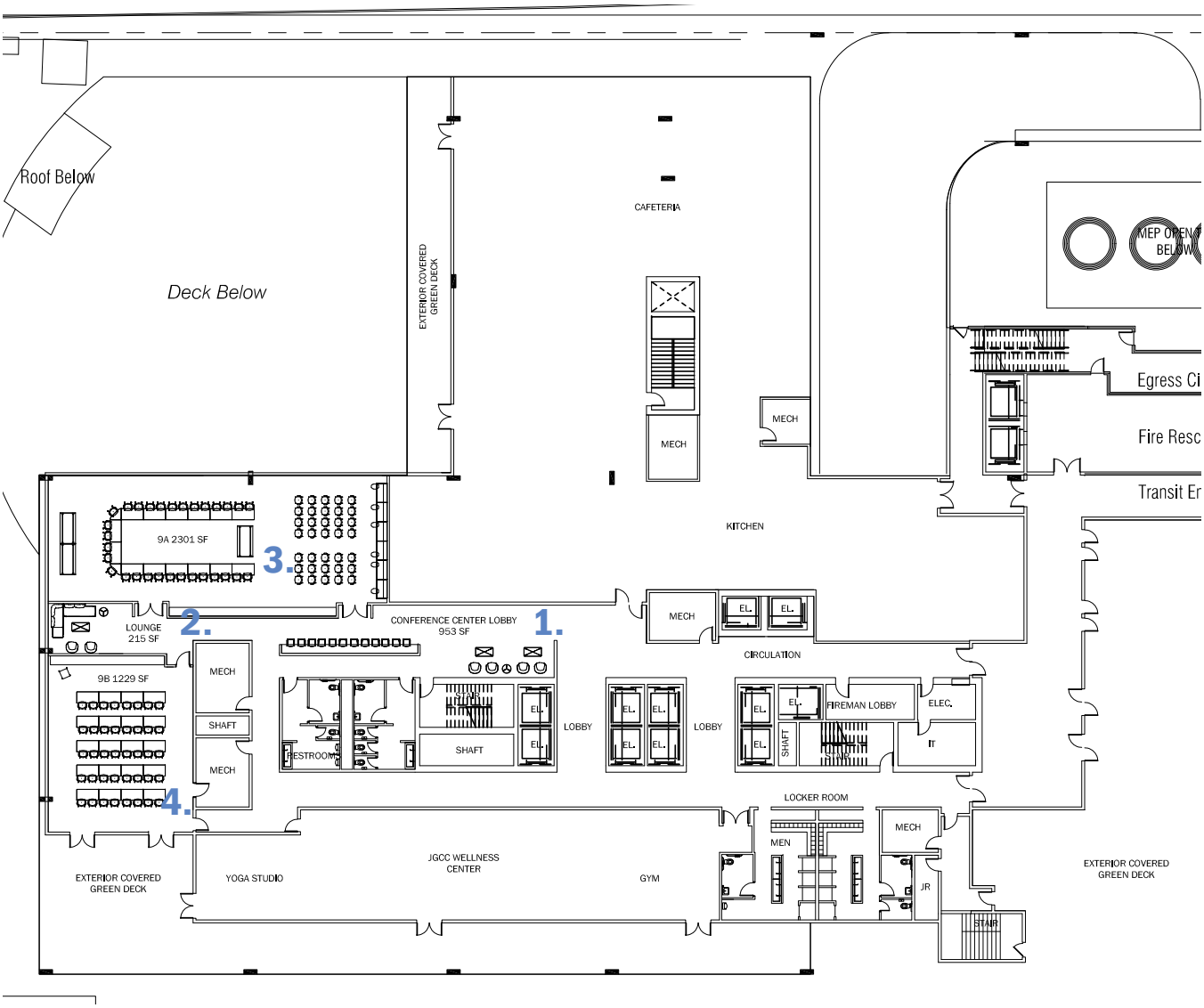
1. High or Low Front Cabinet Storage 24 SF
2. Front Media Screens
3. Side Writable Boards

Perimeter Seating: 8

Table Seating: 18

Total Seating: 26

9TH LEVEL



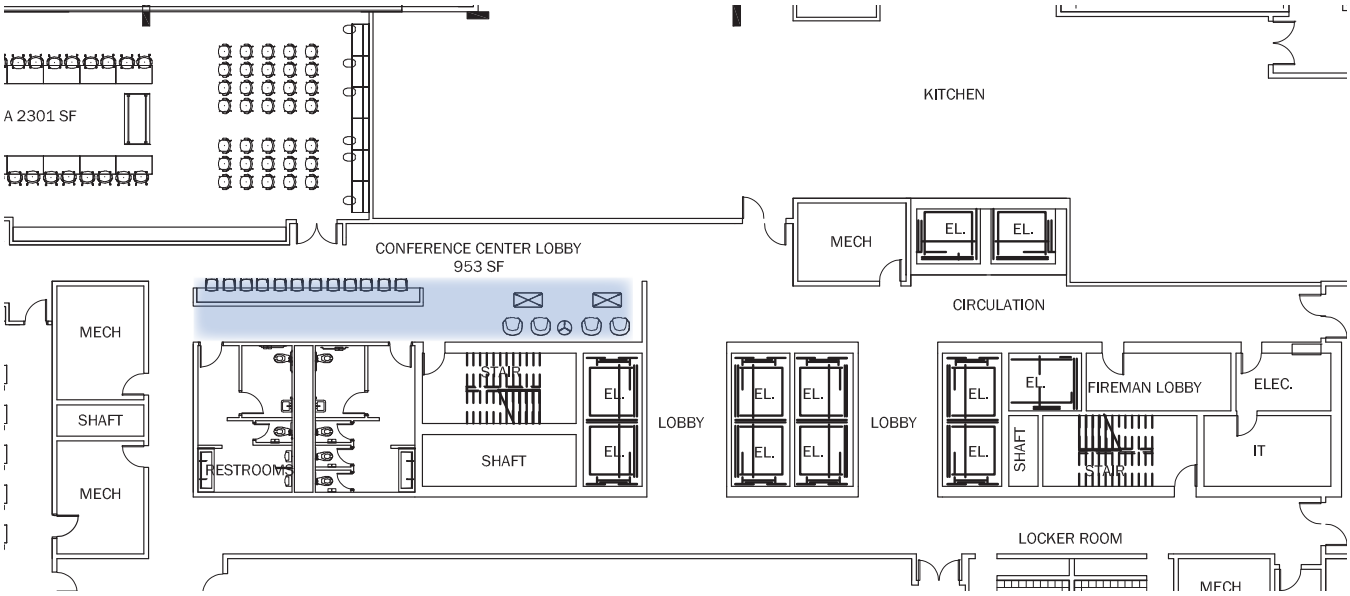
SPACES

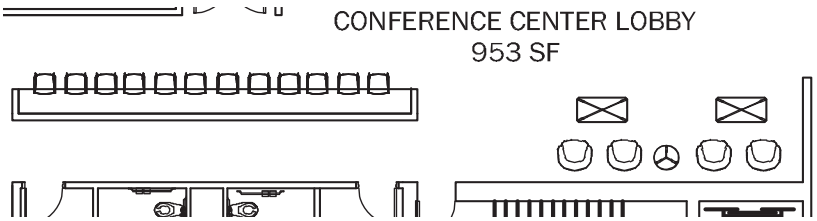
1. Conference Room Center Lobby 953 SF
2. Lounge 215 SF
3. 9A: Conference Room 2301 SF with Millwork Storage 76 SF
4. 9B: Conference Room 1229 SF with Millwork Storage 52 SF

CONFERENCE ROOMS	TOTAL CONFERENCE SPACE	TOTAL LOUNGE, WAITING AND SUPPORT AREAS
2	3530 SF	1,168 SF

1. CONFERENCE CENTER LOBBY

The 9th Level Lobby serves as a Pre-Function space for the 9th level conference rooms, while the Conference Center Lounge serves as a more private lounge option between meetings or to step out and take a call.

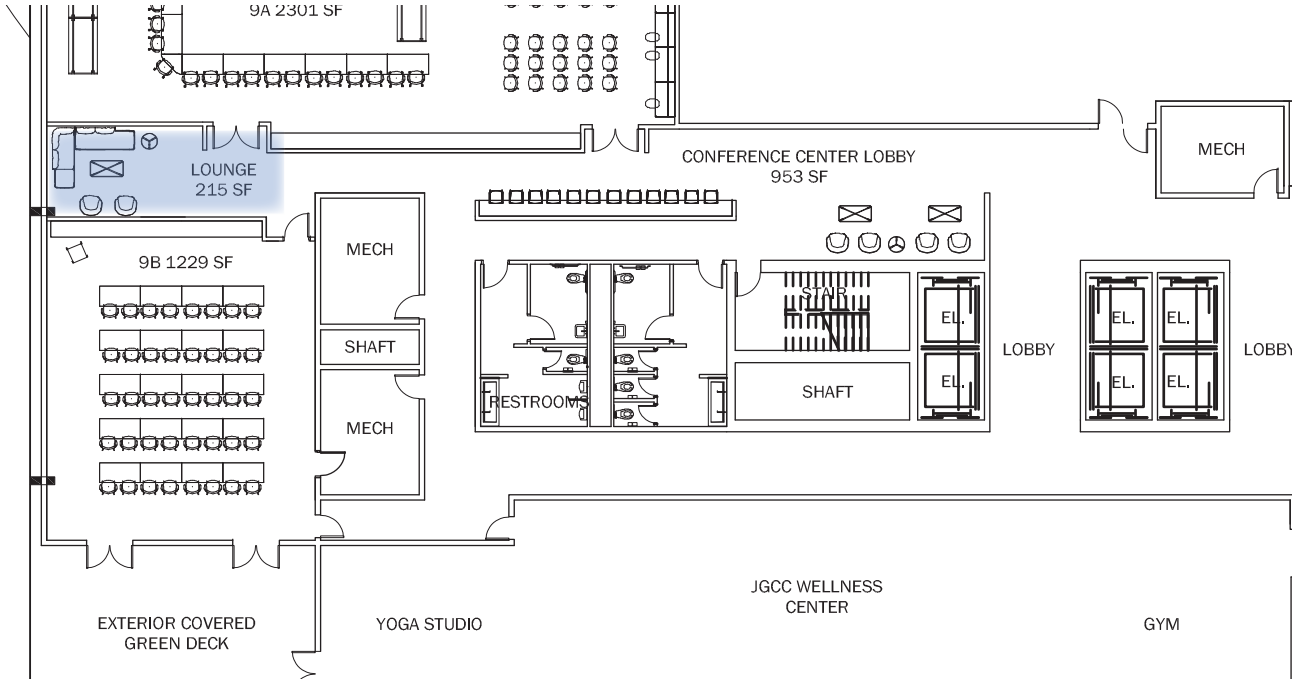


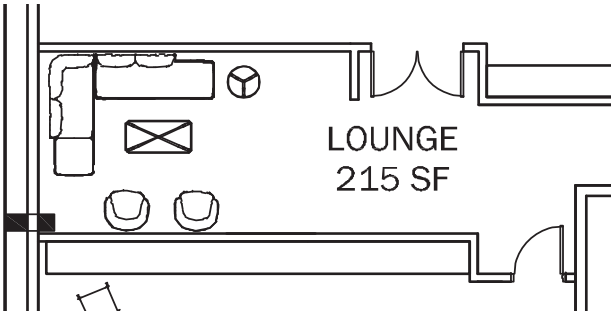


KEY FEATURES
953 SF

1. Lounge Seating
2. Bar Seating
3. Restroom & Stair Access

2. CONFERENCE CENTER LOUNGE

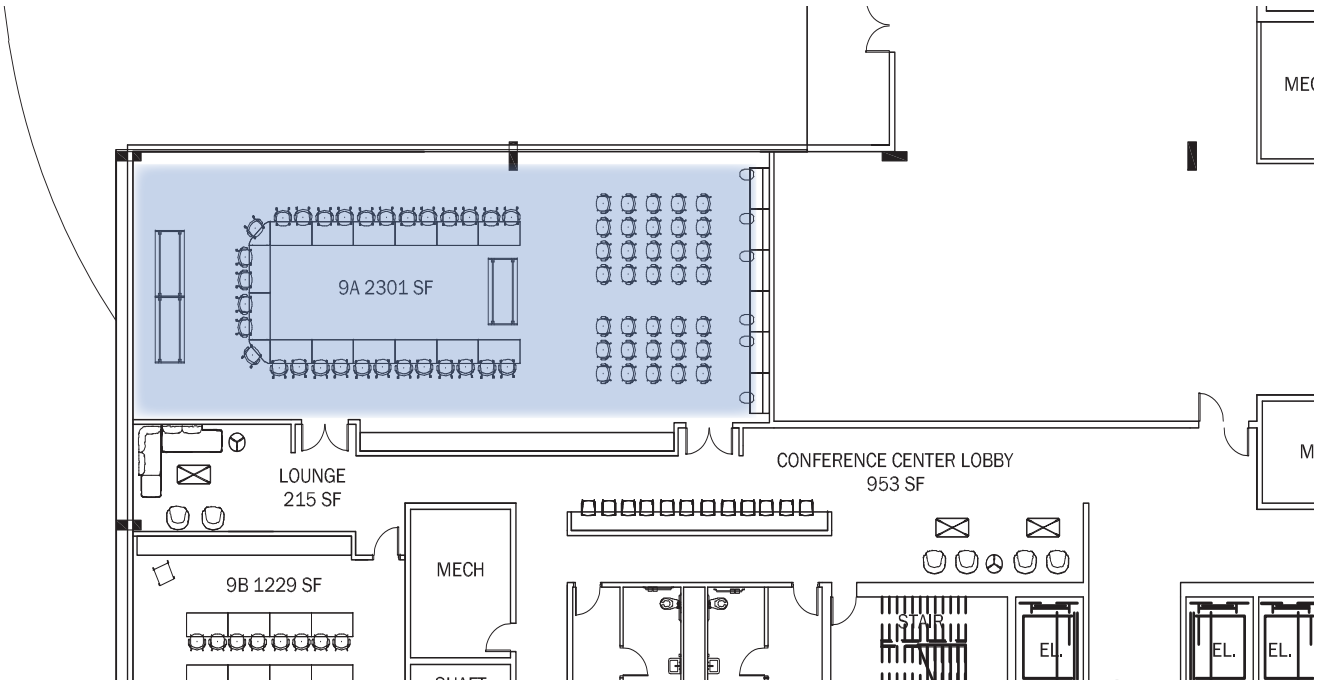


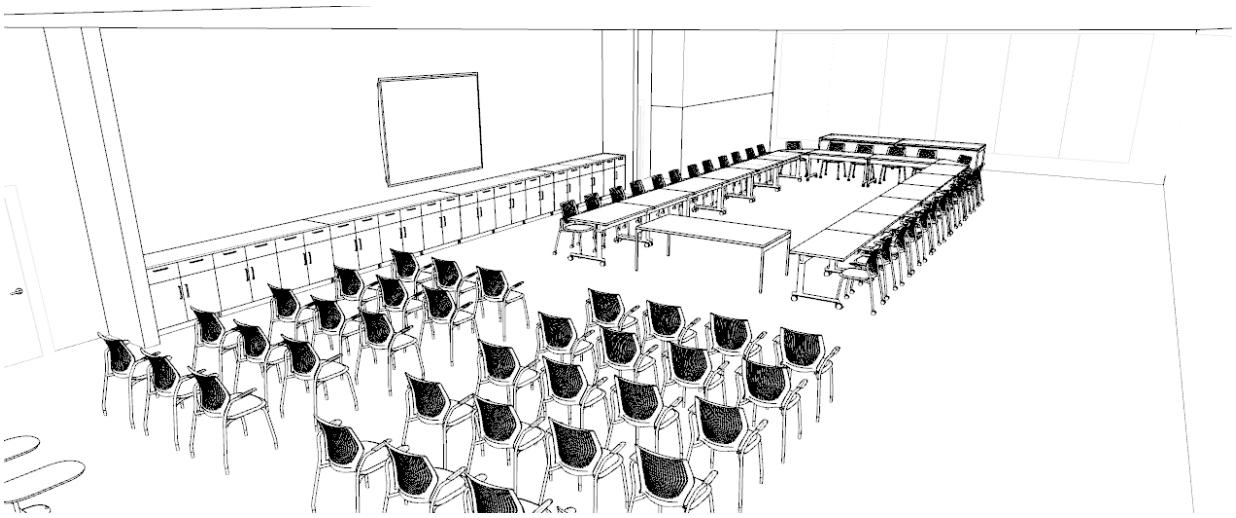


KEY FEATURES
215 SF

1. Lounge Seating
2. Bar Seating
3. Rooms 9A & 9B Access

3. 9A: CONFERENCE ROOM





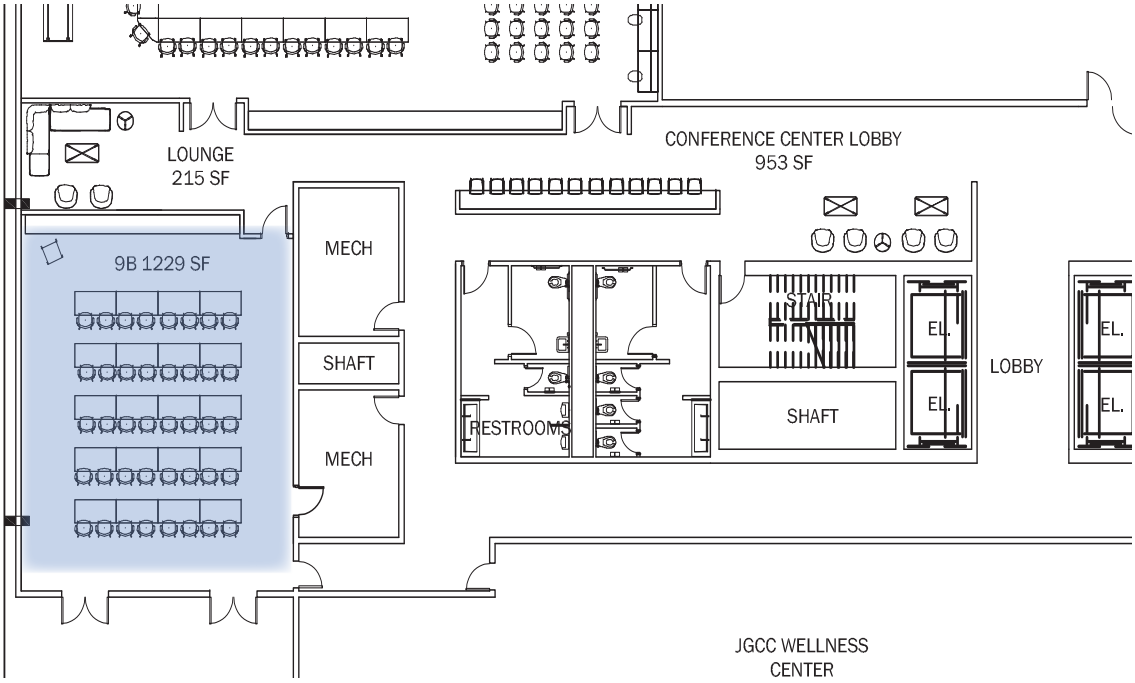
9A: KEY FEATURES
2,301 SF

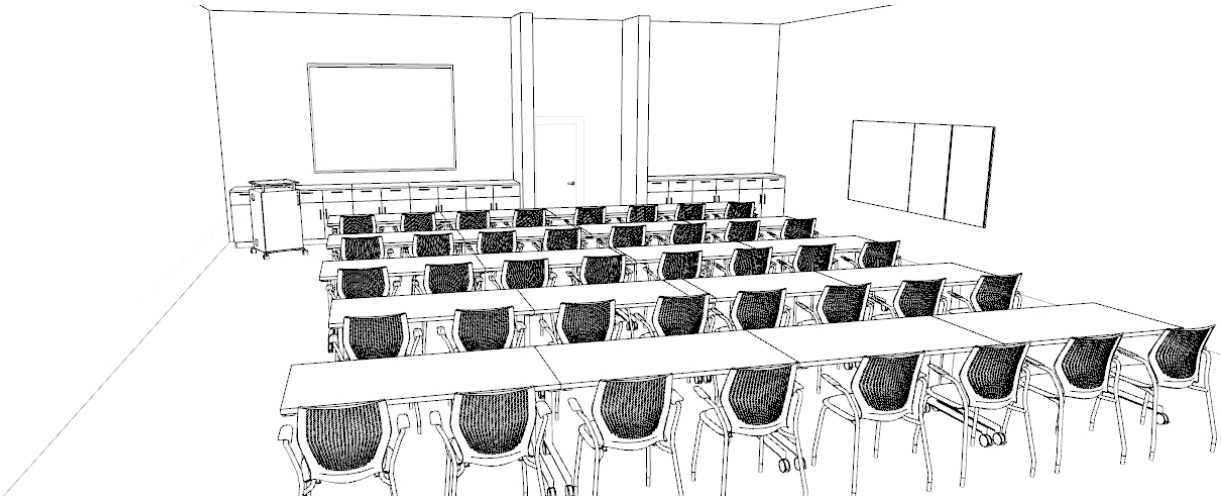
Comparable to existing
GCE Room 430

1. High or Low Front Cabinet Storage 76 SF
2. Front Media Screens
3. Presentation Table
4. Buffet Tables

Perimeter Seating: 12
Assembly Seating: 35
Table Seating: 30
Total Seating: 77

4. 9B: CONFERENCE ROOM





9B: KEY FEATURES
1,229 SF

Comparable to existing

Room GCE 302

1. HIgh or Low Front Cabinet Storage 52 SF
2. Front Media Screens
3. Side Writable Boards
4. Lecturn

Table Seating: 40

Total Seating: 40

DCP

APPENDIX D

JGCC Program of Requirements and Workplace Strategy Report

BOOK 3 | MAY 20, 2020

Joint Government Center Campus

EXECUTIVE SUMMARY

PROGRAM REQUIREMENTS & WORKPLACE STRATEGY

Revised May 2020

BROWARD COUNTY FLORIDA

CITY OF FORT LAUDERDALE

FOR REVIEW ONLY

ZYSCOVICH

Colliers INTERNATIONAL

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6. Forecasted Future Space Requirements 27
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Appendices

I. PROGRAM OF REQUIREMENTS BY DEPARTMENT

II. JGCC WORKPLACE PLAYBOOK

III. ADJACENCY ANALYSIS

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Project Overview and Intent

A robust workplace strategy and programming data-gathering process was undertaken during January and February 2020 with key leaders and employees from Broward County and the City of Fort Lauderdale. The work completed is intended to directly impact the planning, design, and build-out of the new Joint Government Center Campus (JGCC). The Discovery process, and a series of read-outs and decision workshops, has culminated in deliverables associated with Phase 1A including a programmatic summary and workplace playbook.

The work conducted by Colliers is intended to be used as a summary of all identified drivers, organizational goals, and workplace opportunities that will begin to inform the design and development process for the new Joint Government Center Campus in Fort Lauderdale. The information serves as a toolkit that the architect will leverage as the basis for creating a work environment that will support the culture and work behaviors desired by the leaders and employees of the City of Fort Lauderdale and the Broward County in the new JGCC.

This multi-phase programming is essential because the workplace can make an essential contribution to achieving organizational goals. Addressing the following in workplace solutions, leadership modelling, technology and work process, will ensure future success of both organizations.

These are guidelines and programmatic recommendations. This is not a detailed architectural design program or an over-dictation to the architecture or project team. There remains a need for the architect to be creative and respond to new information and building realties. These guidelines inform, but do not replace, the need for future clarifications and design development.

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Programming and Workplace Strategy Methodologies

To determine the quantity and characteristics required to develop a state-of-the-art Government Civic Center for Broward County and the City of Fort Lauderdale, a comprehensive examination of current and future headcount and operating requirements, integrated with a vision of future workplace strategies, is required. With Zyscovich as the lead consultant, a team led by Colliers International South Florida followed a multi-stage process to develop the go-forward plan for a visionary, efficient and cost-effective campus that will represent the aspirations and values of Broward County.

This document examines both the "what" – the spatial requirements of the workforce and operations, and the "how" - a workplace strategy to guide the design and management of the workplace, to enable both organizations to create a productive, sustainable and inspiring new Joint Government Center.

Programming Process

A multi-stage process developed the "what" the **Program of Requirements.** First, a questionnaire was distributed to department/agency heads, division directors and city leaders as identified by the Steering Committee and cross referenced to organizational charts as available.

Second, follow-up in person interviews were conducted by at least one member of the Colliers programming team, accompanied by representatives of Zyscovich and the County construction management division. The open ended discussion reviewed the questionnaire responses (when available prior to the interview time) and sought to gain a better understanding of the mission, work process, typical personnel, patterns of interaction, potential growth, contraction or reorganization, security, technology, and other operational requirements related to the use of space and facilities.

The work was also supported by researching trends in government office design and development and by consulting with economic development forecasts to model develop a plan that will be well oriented to future requirements over the next two decades.

A model profiling each department's requirements was developed based upon both the questionnaire responses and knowledge gained through the interviews. Spatial requirements (size of office footprint, sizing of support spaces and circulation factors) were quantified and headcount numbers were assigned to major job function categories.

Space allocations were informed by the findings of the Workplace Strategy process (as discussed below). We also rolled up common space requirements and developed a Program for "Main Floor" spaces that will be shared by the City and the County.

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The findings of the Colliers Programming and Workplace Strategy teams were also regularly communicated with Zyscovich Architects team to inform the sizing requirements of the administrative and common space leading to the building massing studies and site development requirements.

The resulting Program Requirements, detailed by department for both City and County, are compiled in Appendix 1 to this Executive Summary.

The Program Requirements were revised by representatives of the County and the City after a review period (March-April 2020) and the Revised Appendix 1 incorporates their feedback.

Workplace Strategy Development

Technology – how we access, analyze and communicate information - has radically changed how, where and when we perform the work of organizations. Planning for a new building is not simply a matter of a "box" for every "body". The workplace must support complex social processes that enable us to process, interpret and act upon information in an efficient and effective manner. It is essential to not only understand the headcount, job functions, and operational requirements in planning for the future, but to understand how the work is done, the culture that informs it, and how we can best support the most important and most expensive part of the organization – the workforce.

Parallel with the programming process, and with frequent points of integration, a series of activities to discover current workplace dynamics and to develop a **Workplace Playbook** (Appendix 2) to provide design guidance for the Joint Government Civic Center were conducted. The overall questions explored were:

- How do we prepare for the future?
- What does it look like?
- How big and how much?

Multiple methods are applied to answer these questions:

Leader and focus groups: workshops were conducted with senior leaders and employees to discuss meta-trends impacting the City and County and to explore cultural and work factors that will impact the office environment. 44 County employees and 16 City employees participated in focus groups. In total, 18 leaders from both organizations participated in the Steering Committee which also held a workplace visioning session.

Individual interviews: Interviews were conducted with key leaders from the various departments to understand the goals that are driving success and how the new workplace can aid in completing those objectives. Nine county and three city interviews were held.

Work environment survey: All employees "earmarked" to occupy the new building were invited to participate in a detailed workplace survey to better understand what they do, with

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whom they work, what they value, and the culture they desire. 47% of County and 44% of City employees returned completed surveys, which is considered a good response rate.

Site tour and observations: The existing locations were toured by the team to get a sense of how the spaces are currently organized and used.

Review of existing data: Current workplace standards and earlier studies were reviewed.

The findings from these activities, and the resulting Workplace Strategy recommendations were then developed into a **"Joint Government Center Campus Workplace Playbook"** which is attached as Appendix II to this Executive Summary.

Integration of Programming and Workplace Strategy

The Colliers Programming team coordinated with the Colliers Workplace Strategy team and Zyscovich team members to develop the space allocation scheme for budgeting space. Space standards for office workers are simplified and updated, while referring to the current County and City standards. At the request of the County and City after the recommendations were reviewed, the County's 2009 space standards were applied to the final Program Requirements presented in this document.

"Executive offices" are budgeted for 225 USF, an amount which allows for a small conference table or soft seating in the closed office. "Offices" at 125 USF or 150 SF can be designed as either closed wall or partitioned spaces and can accommodate one or two visitor chairs.

Individual workstation sizes are shown in Appendix 1. We did not recommend visitor chairs in workstations and instead have planned for additional adjacent small conference and other collaborative spaces. This will serve the needs of both types of work most frequently performed – administrative, concentrative work performed by financial and other types of analysts, and design oriented "studio" type work by planners and project managers.

Headcount assignments were based upon an estimate of headcount at year five, when we presume the building/s will be operational. Future headcount projections were revised in the Review phase and are reflected in Appendix 1. Further discussion of growth projections and methodologies follow.

Support spaces were assigned based upon ratios to the number of office workers each space supports. Conference room allocations were also based on headcount ratios, but qualitatively adjusted for smaller and larger departments. A more detailed discussion of how conference space was assigned follows.

Shared collaborative spaces are provided throughout the space, to both encourage informal interactions, short meetings and personal breaks. Small rooms for personal phone calls, small group "huddles" and periods of high concentration work are generously distributed.

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Detailed department summaries, containing the quantitative assignments as well as notes from the interviews, are contained in Appendix I.

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Highlights of Program and Workplace Strategy and Program Requirements Recommendations

Program Requirements – High-level findings at the building level

- Maximize the size of the building floorplates to enable better adjacencies, more planning flexibility and sharing of common amenities.
- Provide an entry to the public which is welcoming and easy to navigate.
- Incorporate high levels of personal and facility security while still maintaining an open and collaborative atmosphere.
- Have two levels of secure access – one to the shared "Main Floor" and a second level of controlled access to the administrative spaces.
- Share high cost amenities between the City and County including Chambers, training and large conference rooms, cafeteria, gym.
- Provide "one stop shop" service counters for both City and County that are easily accessible on the Main Floor.

Workplace Strategy - High-levels findings

Strong Consensus and Desire to Transform

There is a strong consensus from the employees, both engaged in focus groups and in the interview process from the City & the County, to address the workplace differently in order to drive higher levels of collaboration, innovation, improve employee wellbeing and enhance productivity.

The data collected from interviews, the Human Capital Survey, and the Focus Groups all indicate a strong desire to improve inter-team collaboration, to connect with others to share ideas, support career growth and development through mentorship and training, to be more strategic as an organization, and progressive in thinking.

Participants also expressed a strong desire for there to be a purposeful approach to the resident or visitor experience and the employee experience. This must be addressed through thoughtful planning, spatial principles, and security access.

Visitor Experience

For the purposes of this study, below are the places where resident experience design will impact architectural design:

1. Entry - The entry experience must send messages that a resident's encounter with the City and/or County will be Efficient, Helpful, Welcoming, Caring and Professional.

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2. Options for Services – Residents to be supported with variety in access to JGCC, including:

- Making an appointment instead of waiting in line,
- Using kiosks in the lobby to get information or receive services,
- Visiting a central desk to get answers that are easily accessible on the main floor,
- Visiting the shared reception to begin their interactions.

3. Navigation and wayfinding – screens, wayfinding and signs should make it clear which steps to take to make the most of the resident/user experience. Clarity is key.

4. Hospitality mentality – There should be an attitude of service, caring and professionalism. Like a hotel lobby. The JGCC is the portal for public services, especially for the City.

5. Needing to go in the facility – Many visitors will need to go further into the facility for meetings or longer conversations. How a resident gains access must be clear, simple and fast – while still meeting security requirements.

6. Satisfaction – After a resident conducts their business at the JGCC there should be a way for them to share the quality of their experience. Consider satisfaction surveys. The intent is to help residents feel cared for and for the City and County to learn and adjust practices.

7. Secure - Incorporate high levels of personal and facility security while still maintaining an open and inviting atmosphere.

8. Various levels of secure access – one to the shared "Main Floor" and a second level of controlled access to the administrative spaces.

9. Share Spaces to increase the utilization of expensive spaces: Share high cost amenities between the City and County including Chambers, training and large conference rooms, cafeteria, and gym, if cost is a consideration.

Employee Experience

For the purposes of this study, below are the places where employee experience design will impact architectural design:

1. Entry - The entry experience must send messages to employees that the workplace is Efficient, Bright, Open, Collaborative, Secure, Comfortable and Professional.

2. Access and Parking - Easy and secure access to the building. Potentially consider a separate employee entrance to ease interactions with the public.

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3. Destination Strategies – Implement strategies to get people up, moving, and encountering others they may not in a regular day:

4. Central Kitchen Commons: One place per floor for coffee, TV, healthy snack options, comfortable seating

5. Consolidate functional resource spaces like print/copy stations and storage

6. Consolidate waste streams like recycle, shredding and trash to reduce diversion rates, to create operational efficiencies and to get people moving more regularly

7. Navigation and Wayfinding – screens, wayfinding and signs should make it clear where spaces, people, and resources are located. Clarity is key. Locate elements in the same place on each floor.

8. Hospitality Mentality – There should be an attitude of service, caring and professionalism. Consider social spaces that are central, open and welcoming.

9. Proactively Understand Impacts of the Workplace – Consider satisfaction surveys or other measurement methods. The intent is to better understand how well the workplace and technology is serving the needs of employees, to learn and adjust practices over time.

Key Themes for a New Workplace

The data collected in this study provides clear guidance for the workplace and space requirements for a new joint government center campus. The JGCC Steering Committee should continue to prioritize the workplace attributes in the design phases in partnership with Zyscovich architects and the extended project team.

Productivity: Accelerate Human Performance

- Minimize disruption: both acoustical and visual. Define zones and provide settings for active and quiet work.
- Provide a wide range of setting types - formal and informal, open and enclosed, furniture with varying postures, collaborative and focus, small workspaces for short term privacy needs, social and rejuvenating.
- Provide an ergonomically supportive, physically comfortable, safe environment. This to include height-adjustable desks, chairs etc., better temperature control, adequate lighting levels, and better control and security in non-public zones.
- Integrate natural daylight for all wherever possible, access to the outdoors is also desired.
- Encourage active behaviors and interaction by getting people up and moving. Think ergonomic furniture, more and shorter breaks, access to exercise, destination strategies, etc.

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- Creating a sense of belonging through the integration of shared organizational values and mission statements, community spaces, and informal gathering areas.

Innovation and Collaboration: Create Connections to Drive the Organization Forward

- Make it easy and natural to share information and work with other divisions (informal & formal)
- Promoting idea-sharing, brainstorming, regular share-out of best practices
- Leverage technology (plug-n-play, virtual, access to content sharing)
- Support key adjacencies between departments
- Open and transparent – implement glass where possible
- Infuse opportunities for learning, coaching and mentoring
- Dynamic, central, shared social zones with attractors like great coffee, comfortable s eating, views, and entertainment features like TV's or interactive kiosks.

Enhance Efficiencies and Support Adaptability Over Time

- Maximize the size of the building floorplates to enable better adjacencies, more planning flexibility and sharing of common amenities.
- Minimize variations in private office and workstation size and design to allow for easy reconfiguration as requirements change.
- Move to a "choice" or "task-based work" environment to more flexibly support diverse work needs, different divisions, and individual work preferences.
- Implement neighborhood or zone planning principles to provide equitable distribution of space settings, resource spaces, and social areas.
- Position for the future through modularity, grid planning of spatial components.
- Universal planning and standardized kit-of-parts for flexible reconfigurations.
- Create multi-purpose spaces that serve different purposes throughout the day.
- Develop a technology and infrastructure strategy to ensure the building has the capabilities to support future needs.
- Components are consistent in size as to easily configure from one setting type to another.

Technology

Because the Joint Campus Center will not be built for several years, the design team must be forward thinking in developing a workplace technology strategy that will be suitable in the years to come. Further recommendations are contained in the Chapter 10 "Technology" below.

The technical infrastructure of the office needs to facilitate this flexibility. This means that network cabling and robust, reliable Wi-Fi are necessary conditions to facilitate working online and in different places within the JGCC working environment.

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- Mobile devices for working away from their assigned desk: laptops and mobile phones
- Remote access to documents and applications
- Strong teleconferencing tools and technology to stay connected when separate
- Digital conference room reservation system that ties into Outlook calendar scheduling
- Consider demonstrating new relevant technology in the main lobby that is used by residents of the City and County.

Connection to Mission

The JGCC work environment must connect employees to both the City and County's histories, values, residents and future. By connecting employees to the mission of the both organizations, they can see their work in a larger context, are more loyal, and become mission ambassadors wherever they go.

Both the City and County have logos and established colors. These should form the basis for a "Look Book" that establishes a set of workplace branding standards that incorporates not just the City and County logo in the workplace but what it means to work at such an historically successful and forward-thinking organization.

The "design language" or methods by which the look and feel of the space is expressed should be integrated into to the design. This could include art, environmental graphics, color, texture, form and materials.

Wellness Principles

1. Access to Natural Light - Keep full-height rooms away from the exterior glass as much as possible to allow natural light to penetrate the interior.
2. Take advantage of the beautiful natural environment of Florida by allowing easy access to outdoor spaces.
3. Glass Interior Walls - Where full height-walls are needed, use glass to allow natural light and visual connection to the rest of the space. While unfrosted glass is preferred, privacy or distraction banding 24 48" in height and 24" above finished floor for visual privacy.
4. Restorative Spaces - Zone open areas for active/noisy and quiet work.
5. Sound Masking - Consider a white noise system to mask noises and conversations. This may not be necessary as voice conversations can sometimes, themselves, create a white noise. An acoustician, Edward Dugger Associates has been retained to develop an overall plan.
6. Greenery - Integrate greenery into key common areas.
7. Tall and Varied Ceilings - Consider a variety of ceiling heights and styles to create variety.

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8. Access to Healthy Food options - Ensure access to healthy food choices.
9. Variable Height Work Surfaces - Provide height-adjustable work surfaces in all offices and open workstations.

9. Power at the Desktop - Provide power/USB outlets and network ports at the workstation surface for ease of access.

10. Natural Materials and Colors - In addition to City and County logo colors, use natural materials and colors (blue, green, brown) in key common areas.

11. Fitness Center - Provide an employee fitness center on site if possible, as this was frequently requested in the interviews.

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Summary Observations of Present Conditions

Both the City and the County occupy very old and outdated office space.

The current Fort Lauderdale City Hall was opened in 1969. This 51-year-old structure appears to be well past its useful life and the floor size and layout impedes modern ways of working. It is too small to co-locate all city services management. The site can support a much larger facility and the City can redeploy it for other uses. To accommodate the growth in demand for city services, the City has had to occupy several other administrative buildings in the city.

At the 1960 Census, Ft. Lauderdale had a population of ~84 thousand people. A 2020 population estimate is ~183 thousand people. City population has grown ~8% from 2000 to 2010. Today the city has an active, diverse economy and hosted over 14 million business and leisure travelers in 2018. Most of the land mass in Ft. Lauderdale was built out by the 1970's. Future population growth will be housed from redeveloped lower density sites, and a recent building boom of high rise residential is transforming the Downtown Las Olas area.

Fort Lauderdale is the County Seat for the Broward County government. The current Broward County government center at the corner of Andrews and SW 2nd Street was originally built in 1947 as Burdine's department store. In 1980 the store closed, and the County purchased the building and retrofitted it to office use. Because the building was originally a store, the floorplates are so deep and why the building exterior lacks windows. Much of the building interior is also "poured in place" concrete which in inflexible: making it very difficult to reconfigure the interior to house large footprint departments and provide easy adjacency to related departments. Public access circulates throughout the building, requiring card key access to every office suite. The 268 seat Chamber is embedded inside the building on the fourth floor, requiring additional security. In addition, the building site may have some future redevelopment value.

At the time of the building's conversion in 1980, there were about one million residents in Broward County. In the ensuing 40 years, the County population has nearly doubled to 1.9 million. Only 35% of the County's land mass is urbanized – the remainder is conservation land. Most developable land is in active use. County population is projected to increase at a steady but modest rate, as discussed in Chapter 6 – Forecasted Future Space Requirements.

While both buildings feel crowded and lack access to natural light due to their exterior fenestration and internal layouts, they use a lot of space per person due to the high loss factor from building corridors and core areas.

Both facilities lack access to natural light. While there are many oversized closed offices in the legacy space, many other areas are very densely occupied, while pockets of underutilized space exist. Most of spaces have not been reconfigured or "restacked" due to the cost. Many of the conference spaces originally included in the spaces have been taken over to accommodate workforce growth, resulting in a severe lack of meeting space.

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It is important to keep these present conditions in mind when assessing future workplace needs. Since there is so little collaborative space (as conference rooms were lost to individual workspaces) it may be that today's organizational processes are based upon these limitations and would benefit from more collaborative space and a wider choice of work environments. Therefore, while it is certainly useful to ask employees about a future vision of their workplace, we kept in mind that their vision may be constrained by their experience with present conditions.

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The Special Considerations of Governmental Operating Requirements

While many useful "rules of thumb" from private sector workplaces can be applied to public sector workplaces, there are some important aspects of governmental work processes that differ from "for profit" organizations that we consciously factored into our analysis and recommendations.

These include:

1.) High internal and external collaboration and participation

Government must be open and transparent to all citizens, and many processes and programs have multiple sources of oversight. This translates into more meetings with a larger number of participants from both inside and outside the government workforce. The Program plans for a large conference room on every floor, conference rooms distributed throughout departmental space, and multiple conference rooms and small meeting spaces on the Main Floor of the JGCC.

2.) Multiple checks and balances integrated into work processes

Multiple agencies at the Federal, State and local levels monitor expenditures and program performance at both the City and County. Some revenue sources have specific accounting requirements. While technology and automation will support increases in future productivity, the Program recognizes that many functions will still require support personnel to process, administer, audit, and communicate and does not anticipate headcount decreases in most functions, even with greater automation.

3.) Record-keeping requirements and requirements around open access to information

Government entities often have records retention practices that are required by law. While there is a drive to digitize both the material records and the ways they are accessed, there is a greater need for paper storage both at the workstation and within a department, although this will vary by function. This Program includes storage space in each department and allow for some storage at the workstation with our 6x8 space allocation.

4.) Mission-driven organizational goals

Governments serve a variety of constituencies with a multitude of goals, while the private sector can frequently default to profit and productivity as measures of purpose and success. Navigating these sometimes-conflicting agendas in the context of scarce resources requires consultation with many different stakeholders both within and outside

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of government, multiple ways of measuring performance, and a lot of consensus development, all of which require extensive documentation as well as a lot of social interaction. The Program provides for spaces to encourage interaction, support meetings, and facilitate communication. The Main floor design should further communicate the role of government in supporting the community and its citizens.

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Summary of Space Requirements

We summarize space requirements for the County, City and for shared spaces which we have designated as "Main Floor" although these could be housed in a two or more-story space. These numbers are for planning purposes only and will require validation at the design development stage as different floor configurations can impact total space required.

Function	Usable minimum (excludes building core)	Usable maximum (excludes building core)	Comments
County Administrative at 11 Stories	261,459		
County Administrative at 12 Stories		285,228	
City Administrative at 8 stories	190,152		Includes all of Sustainability except inspectors
City Administrative at 9 stories		213,921	
Shared "Main Floor" and Support (see following page)	61,714	61,714	Size will vary according to additional program elements and design features
Fleet "key room" and Print	6,455	6,455	
Transportation Offices	66,179	66,179	
TOTAL USABLE	**585,959**	**633,497**	Difference - 47,538 USF

Note that this is in USABLE square feet and needs to be adjusted upward for building core. It does not include parking or open space.

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Main Floor or Common Program Elements

Main Floor	Quantity	(Architect to Validate in Design Development)	
Chamber seating 375 with media room	1	7,500	7,500
100-person training/auditorium style	1	2,000	2,000
50 person – meeting/training	2	800	1,600
25-person committee	3	400	1,200
Break out – small citizen rooms	6	240	1,440
Cafeteria			10,000
Gym/health center	1	1,200	1,200
Lobby/Security			3,000
County Service counters	2	200	400
City service counters	2	200	400
City Wellness Center (drop in)	1	600	600
Command Center	1	18,531	18,531
Studio for media production (shared)	1	1,500	1,500
Total assigned			49,371
Circulation 25%			12,343
TOTAL USABLE			61,714

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Highlights of Main Floor Elements

Chambers

We recommend one large, shared "Chamber" space to be used by both the County Commissioners and the City Commissioners. This space should be on a main floor with easy public ingress and egress, within the requirements for building security.

The City has Commission meetings twice per month, while the County Commissioners typically meet weekly on Tuesdays. The current Chambers at both the City and the County

are also used for other large meetings and assemblies. Further study is needed to determine what other groups or events should be permitted to use the new shared Chambers.

Shared conference and meeting space

We recommend additional shared City/County shared conferencing and meeting space including an "amphitheater" style meeting room with approximately 100-person capacity. This can be used in multiple ways: for large class size training, for public hearing and as a "back-up" Chamber if there is ever a conflict between County and City scheduling that demands large "hearing style" spaces at the same time.

Along with allocating meeting rooms to departments and floors, the additional meeting spaces provided on the main floor serve several purposes: the provide additional meeting space to the workforce when departmental or floor assigned conference rooms are at capacity at a desired time, but importantly, for those meetings which have a large component of public participation such as Advisory Committee meetings, hearings, and other venues which invite citizen participation.

There are several important benefits to locating these convening spaces on the main floor. First, they allow for citizens to pass through a first level of building security without enabling their access to the administrative office floors (Security is further discussed in Chapter 9), they are more accessible to the public than requiring them to navigate multiple elevators and floors, they make it easier for non-employees to exit the building in an emergency and they emphasize the open and participative nature of local government.

Shared Cafeteria

An improved cafeteria was frequently requested in the County interviews and City employees also asked for food service options. The new proposed sit is further away from commercial dining options, and there are currently very few of those in the present location. We recommend one shared cafeteria – with a combined workforce population of nearly 1800 on site, the scale is such that a high-quality cafeteria can be supported. Further, even those employees who bring their lunch to work often requested better spaces for eating meals, taking breaks and socializing. The allocation of 10,000 sf for the cafeteria is based on standard metrics per headcount.

The cafeteria can also be designed in a way that it could be used for events and gatherings which may also change the amount of space in the program.

The degree to which the cafeteria would be open to members of the public should be discussed further.

Service Counters

Both the City and County currently have members of the public come to their facilities for face-to-face services. While an increasing number of services will be obtained on-line, there will still be some need for public payments and to receive physical documentation, such as

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Passports. We recommend that all cashier services be consolidated to one cashier each for City and County. The program provides for four total service windows, but that number can be adjusted after further discussion with those departments who require service counters. In particular, the Service Counter functions of the City's Department of Sustainability require further study.

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County – Total Summary of Requirements

Divisi+B4:R25ons or Departments	Current HC	Exec Suite	Exec Office (225)	Office (150)	Office (125)	Work-station (125)	Elgr Work-station (100)	Work-station (80)	Work-station (64)	Assigned SF with growth	Assigned Work-stations provided with growth	% growth increase in assigned seats from Current	Touch down	Total workspaces with Touch-down	Total SF per Division	% increase in space from assigned to totaloe TD	Waiting	Open Collaboration	Print Station	Print /Work	Supply / Store	Quick Quiet Room	Huddle (2-4)	Medium (6-8)	Large (10-12) (120)	Large (10-12) (100)	X Large (20-22) (520)	X Large (20-22) (440)	X Large (20-22) (440)	Deluxe	Training	Special	Net Usable	Circulation	Total	SF/workstation excluding Special Spaces
County Attorney	87	1	10	0	57	0	28	0	6	12,679	102	17%	2	104	12,975	2%	2	2	3	2	2	2	2	3	3	0	1	0	0	0	0	712	17,617	7,047	24,664	272
County Auditor	25	1	2	0	23	0	3	0	0	3,945	29	16%	0	29	3,945	0%	1	1	2	1	8	2	1	1	0	0	1	0	0	0	0	216	5,981	2,392	8,373	323
Commissioners (11 provided)	20	11	11	0	0	0	0	0	11	8,899	33	65%	2	35	8,795	6%	2	0	2	5	5	3	0	0	1	0	0	0	1	0	0	192	8,917	3,567	12,484	611
Administrators	8	2	8	0	2	0	4	0	0	3,090	16	100%	2	18	3,186	13%	2	1	0	2	2	1	1	1	1	0	0	1	0	0	0	96	5,572	2,229	7,801	958
Public Communications	21	0	1	0	1	0	0	0	22	1,758	24	14%	2	26	1,854	8%	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	6,096	9,420	3,768	13,188	222
Economic & Small Business Development	32	0	2	0	4	0	0	0	26	2,614	32	0%	7	39	2,950	22%	1	1	2	1	12	2	2	0	1	0	1	0	0	0	1	246	6,136	2,454	8,590	258
Office of Management & Budget	22	0	2	0	5	0	15	0	0	2,575	22	0%	3	25	2,719	14%	1	1	0	1	4	2	1	1	1	0	0	0	0	0	0	176	4,415	1,766	6,181	270
Intergovernmental Affairs	6	0	1	0	4	0	0	0	1	789	6	0%	0	6	789	0%	1	0	0	1	2	1	0	0	1	0	0	0	0	0	0	96	1,515	606	2,121	331
Environmental Protection & Growth Management	9	0	1	0	0	0	10	0	0	1,225	11	22%	6	17	1,513	55%	1	0	0	1	1	1	0	1	0	0	0	0	0	0	0	416	2,419	968	3,387	312
Planning & Development Management	35	0	1	0	4	0	0	0	29	2,581	34	-3%	6	40	2,869	18%	1	1	1	1	1	2	2	2	0	0	0	0	0	0	0	96	4,435	1,774	6,209	174
Housing Finance & Community Redevelopment	32	0	2	0	11	0	22	0	0	4,025	35	9%	2	37	4,121	6%	1	1	2	1	1	2	2	1	1	0	0	0	0	0	0	896	6,617	2,647	9,264	250
Environmental Planning & Community Resilience	34	0	2	0	5	0	0	0	32	3,123	39	15%	6	45	3,411	15%	1	1	3	1	8	2	2	2	1	0	1	0	0	0	0	296	6,177	2,471	8,648	242
Human Services	38	0	4	0	10	0	16	0	12	4,518	42	11%	0	42	4,518	0%	1	1	1	1	4	2	2	1	1	0	1	0	0	0	0	336	7,024	2,810	9,834	246
Community Partnerships	50	0	2	0	22	0	0	0	32	5,248	56	12%	5	61	5,488	9%	1	1	2	1	10	3	2	2	1	0	1	0	0	0	0	256	8,274	3,310	11,584	225
Public Works	11	0	1	0	5	0	10	0	0	1,850	16	45%	0	16	1,850	0%	1	0	0	1	2	1	1	0	0	0	1	0	0	0	0	96	2,896	1,158	4,054	356
Construction Management	46	0	2	4	12	0	24	11	0	5,830	53	15%	0	53	5,830	0%	1	1	2	1	6	3	2	0	0	2	0	0	2	0	0	416	10,136	4,054	14,190	296
Facilities Management	68	0	3	0	1	0	0	0	72	5,408	76	12%	6	82	5,698	8%	1	1	2	2	2	4	3	3	0	0	1	0	0	0	0	512	8,648	3,459	12,107	168
Finance & Administrative Services	8	1	2	0	4	0	0	0	4	1,526	11	38%	6	17	1,814	55%	1	1	0	1	1	1	0	1	0	0	1	0	0	0	0	176	3,500	1,400	4,900	582
Accounting	61	0	2	0	6	0	0	0	49	4,336	57	-7%	11	68	4,864	19%	1	1	2	2	2	4	3	3	2	0	0	0	0	0	0	196	7,620	3,048	10,668	170
Enterprise Technology Services	40	0	2	0	9	0	0	0	96	7,555	106	165%	24	130	8,807	23%	1	2	4	3	3	7	6	3	2	0	0	0	0	0	3	656	15,453	6,181	21,634	518
Human Resources	51	0	2	0	14	0	0	0	38	4,832	54	6%	8	62	5,016	15%	1	1	3	2	4	3	3	2	0	0	1	0	0	0	0	416	7,692	3,077	10,769	200
Purchasing	76	0	2	0	0	10	0	0	72	6,308	84	11%	2	86	6,404	2%	1	1	2	2	2	4	4	3	2	0	0	0	0	0	0	656	9,740	3,896	13,636	167
Records Tax & Treasury	151	0	11	0	19	0	0	0	121	12,594	151	0%	0	151	12,594	0%	7	1	8	0	9	5	7	4	3	0	1	0	0	0	0	1,184	19,208	7,683	26,891	167
Risk Management	42	0	2	0	11	0	0	0	30	3,745	43	2%	3	46	3,889	7%	1	1	2	1	2	3	2	2	1	0	0	0	0	0	0	416	6,155	2,462	8,617	191
Fleet	1	0	0	0	1	0	0	0	0	125	1	0%	0	1	125	0%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	325	130	455	455
Transportation	171	1	6	31	0	75	142	0	55	33,415	310	81%	5	315	33,655	2%	1	4	16	6	6	16	12	10	6	0	8	0	0	0	1	96	47,271	18,908	66,179	386
# Spaces by type	1145	17	84	35	230	85	274	11	707	142,493	1448	26%	108	1551	147,677	7%	35	26	50	41	100	78	61	47	29	2	19	1	2	1	5					
% of assigned workstation types		1%	6%	2%	16%	6%	19%	1%	49%																											
area/space		320	225	150	125	125	100	80	64				48				200	500	10	40	20	30	120	200	320	500	520	600	840	800	800	14,946	233,163	93,265	326,428	216
Total Areas by space		5,440	18,900	5,250	28,750	10,625	27,400	880	45,248				1,551	Total assigned workspaces			7,000	13,000	600	1,640	2,000	2,340	7,320	9,400	9,280	1,000	9,880	600	1,680	800	4,000	14,946				
Total current HC	1145																														Net area	233,163				

	County NET Square Feet		County Usable Square Feet
	233,163		326,428

Does not include shared floor amenities

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County – Workstation Summary

Divisions or Departments	Current HC	Exec Suite	Exec Office (225)	Office (150)	Office (125)	Work-station (125)	Mgr Work-station (100)	Work-station (80)	Work-station (64)	Assigned SF with growth	Assigned Work-stations provided with growth	% growth increase in assigned seats from Current	Touch down	Total workspaces with Touch-down	Total SF per Division	% increase in space from assigned to total w TD
County Attorney	87	1	10	0	57	0	28	0	6	12,879	102	17%	2	104	12,975	2%
County Auditor	25	1	2	0	23	0	3	0	0	3,945	29	16%	0	29	3,945	0%
Commissioners (11 provided)	20	11	11	0	0	0	0	0	11	6,699	33	65%	2	35	6,795	6%
Administrators	8	2	8	0	2	0	4	0	0	3,090	16	100%	2	18	3,186	13%
Public Communications	21	0	1	0	1	0	0	0	22	1,758	24	14%	2	26	1,854	8%
Economic & Small Business Development	32	0	2	0	4	0	0	0	26	2,614	32	0%	7	39	2,950	22%
Office of Management & Budget	22	0	2	0	5	0	15	0	0	2,575	22	0%	3	25	2,719	14%
Intergovernmental Affairs	6	0	1	0	4	0	0	0	1	789	6	0%	0	6	789	0%
Environmental Protection & Growth Management	9	0	1	0	0	0	10	0	0	1,225	11	22%	6	17	1,513	55%
Planning & Development Management	35	0	1	0	4	0	0	0	29	2,581	34	-3%	6	40	2,869	18%
Housing Finance & Community Redevelopment	32	0	2	0	11	0	22	0	0	4,025	35	9%	2	37	4,121	6%
Environmental Planning & Community Resilience	34	0	2	0	5	0	0	0	32	3,123	39	15%	6	45	3,411	15%
Human Services	38	0	4	0	10	0	16	0	12	4,518	42	11%	0	42	4,518	0%
Community Partnerships	50	0	2	0	22	0	0	0	32	5,248	56	12%	5	61	5,488	9%
Public Works	11	0	1	0	5	0	10	0	0	1,850	16	45%	0	16	1,850	0%
Construction Management	46	0	2	4	12	0	24	11	0	5,830	53	15%	0	53	5,830	0%
Facilities Management	68	0	3	0	1	0	0	0	72	5,408	76	12%	6	82	5,696	8%
Finance & Administrative Services	8	1	2	0	4	0	0	0	4	1,526	11	38%	6	17	1,814	55%
Accounting	61	0	2	0	6	0	0	0	49	4,336	57	-7%	11	68	4,864	19%
Enterprise Technology Services	40	0	2	0	9	0	0	0	95	7,655	106	165%	24	130	8,807	23%
Human Resources	51	0	2	0	14	0	0	0	38	4,632	54	6%	8	62	5,016	15%
Purchasing	76	0	2	0	0	10	0	0	72	6,308	84	11%	2	86	6,404	2%
Records Tax & Treasury	151	0	11	0	19	0	0	0	121	12,594	151	0%	0	151	12,594	0%
Risk Management	42	0	2	0	11	0	0	0	30	3,745	43	2%	3	46	3,889	7%
Fleet	1	0	0	0	1	0	0	0	0	125	1	0%	0	1	125	0%
Transportation	171	1	6	31	0	75	142	0	55	33,415	310	81%	5	315	33,655	2%
# Spaces by type	1145	17	84	35	230	85	274	11	707	142,493	1443	26%	108	1551	147,677	7%
% of assigned workstation types		1%	6%	2%	16%	6%	19%	1%	49%							
area/space		320	225	150	125	125	100	80	64				48			
Total Areas by space		5,440	18,900	5,250	28,750	10,625	27,400	880	45,248				1,551	Total assigned workspaces		
Total current HC	1145															

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County – Collaboration and Other Spaces Summary

Divisions or Departments	Waiting	Open Collaboration	Print Station	Print /Work	Supply / Store	Quick Quiet Room	Huddle (3-4)	Medium (6-8)	Large (10-12) (320)	Large (10-12) (500)	X Large (20-22) (520)	X Large (20-22) (600)	X Large (20-22) (840)	Deluxe	Training	Special	Net Usable	Circulation	Total	SF/workstation excluding Special Spaces
County Attorney	2	2	3	2	2	2	2	3	3	0	1	0	0	0	0	712	17,617	7,047	24,664	272
County Auditor	1	1	2	1	8	2	1	1	0	0	1	0	0	0	0	216	5,981	2,392	8,373	323
Commissioners (11 provided)	2	0	2	5	5	3	0	0	1	0	0	0	0	1	0	192	8,917	3,567	12,484	611
Administrators	2	1	0	2	2	1	1	1	1	0	0	1	0	0	0	96	5,572	2,229	7,801	958
Public Communications	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	6,096	9,420	3,768	13,188	222
Economic & Small Business Development	1	1	2	1	12	2	2	0	1	0	1	0	0	0	1	246	6,136	2,454	8,590	258
Office of Management & Budget	1	1	0	1	4	2	1	1	1	0	0	0	0	0	0	176	4,415	1,766	6,181	270
Intergovernmental Affairs	1	0	0	1	2	1	0	0	1	0	0	0	0	0	0	96	1,515	606	2,121	331
Environmental Protection & Growth Management	1	0	0	1	1	1	0	1	0	0	0	0	0	0	0	416	2,419	968	3,387	312
Planning & Development Management	1	1	1	1	1	2	2	2	0	0	0	0	0	0	0	96	4,435	1,774	6,209	174
Housing Finance & Community Redevelopment	1	1	2	1	1	2	2	1	1	0	0	0	0	0	0	896	6,617	2,647	9,264	250
Environmental Planning & Community Resilience	1	1	3	1	8	2	2	2	1	0	1	0	0	0	0	296	6,177	2,471	8,648	242
Human Services	1	1	1	1	4	2	2	1	1	0	1	0	0	0	0	336	7,024	2,810	9,834	246
Community Partnerships	1	1	2	1	10	3	2	2	1	0	1	0	0	0	0	256	8,274	3,310	11,584	225
Public Works	1	0	0	1	2	1	1	0	0	0	1	0	0	0	0	96	2,896	1,158	4,054	356
Construction Management	1	1	2	1	6	3	2	0	0	2	0	0	2	0	0	416	10,136	4,054	14,190	296
Facilities Management	1	1	2	2	2	4	3	3	0	0	1	0	0	0	0	512	8,648	3,459	12,107	168
Finance & Administrative Services	1	1	0	1	1	1	0	1	0	0	1	0	0	0	0	176	3,500	1,400	4,900	582
Accounting	1	1	2	2	2	4	3	3	2	0	0	0	0	0	0	196	7,620	3,048	10,668	170
Enterprise Technology Services	1	2	4	3	3	7	6	3	2	0	0	0	0	0	3	656	15,453	6,181	21,634	518
Human Resources	1	1	3	2	4	3	3	2	0	0	1	0	0	0	0	416	7,692	3,077	10,769	200
Purchasing	1	1	2	2	2	4	4	3	2	0	0	0	0	0	0	656	9,740	3,896	13,636	167
Records Tax & Treasury	7	1	8	0	9	5	7	4	3	0	1	0	0	0	0	1,184	19,208	7,683	26,891	167
Risk Management	1	1	2	1	2	3	2	2	1	0	0	0	0	0	0	416	6,155	2,462	8,617	191
Fleet	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	325	130	455	455
Transportation	1	4	16	6	6	16	12	10	6	0	8	0	0	0	1	96	47,271	18,908	66,179	386
# Spaces by type	35	26	60	41	100	78	61	47	29	2	19	1	2	1	5					
% of assigned workstation types area/space	200	500	10	40	20	30	120	200	320	500	520	600	840	800	800	14,946	233,163	93,265	326,428	216
Total Areas by space	7,000	13,000	600	1,640	2,000	2,340	7,320	9,400	9,280	1,000	9,880	600	1,680	800	4,000	14,946				
Total current HC															Net area	233,163				

SF pp County

does not include shared floor amenities

233,163	County NET Square Feet	326,428	County Usable Square Feet

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City Requirements Summary

City Departments	HC	Exec Suite	Exec Office (225)	Office (150)	Office (125)	Work-station (125)	Mgt Work-station (100)	Work-station (80)	Work-station (64)	Assigned SF with growth	Assigned Work-stations provided with growth	% increase assigned from Current	Touch down	Total workspaces with Touch-down	Total SF per Division	% increase in space from assigned to total w TD	Waiting	Open Collaboration	Print Station	Print /Work	Supply / Storage	Quick Quiet Room	Huddle (3-4)	Medium (6-8)	Large (10-12) (320)	Large (10-12) (500)	X Large (20-22) (520)	X Large (20-22) (800)	X Large (20-22) (840)	Deluxe	Training	Special	Net Usable	Circulation	Total
City Manager	12	1	3	0	4	0	5	0	0	1,995	13	8%	0	13	1,995	0%	2	1	0	2	2	1	1	0	1	0	1	0	0	0	0	96	4,101	1,640	5,741
City Clerk	9	0	2	0	0	6	0	0	1	1,264	9	0%	0	9	1,264	0%	1	1	0	1	1	1	0	1	1	0	0	0	0	0	0	336	2,910	1,164	4,074
City Auditor	6	1	0	0	0	0	5	0	0	820	6	0%	0	6	820	0%	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	216	2,466	986	3,452
City Attorney	31	1	0	16	0	0	16	0	0	4,320	33	6%	2	35	4,416	6%	1	1	1	1	1	2	2	2	1	0	0	0	0	0	0	456	6,662	2,665	9,327
City Finance	45	0	5	7	0	0	0	0	39	4,671	51	13%	0	51	4,671	0%	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	336	6,477	2,591	9,068
City Utility Billing	30	0	1	0	0	5	0	0	26	2,514	32	7%	1	33	2,562	3%	1	1	1	1	1	2	2	1	1	0	0	0	0	0	0	1,216	5,368	2,147	7,515
City Human Resources	41	0	2	0	18	0	2	0	18	4,052	40	-2%	4	44	4,244	10%	1	1	2	1	1	3	2	2	1	0	0	0	0	0	0	336	6,410	2,564	8,974
City Sustainable Development	186	0	3	0	33	0	140	0	22	20,208	198	6%	0	198	20,208	0%	2	3	6	4	4	10	7	6	3	0	1	0	0	0	0	872	27,100	10,840	37,940
City IT	67	0	1	0	14	0	0	0	60	5,815	75	12%	8	83	6,199	11%	2	1	2	2	2	4	3	3	2	0	0	0	0	0	0	10,696	19,655	7,862	27,517
City Transportation and Mobility	56	0	1	0	12	0	36	0	12	6,093	61	9%	0	61	6,093	0%	1	1	1	2	2	3	3	1	1	1	0	0	0	0	0	1,340	9,733	3,893	13,626
City Budget	9	0	1	0	2	0	0	0	6	859	9	0%	0	9	859	0%	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	96	2,065	826	2,891
City Strategy & Communications	8	0	1	0	5	0	2	0	0	1,050	8	0%	0	8	1,050	0%	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	96	2,256	902	3,158
City Neighborhood Support	11	0	1	0	0	3	0	0	7	1,048	11	0%	2	13	1,144	18%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,470	988	3,458
City Pension Auditor	9	0	1	0	1	0	7	0	2	1,178	11	22%	0	11	1,178	0%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,504	1,002	3,506
City Commissioners	8	5	5	0	8	0	4	0	0	4,125	22	175%	0	22	4,125	0%	2	1	0	1	1	1	0	1	1	0	0	0	0	0	0	192	5,827	2,331	8,158
City Housing and CD	13	0	1	0	0	0	12	0	2	1,553	15	15%	0	15	1,553	0%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,879	1,152	4,031
City Structural Innovation	6	0	1	0	0	0	5	0	2	853	8	33%	0	8	853	0%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,179	872	3,051
City Public Works	96	0	3	0	7	0	82	0	6	10,134	98	2%	0	98	10,134	0%	1	1	4	2	4	5	4	3	2	0	1	0	0	0	0	496	13,920	5,568	19,488
# Spaces by type	643	8	32	23	104	14	316	0	203	72,552	700	9%	17	717	73,368	2%	22	20	18	25	27	41	32	24	20	1	3	0	0	0	0				
% of assigned workstation types		1%	5%	3%	15%	2%	45%	0%	29%																										
area/space		320	225	150	125	125	100	80	64				48				200	500	10	40	20	30	120	200	320	500	520	600	840	800	800	17,164	124,982	49,993	174,975
Total Areas by space		2,560	7,200	3,450	13,000	1,750	31,600	0	12,992				816				4,400	10,000	180	1,000	540	1,230	3,840	4,800	6,400	500	1,560	0	0	0	0	17,164			
Total HC	1286																																		

124,982	City Net Square Feet
124,982	Estimated City NET Area

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City Workstation Summary

City Departments	HC	Exec Suite	Exec Office (225)	Office (150)	Office (125)	Work-station (125)	Mgr Work-station (100)	Work-station (80)	Work-station (64)	Assigned SF with growth	Assigned Work-stations provided with growth	% increase assigned from Current	Touch down	Total workspaces with Touch-down	Total SF per Division	% increase in space from assigned to total w TD
City Manager	12	1	3	0	4	0	5	0	0	1,995	13	8%	0	13	1,995	0%
City Clerk	9	0	2	0	0	6	0	0	1	1,264	9	0%	0	9	1,264	0%
City Auditor	6	1	0	0	0	0	5	0	0	820	6	0%	0	6	820	0%
City Attorney	31	1	0	16	0	0	16	0	0	4,320	33	6%	2	35	4,416	6%
City Finance	45	0	5	7	0	0	0	0	39	4,671	51	13%	0	51	4,671	0%
City Utility Billing	30	0	1	0	0	5	0	0	26	2,514	32	7%	1	33	2,562	3%
City Human Resources	41	0	2	0	18	0	2	0	18	4,052	40	-2%	4	44	4,244	10%
City Sustainable Development	186	0	3	0	33	0	140	0	22	20,208	198	6%	0	198	20,208	0%
City IT	67	0	1	0	14	0	0	0	60	5,815	75	12%	8	83	6,199	11%
City Transportation and Mobility	56	0	1	0	12	0	36	0	12	6,093	61	9%	0	61	6,093	0%
City Budget	9	0	1	0	2	0	0	0	6	859	9	0%	0	9	859	0%
City Strategy & Communications	8	0	1	0	5	0	2	0	0	1,050	8	0%	0	8	1,050	0%
City Neighborhood Support	11	0	1	0	0	3	0	0	7	1,048	11	0%	2	13	1,144	18%
City Pension Auditor	9	0	1	0	1	0	7	0	2	1,178	11	22%	0	11	1,178	0%
City Commissioners	8	5	5	0	8	0	4	0	0	4,125	22	175%	0	22	4,125	0%
City Housing and CD	13	0	1	0	0	0	12	0	2	1,553	15	15%	0	15	1,553	0%
City Structural Innovation	6	0	1	0	0	0	5	0	2	853	8	33%	0	8	853	0%
City Public Works	96	0	3	0	7	0	82	0	6	10,134	98	2%	0	98	10,134	0%
# Spaces by type	643	8	32	23	104	14	316	0	203	72,552	700	9%	17	717	73,368	2%
% of assigned workstation types		1%	5%	3%	15%	2%	45%	0%	29%							
area/space		320	225	150	125	125	100	80	64				48			
Total Areas by space		2,560	7,200	3,450	13,000	1,750	31,600	0	12,992				816			
Total HC	1286															

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City Collaborative and Other Space Summary

City Departments	% increase in space from assigned to total w TD	Waiting	Open Collaboration	Print Station	Print /Work	Supply / Storage	Quick Quiet Room	Huddle (3-4)	Medium (6-8)	Large (10-12) (320)	Large (10-12) (500)	X Large (20-22) (520)	X Large (20-22) (600)	X Large (20-22) (840)	Deluxe	Training	Special	Net Usable	Circulation	Total
City Manager	0%	2	1	0	2	2	1	1	0	1	0	1	0	0	0	0	96	4,101	1,640	5,741
City Clerk	0%	1	1	0	1	1	1	0	1	1	0	0	0	0	0	0	336	2,910	1,164	4,074
City Auditor	0%	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	216	2,466	986	3,452
City Attorney	6%	1	1	1	1	1	2	2	2	1	0	0	0	0	0	0	456	6,662	2,665	9,327
City Finance	0%	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	336	6,477	2,591	9,068
City Utility Billing	3%	1	1	1	1	1	2	2	1	1	0	0	0	0	0	0	1,216	5,368	2,147	7,515
City Human Resources	10%	1	1	2	1	1	3	2	2	1	0	0	0	0	0	0	336	6,410	2,564	8,974
City Sustainable Development	0%	2	3	6	4	4	10	7	6	3	0	1	0	0	0	0	872	27,100	10,840	37,940
City IT	11%	2	1	2	2	2	4	3	3	2	0	0	0	0	0	0	10,696	19,655	7,862	27,517
City Transportation and Mobility	0%	1	1	1	2	2	3	3	1	1	1	0	0	0	0	0	1,340	9,733	3,893	13,626
City Budget	0%	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	96	2,065	826	2,891
City Strategy & Communications	0%	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	96	2,256	902	3,158
City Neighborhood Support	18%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,470	988	3,458
City Pension Auditor	0%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,504	1,002	3,506
City Commissioners	0%	2	1	0	1	1	1	0	1	1	0	0	0	0	0	0	192	5,827	2,331	8,158
City Housing and CD	0%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,879	1,152	4,031
City Structural Innovation	0%	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	96	2,179	872	3,051
City Public Works	0%	1	1	4	2	4	5	4	3	2	0	1	0	0	0	0	496	13,920	5,568	19,488
# Spaces by type	2%	22	20	18	25	27	41	32	24	20	1	3	0	0	0	0				
% of assigned workstation types																				
area/space		200	500	10	40	20	30	120	200	320	500	520	600	840	800	800	17,164	124,982	49,993	174,975
Total Areas by space		4,400	10,000	180	1,000	540	1,230	3,840	4,800	6,400	500	1,560	0	0	0	0	17,164			
Total HC																				

124,982	City Net Square Feet
124,982	Estimated City NET Area

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Forecasted Future Space Requirements

The Future Spatial and Functional Requirements listing of net square footage assignments for each space is based upon feedback from the Draft Review.

	Current Headcount	Assignable seats in program	Drop in seats	% additional capacity (assigned seats only)
County	1145	1443	1108	26%
City	623	700	17	9%

The stacking distribution of departments on a proposed 26,000 usable square foot per floor scheme (discussed below) also allows for the addition of between 7 and 10% additional workstations. This modest additional capacity, which is distributed throughout most floors, will provide flexibility for another 10 years to 2035.

Overall, we forecast nominal growth in both City and County government personnel over the next thirty years.

While there will be modest growth in population and households, productivity increases due to technology, and improved processes over time, will likely offset any increased workload driven by population or economic growth. We expect that the use of digital technology on-line applications, access, records management, financial systems, will continue to improve productivity and will offset the need for additional personnel, even with growth in county and city population, and increased economic activity due to business growth. The exception will be if an entirely new function is added such as a group to administer the surtax.

There are several factors considered:

Population growth and an increase in households:

Broward County

Based upon the 2017 Broward County and Municipal Population Forecast and Allocation Model (PFAM), Broward County is projected to experience slow but steady population growth over the next 25 years. The model projects growth up to 2045. We converted the five -incremental forecasts into annual growth rates. The County population grew about 1% per year from 2015 to 2020. Annual growth will slow to ~0.8% annual growth from 2020 to 2025 and then slow further to about 0.6% per year through to 2035 where the growth rate will drop further.

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Population											
County	Projections										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Broward	1,827,367	1,844,793	1,862,219	1,879,646	1,897,072	1,914,498	1,929,549	1,944,600	1,959,651	1,974,702	1,989,753
Growth		17,426	17,426	17,426	17,426	17,426	15,051	15,051	15,051	15,051	15,051
		0.95%	0.94%	0.94%	0.93%	0.92%	0.79%	0.78%	0.77%	0.77%	0.76%
County	Projections										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Broward	2,002,289	2,014,825	2,027,360	2,039,896	2,052,432	2,064,276	2,076,120	2,087,964	2,099,808	2,111,652	2,120,938
Growth	12,536	12,536	12,536	12,536	12,536	11,844	11,844	11,844	11,844	11,844	9,286
	0.63%	0.63%	0.62%	0.62%	0.61%	0.58%	0.57%	0.57%	0.57%	0.56%	0.44%
County	Projections										
	2037	2038	2039	2040	2041	2042	2043	2044	2045		
Broward	2,130,223	2,139,509	2,148,794	2,158,080	2,166,562	2,175,045	2,183,527	2,192,010	2,200,492		
Growth	9,286	9,286	9,286	9,286	8,482	8,482	8,482	8,482	8,482		
	0.44%	0.44%	0.43%	0.43%	0.39%	0.39%	0.39%	0.39%	0.39%		

City of Fort Lauderdale

When projecting the demand for future City services, household formation may be a better measure of increased demand for city services. We used Broward County household formation forecasts as a proxy for Fort Lauderdale since it is the largest city in the County. While households have growth nearly 2% per year in the past five years (from 1.8% to 1.68% per annum) this growth is forecasted to level off to under 1% per year, likely reflecting the lack of developable land in the City. Additional household growth will have to rely on new construction replacing or infilling lower density or underutilized sites.

Householders											
County	Projections										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Broward	358,113	364,565	371,017	377,469	383,921	390,373	393,222	396,071	398,920	401,769	404,618
Growth		6,452	6,452	6,452	6,452	6,452	2,849	2,849	2,849	2,849	2,849
		1.80%	1.77%	1.74%	1.71%	1.68%	0.73%	0.72%	0.72%	0.71%	0.71%
County	Projections										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Broward	405,340	406,061	406,783	407,504	408,226	406,310	404,394	402,478	400,562	398,646	398,073
Growth	722	722	722	722	722	-1,916	-1,916	-1,916	-1,916	-1,916	-573
	0.18%	0.18%	0.18%	0.18%	0.18%	-0.47%	-0.47%	-0.47%	-0.48%	-0.48%	-0.14%
County	Projections										
	2037	2038	2039	2040	2041	2042	2043	2044	2045		
Broward	397,499	396,926	396,352	395,779	397,183	398,587	399,990	401,394	402,798		
Growth	-573	-573	-573	-573	1,404	1,404	1,404	1,404	1,404		
	-0.14%	-0.14%	-0.14%	-0.14%	0.35%	0.35%	0.35%	0.35%	0.35%		

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Increase in productivity over time offsets population growth

US Labor force productivity, while slowing, will likely remain in the 1-2% annual gain range in the future. The graph below shows that over the past 50 years, US productivity growth has ranged from 4% to 1% year over year. This productivity growth rate will offset the population growth forecast of less than 1% annually for Broward County and the less than 1% annual household growth that we may anticipate for Fort Lauderdale.

Migration to mobile work increases utilization of office space

A second reason to believe that the sizing of the JGCC will be sufficient for many years to come is that neither the City nor the County currently allow forms of mobile work. Even with modest adoption of flexible work, allowing some employees to work part of the week from home and work in unassigned space at the office, increases workplace capacity from 10-20% and more depending upon how broadly it is allowed. Analytic tasks such as financial/quantitative, information technology and writing all especially well-suited to mobile work and are major aspects of government processes.

Departments that forecasted some degree of growth, which was factored into the 2025 number of seats to be added in addition to the current headcount in the program include:

City:

- Sustainability
- Finance/billing
- Human Resources
- Information Technology

County:

- Attorney

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- Audit
- Economic and small business development
- OMB
- Environmental Protection
- Housing Finance
- Environmental Planning
- Human Services
- Human Resources
- Purchasing
- Enterprise Technology
- Risk Management

External drivers which may require some additional government human resources include:

- Real estate development beyond current forecasts
- Alternative funding sources
- Climate change response initiatives
- Transportation initiatives
- Infrastructure initiatives

Accommodating Growth past 2025 to 2050

Unanticipated headcount growth past 2025 will be offset by a modest amount of "work from home" functions. Nearly every company today, and many government agencies enable a portion of their workforce to work from home. Federal agencies using a high degree of telework include:

- Office of Management and Budget.
- Office of Personnel Management.
- Federal Emergency Management Agency.
- General Services Administration.
- National Archives and Record Administration.
- National Institute of Science and Technology.
- Federal Protective Service.
- Equal Employment Opportunity Commission.

According to the ICMA, the leading association of professional city and county managers, (icma.org) many state and local governments are also implementing telecommuting for part of their employee base. While Broward County currently does not have any telework policy, the clear direction of other government agencies at all levels is an increasing and permanent use of telework.

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Adjacency Analysis and Stacking Scenarios

There are multiple levels of interaction which require integration into the building envelope.

- Interactions within a department
- Interaction between departments
- Interaction with outside of county or city personnel regarding formal citizen participation on boards, committees or other formal consultations
- Interaction with individuals or small groups of citizens on an ad-hoc basis.

The inter-departmental adjacency requirements of both the City and County are relatively straightforward. They currently feel more complex and constraining because of the small floors and very compartmentalized spaces in which both organizations currently work. Implementing larger and more open floorplates, will greatly facilitate intradepartmental communications, and allow smaller, more interactive departments to work on the same floor.

Interaction within a department

The new site will allow for larger floorplates than the City currently has, and with more contiguous open space that most parts of the County's current facility, which is divided up with multiple corridors. With the open floorplates enabled by the new site, departments will not have to be split up by floors as often as they are now, so we did not examine adjacencies within agencies, although they are taken into account in the vertical stacking and when more than one agency is assigned to a floor. More micro level adjacencies within agencies are more appropriately dealt with in the design development phase when workstations are laid out on the floors.

Interaction between departments

Detailed interdepartmental adjacencies collected as part of the Work Environment Survey are presented in Appendix III - Adjacency Analysis.

Individual department adjacency requests are also documented in Appendix I – Program of Requirements.

Adjacency analysis and stacking scenario

Adjacency optimization and placement within stacking scenarios were developed in multiple stages.

Stacking diagrams must relate to a particular floor size to convey meaningful information. In general, larger floorplates enable more interaction within and across functional groups. We developed prototype stackings of interdepartmental relationships based upon responses to the questionnaire as well as interview findings. We also validated these findings by reviewing the output of the Workplace Survey.

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Common Central Space per Floor

We recommend that ~2,100 SF be reserved for common spaces which would include a coffee and eating area with refrigerators that would serve both as a break area and informal meeting space, a shared central lobby whether for a single department or multidepartment floor, and a room for wellness activities such as a mother's room (could be one every other floor alternated with other wellness functions). We also recommend that each floor be allocated one large conference room holding 20-22 chairs around a table plus one single sided row of additional seating (approximately 520 sf) and that this room should be easily divisible into two rooms. If the final design has a smaller floorplate, some of these amenities will have to be reduced or limited to every other floor.

Café/Kitchen/Commons		750
Shared floor lobby		280
Wellness/mother's room		120
Extra-large conf. room/divisible		520
	Total	1670
Circulation		25%
Allocated useable SF		2088

Our research showed that nearly all departments use large conference rooms at least once per week, and some use them as frequently as daily. Further, we hypothesize that if more large conference rooms were presently available to both the City and the County they would be used more frequently for "all hands" and larger team meetings. Additional large conference rooms are assigned to the Main Floor scheme. Departmental dedicated large conference rooms are assigned to the County Commissioners who frequently meet with dignitaries, and to the Construction Management Division. We expect that the City and County Commissioners floor/s and interior design will be more specialized than the general administrative spaces in the rest of the buildings

Vertical distribution of departments is based upon the degree to which the department has frequent public visitors. We also tried to locate departments with higher degrees of interaction within adjacent floors. This is more of a "nice to have" since vertical distance in an elevatored building is less of an issue.

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The Division/department adjacency scheme we recommend are as follows and are reflected in the stacking plan below:

Executive	
Legal/Audit	
Financial	
HR and Purchasing	
Technology	
Physical assets (CM, Facilities)	
Government services with citizen interaction	
Government services with highest citizen interaction	

Distribution of departments by floor should be further discussed in the Design Development phase.

Our assumptions place the Commissioners and the executive management on the top floors of each organization. While the County Commissioners requested direct access to the Chambers, this conflicts with the practical need to place such a large capacity venue on the Main Floor.

Stacking plans are based on a 23,769 usable floorplate (excludes core). For those floors which have more than one division or department housed, we plan for 2,100 SF of shared amenities (extra-large conference room, coffee and lounge). Reception and social space. For those floors, we planned to a 21,669 available USF. The stacking plans presented here illustrate the potential vertical distribution of departments for both organizations. Two scenarios were developed for the County – one an "efficient" fit and a "loose fit" that requires an additional floor, and one City stacking plan. The resulting number of floors requirement does not include levels required for the "main floor" functions which may take one or two more floors, or a combination of mezzanine and other levels.

The County requires either 11 or 12 floors depending upon how efficient or loose projected departmental growth is accommodated. The City fits on 8 floors, however, there is not enough contiguous room to house the entire Sustainable Development division. However, it appears that public facing positions are included in the Program as there are 198 assigned workstations and 140 of these are 100 SF "manager" workstations. If public facing Sustainable Development positions are located with Main floor activities, then the City needs 8 floors. If these positions need to be accommodated in the "Tower" then the City will require 9 floors. With a 9-floor configuration the City will have about a floor's work of excess space (~24,000 USF) spread throughout the building.

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Broward County Adjacency Analysis Stacking Plan - "Efficient fit" at 11 floors

	County Full Fit Stacking Plan			23,769	21,669
	(26% more FTE than current staff levels)			Total USF	USF-Shared amenities
	Division/Department			Over/ under per floor	Notes
1	Commissioners (11 provided)	12,484			Full floor, no shared core amenities, attorney oveflow
	Administrators	7,801	20,285	3,484	
2	County Attorney	24,664	24,664	(895)	Full floor, no shared core amenities
3	County Auditor	8,373			
	Public Communications (excl Print)	7,188			
	Office of Management & Budget	6,181	21,742	(73)	
4	Records Tax & Treasury	26,891	26,891	(3,122)	Full floor, no shared core amenities
5	Risk Management	8,617			
	Finance & Administrative Services	4,900			
	Accounting	10,668	24,185	(2,516)	
6	Human Resources	10,769			
	Purchasing	13,636	24,405	(2,736)	
7	Enterprise Technology Services	21,634	21,634	35	Full floor with amenity core
8	Construction Management	14,190			
	Environmental Protection & Growth Management	3,387			
	Planning & Development Management	6,209	23,786	(2,117)	
9	Public Works	4,054			
	Facilities Management	12,107			
	Environmental Planning & Community Resilience	8,648	24,809	(3,140)	
10	Intergovernmental Affairs	2,121			
	Housing Finance & Community Redevelopment	9,264			
	Human Services	9,834	21,218	451	
11	Community Partnerships	11,584			
	Economic & Small Business Development	8,590	20,174	1,495	
	Space short with current floor configuration			(9,135)	
	Balance overflow	253,794	253,794	-3%	amount "short" at 11 floors
	8 Floors with shared amenity core at 2,100 USF		16,800		
	County only Total Tower Requrement		270,594		
	Fleet		455		
	Transportation		66,179		
	Print shop		6,000		
	72,634		343,228		
	Total USF Tower Requirements at 11 floors at 23,769	261,459			
	Other space	72,634			
	County USF (excluding Transportation)	334,093			

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Broward County Adjacency Analysis Stacking Plan - "Loose fit" at 12 floors

				23,769	21,669
				Total USF	USF-Shared amenities
	County Loose Fit Stacking Plan			Over/ under per floor	Notes
1	Commissioners (11 provided)	12,484			
	Administrators	7,801	20,285	3,484	Full floor, no shared amenity
2	County Attorney	24,664	24,664	(895)	Full floor, no shared amenity
3	Public Communications (excludes print shop)	7,188			
	Office of Management & Budget	6,181			
	Environmental Planning & Community Resilience	8,648	22,017	(348)	
4	Records Tax & Treasury	26,891	26,891	(3,122)	Full floor, no shared amenity
5	County Auditor	8,373			
	Risk Management	8,617			
	Finance & Administrative Services	4,900	21,890	(221)	
6	Accounting	10,668			
	Human Resources	10,769	21,437	232	
7	Purchasing	13,636			
	Intergovernmental Affairs	2,121			
	Environmental Protection & Growth Management	3,387	19,144	2,525	
8	Enterprise Technology Services	21,634	21,634	35	Full floor with Amenity
9	Construction Management	14,190			
	Planning & Development Management	6,209	20,399	1,270	
10	Public Works	4,054			
	Facilities Management	12,107	16,162	5,507	
11	Housing Finance & Community Redevelopment	9,264			
	Human Services	9,834	19,097	2,572	
12	Community Partnerships	11,584			
	Economic & Small Business Development	8,590	20,174	1,495	
		253,794	253,794		
	Excess space at 12 floors			12,534	Excess space with loose fit
	9 floors of amenity space		18,900		
	County only total Tower requirement 12 floors		253,794		
	Fleet		455		
	Transportation		66,179		
	Print shop		6,000		
			345,328		
	Total Tower requirements 12 floors at 23,769	285,228			
	Other space	72,634			
		357,862			

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City of Fort Lauderdale Adjacency Analysis Stacking Plan

				23,769		21,669
Floor				Total USF		USF - Shared Amenities
	City Departments	SF Required			Over/ under per floor	Notes
8	City Commissioners	8,158				
	City Manager	5,741				
	City Clerk	4,074				
	City Budget (or Strat and Comm)	2,891		20,864	805	
7	City Attorney	9,327				
	City Finance	9,068		18,395	3,274	
6	City Human Resources	8,974				
	City Strategy & Communications	3,158				
	City Structural Innovation	3,051				
	City Neighborhood Support	3,458		18,641	3,028	
5	City IT	27,517		23,769	-	Full floor no shared amenities
4	City IT overflow		3,748			
	City Utility Billing	7,515				
	City Pension Auditor	3,506				
	City Auditor	3,452		18,221	3,448	
3	City Public Works	19,488		19,488		Full floor with amenities
2	City Transportation and Mobility	13,626				
	City Housing and CD	4,031				
	Overflow Sustainable Dev.		4,012	21,669	0	
1	City Sustainable Development	37,940		23,769	-	Full floor no shared amenities
	Excess space at 8 floors				10,555	
	Overflow Sustainable Dev. *		10,159			
		174,975		164,816		
	add in overflow requirement (10,159)			174,975		
	6 floors of Shared amenity space			12,600		
	City only total Tower Requirements			187,575		
	Total Tower requirements by # floors	8	9			
	USF/floor	23,769	23,769			
	Total USF required by floors	190,152	213,921			
	*Can part of Sustainable Development (building inspectors) be housed on Main floor? If so, 8 floors are needed.					

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Technology in the New Workplace

Because the Joint Government Campus Center will take several years to build, the design team must be forward thinking in developing a workplace technology strategy that will be suitable in the years to come.

If the County and City adopt work practices in the future that are currently found in many other federal, state and local governments, it can be anticipated that JGCC employees will work more flexibly and independently in the future, both inside the office and in other locations, such as home. **IT tools and infrastructure must enable this internal and external mobility.**

This means:

- Mobile devices for working away from their assigned desk such as laptops, notebooks, and mobile phones
- Remote access to documents and applications
- Strong teleconferencing tools and technology to stay connected when separate
- Digital conference room reservation system that ties into Outlook calendar scheduling
- Consider demonstrating new relevent technology in the main lobby that is used by residents of the City and County.

To enable employees to work in different settings throughout the JGCC workplace, electronic access to systems and files must be easy, quick and secure. TO enable any degree of mobility employees must be able to take their digital device with them when they switch between workplaces and be able to quickly open documents at all workplaces, not just at their assigned seat in the office.

TECHNICAL INFRASTRUCTURE AND EQUIPMENT INTERFACE

The technical infrastructure of the office needs to facilitate this flexibility. This means that network cabling and robust, reliable Wi-Fi are necessary conditions to facilitate working online and in different places within the JGCC working environment.

Consider implementation of power, data, and cabling in hard wall rooms to work with a variety of furniture configurations – whether office or conference room. This, paired with freestanding furniture elements will enable fast and less-costly space changes in the future.

TECHNICAL SUPPORT AND SATISFACTION

If needed, tech staff should be available to assist with teleconferencing and presentation technology in meeting rooms. Placards explaining how technology works should be

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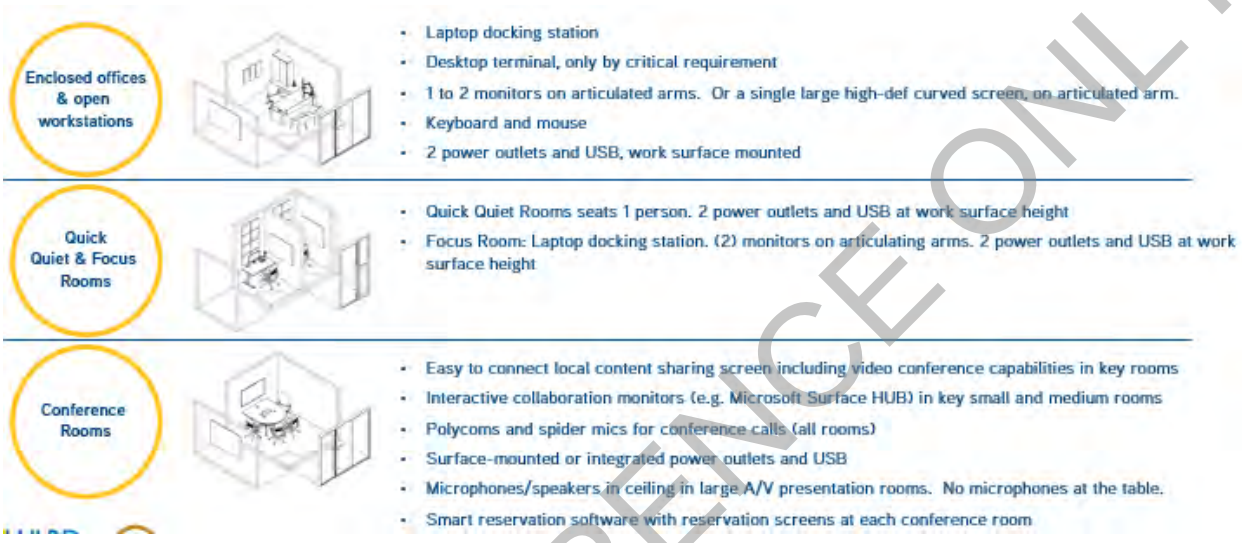
provided in each space. Tech support staff should continue to help people needing assistance.

It is recommended that a regular technology satisfaction survey should be conducted to understand how to continuously improve the employee experience with technology.

WORKPLACE TECHNOLOGY ELEMENTS



All furniture settings to be as 'plug-n-play' as possible to enable more flexible working within the new government center. Easy power access in open collaborative settings, quick quiet pods, and focus rooms will enable effective use and increase overall utilization of these space settings. The goal is to empower, variety, choice and balance. Additional areas must work well to support work on laptops and smart phones.

Consider docking stations, monitor arms, and height-adjustable work surfaces for all areas intended to support focus work. To support as many devices as possible, universal docking stations and connection points are recommended. USB outlets in power modules are also important for easier phone charging.

Conference Rooms:

- Consider technology to share, call and video conference.
- Single-touch or wireless connections for screen sharing.
- Make all technology wireless, intuitive, reliable.

TECHNOLOGY INTEGRATION FOR VISITOR EXPERIENCE

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1. Options – Residents should be presented with several options for accessing JGCC services, including:
    a) Making an appointment instead of waiting in line, via online
    b) Using kiosks in the lobby to get information or receive services
    c) Continue to enable easy payments online
2. Provide dynamic digital wayfinding signage to aid visitors in finding the services or divisions they require.
3. Digital room signage for Chambers or a central room reservation screen provides a schedule of up and coming events.

NAVIGATION & WAYFINDING

4. Navigation and Wayfinding – screens, wayfinding and signs should make it clear which steps to take to make the most of the resident experience. Clarity is key.
5. Room reservation signage on conference rooms to enable scheduling on the fly as well as signify if rooms are in use or available for reservation
6. Digital content displays in key social areas can advertise events for employees, recognition, latest weather and news updates, as well as other key information sharing

Quick Quiet Room	Huddle (3-4)	Medium (6-8)	Large (10-12) (320)	Large (10-12) (500)	X Large (20-22) (520)	X Large (20-22) (600)	X Large (20-22) (840)	Deluxe	Train-ing
30	120	200	320	500	520	600	840	800	800

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Conference, Meeting, and Collaboration Spaces

The Program of Requirements includes allowance for a variety of collaboration spaces that can be further determined during the design development phase. Conference room types are below with the number each for City and County. This does not include "shared" meeting space on the Main floor:

Type	SF Space allocated	Purpose	Distribution	County	City
Quick quiet room/enclave	30	Individual phone call or concentration space		78	41
Small conference/ Huddle room	120	Huddle or scheduled meeting – 2-6 people	Could be 2 Enclaves	61	32
Medium conference	200	Scheduled meeting 6-8 people	Could 3 Enclaves or one small, I Enclave	47	24
Large conference	320	Scheduled meeting 9-14 people	Could be reallocated into one each Small and Medium	29	20
Large conference	500	Special configuration for Construction Management		2	1
Extra-large conference	520	Seating for 20-22 with side seating.		19	3
Extra-large conference	600			1	0
Extra large	840			2	0
Deluxe	800			1	0
Training	800			5	0
Open collaboration space	500	For additional collaboration needs as determined by the department	One per department – fractions for smaller departments.		

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Public Access and Security/Safety Considerations

Security of personnel and building is a critical design component of the Program.

Security concerns that were most often voiced in the Questionnaire responses and the interviews concerned public access to the workspaces, as well as the ability to easily exit the workspace in case of a personal attack. We discuss each of these concerns below. Specific technical recommendations will be made by the project's security consultants.

Public access

We recommend two tiers of security. Currently it is very easy for members of the general public to enter the departmental workspaces in both City and County buildings, at least to the lobby or external corridor of those spaces, although there are key card systems in place to limit access to workspaces off of the lobbies and corridors. However, this system also inhibits the movement of government personnel from entering and interacting with other departments.

Public visitors come to the City and County for several distinct reasons:

1. To obtain a document or service: This includes at various bill paying activities with the City. The City also plans to locate the Building Department at the JGCC and although the permitting process is going on-line, this will likely generate foot traffic and require service counters. Public visitors to the County come for US Passports, and to access or review documents.
2. To attend a formal meeting for which they are an invited participant. This includes task forces, advisory committees, vendors, and other regularly scheduled meetings.
3. To observe, and potentially interact ad hoc, in a public meeting.
4. Individual or small group meetings with government personnel regarding programs, funding, research, or other concerns.
5. Candidates for job interviews.

As many as possible of these activities should take place on the Main floor where there is a single point of access screening for all non-employees entering the building.

In addition, City and County government employees who work in other government buildings or in the field may have reasons to enter JGCC administrative offices for either meetings or for individual needs. The design should consider a separate check-in security desk (or one each) for City and County employees who have current Identification badges, so that they are not caught up in the more thorough public screening.

For those members of the public who have appointments with government employees within the administrative building envelope, should also have to report to a second level screening where the person they are visiting is called and the meeting is personally confirmed. It is our

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recommendation that the person then has a physical escort to the space, but the design and details of that process are the responsibility of the Security consultant, R&B..

Departments with high or frequent public interaction include:

County

1. Commissioners
2. County Administration
3. Attorney
4. Office of economic and small business development
5. Housing Finance
6. Human Services administration and Community Redevelopment
7. Purchasing
8. Human Resources
9. Records taxes and treasury

City

1. City Manager
2. City Commissioners
3. Finance – Utility billing
4. Sustainable Development
5. Transportation and Mobility

The City currently has Service Counters for 1) tax/licensing/water, 2) utilities, and 3) business tax payments. The County has a service area for processing Passports.

<u>The proposed program contains these elements to address public access:</u>

- Service counters for both City and County are programmed for the main floor.
- Part of the City's Sustainable Development Department – those involved with permitting and high levels of public interaction should be considered for a main floor "storefront".
- The County's Economic and Small business Development and Human Services departments are located on lower floors in the proposed stacking.
- Task force meeting rooms and other large meeting rooms are provided on the main floor. Participating government employees should come from their office and hold these public involvement meetings on the main floor.
- Small meeting/huddle rooms are provided on the first floor. These can support one-one-one meetings, job interviews and other activities if the department prefers not to have the visitor within their department area.
- Detailed programming regarding the amount and placement of these meeting/conference rooms will be further pursued in the design development stage.

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Conceptual Levels of Security

Level one A	Visitor screening to Main floor of building complex for Commission meetings, service counters and other Main floor meetings	Visitors are given a badge or other technology which shows their level of access
Level one B	Employee screening – with badges who work in the building	Should there be one shared or two – once each for City and County employees
Level two A	A second screening area for visitors who have appointments with government employees working within the administrative office envelope. This controls access to the building elevators, past the Main floor.	These visitors are escorted to their meeting by their host or an administrative assistant. OR they are directed to the floor and then interact with a floor receptionist.
Level two B	Security screening for government employees who do not work in the building but have proper ID.	
Level three	Floor receptionist who manages floor core activities	

Security concerns within the administrative office space

Concerns about personal safety within the space were also voiced. Requests were made for video monitoring of corridor spaces, panic buttons at reception areas, multiple means of egress in departments and large conference rooms, multiple means of egress in Commissioner's offices, and card access. Some secure filing areas were highlighted. Garage security was also noted.

Open sight lines, clear walls, and large open spaces need to be balanced with shelter-in-place and emergency egress requirements – these issues will be addressed in Design Development.

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Commissioner Offices and Chambers

County Requirements

Broward County currently has nine elected Commissioners, but the Program includes space for 11 Commissioners as there may be a legislated increase in the number of Commissioners. Each has three staff people as well as interns. Each represents a different geographic area. Since they are not allowed to caucus outside of Chambers, their interaction is primarily with their staff, county administration, and the public by appointment.

The Commissioners would prefer a self-contained "suite" set-up with a large private office that accommodates both a small conference table and soft seating. An additional office and workstations and two intern workstations, plus a holding area for visitors is allocated. They would also prefer to have a private bathroom for each suite. There should be two means of egress from each Commissioner's office.

Shared meeting space will include an extra-large dedicated conference room where they can meet with and entertain larger groups (16+ people), with an adjacent catering kitchen that would enable buffet service. 16+ person room (like a Board room). Three additional conference rooms are provided – two medium and one large. Technology recommendations will be applied, and a multiscreen format is requested for the extra-large room. Additional preferences are listed in Appendix I.

City Requirements

The City has four City Commissioners who work on a part-time basis. One is appointed to the position of Mayor Each also has two to three support staff. We recommend the same Suite design as for the County Commissioners. The City Commissioners are open to sharing conference rooms with other functions.

Additional preferences are listed in Appendix I.

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PROGRAMMING APPENDIX I

PROGRAM REQUIREMENTS BY DEPARTMENT

Revised May 2020

WORKING DRAFT FOR REVIEW ONLY

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County

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Office of the County Attorney

			Future Staff:	102
Department Name:	Office of the County Attorney		Current Staff:	87
Staff Space	Area	Current Staff	Numb	Net Area
Executive Suite (320)	320	0	1	320
Executive Office (225)	225	10	10	2250
Office (150)	150			0
Office (125)	125	52	57	7125
Workstation (125)	125			0
Manager Workstation (1	100		28	2800
Workstation (80)	80		0	0
Workstation (64)	64	25	6	384
Touchdown	48	0	2	96
			Staff Space Subtotal:	***12975***
Support Spaces	Area		Numb	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	2	1000
Print Station	10	1 per 20 users	3	30
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 : 20 users - workstations on	2	60
			Support Space Subtotal:	***1610***
Meeting Spaces	Area		Numb	Net Area
Huddle (3-4)	120	1 : 25 users - reduced due to	2	240
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	3	960
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800	1 if over 40 occupants		0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***2320***
Special Spaces	Area		Numb	Net Area
Library	400		1	400
Bond Storage	120	secure - fire and waterproof	1	120
Coffee/Break Room	96		2	192
				0
				0
			Special Space Subtotal:	***712***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				17617
Circulation	40%			7047
			Total Area:	***24664***
		SF/Person excluding Special Spaces		272

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Office of the County Attorney

Zyscovich Team: Thea Hahn, Annabella Smith

Broward County: Mike Kerr, Daniele French, Eric Russo (IT), Melissa McGee, Alan Cohen, Ariadna Musarra, Rob Dennis

General Comments:

The County Attorney's office handles all types of civil matters, serving all departments and boards. They are appointed by the Commission but are an independent department.

(no questionnaire received)

1. **Staffing:**
   a. Total 46 – 23 attorneys (19 at County plus 4 at airport) plus 23 support staff

2. **Growth Drivers:**
   a. Immediate growth of 3 plus 10% growth this year – new work driven by transportation surtax.
   b. Paralegals grow in parallel with attorneys.

3. **Work Process:**
   a. Collaborate with each other frequently, internally with their same side, also with opposing counsel.
   b. Privacy important – most confidential information is documents (need lockable drawers for attorneys and paralegals)
   c. Most frequent groups – SOE (supervisors of elections), property appraisers, County Administration.
   d. Supported by county but not directly related to county commissioners.
   e. County Attorney has own IT, separate from ETS – need storage and staging space.
   f. Security is a concern
   g. Staff have two screens on their desks.
   h. Staff drive personal vehicles to work.

4. **Meetings:**
   a. Weekly team meetings of 5-10
   b. Weekly – county attorney & deputies (6)
   c. Arbitration meetings 1 or 2x weekly (20)
   d. Small meetings in offices at tables
   e. Need visiting attorney space
   f. Additional comments after review: if the County Administrator is accepting 200 sq feet, we will make this work for the County Attorney provided there is an adjacent conference room (with an internal connecting door, kind of like Bertha has now) with seating for up to 9. This could utilize one of the existing 3 medium conference rooms currently provided, as we are also requesting an extra large conference room be added. This adjacent medium conference room would be restricted to use by the County Attorney and the Deputies. So, in summary, the preference is for a large office for the County Attorney (this is far more conducive to

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immediately responding to frequent calls from Commissioners that come up while in conference, instead of being in an adjacent room and delaying the response),

g. We routinely meet with Commissioners, County Admin, and senior County staff in our offices. We also meet with external agencies like the SOE and PA, but that is less frequently. We meet with witnesses, opposing counsel, and many others. We frequently meet in person. As referenced above, the County Attorney has multiple daily meetings with groups of up to 9 (including him) (just like the County Administrator). These are currently in his office as stated above. We also routinely have hearings, arbitrations, mediations, negotiation sessions, and other large meetings in our space (groups of 2 - 40). This should also be added under section 5. We also have all staff meetings and all attorney meetings (50 - 80 attendees) at least quarterly, so we would need sufficient space in the building to accomplish this.

5. Current Space:

a. Space is scattered across two floors – includes space that was Intergovernmental affairs and Professional Standards.
b. 1 conference room for 10-12
c. 2 conference rooms for 6-8
d. Library – used as informal meeting space, weekly team meetings, touchdown space for attorneys usually other places.
e. Waiting area
f. 2 screens at desks
g. Multiple network printers/scanners and work areas for binding
h. Attorneys – offices, Paralegals – cubicles.

6. Adjacencies

a. Need direct adjacency to commissioners and administration.
b. Does not need to be near any other groups.
c. Public access ok but not required. Would like a discrete entrance.

7. Current Workplace Design Issues

a. Insufficient waiting space: need ability to keep groups or individuals who are waiting separate.

8. Would like:

a. County attorney should be larger than others with separate conference room.
b. 2 visitor spaces
c. Paralegals in pool/center with offices around the outside.
d. Additional Conference space
e. Keep library area as multipurpose space – used for training and meetings as well as research.
f. Bond documents should be in secure space and protected from fire and water damage
g. Waiting area –need security door like courthouse. Waiting for witnesses/parties could be bench seating outside in hall – need to be close so can come in when prior participant is done.

9. Potential Organizational Change:

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a. Increasing teleconference
b. Continued growth with growth of county

10. Culture:
a. Collegial

11. Special Building Services Requirements:
a. Secure waiting space

12. Security:
a. A lockable file room
b. Discrete entrance/reception
c. Daily public access (process servers, witnesses, opposing counsel, etc.).
d. . Section 12 - our security should to be like or more substantial than what County Admin currently has. Our current security arrangement is inadequate.

13. Work from home:
a. Not permitted per policy; employees always have access with the card reader.

14. Emergency Procedures:
a. Personnel are considered essential, have shifts to rotate through at EOC, and must show up once declaration is lifted.

15. Special Training Requirements: not discussed

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Office of the County Auditor

			Future Staff:	29
Department Name:	Office of the County Auditor		Current Staff:	25
Staff Space	Area	Current Staff	Number	Net Area
Executive Suite (320)	320	0	1	320
Executive Office (225)	225	2	2	450
Office (150)	150	0	0	0
Office (125)	125	21	23	2875
Workstation (125)	125	0	0	0
Manager Workstation (1	100	0	3	300
Workstation (80)	80	0	0	0
Workstation (64)	64	2	0	0
Touchdown	48	0	0	0
			Staff Space Subtotal:	***3945***
Support Spaces	Area		Number	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	8	160
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***980***
Meeting Spaces	Area		Number	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***840***
Special Spaces	Area		Number	Net Area
Coffee/Break Room	96		1	96
Evidence Room	120		1	120
				0
				0
				0
			Special Space Subtotal:	***216***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				5981
Circulation	40%			2392
			Total Area:	***8373***
			SF/Person excluding Special Spaces	323

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County Auditor

Bob Melton

Jan 15, 2020 2:30 pm

Zyscovich Team: Thea Hahn, Fazlur Baksh

Broward County: Bob Melton, Kathie-Ann Ulett, Mike Ritus

General Comments:

Audit is an independent division reporting directly to the Commission. The group investigates a range of performance issues, including waste, fraud, abuse, and efficiency

1. **Staffing:**
   a. Currently 25 and increase from 17 three years ago
   b. The transportation surtax will drive growth (1 person added last year, likely 2-4 more)

2. **Growth Drivers**
   a. Growth is driven by new programs and responsibilities in the County, and new revenue sources

3. **Work Process:**
   a. Audit can investigate any organization that receives funding. They can comment on issues or proposals and can self-initiate investigations. Typical projects run 2-3 months and involve 2-3 staff members. However, projects can be much larger, such as the recent port report which took 10 people 6 months
   b. By law, highly confidential work, with peers unable to know what each other is working on.
   c. Work with a range of internal as well as external groups and individuals, from law enforcement to county agencies, individual employees and outside whistleblowers
   d. Frequent interviews with employees and whistleblowers – current space is not sufficiently soundproof. These interviews are not recorded
   e. Security is a concern, both for staff working on certain projects as well as for individuals that may be coming in
   f. Staff have laptops and two screens on their desks
   g. Shredders (markups are electronic, but all drafts are shredded)
   h. No vehicles assigned to department
   i. Staff drive personal vehicles to work
   j. Audit schedule for each county entity depends on risk rating, but there is an overall schedule
   k. Also have space for external auditors working on county financial statements

4. **Meetings:**
   a. Weekly staff meeting (25, don't fit in conference room so must book larger room)
   b. Training in 430 or 302
   c. Teambuilding often held offsite
   d. External Auditors: space for 2-8 people for 4-6 months throughout the year (not always the same time) – ideally cubicles w huddle table in middle

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e. Exit conferences following a project – involve department personnel, 3-5 auditors, county admin, can be 10-20 people
f. Individual interviews – need waiting space and visual confirmation of who is asking for entry before door is opened

5. Current Space:
a. 1 conference room (1 capacity 8 at table, 12-15 with second row; two screens)
b. Waiting area
c. 2 screens at desks, individual scanners/printers
d. Mostly offices

6. Adjacencies:
a. Need to be separate from other agencies
b. Need public access but not highly visible in order to allow individuals discreet access to group

7. Current Workplace Design Issues
a. Waiting area not particularly secure
b. Soundproofing

8. Would like:
a. Additional Conference space
b. Interview space
c. Waiting area with visual connection/speaker
d. Break Room with plumbing
e. Soundproofing
f. All offices
g. Evidence Room
h. Designated/reserved parking spaces

9. Potential Organizational Changes
a. Increasing teleconference
b. Continued growth with growth of county- short term growth due to transportation tax

10. Culture
a. Group is close because can't really bond with other county staff due to potential conflict of interest.
b. Professional – highly experienced

11. Specialized Building Services Requirements:

12. Security
a. No glass enclosures/conference or office doors and walls
b. Secure waiting space

13. Work from home:

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a. Some staff may work in another agency's space as part of an investigation. Some flexible hours to cover the 7.30-6 pm office hours. However, there is no working from home as a matter of policy – some can work from home for extra/afterhours but not as part of workday

14. Emergency Procedures:

a. Work from home, but very rarely – only happens every couple of years

15. Special Training Requirements:

a. Monthly Training, use Room 302

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Office of the County Commissioners

			Future Staff:	33
Department Name:	Commissioners		Current Staff:	20
Staff Space	Area	Current Staff	Numbe	Net Area
Executive Suite (320)	320	9	11	3520
Executive Office (225)	225	0	11	2475
Office (150)	150	0	0	0
Office (125)	125	0	0	0
Workstation (125)	125	0	0	0
Manager Workstation (10	100	0	0	0
Workstation (80)	80	0	0	0
Workstation (64)	64	11	11	704
Touchdown	48		2	96
			Staff Space Subtotal:	***6795***
Support Spaces	Area		Numbe	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	5	200
Supply / Storage	20	1 per 50 people	5	100
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***810***
Meeting Spaces	Area		Numbe	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	1	800
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1120***
Special Spaces	Area		Numbe	Net Area
Coffee/Break Room	96		1	96
Catering Area	96		1	96
				0
				0
				0
			Special Space Subtotal:	***192***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				8917
Circulation	40%			3567
			Total Area:	***12484***
			SF/Person excluding Special Spaces	611

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County Commissioners

Alan Cohen 1-31-2020 – phone interview but also toured the space.

1. **Staffing:** 9 Commissioners – may go to 11 so plan for two additional suites. Each Commissioner has up to three staff people. 36 people – up to 44. Need area for interns – flex space in the suite.

2. **Growth drivers:** may grow to 11

3. **Work Process:** Each commissioner represents a different geography – not much interaction between them (they are not supposed to caucus outside of chambers.

4. **Meetings:** Can have a shared waiting room.
   Want a large conference room dedicated to them where they can meet with and entertain larger groups – adjacent to a catering kitchen. Able to have buffet service. 16+ person room (like a Board room). Want a smaller dedicated conference as well. All AV technology in rooms. Multiscreen format in larger room.

5. **Current Space - description:** Right now, each suite is different in sizing and layout.

6. **Adjacencies:** Want easy access to Chambers – prefer to be on same floor

7. **Current workplace design issues:** Have two bathrooms in their suite which get heavy use.

8. **Would like:**
   a. A suite design with a large office for the Commissioner with meeting table and sofa seating – with room for three staffers and a holding/waiting area.
   b. Each would like a private bathroom.
   c. Would like a way to leave their office without having to go through their waiting area. (perhaps a hall breaks between every two suites?) i.e.: multiple exits from room.
   d. Want wood floors so they can bring their own carpets/furnishings.
   e. Sound acoustics/privacy – have it be private between suites.
   f. Individual temperate control in office
   g. A larger break room – not co-located with copier or other office equipment.
   h. A dedicated entrance for them accessible from the parking garage. (May require an elevator)
   i. Reception/entry hall – able to queue people. Very secure (as is today). Visitors will wait in this area.

9. **Potential organizational changes:** see above

10. **Culture:** not discussed

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County Administrators

			Future Staff:	16
Department Name:	Administrators		Current Staff:	8
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	2	640
Executive Office (225)	225	5	8	1800
Office (150)	150	0	0	0
Office (125)	125	0	2	250
Workstation (125)	125	0	0	0
Manager Workstation (10	100	0	4	400
Workstation (80)	80	0	0	0
Workstation (64)	64	3	0	0
Touchdown	48	0	2	96
			Staff Space Subtotal:	***3186***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***1050***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	1	600
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1240***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				5572
Circulation	40%			2229
			Total Area:	***7801***
			SF/Person excluding Special Spaces	958

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County – Administration

Alan Cohen

1. **Staffing:** 13 staff (7 existing) and 4 interns. These are 3-year internships so more like a real employee space need. Only have one drop in space now.

2. **Growth drivers:** Special projects

3. **Work Process:**

4. **Meetings:** 20 people in a room is common – both staff and public. Regular meetings include senior staff meeting with Department heads – bi- weekly - ~24 people. Senior team bi-weekly ~12 people. County Administrator (CA) hosts groups from 1-20 people. Larger groups meet down the hall. Quarterly managers meeting held in the chamber. Also use chambers for training – all internal use. CA meets with the public every day. She has an adjoining 10 seat conference room that also adjoins to the deputy. Additional seats around periphery. This works well. Small conference needs are met by meeting areas in individual executive offices.

5. **Current Space - description:** execs have small meeting area in their offices. CA, Deputy CA, Three ACAs. Two assistants.

6. **Adjacencies:** ACAs are assigned to different groups so don't work together as much. All have a lot of meetings. They interact with Commissioners every day. Attorney, Management and Budget – to a lesser extent HR, and Auditor. They could be on an adjacent floor "Adjacent but separate" to commissioners. Cannot be located near Professional Standards.

7. **Current workplace design issues:** Acoustics – sound privacy is a big issue and is critically important

8. **Would like:** white boards you can cover up, smart boards, technology in meeting rooms

9. **Potential organizational changes:** none planned

10. **Culture:** not discussed.

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Public Communications

			Future Staff:	24
Department Name:	Public Communications		Current Staff:	21
Staff Space	Area	Current Staff	Number	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	1	1	125
Workstation (125)	125			0
Manager Workstation (100)	100			0
Workstation (80)	80			0
Workstation (64)	64	19	22	1408
Touchdown	48		2	96
			Staff Space Subtotal:	***1854***
Support Spaces	Area		Number	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***830***
Meeting Spaces	Area		Number	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***640***
Special Spaces	Area		Number	Net Area
Print Shop	6000	not adjacent	1	6000
Coffee/Break Room	96		1	96
				0
				0
				0
			Special Space Subtotal:	***6096***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				9420
Circulation	40%			3768
			Total Area:	***13188***
		SF/Person excluding Special Spaces		222

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County – Office of Public Communication – no questionnaire

Margaret Stapleton

1/27/2020

3 parts: 1) print shop. 2) marketing communication team 3) Call Center – at the emergency operations center 23 agents – will be growing the call center because of the CRM system. Also acts as 911 back-up.

1. **Staffing:** 21 people in GCE. Director, assistant director – need places for private conversations. 3 administrative. 6 digital design developers, 4 print, graphics, web. Seeing a gradual blurring of boundaries between roles. More collaboration. A young staff. They want collaboration. 6 people in the print shop.

2. **Growth drivers:** We could do more if we had more people – have open positions – hard to recruit

3. **Work Process:** Act like an ad agency – content development, writing, website. Social media is decentralized among the departments, but they provide oversight and manage public media requests. With a decentralized approach we need more quality control and training. They also handle video work. Could use a place to film a person – must film and broadcast Commission meetings. Oversight Board. Also loan out video cameras.

4. **Meetings:** Not a lot of traffic in here – internal visitors, outside agencies with appointments. Staff meetings monthly – managers meet 2x month. Have an 8-10 conference room. A lot of smaller meetings with content developers – about 5 people. Presentations – use screen – selling an idea or concept. Do a lot of training – web use, social media. 12-40 people. Did 26 training classes in 2019.

5. **Current Space - description:** crowded. Chopped up.

6. **Adjacencies:** able to access print shop. Loading dock for print shop.

7. **Current workplace design issues:** The younger staff would like to take the panels down. "Serious image issue up here – the cubes are falling apart". It makes it a retention issue – no windows. Power issues – power goes out.

8. **Would like:** White boards, pin up space. Invest in new technology. Be able to show examples of our creative work. We have a lot of specialty items and storage – carts, photo slides. Control over lighting levels. Windows and brightness. Something that feels like a healthy work environment. They support the Census so a lot of materials from that. Could use some space for freelancers. Have special printers. Support groundbreaking events and displays – Need a video editing area. Televise and webcast. When they go offsite, they get a van from fleet.

9. **Potential organizational changes:** would like to outsource more, get the support of an agency.

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10. **Culture:** try to nurture a level of energy – people to be passionate about their jobs. They have lunch together, share food, term teams. They have high customer satisfaction with the call center.

From Questionnaire
Special building services requirements:

11. **Security:**

12. **Work from home:** Some work could be done with mobility. Staff works a flexible schedule starting at 7:30 am. We do it informally

13. **Emergency procedures:**

14. **Special training requirements:**

15. **Call Center notes:** Goes out there every two weeks – there are big design issues there. They are growing

Additional notes were provided by Grace Perdomo

LEADERSHIP INTERVIEW | Margaret Stapleton

Director, Office of Public Communications (COUNTY)

01/29/2020

Future space

- Bright welcoming spaces.
- Show technology and innovation
- What would say it is creative? Open or closed work environment; in general dept functions work better in collaboration spaces; today all in cubicles; have makeshift photo studio; do not have a studio where could film and do video production; have events; marketing materials; displays; lobby displays;
- **See copy list provided by MS for description of functions**

Delivered 21 training classes;

Decentralized – internal education; manage content;

Chambers

Chambers and what need to accommodate; what control room; what server needs; power needs; separate meeting with AV guys from department; dept broadcasts chamber meetings; its quality, shot, managed broadcast; livestream out of social media sites; have a video channel – original and purchased; have equipment but do NOT have an actual studio for these functions; billion dollars in equipment; city does not have this type of scale; city does not have same capacity; county print shop is 6,000 SF; messaging – for chambers, would maybe need to be distinct identity but can be accomplished in terms of digital graphics;

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Department has produced:

- 159 Video audio segments – original
- 768 meetings support
- 152 meetings
- Could share all resources with City; would have impact on scale of resources and messaging….Proprietary with equipment and would be issues with sharing;

What are big CHALLENGES

- **Having skillsets needed** – tech people (ie build wireframe) and write and creative (sense of what content looks like); some folks are still old school; cannot do man on the street interviews with cellphone and get it posted;
- **Social media** – mixed thoughts; specialized niche and changes fast; a real resource hog!; need people just allocated to that or outsource social media; how does govt keep up!; hurdle – trying to stay current;
- Quality assurance – very important! Area of growth need to build; need to pay attention to metrics; website analytics – need resources for this!; made proposals for social media unit – it is a diff skill set; needs to be its own area of specialty;

WHAT DOES SUCCESS LOOK LIKE

- Dept is through communications that face of the County; facility is front door to the county;
- People come for some function or for information
- Secure entry
- Nice online directories so can find things
- Lobby – messaging that can educate; collateral information;

Citizen service aid – answered questions; this function many years ago; position worked in dept; budget cuts did away;

Locate in right proximity to each other;

WHAT SHOULD WE NOT DO / BE CAREFUL ABOUT?

- People are ready for positive change and facility is so uncomfortable and do not meet people expectations of what a work environment should be; people question health of the existing building environment; dept has invested in veridesk
- Give people – can't do money or bonuses – but where we can give them something that changes their work environment like a desk or chair; ability to personalize spaces
- Lack of privacy
- Employee communications manual
- Hall-walking with cell phone for private conversations
- Need a cafeteria; can it be shared? Yes – combining of this use would be great!
- Wellness – tied to benefits system; dept leads communications on this component

Branding the building – thoughts: average citizen confuses city and county functions; from county perspective, interested in trying to make sure people understand the difference; both city and county would be interested in maintaining their identities; nice to have branding but can also be a target; a lot o

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A lot of things make sense to combine - shared secure facilities but would still have separate entry points because we do perform different functions.

Retail component – past plans considered this program; ie drycleaners; pharmacy; day care; how do we integrate the amenities into the building within a constrained site; transit in building should provide covered access to the building;

Outside of building – outdoor digital signage; give messaging to people; a marquis; advise on activities; commission meetings

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Economic & Small Business Development

			Future Staff:	32
Department Name:	Economic & Small Business		Current Staff:	32
Staff Space	Area	Current Staff	Number	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	4	4	500
Workstation (125)	125			0
Manager Workstation (100)	100			0
Workstation (80)	80			0
Workstation (64)	64	22	26	1664
Touchdown	48	4	7	336
			Staff Space Subtotal:	***2950***
Support Spaces	Area		Number	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	12	240
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***1060***
Meeting Spaces	Area		Number	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas	1	800
			Meeting Space Subtotal:	***1880***
Special Spaces	Area		Number	Net Area
Coffee/Break Room	96		1	96
Computer Room	150		1	150
				0
				0
				0
			Special Space Subtotal:	***246***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6136
Circulation	40%			2454
			Total Area:	***8590***
			SF/Person excluding Special Spaces	258

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OESBD – Office of Economic and Small Business Development

Sandy-Michael McDonald

1-21-20

General Comments: County's office of Economic and Small Business Development – formed by pulling together several different departments.

31 cities – manage relationships. Partner with Greater Fort Lauderdale Alliance. Which is 200 business in Broward County – retention, expansion, recruitment. 700 Certified small businesses in the County.

1. **Staffing**:
2. **Growth drivers:** Funding and new programs. 30-year County surtax will also drive new programs but not sure what hiring will be required.

3. **Work Process:** see 7.
    a. A lot of face-to-face and other channels of communication to the public. Weekly newsletter. "All EODs want a one-stop-shop" Here we operate with what we have.
    b. Most of the traffic into their office is small business owners looking for guidance and support. Also have YouTube videos explaining processes. Anyone can schedule a meeting with them or attend a workshop.
    c. Also have a lot of community partners they work with.

4. **Meetings:** Have a lot of meetings and workshops. Only have one conference room so that creates a lot of scheduling issues.

    a. Half day workshops
    b. Many workshops – some here – some other county locations (libraries, colleges) – would do more if they had the space – 12-80 people.
    c. New ventures – 10 module courses for small businesses ~20 at a time – held 1-2 times per year.
    d. 6-11 times per year – "11 steps to exporting" Foreign Trade Zone status where they can designate any property – not just at port – as a FTZ.
    e. Courses are also held evenings and weekends.
    f. Annual event FITZI – 1800 people – 50 countries
    g. Could use a room that holds up to 40 people 5-6 times per month – we could do more if we could find space more easily.
    h. Technical training "computer lab" for small biz and a terminal location for people to come and register/submit bids.

5. **Current Space - description:** crowded and fragmented.

6. **Adjacencies:**

    a. Easy public access.

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7. **Current workplace design issues:** Not enough meeting space or storage space. No room for interns.

8. **Would like:**

    a. We discussed a ground floor "storefront" that could be a one-stop shop for small business and economic development. They have seen this in other locations (NOTE: investigate case studies/examples of this. They have a culture of people wanting to talk to him or others on the staff but doesn't need to be an either/or situation. Are looking for various channels to reach-out to local small businesses.
    b. Kiosks for access to on-line system available in lobby. Drop in workstations for small businesses – laptop, scanner.
    c. Webcasting ability at some workshops – often get a lot of hits later when courses are posted o-line.
    d. Have a lot of promotional materials to store, as well as banners, decorations they use for their annual conference and major events.

9. **Potential organizational changes:** Surtax revenue will hit in 2021 and that could cause growth as noted above.

10. **Culture**

From Questionnaire
Special building services requirements: none
11. Security: none.
12. Work from home: Not County policy but about 10% of staff could work "flex". Outreach people start and end day here but could be flexible.
13. Emergency procedures: none
14. Special training requirements: see above.

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Office of Management and Budget

			Future Staff:	22
Department Name:	Office of Management & Bu		Current Staff:	22
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	4	5	625
Workstation (125)	125			0
Manager Workstation (10	100	0	15	1500
Workstation (80)	80	0	0	0
Workstation (64)	64	13	0	0
Touchdown	48	3	3	144
			Staff Space Subtotal:	***2719***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***880***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***640***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break room	96		1	96
Bookshelf Storage	80		1	80
				0
				0
				0
			Special Space Subtotal:	***176***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				4415
Circulation	40%			1766
			Total Area:	***6181***
			SF/Person excluding Special Spaces	270

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County - OMB

Norman Foster

1-28-2020

19 people now – 22 before recession.

$9 billion dollar budget. Oct 1 calendar year. Spend a lot of time in meetings in this building.

1. **Staffing:** 11 budget analysts – collaborate – phone and email with agencies – sometimes will sit with agencies. Execs do not use voice mail as the County Administrator insists phones are answered by actual people.

2. **Growth drivers:** will grow another two positions. Driver will be the Human capital management system.

3. **Work Process:**
    a. Work is seasonal with the budget developed Feb through April - - during that time agencies come here and meet. And they also go out to departments. They are also the "analytic arm" for County administration – ow they can just walk down the hall.
    b. Departments make a pitch to CA- requires a lot of prep and then need to revise. Analysts are assigned to departments. 40-50 meetings with CA – some are conference calls – others face to face.
    c. A lot of concentrative work. Some use headsets. Have a notary. Individual analysts have their own archive files that they consult when developing budgets. We are on "beck and call" so mobile work would be difficult.
    d. Have a COOP but don't go to the EOC.

4. **Meetings:** 2x week they fill the room – they want the ability to pull everyone (18-20 people) together on short notice (would this work with George's needs as well?) Large dry erase board. For 4 weeks solid they have an intense process. Do large training sessions up to 200 people – 1-2 times per year – use the Commission chambers. Use other training rooms and computer lab room.

5. **Current Space - description:** No public access. 2-3 screens per desk.

6. **Adjacencies:** Should be accessible to County Administration and Commission Chambers. Also close to Commission chambers. Do not need to be close to accounting.

7. **Current workplace design issues:** meeting space. "most government workers are introverts"

8. **Would like:** Don't need a waiting area. Their admin keeps an eye on the door and answers phones. Need place for issues files. Storage for budget books. A building that is easier to maintain and run. Nice cafeteria, coffee, more like, flexible informal meeting areas – places where people can do brainstorming.

9. **Potential organizational changes**: none

10. **Culture:** introverts but need to be collaborative

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Intergovernmental Affairs

			Future Staff:	6
Department Name:	Intergovernmental Affairs		Current Staff:	6
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	1	4	500
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	4	1	64
Touchdown	48			0
			Staff Space Subtotal:	***789***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	0	0
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***310***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***320***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				1515
Circulation	40%			606
			Total Area:	***2121***
			SF/Person excluding Special Spaces	331

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Marti Cassini, Intergovernmental Affairs Manager

Jan 17, 2020 9:00 am

Zyscovich Team: Thea Hahn, Fazlur Baksh

Broward County: Rob Dennis

General Comments:

Intergovernmental affairs are the in-house lobbying group, working with state government in Tallahassee and national government in DC. They have three roles:

1. If an office or division travels to advocate, Intergovernmental Affairs confirms that they are in line with county policies and following lobbying rules and helps refine the message.
2. Administration of 71 boards required by statute or commissioners. They also help vet candidates for the boards.
3. Management of lobbying registration system. This includes logging registrations and fees, and also managing lobbying firms contracted on behalf of the county.

1. Staffing:

a. 6 staff

2. Growth Drivers:

b. Was previously part of professional standards & grants group, has remained at 6 since divided 2 years ago

c. Don't foresee any growth – possibly one additional person to support social media communications

3. Work Process:

a. Travel to Tallahassee corresponds to legislative session Jan-Mar – one staff member stays in Tallahassee for the duration, 2 others go as needed
b. DC travel is year-round except August. Work in lobbying firms' offices when in DC.
c. A lot of work done via phone calls, email
d. Staff have laptops and two screens on their desks
e. Reference materials are all online
f. No specialized equipment
g. No vehicles assigned to department.
h. Staff drive personal vehicles to work
i. Difficult to measure success objectively – number of items that they can accomplish over the year depends on priorities, scale of issues, political climate.

4. Meetings:

a. Vetting candidates
b. Small meetings
c. Board meetings occur elsewhere

5. Current Space:

a. Conference area in managers office, could be separate/shared.
b. Don't use whiteboards.
c. Waiting area – rarely/never used.

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d. Mostly offices – they like having offices but they're not required

6. Adjacencies:

a. Ideally close to county administrator, commissioners, communications, attorneys
b. No-one that can't be adjacent to

7. Current Workplace Design Issues

a. Lack of break room

8. Would like:

a. Break Room with plumbing
b. Supportive area/somewhere to decompress – can be stressful
c. Would trade off space for more amenities
d. Access to shared conference room. Glass doors.

9. Potential Organizational Changes:

a. None identified

10. Culture

a. Increasingly collaborative, would like to increase communication and coordination between commissioners & state

11. Specialized Building Services Requirements:

a. None

12. Security

a. No special requirements

13. Work from home:

a. Not as a matter of policy, but those who travel for lobbying are very flexible, with laptops and remote access. Entire team could work from home

14. Emergency Procedures:

a. Considered essential employees, part of liaison group at EOC

15. Special Training Requirements:

a. None

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Environmental Protection & Growth Management

			Future Staff:	11
Department Name:	Environmental Protection & Growtl		Current Staff:	9
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125			0
Manager Workstation (10!	100	0	10	1000
Workstation (80)	80			0
Workstation (64)	64	8	0	0
Touchdown	48		6	288
			Staff Space Subtotal:	***1513***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	can share with other grc	1	200
Open Collaboration	500	can share with other grc	0	0
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***290***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	use exec office	0	0
Medium (6-8)	200	override - large only	1	200
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520			0
X Large (20-22)	600			0
X Large (20-22)	840			0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***200***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
VR Technology Space	320		1	320
				0
				0
				0
			Special Space Subtotal:	***416***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2419
Circulation	40%			968
			Total Area:	***3387***
			SF/Person excluding Special Spaces	312

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Environment Protection and Growth Management

Henry Sniezek – Director

Lenny Vialpando, Assistant Director

1/17/2020. I pm.

General Comments: $40 million budget of which $30 million is revenue they generate.

1. **Staffing:**
    a. 9 staff located here – about 400 in entire group
    b. Non surtax funded innovation group sharing space, unsure where they might go in future (4 people)
    c. Jennifer (other Agency/Division Director) has some staff here some in lab
    d. JoSesodia (other agency head) has half her staff here half at GC West, but she wants whole group at GC west

2. **Growth drivers:**
    a. Dept is as lean as it can be. If the county further centralizes operations, then might expand HC in the central location.

3. **Work Process:**
    a. Purely administrative
    b. Issues tens of thousands of permits
    c. Oversee 7 divisions located all over the County.
    d. Revenue comes from General fund, surtax funding and from generating income through permits and charges.
    e. Innovation group will be looking at ways to make more efficient through data analytics and technology.
    f. Use a lot of technology – E- on-line permitting, mobile GPS technology. Big focus on digitizing. Have 4 full time people doing scanning offsite. (hourly/interns)

4. **Meetings:**
    a. Meet with region directors
    b. Talk with lobbyists, developers, other county managers vendors
    c. Henry's office can handle meetings for ~4 people
    d. 12-person conference room in dept
    e. Anyone in county can book the 2 rooms, but this group can trump it
    f. Board meetings Tuesdays
    g. Try to keep only two days a week for visitors to come in – other days for internal meetings
    h. Executive staff meetings "all hands" once a month (20ish people)
    i. Bi-weekly one on ones with Division Directors - they come here
    j. Once every 3 months have 200ish person meeting in commission chambers

5. **Current Space - description:**
    a. Trinette Webster the only person that needs private space in terms of private conversations (some HR discussions) ... Have one dedicated conf. room. No break room – could share one

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6. **Adjacencies:**
    a. A lot of interaction with County administration: Bertha and county admin often
    b. Henry goes to GC West once a week
    c. Most times Dept. managers (who work offsite) come here for meetings

7. **Current workplace design issues:**

8. **Would like:**
    a. No break room right now, but want one
    b. Everyone drives and needs parking
    c. Would want shower/locker room facility if less parking in future
    d. Want floor to ceiling windows, bright colors, iconic building, longevity, landmark
    e. Standing desks
    f. Will need flex space for embedded people working on Urban Mobility – various partnerships with Universities. ($400k per year funding).
    g. A space for "virtual reality" technology to show impacts of various conditions. – will be using more of this technology – also with public interaction/road shows.

9. **Potential organizational changes**
    a. Dept is as lean as it can be. If look to centralize operations, then might expand HC
    b. Henry retiring in a year
    c. Expansion of transportation surtax could impact growth – see growth in GIS – question is whether GIS will be centralized. Innovation could grow. Need specialized expertise in Transportation planning to be added.
    d. Increase social media presence – show the benefits we bring to the community. Not done in a coordinated manner yet.

10. **Culture**
    a. Great culture – people often trained in this group to move elsewhere because the culture is so good
    b. Positive and professional - - would like to make it even more so. There is a "can do" attitude. Everyone will do what you ask. Open to new technology

From Questionnaire

11. Special building services requirements: None
12. Security: nothing special
13. Work from home:
    a. Can VPN everything
    b. Digitizing all paper – want to be paperless in new building
14. Emergency procedures: Are essential. We are the "back-up" building dept – need to get permits done quickly in a disaster – 20 cities = have spent night in EOC.
15. Special training requirements:

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Planning & Development Management

			Future Staff:	34
Department Name:	Project & Development Man		Current Staff:	35
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	3	4	500
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	26	29	1856
Touchdown	48	5	6	288
			Staff Space Subtotal:	***2869***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***830***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***640***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				4435
Circulation	40%			1774
			Total Area:	***6209***
			SF/Person excluding Special Spaces	174

- Please note the name of our Division "Planning and Development Management" (not Project.)
- Page 4 of the document only lists some of the Division's responsibilities in the new location. I had thought the intent was to combine the GCW and GCE functions (except Mobility Planning which is funded by Surtax). This would be approx. 50 staff, not 35.
- Page 5 says PDMD administration is a GCE, whereas it is at GCW.

Thanks

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Planning & Development Management Division (PDMD) No program questionnaire

Jo Sesodia

Jan 21, 2020 1:00 pm

Zyscovich Team: Thea Hahn, Lauren Foerster, Mark Vito

Broward County: Mike Ritus

General Comments:

PDMD provides planning services, reviews and regulates impacts of development, promotes sustainable growth, enforces zoning regulations, and provides GIS services to County government and unincorporated areas of the County. The department has 6 groups in addition to the business/administrative group. Administration, Planning, GIS, and Mobility Planning groups are currently at Government Center East; Mobility Planning is planned to move to GC West. Four groups (PDMD Administration, Code Enforcement, Zoning, and Development & Environmental Review) are currently at GC West.

1. **Staffing:**
   d. 50 total includes interns.
   e. Code (8), Zoning (2), and Development & Environmental Review (13 including 2 interns) are at GC West; Mobility Planning (5 including 1 intern) planned to move from GC East to West.
   f. 2 embedded ETS staff
   g. 1 additional historical/archaeological contractor
   h. 2-5 summer interns

2. **Growth Drivers**
   a. Expect slow growth – perhaps 1 person a year. Headcount growth based upon population – awaiting the 2020 Census data.

3. **Work Process:**
   a. Three code enforcement inspectors, zoning official are out in the field most of the time.
   b. Others are more in office or meetings.
   c. Planning is cyclical – will update population projections after 2020 census data is available.
   d. 80% of review and permitting is electronic – staff uses big screens and desktop computers – moving to 3 screens or linear screens.
   e. Tablets and smart phones are used in the field.
   f. 3 service counters serve 18,000 customers a year at GC West – take in $12M in impact fees annually.
   g. Service Counters 8-4 for code and zoning, 8-11 for development.
   h. Code enforcement also some nights and weekends.
   i. Planning participates in many board activities at night, but these are all off-site.
   j. Work with County Attorney and Commissioners mostly by phone/email
   k. Interactions with ETS, Accounting, and RTT
   l. Also work with Streets & Highway, Engineering and Transportation.

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m. External groups include boards, city governments, state, metropolitan planning, school boards.
n. Presentations are electronic, not creating lots of materials or brochures.
o. Equipment includes large plotters and scanners, microfiche reader, large screens.
p. GIS has servers.
q. Most staff drive own car to work.
r. 5 county vehicles are assigned to the group.
s. No public access at GC East / Planning

4. Meetings:

a. Weekly staff meetings for each of the groups.
b. Project meetings smaller.
c. Planning participates in board meetings, but these are offsite.
d. GIS has standup meeting every morning.
e. GIS project meetings are at client agency site or in office.
f. GIS trainings mostly but not entirely online.
g. Most meetings are small, 2-4 people.
h. Quarterly staff meetings alternate between GCE and GCW; schedule out a year in advance because difficult to get space.
i. Public workshops are held off-site or in 302, 329,430

5. Current Space:

a. Share meeting rooms with overall Environmental Protection & Growth Management group.
b. Mostly cubicles.
c. Director has office with meeting table for 4-5.
d. Hearing room and customer service counters are at GC West.
e. GCWest has a safe for checks received.

6. Adjacencies:

a. Code & Zoning need to be together
b. Development & Environmental Review need to be together
c. GIS works with everyone.
d. Administration works with accounting, RTT on lien releases.
e. Interact with commissioners by phone and email – no need to be at GC East – could all go to GC West

7. Current Workplace Design Issues

a. Not enough space for interns
b. Not enough space for entire group to be together

8. Would like:

a. Need good screens, video/media for public workshops
b. Larger waiting area with more security
c. Informal break room area for staff.
d. More access to meeting rooms – would like access to 2 20-person meeting rooms.
e. Whiteboards in office and conference areas.

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9. **Potential Organizational Changes**
   a. Scanning initiative will reduce storage of large format drawings (impacts GC West)
   b. As review and permitting becomes more electronic, potential to close service desk in future.
   c. Evolution of Mobility group – may be impacted by / join with Surtax

10. **Culture**
   a. Varies by group

11. **Specialized Building Services Requirements:**
   a. None

12. **Security**
   a. Safe at GC West for checks received at service counter

13. **Work from home:**
   a. Work from home not allowed.

14. **Emergency Procedures:**
   a. About half to EOC
   b. Some planning, some environmental, and code would be required to report for damage assessment. In case of emergency, Code group is reassigned to building
   c. If either GCE or GCW is unusable, staff will go to other site. If both sites down, then will identify another location

15. **Special Training Requirements:**
   a. None

FOR REFERENCE ONLY

Housing Finance & Community Redevelopment

			Future Staff:	35
Department Name:	Housing Finance & Communi		Current Staff:	32
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	13	11	1375
Workstation (125)	125			0
Manager Workstation (10	100	17	22	2200
Workstation (80)	80			0
Workstation (64)	64			0
Touchdown	48		2	96
			Staff Space Subtotal:	***4121***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***840***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***760***
Special Spaces	Area		Number Provided	Net Area
File Room	800	possibly shared in comm	1	800
Coffee/Break Room	96		1	96
				0
				0
				0
			Special Space Subtotal:	***896***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6617
Circulation	40%			2647
			Total Area:	***9264***
			SF/Person excluding Special Spaces	250

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Housing Finance & Community Redevelopment

Ralph Stone - Director

1/16/2020

General Comments: Currently housed in their own building

1. **Staffing:** 32 people currently.
    a. Three groups – (a) Grants, (b) HFA, (c) Community Redevelopment Agencies
    b. Manage fed and state grants for affordable housing (22-24 people, including 3 accountants who work exclusively with County-wide redevelopment grants and loan programs.
    c. Exec director of housing and finance authority (6 people)
    d. Handle all interactions and oversight for 13 redevelopment authorities (2 people)
2. **Growth drivers:**
    a. Growth driven by functional need, but won't grow much more than the current 30 (used to be at 52 people)
    b. Used to be 52 people handling 150 grants, now 30 people handle 176 grants.
    c. Concern that there's not enough monitoring but not expected to get back to 50.
    d. Growth of 2 positions last year, 2 more this year.
    e. Grants are funded based on population, State and Federal budgets.
3. **Work Process:**
    a. Grants – manage $170M in 50-100 contracts/year, defining strategies and allocating funds to small cities and nonprofits. Confirming that procurement and performance are in line with regulations. Manage a mortgage portfolio of approximately 2,000 loans.
    b. HFA – independent board, using outside bond counsel, financial advisors, underwriters. Mostly virtual with exception of board meetings. 2 calls/week but only 2 people are in Broward County
    c. CRA oversight – use TIF (tax increment financing) findings, light audit oversight. They go out to meet with the individual agencies, spend time in the office reviewing audits, filing reports w state, on phone.
    d. All desktops, Mostly two monitors
    e. Store hardcopy documents here – it is a Federal requirement to have hard copies.
4. **Meetings:**
    a. Teleconferencing multiple times, a week - 10-20 people online but only 2 in person
    b. Monthly HFA meetings (30+)
    c. Biweekly staff meetings in conference room.
    d. Sections – monthly meeting (30).
    e. Medium (5-10) 6x week
    f. One conference room – second floor of building
    g. Confidential meetings for Grants group related to finances and personal information for housing/loans take place in offices. 2x day
    h. Auditors in office – use small cubicles.

5. **Current Space - description:**
    a. HFA space – County pays for office space
    b. Have full kitchens on each floor and break rooms
    c. Free parking
    d. Ample space

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e. 1 large conference room – "L" with capacity for board meetings (Est 30+ people) plus buffet area
f. Have a safe for checks – visitors come in and drop off checks at front desk
g. Offices with doors
h. Conference tables in director and deputy offices, visitor chairs in most offices

6. Adjacencies:
a. Two attorneys assigned to housing – mostly telephone or email communication
b. Work often with planning, legal, accounting, finance, purchasing, grants, and county admin – but mostly on phone, email.
c.

7. Current workplace design issues:

8. Would like:
a. Don't want to move due to parking issues.
b. Are currently designated as post-disaster housing location; Federal funded full building generator.
c. Private offices with doors that close
d. File Storage

9. Potential organizational changes
a. CRA oversight could be separate – has been separate in the past
b. Housing Finance Authority could be separate from Grants – has been separate in the past.
c. New development drives demand for new affordable housing. There is a severe shortage of affordable housing in the County.
d. Current site is owned by the HFA not the county – previously identified for redevelopment with the HFA occupying ground level space in the redevelopment.
e. Further digital initiatives would require change in federal requirements.

10. Culture
a. Collegial – must work around
b. Transparent – manage by walking around, typically keep doors open
c. Cubicles could work but need space for sensitive conversations with clients

From Questionnaire

Special building services requirements:
a. Safe
b. File room

11. Security:
a. Privacy for clients discussing income
b. Need security at entrance/waiting – right now buzzed in to space.

12. Work from home:
a. Very little work from home/remote work per county policy.

13. Emergency procedures: Staff is considered essential emergency personnel
a. Building is Post-Emergency Housing Center
b. Generator behind building

14. Special training requirements:

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a. up to 30 or 40 people – offsite for large groups
b. often webinars
c. bring in trainers from state

FOR REFERENCE ONLY

Environmental Planning & Community Resilience

			Future Staff:	39
Department Name:	Environmental Planning & Commun		Current Staff:	34
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	4	5	625
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	28	32	2048
Touchdown	48	0	6	288
			Staff Space Subtotal:	***3411***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	3	30
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	8	160
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***990***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1480***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Bookshelf Storage	80		1	80
Field Equipment Stora	120		1	120
				0
				0
			Special Space Subtotal:	***296***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6177
Circulation	40%			2471
			Total Area:	***8648***
			SF/Person excluding Special Spaces	242

FOR REFERENCE ONLY

Environmental Planning & Community Resilience - No programming questionnaire.
Dr. Jennifer Jurado – Division Director
1/21/2020 – 9:00

General Comments:

1. **Staffing:**
    a. 47 total, 34 located at GCE (13 Division staff are located in laboratory at the Davie campus on College Avenue)
    b. Have small part time staff as well as summer interns and volunteers, would like dedicated workstations for these (bullpen type area OK)
2. **Growth drivers:**
    a. As commission adopts new goals, try to hire expert in field and support staff
    b. Sea level rise expert
    c. See 2ish FTE people growth in next 5 years, maybe slightly more
3. **Work Process:**
    a.
4. **Meetings:**
    a. Currently use 302 and 430. 430 doesn't work well for Technical advisory committee meetings (every 2 months, 4 hour meetings with 20ish people)
    b. Need space to accommodate 25ish people around a table every 2 months – could share a room for this. TAC meetings include 25 members and approximately 30 attendees
    c. Division staff meetings of 40ish people every month
    d. Climate change task force meetings quarterly – 20-25 people participating with 15ish other people attending. These are broadcasted online
    e.
5. **Current Space** - description:
    a. Don't foresee moving to laptops for non-execs. Most have 2 screens.
    b. Standing work stations are popular
    c. Have space to display awards. Want to keep this.
    d. A lot of specialized storage area
        i. Large format drawings
        ii. Light meters, meeting equipment, survey & field equipment
        iii. Sand sample storage from around the world
        iv. Beach vehicle, school vehicle
        v. Need way to load trucks that is less disruptive
            1. Access to elevator direct from storage room, rather than walking through office space as currently constructed
        vi. Will bring file cabinets with them to new space, not reduce
    e. Need electric charging stations for vehicles
6. **Adjacencies:**
7. **Current workplace design issues:**
8. **Would like:**
    a. Would like public work station/cubes that fit 4-5 people as staff often meet with public people about rebates. This happens 50ish times a week.
    b. Also want to have reception area
    c. Storage for awards in reception area
    d. Break room with running water
    e. Access to vehicles with equipment

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f. GIS lab access
g. Additional fridge for event food
h. Nursing station available nearby
i. Natural Lights
j. Automate lights

9. Potential organizational changes

10. Culture

a. Very collaborative group
b. Speak to each other all the time
c. Phone can be disruptive

From Questionnaire

11. Special building services requirements:
12. Security:
13. Work from home:

a. Water resources manager has VPN. All non-execs work from in the office, people need to be in the office to do their work

FOR REFERENCE ONLY

Human Services

				Future Staff:	42
Department Name:	Human Services			Current Staff:	38
Staff Space	Area	Current Staff		Number Provided	Net Area
Executive Suite (320)	320				0
Executive Office (225)	225		4	4	900
Office (150)	150				0
Office (125)	125		9	10	1250
Workstation (125)	125				0
Manager Workstation (10(	100			16	1600
Workstation (80)	80				0
Workstation (64)	64		25	12	768
Touchdown	48				0
				Staff Space Subtotal:	***4518***
Support Spaces	Area			Number Provided	Net Area
Waiting/Reception	200	1 per suite		1	200
Open Collaboration	500	1 per 75 people		1	500
Print Station	10	1 per 20 users		1	10
Print /Work Area	40	1 per 50 people		1	40
Supply / Storage	20	1 per 50 people		4	80
Quick Quiet Room	30	1 per 20 users		2	60
				Support Space Subtotal:	***890***
Meeting Spaces	Area			Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users		2	240
Medium (6-8)	200	1 per 30 users		1	200
Large (10-12)	320	1 per 50 users		1	320
Large (10-12)	500	1 per 50 users		0	0
X Large (20-22)	520	1 if over 40 occupants		1	520
X Large (20-22)	600	1 if over 40 occupants		0	0
X Large (20-22)	840	1 if over 40 occupants		0	0
Deluxe	800	1 if over 40 occupants		0	0
Training	800	shared in common areas			0
				Meeting Space Subtotal:	***1280***
Special Spaces	Area			Number Provided	Net Area
Coffee/Break Room	96			1	96
Repository Files	240			1	240
					0
					0
					0
				Special Space Subtotal:	***336***
Summary					
Net Usable (Staff + Support + Meeting + Special Spaces)					7024
Circulation	40%				2810
				Total Area:	***9834***
				SF/Person excluding Special Spaces	246

FOR REFERENCE ONLY

Human Services
Mandy Wells – Acting Director
1/15/2020 – 2:30

General Comments:

1. **Staffing:**
    a. Have position summary report & org charts
    b. Expect to grow in next five years – currently at 38

2. **Growth drivers:**
3. **Work Process:**
    a. Administrative support to human services in field
    b. Office of equity focuses on institutional racism
    c. Support around 600 people and $160 million
    d. Five divisions and 3 offices – verify locations
    e. Office of valuation and planning has IT staff for 15 software programs
    f. Broadscale community trainings to help with racism
    g. Elderly and veteran services
    h. Broward addiction and recovery services

4. **Meetings:**
    a. High volume constant use of three conference rooms
    b. 1 large room (30-40)
    c. 2 smaller ones (~15)
    d. Created own large conference room with screen, projector, and additional technology
    e. Hold Community events and activities
    f. Hold the community advisory board meetings here
5. **Current Space - description:**
    a. Supervisors need offices and privacy
    b. Work requires a closed space and privacy
    c. Need document drop off space
6. **Adjacencies:**
    a. Human services have a lot of work with emergency services
7. **Current workplace design issues:**
8. **Would like:**

    a. Would love a meditation space, treadmill, yoga
    b. Want to be as committed to the staff as they are to the community.

9. **Potential organizational changes**
10. **Culture**
    a. Encouraging more interaction and collaboration, and focus on health and wellness

FOR REFERENCE ONLY

From Questionnaire

11. Special building services requirements:

12. Security:

a. Issues with security and safety (why they have a buzz in system in front)
b. Need safety, but not to look like a prison
c. Currently space not conducive to safety – too many rabbit holes and dead ends.

13. Work from home:

a. No work from home – not conducive to it (Hourly staff)
b. Can work remotely from other sites

FOR REFERENCE ONLY

Community Partnerships

			Future Staff:	56
Department Name:	Community Partnerships		Current Staff:	50
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	0	0
Executive Office (225)	225	2	2	450
Office (150)	150	0	0	0
Office (125)	125	20	22	2750
Workstation (125)	125	0	0	0
Manager Workstation (10	100	0	0	0
Workstation (80)	80	0	0	0
Workstation (64)	64	28	32	2048
Touchdown	48	0	5	240
			Staff Space Subtotal:	***5488***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	10	200
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***1050***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1480***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Computer Lab	160		1	160
				0
				0
				0
			Special Space Subtotal:	***256***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				8274
Circulation	40%			3310
			Total Area:	***11584***

SF/Person excluding Special Spaces 225

FOR REFERENCE ONLY

No Community Partnerships Notes – no questionnaire submitted.

See notes and include page 93 comments

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Public Works

			Future Staff:	16
Department Name:	Public Works		Current Staff:	11
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	3	5	625
Workstation (125)	125			0
Manager Workstation (10	100	0	10	1000
Workstation (80)	80			0
Workstation (64)	64	7	0	0
Touchdown	48			0
			Staff Space Subtotal:	***1850***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	can share with other grou	1	200
Open Collaboration	500	can share with other grou	0	0
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***310***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users		0
Large (10-12)	320	1 per 50 users		0
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***640***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2896
Circulation	40%			1158
			Total Area:	***4054***

SF/Person excluding Special Spaces 356

FOR REFERENCE ONLY

Department Administration for Public Works – No programming questionnaire

Thomas Hutka (now retired)

1/21/2020

1. **Staffing:** Currently 11 people (used to be 30) – anticipate some growth – could go as high as 14 plus two drops in spaces. Human Resources comprises 5 of these positions.
    a. Director – Steve Hammond
    b. Assistant DD, Deputy DD
    c. HR – and 4 reports
    d. Admin and receptionist/office manager
    e. Supervisor/PM

2. **Growth drivers:** Driven by overall department growth and special initiatives/reorganizations.
3. **Work Process**: Need auditory privacy.
4. **Meetings:**
    Would like access to a larger conference room for larger "all hands" meetings.
    Current Space - description: Most people are in closed office, others in high cubes. One 18-20 person conference room works – other small meetings held in offices.
5. **Adjacencies**: Work with everyone – want his departments co-located.
6. **Current workplace design issues:** Break area has no plumbing. Currently is in a large cube with small round table.
7. **Would like:** Conference rooms with two doors. HR interview room at front with 2 doors. Panic buttons. Need locked file room that can be shared with everyone in the admin group. Would like to be co-located with the groups that report to him here: FM and CM. Two drop-in workstations/offices for his other directors who work in other locations but who are often here for meetings. Room in ADD and DDD's offices to store drawings and layout drawings.
8. **Potential organizational changes:** Changes in how HR is organized would affect them in terms of what is done centrally versus I the departments. Changes in where and how potential employees are interviewed and more on-line applications/testing.
9. **Culture**

From Questionnaire
Special building services requirements: none.

10. **Security:** Panic buttons, two doors on conference rooms where public or employees would be. Right now, all the secure spaces make it harder to interact with other departments.
11. **Work from home:** Not County policy.
12. **Emergency procedures**: not discussed.
13. **Special training requirements**: Occasional training – could be in shared location.

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Construction Management

			Future Staff:	53
Department Name:	Construction Management		Current Staff:	46
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150	3	4	600
Office (125)	125	11	12	1500
Workstation (125)	125	0	0	0
Manager Workstation (10	100	22	24	2400
Workstation (80)	80	8	11	880
Workstation (64)	64	0	0	0
Touchdown	48	0	0	0
			Staff Space Subtotal:	***5830***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	6	120
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***970***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	2	1000
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	2	1680
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common area	0	0
			Meeting Space Subtotal:	***2920***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Plotter Area	40		1	40
Layout Space	200		1	200
Plan Storage	80		1	80
				0
			Special Space Subtotal:	***416***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				10136
Circulation	40%			4054
			Total Area:	***14190***
			SF/Person excluding Special Spaces	296

FOR REFERENCE ONLY

Ariadna Musarra, Public Works/Construction Management

Jan 14, 2020 10:30 am

Zyscovich Team: Grace Perdomo, Martha O'Mara, Thea Hahn, Annabella Smith, Lauren Foerster

Broward County: Jeff Thompson, Mike Ritus, Rob Dennis, Merlene Kelley

General Comments:

The department handles budgeting, programming, procurement, design and construction for all of county except aviation and the courts. Capital Improvement Budget is reviewed and updated every 5 years. The group is proud of its collaborative, open culture and would like to continue to promote sharing, creativity, and continuous improvement

1. **Staffing:**
   i. 47 FTE budgeted but only 35 currently, including 2 temps (helping w archiving).
   j. Difficult to outsource PM (connectivity an issue) – might be possible for specific subset/specialty (e.g., courts) but prefer in house.

2. **Growth drivers:**
   - In addition to growth driven by increasing population, the number of projects, and changes in services provided by the county, the age of most of the county properties is driving a lot of renovation and capital projects

3. **Work Process:**
   t. Two main groups - Operations, finances, accounting (Merlene) and Construction & Design (Jeff – manages consultants, programing, approvals, RFPs, construction). Also provide space planning services to the county
   u. Clients are other county agencies
   v. Coordinate with several county agencies especially around contracting – attorney, records management, economic & small business development, intergovernmental affairs
   w. All staff has laptops, many also have iPads, phones. Increasingly technology based but will always have paper drawing sets
   x. Many PMs will spend part of the day in the field/at job site but typically in office at some point during the day
   y. Limited confidentiality requirements (such as HR issues/discussions) – could be open
   z. Projects required to be LEED process, have recently gotten FM aligned with purchasing sustainable materials
   aa. After-hours activities (public presentations, Broward Academy) occur at other locations.
   bb. Paper storage – 10-year retention (longer if any legal issues) – when a project is closed, goes to archiving
   cc. Increasing technology in conference spaces – virtual meetings, multiple large screens.
   dd. One Division vehicle and access to fleet
   ee. Most of staff drive personal vehicles to work
   ff. Proud of collaborative culture with staff members sharing experience, projects
   gg. Limited need for confidentiality – could be addressed with space with seating for 2-3 people

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4. **Meetings:**
   j. Quarterly, large team meetings (all of team)
   k. Weekly staff meeting
   l. Training is held offsite

5. **Current Space:**
   f. 2 conference room (1 capacity 20 at table with overflow 'ell', two screens; 1 with capacity 15 max, more usually 5-6)
   g. Small meeting space in office, informal meeting space in open area used as lunch/break and layout space (but will be replaced by cubicles)
   h. 2 screens at desks
   i. Cubicles, some offices
   j. Limited central documents/reference library (code docs, limited samples)
   k. File storage

6. **Adjacencies:**
   a. Internal separation slows down ability to collaborate.
   b. Work with Attorney, Intergovernmental Affairs, Small Business, Risk Management on contracts.
   c. No groups that they can't be adjacent to

7. **Current Workplace Design Issues:**
   a. Division is spread out with lots of hallway/inefficient space, feels divided.
   b. Inefficient with lots of corridors and connecting space

8. **Would like:**
   a. Lateral files – at least 4
   b. Continued opportunity to share, display work
   c. Increased visual connection
   d. Continued need to have large tables to spread out drawings
   e. Staging area for files which are headed to archives – to prepare as well as store boxes
   f. Proximity to agencies that they work with on contracting (attorney, records mgmt., small business development, intergovernmental affairs)
   g. Huddle room
   h. Additional large conference room

9. **Potential Changes**
   a. Electronic filing is underway but will always have paper plans as they are receiving paper from outside consultants.
   b. Continued growth with growth of county
   c. Processes are continuing to evolve
   d. Future Virtual Reality room is an idea

FOR REFERENCE ONLY

10. Culture

- Collaborative, transparent, learning from each other's experience

11. Specialized Requirements:

- Plotters, scanners, drawing storage

12. Security

- No specialized requirements

13. Work from home:

- No flexible working – some can work from home for extra/afterhours but not as part of workday

14. Emergency Procedures:

- Group is considered essential employees (ESF3), required to go to work as soon as the emergency is lifted and are part of assessment teams evaluating infrastructure to confirm it's safe for staff to return. Conference room is not an EOC (current EOC in Plantation, planning is underway for new EOC)

15. Special training requirements:

- None – training held offsite

FOR REFERENCE ONLY

County Facilities Management

			Future Staff:	76
Department Name:	Facilities Management		Current Staff:	68
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	3	3	675
Office (150)	150			0
Office (125)	125		1	125
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	60	72	4608
Touchdown	48	5	6	288
			Staff Space Subtotal:	***5696***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal:	***960***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupant	1	520
X Large (20-22)	600	1 if over 40 occupant	0	0
X Large (20-22)	840	1 if over 40 occupant	0	0
Deluxe	800	1 if over 40 occupant	0	0
Training	800	shared in common are	0	0
			Meeting Space Subtotal:	***1480***
Special Spaces	Area		Number Provided	Net Area
CCTV Monitoring	200		1	200
Coffee/Break Room	96		2	192
Plan Room/Library	120		1	120
				0
				0
			Special Space Subtotal:	***512***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				8648
Circulation	40%			3459
			Total Area:	***12107***
			SF/Person excluding Special Spaces	168

FOR REFERENCE ONLY

Facilities Management
Scott Campbell – Director
1/16/2020

General Comments: No survey yet

1. **Staffing:**
    a. Need to confirm HC

2. **Growth drivers:**
    a. Expect to grow HC – driven by big process changes
    b. Needed more people to process purchase orders
    c. Additional buildings/space drives HC growth

3. **Work Process:**
    a. In office
        i. Field Ops
        ii. Project management
        iii. Energy management
        iv. Space planning
        v. Real property – county attorneys
        vi. Business unit – general admin
        vii. IT group
        viii. Contracts Admin/Procurement
        ix. AP/AR/Warehousing

4. **Meetings:**
    a. Meet with vendors often and are continuously hiring
    b. 50 visitors in space per week
    c. Meetings vary in size (up to 15ish in the office space)
    d. Computer with costar in small conf room
    e. Need larger room and one more breakout room

5. **Current Space - description:**
    a. Reception area, break room, library/building documents, need emergency power, plain telephone lines
    b. Current space works fairly well, but would like more room for more staff
    c. Openness and transparency done on purpose
    d. Unlocked door

6. **Adjacencies:**
    a. Work with county accounting & purchasing, county attorney, county admin, construction mgmt., and a lot of meetings with other divisions

7. **Current workplace design issues:** not discussed.

8. **Would like:**
    a. Need touchdown spots for workers not stationed in office
    b. Restaurant/food facilities
    c. General relaxation space to get away

FOR REFERENCE ONLY

d. Daylight/non public outdoor area

9. Potential organizational changes

10. Culture

From Questionnaire

11. Special building services requirements:
12. Security:
    a. Unlocked door
13. Work from home:
    a. No one works from home – frowned upon by County.
14. Emergency procedures:
15. Special training requirements:

FOR REFERENCE ONLY

County Financial & Administrative Services

			Future Staff:	11
Department Name:	Financial & Administrative S		Current Staff:	8
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	1	320
Executive Office (225)	225	3	2	450
Office (150)	150			0
Office (125)	125	3	4	500
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	2	4	256
Touchdown	48		6	288
			Staff Space Subtotal:	***1814***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	excluded due to high nu	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	prefer XL	0	0
Large (10-12)	500	prefer XL	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	one for all FASD; access tc	0	0
			Meeting Space Subtotal:	***720***
Special Spaces	Area		Number Provided	Net Area
Bond document secure st	80		1	80
Coffee/Break Room	96		1	96
				0
				0
				0
			Special Space Subtotal:	***176***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				3500
Circulation	40%			1400
			Total Area:	***4900***

SF/Person excluding Special Spaces 582

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County Finance and Administrative Services (executive group)

George – Tablack – CFO by phone 1-30-2020 - Kevin Keller – sitting in for George

Do not have conference area in offices.

1. **Staffing:** 3 executives. – George Kevin, Steven. 10 people in value adjustment board who are separate from the tax people – for tax appeals. (note: they will not go into JGCC). Professionals requirement confidentiality can be in cubes – they do investments and coordination – currently located in Annex. Property appraiser's office. In separate building. The chief negotiator needs a closed office. Need space for summer interns. Could be flex space and drop in space. 6 people in FASD administration located in GCE.

2. **Growth drivers:** Item on the ballot regarding taxes and treasury.

3. **Work Process:** Heads down

4. **Meetings:** Public comes to hearing offices. 15-0 person meetings are scheduled back to back. Need somewhere to cue up for meetings. Visitors come in from the agencies for meetings. One meeting room is George's area that seats 10-12 people – they have at least one per day. A large meeting room could be shared by other departments. One smaller room to act as George's conference room. As CFO he has a minimum of 10 people at his meetings. George has a lot of adhoc meetings so that conference room should always be available to him

5. **Current Space - description:**

6. **Adjacencies:** They would like to have their group together or adjacent – right now they are very spread out. HR is in 3 different areas

7. **Current workplace design issues:** George has a couch not a meeting area in his office

8. **Would like:** Need secure file storage and a place for bound books which are the Bond deal documents. Ideally a room with bookcases on the wall and files in the center. A table to lay out and view books. "Cool" conference room technology, wellness area, good cafeteria, gym.

9. **Potential organizational changes:** new tax collection processes

10. **Culture:** Big on collaboration and getting people together – use a 360 approach – would like to do more but the building gets in the way of that.

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FASD: Accounting

			Future Staff:	57
Department Name:	FASD: Accounting		Current Staff:	61
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	5	6	750
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	44	49	3136
Touchdown	48	10	11	528
			Staff Space Subtotal:	***4864***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal:	***960***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	2	640
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupant	0	0
X Large (20-22)	600	1 if over 40 occupant	0	0
X Large (20-22)	840	1 if over 40 occupant	0	0
Deluxe	800	1 if over 40 occupant	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1600***
Special Spaces	Area		Number Provided	Net Area
File Storage	100	expect electronic filin	1	100
Coffee/Break Room	96		1	96
				0
				0
				0
			Special Space Subtotal:	***196***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				7620
Circulation	40%			3048
			Total Area:	***10668***
		SF/Person excluding Special Spaces		170

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Accounting

Kristin Carpenter

Jan 15, 2020 9:00 am

Zyscovich Team: Thea Hahn, Martha O'Mara, Lauren Foerster

Broward County: Mike Ritus

General Comments: The questionnaire from 2016 is still valid with 50 headcount.

1. **Staffing:**
    a. 50 FTE plus approximately 4 summer interns
    b. AP (20) and Payroll (6) share a space; Financial Reporting (24) is separate and Leadership is in a third suite.

2. **Work:**
    a. Fall to Spring is busy season.
    b. No flexible working – some can work from home for extra/afterhours but not as part of workday.
    c. Approximately 50% of staff have desktops, 50% laptops. No additional electronics
    d. AP – primarily in assigned seat (cubes, 1 office) – each seat has scanner/printer
    e. Payroll – primarily in assigned seat (cubes, 1 office)
    f. Financial Reporting – people are out approximately 30% of the time in 'client' (other department) space – could be in building, at Government Center West, Housing Authority, other County locations. Staff drives own car – no department vehicle but in theory have access to fleet.
    g. Most of staff drive personal vehicles to work.
    h. Visitors at Payroll (staff) and A/P (vendors) – currently have small waiting room (5 seats) plus customer service counter/window (2 openings, only 1 staffed). Visitor average of 10/day for vendors but more during fall-spring season.

3. **Meetings:**
    a. Quarterly, large team meetings (all of team)
    b. Weekly staff meeting
    c. Training is held offsite

4. **Current Space:**
    a. 1 conference room (capacity 15, whiteboard) – small meeting space in office, informal meeting space in AP/Payroll open area
    b. No formal break/kitchenette area (although several fridge/microwave/coffee areas are set up, none have running water or seating areas) – staff washes dishes in bathroom
    c. Shared break room for floor is across hall, has microwave and vending machines but no fridge or water
    d. No central documents/reference library/specialized storage
    e. Three monitors on desks (some observed had two)
    f. Paper storage – more for personal ease of finding documents as electronic copy counts as document record. (People must print out and then re-scan receipts, then

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typically store paper for 6 months at which point it can be archived or destroyed depending on the item)

g. Storage of old computer equipment in addition to paper
h. No windows
i. Cubes are reported to work well, no issues with acoustical privacy

5. Adjacencies:

a. Separation of groups slows down ability to collaborate. Would like to be increasingly collaborative. AP Payroll and Financial Reporting should be adjacent, additionally, adjacency to other FASD groups (TTR, benefits, HR, purchasing) would be beneficial.
b. No groups that they can't be adjacent to.

6. Issues:

a. Lack of flexible working policy is an impediment to hiring – most accounting hires are coming from private firms where flexible working is a benefit.
b. Inefficient process for printing/rescanning due to absence of County document management system.

7. Would like:

a. Break room/kitchenette with water.
b. Proximity to amenities (drugstore, grocery/fresh fruits, dry cleaning, coffee)
c. Improved access to public transportation (reconfiguring current routes?)
d. Increased collaboration

8. Potential Changes:

a. Recently adopted a new ERP – additional staff on the IT side rather than in accounting
b. No growth foreseen
c. If the County adopted a document management system that would make things more paperless – reducing need for storage.

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FASD: Enterprise Technology Services

			Future Staff:	106
Department Name:	FASD: Enterprise Technol(		Current Staff:	40
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	2	450
Office (150)	150			0
Office (125)	125	4	9	1125
Workstation (125)	125			0
Manager Workstation (10(	100			0
Workstation (80)	80			0
Workstation (64)	64	30	95	6080
Touchdown	48	5	24	1152
			Staff Space Subtotal:	***8807***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	2	1000
Print Station	10	1 per 20 users	4	40
Print /Work Area	40	1 per 50 people	3	120
Supply / Storage	20	1 per 50 people	3	60
Quick Quiet Room	30	1 per 20 users	7	210
			Support Space Subtotal:	***1630***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	6	720
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	2	640
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants		0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800	1 if over 40 occupants		0
Training Room/Lab	800	Should be available to	3	2400
			Meeting Space Subtotal:	***4360***
Special Spaces	Area		Number Provided	Net Area
Stand-up Meeting Area	200		1	200
Equipment Storage	120		3	360
Coffee/Break Room	96		1	96
				0
				0
			Special Space Subtotal:	***656***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				15453
Circulation	40%			6181
			Total Area:	***21634***

SF/Person excluding Special Spaces 518

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Enterprise Technology Services (ETS)

Carol Munemura, George Tablack

Jan 21, 2020 9:00 am

Zyscovich Team: Thea Hahn

Broward County: Rob Dennis

General Comments:

ETS provides technology to support county business processes. Collaboration is critical – collaboration will avoid bad outcomes on critical and expensive projects. Three groups – Applications, Infrastructure (phones), IT Business Services (contracts, security, training, QA). ERP will be rolled into ETS.

1. **Staffing:**
   a. 189 totals, about 130+ at GC West, 50+ including ERP in GC East.
   b. Some offsite with Libraries, Medical Examiner, transit
   c. At GC East, staff embedded with HR, RTT
   d. Typically have some outside consultants or vendors in the office – 12 to 20
   e. 2 Summer interns

2. **Growth Drivers**
   b. Driven by growth in number of county employees and technology systems
   c. Recent addition of ERP

3. **Work Process:**
   a. Work internally and with supported departments
   b. Vendors/Contractors may be on site for 2-3 weeks for training as a project/software gets stood up.
   c. Long projects, bringing in information from disparate sources.
   d. Better to work together in person to avoid any misunderstandings that can come out of email exchanges and make progress.
   e. Staff schedule varies to accommodate 7am-6pm coverage. 1 person at Data Center 7x24x365
   f. Scheduled and unscheduled maintenance on weekends and evenings.
   g. Staff have laptops and two screens on their desks.

4. **Meetings:**
   a. Trainings
   b. Musters – Quick standing meetings. Currently use break room (not ideal due to acoustics)
   c. Frequent small group or individual meetings
   d. Staff meeting weekly (George's conf room)
   e. Quarterly Town Hall meetings – use outside space, libraries (100 people)

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5. **Current Space:**

   a. Three lab/training rooms – 311A & B, 216 – with computers set up. Not open to other departments.

   b. Benching area for technical staff in GC East – both personal workstations and working on county laptops/equipment.
   c. Open Cubicles.
   d. Only GCE conference area is in George's area

6. **Adjacencies:**
   a. ERP should be with accounting and payroll (currently sitting in cubicles in GC East but assigned to GC West)

7. **Current Workplace Design Issues**
   a. IT is divided among multiple spaces, hampering coordination
   b. Insufficient space to store, test, service equipment

8. **Would like:**
   a. To all be in one space
   b. Space for 20 contractors – check if these are included in staff count
   c. Training rooms to have different setups, ability to rearrange classroom. Possibly a theater style layout.
   d. Space for independent auditors
   e. More tele- & video conferencing ability.
   f. Workspace for technical staff who are working on department laptops and equipment.
   g. Locked storage room for equipment.
   h. Space for small standing 'musters'
   i. Raised floors in conference and training rooms to support reconfiguration

9. **Potential Organizational Changes:**
   a. Anticipate increasing number of in-person meetings
   b. Current lack of Electronic Document Management System creates risks and inefficiencies – this system will be added in next several years.
   c. While ERP has been a separate group, will be integrated back into ETS with no decline in headcount.
   d. New CIO currently being recruited

10. **Culture:**
   a. Currently separated, working to be increasingly collaborative with departments that they're supporting.

11. **Specialized Building Services Requirements:**
   a. Need a room replicating the data center in GC West to connect to other government locations

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12. **Security:**
    a. Card swipe is enough, require the ability to lock some rooms

13. **Work from home:**
    a. Not as a matter of policy

14. **Emergency Procedures:**
    a. Core staff are considered essential employees, go to EOC. Other staff work from home.

15. **Special Training Requirements:** none

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FASD: Human Resources

			Future Staff:	54
Department Name:	FASD: Human Resources		Current Staff:	51
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	12	14	1750
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	33	38	2432
Touchdown	48	4 volunteer	8	384
			Staff Space Subtotal:	***5016***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	3	30
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***980***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800	1 if over 40 occupants		0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1280***
Special Spaces	Area		Number Provided	Net Area
Service Counter	120		1	120
Personnel file area	200	Includes 3 visitor spac	1	200
Coffee/Break Room	96		1	96
				0
				0
			Special Space Subtotal:	***416***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				7692
Circulation	40%			3077
			Total Area:	***10769***
		SF/Person excluding Special Spaces		200

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Human Resources

David Kahn – Director
1/16/2020 – 9:00
Zyscovich Team: Martha O'Mara, Thea Hahn, Mark Vito, Annabella Smith, Lauren Foerster

Broward County: David Kahn, George Tablack, Mike Ritus, Rob Dennis

General Comments:

1. **Staffing:**
    a. HR has 75 staff, 60 are in building (15 are embedded offsite and would like flex office space/hotel space) 3 EAP
    b. 5 areas – Benefits, Learning/Organizational Development (LOD); Compensation; Labor Relations (deal with 8 unions); Staffing (deals with recruiting/retention)
    c. Also have HR generalists and HR tech for specialized software and personnel files.
    d. Have 2-4 volunteers
    e. Risk has shifted some people to HR
    f. 2 Healthcare providers sit in space

2. **Growth drivers:**
    a. HC has been growing
    b. Growth is driven by number of Broward County employees
    c. Recent short-term spike as increase transportation staffing.
    d. Most turnover happens in field operations rather than office workers
    e. Retention is high once people stay a year – lose to retirement (once sign up for FRS, then have to leave within 5 years)

3. **Work Process:**
    a. Hire approximately 1,100 people/year
    b. Approximately 50% heads-down work
    c. Another 30% on the phone
    d. Mostly internal visitors
    e. Some public interaction (candidates, reporters)
    f. Interviews can include as many as 8-10 people. Typically block out 2 sessions of 3-4 hours a week for interviews in HR area. Many interviews are held out at the specific agency.
    g. Personnel file area – securable but accommodates visitors (typically 1-3) plus 2 people to oversee space and files.
    h. Sporadic healthcare vendors and salespeople
    i. Mix of laptops & desktops; most desks have 2 screens
    j. Very collaborative

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4. **Meetings**
    a. Either very large or very small
    b. Learning Org Dev (1 conf) – Weekly new hire orientations for up to 25, plus exec coaching, customer service training. Three trainings a week of various sizes (up to 40 people). Currently use 302
    c. Compensation (no assigned conference room, use shared space)
    d. Labor (1 conference)
    e. Staffing/recruiting (1 conference) –
    f. Benefits – small meetings typically held in office requiring confidentiality.
    g. Currently have enough small meeting space
    h. One large training room, but not large enough
    i. All hands meeting every Friday, need 20 person space – conference only seats 12 so several managers will just call in.
    j. All hands monthly meetings up to 75 people (use Chambers)

5. **Current Space - description:**
    a. Secure space for personnel files
    b. Space for people to come and look at personnel files (open to public) – seating for 3-4, typically 2 people in space but sometimes more people than seats. This also provides space for staff to supervise those who are looking at files, as well as space for a copier since files cannot leave the room.
    c. Storage for brochures, training materials
    d. Binding equipment for training materials
    e. Benefits has a safe
    f. Files are shared rather than personal
    g. 5 shared printers, some desktop printers

6. **Adjacencies:**
    a. Other FASD offices – particularly payroll and risk
    b. Offsite - Oversee EAP (employee assistance) offsite (for confidential reasons) – 3 people with offices – should remain separate.
    c. Benefits would still need to be somewhat sequestered due to HPPA regulations.
    d. No-one they can't be next to
    e. If meeting with Labor groups, ideally should be neutral ground.

7. **Current workplace design issues:**
    a. Lack of interaction leads to errors
    b. 3 reception areas but only 1 receptionist – better to have one reception
    c. Security – need secured front, lockable rooms, multiple exit points
    d. LOD doesn't have assigned lab training space- existing lab spaces are managed by IT.

8. **Would like:**
    a. Better office supply space
    b. Real wellness center/gym, wellness clinic,
    c. Media/theatre environment for conferencing/training
    d. Informal meeting rooms
    e. Need tech upgrade to tablets
    f. Want shared reception
    g. At least one but possibly 3 computer labs for training
    h. Break room

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i. Service Center at reception for Benefits
j. Ability to get entire group together for social/team events such as birthdays
k. Benefits need to have individual offices with doors.

9. Potential organizational changes

a. Increasing use of tech will mean more training going forward
b. Electronic documents (ongoing transition)
c. Electronic document management system – 5 year transition but will impact processes, security, improve coordination with purchasing and A/P

10. Culture

a. Collaborative, positive

From Questionnaire

11. Special building services requirements:

a. Benefits group is under HIPA and needs privacy

12. Security:

a. Security is important as HR gets disgruntled/angry people.

13. Work from home:

a. Don't work from home, but do offer flex schedule
b. Didn't work when this was tried previously

14. Emergency procedures:

a. When needed, managers can work remotely

15. Special training requirements:

a. One large training room, but not large enough
b. Three trainings a week of various sizes (up to 40 people)

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FASD: Purchasing

			Future Staff:	84
Department Name:	FASD: Purchasing		Current Staff:	76
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125	9	10	1250
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	65 inc 6 embe	72	4608
Touchdown	48	0	2	96
			Staff Space Subtotal:	***6404***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal:	***960***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	4	480
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	2	640
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants		0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800	1 if over 40 occupants		0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1720***
Special Spaces	Area		Number Provided	Net Area
Service Counter	120		1	120
Personnel file area	320	Includes 3 visitor spac	1	320
Evaluation Equip storage	120		1	120
Coffee/Break Room	96		1	96
				0
			Special Space Subtotal:	***656***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				9740
Circulation	40%			3896
			Total Area:	***13636***
			SF/Person excluding Special Spaces	167

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FASD – Purchasing - no questionnaire received

Brenda Billingsley

Jan 16, 2020 2:30 pm

Zyscovich Team: Thea Hahn, Fazlur Baksh

Broward County: Brenda Billingsley, Glenn Marcos, George Tablack, Rob Dennis

General Comments:

Oversight of solicitations, vendor selection, negotiation, award, contract management, reporting, and disposition of surplus property. Purchasing manages 65,000 procurements annually.

1. **Staffing:**
   a. Total 70, all but 2 are professional
   b. 7 commodity teams of 6-10 each: Construction & Professional Services; Building Commodities; Industrial & Operations; Technology & Communications; General Services; Transportation
   c. BORS (Business Operations Resources Sector) – 5
   d. Internal IT – 3
   e. 6 positions funded by other agencies but seated with Purchasing

2. **Growth Drivers:**
   a. Driven by County spend. They have a ratio of procurements: staff which varies by commodity type

3. **Work Process:**
   a. Managers manage multiple teams
   b. Collaborate with each other, with client agencies by phone and email as well as in person.
   c. Groups are discreet but beginning to cross-train staff across groups
   d. Most frequent groups – County Attorney, Risk Management, Economic & Small Business Development, construction management
   e. Bids submitted and proposals reviewed electronically
   f. Have large presentations, required to be recorded. Work with the Office of Public Communications to be able to post the videos to web
   g. Individuals come in – submit performance bonds and file protests
   h. Oct/Nov is busy with new projects starting off and the end of the fiscal year is busy with confirming payments and performance
   i. Security is a concern
   j. Staff have two screens on their desks
   k. Staff drive personal vehicles to work

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4. **Meetings:**
   a. Evaluation Committee – uses time clocks, laptops, video recordings – can be very large teams (up to 25) presenting and required to be open to public. Ideally a dedicated room so don't have to reset technology and move laptops and other equipment back and forth. Needs TV access for bid openings. Need waiting room for next group (up to 25).
   b. Weekly team meetings of 5-10
   c. Meeting with client agencies and vendors/potential suppliers
   d. Negotiation meetings.
   e. Budget workshops
   f. Participate in various boards – currently Living Wage advising board, 15 people, quarterly

5. **Current Space:**
   a. Space is scattered across two floors – divided by commodity group
   b. Have a safe, used for payment bonds and security deposits
   c. Archive room
   d. Computer staging area
   e. 1 conference room for 10-12 (more with second row)
   f. 1 conference room for 8-10
   g. Waiting area (2, one in each of current areas)
   h. Storage for evaluation equipment: laptops, time clock, recording material
   i. 2 screens at desks
   j. Multiple network printers/scanners and work areas for binding

6. **Adjacencies:**
   d. Direct adjacency to other FASD groups, especially Accounts Payable and Risk Management would improve efficiency
   e. Office of Economic and Small Business Dev

7. **Current Workplace Design Issues**
   a. Insufficient and insecure waiting space

8. **Would like:**
   a. To be in one space
   b. To be closer to A/P and Risk Management
   c. Assigned Evaluation space with integrated technology
   d. Secured waiting area
   e. Ability to show benchmarks/milestones live-time and showcase progress transparently
   f. Would like to create/support time to look at the larger picture and to coordinate with peer agencies
   g. Need space for employees to relax, take a break

9. **Potential Organizational Change:**
   a. Move to electronic/virtual filing has changed amount of paper required
   b. Future document management system will change operation further
   c. Growth based on increase in procurements, solicitation of goods & services, construction projects

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10. Culture:

a. Deadline-driven
b. Collaborative
c. Stressful

11. Special Building Services Requirements:

a. Secure waiting space

12. Security:

13. Work from home:

a. Not permitted per policy; employees always have access with the card reader. Would like to consider it and would help with attraction and retention.

14. Emergency Procedures:

16. Staff work offsite or at the Emergency Ops center.

15. Special Training Requirements:

a. Extensive training both off-site and on-site (webinars or use larger training rooms)
b. Approximately 25-50 people/week

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FASD: Records, Taxes and Treasury Division

			Future Staff:	151
Department Name:	FASD: Records Taxes Tre		Current Staff:	151
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	11	11	2475
Office (150)	150			0
Office (125)	125	19	19	2375
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	121	121	7744
Touchdown	48			0
			Staff Space Subtotal:	***12594***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	7	1400
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	8	80
Print /Work Area	40	1 per 50 people	0	0
Supply / Storage	20	1 per 50 people	9	180
Quick Quiet Room	30	1 per 20 users	5	150
			Support Space Subtotal:	***2310***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	7	840
Medium (6-8)	200	1 per 30 users	4	800
Large (10-12)	320	1 per 50 users	3	960
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800	1 if over 40 occupants		0
Training	800	additional shared in common areas		0
			Meeting Space Subtotal:	***3120***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		4	384
				0
Secure Storage	200	blank checks, files - cl	4	800
			Special Space Subtotal:	***1184***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				19208
Circulation	40%			7683
			Total Area:	***26891***
			SF/Person excluding Special Spaces	167

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Records Tax and Treasury (RTT)

Thomas Kennedy, Gary Mehringer, George Tablack

Jan 21, 2020 10:30 am

Zyscovich Team: Thea Hahn, Fazlur Baksh

Broward County: Rob Dennis

General Comments:

RTT serves as the County's tax collector, provides treasury services, and is the statutory repository for the Official Records of the County. Duties include collecting motor vehicle registrations, tourist taxes, property taxes, providing a clerk to the board and providing access to minutes and records. Treasury manages accounts and cash on hand for county

1) **Staffing:**
   a) 209 totals, 147 at GC East, 62 elsewhere
   b) 58 clerks, about 100 with tax, 8 with tourist tax

2) **Growth Drivers**
   a) Expected to stay the same
   b) Fewer walk-ins
   c) County Tax collector becoming an elected position - Uncertainty around what this will look like but could potentially take about 100 staff with them and be separate. Need to monitor this as building planning evolves
   d) Changes/growth driven by state statutes, audit requirements, online services, economic trends

3) **Work Process:**
   a) Clerk - Builds and organize agenda for board meetings as well as taking Commission meeting minutes and running control booth. Work with administrators and public communications on video and audio
   b) Treasury works daily with accounting and purchasing, closely with payroll and business operations. Meetings are both in person and virtual
   c) Taxes / Deeds work with attorney, mostly email and phone, particularly on delinquent accounts.
   d) Most registry documents are electronic but need secure/fireproof storage for current records (those that are actively being worked on in office) in case of emergency
   e) Work with property appraiser face to face. Value adjustment board also face to face w property appraiser
   f) Equipment – scanners, shredder, label printers, large printer, 6 workstations for public film viewing outside ballistic barrier
   g) They shred in office – for other agencies, facilities take docs to be shredded out to shred truck at loading dock
   h) Mostly laptops, 2 screens. Staff also uses tablets
   i) Large format printers, drawings
   j) Most staff drive own car to work

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k) Set up curbside table at end of November & March (busy season) for tax payment

4) Meetings:

a) Weekly standing meeting for tax/deeds/attorney in executive office
b) Trainings 2-3x weekly
c) One all-hands yearly (Columbus Day)- use chambers or library
d) Other trainings – can't shut down public-facing functions so do in shifts
e) Daily small group meetings w property appraisers, clerk of court, County Admin, County Attorney, Accounting

5) Current Space:

a) Multiple service desks – one for property taxes, another for tourist taxes, separate one for vehicle registration and passports, another area for records requests.
b) Registry area has recently installed ballistic barrier between public & staff
c) First floor access for public to service desks.
d) Group is divided into multiple areas
e) Small safes for cashiering
f) 2 cash rooms (1 at GCEast, 1 in auto tag area)
g) Mostly open Cubicles
h) Training room/lab with 12 workstations and instructor area with 50" display monitor, whiteboard, pulldown screen and projector
i) 2 storage areas – 1 is climate controlled, 1 is secure with file storage, blank checks – could be a single larger room

6) Adjacencies:

a) Treasury should be close to accounting, payroll and purchasing
b) Value adjustment board (VAB) must be separate from appraiser, collector by statute. (VAB hearing rooms are likely going to new property appraisal building)

7) Current Workplace Design Issues:

a) First floor access works well, current location provides parking for public visitors.
b) Security concern – contentious taxpayers - just installed ballistic glass

8) Would like:

a) Huddle space for Treasury
b) Training room with ownership/control over it
c) Adequate break space with hot water
d) Space for employees to relax/decompress

9) Potential Organizational Changes:

a) Tax Collector will become an elected position starting in 2025
b) Cash flow management becoming more active. 15-20 people collaborating/huddling as often as daily (ERP, accounting, Treasury)
c) Electronic Document Management
d) Property appraisers are scheduled to move out to new building
e) Expect walk-in traffic to decline

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10) Culture:

11) Specialized Building Services Requirements:

a) Climate controlled storage room, secure storage for checks

12) Security:

a) Registry area has recently installed ballistic barrier between public & staff. Needs to be replicated in new space
b) Possible panic button
c) Security cameras
d) Area alarms
e) Swipe to enter area separated from customers

13) Work from home:

a) Some staff work 4-day work weeks
b) Work from home not allowed

14. Emergency Procedures:

a. 30 people have been identified to set up or manage shelters
b. Executive group goes to EOC

15. Special Training Requirements:

c. none

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FASD: Risk Management

			Future Staff:	43
Department Name:	FASD: Risk Management		Current Staff:	42
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	10	11	1375
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	27	30	1920
Touchdown	48	3	3	144
			Staff Space Subtotal:	***3889***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***890***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants		0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800	1 if over 40 occupants		0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***960***
Special Spaces	Area		Number Provided	Net Area
Service Counter	120		1	120
Training Equip Storage	200		1	200
Coffee/Break Room	96		1	96
				0
				0
			Special Space Subtotal:	***416***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6155
Circulation	40%			2462
			Total Area:	***8617***
			SF/Person excluding Special Spaces	191

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Risk Management

Wayne Fletcher, Roger Moore, Melissa Thorn

Jan 17, 2020 1:00 pm

Zyscovich Team: Thea Hahn, Fazlur Baksh

Broward County: Mike Ritus

General Comments:

Risk Management is responsible for administering the County's self-insurance program for workers' compensation, general liability, automobile liability, and property damage claims. The safety and occupational health of county employees are also managed by Risk Management. In addition to administration, there are 5 groups: Risk Manager, IT, Liability Claims, Workers Compensation Claims, and Safety & Occupational Health.

1. **Staffing:**
   a. 40 including summer interns, 3 part time.

2. **Growth Drivers:**
   d. Driven by growth in number of employees
   e. As add 100-200 new bus drivers, more workers comp claims are expected (50% of work is transit)

3. **Work Process:**
   a. Risk Management – reviews contracts (600 new, 6000 total) for scope, insurance; also monitors properties, purchases policies. Tracking buildings – what hardening has been done.
   b. Liability claims & Workers Comp – oversee self-insured program. Do have access to confidential information. Individual as well as group meetings. Need secure waiting room.
   c. Claims records are all electronic
   d. Adjusters want open space but need privacy on phone to protect personal health info- all phones use headset.
   e. Safety & Occ Health – perform building inspections and safety trainings. Carry laptops and tablets. Have different specialties and materials. Significant material storage. In office for paperwork, document prep, following up and tracking metrics.
   f. Investigative group (pre-employment docs, physicals) just moved to become part of HR
   g. IT – handles Risk Management's network, updates and purchases computers
   h. A lot of work done via phone calls, email (such as with attorneys)
   i. Staff have laptops and two screens on their desks. Everyone has a scanner.
   j. Three vehicles assigned to department – 1 large (Explorer) and 2 smaller (Fusion).
   k. Staff drive personal vehicles to work.
   l. Storage: 8 CPR mannequins, fire extinguishing and respirator training materials stored in office area. 30-40 air scrubbers (30x36x30) and dehumidifiers currently stored at FM warehouse.
   m. Currently all trainings held at other departments or at shared meeting room.

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4. **Meetings:**
   a. Individual meetings (Workers Comp)
   b. Group meetings (Vendors, Liability)
   c. Managers meetings every 2 weeks, Divisions monthly, All hands monthly (in 301/302/430)

5. **Current Space:**
   a. Conference area
   b. Waiting areas – not fully secured
   c. Workers comp – in cubicles, use shared conference area for confidential conversations.
   d. IT in offices

6. **Adjacencies:**
   a. Risk Management Liability Claims & Safety should be adjacent
   b. HR – coordination on safety, accommodations, ergonomic evaluations
   c. HR – medical HIPPA same requirements as Workers Comp
   d. Training group could share joint training room with HR
   e. Office of professional standards
   f. Attorneys – work with them on workers comp, liability claims.
   g. Construction management – 3x weekly
   h. Ideally ground level to facilitate moving mannequins to vehicles, or access to freight elevator
   i. No-one that can't be adjacent to.

7. **Current Workplace Design Issues:**
   a. Claims & Safety are divided – should be together
   b. No assigned training rooms
   c. Storage insufficient for mannequins

8. **Would like:**
   a. Need to be open for communication and shared learning but provide opportunity for closed, focus work.
   b. Increased communication to quickly identify and confirm issues and identify solutions.
   c. Permanent training room.

9. **Potential Organizational Changes:**
   a. Contracting process will go electronic with C-Track, work will change to auditing rather than evaluating

10. **Culture:**
    a. Increasingly collaborative, small groups work across boundaries.

11. **Specialized Building Services Requirements:**
    a. None

12. **Security:**

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a. Can get upset people especially in Workers Comp and Liability sections. Waiting room with visual access which is separate and secure from office area. Visitors should be buzzed in

13. Work from home:

b. Not as a matter of policy, but trainers are very flexible, with laptops and remote access. Entire team could work from home

14. Emergency Procedures:

c. Considered essential employees, part of liaison group at EOC. Safety inspectors inspect buildings to confirm they are occupiable for staff during an emergency

15. Special Training Requirements:

d. Two-year trainee process for claims adjusters
e. Hold trainings for other groups on daily basis – currently in other areas, no fixed training area

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County Fleet Operations

			Future Staff:	1
Department Name:			Current Staff:	1
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225			0
Office (150)	150			0
Office (125)	125	1	1	125
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64			
Touchdown	48			0
			Staff Space Subtotal:	***125***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	shared	1	200
Open Collaboration	500	shared	0	0
Print Station	10	shared	0	0
Print /Work Area	40	shared	0	0
Supply / Storage	20	shared	0	0
Quick Quiet Room	30	shared	0	0
			Support Space Subtotal:	***200***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***0***
Special Spaces	Area		Number Provided	Net Area
				0
				0
				0
				0
				0
			Special Space Subtotal:	***0***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				325
Circulation	40%			130
			Total Area:	***455***
			SF/Person excluding Special Spaces	455

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Fleet Operations currently at GCE

Ross Meslin – by phone

Fleet: About 50 fleet vehicles in rental pool housed in current GCE. Total fleet of 3,000 vehicles. It is still being discussed where this should be located.

1. **Staffing:** one person staffs the rental counter

2. **Growth drivers:** not likely

3. **Work Process:** People order cars online or in person and pick up and drop of keys here. Most cars are used for 2-3 hours and nearly all are used every day (note: are there records of utilization?)

4. **Meetings:** NA

5. **Current Space - description:** located near garage. Secure room with key card access. Cars are used when traveling on county business rather than reimbursing employees for their own car use. Space is 10 x 15 with a desk and a couple of chairs for people who are waiting – people do meet up here and need room to wait.

   Cleaning of vehicles is currently done on site – they have a contractual vendor who does this in the garage. Big issue is wastewater – they use a water reclamation system. This will be needed for the new building.

6. **Adjacencies:** Near where cars will be parked – cars will need electric vehicle charging

7. **Current workplace design issues:**

8. **Would like:** Will need electric vehicle charging stations. The goal of the county is to go all electric. Will need to be able to charge all 50 vehicles at once (note: this should be validated by utilization studies). Agency controlled cars in other locations will also need charging capacity – this could be 70 more cars. He thinks they should plan for 150 total charging stations. The conduit needs to be planned for this capacity although the actual chargers could be installed later as needed. 5 hours at a 40 amp draw for 240 volts. 110 amps needs a level 3 charger. Three are three other locations where the bulk of the staff is located. Would like charging available also for employees and the public.

9. **Potential organizational changes**: In the future to automate key retrieval

10. **Culture:** not discussed

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Transportation Offices

			Future Staff:	310
Department Name:			Current Staff:	171
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	1	1	320
Executive Office (225)	225	6	6	1350
Office (150)	150	20	31	4650
Office (125)	125			0
Workstation (125)	125	100	75	9375
Manager Workstation (100)	100	39	142	14200
Workstation (80)	80			0
Workstation (64)	64	0	55	3520
Touchdown	48	5	5	240
			Staff Space Subtotal:	***33655***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	4	2000
Print Station	10	1 per 20 users	16	160
Print /Work Area	40	1 per 50 people	6	240
Supply / Storage	20	1 per 50 people	6	120
Quick Quiet Room	30	1 per 20 users	16	480
			Support Space Subtotal:	***3200***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	12	1440
Medium (6-8)	200	1 per 30 users	10	2000
Large (10-12)	320	1 per 50 users	6	1920
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupants	8	4160
X Large (20-22)	600	1 if over 40 occupants	0	0
X Large (20-22)	840	1 if over 40 occupants	0	0
Deluxe	800	1 if over 40 occupants	0	0
Training	800	shared in common area	1	800
			Meeting Space Subtotal:	***10320***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				47271
Circulation	40%			18908
			Total Area:	***66179***
			SF/Person excluding Special Spaces	386
Command Center Staff & Equipment	18531		1	18531

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Offices to support the Broward County Transportation Department will be located adjacent to the main JGCC building in a stand-alone facility in the footprint of the bus terminal. The facility will house a variety of executive, legal, professional and clerical positions. An estimate of space required, based upon the headcount submitted in the Programming Questionnaire is shown below:

The following specifications for the Transit Center, where the offices will be co-located, were communicated by the Transportation Department.

Broward County Transit (BCT) provides a significant amount of service in and to Downtown Fort Lauderdale; specifically, to the Broward Central Terminal (BT). BCT has 16 fixed routes and 1 Breeze Limited Stop that stop at the BT daily. These routes provide over 15,000 daily trips into downtown Fort Lauderdale. The City of Fort Lauderdale has on-going development and build- out plans for both residential and commercial. As part of the Transportation Surtax, BCT plans to add more service and services into this area. These services will include more fixed route service, Light Rail Transit (LRT), and express service. The current ridership base in addition to the projected ridership expected with additional service will require enhanced and upgraded transit infrastructure for support. The projected growth and development, trip generators, and transit services coupled with transit supportive land uses all promote this area as a prime location for a regional transit center. To support this type of development, BCT envisions a facility that operates, in some manner, as the Miramar Towne Center; i.e. a structure or development that is place-specific (aesthetic) with covered transit operations on the first floor and space for offices, retail, and covered parking above.

Phase 1 - Re-Location

Consists of temporarily re-locating the current transit operations. The temporary facility would need at a minimum:

1. Restrooms of the same capacity as the current location for customers
2. Space for customer service and ticket sales
3. Restrooms for operators
4. Breakrooms for operators
5. Space for law enforcement
    a. Fort Lauderdale PD
    b. BCT Security
    c. BSO
6. 14-18 bus bays to support 35, 40, and 60 - foot buses

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Phase 2 - New Facility

The new site will have 5000 sq. feet dedicated to Transit Operations. This will include:

1. 14-18 bus bays to support 35, 40, and 60 - foot buses
2. State-of-the-art Operations Center (Rail and Bus)
3. Covered waiting area for customers
4. Restrooms for customers
5. Restroom and breakroom for operators
6. Area for ticket-sales – also for subsidized bus pass sales which require e person to fill out the form in person.
7. Separate (elevated) area for security
    a. City of Fort Lauderdale Police Dept.
    b. BCT Security
    c. BSO
8. Area for other transportation options
    a. Private carriers
    b. Taxis
    c. TNC's
    d. Local shuttles
    e. Kiss and Ride.

Phase 3 - Light Rail Transit

This phase will build a station for light rail transit on Broward Blvd or Andrews Ave.

Transit Supportive Environment

BCT would look to operate this facility much like other transit terminals:

1. The incorporation of Crime Prevention Through Environmental Design - (CPTED). This includes:
    a. Lighting
    b. 24 Hour Security
    c. 911 Cell Towers
    d. Security Cameras
2. The used of Enhanced Technology. This includes:
    a. Display monitors
    b. Next Bus Signage
    c. Dynamic Scheduling

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3. Sustainable:
    a. Facility will be green and LEED certified.

Office Area Requirements:

The Transportation Department plans to move its administrative functions from Government Center West to this location.

Four groups:

a. Administration
b. Capital programs
c. Service
d. Strategic planning

Only meet weekly with other County groups.

Staff meetings are weekly – about 120 people but some call in.

Professional staff requires confidentiality. (Note: in program above all professional staff noted were assigned 120 SF offices.

Growth will be offset by improvement in data analytics.

There are three main operating facilities throughout the County.

Training – can use shared training in JGCC.

Most hiring or bus operations staff happens in the satellite garage locations.

NOTE: Due to the scale and complexity of the Transportation Department, we recommend a more in-depth study of program requirements in a subsequent phase.

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City

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City Manager

			Future Staff:	13
Department Name:	City Manager		Current Staff:	12
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	1	320
Executive Office (225)	225	4	3	675
Office (150)	150			0
Office (125)	125	4	4	500
Workstation (125)	125			0
Manager Workstation (10	100	0	5	500
Workstation (80)	80	0	0	0
Workstation (64)	64	4	0	0
Touchdown	48			0
			Staff Space Subtotal:	***1995***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users		0
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***1050***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	eliminated in lieu of la	0	0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	0	0
X Large (20-22)	520	1 if over 40 occupant	1	520
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***960***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				4101
Circulation	40%			1640
			Total Area:	***5741***

SF/Person excluding Special Spaces 467.25

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City Manager's Office, City Commissioners

Ron Hernandez, Assistant City Manager – by phone
2-7-2020

1. **Staffing:**
    a. 4 executives. City manager deputy city manager, two assistant city managers.
    b. 6 co-located administrators
        i. Agenda development
        ii. Assistant to CM for real estate
        iii. Entertainment districts
        iv. Strategic communications
        v. External affairs/intergovernmental relations
        vi. Economic development may change in the future – will do higher level work with CEOs
    c. No parks and rec at city hall – the y have decent office space on Andrews avenue. Renovated office building but less efficient than city Hall.

2. **Growth drivers:** no major growth planned. Some interns.

3. **Work Process:**
    a. They interact with the commissioners.
    b. Everyone has their own work stream.
    c. Outside visitors are by appointment, for committee of individual meetings.

4. **Meetings:**
    a. Have small group meetings and want a round table seating four people in their offices.
    b. One medium sized conference room for them to share. Need a second one accessible to them when meetings are scheduled at the same time - currently they use the City Attorney's conference room.
    c. They have a lot of meetings, at least one per day and a lot of collaboration – constantly meeting with small groups.

5. **Current Space - description:** phone interview but have toured and photographed.

6. **Adjacencies:**
    a. The City Auditor must sit separately.

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b. Elected officials should NOT be in the same space as the city managers. Prefer they be on a different floor or have physical separation on the same floor.
c. Could share a receptionist with Commissioners, however.

7. **Current workplace design issues:** see 8.

8. **Would like:**

    a. Security concerns: A lot of people come in the buildings and the public can go everywhere. Need to create spaces where we come to them.
    b. Need a waiting/reception area
    c. Like to see break out rooms and spaces where people can meet up.
    d. Commercial grade kitchen appliances, ice maker, daylight, coffee, tea, vibrant colors.
    e. Health clinic, gym
    f. Areas where people can get away and have lunch.
    g. A rooftop reception area would be cool – outdoor terraces
    h. The number one complaint is food. `
    i. One stop customer service

9. **Potential organizational changes:**
    a. May elevate the economic development role

10. **Culture:** not discussed

Commissioner Offices

1. **Staffing:**

    a. Five commissioners – it is a part-time job for them. Mayor position rotates. Each has two administrative assistants. They need separate suites – they can't interact due to the Sunshine laws. They should also have their own conference room. They could share a reception area, however.

2. **Growth drivers:** none

3. **Work Process:** not discussed

4. **Meetings:**

    a. They have large meetings of 8-10 people. Should have their own conference room for these.
    b. ones with 18 or more people for neighborhood projects – it is OK for them to share a large conference room.

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5. **Current Space - description:** phone interview, see above.

6. **Adjacencies:**
   Need separation from executive function.

7. **Current workplace design issues:** not discussed.

8. **Would like:**

   a. Commissioners would like private bathrooms separate from the public bathrooms.
   b. They would also like to have the ability to cater meetings. Break room.

9. **Potential organizational changes:**
   a. None anticipated

10. **Culture:** not discussed.

Chambers

Commissioners meet twice per month. Other groups use the Chambers. Would like to see one Chamber for both city and county that is just used as a chamber. (other groups trash the place) However could be used for big meetings such as city-wide staff meetings – all hands meetings. Should have other large rooms for other meetings.

Should be a formal, stately looking facility.

Consider an elevator for commissioners to get to chambers rather than have them adjacent since the Chambers needs to be on the ground floor.

Like the Fulton County Chambers. Has a performing arts center. Rents out the spaces. Also look at Sandy Springs Georgia City Hall.

FOR REFERENCE ONLY

City Clerk

FOR REFERENCE ONLY

			Future Staff:	9
Department Name:	City Clerk		Current Staff:	9
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125	6	6	750
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	0	1	64
Touchdown	48	1	0	0
			Staff Space Subtotal:	***1264***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	eliminated due to bein	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupant	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***520***
Special Spaces	Area		Number Provided	Net Area
Records/Equipmt Storage	120		1	120
Coffee/Break Room	96		1	96
AV Equipment Storage	120		1	120
				0
				0
			Special Space Subtotal:	***336***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2910
Circulation	40%			1164
			Total Area:	***4074***
			SF/Person excluding Special Spaces	400

FOR REFERENCE ONLY

City Clerk

David Solomon – Jeffrey Modarelli

1. **Staffing:** 9 FTE. Some job sharing and outsource transcription.

2. **Growth drivers:** change in records request – otherwise stable

3. **Work Process:**
   Manage contracts all through the city. Handle final legislation, agenda items. Records retention. Mostly heads down work for the staff but also do a lot of training.

4. **Meetings:**
   Advisory boards – meet in the Chamber of the 8th Floor CR. Many are 20-40 people. The Chamber capacity is 256 people. Training: do a lot of training: nine different training programs. Board training. Do training here for smaller groups (6-20) Need 36 seats for Board training.
   Public comes in for public record requests – actual requests are taken downstairs. Most record are digital, and a lot are now available on-line.
   Other visitors include candidates for elected office.

5. Current Space - description: very crowded. Only one conference room so use closed office as a small conference room.

6. **Adjacencies:**
   Near City Attorney and City Manager. "charter offices". Audit needs to be separate.

7. **Current workplace design issues:** Lack of meeting and collaboration space.
   25,000 boxes of city files in archives. Storage for AV equipment.

8. **Would like:** Most everyone has two screens. Not a lot of physical confidentiality. Still will need file and binder storage although digitizing as much as possible. Need evening and weekend access to space.

9. **Potential organizational changes:** none planned but would really like to have AV handled by another group. "Commissioners drive business."

10. Culture. No comment.

From Questionnaire
Special building services requirements:

11. Security:
12. Work from home: Not County policy
13. Emergency procedures:
14. Special training requirements:

FOR REFERENCE ONLY

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City Auditor

			Future Staff:	6
Department Name:	City - Auditor		Current Staff:	6
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	1	320
Executive Office (225)	225	1	0	0
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125			0
Manager Workstation (10	100		5	500
Workstation (80)	80	0	0	0
Workstation (64)	64	5	0	0
Touchdown	48			0
			Staff Space Subtotal:	***820***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupan	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***640***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Secure Storage	120		1	120
				0
				0
				0
			Special Space Subtotal:	***216***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2466
Circulation	40%			986
			Total Area:	***3452***

SF/Person excluding Special Spaces 525

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City Auditor estimates were based on interview with Deputy City Manager Rob Hernandez

FOR REFERENCE ONLY

City Attorney

FOR REFERENCE ONLY

			Future Staff:	33
Department Name:	City Attorney		Current Staff:	31
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	1	320
Executive Office (225)	225	1		0
Office (150)	150	0	16	2400
Office (125)	125	15		0
Workstation (125)	125			0
Manager Workstation (10	100		16	1600
Workstation (80)	80	0	0	0
Workstation (64)	64	15	0	0
Touchdown	48	0	2	96
			Staff Space Subtotal:	***4416***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***830***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupa	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***960***
Special Spaces	Area		Number Provided	Net Area
Library	240		1	240
Coffee/Break Room	96		1	96
Secure Storage	120		1	120
				0
				0
			Special Space Subtotal:	***456***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6662
Circulation	40%			2664.8
			Total Area:	***9327***
		SF/Person excluding Special Spaces		280

FOR REFERENCE ONLY

City Attorney
Boileau – Director
1/22/2020
General Comments:

1. **Staffing:**
    a. Staff of 30

2. **Growth drivers: not discussed**

3. **Work Process:**
    a. Work with every city group

4. **Meetings:**
    a. Most traffic is internal
    b. Phone calls, 1-2 person meetings
    c. 2-6 person internal meetings in conference room or offices
    d. Lobbyists, other attorneys, developers, citizens, homeowners, but not a large amount of outside meetings

5. **Current Space - description:**
    a. Currently in 4 different locations
    b. 5 people in bank of Ozark building (near courthouse)
    c. Police, paralegal, and assistant at police station
    d. Litigation division has 4 attorneys, 2 paralegals, and 2 assistants across the street
    e. Litigation procures more documents and need more storage

6. **Adjacencies: work with everyone in some way at times.**

7. **Current workplace design issues:**
    a. Can't work to digitize storage until city has system to allow it for public access laws, etc
    b. Some docs can't be digitized based on Florida law

8. **Would like:**
    a. Everyone but the police specific people under one roof
    b. Reception area
    c. Need level of separation per law firm rules
    d. Preferably have assistants next to the attorney they help
    e. Better breakroom
    f. Round meeting tables in office
    g. Parking
    h. Workout area
    i.
9. **Potential organizational changes –** none

10. **Culture** – not discussed

From Questionnaire

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11. Special building services requirements:

a. Small library – currently in conference room

12. Security:

a. Deal with lots of sensitive topics in conference rooms
b. City managers also have access to this location which isn't great

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City Finance, Admin, Accounting & Treasury, Procurement

			Future Staff:	51
Department Name:	City Finance: Admin, Accounting & Repo		Current Staff:	45
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	5	5	1125
Office (150)	150	0	7	1050
Office (125)	125	7	0	0
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80	0	0	0
Workstation (64)	64	33	39	2496
Touchdown	48			0
			Staff Space Subtotal:	***4671***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***830***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	Requested 15 person - g	1	320
Large (10-12)	500	Requested 15 person - going to XL revised r		0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***640***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Payroll Service Window	240		1	240
			0	0
			0	0
				0
			Special Space Subtotal:	***336***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6477
Circulation	40%			2590.8
			Total Area:	***9068***
			SF/Person excluding Special Spaces	171

FOR REFERENCE ONLY

City Finance: Utility Billing

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			Future Staff:	32
Department Name:	City Finance: Utility Billir		Current Staff:	30
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125	4	5	625
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	24	26	1664
Touchdown	48	1	1	48
			Staff Space Subtotal:	***2562***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	2	60
			Support Space Subtotal:	***830***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupar	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***760***
Special Spaces	Area		Number Provided	Net Area
Service Counter	600		1	600
Coffee/Break Room	96		1	96
Cash Room	200	counting machine, s	1	200
Kiosk	40	one in lobby, one ac	2	80
Business Tax - One Stop	240		1	240
			Special Space Subtotal:	***1216***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				5368
Circulation	40%			2147
			Total Area:	***7515***
			SF/Person excluding Special Spaces	194

FOR REFERENCE ONLY

City Finance

Susan Grant, Director; Veronica Wade, Utility Revenue Collection; Laura Garcia, Controller; Pamela Winston, Treasurer; Linda Short, Deputy Director; Jodie Hart, Procurement Director.

1/23/2020

General Comments:

Group is responsible for treasury, accounting, payroll, procurement, pensions

1. **Staffing:**

2. **Growth drivers:**
    a. Population growth drives growth in water billing
    b. Three of five groups project staffing growth in next 5 years - Procurement, Accounting, and Business tax inspectors

3. **Work Process:**
    a. Business tax/licensing/water cashier windows get 800 people/week
    b. Drive-through for cashier function as well
    c. Interact with current and past employees
    d. Auditors on site for 4 months over the year, can also have FEMA, OIG on site for audits
    e. Kiosk in lobby for bill payment, another one outside for 24/7 payment.
    f. Armored truck comes daily (walks through lobby) to get money.
    g. Mix of offices & cubicles
    h. Staff drives to work, free parking

4. **Meetings:**
    a. Full staff meeting is 15 people – held in director's office
    b. RFP committee meetings
    c. Public RFP sessions
    d. Audit meeting is 15 people weekly Oct-Mar, held in director's office.
    e. Audit Advisory meeting – 10-15 people held quarterly in Commission conference room or CMO conference room.

5. **Current Space - description:**
    a. Have four cashier windows on first floor for bill payment, 3 for utilities and one for business tax.
    b. Secure area for check printer, money counter, safe
    c. Director has meeting space in office – only available conference area
    d. Waiting area

6. **Adjacencies:**
    a. HR

7. **Current workplace design issues:**
    a. Payroll, AP, procurement, retirees, employees meet at window, but would like private room
    b. Groups divided
    c. No break area

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d. Only conference space is in office
e. Lights stay on 24/7 in offices (former IT floor)
f. RFP meeting space needs public access
g. Space divided up, not designed to fit current groups needs
h. Service counter area has safe room with money counter.

8. Would like:

a. Dedicated Conference room for 15
b. Shared small conference room for accounting and treasury
c. Space for procurement files to be reviewed by public (small conference room)
d. Have all groups together other than utilities
e. Bullet proof glass for service counter
f. Keep drive through payment option
g. Provide small flex space/conference room
h. Break /lunch area with running water
i. External, lockable audit space for 3 months (3-4 people)
j. Keep meeting space in offices
k. Quiet rooms for phone calls
l. Display screens, white boards, technology for remote meetings in meeting rooms.
m. One office and 4 workstations in the payroll area require a service window and ability to be locked or have separate security access.

9. Potential organizational changes

a. Hope to digitize records in next 3-5 years

10. Culture not discussed

From Questionnaire

11. Special building services requirements:

12. Security:

a. Public access and security for billing is very important
b. Have safe, money counting room
c. Secure room for check printer

13. Work from home:

a. Case by case, but all work from office most of time

FOR REFERENCE ONLY

City - Human Resources

			Future Staff:	40
Department Name:	City - Human Resources		Current Staff:	41
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	2	450
Office (150)	150			0
Office (125)	125	16	18	2250
Workstation (125)	125			0
Manager Workstation (10	100	0	2	200
Workstation (80)	80			0
Workstation (64)	64	20	18	1152
Touchdown	48	3	4	192
			Staff Space Subtotal:	***4244***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***870***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	2	240
Medium (6-8)	200	1 per 30 users	2	400
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***960***
Special Spaces	Area		Number Provided	Net Area
Service Counter	120		1	120
Secure Storage	120	HR files	1	120
Coffee/Break Room	96		1	96
				0
				0
			Special Space Subtotal:	***336***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				6410
Circulation	40%			2564
			Total Area:	***8974***
			SF/Person excluding Special Spaces	207

FOR REFERENCE ONLY

City – Human Resources –

Jerome Post. New to position.

1-29-2020.

1. **Staffing:** 41 people - all here – also supervise security guards – 3 FT 1 PT. Sometimes summer or part time interns. Have added one person for implementing city wide ERP system. 18 people are in closed offices. Two people who are housed here are "OPS" office of professional standards and sit next to Labor. They report to the city manager but interact a lot with HR> Staff isn't union, but the clericals are part of the teamsters' union.

2. **Growth drivers:** ERP system but also offsets more efficiency.

3. **Work Process:** Employees do go out of office during open enrollment. 2500 total employees.

4. **Meetings:** Candidate interviews in conference room, although interviews generally done in their own department here and offsite. More second interviews. Have small meetings in offices. Have a conference and training room. No public walk-in. There is no catering in the training room. Training room could be on a different floor. Use 3x week for training such as compliance training – we will need a lot more training – how to manage, people skills, computer training – MS office suite – do this on laptops.

5. **Current Space - description:** Closed offices – HR analysts who do recruitment so a lot of phone and meeting work. Labor relations, Occupational development and learning manager, employment manager, risk manager, assistant risk manager, claims adjuster. Clerical and analysts in cubes. Have and need an employee service counter. IDs are issued here – space with a camera set up and badge maker.

6. **Adjacencies:** Employees come here.

7. **Current workplace design issues:**

8. **Would like:** Need confidential space – Security is a big issue. Would like a fitness room with lockers and showers – more people would bike to work if there were showers. Would really like a top of the line training room – to fit 40 people classroom style. 75 people is a small auditorium – tiered seating. Need for day care.

9. **Potential organizational changes:** none other than technology

10. **Culture:** A history of silos – it comes from the design of the floor and it hampers communication. People get along.

FOR REFERENCE ONLY

City – Sustainable Development

			Future Staff:	198
Department Name:	City - Sustainable Developme		Current Staff:	186
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	3	3	675
Office (150)	150			0
Office (125)	125	30	33	4125
Workstation (125)	125			0
Manager Workstation (10	100	0	140	14000
Workstation (80)	80			0
Workstation (64)	64	133	22	1408
Touchdown	48	20	0	0
			Staff Space Subtotal:	***20208***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	3	1500
Print Station	10	1 per 20 users	6	60
Print /Work Area	40	1 per 50 people	4	160
Supply / Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	10	300
			Support Space Subtotal:	***2500***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	7	840
Medium (6-8)	200	1 per 30 users	6	1200
Large (10-12)	320	1 per 50 users	3	960
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occup	1	520
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***3520***
Special Spaces	Area		Number Provided	Net Area
Service Counter	240		1	240
Coffee/Break Room	96		2	192
Cash room	120	secure storage	1	120
Layout Space	200		1	200
Plan Storage	120		1	120
			Special Space Subtotal:	***872***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				27100
Circulation	40%			10840
			Total Area:	***37940***
			SF/Person excluding Special Spaces	197

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City – Sustainable Development

Anthony Gregory Fajardo

1. **Staffing:** 238 people but includes building inspectors. All work out of this building. Urban design and planning. Zoning. Building services. Recently moved a group out of this building which has helped with overcrowding. About 72 in field leaving about 160 working here all day.

2. **Growth drivers:** Development and regulation.

3. **Work Process:**
   Inspection: report here at 7 to 7:30 am – have already picked up their city owned vehicle. Some report to field – it depends upon the supervisor. Most may not need to check in here first

4. **Meetings:** Bi-weekly and monthly staff meetings. Frequent meetings on projects that include the developer, consultants etc. They lost all their small conference rooms due to growth in staff. Converted their library into a training room. There is a lot of software training going on now due to new Accela program which will lessen as it becomes standard practice. Putting more training on-line. A lot of public interaction – building permitting process, Urban planning and design issues/development, codes. Moving to everything being done from desktop = records online – apply for permit on-line. But still will have a lot of meetings. Development review committee meets 2 x month. Other committee/boards 5x month. Also planning and zoning meetings – 10 x month. EDAC, a lot of meetings must be held in City Hall since the rooms are not big enough here. Many have up to 40 people attending. Many of the planning and zoning board meetings are at night.

5. **Current Space - description:** Have 3 large conference rooms (seat 24) that can be divided into 6.

6. **Adjacencies:**
   Would like to be downtown (except for inspectors – don't need to be co-located with Inspectional Services. Downtown is closer to many of the people they meet with such as development firms. Urban design and planning have the most interaction with City Hall. At the very least they should have touch down space there. Should have a one-stop shop with Zoning, Engineering, Planning and codes all together and they all interact together as well.

7. **Current workplace design issues:** Most people in cubicles which is OK. Need more bathrooms. Have 36,000 sf. Which includes big public waiting area and counter area and

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large meeting rooms. Rest of space is crowded. Still need paper storage but will be even more digital 5 years from now. Could use big screens for display. People must drive to go get any food.

Current location is harder to get to than downtown for his staff. Downtown is more centrally located.

8. **Would like:** Lockers for inspectors. Shower facilities – both for inspector and people who bike to work. Might make sense for inspectors to have their facility where they pick up their vehicles and with way in and out. (more like a utility dispatch type operation). Inspectors usually work geographically. Haven't studied their logistics. Needs differ by the type of inspector.

   Need places to have private phone calls – a lot of time is spent on the phone. However also a lot of reading and reviewing. Break-out space for collaboration. More small meeting rooms – people must use large ones for small meetings. Large monitors for rotating exhibits. Don't need model display – developers keep their own models

9. **Potential organizational changes:** no major change planned

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City Information Technology

			Future Staff:	75
Department Name:	City - Information Technology		Current Staff:	67
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	2	1	225
Office (150)	150			0
Office (125)	125	12	14	1750
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	53	60	3840
Touchdown	48		8	384
			Staff Space Subtotal:	***6199***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	2	20
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	4	120
			Support Space Subtotal:	***1160***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	2	640
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants		0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1600***
Special Spaces	Area		Number Provided	Net Area
Service Counter	120		1	120
Coffee/Break Room	96		1	96
Computer Build Lab	240		1	240
Equipment Storage	240		1	240
Data Center	10000	Can be located sepa	1	10000
			Special Space Subtotal:	***10696***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				19655
Circulation	40%			7862
			Total Area:	***27517***
		SF/Person excluding Special Spaces		187

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IT - City
Andrew – Director
1/22/2020

General Comments: Org changes since last conversation 2 years ago (Andrew is new Director)

1. Staffing:
2. Growth drivers:
3. Work Process:
4. Meetings:
    a. Only one meeting room that is shared with building.
5. Current Space - description:
    a. Awful space, incredibly tight, groups not next to each other that should be, multiple fire hazards
    b. Data center on 6th floor
    c. Currently have 4 data centers, want only 2
6. Adjacencies:
7. Current workplace design issues:
    a. Would like it grouped so that help goes from help desk, to desktop support. To engineering group as necessary.
8. Would like:
    a. IT needs to be integrated into new building, not placed in after.
    b. Need clarity on if data center is included in new building or not
    c. Clarity on if EOC is included in new building or new police center. Need sleeping quarters for Alpha/Beta shifts.
    d. Smaller breakout rooms
    e. Get out of silos
    f. More collaborative space
    g. More training space
    h. Lab/pc build area needed on floor with everyone else
    i. Need better storage too (have 2 storage facilities offsite)
9. Potential organizational changes
10. Culture
    a. How best to organize groups to maximize efficiency
    b. Want to better foster collaboration
    c. Want central area to see what's going on for whole network
        i. Command center/security center
        ii. Visible to dept, but not outsiders

From Questionnaire

11. Special building services requirements:
12. Security:
13. Work from home:
    a. No remote work policy from HR because of the liability
    b. Not supported by risk mgmt. currently

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c. Policy should come from city
d. Technicians have to work on site
e. Analysts/strategists could work remotely

City – Transportation and Mobility

			Future Staff:	61
Department Name:	City - Transportation and		Current Staff:	56
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	11	12	1500
Workstation (125)	125			0
Manager Workstation (10	100		36	3600
Workstation (80)	80	0	0	0
Workstation (64)	64	34	12	768
Touchdown	48	10	0	0
			Staff Space Subtotal:	***6093***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	1	10
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	2	40
Quick Quiet Room	30	1 per 20 users	3	90
			Support Space Subtotal:	***920***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	3	360
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users	1	500
X Large (20-22)	520	1 if over 40 occupants		0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***1380***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Service Counter	344	3 windows + 200 sf	1	344
Cash Room	200		1	200
Equipment Storage	400	may change if garage st	1	400
Lockers for Field Workers	200		1	200
Secure Loading	100	exterior space	1	100
			Special Space Subtotal:	***1340***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				9733
Circulation	40%			3893
			Total Area:	***13626***
			SF/Person excluding Special Spaces	210

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Transportation and Mobility - City

Ben Rogers – Director

1/22/2020 1:00 pm

Zyscovich Team: Thea Hahn, Lauren Foerster

Broward County: Mike Ritus

General Comments: Transportation & Mobility is responsible for Parking operations, Buses, and Permits. Most office staff are housed at the current location. Garage maintenance is off-site and includes a sign shop. The various parking garages also have office space for those who work at them.

Dept has completely changed in last 2 years since previous interview

1. **Staffing:**
    a. No one currently at city hall
    b. Figure HC to stay about the same
    c. Shrunk HC by 10-15 over last year
    d. 40-45 field people
    e. Sun Bus has space

2. **Growth drivers:**
    a. E-permitting has been rolled out but haven't seen decrease in work – more offsetting growth.

3. **Work Process:**
    a. Majority of fixed people in this location
    b. Customer Service – Call Center uses headsets, sits in cubicles, supervisor has closed cubicle.
    c. Accounting – does budget planning, invoices, payable – also cubicles
    d. Service desk on first floor – 3 windows – 7.30-4.30 plus Tuesday until 6pm. Mostly credit transactions but also cash and checks.
    e. Parking ops mgmt. downstairs – admin, managers, engineers. Benching for visiting field staff / work area.
    f. In general, not confidential information but also not public
    g. Parking is 24/7 running 3 shifts
    h. Field staff in office daily bringing back meter $ boxes (60-80 lock boxes), meeting with supervisor, getting task orders Director spends 60% of time at City Hall
    i. Mostly laptops but some unique software have desktops.

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j. In process of assembling shared library with documents – could be working area/library

4. Meetings:

a. A lot of outside visitor meetings of 6-8 – lobbyists, lawyers, consultants
b. Development Review Committee – transportation is part of review
c. Currently 3 meetings spaces (20, 10, 6) and must escort visitors
d. Small meetings offices at tables
e. Occasional evening meetings – HOA events, planners
f. Current meeting technology reported to work well – easy to share laptop display to large screen.

5. Current Space - description:

a. Service desk on first floor – 200-300 people/week for transactions here
b. 2 garages holding parking ops people and equipment
c. Money vault and money counting room
d. Secure loading area
e. Maintenance storage room at this location holds supplies, signs
f. Upstairs is mostly private offices.

6. Adjacencies:

a. City manager signs off on permitting. Hand delivered/picked up
b. Work with code enforcement, sustainable development, DPW, parks & rec

7. Current workplace design issues:

a. Not all services under one roof (maintenance in one area, signs/extra boxes stored at office location)
b. Separation to city hall

8. Would like:

a. Increase adjacency.
b. Storage could be at warehouse off site with money room and storage
    i. 6 bays – 3 for money, 3 for equipment and supplies
c. 2-4 satellite cubes for outsourced transportation services
d. Better public and private space divide
e. If go to all cubicles, need to have more meeting space.
f. Shared service center – public could get permits, pay bills, make appeals in one location

9. Potential organizational changes

a. Exec airport no longer reports to TAM – now directly to city manager
b. Outsourcing transportation planning to Broward planning office, effective March 1.
c. E-permitting in place but public still must come in monthly to get sticker – this could change.
d. Software to do electronic approvals would reduce traffic back and forth to City Hall for signatures – but would not change workflow – still would need meetings, coaching, walkthroughs.

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10. Culture

a. Would like to decrease silo-ing, increase collaboration.
b. All equal but individuals, getting specific work done.
c. Facilitating communication

From Questionnaire

11. Special building services requirements:

12. Security:

a. First floor service windows with glass.
b. Secure loading area for staff unloading parking money
c. Money vault and money counting room

13. Work from home:

a. No formal WFH policy, mostly one-off special requests
b. Could work remotely
c. More an overall city culture of not allowing it

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City Budget

			Future Staff:	9
Department Name:			Current Staff:	9
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	2	2	250
Workstation (125)	125			0
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	6	6	384
Touchdown	48			0
			Staff Space Subtotal:	***859***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***320***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2065
Circulation	40%			826
			Total Area:	***2891***

SF/Person excluding Special Spaces 306

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City Budget estimates were based on interviews with Deputy City Manager Rob Hernandez and Jodi Hart.

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City Strategy and Communication

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			Future Staff:	8
Department Name:			Current Staff:	8
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	0	1	225
Office (150)	150			0
Office (125)	125	6	5	625
Workstation (125)	125			0
Manager Workstation (10	100	2	2	200
Workstation (80)	80			0
Workstation (64)	64	0		0
Touchdown	48	0	0	0
			Staff Space Subtotal:	***1050***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	0	0
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***320***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2256
Circulation	40%			902
			Total Area:	***3158***

SF/Person excluding Special Spaces 378

FOR REFERENCE ONLY

City Strategy and Communication estimates were based on interviews with Deputy City Manager Rob Hernandez and Jodi Hart.

FOR REFERENCE ONLY

City Neighborhood Support

FOR REFERENCE ONLY

			Future Staff:	11
Department Name:			Current Staff:	11
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125	1	3	375
Manager Workstation (10	100			0
Workstation (80)	80			0
Workstation (64)	64	9	7	448
Touchdown	48		2	96
			Staff Space Subtotal:	***1144***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occup	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***440***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2470
Circulation	40%			988
			Total Area:	***3458***

SF/Person excluding Special Spaces 302

FOR REFERENCE ONLY

City Neighborhood Support estimates were based on interviews with Deputy City Manager Rob Hernandez and Jodi Hart

FOR REFERENCE ONLY

City Pension and Audit

			Future Staff:	11
Department Name:			Current Staff:	9
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125	1	1	125
Workstation (125)	125			0
Manager Workstation (10	100	0	7	700
Workstation (80)	80			0
Workstation (64)	64	7	2	128
Touchdown	48		0	0
			Staff Space Subtotal:	***1178***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users	0	0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***440***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2504
Circulation	40%			1002
			Total Area:	***3506***
			SF/Person excluding Special Spaces	375

FOR REFERENCE ONLY

City Pension and Audit estimates were based on interviews with Deputy City Manager Rob Hernandez and Jodi Hart

FOR REFERENCE ONLY

City Commissioners

FOR REFERENCE ONLY

			Future Staff:	22
Department Name:			Current Staff:	8
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320	0	5	1600
Executive Office (225)	225	4	5	1125
Office (150)	150			0
Office (125)	125		8	1000
Workstation (125)	125			0
Manager Workstation (10	100		4	400
Workstation (80)	80			0
Workstation (64)	64	4	0	0
Touchdown	48		0	0
			Staff Space Subtotal:	***4125***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	2	400
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***990***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	0	0
Medium (6-8)	200	1 per 30 users	1	200
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occup	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***520***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96	Catering capability	2	192
				0
				0
				0
				0
			Special Space Subtotal:	***192***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				5827
Circulation	40%			2331
			Total Area:	***8158***
		SF/Person excluding Special Spaces		986

FOR REFERENCE ONLY

City Commissioners estimates were based on an interview with Deputy City Manager Rob Hernandez

FOR REFERENCE ONLY

City Housing

			Future Staff:	15
Department Name:			Current Staff:	13
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125			0
Manager Workstation (10	100	0	12	1200
Workstation (80)	80		0	0
Workstation (64)	64	12	2	128
Touchdown	48		0	0
			Staff Space Subtotal:	***1553***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users		0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupan	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***440***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2879
Circulation	40%			1152
			Total Area:	***4031***
			SF/Person excluding Special Spaces	300

FOR REFERENCE ONLY

City Housing estimates were based on interviews with Deputy City Manager Rob Hernandez and Jodi Hart.

FOR REFERENCE ONLY

City Structural Innovation

			Future Staff:	8
Department Name:			Current Staff:	6
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	1	1	225
Office (150)	150			0
Office (125)	125			0
Workstation (125)	125			0
Manager Workstation (10	100	0	5	500
Workstation (80)	80			0
Workstation (64)	64	5	2	128
Touchdown	48			0
			Staff Space Subtotal:	***853***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	0	0
Print /Work Area	40	1 per 50 people	1	40
Supply / Storage	20	1 per 50 people	1	20
Quick Quiet Room	30	1 per 20 users	1	30
			Support Space Subtotal:	***790***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	1	120
Medium (6-8)	200	1 per 30 users		0
Large (10-12)	320	1 per 50 users	1	320
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	0	0
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***440***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
				0
				0
				0
				0
			Special Space Subtotal:	***96***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				2179
Circulation	40%			872
			Total Area:	***3051***
			SF/Person excluding Special Spaces	486

FOR REFERENCE ONLY

City Structural Innovation estimates were based on an interview with Jodi Hart

FOR REFERENCE ONLY

City Public Works

FOR REFERENCE ONLY

			Future Staff:	98
Department Name:	City - Public Works		Current Staff:	96
Staff Space	Area	Current Staff	Number Provided	Net Area
Executive Suite (320)	320			0
Executive Office (225)	225	3	3	675
Office (150)	150			0
Office (125)	125	7	7	875
Workstation (125)	125			0
Manager Workstation (10	100		82	8200
Workstation (80)	80	0	0	0
Workstation (64)	64	82	6	384
Touchdown	48	4	0	0
			Staff Space Subtotal:	***10134***
Support Spaces	Area		Number Provided	Net Area
Waiting/Reception	200	1 per suite	1	200
Open Collaboration	500	1 per 75 people	1	500
Print Station	10	1 per 20 users	4	40
Print /Work Area	40	1 per 50 people	2	80
Supply / Storage	20	1 per 50 people	4	80
Quick Quiet Room	30	1 per 20 users	5	150
			Support Space Subtotal:	***1050***
Meeting Spaces	Area		Number Provided	Net Area
Huddle (3-4)	120	1 per 25 users	4	480
Medium (6-8)	200	1 per 30 users	3	600
Large (10-12)	320	1 per 50 users	2	640
Large (10-12)	500	1 per 50 users		0
X Large (20-22)	520	1 if over 40 occupants	1	520
X Large (20-22)	600	1 if over 40 occupants		0
X Large (20-22)	840	1 if over 40 occupants		0
Deluxe	800			0
Training	800	shared in common areas		0
			Meeting Space Subtotal:	***2240***
Special Spaces	Area		Number Provided	Net Area
Coffee/Break Room	96		1	96
Plotter Area	40		1	40
Layout Space	120		1	120
Plan Storage	120		2	240
				0
			Special Space Subtotal:	***496***
Summary				
Net Usable (Staff + Support + Meeting + Special Spaces)				13920
Circulation	40%			5568
			Total Area:	***19488***
			SF/Person excluding Special Spaces	196

FOR REFERENCE ONLY

City – Public Works

Aneisha Daniel, Deputy Director – Director (started position 3 days ago)

Note: meeting stated late – this group needs more follow-up.

1. Staffing: A lot of changes and reorganization to come. 92 people but that includes people across the street. A lot of changes in roles – also run internal services and operations. Parks, Central engineering, new construction. Parks does facility maintenance for the city. Operate a sewage treatment plans – 4-5 employees offsite. There is a lot of complexity. Some "odd" organizational placements.
    a. Three main groups:
        i. 53 staff: Engineering is the bulk of the staff in city hall – manage utilities about and below grade. Civil engineers work with sustainability and have inspectors.
        ii. 14 staff: Strategic support: budget, admin, HR, strategic communications.
        iii. 16 staff: Sustainability – across the street in 101 – solid waste contracts, resiliency, storm water admin and staff. They work with the county. Urban forestry.

            Some procurement people sit with them but report to procurement.

2. **Growth drivers:** Growth of city and scope of responsibilities.

3. **Work Process:**

4. **Meetings:** not enough room for meetings currently. Conference room is used by everyone and is the only one on this floor. There is no room to meet with vendors. Must go offsite when we need to meet with more than 10 people. Use other rooms in the building when they can. Sometime go meet at 5 Ash (treatment plant) but must go through a security briefing every time so it is inconvenient for visitors.

5. **Current Space - description:** Engineering is the biggest group in the city – they have no collaboration space. They work in teams and the project managers have window offices.

6. **Adjacencies:**

7. **Current workplace design issues:**

8. **Would like:** More conference rooms, a break room (coffee is currently in the hallway) ATM, Day care, go see Miami Dade building. Pharmacy/store on ground floor.

9. **Potential organizational changes:**

10. **Culture:**

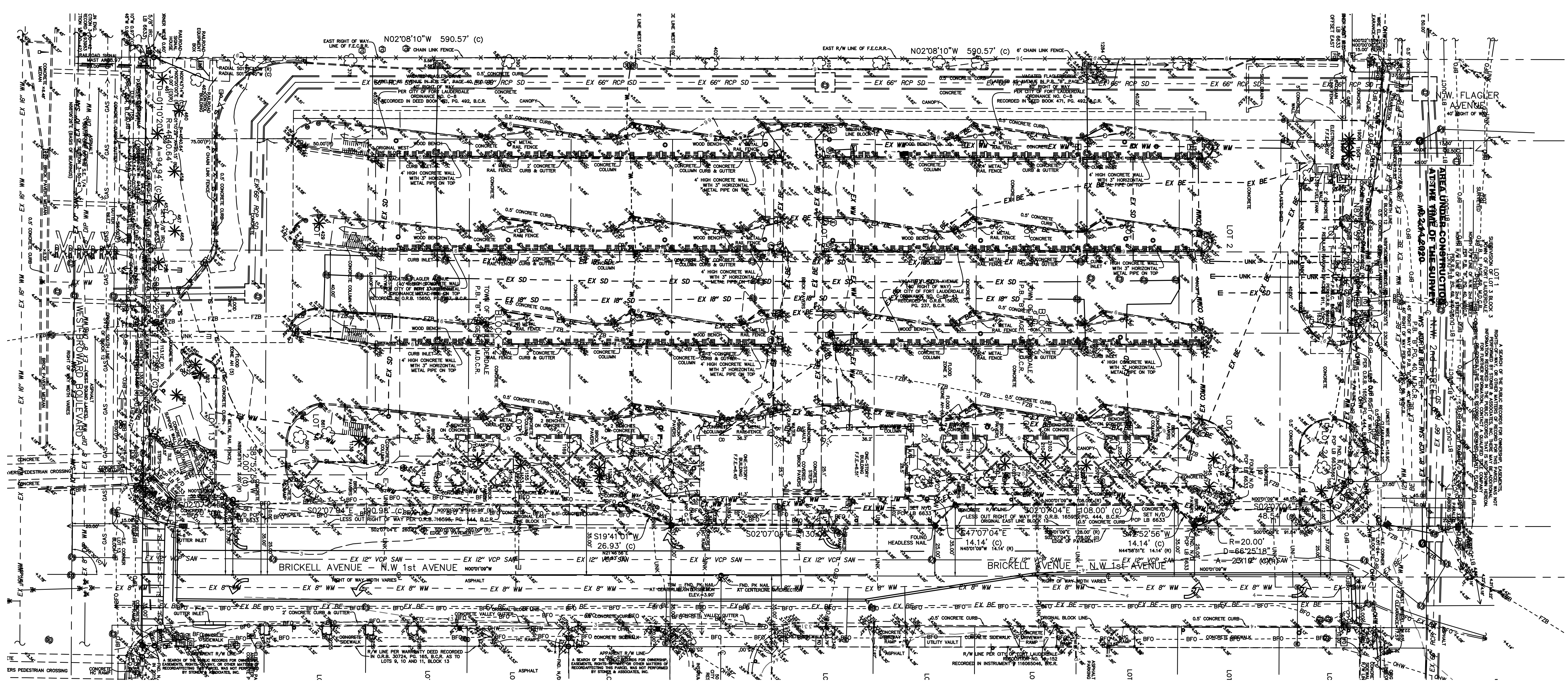
FOR REFERENCE ONLY

DCP

APPENDIX E
Site Infrastructure

BOOK 3 | SEPTEMBER 14, 2020

Plot Date: 3:19 PM Username: AAristizabal Layout Name: EC-1
Folder Path: V:\Projects\2020\20-162.036 – Joint Government Center Campus DCP\Design\CAD\Sheets Filename: 20-162.036 Existing Conditions.dwg



0 25 50 100

1 INCH = 50 FEET

Sunshine811

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

Check positive response codes before you dig!

CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

PATRICK D. KAIMRAJH
REGISTRATION NO. 78535

cma
chen moore and associates
500 West Cypress Creek Road
Suite 630
Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

EXISTING CONDITIONS PLAN

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

DATE OF ISSUE 06/05/2020

VERIFY SCALES
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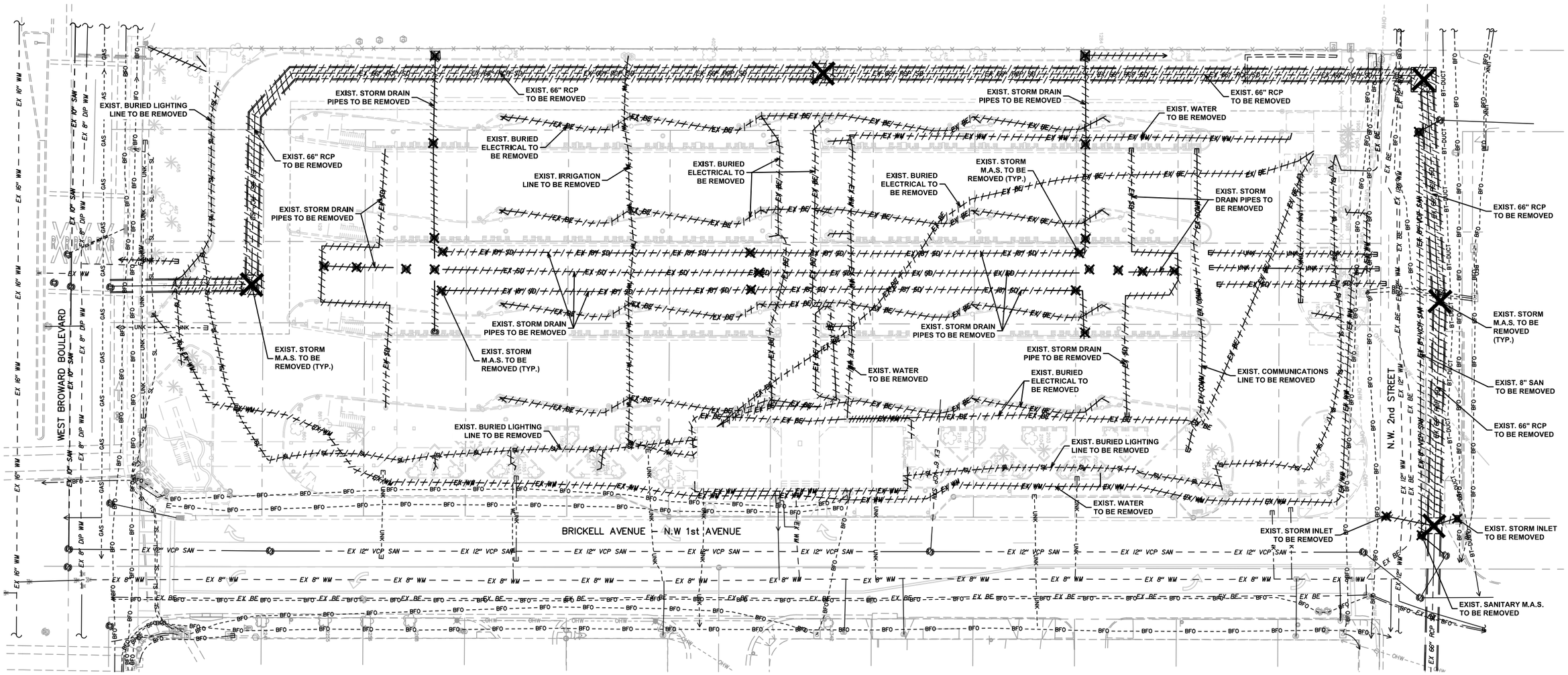
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER
20-162.036

DRAWING NUMBER
EC-1
1 OF 16

Folder Path: V:\Projects\2020\20-162.036 – Joint Government Center Campus DCP\Design\CAD\Sheets
Plot Date: 4:13 PM Username: sramaji Layout Name: DEM-1
Filename: 20-162.036 Demolition Plan.dwg



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1 INCH = 50 FEET

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CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

PATRICK D. KAIMRAJH
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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

UTILITY DEMOLITION PLAN

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

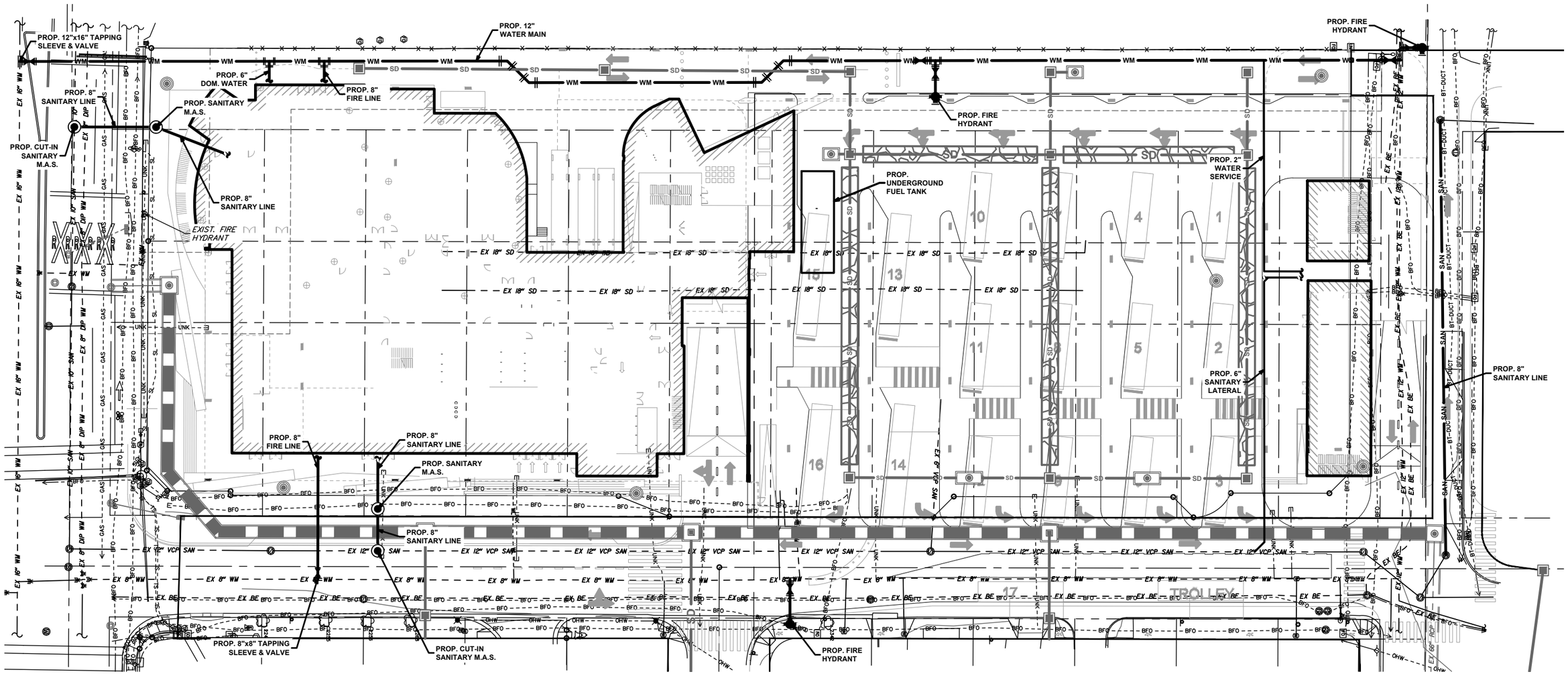
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER
DEM-1
2 OF 16

Folder Path: V:\Projects\2020\20-162.036 - joint government center campus dcp\Design\CAD\Sheets
Plot Date: 4:57 PM Username: AAristizabal Layout Name: WS-1
Filename: 20-162.036 Water and Sewer Plan (Option 1).dwg



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1 INCH = 50 FEET

Sunshine811

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CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

WATER AND SEWER PLAN - OPTION 1

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

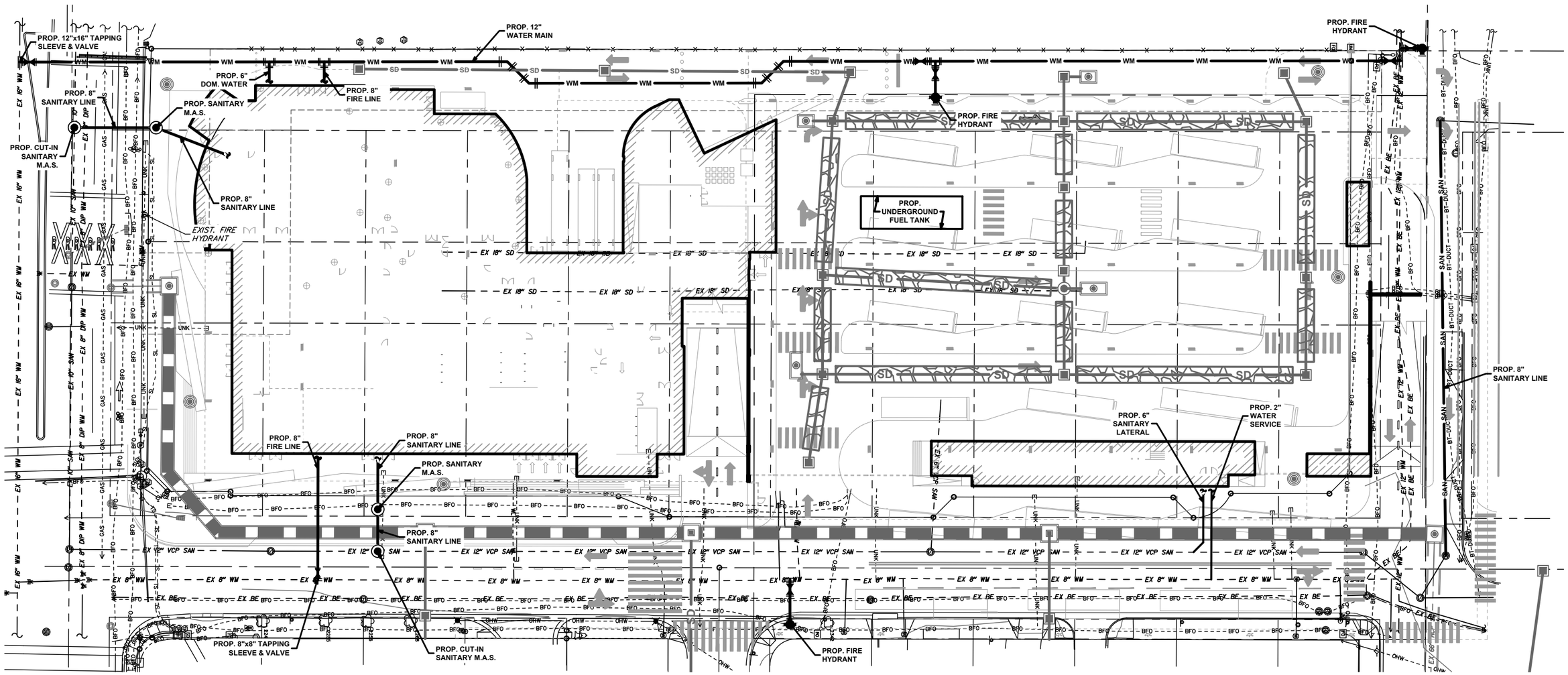
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER
WS-1

Folder Path: V:\Projects\2020\20-162.036 - joint government center campus dcp\Design\CAD\Sheets Plot Date: 4:57 PM Username: AAristizabal Layout Name: WS-2
Filename: 20-162.036 Water and Sewer Plan (Option 2).dwg



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1 INCH = 50 FEET

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CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

WATER AND SEWER PLAN - OPTION 2

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

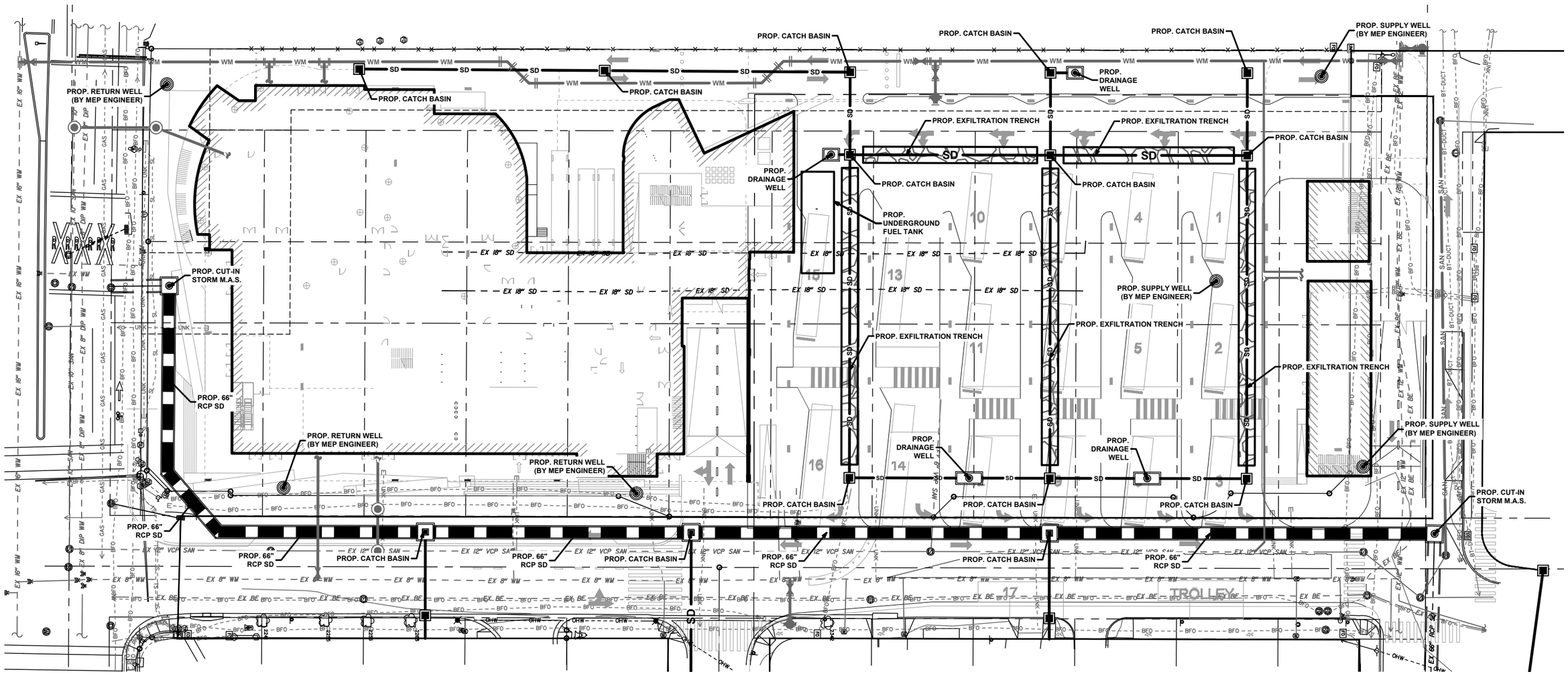
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER
WS-2

Folder Path: V:\Projects\2020\20-162.036 - joint government center campus dcp\Design\CAD\Sheets Plot Date: 4:57 PM Filename: 20-162.036 Stormwater Plan (Option 1).dwg Username: AAristizabal Layout Name: SD-1



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CLIENT PROJECT NUMBER

PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

STORMWATER PLAN - OPTION 1

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

DATE OF ISSUE 06/05/2020

VERIFY SCALES

0 1"

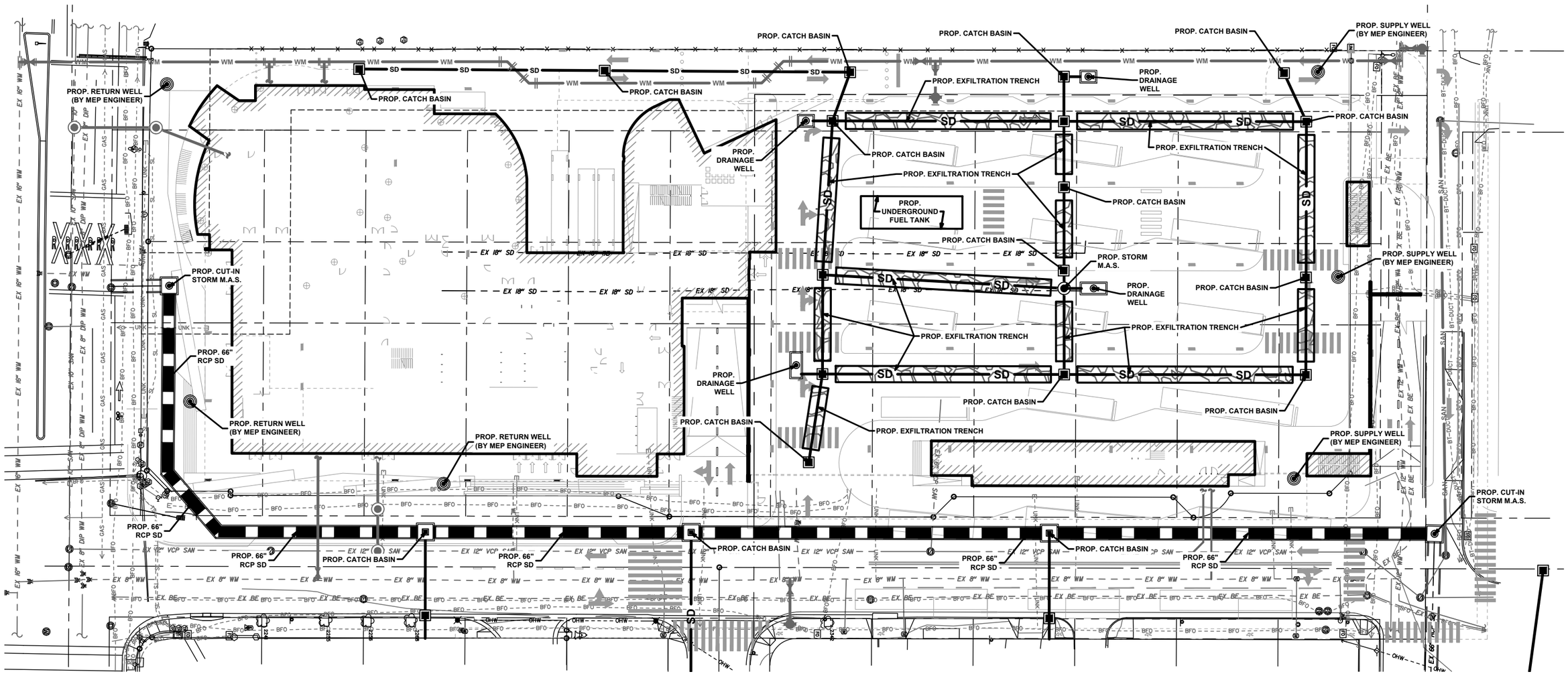
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER

SD-1

Folder Path: V:\Projects\2020\20-162.036 - joint government center campus dcp\Design\CAD\Sheets Plot Date: 4:57 PM Username: AAristizabal Layout Name: SD-2
Filename: 20-162.036 Stormwater Plan (Option 2).dwg



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ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

STORMWATER PLAN - OPTION 2

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

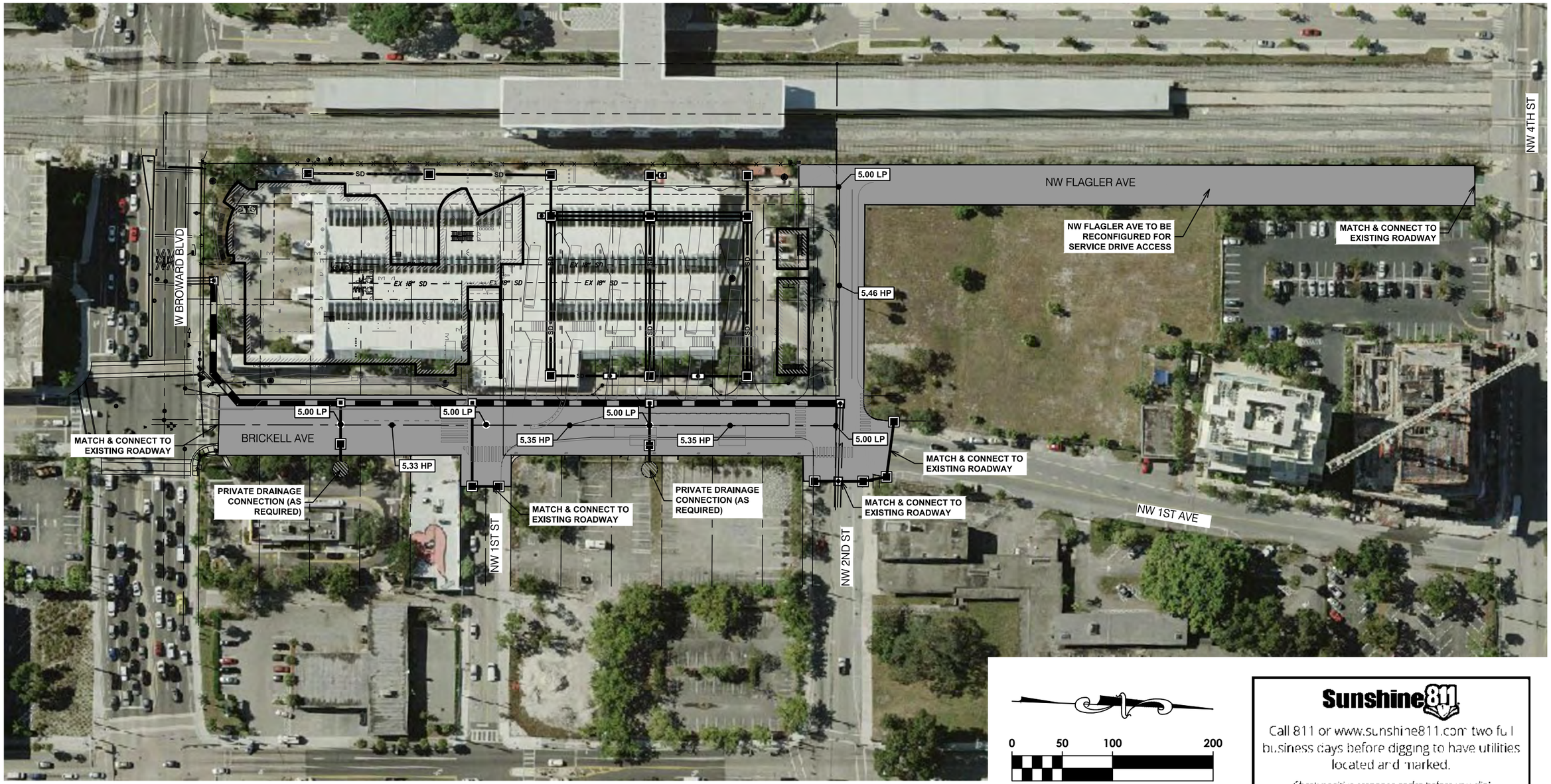
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER
SD-2
6 OF 16

Folder Path: V:\Projects\2020\20-162.036 - Joint Government Center Campus DCP\Design\CAD\Sheets Plot Date: 3:23 PM Filename: 20-162.036 Offsite Roadway Plan (Option 1).dwg Username: AAristizabal Layout Name: OR-1



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1 INCH = 100 FEET

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CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

OFFSITE ROADWAY PLAN - ROADWAY REGRADING OPTION 1

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

DATE OF ISSUE 06/05/2020

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER
OR-1

Folder Path: V:\Projects\2020\20-162.036 - Joint Government Center Campus DCP\Design\CAD\Sheets Plot Date: 3:24 PM Username: AAristizabal Layout Name: OR-2
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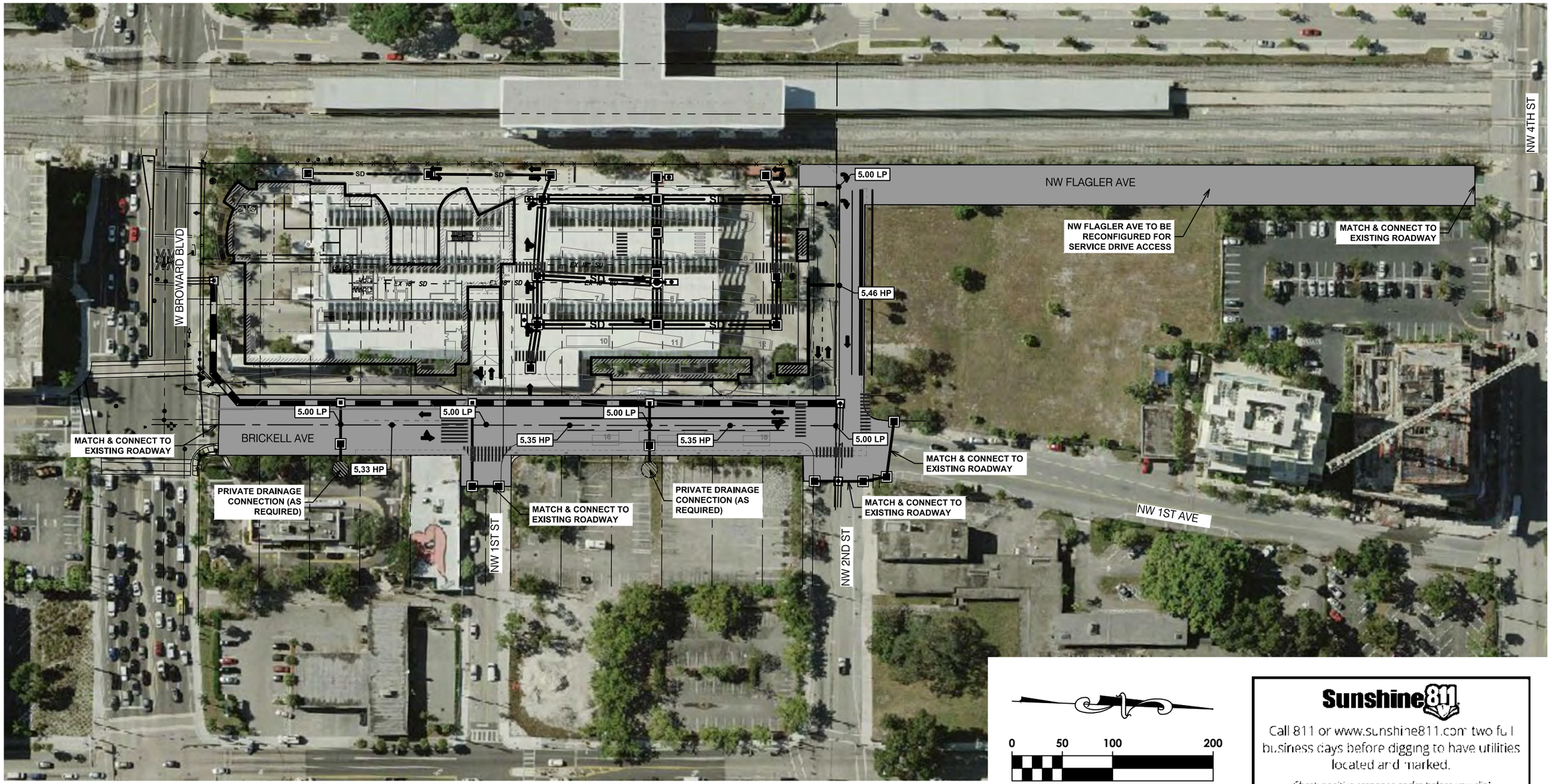

0 50 100 200

1 INCH = 100 FEET

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CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

OFFSITE ROADWAY PLAN - ROADWAY REGRADING OPTION 2

DESIGNED BY ZA

DRAWN BY AA

CHECKED BY PDK

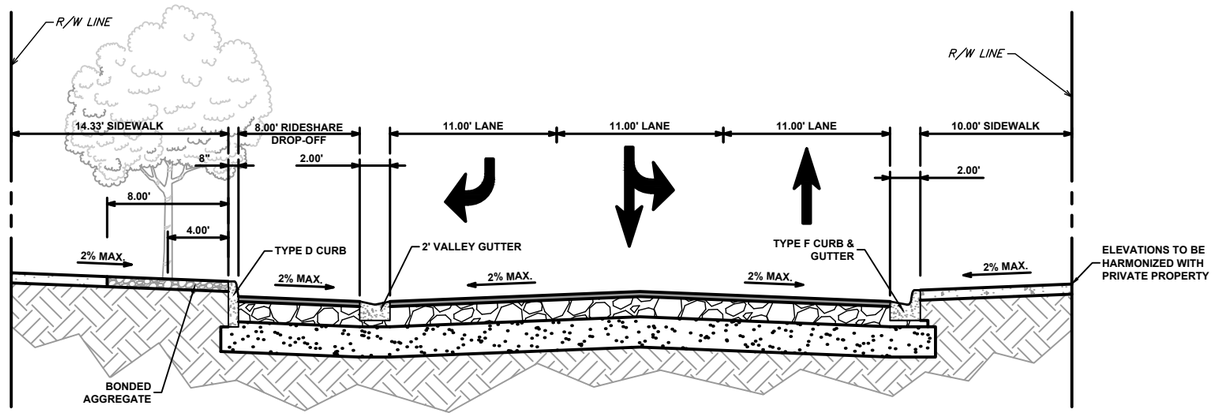
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

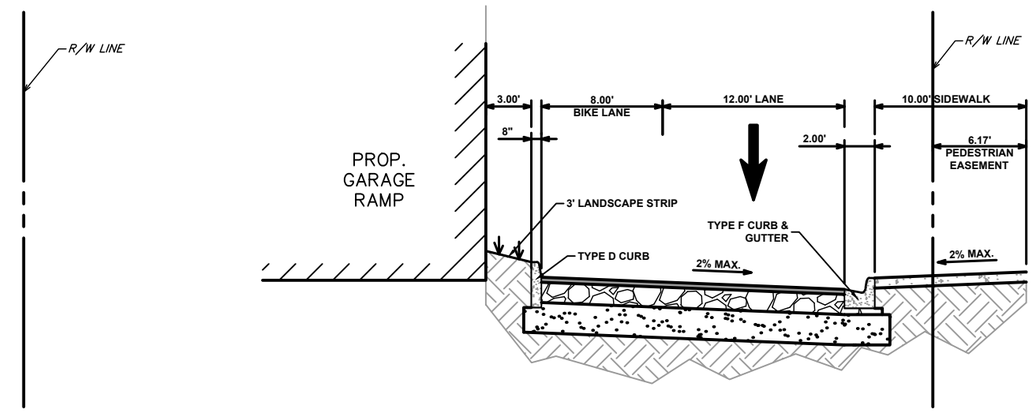
DRAWING NUMBER
OR-2

Folder Path: V:\Projects\2020\20-162.036 - Joint Government Center Campus DCP\Design\CAD\Sheets
Plot Date: 3:25 PM Username: AAristizabal Layout Name: CS-1
Filename: 20-162.036 Cross Sections (Option 1).dwg



70' R/W (BRICKELL AVE S OF 1ST STREET - LOOKING NORTH)

N.T.S.



60' R/W (NW 2ND STREET LOOKING WEST)

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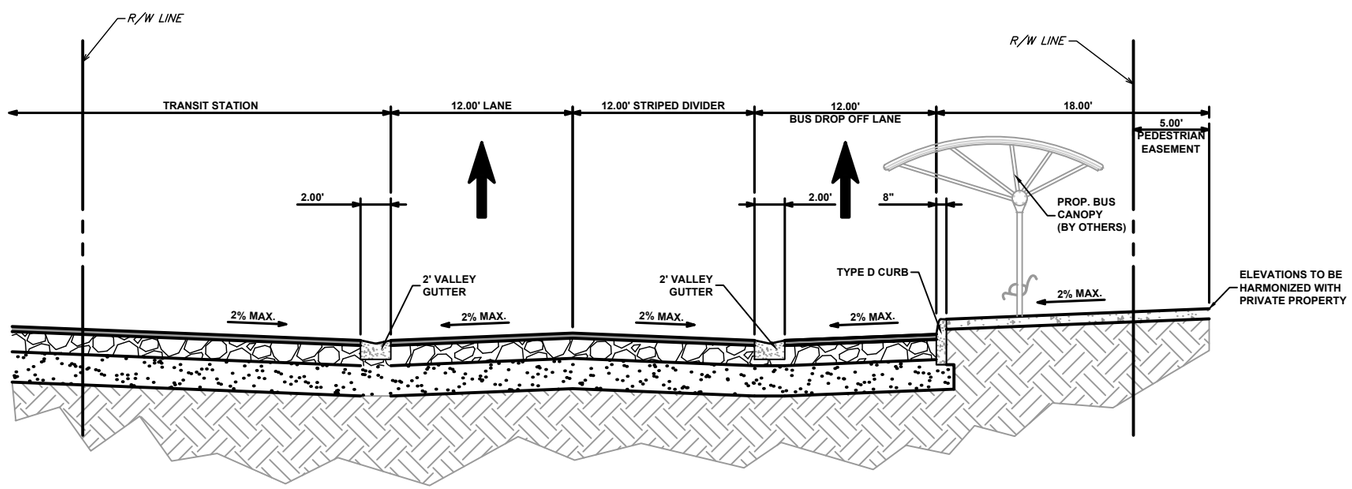

70' R/W (BRICKELL AVE N OF 1ST STREET LOOKING NORTH)

N.T.S.

CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

CROSS SECTIONS - OPTION 1

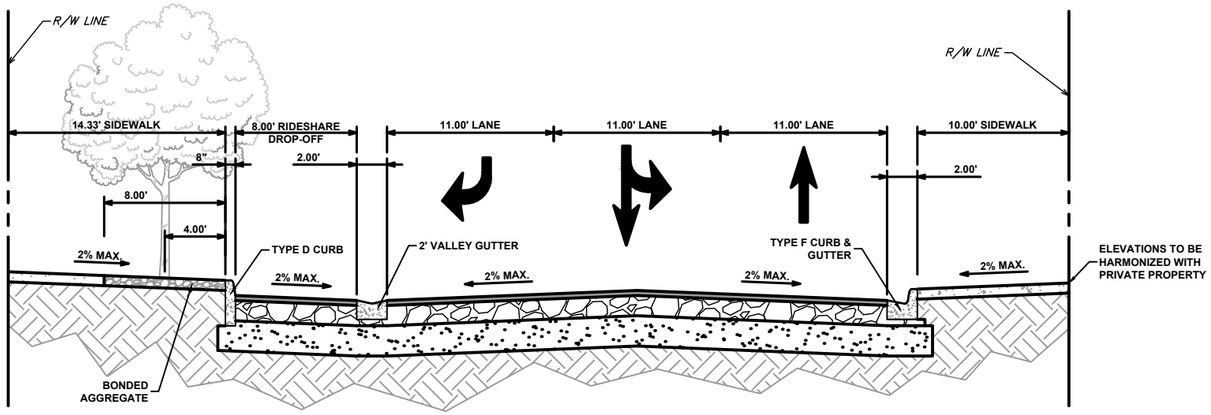
DESIGNED BY ZA
DRAWN BY AA
CHECKED BY PDK
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

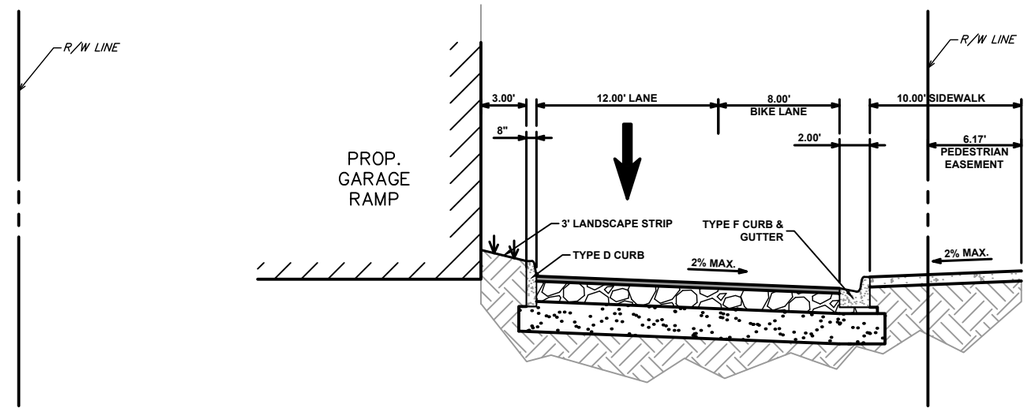
DRAWING NUMBER
CS-1

Folder Path: V:\Projects\2020\20-162.036 - Joint Government Center Campus DCP\Design\CAD\Sheets
Plot Date: 3:25 PM Username: AAristizabal Layout Name: CS-2
Filename: 20-162.036 Cross Sections (Option 2).dwg



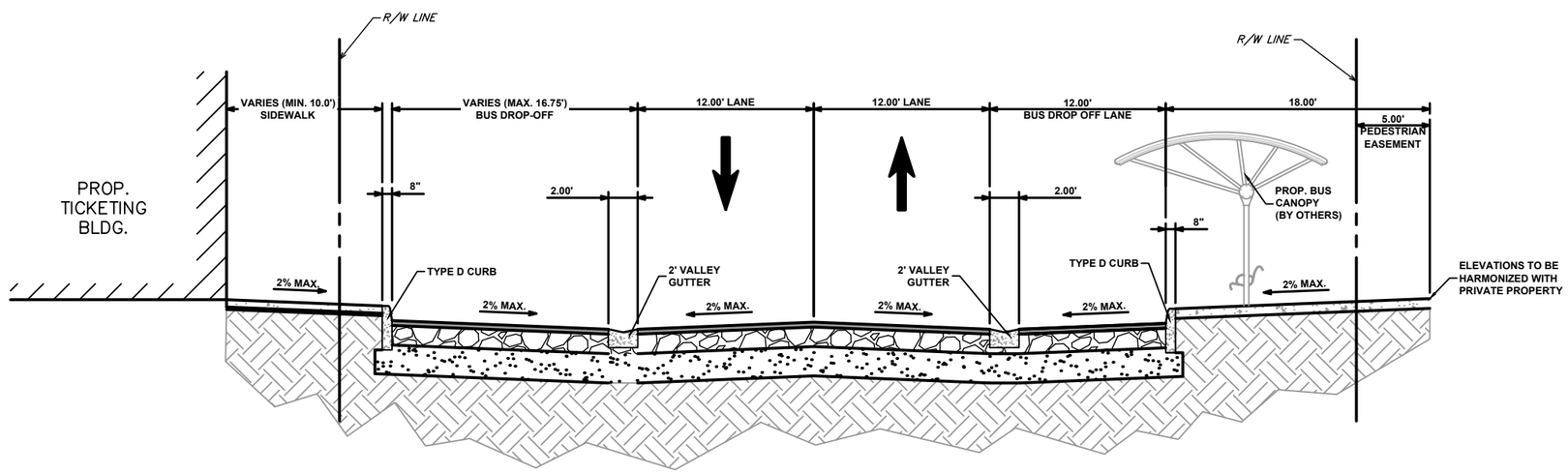
70' R/W (BRICKELL AVE S OF 1ST STREET - LOOKING NORTH)

N.T.S.



60' R/W (NW 2ND STREET LOOKING WEST)

N.T.S.



70' R/W (BRICKELL AVE N OF 1ST STREET LOOKING NORTH)

N.T.S.

CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP

FORT LAUDERDALE, FLORIDA

DRAWING TITLE

CROSS SECTIONS - OPTION 2

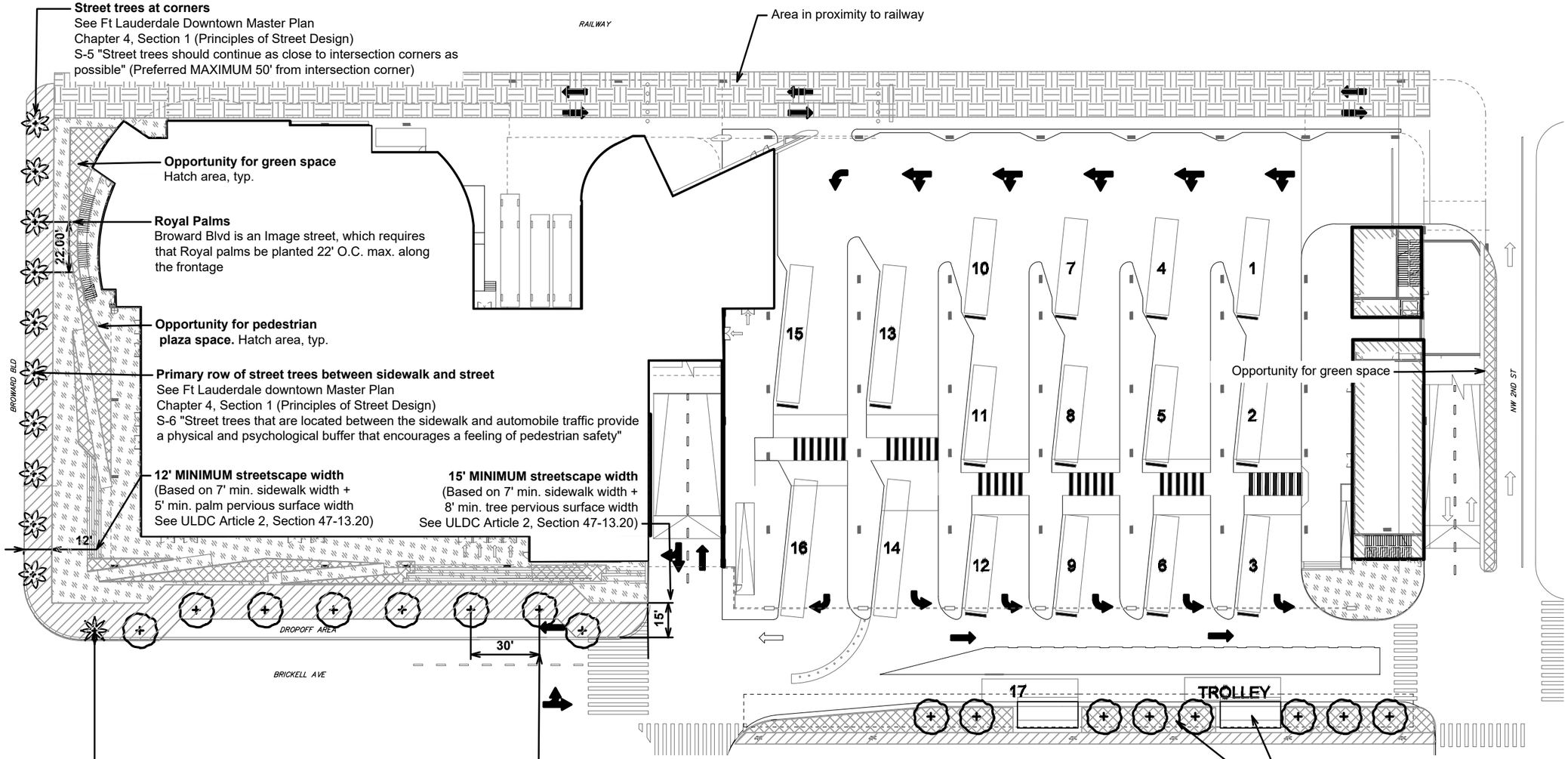
DESIGNED BY ZA
DRAWN BY AA
CHECKED BY PDK
DATE OF ISSUE 06/05/2020

VERIFY SCALES
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER CS-2

Folder Path: V:\Projects\2020\20-162.036 - Joint Government Center Campus DCP\Design\CAD\Sheets Plot Date: 4:00 PM Username: tmccormick Layout Name: LP-1
Filename: 20-162.036 - Landscape Plan.dwg



Street trees at corners
See Ft Lauderdale Downtown Master Plan
Chapter 4, Section 1 (Principles of Street Design)
S-5 "Street trees should continue as close to intersection corners as possible" (Preferred MAXIMUM 50' from intersection corner)

Area in proximity to railway

Opportunity for green space
Hatch area, typ.

Royal Palms
Broward Blvd is an Image street, which requires that Royal palms be planted 22' O.C. max. along the frontage

Opportunity for pedestrian plaza space. Hatch area, typ.

Primary row of street trees between sidewalk and street
See Ft Lauderdale downtown Master Plan
Chapter 4, Section 1 (Principles of Street Design)
S-6 "Street trees that are located between the sidewalk and automobile traffic provide a physical and psychological buffer that encourages a feeling of pedestrian safety"

12' MINIMUM streetscape width
(Based on 7' min. sidewalk width +
5' min. palm pervious surface width
See ULDC Article 2, Section 47-13.20)

15' MINIMUM streetscape width
(Based on 7' min. sidewalk width +
8' min. tree pervious surface width
See ULDC Article 2, Section 47-13.20)

Palm tree placement at corners
See Ft Lauderdale Downtown Master Plan
Chapter 4, Section 1 (Principles of Street Design)
S-9 "Encourage shade trees along streets to mark intersections. At intersections where streets with shade trees converge, encourage a series of tall palms at the 4 corners to provide a visual marker"

Shade Trees along Brickell Ave
See Ft Lauderdale Downtown Master Plan
Chapter 4, Section 1 (Principles of Street Design)
S-7 "Street trees should be spaced at a preferred maximum of 30' apart for shade trees; and 22' for palm trees to create a well-defined edge and consistent shade."

Minimum canopy clearance.
See Ft Lauderdale Downtown Master Plan
Chapter 4, Section 1 (Principles of Street Design)
S-8 "Street trees should have a minimum canopy clearance (face of building to face of trunk) of 12' for shade trees, and a minimum of 6' for palm trees"

Canopy over bus waiting area

Opportunity for green space, small trees / palms

LEGEND

SYMBOL	DESCRIPTION
	ROYAL PALM (along Broward Blvd) Min 18' Ht and Min 8' of gray wood at time of installation
	PALM TREE (Street Tree) Min 18' Ht and Min 8' of gray wood at time of installation
	SHADE TREE (Street Tree) Min 14' Ht x 8' Spr., Min 6'ground clearance at time of installation
	Opportunity for pedestrian plaza space
	Opportunity for green space and plantings (in addition to streetscape tree area)
	Streetscape area
	Area in proximity to railway - service and emergency access, limited/no landscape

GRAPHIC SCALE
0 25 50 100
1 INCH = 50 FEET

CLIENT

ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
PNC 2119087R1

DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION
JOINT GOVERNMENT CENTER CAMPUS DCP
FORT LAUDERDALE, FLORIDA

DRAWING TITLE
DESIGN CRITERIA LANDSCAPE PLAN
OPTION 1

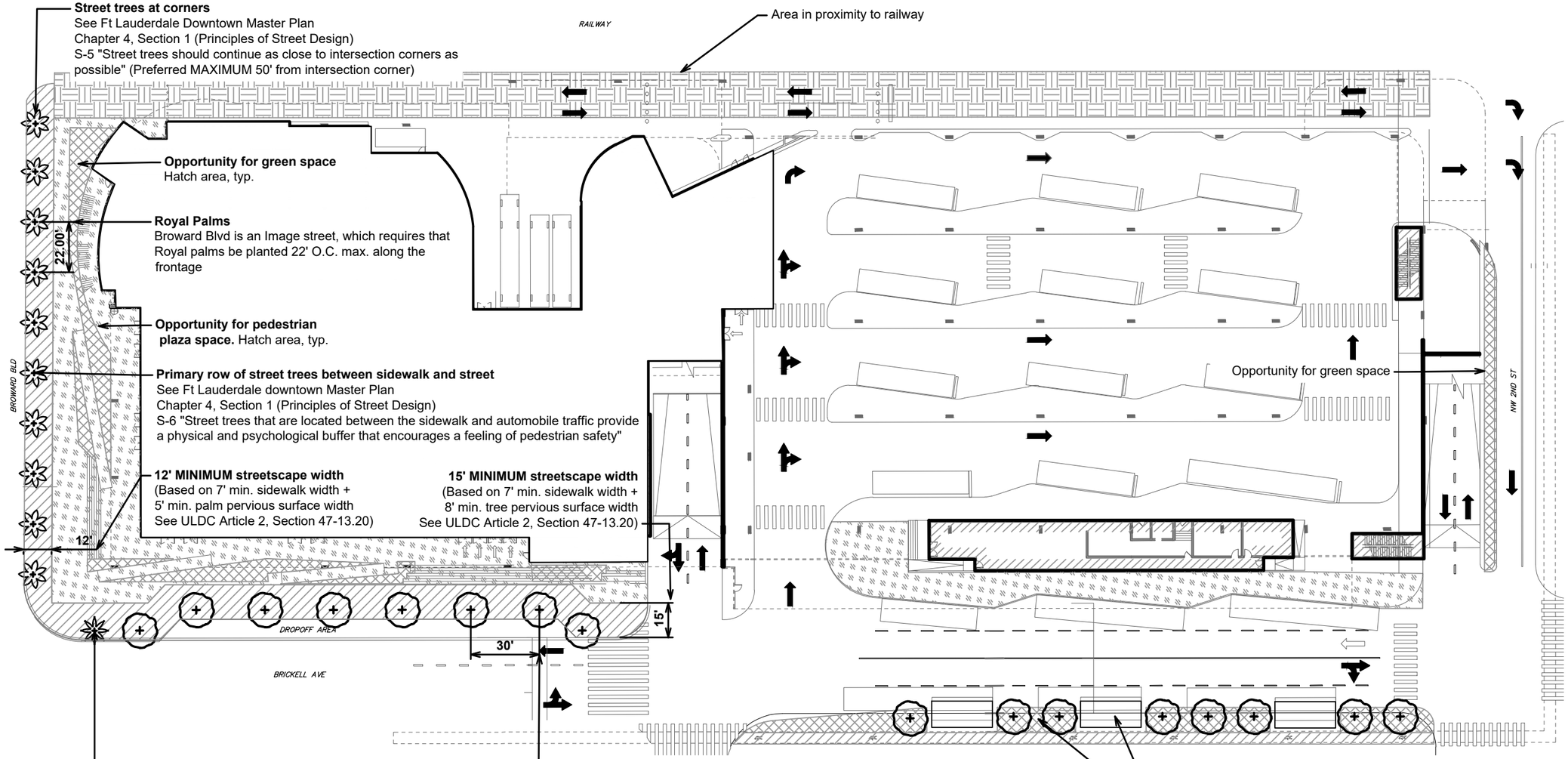
DESIGNED BY KAS
DRAWN BY KAS
CHECKED BY TLM
DATE OF ISSUE 08/03/20

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PROJECT NUMBER 20-162.036

DRAWING NUMBER
LP - 1
11 OF 16

Folder Path: V:\Projects\2020\20-162.036 - Joint Government Center Campus DCP\Design\CAD\Sheets Plot Date: 4:04 PM Username: tmccormick Layout Name: LP-2
Filename: 20-162.036 - Landscape Plan.dwg



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Area in proximity to railway

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(Based on 7' min. sidewalk width +
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See ULDC Article 2, Section 47-13.20)

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Canopy over bus waiting area

Opportunity for green space, small trees / palms

LEGEND

SYMBOL	DESCRIPTION
	ROYAL PALM (along Broward Blvd) Min 18' Ht and Min 8' of gray wood at time of installation
	PALM TREE (Street Tree) Min 18' Ht and Min 8' of gray wood at time of installation
	SHADE TREE (Street Tree) Min 14' Ht x 8' Spr., Min 6'ground clearance at time of installation
	Opportunity for pedestrian plaza space
	Opportunity for green space and plantings (in addition to streetscape tree area)
	Streetscape area - Includes minimum sidewalk space and minimum pervious tree area requirements
	Area in proximity to railway - service and emergency access, limited/no landscape

GRAPHIC SCALE
0 25 50 100
1 INCH = 50 FEET

CLIENT
ZYSCOVICH ARCHITECTS

CLIENT PROJECT NUMBER
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DESIGN CRITERIA ENGINEER

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PROJECT INFORMATION
JOINT GOVERNMENT CENTER CAMPUS DCP
FORT LAUDERDALE, FLORIDA

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DESIGN CRITERIA LANDSCAPE PLAN
OPTION 2

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PROJECT NUMBER 20-162.036
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12 OF 16

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Filename: 20-162.036 - Landscape Plan.dwg

DESIGN CRITERIA - SITE AND LANDSCAPE CODE PROVISIONS AND DESIGN GUIDELINES

STREETSCAPE:

Design Guidelines from Ft Lauderdale Downtown Master Plan (Chapter 4 - Principles of street Design)

S-2 (p. 4.6) Utilize traffic calming rather than barricading streets. On street parking a possible solution. (Except for Broward Blvd)

S-4 (p. 4.8) Provide adequate bike lanes in a planned network

S-5 (p.4.9) Maximize Street trees on all Downtown streets. " Street trees should continue as close to intersection corners as possible, which will require reconsideration of driver sight line requirements. (Preferred maximum 50' from intersection corner).These are currently not compatible with Downtown urban design objectives." Requires re-evaluation of local corner sight line requirements.

S-6 (p4.10) Encourage location of primary row of street trees between sidewalk and street. Code issue: 1) Need new City of FL code requirement. 2) Requires re-evaluation of FDOT Horizontal Clearance regulations

S-7 (4.11) Reduce preferred maximum spacing for street trees. "Street trees should be spaced at a preferred maximum of 30' apart for shade trees; and 22' for palm trees to create a well-defined edge and consistent shade." Code Issue: 1) City of FL, Code of Ordinances & ULDR, Sec 4-7 13.20, Tree Spacing 2) Requires re-evaluation of 'Pedestrian Priority Street' guidelines regulating tree spacing.

S-8 (p.4.12) Reduce horizontal clearances for trees. "Street trees should have a minimum canopy clearance (face of building to face of trunk) of 12' for shade trees, and a minimum of 6' for palm trees. This is less than current code requirements". Code issue: FDOT Plans Preparation manual - Design Criteria & Process, Horizontal clearances. (Shoulder condition and median condition for shade trees: distance from curb edge is consistent with existing code descriptions)

S-9 (p.4.13) Encourage shade trees along streets and palm trees to mark intersections. "At intersections where streets with shade trees converge, encourage a series of tall palms at the 4 corners to provide a visual marker" Code Issue: City of FL, Code of Ordinances & ULDR, Sec 4-7 19.5, sight triangle requirements

S-11 (p.4.15) Encourage curb radius reduction at street intersections to a preferred maximum of 15 feet, or a preferred maximum of 20 feet at major arterial roadways. Code Issue: Alter Florida Building Code requirement for urban conditions

BUILDING:

Design Guidelines from Ft Lauderdale Downtown Master Plan (Chapter 4)

B-2 (p.4.37) Framing the street: encourage aggregation of site open space requirements as pedestrian public space (instead of unusable, leftover 'green' perimeter).

B-9 (p.4.44) Parking garages: -Encourage access from secondary streets and alleys. -Encourage street level activities and minimize visual exposure of parking with active space on the ground floor of a parking garage. -The upper floors of a parking garage should not be visible along primary streets, waterways, and active spaces on these upper floors along primary streets, waterways, and parks are encouraged as a preferred design.

Broward Boulevard Streetscape Example - From Ft Lauderdale Downtown Master Plan

RELEVANT STREETSCAPE INFORMATION FROM FT LAUDERDALE UNIFIED LAND DEVELOPMENT CODE

Article 3 - Section 47-21.14

4. Parking Garages
Structures which enclose parking shall provide a landscape area between the street and that portion of structure enclosing the parking utilizing trees and ground cover. The minimum square footage of the landscape area to be provided shall be determined by multiplying by five (5) the lineal street frontage of the parcel of land upon which the parking garage is located, and adding four hundred (400) square feet for each corner of the parcels adjacent to a street.

Article 2 / Section 47-13.20

7. Street trees. Street trees as defined by Section 47-21.2, Landscaping and Tree Preservation, shall be provided as follows:

1) Shade trees shall be provided at least every 40 lineal feet along the area fronting the pedestrian priority street. Palm trees or ornamental trees may be permitted when existing or proposed physical conditions may prevent the proper growth of the shade tree, as determined by the DRC, at least every 20 lineal feet along the frontage. All trees shall satisfy the following standards at the time of planting:

   Shade trees: Minimum 14 feet height and eight foot spread, with minimum six foot ground clearance.
   Palm trees: Minimum18 foot height, with a minimum of eight feet of wood.
   Ornamental trees: Minimum 12 feet in height and six foot spread, with a minimum six foot ground clearance.

2) Root zone and pervious surface areas shall be provided as follows:

   Areca, Carpenteria, Cocothrinax, Phychospermia, Rhapis, Sabal, and Washingtonia: No less than nine square feet of pervious surface area and no dimension less than three feet.
   All other shade or ornamental: No less than sixty-four (64) square feet of pervious surface area and no dimension less than eight feet.
   All other palm types: No less than 25 square feet of pervious surface area and no dimension less than five feet.

   Pervious surface area, for purposes of this requirement, may be provided through open planting beds, tree grates, sand-set pavers, or any combination thereof.

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Filename: 20-162.036 - Landscape Plan.dwg

DESIGN CRITERIA - SITE AND LANDSCAPE CODE PROVISIONS AND DESIGN GUIDELINES

STREETSCAPE DESIGN REQUIREMENTS TABLE - from Ft Lauderdale Downtown Master Plan (Appendix D - Design Requirements)

	Current Standards		Master Plan Standards
	Local	County/State	
ROW (Existing)			
Broward Blvd (Arterial)	85-100ft	100ft[1]	85-100ft
Federal Hwy (Arterial)	100ft	120ft[2]	120ft
Andrews Ave (Arterial)	60-70ft	88ft[3]	70ft
3rd Ave (Arterial/Collector)	70-80ft	80ft[4]	80ft
Local Streets	40-80ft	-	Varies
Number of Travel Lanes			
Broward Blvd (Arterial)	6-Lane & turn; non-designated bike line	?? verify	6 + turn; no bike lane
Federal Hwy (Arterial)	6-Lane& turn	8-lane & turn	6+ turn
Andrews Ave (Arterial)	4-Lane & turn	?? verify	3+ turn + 1 bike lane
3rd Ave (Arterial/Collector)	4-Lane & turn	?? verify	3+ turn + 1 bike lane
Lane Width			
Arterial		12ft[5], 11ft[6]	11ft
Collector		11ft[7]	10ft-6in
Local		10-11ft[8]	10ft
Transportation Design for Livable Communities (TDLC) Projects		11ft & 10ft[9]	10ft
On-Street Parking			
Required Locations	Not required	Not required	Required on all streets except Broward and Federal
City of Fort Lauderdale Standard for Parallel (unclear where it's measured from)	8ft-8in[10]		8ft (art./coll.) 7ft (local)
TDLC Projects		8ft & 7ft[11]	7ft
Bike Lanes			
Next to On-Street Parking		5ft[12]	5ft
Next to Travel Lane		4ft[13]	4ft
Non-Designated Bike Lanes		3ft	3ft
Street Corner			
Turning Radius		35ft[14]	15ft max
Corner Clearance or Sight Triangles (at curb)			

[1] Broward County Planning Council (Feb. 2002), Broward County Trafficways Plan
[2] Broward County Planning Council (Feb. 2002), Broward County Trafficways Plan
[3] Broward County Planning Council (Feb. 2002), Broward County Trafficways Plan
[4] Broward County Planning Council (Feb. 2002), Broward County Trafficways Plan
[5] Note: This is for an Arterial through or travel lane.
Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, pg 2-40
[6] Note: Is permitted on an Arterial given specific conditions.
Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, pg 2-40
[7] Note: For a Collector through or travel lane.
Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, pg 2-40
[8] Florida Department of Transportation (May 2002),Manual of Uniform Minimum Standards for Design, Construction and Maintenance, for Streets and Highways (The Greenbook),pg 3-58
[9] Note: TDLC lane widths are 11ft, and can be reduced to 10ft given conditions.
Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, pg 21-5.
[10] City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-20.11
[11] Note: TDLC parking lanes can be reduced to 7ft (measure from face of curb) in residential areas.
Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, Ch. 21.
[12] Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, Ch 8, pg 8-5 and Ch 21, pg 21.5
[13] Note: Measured from the lip of the gutter i.e. 5.5 ft wide.
Florida Department of Transportation (Jan. 2003),Plans Preparation Manual – Design Criteria and Process, Ch 8, pg 8-5 and Ch 21, pg 21.5
[14] Note: Florida Building Code requires a 35ft min turning radius, and the CRA has been able to use a 20ft-turning radius, however, no information was found on this subject.

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PROJECT INFORMATION

JOINT GOVERNMENT CENTER CAMPUS DCP
FORT LAUDERDALE, FLORIDA

DRAWING TITLE

DESIGN CRITERIA LANDSCAPE PLAN
CODE PROVISIONS & DESIGN GUIDELINES

DESIGNED BY KAS
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DESIGN CRITERIA - SITE AND LANDSCAPE CODE PROVISIONS AND DESIGN GUIDELINES

STREETSCAPE DESIGN REQUIREMENTS TABLE - from Ft Lauderdale Downtown Master Plan (Appendix D - Design Requirements)

	Current Standards		Master Plan Standards
	Local	County/State	
Minor/Minor intersection	25ft[15]		none required
Minor/Major intersection	25ft[16]		none required
Major/Major intersection	25ft[17]		none required
Corner Cords (Utility easement at property line for building setback)			
Minor/Minor Intersection		20ft[18]	None required
Minor/Major intersection		25ft[19]	None required
Major/Major intersection		30ft[20]	None required
Setback (from property line)			
RAC Pedestrian Priority Street	10ft[21] (75% min), 5ft [22] (25% or <)		No longer applicable: See Urban Design Guidelines Street Sections
RAC Image Street	10ft[23], (75% min), 5ft [24] (25% or <)		No longer applicable: See Urban Design Guidelines Street Sections
All other RAC Streets	5ft[25]		5'
New River Corridor (all properties within 100ft of seawall)	60ft[26], (20-45ft [27])		Varies; create Riverwalk Master Plan guidelines
Street Edges (Shoulder)			
Street Trees			
- Tree Spacing	Ped. Priority reg.: Shade- at least 40ft o.c. [28], Palm at least 20ft o.c. [29]		Shade- 30 ft o.c. max. Palm- 22 ft o.c. max.
- Clear Sight (measured from roadway to bottom of tree canopy)	6ft shade & 8ft of wood palm[30]	8ft-6in[31]	6' shade, 8' palm
- Horizontal Clearance if, Caliper > 4in (from face of curb to face of tree trunk)		4ft(new trees) [32], 1.5ft (existing trees or design speed < 25mph) [33]	Min. 3ft ; Max. 5ft (new) 1.5ft (existing trees or design speed < 25mph)
- Frangible Plants/Trees < 4in caliper and > 18in tall		No min distance from curb	No min. dist. from curb
Tree Canopy (face of building to face of tree trunk)			
- Shade Tree		15ft[34]	12ft
- Palm Tree		7.5ft[35]	6ft
Tree placement relative to curb		No requirement	Primary row of street trees adjacent to curb
Low Hedges (measured from roadway to top of hedge)			
- Clear Sight		< 18in[36]	18in max.

[15] Note: Can have a hedge up to 30in measured from crown of roadway within limits of sight triangle.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-19.5
[16] Note: Can have a hedge up to 30in measured from crown of roadway within limits of sight triangle.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-19.5
[17] Note: Can have a hedge up to 30in measured from crown of roadway within limits of sight triangle.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-19.5
[18] Note: This is said to be a County Requirement, and most County requirements refer back to FDOT standards.
[19] Note: This is said to be a County Requirement, and most County requirements refer back to FDOT standards.
[20] Note: This is said to be a County Requirement, and most County requirements refer back to FDOT standards.
[21] Note: 75% of building frontage must be at a 10ft setback.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[22] Note: Other parts of building can be at a 5ft setback.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[23] Note: 75% of building frontage must be at a 10ft setback.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[24] Note: Other parts of building can be at a 5ft setback.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[25] City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[26] City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[27] Note: Depending the condition the setback can be 20ft, 35ft, or 45ft.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[28] Note: This is for roadways within the RAC.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[29] Note: This is for roadways within the RAC.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[30] City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[31] Note: This is from the sight distance at intersections.
Florida Department of Transportation (Jan. 2002). Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 546.
[32] Note: This is for horizontal clearance to trees.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-78
[33] Note: This is the TDLC Horizontal clearance to trees for EXISTING PLANTINGS.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 21-7.
Note: Florida Greenbook it calls for 1.5ft of clear zone on streets with design speeds of 25mph or less. Also if conditions due not permit clear zone can be reduced to 1.5ft, in cases of design speed > 25mh.
Florida Department of Transportation (May 2002), Manual of Uniform Minimum Standards for Design, Construction and Maintenance, for Streets and Highways (The Greenbook) Pg. 3-60.
[34] City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-21.6
[35] City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-21.6
[36] Note: This is from the sight distance at intersections.
Florida Department of Transportation (Jan. 2002). Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 546

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DESIGN CRITERIA - SITE AND LANDSCAPE CODE PROVISIONS AND DESIGN GUIDELINES

STREETSCAPE DESIGN REQUIREMENTS TABLE - from Ft Lauderdale Downtown Master Plan (Appendix D - Design Requirements)

	Current Standards		Master Plan Standards
	Local	County/State	
Curbs (type F)		2ft[37]	18in
Sidewalk Width (min 3ft ADA)	5ft[38]	4-6ft[39], 6ft[40]	5ft min; actual varies
Center Median			
Arterial		12ft[41], 11ft[42], 10ft[43]	No min.
Collector		11ft[44], 10ft[45]	No min.
Local		??	No min.
Trees			
- Horizontal Clearance if, Caliper > 4in (from edge of inside traffic lane where median curb is present, not measured from face of curb)	4ft[46]	6ft (new trees)[47], 3ft (existing trees)[48]	Min. 3ft (new and existing)
- Clear Sight (measured from roadway to bottom of tree canopy)		8ft-6in[49]	8ft-6in
Low Hedges (measured from roadway to top of hedge)		< 18in[50]	18in max
Tree Spacing	Ped. Priority reg.: Shade-at least 40ft o.c.[51], Palm at least 20ft o.c.[52]		Shade-40ft o.c. max. Palm-20ft o.c. max.
Curbs (type F)		2ft[53]	18in
Turning Lane			
Arterial		12ft[54], 11ft[55], 10ft[56]	10ft
Collector		11ft[57], 10ft[58]	10ft
Local			No turn lanes
TDLC Projects		11ft & 10ft[59]	10ft
Stacking Lengths			
- Unsignalized Intersections (for low volume streets and no turning study)		100ft[60]	Encourage reduced stacking lengths (See Urban Design guidelines)
- Signalized Intersections (At signalized intersections, the required queue length depends on the signal cycle length, the signal phasing arrangement, and rate of arrivals and departures of turning vehicles.) Assumes 35mph design speed.		145ft plus queue length[61]	Encourage reduced stacking lengths (See Urban Design guidelines)

[37] Florida Department of Transportation (Jan. 2002). Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System Index 300
[38] Note: This information comes from the Subdivision requirements.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec. 47-24.5
[39] Note: Standard width of a sidewalk should be 5 feet when separated from the back of curb by a buffer strip. A 4 foot sidewalk may be considered when physical constraints exist and where necessary right of way is unavailable or prohibitively expensive. When sidewalks must be constructed adjacent to the curb, the minimum width should be 6 feet.
Florida Department of Transportation (May 2002), Manual of Uniform Minimum Standards for Design, Construction and Maintenance, for Streets and Highways (The Greenbook) Pg. 3-17.
[40] Note: Measured from back of curb (not face).
Florida Department of Transportation (2002) Florida Intersection Design Guide (on Florida State Hwy System)
[41] Note: For medians on an Arterials.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[42] Note: Is permitted for medians on Arterials given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[43] Note: Is permitted for medians on Arterials given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[44] Note: Is for a median on a Collector.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[45] Note: Is for a median on a Collector.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[46] NEED TO VERIFY, SAID TO BE A CITY REQUIREMENT AND MEASURED FROM FACE OF CURB
[47] Note: Is for the horizontal clearance to trees.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-78
[48] Note: This is the TDLC horizontal clearance to trees for EXISTING PLANTINGS.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 21-7
[49] Note: This is from the sight distance at intersections.
Florida Department of Transportation (Jan. 2002). Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System Index 546.
[50] Note: This is from the si ght distance at intersections.
Florida Department of Transportation (Jan. 2002). Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System Index 546.
[51] Note: This is for roadways within the RAC.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[52] Note: This is for roadways within the RAC.
City of Fort Lauderdale (Sept. 2002), Code of Ordnances and Unified Land Development Regulations, Sec 47-13.20
[53] Florida Department of Transportation (Jan. 2002). Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System Index 300
[54] Note: This is for turn lanes on an Arterial.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[55] Note: Is permitted for turning lanes on an Arterial given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[56] Note: Is permitted for turning lanes on an Arterial given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[57] Note: Is permitted for turning lanes on a Collector given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[58] Note: Is permitted for turning lanes on a Collector given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 2-40
[59] Note: TDLC turn lane widths are 11ft, and can be reduced to 10ft given conditions.
Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, pg 21-5
[60] Florida Department of Transportation (Jan. 2003) Plans Preparation Manual – Design Criteria and Process, Sec. 2.13.2
[61] Note: Can almost assume a 1:1 ratio for queuing length, where 10 cars per hour equals 10 feet in length of turning lane queue length.
Florida Department of Transportation (May 2002), Manual of Uniform Minimum Standards for Design, Construction and Maintenance, for Streets and Highways (The Greenbook) Pg. 3-58

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LP - 6
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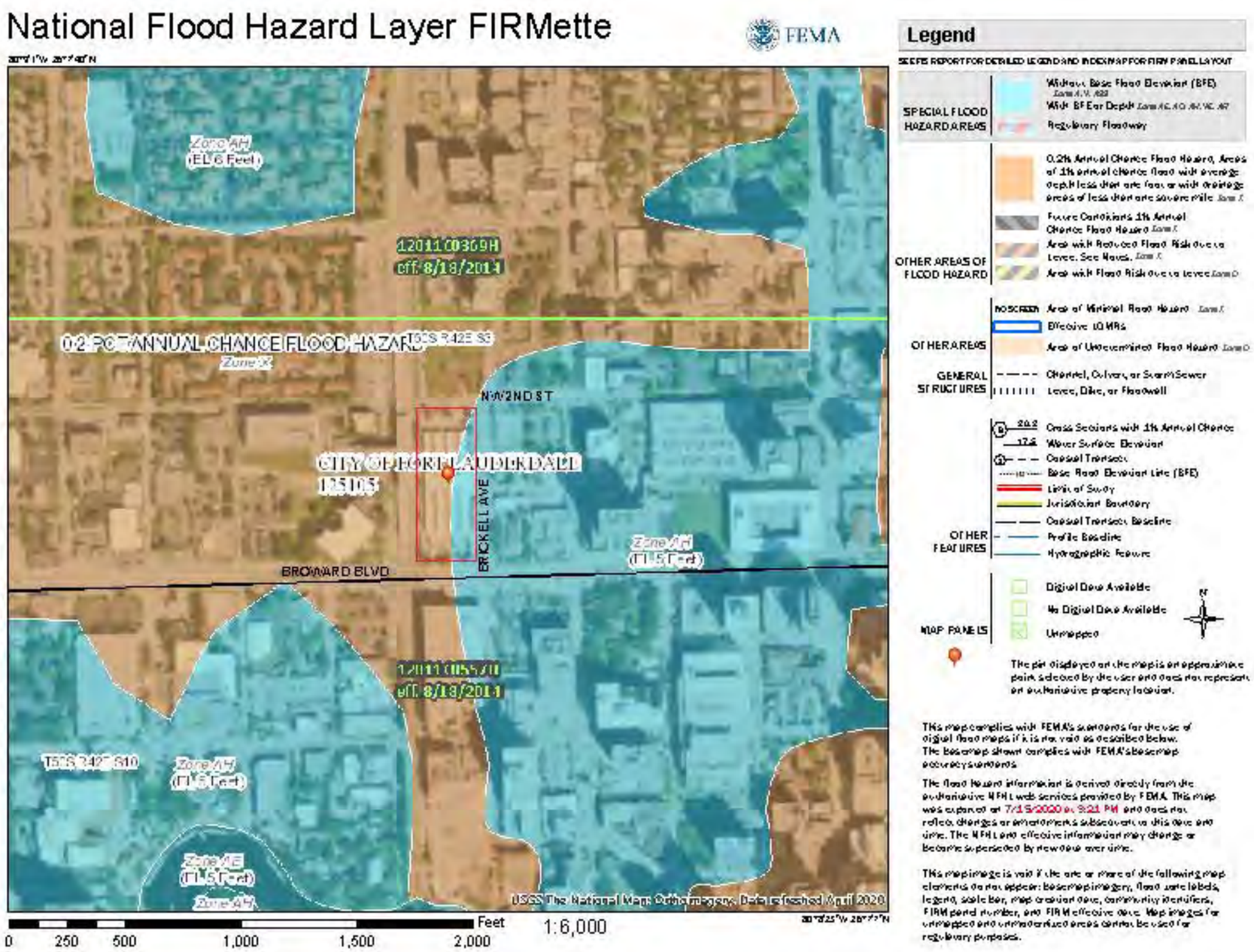
DCP

APPENDIX E1
FEMA

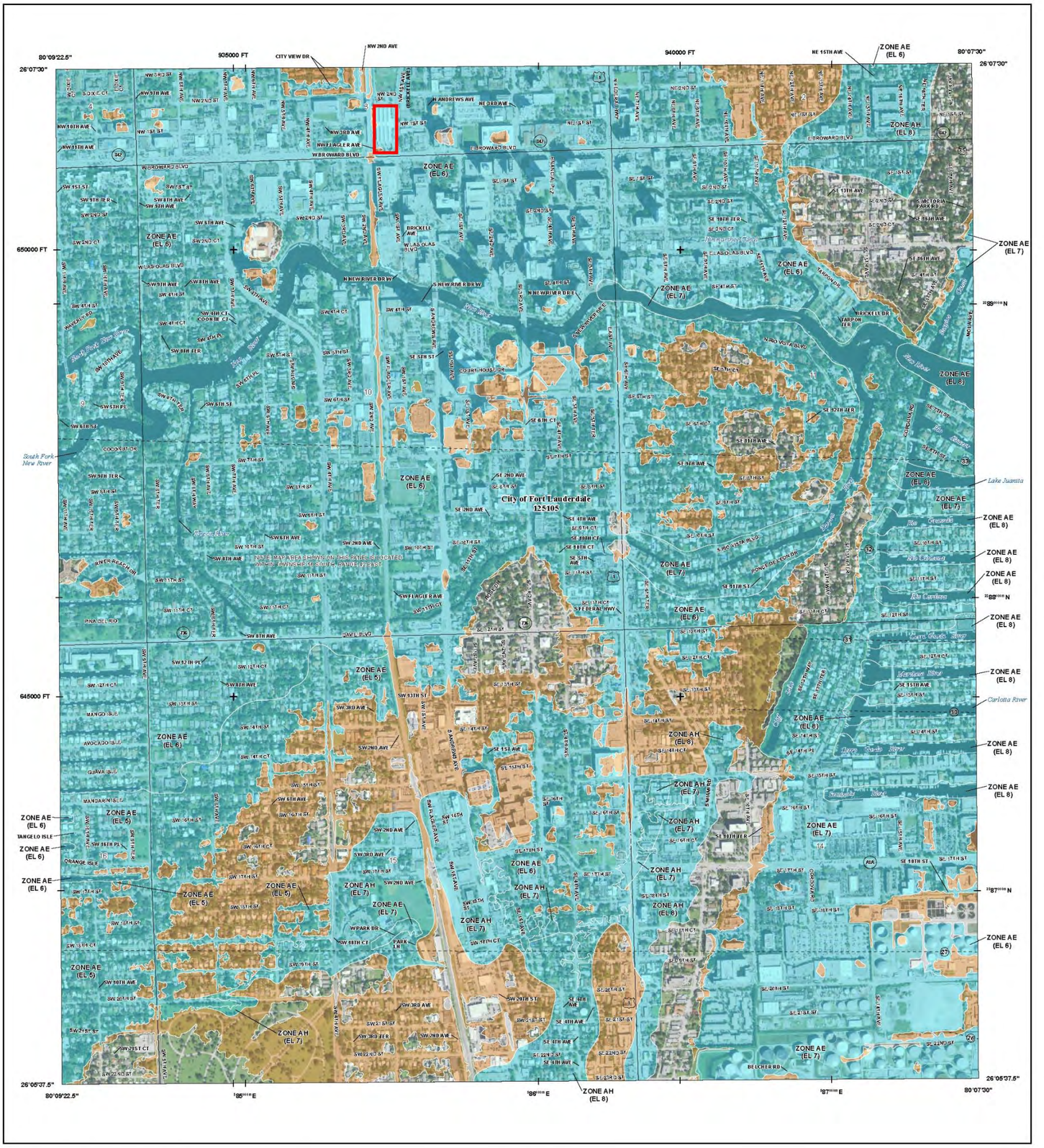
BOOK 3 | SEPTEMBER 14, 2020

FIRMette – Current Map Effective 8/18/2014



Appendix E1 – FEMA

Preliminary Map 12/31/2019



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	E 18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided by Broward County, dated 2003, 2004, 2009, and 2013; the U.S. Census Bureau, dated 2019; and the U.S. Department of Agriculture, dated 2018.

SCALE

Map Projection:
State Plane Transverse Mercator, Florida East Zone 0901H; North American Datum 1983 HARN; Western Hemisphere; Vertical Datum: NAVD 88

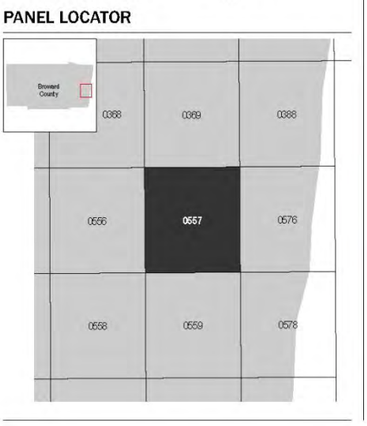
N

1 inch = 500 feet 1:6,000

0 250 500 750 1,000 2,000 feet

0 125 250 500 meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

BROWARD COUNTY, FLORIDA
and Incorporated Areas

PANEL 557 OF 751

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FORT LAUDERDALE, CITY OF	125105	0557	J

PRELIMINARY
12/31/2019

VERSION NUMBER
2.6.3.5

MAP NUMBER
12011C0557J

MAP REVISED

DCP

APPENDIX E2
Utility Coordination

BOOK 3 | JULY 29, 2020

Utility Coordination Summary Matrix

Utility Company Contacted	Utility Company Reply Date	Contact Person	Information Provided
Sprint	N/A	N/A	
City of Ft. Lauderdale	2/24/2020	Alison Cisneros	Utility Atlases
		Engineering Technician II	Appendix N-1
		AlisonC@fortlauderdale.gov	Pages 2 to 5
		954-828-5068	
FDOT/Eland Engineering	2/12/2020	April Rizzo	Email with Notes, Letter & Asbuilts
		ITS Utilities Coordinator	Appendix N-2
		Arizzo@smartsunguide.com	Pages 6 to 11
		954-847-1995	
Broward County Traffic-Fiber Optic	2/13/2020	Robert Blount	Email with Description & Atlas
		Information Systems Manager	Appendix N-3
		Rblount@broward.org	Pages 12 to 14
Centurylink	N/A	N/A	
Fiberdig Team/Crown Castle NG	2/21/2020	Nicholas Belinsky	Atlas
		Utility Coordinator Fiber Records	Appendix N-4
		Nicholas.belinsky@crowncastle.com	Page 15
		724-416-2449	
Hotwire Communications	N/A	N/A	
Resurgence Infrastructure Group, LLC	N/A	N/A	
AT&T/Distribution	N/A	N/A	
Atlantic Broadband	N/A	N/A	
American Traffic Solutions	N/A	N/A	
MCI	N/A	N/A	
Comcast Cable	3/25/2020	Leonard Maxwell-Newbold	Email with description & Sketch
		Regional Permit Manager	Appendix N-5
		Leonard_maxwell-newbol@cable.comcast.com	Pages 16 to 18
		1-754-221-1254	
Teco Peoples Gas-South Florida	2/14/2020	Joan Domning	Email with Atlas & Letter
		Senior Administrative Specialist	Appendix N-6
		Jdomning@tecoenergy.com	Pages 19 to 21
		813-275-3783	
Windstream Communication	N/A	N/A	
FPL	02/25/2020 & 02/28/2020	Joel Bray	Email with description & As-builts
		Joel.Bray@fpl.com	Appendix N-7
			Pages 22 to 29

WATER LEGEND

- Valve
- Meter
- Fire Service
- Air Release Valve Manhole
- Fire Hydrant
- Storage Tank
- Flushing Device
- GPS Captured Halo (Woolpert)
- GPS Captured Halo (City)
- Well
- Plant
- Reducer
- Fitting
- Offset
- Plug
- Detail
- Water Distribution Main
- Raw Water Main
- Abandoned
- Proposed
- Inactive
- Owner Other than City
- Casing Exists

SEWER LEGEND

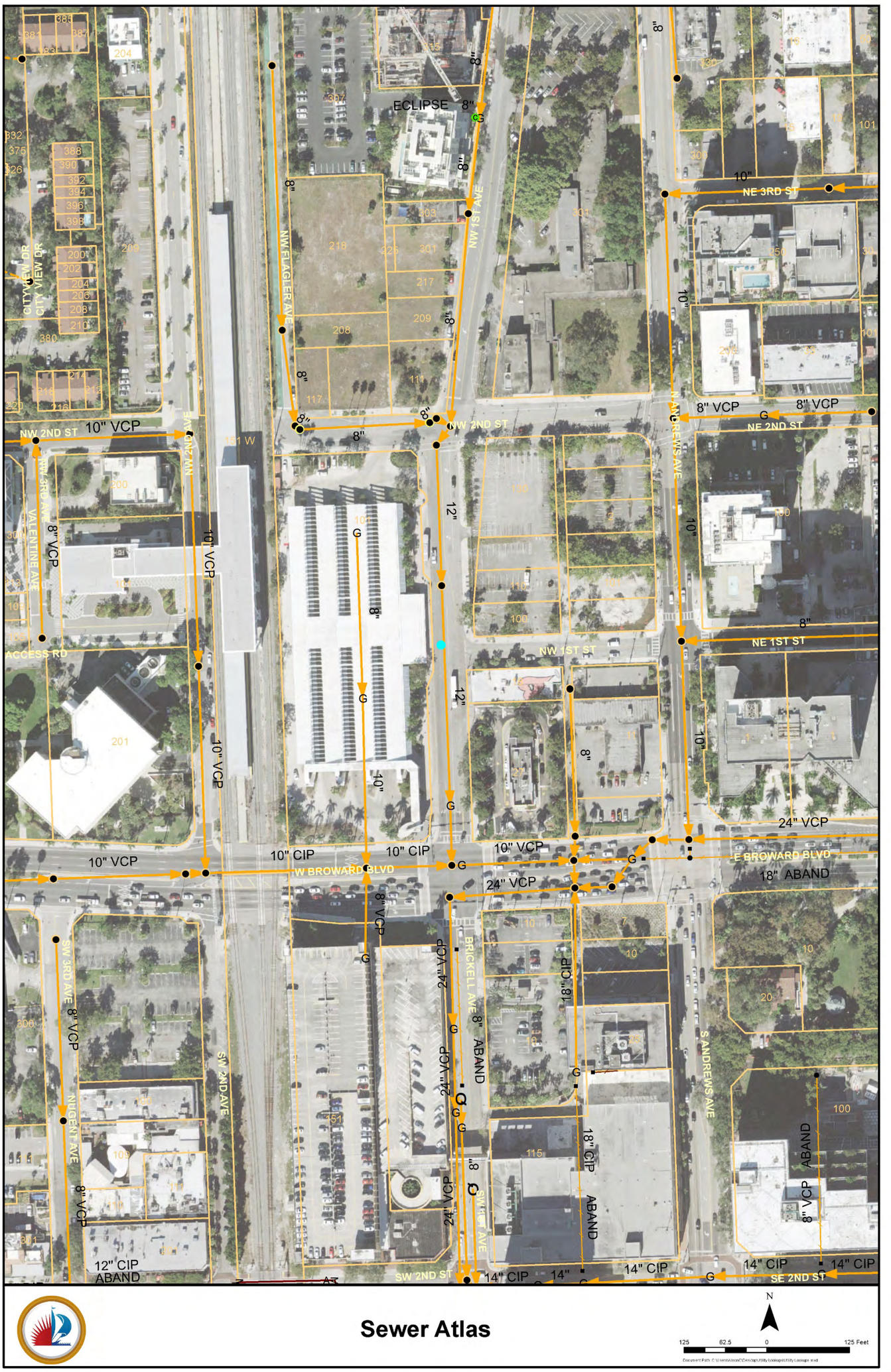
- Valve
- Meter
- Air Release Manhole
- Plant
- Manhole
- Pump Station
- Private Pump Station
- GPS Captured Halo
- Emergency Overflow Point
- Reducer
- Fitting
- Offset
- Plug
- Casing
- Detail
- Well
- Gravity Main
- Force Main/Treated Wastewater Main
- Emergency Overflow Line
- Sludge Line
- Abandoned
- Proposed
- Inactive
- Owner Other than City

STORM LEGEND

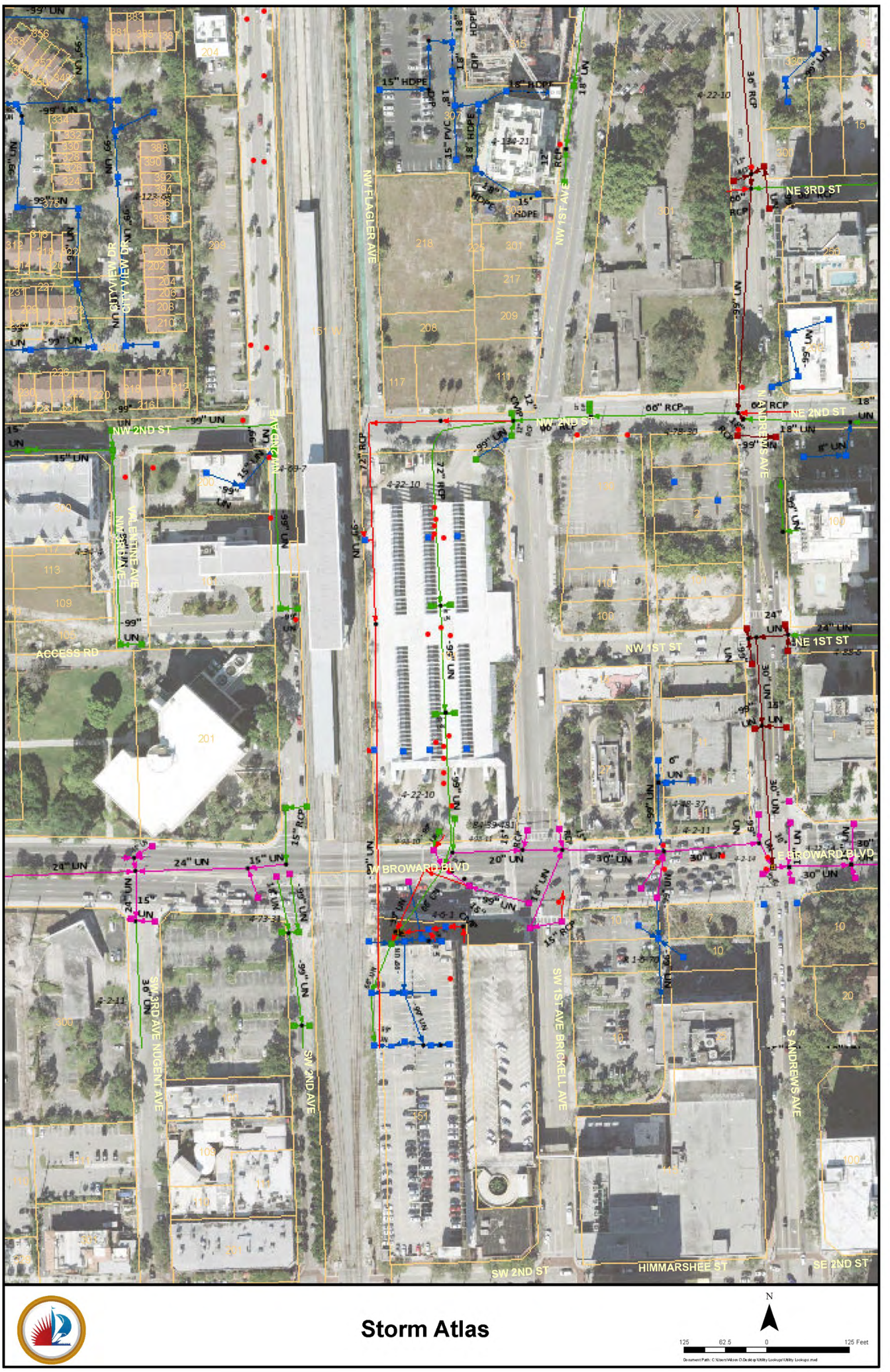
- Inlet (Shaded by Ownership)
- Manhole
- Pump Station
- Outfall
- Junction Box
- Endpoint
- Drainage Well
- Storm Check Valve
- Dry Retention Systems
- GPS Captured Halo (Woolpert)
- GPS Captured Halo (City)
- City Storm Water Line
- County Storm Water Line
- State Storm Water Line
- Private Storm Water Line
- Perforated Pipe (Shaded By Ownership)
- Abandoned

E2-1 | 2 OF 4 City of Fort Lauderdale Utility Coordination Response - Water, Sewer, and Drainage Atlases

E2-1 | 3 OF 4 City of Fort Lauderdale Utility Coordination Response - Water, Sewer, and Drainage Atlases



E2-1 | 4 OF 4 City of Fort Lauderdale Utility Coordination Response - Water, Sewer, and Drainage Atlases



E2-2 | 1 OF 5 Florida Department of Transportation (FDOT) Intelligent Traffic Systems (ITS) Utility Coordination Response – Letter, Email, and As-Built Plans

ELAND

February 12, 2020

Cordova Rodriguez & Associates, Inc.
6941 SW 196th Ave
Suite 28
Pembroke Pines, FL 33332

Attention: Rosana Cordova

RE: UTILITY INTERFERENCE – FLORIDA STATUTES CHAPTER 337.403

State Road No.:	**SR-842**
FM No.:	44147415201
F.A.P. No.:	
County(s):	Broward
Description:	Joint Government Center Campus Project Broward County Central Bus Terminal 101 NW 1st Ave, Ft. Lauderdale, FL 33311 CRA Project No. 20-221.01

Dear Rosana:

In response to your mail of pending construction work, Eland Engineering, Inc. and F.D.O.T have reviewed your letter and found your work to be a possible conflict along the FDOT Fiber Optic Duct Bank.

Enclosed, please find the as-builds showing the location of the fiber optic communications cable and ITS Devices for the FDOT Intelligent Transportation System.

Should you need any additional information, please contact our office at (954) 847-1995.

Sincerely,

The Florida Department of Transportation

Eland Engineering, Inc.

April Rizzo

April Rizzo
ITS Utility Coordinator

CC: Chris Beaudry
ATMS Maintenance Supervisor

3323 W. Commercial Blvd, Ft. Lauderdale, FL 33309
www.elandeng.com
Phone: (954) 678-3999

Gina Knoppel

Subject: FW: Joint Government Center Campus Project
Attachments: Please see attached and below.pdf; Broward Blvd As Builts.pdf; Conflict.pdf

From: April Rizzo <arizzo@smartsunguide.com>
Sent: Wednesday, February 12, 2020 2:35 PM
To: Rosana D Cordova <rcordova@craengineering.com>
Cc: Chris Beaudry <cbeaudry@smartsunguide.com>
Subject: Joint Government Center Campus Project

Good afternoon Rosana. We received your request for as-builts for the above referenced project.

Please see attached and below. Please ensure that the below is included in your plans and/or general notes and are provided to contractor performing the work. This will be enforced if any of our infrastructure is impacted/damaged during the construction.

1. Preservation of Property (ITS):

Protect all ITS and related components from damage causing failure or disruption of normal operation.

Intelligent Transportation System Component Failures and disruption of normal operation include, but are not limited to the following:

Telecommunications - This item entails the failure, partial failure, or cutting of any telecommunications including but not limited to fiber optic cable, composite cable, or data lines that brings down the system in whole or any part of the system or its functions that include communication between the Master Hubs. Telecommunications failure also includes causing a system to fail over to a redundant path or the removal of a redundant path without written permission from the Engineer.

Camera System - This is to include the loss of Video or Pan, Tilt or Zoom from a specific camera site. This also includes any change in the height, angle, or location of the support structure of the camera caused by the contractor.

Vehicle Detection System - This includes the loss of correct data flow from the field device to the Department's Software system located in the Regional Traffic Management Center (RTMC). This includes data for all lanes of travel. If a temporary detection system is used it shall maintain all standards that the existing system is currently using.

Dynamic Message System (DMS) - This entails the failure or partial failure for a Dynamic Message Sign. This is to include the inability to send or receive data to a DMS and or the inability for the Operator at the RTMC to

1

display, blank, change, or verify a message sent to the sign. Variable Speed Limit Signs (VSL) are also considered DMS.

Power Systems – This includes the complete or partial failure of power to all systems including but not limited to cameras, vehicle detection systems, and dynamic message signs.

Table 1
Allowable Down Time

Item	Allowable Time
Telecommunications	4 hours
Camera System	48 hours
Vehicle Detection System	48 hours
Dynamic Message System	48 hours
Power Systems	4 hours

2. Repair or Replacement of Existing ITS:

The Contractor shall repair or replace any damage to the existing communications equipment (fiber optic cable, conduit, pull boxes, splice vaults, cabinets, hubs, etc.). Damaged fiber optic cable may be temporarily fusion spliced within the allowable time in Table 1 to restore the communications; however, the Contractor shall replace any damaged fiber optic cable from termination point to termination point with the same type of cable within 90 days of the initial damage. At the sole discretion of the Department, the Department may facilitate the repair or replacement of any device or infrastructure utilizing the Departments ITS Maintenance contract.

3. ITS Repair Plan:

Submit an ITS repair plan to Department. The plan shall outline the procedures, resources and points of contact for a step-by-step guideline in the event the Contractor damages the ITS infrastructure.

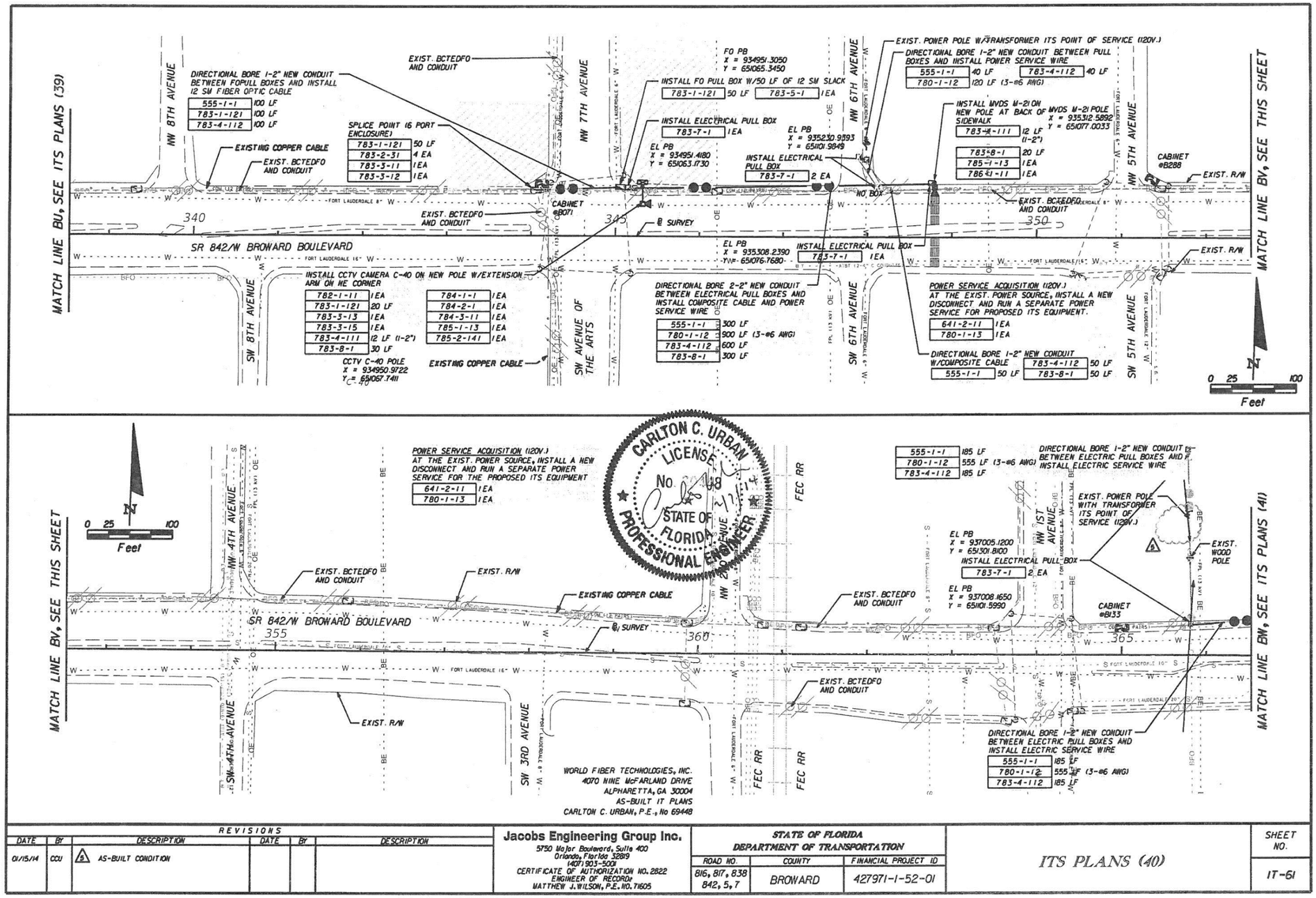
Provide detailed plans to the Department which show how damage to any ITS facility will be remedied, when required. These details will become part of the as-built plans package. Remediation plans must follow the same guidelines for development and presentation of the as-built plans. They must be approved by the Department before any remediation work proceeds.

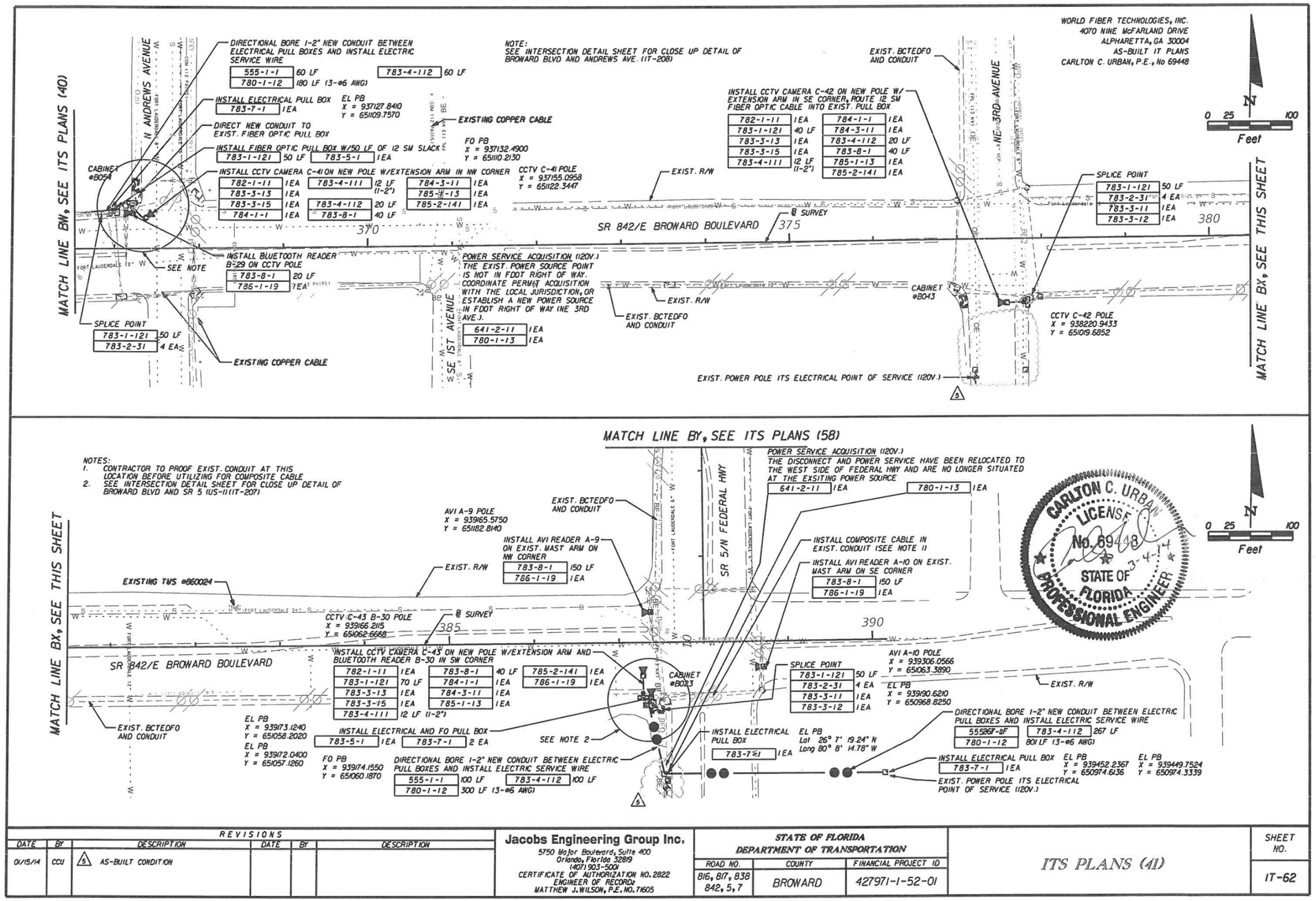
Thank you,

April Rizzo
ITS Utilities Coordinator
Eland Engineering, Inc. / FDOT
3323 W Commercial Blvd.
Fort Lauderdale, FL 33309
954-847-1995

2

E2-2 | 3 OF 5 Florida Department of Transportation (FDOT) Intelligent Traffic Systems (ITS) Utility Coordination Response – Letter, Email, and As-Built Plans





REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01/15/14	CCU	5 AS-BUILT CONDITION			

Jacobs Engineering Group Inc.
5750 Major Boulevard, Suite 400
Orlando, Florida 32819
(407) 903-5001
CERTIFICATE OF AUTHORIZATION NO. 2822
ENGINEER OF RECORD:
MATTHEW J. WILSON, P.E. NO. 71605

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
816, 817, 838 842, 5, 7	BROWARD	427971-1-52-01

ITS PLANS (41)

SHEET NO. IT-62

WORLD FIBER TECHNOLOGIES, INC.
4070 NINE McFARLAND DRIVE
ALPHARETTA, GA 30004
AS-BUILT IT PLANS
CARLTON C. URBAN, P.E., No 69448

Crew	Steve & Neil		Directional Bore Log	BIG	
Contractor	Coastal Drilling	Site	IT plans	IT Sheet	
Date	21-Mar-13	Ring 5	41	62	

	Start	End	Length	Amount	size
	387+55	387+35	35'	3	2"

	Depth	Offset	Elv.		Depth	Offset	Elv.		Depth	Offset	ELV.		Depth	Offset	Elv.		
0				200				400				600					
10	2'6"	10'2"		210				410				610					
20	2'6"	11'8"		220				420				620					
30	2'9"	13'4"		230				430				630					
40	2'7"	15'4"		240				440				640					
50	2'8"	20'8"		250				450				650					
60	2'6"	19'3"		260				460				660					
70	2'8"	20'7"		270				470				670					
80	2'8"	20'5"		280				480				680					
90	2'6"	24'8"		290				490				690					
100	2'6"	23'7"		300				500				700					
110				310				510				710					
120				320				520				720					
130				330				530				730					
140				340				540				740					
150				350				550				750					
160				360				560				760					
170				370				570				770					
180				380				580				780					
190				390				590				790					

The bore was a lateral from 105' south of the SW corner of Broward Blvd & US 1 boring NB back to the corner.

Crew	Steve, Neil, Cody & Ron		Directional Bore Log	BIG	
Contractor	Coastal Drilling	Site	IT plans	IT Sheet	
Date	18-Mar-13	Ring 5	41	62	

	Start	End	Length	Amount	size
	390+20	387+55	265'	1	2"

	Depth	Offset	Elv.		Depth	Offset	Elv.		Depth	Offset	ELV.		Depth	Offset	Elv.		
0				200	10'	Roadway		400				600					
10	4'10	Driveway		210	10'9"	Roadway		410				610					
20	8'	Driveway		220	9'9"	Roadway		420				620					
30	10'	Driveway		230	8'2"	Roadway		430				630					
40	12'6"	Driveway		240	7'10"	Roadway		440				640					
50	15'5"	Driveway		250	5'9"	Roadway		450				650					
60	16'	Driveway		260	4'10"	10'		460				660					
70	15'9"	Driveway		270				470				670					
80	15'7"	Driveway		280				480				680					
90	15'3"	Driveway		290				490				690					
100	14'10"	Driveway		300				500				700					
110	13'10"	Driveway		310				510				710					
120	12'	Driveway		320				520				720					
130	11'3"	Driveway		330				530				730					
140	10'9"	Driveway		340				540				740					
150	10'7"	Driveway		350				550				750					
160	10'10"	Roadway		360				560				760					
170	10'7"	Roadway		370				570				770					
180	10'	Roadway		380				580				780					
190	10'2"	Roadway		390				590				790					

The bore started from 160' east of the SE corner of Broward Blvd & Federal Hwy. and 127' south of Broward Blvd. The crew bored WB for 265' and the first 180' of the bore was in the alleyway.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Jacobs Engineering Group Inc.
5750 Major Boulevard, Suite 400
Orlando, Florida 32819
(407) 903-5001
CERTIFICATE OF AUTHORIZATION NO. 2822
ENGINEER OF RECORD:
MATTHEW J. WILSON, P.E. NO. 71605

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
816, 817, 838 842, 5, 7	BROWARD	427971-1-52-01

ITS PLANS (41)

SHEET NO.
IT-62A

E2-3 | 1 OF 2 Broward County Traffic Engineering Department (BCTED) Utility Coordination Response - Email with Description and Atlas

Gina Knoppel

Subject: FW: Joint Gov Center Campus Proj - CRA Proj# 20-221.01

From: Blount, Robert <RBLOUNT@broward.org>
Sent: Thursday, February 13, 2020 11:27 AM
To: Rosana D Cordova <rcordova@craengineering.com>
Cc: Blount, Robert <RBLOUNT@broward.org>
Subject: Joint Gov Center Campus Proj - CRA Proj# 20-221.01

Rosana,

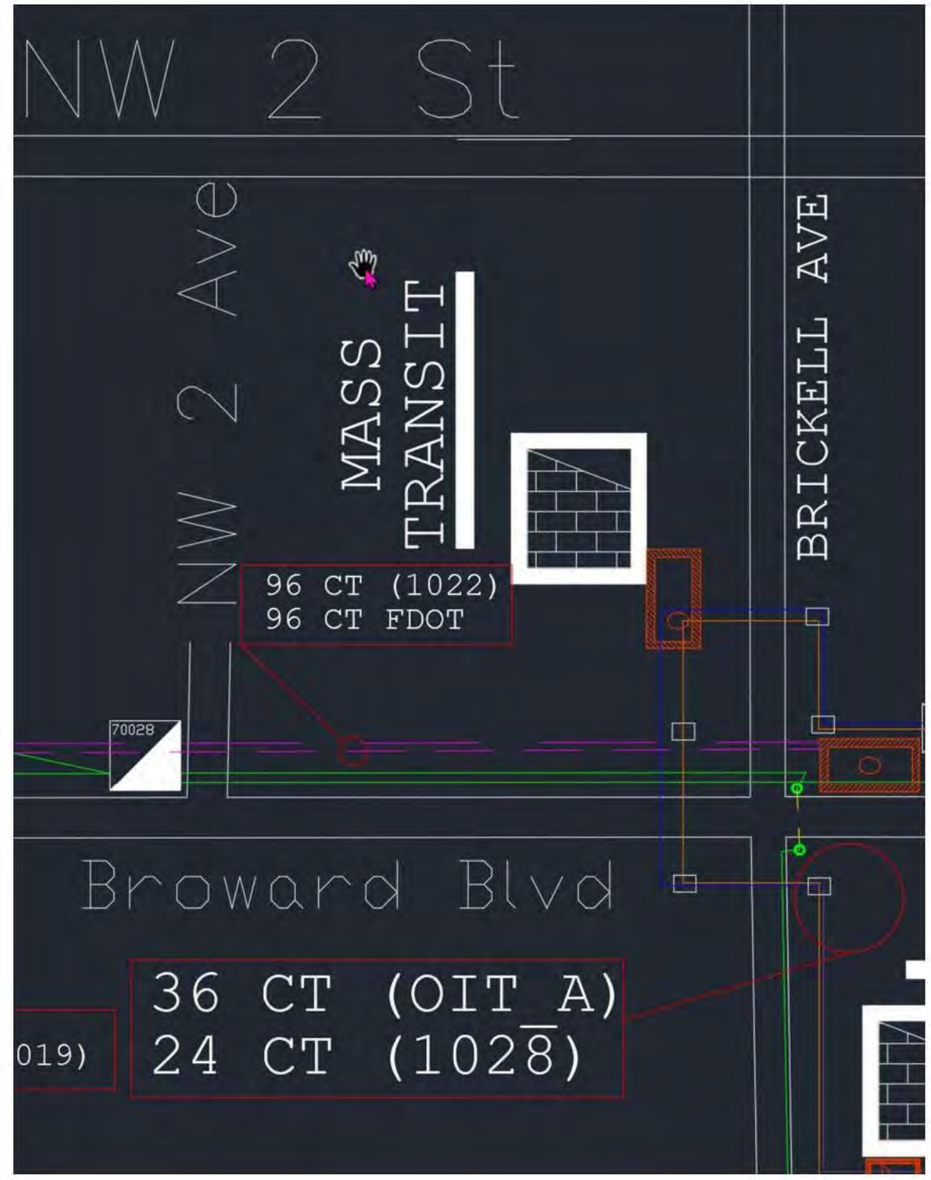
Below is a section of the County's communications map showing the project area. The County and FDOT both have fiber (magenta lines) communications cables on Broward Blvd. The County also has fiber (blue and orange lines) communications cables on Brickell Ave.

Legend

Broward County and FDOT
Fiber communication cables

Broward County
Fiber communication cables

1



2

E2-3 | 2 OF 2 Broward County Traffic Engineering Department (BCTED) Utility Coordination Response - Email with Description and Atlas

Regards
Bob Blount
Information Systems Manager
Broward County Traffic Eng. Div.
Mon – Fri, 8:30am – 5pm
rblount@broward.org

Under Florida law, most e-mail messages to or from Broward County employees or officials are public records, available to any person upon request, absent an exemption. Therefore, any e-mail message to or from the County, inclusive of e-mail addresses contained therein, may be subject to public disclosure.

3

E2-4 | 1 OF 1 Crown Castle Utility Coordination Response - Atlas

CROWN CASTLE UTILITY REQUEST

Crown Castle Utilities *ARE* present at this location

Request Number: 0005718

FIBER DIG SERVICES

1500 Corporate Dr., Canonsburg, PA 15317

1-888-632-0931 Option 2

Fiber.dig@CrownCastle.com

CROWN CASTLE COLOR KEY

- UNDERGROUND CONDUIT
- AERIAL FIBER
- UNDERGROUND FIBER

CROWN CASTLE

E2-5 | 1 OF 2 Comcast Cable Utility Coordination Response - Email and Sketch

Rosana D Cordova

From: Sabrina Lopez <slopez@prgconsulting.net>
Sent: Wednesday, March 25, 2020 5:43 PM
To: Rosana D Cordova
Cc: leonard_maxwell-newbold@cable.comcast.com; Don Batura; Ricardo Davidson
Subject: Mark Up- TNMU (00973) 037001307- 20-221.01- 101 NW 1 Ave, Ft Lauderdale
Attachments: CC MR 1873_001.pdf

Good afternoon Mrs. Cordova

Attached is a copy of the markups you requested. Comcast has aerial facilities located along this project route.

Please use these markups for any future meetings and/or discussions regarding your involvement.

Let me know if you have any questions or concerns.

Thank You,

COMCAST

Leonard Maxwell-Newbold
Tech 3 Network Engineering / Regional Permit Manager
2601 SW 145th Avenue Miramar, Florida 33027
1-754-221-1254 office number / 1-954-444-5113 mobile number
Leonard_maxwell-newbold@cable.comcast.com

From: Sabrina Lopez <slopez@prgconsulting.net>
Sent: Thursday, March 19, 2020 1:14 PM
Cc: leonard_maxwell-newbold@cable.comcast.com
Subject: H TNMU (00973) 20-221.01- 101 NW 1 Ave, Ft Lauderdale

Mark-Up Request of Comcast Existing Facilities_3/19/2020

We're in receipt of your request for the location of our existing facilities within the scope of your project.

1

We will proceed with a mark-up of our existing plant, based on our current design.

Please allow (2) weeks to respond.

Based on the results of the mark-up:

If there're no conflicts a letter of no objection will be provided.

If a conflict is discovered that may result in the relocation and or the removal of our facilities, additional coordination will be required with the **Comcast Area Construction Coordinator..**

Please feel free to contact me should you have any additional questions or concerns.

COMCAST

Leonard Maxwell-Newbold
Tech 3 Network Engineering / Regional Permit Manager
2601 SW 145th Avenue Miramar, Florida 33027
1-754-221-1254 office number / 1-954-444-5113 mobile number
Leonard_maxwell-newbold@cable.comcast.com

2

E2-5 | 2 OF 2 Comcast Cable Utility Coordination Response - Email and Sketch

CHEN·MOORE &ASSOCIATES

Project Location Map
Joint Government Center Complex
101 NW 1st Avenue
Fort Lauderdale, Florida

E2-6 | 1 OF 2 Teco Peoples Gas-South Florida Utility Coordination Response - Email and Atlas

Gina Knoppel

Subject: FW: Sunshine Ticket #037001307
Attachments: image001.emz; 01-Broward.doc

From: Domning, Joan <JDomning@tecoenergy.com>
Sent: Friday, February 14, 2020 11:07 AM
To: Rosana D Cordova <rcordova@craengineering.com>
Subject: Sunshine Ticket #037001307

Please see the attached document and map below.
Thank you,

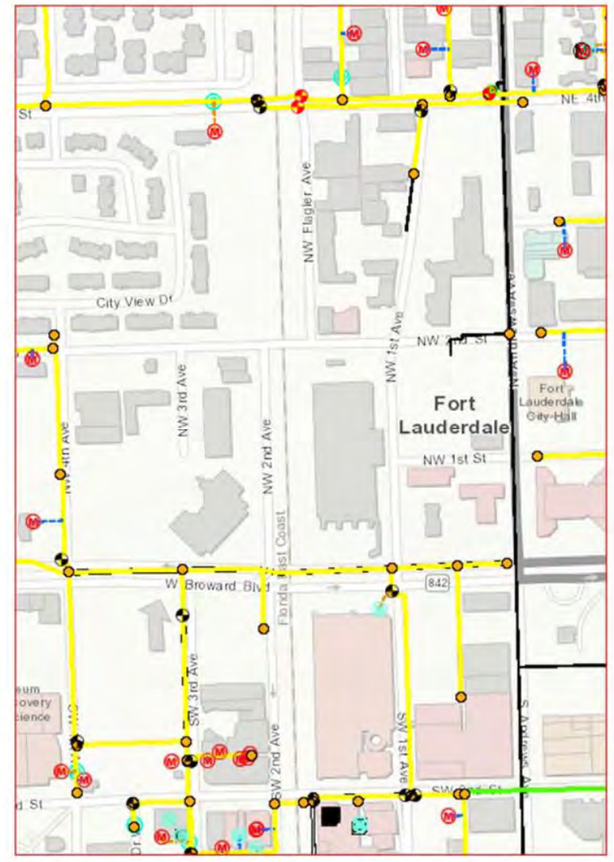
Joan Domning
Senior Administrative Specialist
Peoples Gas
Distribution Engineering
8416 Palm River Road
Tampa, FL 33619
Office: 813-275-3783
Ext. 53783

TECO PEOPLES GAS
AN EMERA COMPANY

811 Know what's below. Call before you dig.
IT'S THE LAW

This map is provided for convenience purpose only and is not intended to be used for detail locations.

1



NOTICE: This email is intended only for the individual(s) to whom it is addressed and may contain confidential information. If you have received this email by mistake, please notify the sender immediately, delete this email from your system and do not copy or disclose it to anyone else. Although we take precautions to protect against viruses, we advise you to take your own precautions to protect against viruses as we accept no liability for any which remain.

2

E2-6 | 2 OF 2 Teco Peoples Gas-South Florida Utility Coordination Response - Email and Atlas

TECO PEOPLES GAS
AN EMERA COMPANY

Date: March 30, 2020

( ) Peoples Gas System, Inc. has no gas mains or services within the referenced area.

( ) We are returning your prints marked with Peoples Gas System, Inc. gas mains or services within the referenced area.

THE ATTACHED DRAWINGS ARE PROVIDED SUBJECT TO RESTRICTIONS AND LIMITATIONS.

(X) We are returning a print of Peoples Gas System, Inc. gas main or services within the referenced area.

( ) Please furnish final construction plans for this job and include Peoples Gas System, Inc. in the pre-design and pre-construction meeting(s).

(X) For further information please call: David Rivera, Gas Design Department at (954) 453-0794

( ) Remarks:

NOTE: If a map is provided with this letter the following applies: The map is provided for convenience purpose only and is not intended to be used for detailed locations. No warranty or guaranty expressed or implied, is made as to completeness, accuracy or fitness for a particular purpose. Use of this map is at the risk of the recipient who assumes full responsibility therefor.

Please call 811, two full business days prior to construction to have the locations of the facilities field verified

811 Know what's below. Call before you dig.

IT'S THE LAW

E2-7 | 1 OF 7 Florida Power and Light (FPL) Utility Coordination Response – Email, Atlases, and As-Built Plans

Gina Knoppel

From: Bray, Joel <Joel.Bray@fpl.com>
Sent: Tuesday, February 25, 2020 11:06 AM
To: Gina Knoppel
Subject: RE: Ticket No. 037001307
Attachments: _13C2V28.pdf; _w-0320.pdf; _w-0321.pdf; _13C2A17.pdf

Pursuant to your request, enclosed please find the responsive prints. As stated on the documents, before performing any digging or similar work, it is imperative that you comply with Chapter 556. Prior to any design or construction in the vicinity of any utilities shown hereon, it is required that the locations be field verified. The locations shown hereon are only approximate and there is the possibility that additional utility lines could exist.

FPL makes no warranty of any kind, express or implied, with respect to these drawings and specifically makes no warranty that said drawings shall be marketable or fit for any particular purpose. FPL believes that the information contained herein is reliable and generally accurate for the purpose intended.

Please note that only underground prints will be forwarded regarding a design ticket request.

I cannot provide map details/legends and/or other requests such as service availability letters, utility size and capacities, mark up requests, or utility coordination. For those requests, please refer to https://partner.fpl.com/construction.html scroll down to the map and enter the address of the project and the local construction/engineering office information will appear.

From: Gina Knoppel <gknoppel@craengineering.com>
Sent: Monday, February 10, 2020 2:55 PM
To: Bray, Joel <Joel.Bray@fpl.com>
Cc: Luis Rodriguez <lrodriguez@craengineering.com>; Rosana D Cordova <rcordova@craengineering.com>
Subject: Ticket No. 037001307

CAUTION - EXTERNAL EMAIL

Good Afternoon:

Re: Joint Government Center Campus Project
Broward County Central Bus Terminal
101 N.W. 1st Avenue, Ft. Lauderdale, FL 33311
CRA Project No. 20-221.01

This is a request for a design ticket for the above referenced project. We are in the process of preparing a due diligence investigation for utilities research associated with the Joint Government Center Campus Project. The site area is shown on the attached sketch and location map. Please provide us with as-built and/or record drawing information for any facilities you may have in this area.

1

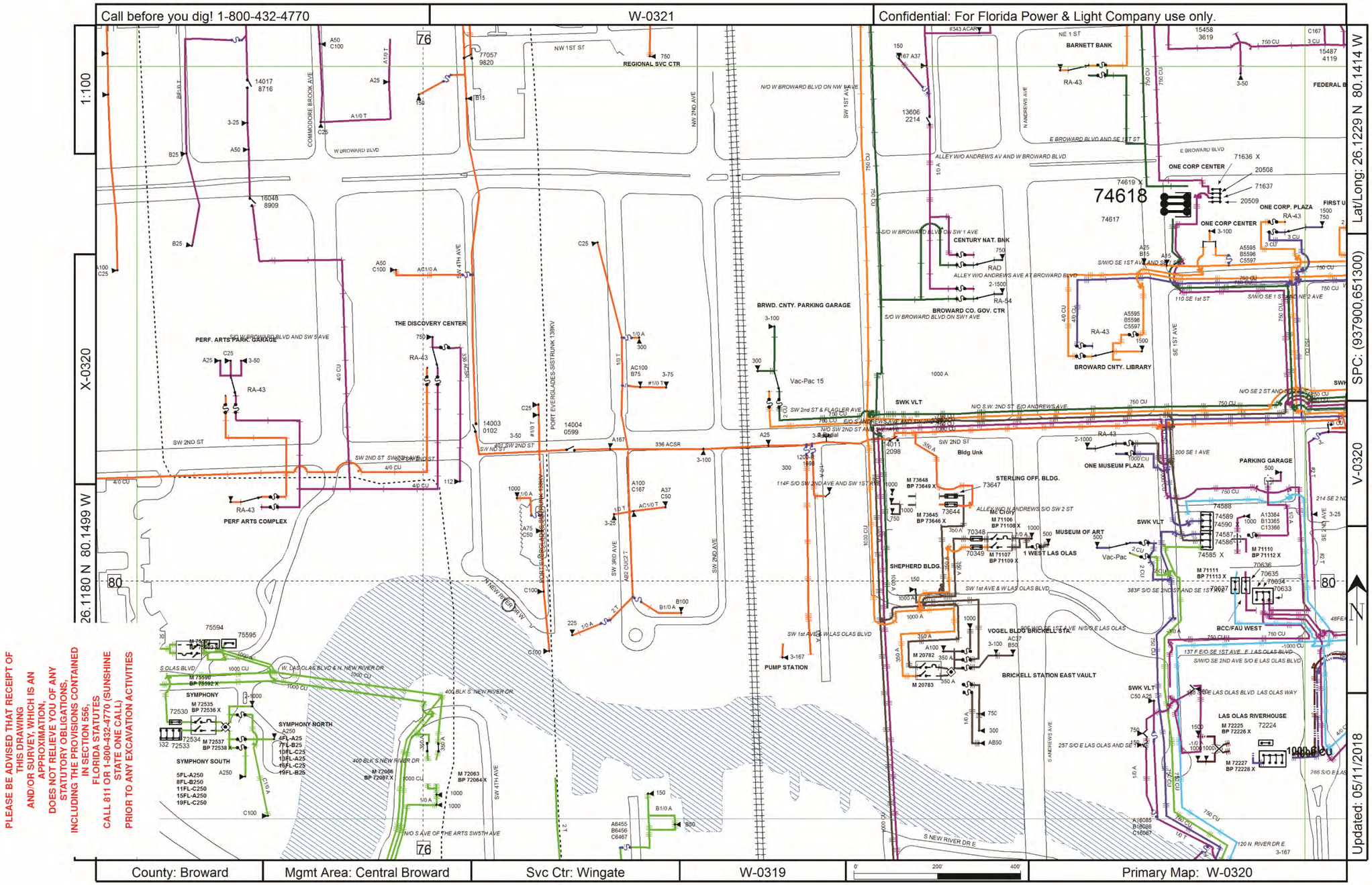
Should you have any questions or require additional information, please do not hesitate to call Rosana at (954) 880-0180 or email her at RCordova@craengineering.com.

Thank you.

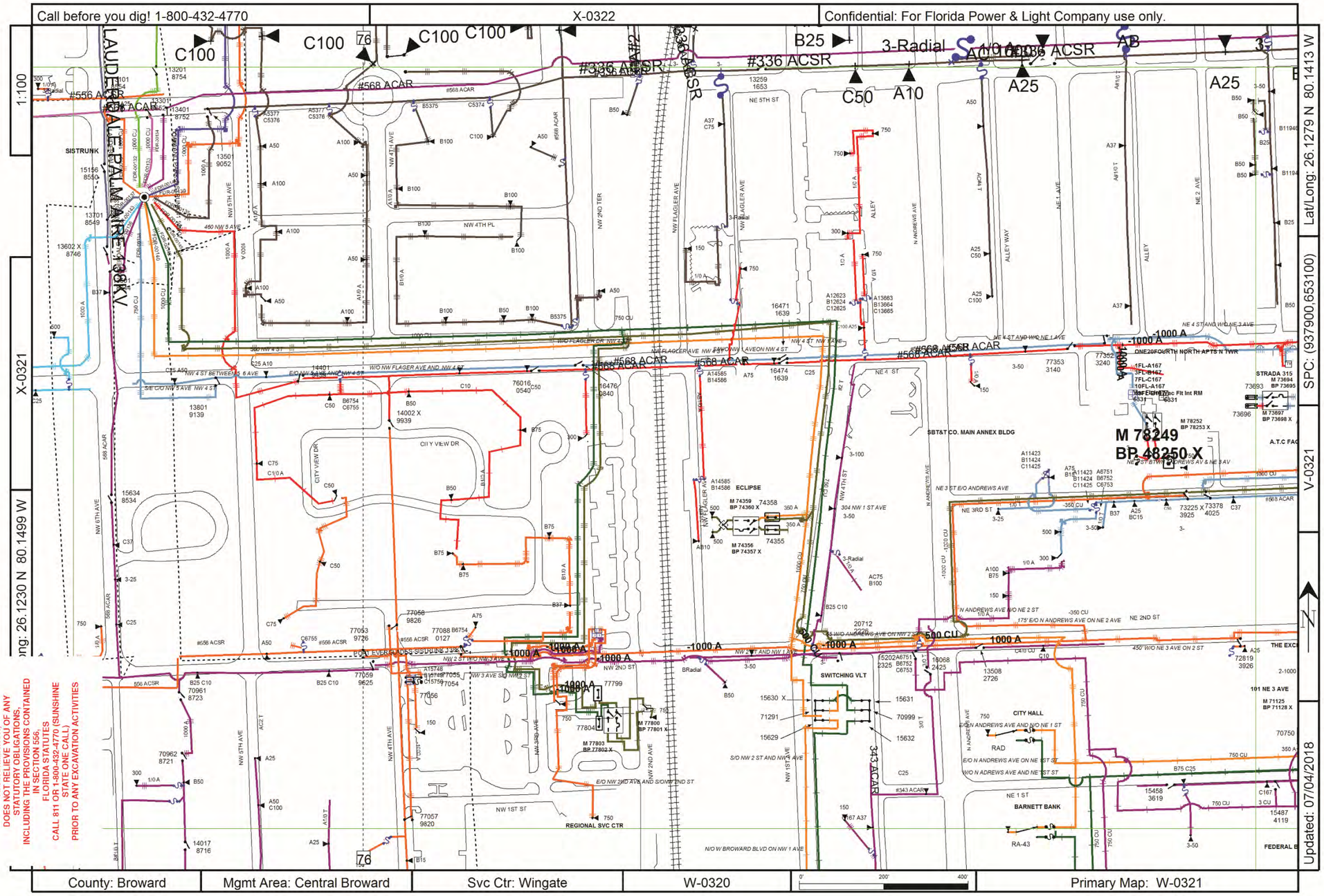
Gina Knoppel
Cordova Rodriguez & Associates, Inc.
BROWARD
6941 SW 196th Avenue, Suite. 28
Pembroke Pines, FL 33332
T 954.880.0180
F 954.880.0181
MIAMI
1031 Ives dairy Road, Suite 228
Miami FL 33179
T 786.287.2530
F 866.682.8126
www.CRAengineering.com
Follow us on:

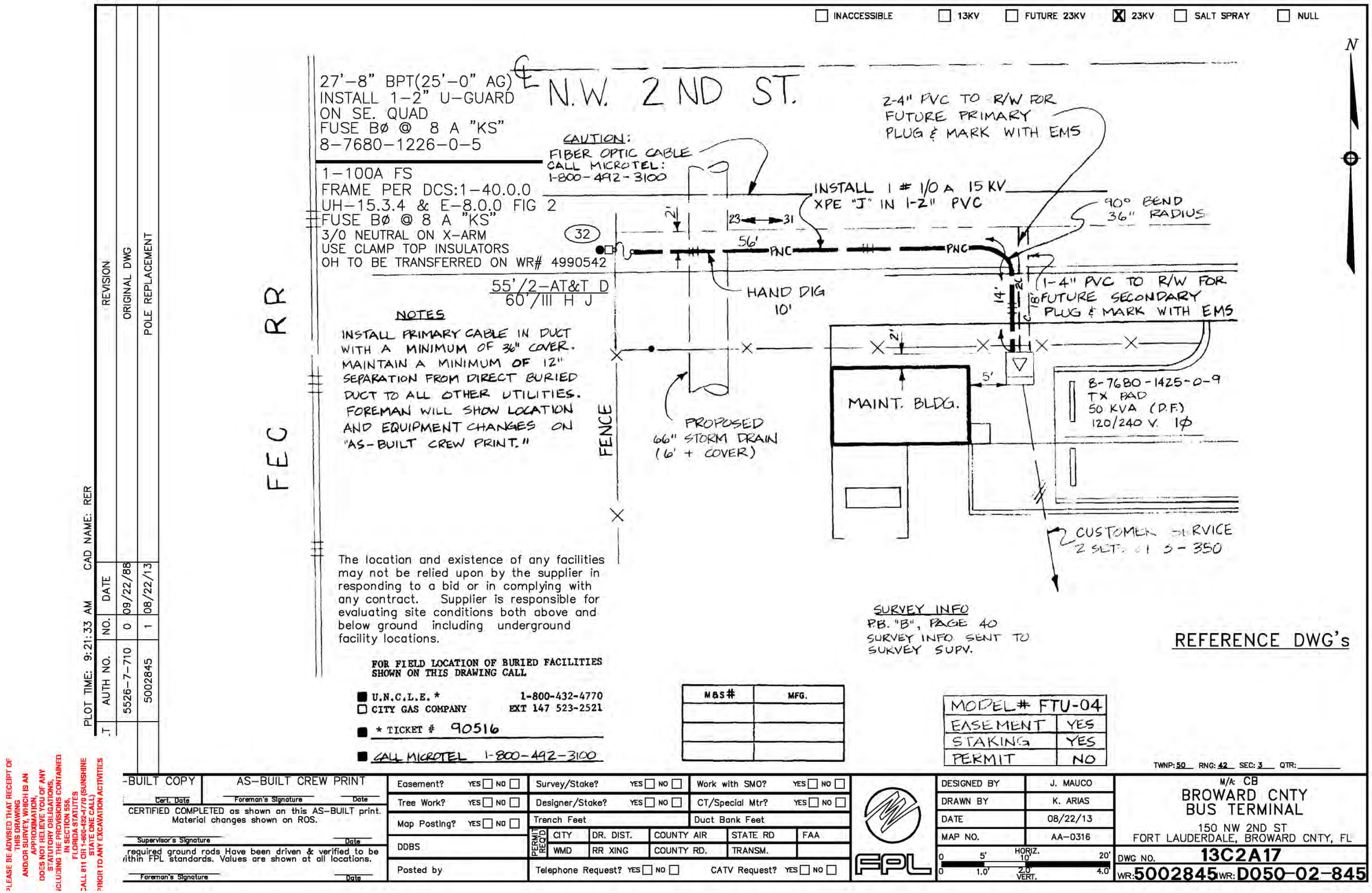
2

E2-7 | 2 OF 7 Florida Power and Light (FPL) Utility Coordination Response – Email, Atlases, and As-Built Plans

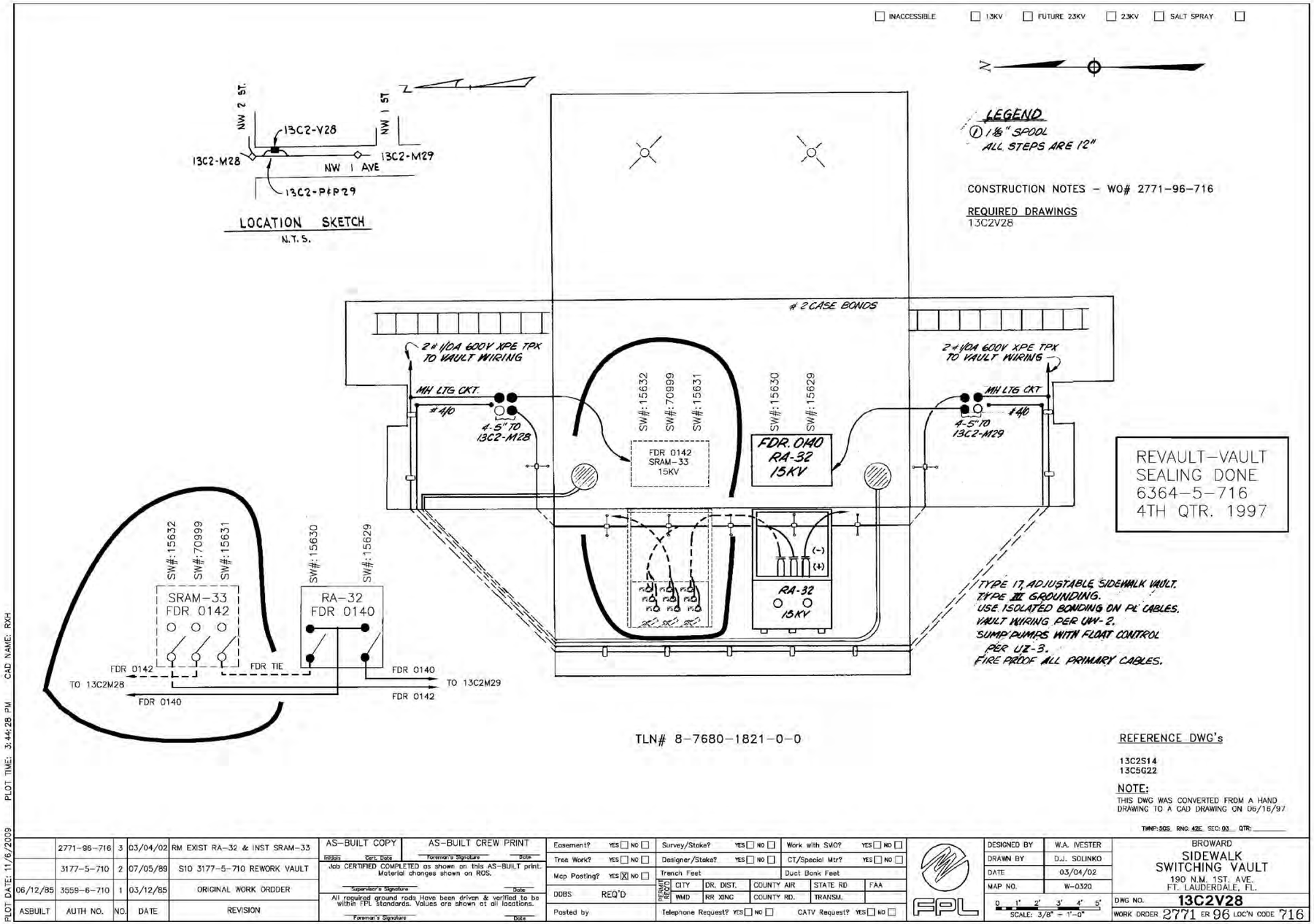


E2-7 | 3 OF 7 Florida Power and Light (FPL) Utility Coordination Response – Email, Atlases, and As-Built Plans

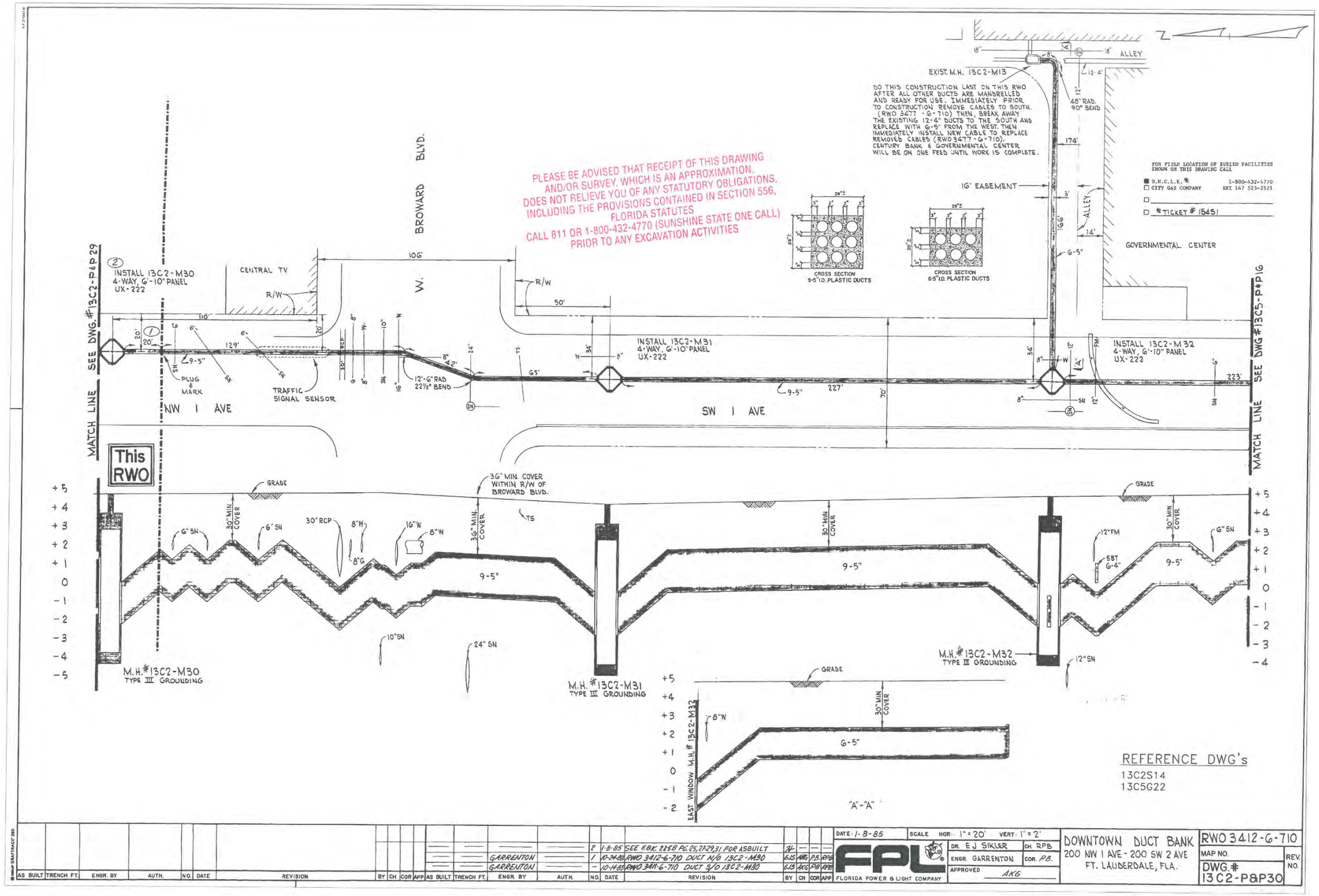



INACCESSIBLE
13KV
FUTURE 23KV
23KV
SALT SPRAY
NULL
N
27'-8" BPT(25'-0" AG)
INSTALL 1-2" U-GUARD
ON SE. QUAD
FUSE BØ @ 8 A "KS"
8-7680-1226-0-5
1-100A FS
FRAME PER DCS:1-40.0.0
UH-15.3.4 & E-8.0.0 FIG 2
FUSE BØ @ 8 A "KS"
3/0 NEUTRAL ON X-ARM
USE CLAMP TOP INSULATORS
OH TO BE TRANSFERRED ON WR# 4990542
55'/2-AT&T D
60'/III H J
N.W. 2ND ST.
CAUTION:
FIBER OPTIC CABLE
CALL MICROTEL:
1-800-492-3100
2-4" PVC TO R/W FOR
FUTURE PRIMARY
PLUG & MARK WITH EMS
INSTALL 1 # 1/0 A 15 KV
XPE "J" IN 1-2" PVC
90° BEND
36" RADIUS
32
23
31
56'
PNC
PNC
HAND DIG
10'
1-4" PVC TO R/W FOR
FUTURE SECONDARY
PLUG & MARK WITH EMS
14'
2'
5'
MAINT. BLDG.
8-7680-1425-0-9
TX PAD
50 KVA (D.F.)
120/240 V. 1Ø
PROPOSED
66" STORM DRAIN
(6' + COVER)
FENCE
FEC RR
CUSTOMER SERVICE
2 SET: 3-350
NOTES
INSTALL PRIMARY CABLE IN DUCT WITH A MINIMUM OF 36" COVER. MAINTAIN A MINIMUM OF 12" SEPARATION FROM DIRECT BURIED DUCT TO ALL OTHER UTILITIES. FOREMAN WILL SHOW LOCATION AND EQUIPMENT CHANGES ON "AS-BUILT CREW PRINT."
The location and existence of any facilities may not be relied upon by the supplier in responding to a bid or in complying with any contract. Supplier is responsible for evaluating site conditions both above and below ground including underground facility locations.
FOR FIELD LOCATION OF BURIED FACILITIES SHOWN ON THIS DRAWING CALL
U.N.C.L.E. * 1-800-432-4770
CITY GAS COMPANY EXT 147 523-2521
* TICKET # 90516
CALL MICROTEL 1-800-492-3100
SURVEY INFO
PB. "B", PAGE 40
SURVEY INFO SENT TO
SURVEY SUPV.
REFERENCE DWG's
M&S# MFG.
MODEL# FTU-04
EASEMENT YES
STAKING YES
PERMIT NO
TWNP: 50 RNG: 42 SEC: 3 QTR:
REVISION
ORIGINAL DWG
POLE REPLACEMENT
PLOT TIME: 9:21:33 AM CAD NAME: RER
T AUTH NO. NO. DATE
5526-7-710 0 09/22/88
5002845 1 08/22/13
PLEASE BE ADVISED THAT RECEIPT OF THIS DRAWING IS NOT AN APPROXIMATION, AND/OR SURVEY, WHICH IS AN DOES NOT RELIEVE YOU OF ANY STATUTORY OBLIGATIONS, INCLUDING THE PROVISIONS CONTAINED IN SECTION 556, FLORIDA STATUTES CALL 811 OR 1-800-432-4770 (SUNSHINE STATE ONE CALL) PRIOR TO ANY EXCAVATION ACTIVITIES
-BUILT COPY
AS-BUILT CREW PRINT
Cert. Date
Foreman's Signature
Date
CERTIFIED COMPLETED as shown on this AS-BUILT print. Material changes shown on ROS.
Supervisor's Signature
Date
required ground rods Have been driven & verified to be within FPL standards. Values are shown at all locations.
Foreman's Signature
Date
Easement? YES NO
Tree Work? YES NO
Map Posting? YES NO
DDBS
Posted by
Survey/Stake? YES NO
Designer/Stake? YES NO
Trench Feet
Duct Bank Feet
PERMIT REQD
CITY
DR. DIST.
COUNTY AIR
STATE RD
FAA
WMD
RR XING
COUNTY RD.
TRANSM.
Telephone Request? YES NO
CATV Request? YES NO
Work with SMO? YES NO
CT/Special Mtr? YES NO
FPL
DESIGNED BY J. MAUCO
DRAWN BY K. ARIAS
DATE 08/22/13
MAP NO. AA-0316
HORIZ. 0 5' 10' 20'
VERT. 0 1.0' 2.0' 4.0'
M/A: CB
BROWARD CNTY
BUS TERMINAL
150 NW 2ND ST
FORT LAUDERDALE, BROWARD CNTY, FL
DWG NO. 13C2A17
WR: 5002845 WR: D050-02-845

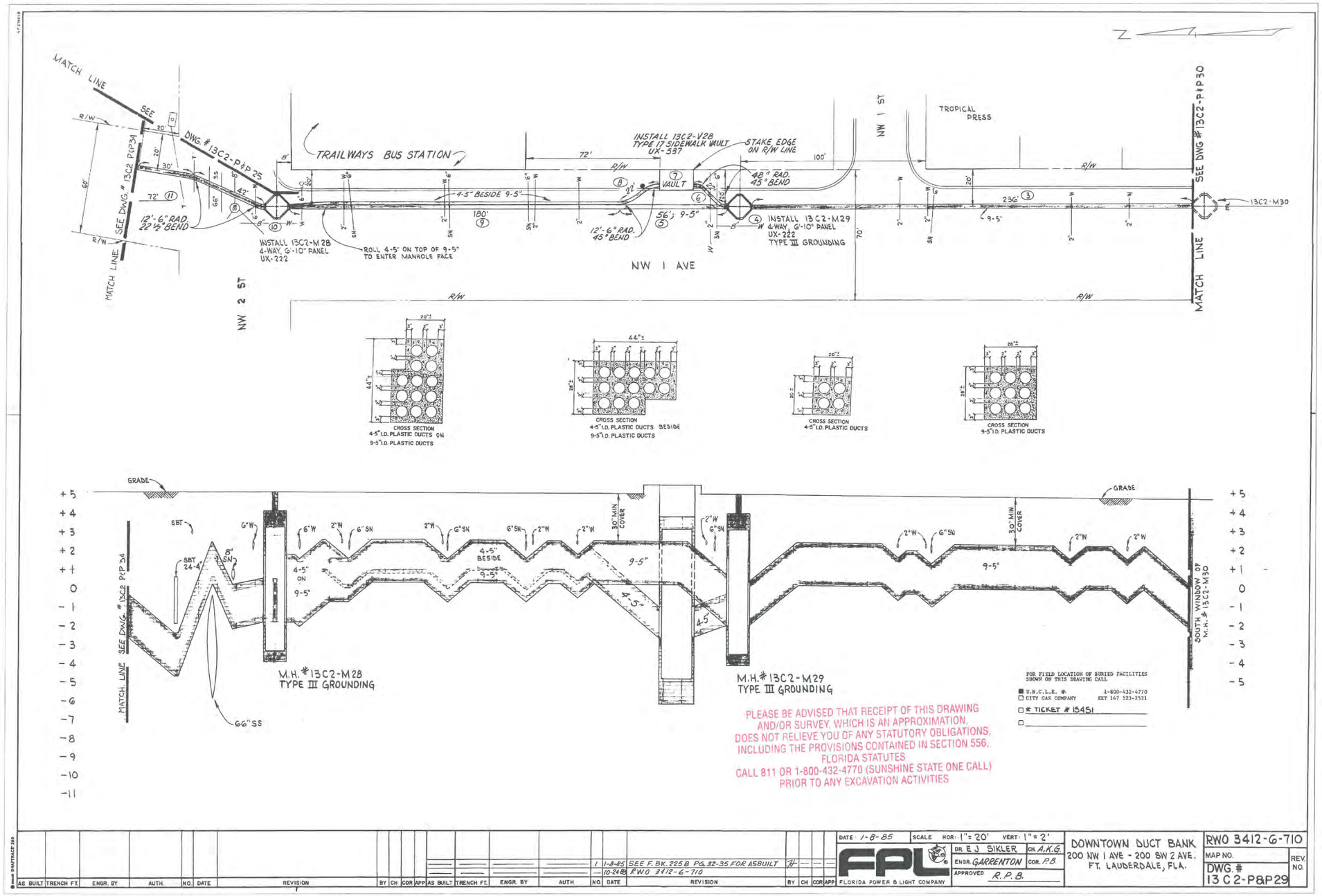
E2-7 | 5 OF 7 Florida Power and Light (FPL) Utility Coordination Response – Email, Atlases, and As-Built Plans



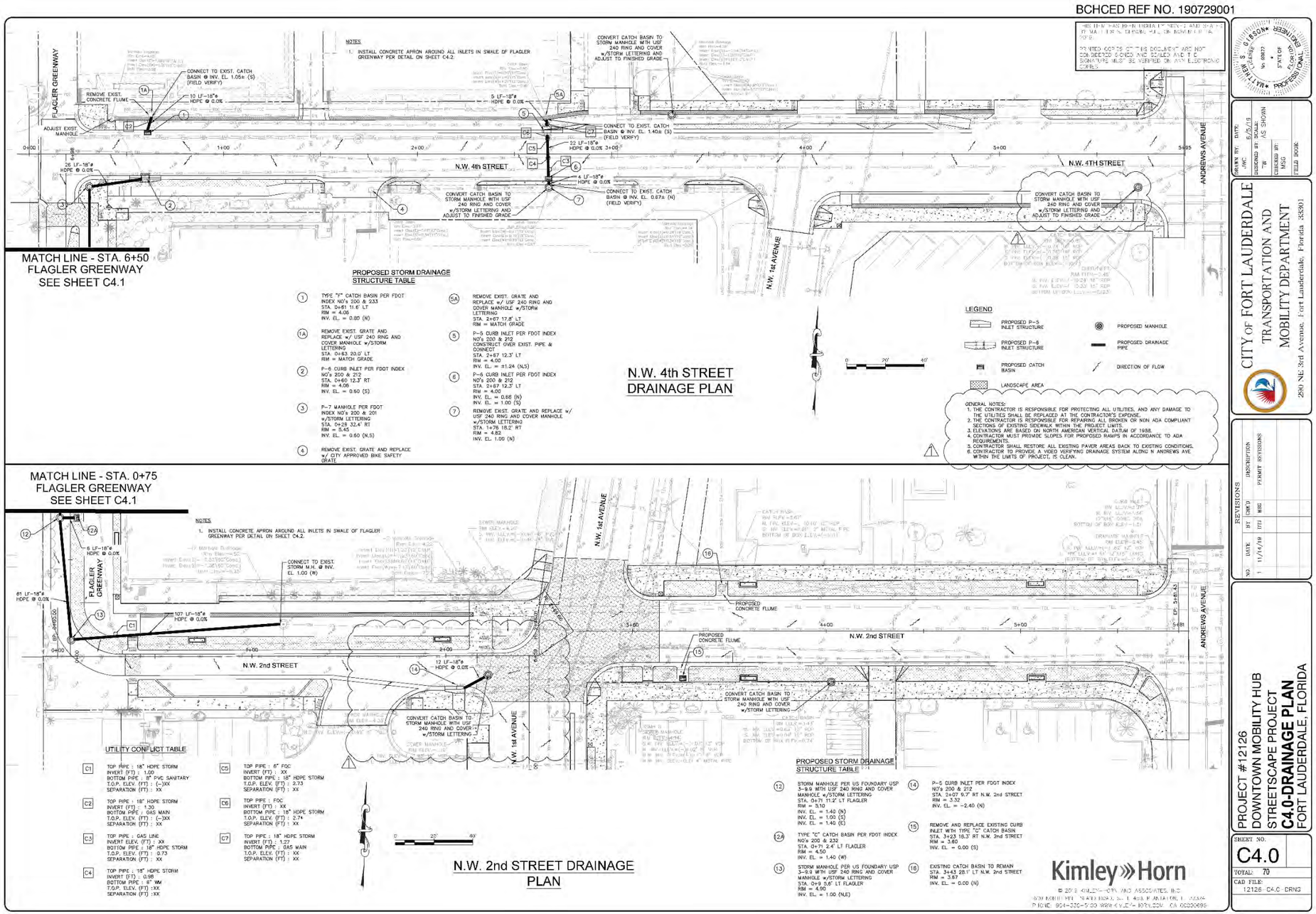
E2-7 | 6 OF 7 Florida Power and Light (FPL) Utility Coordination Response – Email, Atlases, and As-Built Plans



E2-7 | 7 OF 7 Florida Power and Light (FPL) Utility Coordination Response – Email, Atlases, and As-Built Plans

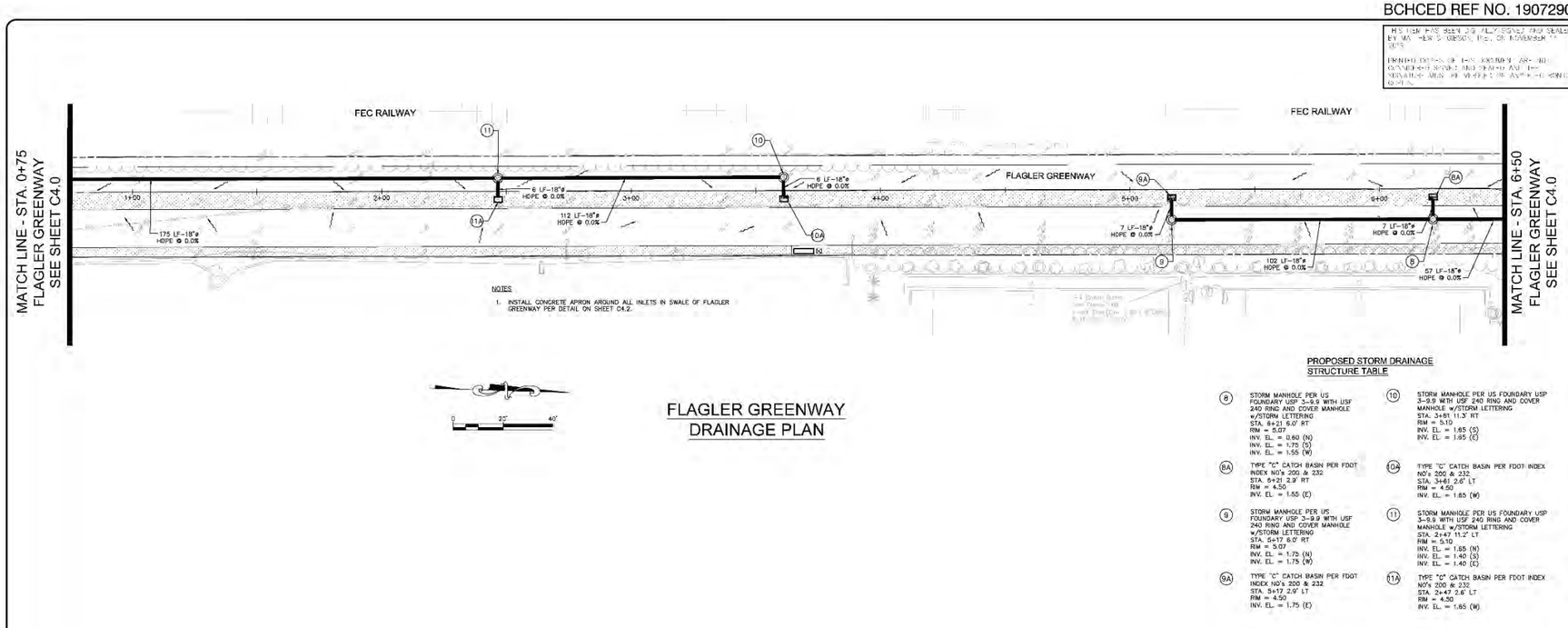


E2-8 | 1 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans



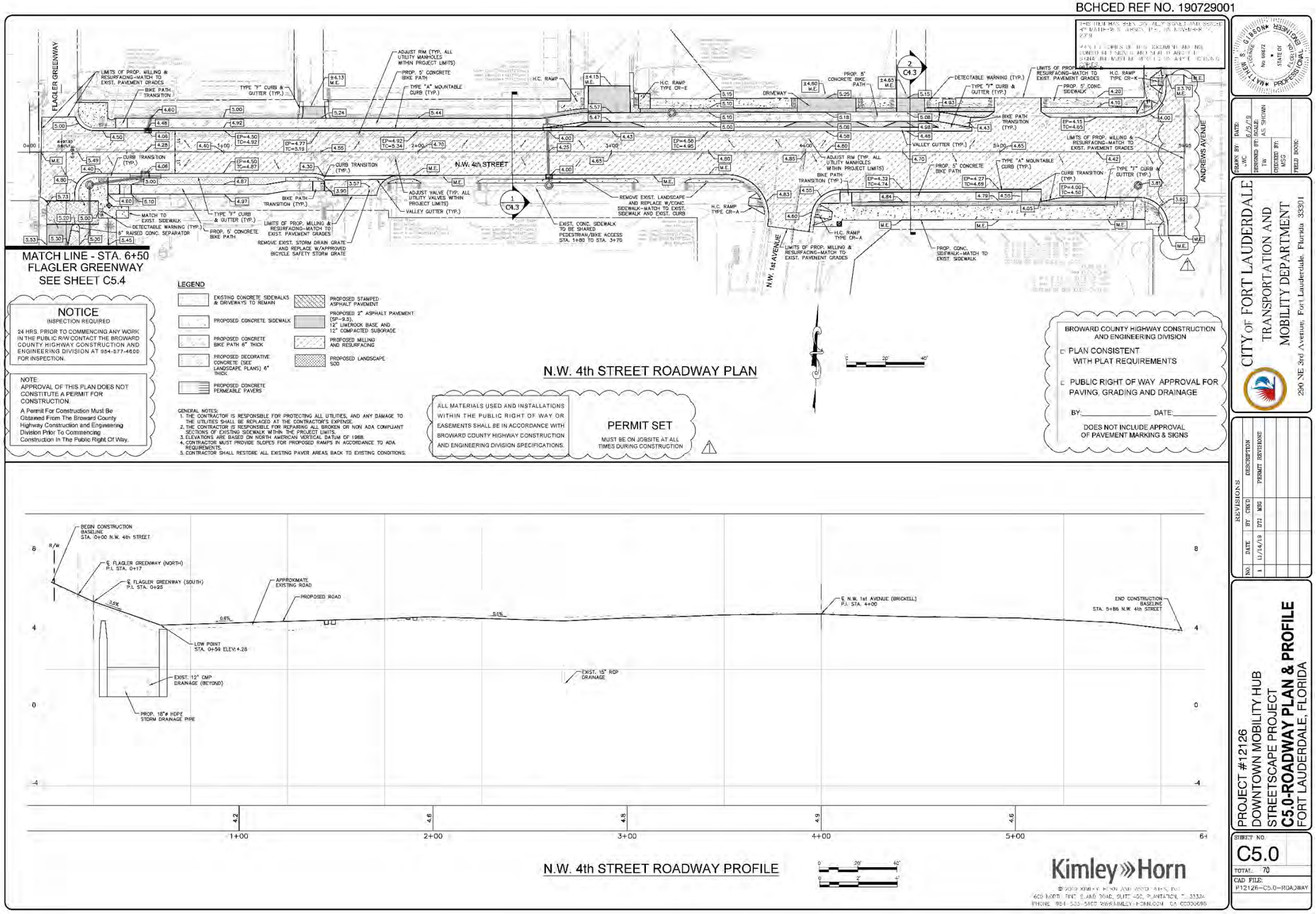
E2-8 | 2 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans

BCHCED REF NO. 190729001



E2-8 | 3 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans

BCHCED REF NO. 190729001



CITY OF FORT LAUDERDALE
TRANSPORTATION AND MOBILITY DEPARTMENT
290 NE 3rd Avenue, Fort Lauderdale, Florida 33301

REVISIONS

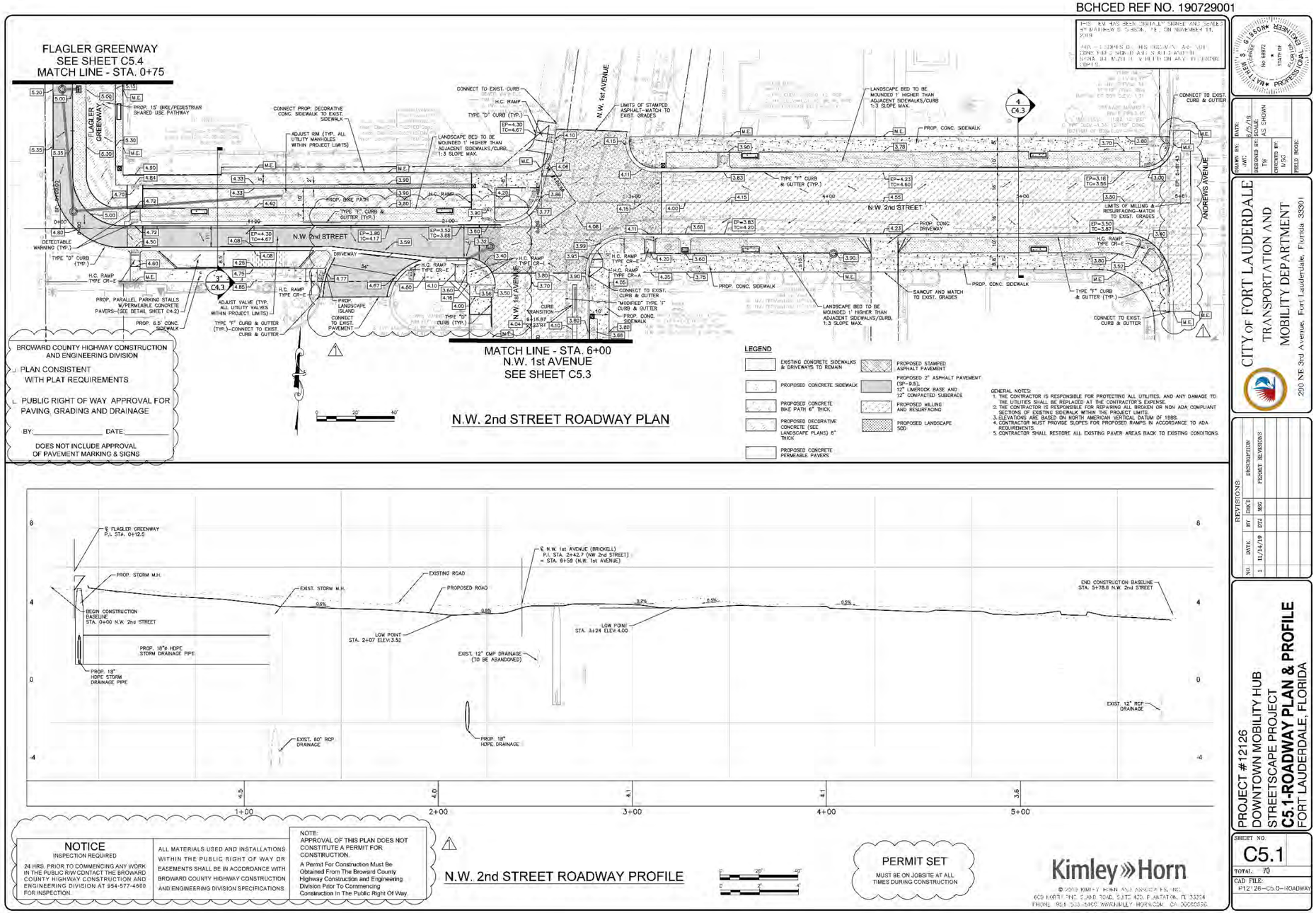
NO.	DATE	BY	CHK'D	DESCRIPTION
1	11/14/19	DTJ	MSG	PERMIT REVISIONS

PROJECT #12126
DOWNTOWN MOBILITY HUB
STREETSCAPE PROJECT
C5.0-ROADWAY PLAN & PROFILE
FORT LAUDERDALE, FLORIDA

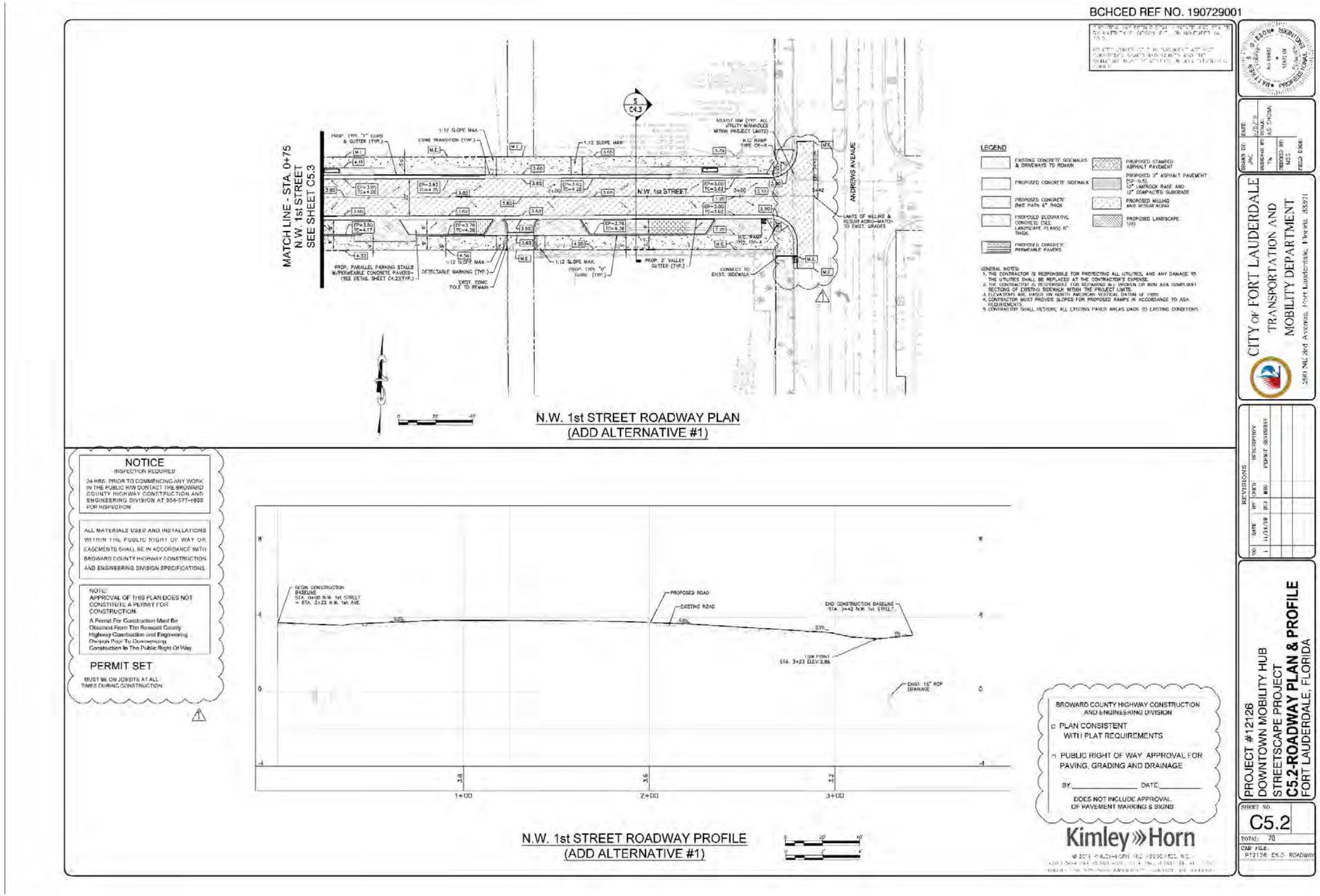
SHEET NO. C5.0
TOTAL: 70
CAD FILE: P12126-C5.0-ROADWAY

E2-8 | 4 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans

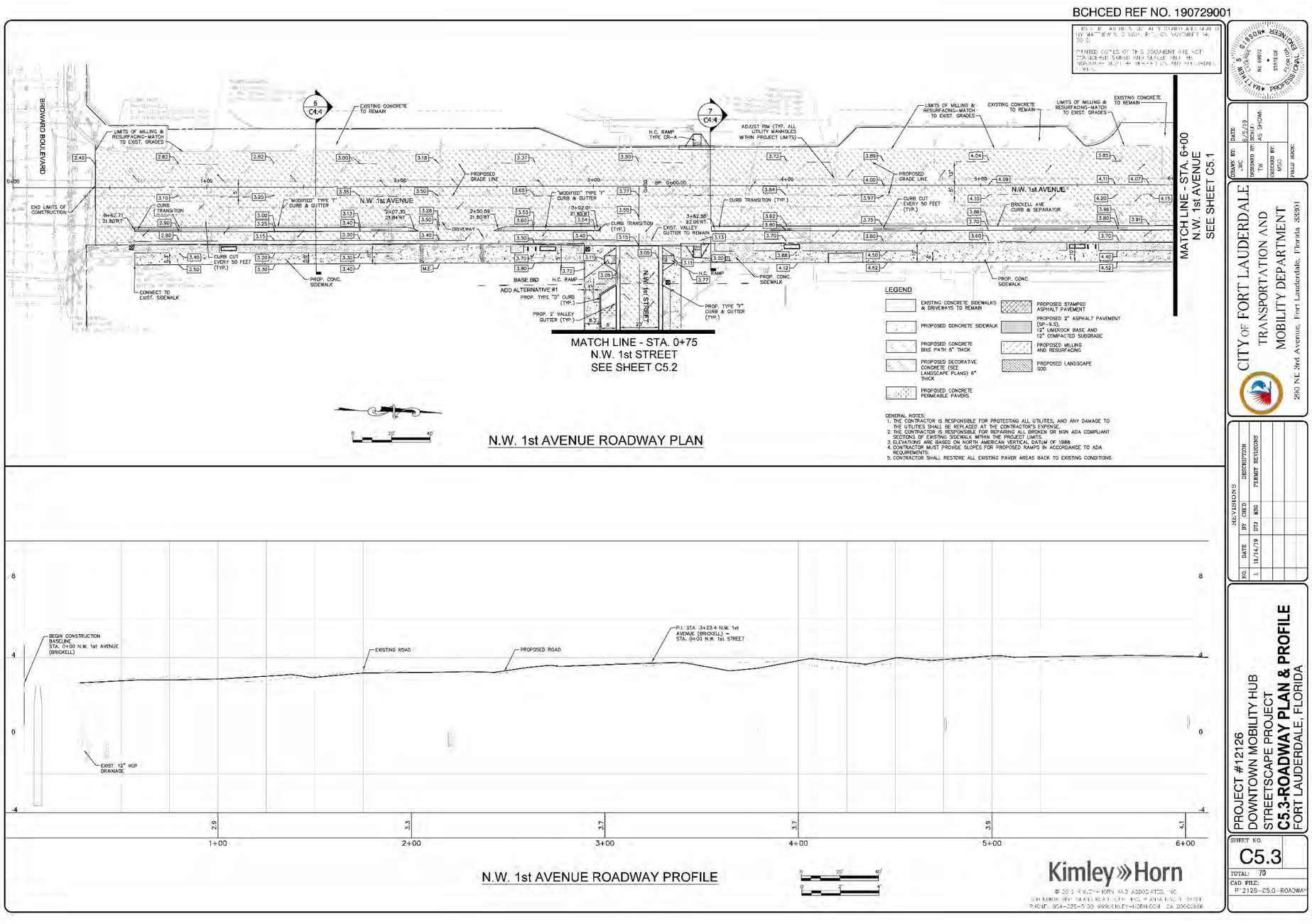
BCHCED REF NO. 190729001



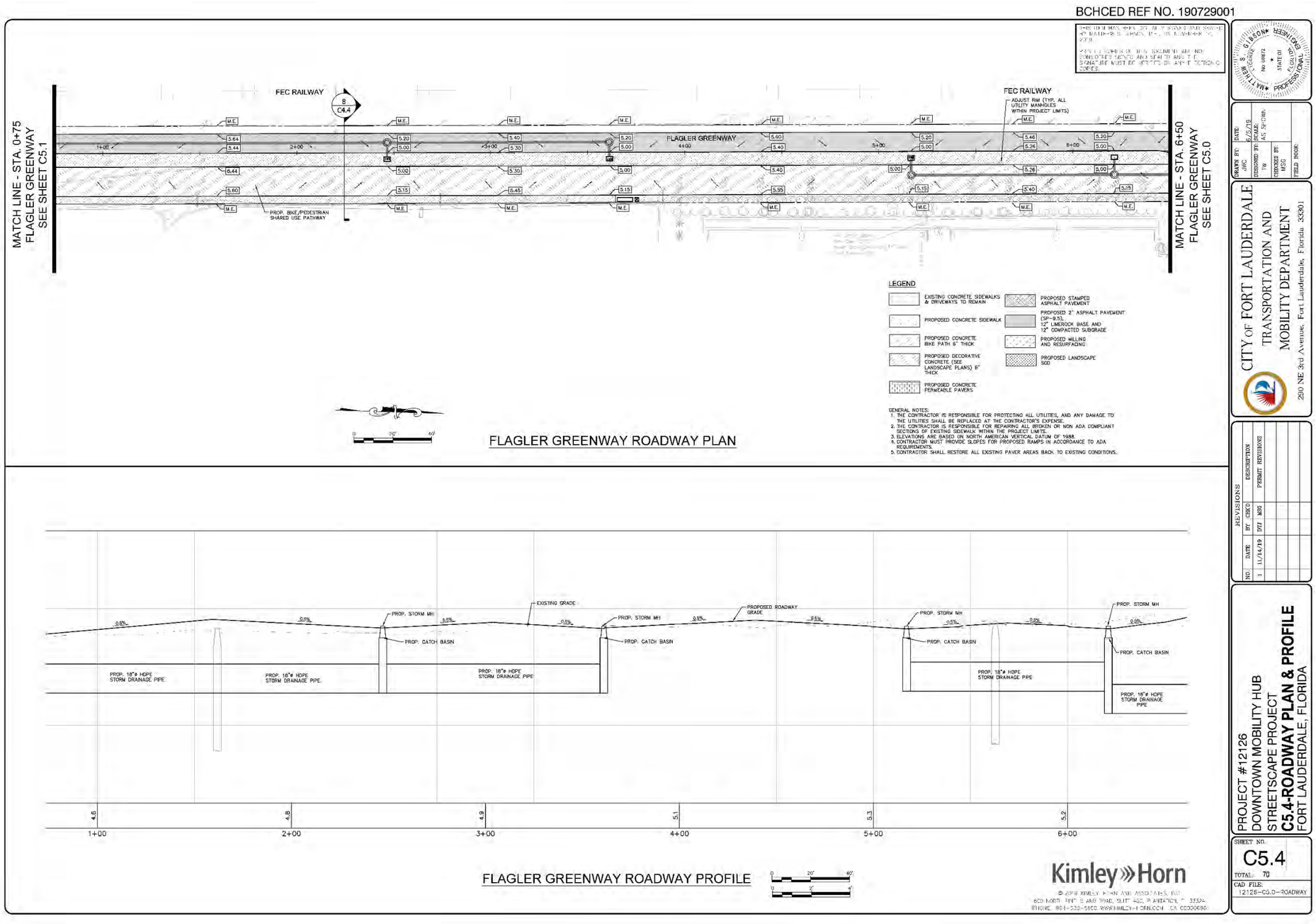
E2-8 | 5 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans



E2-8 | 6 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans



E2-8 | 7 OF 7 City of Fort Lauderdale Transportation and Mobility Department – Downtown Mobility Hub Streetscape Project Proposed Plans



DCP

APPENDIX E3
Stormwater Calculations

BOOK 3 | SEPTEMBER 14, 2020

STORMWATER CALCULATIONS SUMMARY

Water Quality Calculations (Existing Condition)

These calculations summarize the stormwater characteristics of the existing site, with pervious and impervious areas, water quality volume, soil storage and Curve Number (CN), and site runoff determinations for the 5-year, 24 hour; 25-year, 72 hour; and 100-year, 72-hour rainfall events.

Water Quality and Quantity Calculations (Proposed Condition)

These calculations summarize the stormwater characteristics of the proposed site, with pervious and impervious areas, water quality volume, soil storage and Curve Number (CN), and site runoff determinations for the 5-year, 24 hour; 25-year, 72 hour; and 100-year, 72-hour rainfall events.

SFWMD Exfiltration Trench Calculations

These calculations show the required linear footage of exfiltration trench to treat water quality. The exfiltration trench calculations consider the water table from the Broward County Future Conditions Average Wet Season Groundwater Table Map plus an added 1-foot for additional resilience.

Area Breakdown

This table describes the data to support the associated stage-storage calculations applied to the Cascade modeling for the existing and proposed conditions. For the proposed conditions, the building Finished Floor Elevation (FFE) is assumed to be 9.50 ft-NAVD, as recommended in the DCP.

Cascade Flood Routing

These calculations are the flood routing model inputs and results which model the 100-year, 3-day rainfall event for both the existing and proposed site in order to show compliance with the BCEPGMD pre-vs-post requirements and the 500-year, 3-day rainfall event to show compliance for the Essential/Critical facility designation.

Joint Government Center Campus
101 NW 1st Ave
Ft. Lauderdale, FL
WATER QUALITY CALCULATIONS (EXISTING CONDITION)

Project Area Information

Total Project Area	3.02	ac
Total Exist. Impervious Area	2.69	ac
Exist. Water Surface Area	0.00	ac
Exist. Roof Area	0.00	ac
Total Exist. Pervious Area	**0.33**	ac
Exist. Percent Impervious	**89%**	
Site Area for Water Quality*	**3.02**	ac

**Total Project - (water surface + roof) per SFWMD ERP Applicant Handbook Volume II 4.2.2 (c)*

Impervious for Water Quality	**2.69**	ac
% Imp. for Water Quality	**89%**	

Determination of Curve Number and Soil Storage

Soil Type		Coastal	
Avg. Depth to Water Table		3	ft
Uncomp. Storage	S=	**6.6**	in
Design Storage	S_{design}=	**0.54**	in
Curve Number	CN=	**94.87**	

$$S_{design} = 0.75 \times S$$

$$CN = \frac{1000}{S_{design} + 10}$$

Determination of Runoff Volumes

5-year, 1-day	P_5=	7.5	in
Runoff	Q_{5pre}=	**6.89**	in
Runoff Volume	V_{5pre}=	**1.733**	ac-ft
		20.80	ac-in
25-year, 3-day	P_{25}=	14.0	in
Runoff	Q_{25pre}=	**13.37**	in
Runoff Volume	V_{25pre}=	**3.365**	ac-ft
		40.38	ac-in
100-year, 3-day	P_{100}=	18.0	in
Runoff	Q_{100pre}=	**17.37**	in
Runoff Volume	V_{100pre}=	**4.371**	ac-ft
		52.45	ac-in

$$Q = \frac{(P - 0.2S_{design})^2}{P + 0.8S_{design}}$$

$$V = Q \times Area \times (1ft / 12in)$$

CMA Project No.: 20-162.036
6/9/2020

Joint Government Center Campus
101 NW 1st Ave
Ft. Lauderdale, FL
WATER QUALITY AND QUANTITY CALCULATIONS (PROPOSED CONDITION)

chen moore and associates

Project Area Information

Total Project Area	3.02	ac
Total Prop. Impervious Area	2.91	ac
Prop. Water Surface Area	0.00	ac
Prop. Roof Area	2.45	ac
Total Prop. Pervious Area	**0.11**	ac
Prop. Percent Impervious	**96%**	
Site Area for Water Quality*	**0.57**	ac

**Total Project - (water surface + roof) per SFWMD ERP Applicant Handbook Volume II 4.2.2 (c)*

Impervious for Water Quality	**0.46**	ac
% Imp. for Water Quality	**81%**	

Determination of Water Quality Volume

Greater of first inch or 2.5 x % imperviousness x area

1" x area =>	**0.252**	ac-ft
2.5 x %Imp. X area =>	**0.508**	ac-ft

2.5 times percentage imperviousness controls

Water Quality		**0.508**	ac-ft
Volume	V_{wq}=	**6.09**	**ac-in**

Determination of Curve Number and Soil Storage

Soil Type		Coastal	
Avg. Depth to Water Table		2	ft
Uncomp. Storage	S=	**2.5**	in
Design Storage	S_{design}=	**0.07**	in
Curve Number	CN=	**99.32**	

$V_{add} = V - V_{wq}$

Determination of Runoff Volumes

5-year, 1-day	P_5=	7.5	in
Runoff	Q_{5post}=	**7.42**	in
Runoff Volume	V_{5post}=	**1.867**	ac-ft
		22.40	ac-in
Volume - WQ	$V_{add5post}$=	**16.31**	**ac-in**
25-year, 3-day	P_{25}=	14.0	in
Runoff	Q_{25post}=	**13.92**	in
Runoff Volume	V_{25post}=	**3.503**	ac-ft
		42.03	ac-in
Volume - WQ	$V_{add25post}$=	**35.94**	**ac-in**
100-year, 3-day	P_{100}=	18.0	in
Runoff	$Q_{100post}$=	**17.92**	in
Runoff Volume	$V_{100post}$=	**4.509**	ac-ft
		54.11	ac-in
Volume - WQ	$V_{add100post}$=	**48.02**	**ac-in**

Pre vs. Post Condition Runoff Volumes

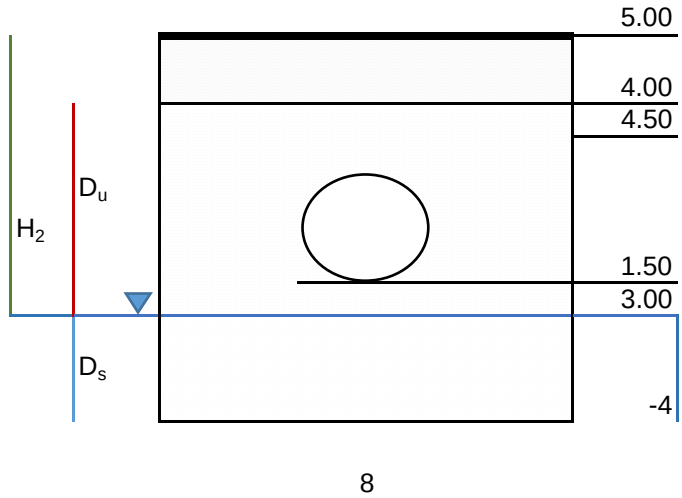
5-year, 1-day		
V_{5pre}=	**20.80**	ac-in
V_{5post}=	**22.40**	ac-in
$V_{5\Delta}$=	**1.60**	ac-in
$V_{add5\Delta}$=	**-4.49**	ac-in
25-year, 3-day		
V_{25pre}=	**40.38**	ac-in
V_{25post}=	**42.03**	ac-in
$V_{25\Delta}$=	**1.65**	ac-in
$V_{add25\Delta}$=	**-4.44**	ac-in
100-year, 3-day		
V_{100pre}=	**52.45**	ac-in
$V_{100post}$=	**54.11**	ac-in
$V_{100\Delta}$=	**1.67**	ac-in
$V_{add100\Delta}$=	**-4.43**	ac-in

CMA Project No.: 20-162.036
6/9/2020

Joint Government Center Campus
101 NW 1st Ave
Ft. Lauderdale, FL
SFWMD EXFILTRATION TRENCH CALCULATIONS

Exfiltration Trench Section

System Type	Positive	
Vertical Datum	ft-NAVD	
Minimum Grate	5.00	ft-NAVD
Top of Weir	4.50	ft-NAVD
Top of Trench	4.00	ft-NAVD
Total Trench Depth	8.00	ft
Pipe Diameter	15.00	in
Pipe Invert	1.50	ft-NAVD
SHWT	3.00	ft-NAVD
Width	8.00	ft
H_2	**1.50**	ft
D_u	**1.00**	ft
D_s	**5.50**	ft



Percolation Test Results

K_1=	6.14E-04	cfs/ft^2/ft-head
K_2=	-	cfs/ft^2/ft-head
K_3=	-	cfs/ft^2/ft-head
K_4=	-	cfs/ft^2/ft-head
$K_{average}$= K=	**6.14E-04**	cfs/ft^2/ft-head

Length of Exfiltration Trench

FS	2	
%WQ	50%	
V_{wq}=	**6.09**	ac-in
K	**6.14E-04**	cfs/ft^2/ft-head
L_{wq}=	**489**	LF
$L_{proposed}$ **Option 1=**	**608**	LF
$L_{proposed}$ **Option 2=**	**820**	LF

$$L = \frac{FS\left[(\%WQ)(V_{wq}) + V_{add}\right]}{K(H_2W + 2H_2D_u - D_u^2 + 2H_2D_s) + (1.39 \times 10^{-4})WD_u}$$

for Du>Ds

$$L = \frac{FS\left[(\%WQ)(V_{wq}) + V_{add}\right]}{K(2\,H_2D_u - D_u{}^2 + 2\,H_2D_s) + (1.39 \times 10^{-4})WD_u}$$

for Ds>Du or W>2Du

CMA Project No.: 20-162.036
9/4/2020

Joint Government Center Campus
101 NW 1st Ave
Ft. Lauderdale, FL
Area Breakdown - FFE 9.50 ft-NAVD

Existing

Name	Area (SF)	Area (ac)	Low Elev	High Elev
Building	2755	0.063246	6.5	16.5
Greenspace	14384	0.330211	5.1	5.5
Impervious Area	114346	2.625023	5	6.5
Total Area	131485	3.01848		
	% Pervious	10.9%		

Proposed

	Name	Area (SF)	Area (ac)	Low Elev	High Elev
1	Main Building	37439	0.86	9.5	208
2	Ticket Building	2187	0.05	7	17
3	Landscaping	4594	0.11	5	6
4	Ramp	2806	0.06	5	12
5	Plaza	6412	0.15	8.5	9.5
6	Steps	2037	0.05	4	8.5
7	Loading Area	5160	0.12	5	5.5
8	Bus Terminal/Imperv	70850	1.63	5	6.5
	Total Area	131485	3.01848		
		% Pervious	3.5%		
		Change in % Pervious	-7.4%		

CASCADE FLOOD ROUTING

100-YEAR, 3-DAY STORM

EXISTING CONDITIONS

Project Name: Joint Government Center Campus
Reviewer: NSK
Project Number: 20-162.036
Period Begin: May 15, 2020;0000 hr End: May 20, 2020;0000 hr Duration: 120 hr
Time Step: 0.2 hr, Iterations: 10

Basin 1: Existing Conditions

Method: Santa Barbara Unit Hydrograph
Rainfall Distribution: SFWMD - 3day
Design Frequency: 100 year
3 Day Rainfall: 17.1799 inches
Area: 3.02 acres
Ground Storage: 0.54 inches
Time of Concentration: 0.167 hours
Initial Stage: 2 ft NAVD

Stage (ft NAVD)	Storage (acre-ft)
0.00	0.00
0.42	0.00
5.00	0.07
5.50	0.36
6.00	1.18
6.50	2.44
7.00	3.92
7.50	5.40

Offsite Receiving Body: Offsite (Aquifer)

Time (hr)	Stage (ft NAVD)
0.00	2.00
120.00	2.00

Structure: 1

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 3.99 ft NAVD, Off Elev = 3.5 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.01	3.19	2.00
7.00	0.54	0.16	0.89	0.03	3.53	2.00
8.00	0.62	0.17	0.00	0.03	3.94	2.00
9.00	0.69	0.18	0.00	0.04	3.92	2.00
10.00	0.77	0.19	0.00	0.06	3.95	2.00
11.00	0.85	0.19	0.89	0.09	3.52	2.00
12.00	0.92	0.20	0.89	0.10	3.60	2.00
13.00	1.00	0.20	0.89	0.12	3.71	2.00
14.00	1.08	0.20	0.00	0.13	3.36	2.00
15.00	1.15	0.21	0.00	0.15	3.50	2.00
16.00	1.23	0.21	0.00	0.16	3.66	2.00
17.00	1.31	0.21	0.00	0.18	3.83	2.00
18.00	1.38	0.21	0.89	0.21	3.54	2.00
19.00	1.46	0.21	0.89	0.22	3.73	2.00
20.00	1.54	0.22	0.00	0.24	3.45	2.00
21.00	1.61	0.22	0.00	0.25	3.66	2.00
22.00	1.69	0.22	0.00	0.27	3.87	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
23.00	1.77	0.22	0.89	0.29	3.61	2.00
24.00	1.85	0.22	0.00	0.31	3.36	2.00
25.00	1.96	0.32	0.89	0.34	3.56	2.00
26.00	2.07	0.33	0.00	0.35	3.87	2.00
27.00	2.18	0.33	0.00	0.38	3.70	2.00
28.00	2.29	0.33	0.00	0.41	3.54	2.00
29.00	2.41	0.33	0.00	0.44	3.39	2.00
30.00	2.52	0.33	0.89	0.47	3.73	2.00
31.00	2.63	0.33	0.89	0.50	3.59	2.00
32.00	2.74	0.33	0.00	0.52	3.93	2.00
33.00	2.86	0.33	0.00	0.55	3.80	2.00
34.00	2.97	0.33	0.00	0.57	3.67	2.00
35.00	3.08	0.33	0.00	0.60	3.54	2.00
36.00	3.19	0.33	0.00	0.63	3.42	2.00
37.00	3.30	0.33	0.89	0.66	3.78	2.00
38.00	3.42	0.33	0.89	0.69	3.66	2.00
39.00	3.53	0.34	0.89	0.72	3.54	2.00
40.00	3.64	0.34	0.00	0.74	3.91	2.00
41.00	3.75	0.34	0.00	0.77	3.80	2.00
42.00	3.87	0.34	0.00	0.80	3.69	2.00
43.00	3.98	0.34	0.00	0.83	3.58	2.00
44.00	4.09	0.34	0.00	0.85	3.47	2.00
45.00	4.20	0.34	0.89	0.88	3.84	2.00
46.00	4.31	0.34	0.89	0.91	3.74	2.00
47.00	4.43	0.34	0.89	0.94	3.63	2.00
48.00	4.54	0.34	0.89	0.97	3.53	2.00
49.00	4.66	0.38	0.89	1.00	3.62	2.00
50.00	4.79	0.38	0.89	1.03	3.75	2.00
51.00	4.94	0.46	0.00	1.06	3.73	2.00
52.00	5.11	0.53	0.89	1.11	3.93	2.00
53.00	5.32	0.68	0.00	1.15	3.90	2.00
54.00	5.59	0.83	0.89	1.22	3.75	2.00
55.00	5.90	0.99	0.89	1.30	3.93	2.00
56.00	6.27	1.14	0.89	1.37	3.99	2.00
57.00	6.70	1.37	0.89	1.44	4.05	2.00
58.00	7.23	1.68	0.89	1.52	4.24	2.00
59.00	7.94	2.42	0.89	1.59	4.97	2.00
60.00	12.83	24.57	0.89	1.66	5.71	2.00
61.00	14.23	3.13	0.89	1.74	5.95	2.00
62.00	14.88	1.79	0.89	1.81	5.88	2.00
63.00	15.28	1.16	0.89	1.89	5.77	2.00
64.00	15.66	1.15	0.89	1.96	5.65	2.00
65.00	15.89	0.69	0.89	2.03	5.51	2.00
66.00	16.12	0.69	0.89	2.11	5.12	2.00
67.00	16.35	0.69	0.89	2.17	4.08	2.00
68.00	16.57	0.69	0.89	2.22	3.96	2.00
69.00	16.72	0.46	0.89	2.27	3.80	2.00
70.00	16.88	0.46	0.00	2.30	3.88	2.00
71.00	17.03	0.46	0.89	2.34	3.97	2.00
72.00	17.18	0.46	0.89	2.39	3.57	2.00
73.00	17.18	0.00	0.00	2.39	3.55	2.00
74.00	17.18	0.00	0.00	2.39	3.56	2.00
75.00	17.18	0.00	0.00	2.39	3.56	2.00
76.00	17.18	0.00	0.00	2.39	3.56	2.00
77.00	17.18	0.00	0.00	2.39	3.56	2.00
78.00	17.18	0.00	0.00	2.39	3.56	2.00
79.00	17.18	0.00	0.00	2.39	3.56	2.00
80.00	17.18	0.00	0.00	2.39	3.56	2.00
81.00	17.18	0.00	0.00	2.39	3.56	2.00
82.00	17.18	0.00	0.00	2.39	3.56	2.00
83.00	17.18	0.00	0.00	2.39	3.56	2.00
84.00	17.18	0.00	0.00	2.39	3.56	2.00
85.00	17.18	0.00	0.00	2.39	3.56	2.00
86.00	17.18	0.00	0.00	2.39	3.56	2.00
87.00	17.18	0.00	0.00	2.39	3.56	2.00
88.00	17.18	0.00	0.00	2.39	3.56	2.00
89.00	17.18	0.00	0.00	2.39	3.56	2.00
90.00	17.18	0.00	0.00	2.39	3.56	2.00
91.00	17.18	0.00	0.00	2.39	3.56	2.00
92.00	17.18	0.00	0.00	2.39	3.56	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
93.00	17.18	0.00	0.00	2.39	3.56	2.00
94.00	17.18	0.00	0.00	2.39	3.56	2.00
95.00	17.18	0.00	0.00	2.39	3.56	2.00
96.00	17.18	0.00	0.00	2.39	3.56	2.00
97.00	17.18	0.00	0.00	2.39	3.56	2.00
98.00	17.18	0.00	0.00	2.39	3.56	2.00
99.00	17.18	0.00	0.00	2.39	3.56	2.00
100.00	17.18	0.00	0.00	2.39	3.56	2.00
101.00	17.18	0.00	0.00	2.39	3.56	2.00
102.00	17.18	0.00	0.00	2.39	3.56	2.00
103.00	17.18	0.00	0.00	2.39	3.56	2.00
104.00	17.18	0.00	0.00	2.39	3.56	2.00
105.00	17.18	0.00	0.00	2.39	3.56	2.00
106.00	17.18	0.00	0.00	2.39	3.56	2.00
107.00	17.18	0.00	0.00	2.39	3.56	2.00
108.00	17.18	0.00	0.00	2.39	3.56	2.00
109.00	17.18	0.00	0.00	2.39	3.56	2.00
110.00	17.18	0.00	0.00	2.39	3.56	2.00
111.00	17.18	0.00	0.00	2.39	3.56	2.00
112.00	17.18	0.00	0.00	2.39	3.56	2.00
113.00	17.18	0.00	0.00	2.39	3.56	2.00
114.00	17.18	0.00	0.00	2.39	3.56	2.00
115.00	17.18	0.00	0.00	2.39	3.56	2.00
116.00	17.18	0.00	0.00	2.39	3.56	2.00
117.00	17.18	0.00	0.00	2.39	3.56	2.00
118.00	17.18	0.00	0.00	2.39	3.56	2.00
119.00	17.18	0.00	0.00	2.39	3.56	2.00
120.00	17.18	0.00	0.00	2.39	3.56	2.00

Structure: 2

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 4.49 ft NAVD, Off Elev = 4 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.00	3.19	2.00
7.00	0.54	0.16	0.00	0.00	3.53	2.00
8.00	0.62	0.17	0.00	0.00	3.94	2.00
9.00	0.69	0.18	0.00	0.00	3.92	2.00
10.00	0.77	0.19	0.00	0.00	3.95	2.00
11.00	0.85	0.19	0.00	0.00	3.52	2.00
12.00	0.92	0.20	0.00	0.00	3.60	2.00
13.00	1.00	0.20	0.00	0.00	3.71	2.00
14.00	1.08	0.20	0.00	0.00	3.36	2.00
15.00	1.15	0.21	0.00	0.00	3.50	2.00
16.00	1.23	0.21	0.00	0.00	3.66	2.00
17.00	1.31	0.21	0.00	0.00	3.83	2.00
18.00	1.38	0.21	0.00	0.00	3.54	2.00
19.00	1.46	0.21	0.00	0.00	3.73	2.00
20.00	1.54	0.22	0.00	0.00	3.45	2.00
21.00	1.61	0.22	0.00	0.00	3.66	2.00
22.00	1.69	0.22	0.00	0.00	3.87	2.00
23.00	1.77	0.22	0.00	0.00	3.61	2.00
24.00	1.85	0.22	0.00	0.00	3.36	2.00
25.00	1.96	0.32	0.00	0.00	3.56	2.00
26.00	2.07	0.33	0.00	0.00	3.87	2.00
27.00	2.18	0.33	0.00	0.00	3.70	2.00
28.00	2.29	0.33	0.00	0.00	3.54	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
29.00	2.41	0.33	0.00	0.00	3.39	2.00
30.00	2.52	0.33	0.00	0.00	3.73	2.00
31.00	2.63	0.33	0.00	0.00	3.59	2.00
32.00	2.74	0.33	0.00	0.00	3.93	2.00
33.00	2.86	0.33	0.00	0.00	3.80	2.00
34.00	2.97	0.33	0.00	0.00	3.67	2.00
35.00	3.08	0.33	0.00	0.00	3.54	2.00
36.00	3.19	0.33	0.00	0.00	3.42	2.00
37.00	3.30	0.33	0.00	0.00	3.78	2.00
38.00	3.42	0.33	0.00	0.00	3.66	2.00
39.00	3.53	0.34	0.00	0.00	3.54	2.00
40.00	3.64	0.34	0.00	0.00	3.91	2.00
41.00	3.75	0.34	0.00	0.00	3.80	2.00
42.00	3.87	0.34	0.00	0.00	3.69	2.00
43.00	3.98	0.34	0.00	0.00	3.58	2.00
44.00	4.09	0.34	0.00	0.00	3.47	2.00
45.00	4.20	0.34	0.00	0.00	3.84	2.00
46.00	4.31	0.34	0.00	0.00	3.74	2.00
47.00	4.43	0.34	0.00	0.00	3.63	2.00
48.00	4.54	0.34	0.00	0.00	3.53	2.00
49.00	4.66	0.38	0.00	0.00	3.62	2.00
50.00	4.79	0.38	0.00	0.00	3.75	2.00
51.00	4.94	0.46	0.00	0.00	3.73	2.00
52.00	5.11	0.53	0.00	0.00	3.93	2.00
53.00	5.32	0.68	0.00	0.00	3.90	2.00
54.00	5.59	0.83	0.00	0.00	3.75	2.00
55.00	5.90	0.99	0.00	0.00	3.93	2.00
56.00	6.27	1.14	0.00	0.01	3.99	2.00
57.00	6.70	1.37	0.00	0.04	4.05	2.00
58.00	7.23	1.68	0.89	0.10	4.24	2.00
59.00	7.94	2.42	0.89	0.18	4.97	2.00
60.00	12.83	24.57	0.89	0.25	5.71	2.00
61.00	14.23	3.13	0.89	0.32	5.95	2.00
62.00	14.88	1.79	0.89	0.40	5.88	2.00
63.00	15.28	1.16	0.89	0.47	5.77	2.00
64.00	15.66	1.15	0.89	0.55	5.65	2.00
65.00	15.89	0.69	0.89	0.62	5.51	2.00
66.00	16.12	0.69	0.89	0.69	5.12	2.00
67.00	16.35	0.69	0.00	0.72	4.08	2.00
68.00	16.57	0.69	0.00	0.72	3.96	2.00
69.00	16.72	0.46	0.00	0.72	3.80	2.00
70.00	16.88	0.46	0.00	0.72	3.88	2.00
71.00	17.03	0.46	0.00	0.72	3.97	2.00
72.00	17.18	0.46	0.00	0.72	3.57	2.00
73.00	17.18	0.00	0.00	0.72	3.55	2.00
74.00	17.18	0.00	0.00	0.72	3.56	2.00
75.00	17.18	0.00	0.00	0.72	3.56	2.00
76.00	17.18	0.00	0.00	0.72	3.56	2.00
77.00	17.18	0.00	0.00	0.72	3.56	2.00
78.00	17.18	0.00	0.00	0.72	3.56	2.00
79.00	17.18	0.00	0.00	0.72	3.56	2.00
80.00	17.18	0.00	0.00	0.72	3.56	2.00
81.00	17.18	0.00	0.00	0.72	3.56	2.00
82.00	17.18	0.00	0.00	0.72	3.56	2.00
83.00	17.18	0.00	0.00	0.72	3.56	2.00
84.00	17.18	0.00	0.00	0.72	3.56	2.00
85.00	17.18	0.00	0.00	0.72	3.56	2.00
86.00	17.18	0.00	0.00	0.72	3.56	2.00
87.00	17.18	0.00	0.00	0.72	3.56	2.00
88.00	17.18	0.00	0.00	0.72	3.56	2.00
89.00	17.18	0.00	0.00	0.72	3.56	2.00
90.00	17.18	0.00	0.00	0.72	3.56	2.00
91.00	17.18	0.00	0.00	0.72	3.56	2.00
92.00	17.18	0.00	0.00	0.72	3.56	2.00
93.00	17.18	0.00	0.00	0.72	3.56	2.00
94.00	17.18	0.00	0.00	0.72	3.56	2.00
95.00	17.18	0.00	0.00	0.72	3.56	2.00
96.00	17.18	0.00	0.00	0.72	3.56	2.00
97.00	17.18	0.00	0.00	0.72	3.56	2.00
98.00	17.18	0.00	0.00	0.72	3.56	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
99.00	17.18	0.00	0.00	0.72	3.56	2.00
100.00	17.18	0.00	0.00	0.72	3.56	2.00
101.00	17.18	0.00	0.00	0.72	3.56	2.00
102.00	17.18	0.00	0.00	0.72	3.56	2.00
103.00	17.18	0.00	0.00	0.72	3.56	2.00
104.00	17.18	0.00	0.00	0.72	3.56	2.00
105.00	17.18	0.00	0.00	0.72	3.56	2.00
106.00	17.18	0.00	0.00	0.72	3.56	2.00
107.00	17.18	0.00	0.00	0.72	3.56	2.00
108.00	17.18	0.00	0.00	0.72	3.56	2.00
109.00	17.18	0.00	0.00	0.72	3.56	2.00
110.00	17.18	0.00	0.00	0.72	3.56	2.00
111.00	17.18	0.00	0.00	0.72	3.56	2.00
112.00	17.18	0.00	0.00	0.72	3.56	2.00
113.00	17.18	0.00	0.00	0.72	3.56	2.00
114.00	17.18	0.00	0.00	0.72	3.56	2.00
115.00	17.18	0.00	0.00	0.72	3.56	2.00
116.00	17.18	0.00	0.00	0.72	3.56	2.00
117.00	17.18	0.00	0.00	0.72	3.56	2.00
118.00	17.18	0.00	0.00	0.72	3.56	2.00
119.00	17.18	0.00	0.00	0.72	3.56	2.00
120.00	17.18	0.00	0.00	0.72	3.56	2.00

Structure: 3

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 4.99 ft NAVD, Off Elev = 4.5 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.00	3.19	2.00
7.00	0.54	0.16	0.00	0.00	3.53	2.00
8.00	0.62	0.17	0.00	0.00	3.94	2.00
9.00	0.69	0.18	0.00	0.00	3.92	2.00
10.00	0.77	0.19	0.00	0.00	3.95	2.00
11.00	0.85	0.19	0.00	0.00	3.52	2.00
12.00	0.92	0.20	0.00	0.00	3.60	2.00
13.00	1.00	0.20	0.00	0.00	3.71	2.00
14.00	1.08	0.20	0.00	0.00	3.36	2.00
15.00	1.15	0.21	0.00	0.00	3.50	2.00
16.00	1.23	0.21	0.00	0.00	3.66	2.00
17.00	1.31	0.21	0.00	0.00	3.83	2.00
18.00	1.38	0.21	0.00	0.00	3.54	2.00
19.00	1.46	0.21	0.00	0.00	3.73	2.00
20.00	1.54	0.22	0.00	0.00	3.45	2.00
21.00	1.61	0.22	0.00	0.00	3.66	2.00
22.00	1.69	0.22	0.00	0.00	3.87	2.00
23.00	1.77	0.22	0.00	0.00	3.61	2.00
24.00	1.85	0.22	0.00	0.00	3.36	2.00
25.00	1.96	0.32	0.00	0.00	3.56	2.00
26.00	2.07	0.33	0.00	0.00	3.87	2.00
27.00	2.18	0.33	0.00	0.00	3.70	2.00
28.00	2.29	0.33	0.00	0.00	3.54	2.00
29.00	2.41	0.33	0.00	0.00	3.39	2.00
30.00	2.52	0.33	0.00	0.00	3.73	2.00
31.00	2.63	0.33	0.00	0.00	3.59	2.00
32.00	2.74	0.33	0.00	0.00	3.93	2.00
33.00	2.86	0.33	0.00	0.00	3.80	2.00
34.00	2.97	0.33	0.00	0.00	3.67	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
35.00	3.08	0.33	0.00	0.00	3.54	2.00
36.00	3.19	0.33	0.00	0.00	3.42	2.00
37.00	3.30	0.33	0.00	0.00	3.78	2.00
38.00	3.42	0.33	0.00	0.00	3.66	2.00
39.00	3.53	0.34	0.00	0.00	3.54	2.00
40.00	3.64	0.34	0.00	0.00	3.91	2.00
41.00	3.75	0.34	0.00	0.00	3.80	2.00
42.00	3.87	0.34	0.00	0.00	3.69	2.00
43.00	3.98	0.34	0.00	0.00	3.58	2.00
44.00	4.09	0.34	0.00	0.00	3.47	2.00
45.00	4.20	0.34	0.00	0.00	3.84	2.00
46.00	4.31	0.34	0.00	0.00	3.74	2.00
47.00	4.43	0.34	0.00	0.00	3.63	2.00
48.00	4.54	0.34	0.00	0.00	3.53	2.00
49.00	4.66	0.38	0.00	0.00	3.62	2.00
50.00	4.79	0.38	0.00	0.00	3.75	2.00
51.00	4.94	0.46	0.00	0.00	3.73	2.00
52.00	5.11	0.53	0.00	0.00	3.93	2.00
53.00	5.32	0.68	0.00	0.00	3.90	2.00
54.00	5.59	0.83	0.00	0.00	3.75	2.00
55.00	5.90	0.99	0.00	0.00	3.93	2.00
56.00	6.27	1.14	0.00	0.00	3.99	2.00
57.00	6.70	1.37	0.00	0.00	4.05	2.00
58.00	7.23	1.68	0.00	0.00	4.24	2.00
59.00	7.94	2.42	0.89	0.01	4.97	2.00
60.00	12.83	24.57	0.89	0.09	5.71	2.00
61.00	14.23	3.13	0.89	0.16	5.95	2.00
62.00	14.88	1.79	0.89	0.24	5.88	2.00
63.00	15.28	1.16	0.89	0.31	5.77	2.00
64.00	15.66	1.15	0.89	0.38	5.65	2.00
65.00	15.89	0.69	0.89	0.46	5.51	2.00
66.00	16.12	0.69	0.89	0.53	5.12	2.00
67.00	16.35	0.69	0.00	0.55	4.08	2.00
68.00	16.57	0.69	0.00	0.55	3.96	2.00
69.00	16.72	0.46	0.00	0.55	3.80	2.00
70.00	16.88	0.46	0.00	0.55	3.88	2.00
71.00	17.03	0.46	0.00	0.55	3.97	2.00
72.00	17.18	0.46	0.00	0.55	3.57	2.00
73.00	17.18	0.00	0.00	0.55	3.55	2.00
74.00	17.18	0.00	0.00	0.55	3.56	2.00
75.00	17.18	0.00	0.00	0.55	3.56	2.00
76.00	17.18	0.00	0.00	0.55	3.56	2.00
77.00	17.18	0.00	0.00	0.55	3.56	2.00
78.00	17.18	0.00	0.00	0.55	3.56	2.00
79.00	17.18	0.00	0.00	0.55	3.56	2.00
80.00	17.18	0.00	0.00	0.55	3.56	2.00
81.00	17.18	0.00	0.00	0.55	3.56	2.00
82.00	17.18	0.00	0.00	0.55	3.56	2.00
83.00	17.18	0.00	0.00	0.55	3.56	2.00
84.00	17.18	0.00	0.00	0.55	3.56	2.00
85.00	17.18	0.00	0.00	0.55	3.56	2.00
86.00	17.18	0.00	0.00	0.55	3.56	2.00
87.00	17.18	0.00	0.00	0.55	3.56	2.00
88.00	17.18	0.00	0.00	0.55	3.56	2.00
89.00	17.18	0.00	0.00	0.55	3.56	2.00
90.00	17.18	0.00	0.00	0.55	3.56	2.00
91.00	17.18	0.00	0.00	0.55	3.56	2.00
92.00	17.18	0.00	0.00	0.55	3.56	2.00
93.00	17.18	0.00	0.00	0.55	3.56	2.00
94.00	17.18	0.00	0.00	0.55	3.56	2.00
95.00	17.18	0.00	0.00	0.55	3.56	2.00
96.00	17.18	0.00	0.00	0.55	3.56	2.00
97.00	17.18	0.00	0.00	0.55	3.56	2.00
98.00	17.18	0.00	0.00	0.55	3.56	2.00
99.00	17.18	0.00	0.00	0.55	3.56	2.00
100.00	17.18	0.00	0.00	0.55	3.56	2.00
101.00	17.18	0.00	0.00	0.55	3.56	2.00
102.00	17.18	0.00	0.00	0.55	3.56	2.00
103.00	17.18	0.00	0.00	0.55	3.56	2.00
104.00	17.18	0.00	0.00	0.55	3.56	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
105.00	17.18	0.00	0.00	0.55	3.56	2.00
106.00	17.18	0.00	0.00	0.55	3.56	2.00
107.00	17.18	0.00	0.00	0.55	3.56	2.00
108.00	17.18	0.00	0.00	0.55	3.56	2.00
109.00	17.18	0.00	0.00	0.55	3.56	2.00
110.00	17.18	0.00	0.00	0.55	3.56	2.00
111.00	17.18	0.00	0.00	0.55	3.56	2.00
112.00	17.18	0.00	0.00	0.55	3.56	2.00
113.00	17.18	0.00	0.00	0.55	3.56	2.00
114.00	17.18	0.00	0.00	0.55	3.56	2.00
115.00	17.18	0.00	0.00	0.55	3.56	2.00
116.00	17.18	0.00	0.00	0.55	3.56	2.00
117.00	17.18	0.00	0.00	0.55	3.56	2.00
118.00	17.18	0.00	0.00	0.55	3.56	2.00
119.00	17.18	0.00	0.00	0.55	3.56	2.00
120.00	17.18	0.00	0.00	0.55	3.56	2.00

Structure: 4

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 5.49 ft NAVD, Off Elev = 5 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.00	3.19	2.00
7.00	0.54	0.16	0.00	0.00	3.53	2.00
8.00	0.62	0.17	0.00	0.00	3.94	2.00
9.00	0.69	0.18	0.00	0.00	3.92	2.00
10.00	0.77	0.19	0.00	0.00	3.95	2.00
11.00	0.85	0.19	0.00	0.00	3.52	2.00
12.00	0.92	0.20	0.00	0.00	3.60	2.00
13.00	1.00	0.20	0.00	0.00	3.71	2.00
14.00	1.08	0.20	0.00	0.00	3.36	2.00
15.00	1.15	0.21	0.00	0.00	3.50	2.00
16.00	1.23	0.21	0.00	0.00	3.66	2.00
17.00	1.31	0.21	0.00	0.00	3.83	2.00
18.00	1.38	0.21	0.00	0.00	3.54	2.00
19.00	1.46	0.21	0.00	0.00	3.73	2.00
20.00	1.54	0.22	0.00	0.00	3.45	2.00
21.00	1.61	0.22	0.00	0.00	3.66	2.00
22.00	1.69	0.22	0.00	0.00	3.87	2.00
23.00	1.77	0.22	0.00	0.00	3.61	2.00
24.00	1.85	0.22	0.00	0.00	3.36	2.00
25.00	1.96	0.32	0.00	0.00	3.56	2.00
26.00	2.07	0.33	0.00	0.00	3.87	2.00
27.00	2.18	0.33	0.00	0.00	3.70	2.00
28.00	2.29	0.33	0.00	0.00	3.54	2.00
29.00	2.41	0.33	0.00	0.00	3.39	2.00
30.00	2.52	0.33	0.00	0.00	3.73	2.00
31.00	2.63	0.33	0.00	0.00	3.59	2.00
32.00	2.74	0.33	0.00	0.00	3.93	2.00
33.00	2.86	0.33	0.00	0.00	3.80	2.00
34.00	2.97	0.33	0.00	0.00	3.67	2.00
35.00	3.08	0.33	0.00	0.00	3.54	2.00
36.00	3.19	0.33	0.00	0.00	3.42	2.00
37.00	3.30	0.33	0.00	0.00	3.78	2.00
38.00	3.42	0.33	0.00	0.00	3.66	2.00
39.00	3.53	0.34	0.00	0.00	3.54	2.00
40.00	3.64	0.34	0.00	0.00	3.91	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
41.00	3.75	0.34	0.00	0.00	3.80	2.00
42.00	3.87	0.34	0.00	0.00	3.69	2.00
43.00	3.98	0.34	0.00	0.00	3.58	2.00
44.00	4.09	0.34	0.00	0.00	3.47	2.00
45.00	4.20	0.34	0.00	0.00	3.84	2.00
46.00	4.31	0.34	0.00	0.00	3.74	2.00
47.00	4.43	0.34	0.00	0.00	3.63	2.00
48.00	4.54	0.34	0.00	0.00	3.53	2.00
49.00	4.66	0.38	0.00	0.00	3.62	2.00
50.00	4.79	0.38	0.00	0.00	3.75	2.00
51.00	4.94	0.46	0.00	0.00	3.73	2.00
52.00	5.11	0.53	0.00	0.00	3.93	2.00
53.00	5.32	0.68	0.00	0.00	3.90	2.00
54.00	5.59	0.83	0.00	0.00	3.75	2.00
55.00	5.90	0.99	0.00	0.00	3.93	2.00
56.00	6.27	1.14	0.00	0.00	3.99	2.00
57.00	6.70	1.37	0.00	0.00	4.05	2.00
58.00	7.23	1.68	0.00	0.00	4.24	2.00
59.00	7.94	2.42	0.00	0.00	4.97	2.00
60.00	12.83	24.57	0.89	0.03	5.71	2.00
61.00	14.23	3.13	0.89	0.10	5.95	2.00
62.00	14.88	1.79	0.89	0.18	5.88	2.00
63.00	15.28	1.16	0.89	0.25	5.77	2.00
64.00	15.66	1.15	0.89	0.32	5.65	2.00
65.00	15.89	0.69	0.89	0.40	5.51	2.00
66.00	16.12	0.69	0.89	0.47	5.12	2.00
67.00	16.35	0.69	0.00	0.49	4.08	2.00
68.00	16.57	0.69	0.00	0.49	3.96	2.00
69.00	16.72	0.46	0.00	0.49	3.80	2.00
70.00	16.88	0.46	0.00	0.49	3.88	2.00
71.00	17.03	0.46	0.00	0.49	3.97	2.00
72.00	17.18	0.46	0.00	0.49	3.57	2.00
73.00	17.18	0.00	0.00	0.49	3.55	2.00
74.00	17.18	0.00	0.00	0.49	3.56	2.00
75.00	17.18	0.00	0.00	0.49	3.56	2.00
76.00	17.18	0.00	0.00	0.49	3.56	2.00
77.00	17.18	0.00	0.00	0.49	3.56	2.00
78.00	17.18	0.00	0.00	0.49	3.56	2.00
79.00	17.18	0.00	0.00	0.49	3.56	2.00
80.00	17.18	0.00	0.00	0.49	3.56	2.00
81.00	17.18	0.00	0.00	0.49	3.56	2.00
82.00	17.18	0.00	0.00	0.49	3.56	2.00
83.00	17.18	0.00	0.00	0.49	3.56	2.00
84.00	17.18	0.00	0.00	0.49	3.56	2.00
85.00	17.18	0.00	0.00	0.49	3.56	2.00
86.00	17.18	0.00	0.00	0.49	3.56	2.00
87.00	17.18	0.00	0.00	0.49	3.56	2.00
88.00	17.18	0.00	0.00	0.49	3.56	2.00
89.00	17.18	0.00	0.00	0.49	3.56	2.00
90.00	17.18	0.00	0.00	0.49	3.56	2.00
91.00	17.18	0.00	0.00	0.49	3.56	2.00
92.00	17.18	0.00	0.00	0.49	3.56	2.00
93.00	17.18	0.00	0.00	0.49	3.56	2.00
94.00	17.18	0.00	0.00	0.49	3.56	2.00
95.00	17.18	0.00	0.00	0.49	3.56	2.00
96.00	17.18	0.00	0.00	0.49	3.56	2.00
97.00	17.18	0.00	0.00	0.49	3.56	2.00
98.00	17.18	0.00	0.00	0.49	3.56	2.00
99.00	17.18	0.00	0.00	0.49	3.56	2.00
100.00	17.18	0.00	0.00	0.49	3.56	2.00
101.00	17.18	0.00	0.00	0.49	3.56	2.00
102.00	17.18	0.00	0.00	0.49	3.56	2.00
103.00	17.18	0.00	0.00	0.49	3.56	2.00
104.00	17.18	0.00	0.00	0.49	3.56	2.00
105.00	17.18	0.00	0.00	0.49	3.56	2.00
106.00	17.18	0.00	0.00	0.49	3.56	2.00
107.00	17.18	0.00	0.00	0.49	3.56	2.00
108.00	17.18	0.00	0.00	0.49	3.56	2.00
109.00	17.18	0.00	0.00	0.49	3.56	2.00
110.00	17.18	0.00	0.00	0.49	3.56	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
111.00	17.18	0.00	0.00	0.49	3.56	2.00
112.00	17.18	0.00	0.00	0.49	3.56	2.00
113.00	17.18	0.00	0.00	0.49	3.56	2.00
114.00	17.18	0.00	0.00	0.49	3.56	2.00
115.00	17.18	0.00	0.00	0.49	3.56	2.00
116.00	17.18	0.00	0.00	0.49	3.56	2.00
117.00	17.18	0.00	0.00	0.49	3.56	2.00
118.00	17.18	0.00	0.00	0.49	3.56	2.00
119.00	17.18	0.00	0.00	0.49	3.56	2.00
120.00	17.18	0.00	0.00	0.49	3.56	2.00

Structure: 5

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 5.99 ft NAVD, Off Elev = 5.5 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.00	3.19	2.00
7.00	0.54	0.16	0.00	0.00	3.53	2.00
8.00	0.62	0.17	0.00	0.00	3.94	2.00
9.00	0.69	0.18	0.00	0.00	3.92	2.00
10.00	0.77	0.19	0.00	0.00	3.95	2.00
11.00	0.85	0.19	0.00	0.00	3.52	2.00
12.00	0.92	0.20	0.00	0.00	3.60	2.00
13.00	1.00	0.20	0.00	0.00	3.71	2.00
14.00	1.08	0.20	0.00	0.00	3.36	2.00
15.00	1.15	0.21	0.00	0.00	3.50	2.00
16.00	1.23	0.21	0.00	0.00	3.66	2.00
17.00	1.31	0.21	0.00	0.00	3.83	2.00
18.00	1.38	0.21	0.00	0.00	3.54	2.00
19.00	1.46	0.21	0.00	0.00	3.73	2.00
20.00	1.54	0.22	0.00	0.00	3.45	2.00
21.00	1.61	0.22	0.00	0.00	3.66	2.00
22.00	1.69	0.22	0.00	0.00	3.87	2.00
23.00	1.77	0.22	0.00	0.00	3.61	2.00
24.00	1.85	0.22	0.00	0.00	3.36	2.00
25.00	1.96	0.32	0.00	0.00	3.56	2.00
26.00	2.07	0.33	0.00	0.00	3.87	2.00
27.00	2.18	0.33	0.00	0.00	3.70	2.00
28.00	2.29	0.33	0.00	0.00	3.54	2.00
29.00	2.41	0.33	0.00	0.00	3.39	2.00
30.00	2.52	0.33	0.00	0.00	3.73	2.00
31.00	2.63	0.33	0.00	0.00	3.59	2.00
32.00	2.74	0.33	0.00	0.00	3.93	2.00
33.00	2.86	0.33	0.00	0.00	3.80	2.00
34.00	2.97	0.33	0.00	0.00	3.67	2.00
35.00	3.08	0.33	0.00	0.00	3.54	2.00
36.00	3.19	0.33	0.00	0.00	3.42	2.00
37.00	3.30	0.33	0.00	0.00	3.78	2.00
38.00	3.42	0.33	0.00	0.00	3.66	2.00
39.00	3.53	0.34	0.00	0.00	3.54	2.00
40.00	3.64	0.34	0.00	0.00	3.91	2.00
41.00	3.75	0.34	0.00	0.00	3.80	2.00
42.00	3.87	0.34	0.00	0.00	3.69	2.00
43.00	3.98	0.34	0.00	0.00	3.58	2.00
44.00	4.09	0.34	0.00	0.00	3.47	2.00
45.00	4.20	0.34	0.00	0.00	3.84	2.00
46.00	4.31	0.34	0.00	0.00	3.74	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
47.00	4.43	0.34	0.00	0.00	3.63	2.00
48.00	4.54	0.34	0.00	0.00	3.53	2.00
49.00	4.66	0.38	0.00	0.00	3.62	2.00
50.00	4.79	0.38	0.00	0.00	3.75	2.00
51.00	4.94	0.46	0.00	0.00	3.73	2.00
52.00	5.11	0.53	0.00	0.00	3.93	2.00
53.00	5.32	0.68	0.00	0.00	3.90	2.00
54.00	5.59	0.83	0.00	0.00	3.75	2.00
55.00	5.90	0.99	0.00	0.00	3.93	2.00
56.00	6.27	1.14	0.00	0.00	3.99	2.00
57.00	6.70	1.37	0.00	0.00	4.05	2.00
58.00	7.23	1.68	0.00	0.00	4.24	2.00
59.00	7.94	2.42	0.00	0.00	4.97	2.00
60.00	12.83	24.57	0.00	0.00	5.71	2.00
61.00	14.23	3.13	0.00	0.00	5.95	2.00
62.00	14.88	1.79	0.00	0.00	5.88	2.00
63.00	15.28	1.16	0.00	0.00	5.77	2.00
64.00	15.66	1.15	0.00	0.00	5.65	2.00
65.00	15.89	0.69	0.00	0.00	5.51	2.00
66.00	16.12	0.69	0.00	0.00	5.12	2.00
67.00	16.35	0.69	0.00	0.00	4.08	2.00
68.00	16.57	0.69	0.00	0.00	3.96	2.00
69.00	16.72	0.46	0.00	0.00	3.80	2.00
70.00	16.88	0.46	0.00	0.00	3.88	2.00
71.00	17.03	0.46	0.00	0.00	3.97	2.00
72.00	17.18	0.46	0.00	0.00	3.57	2.00
73.00	17.18	0.00	0.00	0.00	3.55	2.00
74.00	17.18	0.00	0.00	0.00	3.56	2.00
75.00	17.18	0.00	0.00	0.00	3.56	2.00
76.00	17.18	0.00	0.00	0.00	3.56	2.00
77.00	17.18	0.00	0.00	0.00	3.56	2.00
78.00	17.18	0.00	0.00	0.00	3.56	2.00
79.00	17.18	0.00	0.00	0.00	3.56	2.00
80.00	17.18	0.00	0.00	0.00	3.56	2.00
81.00	17.18	0.00	0.00	0.00	3.56	2.00
82.00	17.18	0.00	0.00	0.00	3.56	2.00
83.00	17.18	0.00	0.00	0.00	3.56	2.00
84.00	17.18	0.00	0.00	0.00	3.56	2.00
85.00	17.18	0.00	0.00	0.00	3.56	2.00
86.00	17.18	0.00	0.00	0.00	3.56	2.00
87.00	17.18	0.00	0.00	0.00	3.56	2.00
88.00	17.18	0.00	0.00	0.00	3.56	2.00
89.00	17.18	0.00	0.00	0.00	3.56	2.00
90.00	17.18	0.00	0.00	0.00	3.56	2.00
91.00	17.18	0.00	0.00	0.00	3.56	2.00
92.00	17.18	0.00	0.00	0.00	3.56	2.00
93.00	17.18	0.00	0.00	0.00	3.56	2.00
94.00	17.18	0.00	0.00	0.00	3.56	2.00
95.00	17.18	0.00	0.00	0.00	3.56	2.00
96.00	17.18	0.00	0.00	0.00	3.56	2.00
97.00	17.18	0.00	0.00	0.00	3.56	2.00
98.00	17.18	0.00	0.00	0.00	3.56	2.00
99.00	17.18	0.00	0.00	0.00	3.56	2.00
100.00	17.18	0.00	0.00	0.00	3.56	2.00
101.00	17.18	0.00	0.00	0.00	3.56	2.00
102.00	17.18	0.00	0.00	0.00	3.56	2.00
103.00	17.18	0.00	0.00	0.00	3.56	2.00
104.00	17.18	0.00	0.00	0.00	3.56	2.00
105.00	17.18	0.00	0.00	0.00	3.56	2.00
106.00	17.18	0.00	0.00	0.00	3.56	2.00
107.00	17.18	0.00	0.00	0.00	3.56	2.00
108.00	17.18	0.00	0.00	0.00	3.56	2.00
109.00	17.18	0.00	0.00	0.00	3.56	2.00
110.00	17.18	0.00	0.00	0.00	3.56	2.00
111.00	17.18	0.00	0.00	0.00	3.56	2.00
112.00	17.18	0.00	0.00	0.00	3.56	2.00
113.00	17.18	0.00	0.00	0.00	3.56	2.00
114.00	17.18	0.00	0.00	0.00	3.56	2.00
115.00	17.18	0.00	0.00	0.00	3.56	2.00
116.00	17.18	0.00	0.00	0.00	3.56	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
117.00	17.18	0.00	0.00	0.00	3.56	2.00
118.00	17.18	0.00	0.00	0.00	3.56	2.00
119.00	17.18	0.00	0.00	0.00	3.56	2.00
120.00	17.18	0.00	0.00	0.00	3.56	2.00

Structure: 6

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 6.49 ft NAVD, Off Elev = 6 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.00	3.19	2.00
7.00	0.54	0.16	0.00	0.00	3.53	2.00
8.00	0.62	0.17	0.00	0.00	3.94	2.00
9.00	0.69	0.18	0.00	0.00	3.92	2.00
10.00	0.77	0.19	0.00	0.00	3.95	2.00
11.00	0.85	0.19	0.00	0.00	3.52	2.00
12.00	0.92	0.20	0.00	0.00	3.60	2.00
13.00	1.00	0.20	0.00	0.00	3.71	2.00
14.00	1.08	0.20	0.00	0.00	3.36	2.00
15.00	1.15	0.21	0.00	0.00	3.50	2.00
16.00	1.23	0.21	0.00	0.00	3.66	2.00
17.00	1.31	0.21	0.00	0.00	3.83	2.00
18.00	1.38	0.21	0.00	0.00	3.54	2.00
19.00	1.46	0.21	0.00	0.00	3.73	2.00
20.00	1.54	0.22	0.00	0.00	3.45	2.00
21.00	1.61	0.22	0.00	0.00	3.66	2.00
22.00	1.69	0.22	0.00	0.00	3.87	2.00
23.00	1.77	0.22	0.00	0.00	3.61	2.00
24.00	1.85	0.22	0.00	0.00	3.36	2.00
25.00	1.96	0.32	0.00	0.00	3.56	2.00
26.00	2.07	0.33	0.00	0.00	3.87	2.00
27.00	2.18	0.33	0.00	0.00	3.70	2.00
28.00	2.29	0.33	0.00	0.00	3.54	2.00
29.00	2.41	0.33	0.00	0.00	3.39	2.00
30.00	2.52	0.33	0.00	0.00	3.73	2.00
31.00	2.63	0.33	0.00	0.00	3.59	2.00
32.00	2.74	0.33	0.00	0.00	3.93	2.00
33.00	2.86	0.33	0.00	0.00	3.80	2.00
34.00	2.97	0.33	0.00	0.00	3.67	2.00
35.00	3.08	0.33	0.00	0.00	3.54	2.00
36.00	3.19	0.33	0.00	0.00	3.42	2.00
37.00	3.30	0.33	0.00	0.00	3.78	2.00
38.00	3.42	0.33	0.00	0.00	3.66	2.00
39.00	3.53	0.34	0.00	0.00	3.54	2.00
40.00	3.64	0.34	0.00	0.00	3.91	2.00
41.00	3.75	0.34	0.00	0.00	3.80	2.00
42.00	3.87	0.34	0.00	0.00	3.69	2.00
43.00	3.98	0.34	0.00	0.00	3.58	2.00
44.00	4.09	0.34	0.00	0.00	3.47	2.00
45.00	4.20	0.34	0.00	0.00	3.84	2.00
46.00	4.31	0.34	0.00	0.00	3.74	2.00
47.00	4.43	0.34	0.00	0.00	3.63	2.00
48.00	4.54	0.34	0.00	0.00	3.53	2.00
49.00	4.66	0.38	0.00	0.00	3.62	2.00
50.00	4.79	0.38	0.00	0.00	3.75	2.00
51.00	4.94	0.46	0.00	0.00	3.73	2.00
52.00	5.11	0.53	0.00	0.00	3.93	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
53.00	5.32	0.68	0.00	0.00	3.90	2.00
54.00	5.59	0.83	0.00	0.00	3.75	2.00
55.00	5.90	0.99	0.00	0.00	3.93	2.00
56.00	6.27	1.14	0.00	0.00	3.99	2.00
57.00	6.70	1.37	0.00	0.00	4.05	2.00
58.00	7.23	1.68	0.00	0.00	4.24	2.00
59.00	7.94	2.42	0.00	0.00	4.97	2.00
60.00	12.83	24.57	0.00	0.00	5.71	2.00
61.00	14.23	3.13	0.00	0.00	5.95	2.00
62.00	14.88	1.79	0.00	0.00	5.88	2.00
63.00	15.28	1.16	0.00	0.00	5.77	2.00
64.00	15.66	1.15	0.00	0.00	5.65	2.00
65.00	15.89	0.69	0.00	0.00	5.51	2.00
66.00	16.12	0.69	0.00	0.00	5.12	2.00
67.00	16.35	0.69	0.00	0.00	4.08	2.00
68.00	16.57	0.69	0.00	0.00	3.96	2.00
69.00	16.72	0.46	0.00	0.00	3.80	2.00
70.00	16.88	0.46	0.00	0.00	3.88	2.00
71.00	17.03	0.46	0.00	0.00	3.97	2.00
72.00	17.18	0.46	0.00	0.00	3.57	2.00
73.00	17.18	0.00	0.00	0.00	3.55	2.00
74.00	17.18	0.00	0.00	0.00	3.56	2.00
75.00	17.18	0.00	0.00	0.00	3.56	2.00
76.00	17.18	0.00	0.00	0.00	3.56	2.00
77.00	17.18	0.00	0.00	0.00	3.56	2.00
78.00	17.18	0.00	0.00	0.00	3.56	2.00
79.00	17.18	0.00	0.00	0.00	3.56	2.00
80.00	17.18	0.00	0.00	0.00	3.56	2.00
81.00	17.18	0.00	0.00	0.00	3.56	2.00
82.00	17.18	0.00	0.00	0.00	3.56	2.00
83.00	17.18	0.00	0.00	0.00	3.56	2.00
84.00	17.18	0.00	0.00	0.00	3.56	2.00
85.00	17.18	0.00	0.00	0.00	3.56	2.00
86.00	17.18	0.00	0.00	0.00	3.56	2.00
87.00	17.18	0.00	0.00	0.00	3.56	2.00
88.00	17.18	0.00	0.00	0.00	3.56	2.00
89.00	17.18	0.00	0.00	0.00	3.56	2.00
90.00	17.18	0.00	0.00	0.00	3.56	2.00
91.00	17.18	0.00	0.00	0.00	3.56	2.00
92.00	17.18	0.00	0.00	0.00	3.56	2.00
93.00	17.18	0.00	0.00	0.00	3.56	2.00
94.00	17.18	0.00	0.00	0.00	3.56	2.00
95.00	17.18	0.00	0.00	0.00	3.56	2.00
96.00	17.18	0.00	0.00	0.00	3.56	2.00
97.00	17.18	0.00	0.00	0.00	3.56	2.00
98.00	17.18	0.00	0.00	0.00	3.56	2.00
99.00	17.18	0.00	0.00	0.00	3.56	2.00
100.00	17.18	0.00	0.00	0.00	3.56	2.00
101.00	17.18	0.00	0.00	0.00	3.56	2.00
102.00	17.18	0.00	0.00	0.00	3.56	2.00
103.00	17.18	0.00	0.00	0.00	3.56	2.00
104.00	17.18	0.00	0.00	0.00	3.56	2.00
105.00	17.18	0.00	0.00	0.00	3.56	2.00
106.00	17.18	0.00	0.00	0.00	3.56	2.00
107.00	17.18	0.00	0.00	0.00	3.56	2.00
108.00	17.18	0.00	0.00	0.00	3.56	2.00
109.00	17.18	0.00	0.00	0.00	3.56	2.00
110.00	17.18	0.00	0.00	0.00	3.56	2.00
111.00	17.18	0.00	0.00	0.00	3.56	2.00
112.00	17.18	0.00	0.00	0.00	3.56	2.00
113.00	17.18	0.00	0.00	0.00	3.56	2.00
114.00	17.18	0.00	0.00	0.00	3.56	2.00
115.00	17.18	0.00	0.00	0.00	3.56	2.00
116.00	17.18	0.00	0.00	0.00	3.56	2.00
117.00	17.18	0.00	0.00	0.00	3.56	2.00
118.00	17.18	0.00	0.00	0.00	3.56	2.00
119.00	17.18	0.00	0.00	0.00	3.56	2.00
120.00	17.18	0.00	0.00	0.00	3.56	2.00

Structure: 7

From Basin: Existing Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 6.99 ft NAVD, Off Elev = 6.5 ft NAVD, Capacity = 400 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.08	0.00	0.00	0.00	2.00	2.00
2.00	0.15	0.03	0.00	0.00	2.03	2.00
3.00	0.23	0.07	0.00	0.00	2.30	2.00
4.00	0.31	0.10	0.00	0.00	2.78	2.00
5.00	0.38	0.13	0.00	0.00	3.41	2.00
6.00	0.46	0.15	0.00	0.00	3.19	2.00
7.00	0.54	0.16	0.00	0.00	3.53	2.00
8.00	0.62	0.17	0.00	0.00	3.94	2.00
9.00	0.69	0.18	0.00	0.00	3.92	2.00
10.00	0.77	0.19	0.00	0.00	3.95	2.00
11.00	0.85	0.19	0.00	0.00	3.52	2.00
12.00	0.92	0.20	0.00	0.00	3.60	2.00
13.00	1.00	0.20	0.00	0.00	3.71	2.00
14.00	1.08	0.20	0.00	0.00	3.36	2.00
15.00	1.15	0.21	0.00	0.00	3.50	2.00
16.00	1.23	0.21	0.00	0.00	3.66	2.00
17.00	1.31	0.21	0.00	0.00	3.83	2.00
18.00	1.38	0.21	0.00	0.00	3.54	2.00
19.00	1.46	0.21	0.00	0.00	3.73	2.00
20.00	1.54	0.22	0.00	0.00	3.45	2.00
21.00	1.61	0.22	0.00	0.00	3.66	2.00
22.00	1.69	0.22	0.00	0.00	3.87	2.00
23.00	1.77	0.22	0.00	0.00	3.61	2.00
24.00	1.85	0.22	0.00	0.00	3.36	2.00
25.00	1.96	0.32	0.00	0.00	3.56	2.00
26.00	2.07	0.33	0.00	0.00	3.87	2.00
27.00	2.18	0.33	0.00	0.00	3.70	2.00
28.00	2.29	0.33	0.00	0.00	3.54	2.00
29.00	2.41	0.33	0.00	0.00	3.39	2.00
30.00	2.52	0.33	0.00	0.00	3.73	2.00
31.00	2.63	0.33	0.00	0.00	3.59	2.00
32.00	2.74	0.33	0.00	0.00	3.93	2.00
33.00	2.86	0.33	0.00	0.00	3.80	2.00
34.00	2.97	0.33	0.00	0.00	3.67	2.00
35.00	3.08	0.33	0.00	0.00	3.54	2.00
36.00	3.19	0.33	0.00	0.00	3.42	2.00
37.00	3.30	0.33	0.00	0.00	3.78	2.00
38.00	3.42	0.33	0.00	0.00	3.66	2.00
39.00	3.53	0.34	0.00	0.00	3.54	2.00
40.00	3.64	0.34	0.00	0.00	3.91	2.00
41.00	3.75	0.34	0.00	0.00	3.80	2.00
42.00	3.87	0.34	0.00	0.00	3.69	2.00
43.00	3.98	0.34	0.00	0.00	3.58	2.00
44.00	4.09	0.34	0.00	0.00	3.47	2.00
45.00	4.20	0.34	0.00	0.00	3.84	2.00
46.00	4.31	0.34	0.00	0.00	3.74	2.00
47.00	4.43	0.34	0.00	0.00	3.63	2.00
48.00	4.54	0.34	0.00	0.00	3.53	2.00
49.00	4.66	0.38	0.00	0.00	3.62	2.00
50.00	4.79	0.38	0.00	0.00	3.75	2.00
51.00	4.94	0.46	0.00	0.00	3.73	2.00
52.00	5.11	0.53	0.00	0.00	3.93	2.00
53.00	5.32	0.68	0.00	0.00	3.90	2.00
54.00	5.59	0.83	0.00	0.00	3.75	2.00
55.00	5.90	0.99	0.00	0.00	3.93	2.00
56.00	6.27	1.14	0.00	0.00	3.99	2.00
57.00	6.70	1.37	0.00	0.00	4.05	2.00
58.00	7.23	1.68	0.00	0.00	4.24	2.00
59.00	7.94	2.42	0.00	0.00	4.97	2.00
60.00	12.83	24.57	0.00	0.00	5.71	2.00
61.00	14.23	3.13	0.00	0.00	5.95	2.00
62.00	14.88	1.79	0.00	0.00	5.88	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
63.00	15.28	1.16	0.00	0.00	5.77	2.00
64.00	15.66	1.15	0.00	0.00	5.65	2.00
65.00	15.89	0.69	0.00	0.00	5.51	2.00
66.00	16.12	0.69	0.00	0.00	5.12	2.00
67.00	16.35	0.69	0.00	0.00	4.08	2.00
68.00	16.57	0.69	0.00	0.00	3.96	2.00
69.00	16.72	0.46	0.00	0.00	3.80	2.00
70.00	16.88	0.46	0.00	0.00	3.88	2.00
71.00	17.03	0.46	0.00	0.00	3.97	2.00
72.00	17.18	0.46	0.00	0.00	3.57	2.00
73.00	17.18	0.00	0.00	0.00	3.55	2.00
74.00	17.18	0.00	0.00	0.00	3.56	2.00
75.00	17.18	0.00	0.00	0.00	3.56	2.00
76.00	17.18	0.00	0.00	0.00	3.56	2.00
77.00	17.18	0.00	0.00	0.00	3.56	2.00
78.00	17.18	0.00	0.00	0.00	3.56	2.00
79.00	17.18	0.00	0.00	0.00	3.56	2.00
80.00	17.18	0.00	0.00	0.00	3.56	2.00
81.00	17.18	0.00	0.00	0.00	3.56	2.00
82.00	17.18	0.00	0.00	0.00	3.56	2.00
83.00	17.18	0.00	0.00	0.00	3.56	2.00
84.00	17.18	0.00	0.00	0.00	3.56	2.00
85.00	17.18	0.00	0.00	0.00	3.56	2.00
86.00	17.18	0.00	0.00	0.00	3.56	2.00
87.00	17.18	0.00	0.00	0.00	3.56	2.00
88.00	17.18	0.00	0.00	0.00	3.56	2.00
89.00	17.18	0.00	0.00	0.00	3.56	2.00
90.00	17.18	0.00	0.00	0.00	3.56	2.00
91.00	17.18	0.00	0.00	0.00	3.56	2.00
92.00	17.18	0.00	0.00	0.00	3.56	2.00
93.00	17.18	0.00	0.00	0.00	3.56	2.00
94.00	17.18	0.00	0.00	0.00	3.56	2.00
95.00	17.18	0.00	0.00	0.00	3.56	2.00
96.00	17.18	0.00	0.00	0.00	3.56	2.00
97.00	17.18	0.00	0.00	0.00	3.56	2.00
98.00	17.18	0.00	0.00	0.00	3.56	2.00
99.00	17.18	0.00	0.00	0.00	3.56	2.00
100.00	17.18	0.00	0.00	0.00	3.56	2.00
101.00	17.18	0.00	0.00	0.00	3.56	2.00
102.00	17.18	0.00	0.00	0.00	3.56	2.00
103.00	17.18	0.00	0.00	0.00	3.56	2.00
104.00	17.18	0.00	0.00	0.00	3.56	2.00
105.00	17.18	0.00	0.00	0.00	3.56	2.00
106.00	17.18	0.00	0.00	0.00	3.56	2.00
107.00	17.18	0.00	0.00	0.00	3.56	2.00
108.00	17.18	0.00	0.00	0.00	3.56	2.00
109.00	17.18	0.00	0.00	0.00	3.56	2.00
110.00	17.18	0.00	0.00	0.00	3.56	2.00
111.00	17.18	0.00	0.00	0.00	3.56	2.00
112.00	17.18	0.00	0.00	0.00	3.56	2.00
113.00	17.18	0.00	0.00	0.00	3.56	2.00
114.00	17.18	0.00	0.00	0.00	3.56	2.00
115.00	17.18	0.00	0.00	0.00	3.56	2.00
116.00	17.18	0.00	0.00	0.00	3.56	2.00
117.00	17.18	0.00	0.00	0.00	3.56	2.00
118.00	17.18	0.00	0.00	0.00	3.56	2.00
119.00	17.18	0.00	0.00	0.00	3.56	2.00
120.00	17.18	0.00	0.00	0.00	3.56	2.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	0.89	5.80	0.00	0.00
2	0.89	55.80	0.00	0.00
3	0.89	59.00	0.00	0.00
4	0.89	59.80	0.00	0.00
5	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00

7	0.00	0.00	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Existing Condi	5.95	60.80	2.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Existing Condi	4.16	0.00	4.14	0.02	0.05	0.00

100-YEAR, 3-DAY STORM

PROPOSED CONDITIONS

Project Name: Joint Government Center Campus
Reviewer: NSK
Project Number: 20-162.036
Period Begin: May 15, 2020;0000 hr End: May 20, 2020;0000 hr Duration: 120 hr
Time Step: 0.2 hr, Iterations: 10

Basin 1: Proposed Conditions

Method: Santa Barbara Unit Hydrograph
Rainfall Distribution: SFWMD - 3day
Design Frequency: 100 year
3 Day Rainfall: 14.72 inches
Area: 3.02 acres
Ground Storage: 0.07 inches
Time of Concentration: 0.167 hours
Initial Stage: 2 ft NAVD

Stage (ft NAVD)	Storage (acre-ft)
3.50	0.00
4.00	0.00
4.50	0.00
5.00	0.01
5.50	0.19
6.00	0.71
6.50	1.53
7.00	2.48
7.50	3.44
8.00	4.40
8.50	5.37
9.00	6.37
9.50	7.40

Offsite Receiving Body: Offsite (Aquifer)

Time (hr)	Stage (ft NAVD)
0.00	2.00
120.00	2.00

Structure: 1

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 3.99 ft NAVD, Off Elev = 3.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.03	3.50	2.00
5.00	0.33	0.19	0.00	0.03	3.50	2.00
6.00	0.40	0.20	0.00	0.03	4.68	2.00
7.00	0.46	0.20	0.00	0.03	5.04	2.00
8.00	0.53	0.20	0.00	0.03	5.08	2.00
9.00	0.59	0.20	0.00	0.05	4.54	2.00
10.00	0.66	0.20	0.00	0.05	5.03	2.00
11.00	0.72	0.20	0.00	0.05	5.08	2.00
12.00	0.79	0.20	0.00	0.08	4.32	2.00
13.00	0.86	0.20	0.00	0.08	5.03	2.00
14.00	0.92	0.20	0.00	0.08	5.08	2.00
15.00	0.99	0.20	0.00	0.10	3.50	2.00
16.00	1.05	0.20	0.00	0.10	3.50	2.00
17.00	1.12	0.20	0.00	0.10	5.01	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
18.00	1.19	0.20	0.00	0.10	5.05	2.00
19.00	1.25	0.20	0.00	0.13	3.50	2.00
20.00	1.32	0.20	0.00	0.13	5.01	2.00
21.00	1.38	0.20	0.00	0.13	5.05	2.00
22.00	1.45	0.20	1.52	0.15	4.72	2.00
23.00	1.52	0.20	0.00	0.15	3.50	2.00
24.00	1.58	0.20	0.00	0.15	3.50	2.00
25.00	1.68	0.29	0.00	0.15	5.04	2.00
26.00	1.77	0.29	0.00	0.18	3.50	2.00
27.00	1.87	0.29	0.00	0.18	3.50	2.00
28.00	1.97	0.29	0.00	0.18	5.04	2.00
29.00	2.06	0.29	0.00	0.20	3.50	2.00
30.00	2.16	0.29	0.00	0.20	5.03	2.00
31.00	2.25	0.29	1.52	0.23	4.77	2.00
32.00	2.35	0.29	0.00	0.23	3.50	2.00
33.00	2.45	0.29	0.00	0.23	5.02	2.00
34.00	2.54	0.29	1.52	0.25	5.02	2.00
35.00	2.64	0.29	0.00	0.25	5.02	2.00
36.00	2.73	0.29	0.00	0.25	5.08	2.00
37.00	2.83	0.29	0.00	0.28	3.50	2.00
38.00	2.93	0.29	0.00	0.28	5.01	2.00
39.00	3.02	0.29	0.00	0.28	5.08	2.00
40.00	3.12	0.29	0.00	0.30	3.50	2.00
41.00	3.22	0.29	0.00	0.30	5.00	2.00
42.00	3.31	0.29	0.00	0.30	5.07	2.00
43.00	3.41	0.29	0.00	0.33	3.50	2.00
44.00	3.50	0.29	0.00	0.33	4.91	2.00
45.00	3.60	0.29	0.00	0.33	5.06	2.00
46.00	3.70	0.29	0.00	0.35	4.70	2.00
47.00	3.79	0.29	0.00	0.35	5.06	2.00
48.00	3.89	0.29	0.00	0.38	3.50	2.00
49.00	4.00	0.33	0.00	0.38	4.68	2.00
50.00	4.11	0.33	0.00	0.38	5.07	2.00
51.00	4.24	0.40	0.00	0.40	3.50	2.00
52.00	4.38	0.46	0.00	0.40	5.04	2.00
53.00	4.56	0.59	0.00	0.43	5.03	2.00
54.00	4.79	0.72	0.00	0.45	3.50	2.00
55.00	5.06	0.85	0.00	0.48	3.50	2.00
56.00	5.37	0.98	0.00	0.50	3.50	2.00
57.00	5.74	1.18	0.00	0.53	4.66	2.00
58.00	6.20	1.44	1.52	0.58	5.02	2.00
59.00	6.80	2.08	0.00	0.63	4.99	2.00
60.00	10.99	21.10	1.52	0.73	5.76	2.00
61.00	12.20	2.68	1.52	0.85	5.74	2.00
62.00	12.75	1.54	1.52	0.98	5.07	2.00
63.00	13.10	1.00	0.00	1.00	4.63	2.00
64.00	13.42	0.99	0.00	1.03	5.01	2.00
65.00	13.62	0.59	0.00	1.05	3.50	2.00
66.00	13.81	0.59	1.52	1.08	5.02	2.00
67.00	14.01	0.59	0.00	1.08	5.08	2.00
68.00	14.20	0.59	0.00	1.10	5.01	2.00
69.00	14.33	0.40	0.00	1.13	3.50	2.00
70.00	14.46	0.40	0.00	1.13	4.87	2.00
71.00	14.59	0.40	0.00	1.13	5.08	2.00
72.00	14.72	0.40	0.00	1.15	3.50	2.00
73.00	14.72	0.00	0.00	1.15	4.30	2.00
74.00	14.72	0.00	0.00	1.15	4.31	2.00
75.00	14.72	0.00	0.00	1.15	4.31	2.00
76.00	14.72	0.00	0.00	1.15	4.31	2.00
77.00	14.72	0.00	0.00	1.15	4.31	2.00
78.00	14.72	0.00	0.00	1.15	4.31	2.00
79.00	14.72	0.00	0.00	1.15	4.31	2.00
80.00	14.72	0.00	0.00	1.15	4.31	2.00
81.00	14.72	0.00	0.00	1.15	4.31	2.00
82.00	14.72	0.00	0.00	1.15	4.31	2.00
83.00	14.72	0.00	0.00	1.15	4.31	2.00
84.00	14.72	0.00	0.00	1.15	4.31	2.00
85.00	14.72	0.00	0.00	1.15	4.31	2.00
86.00	14.72	0.00	0.00	1.15	4.31	2.00
87.00	14.72	0.00	0.00	1.15	4.31	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
88.00	14.72	0.00	0.00	1.15	4.31	2.00
89.00	14.72	0.00	0.00	1.15	4.31	2.00
90.00	14.72	0.00	0.00	1.15	4.31	2.00
91.00	14.72	0.00	0.00	1.15	4.31	2.00
92.00	14.72	0.00	0.00	1.15	4.31	2.00
93.00	14.72	0.00	0.00	1.15	4.31	2.00
94.00	14.72	0.00	0.00	1.15	4.31	2.00
95.00	14.72	0.00	0.00	1.15	4.31	2.00
96.00	14.72	0.00	0.00	1.15	4.31	2.00
97.00	14.72	0.00	0.00	1.15	4.31	2.00
98.00	14.72	0.00	0.00	1.15	4.31	2.00
99.00	14.72	0.00	0.00	1.15	4.31	2.00
100.00	14.72	0.00	0.00	1.15	4.31	2.00
101.00	14.72	0.00	0.00	1.15	4.31	2.00
102.00	14.72	0.00	0.00	1.15	4.31	2.00
103.00	14.72	0.00	0.00	1.15	4.31	2.00
104.00	14.72	0.00	0.00	1.15	4.31	2.00
105.00	14.72	0.00	0.00	1.15	4.31	2.00
106.00	14.72	0.00	0.00	1.15	4.31	2.00
107.00	14.72	0.00	0.00	1.15	4.31	2.00
108.00	14.72	0.00	0.00	1.15	4.31	2.00
109.00	14.72	0.00	0.00	1.15	4.31	2.00
110.00	14.72	0.00	0.00	1.15	4.31	2.00
111.00	14.72	0.00	0.00	1.15	4.31	2.00
112.00	14.72	0.00	0.00	1.15	4.31	2.00
113.00	14.72	0.00	0.00	1.15	4.31	2.00
114.00	14.72	0.00	0.00	1.15	4.31	2.00
115.00	14.72	0.00	0.00	1.15	4.31	2.00
116.00	14.72	0.00	0.00	1.15	4.31	2.00
117.00	14.72	0.00	0.00	1.15	4.31	2.00
118.00	14.72	0.00	0.00	1.15	4.31	2.00
119.00	14.72	0.00	0.00	1.15	4.31	2.00
120.00	14.72	0.00	0.00	1.15	4.31	2.00

Structure: 2

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 4.49 ft NAVD, Off Elev = 4 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.03	3.50	2.00
5.00	0.33	0.19	0.00	0.03	3.50	2.00
6.00	0.40	0.20	0.00	0.03	4.68	2.00
7.00	0.46	0.20	0.00	0.03	5.04	2.00
8.00	0.53	0.20	0.00	0.03	5.08	2.00
9.00	0.59	0.20	0.00	0.05	4.54	2.00
10.00	0.66	0.20	0.00	0.05	5.03	2.00
11.00	0.72	0.20	0.00	0.05	5.08	2.00
12.00	0.79	0.20	0.00	0.08	4.32	2.00
13.00	0.86	0.20	0.00	0.08	5.03	2.00
14.00	0.92	0.20	0.00	0.08	5.08	2.00
15.00	0.99	0.20	0.00	0.10	3.50	2.00
16.00	1.05	0.20	0.00	0.10	3.50	2.00
17.00	1.12	0.20	0.00	0.10	5.01	2.00
18.00	1.19	0.20	0.00	0.10	5.05	2.00
19.00	1.25	0.20	0.00	0.13	3.50	2.00
20.00	1.32	0.20	0.00	0.13	5.01	2.00
21.00	1.38	0.20	0.00	0.13	5.05	2.00
22.00	1.45	0.20	1.52	0.15	4.72	2.00
23.00	1.52	0.20	0.00	0.15	3.50	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
24.00	1.58	0.20	0.00	0.15	3.50	2.00
25.00	1.68	0.29	0.00	0.15	5.04	2.00
26.00	1.77	0.29	0.00	0.18	3.50	2.00
27.00	1.87	0.29	0.00	0.18	3.50	2.00
28.00	1.97	0.29	0.00	0.18	5.04	2.00
29.00	2.06	0.29	0.00	0.20	3.50	2.00
30.00	2.16	0.29	0.00	0.20	5.03	2.00
31.00	2.25	0.29	1.52	0.23	4.77	2.00
32.00	2.35	0.29	0.00	0.23	3.50	2.00
33.00	2.45	0.29	0.00	0.23	5.02	2.00
34.00	2.54	0.29	1.52	0.25	5.02	2.00
35.00	2.64	0.29	0.00	0.25	5.02	2.00
36.00	2.73	0.29	0.00	0.25	5.08	2.00
37.00	2.83	0.29	0.00	0.28	3.50	2.00
38.00	2.93	0.29	0.00	0.28	5.01	2.00
39.00	3.02	0.29	0.00	0.28	5.08	2.00
40.00	3.12	0.29	0.00	0.30	3.50	2.00
41.00	3.22	0.29	0.00	0.30	5.00	2.00
42.00	3.31	0.29	0.00	0.30	5.07	2.00
43.00	3.41	0.29	0.00	0.33	3.50	2.00
44.00	3.50	0.29	0.00	0.33	4.91	2.00
45.00	3.60	0.29	0.00	0.33	5.06	2.00
46.00	3.70	0.29	0.00	0.35	4.70	2.00
47.00	3.79	0.29	0.00	0.35	5.06	2.00
48.00	3.89	0.29	0.00	0.38	3.50	2.00
49.00	4.00	0.33	0.00	0.38	4.68	2.00
50.00	4.11	0.33	0.00	0.38	5.07	2.00
51.00	4.24	0.40	0.00	0.40	3.50	2.00
52.00	4.38	0.46	0.00	0.40	5.04	2.00
53.00	4.56	0.59	0.00	0.43	5.03	2.00
54.00	4.79	0.72	0.00	0.45	3.50	2.00
55.00	5.06	0.85	0.00	0.48	3.50	2.00
56.00	5.37	0.98	0.00	0.50	3.50	2.00
57.00	5.74	1.18	0.00	0.53	4.66	2.00
58.00	6.20	1.44	1.52	0.58	5.02	2.00
59.00	6.80	2.08	0.00	0.63	4.99	2.00
60.00	10.99	21.10	1.52	0.73	5.76	2.00
61.00	12.20	2.68	1.52	0.85	5.74	2.00
62.00	12.75	1.54	1.52	0.98	5.07	2.00
63.00	13.10	1.00	0.00	1.00	4.63	2.00
64.00	13.42	0.99	0.00	1.03	5.01	2.00
65.00	13.62	0.59	0.00	1.05	3.50	2.00
66.00	13.81	0.59	1.52	1.08	5.02	2.00
67.00	14.01	0.59	0.00	1.08	5.08	2.00
68.00	14.20	0.59	0.00	1.10	5.01	2.00
69.00	14.33	0.40	0.00	1.13	3.50	2.00
70.00	14.46	0.40	0.00	1.13	4.87	2.00
71.00	14.59	0.40	0.00	1.13	5.08	2.00
72.00	14.72	0.40	0.00	1.15	3.50	2.00
73.00	14.72	0.00	0.00	1.15	4.30	2.00
74.00	14.72	0.00	0.00	1.15	4.31	2.00
75.00	14.72	0.00	0.00	1.15	4.31	2.00
76.00	14.72	0.00	0.00	1.15	4.31	2.00
77.00	14.72	0.00	0.00	1.15	4.31	2.00
78.00	14.72	0.00	0.00	1.15	4.31	2.00
79.00	14.72	0.00	0.00	1.15	4.31	2.00
80.00	14.72	0.00	0.00	1.15	4.31	2.00
81.00	14.72	0.00	0.00	1.15	4.31	2.00
82.00	14.72	0.00	0.00	1.15	4.31	2.00
83.00	14.72	0.00	0.00	1.15	4.31	2.00
84.00	14.72	0.00	0.00	1.15	4.31	2.00
85.00	14.72	0.00	0.00	1.15	4.31	2.00
86.00	14.72	0.00	0.00	1.15	4.31	2.00
87.00	14.72	0.00	0.00	1.15	4.31	2.00
88.00	14.72	0.00	0.00	1.15	4.31	2.00
89.00	14.72	0.00	0.00	1.15	4.31	2.00
90.00	14.72	0.00	0.00	1.15	4.31	2.00
91.00	14.72	0.00	0.00	1.15	4.31	2.00
92.00	14.72	0.00	0.00	1.15	4.31	2.00
93.00	14.72	0.00	0.00	1.15	4.31	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
94.00	14.72	0.00	0.00	1.15	4.31	2.00
95.00	14.72	0.00	0.00	1.15	4.31	2.00
96.00	14.72	0.00	0.00	1.15	4.31	2.00
97.00	14.72	0.00	0.00	1.15	4.31	2.00
98.00	14.72	0.00	0.00	1.15	4.31	2.00
99.00	14.72	0.00	0.00	1.15	4.31	2.00
100.00	14.72	0.00	0.00	1.15	4.31	2.00
101.00	14.72	0.00	0.00	1.15	4.31	2.00
102.00	14.72	0.00	0.00	1.15	4.31	2.00
103.00	14.72	0.00	0.00	1.15	4.31	2.00
104.00	14.72	0.00	0.00	1.15	4.31	2.00
105.00	14.72	0.00	0.00	1.15	4.31	2.00
106.00	14.72	0.00	0.00	1.15	4.31	2.00
107.00	14.72	0.00	0.00	1.15	4.31	2.00
108.00	14.72	0.00	0.00	1.15	4.31	2.00
109.00	14.72	0.00	0.00	1.15	4.31	2.00
110.00	14.72	0.00	0.00	1.15	4.31	2.00
111.00	14.72	0.00	0.00	1.15	4.31	2.00
112.00	14.72	0.00	0.00	1.15	4.31	2.00
113.00	14.72	0.00	0.00	1.15	4.31	2.00
114.00	14.72	0.00	0.00	1.15	4.31	2.00
115.00	14.72	0.00	0.00	1.15	4.31	2.00
116.00	14.72	0.00	0.00	1.15	4.31	2.00
117.00	14.72	0.00	0.00	1.15	4.31	2.00
118.00	14.72	0.00	0.00	1.15	4.31	2.00
119.00	14.72	0.00	0.00	1.15	4.31	2.00
120.00	14.72	0.00	0.00	1.15	4.31	2.00

Structure: 3

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 4.99 ft NAVD, Off Elev = 4.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.03	3.50	2.00
5.00	0.33	0.19	0.00	0.03	3.50	2.00
6.00	0.40	0.20	0.00	0.03	4.68	2.00
7.00	0.46	0.20	0.00	0.03	5.04	2.00
8.00	0.53	0.20	0.00	0.03	5.08	2.00
9.00	0.59	0.20	0.00	0.03	4.54	2.00
10.00	0.66	0.20	0.00	0.03	5.03	2.00
11.00	0.72	0.20	0.00	0.03	5.08	2.00
12.00	0.79	0.20	0.00	0.03	4.32	2.00
13.00	0.86	0.20	0.00	0.03	5.03	2.00
14.00	0.92	0.20	0.00	0.03	5.08	2.00
15.00	0.99	0.20	0.00	0.05	3.50	2.00
16.00	1.05	0.20	0.00	0.05	3.50	2.00
17.00	1.12	0.20	0.00	0.05	5.01	2.00
18.00	1.19	0.20	0.00	0.05	5.05	2.00
19.00	1.25	0.20	0.00	0.05	3.50	2.00
20.00	1.32	0.20	0.00	0.05	5.01	2.00
21.00	1.38	0.20	0.00	0.05	5.05	2.00
22.00	1.45	0.20	1.52	0.08	4.72	2.00
23.00	1.52	0.20	0.00	0.08	3.50	2.00
24.00	1.58	0.20	0.00	0.08	3.50	2.00
25.00	1.68	0.29	0.00	0.08	5.04	2.00
26.00	1.77	0.29	0.00	0.10	3.50	2.00
27.00	1.87	0.29	0.00	0.10	3.50	2.00
28.00	1.97	0.29	0.00	0.10	5.04	2.00
29.00	2.06	0.29	0.00	0.10	3.50	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
30.00	2.16	0.29	0.00	0.10	5.03	2.00
31.00	2.25	0.29	1.52	0.13	4.77	2.00
32.00	2.35	0.29	0.00	0.13	3.50	2.00
33.00	2.45	0.29	0.00	0.13	5.02	2.00
34.00	2.54	0.29	0.00	0.13	5.02	2.00
35.00	2.64	0.29	0.00	0.13	5.02	2.00
36.00	2.73	0.29	0.00	0.13	5.08	2.00
37.00	2.83	0.29	0.00	0.15	3.50	2.00
38.00	2.93	0.29	0.00	0.15	5.01	2.00
39.00	3.02	0.29	0.00	0.15	5.08	2.00
40.00	3.12	0.29	0.00	0.18	3.50	2.00
41.00	3.22	0.29	0.00	0.18	5.00	2.00
42.00	3.31	0.29	0.00	0.18	5.07	2.00
43.00	3.41	0.29	0.00	0.20	3.50	2.00
44.00	3.50	0.29	0.00	0.20	4.91	2.00
45.00	3.60	0.29	0.00	0.20	5.06	2.00
46.00	3.70	0.29	0.00	0.20	4.70	2.00
47.00	3.79	0.29	0.00	0.20	5.06	2.00
48.00	3.89	0.29	0.00	0.23	3.50	2.00
49.00	4.00	0.33	0.00	0.23	4.68	2.00
50.00	4.11	0.33	0.00	0.23	5.07	2.00
51.00	4.24	0.40	0.00	0.25	3.50	2.00
52.00	4.38	0.46	0.00	0.25	5.04	2.00
53.00	4.56	0.59	0.00	0.25	5.03	2.00
54.00	4.79	0.72	0.00	0.28	3.50	2.00
55.00	5.06	0.85	0.00	0.30	3.50	2.00
56.00	5.37	0.98	0.00	0.33	3.50	2.00
57.00	5.74	1.18	0.00	0.35	4.66	2.00
58.00	6.20	1.44	0.00	0.38	5.02	2.00
59.00	6.80	2.08	0.00	0.40	4.99	2.00
60.00	10.99	21.10	1.52	0.50	5.76	2.00
61.00	12.20	2.68	1.52	0.63	5.74	2.00
62.00	12.75	1.54	1.52	0.75	5.07	2.00
63.00	13.10	1.00	0.00	0.78	4.63	2.00
64.00	13.42	0.99	0.00	0.80	5.01	2.00
65.00	13.62	0.59	0.00	0.83	3.50	2.00
66.00	13.81	0.59	0.00	0.83	5.02	2.00
67.00	14.01	0.59	0.00	0.83	5.08	2.00
68.00	14.20	0.59	0.00	0.85	5.01	2.00
69.00	14.33	0.40	0.00	0.88	3.50	2.00
70.00	14.46	0.40	0.00	0.88	4.87	2.00
71.00	14.59	0.40	0.00	0.88	5.08	2.00
72.00	14.72	0.40	0.00	0.90	3.50	2.00
73.00	14.72	0.00	0.00	0.90	4.30	2.00
74.00	14.72	0.00	0.00	0.90	4.31	2.00
75.00	14.72	0.00	0.00	0.90	4.31	2.00
76.00	14.72	0.00	0.00	0.90	4.31	2.00
77.00	14.72	0.00	0.00	0.90	4.31	2.00
78.00	14.72	0.00	0.00	0.90	4.31	2.00
79.00	14.72	0.00	0.00	0.90	4.31	2.00
80.00	14.72	0.00	0.00	0.90	4.31	2.00
81.00	14.72	0.00	0.00	0.90	4.31	2.00
82.00	14.72	0.00	0.00	0.90	4.31	2.00
83.00	14.72	0.00	0.00	0.90	4.31	2.00
84.00	14.72	0.00	0.00	0.90	4.31	2.00
85.00	14.72	0.00	0.00	0.90	4.31	2.00
86.00	14.72	0.00	0.00	0.90	4.31	2.00
87.00	14.72	0.00	0.00	0.90	4.31	2.00
88.00	14.72	0.00	0.00	0.90	4.31	2.00
89.00	14.72	0.00	0.00	0.90	4.31	2.00
90.00	14.72	0.00	0.00	0.90	4.31	2.00
91.00	14.72	0.00	0.00	0.90	4.31	2.00
92.00	14.72	0.00	0.00	0.90	4.31	2.00
93.00	14.72	0.00	0.00	0.90	4.31	2.00
94.00	14.72	0.00	0.00	0.90	4.31	2.00
95.00	14.72	0.00	0.00	0.90	4.31	2.00
96.00	14.72	0.00	0.00	0.90	4.31	2.00
97.00	14.72	0.00	0.00	0.90	4.31	2.00
98.00	14.72	0.00	0.00	0.90	4.31	2.00
99.00	14.72	0.00	0.00	0.90	4.31	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
100.00	14.72	0.00	0.00	0.90	4.31	2.00
101.00	14.72	0.00	0.00	0.90	4.31	2.00
102.00	14.72	0.00	0.00	0.90	4.31	2.00
103.00	14.72	0.00	0.00	0.90	4.31	2.00
104.00	14.72	0.00	0.00	0.90	4.31	2.00
105.00	14.72	0.00	0.00	0.90	4.31	2.00
106.00	14.72	0.00	0.00	0.90	4.31	2.00
107.00	14.72	0.00	0.00	0.90	4.31	2.00
108.00	14.72	0.00	0.00	0.90	4.31	2.00
109.00	14.72	0.00	0.00	0.90	4.31	2.00
110.00	14.72	0.00	0.00	0.90	4.31	2.00
111.00	14.72	0.00	0.00	0.90	4.31	2.00
112.00	14.72	0.00	0.00	0.90	4.31	2.00
113.00	14.72	0.00	0.00	0.90	4.31	2.00
114.00	14.72	0.00	0.00	0.90	4.31	2.00
115.00	14.72	0.00	0.00	0.90	4.31	2.00
116.00	14.72	0.00	0.00	0.90	4.31	2.00
117.00	14.72	0.00	0.00	0.90	4.31	2.00
118.00	14.72	0.00	0.00	0.90	4.31	2.00
119.00	14.72	0.00	0.00	0.90	4.31	2.00
120.00	14.72	0.00	0.00	0.90	4.31	2.00

Structure: 4

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 5.49 ft NAVD, Off Elev = 5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.00	3.50	2.00
5.00	0.33	0.19	0.00	0.00	3.50	2.00
6.00	0.40	0.20	0.00	0.00	4.68	2.00
7.00	0.46	0.20	0.00	0.00	5.04	2.00
8.00	0.53	0.20	0.00	0.00	5.08	2.00
9.00	0.59	0.20	0.00	0.00	4.54	2.00
10.00	0.66	0.20	0.00	0.00	5.03	2.00
11.00	0.72	0.20	0.00	0.00	5.08	2.00
12.00	0.79	0.20	0.00	0.00	4.32	2.00
13.00	0.86	0.20	0.00	0.00	5.03	2.00
14.00	0.92	0.20	0.00	0.00	5.08	2.00
15.00	0.99	0.20	0.00	0.00	3.50	2.00
16.00	1.05	0.20	0.00	0.00	3.50	2.00
17.00	1.12	0.20	0.00	0.00	5.01	2.00
18.00	1.19	0.20	0.00	0.00	5.05	2.00
19.00	1.25	0.20	0.00	0.00	3.50	2.00
20.00	1.32	0.20	0.00	0.00	5.01	2.00
21.00	1.38	0.20	0.00	0.00	5.05	2.00
22.00	1.45	0.20	0.00	0.00	4.72	2.00
23.00	1.52	0.20	0.00	0.00	3.50	2.00
24.00	1.58	0.20	0.00	0.00	3.50	2.00
25.00	1.68	0.29	0.00	0.00	5.04	2.00
26.00	1.77	0.29	0.00	0.00	3.50	2.00
27.00	1.87	0.29	0.00	0.00	3.50	2.00
28.00	1.97	0.29	0.00	0.00	5.04	2.00
29.00	2.06	0.29	0.00	0.00	3.50	2.00
30.00	2.16	0.29	0.00	0.00	5.03	2.00
31.00	2.25	0.29	0.00	0.00	4.77	2.00
32.00	2.35	0.29	0.00	0.00	3.50	2.00
33.00	2.45	0.29	0.00	0.00	5.02	2.00
34.00	2.54	0.29	0.00	0.00	5.02	2.00
35.00	2.64	0.29	0.00	0.00	5.02	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
36.00	2.73	0.29	0.00	0.00	5.08	2.00
37.00	2.83	0.29	0.00	0.00	3.50	2.00
38.00	2.93	0.29	0.00	0.00	5.01	2.00
39.00	3.02	0.29	0.00	0.00	5.08	2.00
40.00	3.12	0.29	0.00	0.00	3.50	2.00
41.00	3.22	0.29	0.00	0.00	5.00	2.00
42.00	3.31	0.29	0.00	0.00	5.07	2.00
43.00	3.41	0.29	0.00	0.00	3.50	2.00
44.00	3.50	0.29	0.00	0.00	4.91	2.00
45.00	3.60	0.29	0.00	0.00	5.06	2.00
46.00	3.70	0.29	0.00	0.00	4.70	2.00
47.00	3.79	0.29	0.00	0.00	5.06	2.00
48.00	3.89	0.29	0.00	0.00	3.50	2.00
49.00	4.00	0.33	0.00	0.00	4.68	2.00
50.00	4.11	0.33	0.00	0.00	5.07	2.00
51.00	4.24	0.40	0.00	0.00	3.50	2.00
52.00	4.38	0.46	0.00	0.00	5.04	2.00
53.00	4.56	0.59	0.00	0.00	5.03	2.00
54.00	4.79	0.72	0.00	0.00	3.50	2.00
55.00	5.06	0.85	0.00	0.00	3.50	2.00
56.00	5.37	0.98	0.00	0.00	3.50	2.00
57.00	5.74	1.18	0.00	0.00	4.66	2.00
58.00	6.20	1.44	0.00	0.00	5.02	2.00
59.00	6.80	2.08	0.00	0.00	4.99	2.00
60.00	10.99	21.10	1.52	0.05	5.76	2.00
61.00	12.20	2.68	1.52	0.18	5.74	2.00
62.00	12.75	1.54	1.52	0.30	5.07	2.00
63.00	13.10	1.00	0.00	0.30	4.63	2.00
64.00	13.42	0.99	0.00	0.30	5.01	2.00
65.00	13.62	0.59	0.00	0.30	3.50	2.00
66.00	13.81	0.59	0.00	0.30	5.02	2.00
67.00	14.01	0.59	0.00	0.30	5.08	2.00
68.00	14.20	0.59	0.00	0.30	5.01	2.00
69.00	14.33	0.40	0.00	0.30	3.50	2.00
70.00	14.46	0.40	0.00	0.30	4.87	2.00
71.00	14.59	0.40	0.00	0.30	5.08	2.00
72.00	14.72	0.40	0.00	0.30	3.50	2.00
73.00	14.72	0.00	0.00	0.30	4.30	2.00
74.00	14.72	0.00	0.00	0.30	4.31	2.00
75.00	14.72	0.00	0.00	0.30	4.31	2.00
76.00	14.72	0.00	0.00	0.30	4.31	2.00
77.00	14.72	0.00	0.00	0.30	4.31	2.00
78.00	14.72	0.00	0.00	0.30	4.31	2.00
79.00	14.72	0.00	0.00	0.30	4.31	2.00
80.00	14.72	0.00	0.00	0.30	4.31	2.00
81.00	14.72	0.00	0.00	0.30	4.31	2.00
82.00	14.72	0.00	0.00	0.30	4.31	2.00
83.00	14.72	0.00	0.00	0.30	4.31	2.00
84.00	14.72	0.00	0.00	0.30	4.31	2.00
85.00	14.72	0.00	0.00	0.30	4.31	2.00
86.00	14.72	0.00	0.00	0.30	4.31	2.00
87.00	14.72	0.00	0.00	0.30	4.31	2.00
88.00	14.72	0.00	0.00	0.30	4.31	2.00
89.00	14.72	0.00	0.00	0.30	4.31	2.00
90.00	14.72	0.00	0.00	0.30	4.31	2.00
91.00	14.72	0.00	0.00	0.30	4.31	2.00
92.00	14.72	0.00	0.00	0.30	4.31	2.00
93.00	14.72	0.00	0.00	0.30	4.31	2.00
94.00	14.72	0.00	0.00	0.30	4.31	2.00
95.00	14.72	0.00	0.00	0.30	4.31	2.00
96.00	14.72	0.00	0.00	0.30	4.31	2.00
97.00	14.72	0.00	0.00	0.30	4.31	2.00
98.00	14.72	0.00	0.00	0.30	4.31	2.00
99.00	14.72	0.00	0.00	0.30	4.31	2.00
100.00	14.72	0.00	0.00	0.30	4.31	2.00
101.00	14.72	0.00	0.00	0.30	4.31	2.00
102.00	14.72	0.00	0.00	0.30	4.31	2.00
103.00	14.72	0.00	0.00	0.30	4.31	2.00
104.00	14.72	0.00	0.00	0.30	4.31	2.00
105.00	14.72	0.00	0.00	0.30	4.31	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
106.00	14.72	0.00	0.00	0.30	4.31	2.00
107.00	14.72	0.00	0.00	0.30	4.31	2.00
108.00	14.72	0.00	0.00	0.30	4.31	2.00
109.00	14.72	0.00	0.00	0.30	4.31	2.00
110.00	14.72	0.00	0.00	0.30	4.31	2.00
111.00	14.72	0.00	0.00	0.30	4.31	2.00
112.00	14.72	0.00	0.00	0.30	4.31	2.00
113.00	14.72	0.00	0.00	0.30	4.31	2.00
114.00	14.72	0.00	0.00	0.30	4.31	2.00
115.00	14.72	0.00	0.00	0.30	4.31	2.00
116.00	14.72	0.00	0.00	0.30	4.31	2.00
117.00	14.72	0.00	0.00	0.30	4.31	2.00
118.00	14.72	0.00	0.00	0.30	4.31	2.00
119.00	14.72	0.00	0.00	0.30	4.31	2.00
120.00	14.72	0.00	0.00	0.30	4.31	2.00

Structure: 5

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 5.99 ft NAVD, Off Elev = 5.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.00	3.50	2.00
5.00	0.33	0.19	0.00	0.00	3.50	2.00
6.00	0.40	0.20	0.00	0.00	4.68	2.00
7.00	0.46	0.20	0.00	0.00	5.04	2.00
8.00	0.53	0.20	0.00	0.00	5.08	2.00
9.00	0.59	0.20	0.00	0.00	4.54	2.00
10.00	0.66	0.20	0.00	0.00	5.03	2.00
11.00	0.72	0.20	0.00	0.00	5.08	2.00
12.00	0.79	0.20	0.00	0.00	4.32	2.00
13.00	0.86	0.20	0.00	0.00	5.03	2.00
14.00	0.92	0.20	0.00	0.00	5.08	2.00
15.00	0.99	0.20	0.00	0.00	3.50	2.00
16.00	1.05	0.20	0.00	0.00	3.50	2.00
17.00	1.12	0.20	0.00	0.00	5.01	2.00
18.00	1.19	0.20	0.00	0.00	5.05	2.00
19.00	1.25	0.20	0.00	0.00	3.50	2.00
20.00	1.32	0.20	0.00	0.00	5.01	2.00
21.00	1.38	0.20	0.00	0.00	5.05	2.00
22.00	1.45	0.20	0.00	0.00	4.72	2.00
23.00	1.52	0.20	0.00	0.00	3.50	2.00
24.00	1.58	0.20	0.00	0.00	3.50	2.00
25.00	1.68	0.29	0.00	0.00	5.04	2.00
26.00	1.77	0.29	0.00	0.00	3.50	2.00
27.00	1.87	0.29	0.00	0.00	3.50	2.00
28.00	1.97	0.29	0.00	0.00	5.04	2.00
29.00	2.06	0.29	0.00	0.00	3.50	2.00
30.00	2.16	0.29	0.00	0.00	5.03	2.00
31.00	2.25	0.29	0.00	0.00	4.77	2.00
32.00	2.35	0.29	0.00	0.00	3.50	2.00
33.00	2.45	0.29	0.00	0.00	5.02	2.00
34.00	2.54	0.29	0.00	0.00	5.02	2.00
35.00	2.64	0.29	0.00	0.00	5.02	2.00
36.00	2.73	0.29	0.00	0.00	5.08	2.00
37.00	2.83	0.29	0.00	0.00	3.50	2.00
38.00	2.93	0.29	0.00	0.00	5.01	2.00
39.00	3.02	0.29	0.00	0.00	5.08	2.00
40.00	3.12	0.29	0.00	0.00	3.50	2.00
41.00	3.22	0.29	0.00	0.00	5.00	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
42.00	3.31	0.29	0.00	0.00	5.07	2.00
43.00	3.41	0.29	0.00	0.00	3.50	2.00
44.00	3.50	0.29	0.00	0.00	4.91	2.00
45.00	3.60	0.29	0.00	0.00	5.06	2.00
46.00	3.70	0.29	0.00	0.00	4.70	2.00
47.00	3.79	0.29	0.00	0.00	5.06	2.00
48.00	3.89	0.29	0.00	0.00	3.50	2.00
49.00	4.00	0.33	0.00	0.00	4.68	2.00
50.00	4.11	0.33	0.00	0.00	5.07	2.00
51.00	4.24	0.40	0.00	0.00	3.50	2.00
52.00	4.38	0.46	0.00	0.00	5.04	2.00
53.00	4.56	0.59	0.00	0.00	5.03	2.00
54.00	4.79	0.72	0.00	0.00	3.50	2.00
55.00	5.06	0.85	0.00	0.00	3.50	2.00
56.00	5.37	0.98	0.00	0.00	3.50	2.00
57.00	5.74	1.18	0.00	0.00	4.66	2.00
58.00	6.20	1.44	0.00	0.00	5.02	2.00
59.00	6.80	2.08	0.00	0.00	4.99	2.00
60.00	10.99	21.10	0.00	0.00	5.76	2.00
61.00	12.20	2.68	1.52	0.13	5.74	2.00
62.00	12.75	1.54	0.00	0.18	5.07	2.00
63.00	13.10	1.00	0.00	0.18	4.63	2.00
64.00	13.42	0.99	0.00	0.18	5.01	2.00
65.00	13.62	0.59	0.00	0.18	3.50	2.00
66.00	13.81	0.59	0.00	0.18	5.02	2.00
67.00	14.01	0.59	0.00	0.18	5.08	2.00
68.00	14.20	0.59	0.00	0.18	5.01	2.00
69.00	14.33	0.40	0.00	0.18	3.50	2.00
70.00	14.46	0.40	0.00	0.18	4.87	2.00
71.00	14.59	0.40	0.00	0.18	5.08	2.00
72.00	14.72	0.40	0.00	0.18	3.50	2.00
73.00	14.72	0.00	0.00	0.18	4.30	2.00
74.00	14.72	0.00	0.00	0.18	4.31	2.00
75.00	14.72	0.00	0.00	0.18	4.31	2.00
76.00	14.72	0.00	0.00	0.18	4.31	2.00
77.00	14.72	0.00	0.00	0.18	4.31	2.00
78.00	14.72	0.00	0.00	0.18	4.31	2.00
79.00	14.72	0.00	0.00	0.18	4.31	2.00
80.00	14.72	0.00	0.00	0.18	4.31	2.00
81.00	14.72	0.00	0.00	0.18	4.31	2.00
82.00	14.72	0.00	0.00	0.18	4.31	2.00
83.00	14.72	0.00	0.00	0.18	4.31	2.00
84.00	14.72	0.00	0.00	0.18	4.31	2.00
85.00	14.72	0.00	0.00	0.18	4.31	2.00
86.00	14.72	0.00	0.00	0.18	4.31	2.00
87.00	14.72	0.00	0.00	0.18	4.31	2.00
88.00	14.72	0.00	0.00	0.18	4.31	2.00
89.00	14.72	0.00	0.00	0.18	4.31	2.00
90.00	14.72	0.00	0.00	0.18	4.31	2.00
91.00	14.72	0.00	0.00	0.18	4.31	2.00
92.00	14.72	0.00	0.00	0.18	4.31	2.00
93.00	14.72	0.00	0.00	0.18	4.31	2.00
94.00	14.72	0.00	0.00	0.18	4.31	2.00
95.00	14.72	0.00	0.00	0.18	4.31	2.00
96.00	14.72	0.00	0.00	0.18	4.31	2.00
97.00	14.72	0.00	0.00	0.18	4.31	2.00
98.00	14.72	0.00	0.00	0.18	4.31	2.00
99.00	14.72	0.00	0.00	0.18	4.31	2.00
100.00	14.72	0.00	0.00	0.18	4.31	2.00
101.00	14.72	0.00	0.00	0.18	4.31	2.00
102.00	14.72	0.00	0.00	0.18	4.31	2.00
103.00	14.72	0.00	0.00	0.18	4.31	2.00
104.00	14.72	0.00	0.00	0.18	4.31	2.00
105.00	14.72	0.00	0.00	0.18	4.31	2.00
106.00	14.72	0.00	0.00	0.18	4.31	2.00
107.00	14.72	0.00	0.00	0.18	4.31	2.00
108.00	14.72	0.00	0.00	0.18	4.31	2.00
109.00	14.72	0.00	0.00	0.18	4.31	2.00
110.00	14.72	0.00	0.00	0.18	4.31	2.00
111.00	14.72	0.00	0.00	0.18	4.31	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
112.00	14.72	0.00	0.00	0.18	4.31	2.00
113.00	14.72	0.00	0.00	0.18	4.31	2.00
114.00	14.72	0.00	0.00	0.18	4.31	2.00
115.00	14.72	0.00	0.00	0.18	4.31	2.00
116.00	14.72	0.00	0.00	0.18	4.31	2.00
117.00	14.72	0.00	0.00	0.18	4.31	2.00
118.00	14.72	0.00	0.00	0.18	4.31	2.00
119.00	14.72	0.00	0.00	0.18	4.31	2.00
120.00	14.72	0.00	0.00	0.18	4.31	2.00

Structure: 6

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 6.49 ft NAVD, Off Elev = 6 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.00	3.50	2.00
5.00	0.33	0.19	0.00	0.00	3.50	2.00
6.00	0.40	0.20	0.00	0.00	4.68	2.00
7.00	0.46	0.20	0.00	0.00	5.04	2.00
8.00	0.53	0.20	0.00	0.00	5.08	2.00
9.00	0.59	0.20	0.00	0.00	4.54	2.00
10.00	0.66	0.20	0.00	0.00	5.03	2.00
11.00	0.72	0.20	0.00	0.00	5.08	2.00
12.00	0.79	0.20	0.00	0.00	4.32	2.00
13.00	0.86	0.20	0.00	0.00	5.03	2.00
14.00	0.92	0.20	0.00	0.00	5.08	2.00
15.00	0.99	0.20	0.00	0.00	3.50	2.00
16.00	1.05	0.20	0.00	0.00	3.50	2.00
17.00	1.12	0.20	0.00	0.00	5.01	2.00
18.00	1.19	0.20	0.00	0.00	5.05	2.00
19.00	1.25	0.20	0.00	0.00	3.50	2.00
20.00	1.32	0.20	0.00	0.00	5.01	2.00
21.00	1.38	0.20	0.00	0.00	5.05	2.00
22.00	1.45	0.20	0.00	0.00	4.72	2.00
23.00	1.52	0.20	0.00	0.00	3.50	2.00
24.00	1.58	0.20	0.00	0.00	3.50	2.00
25.00	1.68	0.29	0.00	0.00	5.04	2.00
26.00	1.77	0.29	0.00	0.00	3.50	2.00
27.00	1.87	0.29	0.00	0.00	3.50	2.00
28.00	1.97	0.29	0.00	0.00	5.04	2.00
29.00	2.06	0.29	0.00	0.00	3.50	2.00
30.00	2.16	0.29	0.00	0.00	5.03	2.00
31.00	2.25	0.29	0.00	0.00	4.77	2.00
32.00	2.35	0.29	0.00	0.00	3.50	2.00
33.00	2.45	0.29	0.00	0.00	5.02	2.00
34.00	2.54	0.29	0.00	0.00	5.02	2.00
35.00	2.64	0.29	0.00	0.00	5.02	2.00
36.00	2.73	0.29	0.00	0.00	5.08	2.00
37.00	2.83	0.29	0.00	0.00	3.50	2.00
38.00	2.93	0.29	0.00	0.00	5.01	2.00
39.00	3.02	0.29	0.00	0.00	5.08	2.00
40.00	3.12	0.29	0.00	0.00	3.50	2.00
41.00	3.22	0.29	0.00	0.00	5.00	2.00
42.00	3.31	0.29	0.00	0.00	5.07	2.00
43.00	3.41	0.29	0.00	0.00	3.50	2.00
44.00	3.50	0.29	0.00	0.00	4.91	2.00
45.00	3.60	0.29	0.00	0.00	5.06	2.00
46.00	3.70	0.29	0.00	0.00	4.70	2.00
47.00	3.79	0.29	0.00	0.00	5.06	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
48.00	3.89	0.29	0.00	0.00	3.50	2.00
49.00	4.00	0.33	0.00	0.00	4.68	2.00
50.00	4.11	0.33	0.00	0.00	5.07	2.00
51.00	4.24	0.40	0.00	0.00	3.50	2.00
52.00	4.38	0.46	0.00	0.00	5.04	2.00
53.00	4.56	0.59	0.00	0.00	5.03	2.00
54.00	4.79	0.72	0.00	0.00	3.50	2.00
55.00	5.06	0.85	0.00	0.00	3.50	2.00
56.00	5.37	0.98	0.00	0.00	3.50	2.00
57.00	5.74	1.18	0.00	0.00	4.66	2.00
58.00	6.20	1.44	0.00	0.00	5.02	2.00
59.00	6.80	2.08	0.00	0.00	4.99	2.00
60.00	10.99	21.10	0.00	0.00	5.76	2.00
61.00	12.20	2.68	0.00	0.00	5.74	2.00
62.00	12.75	1.54	0.00	0.00	5.07	2.00
63.00	13.10	1.00	0.00	0.00	4.63	2.00
64.00	13.42	0.99	0.00	0.00	5.01	2.00
65.00	13.62	0.59	0.00	0.00	3.50	2.00
66.00	13.81	0.59	0.00	0.00	5.02	2.00
67.00	14.01	0.59	0.00	0.00	5.08	2.00
68.00	14.20	0.59	0.00	0.00	5.01	2.00
69.00	14.33	0.40	0.00	0.00	3.50	2.00
70.00	14.46	0.40	0.00	0.00	4.87	2.00
71.00	14.59	0.40	0.00	0.00	5.08	2.00
72.00	14.72	0.40	0.00	0.00	3.50	2.00
73.00	14.72	0.00	0.00	0.00	4.30	2.00
74.00	14.72	0.00	0.00	0.00	4.31	2.00
75.00	14.72	0.00	0.00	0.00	4.31	2.00
76.00	14.72	0.00	0.00	0.00	4.31	2.00
77.00	14.72	0.00	0.00	0.00	4.31	2.00
78.00	14.72	0.00	0.00	0.00	4.31	2.00
79.00	14.72	0.00	0.00	0.00	4.31	2.00
80.00	14.72	0.00	0.00	0.00	4.31	2.00
81.00	14.72	0.00	0.00	0.00	4.31	2.00
82.00	14.72	0.00	0.00	0.00	4.31	2.00
83.00	14.72	0.00	0.00	0.00	4.31	2.00
84.00	14.72	0.00	0.00	0.00	4.31	2.00
85.00	14.72	0.00	0.00	0.00	4.31	2.00
86.00	14.72	0.00	0.00	0.00	4.31	2.00
87.00	14.72	0.00	0.00	0.00	4.31	2.00
88.00	14.72	0.00	0.00	0.00	4.31	2.00
89.00	14.72	0.00	0.00	0.00	4.31	2.00
90.00	14.72	0.00	0.00	0.00	4.31	2.00
91.00	14.72	0.00	0.00	0.00	4.31	2.00
92.00	14.72	0.00	0.00	0.00	4.31	2.00
93.00	14.72	0.00	0.00	0.00	4.31	2.00
94.00	14.72	0.00	0.00	0.00	4.31	2.00
95.00	14.72	0.00	0.00	0.00	4.31	2.00
96.00	14.72	0.00	0.00	0.00	4.31	2.00
97.00	14.72	0.00	0.00	0.00	4.31	2.00
98.00	14.72	0.00	0.00	0.00	4.31	2.00
99.00	14.72	0.00	0.00	0.00	4.31	2.00
100.00	14.72	0.00	0.00	0.00	4.31	2.00
101.00	14.72	0.00	0.00	0.00	4.31	2.00
102.00	14.72	0.00	0.00	0.00	4.31	2.00
103.00	14.72	0.00	0.00	0.00	4.31	2.00
104.00	14.72	0.00	0.00	0.00	4.31	2.00
105.00	14.72	0.00	0.00	0.00	4.31	2.00
106.00	14.72	0.00	0.00	0.00	4.31	2.00
107.00	14.72	0.00	0.00	0.00	4.31	2.00
108.00	14.72	0.00	0.00	0.00	4.31	2.00
109.00	14.72	0.00	0.00	0.00	4.31	2.00
110.00	14.72	0.00	0.00	0.00	4.31	2.00
111.00	14.72	0.00	0.00	0.00	4.31	2.00
112.00	14.72	0.00	0.00	0.00	4.31	2.00
113.00	14.72	0.00	0.00	0.00	4.31	2.00
114.00	14.72	0.00	0.00	0.00	4.31	2.00
115.00	14.72	0.00	0.00	0.00	4.31	2.00
116.00	14.72	0.00	0.00	0.00	4.31	2.00
117.00	14.72	0.00	0.00	0.00	4.31	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
118.00	14.72	0.00	0.00	0.00	4.31	2.00
119.00	14.72	0.00	0.00	0.00	4.31	2.00
120.00	14.72	0.00	0.00	0.00	4.31	2.00

Structure: 7

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 6.99 ft NAVD, Off Elev = 6.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.00	3.50	2.00
5.00	0.33	0.19	0.00	0.00	3.50	2.00
6.00	0.40	0.20	0.00	0.00	4.68	2.00
7.00	0.46	0.20	0.00	0.00	5.04	2.00
8.00	0.53	0.20	0.00	0.00	5.08	2.00
9.00	0.59	0.20	0.00	0.00	4.54	2.00
10.00	0.66	0.20	0.00	0.00	5.03	2.00
11.00	0.72	0.20	0.00	0.00	5.08	2.00
12.00	0.79	0.20	0.00	0.00	4.32	2.00
13.00	0.86	0.20	0.00	0.00	5.03	2.00
14.00	0.92	0.20	0.00	0.00	5.08	2.00
15.00	0.99	0.20	0.00	0.00	3.50	2.00
16.00	1.05	0.20	0.00	0.00	3.50	2.00
17.00	1.12	0.20	0.00	0.00	5.01	2.00
18.00	1.19	0.20	0.00	0.00	5.05	2.00
19.00	1.25	0.20	0.00	0.00	3.50	2.00
20.00	1.32	0.20	0.00	0.00	5.01	2.00
21.00	1.38	0.20	0.00	0.00	5.05	2.00
22.00	1.45	0.20	0.00	0.00	4.72	2.00
23.00	1.52	0.20	0.00	0.00	3.50	2.00
24.00	1.58	0.20	0.00	0.00	3.50	2.00
25.00	1.68	0.29	0.00	0.00	5.04	2.00
26.00	1.77	0.29	0.00	0.00	3.50	2.00
27.00	1.87	0.29	0.00	0.00	3.50	2.00
28.00	1.97	0.29	0.00	0.00	5.04	2.00
29.00	2.06	0.29	0.00	0.00	3.50	2.00
30.00	2.16	0.29	0.00	0.00	5.03	2.00
31.00	2.25	0.29	0.00	0.00	4.77	2.00
32.00	2.35	0.29	0.00	0.00	3.50	2.00
33.00	2.45	0.29	0.00	0.00	5.02	2.00
34.00	2.54	0.29	0.00	0.00	5.02	2.00
35.00	2.64	0.29	0.00	0.00	5.02	2.00
36.00	2.73	0.29	0.00	0.00	5.08	2.00
37.00	2.83	0.29	0.00	0.00	3.50	2.00
38.00	2.93	0.29	0.00	0.00	5.01	2.00
39.00	3.02	0.29	0.00	0.00	5.08	2.00
40.00	3.12	0.29	0.00	0.00	3.50	2.00
41.00	3.22	0.29	0.00	0.00	5.00	2.00
42.00	3.31	0.29	0.00	0.00	5.07	2.00
43.00	3.41	0.29	0.00	0.00	3.50	2.00
44.00	3.50	0.29	0.00	0.00	4.91	2.00
45.00	3.60	0.29	0.00	0.00	5.06	2.00
46.00	3.70	0.29	0.00	0.00	4.70	2.00
47.00	3.79	0.29	0.00	0.00	5.06	2.00
48.00	3.89	0.29	0.00	0.00	3.50	2.00
49.00	4.00	0.33	0.00	0.00	4.68	2.00
50.00	4.11	0.33	0.00	0.00	5.07	2.00
51.00	4.24	0.40	0.00	0.00	3.50	2.00
52.00	4.38	0.46	0.00	0.00	5.04	2.00
53.00	4.56	0.59	0.00	0.00	5.03	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
54.00	4.79	0.72	0.00	0.00	3.50	2.00
55.00	5.06	0.85	0.00	0.00	3.50	2.00
56.00	5.37	0.98	0.00	0.00	3.50	2.00
57.00	5.74	1.18	0.00	0.00	4.66	2.00
58.00	6.20	1.44	0.00	0.00	5.02	2.00
59.00	6.80	2.08	0.00	0.00	4.99	2.00
60.00	10.99	21.10	0.00	0.00	5.76	2.00
61.00	12.20	2.68	0.00	0.00	5.74	2.00
62.00	12.75	1.54	0.00	0.00	5.07	2.00
63.00	13.10	1.00	0.00	0.00	4.63	2.00
64.00	13.42	0.99	0.00	0.00	5.01	2.00
65.00	13.62	0.59	0.00	0.00	3.50	2.00
66.00	13.81	0.59	0.00	0.00	5.02	2.00
67.00	14.01	0.59	0.00	0.00	5.08	2.00
68.00	14.20	0.59	0.00	0.00	5.01	2.00
69.00	14.33	0.40	0.00	0.00	3.50	2.00
70.00	14.46	0.40	0.00	0.00	4.87	2.00
71.00	14.59	0.40	0.00	0.00	5.08	2.00
72.00	14.72	0.40	0.00	0.00	3.50	2.00
73.00	14.72	0.00	0.00	0.00	4.30	2.00
74.00	14.72	0.00	0.00	0.00	4.31	2.00
75.00	14.72	0.00	0.00	0.00	4.31	2.00
76.00	14.72	0.00	0.00	0.00	4.31	2.00
77.00	14.72	0.00	0.00	0.00	4.31	2.00
78.00	14.72	0.00	0.00	0.00	4.31	2.00
79.00	14.72	0.00	0.00	0.00	4.31	2.00
80.00	14.72	0.00	0.00	0.00	4.31	2.00
81.00	14.72	0.00	0.00	0.00	4.31	2.00
82.00	14.72	0.00	0.00	0.00	4.31	2.00
83.00	14.72	0.00	0.00	0.00	4.31	2.00
84.00	14.72	0.00	0.00	0.00	4.31	2.00
85.00	14.72	0.00	0.00	0.00	4.31	2.00
86.00	14.72	0.00	0.00	0.00	4.31	2.00
87.00	14.72	0.00	0.00	0.00	4.31	2.00
88.00	14.72	0.00	0.00	0.00	4.31	2.00
89.00	14.72	0.00	0.00	0.00	4.31	2.00
90.00	14.72	0.00	0.00	0.00	4.31	2.00
91.00	14.72	0.00	0.00	0.00	4.31	2.00
92.00	14.72	0.00	0.00	0.00	4.31	2.00
93.00	14.72	0.00	0.00	0.00	4.31	2.00
94.00	14.72	0.00	0.00	0.00	4.31	2.00
95.00	14.72	0.00	0.00	0.00	4.31	2.00
96.00	14.72	0.00	0.00	0.00	4.31	2.00
97.00	14.72	0.00	0.00	0.00	4.31	2.00
98.00	14.72	0.00	0.00	0.00	4.31	2.00
99.00	14.72	0.00	0.00	0.00	4.31	2.00
100.00	14.72	0.00	0.00	0.00	4.31	2.00
101.00	14.72	0.00	0.00	0.00	4.31	2.00
102.00	14.72	0.00	0.00	0.00	4.31	2.00
103.00	14.72	0.00	0.00	0.00	4.31	2.00
104.00	14.72	0.00	0.00	0.00	4.31	2.00
105.00	14.72	0.00	0.00	0.00	4.31	2.00
106.00	14.72	0.00	0.00	0.00	4.31	2.00
107.00	14.72	0.00	0.00	0.00	4.31	2.00
108.00	14.72	0.00	0.00	0.00	4.31	2.00
109.00	14.72	0.00	0.00	0.00	4.31	2.00
110.00	14.72	0.00	0.00	0.00	4.31	2.00
111.00	14.72	0.00	0.00	0.00	4.31	2.00
112.00	14.72	0.00	0.00	0.00	4.31	2.00
113.00	14.72	0.00	0.00	0.00	4.31	2.00
114.00	14.72	0.00	0.00	0.00	4.31	2.00
115.00	14.72	0.00	0.00	0.00	4.31	2.00
116.00	14.72	0.00	0.00	0.00	4.31	2.00
117.00	14.72	0.00	0.00	0.00	4.31	2.00
118.00	14.72	0.00	0.00	0.00	4.31	2.00
119.00	14.72	0.00	0.00	0.00	4.31	2.00
120.00	14.72	0.00	0.00	0.00	4.31	2.00

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 7.49 ft NAVD, Off Elev = 7 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.07	0.12	0.00	0.00	4.79	2.00
2.00	0.13	0.17	0.00	0.00	5.03	2.00
3.00	0.20	0.18	0.00	0.00	5.07	2.00
4.00	0.26	0.19	0.00	0.00	3.50	2.00
5.00	0.33	0.19	0.00	0.00	3.50	2.00
6.00	0.40	0.20	0.00	0.00	4.68	2.00
7.00	0.46	0.20	0.00	0.00	5.04	2.00
8.00	0.53	0.20	0.00	0.00	5.08	2.00
9.00	0.59	0.20	0.00	0.00	4.54	2.00
10.00	0.66	0.20	0.00	0.00	5.03	2.00
11.00	0.72	0.20	0.00	0.00	5.08	2.00
12.00	0.79	0.20	0.00	0.00	4.32	2.00
13.00	0.86	0.20	0.00	0.00	5.03	2.00
14.00	0.92	0.20	0.00	0.00	5.08	2.00
15.00	0.99	0.20	0.00	0.00	3.50	2.00
16.00	1.05	0.20	0.00	0.00	3.50	2.00
17.00	1.12	0.20	0.00	0.00	5.01	2.00
18.00	1.19	0.20	0.00	0.00	5.05	2.00
19.00	1.25	0.20	0.00	0.00	3.50	2.00
20.00	1.32	0.20	0.00	0.00	5.01	2.00
21.00	1.38	0.20	0.00	0.00	5.05	2.00
22.00	1.45	0.20	0.00	0.00	4.72	2.00
23.00	1.52	0.20	0.00	0.00	3.50	2.00
24.00	1.58	0.20	0.00	0.00	3.50	2.00
25.00	1.68	0.29	0.00	0.00	5.04	2.00
26.00	1.77	0.29	0.00	0.00	3.50	2.00
27.00	1.87	0.29	0.00	0.00	3.50	2.00
28.00	1.97	0.29	0.00	0.00	5.04	2.00
29.00	2.06	0.29	0.00	0.00	3.50	2.00
30.00	2.16	0.29	0.00	0.00	5.03	2.00
31.00	2.25	0.29	0.00	0.00	4.77	2.00
32.00	2.35	0.29	0.00	0.00	3.50	2.00
33.00	2.45	0.29	0.00	0.00	5.02	2.00
34.00	2.54	0.29	0.00	0.00	5.02	2.00
35.00	2.64	0.29	0.00	0.00	5.02	2.00
36.00	2.73	0.29	0.00	0.00	5.08	2.00
37.00	2.83	0.29	0.00	0.00	3.50	2.00
38.00	2.93	0.29	0.00	0.00	5.01	2.00
39.00	3.02	0.29	0.00	0.00	5.08	2.00
40.00	3.12	0.29	0.00	0.00	3.50	2.00
41.00	3.22	0.29	0.00	0.00	5.00	2.00
42.00	3.31	0.29	0.00	0.00	5.07	2.00
43.00	3.41	0.29	0.00	0.00	3.50	2.00
44.00	3.50	0.29	0.00	0.00	4.91	2.00
45.00	3.60	0.29	0.00	0.00	5.06	2.00
46.00	3.70	0.29	0.00	0.00	4.70	2.00
47.00	3.79	0.29	0.00	0.00	5.06	2.00
48.00	3.89	0.29	0.00	0.00	3.50	2.00
49.00	4.00	0.33	0.00	0.00	4.68	2.00
50.00	4.11	0.33	0.00	0.00	5.07	2.00
51.00	4.24	0.40	0.00	0.00	3.50	2.00
52.00	4.38	0.46	0.00	0.00	5.04	2.00
53.00	4.56	0.59	0.00	0.00	5.03	2.00
54.00	4.79	0.72	0.00	0.00	3.50	2.00
55.00	5.06	0.85	0.00	0.00	3.50	2.00
56.00	5.37	0.98	0.00	0.00	3.50	2.00
57.00	5.74	1.18	0.00	0.00	4.66	2.00
58.00	6.20	1.44	0.00	0.00	5.02	2.00
59.00	6.80	2.08	0.00	0.00	4.99	2.00
60.00	10.99	21.10	0.00	0.00	5.76	2.00
61.00	12.20	2.68	0.00	0.00	5.74	2.00
62.00	12.75	1.54	0.00	0.00	5.07	2.00
63.00	13.10	1.00	0.00	0.00	4.63	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
64.00	13.42	0.99	0.00	0.00	5.01	2.00
65.00	13.62	0.59	0.00	0.00	3.50	2.00
66.00	13.81	0.59	0.00	0.00	5.02	2.00
67.00	14.01	0.59	0.00	0.00	5.08	2.00
68.00	14.20	0.59	0.00	0.00	5.01	2.00
69.00	14.33	0.40	0.00	0.00	3.50	2.00
70.00	14.46	0.40	0.00	0.00	4.87	2.00
71.00	14.59	0.40	0.00	0.00	5.08	2.00
72.00	14.72	0.40	0.00	0.00	3.50	2.00
73.00	14.72	0.00	0.00	0.00	4.30	2.00
74.00	14.72	0.00	0.00	0.00	4.31	2.00
75.00	14.72	0.00	0.00	0.00	4.31	2.00
76.00	14.72	0.00	0.00	0.00	4.31	2.00
77.00	14.72	0.00	0.00	0.00	4.31	2.00
78.00	14.72	0.00	0.00	0.00	4.31	2.00
79.00	14.72	0.00	0.00	0.00	4.31	2.00
80.00	14.72	0.00	0.00	0.00	4.31	2.00
81.00	14.72	0.00	0.00	0.00	4.31	2.00
82.00	14.72	0.00	0.00	0.00	4.31	2.00
83.00	14.72	0.00	0.00	0.00	4.31	2.00
84.00	14.72	0.00	0.00	0.00	4.31	2.00
85.00	14.72	0.00	0.00	0.00	4.31	2.00
86.00	14.72	0.00	0.00	0.00	4.31	2.00
87.00	14.72	0.00	0.00	0.00	4.31	2.00
88.00	14.72	0.00	0.00	0.00	4.31	2.00
89.00	14.72	0.00	0.00	0.00	4.31	2.00
90.00	14.72	0.00	0.00	0.00	4.31	2.00
91.00	14.72	0.00	0.00	0.00	4.31	2.00
92.00	14.72	0.00	0.00	0.00	4.31	2.00
93.00	14.72	0.00	0.00	0.00	4.31	2.00
94.00	14.72	0.00	0.00	0.00	4.31	2.00
95.00	14.72	0.00	0.00	0.00	4.31	2.00
96.00	14.72	0.00	0.00	0.00	4.31	2.00
97.00	14.72	0.00	0.00	0.00	4.31	2.00
98.00	14.72	0.00	0.00	0.00	4.31	2.00
99.00	14.72	0.00	0.00	0.00	4.31	2.00
100.00	14.72	0.00	0.00	0.00	4.31	2.00
101.00	14.72	0.00	0.00	0.00	4.31	2.00
102.00	14.72	0.00	0.00	0.00	4.31	2.00
103.00	14.72	0.00	0.00	0.00	4.31	2.00
104.00	14.72	0.00	0.00	0.00	4.31	2.00
105.00	14.72	0.00	0.00	0.00	4.31	2.00
106.00	14.72	0.00	0.00	0.00	4.31	2.00
107.00	14.72	0.00	0.00	0.00	4.31	2.00
108.00	14.72	0.00	0.00	0.00	4.31	2.00
109.00	14.72	0.00	0.00	0.00	4.31	2.00
110.00	14.72	0.00	0.00	0.00	4.31	2.00
111.00	14.72	0.00	0.00	0.00	4.31	2.00
112.00	14.72	0.00	0.00	0.00	4.31	2.00
113.00	14.72	0.00	0.00	0.00	4.31	2.00
114.00	14.72	0.00	0.00	0.00	4.31	2.00
115.00	14.72	0.00	0.00	0.00	4.31	2.00
116.00	14.72	0.00	0.00	0.00	4.31	2.00
117.00	14.72	0.00	0.00	0.00	4.31	2.00
118.00	14.72	0.00	0.00	0.00	4.31	2.00
119.00	14.72	0.00	0.00	0.00	4.31	2.00
120.00	14.72	0.00	0.00	0.00	4.31	2.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	1.52	3.60	0.00	0.00
2	1.52	3.60	0.00	0.00
3	1.52	3.60	0.00	0.00
4	1.52	59.80	0.00	0.00
5	1.52	60.20	0.00	0.00
6	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00

8	0.00	0.00	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Proposed Condi	5.90	60.40	2.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Proposed Condi	3.68	0.00	3.68	0.00	0.00	0.00

500-YEAR, 3-DAY STORM

PROPOSED CONDITIONS

Project Name: Joint Government Center Campus
Reviewer: NSK
Project Number: 20-162.036
Period Begin: May 15, 2020;0000 hr End: May 20, 2020;0000 hr Duration: 120 hr
Time Step: 0.2 hr, Iterations: 10

Basin 1: Proposed Conditions

Method: Santa Barbara Unit Hydrograph
Rainfall Distribution: SFWMD - 3day
Design Frequency: 500 year
3 Day Rainfall: 22.3199 inches
Area: 3.02 acres
Ground Storage: 0.07 inches
Time of Concentration: 0.167 hours
Initial Stage: 2 ft NAVD

Stage (ft NAVD)	Storage (acre-ft)
3.50	0.00
4.00	0.00
4.50	0.00
5.00	0.01
5.50	0.19
6.00	0.71
6.50	1.53
7.00	2.48
7.50	3.44
8.00	4.40
8.50	5.37
9.00	6.37
9.50	7.40

Offsite Receiving Body: Offsite (Aquifer)

Time (hr)	Stage (ft NAVD)
0.00	2.00
120.00	2.00

Structure: 1

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 3.99 ft NAVD, Off Elev = 3.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.03	3.50	2.00
4.00	0.40	0.30	0.00	0.03	4.62	2.00
5.00	0.50	0.30	0.00	0.03	5.06	2.00
6.00	0.60	0.30	0.00	0.05	3.50	2.00
7.00	0.70	0.30	0.00	0.05	4.52	2.00
8.00	0.80	0.30	0.00	0.05	5.06	2.00
9.00	0.90	0.30	0.00	0.08	3.50	2.00
10.00	1.00	0.30	0.00	0.08	4.48	2.00
11.00	1.10	0.30	0.00	0.08	5.06	2.00
12.00	1.20	0.30	0.00	0.10	3.50	2.00
13.00	1.30	0.30	0.00	0.10	4.49	2.00
14.00	1.40	0.30	0.00	0.10	5.06	2.00
15.00	1.50	0.30	0.00	0.13	3.50	2.00
16.00	1.60	0.30	0.00	0.13	4.51	2.00
17.00	1.70	0.30	0.00	0.13	5.06	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
18.00	1.80	0.30	0.00	0.15	3.50	2.00
19.00	1.90	0.30	0.00	0.15	4.53	2.00
20.00	2.00	0.30	0.00	0.15	5.06	2.00
21.00	2.10	0.30	0.00	0.18	3.50	2.00
22.00	2.20	0.30	0.00	0.18	4.55	2.00
23.00	2.30	0.30	0.00	0.18	5.06	2.00
24.00	2.40	0.30	0.00	0.20	3.50	2.00
25.00	2.54	0.44	0.00	0.20	5.02	2.00
26.00	2.69	0.44	0.00	0.23	3.50	2.00
27.00	2.84	0.44	0.00	0.23	5.01	2.00
28.00	2.98	0.44	0.00	0.25	3.50	2.00
29.00	3.13	0.44	0.00	0.25	5.07	2.00
30.00	3.27	0.44	0.00	0.28	3.50	2.00
31.00	3.42	0.44	0.00	0.28	5.07	2.00
32.00	3.56	0.44	0.00	0.30	5.03	2.00
33.00	3.71	0.44	0.00	0.33	3.50	2.00
34.00	3.86	0.44	0.00	0.33	5.03	2.00
35.00	4.00	0.44	0.00	0.35	4.61	2.00
36.00	4.15	0.44	1.52	0.38	5.02	2.00
37.00	4.29	0.44	0.00	0.38	5.05	2.00
38.00	4.44	0.44	0.00	0.40	3.50	2.00
39.00	4.58	0.44	0.00	0.40	5.05	2.00
40.00	4.73	0.44	0.00	0.43	5.01	2.00
41.00	4.88	0.44	0.00	0.45	3.50	2.00
42.00	5.02	0.44	0.00	0.45	5.01	2.00
43.00	5.17	0.44	0.00	0.48	3.50	2.00
44.00	5.31	0.44	0.00	0.48	5.07	2.00
45.00	5.46	0.44	0.00	0.50	3.50	2.00
46.00	5.60	0.44	0.00	0.50	5.06	2.00
47.00	5.75	0.44	0.00	0.53	3.50	2.00
48.00	5.90	0.44	0.00	0.53	5.06	2.00
49.00	6.06	0.50	0.00	0.55	3.50	2.00
50.00	6.22	0.50	0.00	0.55	5.08	2.00
51.00	6.42	0.60	0.00	0.58	5.01	2.00
52.00	6.64	0.69	0.00	0.60	5.01	2.00
53.00	6.91	0.89	0.00	0.63	4.56	2.00
54.00	7.26	1.09	0.00	0.65	5.01	2.00
55.00	7.67	1.29	0.00	0.68	5.08	2.00
56.00	8.15	1.49	0.00	0.73	4.57	2.00
57.00	8.70	1.79	1.52	0.78	5.05	2.00
58.00	9.39	2.19	0.00	0.83	4.90	2.00
59.00	10.31	3.15	1.52	0.90	5.07	2.00
60.00	16.67	31.99	1.52	1.03	6.03	2.00
61.00	18.49	4.07	1.52	1.15	6.19	2.00
62.00	19.33	2.33	1.52	1.28	5.92	2.00
63.00	19.86	1.51	1.52	1.40	5.43	2.00
64.00	20.35	1.50	1.52	1.48	4.81	2.00
65.00	20.64	0.90	1.52	1.50	5.02	2.00
66.00	20.94	0.90	1.52	1.53	5.02	2.00
67.00	21.24	0.90	1.52	1.55	5.01	2.00
68.00	21.53	0.90	1.52	1.58	5.01	2.00
69.00	21.73	0.60	0.00	1.58	5.06	2.00
70.00	21.93	0.60	0.00	1.60	4.47	2.00
71.00	22.12	0.60	0.00	1.63	3.50	2.00
72.00	22.32	0.60	0.00	1.63	5.05	2.00
73.00	22.32	0.00	0.00	1.63	5.08	2.00
74.00	22.32	0.00	0.00	1.63	5.08	2.00
75.00	22.32	0.00	0.00	1.63	5.08	2.00
76.00	22.32	0.00	0.00	1.63	5.08	2.00
77.00	22.32	0.00	0.00	1.63	5.08	2.00
78.00	22.32	0.00	0.00	1.63	5.08	2.00
79.00	22.32	0.00	0.00	1.63	5.08	2.00
80.00	22.32	0.00	0.00	1.63	5.08	2.00
81.00	22.32	0.00	0.00	1.63	5.08	2.00
82.00	22.32	0.00	0.00	1.63	5.08	2.00
83.00	22.32	0.00	0.00	1.63	5.08	2.00
84.00	22.32	0.00	0.00	1.63	5.08	2.00
85.00	22.32	0.00	0.00	1.63	5.08	2.00
86.00	22.32	0.00	0.00	1.63	5.08	2.00
87.00	22.32	0.00	0.00	1.63	5.08	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
88.00	22.32	0.00	0.00	1.63	5.08	2.00
89.00	22.32	0.00	0.00	1.63	5.08	2.00
90.00	22.32	0.00	0.00	1.63	5.08	2.00
91.00	22.32	0.00	0.00	1.63	5.08	2.00
92.00	22.32	0.00	0.00	1.63	5.08	2.00
93.00	22.32	0.00	0.00	1.63	5.08	2.00
94.00	22.32	0.00	0.00	1.63	5.08	2.00
95.00	22.32	0.00	0.00	1.63	5.08	2.00
96.00	22.32	0.00	0.00	1.63	5.08	2.00
97.00	22.32	0.00	0.00	1.63	5.08	2.00
98.00	22.32	0.00	0.00	1.63	5.08	2.00
99.00	22.32	0.00	0.00	1.63	5.08	2.00
100.00	22.32	0.00	0.00	1.63	5.08	2.00
101.00	22.32	0.00	0.00	1.63	5.08	2.00
102.00	22.32	0.00	0.00	1.63	5.08	2.00
103.00	22.32	0.00	0.00	1.63	5.08	2.00
104.00	22.32	0.00	0.00	1.63	5.08	2.00
105.00	22.32	0.00	0.00	1.63	5.08	2.00
106.00	22.32	0.00	0.00	1.63	5.08	2.00
107.00	22.32	0.00	0.00	1.63	5.08	2.00
108.00	22.32	0.00	0.00	1.63	5.08	2.00
109.00	22.32	0.00	0.00	1.63	5.08	2.00
110.00	22.32	0.00	0.00	1.63	5.08	2.00
111.00	22.32	0.00	0.00	1.63	5.08	2.00
112.00	22.32	0.00	0.00	1.63	5.08	2.00
113.00	22.32	0.00	0.00	1.63	5.08	2.00
114.00	22.32	0.00	0.00	1.63	5.08	2.00
115.00	22.32	0.00	0.00	1.63	5.08	2.00
116.00	22.32	0.00	0.00	1.63	5.08	2.00
117.00	22.32	0.00	0.00	1.63	5.08	2.00
118.00	22.32	0.00	0.00	1.63	5.08	2.00
119.00	22.32	0.00	0.00	1.63	5.08	2.00
120.00	22.32	0.00	0.00	1.63	5.08	2.00

Structure: 2

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 4.49 ft NAVD, Off Elev = 4 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.03	3.50	2.00
4.00	0.40	0.30	0.00	0.03	4.62	2.00
5.00	0.50	0.30	0.00	0.03	5.06	2.00
6.00	0.60	0.30	0.00	0.05	3.50	2.00
7.00	0.70	0.30	0.00	0.05	4.52	2.00
8.00	0.80	0.30	0.00	0.05	5.06	2.00
9.00	0.90	0.30	0.00	0.08	3.50	2.00
10.00	1.00	0.30	0.00	0.08	4.48	2.00
11.00	1.10	0.30	0.00	0.08	5.06	2.00
12.00	1.20	0.30	0.00	0.10	3.50	2.00
13.00	1.30	0.30	0.00	0.10	4.49	2.00
14.00	1.40	0.30	0.00	0.10	5.06	2.00
15.00	1.50	0.30	0.00	0.13	3.50	2.00
16.00	1.60	0.30	0.00	0.13	4.51	2.00
17.00	1.70	0.30	0.00	0.13	5.06	2.00
18.00	1.80	0.30	0.00	0.15	3.50	2.00
19.00	1.90	0.30	0.00	0.15	4.53	2.00
20.00	2.00	0.30	0.00	0.15	5.06	2.00
21.00	2.10	0.30	0.00	0.18	3.50	2.00
22.00	2.20	0.30	0.00	0.18	4.55	2.00
23.00	2.30	0.30	0.00	0.18	5.06	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
24.00	2.40	0.30	0.00	0.20	3.50	2.00
25.00	2.54	0.44	0.00	0.20	5.02	2.00
26.00	2.69	0.44	0.00	0.23	3.50	2.00
27.00	2.84	0.44	0.00	0.23	5.01	2.00
28.00	2.98	0.44	0.00	0.25	3.50	2.00
29.00	3.13	0.44	0.00	0.25	5.07	2.00
30.00	3.27	0.44	0.00	0.28	3.50	2.00
31.00	3.42	0.44	0.00	0.28	5.07	2.00
32.00	3.56	0.44	0.00	0.30	5.03	2.00
33.00	3.71	0.44	0.00	0.33	3.50	2.00
34.00	3.86	0.44	0.00	0.33	5.03	2.00
35.00	4.00	0.44	0.00	0.35	4.61	2.00
36.00	4.15	0.44	1.52	0.38	5.02	2.00
37.00	4.29	0.44	0.00	0.38	5.05	2.00
38.00	4.44	0.44	0.00	0.40	3.50	2.00
39.00	4.58	0.44	0.00	0.40	5.05	2.00
40.00	4.73	0.44	0.00	0.43	5.01	2.00
41.00	4.88	0.44	0.00	0.45	3.50	2.00
42.00	5.02	0.44	0.00	0.45	5.01	2.00
43.00	5.17	0.44	0.00	0.48	3.50	2.00
44.00	5.31	0.44	0.00	0.48	5.07	2.00
45.00	5.46	0.44	0.00	0.50	3.50	2.00
46.00	5.60	0.44	0.00	0.50	5.06	2.00
47.00	5.75	0.44	0.00	0.53	3.50	2.00
48.00	5.90	0.44	0.00	0.53	5.06	2.00
49.00	6.06	0.50	0.00	0.55	3.50	2.00
50.00	6.22	0.50	0.00	0.55	5.08	2.00
51.00	6.42	0.60	0.00	0.58	5.01	2.00
52.00	6.64	0.69	0.00	0.60	5.01	2.00
53.00	6.91	0.89	0.00	0.63	4.56	2.00
54.00	7.26	1.09	0.00	0.65	5.01	2.00
55.00	7.67	1.29	0.00	0.68	5.08	2.00
56.00	8.15	1.49	0.00	0.73	4.57	2.00
57.00	8.70	1.79	1.52	0.78	5.05	2.00
58.00	9.39	2.19	0.00	0.83	4.90	2.00
59.00	10.31	3.15	1.52	0.90	5.07	2.00
60.00	16.67	31.99	1.52	1.03	6.03	2.00
61.00	18.49	4.07	1.52	1.15	6.19	2.00
62.00	19.33	2.33	1.52	1.28	5.92	2.00
63.00	19.86	1.51	1.52	1.40	5.43	2.00
64.00	20.35	1.50	1.52	1.48	4.81	2.00
65.00	20.64	0.90	1.52	1.50	5.02	2.00
66.00	20.94	0.90	1.52	1.53	5.02	2.00
67.00	21.24	0.90	1.52	1.55	5.01	2.00
68.00	21.53	0.90	1.52	1.58	5.01	2.00
69.00	21.73	0.60	0.00	1.58	5.06	2.00
70.00	21.93	0.60	0.00	1.60	4.47	2.00
71.00	22.12	0.60	0.00	1.63	3.50	2.00
72.00	22.32	0.60	0.00	1.63	5.05	2.00
73.00	22.32	0.00	0.00	1.63	5.08	2.00
74.00	22.32	0.00	0.00	1.63	5.08	2.00
75.00	22.32	0.00	0.00	1.63	5.08	2.00
76.00	22.32	0.00	0.00	1.63	5.08	2.00
77.00	22.32	0.00	0.00	1.63	5.08	2.00
78.00	22.32	0.00	0.00	1.63	5.08	2.00
79.00	22.32	0.00	0.00	1.63	5.08	2.00
80.00	22.32	0.00	0.00	1.63	5.08	2.00
81.00	22.32	0.00	0.00	1.63	5.08	2.00
82.00	22.32	0.00	0.00	1.63	5.08	2.00
83.00	22.32	0.00	0.00	1.63	5.08	2.00
84.00	22.32	0.00	0.00	1.63	5.08	2.00
85.00	22.32	0.00	0.00	1.63	5.08	2.00
86.00	22.32	0.00	0.00	1.63	5.08	2.00
87.00	22.32	0.00	0.00	1.63	5.08	2.00
88.00	22.32	0.00	0.00	1.63	5.08	2.00
89.00	22.32	0.00	0.00	1.63	5.08	2.00
90.00	22.32	0.00	0.00	1.63	5.08	2.00
91.00	22.32	0.00	0.00	1.63	5.08	2.00
92.00	22.32	0.00	0.00	1.63	5.08	2.00
93.00	22.32	0.00	0.00	1.63	5.08	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
94.00	22.32	0.00	0.00	1.63	5.08	2.00
95.00	22.32	0.00	0.00	1.63	5.08	2.00
96.00	22.32	0.00	0.00	1.63	5.08	2.00
97.00	22.32	0.00	0.00	1.63	5.08	2.00
98.00	22.32	0.00	0.00	1.63	5.08	2.00
99.00	22.32	0.00	0.00	1.63	5.08	2.00
100.00	22.32	0.00	0.00	1.63	5.08	2.00
101.00	22.32	0.00	0.00	1.63	5.08	2.00
102.00	22.32	0.00	0.00	1.63	5.08	2.00
103.00	22.32	0.00	0.00	1.63	5.08	2.00
104.00	22.32	0.00	0.00	1.63	5.08	2.00
105.00	22.32	0.00	0.00	1.63	5.08	2.00
106.00	22.32	0.00	0.00	1.63	5.08	2.00
107.00	22.32	0.00	0.00	1.63	5.08	2.00
108.00	22.32	0.00	0.00	1.63	5.08	2.00
109.00	22.32	0.00	0.00	1.63	5.08	2.00
110.00	22.32	0.00	0.00	1.63	5.08	2.00
111.00	22.32	0.00	0.00	1.63	5.08	2.00
112.00	22.32	0.00	0.00	1.63	5.08	2.00
113.00	22.32	0.00	0.00	1.63	5.08	2.00
114.00	22.32	0.00	0.00	1.63	5.08	2.00
115.00	22.32	0.00	0.00	1.63	5.08	2.00
116.00	22.32	0.00	0.00	1.63	5.08	2.00
117.00	22.32	0.00	0.00	1.63	5.08	2.00
118.00	22.32	0.00	0.00	1.63	5.08	2.00
119.00	22.32	0.00	0.00	1.63	5.08	2.00
120.00	22.32	0.00	0.00	1.63	5.08	2.00

Structure: 3

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 4.99 ft NAVD, Off Elev = 4.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.03	3.50	2.00
4.00	0.40	0.30	0.00	0.03	4.62	2.00
5.00	0.50	0.30	0.00	0.03	5.06	2.00
6.00	0.60	0.30	0.00	0.05	3.50	2.00
7.00	0.70	0.30	0.00	0.05	4.52	2.00
8.00	0.80	0.30	0.00	0.05	5.06	2.00
9.00	0.90	0.30	0.00	0.08	3.50	2.00
10.00	1.00	0.30	0.00	0.08	4.48	2.00
11.00	1.10	0.30	0.00	0.08	5.06	2.00
12.00	1.20	0.30	0.00	0.10	3.50	2.00
13.00	1.30	0.30	0.00	0.10	4.49	2.00
14.00	1.40	0.30	0.00	0.10	5.06	2.00
15.00	1.50	0.30	0.00	0.13	3.50	2.00
16.00	1.60	0.30	0.00	0.13	4.51	2.00
17.00	1.70	0.30	0.00	0.13	5.06	2.00
18.00	1.80	0.30	0.00	0.15	3.50	2.00
19.00	1.90	0.30	0.00	0.15	4.53	2.00
20.00	2.00	0.30	0.00	0.15	5.06	2.00
21.00	2.10	0.30	0.00	0.18	3.50	2.00
22.00	2.20	0.30	0.00	0.18	4.55	2.00
23.00	2.30	0.30	0.00	0.18	5.06	2.00
24.00	2.40	0.30	0.00	0.20	3.50	2.00
25.00	2.54	0.44	0.00	0.20	5.02	2.00
26.00	2.69	0.44	0.00	0.23	3.50	2.00
27.00	2.84	0.44	0.00	0.23	5.01	2.00
28.00	2.98	0.44	0.00	0.23	3.50	2.00
29.00	3.13	0.44	0.00	0.23	5.07	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
30.00	3.27	0.44	0.00	0.25	3.50	2.00
31.00	3.42	0.44	0.00	0.25	5.07	2.00
32.00	3.56	0.44	0.00	0.25	5.03	2.00
33.00	3.71	0.44	0.00	0.28	3.50	2.00
34.00	3.86	0.44	0.00	0.28	5.03	2.00
35.00	4.00	0.44	0.00	0.28	4.61	2.00
36.00	4.15	0.44	0.00	0.28	5.02	2.00
37.00	4.29	0.44	0.00	0.28	5.05	2.00
38.00	4.44	0.44	0.00	0.30	3.50	2.00
39.00	4.58	0.44	0.00	0.30	5.05	2.00
40.00	4.73	0.44	0.00	0.30	5.01	2.00
41.00	4.88	0.44	0.00	0.33	3.50	2.00
42.00	5.02	0.44	0.00	0.33	5.01	2.00
43.00	5.17	0.44	0.00	0.33	3.50	2.00
44.00	5.31	0.44	0.00	0.33	5.07	2.00
45.00	5.46	0.44	0.00	0.35	3.50	2.00
46.00	5.60	0.44	0.00	0.35	5.06	2.00
47.00	5.75	0.44	0.00	0.38	3.50	2.00
48.00	5.90	0.44	0.00	0.38	5.06	2.00
49.00	6.06	0.50	0.00	0.40	3.50	2.00
50.00	6.22	0.50	0.00	0.40	5.08	2.00
51.00	6.42	0.60	0.00	0.43	5.01	2.00
52.00	6.64	0.69	0.00	0.43	5.01	2.00
53.00	6.91	0.89	0.00	0.45	4.56	2.00
54.00	7.26	1.09	0.00	0.48	5.01	2.00
55.00	7.67	1.29	0.00	0.50	5.08	2.00
56.00	8.15	1.49	0.00	0.55	4.57	2.00
57.00	8.70	1.79	1.52	0.60	5.05	2.00
58.00	9.39	2.19	0.00	0.65	4.90	2.00
59.00	10.31	3.15	1.52	0.73	5.07	2.00
60.00	16.67	31.99	1.52	0.85	6.03	2.00
61.00	18.49	4.07	1.52	0.98	6.19	2.00
62.00	19.33	2.33	1.52	1.10	5.92	2.00
63.00	19.86	1.51	1.52	1.23	5.43	2.00
64.00	20.35	1.50	1.52	1.30	4.81	2.00
65.00	20.64	0.90	1.52	1.33	5.02	2.00
66.00	20.94	0.90	1.52	1.35	5.02	2.00
67.00	21.24	0.90	1.52	1.38	5.01	2.00
68.00	21.53	0.90	1.52	1.40	5.01	2.00
69.00	21.73	0.60	0.00	1.40	5.06	2.00
70.00	21.93	0.60	0.00	1.43	4.47	2.00
71.00	22.12	0.60	0.00	1.45	3.50	2.00
72.00	22.32	0.60	0.00	1.45	5.05	2.00
73.00	22.32	0.00	0.00	1.45	5.08	2.00
74.00	22.32	0.00	0.00	1.45	5.08	2.00
75.00	22.32	0.00	0.00	1.45	5.08	2.00
76.00	22.32	0.00	0.00	1.45	5.08	2.00
77.00	22.32	0.00	0.00	1.45	5.08	2.00
78.00	22.32	0.00	0.00	1.45	5.08	2.00
79.00	22.32	0.00	0.00	1.45	5.08	2.00
80.00	22.32	0.00	0.00	1.45	5.08	2.00
81.00	22.32	0.00	0.00	1.45	5.08	2.00
82.00	22.32	0.00	0.00	1.45	5.08	2.00
83.00	22.32	0.00	0.00	1.45	5.08	2.00
84.00	22.32	0.00	0.00	1.45	5.08	2.00
85.00	22.32	0.00	0.00	1.45	5.08	2.00
86.00	22.32	0.00	0.00	1.45	5.08	2.00
87.00	22.32	0.00	0.00	1.45	5.08	2.00
88.00	22.32	0.00	0.00	1.45	5.08	2.00
89.00	22.32	0.00	0.00	1.45	5.08	2.00
90.00	22.32	0.00	0.00	1.45	5.08	2.00
91.00	22.32	0.00	0.00	1.45	5.08	2.00
92.00	22.32	0.00	0.00	1.45	5.08	2.00
93.00	22.32	0.00	0.00	1.45	5.08	2.00
94.00	22.32	0.00	0.00	1.45	5.08	2.00
95.00	22.32	0.00	0.00	1.45	5.08	2.00
96.00	22.32	0.00	0.00	1.45	5.08	2.00
97.00	22.32	0.00	0.00	1.45	5.08	2.00
98.00	22.32	0.00	0.00	1.45	5.08	2.00
99.00	22.32	0.00	0.00	1.45	5.08	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
100.00	22.32	0.00	0.00	1.45	5.08	2.00
101.00	22.32	0.00	0.00	1.45	5.08	2.00
102.00	22.32	0.00	0.00	1.45	5.08	2.00
103.00	22.32	0.00	0.00	1.45	5.08	2.00
104.00	22.32	0.00	0.00	1.45	5.08	2.00
105.00	22.32	0.00	0.00	1.45	5.08	2.00
106.00	22.32	0.00	0.00	1.45	5.08	2.00
107.00	22.32	0.00	0.00	1.45	5.08	2.00
108.00	22.32	0.00	0.00	1.45	5.08	2.00
109.00	22.32	0.00	0.00	1.45	5.08	2.00
110.00	22.32	0.00	0.00	1.45	5.08	2.00
111.00	22.32	0.00	0.00	1.45	5.08	2.00
112.00	22.32	0.00	0.00	1.45	5.08	2.00
113.00	22.32	0.00	0.00	1.45	5.08	2.00
114.00	22.32	0.00	0.00	1.45	5.08	2.00
115.00	22.32	0.00	0.00	1.45	5.08	2.00
116.00	22.32	0.00	0.00	1.45	5.08	2.00
117.00	22.32	0.00	0.00	1.45	5.08	2.00
118.00	22.32	0.00	0.00	1.45	5.08	2.00
119.00	22.32	0.00	0.00	1.45	5.08	2.00
120.00	22.32	0.00	0.00	1.45	5.08	2.00

Structure: 4

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 5.49 ft NAVD, Off Elev = 5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.00	3.50	2.00
4.00	0.40	0.30	0.00	0.00	4.62	2.00
5.00	0.50	0.30	0.00	0.00	5.06	2.00
6.00	0.60	0.30	0.00	0.00	3.50	2.00
7.00	0.70	0.30	0.00	0.00	4.52	2.00
8.00	0.80	0.30	0.00	0.00	5.06	2.00
9.00	0.90	0.30	0.00	0.00	3.50	2.00
10.00	1.00	0.30	0.00	0.00	4.48	2.00
11.00	1.10	0.30	0.00	0.00	5.06	2.00
12.00	1.20	0.30	0.00	0.00	3.50	2.00
13.00	1.30	0.30	0.00	0.00	4.49	2.00
14.00	1.40	0.30	0.00	0.00	5.06	2.00
15.00	1.50	0.30	0.00	0.00	3.50	2.00
16.00	1.60	0.30	0.00	0.00	4.51	2.00
17.00	1.70	0.30	0.00	0.00	5.06	2.00
18.00	1.80	0.30	0.00	0.00	3.50	2.00
19.00	1.90	0.30	0.00	0.00	4.53	2.00
20.00	2.00	0.30	0.00	0.00	5.06	2.00
21.00	2.10	0.30	0.00	0.00	3.50	2.00
22.00	2.20	0.30	0.00	0.00	4.55	2.00
23.00	2.30	0.30	0.00	0.00	5.06	2.00
24.00	2.40	0.30	0.00	0.00	3.50	2.00
25.00	2.54	0.44	0.00	0.00	5.02	2.00
26.00	2.69	0.44	0.00	0.00	3.50	2.00
27.00	2.84	0.44	0.00	0.00	5.01	2.00
28.00	2.98	0.44	0.00	0.00	3.50	2.00
29.00	3.13	0.44	0.00	0.00	5.07	2.00
30.00	3.27	0.44	0.00	0.00	3.50	2.00
31.00	3.42	0.44	0.00	0.00	5.07	2.00
32.00	3.56	0.44	0.00	0.00	5.03	2.00
33.00	3.71	0.44	0.00	0.00	3.50	2.00
34.00	3.86	0.44	0.00	0.00	5.03	2.00
35.00	4.00	0.44	0.00	0.00	4.61	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
36.00	4.15	0.44	0.00	0.00	5.02	2.00
37.00	4.29	0.44	0.00	0.00	5.05	2.00
38.00	4.44	0.44	0.00	0.00	3.50	2.00
39.00	4.58	0.44	0.00	0.00	5.05	2.00
40.00	4.73	0.44	0.00	0.00	5.01	2.00
41.00	4.88	0.44	0.00	0.00	3.50	2.00
42.00	5.02	0.44	0.00	0.00	5.01	2.00
43.00	5.17	0.44	0.00	0.00	3.50	2.00
44.00	5.31	0.44	0.00	0.00	5.07	2.00
45.00	5.46	0.44	0.00	0.00	3.50	2.00
46.00	5.60	0.44	0.00	0.00	5.06	2.00
47.00	5.75	0.44	0.00	0.00	3.50	2.00
48.00	5.90	0.44	0.00	0.00	5.06	2.00
49.00	6.06	0.50	0.00	0.00	3.50	2.00
50.00	6.22	0.50	0.00	0.00	5.08	2.00
51.00	6.42	0.60	0.00	0.00	5.01	2.00
52.00	6.64	0.69	0.00	0.00	5.01	2.00
53.00	6.91	0.89	0.00	0.00	4.56	2.00
54.00	7.26	1.09	0.00	0.00	5.01	2.00
55.00	7.67	1.29	0.00	0.00	5.08	2.00
56.00	8.15	1.49	0.00	0.00	4.57	2.00
57.00	8.70	1.79	0.00	0.00	5.05	2.00
58.00	9.39	2.19	0.00	0.00	4.90	2.00
59.00	10.31	3.15	0.00	0.00	5.07	2.00
60.00	16.67	31.99	1.52	0.05	6.03	2.00
61.00	18.49	4.07	1.52	0.18	6.19	2.00
62.00	19.33	2.33	1.52	0.30	5.92	2.00
63.00	19.86	1.51	1.52	0.43	5.43	2.00
64.00	20.35	1.50	0.00	0.48	4.81	2.00
65.00	20.64	0.90	0.00	0.48	5.02	2.00
66.00	20.94	0.90	0.00	0.48	5.02	2.00
67.00	21.24	0.90	0.00	0.48	5.01	2.00
68.00	21.53	0.90	0.00	0.48	5.01	2.00
69.00	21.73	0.60	0.00	0.48	5.06	2.00
70.00	21.93	0.60	0.00	0.48	4.47	2.00
71.00	22.12	0.60	0.00	0.48	3.50	2.00
72.00	22.32	0.60	0.00	0.48	5.05	2.00
73.00	22.32	0.00	0.00	0.48	5.08	2.00
74.00	22.32	0.00	0.00	0.48	5.08	2.00
75.00	22.32	0.00	0.00	0.48	5.08	2.00
76.00	22.32	0.00	0.00	0.48	5.08	2.00
77.00	22.32	0.00	0.00	0.48	5.08	2.00
78.00	22.32	0.00	0.00	0.48	5.08	2.00
79.00	22.32	0.00	0.00	0.48	5.08	2.00
80.00	22.32	0.00	0.00	0.48	5.08	2.00
81.00	22.32	0.00	0.00	0.48	5.08	2.00
82.00	22.32	0.00	0.00	0.48	5.08	2.00
83.00	22.32	0.00	0.00	0.48	5.08	2.00
84.00	22.32	0.00	0.00	0.48	5.08	2.00
85.00	22.32	0.00	0.00	0.48	5.08	2.00
86.00	22.32	0.00	0.00	0.48	5.08	2.00
87.00	22.32	0.00	0.00	0.48	5.08	2.00
88.00	22.32	0.00	0.00	0.48	5.08	2.00
89.00	22.32	0.00	0.00	0.48	5.08	2.00
90.00	22.32	0.00	0.00	0.48	5.08	2.00
91.00	22.32	0.00	0.00	0.48	5.08	2.00
92.00	22.32	0.00	0.00	0.48	5.08	2.00
93.00	22.32	0.00	0.00	0.48	5.08	2.00
94.00	22.32	0.00	0.00	0.48	5.08	2.00
95.00	22.32	0.00	0.00	0.48	5.08	2.00
96.00	22.32	0.00	0.00	0.48	5.08	2.00
97.00	22.32	0.00	0.00	0.48	5.08	2.00
98.00	22.32	0.00	0.00	0.48	5.08	2.00
99.00	22.32	0.00	0.00	0.48	5.08	2.00
100.00	22.32	0.00	0.00	0.48	5.08	2.00
101.00	22.32	0.00	0.00	0.48	5.08	2.00
102.00	22.32	0.00	0.00	0.48	5.08	2.00
103.00	22.32	0.00	0.00	0.48	5.08	2.00
104.00	22.32	0.00	0.00	0.48	5.08	2.00
105.00	22.32	0.00	0.00	0.48	5.08	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
106.00	22.32	0.00	0.00	0.48	5.08	2.00
107.00	22.32	0.00	0.00	0.48	5.08	2.00
108.00	22.32	0.00	0.00	0.48	5.08	2.00
109.00	22.32	0.00	0.00	0.48	5.08	2.00
110.00	22.32	0.00	0.00	0.48	5.08	2.00
111.00	22.32	0.00	0.00	0.48	5.08	2.00
112.00	22.32	0.00	0.00	0.48	5.08	2.00
113.00	22.32	0.00	0.00	0.48	5.08	2.00
114.00	22.32	0.00	0.00	0.48	5.08	2.00
115.00	22.32	0.00	0.00	0.48	5.08	2.00
116.00	22.32	0.00	0.00	0.48	5.08	2.00
117.00	22.32	0.00	0.00	0.48	5.08	2.00
118.00	22.32	0.00	0.00	0.48	5.08	2.00
119.00	22.32	0.00	0.00	0.48	5.08	2.00
120.00	22.32	0.00	0.00	0.48	5.08	2.00

Structure: 5

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 5.99 ft NAVD, Off Elev = 5.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.00	3.50	2.00
4.00	0.40	0.30	0.00	0.00	4.62	2.00
5.00	0.50	0.30	0.00	0.00	5.06	2.00
6.00	0.60	0.30	0.00	0.00	3.50	2.00
7.00	0.70	0.30	0.00	0.00	4.52	2.00
8.00	0.80	0.30	0.00	0.00	5.06	2.00
9.00	0.90	0.30	0.00	0.00	3.50	2.00
10.00	1.00	0.30	0.00	0.00	4.48	2.00
11.00	1.10	0.30	0.00	0.00	5.06	2.00
12.00	1.20	0.30	0.00	0.00	3.50	2.00
13.00	1.30	0.30	0.00	0.00	4.49	2.00
14.00	1.40	0.30	0.00	0.00	5.06	2.00
15.00	1.50	0.30	0.00	0.00	3.50	2.00
16.00	1.60	0.30	0.00	0.00	4.51	2.00
17.00	1.70	0.30	0.00	0.00	5.06	2.00
18.00	1.80	0.30	0.00	0.00	3.50	2.00
19.00	1.90	0.30	0.00	0.00	4.53	2.00
20.00	2.00	0.30	0.00	0.00	5.06	2.00
21.00	2.10	0.30	0.00	0.00	3.50	2.00
22.00	2.20	0.30	0.00	0.00	4.55	2.00
23.00	2.30	0.30	0.00	0.00	5.06	2.00
24.00	2.40	0.30	0.00	0.00	3.50	2.00
25.00	2.54	0.44	0.00	0.00	5.02	2.00
26.00	2.69	0.44	0.00	0.00	3.50	2.00
27.00	2.84	0.44	0.00	0.00	5.01	2.00
28.00	2.98	0.44	0.00	0.00	3.50	2.00
29.00	3.13	0.44	0.00	0.00	5.07	2.00
30.00	3.27	0.44	0.00	0.00	3.50	2.00
31.00	3.42	0.44	0.00	0.00	5.07	2.00
32.00	3.56	0.44	0.00	0.00	5.03	2.00
33.00	3.71	0.44	0.00	0.00	3.50	2.00
34.00	3.86	0.44	0.00	0.00	5.03	2.00
35.00	4.00	0.44	0.00	0.00	4.61	2.00
36.00	4.15	0.44	0.00	0.00	5.02	2.00
37.00	4.29	0.44	0.00	0.00	5.05	2.00
38.00	4.44	0.44	0.00	0.00	3.50	2.00
39.00	4.58	0.44	0.00	0.00	5.05	2.00
40.00	4.73	0.44	0.00	0.00	5.01	2.00
41.00	4.88	0.44	0.00	0.00	3.50	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
42.00	5.02	0.44	0.00	0.00	5.01	2.00
43.00	5.17	0.44	0.00	0.00	3.50	2.00
44.00	5.31	0.44	0.00	0.00	5.07	2.00
45.00	5.46	0.44	0.00	0.00	3.50	2.00
46.00	5.60	0.44	0.00	0.00	5.06	2.00
47.00	5.75	0.44	0.00	0.00	3.50	2.00
48.00	5.90	0.44	0.00	0.00	5.06	2.00
49.00	6.06	0.50	0.00	0.00	3.50	2.00
50.00	6.22	0.50	0.00	0.00	5.08	2.00
51.00	6.42	0.60	0.00	0.00	5.01	2.00
52.00	6.64	0.69	0.00	0.00	5.01	2.00
53.00	6.91	0.89	0.00	0.00	4.56	2.00
54.00	7.26	1.09	0.00	0.00	5.01	2.00
55.00	7.67	1.29	0.00	0.00	5.08	2.00
56.00	8.15	1.49	0.00	0.00	4.57	2.00
57.00	8.70	1.79	0.00	0.00	5.05	2.00
58.00	9.39	2.19	0.00	0.00	4.90	2.00
59.00	10.31	3.15	0.00	0.00	5.07	2.00
60.00	16.67	31.99	1.52	0.03	6.03	2.00
61.00	18.49	4.07	1.52	0.15	6.19	2.00
62.00	19.33	2.33	1.52	0.28	5.92	2.00
63.00	19.86	1.51	0.00	0.38	5.43	2.00
64.00	20.35	1.50	0.00	0.38	4.81	2.00
65.00	20.64	0.90	0.00	0.38	5.02	2.00
66.00	20.94	0.90	0.00	0.38	5.02	2.00
67.00	21.24	0.90	0.00	0.38	5.01	2.00
68.00	21.53	0.90	0.00	0.38	5.01	2.00
69.00	21.73	0.60	0.00	0.38	5.06	2.00
70.00	21.93	0.60	0.00	0.38	4.47	2.00
71.00	22.12	0.60	0.00	0.38	3.50	2.00
72.00	22.32	0.60	0.00	0.38	5.05	2.00
73.00	22.32	0.00	0.00	0.38	5.08	2.00
74.00	22.32	0.00	0.00	0.38	5.08	2.00
75.00	22.32	0.00	0.00	0.38	5.08	2.00
76.00	22.32	0.00	0.00	0.38	5.08	2.00
77.00	22.32	0.00	0.00	0.38	5.08	2.00
78.00	22.32	0.00	0.00	0.38	5.08	2.00
79.00	22.32	0.00	0.00	0.38	5.08	2.00
80.00	22.32	0.00	0.00	0.38	5.08	2.00
81.00	22.32	0.00	0.00	0.38	5.08	2.00
82.00	22.32	0.00	0.00	0.38	5.08	2.00
83.00	22.32	0.00	0.00	0.38	5.08	2.00
84.00	22.32	0.00	0.00	0.38	5.08	2.00
85.00	22.32	0.00	0.00	0.38	5.08	2.00
86.00	22.32	0.00	0.00	0.38	5.08	2.00
87.00	22.32	0.00	0.00	0.38	5.08	2.00
88.00	22.32	0.00	0.00	0.38	5.08	2.00
89.00	22.32	0.00	0.00	0.38	5.08	2.00
90.00	22.32	0.00	0.00	0.38	5.08	2.00
91.00	22.32	0.00	0.00	0.38	5.08	2.00
92.00	22.32	0.00	0.00	0.38	5.08	2.00
93.00	22.32	0.00	0.00	0.38	5.08	2.00
94.00	22.32	0.00	0.00	0.38	5.08	2.00
95.00	22.32	0.00	0.00	0.38	5.08	2.00
96.00	22.32	0.00	0.00	0.38	5.08	2.00
97.00	22.32	0.00	0.00	0.38	5.08	2.00
98.00	22.32	0.00	0.00	0.38	5.08	2.00
99.00	22.32	0.00	0.00	0.38	5.08	2.00
100.00	22.32	0.00	0.00	0.38	5.08	2.00
101.00	22.32	0.00	0.00	0.38	5.08	2.00
102.00	22.32	0.00	0.00	0.38	5.08	2.00
103.00	22.32	0.00	0.00	0.38	5.08	2.00
104.00	22.32	0.00	0.00	0.38	5.08	2.00
105.00	22.32	0.00	0.00	0.38	5.08	2.00
106.00	22.32	0.00	0.00	0.38	5.08	2.00
107.00	22.32	0.00	0.00	0.38	5.08	2.00
108.00	22.32	0.00	0.00	0.38	5.08	2.00
109.00	22.32	0.00	0.00	0.38	5.08	2.00
110.00	22.32	0.00	0.00	0.38	5.08	2.00
111.00	22.32	0.00	0.00	0.38	5.08	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
112.00	22.32	0.00	0.00	0.38	5.08	2.00
113.00	22.32	0.00	0.00	0.38	5.08	2.00
114.00	22.32	0.00	0.00	0.38	5.08	2.00
115.00	22.32	0.00	0.00	0.38	5.08	2.00
116.00	22.32	0.00	0.00	0.38	5.08	2.00
117.00	22.32	0.00	0.00	0.38	5.08	2.00
118.00	22.32	0.00	0.00	0.38	5.08	2.00
119.00	22.32	0.00	0.00	0.38	5.08	2.00
120.00	22.32	0.00	0.00	0.38	5.08	2.00

Structure: 6

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 6.49 ft NAVD, Off Elev = 6 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.00	3.50	2.00
4.00	0.40	0.30	0.00	0.00	4.62	2.00
5.00	0.50	0.30	0.00	0.00	5.06	2.00
6.00	0.60	0.30	0.00	0.00	3.50	2.00
7.00	0.70	0.30	0.00	0.00	4.52	2.00
8.00	0.80	0.30	0.00	0.00	5.06	2.00
9.00	0.90	0.30	0.00	0.00	3.50	2.00
10.00	1.00	0.30	0.00	0.00	4.48	2.00
11.00	1.10	0.30	0.00	0.00	5.06	2.00
12.00	1.20	0.30	0.00	0.00	3.50	2.00
13.00	1.30	0.30	0.00	0.00	4.49	2.00
14.00	1.40	0.30	0.00	0.00	5.06	2.00
15.00	1.50	0.30	0.00	0.00	3.50	2.00
16.00	1.60	0.30	0.00	0.00	4.51	2.00
17.00	1.70	0.30	0.00	0.00	5.06	2.00
18.00	1.80	0.30	0.00	0.00	3.50	2.00
19.00	1.90	0.30	0.00	0.00	4.53	2.00
20.00	2.00	0.30	0.00	0.00	5.06	2.00
21.00	2.10	0.30	0.00	0.00	3.50	2.00
22.00	2.20	0.30	0.00	0.00	4.55	2.00
23.00	2.30	0.30	0.00	0.00	5.06	2.00
24.00	2.40	0.30	0.00	0.00	3.50	2.00
25.00	2.54	0.44	0.00	0.00	5.02	2.00
26.00	2.69	0.44	0.00	0.00	3.50	2.00
27.00	2.84	0.44	0.00	0.00	5.01	2.00
28.00	2.98	0.44	0.00	0.00	3.50	2.00
29.00	3.13	0.44	0.00	0.00	5.07	2.00
30.00	3.27	0.44	0.00	0.00	3.50	2.00
31.00	3.42	0.44	0.00	0.00	5.07	2.00
32.00	3.56	0.44	0.00	0.00	5.03	2.00
33.00	3.71	0.44	0.00	0.00	3.50	2.00
34.00	3.86	0.44	0.00	0.00	5.03	2.00
35.00	4.00	0.44	0.00	0.00	4.61	2.00
36.00	4.15	0.44	0.00	0.00	5.02	2.00
37.00	4.29	0.44	0.00	0.00	5.05	2.00
38.00	4.44	0.44	0.00	0.00	3.50	2.00
39.00	4.58	0.44	0.00	0.00	5.05	2.00
40.00	4.73	0.44	0.00	0.00	5.01	2.00
41.00	4.88	0.44	0.00	0.00	3.50	2.00
42.00	5.02	0.44	0.00	0.00	5.01	2.00
43.00	5.17	0.44	0.00	0.00	3.50	2.00
44.00	5.31	0.44	0.00	0.00	5.07	2.00
45.00	5.46	0.44	0.00	0.00	3.50	2.00
46.00	5.60	0.44	0.00	0.00	5.06	2.00
47.00	5.75	0.44	0.00	0.00	3.50	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
48.00	5.90	0.44	0.00	0.00	5.06	2.00
49.00	6.06	0.50	0.00	0.00	3.50	2.00
50.00	6.22	0.50	0.00	0.00	5.08	2.00
51.00	6.42	0.60	0.00	0.00	5.01	2.00
52.00	6.64	0.69	0.00	0.00	5.01	2.00
53.00	6.91	0.89	0.00	0.00	4.56	2.00
54.00	7.26	1.09	0.00	0.00	5.01	2.00
55.00	7.67	1.29	0.00	0.00	5.08	2.00
56.00	8.15	1.49	0.00	0.00	4.57	2.00
57.00	8.70	1.79	0.00	0.00	5.05	2.00
58.00	9.39	2.19	0.00	0.00	4.90	2.00
59.00	10.31	3.15	0.00	0.00	5.07	2.00
60.00	16.67	31.99	0.00	0.00	6.03	2.00
61.00	18.49	4.07	0.00	0.00	6.19	2.00
62.00	19.33	2.33	0.00	0.00	5.92	2.00
63.00	19.86	1.51	0.00	0.00	5.43	2.00
64.00	20.35	1.50	0.00	0.00	4.81	2.00
65.00	20.64	0.90	0.00	0.00	5.02	2.00
66.00	20.94	0.90	0.00	0.00	5.02	2.00
67.00	21.24	0.90	0.00	0.00	5.01	2.00
68.00	21.53	0.90	0.00	0.00	5.01	2.00
69.00	21.73	0.60	0.00	0.00	5.06	2.00
70.00	21.93	0.60	0.00	0.00	4.47	2.00
71.00	22.12	0.60	0.00	0.00	3.50	2.00
72.00	22.32	0.60	0.00	0.00	5.05	2.00
73.00	22.32	0.00	0.00	0.00	5.08	2.00
74.00	22.32	0.00	0.00	0.00	5.08	2.00
75.00	22.32	0.00	0.00	0.00	5.08	2.00
76.00	22.32	0.00	0.00	0.00	5.08	2.00
77.00	22.32	0.00	0.00	0.00	5.08	2.00
78.00	22.32	0.00	0.00	0.00	5.08	2.00
79.00	22.32	0.00	0.00	0.00	5.08	2.00
80.00	22.32	0.00	0.00	0.00	5.08	2.00
81.00	22.32	0.00	0.00	0.00	5.08	2.00
82.00	22.32	0.00	0.00	0.00	5.08	2.00
83.00	22.32	0.00	0.00	0.00	5.08	2.00
84.00	22.32	0.00	0.00	0.00	5.08	2.00
85.00	22.32	0.00	0.00	0.00	5.08	2.00
86.00	22.32	0.00	0.00	0.00	5.08	2.00
87.00	22.32	0.00	0.00	0.00	5.08	2.00
88.00	22.32	0.00	0.00	0.00	5.08	2.00
89.00	22.32	0.00	0.00	0.00	5.08	2.00
90.00	22.32	0.00	0.00	0.00	5.08	2.00
91.00	22.32	0.00	0.00	0.00	5.08	2.00
92.00	22.32	0.00	0.00	0.00	5.08	2.00
93.00	22.32	0.00	0.00	0.00	5.08	2.00
94.00	22.32	0.00	0.00	0.00	5.08	2.00
95.00	22.32	0.00	0.00	0.00	5.08	2.00
96.00	22.32	0.00	0.00	0.00	5.08	2.00
97.00	22.32	0.00	0.00	0.00	5.08	2.00
98.00	22.32	0.00	0.00	0.00	5.08	2.00
99.00	22.32	0.00	0.00	0.00	5.08	2.00
100.00	22.32	0.00	0.00	0.00	5.08	2.00
101.00	22.32	0.00	0.00	0.00	5.08	2.00
102.00	22.32	0.00	0.00	0.00	5.08	2.00
103.00	22.32	0.00	0.00	0.00	5.08	2.00
104.00	22.32	0.00	0.00	0.00	5.08	2.00
105.00	22.32	0.00	0.00	0.00	5.08	2.00
106.00	22.32	0.00	0.00	0.00	5.08	2.00
107.00	22.32	0.00	0.00	0.00	5.08	2.00
108.00	22.32	0.00	0.00	0.00	5.08	2.00
109.00	22.32	0.00	0.00	0.00	5.08	2.00
110.00	22.32	0.00	0.00	0.00	5.08	2.00
111.00	22.32	0.00	0.00	0.00	5.08	2.00
112.00	22.32	0.00	0.00	0.00	5.08	2.00
113.00	22.32	0.00	0.00	0.00	5.08	2.00
114.00	22.32	0.00	0.00	0.00	5.08	2.00
115.00	22.32	0.00	0.00	0.00	5.08	2.00
116.00	22.32	0.00	0.00	0.00	5.08	2.00
117.00	22.32	0.00	0.00	0.00	5.08	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
118.00	22.32	0.00	0.00	0.00	5.08	2.00
119.00	22.32	0.00	0.00	0.00	5.08	2.00
120.00	22.32	0.00	0.00	0.00	5.08	2.00

Structure: 7

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 6.99 ft NAVD, Off Elev = 6.5 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.00	3.50	2.00
4.00	0.40	0.30	0.00	0.00	4.62	2.00
5.00	0.50	0.30	0.00	0.00	5.06	2.00
6.00	0.60	0.30	0.00	0.00	3.50	2.00
7.00	0.70	0.30	0.00	0.00	4.52	2.00
8.00	0.80	0.30	0.00	0.00	5.06	2.00
9.00	0.90	0.30	0.00	0.00	3.50	2.00
10.00	1.00	0.30	0.00	0.00	4.48	2.00
11.00	1.10	0.30	0.00	0.00	5.06	2.00
12.00	1.20	0.30	0.00	0.00	3.50	2.00
13.00	1.30	0.30	0.00	0.00	4.49	2.00
14.00	1.40	0.30	0.00	0.00	5.06	2.00
15.00	1.50	0.30	0.00	0.00	3.50	2.00
16.00	1.60	0.30	0.00	0.00	4.51	2.00
17.00	1.70	0.30	0.00	0.00	5.06	2.00
18.00	1.80	0.30	0.00	0.00	3.50	2.00
19.00	1.90	0.30	0.00	0.00	4.53	2.00
20.00	2.00	0.30	0.00	0.00	5.06	2.00
21.00	2.10	0.30	0.00	0.00	3.50	2.00
22.00	2.20	0.30	0.00	0.00	4.55	2.00
23.00	2.30	0.30	0.00	0.00	5.06	2.00
24.00	2.40	0.30	0.00	0.00	3.50	2.00
25.00	2.54	0.44	0.00	0.00	5.02	2.00
26.00	2.69	0.44	0.00	0.00	3.50	2.00
27.00	2.84	0.44	0.00	0.00	5.01	2.00
28.00	2.98	0.44	0.00	0.00	3.50	2.00
29.00	3.13	0.44	0.00	0.00	5.07	2.00
30.00	3.27	0.44	0.00	0.00	3.50	2.00
31.00	3.42	0.44	0.00	0.00	5.07	2.00
32.00	3.56	0.44	0.00	0.00	5.03	2.00
33.00	3.71	0.44	0.00	0.00	3.50	2.00
34.00	3.86	0.44	0.00	0.00	5.03	2.00
35.00	4.00	0.44	0.00	0.00	4.61	2.00
36.00	4.15	0.44	0.00	0.00	5.02	2.00
37.00	4.29	0.44	0.00	0.00	5.05	2.00
38.00	4.44	0.44	0.00	0.00	3.50	2.00
39.00	4.58	0.44	0.00	0.00	5.05	2.00
40.00	4.73	0.44	0.00	0.00	5.01	2.00
41.00	4.88	0.44	0.00	0.00	3.50	2.00
42.00	5.02	0.44	0.00	0.00	5.01	2.00
43.00	5.17	0.44	0.00	0.00	3.50	2.00
44.00	5.31	0.44	0.00	0.00	5.07	2.00
45.00	5.46	0.44	0.00	0.00	3.50	2.00
46.00	5.60	0.44	0.00	0.00	5.06	2.00
47.00	5.75	0.44	0.00	0.00	3.50	2.00
48.00	5.90	0.44	0.00	0.00	5.06	2.00
49.00	6.06	0.50	0.00	0.00	3.50	2.00
50.00	6.22	0.50	0.00	0.00	5.08	2.00
51.00	6.42	0.60	0.00	0.00	5.01	2.00
52.00	6.64	0.69	0.00	0.00	5.01	2.00
53.00	6.91	0.89	0.00	0.00	4.56	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
54.00	7.26	1.09	0.00	0.00	5.01	2.00
55.00	7.67	1.29	0.00	0.00	5.08	2.00
56.00	8.15	1.49	0.00	0.00	4.57	2.00
57.00	8.70	1.79	0.00	0.00	5.05	2.00
58.00	9.39	2.19	0.00	0.00	4.90	2.00
59.00	10.31	3.15	0.00	0.00	5.07	2.00
60.00	16.67	31.99	0.00	0.00	6.03	2.00
61.00	18.49	4.07	0.00	0.00	6.19	2.00
62.00	19.33	2.33	0.00	0.00	5.92	2.00
63.00	19.86	1.51	0.00	0.00	5.43	2.00
64.00	20.35	1.50	0.00	0.00	4.81	2.00
65.00	20.64	0.90	0.00	0.00	5.02	2.00
66.00	20.94	0.90	0.00	0.00	5.02	2.00
67.00	21.24	0.90	0.00	0.00	5.01	2.00
68.00	21.53	0.90	0.00	0.00	5.01	2.00
69.00	21.73	0.60	0.00	0.00	5.06	2.00
70.00	21.93	0.60	0.00	0.00	4.47	2.00
71.00	22.12	0.60	0.00	0.00	3.50	2.00
72.00	22.32	0.60	0.00	0.00	5.05	2.00
73.00	22.32	0.00	0.00	0.00	5.08	2.00
74.00	22.32	0.00	0.00	0.00	5.08	2.00
75.00	22.32	0.00	0.00	0.00	5.08	2.00
76.00	22.32	0.00	0.00	0.00	5.08	2.00
77.00	22.32	0.00	0.00	0.00	5.08	2.00
78.00	22.32	0.00	0.00	0.00	5.08	2.00
79.00	22.32	0.00	0.00	0.00	5.08	2.00
80.00	22.32	0.00	0.00	0.00	5.08	2.00
81.00	22.32	0.00	0.00	0.00	5.08	2.00
82.00	22.32	0.00	0.00	0.00	5.08	2.00
83.00	22.32	0.00	0.00	0.00	5.08	2.00
84.00	22.32	0.00	0.00	0.00	5.08	2.00
85.00	22.32	0.00	0.00	0.00	5.08	2.00
86.00	22.32	0.00	0.00	0.00	5.08	2.00
87.00	22.32	0.00	0.00	0.00	5.08	2.00
88.00	22.32	0.00	0.00	0.00	5.08	2.00
89.00	22.32	0.00	0.00	0.00	5.08	2.00
90.00	22.32	0.00	0.00	0.00	5.08	2.00
91.00	22.32	0.00	0.00	0.00	5.08	2.00
92.00	22.32	0.00	0.00	0.00	5.08	2.00
93.00	22.32	0.00	0.00	0.00	5.08	2.00
94.00	22.32	0.00	0.00	0.00	5.08	2.00
95.00	22.32	0.00	0.00	0.00	5.08	2.00
96.00	22.32	0.00	0.00	0.00	5.08	2.00
97.00	22.32	0.00	0.00	0.00	5.08	2.00
98.00	22.32	0.00	0.00	0.00	5.08	2.00
99.00	22.32	0.00	0.00	0.00	5.08	2.00
100.00	22.32	0.00	0.00	0.00	5.08	2.00
101.00	22.32	0.00	0.00	0.00	5.08	2.00
102.00	22.32	0.00	0.00	0.00	5.08	2.00
103.00	22.32	0.00	0.00	0.00	5.08	2.00
104.00	22.32	0.00	0.00	0.00	5.08	2.00
105.00	22.32	0.00	0.00	0.00	5.08	2.00
106.00	22.32	0.00	0.00	0.00	5.08	2.00
107.00	22.32	0.00	0.00	0.00	5.08	2.00
108.00	22.32	0.00	0.00	0.00	5.08	2.00
109.00	22.32	0.00	0.00	0.00	5.08	2.00
110.00	22.32	0.00	0.00	0.00	5.08	2.00
111.00	22.32	0.00	0.00	0.00	5.08	2.00
112.00	22.32	0.00	0.00	0.00	5.08	2.00
113.00	22.32	0.00	0.00	0.00	5.08	2.00
114.00	22.32	0.00	0.00	0.00	5.08	2.00
115.00	22.32	0.00	0.00	0.00	5.08	2.00
116.00	22.32	0.00	0.00	0.00	5.08	2.00
117.00	22.32	0.00	0.00	0.00	5.08	2.00
118.00	22.32	0.00	0.00	0.00	5.08	2.00
119.00	22.32	0.00	0.00	0.00	5.08	2.00
120.00	22.32	0.00	0.00	0.00	5.08	2.00

From Basin: Proposed Conditions
To Basin: Offsite (Aquifer)
Structure Type: Pump
On Elev = 7.49 ft NAVD, Off Elev = 7 ft NAVD, Capacity = 680 gpm

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
0.00	0.00	0.00	0.00	0.00	2.00	2.00
1.00	0.10	0.22	0.00	0.00	5.01	2.00
2.00	0.20	0.28	0.00	0.00	5.06	2.00
3.00	0.30	0.29	0.00	0.00	3.50	2.00
4.00	0.40	0.30	0.00	0.00	4.62	2.00
5.00	0.50	0.30	0.00	0.00	5.06	2.00
6.00	0.60	0.30	0.00	0.00	3.50	2.00
7.00	0.70	0.30	0.00	0.00	4.52	2.00
8.00	0.80	0.30	0.00	0.00	5.06	2.00
9.00	0.90	0.30	0.00	0.00	3.50	2.00
10.00	1.00	0.30	0.00	0.00	4.48	2.00
11.00	1.10	0.30	0.00	0.00	5.06	2.00
12.00	1.20	0.30	0.00	0.00	3.50	2.00
13.00	1.30	0.30	0.00	0.00	4.49	2.00
14.00	1.40	0.30	0.00	0.00	5.06	2.00
15.00	1.50	0.30	0.00	0.00	3.50	2.00
16.00	1.60	0.30	0.00	0.00	4.51	2.00
17.00	1.70	0.30	0.00	0.00	5.06	2.00
18.00	1.80	0.30	0.00	0.00	3.50	2.00
19.00	1.90	0.30	0.00	0.00	4.53	2.00
20.00	2.00	0.30	0.00	0.00	5.06	2.00
21.00	2.10	0.30	0.00	0.00	3.50	2.00
22.00	2.20	0.30	0.00	0.00	4.55	2.00
23.00	2.30	0.30	0.00	0.00	5.06	2.00
24.00	2.40	0.30	0.00	0.00	3.50	2.00
25.00	2.54	0.44	0.00	0.00	5.02	2.00
26.00	2.69	0.44	0.00	0.00	3.50	2.00
27.00	2.84	0.44	0.00	0.00	5.01	2.00
28.00	2.98	0.44	0.00	0.00	3.50	2.00
29.00	3.13	0.44	0.00	0.00	5.07	2.00
30.00	3.27	0.44	0.00	0.00	3.50	2.00
31.00	3.42	0.44	0.00	0.00	5.07	2.00
32.00	3.56	0.44	0.00	0.00	5.03	2.00
33.00	3.71	0.44	0.00	0.00	3.50	2.00
34.00	3.86	0.44	0.00	0.00	5.03	2.00
35.00	4.00	0.44	0.00	0.00	4.61	2.00
36.00	4.15	0.44	0.00	0.00	5.02	2.00
37.00	4.29	0.44	0.00	0.00	5.05	2.00
38.00	4.44	0.44	0.00	0.00	3.50	2.00
39.00	4.58	0.44	0.00	0.00	5.05	2.00
40.00	4.73	0.44	0.00	0.00	5.01	2.00
41.00	4.88	0.44	0.00	0.00	3.50	2.00
42.00	5.02	0.44	0.00	0.00	5.01	2.00
43.00	5.17	0.44	0.00	0.00	3.50	2.00
44.00	5.31	0.44	0.00	0.00	5.07	2.00
45.00	5.46	0.44	0.00	0.00	3.50	2.00
46.00	5.60	0.44	0.00	0.00	5.06	2.00
47.00	5.75	0.44	0.00	0.00	3.50	2.00
48.00	5.90	0.44	0.00	0.00	5.06	2.00
49.00	6.06	0.50	0.00	0.00	3.50	2.00
50.00	6.22	0.50	0.00	0.00	5.08	2.00
51.00	6.42	0.60	0.00	0.00	5.01	2.00
52.00	6.64	0.69	0.00	0.00	5.01	2.00
53.00	6.91	0.89	0.00	0.00	4.56	2.00
54.00	7.26	1.09	0.00	0.00	5.01	2.00
55.00	7.67	1.29	0.00	0.00	5.08	2.00
56.00	8.15	1.49	0.00	0.00	4.57	2.00
57.00	8.70	1.79	0.00	0.00	5.05	2.00
58.00	9.39	2.19	0.00	0.00	4.90	2.00
59.00	10.31	3.15	0.00	0.00	5.07	2.00
60.00	16.67	31.99	0.00	0.00	6.03	2.00
61.00	18.49	4.07	0.00	0.00	6.19	2.00
62.00	19.33	2.33	0.00	0.00	5.92	2.00
63.00	19.86	1.51	0.00	0.00	5.43	2.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NAVD)	Tail Water Stage (ft NAVD)
64.00	20.35	1.50	0.00	0.00	4.81	2.00
65.00	20.64	0.90	0.00	0.00	5.02	2.00
66.00	20.94	0.90	0.00	0.00	5.02	2.00
67.00	21.24	0.90	0.00	0.00	5.01	2.00
68.00	21.53	0.90	0.00	0.00	5.01	2.00
69.00	21.73	0.60	0.00	0.00	5.06	2.00
70.00	21.93	0.60	0.00	0.00	4.47	2.00
71.00	22.12	0.60	0.00	0.00	3.50	2.00
72.00	22.32	0.60	0.00	0.00	5.05	2.00
73.00	22.32	0.00	0.00	0.00	5.08	2.00
74.00	22.32	0.00	0.00	0.00	5.08	2.00
75.00	22.32	0.00	0.00	0.00	5.08	2.00
76.00	22.32	0.00	0.00	0.00	5.08	2.00
77.00	22.32	0.00	0.00	0.00	5.08	2.00
78.00	22.32	0.00	0.00	0.00	5.08	2.00
79.00	22.32	0.00	0.00	0.00	5.08	2.00
80.00	22.32	0.00	0.00	0.00	5.08	2.00
81.00	22.32	0.00	0.00	0.00	5.08	2.00
82.00	22.32	0.00	0.00	0.00	5.08	2.00
83.00	22.32	0.00	0.00	0.00	5.08	2.00
84.00	22.32	0.00	0.00	0.00	5.08	2.00
85.00	22.32	0.00	0.00	0.00	5.08	2.00
86.00	22.32	0.00	0.00	0.00	5.08	2.00
87.00	22.32	0.00	0.00	0.00	5.08	2.00
88.00	22.32	0.00	0.00	0.00	5.08	2.00
89.00	22.32	0.00	0.00	0.00	5.08	2.00
90.00	22.32	0.00	0.00	0.00	5.08	2.00
91.00	22.32	0.00	0.00	0.00	5.08	2.00
92.00	22.32	0.00	0.00	0.00	5.08	2.00
93.00	22.32	0.00	0.00	0.00	5.08	2.00
94.00	22.32	0.00	0.00	0.00	5.08	2.00
95.00	22.32	0.00	0.00	0.00	5.08	2.00
96.00	22.32	0.00	0.00	0.00	5.08	2.00
97.00	22.32	0.00	0.00	0.00	5.08	2.00
98.00	22.32	0.00	0.00	0.00	5.08	2.00
99.00	22.32	0.00	0.00	0.00	5.08	2.00
100.00	22.32	0.00	0.00	0.00	5.08	2.00
101.00	22.32	0.00	0.00	0.00	5.08	2.00
102.00	22.32	0.00	0.00	0.00	5.08	2.00
103.00	22.32	0.00	0.00	0.00	5.08	2.00
104.00	22.32	0.00	0.00	0.00	5.08	2.00
105.00	22.32	0.00	0.00	0.00	5.08	2.00
106.00	22.32	0.00	0.00	0.00	5.08	2.00
107.00	22.32	0.00	0.00	0.00	5.08	2.00
108.00	22.32	0.00	0.00	0.00	5.08	2.00
109.00	22.32	0.00	0.00	0.00	5.08	2.00
110.00	22.32	0.00	0.00	0.00	5.08	2.00
111.00	22.32	0.00	0.00	0.00	5.08	2.00
112.00	22.32	0.00	0.00	0.00	5.08	2.00
113.00	22.32	0.00	0.00	0.00	5.08	2.00
114.00	22.32	0.00	0.00	0.00	5.08	2.00
115.00	22.32	0.00	0.00	0.00	5.08	2.00
116.00	22.32	0.00	0.00	0.00	5.08	2.00
117.00	22.32	0.00	0.00	0.00	5.08	2.00
118.00	22.32	0.00	0.00	0.00	5.08	2.00
119.00	22.32	0.00	0.00	0.00	5.08	2.00
120.00	22.32	0.00	0.00	0.00	5.08	2.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	1.52	2.40	0.00	0.00
2	1.52	2.40	0.00	0.00
3	1.52	2.40	0.00	0.00
4	1.52	59.80	0.00	0.00
5	1.52	60.00	0.00	0.00
6	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00

8	0.00	0.00	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Proposed Condi	6.24	60.60	2.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Proposed Condi	5.59	0.00	5.56	0.00	0.03	0.00

DCP

APPENDIX F
Acoustics Report

BOOK 3 | SEPTEMBER 14, 2020

EDWARD DUGGER + ASSOCIATES
ACOUSTICAL ASSESSMENT OF BROWARD JOINT GOVERNMENT CENTER CAMPUS

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Summary

The following acoustical design criteria provides recommendations important for the acoustic success of the Broward Joint Government Center Campus (JGCC) project. Various areas in JGCC were identified in the DCP submittal as noise sensitive and recommendations to achieve room acoustics appropriate for these areas are discussed. Broward County (County) and the City of Fort Lauderdale (City) are proposing the development of JGCC and will be occupied by County and City agencies. The approximately 700,000 ft^2 building will be located on 101 Northwest 1st Avenue, Fort Lauderdale, FL (Site). The Site is bound by NW 2nd St. to its north, Brickell Ave. to its east, E Broward Blvd. to its south, and NW 2nd Ave. to its west. The location for the proposed Site is currently Broward County Central Bus Terminal.

Figure 1. Proposed location of Broward JGCC 101 Northwest 1st Avenue, Fort Lauderdale, FL (Site). Source: Google Earth.

Room Acoustics

Reverberation Time (RT)

RT is the time taken for sound pressure levels in a space to decay 60 dB in a given octave band mid-frequency (typically 125, 250, 500, 1,000, 2,000, and 4,000 Hz). RT is primarily influenced by a room's size, shape, and surface materials. Acoustically absorptive materials (typically porous and/or soft) reduce RT by preventing or reducing acoustical reflections as opposed to hard reflective surfaces which allow sound to linger for longer periods of time (increasing RT). While these reflections can be complimentary in performance spaces, they are often detrimental to speech and hearing in spaces used for conversation. Thus, this effect should be kept to a minimum. The average RT at 500 Hz, 1 kHz, and 2 kHz is a useful metric in evaluating how occupants with normal hearing will perceive speech within a space.

RT Models

RT models were developed for all areas that would require acoustical treatment. The models provided RT based on each area's proposed room volume and surface areas. In areas where the RT were above the recommended time range, the amount of acoustically absorptive material was increased to reduce RT until an appropriate averaged RT (between 500 Hz, 1 kHz, and 2 kHz) in each area were achieved (see Figures 2–6). Published absorption coefficient data were used for all material utilized in RT models. The following spaces at a minimum should achieve the following RT values:

1. County Chamber	RT < 0.70-seconds
2. City Chamber	RT < 0.70-seconds
3. Command Center	RT $\leq$ 0.80-seconds
4. Offices and similar	RT $\leq$ 0.80-seconds
5. Media Rooms	RT < 0.60-seconds

No RT models were developed for office spaces. However, the recommended RT can be achieved with high NRC ceiling tiles (NRC > 0.70) covering the ceiling of office spaces.

The County Chamber and City Chamber, as shown in the Concept Plans, features curved perimeter walls. Curved walls can create acoustic focusing which is an undesirable effect in meeting rooms. Therefore, we recommend adding absorptive acoustical treatment applied to the interior surface of the curved perimeter walls from 2 feet above the finished floor to 10 feet above the floor finish.

The minimum surface area to be treated with either a stretch fabric system, an acoustical plaster system, perforated wood panel system, or an acoustical ceiling tile system are in Table 1 for each space. The minimum octave-band frequency absorption coefficient each respective acoustical system should achieve are in Table 9. The material chosen should have a minimum Noise Reduction Coefficient (NRC) of $\geq$ 0.70.

The recommended minimum surface area to be treated with either a stretch fabric system, an acoustical plaster system, perforated wood panel system, or an acoustical ceiling tile system in Table 1 would still apply if County Chamber and City Chamber are redesigned to avoid curved walls acoustic focus. However, for all the other rooms most of the acoustical treatment would not have to be applied to wall surfaces—it could be applied to the ceiling surface or a combination of ceiling and wall surfaces.

Table 1. Proposed room volume, proposed room surface area, and the recommended minimum surface area to treat with an acoustical material (see Figures 2–6 for more detail).

Space	Room Volume	Surface area of room	Recommended Minimum Surface Area to be Treated	RT Model Heights
County Chamber	247,200 ft^3	7044 ft^2	*17,600 ft^2	35 ft.
City Chamber	141,500 ft^3	4781 ft^2	*9,500 ft^2	
Command Center	16,700 ft^3	1676 ft^2	3,100 ft^2	10 ft.
Office Spaces and similar	Various	Various	100% of ceiling	
County Media Room	30,800 ft^3	1715 ft^2	2,400 ft^2	17 ft.
City Media Room	17,700 ft^3	984 ft^2	1,280 ft^2	

(*) Apply acoustic treatment on curved walls.

Sound Isolation

Wall assemblies

A common single-number rating used to evaluate the sound-insulating qualities of partitions is sound transmission class (STC). STC is a unitless value that is used to describe a partition's effectiveness of insulating sound over the human speech frequency range (125 Hz to 4 kHz). Table 2 provides the minimum STC ratings to be achieved in adjacency combinations of JGCC. Typical wall details that can achieve the recommended STC values are included. Table 9 contains descriptions of speech privacy that can be achieved at different STC ranges.

Table 2. Minimum composite sound transmission class (STCc) ratings for adjacent spaces.		
Adjacency combinations		STC_c
County Chamber and City Chamber	Occupied Area, Common hallway	≥ 55
Offices, Conference rooms, Command Center, and similar	Occupied Area, Common hallway, stairway	≥ 55
Media Rooms and similar	Occupied Area, Common hallway, stairway	≥ 55
Child Care Center, Gym, and similar	Occupied Area	≥ 55
Cafeteria	Occupied Area	≥ 55
Bathroom and Mother Rooms	Occupied Area	≥ 55
Mechanical Room and Generator Room	Occupied area	≥ 60
For façades facing the train track and bus station	Exterior Area	≥ 60

Gym

Gym areas should have 1” thick neoprene isolation mats installed on the floor to minimize vibration transmission to adjacent spaces resulting from gym activity. If high intensity gym activity is expected (dropping free-weights or high-loaded weight-lifting equipment), a floated floor system is to be installed in addition to the neoprene isolation floor mats.

Doorways

Single set doorways leading to and from noise sensitive areas should have full set perimeter door seals. All double set of doors should have an astragal installed and full set perimeter door seals.

Exterior Doors and Windows

Immediately West of the JGCC site is an existing Florida East Coast Railway (which is an active freight) and Brightline. The new bus terminal is to be located on the ground level of the JGCC parking garage. Exterior noise (street traffic, train, bus, helipad, etc.) can be minimized by using appropriately designed walls that meet the Building Code for hurricane protection and by having exterior walls achieve a minimum STC 60 or greater rating. Any doors or windows in these walls should also have impact resistant exterior windows and doors with a minimum STC rating of 45.

Mechanical Noise Control

The following spaces should achieve the outlined Room Criteria (RC) which can be achieved by following the Mechanical Guidelines.

1. County Chamber	RC 20-25
2. City Chamber	RC 20-25
3. Media Rooms and similar	RC 25-30
4. All Office/Centers and similar	RC 25-30
5. Child Care Center and similar	RC 35

Room Criterion (RC) contours are used to evaluate the sound pressure levels generated by mechanical systems into a given space. The RC method assigns a descriptor to subjective evaluations of sound pressure levels and perceivable vibration induced noise.

1. Neutral Spectrum (N) — descriptor having a neutral sound quality and is desired in most spaces due to having no distinguishable sound characteristics.
2. Rumbly Spectrum (R) — descriptor having a rumbly sound quality and is desired in sound masking applications but can be perceived as an annoyance.
3. Hissy Spectrum (H) — descriptor having a hissy sound quality and can be perceived as an annoyance.
4. Tonal Spectrum (T) — descriptor having tonal sound quality, very distinct sound in perception and measurements, is an annoyance in noise sensitive areas.
5. Acoustically Induced Vibration (RV) — descriptor resulting in perceivable vibration in light weight building constructions and should be avoided.

Refer to Figure 8 for examples of RC levels and space use compatibility.

Generators

Generators should be located on grade, away from noise sensitive areas, and be installed on resilient isolation mounts to provide stable support. Resilient isolation mount requirements apply even if generators are located above grade. Steel springs, rubber mounts, and fiberglass blocks or pads are commonly used for this purpose. Mounts should evenly distribute the load of the generator.

Other Vibration Isolation Considerations

Operating equipment will transmit vibrations to the structure via machine mounts or attached piping, ductwork, or other connections, which in turn radiate sound and/or structure borne vibration. It is therefore important to provide vibration isolation at all attachments, including structural mounts and connections to piping, ductwork, and electrical systems. Vibration can be isolated or reduced with resilient mounts between equipment and supporting structures so long as the structure has sufficient stiffness and mass.

RT Models

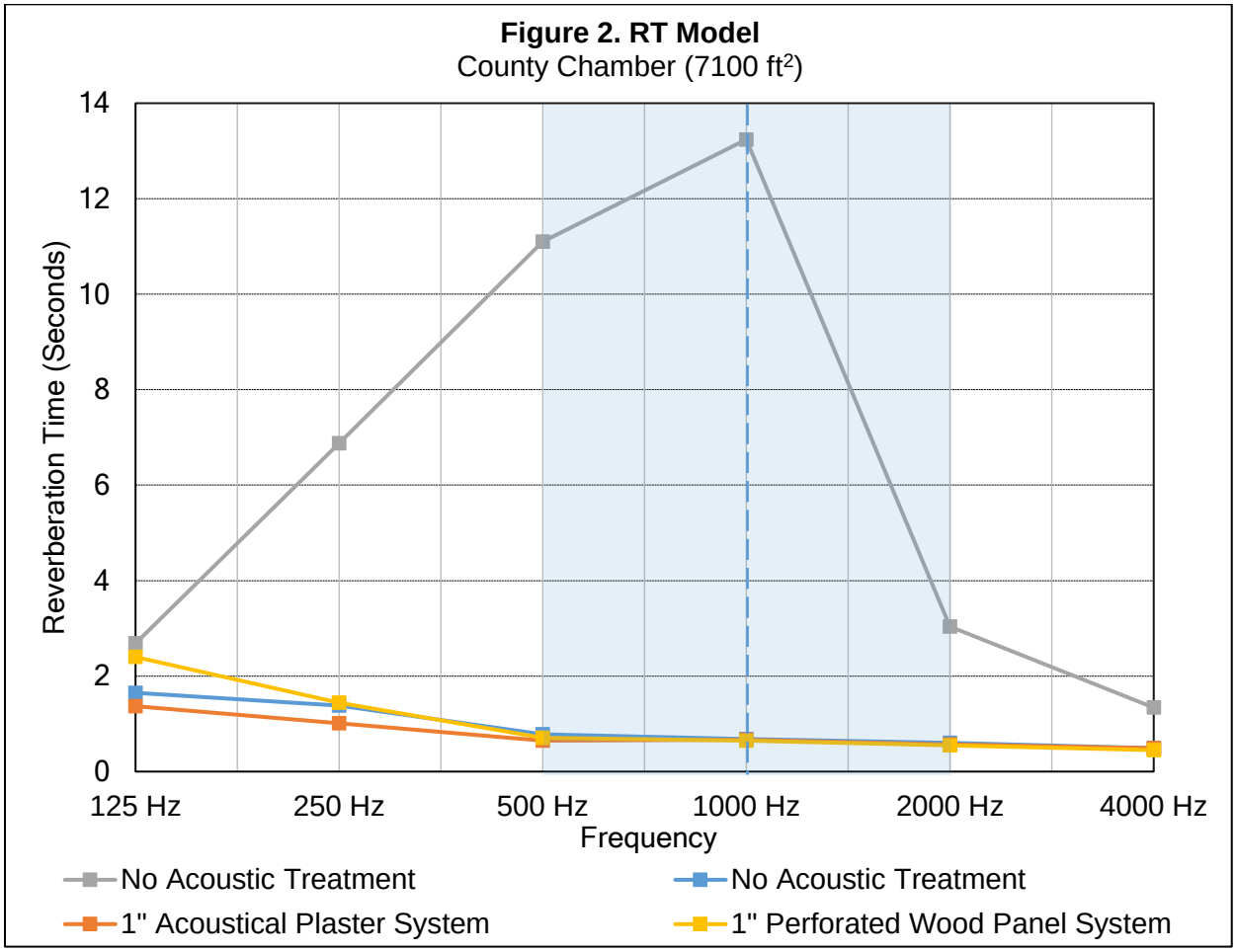

Table 3. County Chamber RT Model. Acoustical treatment covering ~ 17,600 ft² of the rooms surface area.

Treatment	Octave-Band RT						Average RT		Bass Ratio (BR)
	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	125Hz - 4kHz	500Hz - 2kHz	
No Acoustic Treatment	2.69	6.88	11.10	13.24	3.04	1.34	6.38	9.13	2.54
1" Stretch Fabric System	1.64	1.35	0.76	0.66	0.59	0.48	0.91	0.67	0.47
1" Acoustical Plaster System	1.37	1.01	0.65	0.67	0.57	0.49	0.79	0.63	0.55
1" Perforated Wood Panel System	2.40	1.44	0.71	0.65	0.55	0.45	1.03	0.64	0.35

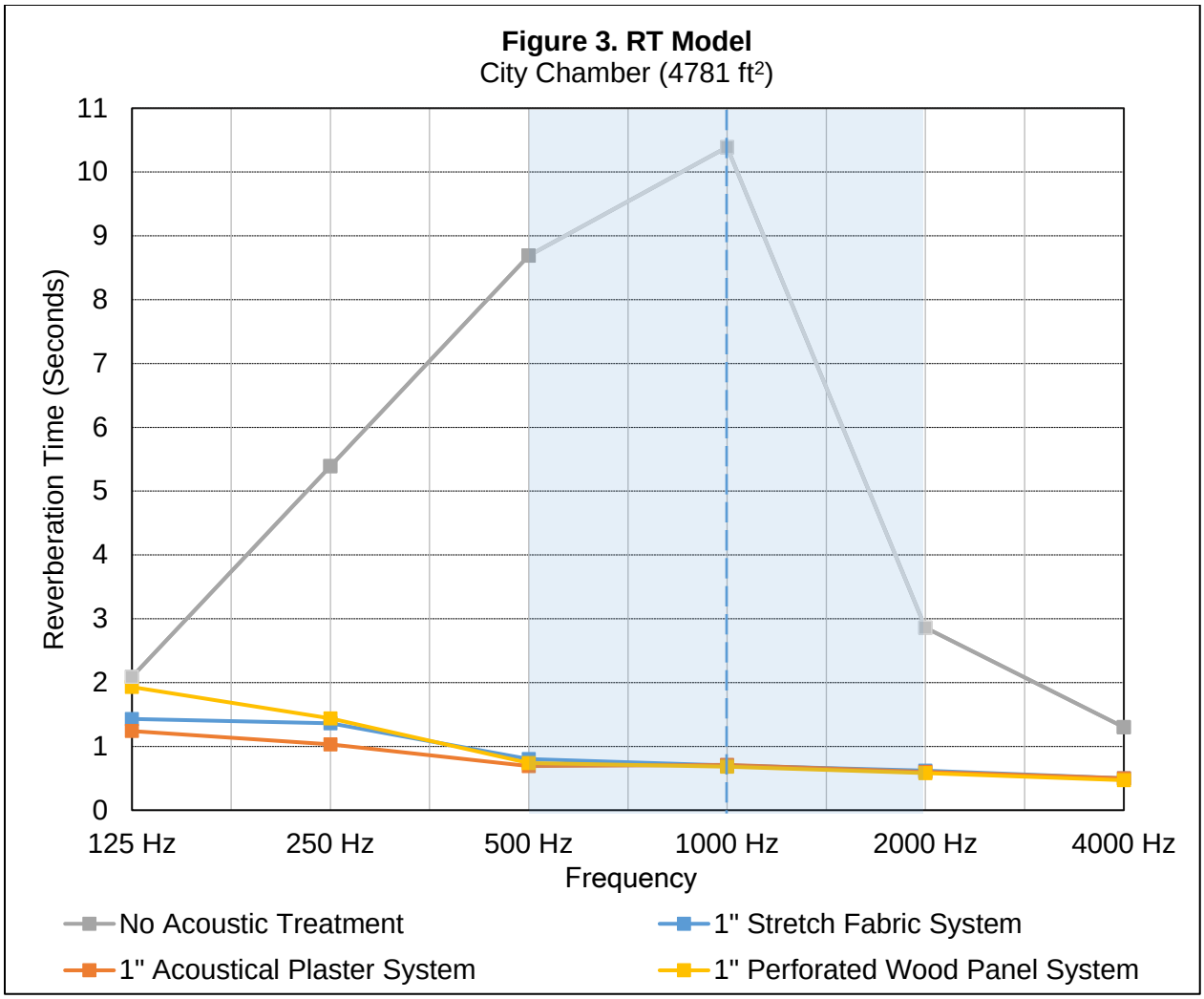

Table 4. City Chamber RT Model. Acoustical treatment covering ~ 9500 ft^2 of the rooms surface area

Treatment	Octave-Band RT						Average RT		Bass Ratio (BR)
	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	125Hz - 4kHz	500Hz - 2kHz	
No Acoustic Treatment	2.09	5.39	8.69	10.39	2.86	1.30	5.12	7.31	2.55
1" Stretch Fabric System	1.43	1.36	0.80	0.70	0.62	0.50	0.90	0.71	0.54
1" Acoustical Plaster System	1.24	1.03	0.69	0.71	0.60	0.50	0.80	0.67	0.62
1" Perforated Wood Panel System	1.93	1.44	0.74	0.68	0.58	0.47	0.97	0.67	0.42

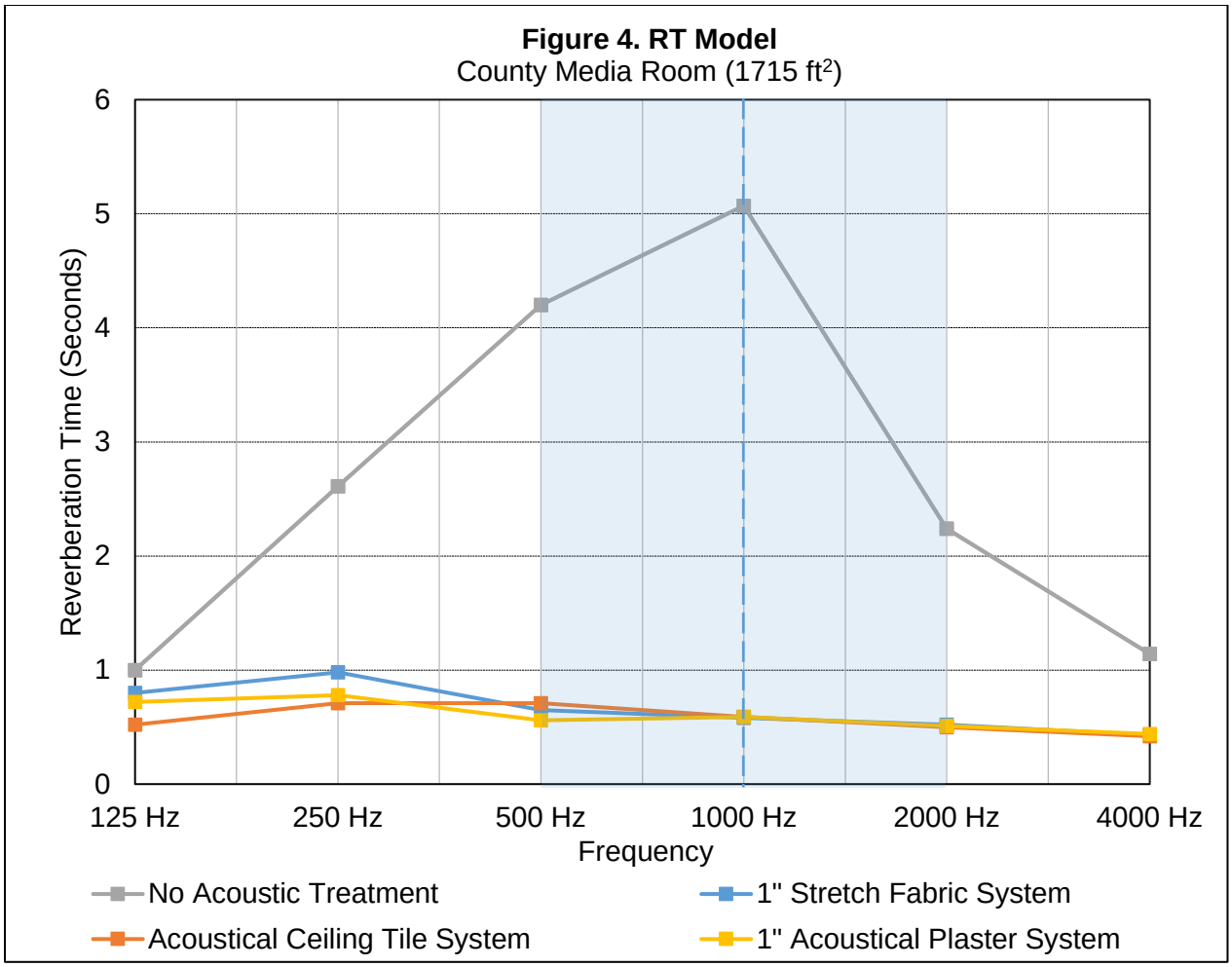

Table 5. County Media Room RT Model. Acoustical treatment covering ~ 2400 ft² of the rooms surface area

Treatment	Octave-Band RT						Average RT		Bass Ratio (BR)
	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	125Hz - 4kHz	500Hz - 2kHz	
No Acoustic Treatment	1.00	2.61	4.20	5.07	2.24	1.14	2.71	3.84	2.57
1" Stretch Fabric System	0.80	0.98	0.65	0.58	0.52	0.43	0.66	0.58	0.69
Acoustical Ceiling Tile System	0.52	0.71	0.71	0.59	0.50	0.42	0.58	0.60	1.06
1" Acoustical Plaster System	0.72	0.78	0.56	0.59	0.51	0.44	0.60	0.55	0.77

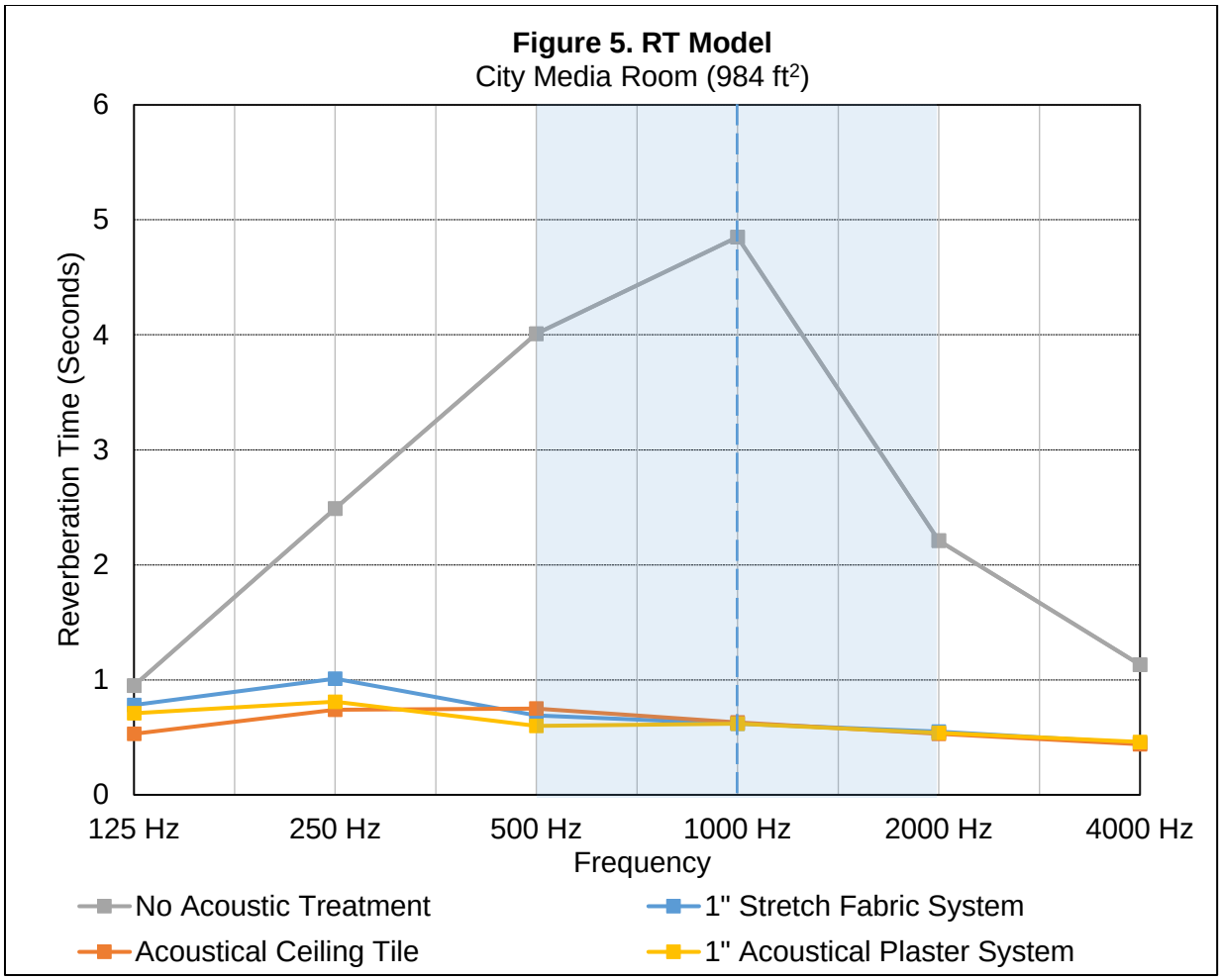

Table 6. County Media Room RT Model. Acoustical treatment covering ~ 1280 ft² of the rooms surface area

Treatment	Octave-Band RT						Average RT		Bass Ratio (BR)
	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	125Hz - 4kHz	500Hz - 2kHz	
No Acoustic Treatment	0.95	2.49	4.01	4.85	2.21	1.13	2.61	3.69	2.58
1" Stretch Fabric System	0.78	1.01	0.69	0.62	0.55	0.45	0.68	0.62	0.73
Acoustical Ceiling Tile System	0.53	0.74	0.75	0.63	0.53	0.44	0.60	0.64	1.09
1" Acoustical Plaster System	0.71	0.81	0.60	0.62	0.54	0.46	0.62	0.59	0.80

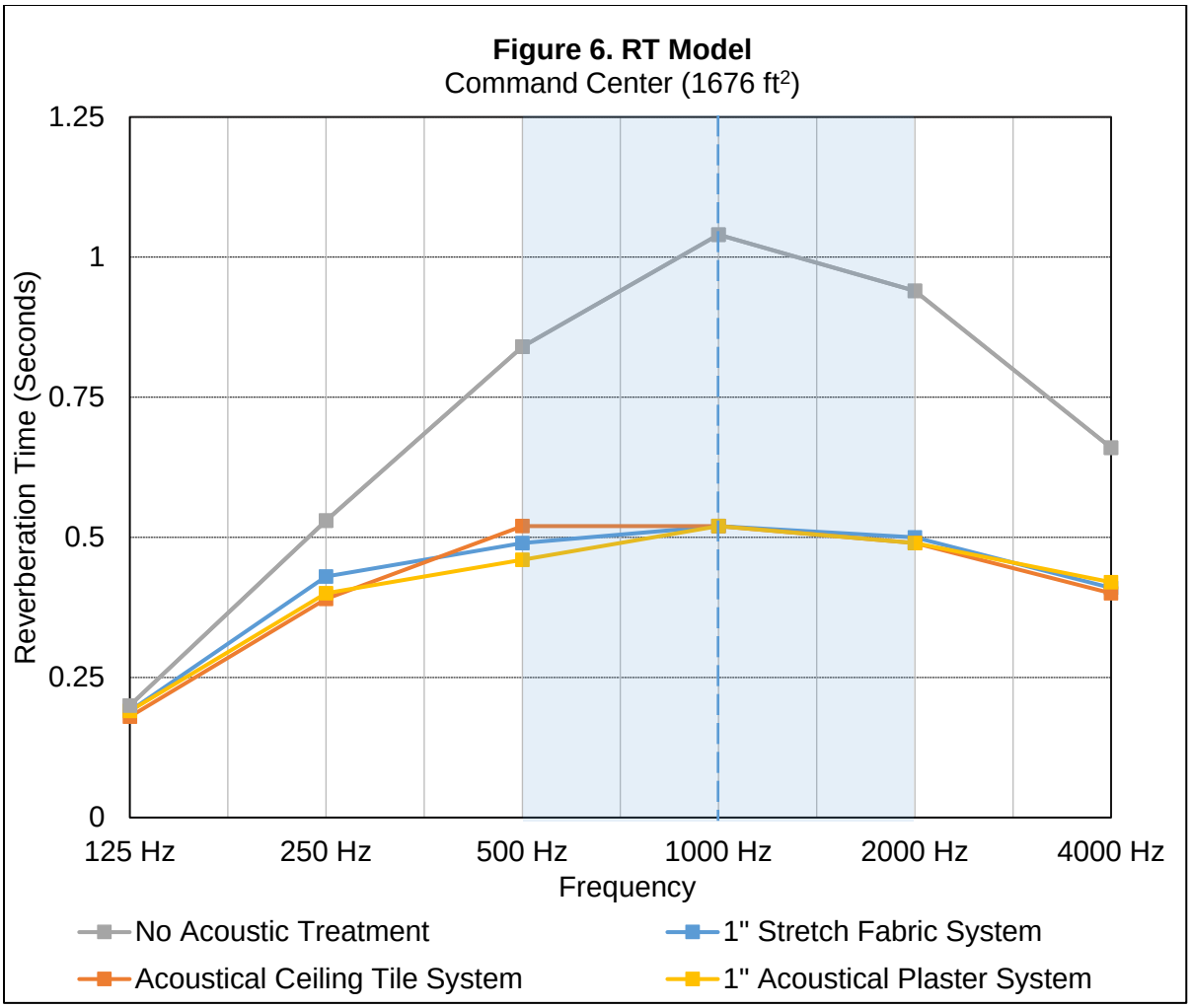

Table 7. Command Center RT Model. Acoustical treatment covering ~ 900 ft^2 of the rooms surface area

Treatment	Octave-Band RT						Average RT		Bass Ratio (BR)
	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	125Hz - 4kHz	500Hz - 2kHz	
No Acoustic Treatment	0.20	0.53	0.84	1.04	0.94	0.66	0.70	0.94	2.58
1" Stretch Fabric System	0.19	0.43	0.49	0.52	0.50	0.41	0.42	0.50	1.63
Acoustical Ceiling Tile System	0.18	0.39	0.52	0.52	0.49	0.40	0.42	0.51	1.82
1" Acoustical Plaster System	0.19	0.40	0.46	0.52	0.49	0.42	0.41	0.49	1.66

Figures and Tables

Table 8. Acoustic Treatment Absorption Coefficients (α).							
Treatment	**125 Hz**	**250 Hz**	**500 Hz**	**1 kHz**	**2 kHz**	**4 kHz**	**NRC**
1” Stretch Fabric System	0.16	0.40	0.82	0.96	0.92	0.90	0.75
ACT Acoustical Tile System	0.58	0.65	0.74	0.94	0.98	0.95	0.85
1” Acoustic Plaster System	0.24	0.57	0.97	0.95	0.95	0.88	0.86
1” Perforated Wood Panel System	0.03	0.37	0.89	0.99	0.99	0.99	0.85
Absorption Coefficient (α) - The fraction of the acoustic energy absorbed when sound waves strike a surface is called its absorption coefficient. The absorption coefficient of a material depends on the material and on the frequency of the sound which strikes the surface of the material. A coefficient of 0.00 indicates perfect reflection (i.e., 0 percent absorption); a coefficient of 1.00 indications perfect (100 percent) absorption. The sound-absorptive properties of a material depend on the angle at which sound waves strike the material so that, for convenience, the coefficient is givens as a type of average over all angles of incidence. The sound absorption coefficient in this report are the values measured in laboratory by a test method which provided such an average. Thus, the American Society for Testing and Materials (ASTM) defines sound absorption as: “A measure of the sound absorptive properties of a material (as approximated by ASTM Method C423, Test for Sound Absorption Sound Absorption Coefficients by the Reverberation Room Method). Ideally, the fraction of the randomly incident sound power which is absorbed or otherwise not reflected by the material.” *							

** Harris, C. M. (1998). Handbook of Acoustical Measurements and Noise Control. McGraw-Hill, Inc.*

Table 9. Speech privacy associated with STC ratings. Assuming no significant flanking paths or openings in walls.*	
STC Range	**Sound privacy**
0 to 20	No privacy (voices heard clearly between rooms
20 to 40	Some privacy (voices heard in low background noise*)
40 to 55	Adequate privacy (only raised voices heard in low background noise)
55 to 65	Complete privacy (only high-level noise heard in low background noise)
70	Practical limit
* Around the 35 dB(A) range.	

** Springer, R. (2007). Springer Handbook of Acoustics. Science+Business Media, LLC.*

Mechanical Guidelines

Purpose and Definitions

This document lists the recommended criteria for background (ambient) noise levels for each acoustically sensitive or acoustically critical room in terms of Room Criteria (RC). The criteria proposed for each room will influence many aspects of the building systems design including:

- equipment selection and operation,
- vibration isolation requirements,
- air velocities and duct sizes,
- duct lining extent and attenuator selection,
- detailing at duct, conduit and pipe penetrations, and
- The extent of duct and pipe lagging (external acoustic wrapping).

A discussion of background noise rating systems can be found in Chapter 52 of the 1987 ASHRAE HVAC Systems and Applications Handbook. Many of the criteria listed here are expressed in terms of Room Criteria as published in the current ASHRAE Guide and a chart and graph of the criteria appear below.

Room Criteria (RC)

Table 10. Maximum Sound Pressure Values by Octave Band for Room Criteria Background Noise Levels

	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
RC-15	43	35	28	21	15	10	5
RC-20	45	38	31	25	20	15	10
RC-25	45	40	35	30	25	20	15
RC-30	50	45	40	35	30	25	20
RC-35	55	50	45	40	35	30	25
RC-40	60	55	50	45	40	35	30
RC-45	65	60	55	50	45	40	35
RC-50	70	65	60	55	50	45	40

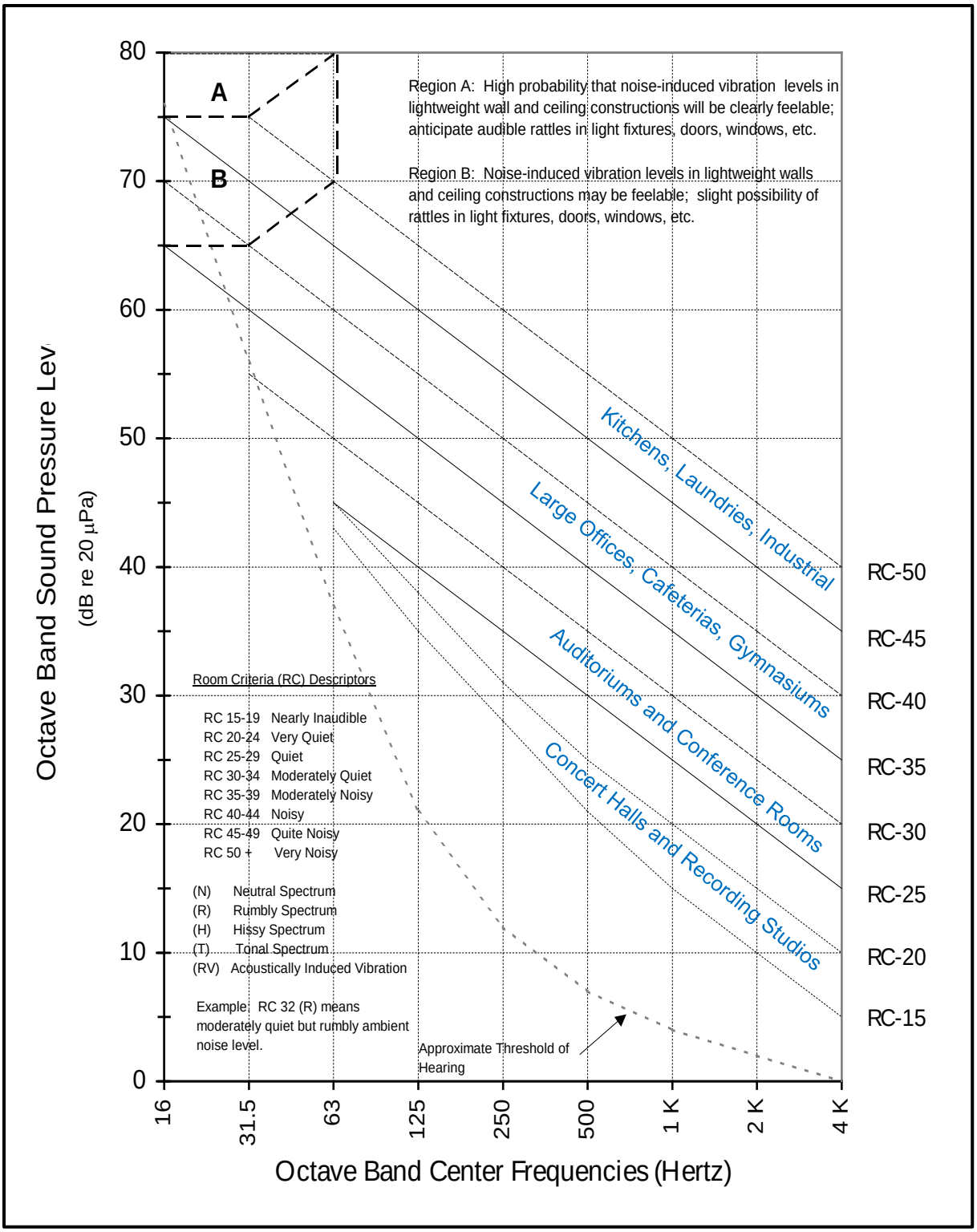

Figure 8. Room Criteria (RC) Curves

RC-20 Requirements for County Chamber and City Chamber:

General

1. This room must not be located horizontally or vertically adjacent to mechanical, electrical, or elevator equipment rooms.
2. This room must not be located horizontally or vertically adjacent to toilet rooms.
3. No ductwork, conduit or fire protection piping which serves other spaces is allowed to pass through this room. Serve each room individually via the corridor. Seal all corridor wall penetrations airtight.

HVAC

1. The air handler serving this space should be remotely located at least 50 lineal feet away from this room and have a 10'-long sound attenuator on both the supply and return ductwork as specified by the acoustical consultant.
2. The fans in the air handler serving this space should be selected with the highest mechanical efficiency possible, and the lowest 63 Hz sound power levels available for the required duty.
3. Air velocity at the remotely located air handler and through the sound attenuators must not exceed 1000 ft/min.
4. Air velocity in ductwork exposed within this room must not exceed 350 ft/min.
5. Air velocity in branch ductwork serving diffusers or grilles must not exceed 300 ft/min.
6. VAV boxes may not be located within 20 lineal feet of a supply or return outlet serving the space.
7. A self-balancing system is preferred. If dampers must be used, they must be located at least 6 lineal feet from supply or return outlets serving the space.
8. Fan-powered VAV boxes must not be used to serve this space.
9. Supply and return air ductwork serving this space should be internally lined from fan to air distribution device.
10. Supply registers are not allowed.
11. Supply diffusers and return grilles must be selected below NC-10 at design airflow.
12. Flexible duct connections to the grilles and diffusers must be maximum 2 feet in length.

Plumbing/Piping

1. No circulating water, domestic water or rain leader piping is allowed to pass through this space.

Electrical

1. Lighting for this room must be LED.
2. Transformers are not allowed in this space.
3. Exit signs, if any, must be LED type.
4. Fire alarm systems must be properly wired and grounded so as not to hum. Control wiring must be shielded from loudspeaker wiring.
5. Emergency lighting system, if any, must be via a remotely located emergency generator, and may not be via local battery powered units.
6. Electrical outlets, switch boxes, or other junction boxes which serve this room must not be located within the same stud cavity as boxes serving adjacent rooms (two boxes cannot be installed back-to-back). Stagger box locations by a minimum of three stud cavities.

RC-25 Requirements for all Media Rooms and similar:

General

1. This room is ideally not adjacent to mechanical, electrical, or elevator equipment rooms.
2. This room is ideally not horizontally or vertically adjacent to toilet rooms.
3. No ductwork, conduit or fire protection piping which serves other spaces is allowed to pass through this room. Serve each room individually via the corridor. Seal all corridor wall penetrations airtight.

HVAC

1. The air handler serving this space should be remotely located at least 40 lineal feet away from this room and have a 7'-long sound attenuator on both the supply and return ductwork as specified by the acoustical consultant.
2. Air velocity at the remotely located air handler and through the sound attenuators must not exceed 1000 ft/min.
3. Air velocity in ductwork exposed within this room must not exceed 550 ft/min.
4. Air velocity in branch ductwork serving diffusers or grilles must not exceed 350 ft/min.
5. VAV boxes may not be located within 20 lineal feet of a supply or return outlet serving the space.
6. A self-balancing system is preferred. If dampers must be used, they must be located at least 6 lineal feet from supply or return outlets serving the space.
7. Fan-powered VAV boxes cannot be used to serve this space.
8. If a VAV system is used, then supply air ductwork serving this space must be internally lined from the VAV box forward. Otherwise it is necessary to line at least the last 20' of branch supply duct in addition to the amount of lining required within the mechanical room by the acoustical consultant.
9. Return ductwork must be internally lined for the last 20 feet prior to the diffuser.
10. Supply registers are not allowed.
11. Supply diffusers and return grilles must be selected below NC-15 at design airflow
12. Flexible duct connections to the grilles and diffusers must be maximum 2 feet in length.

Piping

1. No circulating water or domestic water is allowed to pass through the space.
2. Lag any rain leader piping passing through the space.

Electrical

1. Lighting for this room must be LED.
2. No transformers are allowed in this space.
3. Exit signs, if any, must be LED type.
4. Electrical outlets, switch boxes, or other junction boxes which serve this room must not be located within the same stud cavity as boxes serving adjacent rooms (two boxes cannot be installed back-to-back). Stagger box locations by a minimum of three stud cavities.

RC-25 Requirements for all JGCC office spaces, centers, and similar:

General

1. This room is ideally not adjacent to mechanical rooms, but may be adjacent to electrical, or elevator equipment rooms.
2. No ductwork, conduit or fire protection piping which serves other spaces is allowed to pass through this room. Serve each room individually via the corridor. Seal all corridor wall penetrations airtight.

HVAC

1. The air handler serving this space should be remotely located at least 25 lineal feet away from this room, and have a 5'-long sound attenuator on both the supply and return ductwork as specified by the acoustical consultant and utilize internally lined ductwork as specified by the acoustical consultant.
2. Air velocity at the remotely located air handler and through the sound attenuators must not exceed 1000 ft/min.
3. Air velocity in ductwork exposed within this room must not exceed 600 ft/min.
4. Air velocity in branch ductwork serving diffusers or grilles must not exceed 450 ft/min.
5. If VAV system is used, locate the VAV box outside of the room.
6. Fan-powered VAV boxes may be used to serve this space if sufficient length of lined ductwork downstream of the FP box is provided as specified by the acoustical consultant.
7. Dampers must be located at least 6 lineal feet from supply or return outlets serving the space.
8. Supply diffusers, supply registers and return grilles must be selected below NC-20 at design airflow

Piping

1. Circulating water and rain leader piping which passes through this space must be externally lagged.

Electrical

1. Lighting for this room must be LED.
2. Electrical outlets, switch boxes, or other junction boxes which serve this room must not be located within the same stud cavity as boxes serving adjacent rooms (two boxes cannot be installed back-to-back). Stagger box locations by a minimum of three stud cavities.

RC-35 Requirements Child Care Center:

General

1. This room is ideally not adjacent to mechanical rooms.

HVAC

1. The air handler serving this space should be remotely located at least 20 lineal feet away from this room, and have a 3'-long sound attenuator on both the supply and return ductwork as specified by the acoustical consultant and utilize internally lined ductwork as specified by the acoustical consultant.
2. Air velocity at the remotely located air handler and through the sound attenuators must not exceed 1000 ft/min.
3. Air velocity in ductwork exposed within this room must not exceed 600 ft/min.
4. Air velocity in branch ductwork serving diffusers or grilles must not exceed 550 ft/min.
5. If VAV system is used, locate the VAV box outside of the room.
6. Fan-powered VAV boxes may be used to serve this space if sufficient length of lined ductwork downstream of the FP box is provided as specified by the acoustical consultant.
7. Dampers must be located at least 6 lineal feet from supply or return outlets serving the space.
8. Supply diffusers, supply registers and return grilles must be selected below NC-25 at design airflow

Piping

1. Circulating water piping which passes through this space must be externally lagged.

Electrical

1. Lighting for this room must be LED.

Additional Notes

Duct Lining –
For ductwork serving the acoustically critical spaces, two-inch-thick lining should be used in all ducts with short side dimensions or diameters greater than 24"; one-inch thick lining should be used in all ducts of short side dimension 24” or less. The lining should be coated and have a density between 1 1/2 and 3 pounds per cubic foot.

Future Design team to take into account depth of celling void, location of beams and depth of ductwork inclusive of lining.

Round vs. Rectangular Ductwork –
We recommend using rectangular ductwork as much as possible, since it is less expensive, easier to line and generally provides better sound attenuation. However, round ductwork should be utilized at locations where ducts will be directly exposed to a performance or worship space. Round ductwork is less susceptible to break-in and break-out noise. In addition, it has less effect on the room acoustics than rectangular ductwork, which tends to reflect echoes back to the audience or performers and to absorb particular frequencies within the room.

Attenuator Location –
Once the basic system design is established, we will provide an attenuator schedule and suggested attenuator locations. Early in design, however, it is important to assure that there will be adequate space for the required number and length of attenuators and that they can be located in a position that assures optimum performance.

In general, it is desirable to locate attenuators at least three duct diameters from the nearest transition, elbow, or duct division to minimize actual pressure drop. In mechanical rooms, attenuators are optimally placed at or near the wall penetration. In order to prevent mechanical room noise from re-entering ductwork between the attenuator and the wall, we often recommend lagging the attenuator and the ductwork that connects it to the mechanical room wall. For further information, see Industrial Acoustics Company (IAC) or Vibro-Acoustics literature for data on attenuator locations relative to other system components.

When formulating the preliminary design documents, please take into account the standard noise control requirements listed by RC level on the following pages.

Equipment Selection and Manufacturers' Data

Estimated Room Criteria calculations are based on sound level data provided by equipment manufacturers. Manufacturers' data should indicate sound power levels by octave band for much of the noise-generating equipment on this project. Examples include:

- Packaged and Custom Air Handling Units
- Fans
- Chillers
- Cooling Towers
- VAV Boxes
- Diffusers, Registers and Grilles
- Transformers

Manufacture should provide general data (including sound level data if available) on remaining types of noise-generating equipment including:

- Pumps
- Boilers
- Motors
- Unitary Refrigeration Equipment

<u>Vibration Isolation –</u>

The equipment listed above must also be isolated from the surrounding walls and slab in order to prevent mechanical vibration from traveling through the structure of the building into acoustically sensitive spaces. Equipment requiring vibration isolation must be mounted on resilient springs or hung from resilient hangers. All duct, piping and conduit connected to the equipment must be attached via a flexible connection. All ductwork and most piping lines must be hung on resilient hangers for a distance of 50 ft. from the unit or to the mechanical room wall, whichever is greater.

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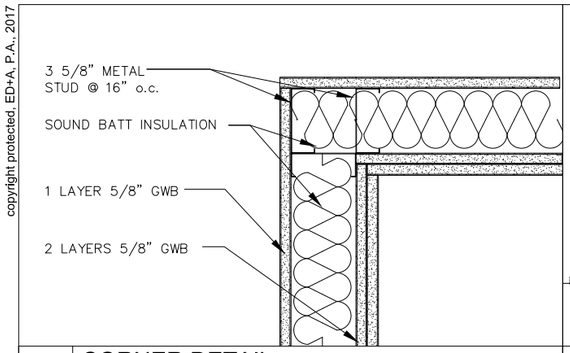
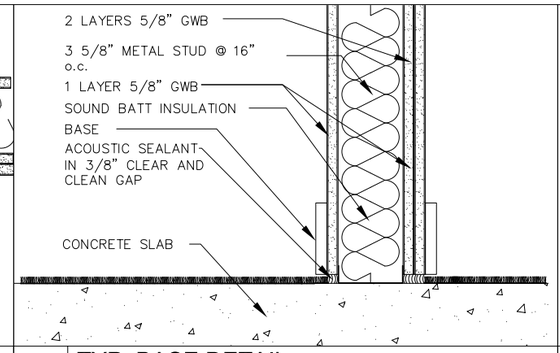


1A CORNER DETAIL
3" = 1'-0"



2A TYP. BASE DETAIL
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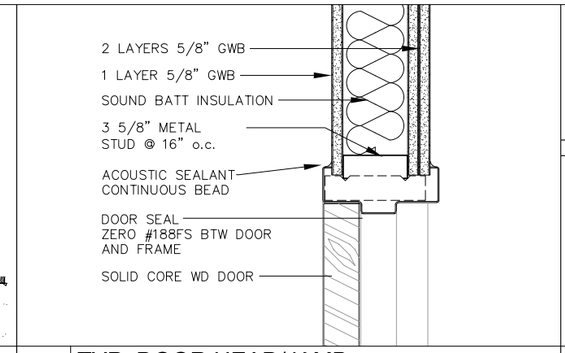
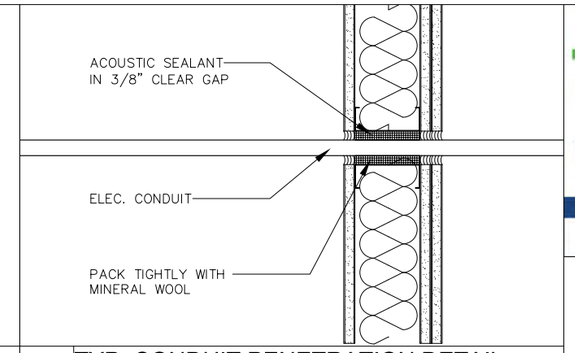


3A TYP. DOOR HEAD/JAMB
3" = 1'-0"



4A TYP. CONDUIT PENETRATION DETAIL
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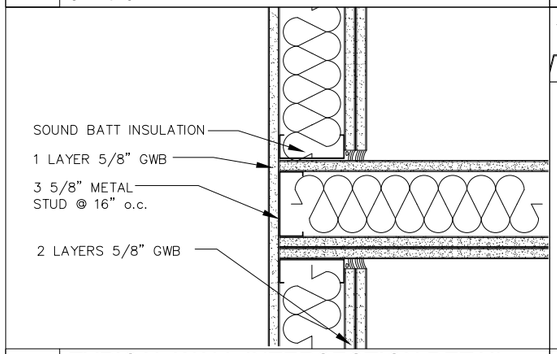
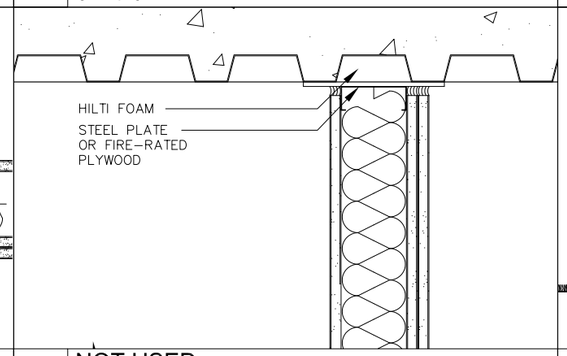


1B TYPICAL WALL INTERSECTION DETAIL
3'=1'-0"



2B NOT USED
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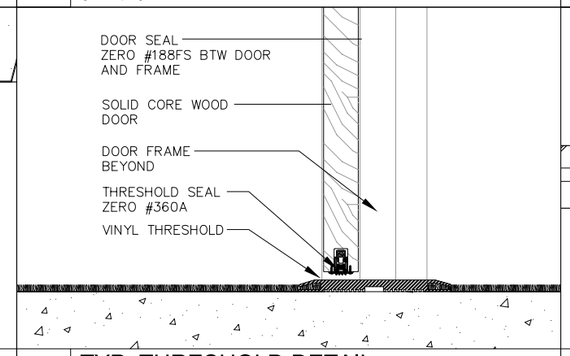
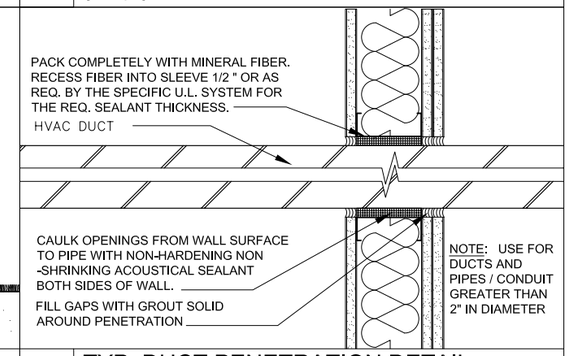


3B TYP. THRESHOLD DETAIL
3" = 1'-0"



4B TYP. DUCT PENETRATION DETAIL
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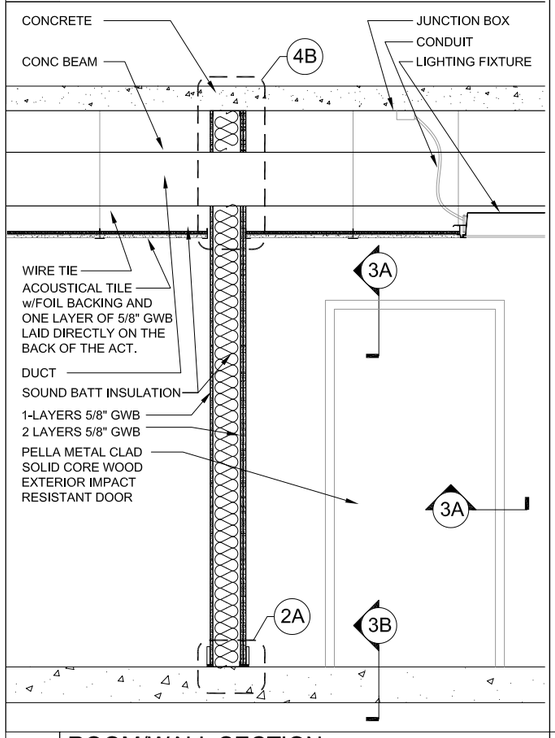
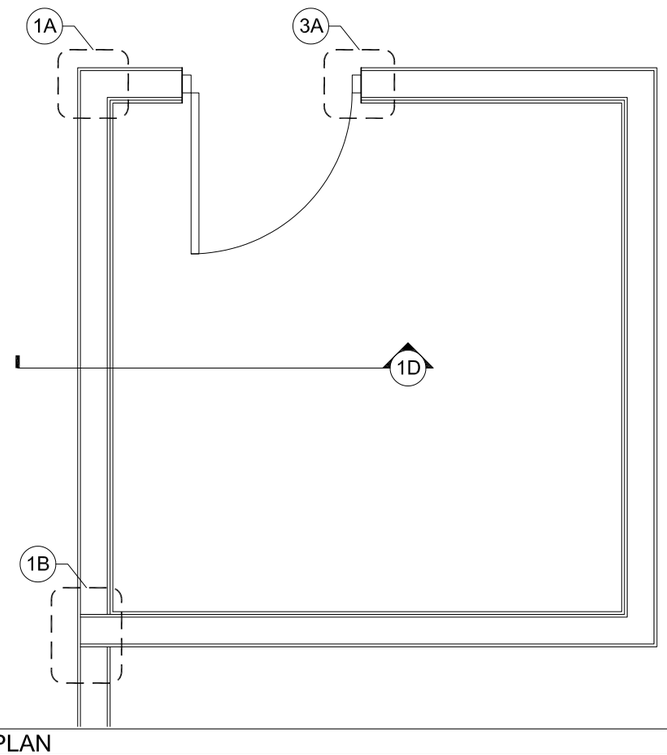


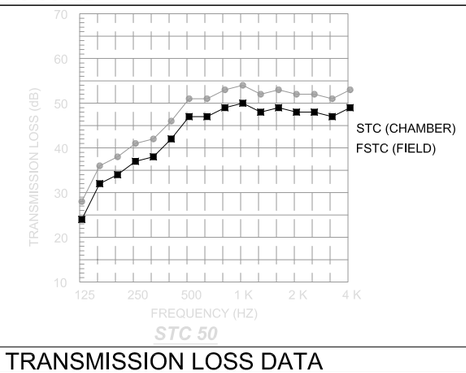
1D ROOM/WALL SECTION
3/4" = 1'-0"



2D FLOOR PLAN
3/4" = 1'-0"

1. ALL ACOUSTIC SEALANT TO BE NON-HARDENING. ADD BACKER ROD WHERE NECESSARY AND SUGGESTED BY THE SEALANT MANUFACTURER. PROVIDE CLEAR GAPS AS SHOWN ON THE DETAILS LISTED.
2. PROVIDE A CONTINUOUS BEAD OF ACOUSTIC SEALANT AROUND THE PERIMETER OF ALL SOUND CRITICAL WALLS.
3. GYPSUM WALL BOARD MAY BE REGULAR 5/8" OR TYPE X.
4. STAGGER ALL PENETRATIONS BETWEEN OPPOSITE ROOMS TO PREVENT SOUND TRANSFER. PLACE ONE BACK BOX PER STUDY CAVITY ONLY.

4C NOTES
NO SCALE



4D TRANSMISSION LOSS DATA
NO SCALE

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ACOUSTIC WALL DETAILS

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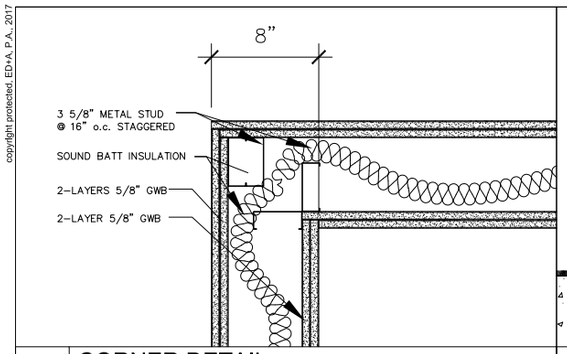

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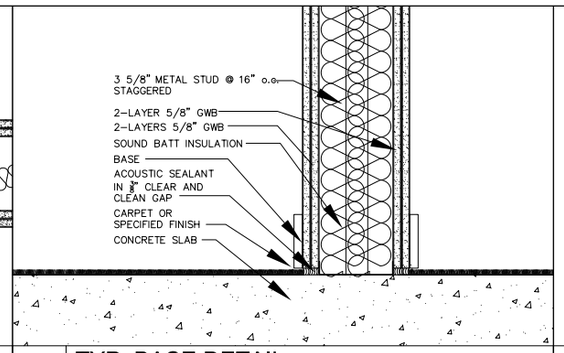
3" = 1'-0"



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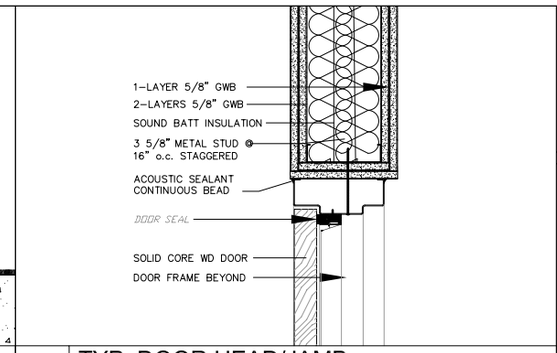

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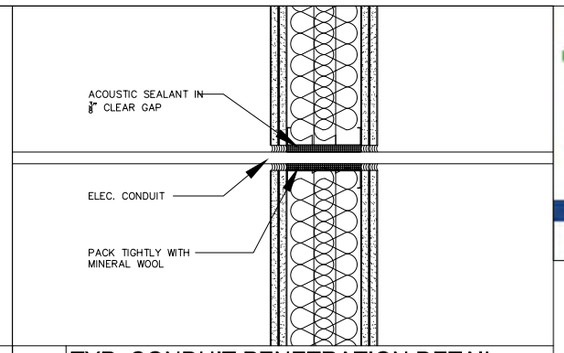

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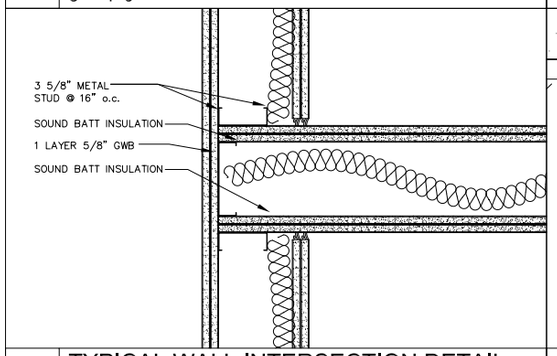

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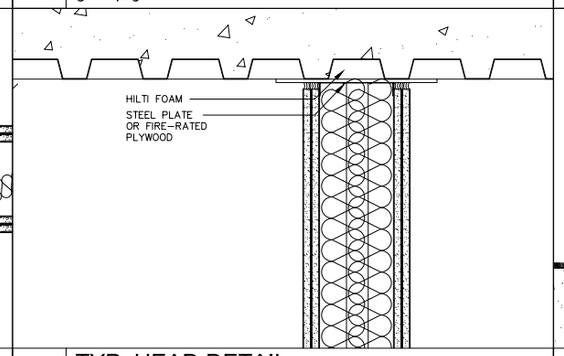

2B TYP. HEAD DETAIL
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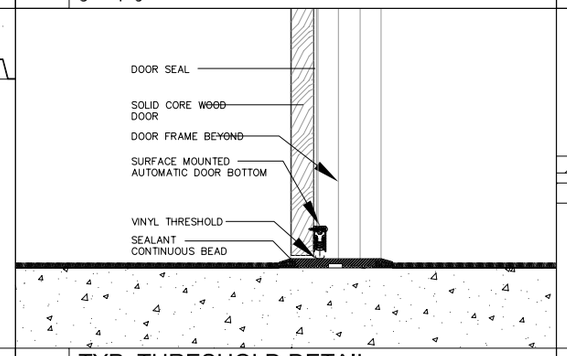

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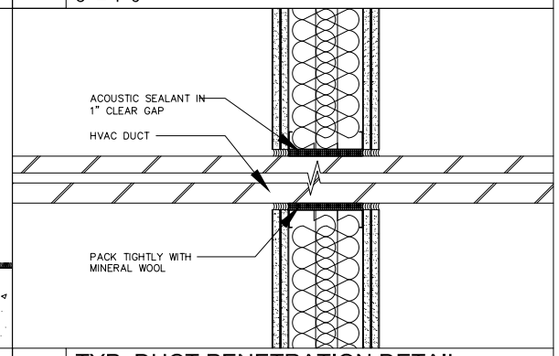
3" = 1'-0"



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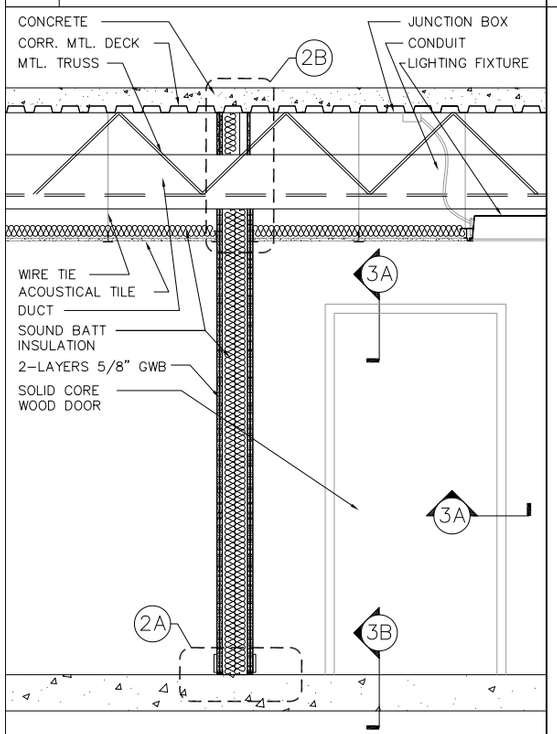
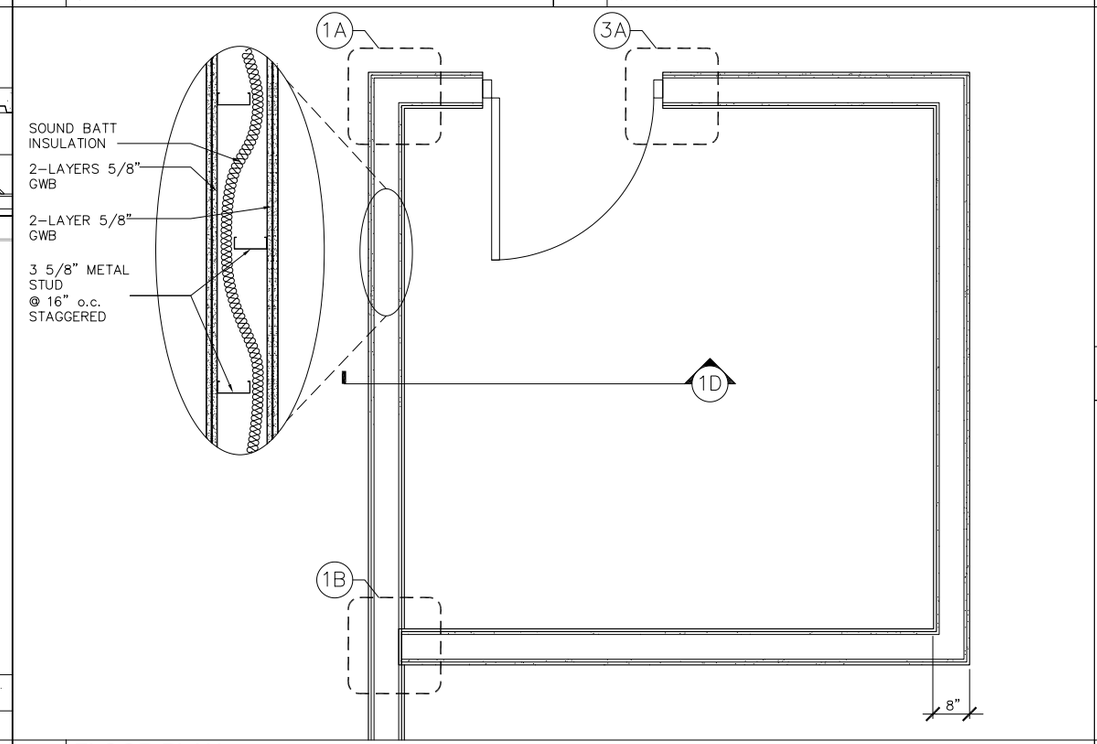


1D ROOM/WALL SECTION
3/4" = 1'-0"



2D FLOOR PLAN
3/4" = 1'-0"

1. ALL ACOUSTIC SEALANT TO BE NON-HARDENING. ADD BACKER ROD WHERE NECESSARY AND SUGGESTED BY THE SEALANT MANUFACTURER. PROVIDE CLEAR GAPS AS SHOWN ON THE DETAILS LISTED.

2. PROVIDE A CONTINUOUS BEAD OF ACOUSTIC SEALANT AROUND THE PERIMETER OF ALL SOUND CRITICAL WALLS.

3. GYPSUM WALL BOARD MAY BE REGULAR 5/8" OR TYPE X.

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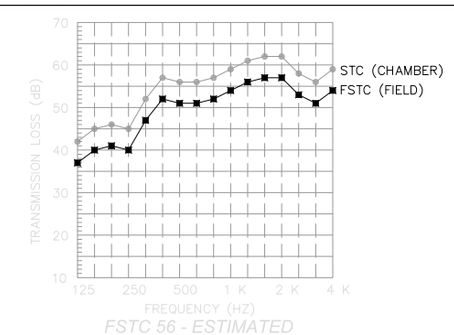
4C NOTES
NO SCALE



4D TRANSMISSION LOSS DATA
NO SCALE

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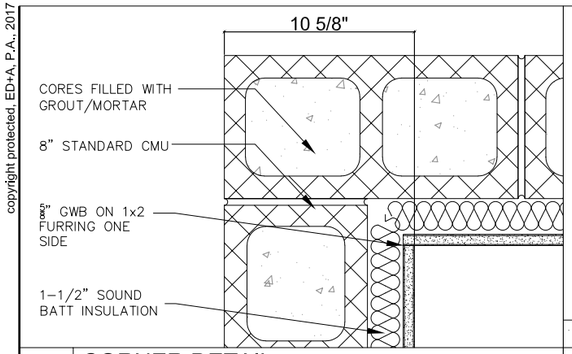
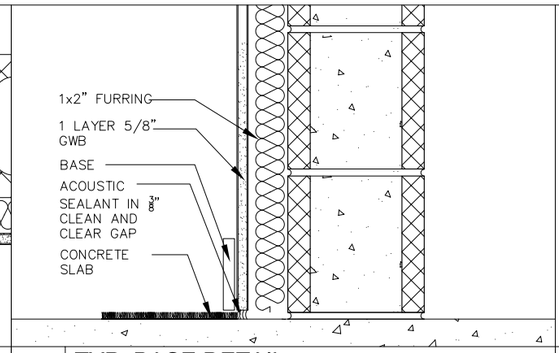


1A CORNER DETAIL
3" = 1'-0"



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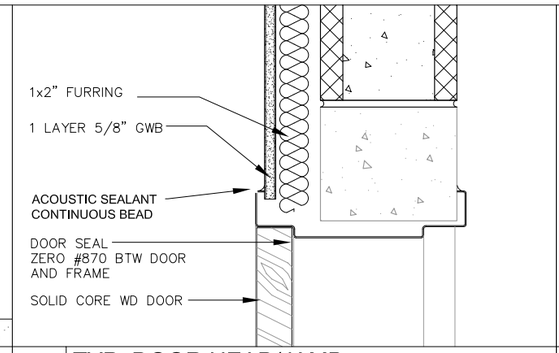
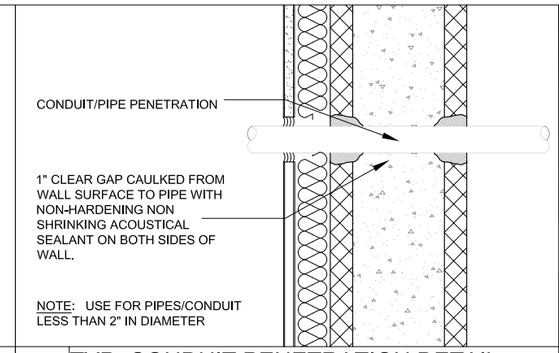


3A TYP. DOOR HEAD/JAMB
3" = 1'-0"



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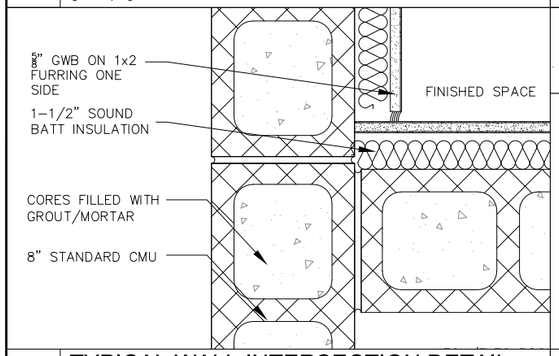

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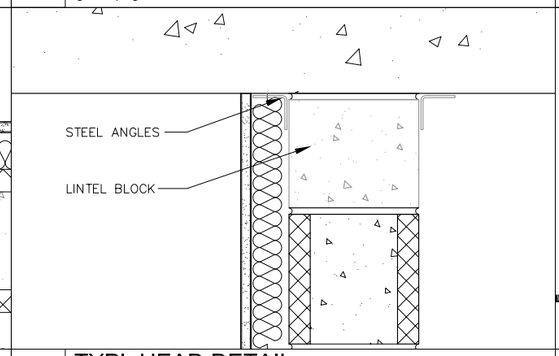

2B TYPI. HEAD DETAIL
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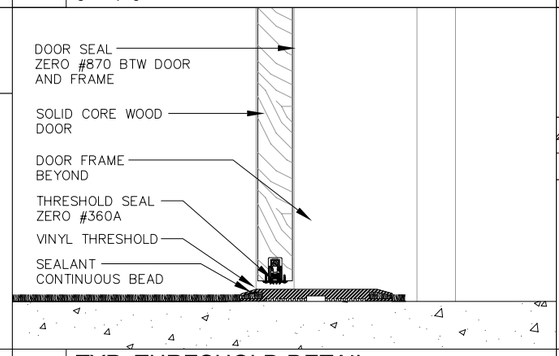

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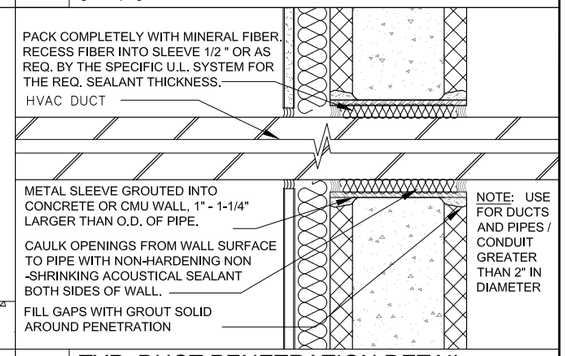

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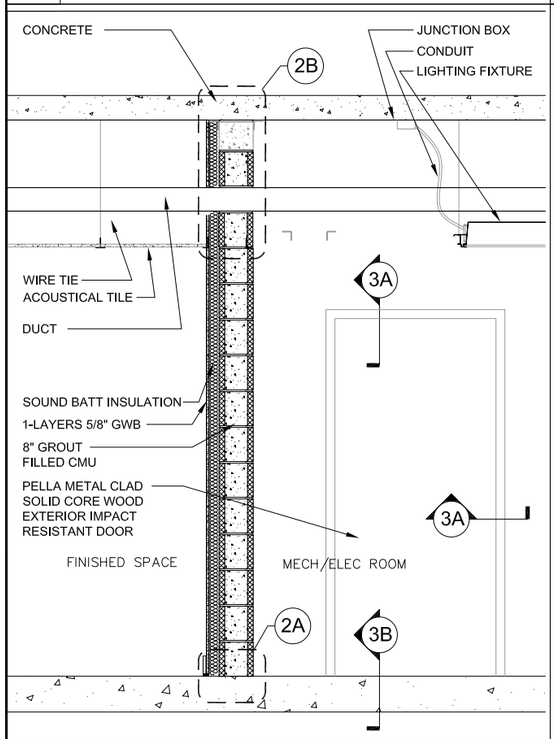
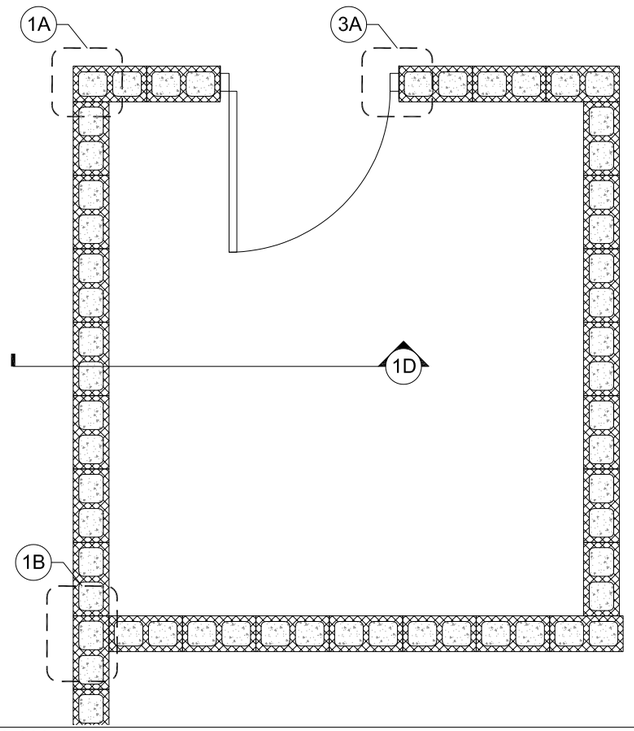


1D ROOM/WALL SECTION
3/4" = 1'-0"



2D FLOOR PLAN
3/4" = 1'-0"

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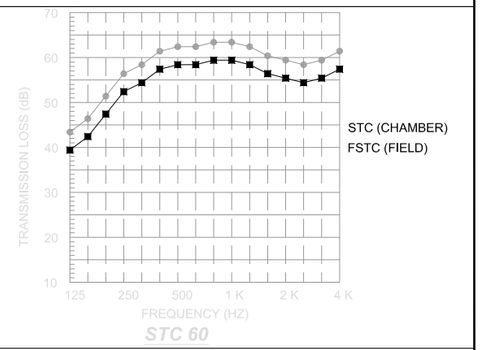
4C NOTES
NO SCALE



4D TRANSMISSION LOSS DATA
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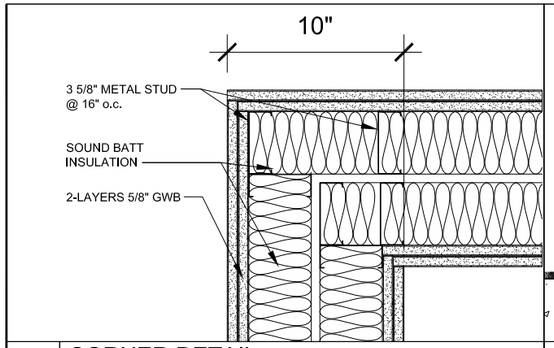

1A CORNER DETAIL
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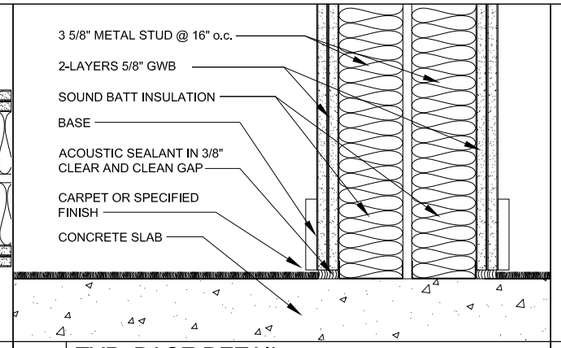

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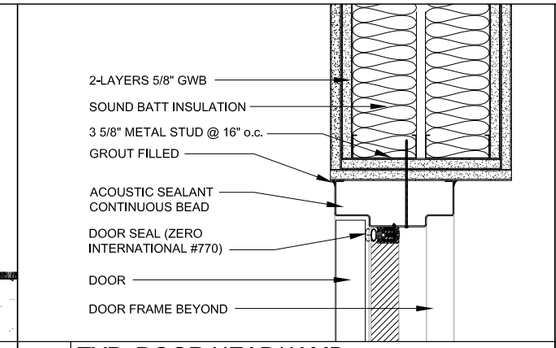

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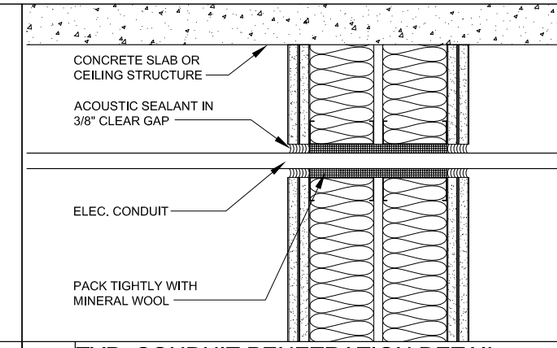

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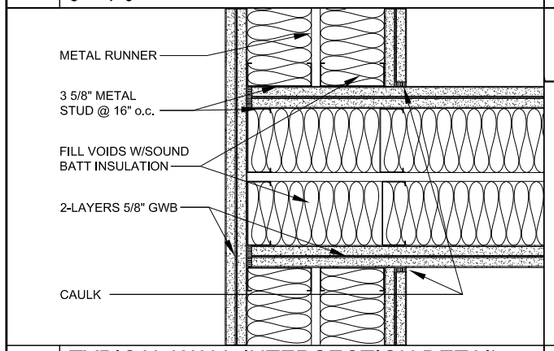

1B TYPICAL WALL INTERSECTION DETAIL
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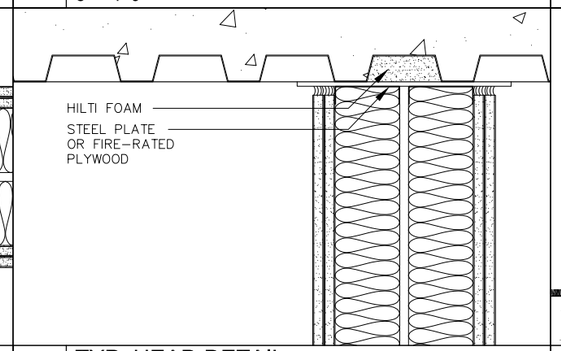

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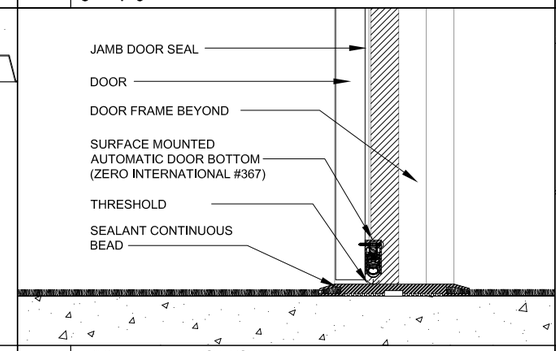

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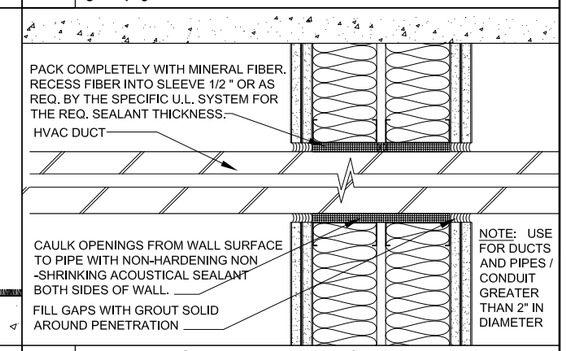

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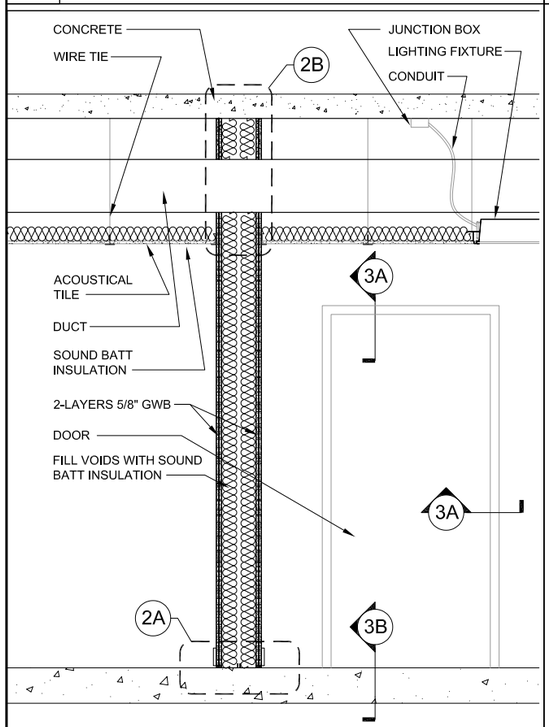

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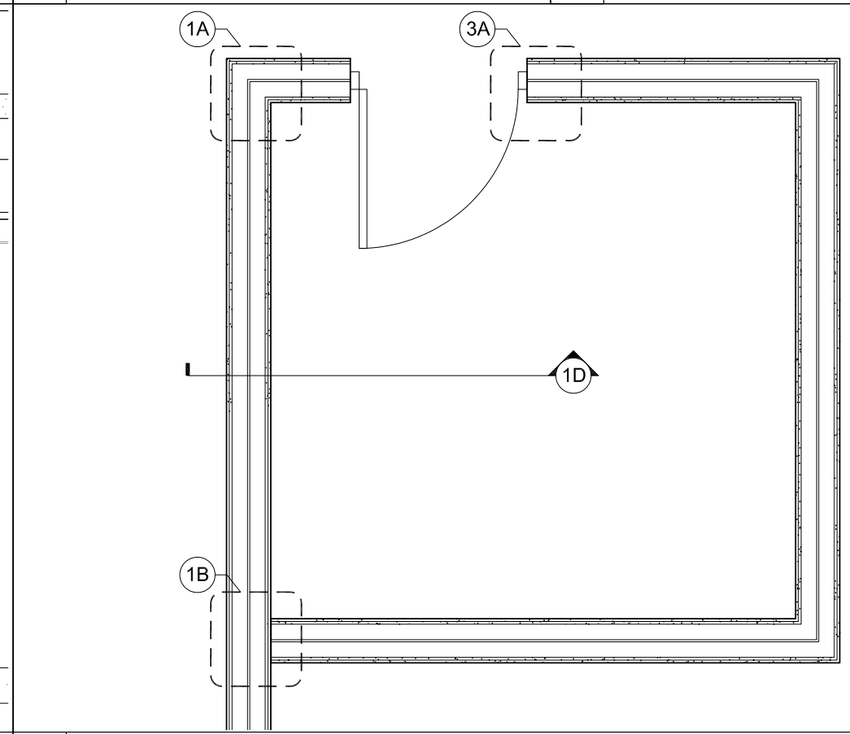

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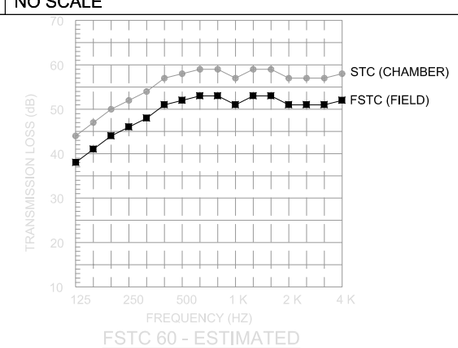

4D TRANSMISSION LOSS DATA
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APPENDIX G
Outline Specifications

BOOK 3 | SEPTEMBER 14, 2020

Design Criteria Package

JGCC

PROJECT MANUAL

APPENDIX G - OUTLINE SPECIFICATIONS

SEPTEMBER 10, 2020

ZYSCOVICH
ARCHITECTS

JGCC DESIGN CRITERIA PACKAGE

APPENDIX G - OUTLINE SPECIFICATIONS | September 10, 2020

Provided for inclusion in:
(C) Joint Government Center Campus Facilities and Infrastructure

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08 71 00	Door Hardware
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09 66 23	Resinous Matrix Terrazzo Flooring
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12 51 00	Contract Furnishings
12 59 00	Systems Furniture
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23 05 53 Identification for HVAC Piping and Equipment

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DIVISION 33 -- UTILITIES
Refer to Utility design requirements published elsewhere

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DIVISION 01 -- GENERAL REQUIREMENTS

01 10 00 SUMMARY

Overview of Scope of the Work and Project requirements, including site access, work restrictions, and general specification and drawing conventions, phased construction, purchase contracts, County-/ City-furnished products, access to site, and work restrictions.

01 20 00 PRICE AND PAYMENT PROCEDURES

Outlines procedures for preparing and submittal of applications for progress payment and for final payment.

01 23 00 ALTERNATES

Provide as required; outlines alternate product options or alternate options resulting in either contract add or reduction in scope and/ or cost.

01 25 00 SUBSTITUTION PROCEDURES

Outlines product substitution during bid and construction administration phases, with the following forms appended to Section.

Form, Bid Phase: “Substitution Request Form, Bid Phase”.

Form, Construction Administration Phase: “Substitution Request Form, CA Phase”.

01 26 00 CONTRACT MODIFICATION PROCEDURES

Administrative and procedural requirements for modifications to contract, including changes to contract sum, contract time and change orders.

01 30 00 ADMINISTRATIVE REQUIREMENTS

Specifies general preconstruction and progress meetings, and procedures and requirements for requests for information, submittals, and mockups.

Includes responsibilities of the project coordinator.

Form: “Electronic Media Agreement”.

Agreement indicating electronic files may be requested and used by the contractor and sub-contractors for reference only and are not considered contract documents.

01 31 13 PROJECT MANAGEMENT AND COORDINATION

Outlines administrative and procedural instructions for project coordination, including organization and start-up, coordinating Work and coordination drawings.

Includes vapor emission control for installation of flooring over concrete or other substrates that may contain moisture.

01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION

Outlines preliminary schedule and requirements for the Contractor's Construction Schedule, including Gantt charts and CPM schedules, Contractor's reports.

01 33 00 SUBMITTAL PROCEDURES

Procedures for Action and Informational Submittals including Submittals Schedule and Delegated-Design Submittals.

The submittals process shall include separate collection and retention of submittals required for LEED and WELL Building certification.

01 40 00 QUALITY REQUIREMENTS

Includes administrative and procedural requirements for quality assurance (QA) and quality control (QA), including definitions, conflicting requirements, QA submittals, inspection, testing and mockups.

01 42 19 REFERENCE STANDARDS

Indicates application of organization agency abbreviation and acronym found in Project Manual.

01 45 17 ACCESSIBILITY REQUIREMENTS

Provides requirements and procedures for compliance with Federal Regulation guidelines and applicable State and local Codes, including latest versions of the following:

ICC A117.1 - Standard for Accessible and Usable Buildings and Facilities.

ADA-ABA Accessibility Guidelines for Buildings and Facilities.

ADA Accessibility Guidelines (ADAAG).

ADA Standards for Accessible Design.

Florida Building Code, Chapter 11 Accessibility.

01 50 00 TEMPORARY FACILITIES AND CONTROLS

Provides requirements for temporary facilities, including communication services, barriers, access and parking for Project field offices.

01 56 39 TEMPORARY TREE AND PLANTING PROTECTION

Outlines protection requirements for site vegetation.

01 60 00 PRODUCT REQUIREMENTS

General requirements for products, including transportation, handling, storage and protecting products, options, spare parts and maintenance materials.

Includes basis-of-design requirements.

01 61 16 DELEGATED DESIGN REQUIREMENTS

Administrative and procedural requirements for Subcontractor Design-Build (Bidder-design with engineering) and installer-selected items (no engineering) listed in the various Sections of these Specifications.

Lateral load and windstorm design requirements for Subcontractor Design-Build (Bidder-design-engineered) nonstructural exterior components and their attachments to structure, requirements of the contract documents, governing building design code including requirements for Notice of Acceptance (NOA).

Seismic design requirements for Subcontractor Design-Build (Bidder-design-engineered) nonstructural components and their attachments to the structure, requirements of the contract documents, governing design code including requirements of SEI/ASCE 7-05, Chapter 13.

Sections including Delegated Design Engineering, but not requiring Deferred Submittal, including: Various support framing assemblies, non-structural partition, soffit and ceiling framing.

Sections including Delegated Design Engineering, for Deferred Submittal to Authority Having Jurisdiction (AHJ), including: Various stair and railings sections; various wall cladding systems and support framing; various overhead door systems; various

storefront, curtainwall and windowwall systems; various louver and screening assemblies; various canopy and skylight systems; various facade access and maintenance systems; various vertical circulation systems.

Bidder-Selected products and assemblies not requiring Deferred Submittal, including: Various fireproofing and firestopping assemblies.

01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

General execution requirements, including cutting and patching, field engineering, construction layout.

Includes progress cleaning, starting and adjusting and protection of installed items.

Outlines substantial and final completion procedures, including final cleaning.

01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

The Contractor shall have on staff for the duration of the Project a coordinator who is experienced in the delivery of LEED- and WELL Building-certified projects.

Processes to minimize generation of waste due to error, poor planning, breakage, mishandling, contamination, or other factors.

Processes to minimize trash/ waste disposal in landfills.

Processes to maximize reuse, salvage, or recycle as much waste as economically feasible.

01 78 00 CLOSEOUT SUBMITTALS

Includes Project record documents, operation and maintenance data, and warranties and bonds.

01 79 00 DEMONSTRATION AND TRAINING

Administrative and procedural requirements for training and demonstration of all operating systems and equipment to Owner's personnel.

01 81 13 SUSTAINABILITY REQUIREMENTS

The Design Team will retain the services of a Sustainability Consultant for the Project who is experienced in the delivery of LEED- and WELL Building-certified projects.

Sustainability design requirements and construction phase activities necessary to achieve the Project's sustainability goal for LEED v4 and Well Building Standard v2 certification.

Refer to LEED and Well Scorecards in Section 5.4 - Sustainability and Resiliency of the Design Criteria Package.

Sustainability Documentation Submittals: Product data, invoices, receipts, certification letters, labels, and other documentation demonstrating compliance with specified requirements. Sustainability submittal requirements are in addition to other submittal requirements indicated in the Contract Documents.

Other Specification sections related to these requirements include:

01 74 19 "Construction Waste Management and Disposal".

01 81 14 "Indoor Air Quality Requirements".

01 83 16 "Exterior Enclosure Performance Requirements".

01 91 13 "General Commissioning Requirements".

LEED SCORECARD

Project sustainability goal-specific tabulated chart of LEED credits required to meet the Project's sustainability goal for LEED certification. Refer to Design Criteria, Section 5.4 for Basis-of-Design LEED Project Checklist.

LEED MATERIAL BUYOUT FORM

Submit: Tabulated chart of all products and materials used on the project and identified as contributing to LEED credits required for certification, with specific product names and cost.

WELL BUILDING SCORECARD

Refer to Design Criteria, Section 5.4 for Basis-of-Design WELL Certification Matrix.

01 81 14 INDOOR AIR QUALITY REQUIREMENTS

The Contractor shall have on staff for the duration of the Project a coordinator who is experienced in the delivery of LEED- and WELL Building-certified projects.

Section includes Construction Indoor Air Quality (IAQ) goals and administrative and procedural requirements for the development and execution of a construction air quality management plan.

Refer to Design Criteria, Section 5.4 for associated LEED credits and WELL features related to indoor air quality.

Prevent indoor air quality problems resulting from the construction process; protect the ventilation system components during construction and clean contaminated components after construction is complete; and control sources of potential IAQ pollutants by controlling selection of materials and processes used in project construction.

Submit: IAQ Management Plan.

Reference: Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction.

01 83 16 EXTERIOR ENCLOSURE PERFORMANCE REQUIREMENTS

The design team shall retain the services of a Exterior Envelope Consultant for the Project who is experienced in the delivery of LEED- and WELL Building-certified projects.

General exterior enclosure performance requirements and testing procedures for compatibility between all exterior assemblies and weatherproofing materials, including:

Requirements to coordinate the work of the various sections that encompass the exterior envelope of the building.

Requirements to coordinate products and materials to ensure the compatibility of various interfaced products used for the Project prior to installation.

Envelope commissioning, Coordinated with Envelope Consultant.

01 91 13 GENERAL COMMISSIONING REQUIREMENTS

The Owner will retain the services of an independent Commissioning Agent for the Project.

Requirements for complete systems commissioning, functional testing and performance verification; Verification and enhanced commissioning, including third party review. Systems to be Commissioned: Control (DDC) system, occupancy sensors, lighting control, generator testing.

DIVISION 02 -- EXISTING CONDITIONS

02 41 16 STRUCTURE DEMOLITION

Provide the following, as indicated:

Demolition and removal of buildings and site improvements.

Abandoning in-place or remove below-grade construction.

Disconnect, cap or seal, and abandon in-place or remove site utilities.

Salvage items for reuse by Owner.

Coordinate with requirements of Section 01 74 19 “Construction Waste Management”.

Submit engineering surveys, proposed protection measures, and schedule of building demolition activities.

Regulatory Requirements: Comply with governing EPA notification regulations.

Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

Refrigerant: Remove according to 40 CFR 82.

02 41 19 SELECTIVE DEMOLITION

Provide the following, as indicated:

Demolition and removal of building components.

Disconnect, cap or seal, and abandon in-place or remove building utilities.

Salvage items for reuse by Owner.

Coordinate with requirements of Sections 01 74 19 “Construction Waste Management and Disposal” and 01 81 14 “Indoor Air Quality Requirements”.

Submit engineering surveys, proposed protection measures, and schedule of demolition activities.

Regulatory Requirements: Comply with governing EPA notification regulations and local authority having jurisdiction (AHJ).

Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

Refrigerant: Remove according to 40 CFR 82.

DIVISION 03 -- CONCRETE

03 30 00 CAST-IN-PLACE CONCRETE

Provide: ACI 301 standard cast-in-place concrete, normal weight, formwork, reinforcing, and finishing.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials.

EQ Credit 2 - Low-Emitting Materials.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Concrete: Ready-mix to meet requirements, type II cement.

Reinforcing: Deformed; ASTM A615; ASTM A706 for field modifications.

Coordinate surface finishes for concrete receiving other finishes. Coordinate with installers in other sections.

Waterstops: Coordinate with self-adhering sheet waterproofing at slab depressions and pits.

Lightweight Structural Fill: EPS, type as required for application.

Finishes:

Smooth-formed finish, vertical at exposed concrete walls.

Slabs, exposed, general: Hard/power trowel; Interior:

On-Grade: ASTM E1155; SOV FF 50 and FL 35 with minimum local of FF 40 and FL 30.

Provide concrete topping at locations indicated.

Patch and repair concrete surfaces receiving other finishes.

03 35 43 POLISHED CONCRETE FINISHING

Provide: Hardened, ground and polished floor system with crack repair where required. Design to match Architect's reference project or reference sample. Installer shall coordinate concrete mix designs with Section 03 30 00 "Cast-in-Place Concrete" to achieve specified results. Epoxy and resin-based tools not permitted.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 4 - BPDO, Material Ingredients.

Performance:

Mohs Hardness Scratch Test: MNL46 Special Methods for Hardness Testing

Wet grinding, no dry-grind permitted. Dust Regulation: OSHA 29 CFR 1926.1153

Dynamic Coefficient of Friction: ANSI B101.3; minimum 42.

Refined floor averaging a Surface Texture Grade of 6μin.

Vapor Transmission: ASTM E96.

Stain Resistance: ASTM C309.

Mockup: Provide sample area, 100 sf minimum to verify selections made, to demonstrate aesthetic effects, and to set quality standards for materials and execution, for review and approval prior to proceeding.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

03 37 13 SHOTCRETE

Provide: Shotcrete using cementitious and other materials meeting requirements indicated in Section 03 30 00 "Cast-in-Place Concrete".

Reinforcing shall meet requirements indicated in Section 03 30 00 "Cast-in-Place Concrete".

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials.

EQ Credit 2 - Low-Emitting Materials.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Qualifications: Installer’s nozzle operators with mean core grades not exceeding 2.5 and/ or ACI Shotcrete Nozzleman certified; Testing Agency shall be qualified according to ASTM E329.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

03 38 00 POST-TENSIONED CONCRETE

Provide: Post-tensioned concrete using cementitious and other materials meeting requirements indicated in Section 03 30 00 “Cast-in-Place Concrete”.

Unbonded, post-tensioned concrete structural members and slabs complying with ACI 318 (ACI 318M) requirements.

Prestressing strands shall meet ASTM A416, Grade 270 (Grade 1860), and be uncoated, seven-wire, low-relaxation strand.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials.

EQ Credit 2 - Low-Emitting Materials.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Qualifications: Fabricator shall be certified by PTI; installer’s project superintendent shall have completed PTI's Level 1 - Field Fundamentals course; Testing Agency shall be qualified according to ASTM E329.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design post-tensioned concrete units.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Testing Agency Inspector: Personnel have completed PTI's Level 1 - Field Fundamentals course.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

03 41 00 PRECAST STRUCTURAL CONCRETE

Provide: Structural precast, reinforced concrete units, pretensioned or post-tensioned, architectural precast, prestressed concrete units. Structural precast concrete units

complying with ACI 318 and PCI MNL 120; quality-control standard PCI MNL 116; in sizes indicated or selected.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials.

EQ Credit 2 - Low-Emitting Materials.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design precast structural concrete units.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

03 45 00 PRECAST ARCHITECTURAL CONCRETE

Provide: Architectural precast, reinforced concrete units, pretensioned or post-tensioned, architectural precast, prestressed concrete units. Architectural precast concrete units complying with ACI 318 and PCI MNL 120; quality-control standard PCI MNL 117; in color, sizes and finishes indicated or selected.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials.

EQ Credit 2 - Low-Emitting Materials.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design precast architectural concrete units.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Mockup: Provide mockup wall panel to verify selections made, to demonstrate aesthetic effects, and to set quality standards for materials and execution, for review and approval prior to proceeding.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

03 53 00 CONCRETE TOPPING

Provide: Lightweight concrete toppings using cementitious and other materials meeting requirements indicated in Section 03 30 00 “Cast-in-Place Concrete”. Comply with ACI 301.

For lightweight concrete topping at roofing applications, coordinate with requirements of roofing assembly Notice-of-Acceptance (NOA).

03 54 13 GYPSUM CEMENT UNDERLAYMENT

Provide: Gypsum cement underlayments meeting requirements for fire resistance and/ or acoustics as indicated:

Fire-Resistance Rating: UL listed.

Sound Transmission Characteristics: STC- and IIC-rated assemblies.

DIVISION 04 -- MASONRY

04 22 00 CONCRETE UNIT MASONRY

Provide: NCMA-standard concrete masonry units (CMUs); ACI-standard reinforced concrete fill; reinforced CMU load-bearing walls, shear walls, stem walls, lintels, retaining walls and other building components.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials.

EQ Credit 2 - Low-Emitting Materials.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

Standard Shapes: Manufacturer’s standard 8 in. modules.

Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

Density Classification: Normal weight per ASTM C90.

04 42 00 EXTERIOR STONE CLADDING

Dimension Stone: Panels set with individual anchors.

Attachment Assembly Components: Refer to Section 07 05 43 “Cladding Support System”.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide steel reinforcing bar with minimum 50 percent total recycled content, including at least 25 percent post-consumer recycled content.

Regional Materials: If available, provide products and materials manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design stone anchors and anchoring systems.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Design stone anchors and anchoring systems according to ASTM C1242.

Provide mockups to verify selections made, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

Stone Type: As selected by Architect; shall meet following requirements:

Granite, complying with ASTM C615.

Limestone comply with ASTM C568, classification II Medium-Density.

Marble, complying with ASTM C503, classification II Dolomite.

Quartz-based stone, complying with ASTM C616, classification I Sandstone.

Serpentine complying with ASTM C1526, classification I Exterior.

Travertine, complying with ASTM C1527/C1527M, Classification I Exterior.

Characteristics: Match Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.

DIVISION 05 -- METALS

05 12 00 STRUCTURAL STEEL FRAMING

Provide: AISC-certified fabrication of structural shapes; shop-primed (for field-painting if exposed); hot-dip galvanized to G-90 at exterior and where protruding beyond building envelope.

Provide Shop Drawings: Show fabrication of structural-steel components; mill test reports for structural steel, including chemical and physical properties.

Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs) according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Coordination: Installation of anchorage items are to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

Performance Requirements:

Provide connections details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand loads indicated and comply with other information and restrictions indicated.

Recycled Content:

Steel Shapes: Provide W-shape, channel, and angle shapes steel with minimum 90 percent total recycled content including at least 60 percent post-consumer recycled content, except as follows:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

05 21 00 STEEL JOIST FRAMING

Provide:

Manufactured steel joists according to SJI's "Specifications" for series indicated, with steel-angle top- and bottom-chord members; of joist type and end and top-chord arrangements as indicated on Drawings.

Manufactured joist girders according to "Standard Specification for Joist Girders" in SJI's "Specifications," with steel-angle top- and bottom-chord members; with end and top-chord arrangements as indicated on Drawings.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Qualifications: Manufacturer certified by SJI to manufacture joists complying with applicable standard specifications and load tables in SJI's "Specifications"; field-welding procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design steel joist framing.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Recycled Content:

Steel: Provide steel with minimum 60 percent total recycled content, including at least 30 percent post-consumer recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

05 31 00 STEEL DECKING

Provide: Galvanized steel decking. ASTM A653, G90 coated steel where at exterior and not encapsulated by other construction.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Performance Requirements:

Recycled Content:

Steel: Provide steel with minimum 90 percent total recycled content, including at least 60 percent post-consumer recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Headed studs for shear connectors shall be 3/4-inch (unless noted) diameter manufactured from cold drawn wire and conforming to ASTM A108, Grades 1010 thru 1020. Studs shall be manufactured by Nelson or KSM.

05 40 00 COLD-FORMED METAL FRAMING

Provide: Cold-formed steel framing, including exterior and interior load-bearing wall studs, exterior and interior non-load-bearing wall studs that exceed the height limitations of standard nonstructural metal framing.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Performance Requirements:

Recycled Content:

Light-Gauge Metal Framing: Provide framing with minimum 25 percent total recycled content, including at least 20 percent post-consumer recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Fabricate steel-framing accessories from ASTM A1003/A1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.

Install cold-formed steel framing according to AISI S200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.

05 50 00 METAL FABRICATIONS

Provide: Fabrication of all miscellaneous metal not provided under other sections, including the following:

Steel framing and slotted metal framing system for supports for mechanical and electrical equipment.

Sills and shelf angles.

Metal ladders, ships ladders and cross-over ladders.

Storefront system bracing.

Plate steel entry canopy and framing.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design supports for mechanical and electrical equipment.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Finishes:

Hot-dip galvanized per ASTM A123.

Exterior: Exterior fabrications shall be hot-dip galvanized and primed, or shop-primed in coordination with Section 09 96 00 “High-Performance Coatings”.

Interior: Interior fabrications shall be shop primed for field painting.

Weld Finish: Finish graspable welds NOMMA type 1, visible welds type 2, semi-concealed type 3.

Finishes:

Aluminum: Class I, clear anodic; Class I, color anodic; powder coat; or high performance organic.

Steel: Factory powder coat or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

05 51 13 METAL PAN STAIRS

Provide: Stairs of the design specified; delegated-bidder-designed (bidder-engineered and designed) and installed in accordance with supervision of a professional structural engineer experienced in design of this work and licensed in Project location. Comply with most stringent requirements of local, state and federal regulations for loads, stresses, and anchors to structure.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design metal pan stairs.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Withstand effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Uniform Load: 100 lbf/sq. ft.

Concentrated Load: 300 lbf applied on an area of 4 sq. in.

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Weld Finish: Finish graspable welds NOMMA type 1, visible welds type 2, semi-concealed type 3.

Finishes:

Steel: Factory powder coat or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

05 51 19 METAL GRATING STAIRS

Provide: Industrial Class stairs with steel-grating treads.

Steel railings and guards attached to metal stairs.

Steel handrails attached to walls adjacent to metal stairs.

Performance Requirements:

Engineering design of metal grating stairs, railings, and guards by Contractor.

Stair Standard: NAAMM AMP 510, "Metal Stairs Manual," Industrial Class.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design metal grating stairs.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Withstand effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Uniform Load: 100 lbf/sq. ft.

Concentrated Load: 300 lbf applied on an area of 4 sq. in.

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Stringers: Steel plates or channels.

Metal Bar-Grating Treads: 1/2-inch (12-mm) maximum opening.

Stair Railings: Comply with Section 05 52 13 "Pipe and Tube Railings."

Rails and Posts: 1-1/2-inch- (38-mm-) round top and bottom rails and 1-1/2-inch- (38-mm-) round posts and one of following infills:

Picket Infill: 1/2-inch- (13-mm-) square pickets spaced to prohibit the passage of a 4-inch (100-mm) diameter sphere.

Mesh Infill: Welded-wire mesh crimped into steel channel frames.

Intermediate Rails Infill: 1-1/2-inch- (38-mm-) round intermediate rails spaced less than 12 inches (305 mm) clear.

Weld Finish: Finish graspable welds NOMMA type 1, visible welds type 2, semi-concealed type 3.

Finishes:

Steel: Factory powder coat or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

05 52 13 PIPE AND TUBE RAILINGS

Provide: Railings of the design specified; designed and installed in accordance with supervision of a professional structural engineer experienced in design of this work and licensed in Project location. Comply with most stringent requirements of local, state and federal regulations for loads, stresses, and anchors to structure.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design railings.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Withstand effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Uniform load of 50 lbf/ft. applied in any direction.

Concentrated Load: 200 lbf applied in any direction.

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

All guardrails and in-fill shall be primed for field-painting.

Pipe and tube railings:

Steel pipe or tube guardrails; galvanized at exterior locations.

Type 304 or 316 Stainless steel pipe handrails.

Sample: 24 inches by full-height railing showing all profiles, transitions, corner conditions and finish welds.

Weld Finish: Finish graspable welds NOMMA type 1, visible welds type 2, semi-concealed type 3.

Finishes:

Steel: Factory powder coat or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

05 73 00 DECORATIVE METAL STAIRS AND RAILINGS

Design and engineering by Design Team.

Provide: Decorative metal fabrications of type indicated. NOMMA type 1 welds where graspable. Type 2 otherwise.

Decorative steel stair and railings:

Interior: Shop-primed for field-painting.

Type 304 or 316 Stainless steel pipe handrails.

Exterior roof guardrails.

Type 316 Stainless steel pipe handrails.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Sample: 24 inches by full-height railing showing all profiles, transitions, corner conditions and finish welds.

Performance Requirements:

Structural Performance: Withstand effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Stairs:

Uniform Load: 100 lbf/sq. ft.

Concentrated Load: 300 lbf applied on an area of 4 sq. in.

Railings:

Uniform load of 50 lbf/ft. applied in any direction.

Concentrated Load: 200 lbf applied in any direction.

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Weld Finish: Finish graspable welds NOMMA type 1, visible welds type 2, semi-concealed type 3.

Finishes:

Aluminum: Class I, clear anodic; Class I, color anodic; powder coat; or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

05 73 13 GLAZED DECORATIVE METAL RAILINGS

Provide: Glazed decorative metal railings fabricated from aluminum and stainless steel, for installation at existing steel-framed monumental stairs and atrium balconies.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design glazed decorative metal railings.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Withstand effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Uniform load of 50 lbf/ft. applied in any direction.

Concentrated Load: 200 lbf applied in any direction.

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

Cold-Formed Hollow Structural Sections: Minimum 30 percent total recycled content.

Steel Pipe: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior fabrications shall be shop primed for field painting.

Weld Finish: Finish graspable welds NOMMA type 1, visible welds type 2, semi-concealed type 3.

Finishes:

Aluminum: Class I, clear anodic; Class I, color anodic; powder coat; or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

05 75 00 DECORATIVE FORMED METAL

Provide:

Closures and Trim: Aluminum.

Decorative-Metal-Clad Doors and Frames: Stainless steel.

Elevator entrances.

Escalator Enclosures: Stainless steel.

Filler Panels: Galvanized steel.

Lighting Coves: Aluminum.

Metal Base: Stainless steel.

Mullion Cladding: Aluminum.

Pipe System Covers: Galvanized steel.

Pockets for Window Treatment: Aluminum.

Window Stools: Stainless steel.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials:

MR Credit 4 - BPDO, Material Ingredients:

EQ Credit 2 - Low-Emitting Materials:

Performance Requirements:

Engineering design of exterior items by Contractor.

Recycled Content, Aluminum: Provide aluminum with recycled content.

Recycled Content, Steel:

Plate and Bar: Minimum 30 percent total recycled content.

All Other Steel Materials: Minimum 30 percent total recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Weld Finish: Finish visible welds NOMMA type 1, semi-concealed type 2.

Finishes:

Aluminum: Class I, clear anodic; Class I, color anodic; powder coat; or high performance organic.

Galvanized Steel: Factory powder coat or high performance organic.

Stainless Steel: Directional polish (no. 4/ satin).

DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES

06 10 53 MISCELLANEOUS ROUGH CARPENTRY

Provide: FSC-Certified wood lumber for blocking and utility back-boards and blocking. Fire-retardant treatments; low-VOC adhesives and non-urea-formaldehyde composites. Fire-retardant treated where indicated; wood-preservative-treated at all areas in contact with concrete or masonry, and in roofing assemblies. Maximum moisture content of 19 percent, or S-dry.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials: Certified Wood.

MR Credit 4 - BPDO, Material Ingredients:

Lumber Blocking: Construction grade, Southern Pine; as indicated.

Fire-retardant treated at all exterior wall framing.

Preservative- treated at all exterior applications or in contact with concrete.

Plywood Backing Panels: ACX plywood, plug filled, fire-retardant treated, 3/4-inch. Field paint finish to match adjacent wall.

Wood-Preservative-Treated Materials:

Preservative Treatment: AWPA U1; Use Category UC2, except Use Category UC3b for exterior construction and Use Category UC4a for items in contact with ground.

Preservative Chemicals: Containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

Fire-Retardant-Treated Materials:

Exterior type for exterior locations and where indicated.

Interior Type A, High Temperature (HT) for enclosed roof framing and where indicated.

Interior Type A unless otherwise indicated.

06 16 00 SHEATHING

Section Includes: Exterior wall, roof, and parapet sheathing, where applicable. Roof and parapet sheathing may be specified as a component of roofing assemblies in appropriate roofing specification sections; refer to Division 07 roofing sections.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials: Recycled Content.

MR Credit 4 - BPDO, Material Ingredients:

Performance Requirements:

Recycled Content: Provide gypsum sheathing with minimum 30 percent recycled content.

Glass-Mat Gypsum Sheathing: Meeting ASTM C1177.

Cementitious Backer Units: ASTM C1325, Type A.

Fasteners: Stainless steel where exposed to weather, in-ground contact, in contact with treated wood, or in area of high relative humidity.

06 20 23 INTERIOR FINISH CARPENTRY

Provide: FSC-Certified wood lumber and plywood for interior finish carpentry. Fire-retardant treatments; low-VOC adhesives and non-urea-formaldehyde composites. Architectural Woodwork Institute (AWI), minimum Custom Grade. Interior finish carpentry and woodwork items in accordance with ALSC and NHLA Grading rules, where applicable.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials: Recycled Content and Certified Wood.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials.

Quality Assurance:

Forest Certification: Provide wood products made from forests certified by an FSC-accredited certification body.

All Non-FSC Wood in Assemblies with FSC-Certified Wood: Meet FSC Controlled Wood (CW) criteria.

Performance Requirements:

Recycled Content: Particleboard and MDF: Provide particleboard and MDF with minimum 80 percent recycled content. Provide other products with recycled content as required to meet sustainability targets.

Composite Wood Installed Within the Building Interior: Comply with California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM), Phase II for ultra-low-emitting formaldehyde (ULEF) resins or containing no formaldehyde resins.

06 41 00 ARCHITECTURAL CASEWORK

Provide: Custom-fabricated wood-veneer-faced casework and other custom fabricated wood products. Architectural Woodwork Institute (AWI); Premium grade for wood veneer casework; low-VOC adhesives; no-added-urea-formaldehyde (NAUF) substrates substrate to meet LEED requirements.

Submittals: Provide shop drawings for casework, samples for exposed product and for each color and finish specified, samples for initial selection, and samples for verification.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials: Recycled Content and Certified Wood.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials.

Quality Assurance:

Forest Certification: Provide wood products made from forests certified by an FSC-accredited certification body.

All Non-FSC Wood in Assemblies with FSC-Certified Wood: Meet FSC Controlled Wood (CW) criteria.

Performance Requirements:

Recycled Content: Particleboard and MDF: Provide particleboard and MDF with minimum 80 percent recycled content. Provide other products with recycled content as required to meet sustainability targets.

Composite Wood Installed Within the Building Interior: Comply with California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM), Phase II for ultra-low-emitting formaldehyde (ULEF) resins or containing no formaldehyde resins.

Casework: Custom design, frameless casework, flush overlay doors and drawers.

Grade: Premium grade per Architectural Woodwork Standards by AWI.

Material for Exposed Surfaces:

FSC-Certified wood lumber and plywood for architectural casework.

Hardwood veneer.

High-pressure laminate finish per NEMA LD 3

Material for Semi-Exposed Surfaces:

Hardwood veneer.

High-pressure laminate finish per NEMA LD 3

Countertop: Provide solid surfacing custom-fabricated countertops as indicated.

Solid-surfacing countertops with marine-grade substrate and adhesive; homogeneous solid-surfacing material per ISSFA-2; Integral backsplashes and aprons.

Resinous Fabrications: Custom-fabricated profiles and panels.

Casework Hardware: Meeting Builders Hardware Manufacturers Association (BHMA) standards.

Finishes: Clear, custom-grade hardwood veneer for transparent finish; Hardware per BHMA. Fire-retardant treatments.

Fabric shall comply with testing and product requirements of CRI's "Green Label Plus" testing program.

DIVISION 07 -- THERMAL AND MOISTURE PROTECTION

07 05 43 CLADDING SUPPORT SYSTEM

Provide exterior finish support system for supporting and installing exterior claddings; coordinate with exterior cladding systems requirements and energy code requirements.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials.

MR Credit 4 - BPDO, Material Ingredients:

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design formed metal wall and soffit panels.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

ASTM E1233 - Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure Differential.

NFPA 285 - Evaluation of Fire Propagation of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

SEI/ASCE 7 - Minimum Design Loads For Buildings and Other Structures.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 11 13 BITUMINOUS DAMPPROOFING

Provide: Cold-applied emulsified-asphalt dampproofing for trowel, spray or brush coats for applications indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients:

Performance Requirements:

VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

Cold-Applied, Emulsified-Asphalt Dampproofing:

Trowel Coats: ASTM D1227, Type II, Class 1.

Fibered Brush and Spray Coats: ASTM D1227, Type II, Class 1.

Brush and Spray Coats: ASTM D1227, Type III, Class 1.

Emulsified-Asphalt Primer: ASTM D1227, Type III, Class 1, except diluted with water as recommended in writing by manufacturer.

Protection Course: Extruded-polystyrene board insulation, unfaced, ASTM C578, Type X, 1/2 inch thick.

07 13 26 SELF-ADHERING SHEET WATERPROOFING

Pre-applied sheet membrane waterproofing for horizontal and vertical applications, for direct placement of concrete against membrane, forming an integral bond during curing.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients:

Warranty Period: Ten (10) years from date of Substantial Completion.

Performance Requirements:

VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

Modified Bituminous Sheet Waterproofing: Minimum 60-mil nominal thickness, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated on one side to a 4-mil- thick, polyethylene-film reinforcement, and with release liner on adhesive side; formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.

Waterstop: Hydrophilic, non-bentonite waterstop compatible with sheet waterproofing, for non-moving concrete construction joints. Coordinate with Section 03 30 00 “Cast-in-Place Concrete” for installation.

07 14 13 HOT FLUID-APPLIED RUBBERIZED ASPHALT WATERPROOFING

Provide: Rubberized-asphalt waterproofing for top-of-slab, single-component, 100 percent solids, hot fluid-applied, rubberized asphalt waterproofing, including molded-sheet drainage panels, extruded-polystyrene board insulation, and plaza-deck concrete pavers supported on adjustable pedestals.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients:

Warranty Period: Ten (10) years from date of Substantial Completion.

Performance Requirements:

VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

07 14 16 COLD FLUID-APPLIED WATERPROOFING

Provide: Polyurethane waterproofing, STPE waterproofing, or PMMA/ PUMA waterproofing; protection course, and molded-sheet drainage panels, as indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients:

Warranty Period: Ten (10) years from date of Substantial Completion.

Performance Requirements:

VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

Polyurethane waterproofing: Two-Component, Unmodified Polyurethane Waterproofing complying with ASTM C836.

STPE Waterproofing: Single-component, silyl-terminated polyether complying with ASTM C836.

PUMA Waterproofing: Two-component, polyurethane-methacrylate complying with ASTM C1305.

PMMA Waterproofing: Two-component, polymethyl methacrylate, reinforced with polyester fleece layer.

Waterstop: Compatible with sheet waterproofing, for non-moving concrete construction joints. Coordinate with Section 03 30 00 “Cast-in-Place Concrete” for installation.

07 17 00 BENTONITE WATERPROOFING

Provide: Composite polyethylene/ bentonite waterproofing and nonwoven-geotextile-faced molded-sheet drainage panels.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

Warranty Period: Ten (10) years from date of Substantial Completion.

Waterstop: Compatible with sheet waterproofing, for non-moving concrete construction joints. Coordinate with Section 03 30 00 “Cast-in-Place Concrete” for installation.

07 18 00 TRAFFIC COATINGS

Provide traffic coatings and pavement markings for the following applications: Pedestrian traffic, vehicular traffic, and equipment-room floors; comply with ASTM C957 for service conditions.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials: Interior Wet-Applied Coatings.

SS Credit 5 - Heat Island Reduction: Roof Surface Materials.

Performance Requirements:

VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.

07 19 00 WATER REPELLENTS

Provide: Penetrating water repellent, stain resistance, and graffiti control treatments for vertical surfaces and non-traffic horizontal surfaces at exterior and interior as indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials: Interior Wet-Applied Coatings.

Warranty Period: Five (5) years from date of Substantial Completion.

Performance Requirements:

VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

07 21 00 THERMAL INSULATION

Section Includes: Extruded polystyrene foam-plastic board insulation, molded (expanded) polystyrene foam-plastic board insulation, glass-fiber blanket insulation, glass-fiber board insulation, mineral-wool blanket insulation, and mineral-wool board insulation, for applications indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials: Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials:

Interior Wet-Applied Adhesives and Sealants.

Thermal and Acoustic Insulation Installed Within the Building Interior: Certificate stating compliance with California Department of Public Health (CDPH) Standard Method V1.1-2010 including total volatile organic compounds (TVOC) range or Greenguard Gold certification.

Performance Requirements:

Recycled Content:

Mineral Wool Insulation: Minimum 75 percent recycled content.

Polystyrene Insulation: Minimum 20 percent recycled content.

Glass Fiber Insulation: Minimum 20 percent recycled content.

Thermal and Acoustic Insulation Installed Within the Building Interior: Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Greenguard Gold certification.

Interior Wet-Applied Adhesives and Sealants: Comply with low-emitting requirements to meet sustainability targets.

Continuous Exterior Thermal Insulation, Glass Fiber Board: Thermal board insulation at exterior wall rainscreen cavity as indicated; R-value to meet Code- and Project-specific energy performance requirements at exterior walls.

Exterior Wall Cavity Thermal Insulation, Glass Fiber Batt: Thermal batt insulation at exterior wall framing cavity as indicated; R-value to meet Code- and Project-specific energy performance requirements at exterior walls.

Interior Partition Cavity Acoustic Insulation, Mineral Fiber Batt: Acoustic batt at interior wall framing cavity where required to meet Project-specific acoustic requirements at interior walls; formaldehyde-free.

Vapor Retarder: Provide "smart" vapor retarder with varying permeability based on ambient temperature and humidity.

07 21 19 FOAMED-IN-PLACE INSULATION

Provide closed-cell spray polyurethane foam, ASTM C1029, Type II; minimum aged R-value at 1-inch thickness of 6.2 deg F x h x sq. ft./Btu. Flame-spread index: 25 or less; smoke-developed index: 450 or less; fire propagation characteristics passing NFPA 285.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

07 25 00 WEATHER BARRIERS

Provide: Vapor permeable air-barrier system, fluid-applied, with maximum leakage of Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. per ASTM E 2357. All materials to be compatible with one another. All joints and openings shall be treated to meet air leakage requirements.

Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.040 inch.

Rubberized-Asphalt Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.040 inch.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Components shall be complaint for use in assemblies per NFPA 285. UV resistance for 90-day exposure.

07 42 13.13 FORMED METAL WALL PANELS

Provide concealed-fastener, factory-formed, lap-seam metal wall and soffit panels.

Attachment Assembly Components: Refer to Section 07 05 43 "Cladding Support System".

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials.

MR Credit 4 - BPDO, Material Ingredients:

Mockup: Provide mockup wall panel to verify selections made, to demonstrate aesthetic effects, and to set quality standards for materials and execution, for review and approval prior to proceeding.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design formed metal wall and soffit panels.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Provide metal panel systems capable of withstanding design loads, based on testing according to ASTM E1592.

NFPA 285 - Evaluation of Fire Propagation of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 42 13.16 METAL PLATE WALL PANELS

Provide factory-formed, metal plate wall and soffit panels fabricated from single sheets of metal formed into profile for installation method indicated.

Attachment Assembly Components: Refer to Section 07 05 43 “Cladding Support System”.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials.

MR Credit 4 - BPDO, Material Ingredients:

Mockup: Provide mockup wall panel to verify selections made, to demonstrate aesthetic effects, and to set quality standards for materials and execution, for review and approval prior to proceeding.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design metal plate wall and soffit panels.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Provide metal panel systems capable of withstanding design loads, based on testing according to ASTM E330.

NFPA 285 - Evaluation of Fire Propagation of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 42 13.23 METAL COMPOSITE MATERIAL WALL PANELS

Provide factory-formed and -assembled, metal composite material wall and soffit panels fabricated from two metal facings that are bonded to a solid, extruded, fire-resistant thermoplastic core; formed into profile for installation method indicated

Attachment Assembly Components: Refer to Section 07 05 43 “Cladding Support System”.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials.

MR Credit 4 - BPDO, Material Ingredients:

Mockup: Provide mockup wall panel to verify selections made, to demonstrate aesthetic effects, and to set quality standards for materials and execution, for review and approval prior to proceeding.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design metal composite material wall and soffit panels.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: Provide metal panel systems capable of withstanding design loads, based on testing according to ASTM E330.

NFPA 285 - Evaluation of Fire Propagation of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 52 16 STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOF

Provide: 20-year warranted roofing assembly, comprised of fully adhered SBS-modified bituminous membrane roofing system installed over cover board and R-20 continuous insulation with vapor retarder, including substrate board (at metal deck applications), cover board (where applicable) and lightweight concrete topping.

Base Sheets: Meeting ASTM D6164, Type I or II, Grade S.

Ply Sheets: Meeting ASTM D2178, Type IV or VI.

Cap Sheets: Meeting ASTM D6164, Type I, II or III, Grade G or S.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

SS Credit 5 - Heat Island Reduction:

Performance Requirements:

Wind Uplift Resistance: Design roofing system to resist wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 53 23 ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

Provide: 20-year warranted roofing assembly, comprised of fully adhered ethylene-propylene-diene-terpolymer (EPDM) membrane roofing system installed over cover board and R-20 continuous insulation with vapor retarder, including substrate board (at metal deck applications), cover board (where applicable) and lightweight concrete topping.

EPDM Sheet: Meeting ASTM D4637, Type I, nonreinforced or Type II, scrim or fabric internally reinforced.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

SS Credit 5 - Heat Island Reduction:

Performance Requirements:

Wind Uplift Resistance: Design roofing system to resist wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 54 19 POLYVINYL-CHLORIDE (PVC) ROOFING

Provide: 20-year warranted roofing assembly, comprised of fully adhered polyvinyl chloride (PVC) membrane roofing system installed over cover board and R-20 continuous insulation with vapor retarder, including substrate board (at metal deck applications), cover board (where applicable) and lightweight concrete topping.

PVC Sheet: Meeting ASTM D4434, Type III, fabric reinforced.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

SS Credit 5 - Heat Island Reduction:

Performance Requirements:

Wind Uplift Resistance: Design roofing system to resist wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 54 23 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

Provide: 20-year warranted roofing assembly, comprised of fully adhered polyvinyl chloride (PVC) membrane roofing system installed over cover board and R-20 continuous insulation with vapor retarder, including substrate board (at metal deck applications), cover board (where applicable) and lightweight concrete topping.

PVC Sheet: Meeting ASTM D6878, internally fabric- or scrim-reinforced.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

SS Credit 5 - Heat Island Reduction:

Performance Requirements:

Wind Uplift Resistance: Design roofing system to resist wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.

Testing Agency: Engage a qualified testing agency to perform tests and inspections

07 62 00 SHEET METAL FLASHING AND TRIM

Provide: Sheet metal flashing and trim assemblies must withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction, be watertight and comply with NRCA Roofing and Waterproofing Manual and SMACNA Architectural Sheetmetal Manual.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Materials:

Metallic-Coated Steel Sheet: 22 gauge, G90 zinc-galvanized, two-coat fluoropolymer complying with AAMA 2605 with manufacturer’s standard polyester finished back.

Stainless Steel: 24 gauge; 2D finish; 18-gauge at continuous concealed gutter. Provide at concealed and built-in conditions.

Provide miscellaneous materials including fasteners, protective coatings, sealants, and other miscellaneous items as required for installation as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Color: Matching adjacent materials, or as selected by Architect.

07 72 00 ROOF ACCESSORIES

Provide: Roof curbs, equipment supports, roof hatches and smoke vents as indicated.

Roof Curbs: Internally reinforced roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated.

Equipment Supports: Internally reinforced perimeter or rail-type metal equipment supports capable of supporting superimposed live and dead loads between structural supports, including equipment loads and other construction indicated.

Roof Hatches and Smoke Vents: Metal roof-hatch and smoke vent units with lids and insulated double-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, stepped integral metal cant raised the thickness of roof insulation, and integrally formed deck-mounting flange.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design roof accessories.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Finishes: Baked-enamel or powder-coat finish meeting AAMA 2603.

07 72 73 VEGETATED ROOF SYSTEMS

Intensive Vegetated Roof Assembly: Continuous-coverage assembly consisting of manufacturer's standard vegetated roof assembly components for installation over roofing system.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

SS Credit 5 - Heat Island Reduction:

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI.

Tray-Type Vegetated Roof Assembly: Modular assembly consisting of manufacturer's standard, pre-planted trays for field assembly adjacent to and interlocking with each other over roofing system.

Coordinate with roofing or waterproofing assemblies indicated.

Coordinate with section 32 84 00 “Planting Irrigation”.

07 76 00 ROOF PAVERS

Provide: Pedestal and paver system for plaza terrace.

Walkway Pavers: Heavyweight, hydraulically pressed, concrete units, manufactured for use as roof- or plaza-deck pavers; with absorption not greater than 5 percent according to ASTM C140.

Paver Supports: Paver manufacturer's standard high-density polyethylene paver support assembly, including fixed-height and adjustable or stackable pedestals, shims, and spacer tabs.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

SS Credit 5 - Heat Island Reduction:

Performance Requirements:

Wind Uplift Resistance: Design roofing system to resist wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Solar Reflectance Index (SRI) for Low-Sloped Roof Surface Materials: Minimum 82 initial SRI; minimum 64 for three-year aged SRI. Coordinate with roofing or waterproofing assemblies indicated.

07 81 00 APPLIED FIREPROOFING

Provide cementitious, spray-applied fireproofing at structural steel members, decking, joists and other locations indicated or required.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Assemblies: Provide fire protection meeting UL 263 is cited as equivalent to ASTM E119 in the FBC.

Fire-Resistance Design: Indicated on Drawings, tested according to ASTM E119 or UL 263.

Asbestos: Provide products containing no detectable asbestos.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Sprayed Fire-Resistive Material: Manufacturer's standard, factory-mixed, lightweight, dry formulation, complying with indicated fire-resistance design.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design spray-applied fireproofing.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

07 81 23 INTUMESCENT FIREPROOFING

Provide mastic and intumescent fire-resistive coatings at structural steel members indicated or required.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Fire-Resistance Design: As indicated on Drawings, tested according to ASTM E119 or UL 263.

Asbestos: Provide products containing no detectable asbestos.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Mastic and Intumescent Fire-Resistive Coating: Manufacturer's standard system, consisting of intumescent base coat and topcoat, and complying with indicated fire-resistance design.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design intumescent fire-resistive coatings.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

07 84 13 PENETRATION FIRESTOPPING

Provide: Penetration firestopping systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any. Accessories that are needed to install fill materials are to comply with specified components by through-penetration firestop system manufacturer.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Penetration firestopping systems shall bear classification marking of a qualified testing agency:

UL in its "Fire Resistance Directory."

Intertek Group in its "Directory of Listed Building Products."

FM Approval in its "Approval Guide."

Fire-Resistance Design: As indicated on Drawings, tested according to ASTM E119 or UL 263.

Asbestos: Provide products containing no detectable asbestos.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design penetration firestopping systems.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

07 84 43 JOINT FIRESTOPPING

Provide: Joint firestopping systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of assemblies in or between which joint firestopping systems are installed.

Joints in or between Fire-Resistance-Rated Construction: Meeting ASTM E1966 or UL 2079.

Joints at Exterior Curtain-Wall/Floor Intersections: Meeting ASTM E2307.

Joints in Smoke Barriers: Meeting UL 2079.

Exposed Joint Firestopping Systems: Meeting ASTM E84.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Penetration firestopping systems shall bear classification marking of a qualified testing agency:

UL in its "Fire Resistance Directory."

Intertek Group in its "Directory of Listed Building Products."

FM Approval in its "Approval Guide."

Fire-Resistance Design: As indicated on Drawings, tested according to ASTM E119 or UL 263.

Asbestos: Provide products containing no detectable asbestos.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design joint firestopping systems.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

07 92 00 JOINT SEALANTS

Provide: Elastomeric sealants for exterior and interior joints in vertical surfaces and horizontal non-traffic and traffic surfaces; latex and acoustical sealants. Sanded joints at CMU control/ expansion joints.

Standards:

ASTM C920 for elastomeric joint sealants.

ASTM C1311 for butyl-rubber joint sealants.

ASTM C834 for latex joint sealants.

ASTM C1193 for sealant installation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Products: Silicone joint sealants; non-staining silicone joint sealants; urethane joint sealants; immersible joint sealants; silyl-terminated polyether joint sealants; mildew-resistant joint sealants; butyl joint sealants; latex joint sealants; sealant backing rods and bond breaker tapes.

07 95 13 EXPANSION JOINT COVER ASSEMBLIES

Provide exterior and interior building expansion joint cover assemblies where indicated.

Exterior Metal-Plate Joint Cover: Assembly consisting of sliding metal cover plate in continuous contact with gaskets mounted on metal frames fixed to sides of joint gap.

Exterior Elastomeric-Seal Joint Cover: Assembly consisting of elastomeric seal anchored to surface-mounted frames fixed to sides of joint gap.

Interior Metal-Plate Floor and Wall Joint Covers: Metal cover plate fixed on one side of joint gap and free to slide on other.

Interior Center-Plate Floor and Wall Joint Covers: Assembly consisting of center plate that slides over metal frames fixed to sides of joint gaps.

Interior Elastomeric-Seal Floor, Wall, and Ceiling Joint Covers: Assembly consisting of elastomeric seal anchored to frames fixed to sides of joint gap.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design expansion joint cover assemblies.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Fire-Resistance Ratings: Provide expansion joint cover assemblies with fire barriers identical to those of systems tested for fire resistance according to UL 2079 or ASTM E1966.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

DIVISION 08 -- OPENINGS

08 11 13 HOLLOW METAL DOORS AND FRAMES

Provide: ANSI/SDI A250.8 hollow metal steel doors and frames; UL-rated and non-rated. Factory-prepared for hardware.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide steel with 25 percent post-consumer recycled content.

Material: Metallic-coated steel (A40), shop primed.

Exterior: 16-gauge doors and 14-gauge frames; full face welded frames; model 1 full flush profile doors; insulated doors.

Interior: 16-gauge frames, face welded. 18-gauge doors at public spaces, 16-gauge doors at back-of-house.

Coordinate with Section 08 71 00 “Door Hardware” for factory-preparation.

Glazing: Refer to Section 08 80 00 “Glazing” for door and sidelight vision panels.

08 14 16 FLUSH WOOD DOORS

Provide: NWWDA-standard; ANSI/WDMA I.S. 1A heavy duty. premium grade faced veneers or tempered hardboard where painted, solid stave-lumber core doors; shop fitted for hardware, for installation in hollow metal and wood frames; rated where code-required; low-VOC adhesives and non-urea-formaldehyde substrate.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Certified Wood.

EQ Credit 2 - Low-Emitting Materials, Composite Wood Installed Within the Building Interior.

Quality Assurance:

Forest Certification: Provide wood products made from forests certified by an FSC-accredited certification body.

All Non-FSC Wood in Assemblies with FSC-Certified Wood: Meet FSC Controlled Wood (CW) criteria.

Performance Requirements:

Recycled Content: Provide composite wood door cores with minimum 60 percent recycled content.

Composite Wood Installed Within the Building Interior: Comply with California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM), Phase II for ultra-low-emitting formaldehyde (ULEF) resins or containing no formaldehyde resins.

Wood Veneer Species: Manufacturer-standard hardwood veneer as selected by Architect.

Coordinate with Section 08 71 00 “Door Hardware” for factory-preparation.

Glazing: Refer to Section 08 80 00 “Glazing” for door vision panels.

08 31 13 ACCESS DOORS AND FRAMES

Provide: NFPA-standard vertical access doors at walls; ASTM-standard horizontal access doors at ceilings; UL-rated and non-rated; Keyable to Owner standard.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

At Interior Gypsum Board Walls, Ceilings and Soffits: Provide 1-inch flanged, primed steel doors and frames. Recessed/ concealed at public space walls/ ceilings.

At Exterior Locations and at Ceramic Tiled Walls: Stainless steel type 304 with #4 finish. Concealed, recessed door face for tile where requested or indicated.

08 33 13 COILING COUNTER DOORS

Counter Door: Coiling counter door formed with curtain of interlocking metal slats.

Door Curtain Material: Prefinished galvanized steel, polished stainless steel or prefinished aluminum.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design coiling counter doors.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Fire-Rated Door Assemblies: Complying with NFPA 80; tested according to NFPA 252 or UL 10B.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

08 33 23 OVERHEAD COILING DOORS

Counter Door: Coiling counter door formed with curtain of interlocking metal slats; double-wall insulated construction where indicated at air-conditioned spaces.

Door Curtain Material: Prefinished galvanized steel, polished stainless steel or prefinished aluminum.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design overhead coiling doors.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Fire-Rated Door Assemblies: Complying with NFPA 80; tested according to NFPA 252 or UL 10B.

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Thremal Performance: R-Value 4.5 deg F x h x sq. ft./Btu minimum.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", [the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

08 33 26 OVERHEAD COILING GRILLES

Provide: Motorized, overhead coiling, full-height and countertop security grilles as indicated with an open curtain having a network of horizontal rods that interconnect with vertical links, bottom bar, jamb guides, hood and locking devices.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design overhead coiling grilles.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

08 33 44 OVERHEAD COILING FIRE CURTAINS

Provide: Motorized, overhead coiling, alarm-activated fire- and smoke-protective curtain assemblies restrained by curtain guides at each jamb of an opening.

Operation: Motorized automatic operation with controlled descent.

Automatic-Closing Device: Equip each fire-rated door with an automatic-closing device or holder-release mechanism and governor unit complying with UL 325 and NFPA 80.

Push-to-Exit Button: Button briefly opens curtain to allow emergency egress and automatically recloses curtain after a set period of time.

Curtain: Manufacturer's standard multilayer glass-fiber fabric woven with stainless steel wires and coated on one or both sides; with fabric egress slot, outlined by stenciling.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design overhead coiling fire curtains.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Fire-Protective Curtain Assemblies: Complying with NFPA 80; listed and labeled by qualified testing agency, for fire-protection ratings indicated, based on testing at as close to neutral pressure as possible in accordance with UL 10D.

Fire-Resistance Ratings: Comply with ASTM E119 (without hose stream test); testing by a qualified testing agency.

Smoke Containment: Assemblies complying with UL 1784 for air leakage.

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

08 41 13 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

Interior, non-thermally broken and exterior thermally broken systems; provide delegated-designed engineered.

Provide: SEI/ASCE 7, ASTM E330, ASTM E283, AAMA 501.1, ASTM E90, and ASTM E1332 compliant.

Provide Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design aluminum-framed entrances and storefronts.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Performance Requirements:

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide aluminum with recycled content.

Regional Materials: If available, provide materials and products manufactured and containing recycled raw materials recovered within 100 mile radius of Project Site.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Manufacturer standard hardware; factory-prepared for additional door and security hardware requirements.

Coordinate with Section 08 71 00 “Door Hardware” for non-manufacturer-provided door hardware and access control devices.

Glazing: Refer to Section 08 80 00 “Glazing” for glazing types.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Testing: Three tests, at 10, 50 and 75 percent completion, prior to exterior cladding installation. No evidence of water penetration through fixed glazing and framing areas when tested per ASTM E331 to 15 psf; dynamic and static pressure.

08 42 26 ALL-GLASS ENTRANCES

Exterior, manual-swinging, all-glass entrance systems integrated into glazed aluminum curtain walls; provide delegated-designed engineered.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design all-glass entrances.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Performance Requirements:

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Operation: Exterior doors must be self-closing.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Manufacturer standard hardware; factory-prepared for additional door and security hardware requirements.

Coordinate with Section 08 71 00 “Door Hardware” for non-manufacturer-provided door hardware and access control devices.

Glazing: Refer to Section 08 80 00 “Glazing” for glazing types.

08 42 29 AUTOMATIC ENTRANCES

Provide: Exterior, sliding, power-operated automatic entrances.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design automatic entrances.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Performance Requirements:

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Electrical Components, Devices, and Accessories: Listed and labeled per NFPA 70.

Meeting Power-Operated Door Standard: BHMA A156.10.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Manufacturer standard hardware; factory-prepared for additional door and security hardware requirements.

Coordinate with Section 08 71 00 “Door Hardware” for non-manufacturer-provided door hardware and access control devices.

Glazing: Refer to Section 08 80 00 “Glazing” for glazing types.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

08 42 33 REVOLVING DOOR ENTRANCES

Provide: Exterior, automatic revolving door entrances:

Manufacturer’s standard three- or four-wing automatic revolving door entrance and accessories required for a complete installation.

Power Operation: Drive unit will provide adequate force, for no touch, sensor operation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design revolving door entrances.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Air Leakage: Maximum air leakage through fixed glazing and framing areas of 1.25 cfm/sq. ft. of fixed entrance system area when tested in accordance with ASTM E283 at a minimum static-air-pressure differential of 1.57 lbf/sq. ft.

Electrical Components, Devices, and Accessories: Listed and labeled per NFPA 70.

Meeting Revolving Door Entrance Standard: ANSI/BHMA A156.27.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Manufacturer standard hardware; factory-prepared for additional door and security hardware requirements.

Glazing: Refer to Section 08 80 00 “Glazing” for glazing types.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

08 44 13 GLAZED ALUMINUM CURTAIN WALLS

Provide: 4-sided captured, front glazed aluminum curtainwalls. SEI/ASCE 7, ASTM E330, ASTM E283, AAMA 501.1, ASTM E90, and ASTM E 1332 compliant.

Provide Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design glazed aluminum curtain walls.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Optimize window-to-wall ratio (WWR) to reduce percent of envelope which is vulnerable to solar heat gain as well as to improve effectiveness of external shades. Reduce WWR as much as possible while achieving daylighting, views and aesthetic design goals.

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide aluminum with recycled content.

Regional Materials: If available, provide materials and products manufactured and containing recycled raw materials recovered within 100 mile radius of Project Site.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Glazing: Refer to Section 08 80 00 “Glazing” for glazing types.

Solar Shading Devices: As per building design intent.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Testing: Three tests, at 10, 50 and 75 percent completion, prior to exterior cladding installation. No evidence of water penetration through fixed glazing and framing areas when tested per ASTM E331 to 15 psf; dynamic and static pressure.

08 44 23 FIRE-RATED WINDOW WALL AND DOORS

Provide: Fire-rated storefront and fire-rated glazing meeting assembly ratings required.

Fire-rated glass shall be clear and wireless glazing material with intumescent interlayer and listed for use in impact safety-rated locations.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design aluminum-framed entrances and storefronts.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Fire Rating Requirements: System and components shall provide a fire rating for durations required ranging from 45 minutes to 2 hours with required hose stream test.

Recycled Content: Provide aluminum with recycled content.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Manufacturer standard hardware; factory-prepared for additional door and security hardware requirements.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

08 44 29 GLASS CANOPIES

Provide: 4-sided structural sealant glazed aluminum canopy system supported by structural steel frames.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design glazed canopy system.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide aluminum with recycled content.

Regional Materials: If available, provide materials and products manufactured and containing recycled raw materials recovered within 100 mile radius of Project Site.

Glazing: Refer to Section 08 80 00 “Glazing” for glazing types.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

08 63 00 METAL-FRAMED SKYLIGHTS

Provide: 4-sided captured, top glazed aluminum skylight assemblies supported by aluminum framing.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design metal-framed skylights.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide aluminum with recycled content.

Regional Materials: If available, provide materials and products manufactured and containing recycled raw materials recovered within 100 mile radius of Project Site.

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Glazing: Refer to Section 08 80 00 "Glazing" for glazing types.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

Testing: Three tests, at 10, 50 and 75 percent completion, prior to exterior cladding installation. No evidence of water penetration through fixed glazing and framing areas when tested per ASTM E331 to 6.24 psf; dynamic and static pressure.

08 71 00 DOOR HARDWARE

Provide: Door and Hardware Institute (DHI)-standard; As determined by Owner standards and requirements; Includes all standard door hardware, ADA-operators; coordination with Security and Fire Alarm systems; Owner standard; UL-rated and non-rated; Keyable to Owner standard. Fully-gasketed and auto-bottom at all rated doors.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 4 - BPDO, Material Ingredients.

Door Hardware Sets: Hardware set number, part numbers, manufacturers, finishes, and special notes.

08 71 00.01 DOOR HARDWARE INDEX

Appendix to Section 08 71 00 "Door Hardware" providing coordination between door numbers and required door hardware sets.

08 71 00.02 DOOR HARDWARE SETS

Appendix to Section 08 71 00 "Door Hardware" providing detailed door hardware set components and requirements, including set number, part numbers, manufacturers, finishes, and special notes.

08 80 00 GLAZING

Provide safety glazing of fully tempered, heat-strengthened or laminated type where required by code and ANSI Z97.1.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Sealants.

EQ Credit 7 – Daylight, Exterior Glazing.

Performance Requirements:

Interior Wet-Applied Sealants and Primers: Comply with low-emitting requirements to meet sustainability targets.

Visible Light Transmittance: 55 percent minimum.

Exterior Glazing: High-performance, low-emissivity (low-e) sputter deposition-coated glazing, insulated glazing units (IGUs); tempered where required by code and ANSI Z97.1.

Exterior Insulated Glazing Units (IGUs): Exterior glazing; 1-inch IGUs with 1/4-inch heat-strengthened ultraclear low-iron glass outer lite with low emissivity (low-E) coating on #2 surface; 1/2-inch space; 1/4-inch fully tempered ultraclear low-iron glass inner lite.

Recommended Solar Heat Gain Coefficient (SHGC): 0.23 or lower.

Balance SHGC with Visual Light Transmission (VLT) to optimize daylighting, views and aesthetic design goals.

Skylight Insulated Glazing Units (IGUs): Exterior glazing; 1-inch IGUs with 1/4-inch heat-strengthened clear glass outer lite with low emissivity (low-E) coating on #2 surface; 1/2-inch space; 1/4-inch fully tempered and laminated clear glass inner lite with PVB interlayer.

Interior glazing: 1/4-inch clear; 1/4-inch clear with translucent acid-etched treatment, or 1/4-inch clear with patterned/ fritted treatment, where indicated.

Mirrors: ASTM C1048 fully tempered, mirror glazing quality; 1/4-inch clear mirror glass, ground and sealed edges.

08 91 19 FIXED LOUVERS

Provide: AAMA-standard; bidder-designed, aluminum, fixed-blade louver system; High-performance openings (min. 50 percent efficiency).

Provide 4-inch drainable blade louvers at through-wall applications.

Provide 1-inch high-efficiency louvers at applications where mulled into storefront or curtainwall.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design fixed louver assemblies.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Regional Materials: If available, provide materials and products manufactured and containing recycled raw materials recovered within 100 mile radius of Project Site.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

DIVISION 09 -- FINISHES

09 21 16 GYPSUM BOARD SHAFT WALL ASSEMBLIES

Provide: Shaft walls, with standard G60-coated CH-studs and J-runners, 1-inch moisture- and mold-resistant type X ASTM C1396 panel shaft liner; UL-rated shaft-wall assemblies.

Finish Panels: As indicated; refer to Section 09 29 00 "Gypsum Board".

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content:

Gypsum Board: Minimum 80 percent recycled content, including recycled content face paper

Light-Gauge Metal Framing: Provide framing with minimum 25 percent total recycled content, including at least 20 percent post-consumer recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Gypsum Board, Cement Board, and Insulation Installed Within the Building Interior: Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Greenguard Gold certification.

09 22 16 NON-STRUCTURAL METAL FRAMING

Non-load-bearing steel framing systems for interior partitions.

Suspension systems for interior ceilings and soffits.

Grid suspension systems for gypsum board ceilings.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

Delegated design-engineered for horizontal and sloped ceiling and soffit assemblies and for horizontal deflection of wall assemblies limited to 1/240 of the wall height for walls over 20 feet high, 1/360 of the wall height for all others, based on horizontal loading of 5 lbf/sq. ft.

Performance Requirements:

Recycled Content:

Light-Gauge Metal Framing: Provide framing with minimum 25 percent total recycled content, including at least 20 percent post-consumer recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

09 24 00 CEMENT PLASTERING

Provide: Exterior vertical (wall) and horizontal (soffit) plasterwork (stucco).

Portland Cement: ASTM C150.

Lime: ASTM C206, Type S; or ASTM C207, Type S.

Sand Aggregate: ASTM C897.

Plaster Mixes and Application: Comply with ASTM C926 for applications indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

Accessories: Comply with ASTM C1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

Finish: Manufacturer-standard three-coat fluoropolymer finish meeting AAMA 2605; containing 70 percent polyvinylidene fluoride (PVDF) resin; finish warranty period 20 years.

At storage rooms and utility rooms: Level 3 finish.

At walls perpendicular to exterior glazing and at skylight shafts: Level 5 finish.

At all other areas, walls and ceilings: Level 4 finish.

Accessories:

Aluminum Profiles: Satin anodized aluminum extruded profiles.

Acoustical Batt Insulation: Acoustical, ASTM C423 compliant. Unfaced; ASTM C665, Type I, formaldehyde-free mineral fiber blanket; friction fit to fill cavity, matching wall thickness.

09 29 00 GYPSUM BOARD

Provide: Interior gypsum board wall, soffit, and ceiling finish systems appropriate to location; Interior tile backer-board system at tile finishes; UL- or WH-rated assemblies at interiors where required. Acoustical insulation where indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives and Sealants and Thermal and Acoustic Insulation Installed Within the Building Interior.

Performance Requirements:

Recycled Content:

Gypsum Board: Minimum 80 percent recycled content, including recycled content face paper

Mineral Wool Insulation: Minimum 75 percent recycled content.

Regional Materials: If available, provide steel manufactured and containing recycled raw materials recovered within 100-mile radius of Project Site.

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Gypsum Board, Cement Board, and Insulation Installed Within the Building Interior: Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Greenguard Gold certification.

Thermal and Acoustic Insulation Installed Within the Building Interior: Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Greenguard Gold certification.

Products, Panel:

Gypsum wallboard: Type X, 5/8-inch thick.

Gypsum ceiling board: 1/2-inch sag resistant. Provide 5/8-inch type X where rating is required.

Gypsum wallboard, water-resistive; 5/8-inch thick, type X.

Tile backer board: 5/8-inch thick, cement board.

Interior Finish Levels:

At storage rooms and utility rooms: Level 3 finish.

At walls perpendicular to exterior glazing and at skylight shafts: Level 5 finish.

At all other areas, walls and ceilings: Level 4 finish.

Products, accessories:

Aluminum profiles: By Fry Reglet.

Acoustical batt insulation: Acoustical, ASTM C423 compliant. Unfaced; ASTM C665, Type I, formaldehyde-free mineral fiber blanket; friction fit to fill cavity, matching wall thickness.

09 30 00 TILING

Provide: TCNA-standard floor and wall tile systems; standard trim shapes and stone transitions; TCNA-standard thin-set, polymer-modified mortar and grout application at shower walls and floors; provide waterproofing membrane at showers; TCNA standard tiling assemblies.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives and Sealants.

Performance Requirements:

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Tile: Products as selected by Architect for floor, wall and base tile in restrooms; floor and base tile in food preparation spaces.

Mortar, Thinset; meeting ANSI A118.4.

Grout: Meeting ANSI A118.7.

Waterproof Membrane: Meeting ANSI A118.9.

Edge Transitions, Transition Strips: Satin anodized aluminum extruded profiles. Provide at all corners, exposed tile edges, and transitions to differing finishes.

09 51 13 ACOUSTICAL PANEL CEILINGS

Acoustical Panel Standard: Provide manufacturer's standard panels according to ASTM E 1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Acoustical Ceiling Panels and Thermal and Acoustic Insulation Installed Within the Building Interior.

Performance Requirements:

Recycled Content, Acoustical Ceilings: Provide acoustical ceiling panels with minimum 50 percent recycled content; provide steel with 25 percent post-consumer recycled content.

Thermal and Acoustic Insulation Installed Within the Building Interior: Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Greenguard Gold certification.

Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories according to ASTM C635/C635M and designated by type, structural classification, and finish indicated.

Extruded Aluminum Edge Trim at Clouds: Manufacturer's standard; 4 in. high vertical profile; color matching grid.

Delegated-Design Submittal: For ceilings indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Fire-Test-Response Characteristics: Provide acoustical panel ceilings that comply with ASTM E 119 or Underwriters Laboratory (UL) "Fire Resistance Directory".

09 54 26 SUSPENDED WOOD CEILINGS

Provide: Slatted wood ceiling and wall system; fixed length boards with factory attached hardware; clip rail installation; NFPA Class A or UBC Class 1 fire rating where required; provide access panels at mechanical and plumbing maintenance locations.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Certified Wood.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Acoustic Insulation Installed Within the Building Interior, and Composite Wood Installed Within the Building Interior.

Quality Assurance:

Forest Certification: Provide wood products made from forests certified by an FSC-accredited certification body.

All Non-FSC Wood in Assemblies with FSC-Certified Wood: Meet FSC Controlled Wood (CW) criteria.

Performance Requirements:

Recycled Content:

Provide steel with 25 percent post-consumer recycled content.

Mineral Wool Insulation: Minimum 75 percent recycled content.

Thermal and Acoustic Insulation Installed Within the Building Interior: Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Greenguard Gold certification.

Coordinate with ceiling systems including lighting, HVAC and fire suppression.

Suspension System: Manufacturer's recommended.

Sound Attenuation Panels: Bonded acoustical cotton panels; black color.

09 65 00 RESILIENT FLOORING

Provide as indicated:

Unbacked vinyl sheet flooring, meeting ASTM F1913.

Vinyl sheet flooring with backing, meeting ASTM F1303.

Unbacked rubber sheet flooring, meeting ASTM F1859.

Rubber sheet flooring with backing, meeting ASTM F1860.

Static Control Resilient Flooring:

Of the following types: Solid vinyl floor tile; static-control, rubber floor tile; static-control, vinyl sheet floor covering; static-control, rubber sheet floor covering.

Meeting the following requirements:

Electrical Resistance: Point-to-point and point-to-ground resistances as required, when tested in accordance with ASTM F150, ESD STM7.1, or UL 779.

Static Generation: Voltage as required per ESD STM97.2 when tested at 12 percent relative humidity with static-control footwear, or voltage as required per AATCC TM134 when tested at 20 percent relative humidity with static-control footwear.

Static Decay: 5000 to 0 V in less than 0.25 seconds when tested in accordance with FED-STD-101C, Method 4046.1.

Critical Radiant Flux: 0.45 W/sq. cm or greater when tested in accordance with ASTM E648 or NFPA 253.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers and Resilient Flooring.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Bio-Based Content, Resilient Flooring: Provide linoleum flooring with bio-based content.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Resilient Floor Coverings Institute’s (RFCI) FloorScore Certification.

Accessories:

Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.

Chemical-Bonding Compound: Manufacturer's product for chemically bonding seams.

Integral-Flash-Cove-Base Accessories: Cove strip. cap strip and corners.

Floor Polish: Manufacturer’s recommended liquid floor-polish products.

09 65 13 RESILIENT BASE AND ACCESSORIES

Provide as indicated:

Thermoset-rubber base, coved and straight, meeting ASTM F1861, Type TS, Group I.

Rubber stair accessories, including treads, risers and landings meeting ASTM F2169.

Fire-Test-Response Characteristics: As tested to ASTM E648 or NFPA 253, critical radiant flux class I, not less than 0.45 W/sq. cm.

Rubber molding accessories, including transition and reducer strips.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers.

Performance Requirements:

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Finishes: As selected by Architect.

Accessories: Manufacturer recommended trowelable leveling and patching compounds, adhesives, stair-tread nose filler, and floor polish.

09 66 23 RESINOUS MATRIX TERRAZZO FLOORING

Provide: Resinous Matrix Terrazzo Flooring systems as indicated, including miscellaneous accessories. Comply with NTMA's written recommendations for terrazzo and accessory installation. Provide one of following:

Resinous Matrix Terrazzo Flooring:

Epoxy-Resin Terrazzo Flooring:

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

09 68 00 TILE CARPETING

Modular carpet tile materials and adhesives that are compatible with existing and new cast-in-place concrete slab substrates.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers, and Resilient Flooring.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Resilient Floor Coverings Institute's (RFCI) FloorScore Certification.

Indoor Air Quality Performance: Provide manufacturers' product data for the following flooring components:

Documentation indicating compliance with testing and product requirements of Carpet and Rug Institute's (CRI's) Green Label Plus program.

09 68 23 WOVEN FLOORING

Modular and sheet woven textile composite flooring materials and adhesives that are compatible with existing and new cast-in-place concrete slab substrates. Woven wear layer of post-consumer recycled polyethylene terephthalate (PET) thermally fused to cushioned backing.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers, and Resilient Flooring.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Resilient Floor Coverings Institute's (RFCI) FloorScore Certification.

Indoor Air Quality Performance: Provide manufacturers' product data for the following flooring components:

Documentation indicating compliance with testing and product requirements of Carpet and Rug Institute's (CRI's) Green Label Plus program.

09 72 00 WALL COVERINGS

Provide as indicated:

Thermoplastic-Polyolefin Wall Covering: Meeting Wallcoverings Association's W-101; free of PVC, chlorine, plasticizers, formaldehyde, heavy metals, and halogenated fire retardants; with water-based inks and coatings and antimicrobial additives.

Textile Wall Covering: Meeting Wallcoverings Association's W-101, Type III, Heavy Duty (Polyolefin Coated).

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

09 84 33 SOUND-ABSORBING WALL UNITS

Provide shop-fabricated, sound-absorbing acoustical panel units tested for acoustical performance.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers.

Performance Requirements:

Fire-Test-Response Characteristics:

Surface-Burning Characteristics: Comply with ASTM E84 or UL 723, with Flame-Spread Index: 25 or less and Smoke-Developed Index: 450 or less.

Fire Growth Contribution: Comply with code when tested according to NFPA 265 Method B Protocol or NFPA 286.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Sound-Absorbing Wall Panel: Manufacturer's standard panel construction consisting of facing material stretched over front face of edge-framed core and bonded or attached to edges and back of frame.

Acoustical Performance: Sound absorption NRC and/ or SAA meeting project requirements.

09 84 36 SOUND-ABSORBING CEILING UNITS

Provide shop-fabricated, sound-absorbing acoustical panel units tested for acoustical performance.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers.

Performance Requirements:

Fire-Test-Response Characteristics:

Surface-Burning Characteristics: Comply with ASTM E84 or UL 723, with Flame-Spread Index: 25 or less and Smoke-Developed Index: 450 or less.

Fire Growth Contribution: Comply with code when tested according to NFPA 265 Method B Protocol or NFPA 286.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Interior Wet-Applied Adhesives, Sealants, Grouts, Grout Sealers, and Primers: Comply with low-emitting requirements to meet sustainability targets.

Prohibit Methylene chloride and perchloroethylene in sealants.

Sound-Absorbing Wall Panel: Manufacturer's standard panel construction consisting of facing material stretched over front face of edge-framed core and bonded or attached to edges and back of frame.

Acoustical Performance: Sound absorption NRC and/ or SAA meeting project requirements.

09 91 00 PAINTING

Paint finish at the following interior substrates:

Cast-in-place concrete, vertical surfaces, for paint finish.

Gypsum board.

Galvanized, factory- or shop-primed steel.

Exposed fire sprinkler system piping and hangers.

Mechanical, electrical, plumbing and related systems and items.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

Provide: Master Painters Institute (MPI) standard paint finishes; low-VOC.

Hollow metal and interior steel shall be shop -primed and two coats shop- or field-applied alkyd enamel.

Interior gypsum finishes in all spaces except restrooms shall receive primer and two-coat acrylic latex.

Interior gypsum finishes in restrooms shall receive primer and two-coat epoxy paint.

Where ceilings are open to structure, structure and exposed non-factory finish utilities and fixtures shall receive primer and two-coat alkyd enamel.

Interior wood shall receive primer and two-coat acrylic acrylic latex if indicated to be painted, otherwise clear seal.

09 96 00 HIGH-PERFORMANCE COATINGS

High-performance finish at the following exterior substrates:

Galvanized steel and hollow-metal work shall be shop-primed over galvanized coating and two coats shop- or field-applied alkyd enamel.

Non-galvanized steel shall be shop-primed and two coats shop- or field-applied alkyd enamel.

Aluminum (not anodized or otherwise coated).

High-performance finish at the following interior substrates:

Cast-in-place concrete, horizontal surfaces, for floor sealers.

Non-galvanized, unprimed steel and hollow-metal work.

Aluminum (not anodized or otherwise coated).

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Coatings.

Performance Requirements:

Interior Wet-Applied Coatings: Comply with low-emitting requirements to meet sustainability targets.

DIVISION 10 -- SPECIALTIES

10 11 00 VISUAL DISPLAY UNITS

Provide magnetic white boards and magnetic glass marker boards where indicated.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Composite Wood Installed Within the Building Interior.

Quality Assurance:

Forest Certification: Provide wood products made from forests certified by an FSC-accredited certification body.

All Non-FSC Wood in Assemblies with FSC-Certified Wood: Meet FSC Controlled Wood (CW) criteria.

10 12 00 DISPLAY CASES

Provide as indicated:

Bulletin Boards: Factory-fabricated unit of wall-mounted cabinet with tackboard panel at inside surface and operable glazed doors.

Display Cases: Factory-fabricated display case; with finished interior, operable glazed doors, and trim at edge of recessed opening.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Composite Wood Installed Within the Building Interior.

Quality Assurance:

Forest Certification: Provide wood products made from forests certified by an FSC-accredited certification body.

All Non-FSC Wood in Assemblies with FSC-Certified Wood: Meet FSC Controlled Wood (CW) criteria.

Performance Requirements:

Fire-Test-Response Characteristics:

Surface-Burning Characteristics: Comply with ASTM E84, with Flame-Spread Index: 25 or less and Smoke-Developed Index: 450 or less.

Electrical Components: Listed and labeled as defined in NFPA 70.

10 14 00 SIGNAGE

Accessibility Standard: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board’s ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for signs.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Code-Required Signage: Include allowance for signage, based on local jurisdiction requirements, Project requirements and design by signage consultant.

Room Identification Signage: Include allowance for signage, based on Owner standards, Project requirements and design by signage consultant.

Panel Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles.

10 21 13 TOILET, SHOWER AND DRESSING COMPARTMENTS

Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for toilet compartments designated as accessible.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Material as selected by Owner from the following:

Stainless steel; finish no. 4 directional polish.

Phenolic resin core, laminate-faced.

Configurations: Toilet partitions floor mounted, overhead braced; urinal screens wall-mounted continuous bracket. Heavy-duty hardware.

Style: Flat panel.

Urinal Screen: Wall mounted, in continuous rail.

Hinges: Continuous.

Stirrups: Stainless.

10 22 39 FOLDING PANEL PARTITIONS

Operable acoustical panels partition system, including panels, seals, finish facing, suspension system, operators, and accessories.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Acoustical Performance: Provide operable panel partitions tested by a qualified testing agency for the following acoustical properties according to test methods indicated:

Sound-Transmission Requirements: Operable panel partition assembly tested for laboratory sound-transmission loss performance according to ASTM E90, determined by ASTM E413, and rated for not less than the STC indicated.

Noise-Reduction Requirements: Operable panel partition assembly, identical to partition tested for STC, tested for sound-absorption performance according to ASTM C423, and rated for not less than the NRC indicated.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

10 26 00 WALL AND DOOR PROTECTION

Provide: Surface-mounted metal corner guards fabricated as one piece from formed or extruded metal with formed edges; with 90- or 135- degree turn to match wall condition.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Fiberglass Reinforced Plastic Wall Covering: 0.090-inch thick fiberglass reinforced plastic wall coverings.

Finish and Color: As selected by Architect.

Applications: Janitor room walls, trash rooms; where scheduled.

Door protection units are specified in 08 71 00 “Door Hardware.”

10 28 00 RESTROOM AND CUSTODIAL ACCESSORIES

Provide: Stainless steel #4 finish; paper towel and toilet paper dispensers, soap dispensers, sanitary napkin disposal, trash receptacles, baby changing stations, grab bars in ADA toilet stalls, utility shelf, mop and broom holder, and mop sink.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

10 41 16 EMERGENCY KEY CABINET

Provide: Emergency key box for fire department access.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

10 44 00 FIRE PROTECTION SPECIALTIES

Provide: UL-standard, semi-recessed with 1-1/2-inch square trim, factory-finished fire extinguisher cabinets; rated where required.

Extinguishers: Multi-use, dry chemical ABC, 10 lbs., or as Owner-directed.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

10 51 13 METAL LOCKERS

Provide as indicated:

Welded Athletic Lockers: Steel with baked enamel or powder-coated finish.

Locker Benches: Laminated hardwood tops, clear finished.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

10 51 43 WIRE MESH STORAGE LOCKERS

Provide: Wire mesh storage lockers, 3-tier; 42-3/4 H x 36 W x 18 D inches; set on 2-inch locking casters; powder-coat finish.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

10 56 26 MOBILE STORAGE SHELVING

Provide: Steel-case shelving consisting of full end, top, and back panels, with end panels made to receive adjustable shelves in slots or to receive clips to support adjustable shelves. Configure units for mounting on mobile carriages.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design mobile storage shelving.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Shelving Units: Provide type, configuration, style and size as indicated; manually-operated or mechanically-assisted as indicated.

10 75 16 GROUND-SET FLAGPOLES

Provide ground-set flagpoles made from aluminum or fiberglass.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design ground-set flagpoles.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Aluminum Flagpoles: Tapered flagpoles fabricated from seamless extruded tubing complying with ASTM B241, Alloy 6063.

Fiberglass Flagpoles: Tapered flagpoles fabricated from polyester resin reinforced with woven glass-fiber roving with 75 percent of glass fibers parallel to length of flagpole.

Fittings: Internal halyard, cam cleat system.

10 82 13 ROOFTOP EQUIPMENT SCREENS

Provide:

Stand-alone roof equipment screens at rooftops.

Supporting steel framework.

Roof screen accessories.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design roof equipment screens.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content and Regionally Sourced Recycled Material.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Structural Performance: Provide metal panel systems capable of withstanding design loads, based on testing according to ASTM E330.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Recycled Content: Provide aluminum with recycled content.

Regional Materials: If available, provide materials and products manufactured and containing recycled raw materials recovered within 100 mile radius of Project Site.

DIVISION 11 -- EQUIPMENT

11 11 36 ELECTRIC VEHICLE CHARGING EQUIPMENT

Passenger Car Charging: Install two (2) percent of all parking stalls with Level 2 electric charging plus six (6) percent of all parking stalls as “EV” Ready” (i.e., raceway with 208/240-volt 40-amp dedicated branch circuit for future Level 2 chargers).

Transit Bus Fleet Charging: Install at 50 percent of transit bus parking stall with electric charging plus 50 percent of all parking stalls as “EV” Ready” (i.e., raceway with dedicated branch circuit for future chargers).

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

11 12 00 PARKING CONTROL EQUIPMENT

Provide:

Automatic barrier gates and gate operators; meeting ASTM F 2200; listed and labeled according to UL 325.

Vehicle detectors, traffic controllers and car counter system with display.

Entry and exit terminals with pay station.

Central pay station.

Access control units and parking facility management software.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

11 13 19 STATIONARY LOADING DOCK EQUIPMENT

Provide: Recessed, hinged-lip-type dock levelers for permanent installation in concrete pits preformed in the edge of loading platform.

Dock bumpers.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

11 14 16 PEDESTRIAN CONTROL DEVICES

Provide: UL listed turnstile devices, controllers, and barriers.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

11 30 10 APPLIANCES

Provide UL listed appliances, with Energy Star certification where appropriate.

Refer to Equipment Narrative for schedule.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

Water Efficiency Prerequisite 2 - Indoor Water Use Reduction:

MR Credit 4 - BPDO, Material Ingredients.

EA Prerequisite 4 - Fundamental Refrigerant Management and EA Credit 6 - Enhanced Refrigerant Management:

11 40 00 FOOD SERVICE EQUIPMENT

Food service equipment forms of provision: Coordinate with Food Service Consultant.

Owner-Furnished, Owner-Installed (OFOI): Separate contract for procurement, provision, installation and connection to services. Rough-in for services shall be provided by Contractor.

Owner-Furnished, Contractor-Installed (OFCI): Separate contract for procurement and provision. Installation, rough-in of services and connection to services shall be provided by Contractor.

Coordinate installation requirements with casework and finishes.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

Water Efficiency Prerequisite 2 - Indoor Water Use Reduction:

MR Credit 4 - BPDO, Material Ingredients.

EA Prerequisite 4 - Fundamental Refrigerant Management and EA Credit 6 - Enhanced Refrigerant Management:

11 52 00 AUDIO-VISUAL EQUIPMENT

Provide: Manufacturer's standard units consisting of case, screen, motor, controls, mounting accessories, and other components necessary for a complete installation. Provide units that are listed and labeled as an assembly by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

Coordinate with Division 27 “Communications” Sections.

11 81 23 FACADE ACCESS EQUIPMENT

Provide: Components to facilitate façade maintenance and fall protection, including outrigger pedestals and outrigger equipment.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design façade maintenance and fall protection equipment.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Anchorage Design Requirement: Safety anchor design shall comply with ANSI/IWCA I-14.1, “Window Cleaning Safety” and OSHA 1910.66, Appendix C, “Personal Fall Arrest.”

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

11 82 26 FACILITY WASTE COMPACTORS

Provide: Manufacturer's standard stationary-horizontal, self-contained horizontal, compactor-container (combination-container), or vertical-type stationary compactor, complying with requirements; liquidtight; and with components, options, and accessories needed to provide a complete, functional system.

Product Standards: ANSI Z245.21 and NFPA 82.

Installation Standards: ANSI Z245.2, and ANSI Z245.21.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Odor Neutralizer (Ozone Unit) Approved Manufacturer: by Glacier LLC; www.glacierozone.com.

Coordinate with Division 21 “Fire Suppression” for provision of automatic sprinkler in hopper of each chute-fed compactor according to NFPA 82.

DIVISION 12 -- FURNISHINGS

12 21 13 HORIZONTAL LOUVER BLINDS

Provide as indicated:

Horizontal louver blinds with aluminum slats and motorized operation.

Horizontal louver blinds with aluminum slats and manual operation.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

12 22 00 CURTAINS AND DRAPES

Provide: Complete curtain and drape rigging systems, including curtains and tracks.

Curtain Track: Extruded aluminum, slotted for mounting at interval of not more than 24 inches on center, and bendable to radii indicated

Curtain Fabric: Reclaimed/ recycled felt curtains.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 4 - BPDO, Material Ingredients.

12 24 13 ROLLER WINDOW SHADES

Provide: Motor-operated roller window shades at exterior windows, single roll. See ID-series Drawings. Provide at all exterior windows.

Coordinate with Division 25 “Integrated Automation” Sections for coordination with building management systems (BMS), Division 26 “Electrical” Sections for provision of power and coordination with lighting, and Division 27 “Communications” Sections for coordinated shade, lighting and audio-visual systems.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide aluminum with recycled content.

Shade Cloth: PVC-free; 1, 3, 5 or 10 percent light transmittance as selected; pattern and color as selected by Architect.

Provide fascia and endcaps in aluminum; color selected by Architect from manufacturer's standard colors.

12 48 13 ENTRANCE FLOOR MATS AND FRAMES

Provide Recessed Floor Mats: Manufacturer's standard floor mats, installed in pre-formed slab recess.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

EQ Credit 2 - Low-Emitting Materials, Interior Wet-Applied Adhesives, Sealants, Grouts and Primers, and Resilient Flooring.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Comply with California Department of Public Health (CDPH) Standard Method V1.1-2010 or Resilient Floor Coverings Institute's (RFCI) FloorScore Certification.

Indoor Air Quality Performance: Provide manufacturers' product data for the following carpeting components:

For carpet tile, documentation indicating compliance with testing and product requirements of Carpet and Rug Institute's (CRI's) Green Label Plus program.

12 48 16 ENTRANCE FLOOR GRILLES

Provide Recessed Floor Grilles and Frames: Manufacturer's standard floor grilles with extruded members, top-surfaced tread rails, installed in pre-formed slab recess.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide aluminum with recycled content.

Provide: Extruded-aluminum tread rails 1-1/2 inches wide by 1/4-inch thick, sitting on continuous vinyl cushions. Tread inserts 1/4-inch-high, 28-oz./sq. yd. weight, level-cut, nylon-pile, fusion-bonded carpet.

12 51 00 CONTRACT FURNISHINGS

Provide: Contract furnishings as defined by Project scope, as Contractor-Furnished, Contractor-Installed (CFCI) or Owner-Furnished, Contractor-Installed (OFCI).

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Indoor Air Quality Performance: Provide manufacturers' product data and documentation indicating compliance with testing and product requirements of Greenguard Certification. Components shall pass testing according to BIFMA X7.1 standard and BIFMA e3 credit 7.6.1.

12 59 00 SYSTEMS FURNITURE

Provide: Systems furnishings as defined by Project scope, as Contractor-Furnished, Contractor-Installed (CFCI) or Owner-Furnished, Contractor-Installed (OFCI).

Coordinate with Division 26 "Electrical" Sections for provision of power and coordination with lighting.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Indoor Air Quality Performance: Provide manufacturers' product data and documentation indicating compliance with testing and product requirements of Greenguard Certification. Components shall pass testing according to BIFMA X7.1 standard and BIFMA e3 credit 7.6.1.

12 61 00 FIXED AUDIENCE SEATING

Provide: Fixed chairs with aisle and intermediate stanchions.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 2 - BPDO, Environmental Product Declarations (EPD).

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Structural Performance: Engineer, fabricate, and install seating to structural loads without exceeding allowable design working stresses of materials involved, including anchors and connection. Apply each load to produce maximum stress in each respective component of the seating unit.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Indoor Air Quality Performance: Provide manufacturers' product data and documentation indicating compliance with testing and product requirements of Greenguard Certification. Components shall pass testing according to BIFMA X7.1 standard and BIFMA e3 credit 7.6.1.

Strength and Durability Performance: Chairs and components shall pass testing according to BIFMA X5.4.

12 93 13 BICYCLE RACKS

Provide as indicated:

Bicycle Storage: Provide short-term storage for 2.5 percent of peak occupancy plus long-term storage (lockers or valet) for 5 percent of regular occupants.

Tools: Provide bike repair tools available on site.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

Performance Requirements:

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

DIVISION 13 -- SPECIAL CONSTRUCTION

13 34 23 FABRICATED CONTROL BOOTHS

Provide: Fabricated steel control booths with vision windows, operable doors, electrical power, and stand-alone mechanical HVAC.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design fabricated control booths.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Structural Performance: In accordance with ASCE/SEI 7.

Windborne-Debris Impact Resistance: Provide impact-protective overhead coiling doors that pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E1996 for Wind Zone 4.

Notice of Acceptance (NOA): Provide NOA issued by Miami-Dade County Department of Regulatory and Economic Resources (RER) Product Control Section.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Ballistic Resistance: UL Listed and labeled to Level required.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

DIVISION 14 -- CONVEYING EQUIPMENT

14 21 13 ELECTRIC TRACTION FREIGHT ELEVATORS

Provide: Large-capacity gearless, machine room-less electric traction freight elevators.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design electric traction freight elevators.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Meeting ANSI/ASME A17.1/CAN/CSA B44 - Safety Code for Elevators and Escalators.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Cab Capacity: 5,000 pounds minimum.

Cab Interior Height: 12 feet.

Cab interior finishes: Stainless steel front panels, car doors, side panels, rear panels and ceiling; resilient flooring; moving blankets and tabs at walls.

14 21 23 ELECTRIC TRACTION PASSENGER ELEVATORS

Provide: Gearless, machine room-less traction elevators; stretcher-sized.

Provide custom design elevators to serve specific groups of persons for security purposes.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design electric traction passenger elevators.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Meeting ANSI/ASME A17.1/CAN/CSA B44 - Safety Code for Elevators and Escalators.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Accessibility Standard: Comply with applicable provisions in the DOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

Cab Capacity: 3,500 to 4,000 pounds minimum.

Cab Interior Height: 9 feet.

Cab Interior Finishes: Stainless steel front panels, car doors; side panels, rear panels and ceiling as selected by Architect; flooring matching adjacent flooring at ground floor.

14 31 00 ESCALATORS

Provide: Escalators and balustrades of mullionless glass.

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design escalators.

Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Performance Requirements:

Meeting ANSI/ASME A17.1/CAN/CSA B44 - Safety Code for Elevators and Escalators.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

14 42 00 WHEELCHAIR LIFTS

Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction, and ICC A117.1.

Regulatory Requirements: ASME A18.1.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

MR Credit 3 - BPDO, Sourcing of Raw Materials, Recycled Content.

MR Credit 4 - BPDO, Material Ingredients.

Performance Requirements:

UL-listed, fire-rated, runway-enclosure door assemblies.

Electrical Components and Devices: Listed and labeled as defined in NFPA 70.

Recycled Content: Provide products with recycled content as required to meet sustainability targets.

Vertical Platform Lifts:

Number of Stops: As indicated on Drawings.

Power Supply: Electric.

Electrical Characteristics: Per project requirements.

Emergency Operation: connection to standby (emergency) power.

Runway Enclosure: Manufacturer's standard enclosure assembly:

Platform Enclosure and Door:

Extruded-aluminum frame with aluminum panels.

Ramps: Retractable.

Accessories: Fold-down seat.

DIVISION 21 -- FIRE SUPPRESSION

21 01 00 FIRE SUPPRESSION BASIC REQUIREMENTS

Code Compliance: Comply with all rules, laws, statutes, regulations, building codes, and the amendments of local, state and federal governments by the authorities having jurisdiction.

Florida Building Code: Conform in strict compliance to the current editions of Florida Building Code; Florida Plumbing Code; and the amendments to these codes which are enforced by the local authority having lawful jurisdiction.

Contractor shall provide a minimum of a two year warranty with no limitations on all equipment and materials from the date of substantial completion. Contractor shall provide extended warranties of any equipment expressed in that specific equipment specification.

21 05 00 BASIC MECHANICAL MATERIALS AND METHODS FOR FIRE PROTECTION

Fire Protection Standards:

American Society of Mechanical Engineers (ASME):

ASME B1.20.1 for threads for threaded-end valves.

ASME B16.1 for flanges on iron valves.

American Water Works Association (AWWA):

AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.

AWWA C550 - Protective Interior Coating for Valves and Hydrants.

AWWA C606 - Grooved and Shouldered Joints.

AWWA C700 - Cold-Water Meters--Displacement Type, Bronze Main Case.

ASTM International (ASTM):

ASTM A276 - Standard Specification for Stainless Steel Bars and Shapes.

ASTM A536 - Standard Specification for Ductile Iron Castings.

ASTM B16 - Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines.

ASTM B150 - Standard Specification for Aluminum Bronze Rod, Bar, and Shapes.

ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications.

FM Global: Optional standards.

Class Number 1045 Approval Standard for Waterflow Detector Check Valves.

Class Number 1112 Indicating Valves (Butterfly or Ball Type).

Class Number 1120 and 1130 Fire Service Water Control Valves (OS&Y and NRS Type Gate Valves).

NFPA: National Fire Protection Association: NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances; for valves.

National Science Foundation: NSF/ANSI 372 - Drinking Water System Components - Lead Content.

UL Listed:

UL 262 - Gate Valves for Fire-Protection Service.

UL 312 - Check Valves for Fire-Protection Service.

UL 1091 - Butterfly Valves for Fire-Protection Service.:

21 13 00 FIRE SUPPRESSION SPRINKLER SYSTEM

Furnish all material, labor, tools, equipment and supervision required for installation of a complete and new fire protection system as indicated on the project drawings and within these specifications. Include all necessary piping, sprinkler heads, test connections, valves, drains, etc.

Fire sprinkler fittings and valves including the following: Test and drain valves, auxiliary drains, corrosion monitor, floor control risers, inspectors test and drain valves, test water containment system, air venting valves, and accessories.

Testing and Inspection: Prior to filling and testing the completed system, service water supplies and environmental conditions shall be evaluated per NFPA 13 for the existence of microbes and conditions that contribute to microbiologically influenced corrosion (MIC). Where conditions are found that contribute to MIC, the sprinkler system installer shall provide system treatment by chemical injection system or other appropriate plan for mitigation.

DIVISION 22 -- PLUMBING

22 01 00 PLUMBING BASIC REQUIREMENTS

Code Compliance: Comply with all rules, laws, statutes, regulations, building codes, and the amendments of local, state and federal governments by the authorities having jurisdiction.

Florida Building Code: Conform in strict compliance to the current editions of Florida Building Code; Florida Mechanical Code; Florida Energy Efficiency Code, Florida Plumbing Code; Florida Fuel Gas Code; and the amendments to these codes which are enforced by the local authority having lawful jurisdiction.

Contractor shall provide a minimum of a two year warranty with no limitations on all equipment and materials from the date of substantial completion. Contractor shall provide extended warranties of any equipment expressed in that specific equipment specification.

22 05 00 BASIC MECHANICAL MATERIALS AND METHODS FOR PLUMBING PIPING

Plumbing Piping Standards:

American Society of Mechanical Engineers (ASME):

ASME B1.20.1 for threads for threaded-end valves.

ASME B16.1 for flanges on iron valves.

ASTM International (ASTM):

ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.

ASTM A276 - Standard Specification for Stainless Steel Bars and Shapes.

ASTM A536 - Standard Specification for Ductile Iron Castings.

ASTM B16 - Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines.

ASTM B150 - Standard Specification for Aluminum Bronze Rod, Bar, and Shapes.

ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications.

American Water Works Association (AWWA):

AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.

AWWA C550 - Protective Interior Coating for Valves and Hydrants.

AWWA C606 - Grooved and Shouldered Joints.

AWWA C700 - Cold-Water Meters--Displacement Type, Bronze Main Case.

FM Global: Optional standards.

National Science Foundation: `NSF/ANSI 372 - Drinking Water System Components - Lead Content.

UL Listed.

22 05 53 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

Provide the following as indicated: Pipe markers, stencils, valve tags, valve chart frame, and engraved acrylic plastic nameplates.

Reference: ASME (ANSI) A13.1 - Scheme for the Identification of Piping Systems.

22 12 00 POTABLE WATER STORAGE TANKS

Provide the following as indicated: Bolted FRP panel water storage tanks; flanges, piping, drains, equipment, accessories, steel footings, and concrete slabs.

Performance Requirement: Product shall be certified to the sanitary requirements of NSF 61 and NSF 372.

22 13 23 GREASE INTERCEPTORS

Provide the following as indicated: Grease interceptors (hydromechanical), solids interceptors and sampling wells.

Grease interceptor and solids interceptor products shall be supported by a ten (10) year manufacturer's warranty.

22 14 00 FACILITY STORM DRAINAGE

Provide the following as indicated: Dielectric fittings, metal roof drains, cleanouts, backwater valves, and trench drains.

References:

American Society of Mechanical Engineers (ASME):

ASME A112.6.4 - Roof, Deck, and Balcony Drains.

ASME A112.14.1 - Backwater Valves.

22 14 53 RAINWATER AND STORMWATER HARVESTING AND RECLAMATION SYSTEMS

Provide custom rainwater harvesting systems consisting of manufactured components integrated into an automated system, including: Rain harvesting delivery systems, pre-filtration systems, pre-filtration system components, post storage filtration and purifications systems, post storage filtration and purification components, delivery pumps and accessories, domestic back-up components, rainwater controllers, and storage tanks.

Design Requirements: Filter, store, and distribute harvested rainwater per American National Standards Institute (ANSI) 78: Stormwater Harvesting System Design for Direct End-Use Applications.

22 40 00 PLUMBING SPECIALTIES

Provide the following as indicated: Commercial lavatories; commercial service sinks; commercial, vitreous-china water closets; toilet seats; commercial waterless no-flush urinals; commercial showers; commercial lavatory faucets; commercial shower faucets; faucet supply fittings; sink and lavatory waste fittings; water closet flushometer valves; support fixtures.

Standards:

International Code Counsel: ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.

National Science Foundation: NSF 61 - Drinking Water System Components - Health Effects.

LEED Submittals:

Product data indicating percentages by weight of postconsumer and preconsumer recycled content, and product cost.

Product data indicating percentages by weight of postconsumer and preconsumer recycled content, and product cost

DIVISION 23 -- HEATING VENTILATING AND COOLING

23 01 00 HEATING, VENTILATING AND AIR CONDITIONING (HVAC) BASIC REQUIREMENTS

Code Compliance: Comply with all rules, laws, statutes, regulations, building codes, and the amendments of local, state and federal governments by the authorities having jurisdiction.

Florida Building Code: Conform in strict compliance to the current editions of Florida Building Code; Florida Mechanical Code; Florida Energy Efficiency Code, Florida Plumbing Code; Florida Fuel Gas Code; and the amendments to these codes which are enforced by the local authority having lawful jurisdiction.

Contractor shall provide a minimum of a two year warranty with no limitations on all equipment and materials from the date of substantial completion. Contractor shall provide extended warranties of any equipment expressed in that specific equipment specification.

23 05 53 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

Provide the following as indicated: Pipe and equipment markers, valve tags, and equipment nameplates and labels.

Reference: American Society of Mechanical Engineers (ASME): ASME/ANSI A13.1 - Scheme for the Identification of Piping Systems

23 07 13 DUCT AND PLENUM INSULATION

Provide the following as indicated:

Duct insulation to achieve a 2-hour fire-resistive ventilation duct assembly and hazardous exhaust systems.

Plenum insulation to achieve a non-combustible rating for combustible materials in an air plenum.

Duct insulation to achieve zero clearance to combustibles and a 2-hour fire-resistive rated duct enclosure on commercial kitchen grease duct exhaust systems.

Duct insulation to achieve single layer, one-hour fire-resistance rated enclosure around dryer exhaust ductwork.

Cable tray insulation to achieve an external insulation wrap around cables, trays and conduits to provide a fire rated enclosure, permitting continued operation.

Blanket insulation to achieve thermal insulation at continuous operating temperatures up to 2012 deg. F (1100 deg. C).

Blanket insulation to achieve fire protection insulation for a variety of rated assemblies on marine structures and vessels.

23 31 13 VENTILATION DUCTS

Provide the following as indicated:

HVAC ductwork, insulation, steel channel support and threaded rods, coupling systems, plenum boxes, dampers, access doors, and turning vanes.

Classified, fire-rated general ventilation duct with or without internal subducts.

Air Leakage Testing: Test in accordance with ASHRAE 90.1 and with SMACNA HVAC Air Duct Leakage Test Manual., including operation at static pressure on at least 25 percent of the total installed duct area.

23 34 00 HVAC VENTILATION FANS AND EQUIPMENT

Provide the following as indicated: Horizontal energy recovery ventilators, low profile energy recovery ventilators, hepa filtration devices, dryer exhaust duct power ventilators, makeup air systems, centrifugal inline fans, inline duct fans, exterior centrifugal fans, and wall control units.

Standards:

Air Movement and Control Association International, Inc. (AMCA).

Environmental Protection Agency (EPA): Energy Star program.

National Electrical Manufacturers Association (NEMA).

Underwriters Laboratories (UL):

UL 705 - Standard for Safety for Power Ventilators.

UL 1812 - Standard for Ducted Heat Recovery Ventilators.

Manufacturer's Warranties:

Counterflow Exchanger: Limited lifetime warranty.

Motors: Seven (7) year warranty.

Parts: Five (5) year warranty.

23 37 13 DIFFUSERS, REGISTERS, AND GRILLES

Provide the following as indicated: Linear bar grilles and frames, perforated sheet metal grilles, eggcrate grilles, curved perforated grilles and frames, round perforated grilles, and punch louvers.

DIVISION 25 -- INTEGRATED AUTOMATION

25 09 00 DIRECT DIGITAL CONTROL SYSTEM FOR HVAC

Provide the following as indicated: Building Automation System (BAS), utilizing direct digital controls, including the following:

Native BACnet-Based System: BACnet-compliant hardware and software meeting system's functional specifications.

Individual hardware layouts, interconnection drawings, and software configuration from project design data.

Detailed design for analog and binary objects, system databases, graphic displays, logs, and management reports based on control descriptions, logic drawings, configuration data, and bid documents.

Design, provide, and install equipment cabinets, panels, data communication network cables needed, and associated hardware.

Interconnecting cables between supplied cabinets, application controllers, input/output devices, operator's terminals and peripheral devices.

Manufacturer's specifications; specialists and technicians assistance for installation, startup, and commissioning; operator and technician training program; as-built documentation, operator's terminal software, diagrams, and associated project operational documentation.

BMS workstation hosting graphic files for control system. Graphics and navigation schemes for project shall match any that are on existing site/ campus; Owner

licensing and access rights for network management, maintenance and operation of BMS.

DIVISION 26 -- ELECTRICAL

26 01 00 ELECTRICAL BASIC REQUIREMENTS

Code Compliance: Comply with all rules, laws, statutes, regulations, building codes, and the amendments of local, state and federal governments by the authorities having jurisdiction.

Florida Building Code: Conform in strict compliance to the current editions of Florida Building Code; Florida Electrical Code; Florida Energy Efficiency Code, and the amendments to these codes which are enforced by the local authority having lawful jurisdiction.

Contractor shall provide a minimum of a two year warranty with no limitations on all equipment and materials from the date of substantial completion. Contractor shall provide extended warranties of any equipment expressed in that specific equipment specification.

The Electrical work for this project includes all labor, materials, equipment, fixtures, excavation, backfill and related items required to completely install, test, verify place in service and deliver to the Owner complete electrical systems in accordance with the accompanying plans and all provisions of these specifications.

26 05 23 ELECTRICAL CABLES

Provide the following as indicated: Plenum, riser and general purpose rated electrical service cables, shielded and unshielded; copper conductors only.

26 05 25 LOW-VOLTAGE CABLES

Provide the following as indicated: Plenum, riser and general purpose rated low-voltage cables, shielded and unshielded, for security, access control, video surveillance, network and IP, fire alarm, HVAC and thermostat, intelligent building system (IBS), audio-video, multimedia, and lighting.

26 05 36 CABLE TRAYS FOR ELECTRICAL SYSTEMS

Provide the following as indicated: Ladder rung, wire mesh, trough, walkable trough, and channel cable tray systems.

Standards:

National Electrical Code (NEC):

NFPA 70/ NEC, Article 100 - Definitions.

NFPA 70/ NEC, Article 392 - Cable Trays.

National Electrical Manufacturers Association (NEMA):

NEMA VE 1 - Metal Cable Tray Systems.

NEMA VE 2 - Cable Tray Installation Guidelines

Underwriters Laboratories (UL): UL Classified.

Performance Requirements/ Standards Compliance:

NFPA 70, Article 100.

NFPA 70, Article 392; provide UL Classification and Labels.

NEMA VE1/ CSA C22.2 No. 126.1, provide Certification and Labels.

American Bureau of Shipping (ABS).

26 09 33 ARCHITECTURAL LIGHTING CONTROL SYSTEM

Provide the following as indicated: Enclosures; system processors; enclosure based load control; standard dimming module; relay module; fan module; universal dimming module; DMX/DALI gateway / DMX splitter; pre-configured architectural dimming panel; emergency lighting relays; keypad stations; lighting-only relay station; low-voltage relay station (wired or wireless); low-voltage output station; contact input station (wired or wireless); window covering control ILT station; thermostat station; user touch panel interfaces; sensors; and programming software.

Design and Performance Requirements

System shall conform to requirements of NFPA 70.

System shall comply with FCC emission standards specified in part 15, sub-part J for commercial and residential application.

System shall be listed under UL sections 916 and/or 508.

Warranty: Manufacturers shall provide minimum five (5) year limited warranties on all products.

26 09 43 DISTRIBUTED DIGITAL LIGHTING CONTROL SYSTEM

Provide the following as indicated: Digital lighting and plug load controls; relay panels; and emergency lighting control.

Design and Performance Requirements

Digital Lighting Management System shall accommodate the square-footage coverage requirements for each area controlled, utilizing room controllers, digital occupancy sensors, switches, daylighting sensors and accessories that suit the required lighting and electrical system parameters.

System shall conform to requirements of NFPA 70.

System shall comply with FCC emission standards specified in part 15, sub-part J for commercial and residential application.

System shall be listed under UL sections 916 and/or 508.

Coordinate with Division 12 Section “Roller Window Shades” and Division 27 “Communications” Sections for coordinated shade, lighting and audio-visual systems.

Warranty: Manufacturers shall provide minimum five (5) year limited warranties on all products.

26 27 26 WIRING DEVICES

Provide wiring devices of the following types as indicated: Switches; straight blade, GFCI, AFCI, AFCI/GFCI, and locking receptacles; USB charger devices; floor boxes; straight blade and locking plugs and connectors; wall plates; surge protective devices; occupancy sensors; commercial dimmers; fan speed controls; electric vehicle supply equipment; copper connectors and patch panels, A/V connectors and adapters; communication wall plates and adapters; structured wiring; IEC 60309 pin and sleeve.

Standards:

ANSI/EIA/TIA 569A, Commercial Building Wiring Standard.

National Electrical Manufacturer's Association (NEMA).

NEMA 3R: Electrical Enclosures.

NEMA 5: Residential Controls.

NEMA WD-1: Current-Carrying Wiring Devices and Certain Non-Current-Carrying Wiring Devices and Supplies.

NEMA WD 6: Dimensions for Wiring Devices.

NEMA 250: Enclosures for Electrical Equipment

Underwriters Laboratory, Inc. (UL).

26 41 19 LIGHTNING PROTECTION

Provide the following as indicated: ESE lightning protection air terminals; mast, base, and supports; down conductors; and grounding terminations.

Standards:

Form ESE-1-90 - ESE Lightning Protection System, certification, verification, archiving, and system documentation.

Technical Standard US 17-102 - Installation Requirements for ESE Lightning Protection Systems, current edition.

Technical Standard NF C 17-102 - Lightning Protection, current edition.

Technical Standard UTE 17-108.

Design / Performance Requirements:

Lightning protection system shall conform to the Installation Requirements for ESE Lightning Protection Systems US 17-102.

Lightning protection mast(s) shall conform to AASHTO code and ASCE 7.

Installer Requirements: Lighting installer shall be master installer, approved by lighting manufacturers for installation and commissioning of lighting systems and controls specified.

Manufacturer's Warranty: Air terminals shall be provided with the manufacturer's five (5) year limited replacement warranty

DIVISION 27 -- COMMUNICATIONS

27 01 00 COMMUNICATIONS BASIC REQUIREMENTS

Code Compliance: Comply with all rules, laws, statutes, regulations, building codes, and the amendments of local, state and federal governments by the authorities having jurisdiction.

Florida Building Code: Conform in strict compliance to the current editions of Florida Building Code; and the amendments to these codes which are enforced by the local authority having lawful jurisdiction.

Contractor shall provide a minimum of a two year warranty with no limitations on all equipment and materials from the date of substantial completion. Contractor shall provide extended warranties of any equipment expressed in that specific equipment specification.

27 20 00 COMMUNICATION DISTRIBUTION SYSTEMS

Provide the following as indicated: Panels, enclosures, and covers; modules; patch panels; jacks; faceplates; couplers and adapters; fiber accessories; inline xDSL filters; modular plugs; patch cords; wall mount xDSL filters; contractor panel kits.

Standards:

American Council for Terminal Attachments (ACTA).

American National Standards Institute (ANSI): ANSI T1.421 - In-Line Filter for Use with Voiceband Terminal Equipment Operating on the Same Wire Pair with High Frequency (up to 12 MHz) Devices.

Electronic Industries Alliance (EIA).

Federal Communications Commission (FCC): Part 68 of the FCC rules (47 C.F.R. Part 68) - Governs the direct connection of Terminal Equipment (TE) to the Public Switched Telephone Network (PSTN), and to wireline carrier-owned facilities used to provide private line services.

ANSI/SCTE 02 - Specification for "F" Port, Female, Indoor.

Telecommunications General Requirements (GR):

GR-3123-CORE - Generic Requirements for Indoor Fiber Distribution Hubs.

GR-3125-CORE - Outdoor Fiber Distribution Hubs - new GR for FTTP.

Telecommunications Industry Association (TIA):

TIA 1096 - Telecommunications Telephone Terminal Equipment Connector Requirements for Connection of Terminal Equipment to the Telephone Network.

TIA/EIA 568-C.2 - Balanced Twisted-Pair Telecommunication Cabling and Components Standard.

TIA/EIA 569A and 569Bm Commercial Building Standard for Telecommunications Pathways and Spaces.

Underwriters Laboratories (UL):

UL-94-V0 - Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances; burning stops within 10 seconds on a vertical specimen; drips of particles allowed if they are not inflamed.

UL 1863 - Standard for Communications-Circuit Accessories.

UL 2416 - Standard for Audio/Video, Information and Communication Technology Equipment Cabinet, Enclosure and Rack Systems.

Coordinate with Division 12 Section “Roller Window Shades” and Division 26 Section “Distributed Digital Lighting Control System” for coordinated shade, lighting and audio-visual systems.

27 40 00 AUDIO VIDEO SYSTEMS

Provide electro-acoustic system as indicated.

Standards:

ASTM International (ASTM): ASTM C 423-84a- Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method).

National Electric Code (NEC).

Underwriters Laboratories (UL): UL 1480, UL 2043 - Fire Test for Heat and Visible Smoke Release for Discrete Product and Their Accessories Installed in Air-Heating Spaces

27 51 19 NETWORKED SOUND MASKING AND PAGING SYSTEM

Provide Sound masking systems and paging systems as indicated.

Standards:

Federal Communications Commission (FCC): Part 15, Subpart B, Class A - Unintentional Radiators.

IEC 60065: Standard for Audio, Video and Similar Electronic Apparatus - Safety Requirements.

RoHS: Restriction of Hazardous Substances Directive 2002/95/EC.

Underwriters Laboratories (UL):

UL 1310: Standard for Class 2 Power Units.

UL 2043: Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces; 1996

UL 6500: Standard for Audio/Video and Musical Instrument Apparatus for Household, Commercial and Similar General Use.

UL CL3P/CMP 75C: Communications cable intended for use in Class 2 or Class 3 circuits within buildings in ducts or plenums or other spaces used for environmental air.

Warranty

Provide manufacturer's warranty covering sound masking and paging system components for defects in parts or assembly for a five (5) year period from date of system startup.

DIVISION 28 -- ELECTRICAL SAFETY AND SECURITY

28 01 00 ELECTRICAL SAFETY AND SECURITY BASIC REQUIREMENTS

Code Compliance: Comply with all rules, laws, statutes, regulations, building codes, and the amendments of local, state and federal governments by the authorities having jurisdiction.

Florida Building Code: Conform in strict compliance to the current editions of Florida Building Code, and the amendments to these codes which are enforced by the local authority having lawful jurisdiction.

Contractor shall provide a minimum of a two year warranty with no limitations on all equipment and materials from the date of substantial completion. Contractor shall provide extended warranties of any equipment expressed in that specific equipment specification.

28 10 00 ACCESS CONTROL

Provide the following as indicated: Access and security management system; integrated security management system; web based modular access control system; web based access control system; visitor management system; access control readers; access control credentials; and access control cables.

Standards:

Electronic Industries Alliance (EIA):

RS232C - Interface between Data Terminal Equipment and Data Communications Equipment Employing Serial Binary Data Interchange.

RS485 - Electrical Characteristics of Generators and Receivers for use in Balanced Digital Multi-Point Systems.

Federal Communications Commission (FCC): FCC Part 68 - Connection of Terminal Equipment to the Telephone Network.

Federal Information Processing Standards (FIPS):

Advanced Encryption Standard (AES) (FIPS 197).

FIPS 201: Personal Identity Verification (PIV) of Federal Employees and Contractors.

National Fire Protection Association (NFPA): NFPA 70 - National Electrical Code.

Underwriters Laboratories (UL):

UL294 - Access Control System Units.

UL1076 - Proprietary Burglar Alarm Units and Systems.

Security Management System:

Integrated Security Management System (ISMS) shall function as an electronic access control system and shall integrate the alarm monitoring, CCTV, digital video, ID badging and database management into a single platform

FIPS Certification: The system shall support FIPS 201 certification.

28 16 00 INTRUSION DETECTION

Provide the following as indicated: Burglary/ CCTV intrusion detection system, including intrusion detection control panels and intrusion detection cables.

Standards:

Underwriters Laboratories Inc. (UL):

UL 609: Local Burglar Alarm Units and Systems.

UL 684: Local, Central Station, and Remote Station.

UL 1037: Antitheft Alarms and Devices

UL 1610: Central-Station Burglar-Alarm Units.

Federal Communications Commission (FCC):

Code of Federal Regulations Title 47: Part 15: Radio Frequency Devices.

Code of Federal Regulations Title 47: Part 68: Connection of Terminal Equipment to the Telephone Network.

DIVISION 31 -- EARTHWORK

31 10 00 SITE CLEARING

Provide: Clearing, grubbing, vegetation protection, stripping and stockpiling topsoil and rock, and disconnecting utilities.

Regulatory Requirements: Comply with OSHA, Trench Safety Act, Standard 29 C.F.R.s., Chapter XVII, Subpart P (par. 1926.650 thru 1926.653).

Excavation, filling, and backfilling for utilities complete for underground utility lines and structures as specified and as shown on the drawings.

Sidewalks and Streets: Take precautions to guard against movements, settlement, or collapse of sidewalks or street passages on site or on adjoining property.

Install shoring, including sheet piling, as may be required during excavation to protect trench banks, adjacent paving, structure, and utilities.

Existing Utilities: Protect existing utilities from movement, settlement, or other damages according to Instructions to Bidders and General Conditions.

Trench Safety Act: Provide trench safety systems at all trench excavations where workers may be exposed to moving ground or cave-ins regardless of depth of trench. All trenches more than 5 feet in depth shall comply with OSHA "Trench Safety Act."

31 20 00 EARTH MOVING

Provide: Rough grading of the Site; preparation of subgrades for slabs-on-grade, walks, pavements, turf and grasses, and plants; excavation and backfilling for buildings and structures; drainage course for concrete slabs-on-grade; subbase course for asphalt paving; excavation and backfilling for utilities.

Hand-excavate in tree- and plant-protection zones.

Field Quality Control: Special Inspector and Testing Agency; Owner engaged.

DIVISION 32 -- EXTERIOR IMPROVEMENTS

32 12 16 ASPHALT PAVING

Provide: Paving, overlays, surface treatments, asphalt curbs, asphalt traffic-calming devises, cold milling and hot mix patching.

Materials:

Subgrade: Stabilized subgrade according to the requirements of the FDOT Standard Specifications.

Limerock Base Courses: According to the requirements of the FDOT Standard Specifications.

Prime and Tack Coats for Base Courses: RC-1, MC-O or MC-1 according to requirements of the Standard Specifications.

Asphaltic Concrete: Type S asphaltic concrete, according to requirements of the FDOT Standard Specifications.

Reference Standards:

Broward County Minimum Standards and City of Hollywood.

Florida Department of Transportation (FDOT), latest edition, Standard Specifications for Road and Bridge Construction.

32 13 13 CONCRETE PAVING

Quality Assurance

Stamped Detectable Warning Installer Qualifications: Approved by manufacturer of stamped concrete paving systems.

Mockups to demonstrate surface finish, texture, and color; curing; and standard of workmanship.

Sustainability Requirements

LEED, Green Globes or as specified.

Solar reflectance index.

Recycled content.

Regional materials.

Products

Concrete, General: ACI 301 or ACI 301M.

Reinforcement:

Welded-Wire Reinforcement: Plain, epoxy-coated plain, galvanized plain, or deformed steel.

Reinforcing Bars: Deformed, epoxy-coated deformed or galvanized deformed steel.

Steel bar mats.

Joint Dowel Bars: Plain, epoxy-coated plain or galvanized plain steel.

Synthetic Fiber: Monofilament or fibrillated.

Concrete:

Portland Cement Replacement: Use fly ash, slag cement, and silica fume to reduce portland cement by 40 percent.

Portland Cement: Gray or white.

Fly ash.

Slag cement.

Blended cement.

Normal-weight aggregate.

Air-entraining admixture.

Color pigment.

Compressive Strength: As indicted in Drawings.

Field Quality Control: Testing per Contract.

32 33 00 SITE FURNISHINGS

Provide the following as indicated: Seating, tables, bicycle storage, trash receptacles, ash receptacles, planters, and bollards.

Seating and Tables: Prefinished steel and recycled plastic planks. Planks shall be 95 percent recycled content by weight; impervious to moisture and corrosion; shall not require the application of sealants or preservatives, and shall not require painting or staining throughout the product's life.

32 84 00 PLANTING IRRIGATION

Provide irrigation systems for the following; coordinate with Landscape Drawing requirements:

At-grade landscaping.

Landscaped rooftop locations; coordinate with section 07 72 73 “Vegetated Roof Systems”.

Sustainable Design Submittals: Refer to Section 01 81 13 “Sustainability Requirements”.

WE P1 and Credit, Outdoor Water Use Reduction: For irrigation system design and commissioning.

Performance Requirements:

Irrigation zone control shall be automatic operation with controller and automatic control valves.

Minimum Working Pressures: Irrigation Main Piping: 200 PSI; Circuit Piping: 200 PSI.

Aboveground Irrigation Main Piping: Schedule 40 galvanized-steel pipe with Schedule 40 malleable iron fittings.

Underground Irrigation Main Piping:

Pipe NPS 3 and Smaller: SDR 21, PVC, pressure-rated pipe; Class 200, and non-gasketed; Schedule 40, PVC pipe and socket fittings, and solvent-welded joints.

Pipe NPS 4 and Larger: SDR 21, PVC, pressure-rated pipe; Class 200 and gasketed; ductile iron fittings.

Circuit Piping:

Pipe NPS 2 and Smaller: SDR 21, PVC, pressure-rated pipe; Class 200, and non-gasketed; Schedule 40, PVC pipe and socket fittings, and solvent-welded joints.

Pipe NPS 2-1/2 and Larger: SDR 26, PVC, pressure-rated pipe; Class 160, and gasketed; ductile iron fittings.

Risers To Aboveground Sprinklers And Specialties: Schedule 40 PVC.

Valves: Aboveground, Shutoff-Duty Valves.

Throttling-Duty Valves: Automatic Control Valve.

Manufactured Units: Automatic Control Valves, Exposed, Impact-Drive Rotary Sprinklers, Pop-up, Impact-Drive Rotary Sprinklers, Surface Spray Sprinklers, Surface, Pop-up Spray Sprinklers; Boxes for Automatic Control Valves.

Authority Having Jurisdiction (AHJ) and Required Permitting: South Florida Water Management District (SFWMD) Consumptive Water Use Permit

32 91 15 SOIL PREPARATION

Provide the following materials as indicated: Topsoil; soil conditioners; planting soil mixes.

Preconstruction Testing: Preconstruction testing of existing on-site topsoil, water analysis and planting soil mixes analysis by Independent Testing Laboratory.

Regulatory Requirements

Comply with regulatory agencies for fertilizer and herbicide composition.

Plant Materials: Certified by State Department of Agriculture.

32 92 00 TURF AND GRASSES

Provide Turfgrass Sod: St. Augustinegrass 'Floratam' grass (Stenotaphrum secundatum 'Floratam'), certified. American Sod Producers Association (ASPA) Grade: Nursery Grown or Approved.

Sod shall be inspected and found free of diseases, nematodes, pests, and pest larvae, by entomologist of the local Agricultural agency. Sod shall be free of non-specified grass, nut grass or objectionable weeds. Sod shall be uniform in color.

Provide Mulches: Melaleuca mulch.

Provide Maintenance Services:

Watering: Irrigate sod areas immediately upon installation; keep sod moist during first two weeks after planting; after two weeks, supplement rainfall to produce a minimum of 2 inches per week.

Mowing: Sod shall be mowed at least one time per week or as necessary to maintain 3 inches in height; mow to 3-1/2 to 4 inches; Contractor shall maintain all grass within the project limit for a minimum of three (3) mowings within the heights specified until final Certificate of Occupancy.

Sustainable Design Submittals: Refer to Section 01 81 13 "Sustainability Requirements".

WE P1 and Credit, Outdoor Water Use Reduction: For selection of plants.

32 93 00 PLANTS

Quality Assurance:

Nursery Qualifications: Company specializing in growing and cultivating the plants with five (5) years documented experience.

Installer's Personnel Certifications: Company specializing in installing and planting the plants with five (5) years documented experience.

Tree Pruner Qualifications: Company specializing in pruning trees with proof of Arborist Certification with five (5) years documented experience and valid Broward County Tree Trimmers License.

Warranty: Provide coverage for one continuous growing season. Replace dead or unhealthy plants; replacements shall be plants of same size and species as specified, planted in the next growing season, with a new warranty commencing on date of replacement.

Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.

Ground Covers, Biennials, Perennials, and Other Plants: 12 months.

Annuals: 3 months.

Materials:

Mulches: Melaleuca mulch.

Herbicides: Post-emergence herbicide shall be applied to all weeds that have appeared within the bed lines Prior to beginning the mulching operation. The Contractor shall be responsible for the removal of all weeds appearing on the site prior to the final acceptance of the work.

Staking and Guying: The Contractor shall stake all trees and palms.

Landscape Edgings: Steel, aluminum, mow strip, or hardscape edges.

Tree Grates: Cast-iron grates with frames; rectangular.

Provide Maintenance Services:

Pruning: Provide smooth clean cut of all broken or damaged roots. Prune the tops of all new or relocated trees in compliance with standard horticultural practices.

Watering: Water all plant materials as required; provide proper conditions for plant health and growth.

Trees and Shrubs: 12 months.

Ground Cover and Other Plants: 12 months.

DIVISION 33 -- UTILITIES

Refer to Utility design requirements published elsewhere.

End of Outline Specifications

Design Criteria Package

JGCC

APPENDIX G - OUTLINE SPECIFICATIONS

SEPTEMBER 10, 2020

ZYSCOVICH
ARCHITECTS

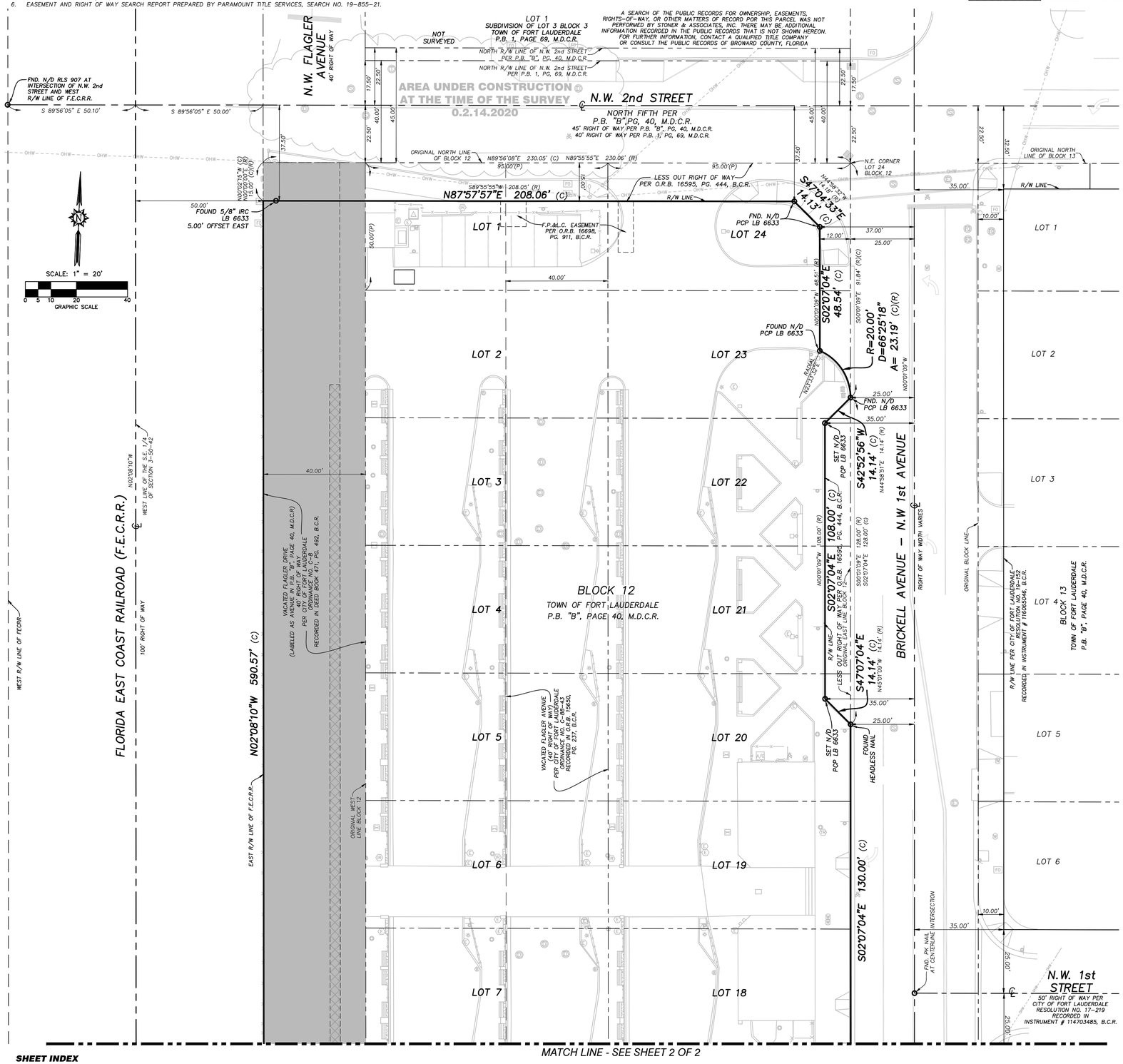
DCP

APPENDIX H
Site Survey

BOOK 3 | SEPTEMBER 14, 2020

SURVEYOR'S REFERENCES:

1. TOWN OF FORT LAUDERDALE, DADE CO. FLA. RECORDED IN PLAT BOOK "B", PAGE 40, OF THE PUBLIC RECORDS OF MIAMI–DADE COUNTY, FLORIDA.
2. TOPOGRAPHIC SURVEY OF DOWNTOWN FORT LAUDERDALE BUS TERMINAL TRANSFER PREPARED BY PBSJ JOB NO. 02–017.07, LAST REVISED 9/12/86.
3. BROWARD COUNTY PROPERTY APPRAISER'S WEB PAGE.
4. RIGHT OF WAY PER OFFICIAL RECORDS BOOK 16595, PAGE 444, BROWARD COUNTY RECORDS.
5. STONER & ASSOCIATES, INC. PROJECT NUMBER 15–8304.
6. EASEMENT AND RIGHT OF WAY SEARCH REPORT PREPARED BY PARAMOUNT TITLE SERVICES, SEARCH NO. 19–855–21.



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SHEETS 1–2 BOUNDARY SURVEY
SHEETS 3–4 TOPOGRAPHIC AND TREES SURVEY
SHEETS 5–6 STORM DRAINAGE AND SANITARY SEWER AS–BUILTS
SHEETS 7–8 UNDERGROUND UTILITIES SURVEY

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ABBREVIATIONS

M.D.C.R. . . MIAMI–DADE
B.C.R. . . . BROWARD C
O.R.B. . . . OFFICIAL RE
P.B. . . . . PLAT BOOK
PG(S). . . . PAGE(S)
LB. . . . . LICENSED BU
F.E.C.R.R. . FLORIDA EA
FND. . . . . FOUND
F.P.&L.C. . . FLORIDA PO
ID. . . . . IDENTIFICATI
PCP . . . . PERMANENT
IRC . . . . IRON ROD A
N/D . . . . NAIL AND D
N.A.V.D. 88 . NORTH AME
N.G.V.D. 29 . NATIONAL G
R/W. . . . . RIGHT OF W
℄ . . . . . CENTERLINE
(R) . . . . PER OFFICIA
(P) . . . . DATA SHOW
(C) . . . . CALCULATED
R . . . . . RADIUS
A . . . . . ARC LENGTH
D . . . . . DELTA ANGL

LEGAL DESCRIPTION:

LOTS 1 THROUGH 24, INCLUSIVE, BLOCK 12, TO
THE PUBLIC RECORDS OF MIAMI–DADE COUNTY,
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OFFICIAL RECORDS BOOK 7158, PAGE OF THE
BOOK 16595, PAGE 444 OF THE PUBLIC RECOR

SURVEY NOTES:

1. THIS SKETCH OF BOUNDARY, TOPOGRAPHIC
PRACTICE FOR SURVEYING ESTABLISHED B
PURSUANT TO SECTION 472.027, FLORIDA

2. THIS SURVEY IS NOT VALID WITHOUT THE
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3. THE LEGAL DESCRIPTION SHOWN HEREON W

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6. THE ELEVATIONS SHOWN HEREON ARE BAS
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BLVD. AND 68' EAST OF THE CENTERLINE
NO. 72, A PK NAIL IN BRASS DISC ST
BROWARD BLVD. AND NW 1st AVE., ELEV.

7. THE PROPERTY SHOWN HEREON HAS THE
a. NFIP COMMUNITY NAME & COMMUNITY
b. COUNTY NAME: BROWARD
c. STATE OF FLORIDA
d. MAP/PANEL NUMBER: 12011C / 0557
e. SUFFIX: H
f. FIRM INDEX DATE: AUGUST 18, 2014
g. FIRM PANEL EFFECTIVE/REVISED DATE:
h. FLOOD ZONE: X AND AH
i. BASE FLOOD ELEVATION: 5' FOR FLOOD

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A FOOT, PLUS OR MINUS.

11. HEDGES, GROUND COVER, AND OTHER LAN

12. IRRIGATION FEATURES, SUCH AS SPRINKLE

13. FENCES AND WALL DIMENSIONS ARE APPR

14. THE UTILITY LINES LOCATIONS SHOWN HER
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15. THE EXTERIOR BUILDING DIMENSIONS SHOW
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18. THE SURVEYOR DID NOT INSPECT THIS PRO

19. THE SANITARY SEWER AND STORM DRAINA
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20. THE INFORMATION DEPICTED ON THIS SKET
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21. THIS SKETCH OF SURVEY CANNOT BE RELI
OR DELETIONS TO THIS SURVEY AND/OR
CONSENT OF THE SIGNING PARTY OR PAR

22. THE INFORMATION CONTAINED IN THIS DOC
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ORIGINAL HARD COPY (WHICH BEARS THE
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CONCERNING THE ACCURACY OF THE INFO
ELECTRONIC MEANS. CONTACT S&A FOR

23. BROWARD COUNTY PROPERTY APPRAISER'S

CERTIFIED TO:

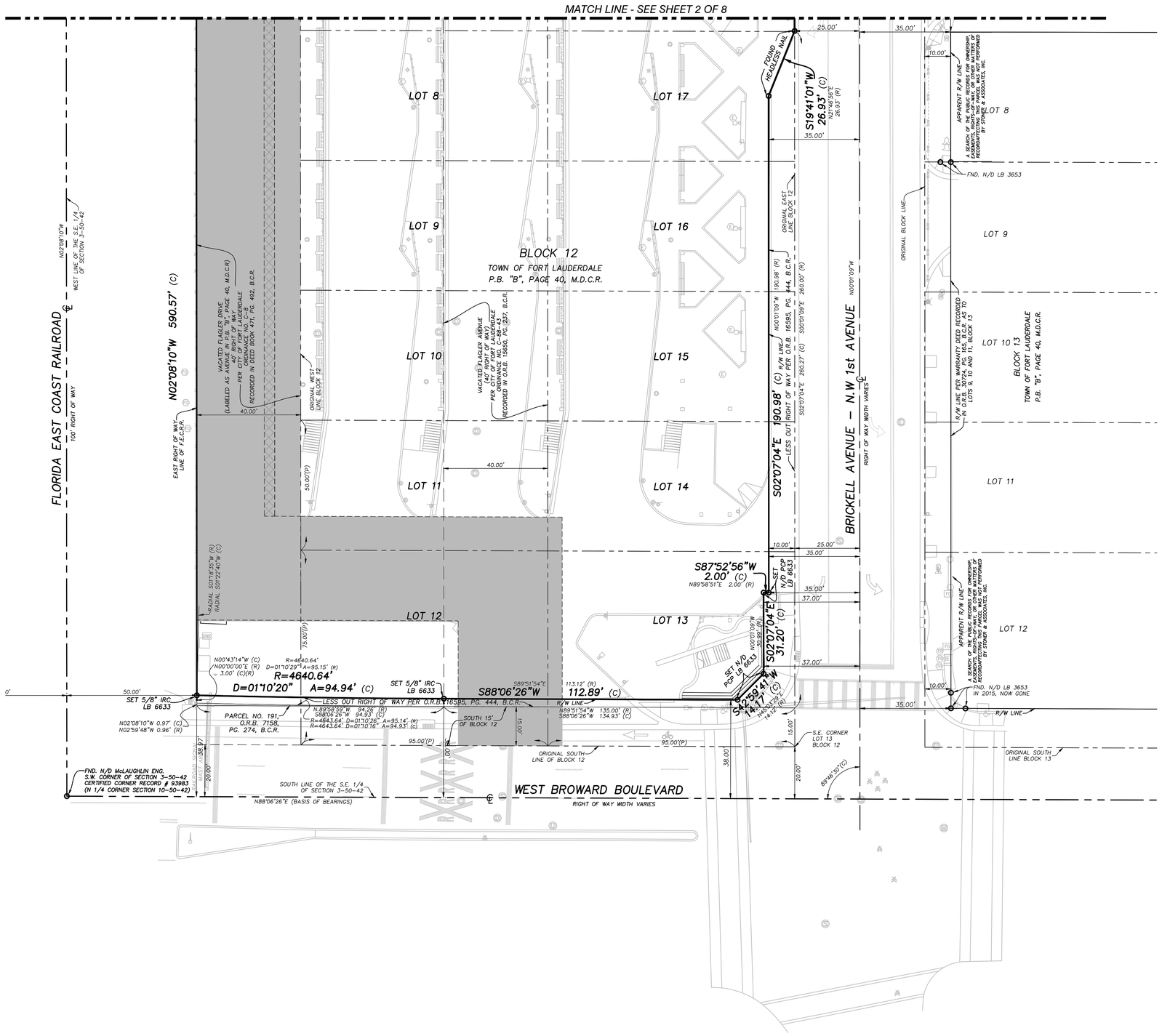
ZYSCOVICH ARCHITECTS
BROWARD COUNTY, A POLITICAL SUBDIVISION

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS SKETCH OF S
CHARGE AND IS ACCURATE AND CORRECT T
STANDARDS OF PRACTICE, ESTABLISHED BY
CODES, PURSUANT TO SECTION 472.027, FL

DATE OF SIGNATURE: 3/20/2020

WALTER DE LA ROCHA
PROFESSIONAL SURVEYOR AND MAPPER NO.
STATE OF FLORIDA
STONER AND ASSOCIATES, INC. L.B. 6633
wdelarocha@stonersurveyors.com



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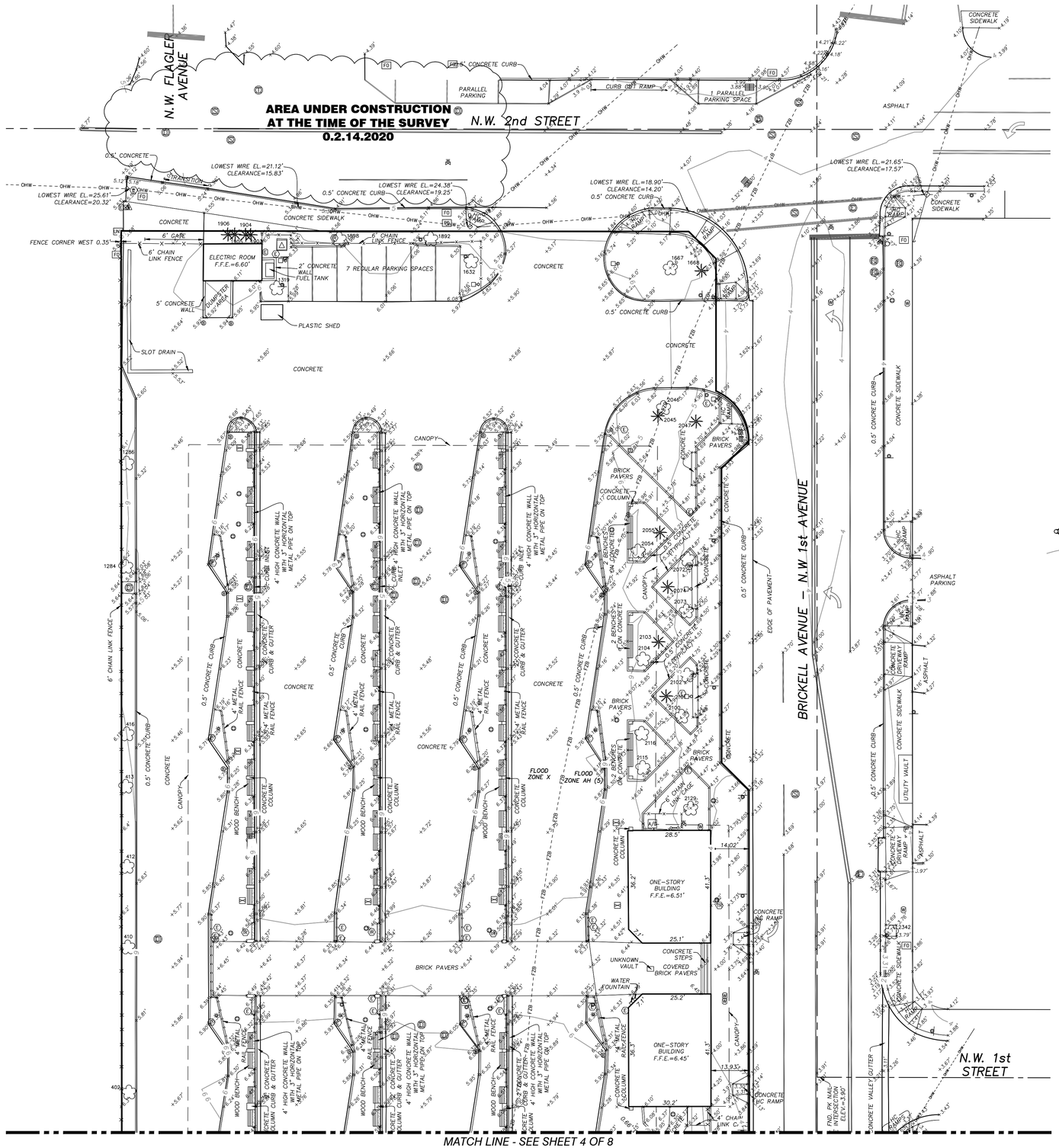

LEGEND

- ANCHOR
- VALVE ASSEMBLY
- CATCH BASIN
- CLEANOUT
- CONCRETE POWER POLE
- FLOOD LIGHT / GROUND LIG
- FLAG POLE
- METAL LIGHT POLE
- ELECTRIC METER
- STORM DRAINAGE MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- TELEPHONE – COMMUNICATI
- WATER MANHOLE
- BUS TRAFFIC LIGHT
- WATER METER
- TRANSFORMER ON CONCRETE
- TRAFFIC SIGNAL POLE
- SIGN ON POST
- PAY PHONE
- TRASH BIN
- WATER VALVE BOX
- WATER VALVE
- WOOD LIGHT POLE
- 8"X8" CENTAUR WIRE BOX
- ELECTRIC WIRE PULL BOX
- IRRIGATION VALVE BOX
- TRAFFIC WIRE PULL BOX
- FIBER OPTIC WIRE PULL BOX
- FIBER OPTIC VAULT
- UTILITY VAULT
- CONCRETE LIGHT POLE
- RAILROAD GATE
- 400 TREE NUMBER 400 (SEE TRE
- 401 PALM NUMBER 401 (SEE TRE
- +5.16 SPOT ELEVATION
- TRAFFIC SIGNAL MAST ARM
- 6 CONTOUR LINE ELEVATION 6

TREE SURVE

TREE NO.	NAME
122	WASHINGTONIA PALM
378	GUMBO LIMBO
390	OAK
402	OAK
410	GUMBO LIMBO
412	GUMBO LIMBO
413	OAK
416	OAK
429	WASHINGTONIA PALM
457	ROYAL PALM
458	ROYAL PALM
459	ROYAL PALM
460	ROYAL PALM
461	ROYAL PALM
462	GUMBO LIMBO
463	UNKNOWN
467	UNKNOWN
468	ROYAL PALM
726	ROYAL PALM
880	OAK
881	UNKNOWN
882	PALM CLUSTER
883	ROYAL PALM
884	ROYAL PALM
889	YELLOW TABEBUIA
1118	GUMBO LIMBO
1119	SILVER BUTTONWOOD
1120	UNKNOWN
1121	UNKNOWN
1125	SILVER BUTTONWOOD
1126	ROYAL PALM
1130	PALM CLUSTER
1131	SILVER BUTTONWOOD
1132	SILVER BUTTONWOOD
1148	UNKNOWN
1149	ROYAL PALM

TREE SURVEY NOTES:

1. THIS FIRM HAS IDENTIFIED THE VARIOUS TY IDENTIFICATION OF TREE SPECIES A QUALIF OR LARGER, WHEN MEASURED AT BREAST SURVEY DRAWING. EXOTIC TREES SUCH A
2. EACH TREE LOCATED HAS BEEN TAGGED W
3. CLUSTERS OF TREES ARE SHOWN GROUPED
4. THE CANOPY DIAMETER AND SPREAD ARE

SHEET INDEX

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SHEETS 5–6 STORM DRAINAGE AND SANITARY SEWER AS–BUILTS
SHEETS 7–8 UNDERGROUND UTILITIES SURVEY

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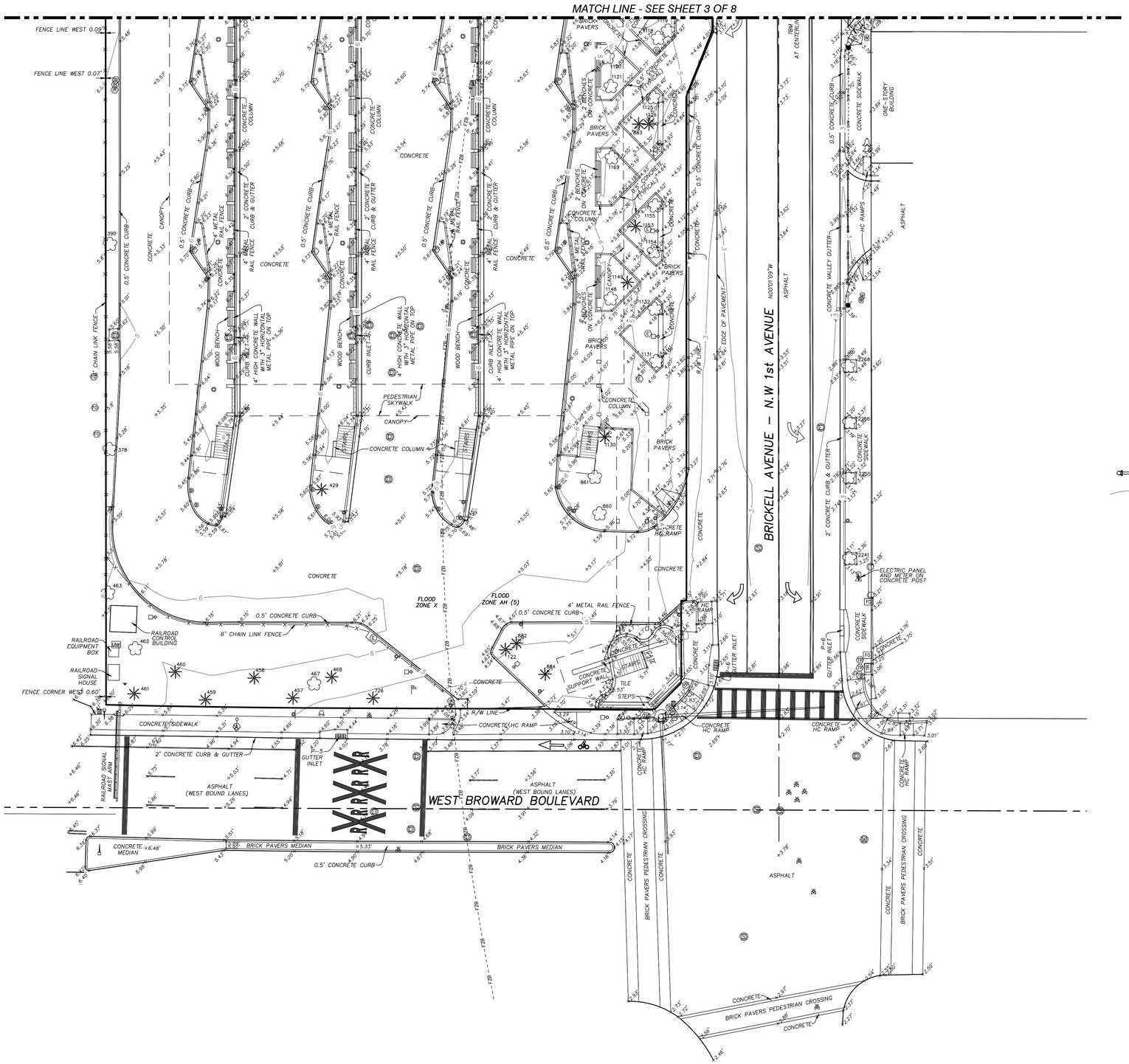

SCALE: 1" = 20'

0 5 10 20 40

GRAPHIC SCALE

LEGEND

- ANCHOR
- VALVE ASSEMBLY
- CATCH BASIN
- CLEANOUT
- CONCRETE POWER POLE
- FLOOD LIGHT / GROUND LIGHT
- FLAG POLE
- METAL LIGHT POLE
- ELECTRIC METER
- STORM DRAINAGE MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- TELEPHONE – COMMUNICATION MANHOLE
- WATER MANHOLE
- BUS TRAFFIC LIGHT
- WATER METER
- TRANSFORMER ON CONCRETE PAD
- TRAFFIC SIGNAL POLE
- SIGN ON POST
- PAY PHONE
- TRASH BIN
- WATER VALVE BOX
- WATER VALVE
- WOOD LIGHT POLE
- 8"X8" CENTAUR WIRE BOX
- ELECTRIC WIRE PULL BOX
- IRRIGATION VALVE BOX
- TRAFFIC WIRE PULL BOX
- FIBER OPTIC WIRE PULL BOX
- FIBER OPTIC VAULT
- UTILITY VAULT
- CONCRETE LIGHT POLE
- RAILROAD GATE
- 400 TREE NUMBER 400 (SEE TREE TABLE)
- 401 PALM NUMBER 401 (SEE TREE TABLE)
- +5.16 SPOT ELEVATION
- TRAFFIC SIGNAL MAST ARM
- 6 CONTOUR LINE ELEVATION 6

ABBREVIATIONS

M.D.C.R.	MIAMI–DADE COUNTY RECORDS
B.C.R.	BROWARD COUNTY RECORDS
O.R.B.	OFFICIAL RECORDS BOOK
P.B.	PLAT BOOK
PG(S).	PAGE(S)
LB.	LICENSED BUSINESS
HC	HANDICAP
EL.	ELEVATION
F.E.C.R.R.	FLORIDA EAST COAST RAILROAD
F.F.E.	FINISHED FLOOR ELEVATION
FND.	FOUND
ID.	IDENTIFICATION
POB	PERMANENT CONTROL POINT
IRC	IRON ROD AND CAP
N/D.	NAIL AND DISC
R/W.	RIGHT OF WAY
TBM.	TEMPORARY BENCHMARK
℄	CENTERLINE
(R)	PER OFFICIAL RECORDS BOOK
(P)	DATA SHOWN ON PLAT
(C)	CALCULATED
A/C	AIR CONDITIONER UNIT ON CONCRETE SLAB
R	RADIUS
A	ARC LENGTH
D	DELTA ANGLE
OHW	OVERHEAD UTILITY WIRES
FZB	FLOOD ZONE BOUNDARIES

TREE SURVEY

TREE NO.	NAME	DIAMETER
122	WASHINGTONIA PALM	14"
378	GUMBO LIMBO	8"
390	OAK	16"
402	OAK	14"
410	GUMBO LIMBO	7"
412	GUMBO LIMBO	4"
413	OAK	12"
416	OAK	14"
429	WASHINGTONIA PALM	18"
457	ROYAL PALM	18"
458	ROYAL PALM	24"
459	ROYAL PALM	18"
460	ROYAL PALM	18"
461	ROYAL PALM	16"
462	GUMBO LIMBO	20"
463	UNKNOWN	24"
467	UNKNOWN	12"
468	ROYAL PALM	18"
726	ROYAL PALM	18"
860	OAK	9"
861	UNKNOWN	8"
882	PALM CLUSTER	48"
883	ROYAL PALM	16"
884	ROYAL PALM	18"
889	YELLOW TABEBUIA	11"
1118	GUMBO LIMBO	24"
1119	SILVER BUTTONWOOD	8"
1120	UNKNOWN	10"
1121	UNKNOWN	10"
1125	SILVER BUTTONWOOD	3"
1126	ROYAL PALM	16"
1130	PALM CLUSTER	48"
1131	SILVER BUTTONWOOD	3"
1132	SILVER BUTTONWOOD	3"
1148	UNKNOWN	11"
1149	ROYAL PALM	18"

TREE SURVEY

TREE NO.	NAME	DIAMETER
1153	ROYAL PALM	17"
1154	SILVER BUTTONWOOD	3"
1155	SILVER BUTTONWOOD	3"
1169	UNKNOWN	17"
1284	OAK	15"
1286	OAK	17"
1319	OAK	16"
1632	OAK	13"
1667	OAK	17"
1668	ARECA PALM CLUSTER	60"
1892	OAK	11"
1898	OAK	9"
1903	WASHINGTONIA PALM	9"
1904	WASHINGTONIA PALM	9"
1905	WASHINGTONIA PALM	12"
1906	WASHINGTONIA PALM	12"
2045	WASHINGTONIA PALM	11"
2046	OAK	16"
2047	ARECA PALM CLUSTER	60"
2054	UNKNOWN	18"
2055	ROYAL PALM	13"
2072	SILVER BUTTONWOOD	3"
2073	SILVER BUTTONWOOD	3"
2074	ROYAL PALM	17"
2100	SILVER BUTTONWOOD	3"
2101	ROYAL PALM	16"
2102	SILVER BUTTONWOOD	3"
2103	ROYAL PALM	19"
2104	UNKNOWN	11"
2115	UNKNOWN	8"
2116	UNKNOWN	8"
2129	SILVER BUTTONWOOD	3"
2241	OAK	11"
2255	OAK	12"
2256	OAK	13"
2268	OAK	13"
2342	OAK	10"

TREE SURVEY NOTES:

1. THIS FIRM HAS IDENTIFIED THE VARIOUS TYPES OF TREES LOCATED ON THIS SITE BASED ON COMMON KNOWLEDGE OF TREE SPECIES. FOR POSITIVE IDENTIFICATION OF TREE SPECIES A QUALIFIED LANDSCAPE ARCHITECT OR BOTANIST SHOULD BE CONSULTED. TREES THREE (3") CALIPER INCHES OR LARGER, WHEN MEASURED AT BREAST HEIGHT, ARE SHOWN ON THE SURVEY DRAWING. HEDGES AND GROUND COVER ARE NOT SHOWN THE SURVEY DRAWING. EXOTIC TREES SUCH AS MELALEUCA, BRAZILIAN PEPPER, AND AUSTRALIAN PINE ARE NOT SHOWN ON THE SURVEY DRAWING.
2. EACH TREE LOCATED HAS BEEN TAGGED WITH A NUMBERED TAG THAT CORRESPONDS TO THE TREE LEGEND SHOWN HEREON.
3. CLUSTERS OF TREES ARE SHOWN GROUPED WITH AN APPROXIMATION OF THE TOTAL NUMBER OF TREES LOCATED WITHIN THE GROUP.
4. THE CANOPY DIAMETER AND SPREAD ARE NOT SHOWN HEREON, UNLESS INDICATED OTHERWISE.

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SHEETS 7–8 UNDERGROUND UTILITIES SURVEY

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NO.	REVISION	DATE	BY :
1	UPDATE SOUTH SIDE/TIE SURVEY TO STATE PLANE COORD	3/10/2020	WDLR
2	ADD STRIPING ALONG NW 2ND ST. BASED ON AERIALS	3/20/2020	WDLR

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SKETCH OF TOPOGRAPHIC SURVEY
JOINT GOVERNMENT CENTER CAMPUS
101 N.W. 1st AVENUE, FORT LAUDERDALE, FLORIDA

LAST DATE OF FIELD SURVEY: 02/10/20
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BOOK/PAGE(S): 007-69-80, MARKUPS & DATA COLLECTOR

WALTER DE LA ROCHA
PROFESSIONAL SURVEYOR AND MAPPER NO. 6081
STATE OF FLORIDA

PROJECT
20-8956

SHEET NO.
4 OF 8

DATE: Mar 20, 2020 – 3:32pm EST
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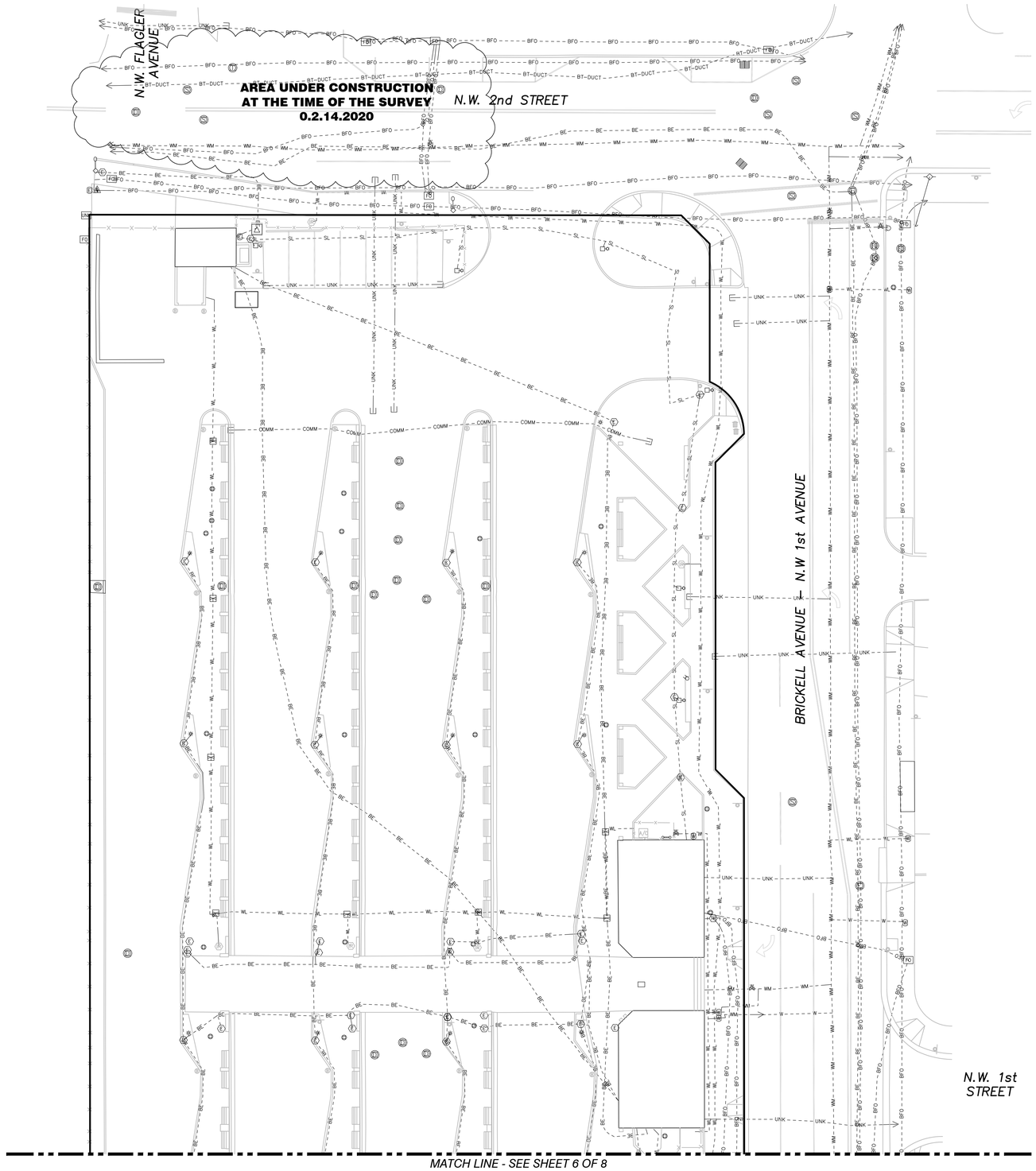

SCALE: 1" = 20'

0 5 10 20 40

GRAPHIC SCALE

LEGEND

UTILITY LINE CONTINUES
UTILITY LINE END OF SIGNAL

UNDERGROUND UTILITY LINES

— — BE — —	BURIED ELECTRIC
— — BFO — —	BURIED FIBER OPTIC
— — BT — —	BURIED TELEPHONE
— — BT-DUCT — —	BURIED TELEPHONE DUCT
— — COMM — —	COMMUNICATIONS LINE
— — GAS — —	GAS LINE
— — SL — —	STREET LIGHT
— — TS — —	TRAFFIC SIGNAL
— — UNK — —	UNKNOWN UTILITY
— — WL — —	WATER LINE
— — WM — —	WATER MAIN

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SHEETS 7-8 UNDERGROUND UTILITIES SURVEY

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SKETCH OF UNDERGROUND UTILITIES SURVEY

JOINT GOVERNMENT CENTER CAMPUS

101 N.W. 1st AVENUE, FORT LAUDERDALE, FLORIDA

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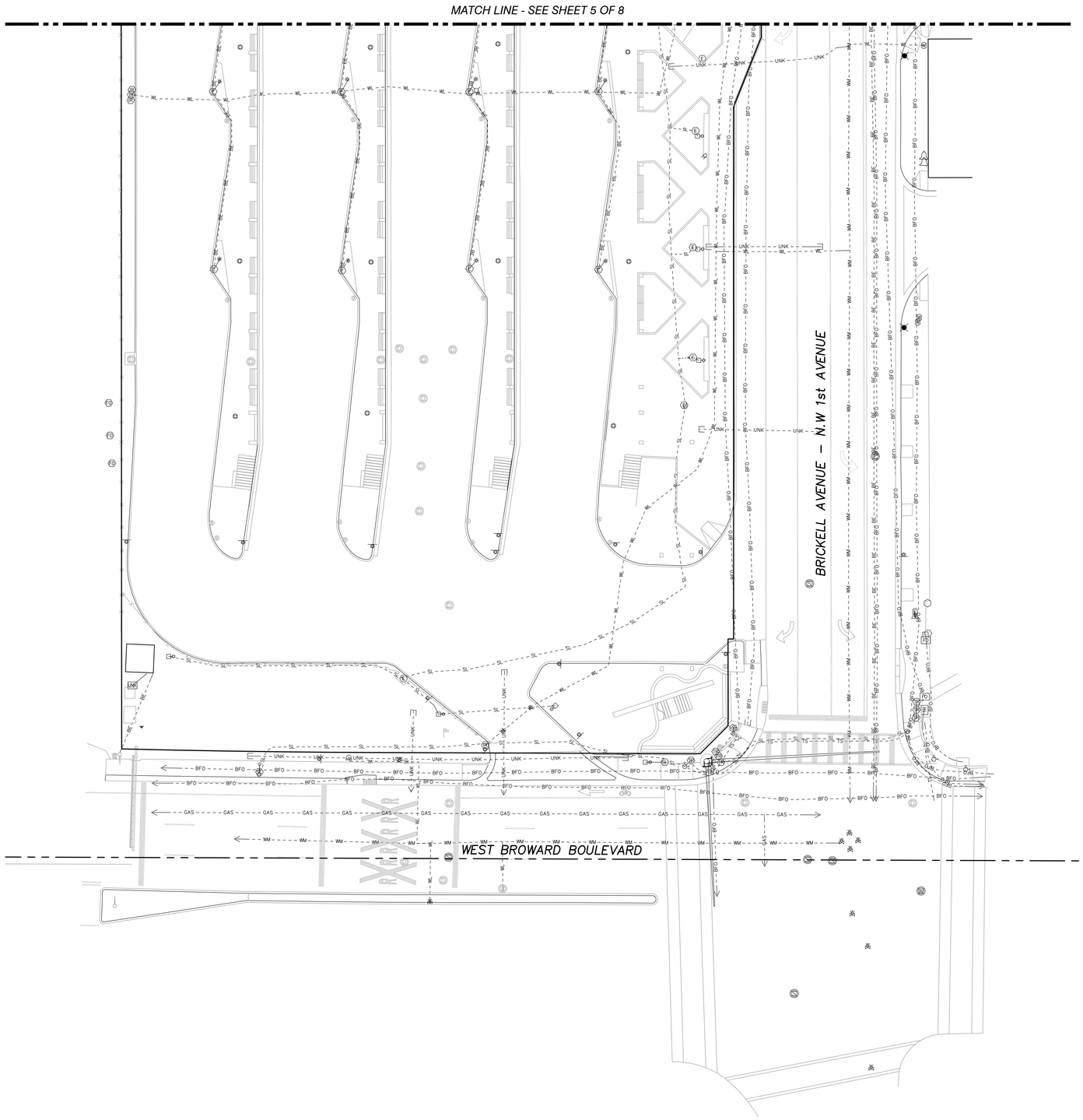

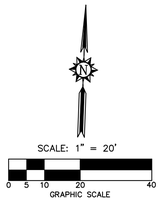

LEGEND

UTILITY LINE CONTINUES
UTILITY LINE END OF SIGNAL

UNDERGROUND UTILITY LINES

BE	BURIED ELECTRIC
BFO	BURIED FIBER OPTIC
BT	BURIED TELEPHONE
BT-DUCT	BURIED TELEPHONE DUCT
COMM	COMMUNICATIONS LINE
GAS	GAS LINE
SL	STREET LIGHT
TS	TRAFFIC SIGNAL
UNK	UNKNOWN UTILITY
WL	WATER LINE
WM	WATER MAIN

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SKETCH OF BOUNDARY, TOPOGRAPHIC UTILITY AND SPECIFIC PURPOSE (TREE) SURVEY
JOINT GOVERNMENT CAMPUS
BROWARD COUNTY
101 N.W. 1st AVENUE, FORT LAUDERDALE, FLORIDA

LAST DATE OF: 02/10/15
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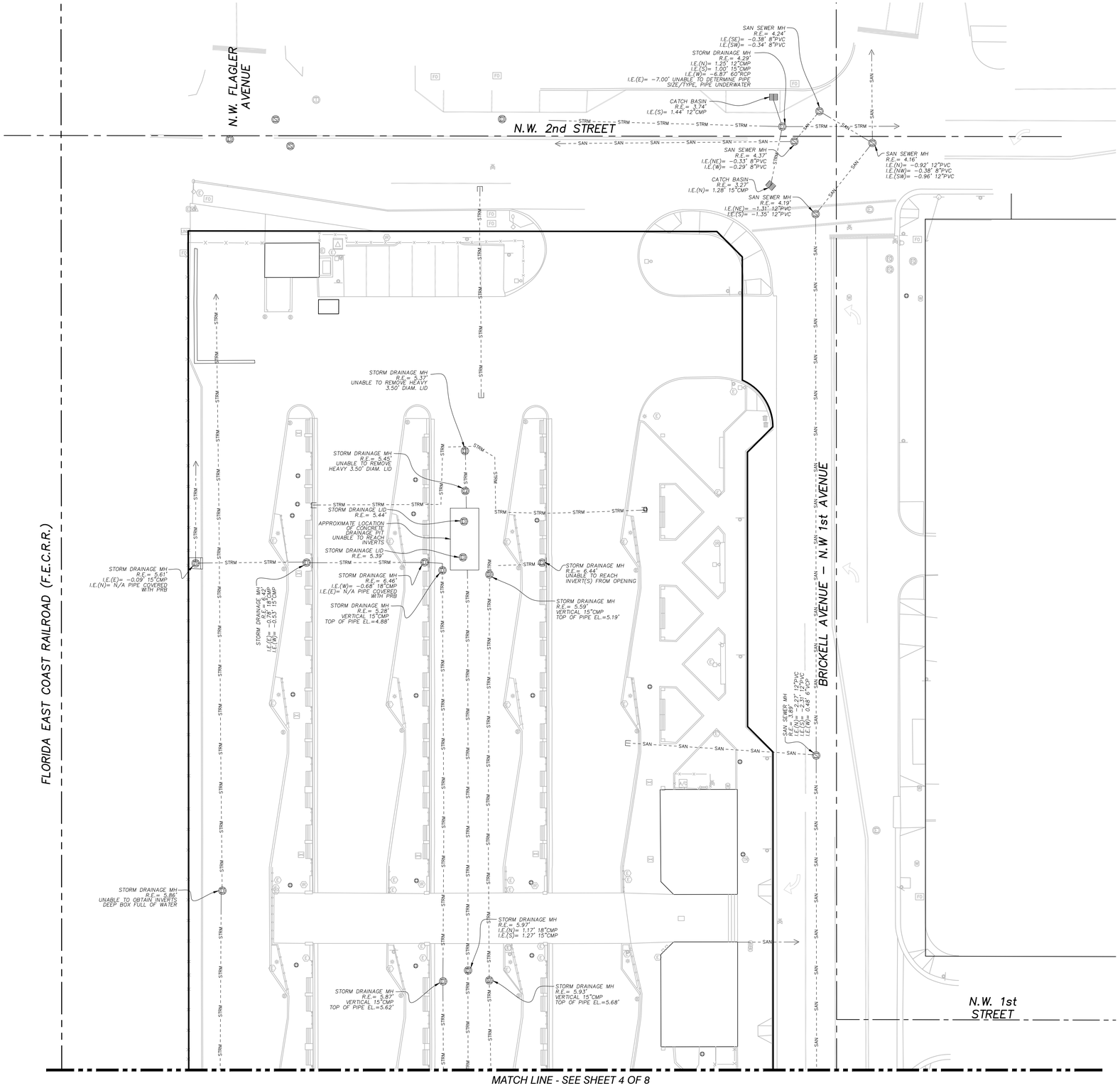

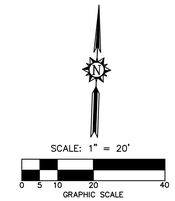

ABBREVIATIONS / LEGEND

CMP. . . .	CORRUGATED METAL PIPE
DIP	DUCTILE IRON PIPE
EL.	ELEVATION
I.E.	INVERT ELEVATION
MH	MANHOLE
N/A. . . .	NOT AVAILABLE
PVC. . . .	POLYVINYL CHLORIDE
PRB . . .	POLLUTANT RETARDANT BAFFLE
RCP. . . .	REINFORCED CONCRETE PIPE
R.E.. . . .	RIM ELEVATION
SAN	SANITARY
VCP	VITRIFIED CLAY PIPE
▷	UTILITY LINE CONTINUES
⊏	UTILITY LINE END OF SIGNAL

UTILITY LINES

——— - - SAN - - ———	SANITARY SEWER LINE
——— - - STRM - - ———	STORM DRAINAGE

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SKETCH OF STORM DRAINAGE AND SANITARY SEWER AS-BUILTS SURVEY
JOINT GOVERNMENT CENTER CAMPUS
101 N.W. 1st AVENUE, FORT LAUDERDALE, FLORIDA

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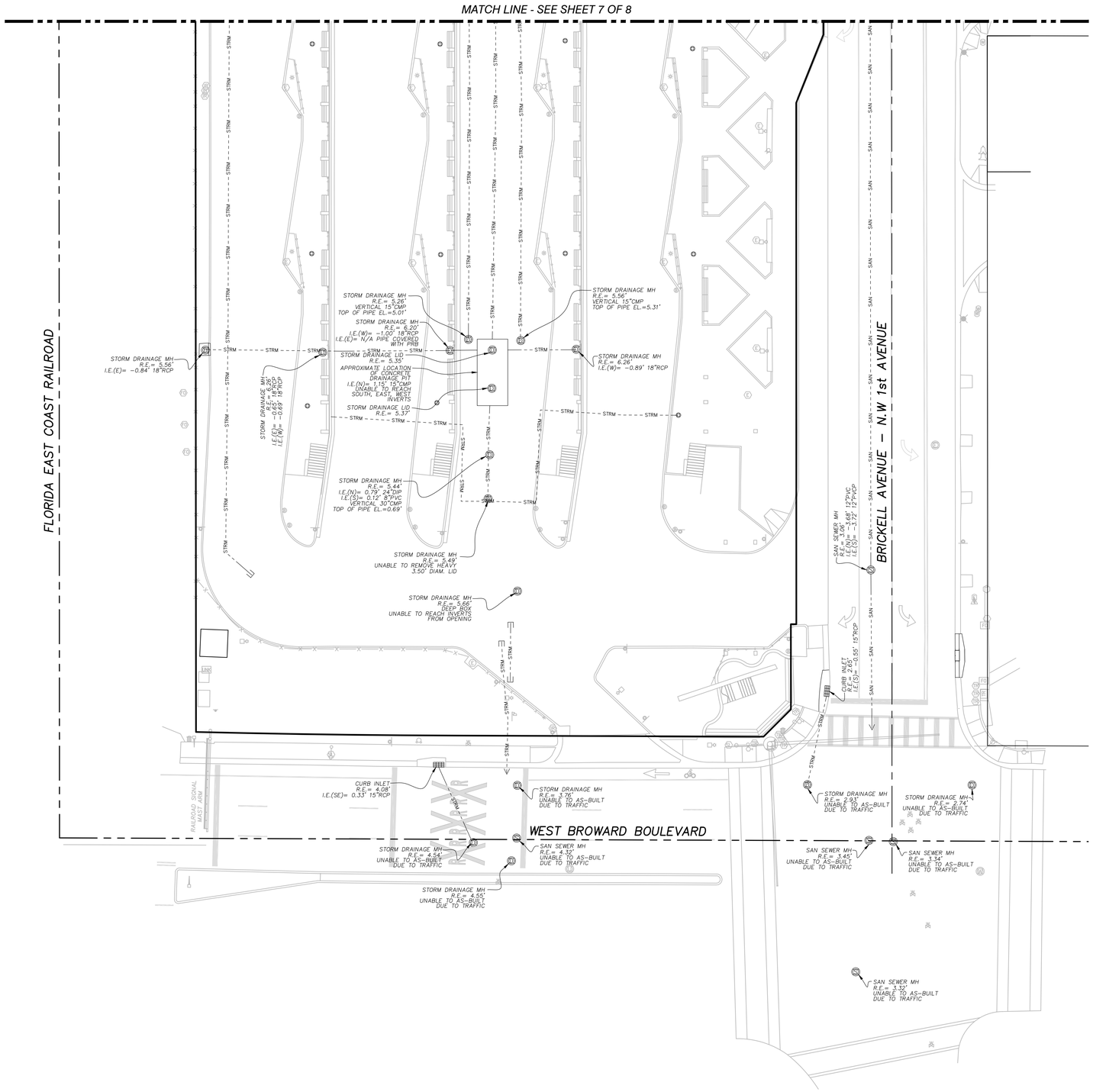

SCALE: 1" = 20'

0 5 10 20 40

GRAPHIC SCALE

ABBREVIATIONS / LEGEND

CMP. . . . CORRUGATED METAL PIPE
DIP. . . . DUCTILE IRON PIPE
EL. . . . ELEVATION
I.E. . . . INVERT ELEVATION
MH . . . . MANHOLE
N/A. . . . NOT AVAILABLE
PVC. . . . POLYVINYL CHLORIDE
PRB . . . . POLLUTANT RETARDANT BAFFLE
RCP. . . . REINFORCED CONCRETE PIPE
R.E.. . . . RIM ELEVATION
SAN . . . . SANITARY
VCP . . . . VITRIFIED CLAY PIPE
≥ . . . . UTILITY LINE CONTINUES
⊏ . . . . UTILITY LINE END OF SIGNAL

UTILITY LINES

—— - - SAN - - —— SANITARY SEWER LINE
—— - - STRM - - —— STORM DRAINAGE

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JOINT GOVERNMENT CENTER CAMPUS
101 N.W. 1st AVENUE, FORT LAUDERDALE, FLORIDA

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APPENDIX I
GeoTech Report

BOOK 3 | SEPTEMBER 14, 2020

PANGEO CONSULTANTS

REPORT OF
PRELIMINARY GEOTECHNICAL EXPLORATION

JOINT GOVERNMENT CENTER CAMPUS PROJECT
BROWARD COUNTY CENTRAL BUS TERMINAL
101 NORTHWEST 1ST AVENUE
FORT LAUDERDALE, FLORIDA 33311

FOR

ZYSCOVICH, INC
100 N. BISCAYNE BLVD. 27TH FLOOR
MIAMI, FLORIDA 33132

PREPARED BY

PAN GEO CONSULTANTS, LLC
8464 W SR 84
DAVIE, FLORIDA 33324

PROJECT NO.: ZYS0720

JULY 2020 (UPDATED SEPT 2020)

SERVICE AND SOLUTIONS
(954) 200-4019
INFO@PANGEOCONSULT.COM

PANGEO CONSULTANTS

July 16, 2020 (Updated September 9, 2020)

Mr. Bernard Zyscovich, FAIA, Partner, President, CEO
Zyscovich, Inc.
100 N. Biscayne Blvd., 27th Floor
Miami, FL 33132
Phone: (305) 372-5222
Email: bernard@zyscovich.com

Re: Report of Preliminary Geotechnical Exploration
Joint Government Center Campus Project
Broward County Central Bus Terminal
101 Northwest 1st Avenue
Fort Lauderdale, Florida 33311

Dear Mr. Zyscovich:

PAN GEO CONSULTANTS, LLC has performed a Preliminary Geotechnical Exploration at the above referenced project in accordance with our proposal and corresponding written authorization to proceed, dated December 20, 2019. Included in the report are our observations, results of our exploration, analysis, and foundation recommendations for the proposed development referred to as **Joint Government Center Campus Project.**

The purpose of this exploration was to evaluate the subsurface soil and groundwater conditions in order to provide appropriate foundation recommendations for the proposed construction and provide the information to the Project Engineers and Architects to formulate design criteria. At this time, the plans are conceptual and we understand that further design changes may occur prior to construction. Once the final design plans and structural information are available, **PAN GEO CONSULTANTS, LLC** must review the design information to determine if any additional exploration and/or any modifications in the recommendations will be required. The findings of such review will be presented in a supplemental report.

Thank you for providing us the opportunity to be a part of your team for this project. If you have any questions or require further assistance, please contact us at your convenience.

Respectfully submitted,
PAN GEO CONSULTANTS, LLC

PAUL C. CATLEDGE LICENSE No 68448 STATE OF FLORIDA PROFESSIONAL ENGINEER

Paul C. Catledge, P.E. #68448
Principal

PANGEO CONSULTANTS

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INTRODUCTION

Project Authorization

Pan Geo Consultants, LLC has conducted a geotechnical exploration per your authorization for the proposed development referred to as **Joint Government Center Campus Project** located in Fort Lauderdale, Broward County, Florida. Our work was completed in general accordance with our proposal and corresponding written authorization to proceed provided by Zyscovich, Inc. dated December 20, 2019. This report discusses limited foundation considerations for the proposed Joint Government Center Campus.

The purpose of this exploration was to obtain information concerning the subsurface conditions within the proposed footprint of the project in order to determine the most appropriate foundation system for the proposed construction. We have also provided site preparation and foundation design recommendations for support of the proposed construction and provided limited design level information to the design Engineers and Architects to formulate preliminary design criteria. The scope of services included performing field reconnaissance, review of available subsurface test data, such as the soil survey of Broward County, conducting field geotechnical explorations/exfiltration tests, and providing an engineering report.

Project Information

Preliminary project information was provided by your office. Initial plans indicate that it is proposed to construct a new 29 story building with approximately 912,485 gross square feet, a 5 story transit terminal (70,912 gsf), a 5 story Broward County Transit Administration office building (90,967 gsf), and parking garage (652,367 gsf). Associated ground floor sidewalks, driveways and parking lots will also be constructed on the property.

We have not been provided final structural loads at this time however preliminary column loads were provided by WSP, the Project Structural Engineer. The preliminary loads are on the order of approximately 9000 to 13500 kips for the tower and 3500 kips for the garage/bus terminal. It should be noted that these are preliminary estimates and actual anticipated loads, along with additional geotechnical explorations, would be required prior to provided final recommendations. As plans are finalized we should be copied in order to review the recommendations contained herein.

If any of our assumptions or understandings is not correct, if the structure differs substantially from the characterization we have provided in this report, PGC shall be notified immediately so that we may re-evaluate our analysis.

Proposed Construction Elevations

Based on surrounding structures it is estimated that ground floor grades will be approximately four feet above existing site elevations. We note that the final building pad elevation shall be determined by a professional architect, civil engineer, or other qualified party.

SITE DESCRIPTION

Site Location

The site is located in Fort Lauderdale, Broward County, Florida. The area of construction is bounded by W Broward Blvd. to the south, Brickell Ave. to the east and NW 2nd St. to the north, surrounded by various low rise commercial buildings and vacant land. A vicinity/boring location map delineating the boundaries of the subject property is presented in the Appendix of this report.

Site Characteristics and Current Conditions

Site visits performed by representatives of PGC indicate that the site is occupied by a one story, open air bus terminal and associated offices with concrete paved driveways. The site is mostly level and approximately one to two feet above surrounding grade.

SUBSURFACE EXPLORATION

Field Exploration

The exploration of subsurface conditions included the performance of Standard Penetration Test (SPT) borings, and review of the Broward County Soil Survey Map. Pan Geo Consultants, LLC has performed a total of two Standard Penetration Test (SPT) borings (ASTM D-1586) in order to evaluate the subsurface soil conditions within the footprint of the proposed structure. The borings were performed to depths of one hundred and fifty feet below the ground surface. Standard Penetration Tests were performed continuously for 10 feet at each boring with successive sampling at 5-foot intervals thereafter.

The number of successive blows (2nd and 3rd blow count) required to drive the sampler into the soil constitutes the test result commonly referred to as the "N" value. The "N" value has been empirically correlated with various soil properties and is considered to be indicative of the relative density of cohesionless soils and the consistency of cohesive soils.

Representative samples collected from the SPT borings were visually reviewed in the laboratory by a geotechnical engineer to confirm the field classifications. The samples were then classified in general accordance with industry standards.

In addition, two 'Usual Open-Hole' exfiltration tests were performed in accordance with South Florida Water Management District specifications. The exfiltration tests were completed to depths of six feet.

GENERALIZED SUBSURFACE CONDITIONS

Soil Survey Map Review

As indicated in the Broward County Soil Survey Map the complex under exploration is the Immokalee, limestone substratum-Urban land complex. About 30 to 50 percent of the complex is open land, such as lawns, vacant lots, and playgrounds; and about 40 to 70 percent is Urban land, or areas covered by sidewalks, streets, parking lots, and buildings, where the natural soil cannot be observed. The open land consists of nearly level, poorly drained Immokalee, limestone substratum, soils. Typically, the surface layer is very dark gray sand about 5 inches thick. The subsurface layer is light gray and white sand to a depth of 48 inches. The subsoil is black sand about 10 inches thick. Soft, porous limestone containing solution holes filled with sand and rock fragments is at a depth of about 58 inches. We note that the soil survey extends to a depth of six feet.

Soil/Rock Conditions

Based on the borings performed at the site, the generalized subsurface conditions consist of nine (9) main strata. All boring locations were mantled by a surface layer consisting of approximately one foot of concrete and basecourse material. Below these materials, the subsurface conditions can be summarized as follows:

Stratum 1 – Loose to Dense Sand: This stratum is present starting at an approximate depth of one foot below the existing ground surface and extends to a depth of

approximately eight feet below the existing ground surface. N-values in this stratum generally ranged from 6 to 51 blows per foot.

Stratum 2 – Soft to Medium Hard Limestone with Trace to Some Sand Lenses: This stratum is present starting at an approximate depth of eight feet below the existing ground surface and extends to an approximate depth of fifteen feet below the existing ground surface. This stratum consists of tan to brown limestone with variable fine sand lenses. N-values in this stratum generally ranged from 5 to 35 blows per foot.

Stratum 3 – Medium Dense Intermixed Sand and Limestone Lenses: A variable stratum of sand and limestone was present starting at a depth of approximately fifteen feet and terminating at approximate a depth of approximately thirty three feet. N-values in this stratum typically ranged from 6 to 31 blows per foot.

Stratum 4 – Soft to Medium Hard Limestone with Some Sand Lenses: This stratum is present starting at an approximate depth of thirty feet below the existing ground surface and extends to approximate depths of forty five to sixty feet below the existing ground surface. N-values in this stratum generally ranged from 2 to 22 blows per foot.

Stratum 5 – Medium Dense to Dense Sand and Limestone: This stratum is present starting at approximate depths of forty five to sixty feet below the existing ground surface and extends to approximate depths of fifty five to seventy feet below the existing ground surface. N-values in this stratum typically ranged from 11 to 37 blows per foot.

Stratum 6 – Medium Hard to Very Hard Limestone with Some Sand Lenses: This stratum is present starting at approximate depths of fifty five to seventy feet below the existing ground surface and extends to approximate depths of eighty feet below the existing ground surface. N-values in this stratum generally ranged from 34 to over 100 blows per foot.

Stratum 7 – Medium Dense to Dense Sand and Limestone: This stratum is present starting at approximate a depth of approximately eighty feet below the existing ground surface and extends to an approximate depth of one hundred feet below the existing ground surface. N-values in this stratum typically ranged from 27 to 44 blows per foot.

Stratum 8 – Medium Hard to Very Hard Limestone with Sand Lenses: This stratum is present starting at an approximate depth of 100 feet below the existing ground surface and

extends to approximate depths of 120 to 130 feet below the existing ground surface. N-values in this stratum typically ranged from 27 to over 100 blows per foot.

Stratum 9 – Medium Hard to Very Hard Limestone: This stratum is present starting at approximate depths of 120 to 130 feet below the existing ground surface and extends to approximate depths of 150 feet below the existing ground surface, the maximum depth explored. N-values in this stratum were typically over 100 blows per foot.

A detailed description of the soil/rock profile is presented in the test boring records provided in the Appendix. The Standard Penetration Test N-values are used to evaluate the relative density of granular soils.

Exfiltration Test Results

Two 'Usual Open-Hole' exfiltration tests were performed in accordance with South Florida Water Management District (SFWMD) specifications to depths of six feet below the existing ground surface. The tests were performed in order to determine the hydraulic conductivity of the in situ subsurface soils to evaluate drainage requirements for the project. The hydraulic conductivity values were determined to range from 2.00 x 10-4 to 7.67 x 10-4 cubic feet per second, per square foot, per foot of head. Detailed soil descriptions and flow rates are presented in the Appendix.

Groundwater Conditions

The immediate groundwater level was measured at the boring locations and exfiltration test locations at the time of drilling. The groundwater level was encountered at depths of approximately five to six feet below the existing ground surface.

The immediate depth to groundwater measurements presented in this report may not provide a reliable indication of stabilized or a more long term depth to groundwater at this site. Water table elevations can vary dramatically with time through rainfall, droughts, storm events, flood control activities, nearby surface water bodies, tidal activity, pumping and many other factors. For these reasons, this immediate depth to water data should not be relied upon alone for project design considerations.

Further information regarding stabilized groundwater elevations at the site could be developed upon specific request. Additional evaluation might include monitoring of peizomenters, survey of the project area for evidence of current groundwater elevation

influences such as wellfields, obvious construction dewatering, tidal activity, flood control canals and other surface water bodies.

PRELIMINARY EVALUATION AND RECOMENDATIONS

The recommendations reported herein are based upon the known project information at this time. Once additional design information becomes available along with discussions with all interested parties, a more detailed set of recommendations can be provided. In order to determine the best method of construction, additional geotechnical exploration and/or analysis will be required. Foundation recommendations may change dependent upon final design information provided and the results of the additional field-testing and/or analysis.

Based on the above soil/rock conditions, we present our discussions and recommendations regarding geotechnical aspects for the proposed construction.

Foundation Alternatives

It is our opinion at this time that a deep foundation system utilizing augercast piles would be most appropriate for the tower and parking garage/bus terminal. The actual alternative used for the project will depend upon structural feasibility, costs, and possibly other factors that are not presently known to PGC. It is necessary that all interested parties partake in meetings to better understand the foundation alternatives as well as being aware of the varying pros and cons for each alternative.

Two types of pile foundations are typically used in this area; driven, precast concrete piles and augercast (cast-in-place) piles. Due to the vibrations transmitted during the installation of driven piles, we recommend that an augercast pile foundation system be used to support the proposed structures. If vibrations are considered tolerable, driven, precast concrete pile design criteria can be provided. Based on our assumption of structural information, it is recommended that individual compressive pile capacities on the order of 675 tons will be needed to provide an efficient foundation system.

The proposed ground floor slabs may be constructed as a slab on grade following proper site preparation in accordance with the recommendations contained herein.

Augercast Pile Analysis

The results of our analysis indicate that structural pile capacities on the order of 675 tons may be supported on 24-inch diameter augercast piles installed to tip depths of approximately seventy five feet below the existing ground surface. We note that this depth is subject to further evaluation after completion of pile observation monitoring as outlined below. The actual depths should be expected to vary depending on the drilling conditions encountered during installation of these piles. The depths of the pile tips as recommended in this report are based on the ground surface elevations as they existed at the time the test borings were performed. The piling contractor shall submit the proposed pile design to PGC for their review and comment prior to proceeding with pile installation.

The Florida Building Code (FBC) requires that any piles designed for greater than 40 tons should be load tested in order to verify the pile capacity. Therefore, pile load testing will be required for this project as described in the FBC.

AUGERCAST PILE CAPACITIES

Pile Diameter (inches)	Depth Below Existing Ground (ft)	Allowable Compression Capacity (tons)	Allowable Tension Capacity (tons)	Minimum Grout Strength (psi) (0.25 f'c)
24	**75-77**	**675**	**400**	**8,000**

The actual tip elevation may vary (possibly shallower or deeper) depending on the drilling conditions encountered during installation of these piles. At a minimum, we require a full length #7 reinforcing steel bar utilizing centralizers be placed at the center of the pile to ensure a consistent pile of equal cross section has been constructed. Adequate pile reinforcement must be designed by the Structural Engineer to resist all anticipated axial, bending, and shear stresses.

Settlement Evaluation

Once final plans and/or loads are provided, we may analyze the foundation alternatives for estimated settlements.

Pile Installation

In order to ensure proper installation of auger-cast piles and conformance to local codes and industry standards, following recommendations must be followed and observed during the quality assurance and quality control inspection of auger-cast piles installation:

1. The piling contractor must establish an accurate method of determining the auger depth such as graduated leads with clear depth marks on at least two (2) sides of the leads.

2. The leads and auger should be checked for vertical alignment with a level in both directions by the piling contractor's foremen before starting auger, and check of same should be made during auger as well as while extracting the auger during the grout placing process. Deviations shall not be more than ¼ inch per foot from the vertical alignment and the total deviation of the head of the pile shall be no more than 3 inches from the locations shown on the final approved drawings.

3. Auger and grout each pile in an uninterrupted operation and provide grout injection equipment with grout pressure gauges, which are easily readable by the Field Engineer near the pump.

4. The sequence of pile installation shall be such that the edges of adjacent piles are kept at least six pile diameters center to center of a pile so that the grout has set at least twelve (12) hours in the recently grouted piles or as directed by the Geotechnical Engineer. The drilling equipment shall also meet these criteria to avoid compressing or shearing of the soils which may, in turn, displace or squeeze off the grout column. Evidence of disturbances may appear as a dropping in the fresh grout surface.

5. For all piles, the outlet in the bottom of the auger should be plugged while the auger is advanced into the ground. Prior to grouting, the auger may be raised up to 12 inches and the plug should be expelled by grout pressure. When this procedure is followed, the auger should be rotated to its original depth to ensure that the grout is being placed at the bottom of the augured hole. At the bottom of the augured hole, grout should be pumped until at least 15 feet of grout head is obtained and a positive return flow must be observed at the top of the pile. The auger should remain rotating when the grout is being pumped and should have positive rotation throughout the pumping process.

6. Rate of grout injection and rate of auger withdrawal from the soil should be so coordinated as to maintain at all times a positive concrete head of at least five feet above the auger tip. The auger should not be withdrawn if there is no positive return flow at the top of the pile. A continuous fluid return (first slurry, then grout) out of the top of the hole is the best indication that a pressure head is being achieved.

7. The grout take for each 5 foot increment should be at least 20 percent greater than the theoretical column of a 5 foot segment of pile or as instructed by the Field Engineer.

   If, in the opinion of the Geotechnical Engineer and / or his representative, less grout is placed than required for any 5 foot increment, the pile shall be reinstalled by rotating the auger to a depth of at least 5 foot below this level followed by controlled auger removal and grout injection.

8. The auger should not be raised such a distance or frequency which exceeds the withdrawal rate as established in the field and approved by the Geotechnical Engineer.

9. The auger should be raised by a crane equipped with a torque converter of hydraulic drive system, to permit a slow continuous steady pull, at a rate which permits the maintenance of the above specified minimum grout pressure at the auger tip and a continuous fluid return out of the top of the hole.

10. If the auger is raised erratically (up to 1 foot) during withdrawal, reinsert auger to at least 5 feet below the area of occurrence and re-grout the pile from that depth. The grout pump will continue to pump while the auger is rotated to obtain this depth. When this operation is completed, the normal pumping and raising process may continue. If the auger is raised erratically for more than one (1) foot during withdrawal, reinsert auger to the original tip elevation and re-grout the pile.

11. Immediately after pumping the pile and removing the auger, the reinforcing steel should be placed. The reinforcing steel shall proceed unobstructed to the bottom of the pile. If the reinforcing steel is unable to achieve the bottom of the drilled pile, the reinforcing should be removed from the pile and the pile should be redrilled and regrouted. The placement of the steel may be reattempted after redrilling and regrouting.

12. If a pile is not installed in general accordance with these recommendations, it will be considered a rejected pile and additional or replacement pile and / or piles should be installed as directed by the Structural Engineer.

Post Installation

1. Piles shall be periodically checked by the piling contractor to determine if the grout in the piles has settled. Grout shall be added to the top to maintain the proper elevation. Additional grout shall be added before the grout in the pile has reached its initial set. If grout in the piles has settled more than 2 ft, before grout is added, the Field Engineer will determine if the top portion of the grout in the pile should be purged.

2. Accepted piles should be cut off within ½ inch of the design cut-off elevation and the exposed dowels straightened.

GENERAL SITE DEVELOPMENT RECOMMENDATIONS

Site Preparation

The surficial organic soils, debris and roots from the clearing operations, the entire pavement section (base and sub-base) and any unsuitable soils as determined by the Geotechnical Engineer will need to be completely removed within the construction area and to a lateral distance of at least 5 feet beyond the footprint limits and potentially further based upon depth. A PGC representative should be present to observe that the stripping operations are performed as we have discussed herein.

Upon approval by the geotechnical engineer, the stripped surface (no fill added at this time) should then be thoroughly soaked with water and compacted with at least 20 overlapping passes of a vibratory compactor having a minimum dynamic force of 20 tons operated no faster than at a slow walking pace. The roller coverages should be equally

divided into two perpendicular directions. The compaction operations must be observed by a representative of PGC.

In addition, the surface should also be compacted until a density equivalent to at least 98 percent of the modified Proctor maximum dry density (ASTM D-1557) is achieved to a depth of at least 12 inches below the compacted surface.

Any structural fill needed to bring the site to construction grade may then be placed in lifts not exceeding twelve inches in loose thickness. Each lift should be thoroughly compacted until densities equivalent to at least 98 percent of the modified Proctor maximum dry density are uniformly obtained. Fill should consist of granular soil, with less than 10% passing the No. 200 sieve, free of rubble, organics (5% or less) clay, debris and other unsuitable material.

The fill should have ASTM designation (D-2487) of GP, GW, SP, or SW, with a maximum particle size of no more than 3 inches or as otherwise approved by PGC. Following site and preparation as discussed above, lightly loaded foundation areas should be excavated and the footings formed. The floor slab area should also be compacted in the same manner.

Ground Water Control

The water table was encountered at an elevation varying from five to six feet below the existing ground surface. We anticipate that groundwater control will be needed for the shear wall, elevator pits and other deep excavation areas for development of the buildings. The contractor should anticipate performing necessary dewatering measures in order to control the water table during construction.

Dewatering design should be performed by a specialist knowledgeable of local conditions. We note that this was beyond the scope of services at this stage of the project.

Excavation Requirements

Excavations of five feet or more in depth should be sloped or shored in accordance with OSHA and State of Florida requirements. Materials removed from any excavation should not be stockpiled immediately adjacent to the open excavation as this load may cause a sudden collapse of the sidewalls.

In October of 1989, as published in the Federal Registrar, Volume 54, No. 209, the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its; "Construction Standards for excavations, 29CRF part 1926, subpart P". It is mandated by this federal regulation that all excavations, whether they be utility trenches, basement excavation or footing excavations, be constructed in accordance with the new OSHA guidelines. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom.

PAVEMENTS

We note that these recommendations provided below pertain to pavement areas beyond the footprint of the parking garage. Provided below are general pavement recommendations. The project Civil Engineer should review the information in order to provide final pavement design specifications.

Pavement areas should be compacted to a minimum of 98 percent of the modified Proctor maximum dry density to a depth of at least 12 inches below the subgrade level. We recommend that stabilized subgrade having a minimum Limerock Bearing Ratio (LBR) of 40 be placed to a depth of approximately one foot below the base course. The base course will range from approximately 6 to 8 inches, and should have a minimum LBR of 100. Details concerning pavement surface and other specific pavement design parameters will need to be provided by the project civil engineer.

GENERAL INFORMATION

The recommendations reported herein considered the information made available to us, professional experience and engineering judgment. Once final design is more definitive, we should be provided the opportunity to evaluate our recommendations to determine whether additional analyses and explorations should be performed.

Our client for this geotechnical evaluation was:

Mr. Bernard Zyscovich, FAIA, Partner, President, CEO
Zyscovich, Inc.
100 N. Biscayne Blvd., 27th Floor
Miami, FL 33132

The contents of this report are for the exclusive use of the client, the client's design & construction team and governmental authorities for this specific project exclusively. Information conveyed in this report shall not be used or relied upon by other parties or for other projects without the expressed written consent of PGC. This report discusses geotechnical considerations for this site based upon observed conditions and our understanding of proposed construction for foundation support. Environmental issues including (but not limited to), soil and/or groundwater contamination are beyond our

scope of service for this project. As such, this report should not be used or relied upon for evaluation of environmental issues.

If conditions are encountered which are not consistent with the findings presented in this report, or if proposed construction is moved from the location investigated, this office shall be notified immediately so that the condition or change can be evaluated and appropriate action taken.

The vibratory compaction equipment may cause vibrations that could be felt by persons within nearby buildings and could potentially induce structural settlements. Additionally, preexisting settlements may exist within these structures that could be construed to have been caused or worsened by the proposed vibratory compaction after the fact. Pre- and post conditions surveys of these structures along with the vibration monitoring during vibratory compaction could be performed to better evaluate this concern. The contractor should exercise due care during the performance of the vibratory compaction work with due consideration of potential impacts on existing structures. If potential vibrations and impacts are not considered tolerable, then alternate foundation modification techniques should be considered.

Pan Geo Consultants, LLC shall bear no liability for the implementation of recommended inspection and testing services as described in this report if implemented by others. PGC has no ability to verify the completeness, accuracy or proper technique of such procedures if performed by others.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein, have been presented after being prepared in accordance with general accepted professional practice in the field of foundation engineering, soil mechanics and engineering geology. No other warranties are implied or expressed.

If you have any questions or require further assistance, please contact us at your convenience. We look forward to working with you as the design and construction continues.

Respectfully submitted,
PAN GEO CONSULTANTS, LLC

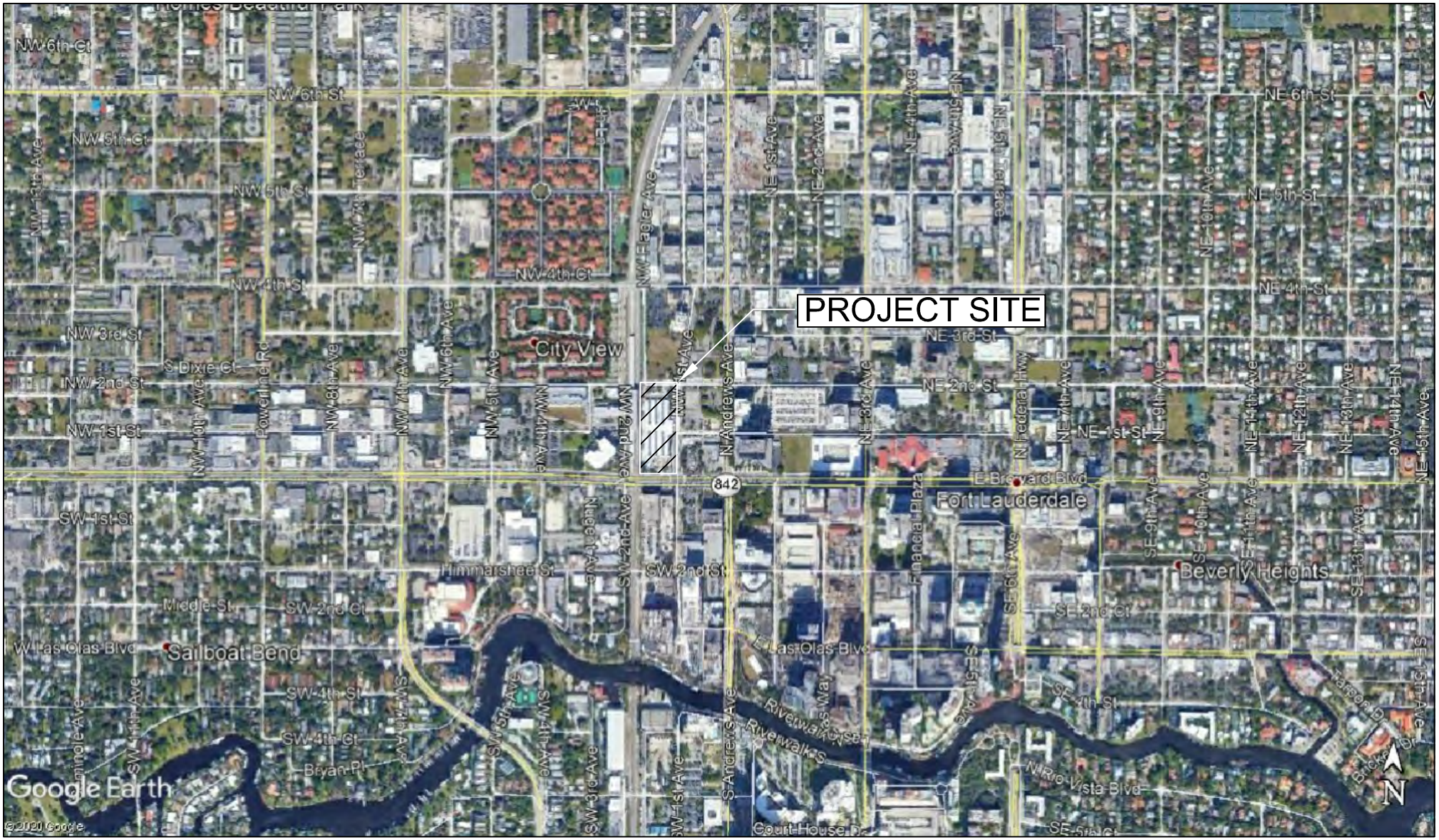
Paul C. Catledge, P.E. #68448
Principal

APPENDICES

FIGURES

SITE VICINITY PLAN

TESTING LOCATION PLAN



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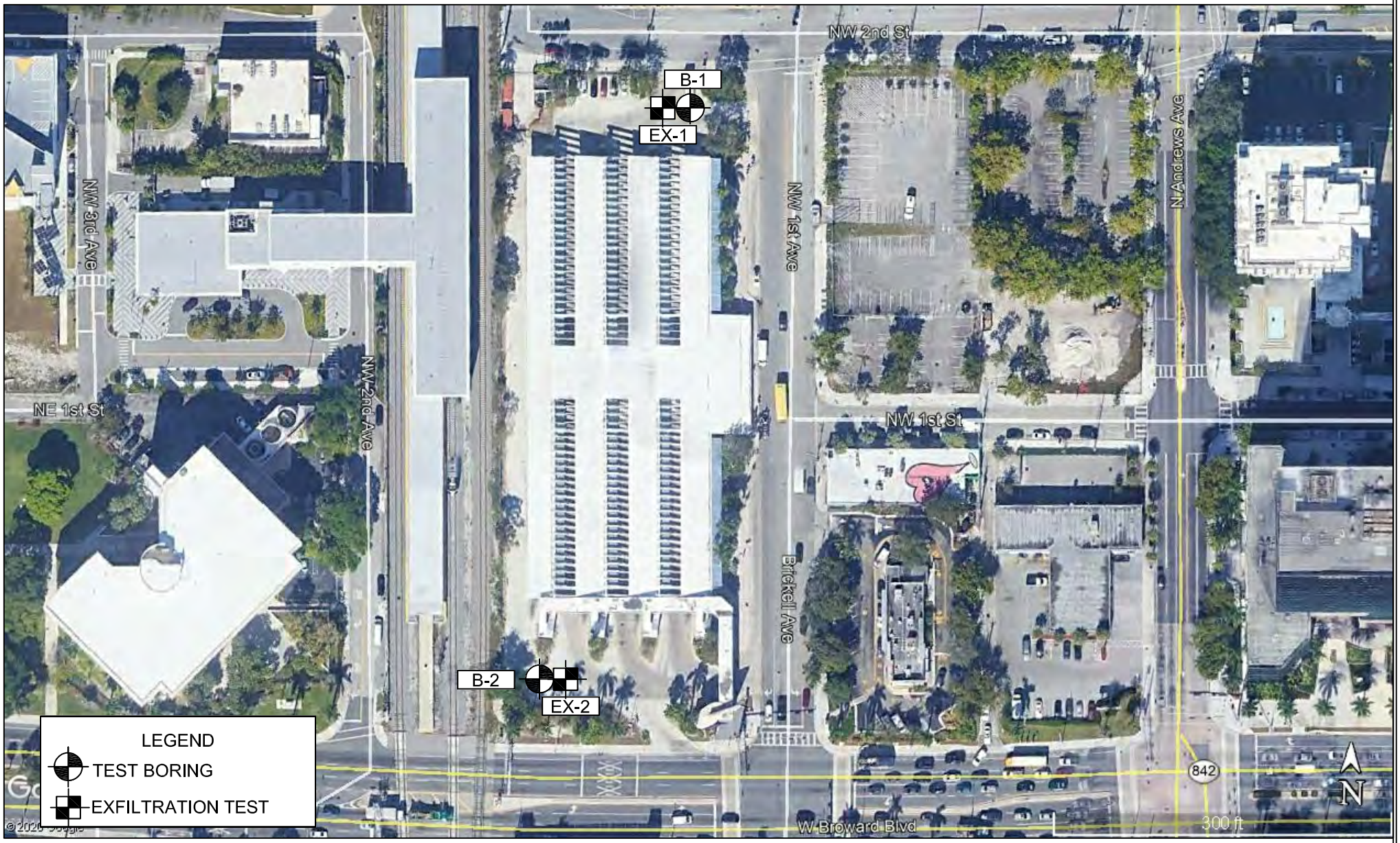
PROPOSED JOINT GOV'T CENTER CAMPUS
101 NW 1ST AVE.
FT. LAUDERDALE, FL

SITE VICINITY
NOT TO SCALE



PANGEO CONSULTANTS

TEST LOCATION PLAN
PROPOSED JOINT GOV'T CENTER CAMPUS
101 NW 1ST AVE.
FT. LAUDERDALE, FL

APPROXIMATE TEST LOCATIONS
NOT TO SCALE

PANGEO CONSULTANTS

TEST BORING RECORDS AND

EXFILTRATION TEST RECORDS

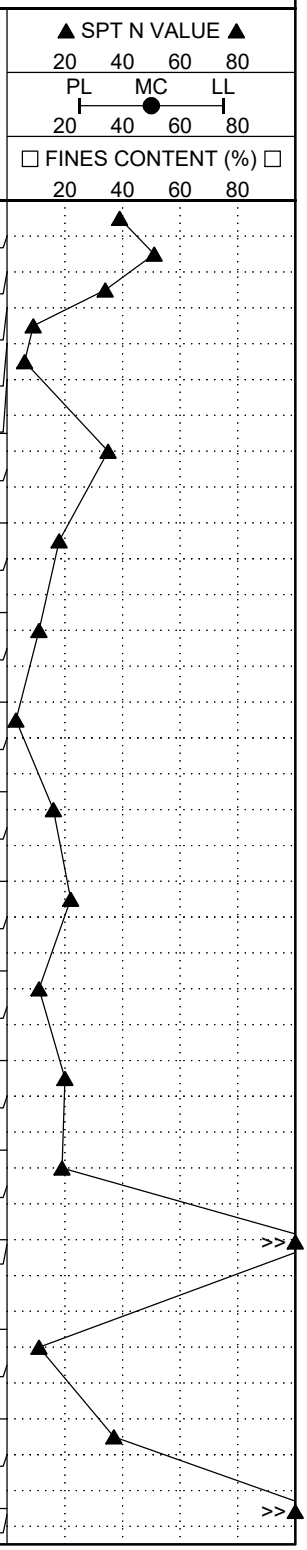
SERVICE AND SOLUTIONS

Pan Geo Consultants
8464 W SR 84
Davie, FL 33324
Telephone: +1(954) 200-4019

BORING NUMBER B-1

CLIENT ZYSCOVICH, INC.
PROJECT NAME JOINT GOVERNMENT CENTER CAMPUS
PROJECT NUMBER ZYS0720
PROJECT LOCATION 101 NW 1ST AVE., FT. LAUDERDALE, FL 333111
DATE STARTED 6/23/20 **COMPLETED** 6/23/20
GROUND ELEVATION **HOLE SIZE** 3 inches
DRILLING CONTRACTOR DANCOR
GROUND WATER LEVELS:
DRILLING METHOD MUD ROTARY DRILLING
AT TIME OF DRILLING 6.00 ft
LOGGED BY PE **CHECKED BY** PCC
AT END OF DRILLING ---
NOTES AS LOCATED ON SITE PLAN
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
0	CONCRETE	SS S-1	10-16-23-27 (39)
	Brown SAND with Trace Limestone Fragments	SS S-2	17-22-29-30 (51)
		SS S-3	19-18-16-13 (34)
10	Brown to Lt. Brown LIMESTONE with Sand	SS S-4	4-5-4-6 (9)
		SS S-5	3-3-3-4 (6)
		SS S-6	11-18-17-17 (35)
	Lt. Brown to Lt. Gray SAND		
20		SS S-7	10-7-11-13 (18)
		SS S-8	3-5-6-6 (11)
30		SS S-9	1-1-2-1 (3)
	Lt. Gray LIMESTONE		
		SS S-10	10-9-7-9 (16)
40		SS S-11	12-12-10-7 (22)
		SS S-12	6-5-6-7 (11)
	Lt. Gray to Lt. Brown LIMESTONE and SAND		
50		SS S-13	12-11-9-12 (20)
		SS S-14	8-9-10-11 (19)
60		SS S-15	50/3"
	Lt. Gray SAND with Limestone		
		SS S-16	7-7-4-5 (11)
70		SS S-17	11-17-20-18 (37)
	Lt. Gray LIMESTONE		
		SS	50/4"



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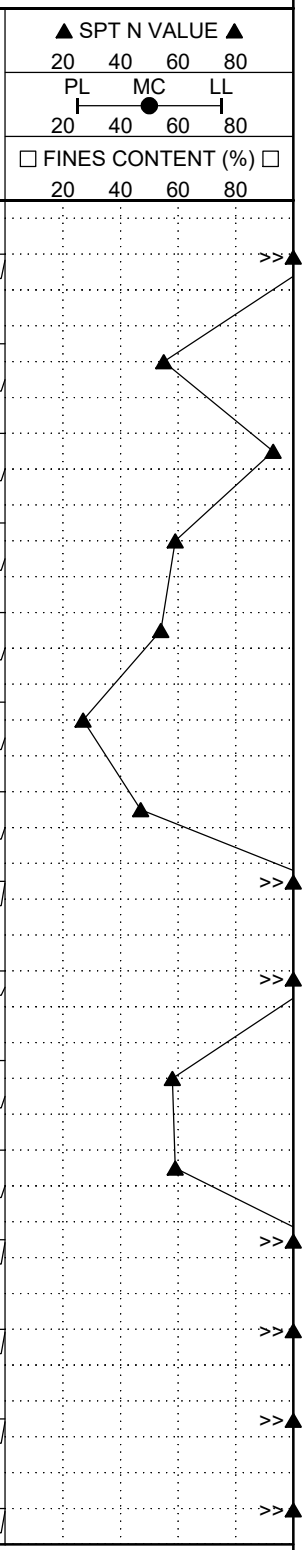
BORING NUMBER B-1

CLIENT ZYSCOVICH, INC.
PROJECT NAME JOINT GOVERNMENT CENTER CAMPUS
PROJECT NUMBER ZYS0720
PROJECT LOCATION 101 NW 1ST AVE., FT. LAUDERDALE, FL 333111

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
		Lt. Gray LIMESTONE *(continued)*	S-18	
80			SS S-19	50/4"
		Gray SAND with Trace to Some Limestone		
			SS S-20	38-35-20-19 (55)
90			SS S-21	27-46-47-45 (93)
			SS S-22	16-19-40-25 (59)
100			SS S-23	14-22-32-32 (54)
		Lt. Gray LIMESTONE and SAND		
			SS S-24	17-11-16-21 (27)
110			SS S-25	19-20-27-15 (47)
			SS S-26	50/1"
120			SS S-27	21-50/5"
		Gray SAND with Limestone		
			SS S-28	14-28-30-34 (58)
130			SS S-29	16-30-29-30 (59)
		Lt. Gray LIMESTONE		
			SS S-30	50/2"
140			SS S-31	50/2"
			SS S-32	50/2"
150			SS S-33	50/2"



Bottom of borehole at 150.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 7/15/20 14:29 - C:\USERS\PAULC\DROPBOX\PAN GEO CONSULT\GEOTECHNICAL\ZYSCOVICH BROWARD GOV CENTER\ZYSCOVICH_BROWARD GOVERNMENT CENTER_BORING LOGS.GPJ

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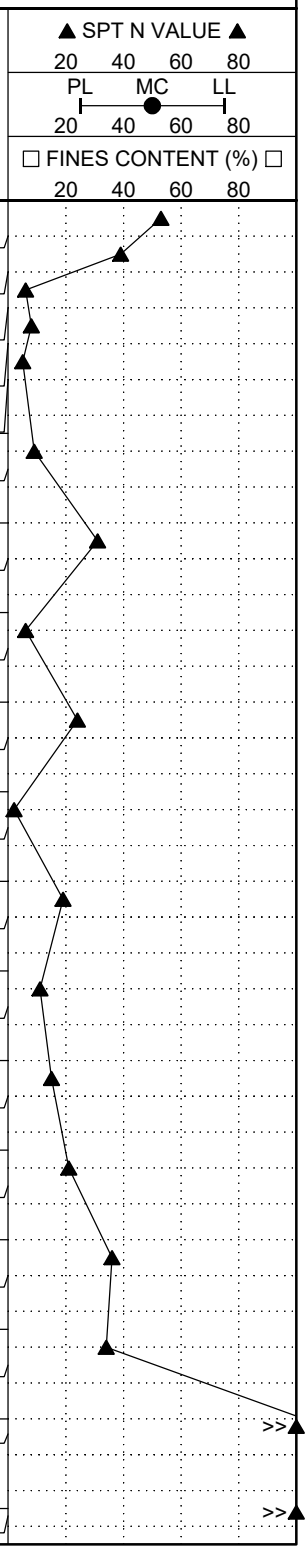
BORING NUMBER B-2

CLIENT ZYSCOVICH, INC.
PROJECT NAME JOINT GOVERNMENT CENTER CAMPUS
PROJECT NUMBER ZYS0720
PROJECT LOCATION 101 NW 1ST AVE., FT. LAUDERDALE, FL 333111
DATE STARTED 6/24/20 **COMPLETED** 6/24/20
GROUND ELEVATION **HOLE SIZE** 3 inches
DRILLING CONTRACTOR DANCOR
GROUND WATER LEVELS:
DRILLING METHOD MUD ROTARY DRILLING
AT TIME OF DRILLING 5.75 ft
LOGGED BY PE **CHECKED BY** PCC
AT END OF DRILLING ---
NOTES AS LOCATED ON SITE PLAN
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
0	CONCRETE	SS S-1	32-30-23-23 (53)
	Lt. Brown SAND and LIMESTONE FRAGMENTS		
	Brown to Dk. Brown SAND	SS S-2	17-18-21-15 (39)
		SS S-3	8-4-2-1 (6)
10	Lt. Brown LIMESTONE	SS S-4	1-3-5-2 (8)
		SS S-5	1-2-3-3 (5)
		SS S-6	4-4-5-6 (9)
	Lt. Gray to Lt. Brown SAND, Trace Limestone		
20		SS S-7	12-14-17-22 (31)
		SS S-8	3-3-3-4 (6)
30		SS S-9	9-11-13-15 (24)
	Lt. Brown to Lt. Gray LIMESTONE		
		SS S-10	2-1-1-2 (2)
40		SS S-11	6-7-12-14 (19)
		SS S-12	8-7-4-3 (11)
	Lt. Gray SAND, Trace to Some Limestone		
50		SS S-13	5-7-8-11 (15)
		SS S-14	18-10-11-10 (21)
	Lt. Gray LIMESTONE		
60		SS S-15	5-7-29-6 (36)
		SS S-16	18-19-15-18 (34)
70		SS S-17	23-50/4"
		SS	50/5"



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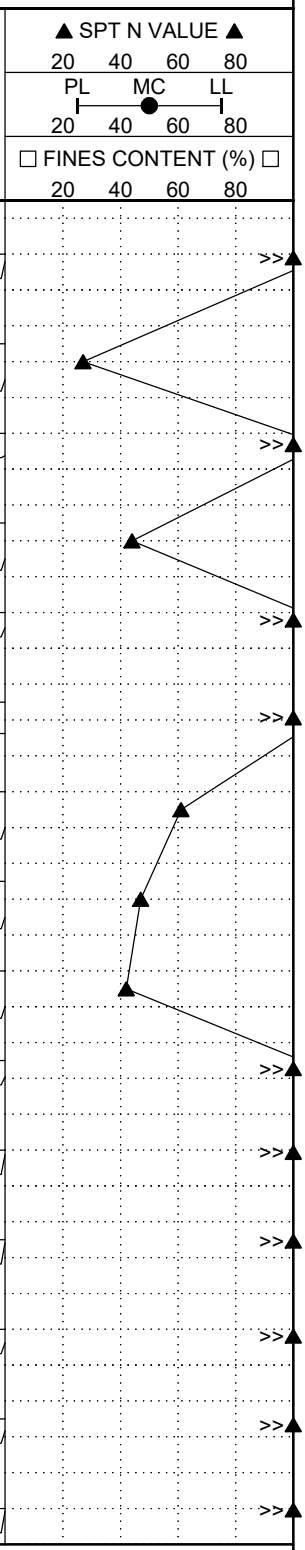
Pan Geo Consultants
8464 W SR 84
Davie, FL 33324
Telephone: +1(954) 200-4019

BORING NUMBER B-2

CLIENT ZYSCOVICH, INC.
PROJECT NAME JOINT GOVERNMENT CENTER CAMPUS
PROJECT NUMBER ZYS0720
PROJECT LOCATION 101 NW 1ST AVE., FT. LAUDERDALE, FL 333111

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
		Lt. Gray LIMESTONE *(continued)*	S-18	
80			SS S-19	50/5"
		Lt. Gray SAND		
			SS S-20	12-13-14-13 (27)
90			SS S-21	15-18-50/3"
			SS S-22	10-14-30-47 (44)
100			SS S-23	23-50/4"
		SAND, Tr. Limestone		
			SS S-24	13-22-30-50/3"
110			SS S-25	30-29-32-30 (61)
			SS S-26	32-27-20-25 (47)
120			SS S-27	12-19-23-33 (42)
		Lt. Gray LIMESTONE		
			SS S-28	13-50/5"
130			SS S-29	50/3"
			SS S-30	50/2"
140			SS S-31	8-50/3"
			SS S-32	17-50/2"
150			SS S-33	50/2"



Bottom of borehole at 150.0 feet.

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PANGEO CONSULTANTS

SFWMD 'USUAL OPEN HOLE' EXFILTRATION TEST RESULTS

DATE	6/30/2020
CLIENT:	Zyscovich, Inc.
PROJECT:	Joint Government Center Campus
ADDRESS:	101 NW 1st Ave., Ft. Lauderdale, FL 33311

TEST NO.: EX-1

TEST LOCATION: AS LOCATED ON SITE PLAN

TEST DEPTH: 6 ft

HOLE DIAMETER: 0.3 ft

APPROX. WATER TABLE DEPTH: 4.830 ft

SUBSURFACE CONDITIONS:

DEPTH:	**SOIL DESCRIPTION**
0-9"	CONCRETE
9"-14"	Brown SAND
14"-2'	Brown SAND with Trace Limestone Fragments
2'-4'	Brown SAND with Trace Limestone Fragments
4'-6'	Brown SAND with Trace Limestone Fragments

MINUTE	FLOW RATE (GAL/MIN)
1	3
2	1.5
3	1.5
4	1.5
5	1
6	1.5
7	1
8	1.5
9	1
10	1.5

K VALUE = **2.007E-04** **CFS/FT2 - FT. HEAD**

PANGEO CONSULTANTS

SFWMD 'USUAL OPEN HOLE' EXFILTRATION TEST RESULTS

DATE	6/30/2020
CLIENT:	Zyscovich, Inc.
PROJECT:	Joint Government Center Campus
ADDRESS:	101 NW 1st Ave., Ft. Lauderdale, FL 33311

TEST NO.: EX-2

TEST LOCATION: AS LOCATED ON SITE PLAN

TEST DEPTH: 6 ft

HOLE DIAMETER: 0.3 ft

APPROX. WATER TABLE DEPTH: 4.750 ft

SUBSURFACE CONDITIONS:

DEPTH:	**SOIL DESCRIPTION**
0-8"	CONCRETE
8"-12"	Lt. Brown SAND and LIMESTONE FRAGMENTS
2'-4'	Brown to Gray SAND
4'-6'	Lt. Gray SAND

MINUTE	FLOW RATE (GAL/MIN)
1	4
2	5
3	7
4	7
5	6
6	5
7	6
8	6
9	5
10	6

K VALUE = **7.671E-04** **CFS/FT2 - FT. HEAD**

DCP

APPENDIX J
BIM Requirements and COBie Asset Management

BOOK 3 | SEPTEMBER 14, 2020

EXHIBIT A - SCOPE OF WORK

ATTACHMENT 2:

BIM and Electronic Media Submittal Requirements

Introduction

The Contract Administrator will be utilizing electronic media as the principal way it develops, communicates and archives information concerning its various construction programs for the County. To that end, County's standard Professional Services Agreements for Consultant services and Construction Agreements for construction services require submittal of documents produced on electronic media. The County encourages Building Information Modeling (BIM) based design, documentation and construction deliverables, scaled to the County need, especially for all major projects including all new construction. These requirements apply specifically to Managing General Contractor Agreements. In the event of a Design-Bid-Build construction delivery procurement, a second, modified BIM Project Execution Plan (BIM PxP) will be required to clarify the contractor's involvement to further develop and complete the project BIM and all related activities.

For projects utilizing BIM delivery, Consultant and Contractor will include native BIM format and Industry Foundation Class (IFC) electronic BIM deliverables in addition to all other electronic copies of hardcopy submissions and other files that support the intent of the project at all project milestones. Data interoperability is important to the County and is in line with our life cycle vision. Design Authoring software shall be used throughout the project lifecycle and shall be parametric. It is also important that nationally defined standards and protocols be used when developing BIM's so that data may be normalized for multiple uses, now and in the future. Most current versions of standards such as the National BIM Standards, BIMForum LOD Specification Part 1 and Commentary, OmniClass, Uniformat and MasterFormat, should be used whenever possible.

The Consultants will derive any two-dimensional (2D) deliverables from the Building Information Model. Further, it is the intent of the County to require open-standard facility management data as a project deliverable at all milestones. Project Consultants shall initiate and jointly develop BIM and Construction Operations Building Information Exchange (COBie) information to be completed by the Contractors throughout their corresponding phases of the project.

Definitions and Identifications for BIM terms used in this Attachment, requirements for electronic media, the BIM/CADD Standard of Care, Level of Development (LOD), COBie and other requirements are presented in Sections 1, 2 and 3 of this Attachment 2. The detailed (BIM PxP) Template is provided in Section 4 and is required to be developed at project initiation to provide a master information and data management plan and assignment of roles and responsibilities for model creation and data integration. Wherever possible, the BIM PxP will be developed through a collaborative approach involving all Project Consultants, Contractors and applicable County staff. A small sample of the Model Progression Schedule/Agent Responsible Matrix Template (MPS) is provided in Section 5 and will be made available in its native Excel format upon request. An Introduction and directions for completion are described on the first page of the document.

An important goal for the Construction Management Division is to not only enhance the value of all team efforts to efficiently design and construct lean, new and renovated construction projects using BIM, but also to assist in achieving a consistent use and development of BIM across multiple building types and for a wide range of County agencies. Predictable and uniform data will help to ensure a building dataset that will facilitate ongoing building operation and maintenance protocols, and perhaps someday be called upon to provide usable and reliable data to support other SMART City / SMART County initiatives.

Table of Contents - Exhibit A - Scope of Work, Attachment 2:

Section 1 - Definitions and Identifications
Section 2 - Electronic Media
Section 3 - BIM/ CADD Standard of Care, Level of Development (LOD), COBie
Section 4 - BIM Execution Plan (BIM PxP*) (Template to be completed)*
Section 5 - Model Progression Schedule/ Agent Responsible Matrix (MPS) *(Template to be completed)*

Section 1 Definitions and Identifications

The following definitions and identifications set forth below apply to this Attachment 2 unless the context, the Agreement, Exhibit A, Scope of Work in which the word or phrase is used requires a different definition. In the event of a conflict, the Contract Administrator will determine its final resolution:

1.1 **3D Coordination and Conflict Analysis**: A process in which clash detection software is utilized during the coordination process to determine field conflicts by comparing 3D models of building systems. The goal of clash detection is to eliminate the major system conflicts prior to installation.

1.2 **As-Constructed BIMs**: Multiple Construction BIMs, delivered and validated by the Contractor before closing-up spaces and reviewed by the Consultants that represent the final As-Constructed building and components, including embedded data as required by the Contract Documents.

1.3 **Asset Management:** A process in which an organized management system will efficiently aid in the maintenance and operation of a facility and its assets. Asset Management utilizes the data contained in a record model to determine cost implications of changing or upgrading building assets, segregate costs of assets for financial tax purposes, and maintain a current comprehensive database that can produce the value of a company's assets.

1.4 **Augmented Reality Simulation (AR):** A Model Use where 3D models - combined with other technologies - allow users to experience virtual objects superimposed on top of physical objects or places, thus allowing images from the physical and virtual worlds to appear as one. AR is typically experienced through hand-held screens, wearables, holograms and projections.

1.5 **BIM:** Building Information Modeling (sometimes redundantly identified as a BIM model). BIM is not a specific product or technology, instead it's a collection of software applications and processes designed to facilitate coordination and project

collaboration through a facilities lifecycle. BIM is a digital representation of physical and functional characteristics of a facility and is used as a process for developing design, construction and operations and maintenance documentation by virtually constructing a building, bridge or other form of infrastructure – before anything is built.

1.6 **BIM Project Execution Plan (BIM PxP/PxP):** A document that defines the appropriate uses for Building Information Modeling on a project (e.g., design authoring, design review and 3D coordination), along with a detailed design and documentation process for executing BIM throughout a facility's lifecycle, team contacts, team responsibilities, team roles, definitions, delivery methods / formats, LOD matrix, work flow and process maps are among other information outlined in the BIM PxP.

1.7 **Building Maintenance Scheduling**: A process in which the functionality of the building structure (walls, floors, roof, etc.) and equipment serving the building (mechanical, electrical, plumbing, etc.) are maintained over the operational life of a facility.

1.8 **BIM2Field**: See definition for Digital Layout.

1.9 **CAD/CADD**: Computer Aided Design/Computer Aided Design and Drafting. Interchangeably used terms interpreted as 2D, (Two Dimensional) representations in electronic format. CAD represents all pre-BIM digital tools and their 2D/3D deliverables.

1.10 **CAD/BIM Manager**: The System Administrator and/or person responsible for leading the BIM implementation processes within an organization and supporting it in developing/delivering new BIM services and model-based efficiencies. Also responsible for the management of all CAD and BIM data and processes.

1.11 **CIM/Sub-Surface**: Civil Information Modeling and subsurface utility mapping that relates and is coordinated with the building modeling.

1.12 **Clash Detection/Clash Rendition:** A process in which clash detection software is used during the coordination process to determine field conflicts by comparing 3D models of building systems prepared by different disciplines**.** Rendition or the visual representation of the native-format model file is be used specifically for spatial coordination processes. The key benefit is to eliminate major system conflicts prior to installation, reducing errors, and hence costs, prior to commencement of construction.

1.13 **COBie**: Construction Operations Building Information Exchange specifications as administered through the buildingSMART alliance, National Institute of building Sciences, Washington, DC. http://www.nibs.org/?page=bsa_cobie.

1.14 **Code Validation**: A process in which code validation software is utilized to check model parameters against specific codes.

1.15 **Commissioning:** The process of verifying in new construction that agreed upon building systems achieve the County's project requirements.

1.16 **Compatible Data**: Data that can be accessed directly by the target BIM or CADD system upon delivery to the County, without further translation or post-processing of the electronic digital data files. It is the responsibility of Consultant to ensure this minimum level of compatibility.

1.17 **Constructability/PEER Review:** Constructability can be defined as a review of the building model along with drawings, specifications to determine feasibility to assembly the project in the manner documented. The review includes, but does

not limit, evaluating and identifying efficiencies, assemblies, systems and obstacles to construction.

1.18 **Construction System Design:** A process in which 3D System Design Software is utilized to design and analyze the construction of a complex building system (e.g. form work, glazing, tiebacks, etc.) in order to improve planning.

1.19 **Coordination BIM:** A model prepared for the physical coordination of systems between disciplines, involving Clash Detection reports, Constructability reviews, virtual and/or personal coordination meetings with architects, engineers, consultants, construction manager(s) and sub-contractors.

1.20 **Cost Analysis**: A process in which a BIM can offer a preliminary analysis of the costs of constructing a Project during the design process and provide cost benefit effects of additions and modifications with potential to save time and avoid budget overruns. The accumulation, examination, and manipulation of cost data for comparisons and projections.

1.21 **Cost Estimation:** A process in which a BIM is used to develop accurate quantity take-offs for the purpose of creating or validating cost estimates.

1.22 **Design Authoring:** A process in which 3D software is used to develop a BIM based on criteria that is important to the translation of the building's design. Design authoring tools are a first step towards BIM, connecting the 3D model with a database of properties, quantities, means and methods, costs and schedules.

1.23 **Design for Maintenance:** An evaluation process where each object selected during design for inclusion in a BIM are evaluated for maintenance issues, such as recommended, or code required clearances to perform routine maintenance activates to include complete replacement of the object or any of its components.

1.24 **Design Model:** is an object-based 3D model generated by the Design Team (individually or as a group) for the purposes of design analysis, Clash Detection and documentation.

1.25 **Design Reviews**: A process in which a 3D model is used to showcase the proposed design to the stakeholders and to help evaluate whether it has met deliverable requirements.

1.26 **Digital Fabrication**: A process that utilizes machine technology to prefabricate objects directly from a 3D Model. The Model is spooled into appropriate sections and input into fabrication equipment for production of system assemblies.

1.27 **Digital Layout - BIM2Field**: A process that allows information in a BIM to be transferred to digital layout tools for layout in conformance to the model. This information can be used to validate (QA/QC) the physical facility against the model.

1.28 **Disaster Planning / EM Preparation:** A process in which emergency responders would have access to critical building information in the form of model and information system. The BIM would provide critical building information to the responders, that would improve the efficiency of the response and, more importantly, minimize the safety risks. The dynamic building information would be provided by a building automation system (BAS), while the static building information, such as floor plans and equipment schematics, would reside in a BIM model. These two systems would be integrated via a wireless connection and emergency responders would be linked to an overall system. The BIM coupled with the BAS would be able to clearly display where the emergency was located within the building, possible routes to the area, and any other harmful locations within the building.

1.29 **Electrical Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective electrical system based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.

1.30 **Energy Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective facility energy plan based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.

1.31 **Existing Conditions Modeling:** A process in which a project team develops a parametric 3D model of the existing conditions for a site, facilities on a site, or a specific area within a facility. This model can be developed in multiple ways depending on what is desired and what is most efficient. Once the model is constructed, it can be queried for information, whether it be for new construction or a modernization project.

1.32 **Facility Data Exchange:** A process where a facility data schema is developed to ensure information is supplied to the BIM in electronic form so that it can be easily exchanged between the BIM and the organizations selected tool. The capability should include textural as well as graphic entities.

1.33 **Federated BIM:** A BIM model which links (does not merge) several single-discipline models together. Federated Models do not merge the properties of individual models into a single database. A federated model is useful for design co-ordination, clash avoidance and clash detection, approvals processes, design development, estimating and so on, but the individual models do not interact, they have clear authorship and remain separate. This means that the liabilities of the originators of the separate models are not changed by their incorporation into the federated model.

1.34 **IFC:** Industry Foundation Classes, open sharable standards for building information as defined by the buildingSMART alliance, National Institute of building Sciences, Washington, DC. http://www.buildingSmart.org/compliance/certified-software

1.35 **Information Manager:** The BIM Protocol refers to and provides for the appointment of an 'Information Manager' by the employer. This is the project manager, or BIM Manager who is responsible for managing the processes of information exchange on projects, using BIM procedures and methods. This is expected to form part of a wider set of duties under an existing appointment and is likely to be performed either by the Design Lead or the Project Lead.

1.36 **Integrated Project Delivery* (IPD):** The owner's goal who's primary motive is to bring the teams together early on in the project. A full implementation of BIM also requires the project teams to collaborate from the inception stage and formulate model sharing and ownership contract documents. *NOTE: True IPD employs various constructs, many of which the County is precluded from using by state law. (such as the use of multi-party contracts, and profit sharing). The County's integrated delivery approach leverages many aspects of IPD that are allowed by law.

1.37 **Laser Scanning and Point Cloud Integration:** A process where the application is the controlled steering of laser beams followed by a distance measurement at

every pointing direction. This is used to rapidly capture shapes of objects, buildings and landscapes. The point cloud generated is then interpreted by software to create a BIM of the existing conditions.

1.38 **Life Cycle Assessment -** Life-cycle assessment (LCA, also known as life-cycle analysis) is a cradle-to-grave environmental impact assessment for built assets, in terms of materials and energy. The energy and materials used, along with waste and pollutants produced as a consequence of a product or activity, are quantified over the whole life cycle; the result representing the environmental load of that asset. ISO 14040 defines LCA methodology.

1.39 **Lighting Analysis**: A process in which intelligent modeling software uses the BIM model to determine the most effective lighting method based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.

1.40 **LOD:** Level Of Development Specification for Building Information Models. See Section 3 – BIM/CADD Standards of Care and the current edition (2019 or later), of the BIMForum LOD Specification for additional information. http://BIMForum.org/lod

1.41 **Maintenance and Repair Information:** A function to allow the collection and storage of maintenance and repair information about objects brought into a BIM.

1.42 **Mechanical Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective mechanical system design based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.

1.43 **Model Progression Schedule/Agent Responsible Matrix (MPS):** A worksheet that is a guide for the project team to define model creation scope of work, minimum model level of development and responsible agent. The LOD will aid in determining the level of involvement of the project stakeholders from planning through facility turnover. This worksheet is intended to guide the project team in achieving project goals, accommodate required BIM uses, meet schedule requirements for the project and identify the responsible agents at differing phases of the project.

1.44 **OmniClass:** OmniClass Construction Classification System (OCCS), is a means of organizing and retrieving information specifically designed for the construction industry. This agreement incorporates Table 23 establishing National Standards for the classification of construction products. Most recent release date May 16, 2012. OmniClass uses MasterFormat and UniFormat as the basis of its Tables wherever possible. http://www.omniclass.org/about

1.45 **Owner Approval**: A business process which takes advantage of information stored in a BIM to help validate progress as well as observing that the Owner's intent for the facility is being honored both conceptually and contractually.

1.46 **Phase Planning - 4D Modeling:** A process in which a 4D model (3D models with the added dimension of time) is utilized to effectively plan the phased occupancy in a renovation, retrofit, addition, allow construction scheduling or to show the construction sequence and space requirements on a building site.

1.47 **Programming:** A process in which a spatial program is utilized to efficiently and accurately assess design performance in regard to spatial requirements. Use of

the BIM model allows the project team to critically analyze space and understand the complexity of space standards and regulations for discussion with the County and other stakeholders.

1.48 **PxP:** Abbreviated form of (BIM PxP). See definition for BIM Project Execution Plan.

1.49 **Quality Assurance/Quality Control - QA/QC:** QA/QC as a BIM Use refers to ensuring that the BIMs follow County requirements and all components of the approved BIM Execution Plan, and that the BIMs accurately represent the building geometry and data to meet the purposes for which they are developed.

1.50 **Quantity Take Off (QTO):** A model use representing how 3D models are used to calculate the quantity of Furniture, Fixtures and Equipment or building material to create a detailed measurement of materials and labor needed to complete a construction project. Estimators review drawings, specifications and BIMs to find these quantities.

1.51 **Record BIMs:** The updated BIMs generated by the Architecture/Engineering Team of record that includes the Contractors' As-Constructed BIMs.

1.52 **Security / Key Management:** A process to identify and evaluate the security zones in the facility using BIM. The process includes identifying the door keys required for openings through the security perimeters established to ensure that the level of security defined is maintained.

1.53 **Site Analysis:** A process in which BIM/GIS tools are used to evaluate properties in a given area to determine the most optimal site location for a future project. The site data collected is used to first select the site and then the position the building based on engineering criteria (e.g. solar path, utility availability, hazardous material).

1.54 **Site Utilization Planning**: A process in which a 4D model is used to graphically represent both permanent and temporary facilities on site, with the construction activity schedule. Additional information incorporated into the model can include labor resources, materials and associated deliveries, and equipment location.

1.55 **Space Management:** A process in which BIM is utilized to effectively allocate, manage, and track space types, workspaces, occupancy and resources within physical assets.

1.56 **Specification Production**: A data based three-part specification system linked to the objects selected in a BIM which responds to any changes or alternatives items added or subtracted from the model.

1.57 **Structural Analysis:** A process in which analytical modeling software utilizes the BIM design authoring model to determine the behavior of a given structural system. Based on this analysis further development and refinement of the structural design takes place to create effective, efficient, and constructible structural systems.

1.58 **Sustainability and LEED Evaluation:** A BIM process in which a project is evaluated based on LEED or other sustainability criteria. This can refer to materials, performance, or a process. Sustainability evaluations can be applied across all four phases of a construction project, Planning, Design, Construction, and Operation. Sustainability evaluation is most effective when it is done in planning and design stages and then applied in construction and operations phase.

1.59 **Tolerance:** Acceptable dimension or variation from precise material, fabrication, or assembled condition as a unit of measure to be specified allowable variations in strength, stability, dimension, the mix of a material, the performance of a system, temperature ranges and so on.

1.60 **Total Cost of Ownership / Service Life:** A financial estimate intended to help buyers and owners determine all direct and indirect costs of a product or system.

1.61 **Virtual Design and Construction (VDC):** The management of integrated multi-disciplinary performance models of design-construction projects, the work processes and organization of the teams to support business objectives.

1.62 **Virtual reality Simulation (VR):** A Model Use where 3D models are part of an Immersive Environment where users experience simulated places, objects and processes. As opposed to Augmented Reality Simulation, VR may require full 'immersion' within multi-projection rooms (CAVE) and/or through stereoscopic goggles and other specialized gear.

1.63 **Visualization:** Any technique for creating images, diagrams, or animations to communicate information. BIM can be used as a tool to show visual clarity of simple and complex systems and data to help understand project scope, design options, constructability, coordination and QA/ QC.

Section 2 Electronic Media

2.1 General Requirements:

2.1.1 All Work, including drawings, land surveying work, maps, details or other drawing information to be provided in electronic media by Consultant shall be accomplished and developed using Computer-Aided Design and Drafting (CADD), or Building Information Modeling (BIM), or a coordinated combination of both as determined by the Contract Administrator and may also include other software and procedures conforming to the following criteria.

2.2 BIM and CAD/CADD Graphic Formats:

2.2.1 Provide all CAD/CADD data in Autodesk, Inc.'s AutoCAD release 2019 or higher for Windows in native .dwg electronic digital format. CAD/CADD data required for Contract submittals shall be provided in native .dwg format. Provide copies of all drawing sheets or other CAD/CADD and/or PDF format produced documents intended for hardcopy plotting or printing in plot (.plt) and drawing web format (.dwf) versions of all sheets/documents.

2.2.2 Provide all BIM models and data in Autodesk Revit 2019 or higher. Provide all BIM and data in any of the following software formats:

a. Autodesk, Inc. Revit 2019 or higher.
b. Alternative compatible BIM software formats that conform to the requirements of Section 2.2 of this Attachment if accepted in writing by the County's Contract Administrator.

2.2.3 BIM data required for Contract submittals shall be provided in their native (.rvt typical) format as well as .ifc format in conformance with IFC (Industry Foundation Classes) IFC2x4 or higher, as established by the buildingSMART International Alliance for Interoperability. Use of BIM vendor's or systems that incorporate the International Alliance for Interoperability IFC standard above are

acknowledged but their use must be approved in writing in advance by the County's Contract Administrator and otherwise comply with this Attachment.

2.2.4 Building Positioning to be accomplished for the intended project site by using "Auto – by Shared Coordinates" process or similar. Obtain State Plane Coordinates from Project survey information and utilize this same positioning process for all BIM files.

2.2.5 CAD/CADD data required for Contract submittals shall be provided in native .dwg format or be contained within the structure of the BIM data required in Section 2.2.2.

a. Ensure that all digital files and data (e.g., constructs, elements, base files, prototype drawings, reference files and images, blocks, attribute links, pen settings and all other files external to the drawing itself) are Compatible Data with the Contract Administrator's target BIM and/or CADD system (i.e., BIM and CADD software, platform, database software), and adhere to the standards and requirements specified herein.

2.2.6 Target platform: A personal computer with Windows 10 operating system that meets or exceeds the minimum manufacturer's requirements to operate the version of software utilized for the project.

2.2.7 Any non-graphical database delivered with prepared drawings must be provided in relational database format compatible with Microsoft Access 2016 or higher, or other compatible SQL format database. All database tables must conform to the structure and field-naming guidance provided upon request by the Contract Administrator.

a. Maintain all linkages of non-graphical data with graphic elements, relationships between database tables, and report formats.

2.2.8 CAD/CADD Standards:

a. Standard plotted drawing size: 24-inch x 36-inch sheets (Arch D-sized sheet)
b. Coordinate with the Contract Administrator concerning the standard file naming protocol to be utilized.
c. Drawing Set Organization and Sheet Identification per the United States National CAD Standard - V5. Provide dots in lieu of dashes at all uses.

2.2.9CAD/CADD Layering:

a. Conform to the guidelines defined by the American Institute of Architect's (AIA) standard document, U.S. National CAD standards version 5 (V5). "CAD Layer Guidelines", 2nd edition or later.

b. Provide an explanatory list of which layers are used at which drawing and an explanatory list of all layers which do not conform to the standard AIA CAD Layer Guidelines including any user definable fields permitted by the guidelines.

c. Layering: The Contract Administrator may, from time to time, supplement the AIA CAD Layer Guidelines with the Contract Administrator's specific requirements for Facilities or Construction Management and other related information. Obtain latest Contract Administrator specific layering from Contract Administrator prior to production of documents and incorporate into drawings.

2.2.10 Attribute Definitions:

a. Obtain latest guidance from the Contract Administrator concerning attribute definition, database linking and other information embedding requirements prior to production of documents.

2.2.11 Federated Models: The following colors shall be utilized for all federated models including Design, Construction, Coordination, As-Constructed, and Record Models:

a. Architectural Models
   1. Architectural - Default
   2. Envelope (Curtainwall, Precast, Other) - Default
   3. Masonry - Gray

b. Civil and Site Improvement Model
   1. TBD

c. Structural Models
   1. Steel – Rust
   2. Concrete - Gray
   3. Masonry - Gray

d. MEP/FP Models
   1. Mechanical Ductwork Supply - Magenta
   2. Mechanical Ductwork Return - Plum
   3. Mechanical Ductwork Exhaust – Medium Orchid
   4. Mechanical Piping Supply – Hot Pink
   5. Mechanical Piping Return- Violet
   6. Electrical Conduit - Orange
   7. Cable Tray- Yellow
   8. Electrical Lighting – Light Golden Rod Yellow
   9. Plumbing Domestic Water - Lime
   10. Plumbing Storm / Roof Drain – Dark Green
   11. Plumbing Waste / Vent - Olive
   12. Medical Gas – Light Green
   13. Fire Protection - Red
   14. Fire Alarm – Golden Rod
   15. Data/IT / Controls - Aqua
   16. Pneumatic Tubing – Dark Slate Gray

e. Miscellaneous Models
   1. Framing – Sandy Brown

2. Equipment Models (by Equip. Planners) – Burly Wood
3. Clearances - Dark Red

2.2.12 Deviations from Standards:

a. Submit a written request for approval of any deviations from the Contract Administrator's established electronic media standards. Pre-coordinate the development, use and submittal of 3-D modeling, Building Information Models (BIM), photo-realistic renderings, animations, presentations and other visualization/information tools utilized during the design and construction process to ensure compatibility of submittal with County's uses and information systems.
b. No deviations from the Contract Administrator's established BIM/CADD standards will be permitted unless prior written approval of such deviation has been received from the Contract Administrator.
c. County or its Owner's Designated Representative reserves the right to review, accept or reject AutoCAD files, BIMs and other Digital Deliverables. If the Digital Deliverables do not comply with the provisions of the agreement between County and the External Project Team member, the External Project Team member will be required to correct the work at no additional cost to County or delay to the Project Schedule.
d. County or its Owner's Designated Representative also reserves the right to review, accept or reject Facility Data deliverables when required by contractual agreements. To ensure successful integration into County's computer aided facility management software, milestone reviews may be conducted by County to export or link BIM data into these designated programs to ensure compatibility and capability. During the development of the BIM PxP, the required BIM outputs allowing for this integration will be determined. If the Facility Data integration with the computer aided facility management software fails because of the BIMs non-compliance with the provisions of the agreement between County and the External Project Team member, or the data imported does not accurately reflect the current state of the Project, the External Project Team member will be required to correct the work at no additional cost to the owner or delay to the Project Schedule.

2.3 Non-BIM/CADD Graphic Format:

2.3.1 Provide digital photography files and other miscellaneous graphics in High Resolution JPEG, PDF in 600 dots per inch (dpi) or higher resolution or PNG format. Provide RAW files when available.

2.4 Non-Graphic Format:

2.4.1 Provide word processing files in Microsoft Word 2016 or higher compatible file formats including all fonts, typefaces, bitmap and vector graphics and other information necessary for remote printing.

2.4.2 Provide spreadsheet files in Microsoft Excel 2016 or higher for windows compatible file formats including all fonts, typefaces, bitmap and vector graphics and other information necessary for remote printing.

2.4.3 Provide database files in relational database format compatible with Microsoft Access 2016 or higher, PDF or other compatible SQL format database including all tables, form and report formats, fonts, typefaces, bitmap and vector graphics and other information necessary for remote printing. Ensure integrity of relational database structure.

2.5 Delivery Media and Format:

2.5.1 Submit copies of all BIM/CADD data and other electronic files developed under this contract on electronic digital media as required for project phase submittals to 400 dots per inch (dpi) resolution.

2.5.2 Provide electronic digital data and files on labeled ISO-9660 CD-ROM., DVD's, Flash drives or other acceptable alternatives if approved by the Contract Administrator. Each Device or Disc shall contain identifying County project information in their disk name.

2.5.3 The electronic digital media shall be in the format which can be read and processed by the Contract Administrator's target CADD or BIM system. See also Section 2.2.

2.5.4 The external label or archival case for each electronic digital media shall contain, as a minimum, the following information:

a. The Project Number, Project Title and date.
b. The Facility Name
c. The format and version of operating system software.
d. The name and version of utility software used for preparation (e.g., compression/decompression) and copying files to the media.
e. A list of the filenames, (a separate sheet will be accepted).

2.5.5 Before a BIM/CADD file is placed on the delivery electronic digital media, the following procedures shall be performed:

a. Detach all BIM's from the Central File.
b. Ensure the proper and updated completion of all information on the 'Start Screen' page for all Revit models.
c. Scrub and remove all unused or alternative versions, elements and objects from the model.
d. Ensure that drawing sheets, viewports, paper-space, line weights, fonts, and other drawing components are correctly configured for Contract Administrator's viewing and plotting.
e. Make sure all reference files are attached using a "relative" path setting and without device or directory specifications.
f. "Transmit a Model" function should be used in Revit or AutoCAD to assemble files for submittal. For each 2D drawing, provide one bound file

containing drawing sheet with associated XREFs and one un-bound file containing the associated XREFs.

g. Compress and reduce all design files using PKZIP, WINZIP or other compatible file compression/decompression software approved by the Contract Administrator. If the file compression/decompression software is different from that specified above, then an electronic digital media copy of the file compression/decompression software shall be purchased for the Contract Administrator and provided to the Contract Administrator with the delivery media.
h. Include all files, both graphic and non-graphic, required for the project (i.e., color tables, pen tables, font libraries, block libraries, user command files, plot files, and other elements of drawing definition). All blocks not provided as Contract Administrator-furnished materials must be provided to the Contract Administrator as a part of the electronic digital deliverables.
i. Make sure that all support files such as those listed above are in the same directory and that references to those files do not include device or directory specifications.
j. Document any fonts, tables, or other similar customized drawing element developed by Consultant or not provided among Contract Administrator-furnished materials. Contractor shall obtain Contract Administrator approval before using anything other than Contract Administrator's standard fonts, line types, tables, blocks, or other drawing elements available from Contract Administrator.
k. Include any standard sheets (i.e., abbreviation sheets, standard symbol sheets, or other listing) necessary for a complete project.
h. Check completed files are free of any known viruses or unrequired attachments.

2.6 <u>Drawing Development Documentation</u>:

2.6.1 Provide the following information for each finished drawing in the nonplot layer X ****-NPLT:

a. How the data were input (e.g., keyed in, downloaded from a survey total station instrument (include name and model), and other identification data).
b. Brief drawing development history (e.g., date started, modification date(s) with brief description of item(s) modified, author's name, and other identifying data.).
c. The names of the reference, blocks, symbols, details, tables, and schedule files required for the finished drawing.
d. Layer assignments and lock settings.
e. Text fonts, line styles/types used, and pen settings.

2.7 <u>Submittal</u>:

2.7.1 Document any fonts, tables, or other similar customized drawing element developed by Consultant or not provided among the Contract Administrator-furnished materials. The contractor shall obtain Contract Administrator approval

before using anything other than the Contract Administrator's standard fonts, line-types, tables, blocks, or other drawing elements available from the Contract Administrator.

2.8 Submittals / Deliverables:

2.8.1 Submit as Project Record Documents specified above and as required for project phase submittals and project record documents.

2.8.2 Submit electronic media with a transmittal letter containing, as a minimum, the following information:

a. The information included on the external label of each media unit (e.g., CD, DVD, flash drive, etc.), along with the total number being delivered, and a list of the names and issue dates of all files on the media.
b. Brief instructions for transferring the files from the media.
c. Confirm that all delivery media is free of known computer viruses. A statement including the name(s) and release date(s) of the virus-scanning software used to analyze the delivery media, the date the virus-scan was performed, and the operator's name shall also be included with the certification. The release or version date of the virus-scanning software shall be the current version that has detected the latest known viruses at the time of delivery of the digital media.
d. The following "Plot File Development and Project Documentation Information" as an enclosure or attachment to the transmittal letter provided with each electronic digital media submittal:
    1. List of all new figures, symbols, tables, schedules, details, and other blocks created for the project, which were not provided to Consultant with the Contract Administrator-furnished materials, and any associated properties.
    2. List of all database files associated with each drawing, as well as a description and documentation of the database format and schema design.
    3. Recommended modifications which will be necessary to make the data available for GIS use.

2.8.3 Prime Contractors are responsible for ensuring that the Digital Deliverables prepared by their Subcontractors or Subconsultants comply with the standards and policies outlined in this document.

2.9 Ownership:

2.9.1 County has ownership and all rights to all finished or unfinished Digital Deliverables developed for this Project. Any Digital Deliverables generated under any County design and construction Contract, including those generated by the External Project Team Members' Subcontractors or Subconsultants, shall become the property of County. County will have unlimited use of the Digital Deliverables produced for the Project. County acknowledges that the Digital Deliverables are an Instrument of Service of the External Project Team member and that the author

of the Digital Deliverable does not represent or guarantee that the Digital Deliverable will be useful to County for any purposes beyond those uses that they were authored.

2.9.2 County will have unlimited rights under the Agreement of which this document is a part to all information and materials developed under these and other contractual requirements and furnished to the Contract Administrator and documentation thereof, reports, and listings, and all other items pertaining to the work and services pursuant to this agreement including any copyright.

2.9.3 Unlimited rights under this contract are rights to use, duplicate, or disclose text, data, drawings, and information, in whole or in part in any manner and for any purpose whatsoever without compensation to or approval from author except where otherwise limited within the Contract.

2.9.4 The Contract Administrator will at all reasonable times have the right to inspect the work and will have access to and the right to make copies of the above-mentioned items.

2.9.5 All text, electronic digital files, data, and other products generated under this contract shall become the property of County except where otherwise limited within the Contract.

2.10 Contract Administrator-Furnished Materials to the Construction Contractor:

2.10.1 The Contract Administrator and Consultant may make various electronic information available to the Contractor during the Pre-Construction and Construction phases of the Project. To this end, Consultant shall make the following information available to the Contractor in electronic format:

a. Work-files: Selected work product files, copies of BIM and/or CAD files, reports, spreadsheets, databases, specifications, drawings and other documentation of Consultant's work in progress may be provided to the Contractor, Managing General Contractor, or other County consultant on an as required basis. Consultant shall cooperate and facilitate the secure exchange of these electronic media documents.
b. Where electronic media submittals of final site surveys are required: Provide electronic copies of any existing site survey data already on electronic media conforming to Section 2.2 of this Attachment.
c. Where Electronic Project Record Documents are required, Consultant will provide the Contractor one set of contract drawings in an electronic file format conforming to Section 2.2 of this Attachment, to be used for as-constructed drawing markups at the Contractor's option. Make electronic file drawings available on media in conformance with Section 2.5 of this Attachment.

2.11 Other Digital Information:

2.11.1 A variety of digital information may be generated by participants in the design process including the Contract Administrator, Consultant, Subconsultants, Contractor, subcontractors, the Contract Administrator's commissioning authority, local jurisdictional authorities and other project team members.

2.11.2 Consultant shall facilitate and participate in this digital exchange of information by conforming to the standards expressed above and as further described in attachments and Exhibit A Scope of Works.

Section 3 BIM/CADD Standards of Care

3.1 General Provisions:

3.1.1 The Model(s) shall be developed to include the systems described below as they would be built, the processes of installing them, and to reflect final As-Constructed construction conditions. The deliverable 3D Model at all phases shall be developed to include as many of the systems described below as are necessary and appropriate to the design/construction stage. The BIM shall be provided in an editable form and from its inception shall include automatic model positioning using a common reference point (Point of Origin), based on “Florida State Plane Coordinates” derived from the project survey.

3.1.2 The Model shall be developed using Building Information Modeling (“BIM”) supplemented with Computer Aided Drafting and Design (“CADD”) content as necessary to produce a complete set of Construction Documents.

3.1.3 Provide all Building Information Modeling (BIM) for Space Management and Program Validation in conformance to the General Service Administration’s (GSA) “Building Information Modeling Guide 02 -Spatial Program Validation,” dated May 21, 2015 or later. Provide space identification, charts and information in conformance with this Guide.

3.1.4 The parties shall utilize the appropriate Levels of Development (LOD) described below in completing the Model, which establishes the required LOD for each Model Element at each phase of the Project.

3.1.5 The following Level of Development (LOD) descriptions are summaries of Level Of Development Specification for Building Information Models as developed by BIMForum. (http://bimforum.org/lod), current edition (2017 or later). **Each subsequent LOD builds on the previous level and includes all the characteristics of previous levels**. See also “Section 5 BIM Model Progression Schedule” for examples and graphic descriptions of Levels of Development. The following list is a simplified summary of the adopted Levels of Development:

- **LOD 100** elements are not geometric presentations. They may be symbols or other generic representations of information that can be derived from other model elements. Any information derived from LOD

100 elements must be considered approximate.

- **LOD 200** elements are represented graphically but are generic placeholders, e.g., volume, quantity, location, or orientation. Any information derived from LOD 200 elements must be considered approximate.
- **LOD 300** elements are graphically represented as specific systems, objects, or assemblies from which quantity, shape, size, location, and orientation can be measured directly, without having to refer to non-modeled information such as notes or dimension callouts.
- **LOD 350** elements are enhanced beyond LOD 300 by the addition of information regarding interfaces with other building systems. For example, an LOD 350 masonry wall element would include jamb conditions, bond beams, grouted cells, dowel locations, and joints – information that enables the model user to coordinate the wall element with other systems in the structure.
- **LOD 400** elements are modeled at sufficient detail and accuracy for fabrication of the represented component.

NOTE - County and the LOD Specification do not address **LOD 500** since that LOD relates to field verification and is not an indication of progression to a higher level of geometry or information.

3.1.6 The parties shall utilize the appropriate Levels of Development (LOD) described below in completing the Model, which establishes the required LOD for each Model Element at each phase of the Project. LODs and Model Definition: There is no such thing as an "LOD ### model." As previously noted, project models at any stage of delivery will invariably contain elements and assemblies at various levels of development. As an example, it is not logical to require an "LOD 200 model" at the completion of the schematic design phase. Instead, the "100% SD Model" will contain modeled elements at LOD 100 as well as various other levels of development. Consultants will be required to submit a LOD Model Progression as part of the Project Execution Plan.

3.2 <u>Level of Development (LOD) – Expanded Descriptions</u>

3.2.1 **<u>LOD 100:</u>** (Predesign preferred) and Schematic Design (Basic Services)

a. <u>Model Content Requirements</u>: Overall building massing indicative of area, height, volume, location, and orientation may be modeled in three dimensions or represented by other data.

b. <u>Potential Uses</u>:

1. <u>Analysis</u>: The Model may be analyzed based on volume, all spaces, area, solar orientation and configuration by application of generalized performance criteria assigned to the representative Model Elements.
2. <u>Cost Estimating</u>: The Model may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet of floor area, etc.), as opposed to components.
3. <u>Schedule</u>: The Model may be used for project phasing and overall

duration.

3.2.2 **LOD 200**: Design Development (Basic Service)

b. Model Content Requirements: Model Elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements. Partitions and simple furniture models shall be included at this phase.

c. Potential Uses:

1. Analysis. The Model may be analyzed for performance of selected systems and orientation by application of generalized performance criteria assigned to the representative Model Elements.
2. Cost Estimating. The Model may be used to develop cost estimates based on the approximate data provided and conceptual estimating techniques (e.g., volume and quantity of elements or type of system selected).
3. Schedule. The Model may be used to show ordered, time-scaled appearance of major elements and selected systems.

3.2.3 **LOD 300**: Construction Documents (Basic Service)

a. Model Content Requirements: Model Elements are modeled as specific assemblies accurate in terms of quantity, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

b. Facility Management information: Consultant will be required to input all new products installed under the scope of work for this project in conformance with an agreed upon list in OmniClass Table 23 format per Table 1 herein. County and Consultant to meet to refine the scope of the COBie information following issuance of the Schematic Phase NTP.

c. Potential Uses:

Suitable for the generation of traditional construction documents and shop drawings.

1. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
2. Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and industry estimating techniques.
3. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.
4. Clash Detection. The Model may be used to identify architectural and engineering conflicts for primary systems and elements. Areas of study include HVAC ductwork and equipment, structural elements, above ground plumbing and drainage piping, fire sprinklers and risers.

3.2.4 **LOD 350**: Construction (Contractor to provide this LOD as part of its Scope of Work, using the Consultants model unless County elects Consultant to

provide as Optional Service)

a. Model Content Requirements: Model Elements are modeled as constructed assemblies, actual and accurate in terms of size, shape, location, quantity, and orientation. Clearances and access requirements to be included in model elements where applicable, (e.g. VAV access, HVAC access panels, equipment door swings, maintenance panel access, etc.). Non-geometric information may also be attached to modeled elements.
b. Facilities Management information: Consultant to provide complete BIM model(s) to Contractor for its use containing Construction Operations Building Information Exchange (COBIE) standards in conformance with Table 1 herein.
c. Potential Uses:
    1. Clash Detection. The model may be used to coordinate the configuration, installation and positioning of all building elements.
    2. Facility Management. The Model may be utilized for maintaining, altering, and adding to the Project. Update and confirm As-Constructed COBie data and Space Management information.
    3. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
    4. Cost Estimating. The Model may be used to develop cost estimates due to change in project scope based on the specific data provided and estimating techniques.
    5. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

3.2.5 **Detailed BIM Delivery Breakdown for LOD 300 and 350:**

a. **Architectural/Interior Design**. The Architectural systems Model may vary in level of detail for individual building elements, but at a minimum the model must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:
    1. Spaces. The Model shall include spaces defining actual net square footage, net volume and holding data to develop the room finish schedule including room names and numbers. Include program information to verify design space against programmed space, using this information to validate area quantities.
    2. Walls and Curtain Walls. Each wall shall be depicted to the exact height, length, width, materiality and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
    3. Doors, Windows and Louvers. Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce

accurate window and door schedules.

4. Roof. The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and wall sections where roof design elements are depicted.
5. Floors. The floor slab(s) shall be developed in the Structural Model and then referenced by the Architectural Model.
6. Ceilings. All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and wall sections where ceiling design elements are depicted.
7. Vertical Circulation. All continuous vertical components (i.e., non-structural shafts, architectural stairs, ramps, conveying systems, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.
8. Architectural Specialties. All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and millwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations, sections and schedules in which such design elements are referenced.
9. Signage. The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.
10. Schedules. Provide door, window, hardware sets using Builders Hardware Manufacturers Association (BHMA) designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.

b. **Furniture.** The furniture Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing and have necessary intelligence to produce accurate plans. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Representation of furniture elements is to be 3D. 3D Examples of furniture include, but are not limited to, desks, furniture systems, seating, tables, and office storage. Additional minimum Model requirements include:
   1. Furniture Coordination. Furniture that makes use of electrical, data or other features shall include the necessary intelligence to produce coordinated documents and data. Models shall be sufficient to enable their use to demonstrate complete furniture mounted electrical and data installation locations.

c. **Equipment**. The Model may vary in level of detail for individual elements. Equipment shall be depicted to meet layout and clearance requirements with the necessary intelligence to produce accurate plans and schedules, indicating the configuration, materials, finishes, mechanical, electrical

requirements and all other related utilities. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines, microwaves, and equipment specifically related to the operations and functions of the facility.

1. Schedules. Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.

d. **Structural** The Structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:

1. Foundations. All necessary foundation and/or footing elements, with necessary intelligence to produce accurate plans and elevations.
2. Floor Slabs. Structural floor slabs shall be depicted with all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted. Major penetrations shall include A/C duct chases and pipes larger than 6" dia. only.
3. Structural Steel. All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans, related building/wall sections, and schedules.
4. Cast-in-Place Concrete. All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting cast-in-place concrete elements.
5. Precast/Tilt-up/CMU. All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting such elements.
6. Expansion Joints. Joints shall be accurately depicted.
7. Stairs. All framing members for stair systems, including necessary intelligence to produce accurate plans and building/wall sections depicting stair design elements.
8. Shafts and Pits. All shafts and pits, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.
9. Openings and Penetrations. All major openings and penetrations.

e. **Mechanical.** The Mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" NPS) field-routed piping is not required to be depicted in the Model. Additional minimum Model requirements include:

1. HVAC. All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution for supply, return, ventilation and exhaust ducts, control systems, chillers, registers, diffusers, grills, and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.
2. Mechanical Piping. All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.
3. Equipment Clearances. All Mechanical equipment clearances shall be modeled for use in interference management and maintenance access requirements.

f. **Plumbing.** All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. Piping shall include slope requirements.
   1. Equipment Clearances. All equipment clearances shall be modeled for use in interference management and maintenance access requirements.
   2. Elevator Equipment. All necessary equipment and control systems, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

g. **Electrical/Telecommunications/Data**. The Electrical and Telecommunications systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" Ø) field-routed conduit is not required to be depicted in the Model unless banks of 3 or more conduits are run on racks. Additional *minimum* Model requirements include:
   1. Interior Electrical Power and Lighting. All necessary interior electrical components (i.e., lighting, receptacles, special and general-purpose power receptacles, lighting fixtures, panel boards, cable trays and control systems), including necessary intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled. Whips servicing lighting fixtures are required to be modeled.
   2. Special Electrical. All necessary special electrical components (i.e., security, mass notification, public address, nurse call and other special electrical occupancy sensors, and control systems), including necessary intelligence to produce accurate plans, details and schedules.
   3. Grounding. All necessary grounding components (i.e., lightning protection systems, static grounding systems, communications grounding systems, and bonding), including necessary intelligence to produce accurate plans, details and schedules.
   4. Telecommunications/Data. All existing and new telecommunications

service controls and connections, both above ground and underground, with necessary intelligence to produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.

5. Exterior Building Lighting. All necessary exterior lighting including all lighting fixtures, relevant existing and proposed support utility lines and equipment with necessary intelligence to produce accurate plans, details and schedules.
6. Equipment Clearances. All Electrical equipment clearances shall be modeled for use in interference management and maintenance access requirements.

h. **Fire Protection**. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. All Fire Protection piping should be modeled. Additional minimum Model requirements include:
   1. Fire Alarms. Fire alarm/mass notification devices and detection systems, audible and visual, shall be indicated with necessary intelligence to produce accurate plans depicting them.
   2. Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.

i. **Security**. Both facilities require a level of security to ensure record and evidence integrity. The security system Model may vary in level of detail for individual elements, but at a minimum must include all devices and components that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include, but not limited to:
   1. Closed Circuit Television (CCTV). Security Cameras, devices, components, and detection systems shall be indicated with necessary intelligence to produce accurate plans depicting them on drawings.
   2. Emergency Notification Systems. All relevant security protection components (i.e. panic buttons, card readers, door controls, monitoring stations, security computer room, room/ corridor sensors, audible/visible annunciators, and security control panels) with necessary intelligence to produce accurate plans depicting the system(s).
   3. Burglar Alarm Systems. Building security including motion detectors, glass-break sensors, audible devices, and other intrusion detection devices as well control system for above shall be indicated on plans.
   4. Public address system – Speakers, zone control reflected on plan.

5. Low-voltage systems – Various systems for communication, or customer services including Wi-Fi, FIBS/BIDS boards, phone chargers, lighting, Public Art, induction systems, wayfinding, solar PV, wind, and other systems.
6. Bi-Directional Antenna systems (BDA) – Antennas, trunk lines, branch line, control boxes, repeaters, emergency or redundant power sources, primary interface components, and home run room.

j. **Conveying Systems.** The conveying systems models should indicate primary equipment, all necessary plumbing piping, electrical panels, fixture layouts and other related equipment, that would appear on a quarter inch (¼" = 1'-0") scaled drawing. Clearly indicate equipment clearances.
   1. Elevator Equipment. All necessary equipment and control systems, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements. Provide indicators and call buttons.
   2. Escalator and other Conveyance Equipment. All relevant components of the escalator/conveyance system including accurate modeling of stair tread, size and placement. Indicate areas where 6'-8" clear headroom exists below the finished escalator if applicable.

k. **Landscape**. The Landscape Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" =1'0") scaled drawing and have necessary intelligence to produce accurate plans. Representation of Landscape elements is to be diagrammatic. Examples of landscape material include but are not limited to trees and shrubs.

l. **Civil.** The Civil Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a one inch (1" = 100' to 1" = 20') scaled drawing. Additional *minimum* Model requirements include:
   1. Terrain (DTM). All relevant site conditions and proposed grading, including necessary intelligence to produce accurate Project site topographical plans and cross sections.
   2. Drainage. All existing and new drainage piping, including upgrades thereto, including necessary intelligence to produce accurate plans and profiles for the Project site.
   3. Storm Water and Sanitary Sewers. All existing and new sewer structures and piping, including upgrades thereto, with necessary connections to mains or other distribution points as appropriate, including necessary intelligence to produce accurate plans and profiles.
   4. Utilities. All necessary new utilities connections from the Project building(s) to the existing or newly created utilities, and all existing above ground and underground utility conduits, including necessary intelligence to produce accurate plans and site-sections.

5. Roads and Parking. All necessary roadways, parking lots, and parking structures, including necessary intelligence to produce accurate plans, profiles and cross-sections.

m. **Potential Uses**:
   a. Suitable for the generation of traditional construction documents and shop drawings.
   b. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
   c. Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and conceptual estimating techniques.
   d. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

3.2.6 **LOD 400**: BIM for Fabrication. (Optional Service).

a. Model Content Requirements. Model Elements are modeled as specific assemblies that are accurate in terms of size, shape, location, quantity, and orientation with complete fabrication, assembly, and detailing information. Non-geometric information may also be attached to Model Elements.
b. Potential Uses:
   1. Construction. Model Elements are virtual representations of the proposed element and are suitable for construction.
   2. Analysis. The Model may be analyzed for performance of approved selected systems based on specific Model Elements.
   3. Cost Estimating. Costs are based on the actual cost of specific elements at buyout.
   4. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

3.3 BIM for Facility Management

3.3.1 BIMs shall be provided by Contractor or Managing General Contractor (MGC). Contractor or MGC shall submit an As Constructed BIM to the A/E Consultant demonstrating the successful extraction and validation of COBie in Excel format for building operations, maintenance and management.

3.4 As-Constructed Model Content Requirements

a. Model Content Requirements. Contractor shall model Elements as constructed assemblies, actual and accurate in terms of size, shape, location, quantity, and orientation. Provide Non-geometric information may also be attached to modeled elements. Facilities Management information completed with all requested information developed to County required Construction Operations Building Information Exchange (COBIE) standards. A model that accurately depicts rooms, names, uses, final room numbering, sizes and identifiers for on-going Space Management of

the completed facility.

b. Potential Uses:
   1. Facility and Construction Management. The Model may be utilized for maintaining, altering, and adding to the Project and generating reports.
   2. Project Record Documents. As-Constructed data accurately portrayed in the BIM model for future reference and reuse.

3.5 **COBie Data**

a. **Within 30 days from the issuance of the Notice To Proceed (NTP) for Schematic Design**, the County and Consultant shall finalize and select items from the following OmniClass 23 table to establish the basis of COBie elements to be tracked and delivered in the completed model.

23-11	Products
23-13	Structural and Exterior Enclosure Products
23-15	Interior and Finish Products
23-17	Openings, Passages, and Protection Products
23-21	Furnishings, Fixtures and Equipment Products
23-23	Conveying Systems and Material Handling Products
23-27	General Facility Services Products
23-29	Facility and Occupant Protection Products
23-31	Plumbing Specific Products and Equipment
23-33	HVAC Specific Products and Equipment
23-35	Electrical and Lighting Specific Products and Equipment
23-37	Information and Communication Specific Products and Equipment

Table 1.0 – Selected Excerpt from OmniClass Table 23

3.6 **BIM Project Execution Plan (BIM PxP or PxP)**

3.6.1 The BIM PxP template is included in this Attachment 2, as “Section 4 - Project Execution Plan (BIM PxP). The Consultants BIM PxP Coordinator for the Project has the responsibility of documenting the Project Execution Plan (PxP), gathering the required information from the External Project Team, scheduling and leading the PxP meetings and establishing and implementing protocols for revisions and sharing the PxP

3.6.2 The development of the PxP is a collaborative effort by all members of the Project team and will be reviewed and updated in meetings specifically scheduled for this purpose. All members of the Project team are required to submit initial information for their scope to the designated PxP Coordinator within 15 calendar days of commencing work. At a minimum PxP meetings shall be conducted at the end of each project phase and a revised PxP shall be issued to County and the External Project Team. A record PxP shall be provided to the owner at handover including all updated requirements.

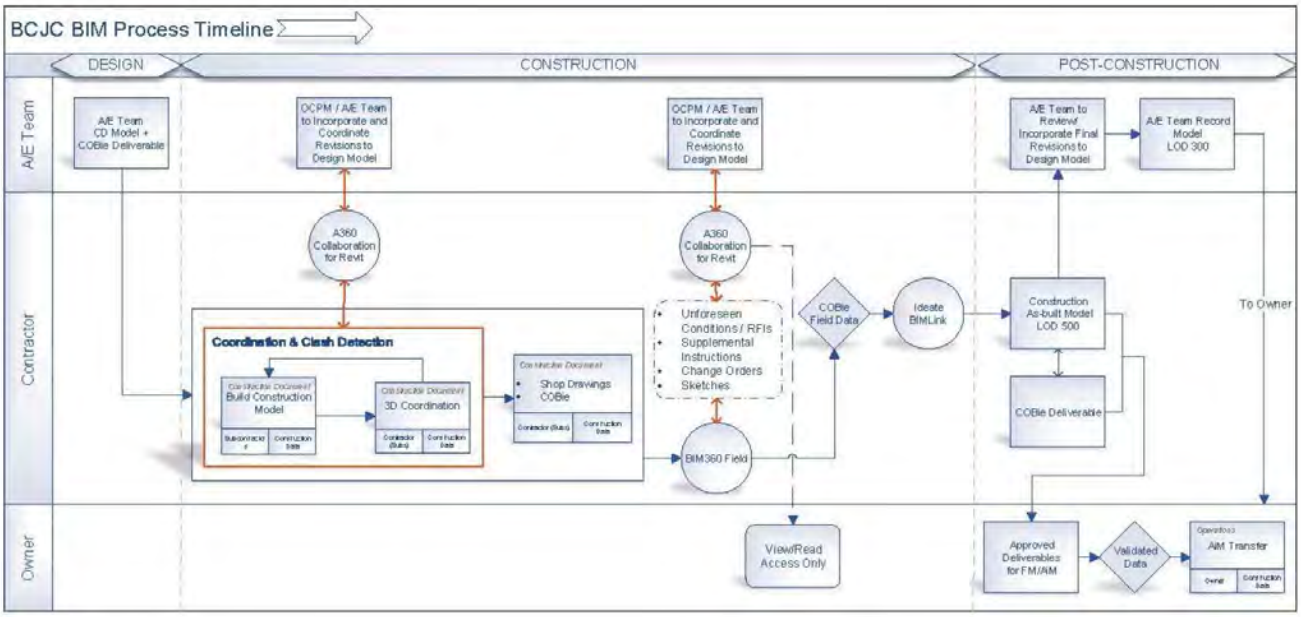
3.6.3 The PxP is subject to review and approval by County at each project phase.

3.6.4 The design and construction teams shall submit a written BIM PxP subject to review and written approval by County prior to proceeding with the process. The BIM PxP will outline all methods and procedures for collaboration between the design and construction teams as well as coordination of VDC/BIM efforts of the subcontractors. The Contract Administrator, Design Team and all sub-consultants engaged in the BIM process will sign agreement to adhere to the BIM Project Execution Plan.

3.6.5 The BIM Project Execution Plan shall include as a minimum:

a. Project Information
b. Key Project Contacts
c. Project VDC / BIM Uses
d. Organizational Roles and Staffing
e. VDC / BIM Process for preconstruction, construction and handover
f. BIM Information Exchanges
g. BIM and Facility Data Requirements
h. Collaboration and coordination procedures
i. Quality Control
j. Technological Infrastructure Needs
k. A Model Progression Schedule identifying LODs and Authors for each category of model (built) element.
l. Clash detection approach
m. Cost estimating level
n. BIM Deliverables

3.6.6 A BIM Process Flow Chart provides a graphic visualization of the processes and approval points to be used during the life of the project. The County encourages the development of this chart as an effective practice and communication tool. An example BIM Flow Chart is provided below:



3.6.7 To promote efficiency and continuity, the 2D construction documents must be extracted directly from the Design Model and both the BIMs and the 2D Deliverables will be integral parts of the contract documents. Two dimensional (2D) details, enlargements, General Notes, externally generated Schedules, and specifications will take precedence over the Design Models.

3.7 BIM Use Agent Responsibility Matrix

3.7.1 County has identified the Required, Preferred and Optional BIM uses as it relates to this project. The County acknowledges that Design and Construction Consultants will work together to achieve these Uses. Implementation of these uses should be explained by the Consultant in the BIM PxP, Section F. Roles, responsibilities and timing are to be documented.

3.7.2 The County's typical BIM Uses for New Construction Projects are as follows:

County Typical BIM Use - New Construction	
BIM Use	**County Intent**
3D Coordination / Conflict Analysis	Required
As Constructed Model	Required
Asset Management	Required
CIM / Subsurface	Required
Constructability/Peer Review	Required
Design 4 Maintenance (D4M)	Required
Design Authoring	Required
Design Reviews	Required
Existing Conditions Modeling	Required
Facility Data Exchange	Required
Owner Approvals	Required
QA/QC	Required
Record Modeling	Required
Site Utilization Planning	Required
Spatial Analysis	Required
Visualization	Required
Commissioning	Preferred
Cost Estimation	Preferred

BIM Use	County Intent
Energy / Mechanical Analysis	Preferred
Programming	Preferred
Program / Code Validation	Preferred
Quantity Take-Off	Preferred
Site Analysis	Preferred
Space Management / Tracking	Preferred
Structural Analysis	Preferred
Sustainability / LEED	Preferred
Total Cost Of Ownership	Preferred
BIM2field - Digital Layout	Optional
Building Maintenance Scheduling	Optional
Building System Analysis	Optional
Code Analysis	Optional
Construction System Design	Optional
Digital Fabrication	Optional
Disaster Planning	Optional
Electrical Analysis	Optional
Field and Material Tracking	Optional
Laser Scanning	Optional
Lighting Analysis	Optional
Pay Applications	Optional
Phase Planning 4D	Optional
Security / Key Management	Optional
Specification Production	Optional

3.8 **3D Coordination and Conflict Analysis**

3.8.1 The Design Team shall use BIM to employ a managed approach to advanced collaborative reviews, including automated element collision detection using software such as Autodesk Navisworks and model checkers such as Solibri by Nemetschek. By coordinating BIM data during the design phases, this can reduce the number of potential major conflicts that might arise during the construction phase.

3.8.2 This approach is not meant to replace the traditional quality control process, or the early airspace zone MEP strategy approach used by the project team and participating consultants but will enhance the ability of the project team to visualize the design and detect interferences between discipline components.

3.8.3 Design Team Coordination

a. The Design Team shall produce a design in which all MEP/FP systems fit within the intended spaces provided, including necessary and required clearances, egress zones, and access zones. To help achieve this goal, the Design Team shall have a formal 3D spatial analysis and clash resolution process that forms the backbone of the QA/QC process. The spatial analysis and clash resolution process shall include regularly scheduled clash review meetings and the use of software tools to analyze and resolve clashes.
b. County does not expect a “clash-free” design, however County expects a design that has been spatially analyzed and validated such that all systems are constructible within the space designed.
c. Clash reports will be required at project milestone deliverables for both Design and Construction.
d. Cost estimating – Level 1 thru 4
e. Construction Schedule and Duration
f. Utilities coordination and invert elevations

3.8.4 Contractor Team Coordination

a. Contractor shall carry out clash detection analysis and complete preliminary virtual design and construction (VDC) activities as part of the Constructability Reviews.
b. Weekly, the CM shall conduct coordination meetings with each Contractor, Subcontractor, PM, County and Design Team as needed.
c. The CM shall prepare clash detection reports and distribute minutes/ reports to all attendees.

3.9 **Model Content Requirements**

3.9.1 A Model Progression Schedule/Agent Responsibility Matrix (MPS) shall be used as a tool to help Model Contributors throughout the Design, Construction and Operation phases understand what should be included in the BIMs when at each project milestone.

a. The Construction Models should reflect the exact geometric properties of the materials and/or systems being submitted. These models should reflect the exact material properties and performance data.
b. It is the responsibility of the Design and Construction Team to use the MPS as part of the BIM PxP or JBIM PxP to establish how they progressively reach the County’s expectations.
c. See also Section 4 - BIM Project Execution Plan and Section 5 - Model Progression Schedule/Agent Responsibility Matrix templates for additional required information.

3.10 **Shop Drawings, Sleeve Drawings and Fabrication**

3.10.1 Shop Drawings shall be produced directly from the construction BIMs. No parallel 2D process will be accepted

a. Sleeve Drawings -Sleeve drawings for cast-in-place or precast systems shall be produced after BIM Coordination is completed for the area of construction requiring the sleeve drawings.
b. Fabrication and Preassembly -Whenever possible the Construction Team shall use the Construction BIMs to fabricate or preassemble their systems.

3.11 BIM in the field for Installation

3.11.1 The Contractor shall take measures to assure that what is being installed at the field is what was agreed upon on the Coordinated Federated Construction BIM. Any deviations must be documented as updates to the BIMs and the party responsible for resulting conflicts will be liable for costs associated with such deviations.

3.12 Submittals

3.12.1 Upon Substantial Completion, BIM files shall be submitted to County, and shall be cleaned of extraneous "scrap" or "working space", stories, abandoned designs, object creation and testing places, and other content which is typically produced in or during BIM construction coordination.

a. The Contractor shall be responsible for providing the County a Federated, As-Constructed Model that includes all building systems. The Model shall be coordinated and "clash free" except as noted.
b. Contractor shall provide a native file of the final Federated As-Constructed Model for building systems used in the multi-discipline coordination process (version as agreed in BIM PxP)
c. Contractor shall identify native file formats used in the final Federated As-Constructed Model for building systems for the multi-discipline coordination process (version as agreed in BIM PxP)
d. Contractor shall provide IFC files (ISO 16739) of As-Constructed models (version as agreed in BIM PxP)
e. Contractor shall provide COBie / data compliant file containing room and product data information (version as agreed in BIM PxP)

3.12.2 County will not accept BIM files that have become un-useable, or too heavy for normal use. Proper care shall be taken to strip all BIMs of any and all miscellaneous files that are not directly part of the BIMs. The BIM Compliance Checklist, shown below, is required to be submitted with each BIM Deliverable as part of the QA/QC process and to show compliance.

BIM Compliance Checklist	
Description	Y / N
Model content is representative of their discipline developments according to the MPS.	
Model file name and folder structure conforms to County Standards.	

BIM Compliance Checklist	
All annotations and title blocks are per the County standards.	
All floor plans types have been created for each floor or mezzanine in the project model.	
All schedules are populated with all the required data for the project.	
The model is correctly assembled as per visual inspection.	
The color code for Federated BIMs conforms to County Standards.	
All the model contents are correctly placed per their element categorization in the correct work set and conform to standards.	
All non-transmittal linked-in files (CAD/Revit) have been removed from the model.	
All non-required views / legends / schedules / sheets / images have been removed from the model.	
Unwanted Design Options have been removed from the model (applicable for Contract Document Phase through Project completion and handover).	
All unnecessary groups have been removed from the model. All groups used to model the building have been ungrouped and purged from the deliverables to reduce the file size of the model.	
As a last step, the model has been purged (repeat the process three times -- materials are only removed after the parent object has been removed). This will reduce the file size.	
3D Solids Check – No wireframe or lines are accepted. Surface modeling shall be reserved for Topography modeling only. Other use of surface modeling shall require prior approval by County.	
Errors or Warnings - check that there are not any generated within the BIM Authoring software. It is the Design and Construction Teams' responsibility to ensure BIM quality and data integrity.	
Model Elements are not duplicated. i.e. Columns in both Architectural and Structural models.	
Objects are correctly defined under the proper Revit Family Category and sub-category.	

3.13 **Responsibilities Related to the Final Record BIM**

3.13.1 Design Team Responsibilities

a. The Design Team will update the Architectural and Structural Design Models as changes occur throughout the construction phase, incorporating all updates and/or revisions to the models as necessary to reflect design changes initiated by Architectural Supplemental Instructions (ASI), Request for Information (RFI), Conformed Documents, Owner Changes, coordination with existing conditions or other changes to the work.

3.13.2 Construction Team Responsibilities

a. During the construction phase, and while the work is still visible, the Construction Team will maintain "red-line" As-Constructed drawings or

demonstrate regular updates to the BIM models during the progress of the work.

b. In preparation for Substantial Completion, the Construction Team will:
   1. Make all necessary final updates and/or revisions to the models to reflect the As-Constructed information to the tolerance specified in the Standard or agreed upon in the BIM PxP. It is the responsibility of each subcontractor to keep accurate “red-line” markups and records from the field in order to produce accurate As-Constructed models and drawings.
   2. Final updates to material/equipment data and properties where installations differ from the “basis of design” included in the Design Team Models.
   3. Incorporation or linking of certain close-out documents to the Federated Model (as agreed in BIM PXP).

c. All model updates by the Construction Team shall be complete one (1) week prior to Final Completion at which time all the required close out BIM deliverables shall be transmitted to the Consultant for review and to be incorporated with the updated Design Models to create the Record Model deliverable. (as agreed in BIM PXP).

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Section 4 BIM Execution Plan

BIM PROJECT EXECUTION PLAN
(BIM PxP)
FOR
Insert Project Name Here in Black Font
DEVELOPED BY
Broward County - Construction Management Division
(County)

This template is a required tool that is provided to assist in the development of a BIM Project Execution Plan (BIM PxP) as required by Contract.

Consultants are required to "Track" changes when editing this document so BROWARD COUNTY - CONSTRUCTION MANAGEMENT DIVISION (County) can review and accept any additions and modifications as part of the review process.

BIM PROJECT EXECUTION PLAN
FOR
Insert Project Name Here in Black font

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Introduction

This template exists to document the decisions made by the Design and Construction Teams working through the BIM process. To successfully implement BIM on both the project and organizational levels, Broward County Construction Management Division has developed this BIM Project Execution Plan (BIM PxP) to improve accuracy and

consistency of BIM deliverables. This plan will delineate roles and responsibilities while detailing BIM scope of information to be shared that is relevant to the BIM project process. The document is intended to cover both model creation and data integration.

Instructions

Submission Schedule
The Design and Construction Teams are required to submit a completed BIM PxP within 30 days of contract execution. This plan shall identify the entire project team including consulting engineers, specialty consultants and contractors. The BIM PxP should be considered a living document and maintained and updated throughout the project.

Please note: Instructions and examples to assist with the completion of this guide are displayed in italicized blue font. The text can and should be modified to suit the needs of the organization filling out the template. If modified, the format of the text should be changed to match the rest of the document (non- italicized and in black, 12-point, Calibri font typical) and "tracked changes" shall be submitted in electronic form for Broward County Construction Management Division review and approval.

The overall section headings of this template shall remain, but the BIM PxP Coordinator may propose any other changes or additions to this template including expansion of the content of the sections and additional sections and attachments. Changes and additions shall be agreed to by the project team and submitted to Broward County Construction Management Division for approval.

This BIM PxP document is based on the National BIM Standard-United States™ Version 3 and the Pennsylvania State University BIM Project Execution Plan Version 2.0 and customized for Broward County Construction Management Division.

Section A: BIM Project Execution Plan Overview

The Broward County Construction Management Division requires the use of Building Information Modeling (BIM) as a tool in the planning, design, construction and operation of our facilities worldwide. A well-executed BIM project facilitates the collaboration and communication between the owner, the design team and the construction team in order to best meet the project's goals.

The purpose of this process change is to ensure maximum benefit from our assets by improving the building's design and construction, reduce the total cost and time of delivery and improve operations and management after handover. BIM allows for a more complete, efficient, iterative design and construction process. The clearest benefits are the enhanced visualization of the project at all stages of development, the creation of higher quality design and construction deliverables and the reduction of construction coordination conflicts in the field. At the end of construction, the Building Information Models serve as rich databases of digital data captured during design and construction about the building's assets. This single centralized source of information is invaluable to the Facilities Department for the on-going operations and management of the building to ensure our facilities are sustainable and resilient.

To successfully implement Building Information Modeling (BIM) on a project, the project team has developed this detailed template BIM Project Execution Plan.

INSERT ADDITIONAL INFORMATION HERE IF APPLICABLE.
With the help of the project team, develop a brief mission statement here that will give an overview of BIM objectives that are specific to this project. This can be developed at a collaborative brainstorming session at the first BIM PxP meeting. Extensive additional information can be included as an attachment to this document.

Section B: Project Information

This section defines basic project reference information and determined project milestones

1. Client Name: Broward County Construction Management Division

2. Project Name:

3. Project Location and Address:

4. Contract Type / Delivery Method: Managing General Contractor (MGC)

5. Brief Project Description: Refer to Exhibit A, Scope of Work

6. Additional Project Information: none

7. Project Identification Numbers: *Please complete table below*

Team Member	Project Number
Broward County Construction Management Division	
Architect	
MEP Engineers	
Structural Engineer	
Contractor	

Section C: Delivery Strategy

Delivery and Contracting Strategy for the project:
This section is useful primarily when design delivery methods are being utilized that involve early collaboration of the design and construction teams (IPD, Design Assist, etc.). List the Project Delivery strategy for the project below (Design-Bid-Build, CM at Risk, IPD, Design Assist, etc.).

Please note what additional measures need to be taken to successfully use BIM with the selected delivery method and contract type?

Section C.1 - Project Schedule / Phases / Milestones:

In coordination with the project schedule, include BIM milestones, pre-design activities, major design reviews, stakeholder reviews and any other major events which occur during the project lifecycle.

Project Phase / Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
Notice to Proceed			
BIM PxP Kick-off			
Programming			
County Review and Comments			
Design Team Review and Resubmit			
Schematic Design			
County Review and Comments			
Design Team Review and Resubmit			
Design Development			
County Review and Comments			
Design Team Review and Resubmit			
50% CD's			
County Review and Comments			
Design Team Review and Resubmit			
__% CD's			
County Review and Comments			
Design Team Review and Resubmit			
100% CD's			

Project Phase / Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
County Review and Comments			
Design Team Review and Resubmit			
Award / Permit			
Pre-Construction			
Project Coordination Kickoff			
Underground Coordination			
Site Coordination			
Building Exterior Coordination			
Building Interior Coordination (First Floor)			
Building Roof Coordination			
Coordination Sign-Off			

Section C.2 - Project Deliverables

In this section, please check off the BIM Deliverables from Consultant and Contractor on the appropriate tables below that are relevant for this project. Note any and all deviations to these required deliverables below.

Schedule of Deliverables to Broward County Construction Management Division				
CONSULTING ARCHITECTURE AND ENGINEERING TEAM				
Phase	**Deliverable**	**Include Y/N**	**Due**	**File Type**
Contract Award	BIM PxP		30 days of ATP	Native and PDF
Programming /	Massing models and		Per BIM	Native and IFC and

Feasibility Models	Narrative Space and Program Validation Report		PxP	PDF Native and PDF
Planning	Design Models -		Per BIM PxP	Native and IFC (2x3) files
Schematic Design	Design Models -		Per BIM PxP	Native and IFC (2x3) files
Design Development	Existing Conditions Model Design and Analysis Models - Updated BIM PxP Coordination Reports BIM Compliance Checklist		Per BIM PxP	Native and IFC (2x3) files Native and IFC Native and PDF PDF PDF
Construction Documents	Design and Analysis Models 2D documents and Clash Report Updated BIM PxP Coordination Reports BIM Compliance Checklist COBie Data Set - Del 1		Per BIM PxP	Native and IFC (2x3) files PDF Native and PDF PDF PDF COBie2 2.40
Permitting / Conformance	Federated Design Model 2D Documents		Per BIM PxP	Native files PDF
Construction - Approved Submittals	COBie Data Set - Del 2		Per BIM PxP	Native and IFC (2x3) files
Construction- Close-Out Close-Out Close-Out Close-Out Close-Out Close-Out	COBie Data Set - Del 3 COBie Data Set – Final Record Floor Plans Record BIMs Federated Record BIM Coordination Report Record Model Instruction Rpt. Final BIM PxP		Per BIM PxP	COBie2 2.40 COBie2 2.40 DWG Native and IFC (2x3) Native Native and PDF Native and PDF Native and PDF

Schedule of Deliverables to Broward County Construction Management Division				
CONSTRUCTION TEAM				
Phase	**Deliverable**	**Include**	**Due**	**File Type**

		Y/N		
Contract Award	BIM PxP		Within 30 days	Native and PDF
Pre-Construction	Coordination BIMs BIM Compliance Checklist		Per BIM PxP	
Project Close out	COBie Data Set – Del 3 As-Constructed BIMs BIM Compliance Checklist Coordination Report Federated As-Constructed BIM Final BIM PxP		Per BIM PxP	COBie2 2.40 Native and IFC (2x3) PDF PDF .NWD Native and PDF

Section D: Key Project Contacts

ROLE	CONTACT NAME	ORGANIZATION	EMAIL	PHONE
Owner PM		Broward County CMD		
Owners BIM Manager		Broward County CMD		
BIM PxP Coordinator				
Design Professional's Principal in Charge				
Design Professional's Project Manager				
Design Professional's BIM Manager				
Design Professional's BIM Project Lead				

Consultant's Principal in Charge				
Consultant's Project Manager				
Consultant's BIM Manager				
Consultant's BIM Project Lead (per discipline)				
Contractors PM				
Contractors BIM Manager				
Others				

Section E: Organizational Roles / Staffing

This section should be filled in at the choice of the BIM PxP Coordinator and extended team

BIM Roles and Responsibilities:

Broward County Construction Management Division (CMD): Broward County's Construction Management Division is responsible for BIM, CAD support, coordination and integration. It is also their responsibility to ensure design and construction document/model compliance with Broward County Construction Management Division Standards while maintaining and facilitating access to record drawings and models.

Describe BIM roles and responsibilities such as BIM Managers, Project Managers, Draftspersons, etc.

Titles	Roles in Design	Roles in Construction
Broward County Construction Management	• BIM Oversight and Compliance Reviews	• BIM Oversight and Compliance Reviews

Division		
Project Manager		
Model Manager		
BIM Coordinator		
Modeler		
COBie Coordinator		

Section F: BIM Uses

Broward County Construction Management Division has developed a BIM Use/Consultant Responsible Matrix for use in the planning and procurement of BIM projects. This matrix defines Broward County Construction Management Division's priorities for the application of BIM Uses, the responsibilities of the External Team Members, and the phases to which the BIM Uses apply. BIM Uses should only be employed if they offer significant benefit to the Project without compromising cost or schedule.

Insert additional information as needed for this specific project. Items in RED are minimal required by Broward County Construction Management Division.

BIM Use	Consultant Responsible for Implementation	Required Proposed	Plan Design Construct Operate			
			P	D	C	O
Visualization	A and C.	**Required**	X	X	X	X
Programming						
Site Analysis						
Design Authoring	A, Trades	**Required**	X	X	X	
Design Reviews	A	**Required**	X	X		
3D Coordination	A and C.	**Required**	X	X	X	
Constructability Review	C	**Required**	X	X		
Structural Analysis						
Lighting Analysis						
Energy Analysis						

Mechanical Analysis						
Other Eng. Analysis						
Sustainability Evaluation						
Design4Maintenance Review	A and C.	**Required**		X	X	
3D Coordination and Conflict Analysis	A and C.	**Required**	X	X	X	
Facility Data Exchange	A and C.	**Required**		X	X	X
Quality Assurance / Quality Control						
Owner Approvals	A	**Required**	X	X		
Code Validation						
Commissioning						
Site Utilization Planning	A or C.	**Required**		X	X	
Construction System Design						
Digital Fabrication						
3D Control and Planning						
4D Phase Planning						
5D Cost Estimation						
Quantity Take Off						
BIM2Field						
Laser Scanning						
Point Cloud integration						
Security Key Management						
Building Maintenance Scheduling						
Record Modeling	A	**Required**		X		
Way finding						
Virtual / Mixed Reality						

As-Constructed Modeling	C	**Required**			X	
Building System Analysis						
Asset Management	A and C	**Required**		X	X	X
Space Management / Tracking	A	**Required**		X	X	X
Disaster Planning						
Existing Conditions Model						

Section G: BIM Process Design

Define the BIM Process and Workflows that the External Project Team will be implementing on this project as it relates to the BIM Uses that have been selected and contracted for this project. Define a detailed plan for implementing each BIM Use, define the specific exchanges of information and/or BIMs for each activity, the party responsible for each activity, and when in the schedule of the project it should occur. Process maps like those in the Penn State BIM Execution Plan may be included but are optional.

Section H: Model Progression Schedule / LOD

A template Model Progression Schedule/Agent Responsibility Matrix (MPS) template defining minimum requirements for model handover will be provided by the Project Manager and examples are included and referenced in Section 5 of this Attachment 2. The LOD levels and tolerances in the Handover section of the sample MPS define Broward County Construction Management Division's requirements for the Existing Conditions, As-Constructed and Record BIMs. The External Project Team is to complete and submit a project specific MPS for this project for all project phases as applicable. The columns pertaining to Existing Conditions, As-Constructed Modeling and Record Modeling along with requirements for tolerances and allowable deviations are to be included in the MPS.

The Model Element Rows in Broward County Construction Management Division's template MPS are high level. The rows in the final project MPS may have a higher level of granularity to be used as required to address the needs of the project and the best practices of the External Project Team.

The executed MPS shall be attached to this BIM PxP.

Section I: BIM and Facility Data Requirements

At a minimum and not limited to, Broward County Construction Management Division will require COBie data sets for all components on the Equipment List per the Construction Documents that require any of the following:

- ✓ Scheduled preventative maintenance i.e. Mechanical, Electrical,
- ✓ Routine maintenance/inspections: i.e. Plumbing
- ✓ Regulatory inspections i.e. life safety related: fire extinguisher, fire dampers, backflow preventers

The list to the right shows a sample Preliminary Asset Type List for Broward County Construction Management Division Projects. This list should be used and further detailed in the BIM PxP Template.

Shown In	BCAD Preliminary Asset Type List	OmniClass- Products Classification - Table 23
ARCH Model	AUTOMATIC EXTERNAL DEFIBULATOR (AED)	23-25 21 13
	BAGGAGE HANDLING CONVEYOR	23-23 17 15
	ELEVATOR	23-23 11 11
	ESCALATOR	23-23 11 13
	FIRE DOOR	23-17 11 32
	ICE MACHINE	23-21 21 29
	MOVING WALKWAY	23-23 15 11
	SLIDING DOOR	23-17 11 23
	TICKET COUNTER	23-21 19 15
	WATER COOLER	23-31 31 00
ELECT Model	FIELD CONTROL PANEL	23-35 31 15
	GENERATOR	23-35 11 15
	LINE CONTROL PANEL	23-35 31 15
	MOTOR CONTROL CENTER	23-35 31 23
	MOTOR CONTROL PANEL	23-35 31 15
	VARIABLE FREQUENCY DRIVE	23-35 17 15
	VARIABLE SPEED DRIVE	23-35 17 00
MECH Model	AC UNIT	23-33 39 11
	AIR HANDLER	23-33 25 00
	CHILLER	23-33 21 00
	CONDENSER WATER PUMP	23-27 17 00
	CONDENSING UNIT	23-33 43 00
	COOLING TOWER	23-33 23 00
	EXHAUST FAN	23-33 31 19
	FAN COIL UNITS	23-33 33 11
	FAN POWERED BOX	23-33 41 11
	FAN TERMINAL BOX	23-33 41 11
	FAN VARIABLE VOLUME BOX	23-33 41 11
	OUTSIDE AIR HANDLER UNIT	23-33 25 13
	PACKAGE AIR CONDITIONING UNIT	23-33 39 17
	PRIMARY CHILLED WATER PUMP	23-27 17 00
	ROOF TOP UNIT	23-33 25 17
	SECONDARY CHILLED WATER PUMP	23-27 17 00
	SPLIT SYS CONDENSING UNIT	23-33 43 00
	SUPPLY FAN	23-33 31 19
	VARIABLE AIR VOLUME BOX	23-33 41 17
PLUM Model	AIR COMPRESSOR	23-27 21 00
	CHEMICAL STATION	23-27 55 31
	ELECTRIC HOT WATER BOILER	23-33 11 22
	HEAT EXCHANGER	23-27 23 00
	HEAT PUMPS	23-33 17 00
	HOT WATER PUMP REHEAT	23-27 17 00
	SUMP PUMP	23-27 17 00
	TRASH PUMP	23-27 17 00
	WATER CIRCULATING PUMP	23-27 17 00

These assets types may be found in consultant 3D CAD models with limited information embedded. The information required on these asset types would be manual entered into the COBie deliverable worksheets.

CIVIL	AIR FIELD LIGHTING RUNWAY	N/A
	AIRFIELD BEACON	N/A
	CRASH GATE	23-11 25 15
	CRASH PERIMETER GATE	23-11 25 15
	ENGINEERED MATERIAL ARRESTING SYSTEM - EMAS	N/A
	PEDESTRIAN GATE	23-11 25 15
	PERIMETER GATE	23-11 25 15
CONSULANT	ABOVE GROUND STORAGE TANK	23-27 29 19
	BAG MEASUREMENT EQUIPMENT	23-23 17 15
	BAGGAGE DIMENSIONER	23-23 17 15
	BAGGAGE HANDLING CAROUSEL	23-23 17 15
	DIESEL FUEL STORAGE TANK	23-27 29 19
	HIGH SPEED DIVERTER	23-23 17 15
	JETWAY	23-23 15 15
	OVER SIZE BAG DOOR	23-23 17 15
	SCALE	N/A

Section J: Collaboration Procedures

Collaboration Strategy:

Provide a brief, general description of how the project team will collaborate. Include items such as communication methods, document management and transfer, and record storage, etc.

FILE LOCATION	FILE STRUCTURE/ NAME	FILE TYPE	PASSWORD	FILE OWNER	UPDATED
Collaboration SITE: SITE	Root Project Folder	FOLDER	YES	PT Project Mgr.	ONCE
Provide Further Information on Structure of Collaboration Site	Root Project Folder	FOLDER	YES	PMG Project Mgr.	ONCE
Provide Further Information on Structure of Collaboration Site	**TBD**	RVT	YES	PMG Project Mgr.	WEEKLY

Section J.1 - BIM Meeting Procedures:

There will be several types of collaboration and model review meetings needed for the project, including general progress meetings, design coordination meetings, etc. The following table includes, but is not limited to, some of the types of potential meetings necessary for the project, meeting host(s), required attendees, and required technology. Broward County Construction Management Division understands that these meetings may be in-person, virtual and/ or a combination of both. The following table describes the schedule for coordination meetings, clash detection meetings, and model walkthroughs. Items marked in Red will be REQUIRED.

The meetings listed below reflect typical Broward County Construction Management Division expectations for a project and should be customized for the needs of a project.

	DESIGN INTENT MODELS			
MEETING TYPE	**STAGE**	**FREQUENCY**	**LOCATION**	**COMMENTS / PARTICIPANTS**
Design Phase BIM Kick-off		1X within 15 days of start of project	On-site	General discussion to make sure all parties are aligned on BIM Requirements

BIM Project Execution Plan Presentation		1X within 30 days of start of project	On-site	BIM PxP Coordinator presents completed BIM PxP to entire team for final sign-off
Design Authoring Coordination Meetings		Weekly	In-Cloud	Coordination and Federation of Design Team Models.
Design Presentations/ Model Walk-throughs		As Needed	On-site	BIM presentations to Project Team for approval and reviews. Geared towards Owner and User Groups.
Design4Maintenance		DD / CD Phases 1X	On-site	BIMs to review equipment maintainability and “soft clash” for clearances.
Data Meeting		DD / CD Phases 1X	In-Cloud / On-site	Review BIMs for data compliance and test import.
Model Handover Meeting		1X	On-site	Meeting to discuss and test interoperability and file exchange.
Design Close-out		2X	On-site	Meeting to finalize Record BIMs and As-Constructed BIMs for close-out.
Construction Phase BIM Kick-off Meeting	STAGE	FREQUENCY	LOCATION	COMMENTS / PARTICIPANTS
Clash / Cord Meetings			On-site	General Guidelines for model laying, area, trade sequencing and reserved zones.
Design4Maintenance			In-Cloud / On-site	
Contractor Handover/ Close-out			On-site	BIMs to review equipment maintainability and “soft clash” for clearances.
Contractor Handover/ Close-out			TBD	Meeting to finalize Record BIMs and As-Constructed BIMs for close-out.

Section J.2 - Model Delivery Schedule of Information Exchange for Submission and Approval:

Document the information exchanges and file transfers that will occur on the project. Modify the DISCIPLINE column to match the way that content is segregated into different models on a project.

DISCIPLINE	FILE TYPE	UPLOAD FREQUENCY	DOWNLOAD FREQUENCY
Architectural (Exterior)			
Architectural (Interior)			
Specialty Equipment			
Furniture			
Structural			
Mechanical			
Electrical			
Plumbing			
Civil			
Landscape			

Section J.3 - Electronic Communication Procedures:

The following document management issues should be resolved, and a procedure should be defined for each: Permissions / access, File Locations, FTP Site Location(s), File Transfer Protocol, File / Folder Maintenance, etc.

Section K: Quality Control

Overall Strategy for Quality Control:

Describe the strategy to control the quality of the model.

Quality Control Checks: The following checks should be performed to assure quality:

CHECKS	DEFINITION	RESPONSIBLE PARTY	SOFTWARE PROGRAM(S)	FREQUENCY
VISUAL CHECK	Ensure there are no unintended model components and that the design intent has been followed	A/E/C	REVIT / NAVIS	Ongoing
INTERFERENCE CHECK	Detect problems in the model where two building components are clashing including soft and hard	A/E/C	NAVIS	Bi-weekly
STANDARDS CHECK	Ensure that the BIM and County Standards have been followed (fonts, dimensions, line styles, family naming, shared coordinates, etc.)	A/E/C	REVIT / DATA NORMALIZATION	Weekly
MODEL INTEGRITY CHECKS	Describe the QC validation process used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements and the reporting process on non-compliant elements and corrective action plans	A/E/C	REVIT	Ongoing
DATA CONTENT CHECK	Conform to County BIM Requirements	A/E/C	DATA NORMALIZATION / MAXIMO	Weekly then monthly
ERROR / WARNING CHECK	Conform to County BIM Requirements	A/E/C	REVIT	Weekly

Section K.1 - Model Maintenance

The following table describes the recommended process for model maintenance. Each discipline shall be responsible for the maintenance of their models. Broward County Construction Management Division requires that all the below be conducted before submitting model at the completion of each phase of the development of the project. All the below except for removing unused design options shall be conducted before uploading models for exchange with other team members.

PROCESS	FREQUENCY (MINIMUM)
Auditing Central Files	
Compacting	
Removal of Unused Design Options	
Correcting Warning Messages where applicable	On-going (Warnings that have significance shall be resolved. Warnings shall be kept to a reasonable number. An export of warnings in the model shall accompany major milestone deliverables.)
Purging unused objects	
Purging DWG links/imports	
Deletion of unused Sheets and Views	
Resolve duplicate elements	

Section K.2 - Document Revisions

Revisions to documents will be tracked as follows:

DESCRIPTION	DESIGN/ RECORD	AS-CONSTRUCTED MODEL	DESCRIPTION
RFI's			
Revit Model			
Navisworks			
CCD's			
ASI's			
CO's			

Section K.3 - Model Accuracy and Tolerances:

Models should include all appropriate dimensioning as needed for design intent, analysis, and construction.

PHASE	DISCIPLINE	TOLERANCE
EXISTING CONDITIONS MODEL	CIVIL (UNDERGROUND)	ACCURATE TO +/- (6") OF ACTUAL SIZE ACCURATE TO +/- (12") OF ACTUAL LOCATION
EXISTING CONDITIONS MODEL (ACCESSIBLE ITEMS)	ARCHITECTURAL STRUCTURAL MEPFP	ACCURATE TO +/- (1/8") OF DESIGN INTENT SIZE ACCURATE TO +/- (2") OF DESIGN INTENT LOCATION
DESIGN DOCUMENT MODELS	CIVIL ARCHITECTURAL STRUCTURAL MEP FP	ACCURATE TO +/- (1/8") OF DESIGN INTENT SIZE ACCURATE TO +/- (2") OF DESIGN INTENT LOCATION
SHOP DRAWINGS MODELS	CIVIL INTERIORS ENVELOPE STRUCTURAL MEPFP	ACCURATE TO +/- (1/16") OF ACTUAL SIZE ACCURATE TO +/- (1") OF ACTUAL LOCATION
AS-CONSTRUCTED MODELS	INTERIORS NOT RELATED TO CODE	ACCURATE TO +/- (1/8") OF ACTUAL SIZE ACCURATE TO +/- (2") OF ACTUAL LOCATION
AS-CONSTRUCTED MODELS	INTERIORS RELATED TO CODE	ACCURATE TO +/- (1/8") OF ACTUAL SIZE ACCURATE TO +/- (1/4") OF ACTUAL LOCATION
AS-CONSTRUCTED MODELS	CIVIL INTERIORS ENVELOPE STRUCTURAL M**EP FP**	ACCURATE TO +/- (1/16") OF ACTUAL SIZE ACCURATE TO +/- (1") OF ACTUAL LOCATION

Section K.4 - BIM Folder Structure for Deliverables:
The following folder structure is the standard folder structure for BIM-related files that will be used on Broward County Construction Management Division projects. No deviations from this folder structure will be permitted without a Proposed Variance Request. However, if desired, each project team may add subfolders where necessary, as defined in the
BIM PxP and approved by Broward County Construction Management Division.

Project Documents for Design BIMs

- Design BIM Execution Plan (Owner, AE)
- Design BIM Analysis Reports (Owner, AE)
- Coordination Logs and Reports
- Design Model Deliverables (Public)

    - Models Used to Produce Schematic Design
    - Models Used to Produce Design Development
    - Models Used to Produce Construction Documents
    - Models Used to Produce Agency Submittals
    - Models for Permitting/ Conformance
    - Models for Construction Manager
- COBie Data Deliverables
- BIM Project Close-out
    - Record Floor Plans
    - Record BIMs
    - Federated Record BIM
    - COBie Data Final Deliverable
- Other

Project Documents for Construction BIMs

- Owner BIM Execution Plan (Owner, CM, BIM Subs)
- Construction BIM Analysis Reports (Owner, GC)
- Coordination Logs and Reports
- Coordination Models
- Trade Models
    - Models Used to Produce Final Shop Drawings
    - Models Used to Produce 4D
        - Schedule Data Used to Produce 4D
    - Models Used to Produce 5D
        - Model Quantities Used to Produce 5D
- COBie Data Deliverables
- BIM Project Close-Out
    - As-Constructed Models
    - Federated As-Constructed Models
    - Record Models
    - Federated Record Models
    - COBie Data Final Deliverable
- Other

Section L: Technological Infrastructure Needs

1. Software:

Broward County Construction Management Division uses Autodesk Revit for projects. Use of other IFC Compatible software than what is listed in the Broward County Construction Management Division BIM Standard requires approval by Broward County Construction Management Division.

List software used to deliver BIM. List any add-on software that is required to open, read or manipulate files as well. Indicate the 2D export deliverable file format for each software. The lines listed below are a sample and shall be modified for a project.

BIM USE	DISCIPLINE(S)	SOFTWARE	VERSION / BUILD	2D FILE FORMAT DELIVERABLE
Authoring				
Authoring				
Authoring				
Authoring				
Authoring				
Clash Detection				
Energy Analysis				
Cost Analysis				

Section M: Model Structure

Section M.1 - File Naming Structure:

Determine and list the structure for model file names. Design Team CAD File names shall be listed in the Drawing List with Authoring Company and File Names attachment.

FILE NAMES (Design Intent Models)	
Architectural Model	
Civil Model	
Mechanical Model	
Plumbing Model	
Electrical Model	
Structural Model	
Energy Model	
Coordination Model	

FILE NAMES (Construction Models)	
Steel Model	
Mechanical Model	
Plumbing Model	
Electrical Model	
Construction Model	
Coordination Model	

Section M.2 - Model Structure:

Describe how the Model is separated, e.g., by building, by floors, by zone, by areas, and/or discipline. Indicate the connections and hierarchy of linked files, including CAD files. Broward County Construction Management Division requires that all paths in Revit files be relative and that files be overlaid instead of attached unless the project team makes a strong case for alternate strategies.

1. DESIGN PHASE MODEL STRUCTURE:

2. CONSTRUCTION PHASE MODEL STRUCTURE:

Section M.3 - Measurement and Coordinate Systems:

Broward County Construction Management Division requires use of State Plane Coordinates to place the Building on its site to act as the Site origin Point and to provide for future GIS integration. See Section 2.2.4 of this Attachment 2. Broward County Construction Management Division will also provide 2D and 3D AutoCAD blocks and a 3D generic model family to be placed at the origin of ALL Design Intent BIMs, Construction BIMs and CAD files to confirm that files are aligned.

All Revit files shall have their project base point at the Revit project startup location. All CAD and Revit files that are to be linked to the Revit file using the “Origin to Origin” option. All plan-based CAD files shall use the Broward County Construction Management Division Site Origin Point as well as their 0,0 WCS origin. The 0 level in the “Z” coordinate shall match the survey datum of “0” used by the Civil Engineer in

their surveys. This will ensure that all files for all buildings across the Broward County Construction Management Division campus will align to a single origin and that Revit level tags will report the true elevations of the floors.

Civil AutoCAD 2D and Civil 3D files will need to be modified prior to linking because they use an origin point that is different than the Broward County Construction Management Division Site Origin Point. It is typically outside the distance allowed by Revit. Broward County Construction Management Division's CAD-BIM Manager can provide instructions on this.

Units shall be Imperial units. Civil 2D AutoCAD or Civil 3D files may be set with 1 unit equals 1 foot. Revit files will be set with 1 unit equals 1 foot. All other AutoCAD files including Revit exports shall be set with 1 unit equals 1 inch.

Section M.4 - Worksets:

Each discipline shall be responsible for the naming of the worksets within their files. The only required worksets are LinkCAD-Description and LinkBIM-Description. Any linked CAD files or BIM files shall be placed on these worksets so that Revit files can be opened without loading these worksets for ease of upgrading the files.

List Worksets used by discipline below:

DISCIPLINE	WORKSET	DESCRIPTION
Arch, M, E, P, Struct	LinkCAD-All	Workset for all CAD links
M, E, P, Struct	LinkBIM-Arch	Workset for Architectural Revit file
Arch, E, P, Struct	LinkBIM-Mech	Workset for Mechanical Revit file
Arch, M, P, Struct	LinkBIM-Elec	Workset for Electrical Revit file
Arch, M, E, Struct	LinkBIM-Plumb	Workset for Plumbing Revit file
Arch, M, E, P	LinkBIM-Struct	Workset for Structural Revit file
Arch, M, E, P, Struct	Levels and Grids	Levels, Grids
Arch	Shell	Building Shell
Arch	Core	Elevators, Stairs
Arch	Interior-B	Basement Interior Fit-out
Arch	Interior-1	1st floor Interior Fit-out

Section M.5 - Color Coding:

Federated models shall adhere to Exhibit "A" – Scope of Work Attachment 2, Section 2.2.12. If approved by the Contract Administrator, a modified color coding may be revised to follow the agreed upon trade colors listed below:

(insert any modified, Contract Administrator approved, color coding selections for this project below)

a. Architecture: White
b. Structural Steel: Maroon
c. Concrete and Masonry: Gray
d. HVAC Equipment: Gold
e. HVAC Supply Duct/Diffuser: Blue
f. HVAC Return Duct/Diffuser: Magenta
g. HVAC Exhaust Ventilation Ductwork: Medium Orchid
h. HVAC Piping Supply: Gold
i. HVAC Piping Return: Violet
j. Electrical Equipment: Dark Yellow
k. Electrical Conduits: Light Yellow
l. Communication Conduit: Light Blue
m. Electrical Cable Tray: Dark Orange
n. Electrical Lighting: Light Golden Rod Yellow
o. Plumbing Domestic Water: Lime
p. Plumbing Sewer Waste / Vent: Olive
q. Plumbing Storm/Roof Drain: Dark Green
r. Fire Protection: Red
s. Fire Alarm: Golden Rod
t. Pneumatic Tube: Dark Slate Gray
u. Equipment: Burly Wood
v. Specialty Gas: Light Green
w. Steel: Rust
x. Security Systems: Orange

Section N: Attachments

1. *List any project specific BIM PxP Attachments here*
2.

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Approvals:

By signing below, this BIM Project Execution Plan is adopted and agreed upon between the signed companies.

DISCIPLINE	NAME	SIGNATURE	DATE
Broward County Construction Management Division			
Architect			
Mechanical Engineer			
Electrical Engineer			
Plumbing Engineer			
Fire Protection			
Structural Engineer			
Civil Engineer			
Surveyor			
Geotech/ Soil borings			
BIM Consultant			
Construction Manager			
Construction			
Other			

End of Section 4 BIM Execution Plan

Section 5 BIM Model Progression Schedule/Agent Responsible Matrix (MPS)

(Example of "Overview" Tab)

The MPS will be distributed by the Project Manager in an electronic format for use

Model Progression Schedule (MPS)
Agent Responsible Matrix (ARM)

Overview and Intent of this Document.

Broward County Public Works Department and the Construction Management Division have created this Model Progression Schedule (MPS) and Agent Responsible Matrix (ARM) for use in the planning and procurement of BIM projects. This Matrix is based upon BIMForum's 2017 LOD (Level of Development) Specification and serves as a reference document. The BIMForum Specification reference enables practioners to specify and articulate with a high level of clarity the content and reliability of BIMs at various stages in the design and construction process.

The County has prescribed minimum LOD's that are required at project milestones, but does not dictate workflow to achieve these requirements leaving the completion of the Model Progressions to the users in consultation with the County and project team.

This matrix defines Broward County's priorities for the development of project BIMs, the responsibilities of the External Team Members, and the phases to which the BIMs will be delivered and the LOD expected. The "Model Element Table" Tab includes the BIM Elements that are to be defined and the "LOD Definitions" tab includes example Level of Development definitions. This chart will be included in RFP's that require BIM and is a tool to be used for contract negotiation upon project award.

Instructions for completing this Document.

1 This MPS/ ARM will be included in the RFP for all BIM Projects. Upon Contract award, your team shall complete the MPS as part of the contract negotiation process, and be prepared to discuss "hand-off" & coordination of the BIM's.

2 Click on the "Model Element Table" Tab below to complete the MPS as is applicable to your project.

3 Insert the Level of Development (LOD) and the Agent Responsible and contracted to deliver that element.

4 Once agreed upon, this document will become a contract document and will be attached to the teams BIMPxP.

5 When completing the MPS, Please check the box on the top of the MPS to show the stage of the MPS submittal i.e. RFP, Proposed, Approved as described below:

RFP: Required for this Project by Broward County, the initial stage of review.

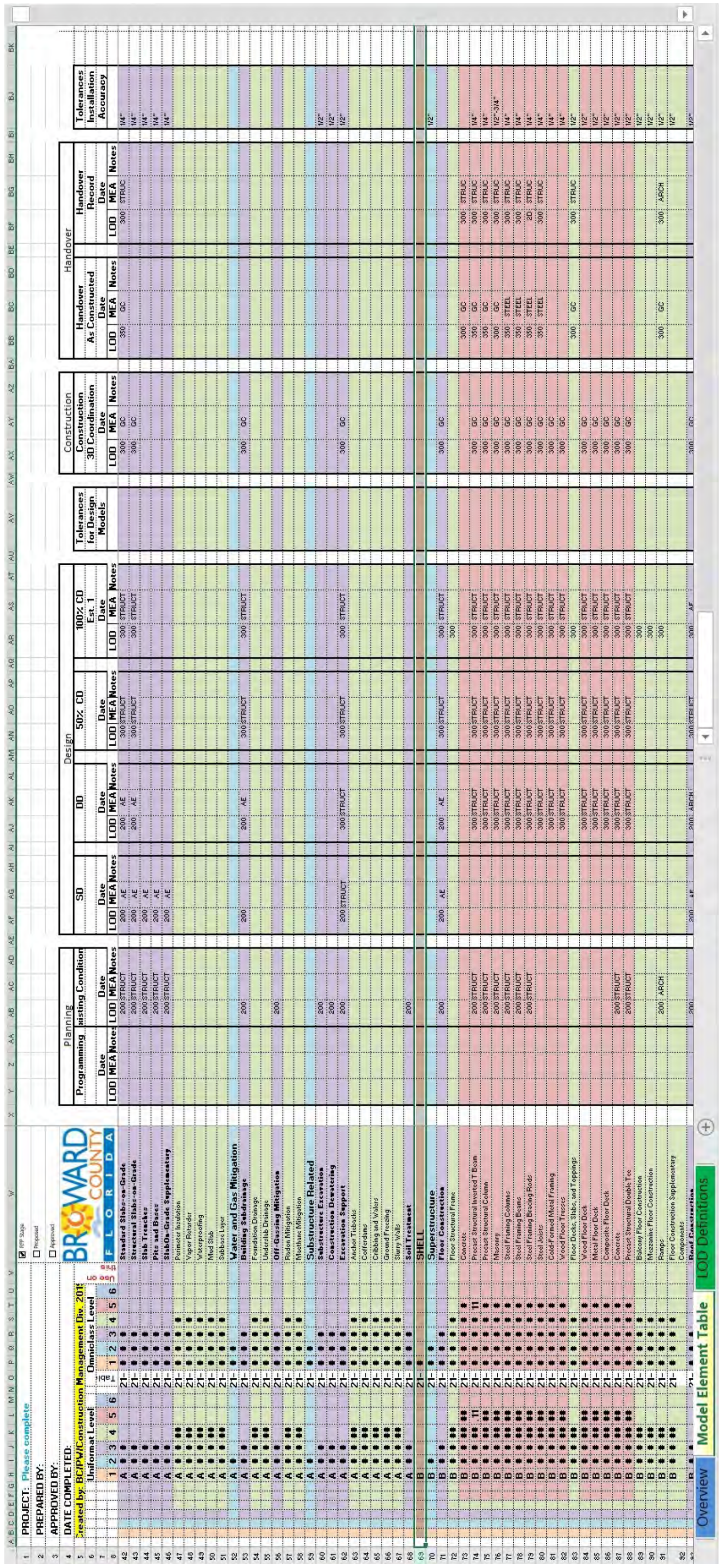
Proposed: The Design or Construction Professional changes the status to "Proposed" for all elements that are to be included in the project models.

Approved: The Model Elements and Progression Schedule that is contracted by the Design Consultants and Contractors to be included in their Team's scope of work.

Please Note:

Questions, suggestions or concerns with completing this document during the RFP selection process should be directed to the BC-PurchasingAgent listed on the RFP. The Broward County Project Manager will serve as the primary contact and address all discussions or concerns during negotiations and subsequent Project Phases.

Model Progression Schedule/Agent Responsible Matrix
(“Model Element Table” Tab - Partial Example)



BIMForum Level of Development (LOD) Definitions
("LOD Definitions" Tab - Example)

Fundamental LOD Definitions

LOD 100 - Massing / Planning Level

The Model Element may be graphically represented in the Model with a symbol or other generic representation, but does not satisfy the requirements for LOD 200. Information related to the Model Element (i.e. cost per square foot, tonnage of HVAC, etc.) can be derived from other Model Elements.

BIMForum Interpretation: LOD 100 elements are not geometric representations. Examples are information attached to other model elements or symbols showing the existence of a component but not its shape, size, or precise location. Any information derived from LOD 100 elements must be considered approximate.

LOD 200 - Generic Design Level

The Model Element is graphically represented within the Model as a generic system, object, or assembly with approximate quantities, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

BIMForum interpretation: At this LOD elements are generic placeholders. They may be recognizable as the components they represent, or they may be volumes for space reservation. Any information derived from LOD 200 elements must be considered

LOD 300 - Design Coordination Level

The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of quantity, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

BIMForum interpretation: The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs. The project origin is defined and the element is located accurately with respect to the project origin.

LOD 350 - Construction Coordination Level

The Model Element is graphically represented within the Model as a specific system, object, or assembly in terms of quantity, size, shape, location, orientation, and interfaces with other building systems. Non-graphic information may also be attached to the Model Element.

BIMForum interpretation: Parts necessary for coordination of the element with nearby or attached elements are modeled. These parts will include such items as supports and connections. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.

LOD 400 - Fabrication Level

The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of size, shape, location, quantity, and orientation with detailing, fabrication, assembly, and installation information. Non-graphic information may also be attached to the Model Element.

BIMForum interpretation: An LOD 400 element is modeled at sufficient detail and accuracy for fabrication of the represented component. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.

* Definition from the "Level of Development Specification Part 1. November 2017 BIMFORUM.

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End of Attachment 2: BIM and Electronic Media Submittal Requirements

DCP

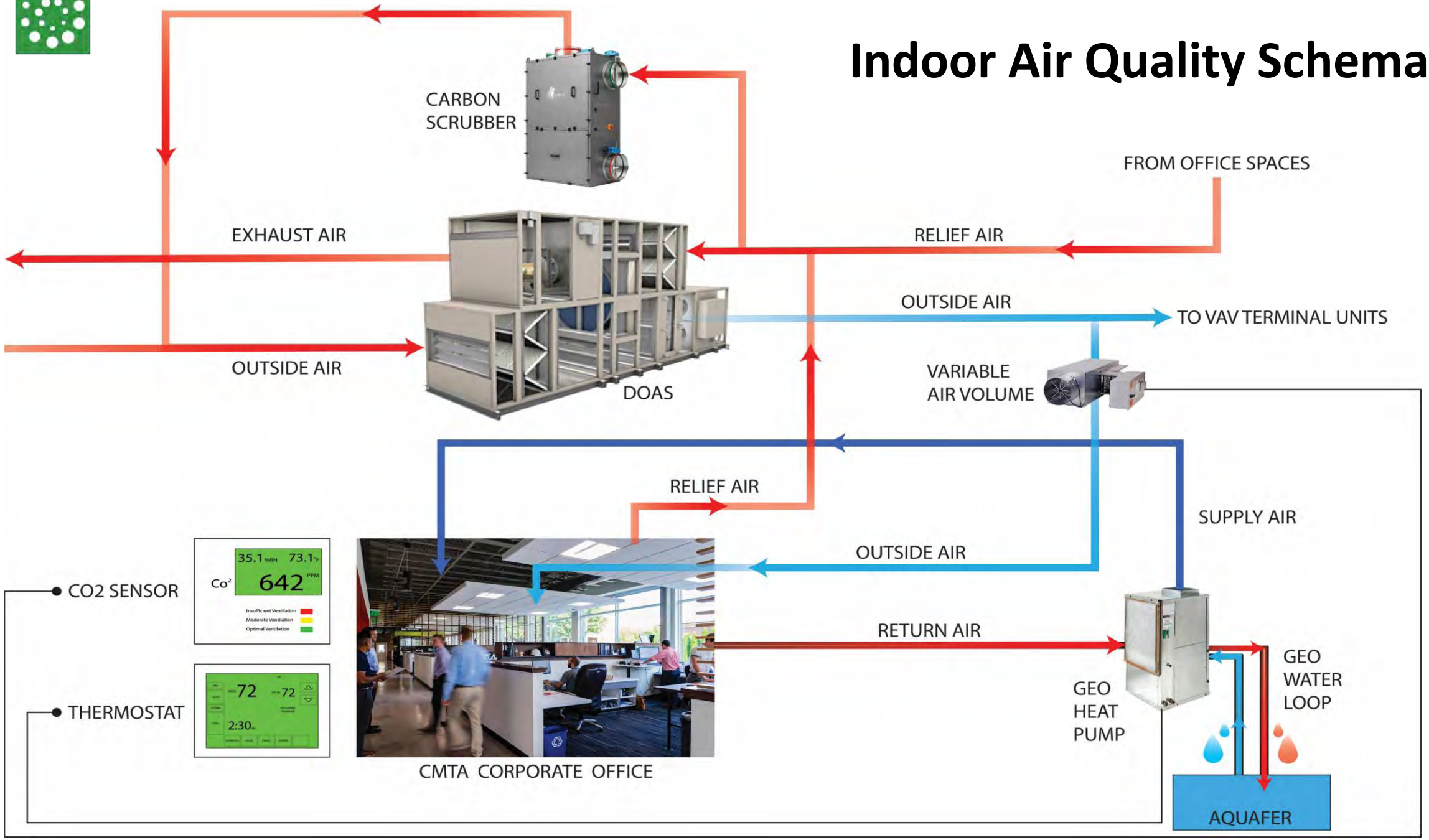
APPENDIX K
HVAC Diagram and Zones Analysis

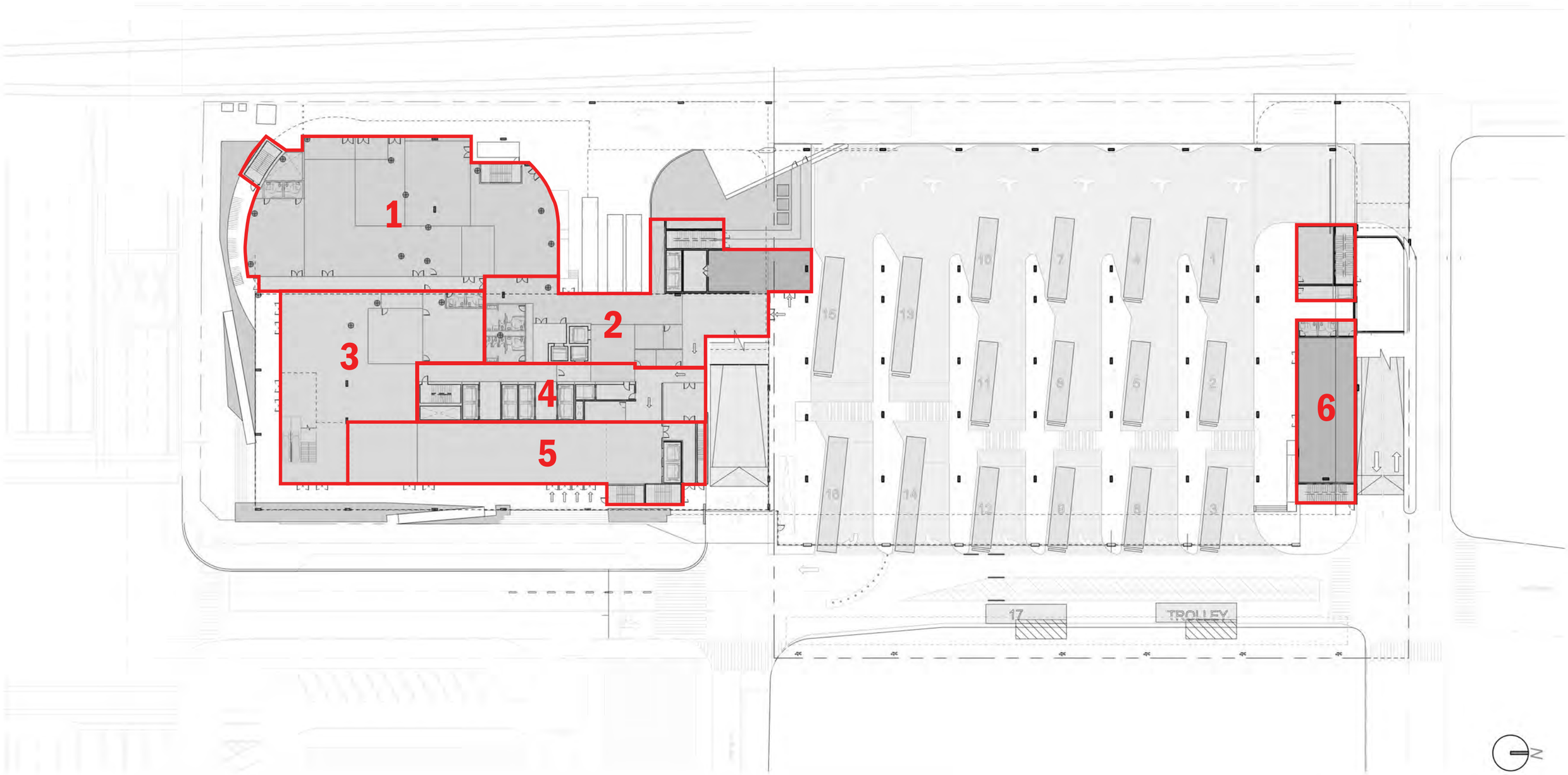
BOOK 3 | SEPTEMBER 14, 2020

Ft. Lauderdale JGCC HVAC System Feasibility Matrix

System Type and Heat Rejection		First Cost	Energy & Carbon	Life Cycle Cost	Air Quality	Maint.	Thermal Comfort	Reliability & Redundancy	Acoustics	Air Recirc.	Achieves Net Zero	Weighted Score	Description
Importance		10%	15%	15%	10%	10%	10%	5%	5%	5%	15%	100%	
VAV w/ DOAS	Cooling Tower + Chiller	4	1	1	4	2	3	1	2	1	1	1.9	A traditional central VAV air handling system will serve each floor. Chilled water will be provided by chiller + cooling tower. DOAS for OA delivery provides some energy savings and improved indoor air quality. Estimated EUI: 90
Chilled Beams w/ DOAS	Cooling Tower + Chiller	4	2	3	4	2	5	2	4	3	2	2.85	A central dedicated outside air system (DOAS) will provide ventilation and cover all latent cooling loads in the building. Active induction chilled beam units will be utilized in all spaces for sensible cooling. Chilled water will be provided by chiller + cooling tower. Estimated EUI: 60
VRF w/ DOAS	Geo	3	3	4	2	2	5	3	2	5	3	2.95	A central DOAS will provide ventilation to the entire building. Ceiling mounted VRF console units located throughout the building will provide cooling and heating to spaces. Open-loop (aquifer) geothermal wells will be provided for heat rejection and absorption. Estimated EUI: 40
	Cooling Tower + Chiller	4	2	3	2	2	5	3	2	5	2	2.6	A central DOAS will provide ventilation to the entire building. Ceiling mounted VRF console units located throughout the building will provide cooling and heating to spaces. A cooling tower will provide heat rejection. An outdoor air-source heat pump or electric boiler will provide heat injection. Estimated EUI: 55
Fan Coils w/ DOAS	Geo	3	4	4	2	2	5	2	2	5	3	3.05	A central DOAS will provide ventilation to the entire building. Ceiling or floor mounted fan coil units located throughout the building will provide cooling to spaces. Electric radiant heating panels will provide heat. Open-loop (aquifer) geothermal wells will be provided for heat rejection and absorption. Estimated EUI: 40
	Cooling Tower + Chiller	4	2	3	2	2	5	2	2	5	2	2.55	A central DOAS will provide ventilation to the entire building. Ceiling or floor mounted fan coil units located throughout the building will provide cooling to spaces. Electric radiant heating panels will provide heat. A cooling tower will provide heat rejection. An outdoor air-source heat pump or electric boiler will provide heat injection. Estimated EUI: 55
Heat Pumps w/ DOAS	Geo	3	5	5	5	4	4	4	4	3	5	4.25	A central DOAS will provide ventilation to the entire building. Water source heat pumps located in closets throughout the building will provide cooling and heating to spaces. Open-loop (aquifer) geothermal wells will be provided for heat rejection and absorption. Estimated EUI: 30
	Cooling Tower + Boiler	4	3	4	5	3	4	4	4	3	3	3.5	A central DOAS will provide ventilation to the entire building. Water source heat pumps located in closets throughout the building will provide cooling and heating to spaces. A cooling tower will provide heat rejection. An outdoor air-source heat pump or electric boiler will provide heat injection. Estimated EUI: 40
	Hybrid	3	4	5	5	3	4	5	4	3	4	3.9	A central DOAS will provide ventilation to the entire building. Water source heat pumps located in closets throughout the building will provide cooling and heating to spaces. Some open-loop (aquifer) geothermal wells will be provided for heat rejection and absorption such that no boiler is needed. A reduced size cooling tower will supplement geothermal wells for heat rejection allowing for reduced geothermal cost. Estimated EUI: 35

Indoor Air Quality Schematic





HVAC ZONE DIAGRAMS By HAMMOND & ASSOCIATES

Level 1	1" = 50'-0"	07/29/2020

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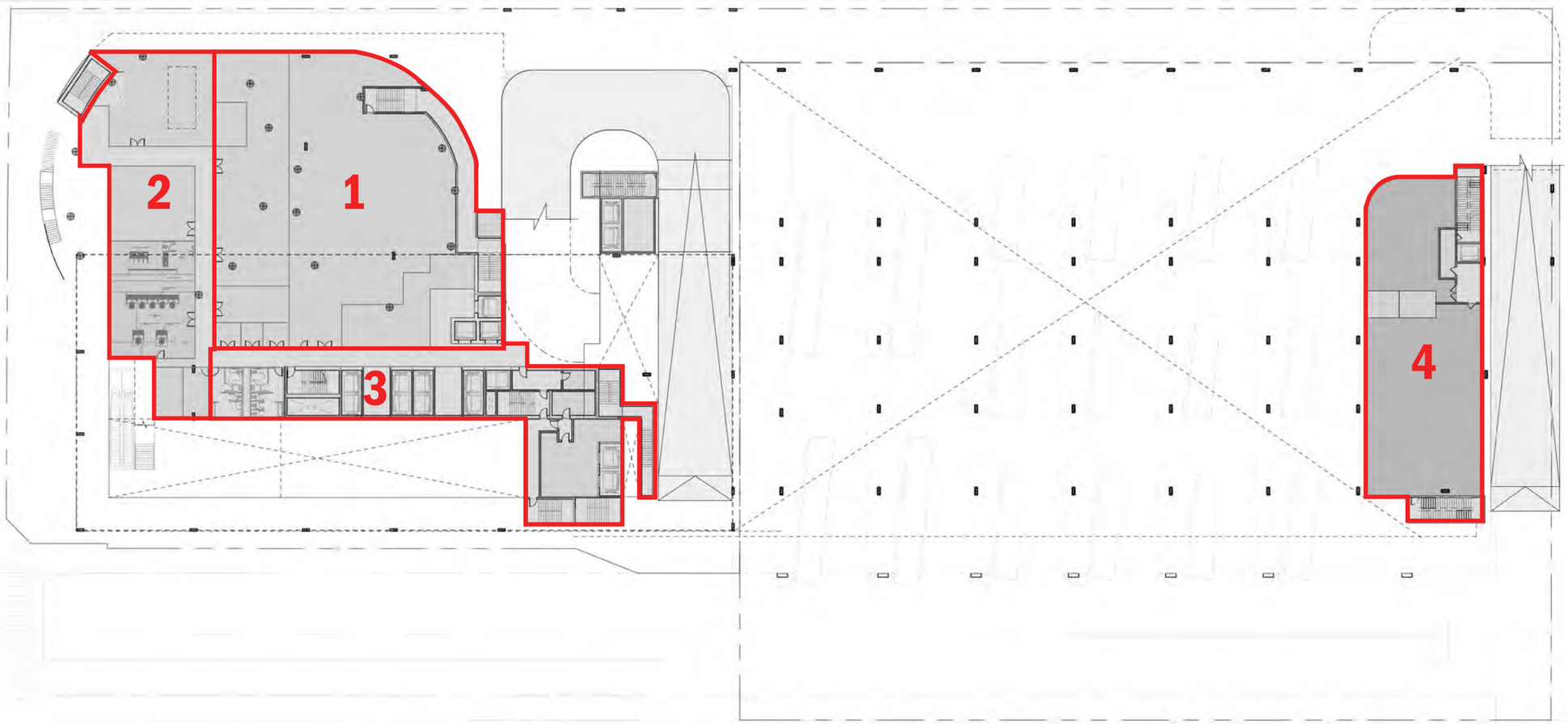
w www.zyscovich.com



HVAC ZONE DIAGRAMS By HAMMOND & ASSOCIATES

Level 1.5 | 1" = 50'-0" | 07/29/2020

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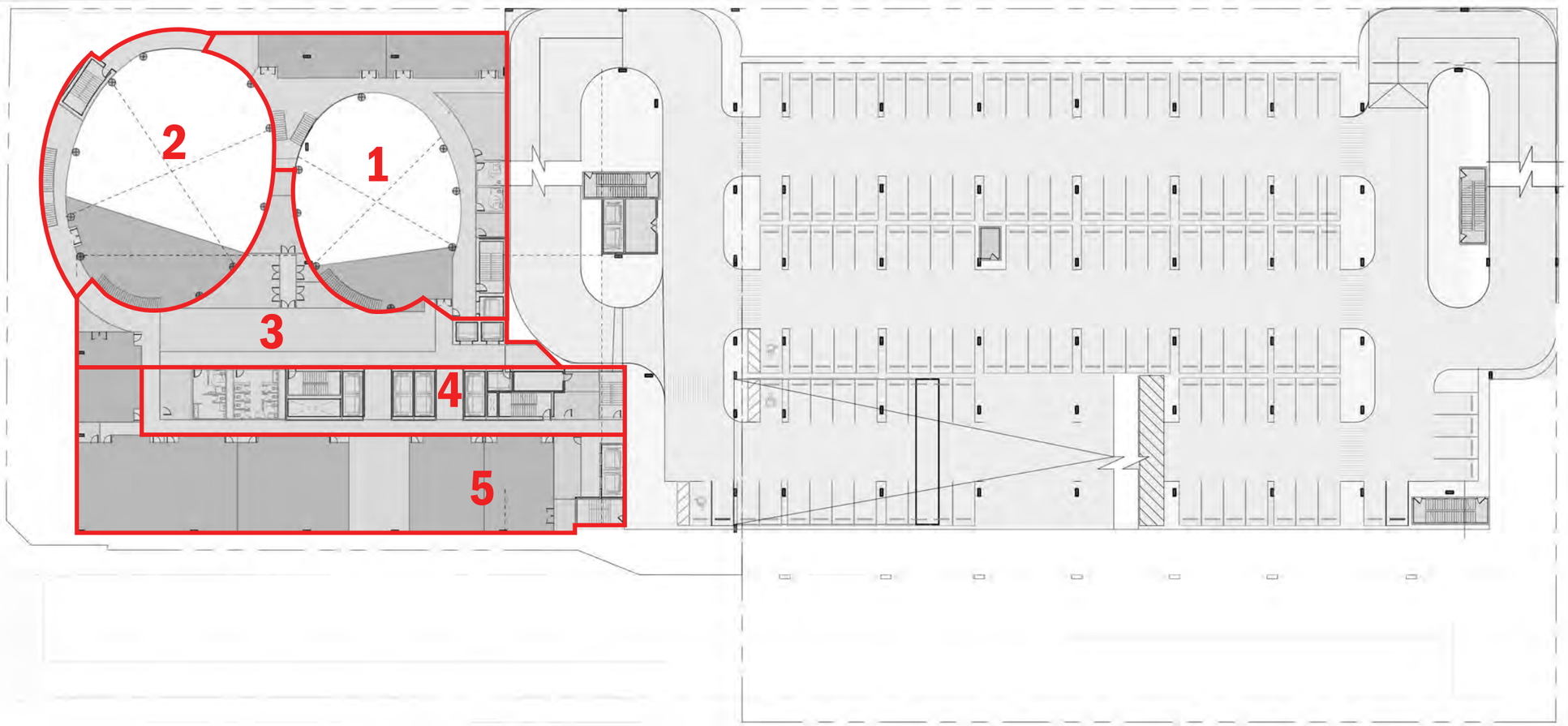

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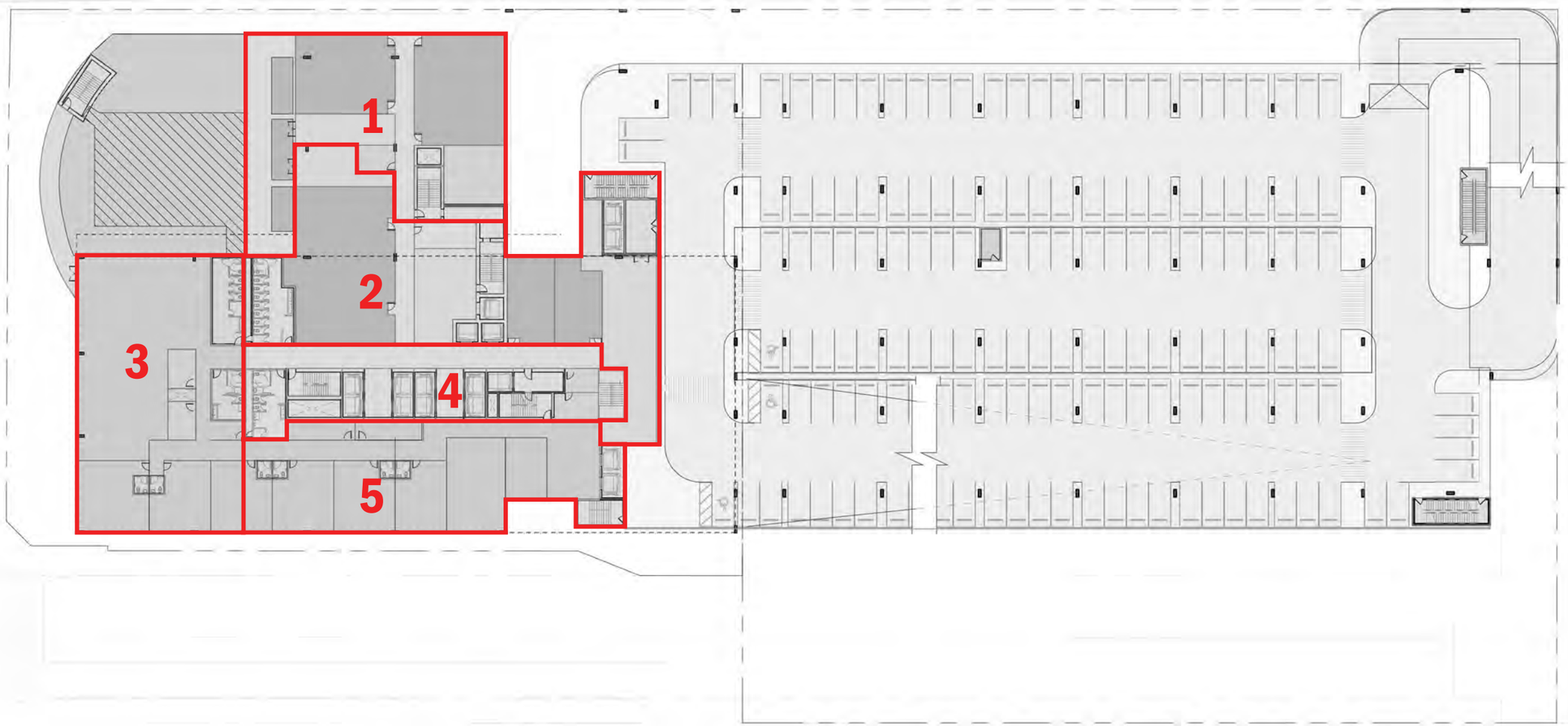

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Level 4	1" = 50'-0"	07/29/2020

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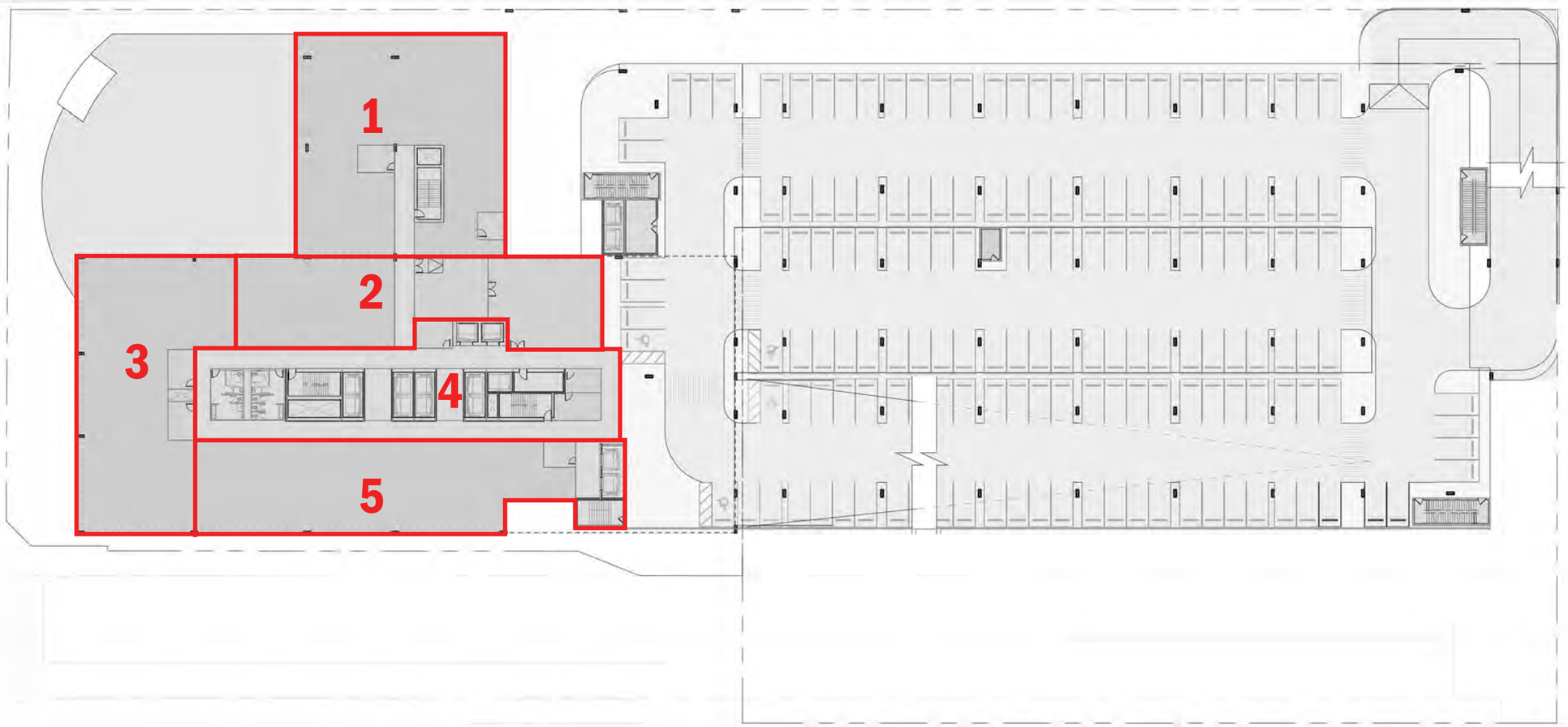

HVAC ZONE DIAGRAMS By HAMMOND & ASSOCIATES

Level 5	1" = 50'-0"	07/29/2020

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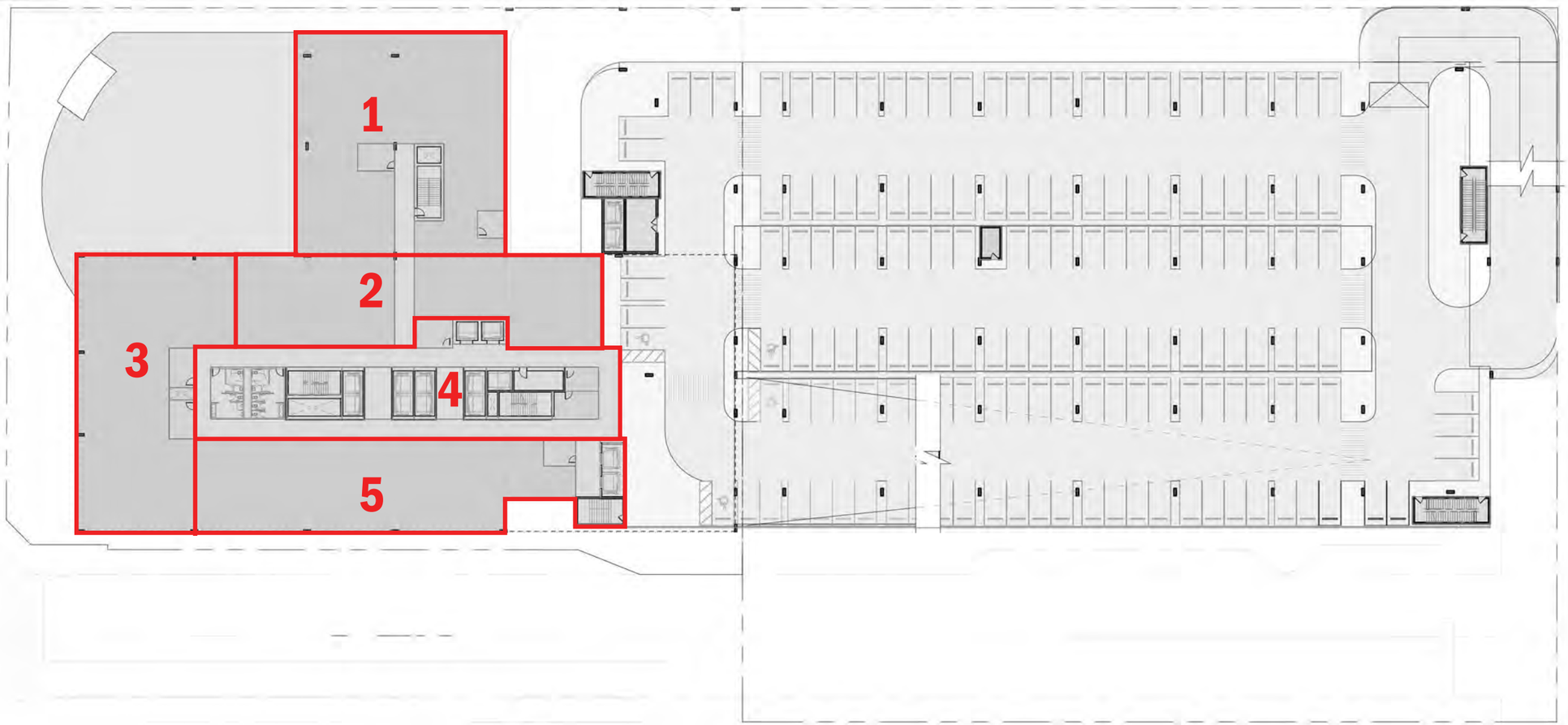

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Level 6-7	1" = 50'-0"	07/29/2020

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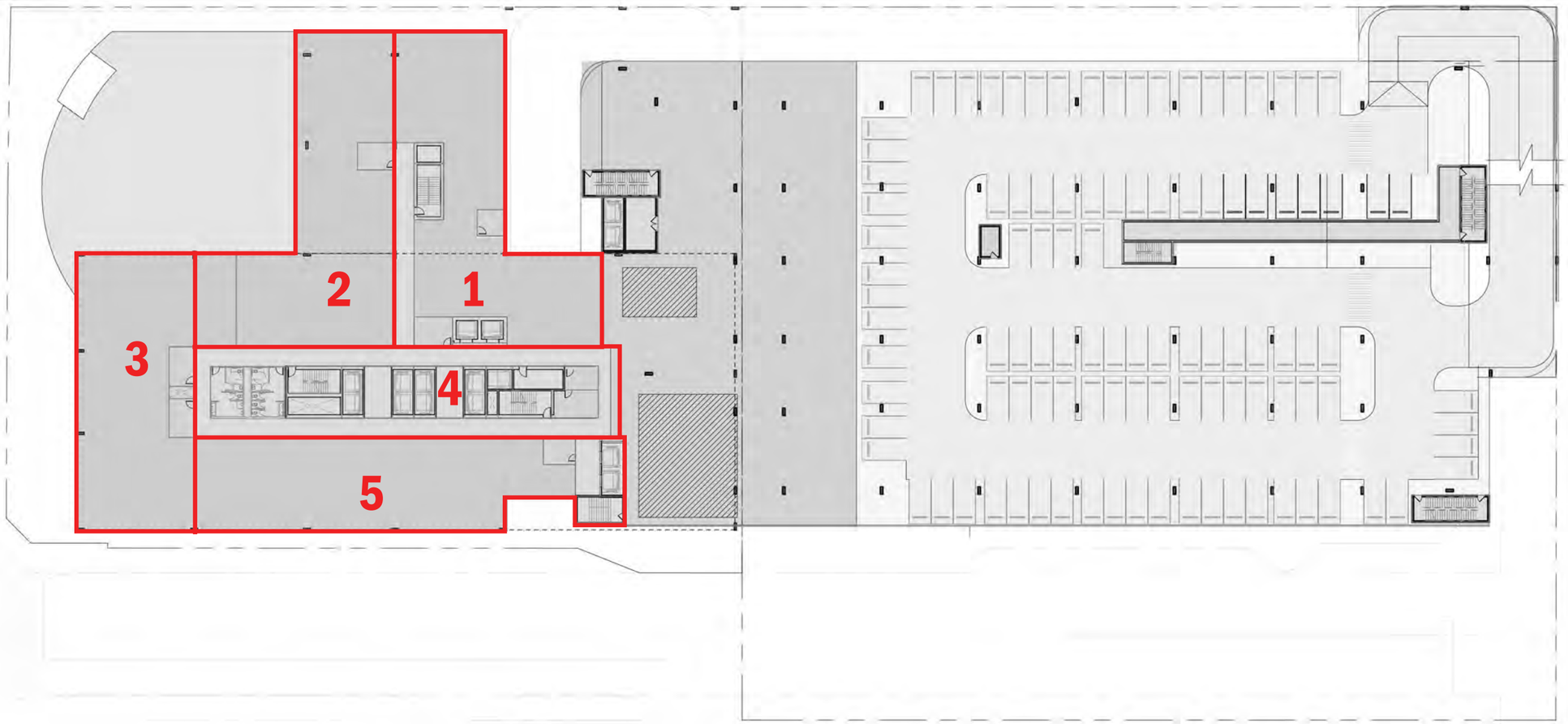

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Level 8	1" = 50'-0"	07/29/2020

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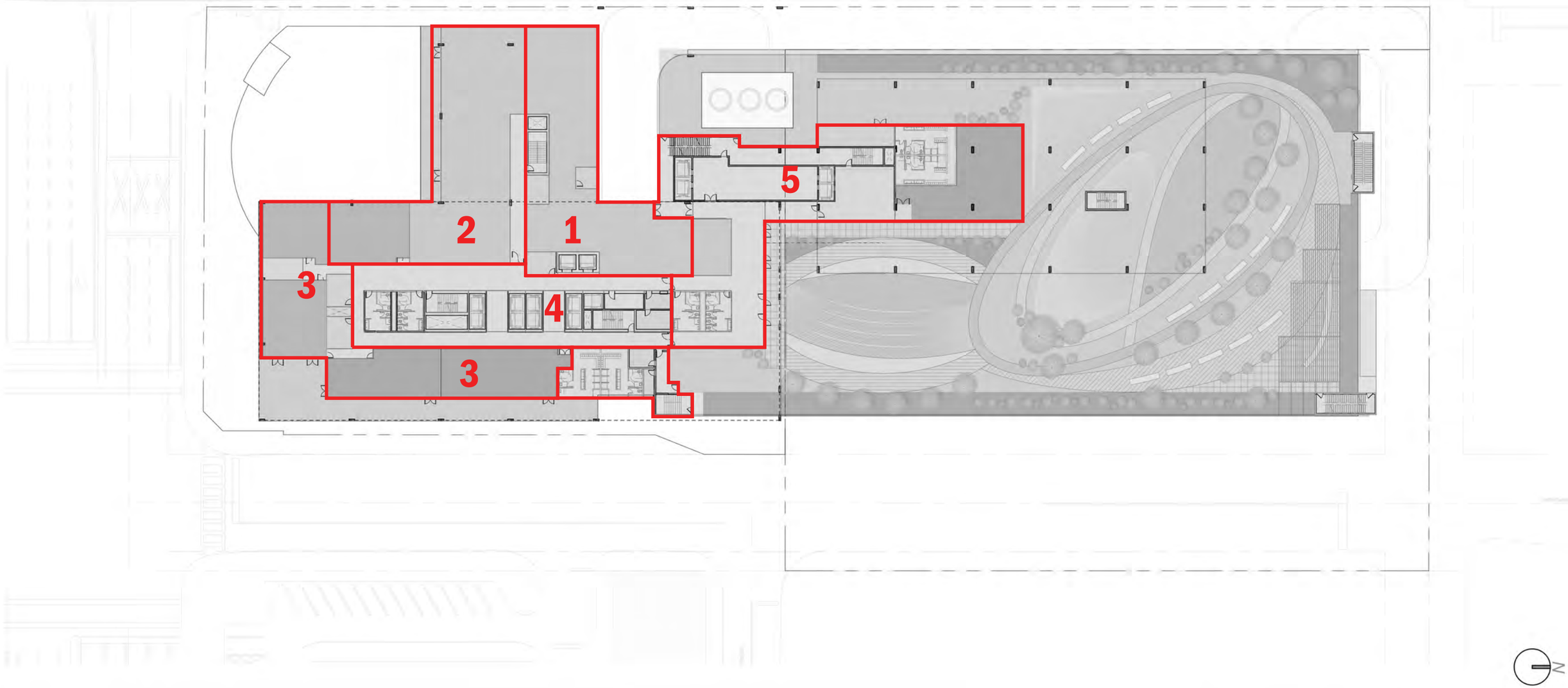

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Level 9	1" = 50'-0"	07/29/2020

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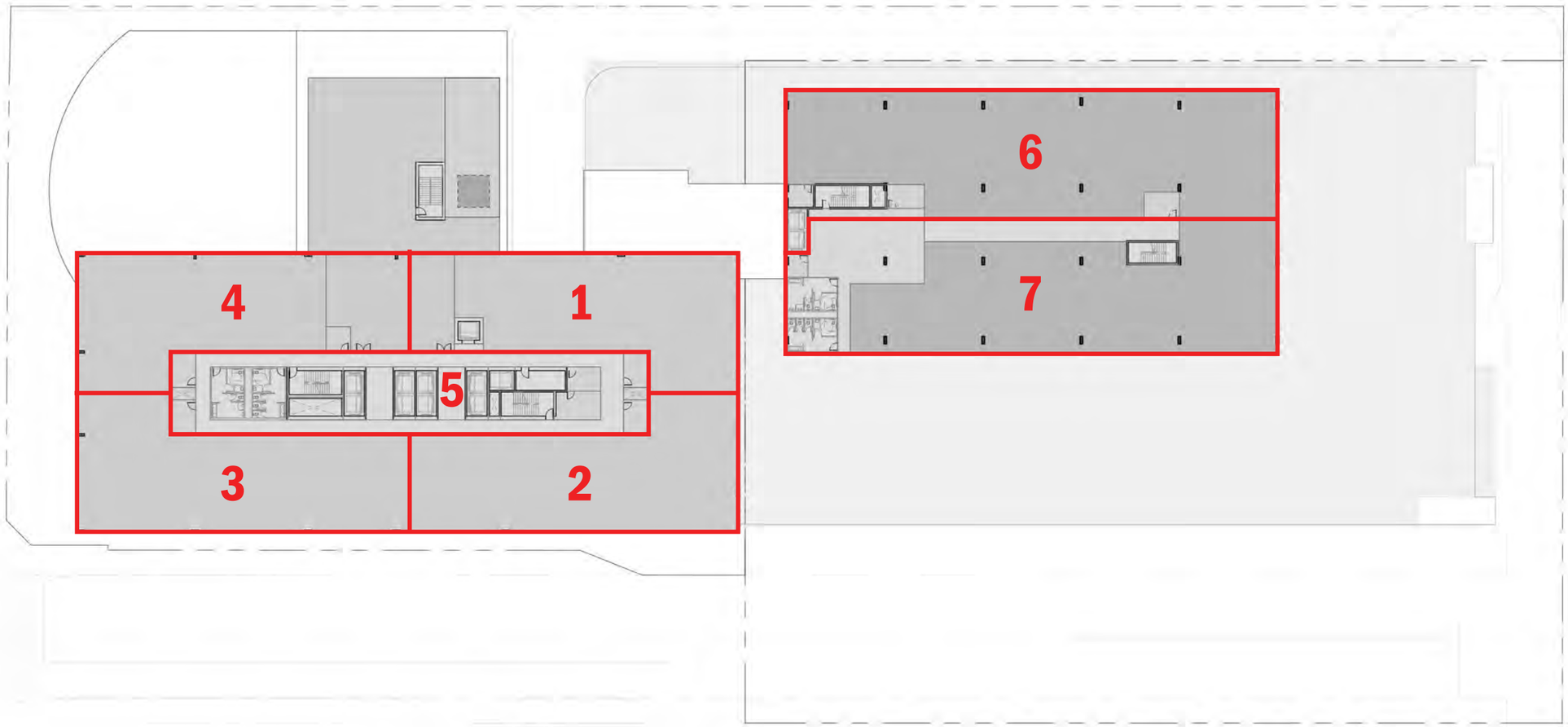

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Level 10-14	1" = 50'-0"	07/29/2020

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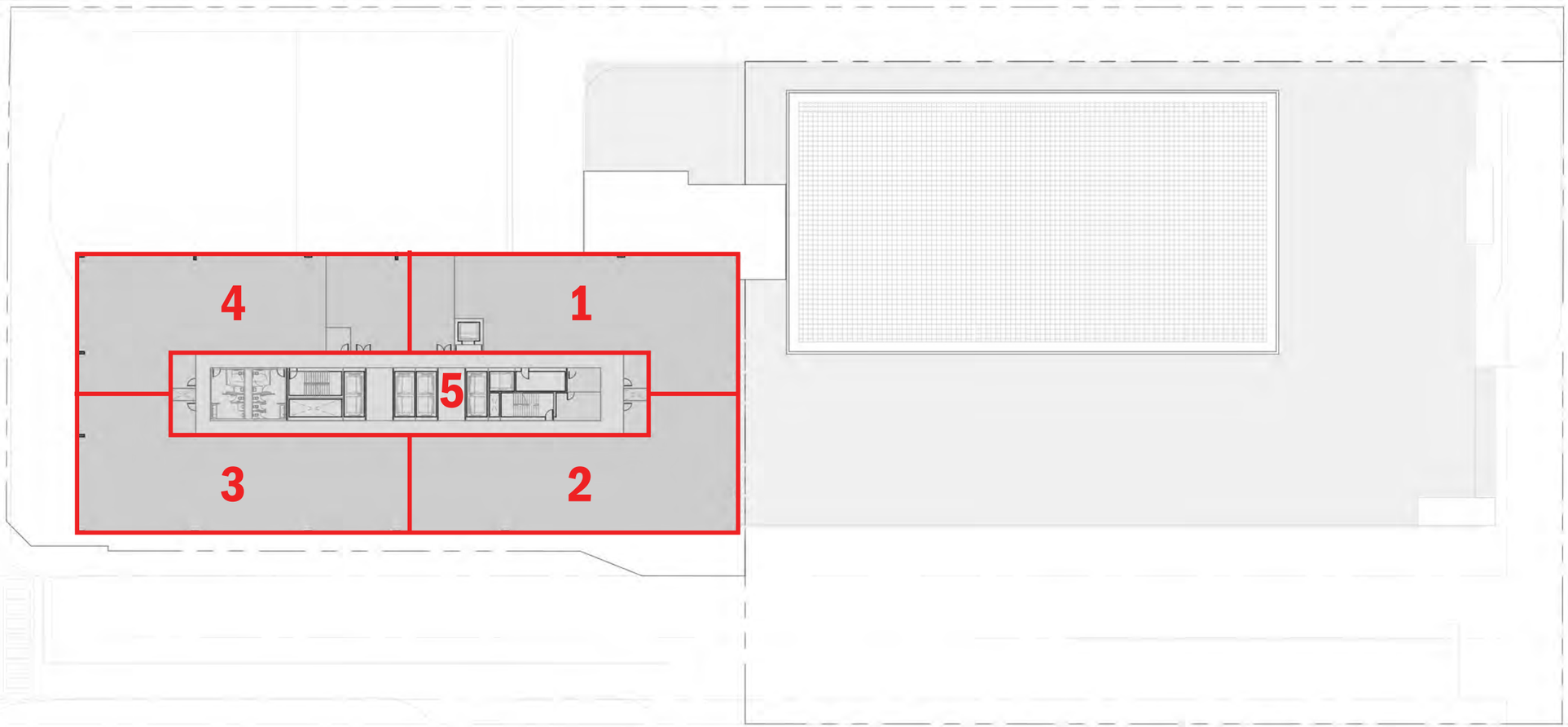

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Level 15-27	1" = 50'-0"	07/29/2020

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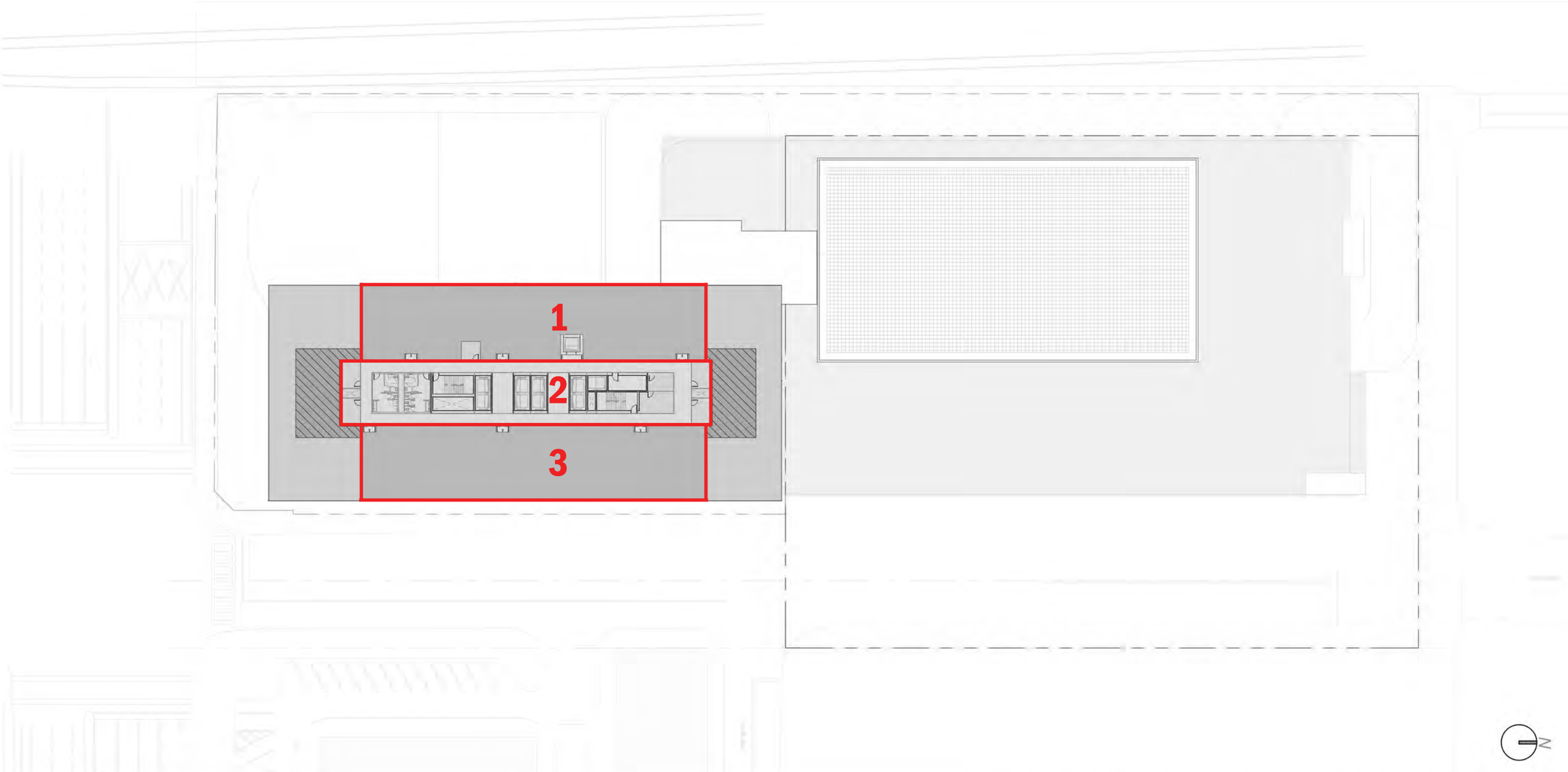

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Level 28 | 1" = 50'-0" | 07/29/2020

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DCP

APPENDIX L
FAA Height Analysis Drawing

BOOK 3 | SEPTEMBER 14, 2020

613.5' MSL

513.5' MSL

413.5' MSL

313.5' MSL

373.5' MSL TOPO LINE

353.5' MSL TOPO LINE

333.5' MSL TOPO LINE

313.5' MSL TOPO LINE

293.5' MSL TOPO LINE

273.5' MSL TOPO LINE

Barnett Bank Building
259.31' ROOF / 292.37' ANTENNA STRUCTURE
NEAR CENTER OF BLDG.

LENGTH OF APPROACH SURFACES = 4,000'
8:1 APPROACH SLOPES
2:1 TRANSITIONAL SURFACES

213.5' MSL

HELIPAD ELEVATION = 113.5' MSL

213.5' MSL

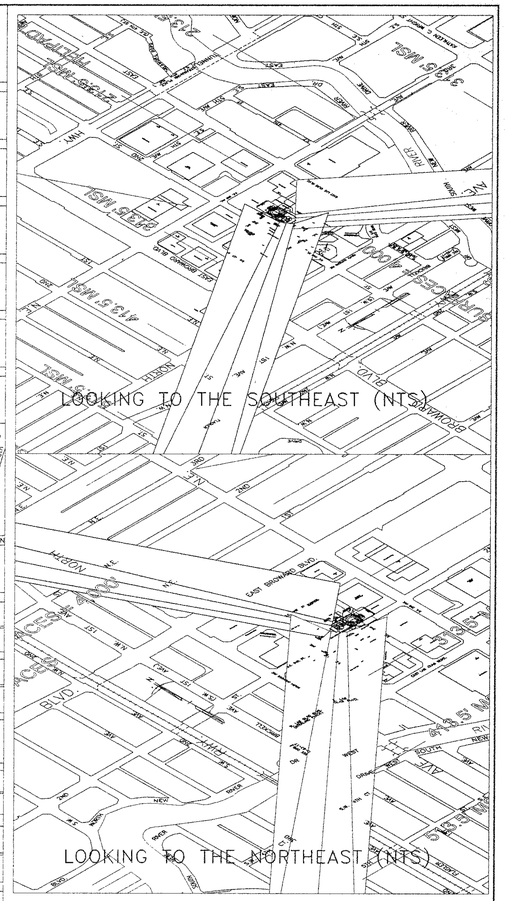
Interval = 20'

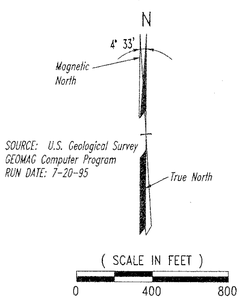
313.5' MSL

413.5' MSL

513.5' MSL

613.5' MSL





SYMBOL	REVISIONS	BY	DATE	APPROVED

DESIGNER	W. BATTON
DRAFTING	W. BATTON
PROJ. ENGR.	X
PROJ. MGR.	J. GOFF
CHECKED	J. GOFF
BY	
DATE	

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The HNTB Companies

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(407) 859-8380 Fax (407) 855-9641

JOB NO. 23385-PL 001-001

DATE 7-95

Venice of America

CITY OF FORT LAUDERDALE
FORT LAUDERDALE, FLORIDA
HELIPORT LAYOUT PLAN

FAR PART 77 AIRSPACE PLAN

SHEET NO. 5 OF 5

SCALE As Shown

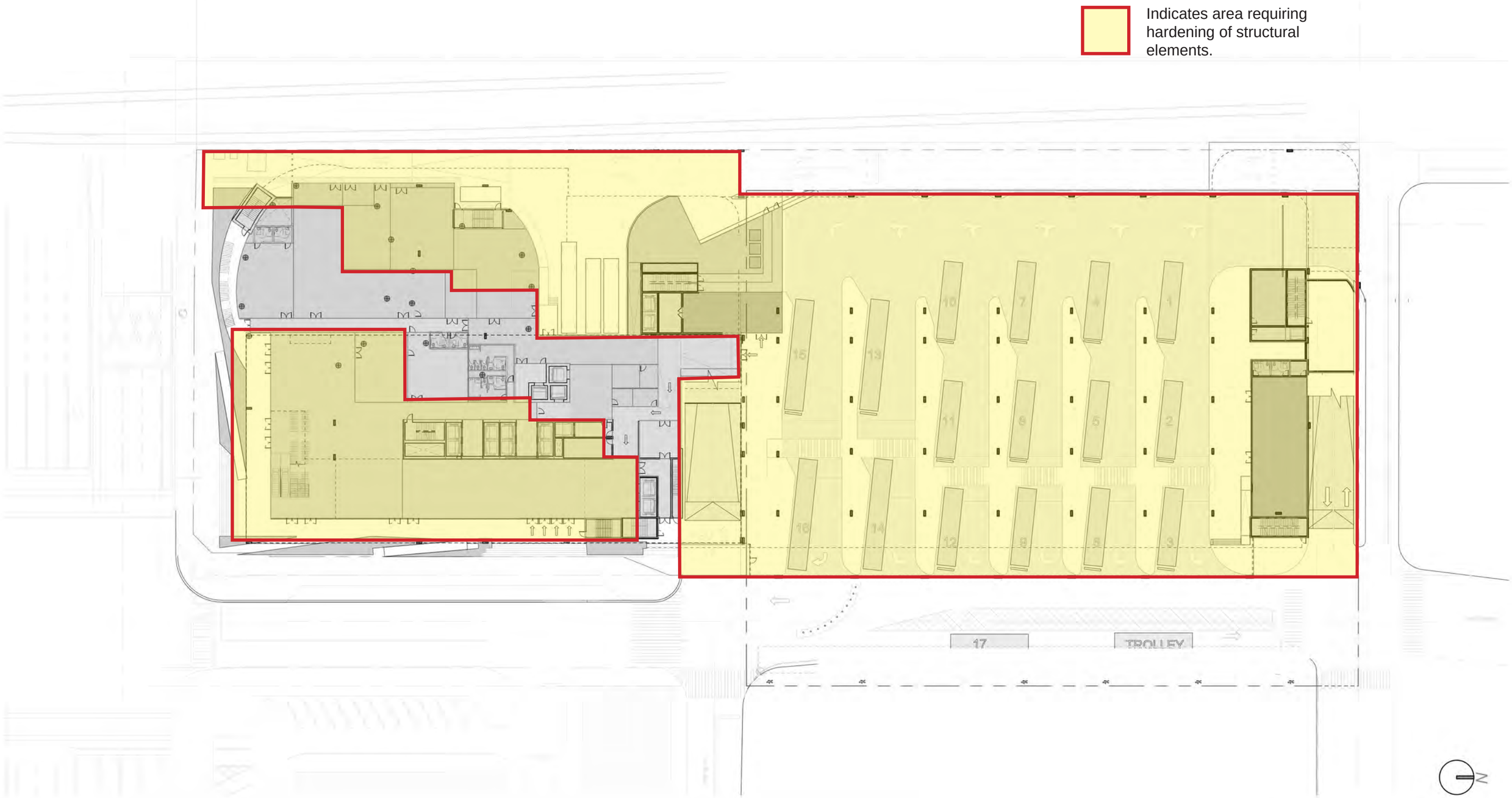
ACAD12 - D:\AIR\AVIATION\23385\PART-77.DWG,XREF - APP-X, BASEMAP, ORG. 4-4-95, REV. 7-18-95

Drawing File No. 4-119-50

DCP

APPENDIX M
Structural Diagrams

BOOK 3 | SEPTEMBER 14, 2020



STRUCTURAL ANALYSIS DIAGRAMS By WSP

Level 1	1" = 50'-0"	07/29/2020

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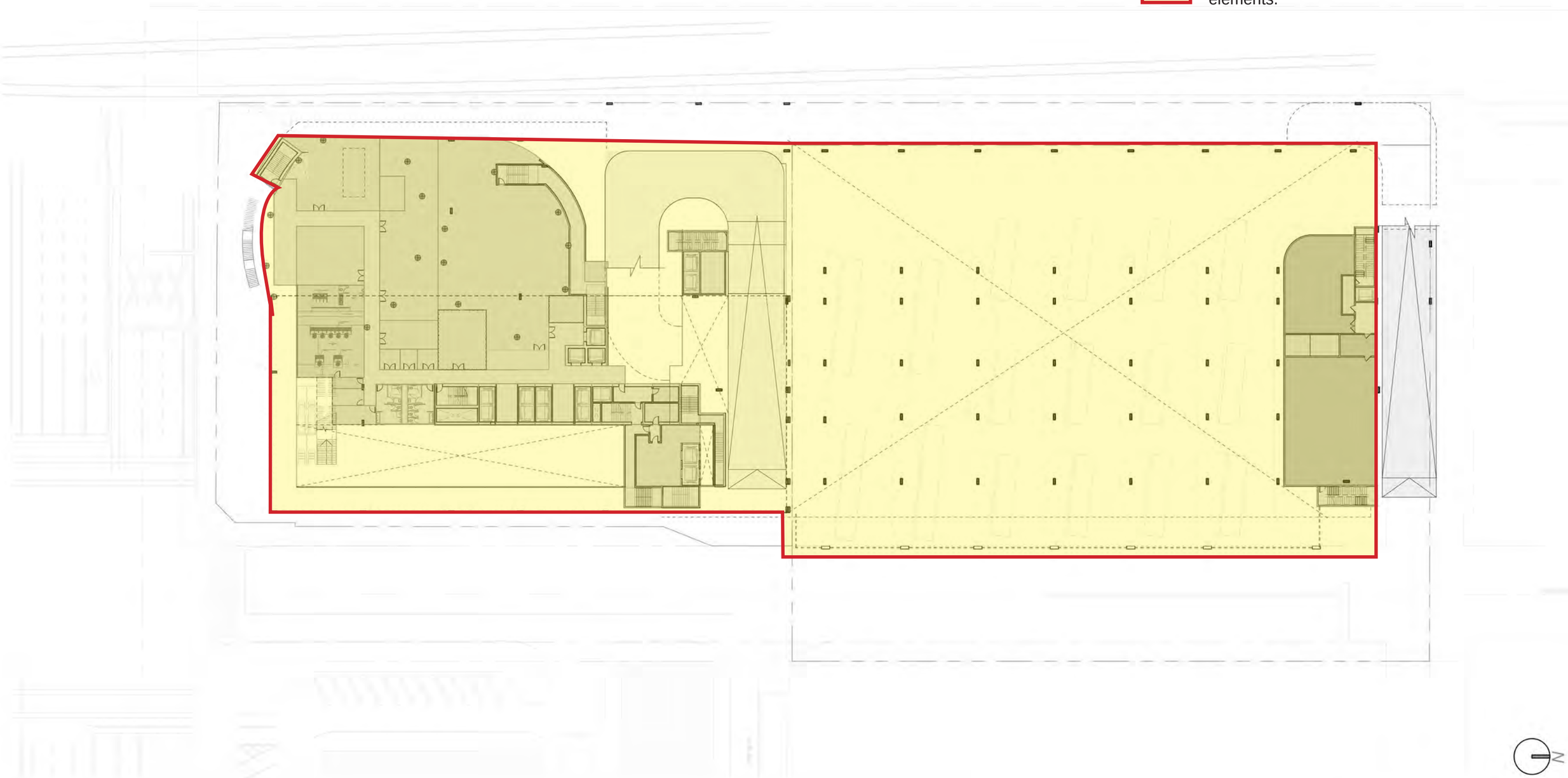

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Level 1.5	1" = 50'-0"	07/29/2020

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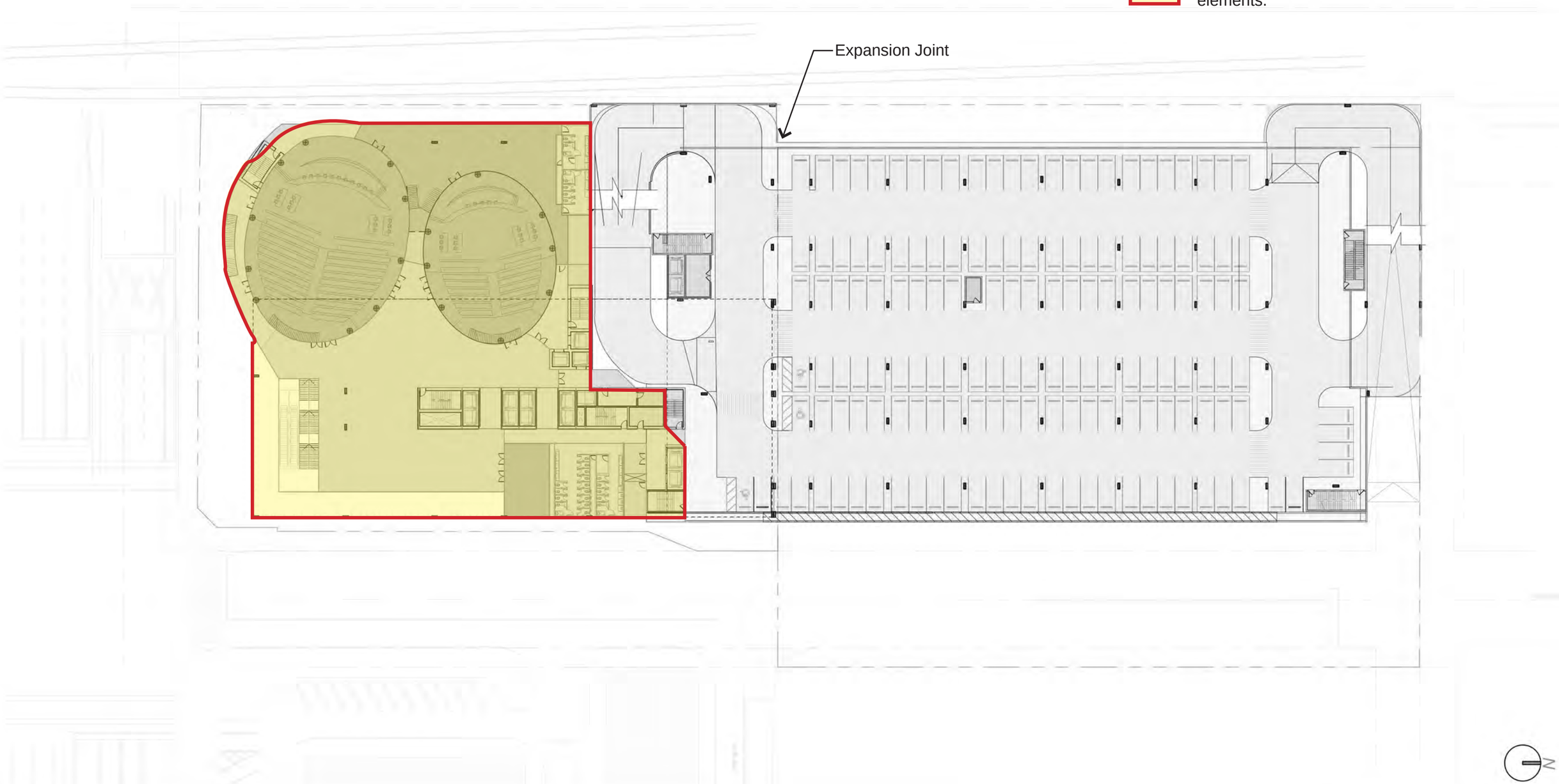

STRUCTURAL ANALYSIS DIAGRAMS By WSP

Level 2	1" = 50'-0"	07/29/2020

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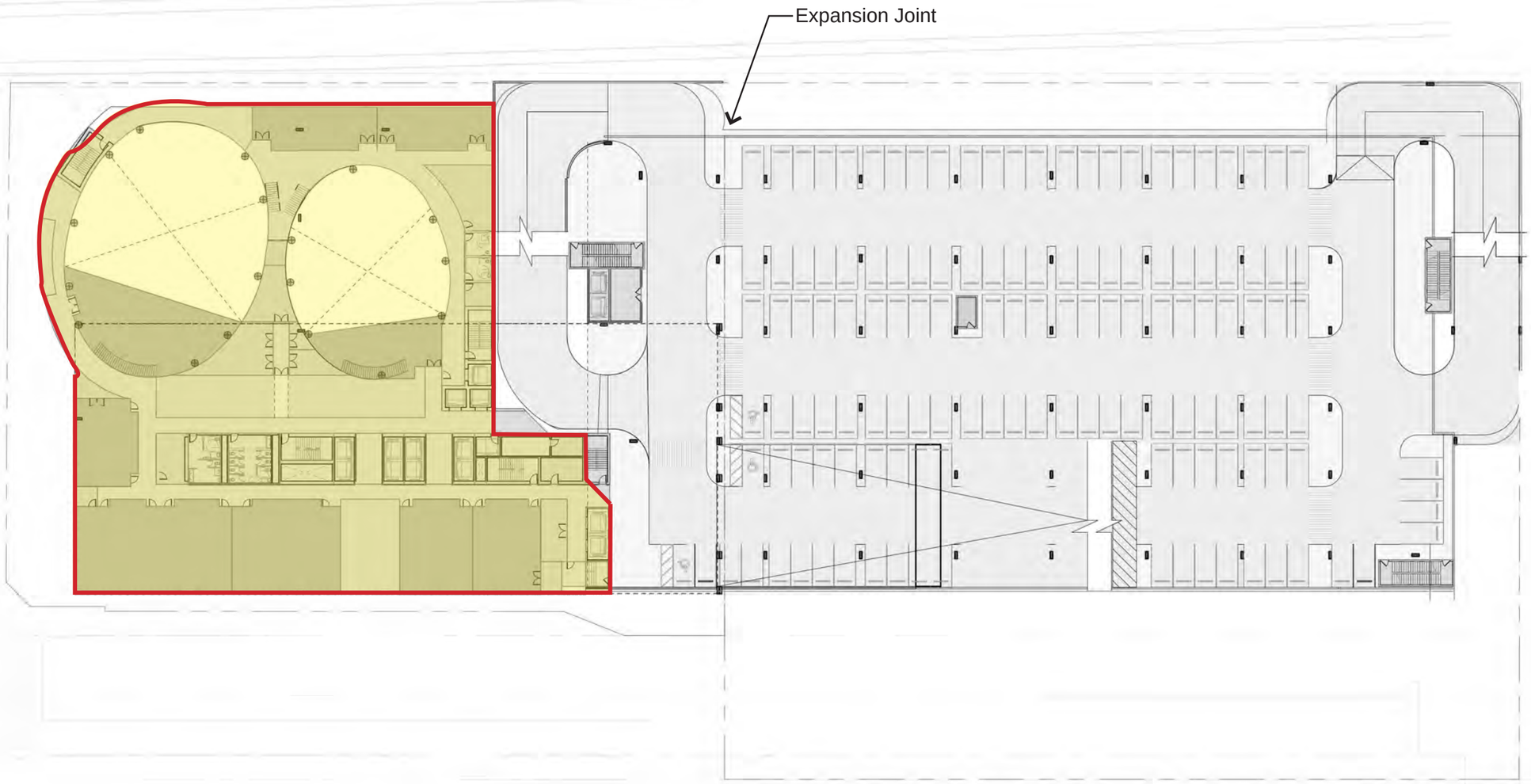

STRUCTURAL ANALYSIS DIAGRAMS By WSP

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Level 4	1" = 50'-0"	07/29/2020

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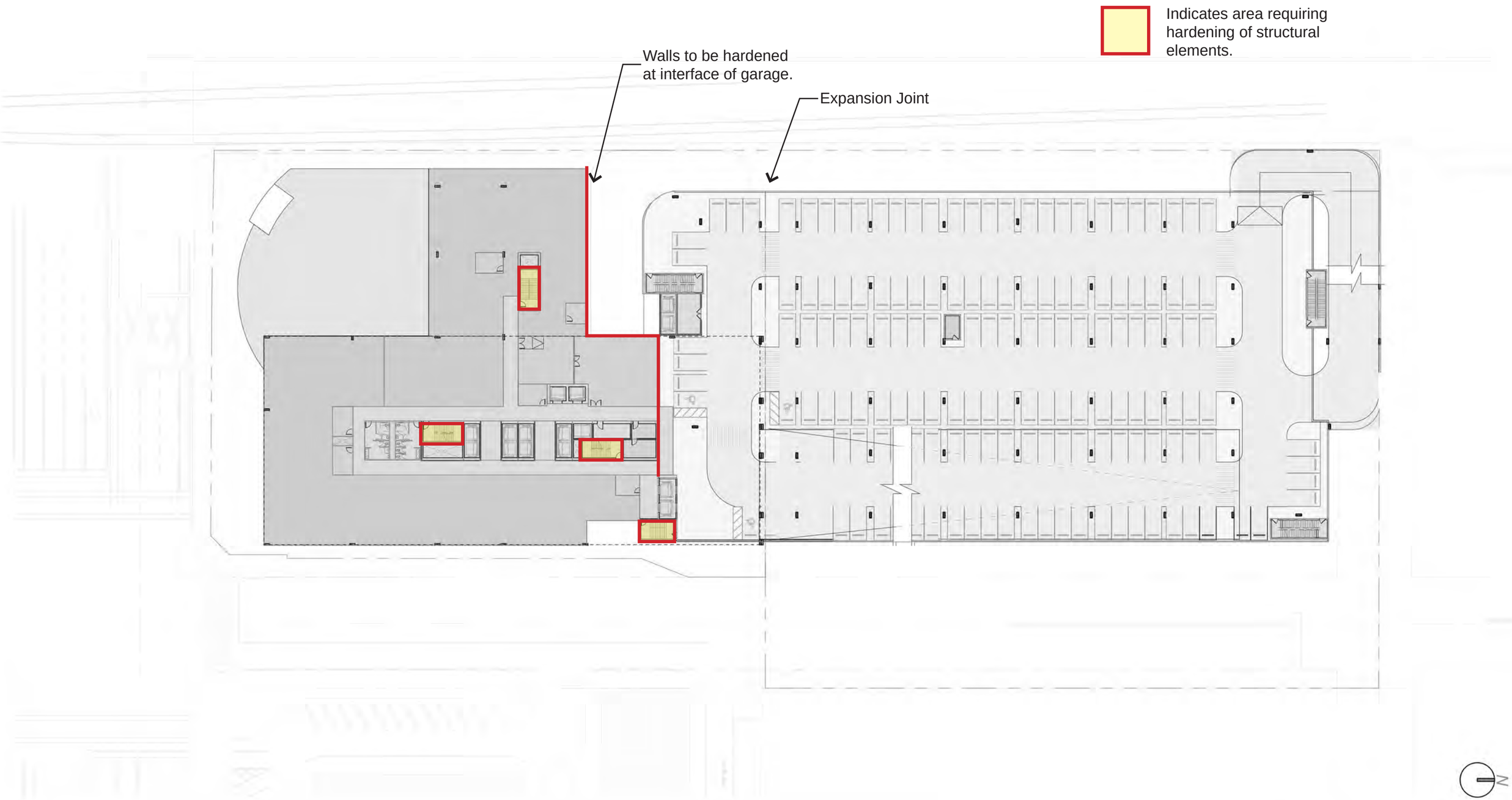

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Level 5	1" = 50'-0"	07/29/2020

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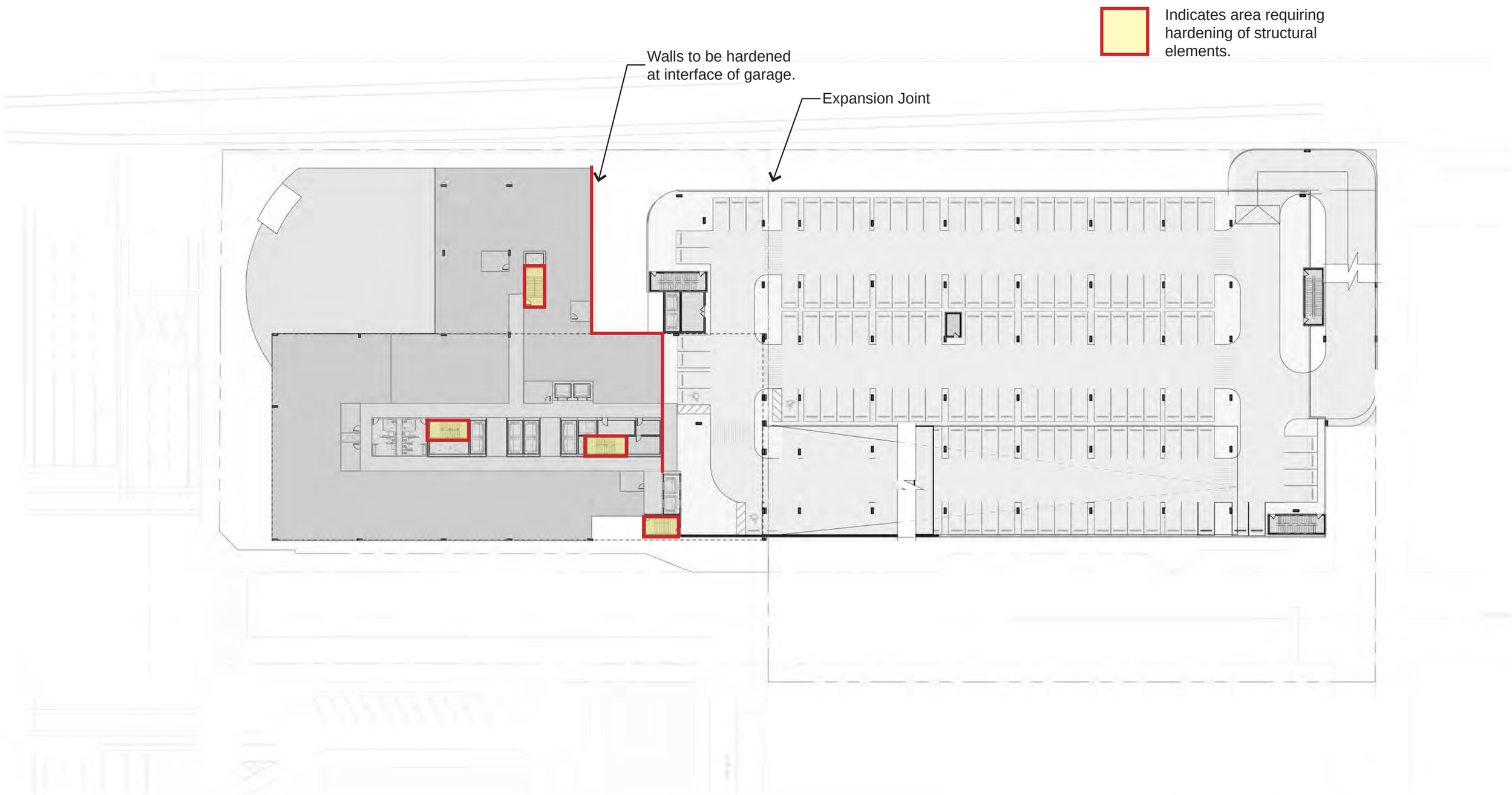

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Level 6-7 | 1" = 50'-0" | 07/29/2020

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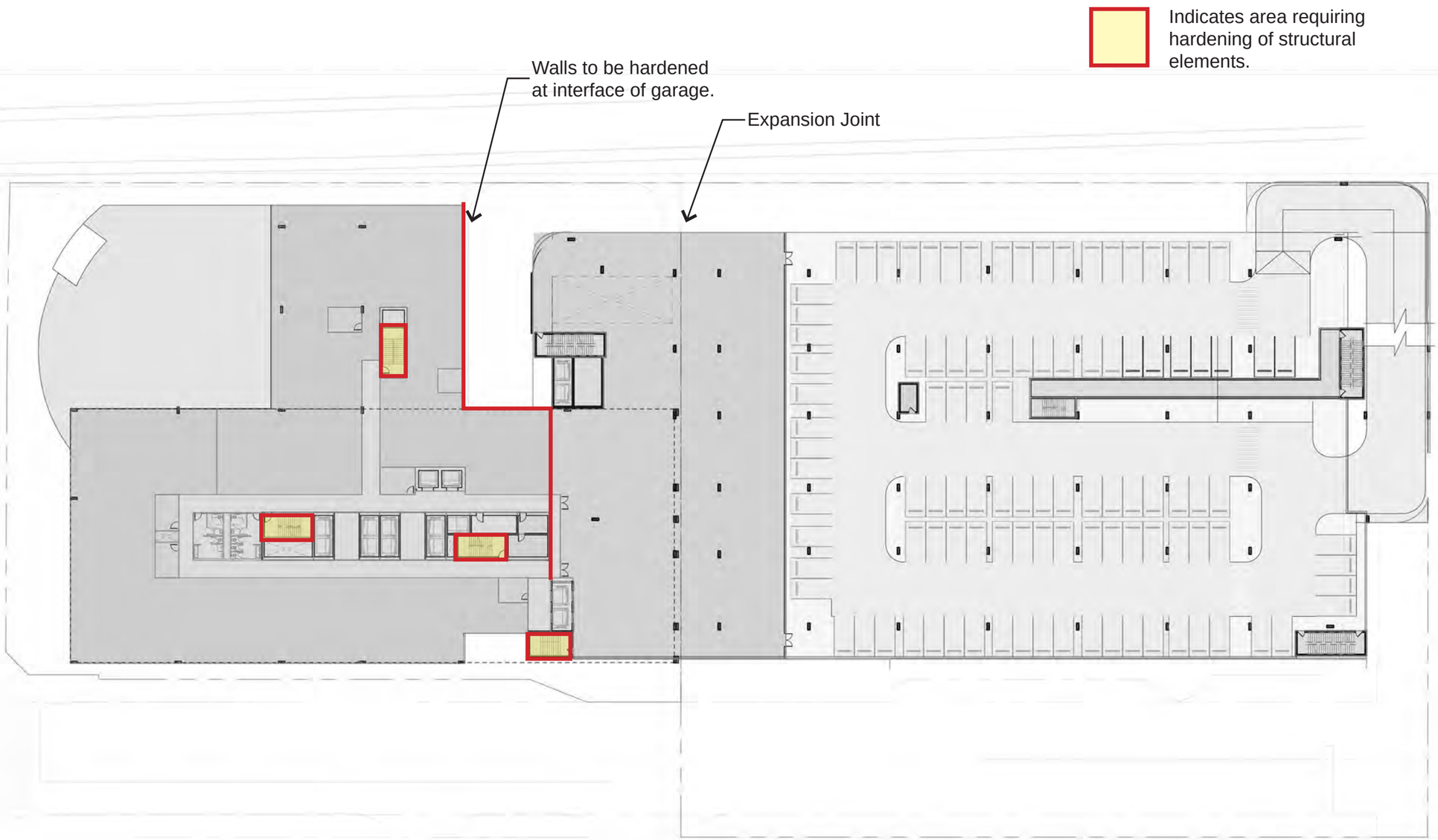

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Level 8	1" = 50'-0"	07/29/2020

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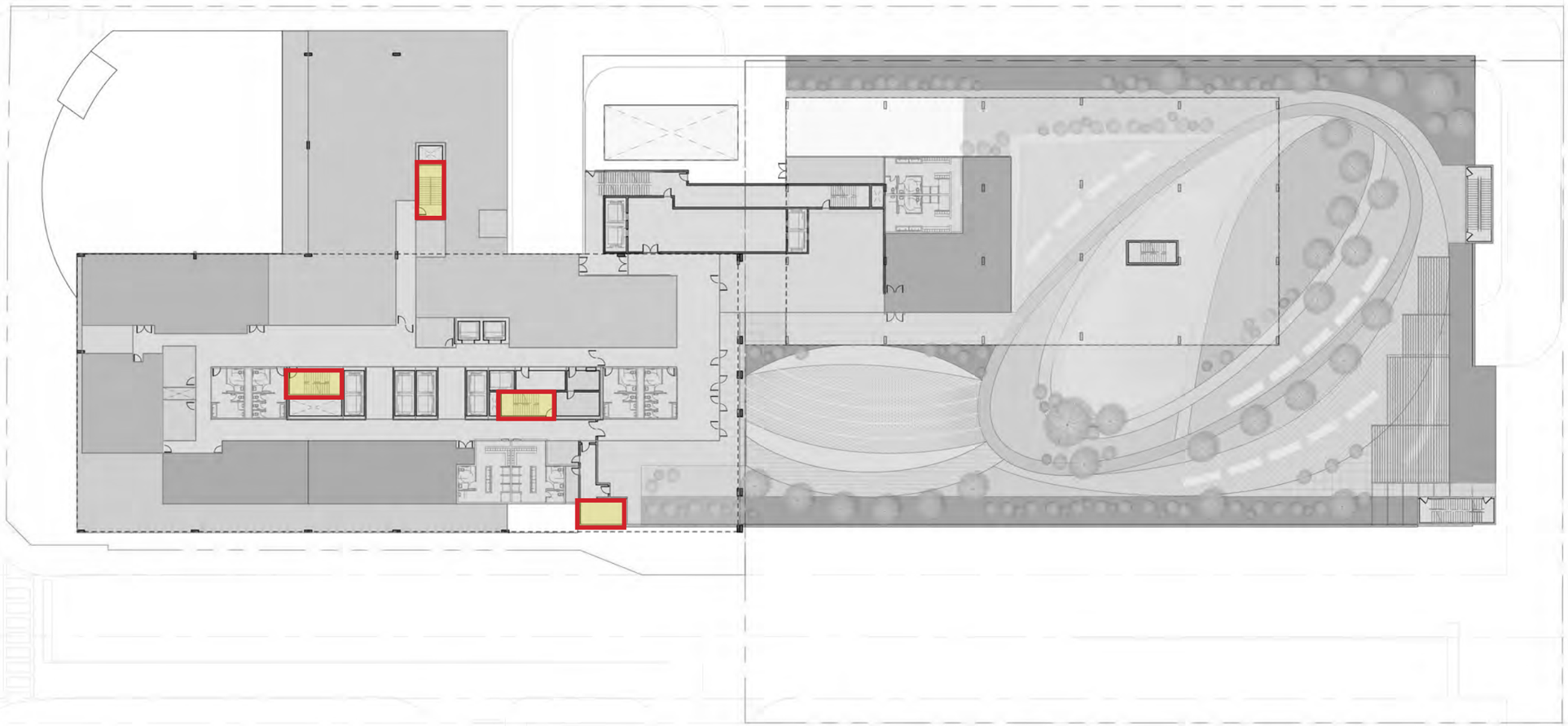

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Level 9	1" = 50'-0"	07/29/2020

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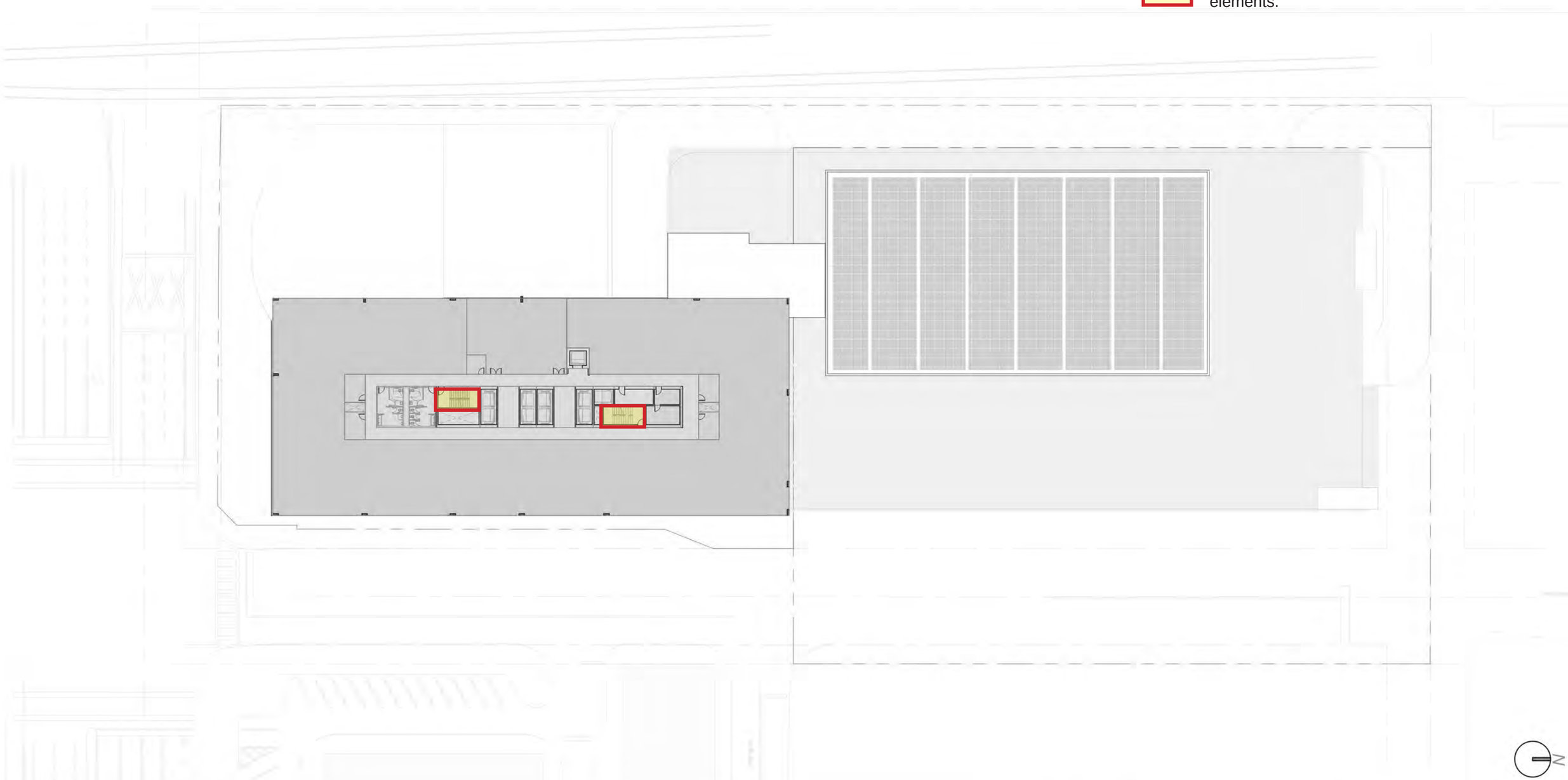

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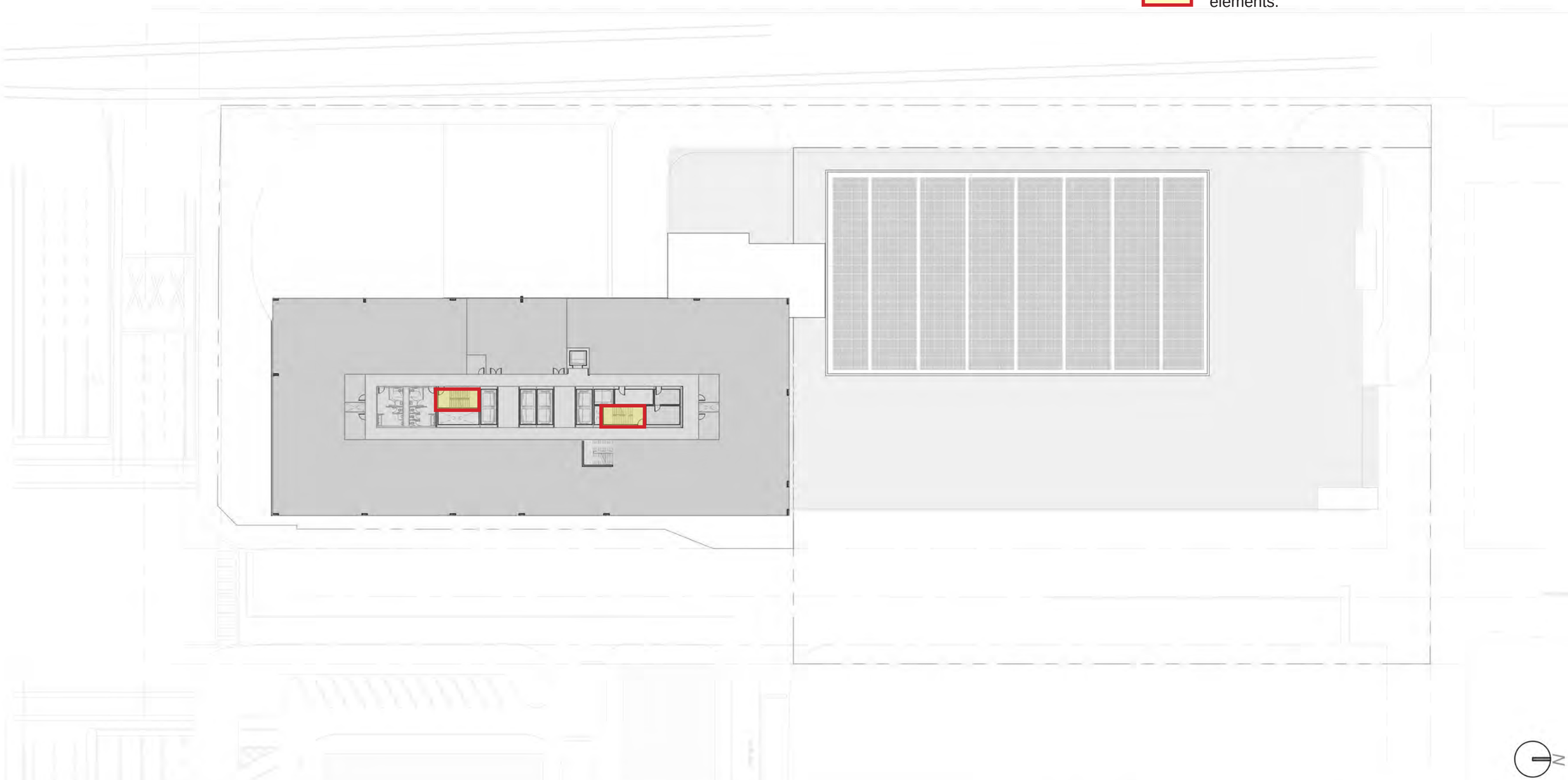

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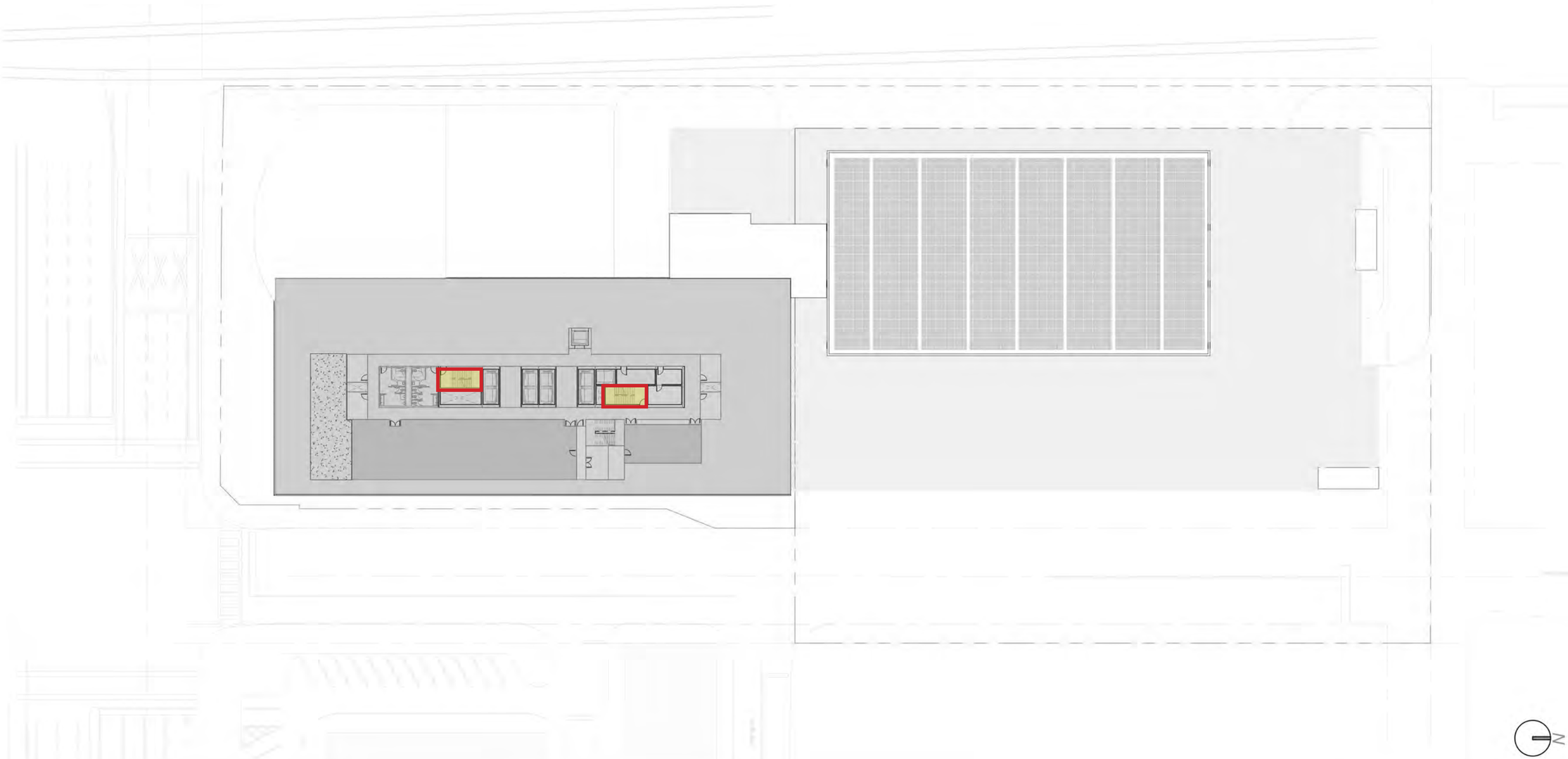

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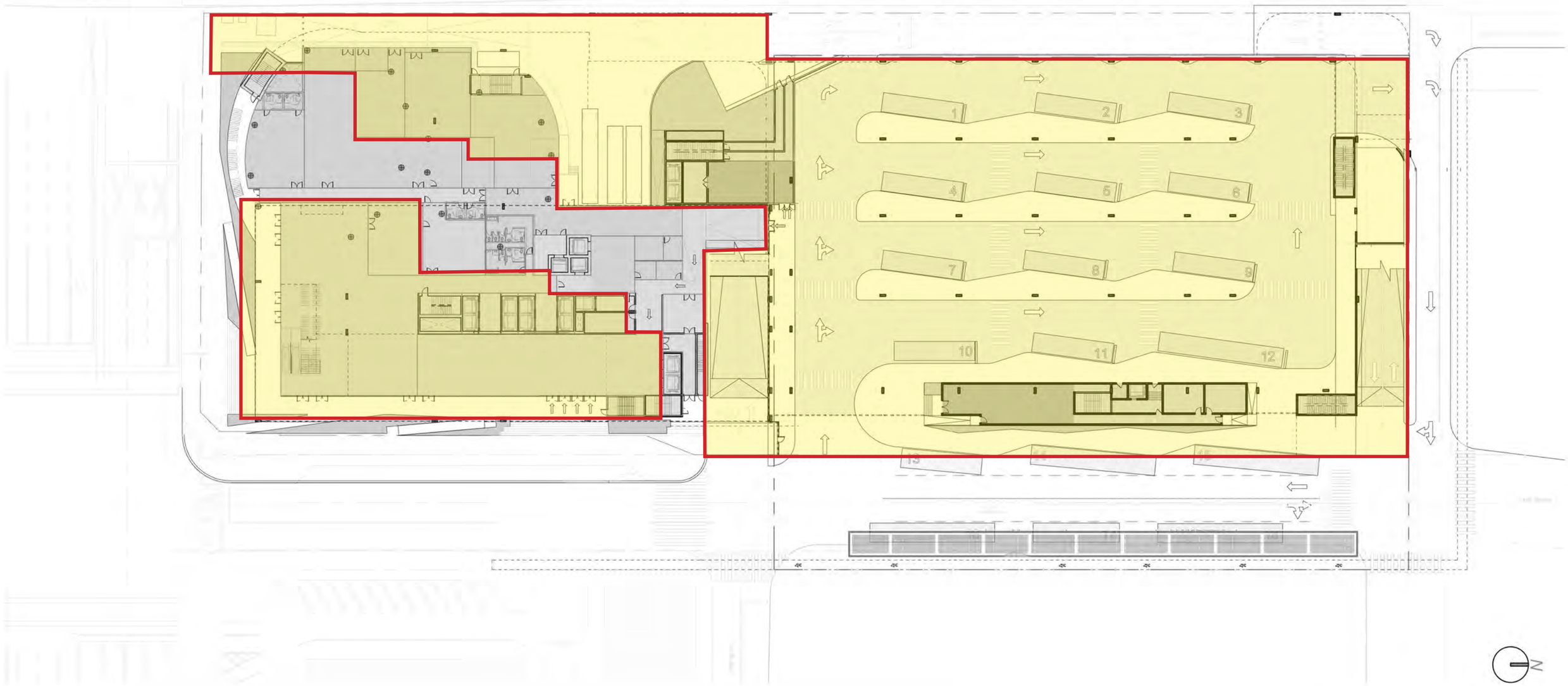

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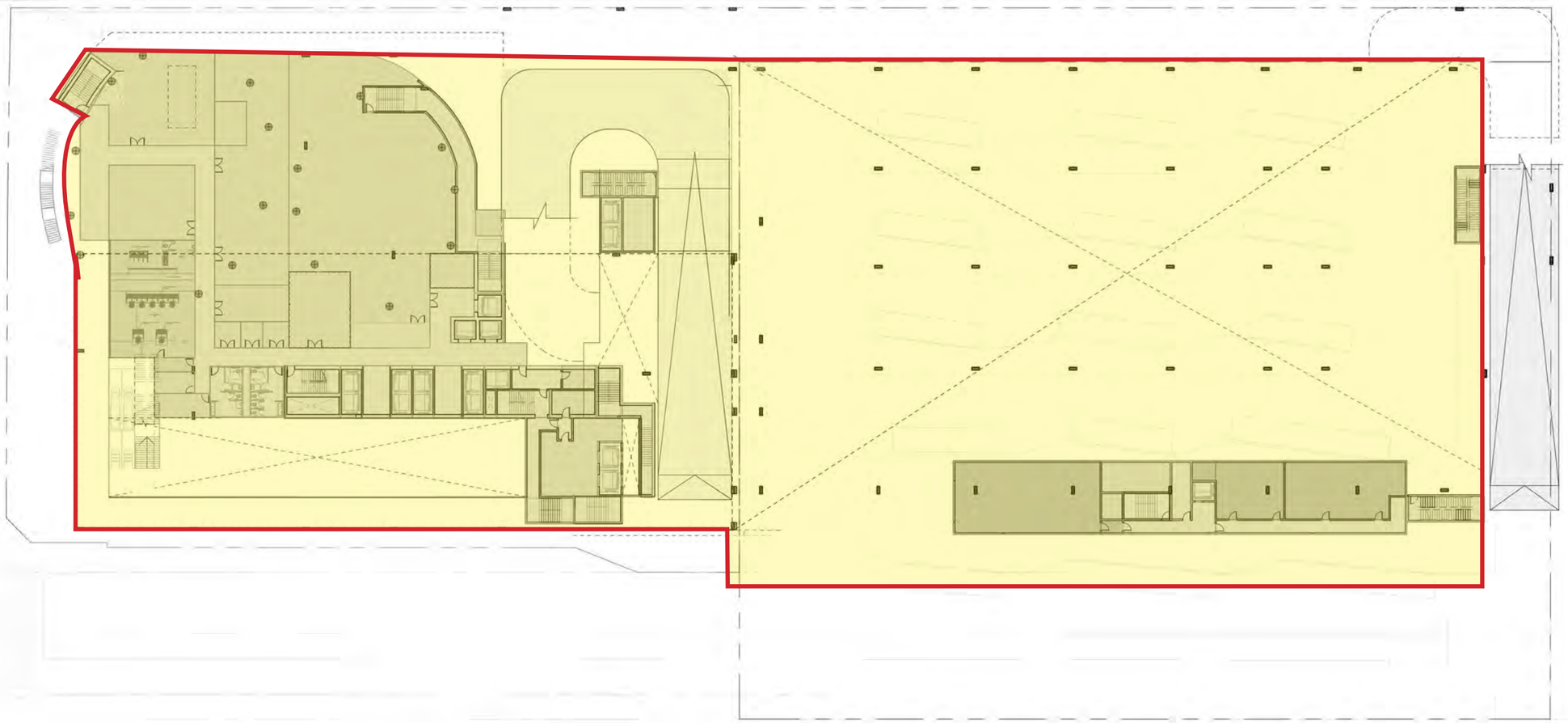

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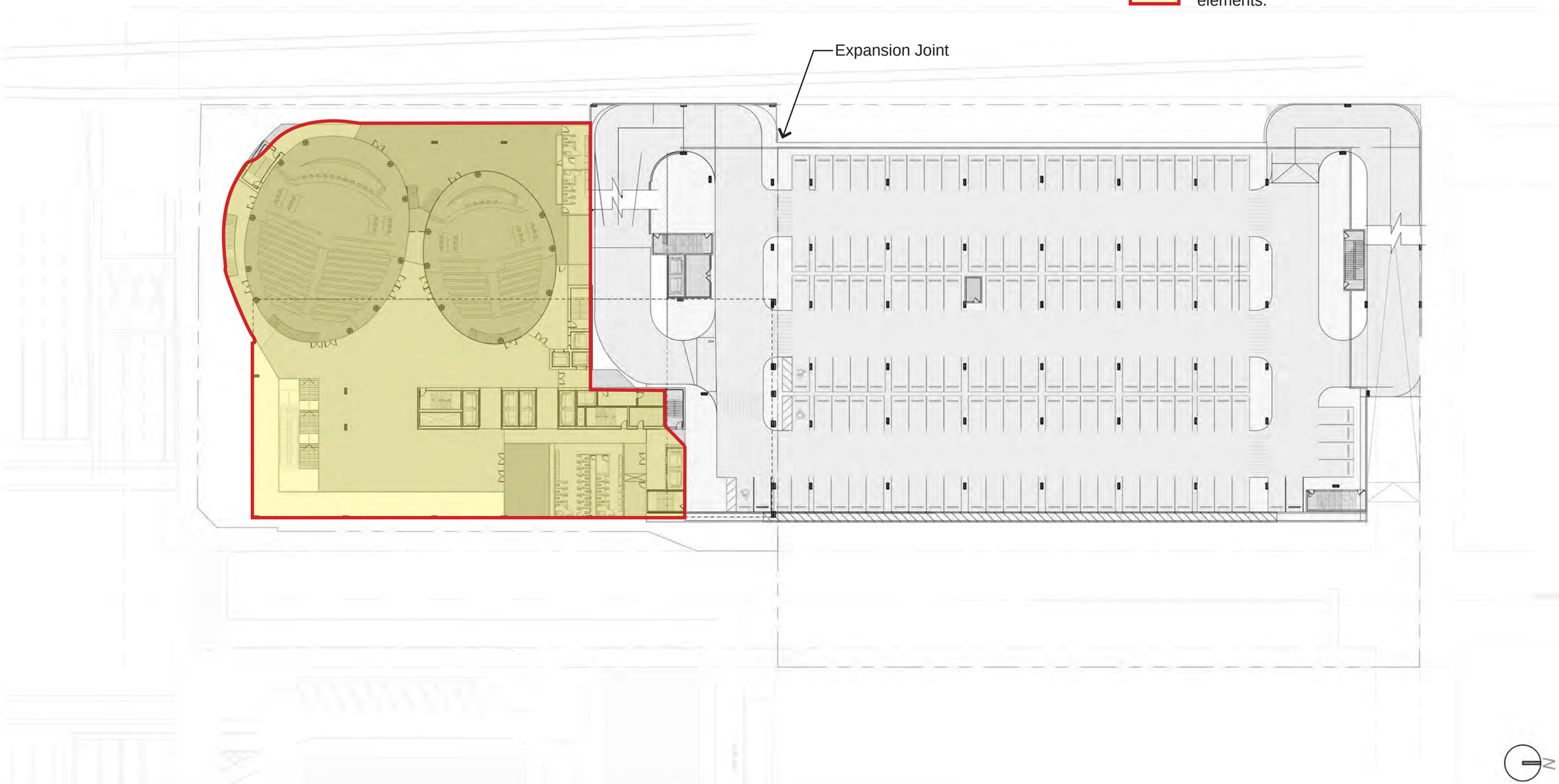

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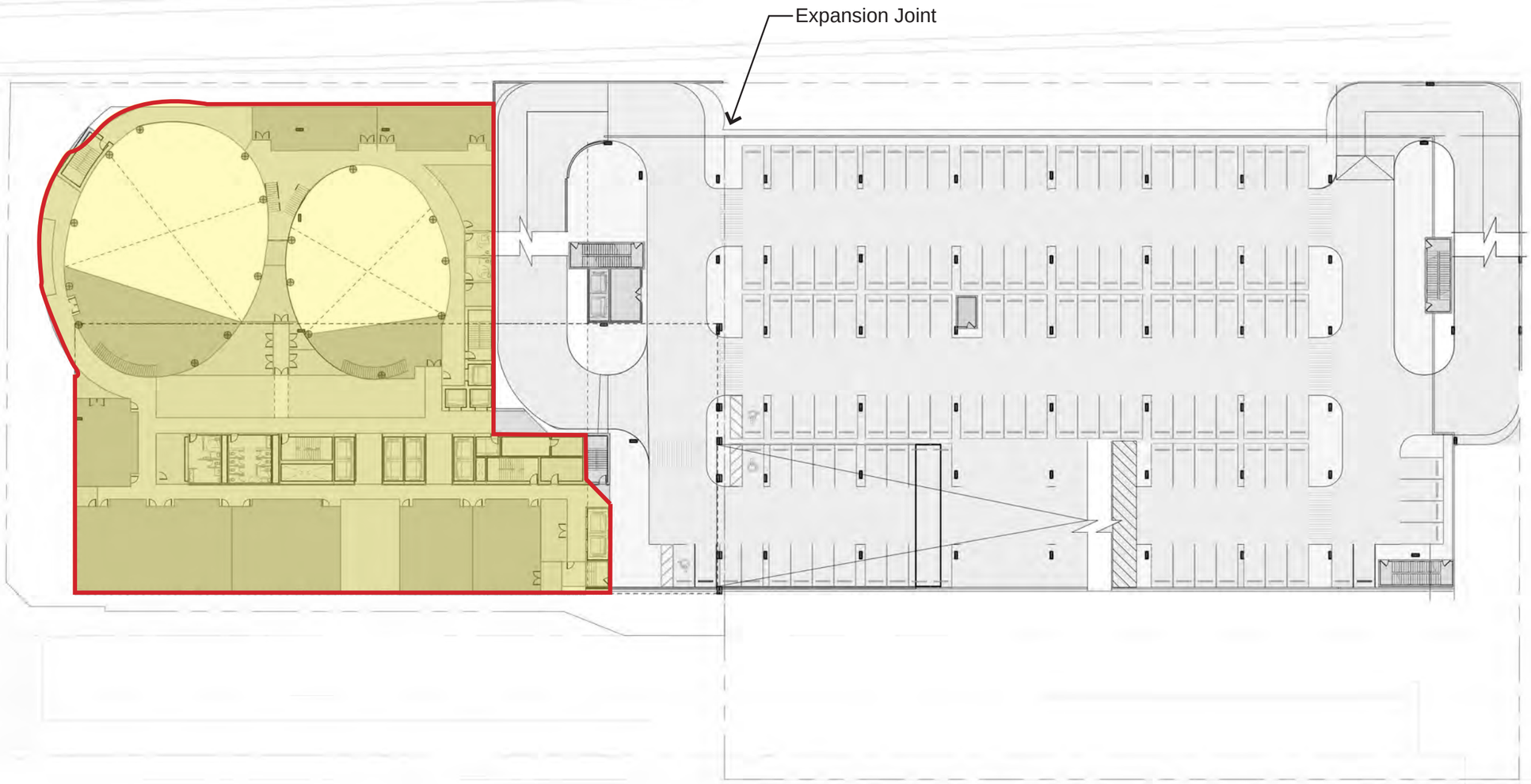

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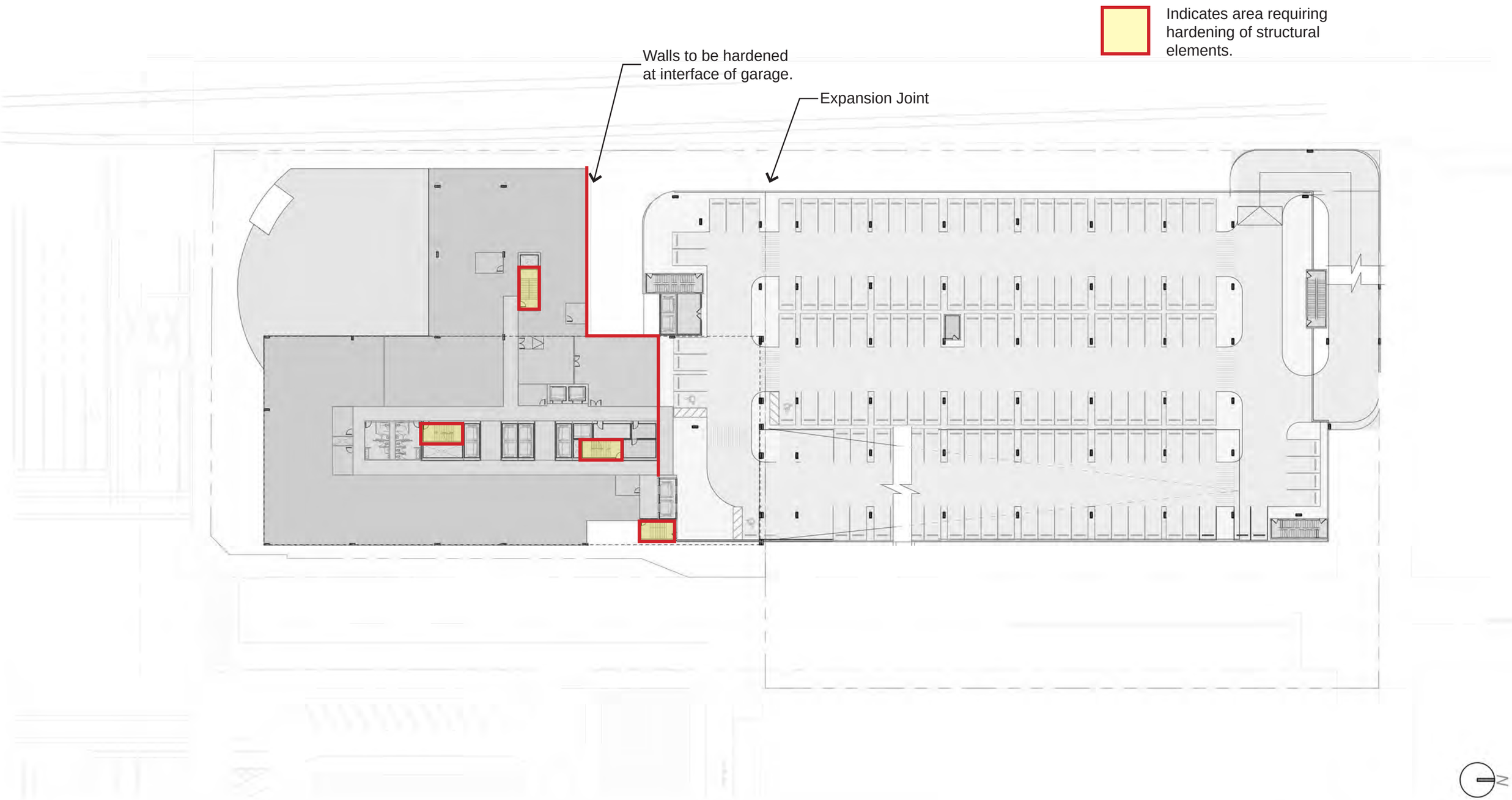

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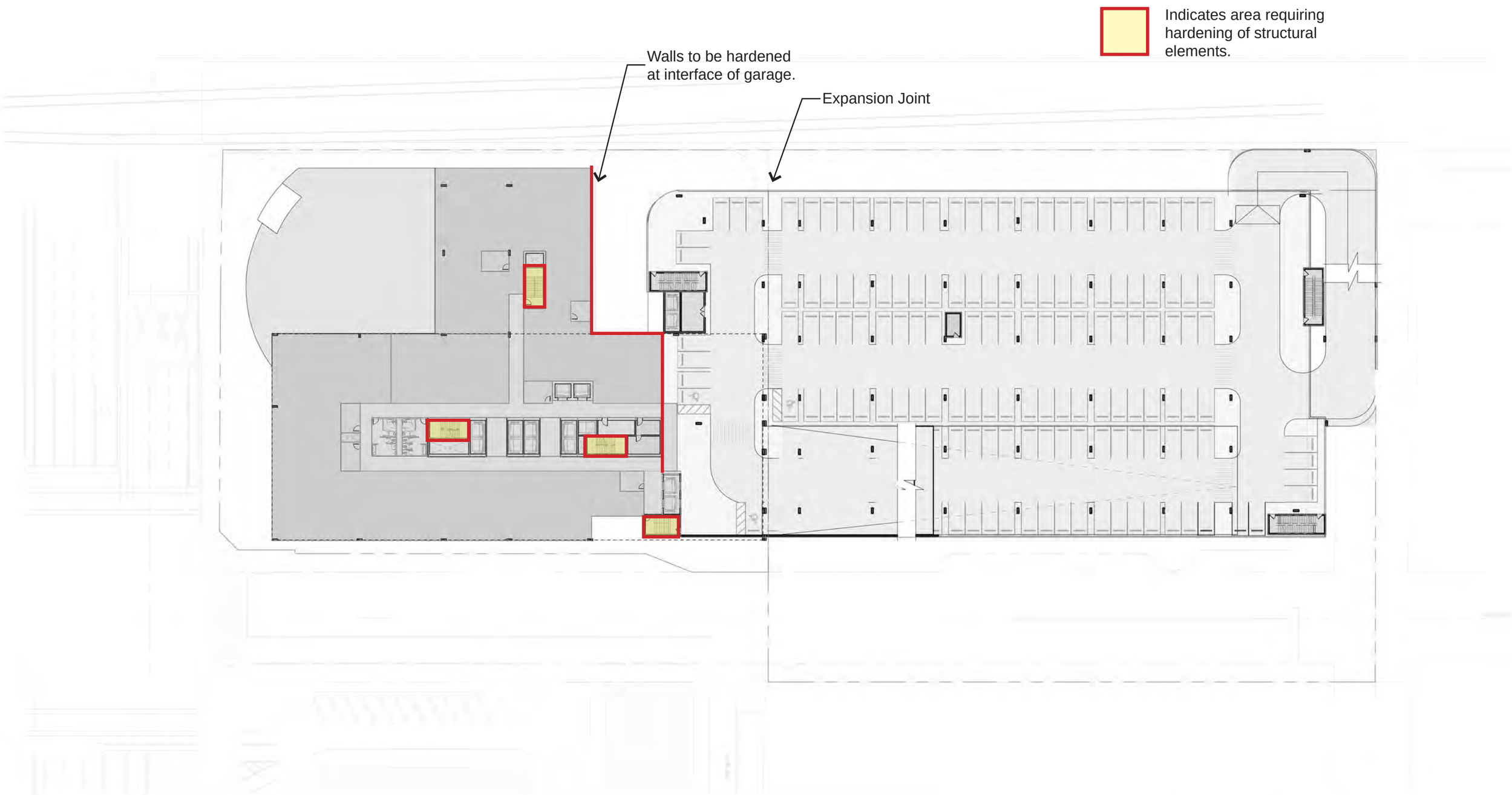

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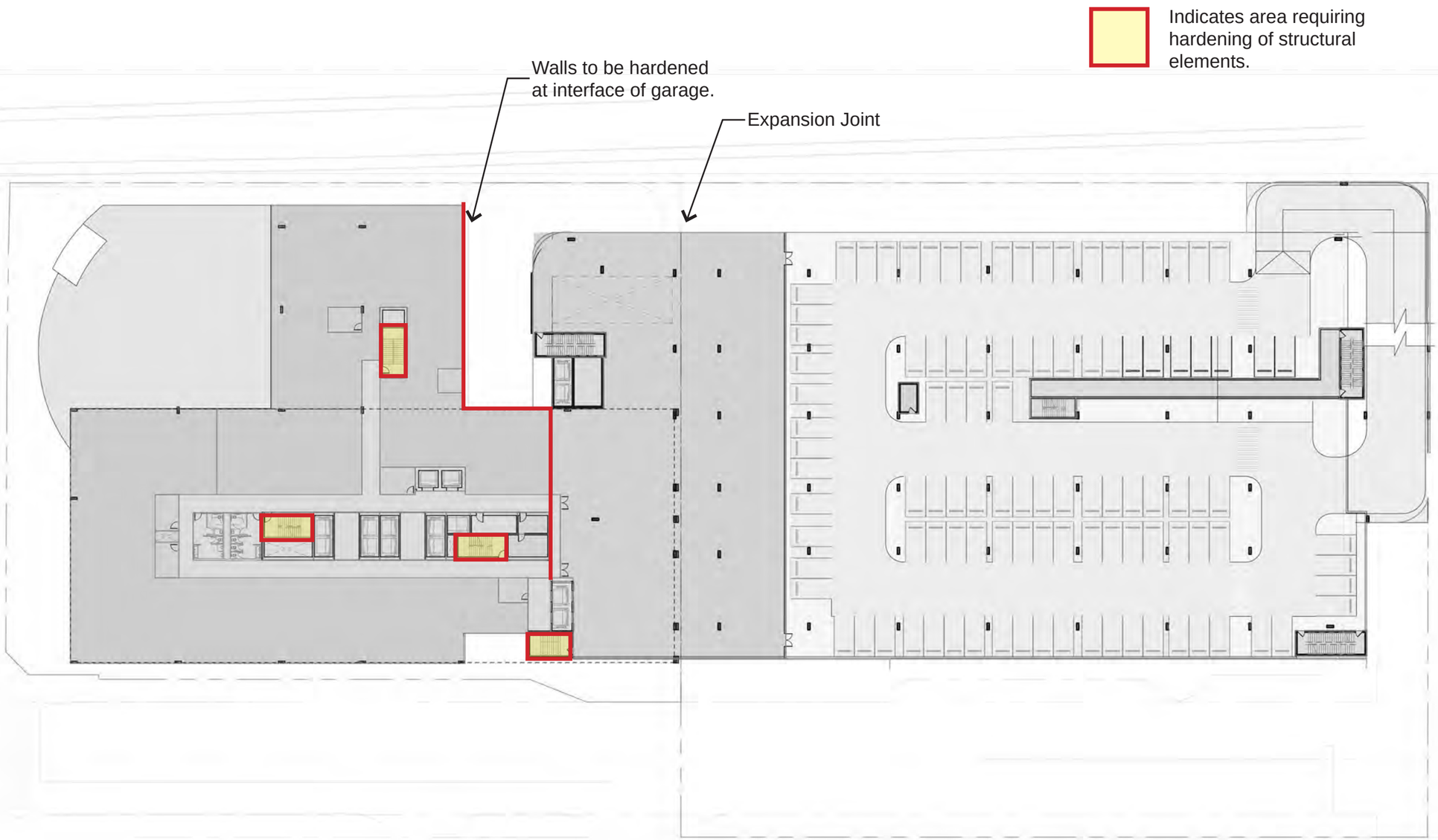

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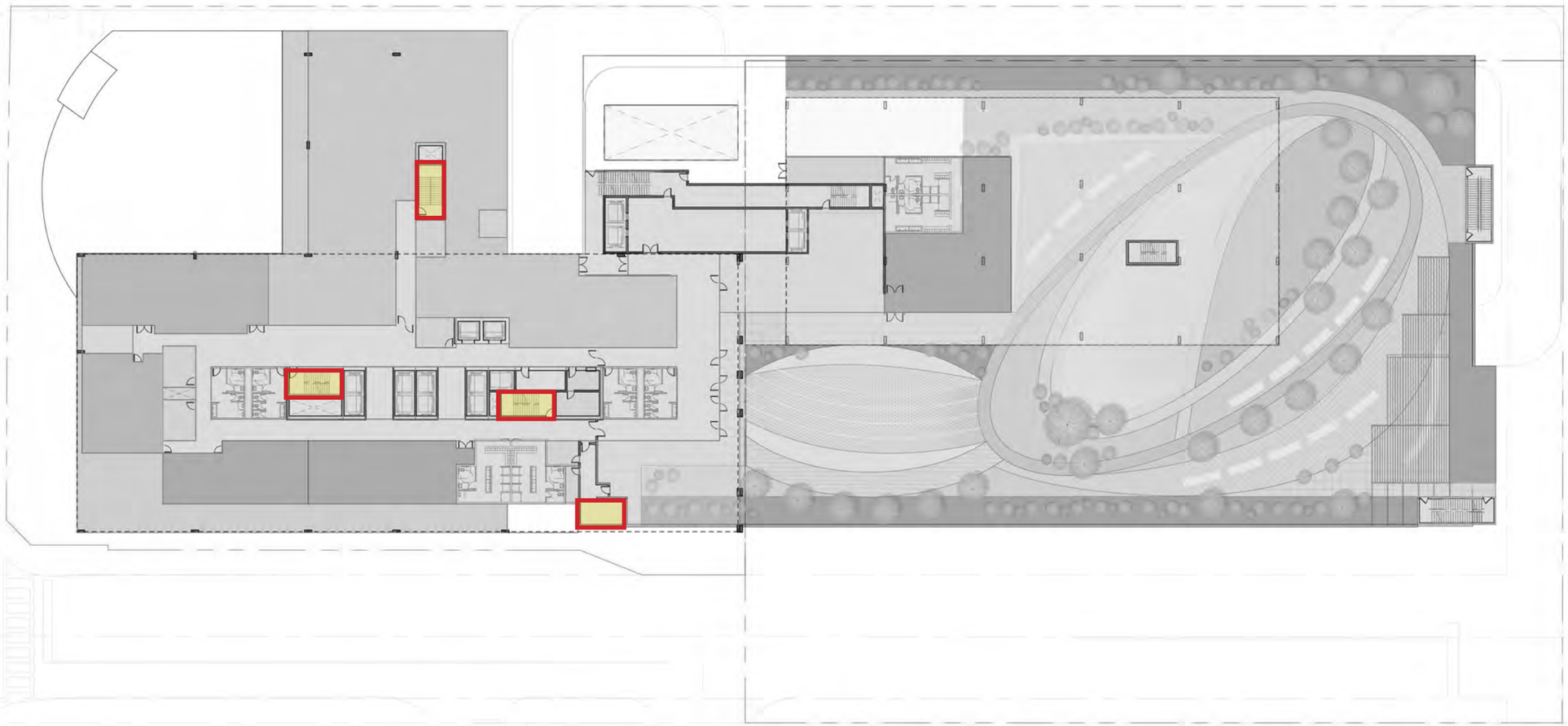

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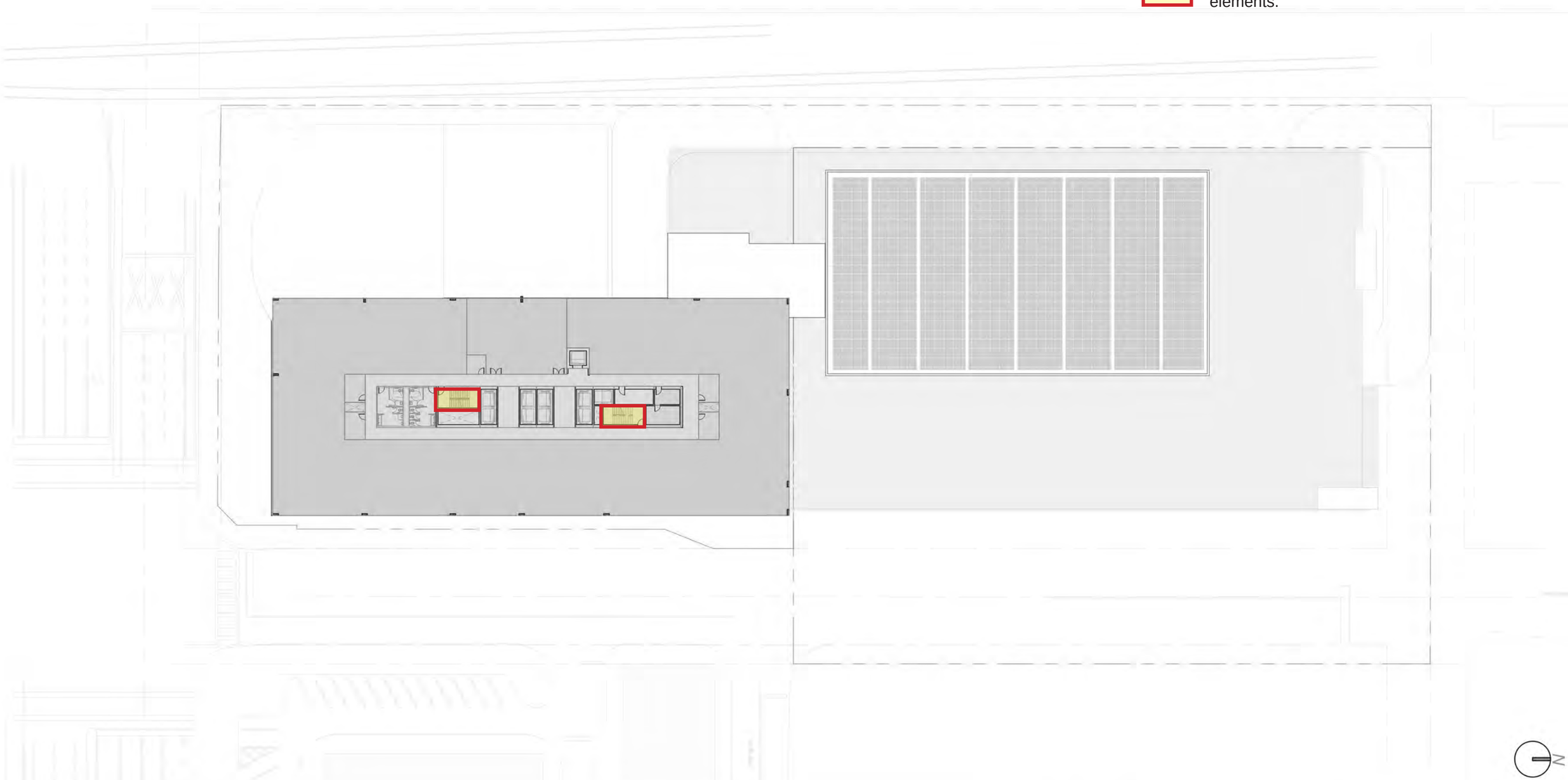

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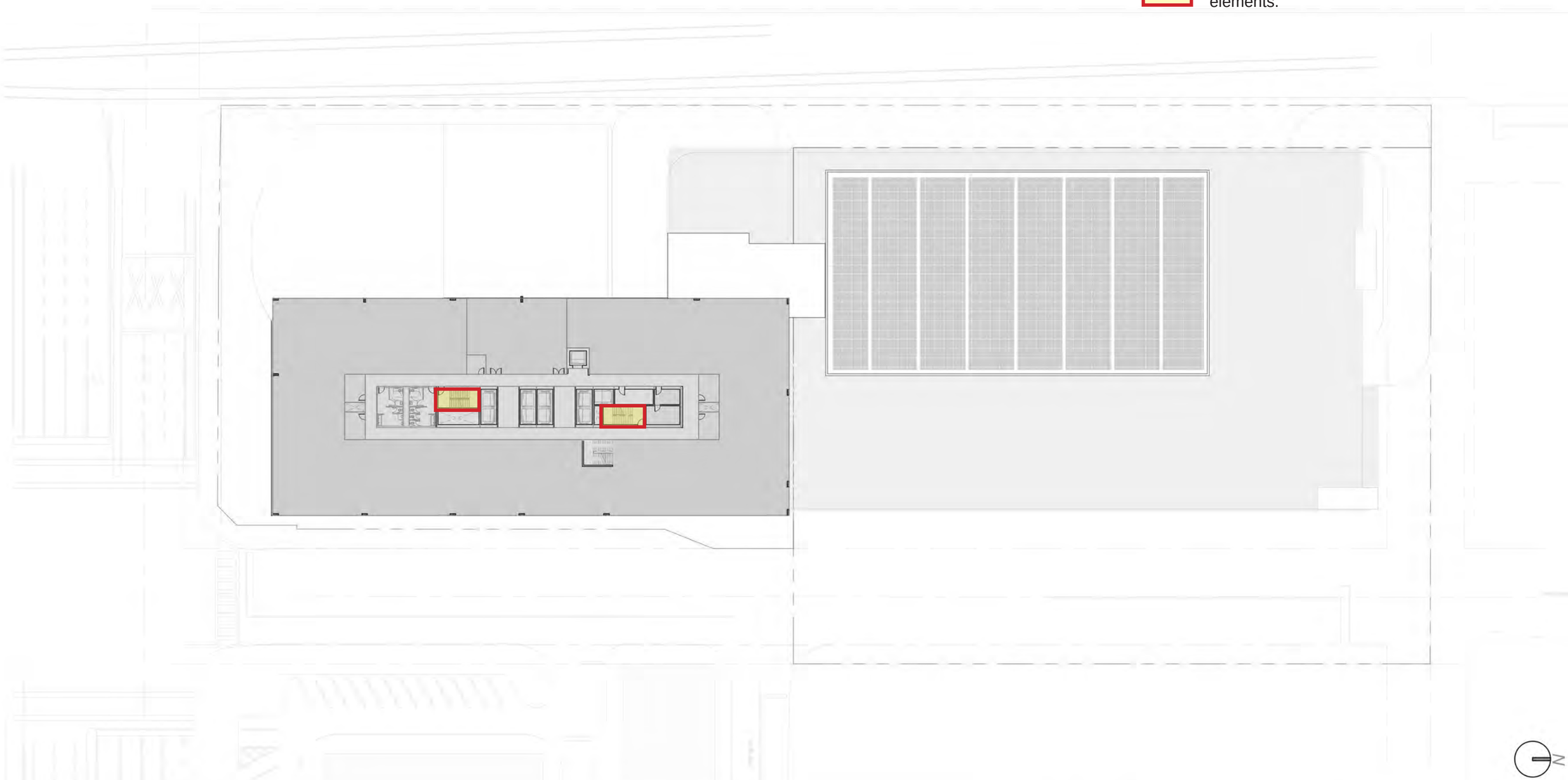

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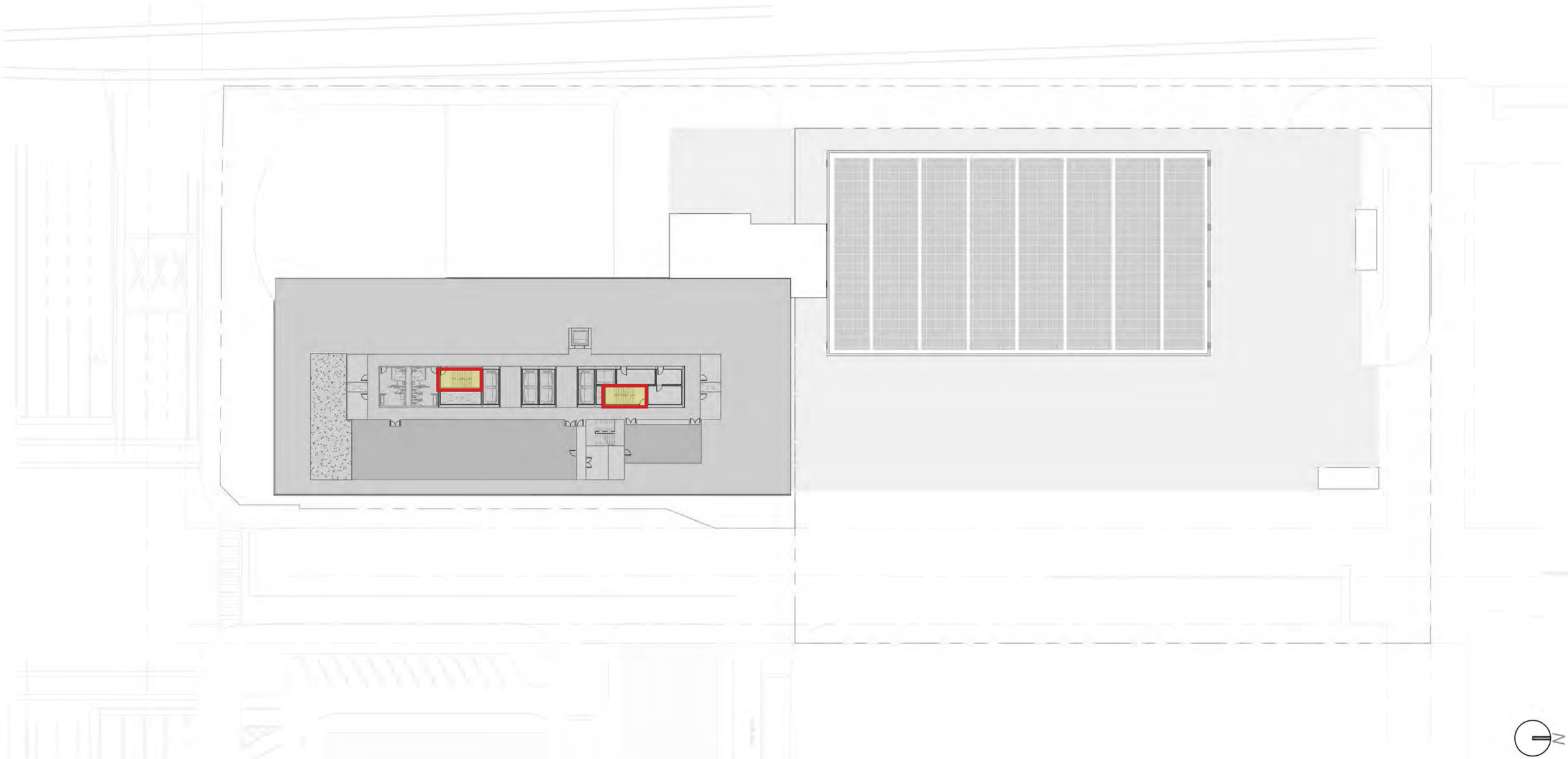

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DCP

APPENDIX N
Parking Mitigation Strategies

BOOK 3 | SEPTEMBER 14, 2020

MEMO

TO: Grace Perdomo

FROM: Thomas Rodrigues, AICP

SUBJECT: Parking Mitigation Strategies White Paper

DATE: May 29, 2020

REVISED: July 16, 2020

JGCC Parking Mitigation Strategies White Paper

This white paper explores potential strategies for reducing on-site parking demand at the Joint Government Center Campus (JGCC) facility. The JGCC is a proposed joint-government center facility that would bring the City of Fort Lauderdale and Broward County governmental operations together into a single unified facility.

Techniques that could be considered in the planning, design and operation of the facility are evaluated, with an interest in identifying polices and strategies that the county and city could implement to incentivize transit, carpooling, cycling, and other alternatives while also discouraging visitors and employees from driving.

Background

At this early planning stage, it is anticipated that the JGCC facility will consist of the following:

- The JGCC building will contain +/-862,000 square feet over 28 stories.
- The building occupancy is estimated to be +/- 1,660 employees, combining Broward County and the City of Fort Lauderdale's workforces. An additional 315 employees for the Broward Transportation Department are also expected to work onsite in a facility above the parking garage. The size of the workforce at JGCC is forecasted to increase to 2,100 by the year 2050.
- The Transportation Department facility above the parking garage will entail +/- 90,000 gross square feet (66,179 net square feet) of administrative office space.

City and County facilities also must accommodate visitors – members of the public who will be filing for permits, attending commission meetings, or applying for jobs. According to information obtained from the City and County, hundreds of visitors are expected to visit JGCC daily.

Fort Lauderdale Demand

> "[A 'City Hall Visitor Traffic Study and Analysis' memo was prepared] about five years ago documented visitors to City Hall, excluding commission meeting days,

> at about 70 per day (see attached report). However, what the report did not include was visitors to Water Billing. According to staff in Water Billing, they average about 160 walk-in customers per day. In addition, conference commission meetings on the eighth floor can vary from maybe 20 to 50 attendees and regular commission meetings can vary from maybe 50 or 75 to well over 300 (although not at the same time), depending on the items on the agenda. Keep in mind that because our Commission Chambers is only so large (256 max by Fire Code), there might be some neighbors that would like to attend but do not. If we had a larger facility, we might have more attendees.[1]"

Taking the above into consideration, Fort Lauderdale should expect anywhere from 300 to 580 visitors per day.

Broward County Government Demand

The County logs the number of daily visitors that visit its current government center facility. For the week of March 2nd through 6th, 2020, they averaged approximately 626 visitors per day. The County's West Government Center sees an additional 124 visitors a day. Combining these two, on average, there are approximately 750 visitors to Broward County Government offices.

During peak periods, it is possible, although unlikely, for there to be as many as 3,000 and 3,500 individuals working at or visiting the JGCC facility. The JGCC is currently being planned to house approximately 1,213 parking spaces. The discrepancy between number of available parking spaces and the potential number of visitors presents challenges that must be mitigated by strategies that encourage transit usage and disincentivize driving.

JGCC as a Transit Center

From a transit connectivity standpoint, the JGCC facility is in a unique position, with several major transit services in the immediate vicinity. By reinforcing these connections through good design that encourages transit commuting, the city and county can encourage a commuting modal shift away from passenger vehicles and into transit.

The JGCC will be built on what is anticipated to be the largest transit node in the county. At present, the facility is served by two significant transit linkages: The first is the existing Broward County Central Terminal, which serves as a transfer point for 15 different Broward County Transit (BCT) bus routes. As part of the JGCC redevelopment of the area, the Central Terminal will be rebuilt and integrated into the overall project design.

Second, the facility is adjacent to Fort Lauderdale's Brightline station, linking the community to a regional rail service that has substantially reduced transit travel times to

[1] *E-mail Correspondence from City of Fort Lauderdale, March 10, 2020*

Miami and West Palm Beach downtown attractions, with service to Orlando expected in the coming years.

Finally, more than one of the proposed nine rapid transit corridors envisioned in the county's Penny for Transportation initiative is anticipated to have a route terminus or major transfer point somewhere in the vicinity of the JGCC.

A combination of the above-mentioned services, combined with access to several express bus routes and more commuter rail service at the Broward Boulevard Tri-Rail Station two miles away, lays out a strong case for the JGCC to be a significant transit-oriented commuting hub in Broward County.

Urban Revival Near JGCC

Residential population in the Downtown Fort Lauderdale area has increased significantly in recent years. In the last 20 years, over 4,200 multi-family residential units have been in this area, over 60 percent of which were built in the last five years. That number is expected to more than double - yet another 4,300 units are under construction.

Population growth has experienced similar gains – with a 34 percent increase since 2010, the downtown area has outpaced county growth, which was 9 percent over the same period.[2]

Parking Demand Reduction Strategies

The following are some strategies the County and City should consider for reducing the parking demands on the proposed parking at the JGCC facility. No one strategy proposed here will address all the commuting challenges anticipated at. Instead, these strategies should be treated as complementary approaches that, when combined, can work together to minimize the parking demands in the area.

Active Parking Management

Active Parking Management (APM) includes a host of techniques and strategies that give drivers dynamic information that optimizes the use of existing parking facilities. These techniques can reduce congestion and help relieve pressure on higher-demand garages that are more likely to fill up.

Downtown Fort Lauderdale houses significant governmental and private employers, including courthouses, corporate headquarters, performing arts centers, universities, and museums. Parking issues have been dealt with independently, each agency or company has had to provide adequate parking for its own needs. In many cases, however, the uses are complementary, that is, they have different operating characteristics, and have

[2] *FTL DDA State of the Market 2020*: https://www.ddaftl.org/annualreport

different peak periods. The performing arts center, for instance, sees more usage on weekends and evenings, whereas the federal courthouse and commercial enterprises experience more demand during weekday business hours. Strategizing the operation of parking facilities in a way that reallocates parking supplies and demands in the most optimal manner should be considered to minimize the potential for overbuilding parking in the downtown area.

An APM strategy can involve some or all the following approaches:

- Dynamic Overflow Transit Parking – as central garages reach capacity, variable signage can be used to reroute commuters to underutilized parking facilities. More remote overflow facilities can be linked with transit circulator services to minimize inconvenience.
- Dynamic Parking Reservation – parking spaces are monitored individually, and commuters can reserve a parking space ahead of arriving at the facility.
- Dynamic Wayfinding – information about parking is continuously monitored and fed to variable messaging signs that can then be used to redirect commuters to other garages or overflow facilities.
- Dynamically Priced Parking – is a strategy where the cost of parking varies in accordance with the time of day and the amount of demand placed on the parking facilities. By setting pricing, the operator of the proposed APM program could right-size demand at a given facility, thereby balancing occupancy rates and reducing the likelihood that a single given facility could be overwhelmed by demand.
    - Parking pricing should also be considered as a strategy to disincentivize driving during peak periods. Adjusting prices on parking rates could also serve as an incentive for seeking alternatives to driving.
- Transit Circulators – South Florida drivers are generally accustomed to parking at their destination. For the APM strategies identified here to be successful, they should be paired with a circulator or on-demand system that can efficiently bring commuters from the facility they have parked at to their final destinations. Without this component, the overall success of this approach would be cast in doubt.

Parking Cash-Out Program

The city and county should explore the possibility of offering cash-in-lieu of a parking pass. By a parking cash-out program for employees. Rather than offering free parking passes, employees could be offered the value of the parking space as a cash payment supplement on their paychecks.

By way of an example, California state law requires employers who subsidize parking to offer a cash allowance in lieu of a parking space. A case study of the law's effectiveness showed single-passenger commuting was reduced by 17 percent, and carpooling

increased by 64 percent. Transit ridership increased by 50 percent, and transit and cycling grew by 33 percent.[3]

Currently, Broward County policy provides a marginal incentive for carpooling, but offers free parking for employees:

> Free parking is provided to all employees. Employees who carpool and park in the garage adjacent to the Governmental Center may apply for a carpool permit to have access to the special carpool parking area located on the second floor.[4]

The implicit endorsement acts as a built-in subsidy to those who opt to drive. The same level of encouragement does not extend to other commuting modes, which prompts the next recommendation:

Free Transit Passes

The County's current policy offers county employees a discounted rate on transit passes. Employees can make pre-tax deductions from their pay to minimize the cost further. This recommendation urges the City and County to provide free transit passes its employees.

The County today implicitly encourages its employees to drive. It provides free parking, which is described in the the County's Human Resources by policy vs merely subsidizing transit passes – is an implicit favoring of driving over transit usage. These policies have been borne out by the modal splits – surveys of current county employees found that 98 percent are driving to work alone. The survey has even found that married couples working at the county sometimes drive alone due to different errand routines after work. The modal share for driving is higher even than the countywide average – according to US Census data, 80 percent of Broward residents drive to work.

Bicycle Supportive Policies

There a suite of bicycle-oriented policies that could be implemented that could encourage workers to bicycle to work. These are summarized here

Provide Free Bike Share Memberships Free E-mobility Memberships

Broward County is home to an already existing bicycle sharing service – B-Cycle has operated throughout Broward County for several years. While many of the stations are currently located near tourist attractions, including facilities along Las Olas Boulevard, Fort Lauderdale and Hollywood Beaches, etc., the company could, in partnership with the city and county, introduce more stations to address commuting patterns. Using information about where employees live, new stations could be introduced. By then

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[3] *Evaluating the effects of parking cash out: eight case studies:* https://ww3.arb.ca.gov/research/single-project.php?row_id=55468
[4] *ABC's of Broward County Benefits:* https://www.broward.org/Benefits/ABCs/Pages/P-T.aspx

making the service free to city and county employees, they would be provided a powerful incentive to consider using the service. e. In a similar vein, e-mobility services are emerging on a continual basis, particularly electric scooters. By providing free memberships to these services, employees could be encouraged to shift from driving, especially for mid to short-range trips.

Bicycle Facilities

A number of facilities should be provided to further incentivze bicycling. Plentiful, well-lit, convenient, covered, and patrolled bicycle parking should be provided. Bicycle parking should be located in a place at least as convenient as the vehicular parking.

Bicycle repair stations should be provided. These could include a hanger to suspend the bicyle and enable the wheels to spin freely, tools, attached by cable, and an air pump.

Shower facilities – given the region's hot and humid climate, the JGCC should consider including locker rooms and shower facilities for employees. These would enable comfortable riding, and then allow for the employees to be able to shower and change prior to starting their work days.

Complete the Bicycle Lane Network

The Broward MPO completed a Bicycle & Pedestrian Safety Action Plan in 2018 that identified several steps that should be taken to improve bicycling in Broward County.

> Only three percent of the roadway network in the region currently has a bike lane or shared use path. Studies have shown that a completed network of comfortable bicycling infrastructure for all age levels will provide the best opportunities for increasing bicycle safety and ridership.[5]

Taking decisive actions to expand the bicycle network in the county can have meaningful impacts for health, safety, and, if done in a comprehensive manner and extensively across the county, even traffic congestion. A connected and comfortable bicycle network linking to the major transportation and transit network hubs in Broward County, including the JGCC could help alleviate parking burdens, especially if this network is paired with the recommendations in the preceding section.

South Florida Commuter Services

Expanding the relationship with South Florida Commuter Services (SFCS) should be a priority for the city and the county. SFCS works to encourage commuters to seek alternatives to driving alone. They partner with businesses to incentivize carpooling, vanpooling, transit use and bicycling and walking. A relationship between the two entities

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[5]*Broward MPO Bicycle & Pedestrian Safety Action Plan, March 2018*: http://browardmpo.org/images/WhatWeDo/Bike_Ped_Safety_Action_Plan/Final_Report/Broward_MPO_BPSAP_Report_031518.pdf

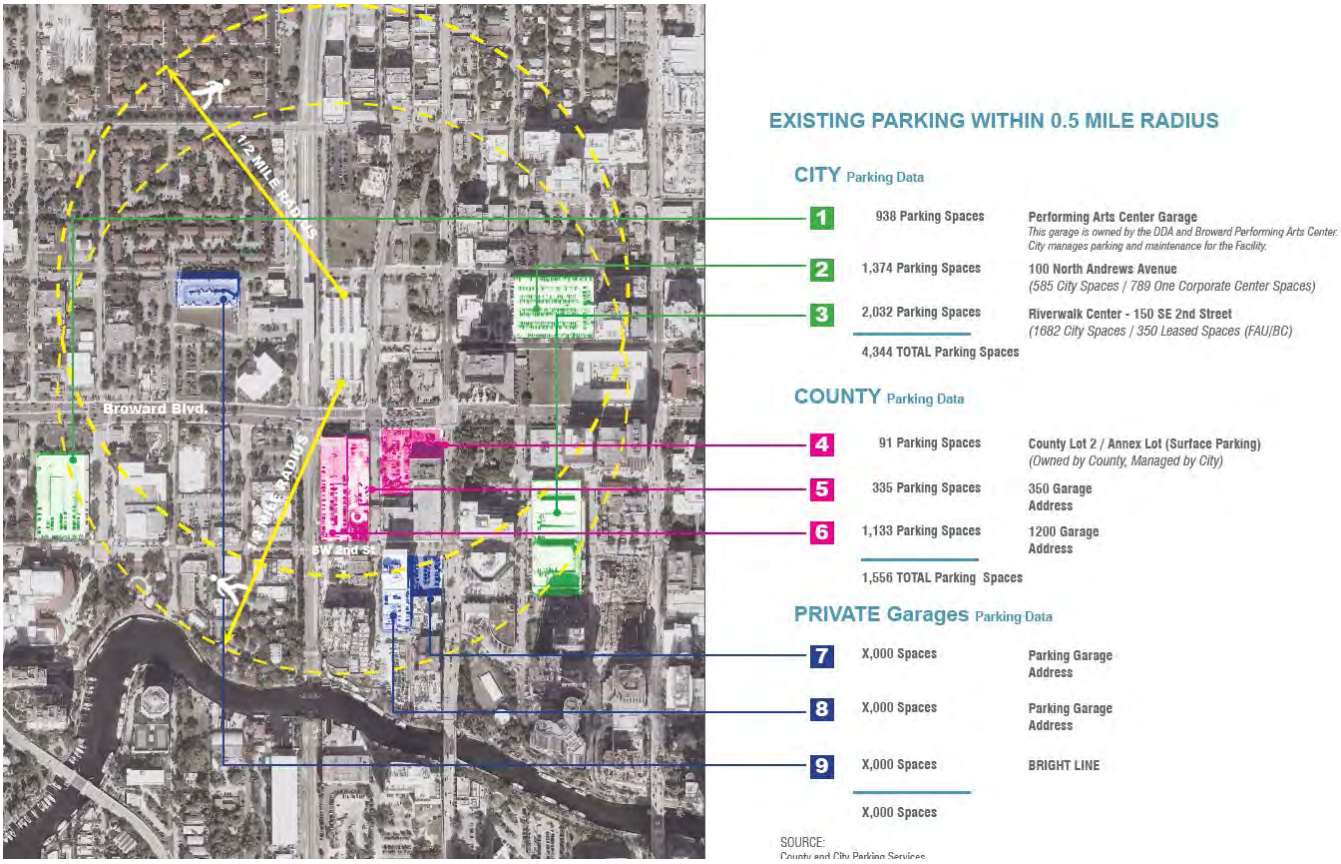
already exists through their cross-promoting efforts with BCT, but they should collaborate with human resources representatives in the city and county to encourage their other services. By providing generalized information about employee's place of residence, potential van and carpooling partners can be identified, and encouraged. SFCS also provides other services, such as a guaranteed ride home that pays for a ride share or taxi fare for commuters who must work late and miss out on transit services.

Other Considerations

The county and city should work closely together to align their meeting schedules. If both governments schedule commission meetings that overlap on the same day, the parking issues will become more acute. However, if both entities ensure they do not overlap meetings that are expected to have large attendances, then the JGCC facility will be better able to accommodate its visitors and employees.

Much of this analysis operates under the assumption that aside from the JGCC garage, no other parking facilities are available. However, at least in the short term, the County has access to the garages on the south side of Broward Boulevard (Garages 350 and 1200, as depicted on the map by numbers 4 and 5 here).

Should the additional parking facilities become inaccessible, it is important for the structure of the JGCC garage to be able to potentially accommodate additional floors of



parking. With adequate design considerations, it would be possible to expand the garage

for additional capacity. Planned additional transit capacity feeding in to the JGCC could eliminate the need for this to be done, but it would be prudent to ensure the option is available.

At the same time, the transportation segment is evolving rapidly, and new garage construction should be developed in a way that guarantees it is, to the extent possible, future-proofed. In the last decade, we have seen a significant increase in ride-hailing services, such as Lyft and Uber. These have emerged at the expense taxicab industry. Vehicles are increasingly autonomous, and it is not difficult to imagine a near-future scenario where a growing fraction of passenger vehicles are close to fully self-driving.

Although the full impacts of these technological disruptions are not yet fully understood, many in the industry anticipate that new technologies have the potential to reduce the demand and need for parking. Moreover, the parking that would be needed could be decidedly different in character – a vehicle that is capable of parking itself could plausibly park in a stall with a smaller footprint, as the need for a driver to get in or out of the vehicle could be precluded. Self-driving cars could therefore be parked in a smaller footprint.

Anticipating a reduced demand for parking should be built-in to the parking garage design. Configuring the space in a way that would allow for floors or portions of floors to be repurposed for higher and better uses should be considered as part of the project's final design.

Parking Controls and Technologies

The following is a summary of the parking technologies available to the JGCC development. These technologies run the range from tested and proven to innovative. Multiple vendors exist and can supply these technologies.

Pay on foot or pay in lane – allows visitors to take a ticket when entering the parking facility, completing their payment transaction at a kiosk prior to returning to the vehicle and exiting. This technology can considerably reduce wait times when exiting as the transaction are completed before. Visitors also have the option to pay in the travel lane, though this should be discouraged to minimize queuing at garage exits, particularly during peak periods.

Pay by phone technologies have gained widespread adoption in recent years, and would enable the JGCC to preserve an unrestricted, or partially restricted parking garage. As seen in other parking garages in the Downtown Fort Lauderdale area, pay by phone technologies require visitors to use an app or a pay station to park for a fixed amount of time. Enforcement stems from patrols that circulate through the garage, using license plate readers to verify if parking time limits have expired.

Parking space sensors utilize different technologies, including digital camera-based, and magnetic sensors to detect whether a vehicle is occupying a space. Space sensors can be used for enforcement, data collection, and identifying vacancies. Newer, more advanced varieties of this technology rely on cameras, which can identify vehicles by color and

license plates. Visitors who forget where they parked can use kiosks to locate their vehicles. This technology has been implemented in South Florida, notably in the Brickell Citi Center development in Miami.

Parking sensor information can be particularly effective on a system-wide basis. Occupancy information can be fed to smart phone apps, and variable message signs to inform approaching commuters where spaces are available, thereby influencing commuter choices.

Recommendation

Ultimately, a JGCC parking system must consider several factors, including "reliability, purchase costs, installation costs, maintenance costs, staffing requirements, and revenue potential."[6]

This paper recommends the JGCC adopt a pay by phone-style operation for the following reasons:

- Parking garage can be designed without the need for access controls, such as barrier arms, thereby eliminating potential bottlenecks in the facility during peak periods
- Pay by phone offers advantages to patrons who can renew expiring parking remotely without returning to the garage
- Pay by phone technologies have already being implemented in several garages in Downtown Fort Lauderdale, including City of Fort Lauderdale operated facilities
- If the JGCC requires access control features, they can still be implemented for certain floors through the use of gate arms.

[6] *Contemporary Approaches to Parking Pricing: A Primer*
https://ops.fhwa.dot.gov/publications/fhwahop12026/fhwahop12026.pdf

DCP

APPENDIX O
Traffic Analysis

BOOK 3 | SEPTEMBER 14, 2020

MEMO

TO: Grace Perdomo

FROM: Carlos A. Alba, PE, PTOE

SUBJECT: JGCC Traffic Analysis Memorandum

DATE: September 4, 2020

INTRODUCTION

This memorandum provides an overview of the existing traffic conditions near the proposed Joint Government Center Campus (JGCC) and the potential traffic impacts due to the trips generated by the new center and the proposed concept plan. A location map with an estimated location of the of the JGCC highlighted in blue is shown in Figure 1. Although The final design of the center is yet to be confirmed, a preliminary concept plan is provided in Appendix A as a reference.

Figure 1 – Location Map

The proposed JGCC will likely have traffic impacts on a wide area. However, this memorandum summarizes the existing traffic conditions and potential impacts for the intersections and arterial segments in the immediate surrounding area of the JGCC.

ANNUAL AVERAGE DAILY TRAFFIC (AADT) AND GENERALIZED LEVEL OF SERVICE (GLOS)

Table 1 shows Annual Average Daily Traffic (AADT), traffic factors and Generalized Level of Service (GLOS) for key arterials near the JGCC. This information was collected from FDOT traffic monitoring sites in the study area. GLOS are derived from the AADTs and the roadway capacity for each facility. A labelled map showing AADTs is shown in Figure 2. The calculated GLOS for roadway segments in the study area is shown in Figure 3. As per the Highway Capacity Manual (HCM) 2010, LOS is a quantitative stratification of a performance measure or measures that represent quality of service. The measures used to determine LOS for transportation system elements are called *service measures*. The HCM defines six level of service, ranging from A to F, for each service measure, or for the output from a mathematical model based on multiple performance measures. LOS A represents the best operating conditions from the traveler's perspective and LOS F the worst.

Road Name	Location	AADT	K Factor	D Factor	T Factor	GLOS
W Broward Blvd	West of W 2nd Ave	46,000	9.00	54.50	6.90	D
E Broward Blvd	West of Federal Hwy	37,000	9.00	54.50	3.30	D
S Andrews Ave	South of Broward Blvd	16,800	9.00	54.50	6.00	D
SW 2nd St	West of St Andrews Ave	10,800	9.00	54.50	6.00	D

Table 1 - Arterial AADT, Traffic Factors and LOS

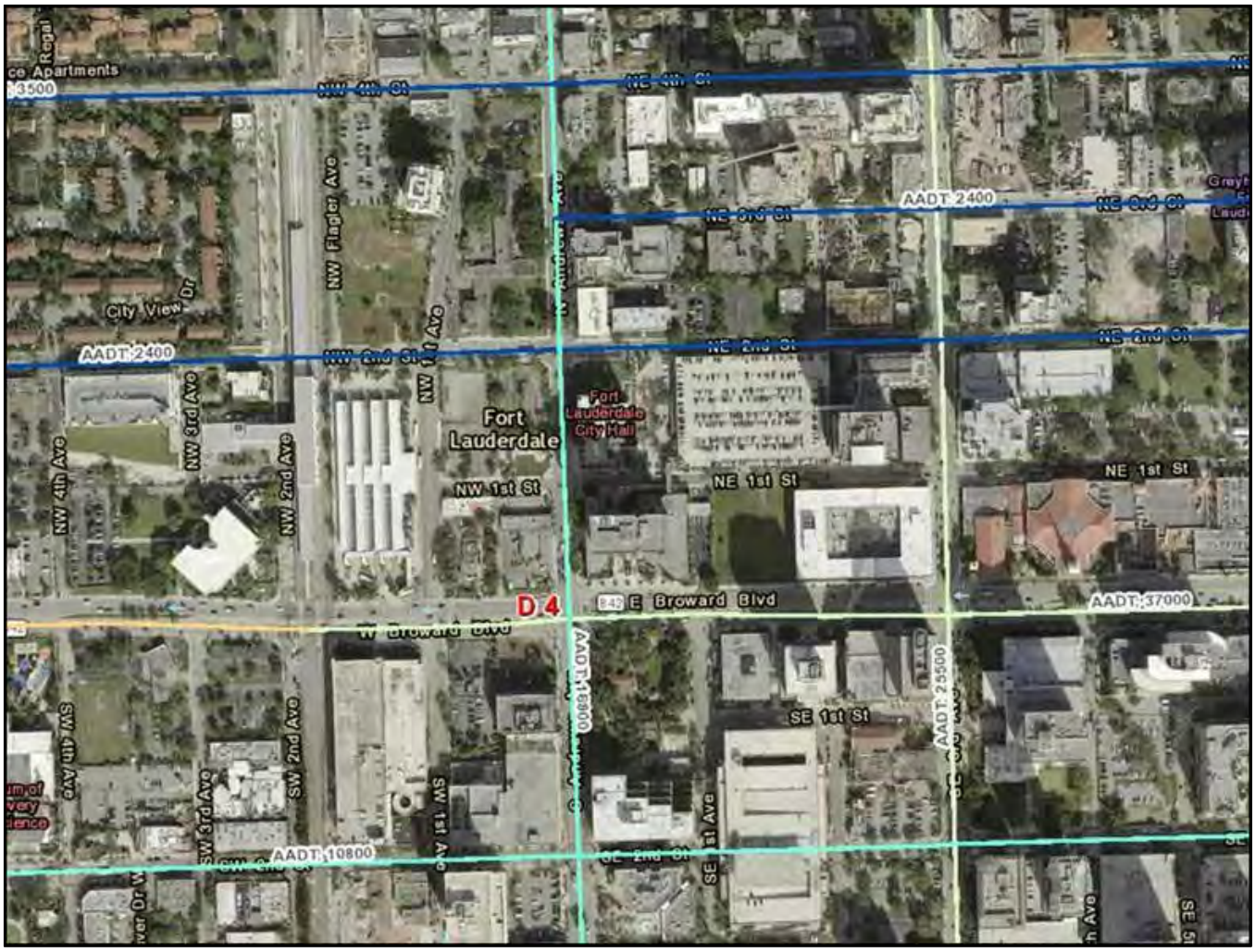


Figure 2 - Existing AADTs within the Study Area

Figure 3 - Existing Arterial LOS within the study area

SPEED PROFILES

The average speed of vehicles travelling along Broward Boulevard and Andrews Avenue is shown in Figure 4 and Figure 5, respectively. These figures were developed using the Regional Integrated Transportation System (RITIS), which is an automated data fusion and dissemination system based on big data.

Broward Boulevard has a posted speed limit of 35 mph near the JGCC. Figure 4 shows average speeds along Broward Boulevard between W 4th Avenue and Andrews Avenue. These speeds were captured between January 1st and December 31st for weekdays only. Speeds along the eastbound direction start to drop at 6:00 AM and reach their lowest point between 8:00 and 10:00 AM. This means that traffic slows down during the morning peak as people try to get to work in Downtown Fort Lauderdale from I-95. Speeds along the westbound direction have their biggest drop around 5:00 PM, which is the time of the day when people working in Downtown Fort Lauderdale leave work and head west to get to I-95. Figure 4 reveals that there is a clear peak directionality along Broward Boulevard within the study area with heavy traffic along the eastbound direction during the morning peak and along the westbound direction in the afternoon peak. However, it is important to note that speeds on the opposite direction (westbound during the morning peak and eastbound during the afternoon peak) are not necessarily high. This indicates that Downtown Fort Lauderdale has developed a mixed land use in recent years, and now people work and live in the area. In other words, low speeds in both travel directions show that it has become difficult to get in and out of Downtown Fort Lauderdale.

Andrews Avenue has a posted speed limit of 35 mph near the JGCC. Figure 5 shows average speeds along Andrews Avenue between Broward Boulevard and NW 6th Street. These speeds were captured between January 1st and December 31st for weekdays only. Speeds along the northbound direction reach their lowest point at 5:00 PM, which coincides with the time of day when people are leaving work in Downtown Fort Lauderdale. Speeds along the southbound direction reach their lowest point at 8:00 AM, which is the time of day when people are getting to work in Downtown Fort Lauderdale.

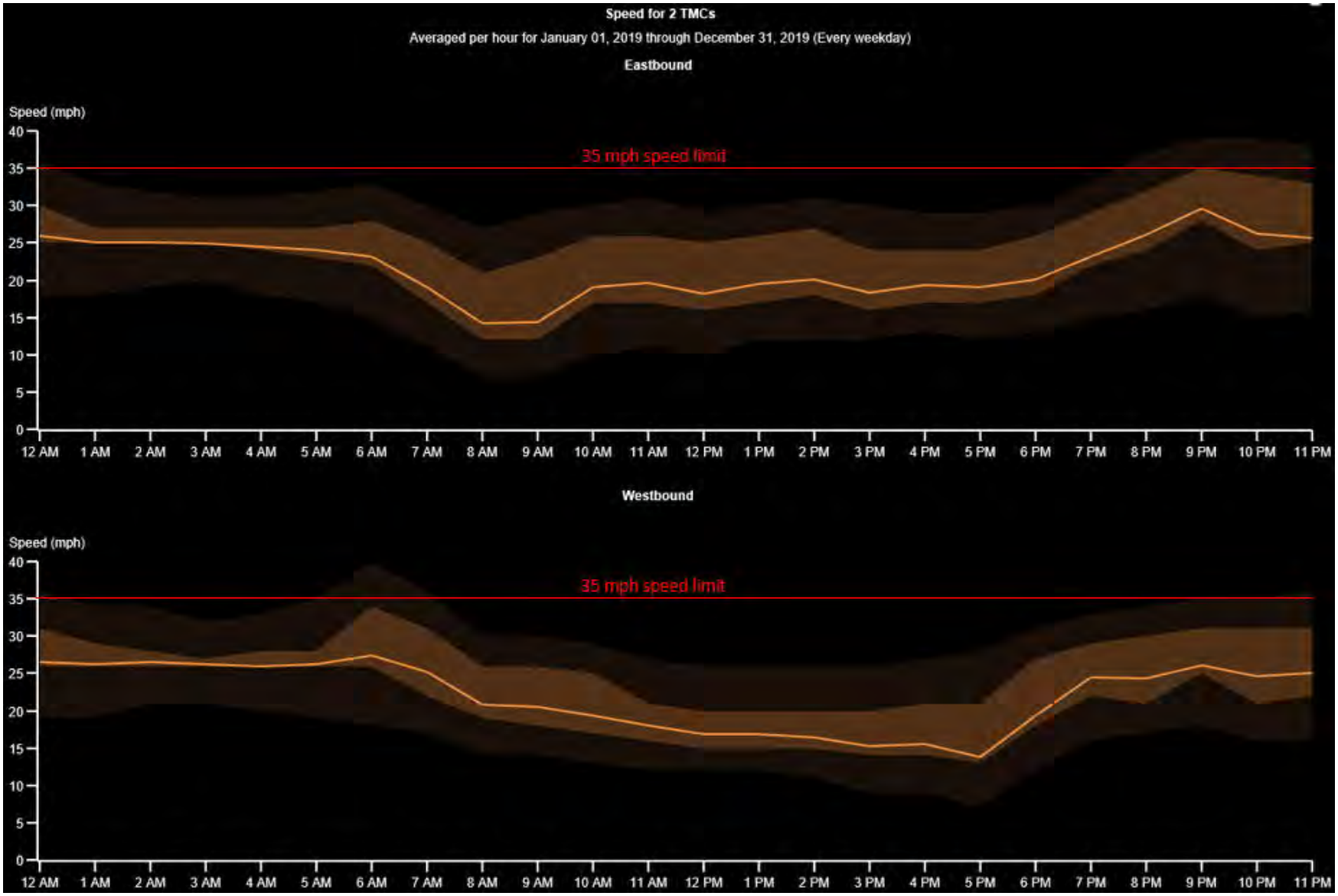


Figure 4 - Speed Profiles for Broward Boulevard by Time of Day

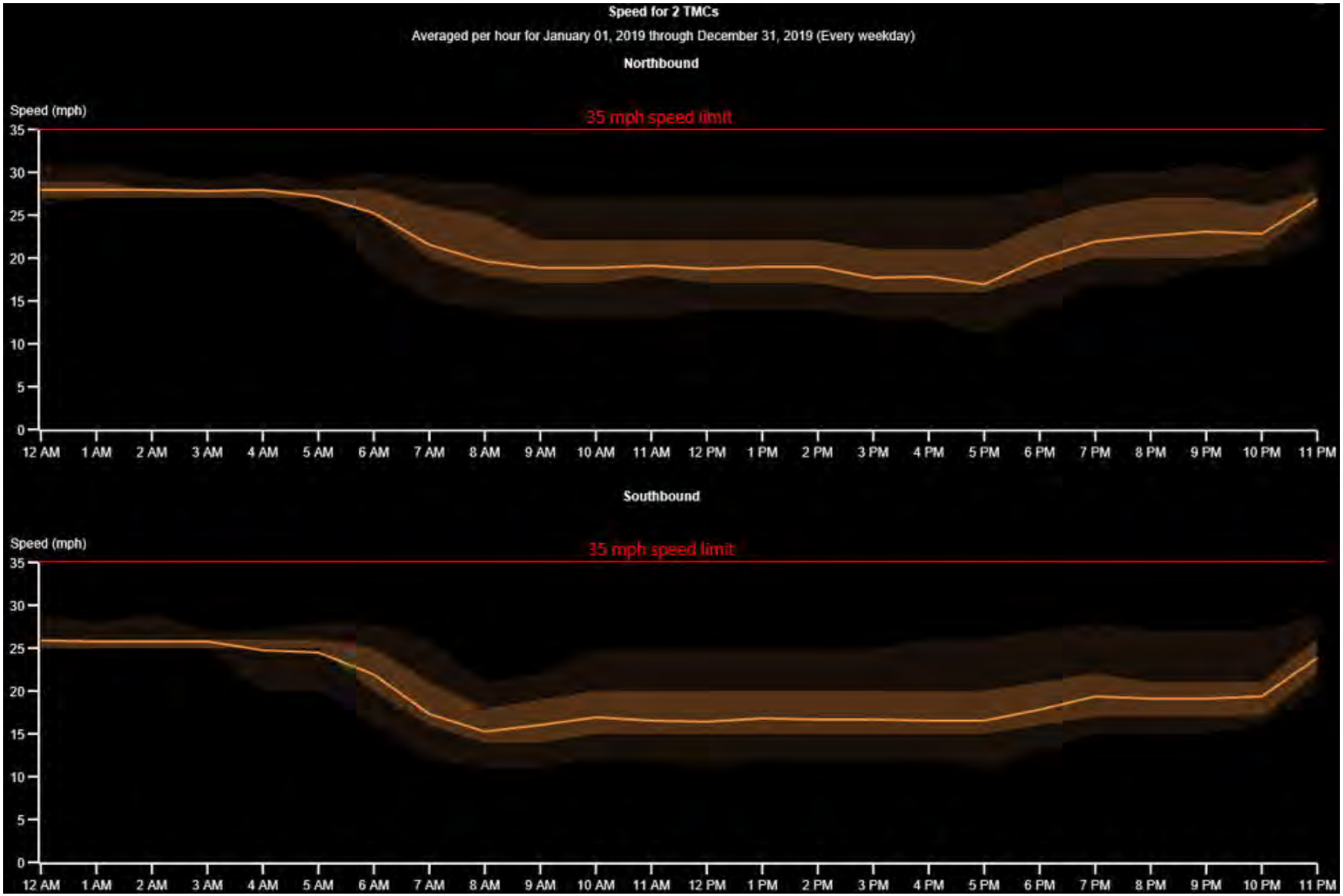


Figure 5 - Speed Profiles for Andrews Avenue by Time of Day

SIGNALIZED INTERSECTIONS

Broward County provided turning movement counts for the intersections listed below. Raw TMCs are included in Appendix B. Figure 6 provides a graphic representation of TMCs for the two signalized intersections near the JGCC.

- Broward Boulevard and Brickell Avenue (counts from 2014)
- Broward Boulevard and Andrews Avenue (counts from 2016)

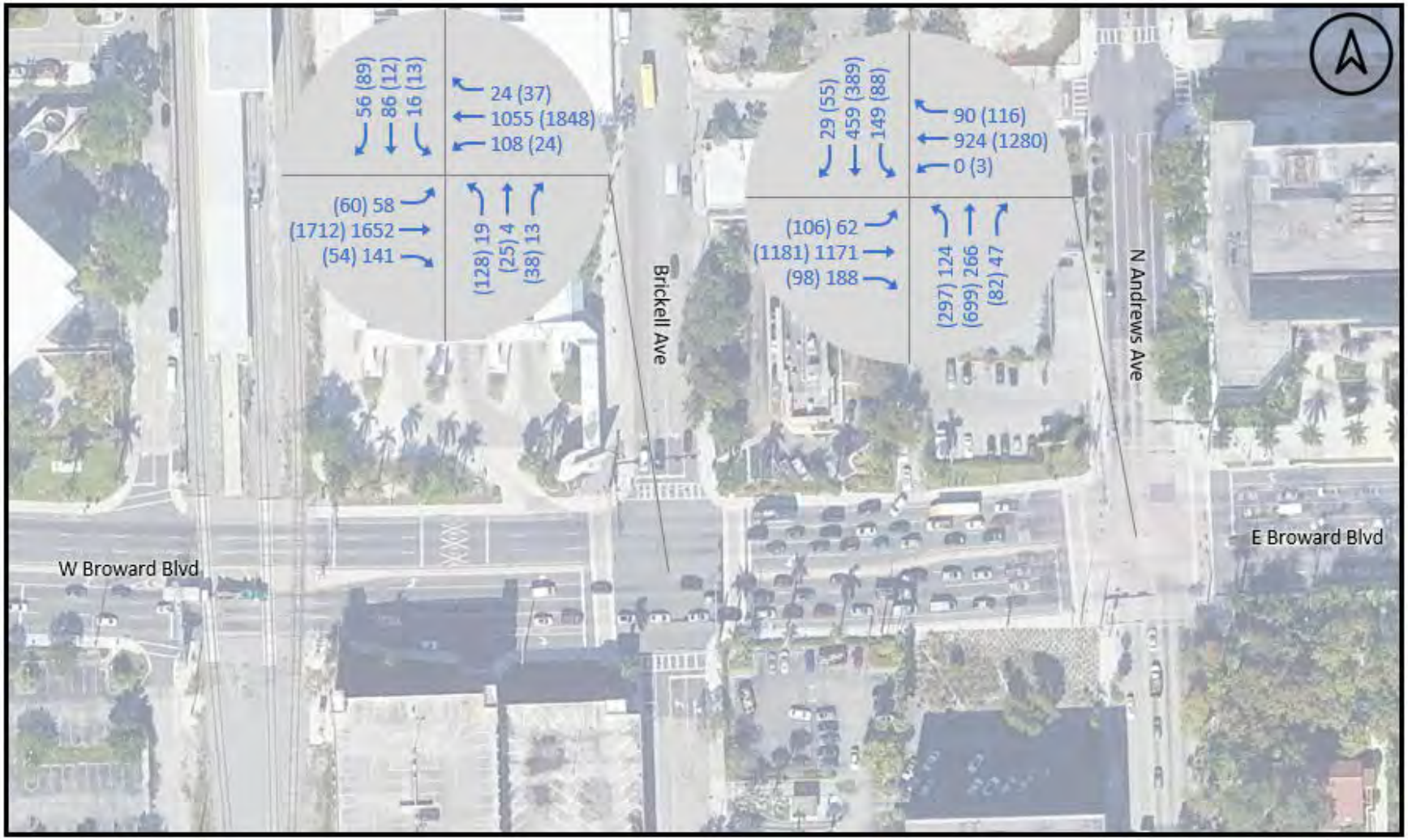


Figure 6 – Turning Movement Counts (TMCs) for intersections near the JGCC

EXISTING TRANSIT SERVICE AT THE BROWARD CENTRAL TERMINAL

Table 2 shows bus routes in Broward County that make use of the Broward Central Terminal. This information is included in this memorandum to help identify ways to minimize negative impacts to transit service due to any proposed roadway improvement. A service map for all bus routes in Broward County is included in Appendix C.

Route	From	To
1	Broward Central Terminal	Aventura Mall
6	Broward Central Terminal	County Line Rd
9	Broward Central Terminal	Young Circle
10	Broward Central Terminal	Camino Real & Dixie Hwy
11	US 1 & Copans Rd	US 441 & Commercial Blvd
14	Broward Central Terminal	Hillsboro Blvd & Powerline Rd
20	Broward Central Terminal	Broward Health North / NE 3 Ave & Sample Rd
22	Sawgrass Mills Mall	Broward Central Terminal
30	West Regional Terminal	Broward Central Terminal
31	Broward Central Terminal	Hillsboro Blvd & Lyons Rd
40	Lauderhill Mall	Galleria Mall
50	Broward Central Terminal	Hillsboro Blvd & SW 3 Ave
60	Broward Central Terminal	US 441 & NW 15 ST
81	Broward Central Terminal	West Regional Terminal
101/US 1 Breeze	Broward Central Terminal	Aventura Mall

Table 2 – Existing Bus Routes at the Broward Central Terminal

Table 3 shows the existing bus routes that arrive at the Broward Central Terminal from eastbound Broward Boulevard making a left turn at the signalized intersection at Brickell Avenue. It also provides the approximate number of buses per route based on current schedules posted in the Broward County Transit (BCT) website. It is important to note that the number of buses shown in Table 3 is based on schedules during the COVID-19 pandemic. This means that the number of buses per hour might be higher when the headways or number of buses per route go back to levels pre COVID-19.

Route	From	To	Buses per hour
6	Broward Central Terminal	County Line Rd	1
9	Broward Central Terminal	Young Circle	1
22	Sawgrass Mills Mall	Broward Central Terminal	3
81	Broward Central Terminal	West Regional Terminal	2
101/US 1 Breeze	Broward Central Terminal	Aventura Mall	2

Table 3 – Existing Bus Routes entering the Broward Central Terminal from Eastbound Broward Boulevard

CONCLUSION AND RECOMMENDATIONS

Figure 8 and Figure 9 show proposed roadways improvements to mitigate the traffic impact associated with trips generated by the JGCC. One of the main concerns identified from the traffic analysis is that the existing left turn bay for vehicles accessing the site from eastbound Broward Boulevard to northbound Brickell Avenue during the morning peak might not be long enough. The proposed site is contemplating 1,300 parking spaces and many of the County and City employees using those parking spaces are expected to come from I-95. For that reason, it is important that the intersections leading to the site provide enough capacity for such left turns to prevent the formation of queues that could spillback to the railroad crossing. In order to address such concerns, the proposed improvements shown in Figure 7, referred as Option 1, restrict left turns at Brickell Avenue. Instead, those left turns will be re-routed to the intersection at Andrews Avenue, where the existing left turn bay would be extended. Please note that the extension of the left turn bay on the eastbound approach could be made by eliminating the left turn bay from westbound Broward Boulevard to southbound Brickell Avenue. If such left turn bay needs to be preserved, it is possible to explore the option to acquire right of way on either side of Broward Boulevard in order to accommodate both left turn lanes.

Based on the TMCs summarized in Figure 6, it seems like eliminating the EBL movement for the intersection at Brickell Avenue is a viable option. Please note that there are only 58 (60) vph completing that turn for the AM and PM peak hours, respectively. It is important to point out that left turns at Brickell Avenue will be re-routed to the intersection at Andrews Avenue. There seems to be enough capacity for those 62 (106) vph making a left turn at Andrews Avenue and the additional traffic generated by the new center given that the left turn bay could be extended. In order to avoid extending the length of the routes for buses arriving at the new terminal from eastbound Broward Boulevard (refer to Table 3), it is possible to keep the left turn at Brickell Avenue available for buses only. This means that the left turn restriction shown in Figure 8, will only be enforced for private vehicles.

Another important observation from analyzing the TMCs is that there are relatively low traffic volumes turning to/from the south and north legs of the intersection at Brickell Avenue. This suggests that it is also possible to consider the closure of this signalized intersection (removing the median opening) as to only allow through traffic along eastbound and westbound Broward Boulevard and right-in/right-out movements for the north and south legs of the intersection. These roadway improvements are shown in Figure 8 and referred as Option 2. The existing pedestrian crossings could be replaced by a pedestrian bridge over Broward Boulevard.

No traffic issues are expected for vehicles leaving the new site. The right turn movements for the southbound approaches of the intersections at Brickell Avenue and at Andrews Avenue have exclusive right turn lanes and relative low volumes for both the AM and PM peak hours.

Traffic operational issues are not expected for the access point at Brickell Avenue and NW 1st Street given the limited number of conflicting movements at the intersection and the fact that traffic will be entering the bus terminal with a free flow movement. However, a traffic signal should still be considered given that the proposed geometry deviates from a traditional 4-legged intersection and potential conflicts with pedestrians. As per our discussions with the design team, once the number of parking spaces and the technology for the entry gates are finalized, the design team should conduct a queuing analysis following the methodology outlined in the Institute of Transportation Engineers (ITE) Transportation and Land Development to make sure queues at the entrance of the parking facility do not impact nearby facilities.

As per the latest version of the site plans and as shown in Figure 7, there will be a ramp to access the parking structure at the intersection of Brickell Avenue and NW 2nd Street. Vehicles coming out of the parking structure will not have adequate visibility of conflicting traffic driving eastbound on NW 2nd Street. Please note that Figure 7 shows on set of conflicting movements at the intersection. For that reason, it is recommended to install a traffic signal at this location.

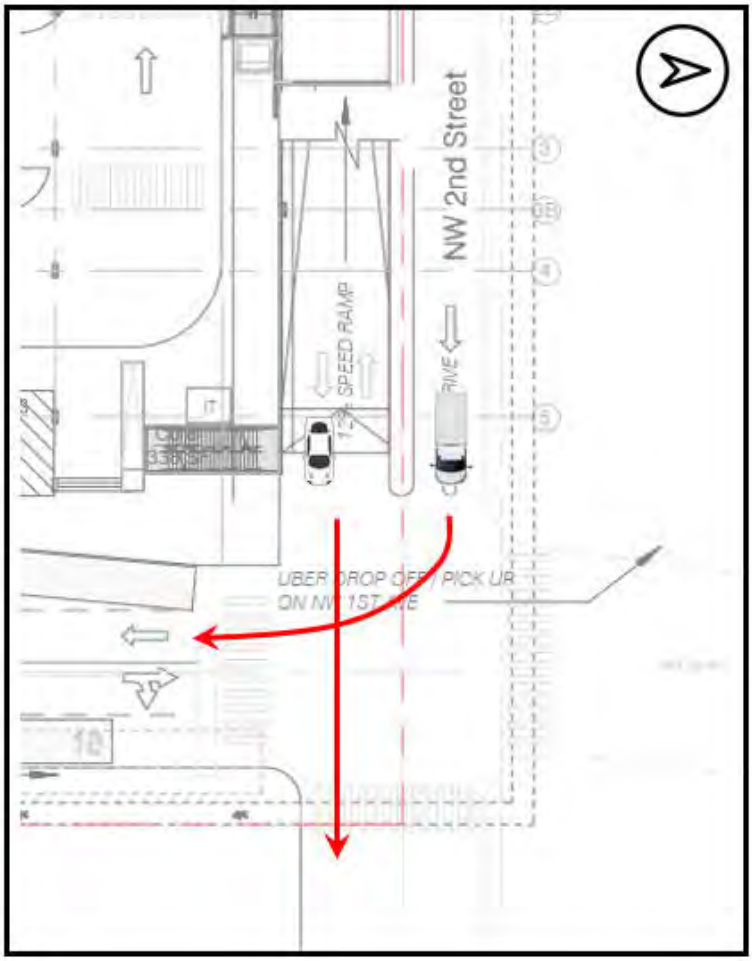


Figure 7 – Detail of Intersection at Brickell Avenue and NW 1st Street

As shown in Table 1, facilities around the JGCC are operating at LOS D, which is just one grade better than LOS E, which represents traffic conditions operating at capacity. The speed profiles indicate that there are low speeds for traffic getting into Downtown during the morning peak and leaving Downtown during the afternoon peak. Modifications to access points at the JGCC will require a detailed traffic analysis to ensure that changes in traffic patterns do not cause significant delays. It is recommended that a detailed intersection analysis is undertaken once a design concept is finalized. The interaction of additional traffic and the railroad crossing may necessitate microsimulation modelling to ensure that queuing does not cause a performance or safety concern. Please note that in order to evaluate the effectiveness of the proposed roadway improvements and the real impacts of the trips generated by new site, a Synchro model that takes into consideration the proposed geometry, TMCs, signal timing information and other traffic factors should be developed. From such models one would be able to assess intersection and approach delays, LOS, queues and overall traffic conditions. Such evaluation should be considered in the final design of the project and in close coordination with FDOT, Broward County and roadway engineers to check the feasibility of the proposed roadway improvements in terms of right of way, utilities, and other design considerations.

It is recommended that as part of the final design new data collection is performed given that the historical counts from Broward County were conducted at different times (even different years) for each of the two intersections under consideration. Broward County and FDOT were contacted for more recent turning movement counts but were told that the traffic information used in this memorandum is the latest. There was a signal retiming project along Broward Boulevard within the study area in 2014, which is prior to when the traffic data used in this analysis was collected. There is also study for a one-way pair conversion of Andrews Avenue and NE 3rd Avenue but the traffic data collection for that project has not commenced.

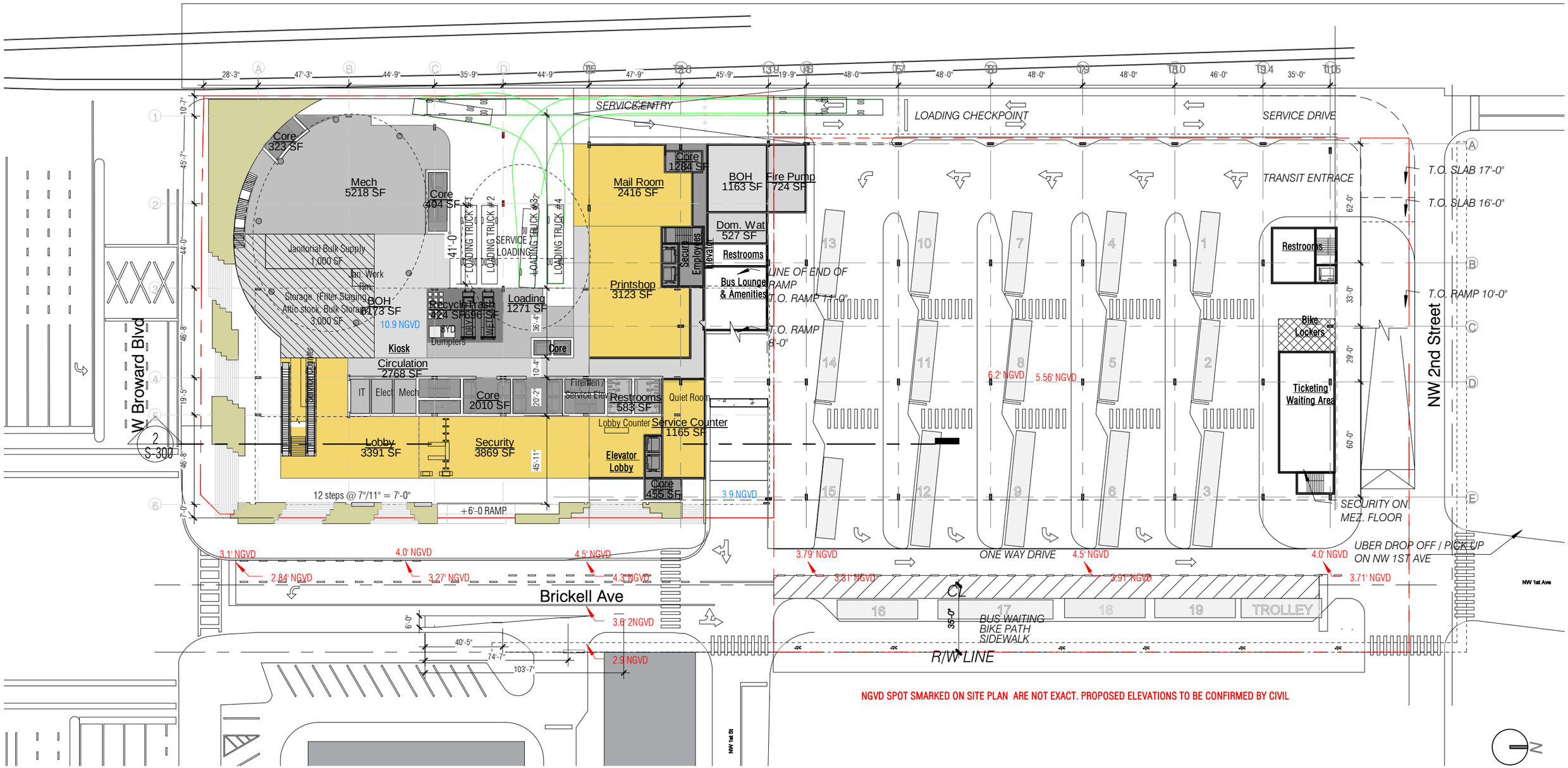
Figure 8 – Proposed Roadway Configuration (Option 1)

Figure 9 – Proposed Roadway Configuration (Option 2)

Carlos A. Alba, PE, PTOE
Senior Supervising Engineer

APPENDIX A

CONCEPT PLAN



NGVD SPOT SMARKED ON SITE PLAN ARE NOT EXACT. PROPOSED ELEVATIONS TO BE CONFIRMED BY CIVIL

Option 4 Bar Extended

Master Plan Level 1	1" = 50'-0"	04-15-2020

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S-200

APPENDIX B

INTERSECTION TURNING MOVEMENT COUNTS

Broward County Traffic Engineering Division

2300 W. Commercial Blvd.

Fort Lauderdale, FL 33309

SIGNAL: 2133
CITY: FORT LAUDERDALE
LOCATION: BROWARD BLVD & SW 1 AVE (BRICKELL AVE)

File Name : 2133_08082014
Site Code : 00000000
Start Date : 8/18/2014
Page No : 1

Groups Printed- Unshifted - Bank 1

	SW 1 AVE Northbound					SW 1 AVE Southbound					BROWARD BLVD Eastbound					BROWARD BLVD Westbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	1	3	0	6	7	4	1	0	12	16	212	6	0	234	2	185	11	0	198	450
07:15 AM	0	0	0	0	0	6	5	2	0	13	27	366	5	0	398	7	195	8	0	210	621
07:30 AM	3	1	2	0	6	8	6	5	0	19	20	354	6	0	380	4	167	15	0	186	591
07:45 AM	2	0	4	0	6	11	12	1	0	24	19	380	4	0	403	3	223	25	0	251	684
Total	7	2	9	0	18	32	27	9	0	68	82	1312	21	0	1415	16	770	59	0	845	2346
08:00 AM	4	0	5	0	9	14	18	3	0	35	37	344	16	0	397	3	301	37	0	341	782
08:15 AM	0	1	5	0	6	17	31	5	0	53	34	488	14	1	537	8	228	26	0	262	858
08:30 AM	5	3	5	0	13	12	23	2	0	37	38	375	12	0	425	7	287	18	0	312	787
08:45 AM	4	0	4	0	8	13	14	6	0	33	32	445	16	0	493	6	239	27	0	272	806
Total	13	4	19	0	36	56	86	16	0	158	141	1652	58	1	1852	24	1055	108	0	1187	3233
*** BREAK ***																					
11:00 AM	5	1	3	0	9	9	2	1	0	12	31	324	18	0	373	4	289	13	0	306	700
11:15 AM	3	1	5	0	9	10	3	2	0	15	20	369	8	0	397	7	381	13	0	401	822
11:30 AM	2	4	9	0	15	18	3	2	0	23	16	351	9	0	376	5	372	15	0	392	806
11:45 AM	3	6	5	0	14	8	4	2	0	14	26	420	14	0	460	3	294	12	0	309	797
Total	13	12	22	0	47	45	12	7	0	64	93	1464	49	0	1606	19	1336	53	0	1408	3125
12:00 PM	4	8	9	0	21	16	6	2	0	24	29	347	16	0	392	8	308	10	0	326	763
12:15 PM	5	6	7	0	18	13	4	2	0	19	19	374	9	0	402	4	479	20	0	503	942
12:30 PM	5	7	9	0	21	19	7	8	0	34	31	383	13	0	427	9	401	18	0	428	910
12:45 PM	5	8	10	0	23	10	7	8	0	25	24	390	15	0	429	11	380	18	0	409	886
Total	19	29	35	0	83	58	24	20	0	102	103	1494	53	0	1650	32	1568	66	0	1666	3501
*** BREAK ***																					
04:00 PM	4	1	13	0	18	18	0	1	0	19	17	326	7	0	350	8	426	10	0	444	831
04:15 PM	7	2	20	0	29	22	4	3	0	29	15	251	5	0	271	7	456	9	0	472	801
04:30 PM	2	8	27	0	37	15	4	3	0	22	17	398	12	0	427	11	421	8	0	440	926
04:45 PM	16	7	33	0	56	12	4	2	0	18	21	349	10	0	380	9	449	8	0	466	920
Total	29	18	93	0	140	67	12	9	0	88	70	1324	34	0	1428	35	1752	35	0	1822	3478
05:00 PM	9	9	38	0	56	27	2	7	0	36	14	352	14	0	380	9	478	9	0	496	968
05:15 PM	13	5	35	0	53	16	3	0	0	19	15	492	17	0	524	12	492	4	0	508	1104
05:30 PM	7	5	26	0	38	14	5	1	0	20	13	339	11	0	363	8	432	6	0	446	867
05:45 PM	9	6	29	0	44	32	2	5	0	39	12	529	18	0	559	8	446	5	0	459	1101
Total	38	25	128	0	191	89	12	13	0	114	54	1712	60	0	1826	37	1848	24	0	1909	4040
Grand Total	119	90	306	0	515	347	173	74	0	594	543	8958	275	1	9777	163	8329	345	0	8837	19723
Apprch %	23.1	17.5	59.4	0		58.4	29.1	12.5	0		5.6	91.6	2.8	0		1.8	94.3	3.9	0		
Total %	0.6	0.5	1.6	0	2.6	1.8	0.9	0.4	0	3	2.8	45.4	1.4	0	49.6	0.8	42.2	1.7	0	44.8	
Unshifted	119	90	306	0	515	347	173	74	0	594	543	8958	275	1	9777	163	8329	345	0	8837	19723
% Unshifted																					
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BROWARD COUNTY TRAFFIC ENGINEERING
2300 W. COMMERCIAL BLVD
FORT LAUDERDALE, FLORIDA 33309

SIGNAL:2054
CITY:FORT LAUDERDALE
LOCATION:BROWARD BLVD & ANDREWS AVE

File Name : 2054_02082016
Site Code : 00000000
Start Date : 2/8/2016
Page No : 1

Groups Printed- Unshifted

	ANDREWS AVE Northbound					ANDREWS AVE Southbound					BROWARD BLVD Eastbound					BROWARD BLVD Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	26	27	4	0	57	30	41	9	0	80	17	211	33	0	261	0	136	16	0	152	550
07:15 AM	27	25	4	0	56	36	75	7	0	118	52	247	36	0	335	0	168	12	0	180	689
07:30 AM	30	63	7	0	100	41	80	8	0	129	15	288	40	0	343	0	165	14	0	179	751
07:45 AM	23	67	6	0	96	44	145	15	0	204	2	276	34	0	312	0	226	25	0	251	863
Total	106	182	21	0	309	151	341	39	0	531	86	1022	143	0	1251	0	695	67	0	762	2853
08:00 AM	34	82	9	0	125	28	119	10	0	157	21	252	27	0	300	0	222	30	0	252	834
08:15 AM	26	41	8	0	75	40	114	6	0	160	6	277	45	0	328	0	243	15	0	258	821
08:30 AM	31	71	14	0	116	37	117	5	0	159	20	328	74	0	422	0	241	20	0	261	958
08:45 AM	33	72	16	0	121	44	109	8	0	161	15	314	42	0	371	0	218	25	0	243	896
Total	124	266	47	0	437	149	459	29	0	637	62	1171	188	0	1421	0	924	90	0	1014	3509
*** BREAK ***																					
11:00 AM	79	101	12	0	192	31	71	30	0	132	33	279	57	0	369	0	206	25	0	231	924
11:15 AM	78	82	26	0	186	22	63	34	0	119	49	258	51	0	358	1	260	13	0	274	937
11:30 AM	55	70	10	0	135	28	40	34	0	102	24	239	50	0	313	0	227	21	0	248	798
11:45 AM	85	85	13	0	183	16	71	37	0	124	34	285	40	0	359	0	235	17	0	252	918
Total	297	338	61	0	696	97	245	135	0	477	140	1061	198	0	1399	1	928	76	0	1005	3577
12:00 PM	55	50	9	0	114	28	72	54	0	154	29	228	48	0	305	1	245	19	0	265	838
12:15 PM	87	110	18	0	215	25	67	30	0	122	31	312	55	0	398	0	280	24	0	304	1039
12:30 PM	58	83	15	0	156	29	69	25	0	123	31	306	52	0	389	1	238	27	0	266	934
12:45 PM	86	92	24	0	202	35	61	38	0	134	36	295	53	0	384	0	259	24	0	283	1003
Total	286	335	66	0	687	117	269	147	0	533	127	1141	208	0	1476	2	1022	94	0	1118	3814
*** BREAK ***																					
04:00 PM	99	125	14	0	238	25	68	21	0	114	21	268	26	0	315	0	336	25	0	361	1028
04:15 PM	68	111	11	0	190	26	65	16	0	107	18	266	31	0	315	0	365	21	0	386	998
04:30 PM	68	121	12	0	201	14	66	12	0	92	19	216	24	0	259	3	354	30	0	387	939
04:45 PM	86	153	12	0	251	20	72	21	0	113	24	248	39	0	311	0	343	30	0	373	1048
Total	321	510	49	0	880	85	271	70	0	426	82	998	120	0	1200	3	1398	106	0	1507	4013
05:00 PM	62	167	20	0	249	17	104	21	0	142	30	294	21	0	345	1	314	23	0	338	1074
05:15 PM	70	209	23	0	302	21	85	14	0	120	29	248	21	0	298	0	353	25	0	378	1098
05:30 PM	86	158	26	0	270	19	103	8	0	130	23	327	19	0	369	0	310	40	0	350	1119
05:45 PM	79	165	13	0	257	31	97	12	0	140	24	312	37	0	373	2	303	28	0	333	1103
Total	297	699	82	0	1078	88	389	55	0	532	106	1181	98	0	1385	3	1280	116	0	1399	4394
Grand Total	1431	2330	326	0	4087	687	1974	475	0	3136	603	6574	955	0	8132	9	6247	549	0	6805	22160
Apprch %	35	57	8	0		21.9	62.9	15.1	0		7.4	80.8	11.7	0		0.1	91.8	8.1	0		
Total %	6.5	10.5	1.5	0	18.4	3.1	8.9	2.1	0	14.2	2.7	29.7	4.3	0	36.7	0	28.2	2.5	0	30.7	

APPENDIX C

BROWARD COUNTY TRANSIT SERVICE MAP

BROWARD COUNTY Transit
Broward Central Terminal
Northeast Transit Center
West Regional Terminal
Lauderhill Transfer Facility
Map Legend
Street
County Line
Interstate
State Road
Federal Highway
Florida's Turnpike
Broward County Transit Bus Route
Miami-Dade Transit Bus Route
Palm Tran Bus Route
Tri-Rail
Commuter Limited Stop Service
Breeze Stop
95 Express Miramar (Route 106)
Miramar Regional Park to Miami Civic Center
95 Express Pembroke Pines (Route 108)
North Perry Airport to Miami Civic Center
95 Express Pembroke Pines/Miramar (Route 109)
CB Smith Park/Arvin Sports Complex to Downtown Miami
595 Express (Route 110)
Sunrise to Miami/Brickell
595 Express (Route 114)
Sunrise to Miami Civic Center
75 Express (Route 115)
Sunrise to Miami Airport Station
Park and Ride Lot
Westfield Broward Mall
Broward Blvd.
Perimeter Rd.
University Dr.
SW 3 St.
Federated Rd.
PALM BEACH COUNTY
BROWARD COUNTY
PARKLAND
CORAL SPRINGS
COCONUT CREEK
DEERFIELD BEACH
HILLSBORO BEACH
LIGHTHOUSE POINT
MARGATE
TAMARAC
POMPANO BEACH
NORTH LAUDERDALE
SEA RANCH LAKES
LAUDERDALE BY THE SEA
OAKLAND PARK
SUNRISE
LAUDERHILL
LAUDERDALE LAKES
WILTON MANORS
WESTON
PLANTATION
FORT LAUDERDALE
DAVIE
COOPER CITY
SOUTHWEST RANCHES
DANIA BEACH
PEMBROKE PINES
HOLLYWOOD
MIRAMAR
HALLANDALE BEACH
BROWARD COUNTY
MIAMI-DADE COUNTY
Fort Lauderdale-Hollywood International Airport
Express route continues to Miami Airport Station. See individual timetable for more information.
Golden Glades Park and Ride/ Tri-Rail Station/Greyhound Station
Express routes continue to Miami. See individual timetables for more information.
BROWARD COUNTY FLORIDA
BROWARD COUNTY BOARD OF COUNTY COMMISSIONERS
JANUARY 2020

DCP

APPENDIX P
Focus Sessions | Presentations

BOOK 3 | SEPTEMBER 14, 2020

March 05, 2020

FOCUS SESSION: SUSTAINABILITY

JGCC

Joint Governmen Center Campus

FOCUS SESSION: SUSTAINABILITY

1:30 PM – 4:00 PM

ZYSCOVICH

Team Introductions

ZYSCOVICH ARCHITECTS

- LEAD – Planning
- Programming
- Design Criteria Package

CMTA, INC.

- Energy Efficiency
- Net ZERO
- Microgrid

UL / HEALTHY BUILDINGS

- LEED
- Net Zero

BRIZAGA

- Resiliency
- Sea Level Rise

Bernard Zyscovich
Zyscovich Architects

Tracy Steward
CMTA

Brian Turner
CMTA

Bharati Bhosale
UL

Mike Antinelli
BRIZAGA ASSESS. COMMUNICATE. ADAPT.

Alec Bogdanoff, Ph.D.
BRIZAGA ASSESS. COMMUNICATE. ADAPT.

Today's Focus

"One of the biggest challenges we face in terms of sustainable design is that the capital costs for sustainable buildings are borne by developers, but the monetary benefits are realized by tenants. We need to be clearer on the bi-directional economic benefits of creating better buildings……"

"The market is increasingly recognizing the economic as well as environmental and social benefits of sustainable design solutions….."

" Energy modeling technology has advanced by leaps and bounds. A decade ago, it would have taken months to do the kind of comprehensive modeling that we can do in just a few hours today. The models we build today are more definitive, easier to create, and we can put them together during the initial phases of the design process."

Today's GOALS

Understanding
How JGCC Buildings
Impact the Environment

SETTING SUSTAINABILITY GOALS

Incorporating sustainable
goals and milestones
at every step of the design process is
key to achieving performance gains

Today's Agenda

SUSTAINABILITY PROGRAMS

PRIORITIES

WELLNESS PROGRAMS

PRIORITIES

ENERGY & CARBON: DRASTIC ENERGY REDUCTION + ZERO ENERGY + MICROGRID

CMTA

RESILIENCE SEA LEVEL RISE, WATER RESOURCES

BRIZAGA
ASSESS. COMMUNICATE. ADAPT.

Nature

Low Elevation
Porous Geology
Humidity
Abundant and Strong Sunshine
Salty Air
Array of unusual insects and animals that demand special consideration

Infrastructure Impacts

Extreme Winds
Continued Sea level rise,
Increased Flooding and Storm Surge,
Extreme and Daily Rainfall
Relative Humidity and Temperature Fluctuations

Current State of Sustainability

Broward County
City of Fort Lauderdale

Existing Practices & Policies

The County passed a "Green Building" resolution in 2008 to make all new building construction LEED-certified.

Broward County is a certified LEED Community & 4 Star Certified Community

Protect and conserve water resources

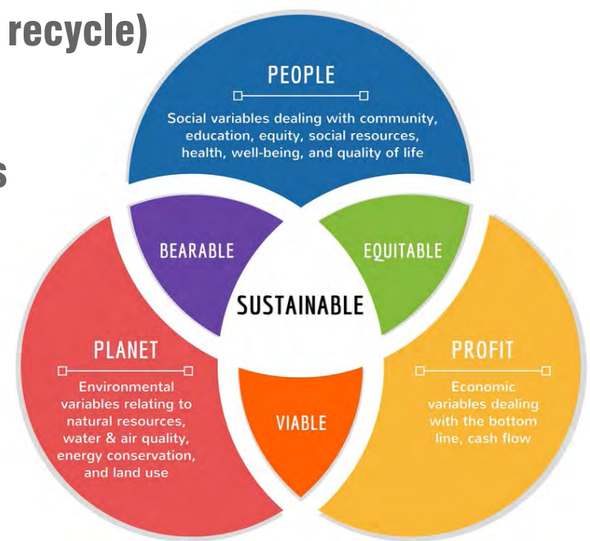
Protect air quality

Mitigate the causes of and adapt to climate change

Minimize solid waste generation (reduce, reuse, recycle)

Create livable communities and sustainable

Infrastructure & effective transportation options



Conserve energy and diversify energy sources

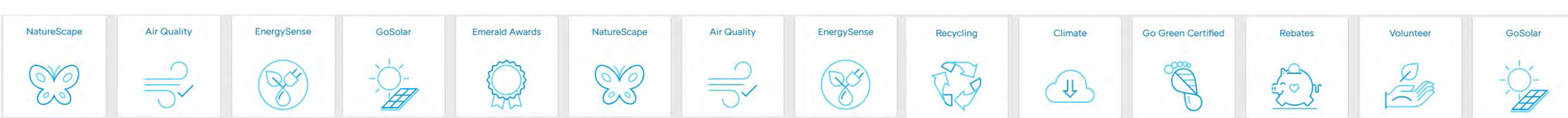
Support green market and create green jobs

Provide environmental and policy leadership

Encourage community collaboration and communication

Create processes and programs that support sustainability in government operation

Triple bottom line of sustainability: environment, economy and community



BROWARD COUNTY FLORIDA

Existing Practices & Policies

City of Fort Lauderdale's Sustainability Action Plan

- LEADERSHIP
- AIR QUALITY
- ENERGY
- WATER
- BUILT & NATURAL ENVIRONMENT
- TRANSPORTATION
- WASTE & RECYCLING
- PROGRESS TRACKING

Fort Lauderdale's Sustainability Division is a driving force behind many of the City's key climate change related initiatives.

Climate change adaptation planning
Climate mitigation (energy, fleet, fuel) and
Stormwater policy management.

CITY OF FORT LAUDERDALE

Existing Practices & Policies

City of Fort Lauderdale's Sustainability Action Plan

Fort Lauderdale 2035: Our City, Our Vision - Segmentation of Ideas

Categories		Ideas	Phase 1: May - December 2011		Phase 2: June - November 2012						Phases 1 & 2	
Sustainable Development	Climate Resiliency, Sea Level Rise, and Natural Resource Protection		Stakeholder Interviews (July, Nov 2011)	Open Houses (Oct 2011)	Email, Facebook, Twitter	Telephone Town Hall Meetings	Meetings in a Box	OurVisionFTL.com (June - Nov 2012)	Big Ideas Event	Neighbor Summit	Total	Alternate Viewpoint
Sustainability	Environment											
	58	Sustainable practices/conservation	1	6		1	3	2	1	1	15	
	59	Less pollution					1				1	
	60	Clean streets/remove litter		2	1		3				6	
	61	Consider EPA regulations					1				1	
	62	Make neighborhoods sustainable		1					1		2	
	63	Clean air		1							1	
		Total	1	10	1	1	8	2	2	1	26	0
	Long-Term Water Supply and Quality											
	64	Fluoride removal (Alternate view)				1					1	
	65	Safe drinking water					1				1	
	66	Provide water fountains throughout the City			1						1	
	67	Cloudy water									0	
	68	Supply meets demand		1				1			2	
	69	Gray water reuse/reclaim water/recycled water (purple pipe) (including stormwater and tidal water) (cisterns for all residences)		1	1		2	2	3	6	15	
	70	Desalination								1	1	
	71	Water efficiency and conservation							1		1	
		Total	0	2	2	1	3	3	4	7	22	0

Fort Lauderdale 2035: Our City, Our Vision - Segmentation of Ideas

Categories		Ideas	Phase 1: May - December 2011		Phase 2: June - November 2012						Phases 1 & 2	
Sustainable Development	Climate Resiliency, Sea Level Rise, and Natural Resource Protection		Stakeholder Interviews (July, Nov 2011)	Open Houses (Oct 2011)	Email, Facebook, Twitter	Telephone Town Hall Meetings	Meetings in a Box	OurVisionFTL.com (June - Nov 2012)	Big Ideas Event	Neighbor Summit	Total	Alternate Viewpoint
Sustainability	Improve Waterway Cleanliness											
	72	Clean/dredge waterways/canals		2		3	3	1			9	
	73	Increase water flow from ocean to Intracoastal (tunnel system)						1			1	
	74	Floating disposal for boaters				1					1	
		Total	0	2	0	4	3	2	0	0	11	0
	Climate Change & Sea Level Rise											
	75	Partially submerged city						1			1	
	76	City planning requires minimum flood plain consistent with the area								1	1	
	77	Resilient to climate change and sea level rise						3			3	
	78	Unified Plans (Climate Action Plan, Climate Compact, Sustainability Action Plan, etc.)	3	1							4	
		Total	3	1	0	0	0	4	0	1	9	0
	Recycling and Composting											
	79	Increase recycling and composting at parks/sites			1	1		1			3	
	80	Increase recycling throughout City					3				3	
		Total	0	0	1	1	3	1	0	0	6	0
	Energy Efficiency and Conservation											
	81	Electric/hybrid City/public vehicles						2			2	
	82	Rely more on renewable energy (solar/wind) (become energy self-sufficient)		4				2		1	7	
	83	Green City facilities/buildings					1				1	
	84	Electrical charging stations								1	1	
		Total	0	4	0	0	1	4	0	2	11	0
	Solar Energy											
	85	Solar lights (street, parks, buildings, etc.)						1			1	
	86	Solar Parks maintenance carts						1			1	
	87	Solar powered buildings					1				1	
		Total	0	0	0	0	1	2	0	0	3	0

CITY OF FORT LAUDERDALE

Case Studies

Convention Center, Broward County, Florida

The Unisphere, Silver Spring, Maryland

NREL ‘s Research Support Facility, Colorado

McCormick Spice Global Headquarters, Maryland

Convention Center, Broward County, Florida

LEED Gold

600,000 SF Convention Center

- Key Highlights
  - Landscape redesign, using less water-dependent turf grass, planting drought-tolerant native and adaptive plants and trees, and installing an efficient micro-drip irrigation system that uses approximately 65 percent less water than before.
  - Low-flow plumbing fixtures, 45 % reduction in water consumption.
  - Energy-efficient lighting that reduces heat and energy, cutting the electric bill by 18 percent.
  - 25% energy savings from energy-efficient, water-cooled chillers, upgrades to the air handling and ventilation systems, including CO2 sensors for enhanced indoor air quality.

- Key Highlights

  - Increase in recycling of total waste stream from eight percent in 2009 to 78 % in 2017.

  - Elimination of toxic cleaning materials by 98 percent through the use of cleaning and antimicrobial solutions created by Tennant Orbio® On-Site Generation (OSG). OSG technology turns ordinary tap water and salt into a highly effective cleaning solution that replaces conventional cleaning chemicals.

  - Sustainable kitchen practices - energy-efficient food preparation, purchasing locally produced food. Leftover food is donated to local food banks and other organic waste is disposed of in the Eco-Safe®Digester, resulting in almost no organic waste in landfills.

United Therapeutics Corporation - The Unisphere, Silver Spring, Maryland

NET ZERO +LEED PLATINUM

120,000 SF of new office space +10,000 SF retail

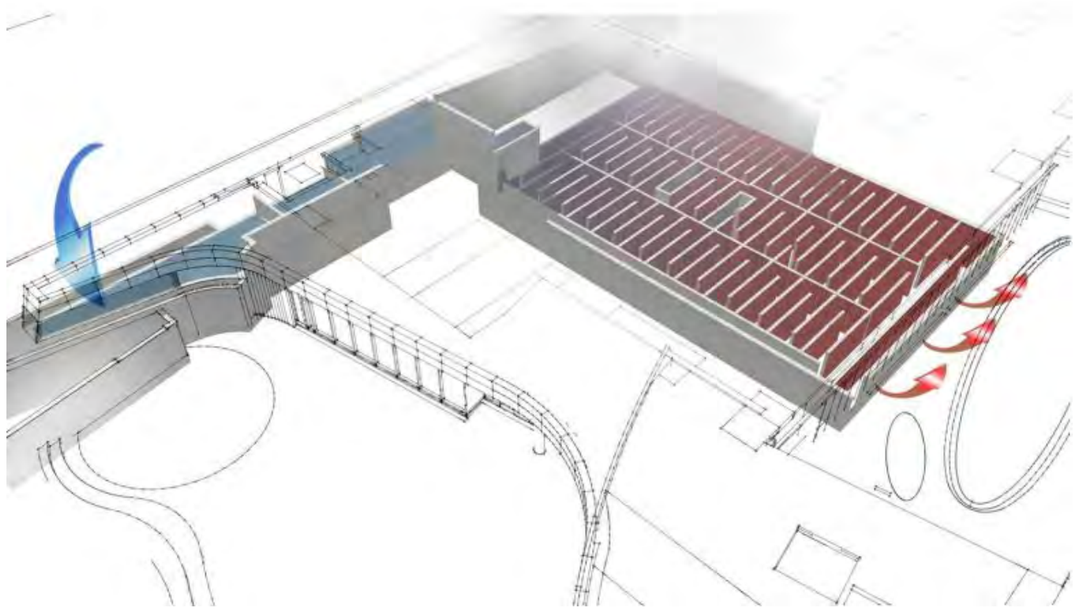
- Key Highlights

Solar/Photovoltaic

3,000+ high efficiency solar panels to generate enough power over the course of a year to offset the entire annual power consumption. The photovoltaic system is designed to produce over 1 MW of power.

Geothermal

52 geothermal wells drilled more than 500' into the earth will be used to increase the efficiency of the heating and cooling system between 25-50%.



▪High-Performance/Electrochromic Envelope

Increased insulation, triple paned glazing, and electrochromic tinting glass, which tints more or less depending on the location of the sun, will target a 25% thermal improvement over minimum code values.

Earth-Coupled Heating/Cooling

Intake air into the atrium will be routed through an underground concrete labyrinth located beneath the parking garage to pre-heat or pre-cool the air.

Natural Ventilation

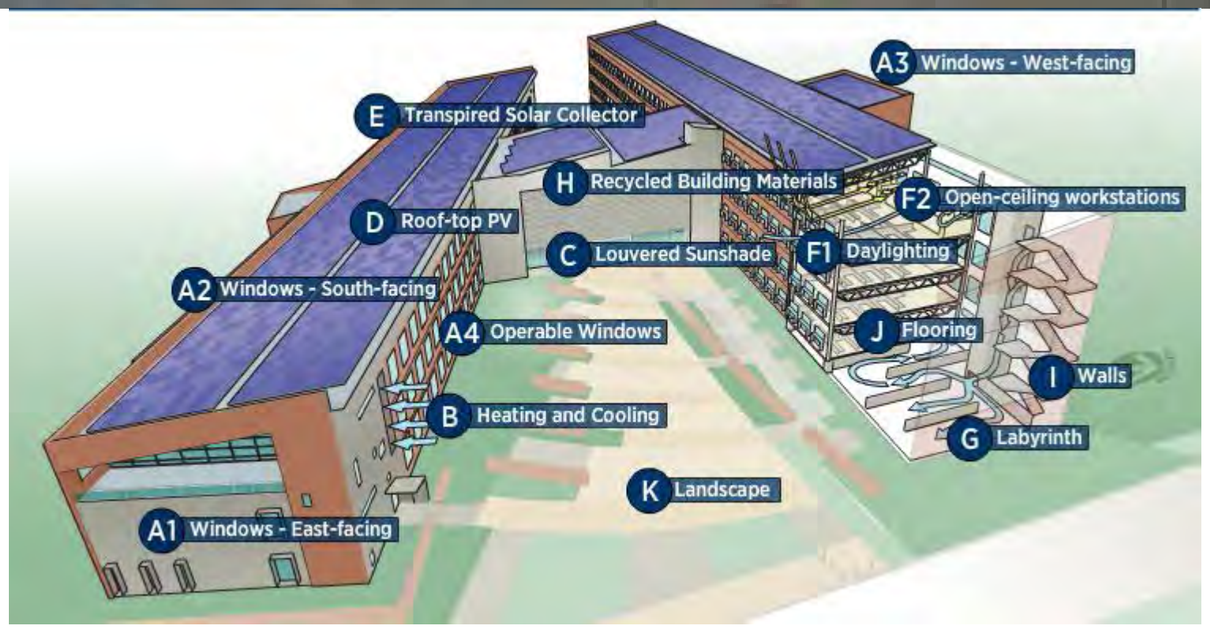
The building is designed to provide natural ventilation during times of the year when outdoor air conditions permit. The natural ventilation will operate in three stages: automatic, manual and mechanical assist. The building atrium will act as a thermal chimney, utilizing the buoyancy of warm air to induce airflows through the building.

Day Light Harvesting

The key for an effective day lighting strategy is to optimize the building orientation, glazing selection, and integration of the day lighting control and HVAC systems.

Thermal Pool

In conjunction with the Geothermal Well system, the Thermal Pool will also help the building efficiency by lessening the load on the HVAC system. Located in the building atrium, the thermal pool will also serve as a source of evaporative cooling and heat rejection.



NREL 's Research Support Facility, Colorado

LEED Platinum, Net Zero, and high-performance building

Research Support Facility (RSF)
362,055 SF

- Key Highlights

  Energy

  Designed to perform 50% better than ASHRAE 90.1 2007 standards, or a commercial office building to current commercial code

  2.5 megawatt rooftop photovoltaic system

  Daylighting from south-facing windows is reflected to the ceiling and deep into the space with light-reflecting devices

  ENERGY STAR-certified energy equipment

  Water Conservation

  Low flow water closets,, urinals, showers, and faucets

  Roof drainage irrigates rain gardens

NREL 's Research Support Facility Garage, Colorado

- 1,800 parking spaces
- 578,320 SF
- Five-level structure

Renewable Energy

1.153 MW rooftop and south façade photovoltaic array.

36 electric vehicle charging stations

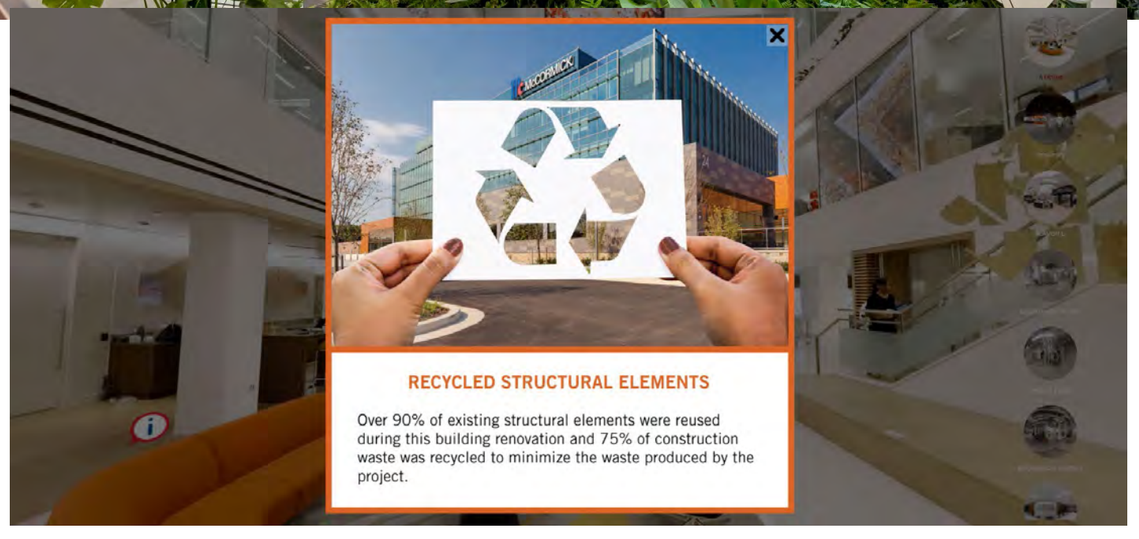
Water Conservation

Storm water is passed through a drainage system from the rooftop and surrounding areas to a detention pond.

Native and drought-resistant vegetation.

Building Materials

The façade, clad with recyclable perforated aluminum, provides weather protection while maximizing daylighting and ventilation.



http://mccormick.cmtasphere.com/

McCormick Spice Global Headquarters, Maryland

LEED Gold and High Performance Building

- 380,000 SF
- **Interactive Dashboard**
- Solar Ready: 715 KW solar photovoltaic system
- EUI Goal: 38KBtu/SF
- Developer Project

In addition to containing administrative offices, the building has a 30,000 sq-ft suite of sensory and culinary test kitchens as well as a cafeteria kitchen and dining area, full conference center, onsite medical center, and high end executive floor.

The design uses numerous energy savings technologies such as variable flow grease exhaust systems, heat recovery on outside air, high efficiency chiller plant, solar thermal domestic water heating, and a low temperature hot water system heated with condensing boilers.

Design Criteria - Sustainability Guidelines

Energy Star

LEED

Well

BREEAM

FITWEL

Sustainability Action Plan

Design Criteria - Sustainability Guidelines

Energy Star
An online tool you can use to measure and track energy and water consumption, as well as greenhouse gas emissions

FITWEL
Certification to support healthier workplace environments and improve occupant health and productivity.

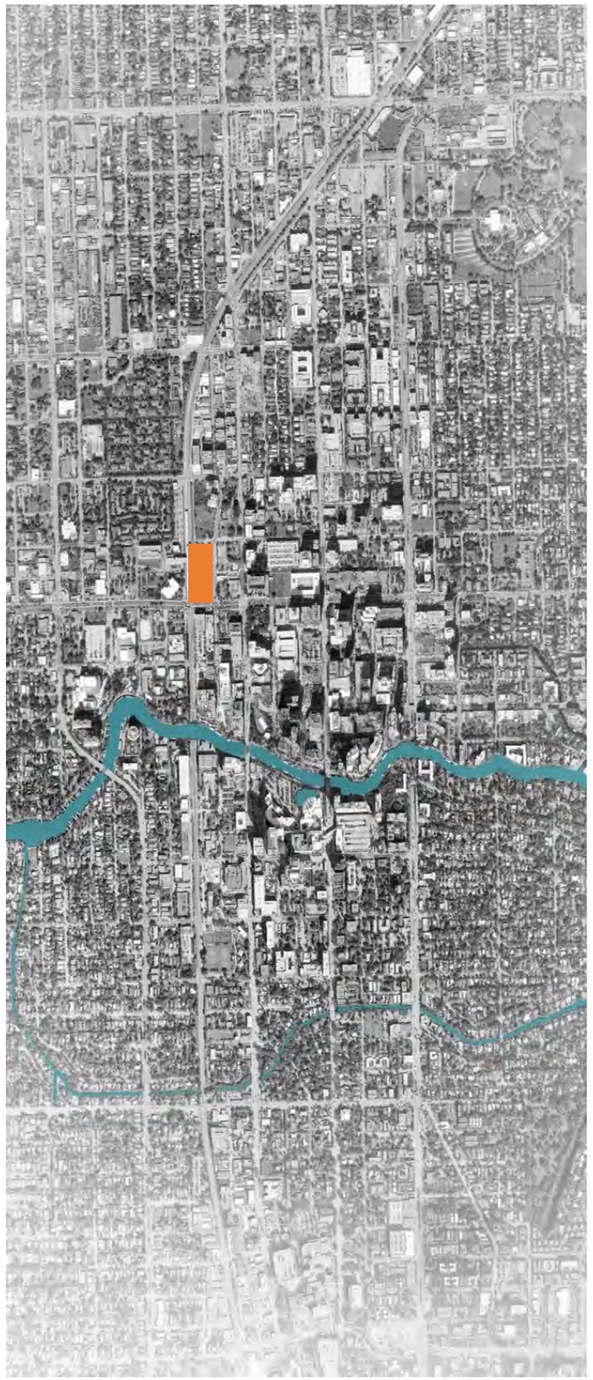
LEED
A framework for identifying and implementing measurable green building design, construction, operations and maintenance solutions.

BREEAM
Certification to help buildings reduce their running costs and improve the environmental performance of existing buildings

WELL
A performance-based system for measuring, certifying, and monitoring features of the built environment that impact human health and well-being

SAP - Fort Lauderdale
Specific “green” goals, strategies and performance indicators, on how sustainability will be integrated into all levels of City decision-making,

Best Practices - Sustainability



Integrative Design

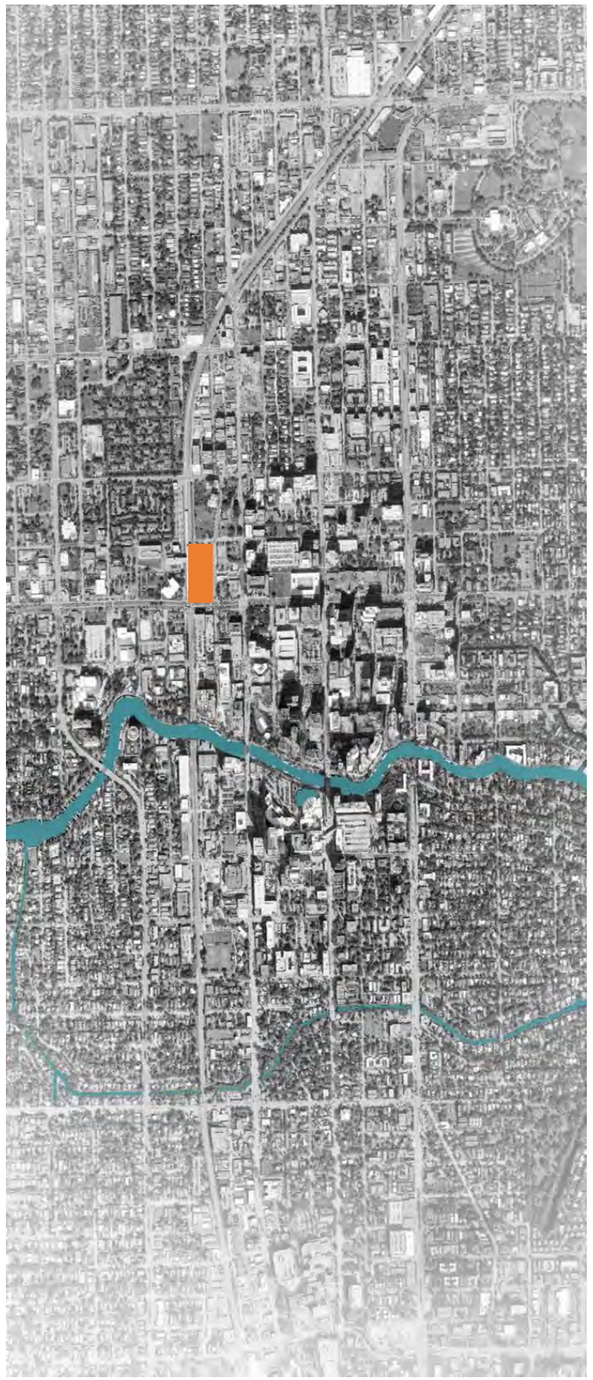
Project goals
High-Performance
Interrelationships
Programming and Pre-Design
Interdependencies
Cross-Discipline
Design Decision
Systems

Site

Heat Island
Accessibility
Protect Restore Habitat
Open Space Preservation
Light Pollution
Management Site

Energy

Controls
Renewable Energy
Energy Performance
Demand Response
Commissioning
Lighting
Metering



Water

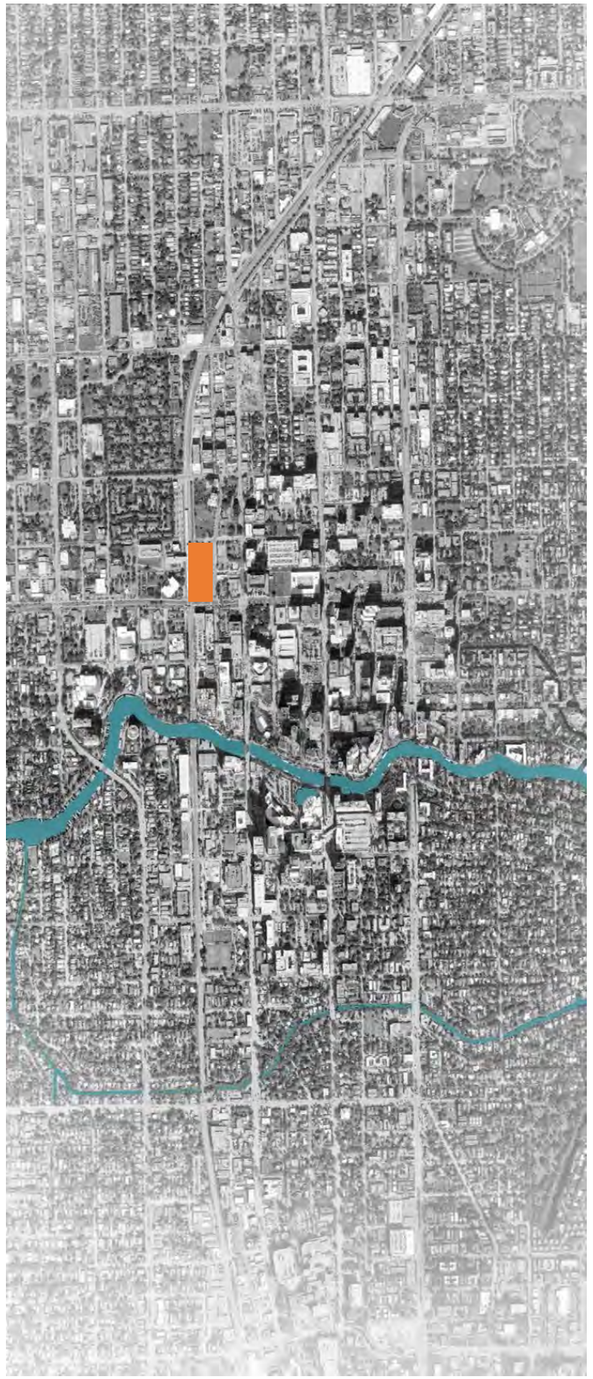
Indoor
Outdoor
Submetering
Solar heating
Reduction
Low flow
Recycled
Process

Materials

Flexibility
Lifecycle impact
Product Sourcing
Material Transparency
Recycled content

Waste

Composting
Management
Recycling
Demolition
Procurement
Construction
Waste



Landuse & Ecology

Outdoor
Space
Roofs
Green
Adaptive
Fitness
Native
Equipment
Gardening
Gardens
Biodiversity
Restorative
Plantings

Indoor Environment

Thermal Comfort
Acoustic Performance
Smoke Free Environment
Ongoing Air Quality Monitoring
Low Emitting Materials
Daylight and Views

Transport

Density
Quality Transit
Community Access
Electric Vehicles
Bicycle Facilities
Alternate Transportation
Street Infrastructure
Pedestrian Network
Parking Footprint
Outdoor Lighting
Diverse Uses

Health and Wellness

Engagement
Family Support
Active Lifestyle
Access to nature
Community Access & Engagement
Places of Respite
Universal Design
Accessibility
Biophilia

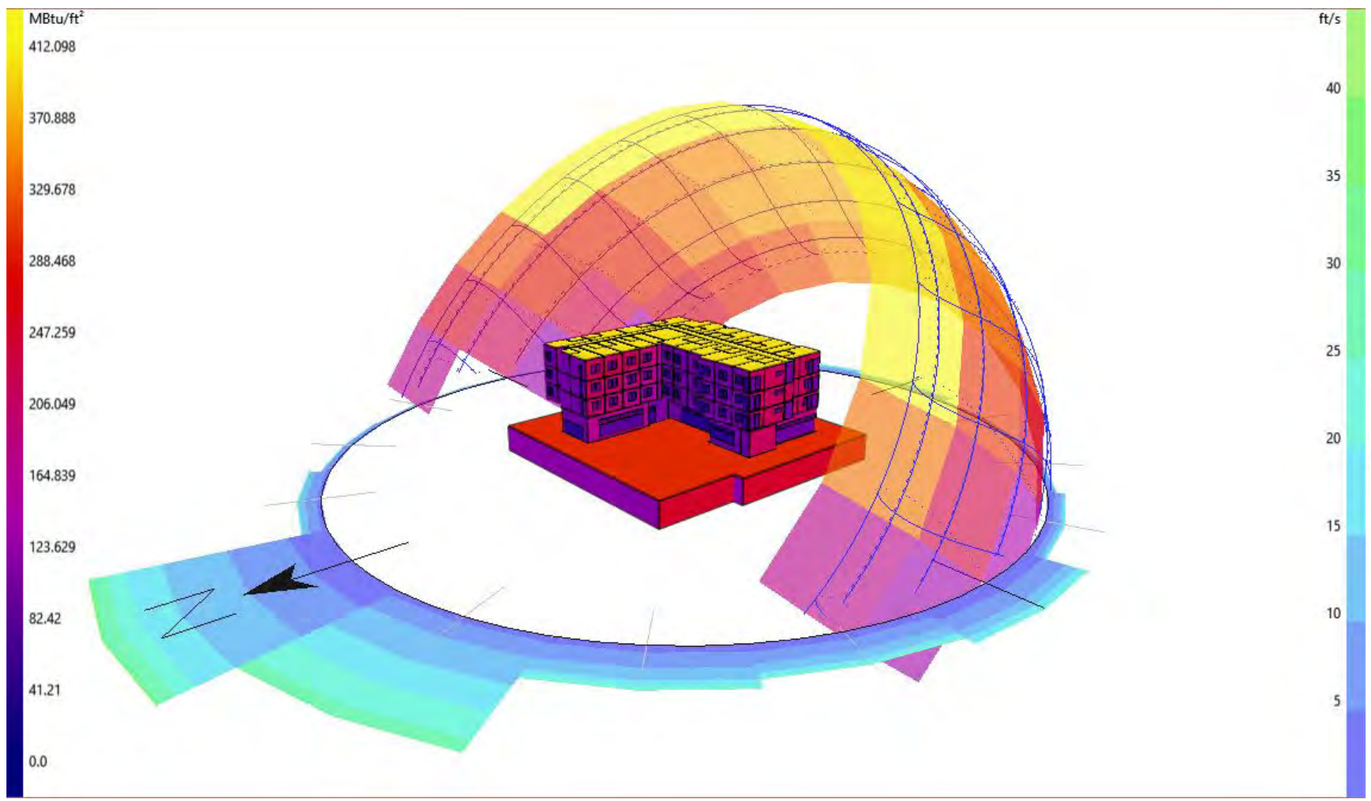
AIR WATER NOURISHMENT LIGHT MOVEMENT THERMAL COMFORT SOUND MATERIALS MIND COMMUNITY

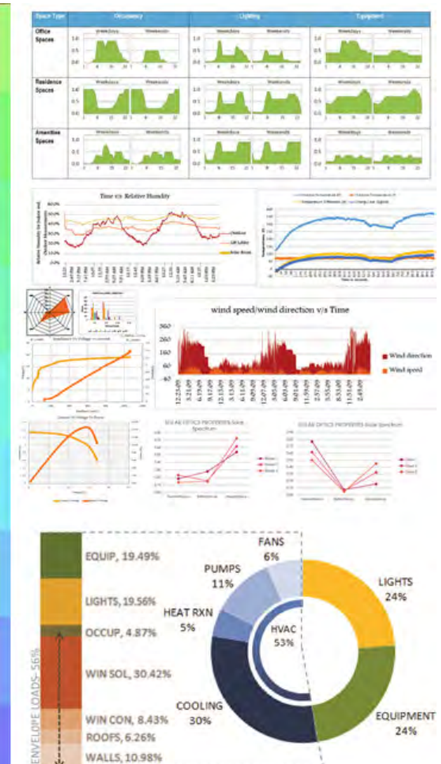
Sustainability Vision For New JGCC

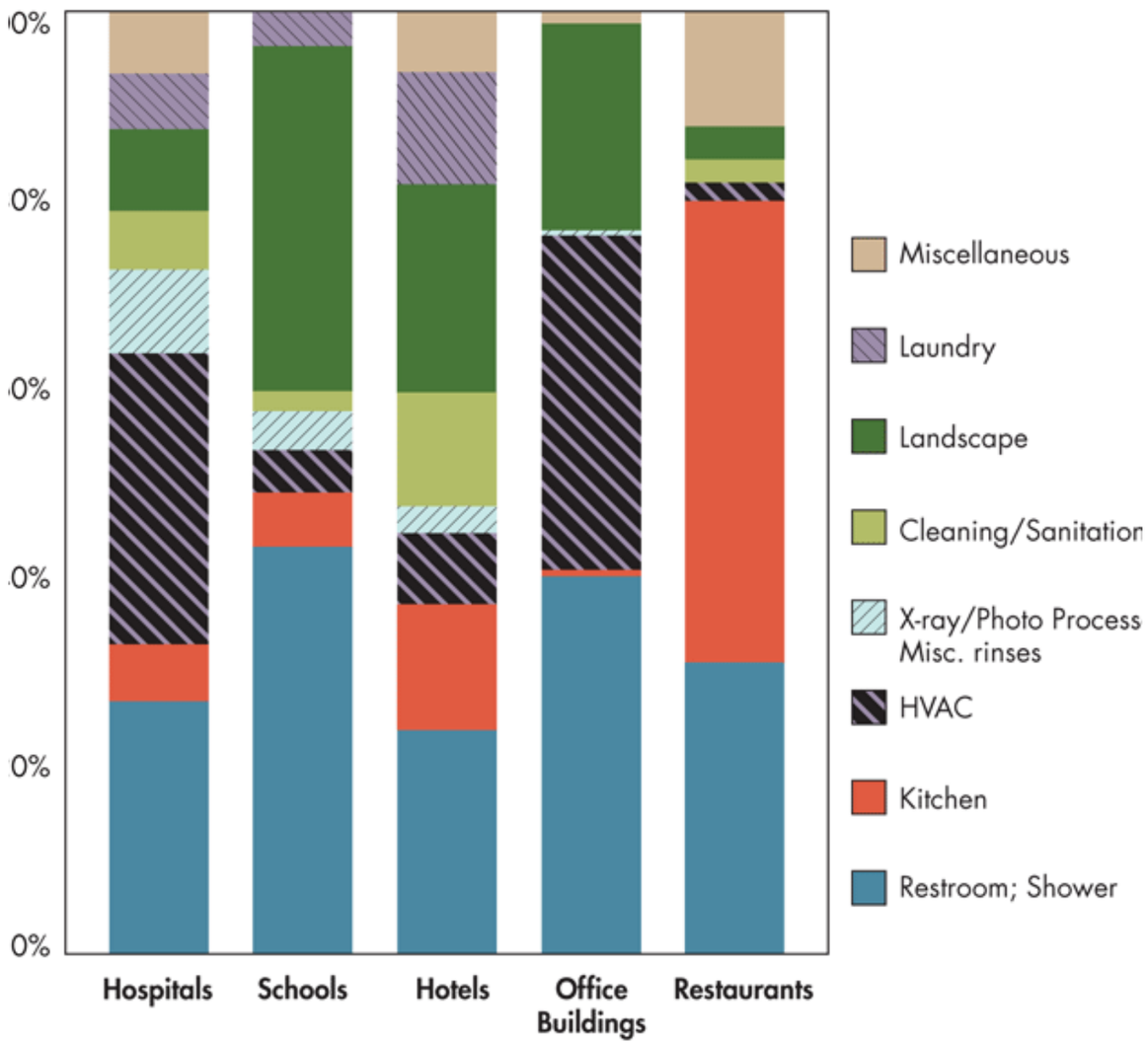
A Symbol of Commitment & the Opportunity to Lead by Example

Energy Efficiency

- Energy-efficient mechanical systems
- Renewable energy systems - PV/ wind / geothermal / Solatubes
- LED lighting and smart controls
- Daylight and Occupancy sensors
- Insulated low-emissivity glass allowing natural light that saves energy
- Air-tight building design and air quality control.
- Carbon Neutral

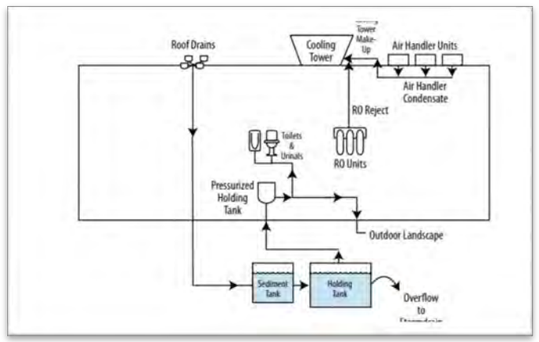




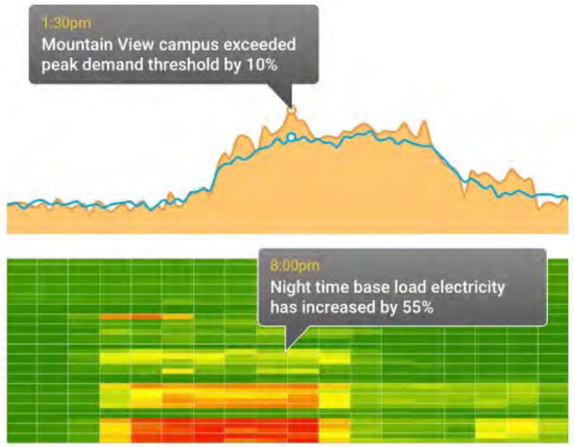


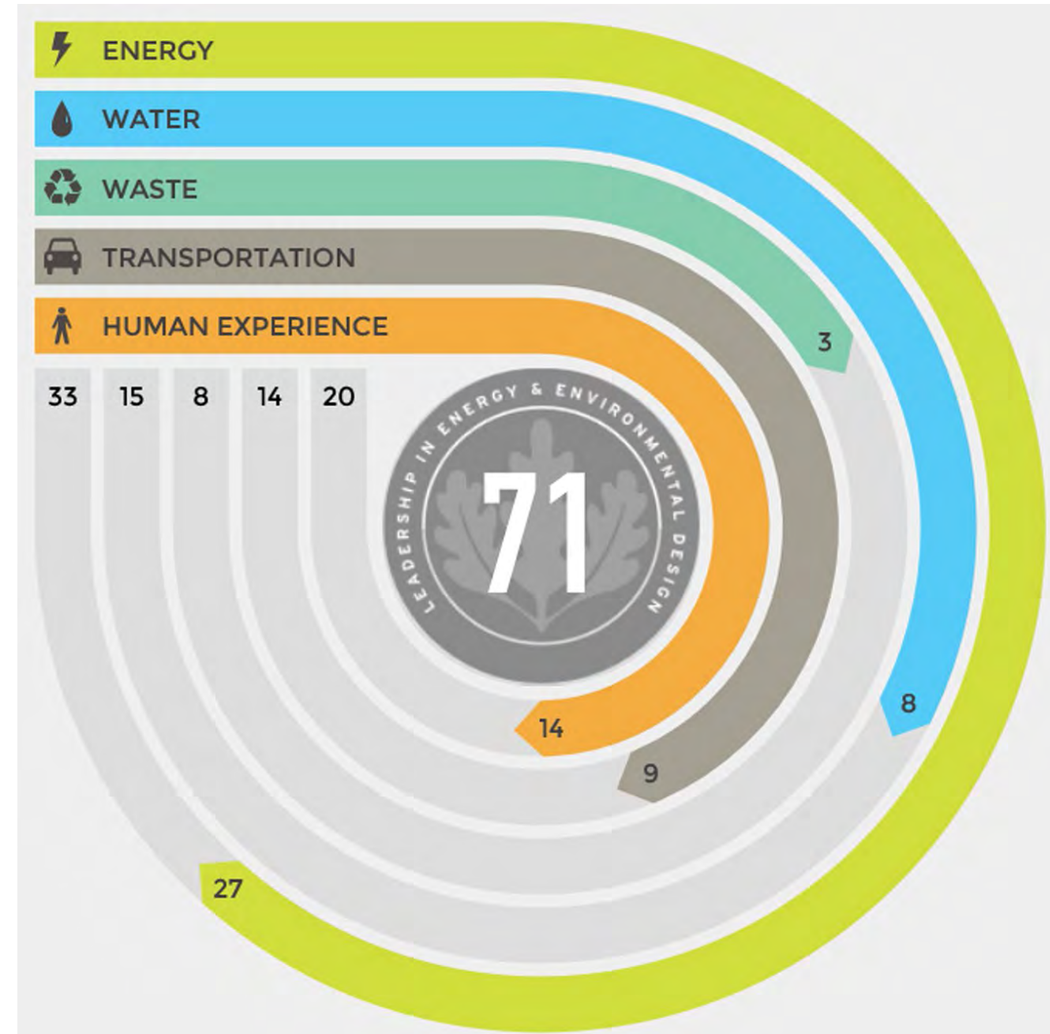
Water Conservation and Reuse

- Water-efficient plumbing fixtures
- Water reuse - car wash, landscape and flushing
- Water Consumption tracking
- Water Quality Monitoring
- Drinking Water Promotion
- Storm water run off strategies - Green roofs/ permeable pavement.
- Local Aagriculture, Urban Reforestation, and Community



Measuring Progress and Performance Over Time



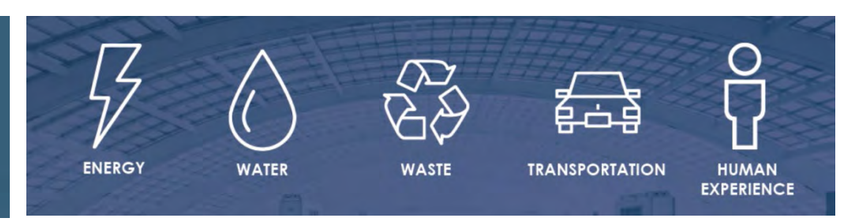


IOT

Using Technology and Connectivity to Achieve Sustainability Goals

arc

Performance is the future of green building



Responsible consumption – Lifecycle Assessments and Materiality

Zero waste design guidelines

Design to Optimize Material Usage

- Replacing the cement (or flyash) in concrete with local recycled glass pozzolan
- Polished concrete floor and exposed ceiling reduces finish materials

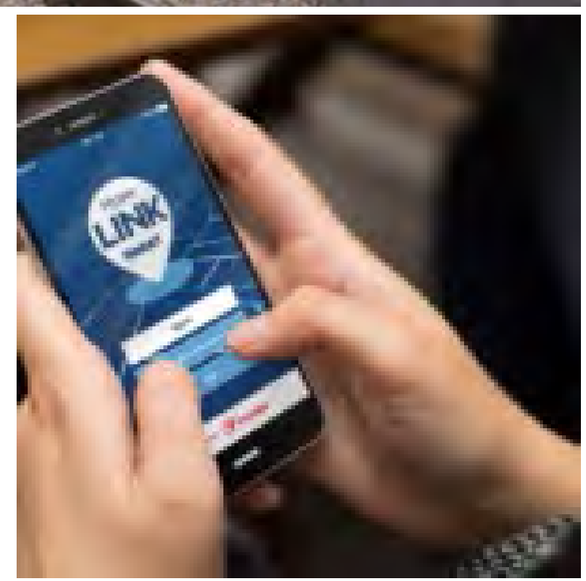
Suppliers Willing to Take Back Materials at End of Life

Design for Easy Refurbishment of Isolated Materials

Planning for Waste as a Material Flow

Embodied and operational carbon conscious - Assessing and reducing upfront GHG emissions

Composting



Electric vehicles and First Last/Mile Solutions

Adaptive Scooters / shared bikes and scooters

Rideshare option for bus and train customers to complete their commute

Door-to-bus smartphone app – for public transit

Electric Fleets

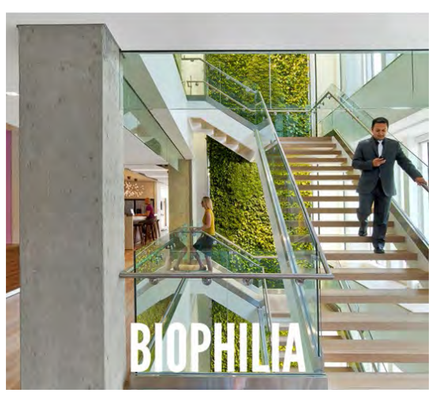
Electric Charging stations

Incentives for carpool

Energy used traveling to and from an average office

> greater than the energy used to run it.

29% of U.S. Greenhouse Gas Emissions.



Supporting Active Lifestyle, Equity and Community Health

Design visible, enticing stairs to encourage everyday use Install stair prompts and signage

Use materials and products that support healthy indoor air quality

Onsite daycare and mothers rooms

Quiet space for meditation /yoga

Operational Policies and Commitments

Site Management Policy

Green Cleaning and Pest Management Policy

Sustainable Procurement Policies

Water Conservation Policy

Air Quality Monitoring

Physical Activity and Good Nutrition Promotion

Occupant Surveys

Ergonomics Policy and Support

Sustainability – ROI Perspective

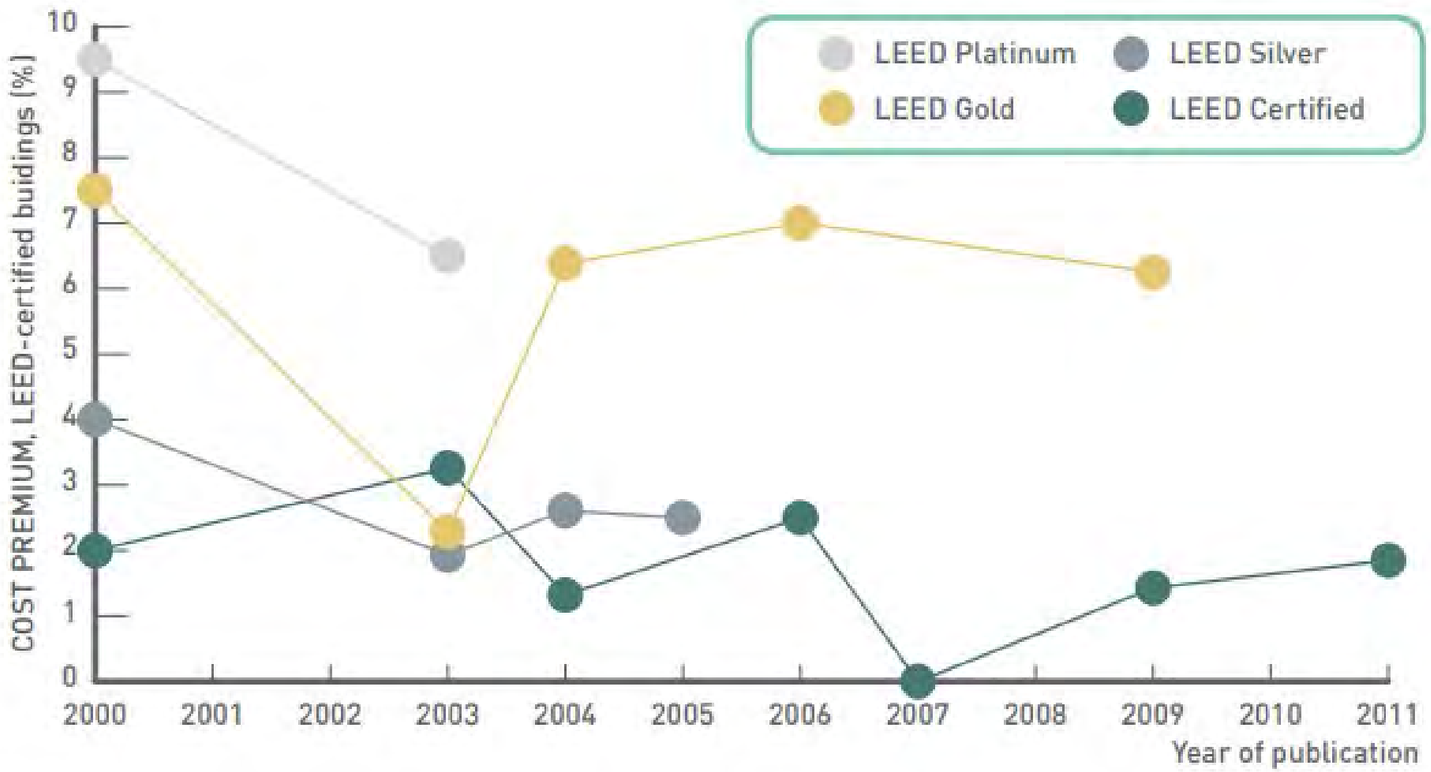


Figure 3
Reported cost premiums associated with LEED certification in the United States showing the gradual reduction of premiums over time, averaged values from various sources[17]

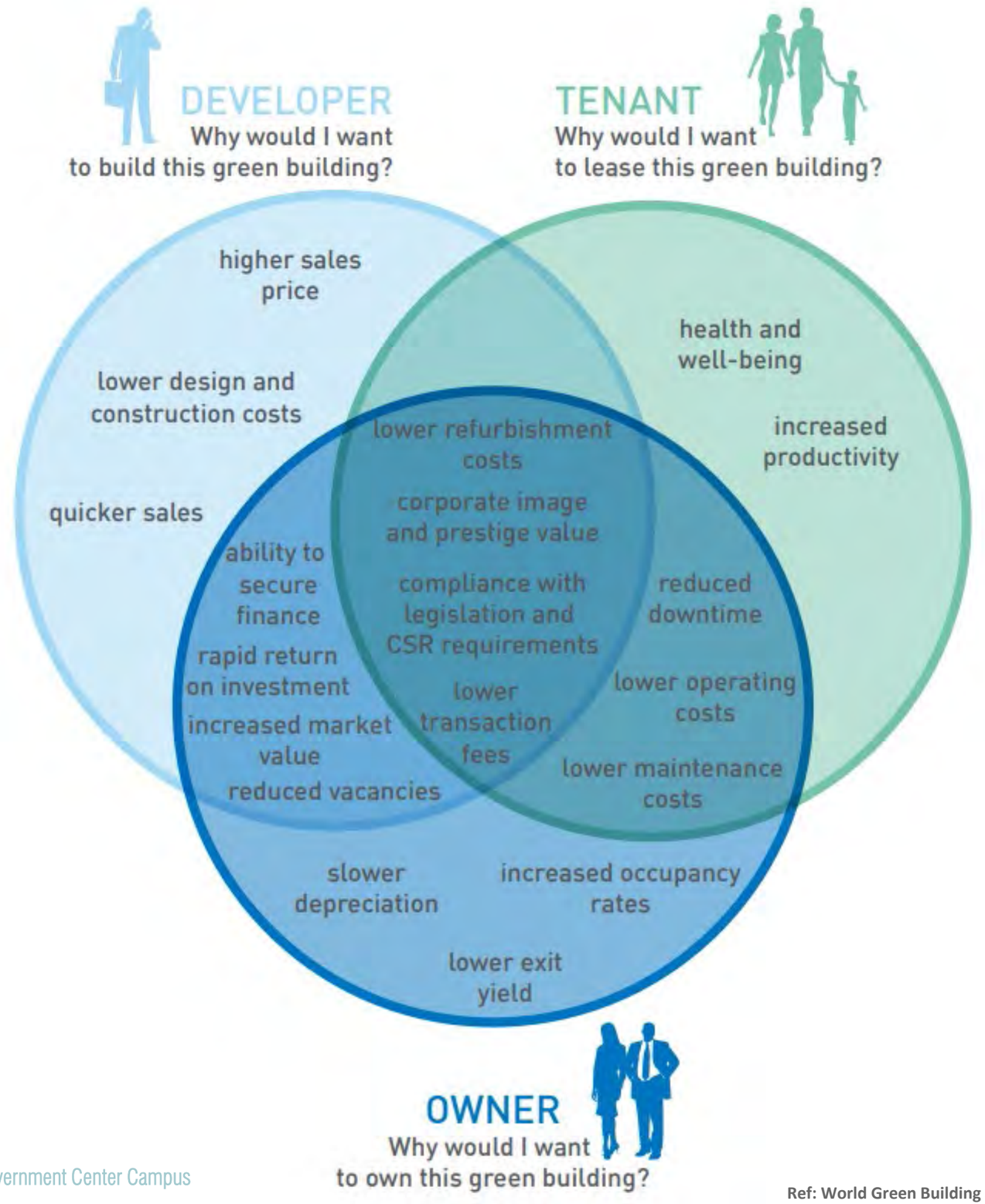
Ref: World Green Building Council Report - The business case for green buildings

Design and Construction Costs

- While there can be an additional cost associated with building green as compared to conventional building, the cost premium is typically **not as high as is perceived by the development industry.**

- There has been an overall trend towards the reduction in design and construction costs associated with green building as building codes around the world become stricter, **supply chains for green materials and technologies mature and the industry becomes more skilled at delivering green buildings.**

- **Upfront cost increases in green buildings are often offset by a decrease in long-term life cycle costs**, particularly in the case of green buildings that feature high-performance façades and energy-efficient building systems.



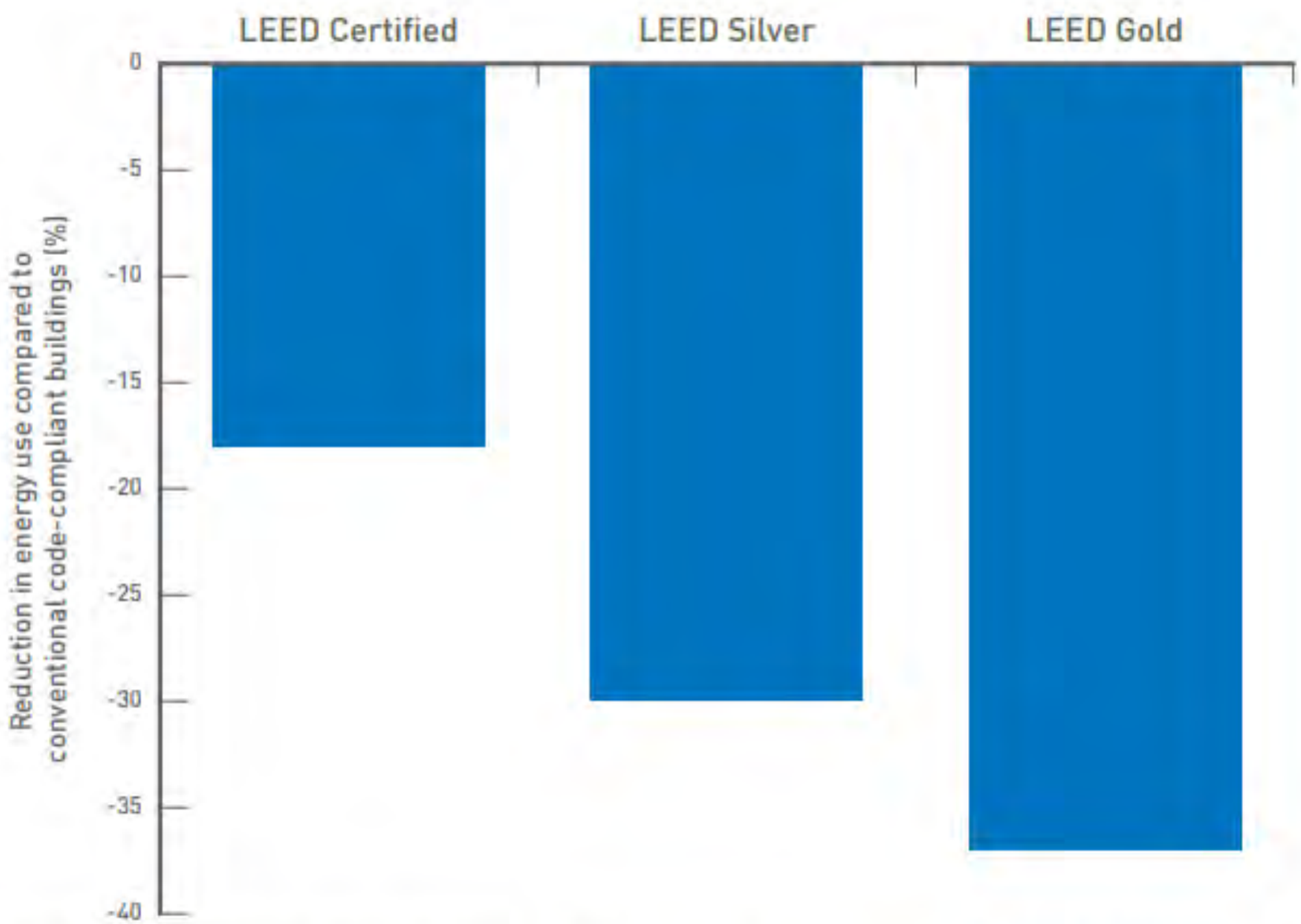
Asset Value

- Studies around the world show a pattern of green buildings being able to more easily attract tenants and to command higher rents and sale prices.

- Where green buildings have generated higher sales prices, this increase in value is largely driven by higher rental rates, lower operating costs, higher occupancy rates and lower yields.

- 78% of millennials see workplace quality as important when choosing an employer 69% will trade other benefits for better workplaces

Ref: World Green Building Council Report - The business case for green buildings



* It should be noted that since this graph is based on 2003 data, the reductions based on today's baseline building may not be as pronounced as they were at the time this study was conducted, however the trend of greater energy reductions corresponding to higher certification levels should still be valid.

Figure 8
Energy Savings for LEED certified buildings

Ref: World Green Building Council Report - The business case for green buildings

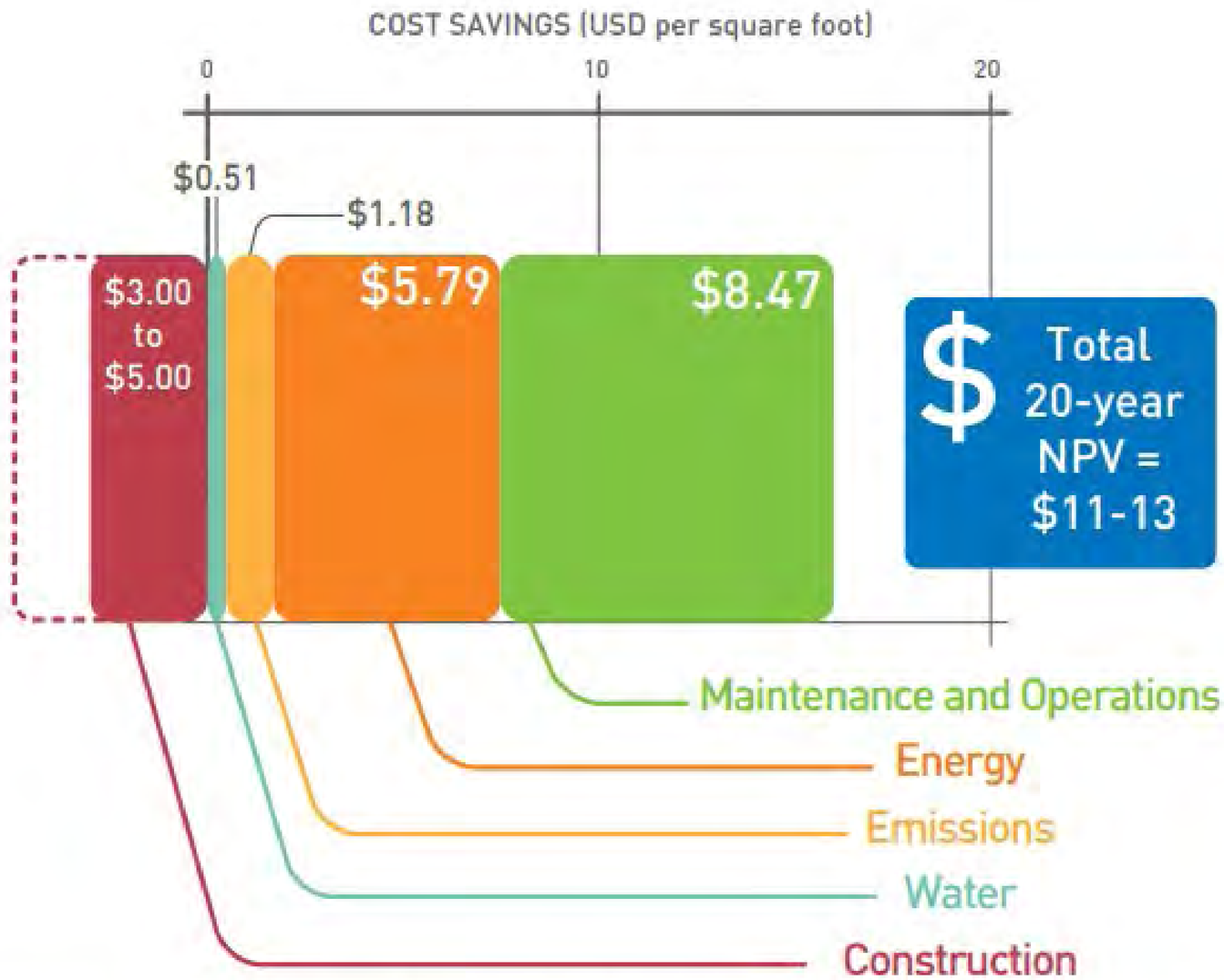
Operating Costs

- Green buildings have been shown to save money through **reduced energy and water use and lower long-term operations and maintenance costs.**

- Energy savings in green buildings typically exceed any cost premiums associated with their design and construction within a reasonable payback period.

- In addition to reduced operating costs, green buildings can offer indirect benefits related to costs for refurbishment and reconfiguration of space.

- High-performing green **buildings need to be backed up by robust commissioning, effective management, leadership and communication in order to achieve their predicted performance.**



* It should be noted that since this graph is based on 2003 data, these values may no longer be accurate due to economic changes since then, however the relative difference between maintenance, operations, energy, emissions, water and construction is what is of interest here.

Figure 9
Net present value analysis of the operational cost benefits of LEED certified buildings [11]

Ref: World Green Building Council Report - The business case for green buildings

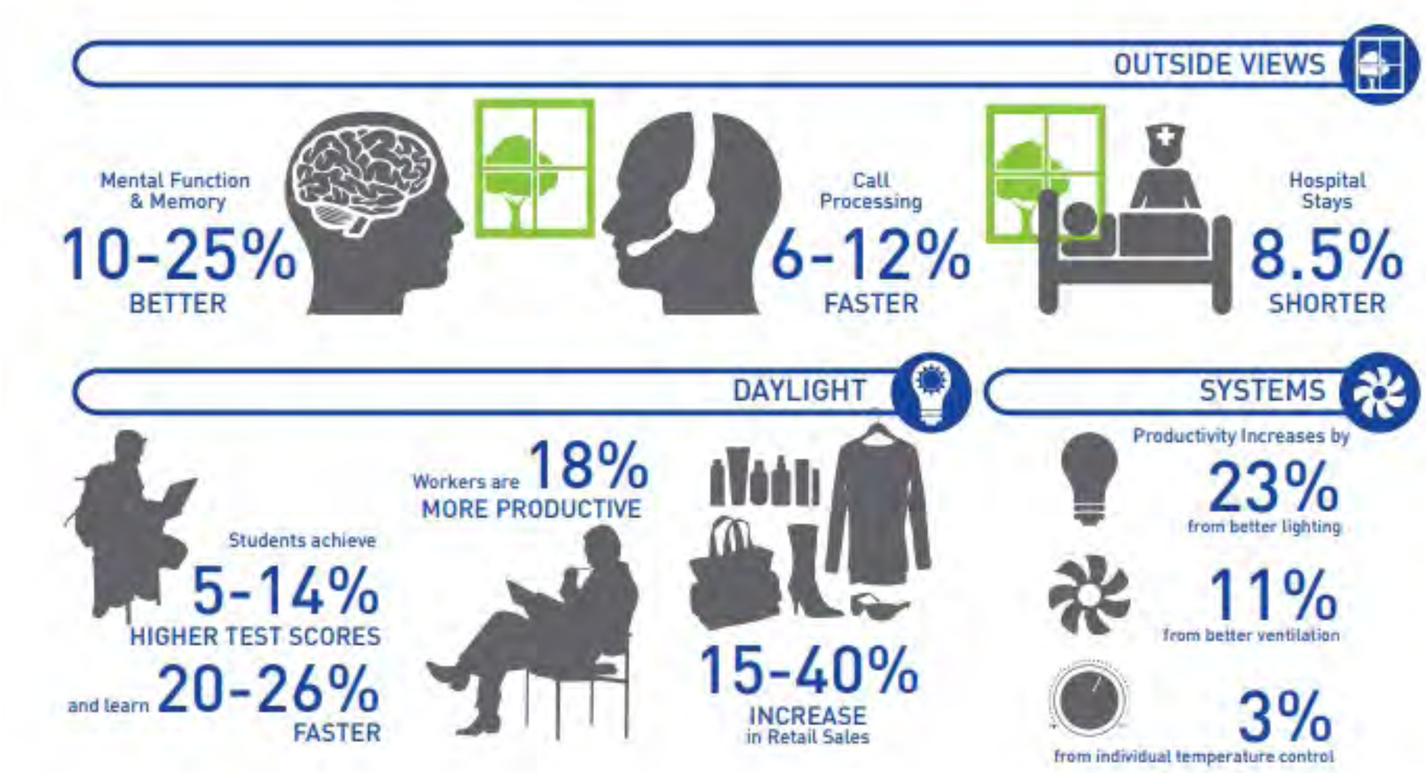


Figure 11
Net present value analysis of the operational cost and productivity and health benefits of LEED certified buildings

Ref: World Green Building Council Report - The business case for green buildings

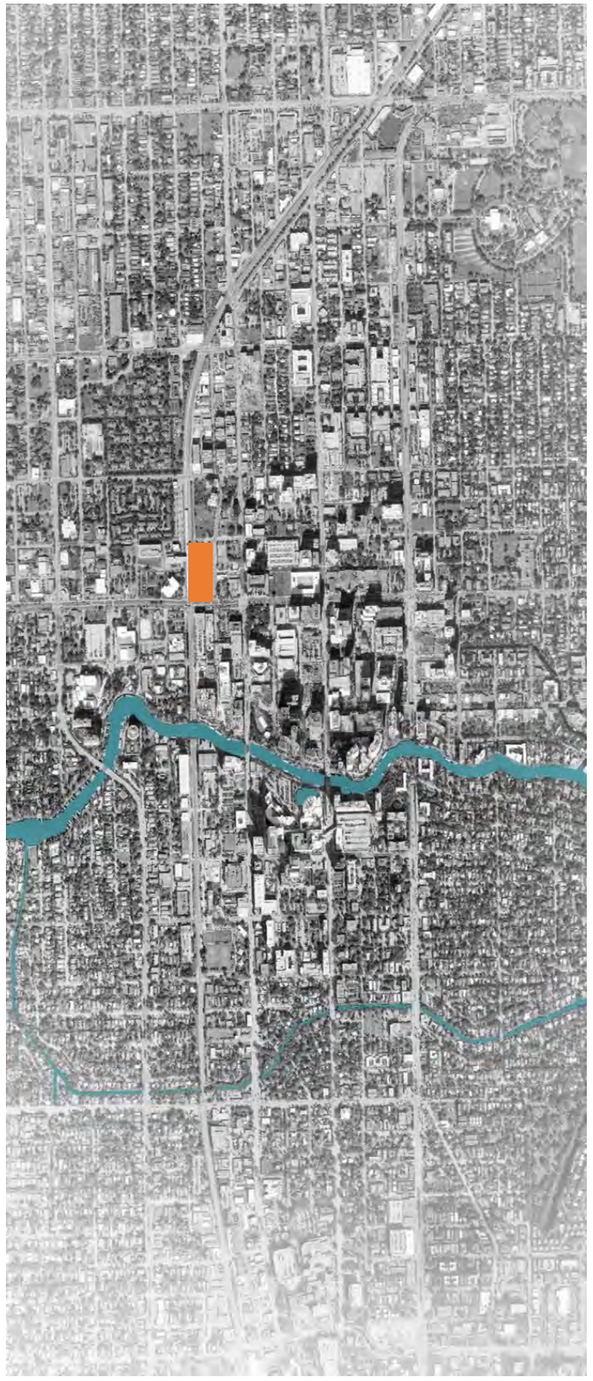
Workplace Productivity and Health

- Research shows that the green design attributes of buildings and indoor environments can improve worker productivity and occupant health and well being, resulting in bottom line benefits for businesses.

- Despite evidence of its impact, improved indoor environmental quality has not been a priority in building design and construction, and resistance remains to incorporating it into financial decision-making.

- Productivity' in the modern workplace can be challenging to measure, its causes woven with a number of factors, and it has not been systematically translated into financial metrics.

- While more research is needed, investing in better indoor environments can lead to better returns on one of every company's greatest assets - its employees.



LEED GOLD

WELL Silver

3 Star

Levels of LEED Certification

Certified | Silver | Gold | Platinum

40/110 | 50/110 | 60/110 | 80/110

WELL PLATINUM 2018

WELL GOLD 2018

WELL SILVER 2018

fitwel®

PAST LEED Projects

LEED GOLD V2

Children's Reading Center & Museum

- 30% Indoor water use reduction
- 24% reduction in energy cost compared to baseline ASHRAE 2004

LEED GOLD V3

Nancy J Cotterman Center

- Water efficient landscaping
- 18% reduction in energy cost compared to baseline ASHRAE 2007
- PV Systems

LEED GOLD V3

Broward County Judicial Complex Midrise

- Access to public transit
- 40% Indoor water use reduction
- 18% reduction in energy cost compared to baseline ASHRAE 2007

Pursuing

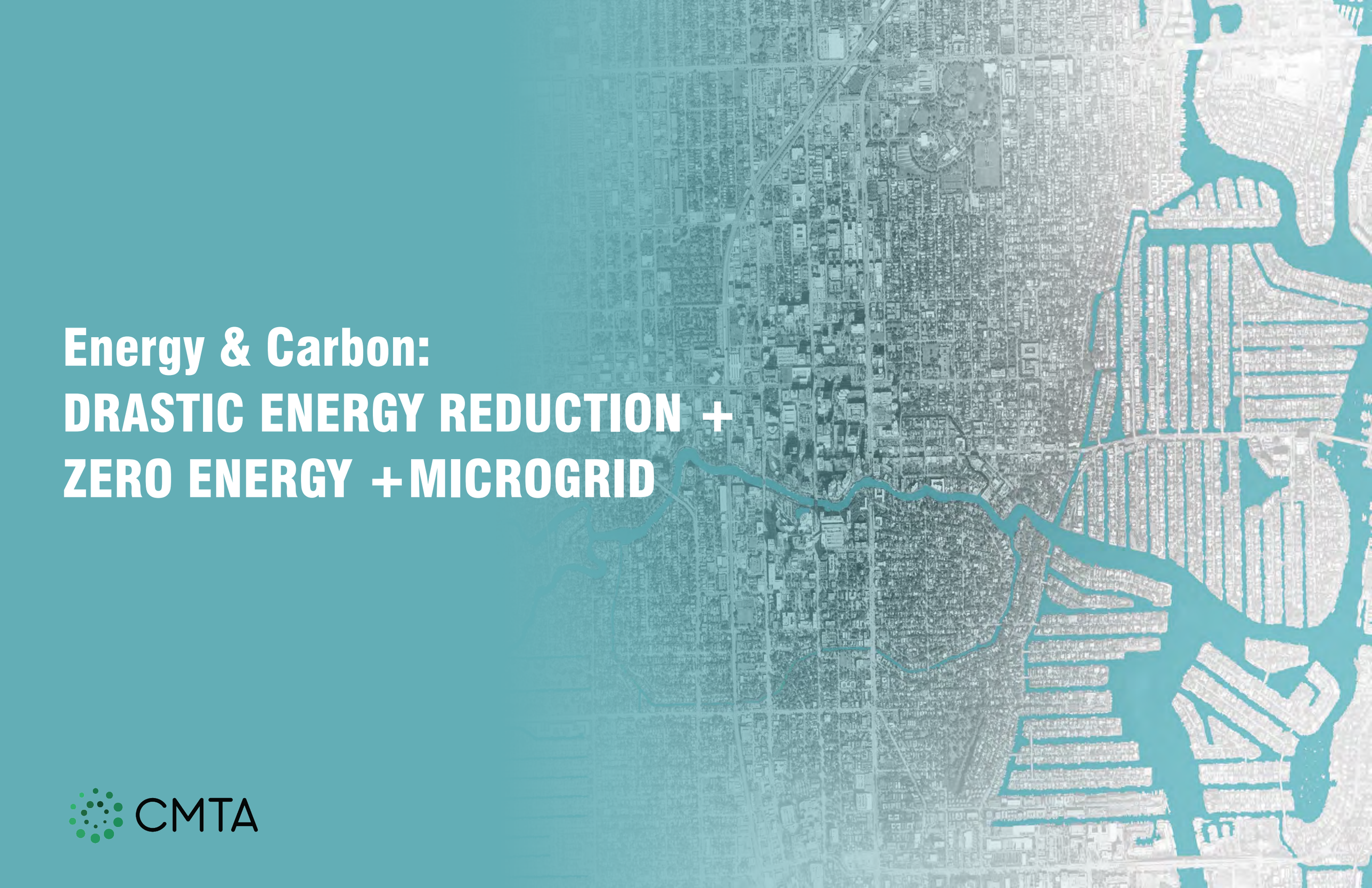
Broward County Lauderhill Mall Transit Facility

- Electric Vehicle charging stations
- 50% reduction in energy cost compared to baseline ASHRAE 2010
- PV Systems – 15% of total energy

LEED GOLD V3

Pompano Beach Public Library & Civic Campus

- Access to public transit
- 22% reduction in energy cost compared to baseline ASHRAE 2007
- Measurement and Verification



Energy & Carbon:
DRASTIC ENERGY REDUCTION + ZERO ENERGY + MICROGRID

CMTA

Energy & Carbon:
DRASTIC ENERGY REDUCTION + ZERO ENERGY + MICROGRID

WHY?

Energy & Carbon:
DRASTIC ENERGY REDUCTION + ZERO ENERGY + MICROGRID

…is it because it’s required?

RFP: Intent is to develop a Net-Zero Energy Building Strategy

Energy & Carbon:
DRASTIC ENERGY REDUCTION +
ZERO ENERGY +MICROGRID

…or is it because Florida's climate is changing?

…or because it's the sea is rising about one inch every decade?

…or because the Florida peninsula has warmed more than one degree (F) during the last century?

…or is it because heavy rainstorms are becoming more severe?

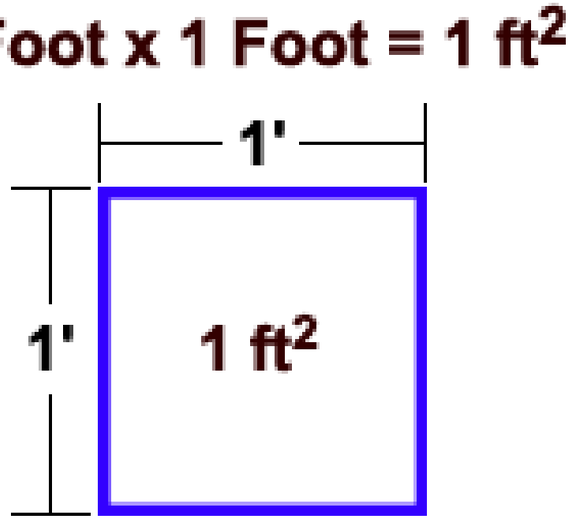
Energy & Carbon:
DRASTIC ENERGY REDUCTION +
ZERO ENERGY + MICROGRID

…or is it because it's being Responsible?

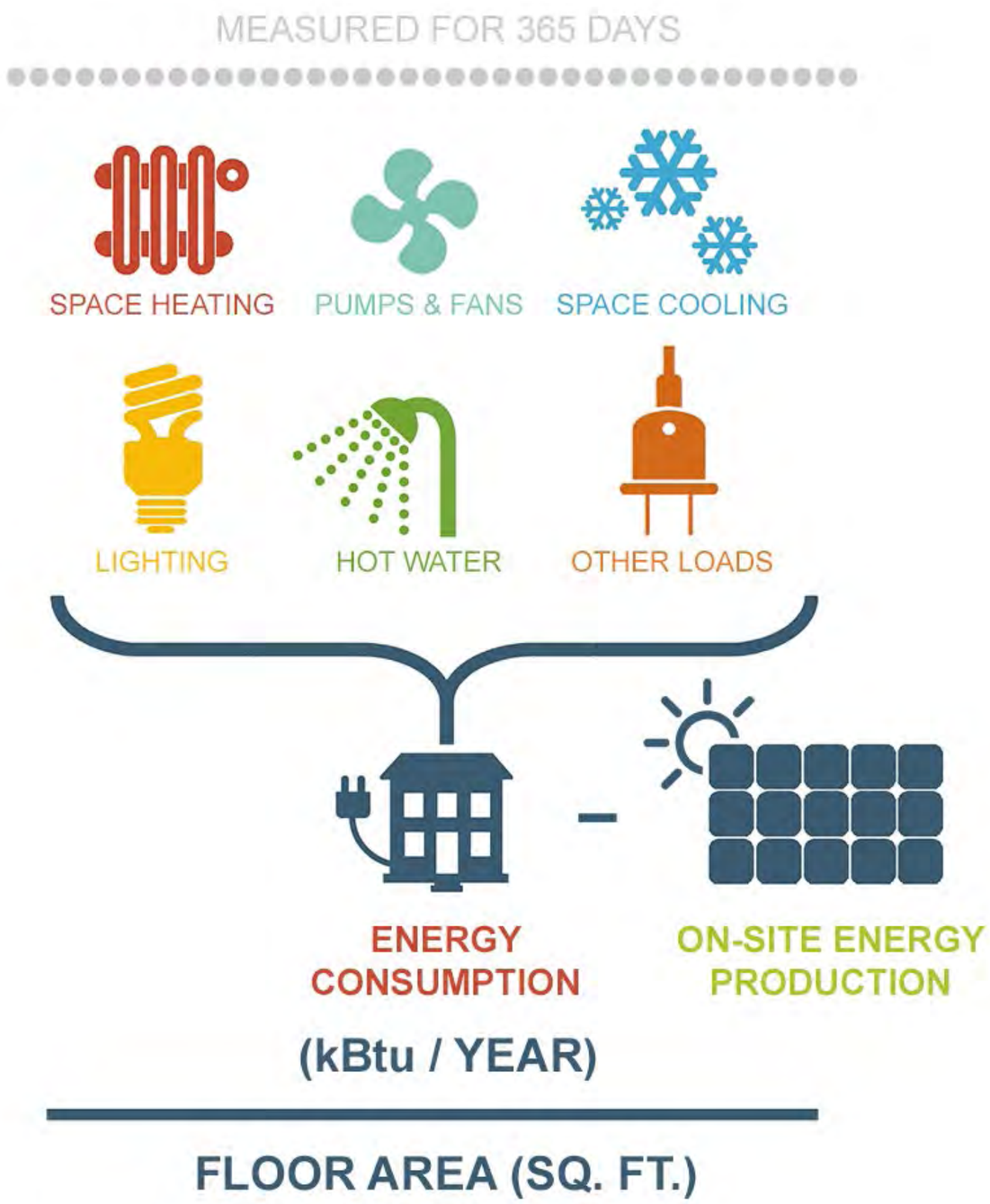
…or because it's the Right Thing to Do?

…or because We Can?

Energy Use Index (EUI) =
Energy use per square foot over one year

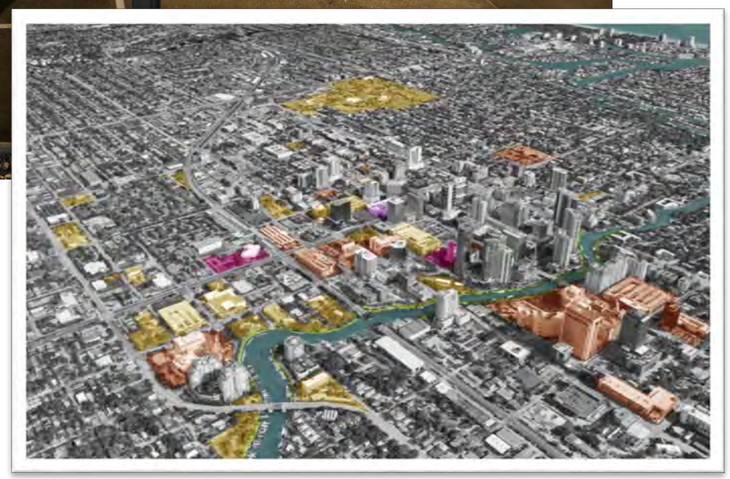


kBTU / s.f. / yr.



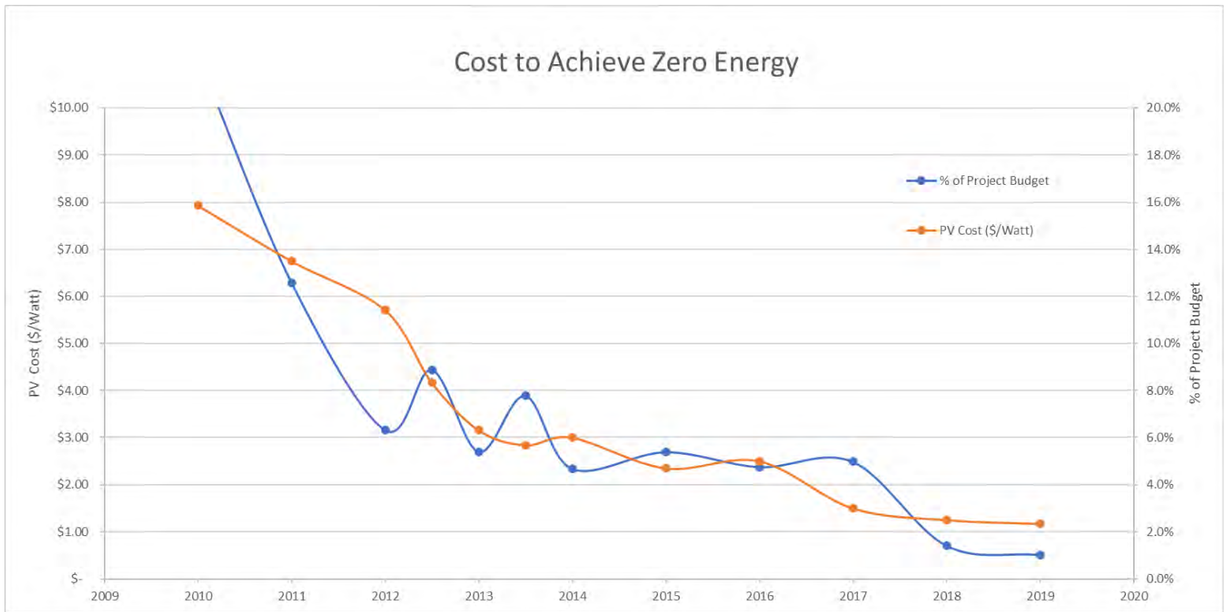
Energy Use Intensity (EUI) …the lower the number …the lower the energy use

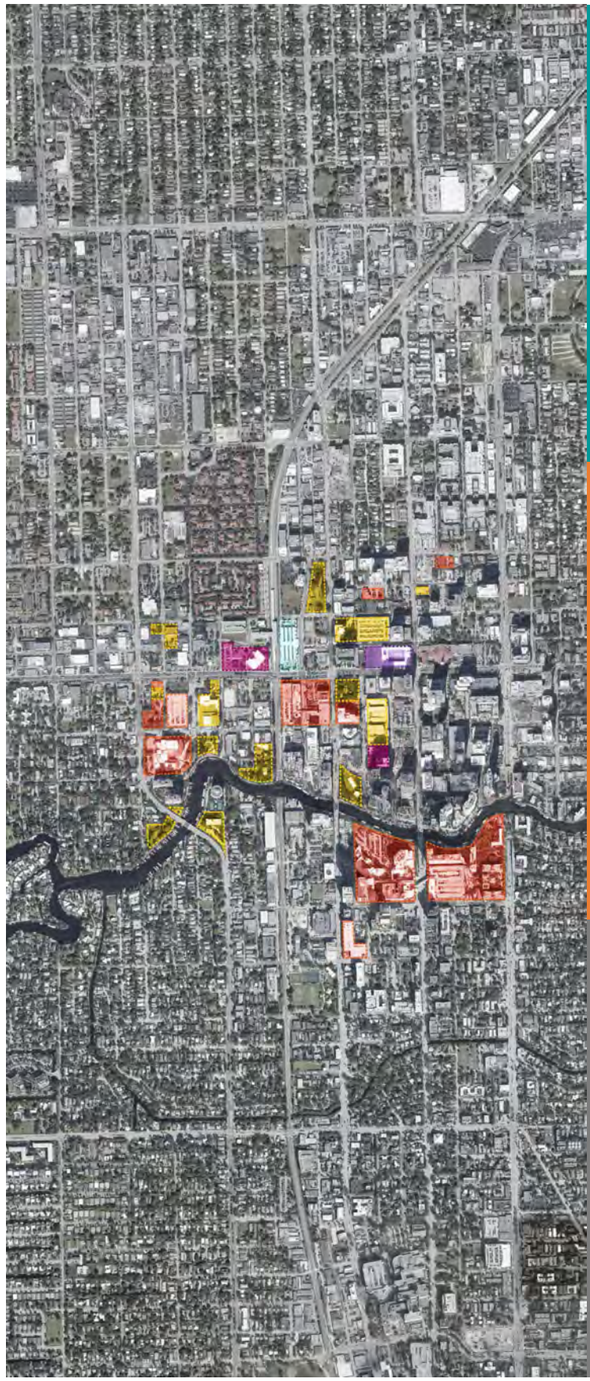
The criteria package needs a realistic EUI Goal Stated



Net Zero Energy means … that the total amount of energy consumed by a building on an annual basis is equal to the amount of renewable energy produced on site.

EUI GOAL+10% = PV Purchased





01

CBECS

02

LEED

03

ZERO ENERGY

Benchmarks & Certifications

CBECS

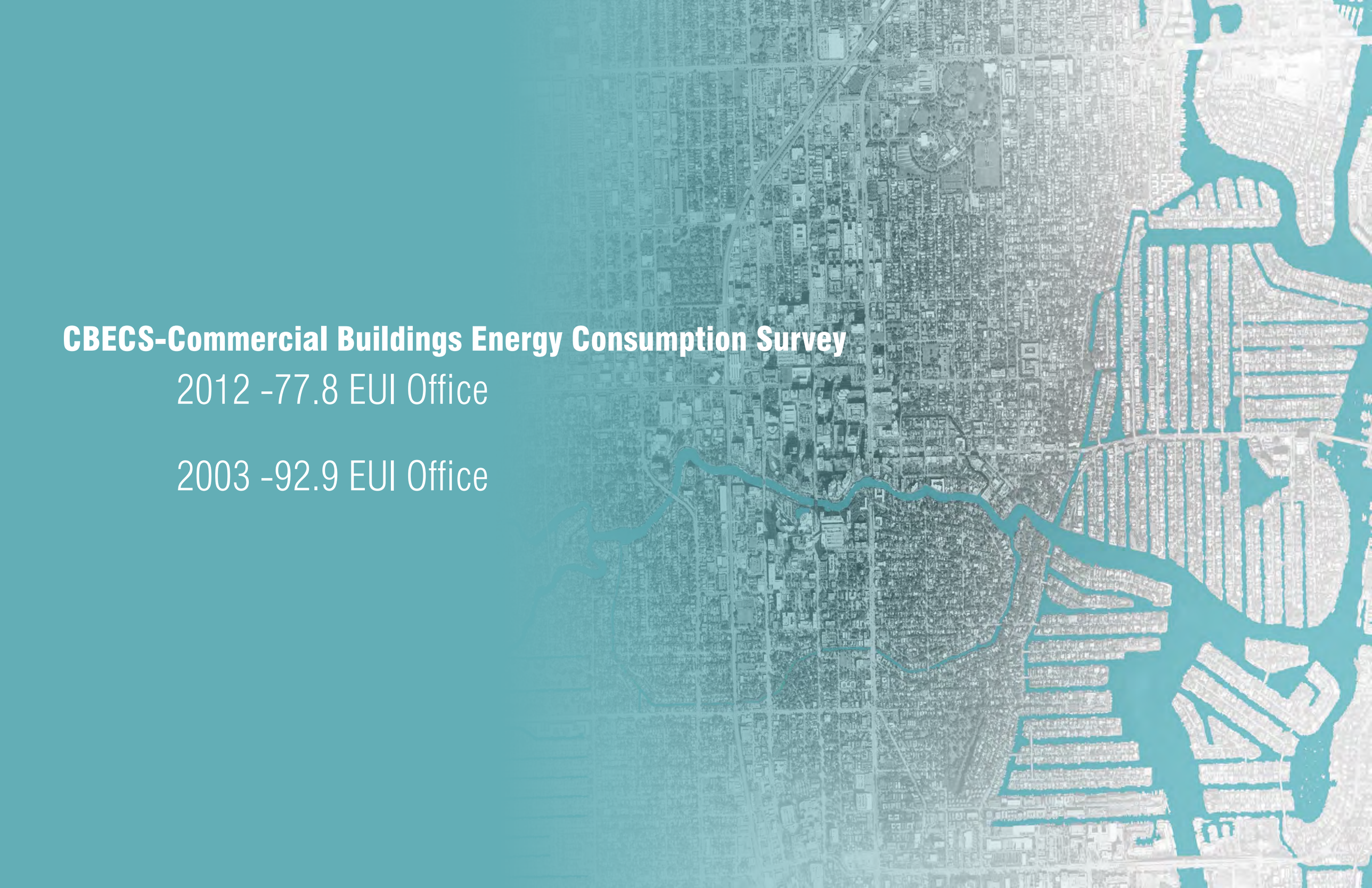
Commercial Buildings Energy Consumption Survey

Leadership in Energy and Environmental Design

LEED Zero

INTERNATIONAL LIVING FUTURE INSTITUTE

ZERO ENERGY CERTIFICATION



CBECS-Commercial Buildings Energy Consumption Survey

2012 -77.8 EUI Office

2003 -92.9 EUI Office

LEED

Maximize LEED points
18 points
50% less than code

Maximize Renewable points
5 points
60% On-Site

Zero Energy Approach

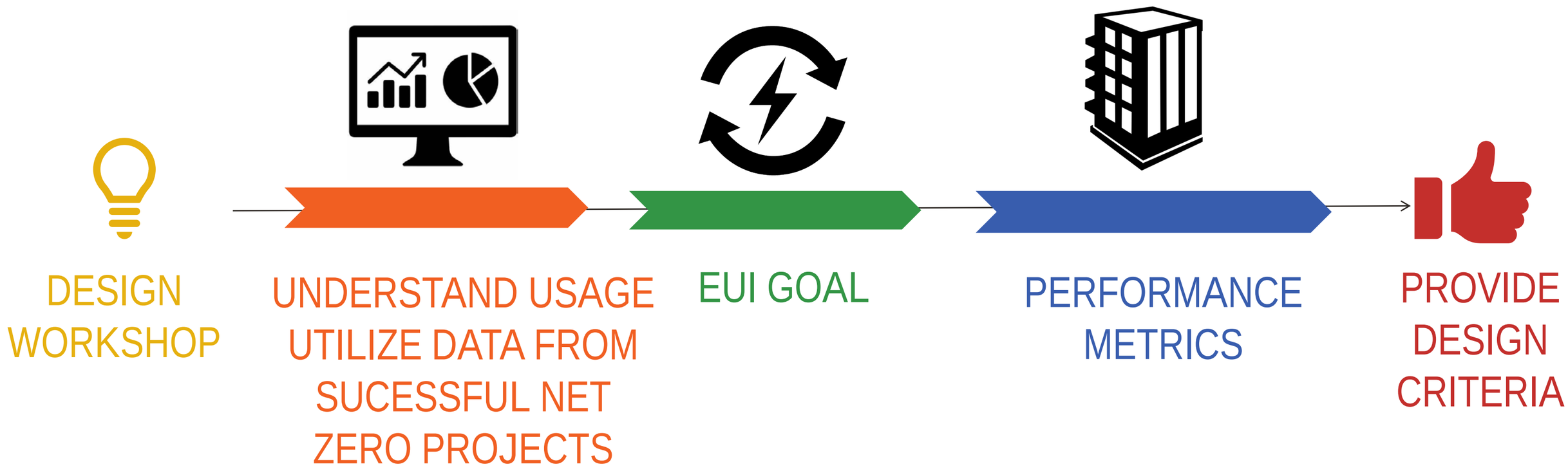
LEED Zero

-Off-Site Renewables Allowed

ILFI Zero Energy Certification

-Off-site Renewables Allowed
-Must Be All Electric

Zero Energy Approach

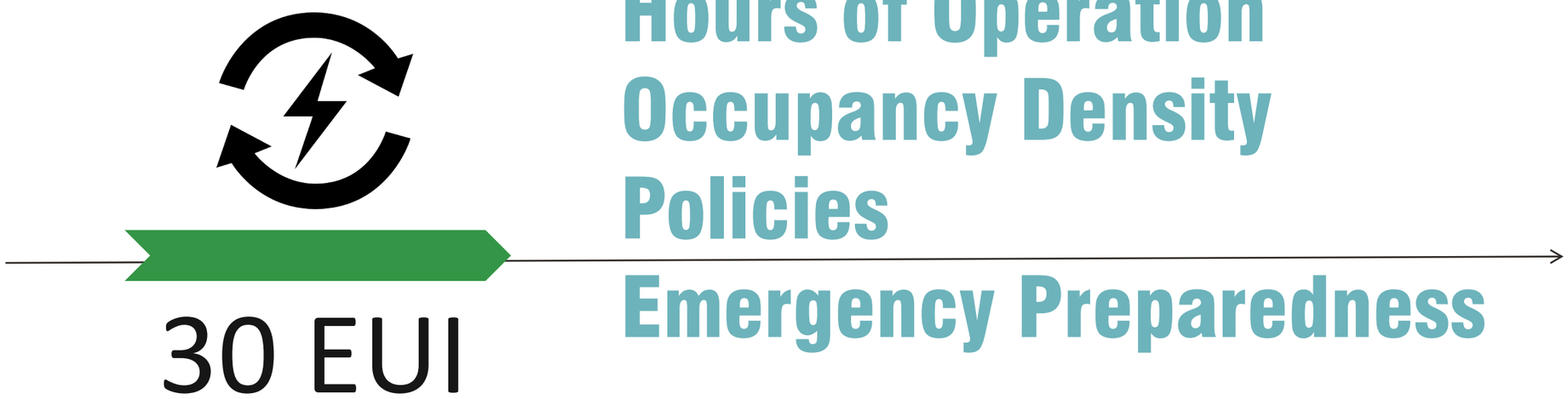


Zero Energy Approach

UNDERSTAND USAGE
UTILIZE DATA FROM
SUCESSFUL NET
ZERO PROJECTS

Construction Criteria
Utilization- Sqft
Hours of Operation
Occupancy Density
Policies
Emergency Preparedness

Zero Energy Approach- **YOUR BUILDING**



Construction Criteria
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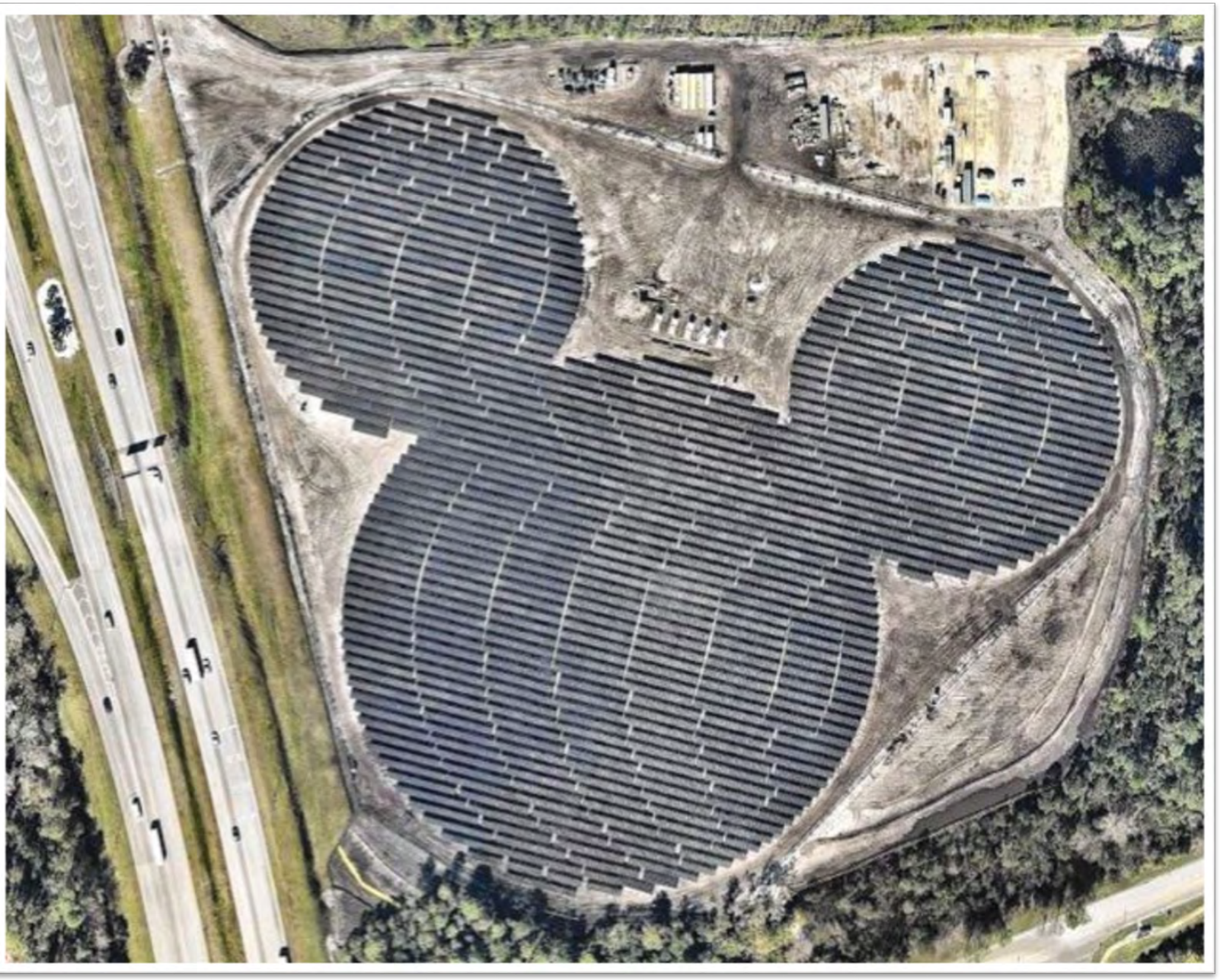


Zero Energy Approach
YOUR BUILDING

4-5MW PV Needed

On-Site Photovoltaics

Tower Roof: 400 kW to 600kW

Garage + Transit Office Roof: 1.2MW

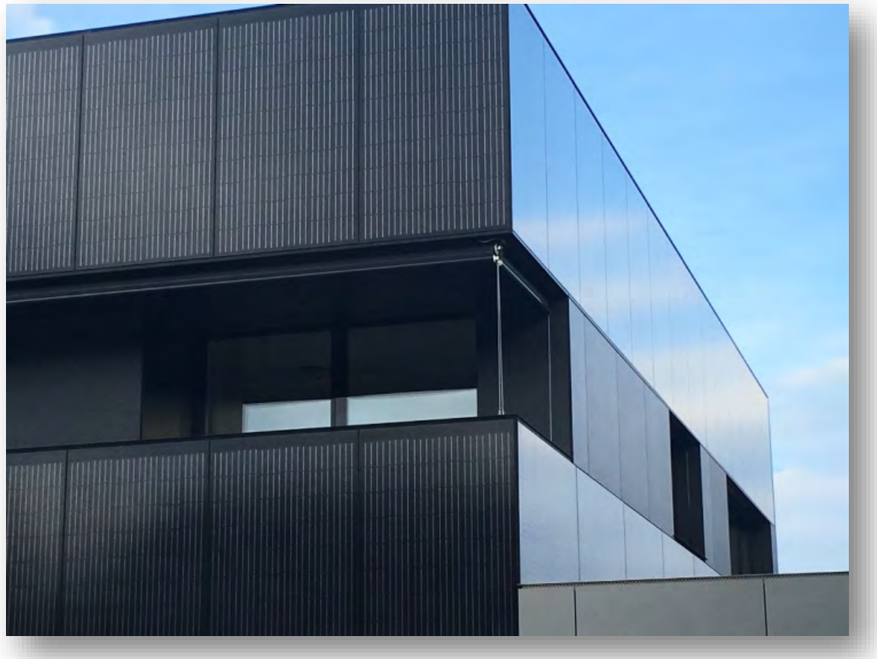
Garage Façade: 1MW (Reduced Output)

Tower Façade: 800kW (Reduced Output)

Rooftop Only Offset: 50%

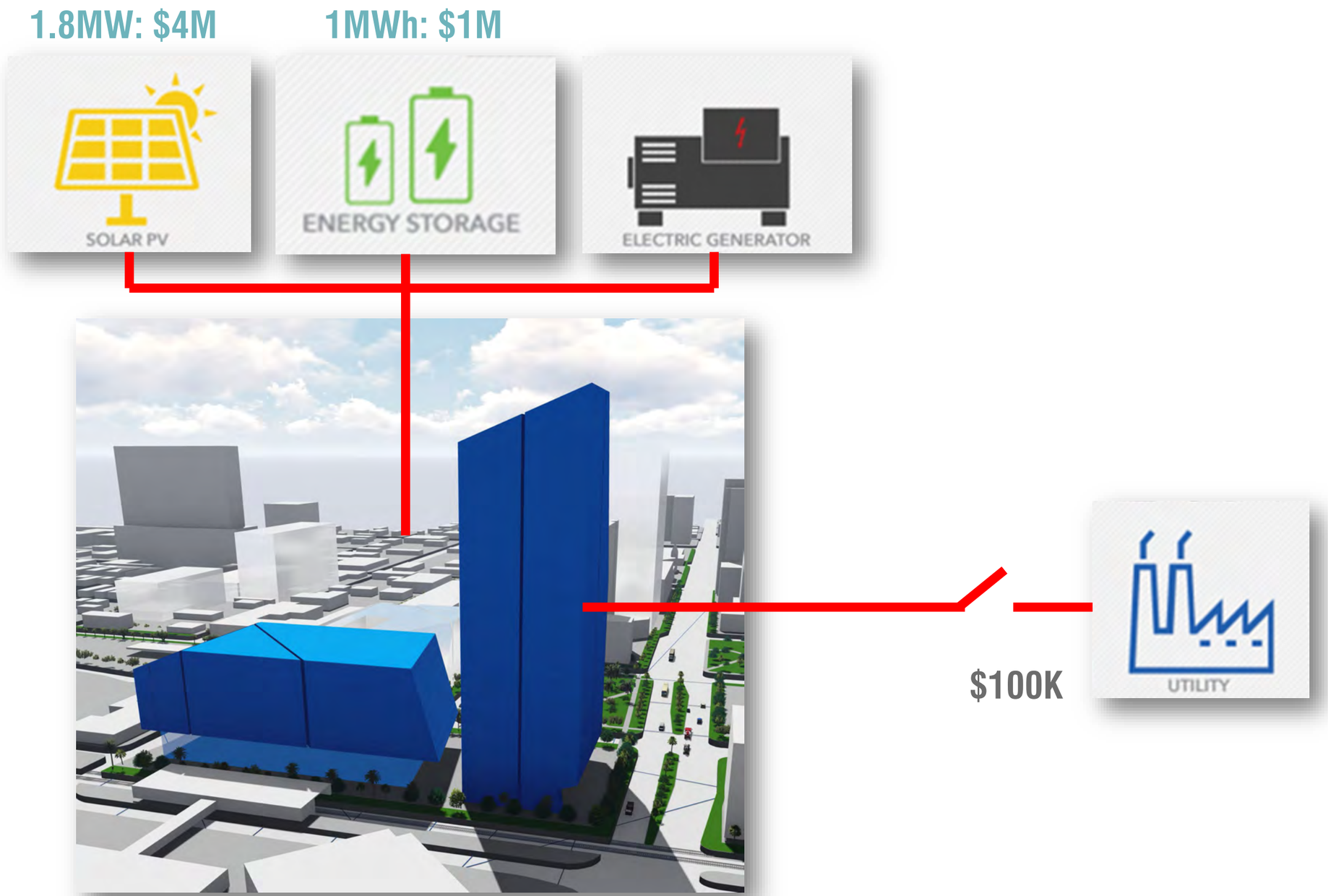
Rooftop + Garage Façade Offset: 60%

Total Offset: 75%
Total EUI Offset: 22.5



Solar Microgrid

Resilience



Zero Energy Approach- **YOUR BUILDING**

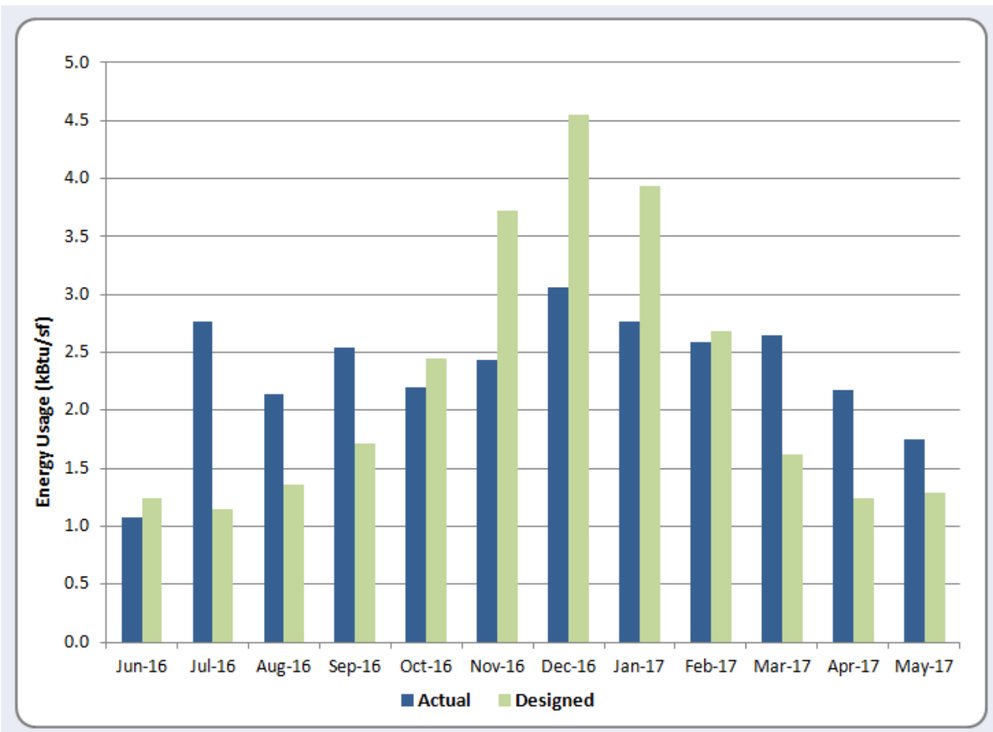
Few energy points achieved on previous LEED Gold county projects

+ 1-2% for drastic energy reduction

ZERO ENERGY VS LEED GOLD

+ 2-3% for 4MW Zero Energy Photovoltaic Systems

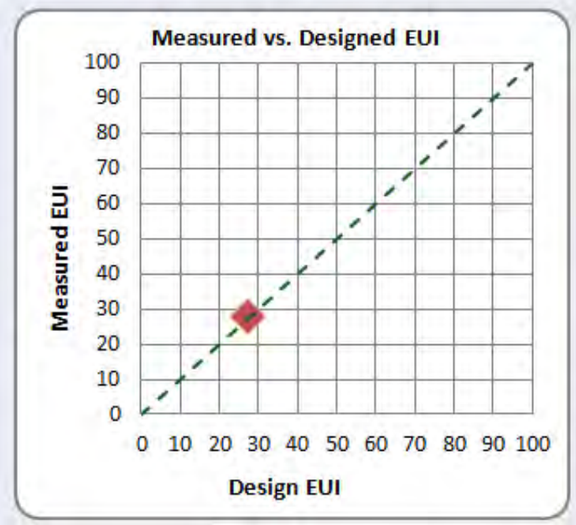
Zero Energy Approach- **YOUR BUILDING**



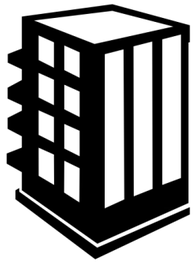
Designed EUI= 26.9

YTD kBtu/sf= 28.1

Actual EUI= 28.1



Accountability



PERFORMANCE METRICS

Resilience

considering disasters and the future

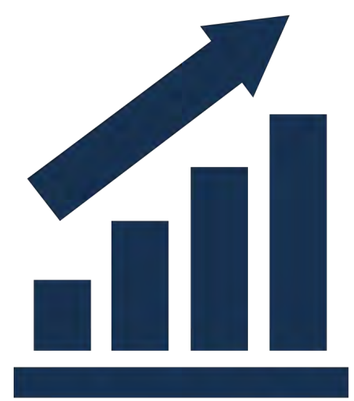
BRIZAGA

ASSESS. COMMUNICATE. ADAPT.

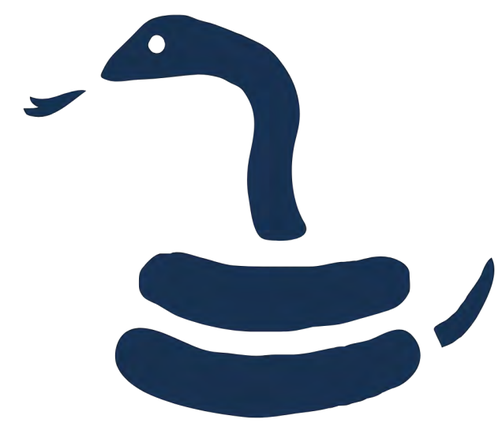
The Purpose of Resilience

- The building is the home of the government for the 15th largest County in the country and the City which is the County Seat, and the largest City in the County.
  - How quickly government reopens after a storm directly impacts the economy.
- Ensuring the County and City can **Prosper through Adversity.**
  - Security is a separate topic; we are exploring natural hazards.

Known



Known Unknown



Unknown Unknown

Top Hazards for JGCC Site

High winds ✓

Heavy rainfall

Lightning ✓

Extreme heat

Tidal flooding

Storm surge

Groundwater inundation

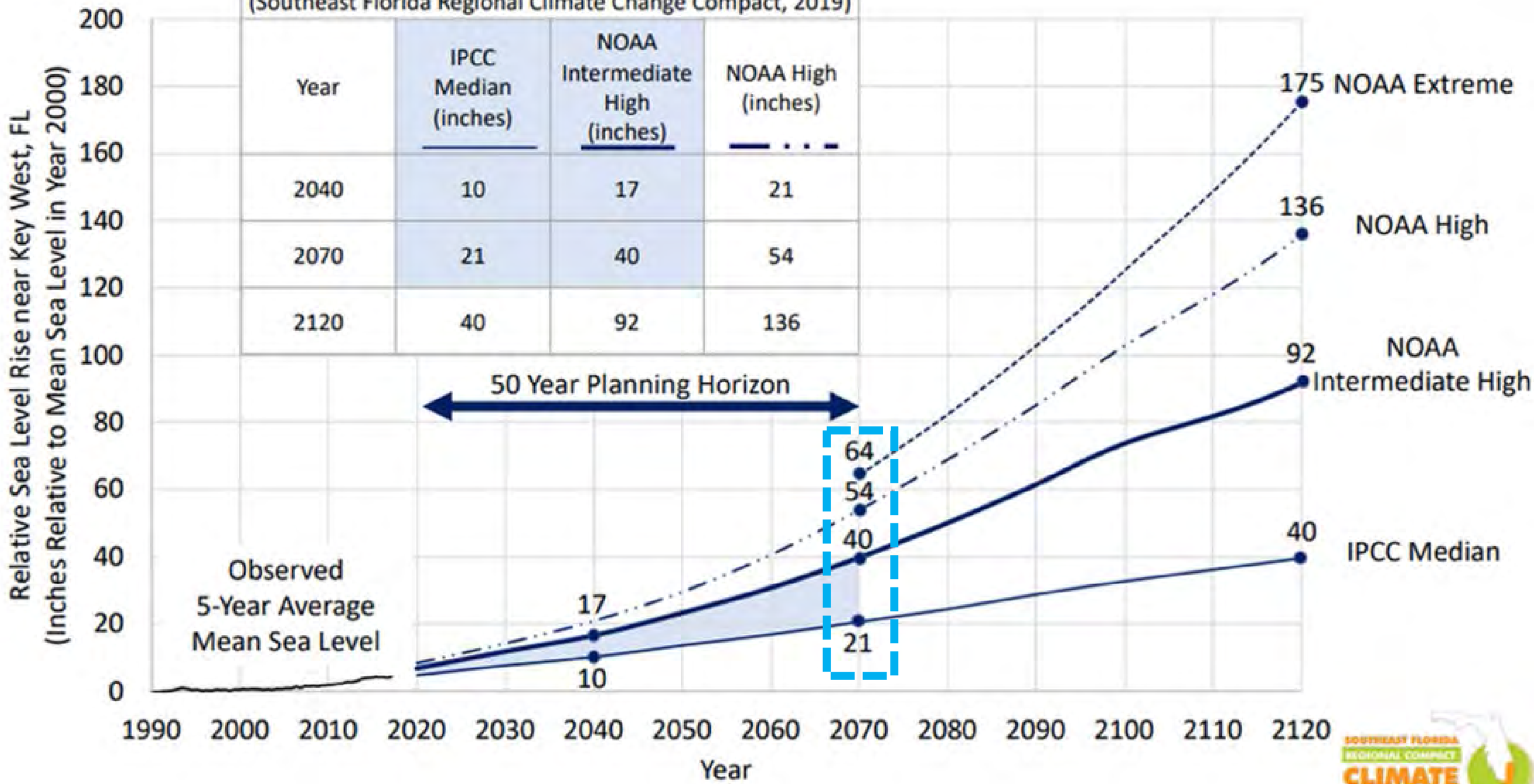
Overall GOAL: Incorporate resilience into as many aspects of the building as possible.

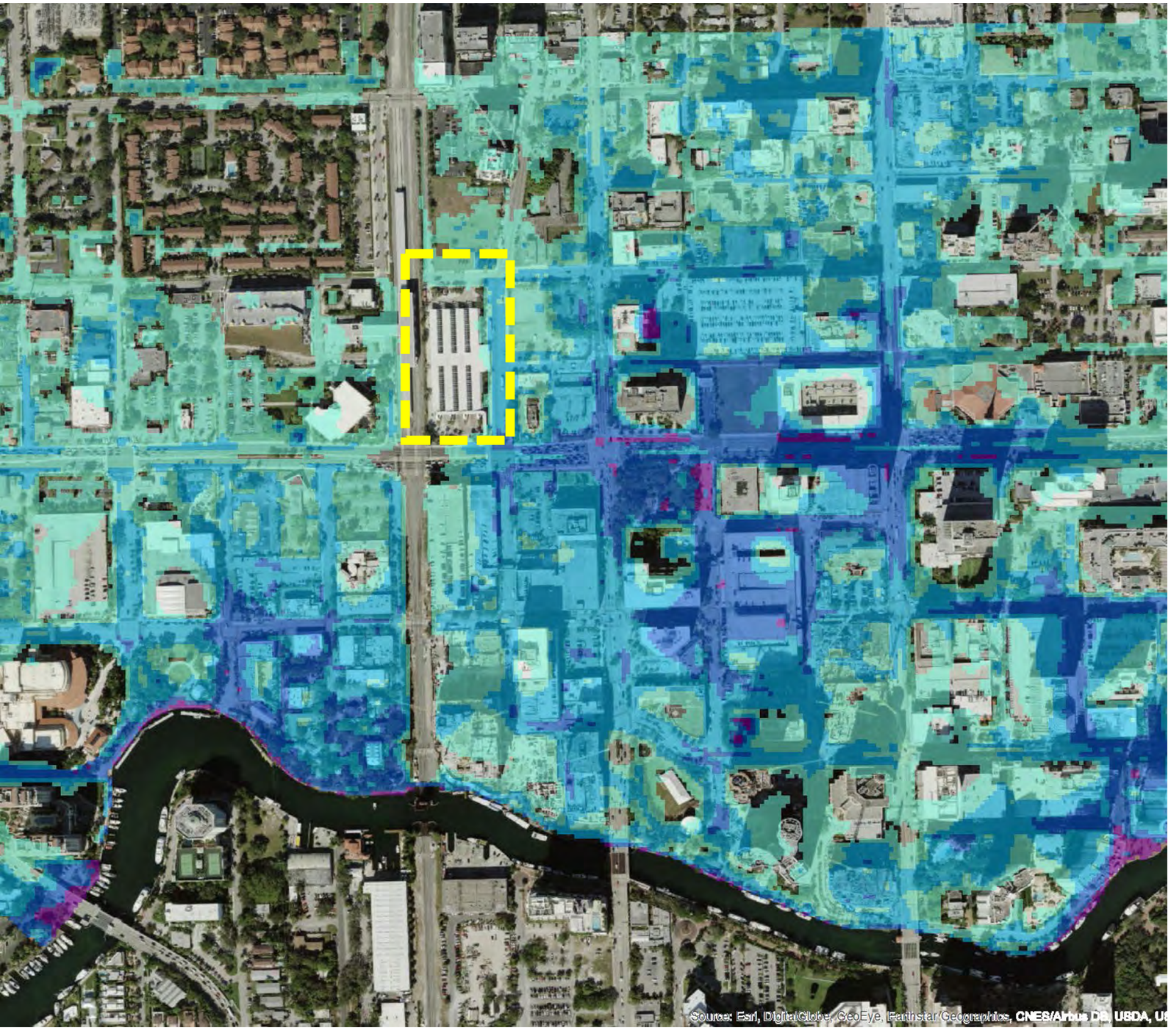
Hazard Analysis

Sea Level Rise

Unified Sea Level Rise Projection
(Southeast Florida Regional Climate Change Compact, 2019)

Year	IPCC Median (inches)	NOAA Intermediate High (inches)	NOAA High (inches)
2040	10	17	21
2070	21	40	54
2120	40	92	136





2070 Tidal Flooding King Tide Impact

This area will see frequent tidal flooding by 2070 without any adaptation actions.

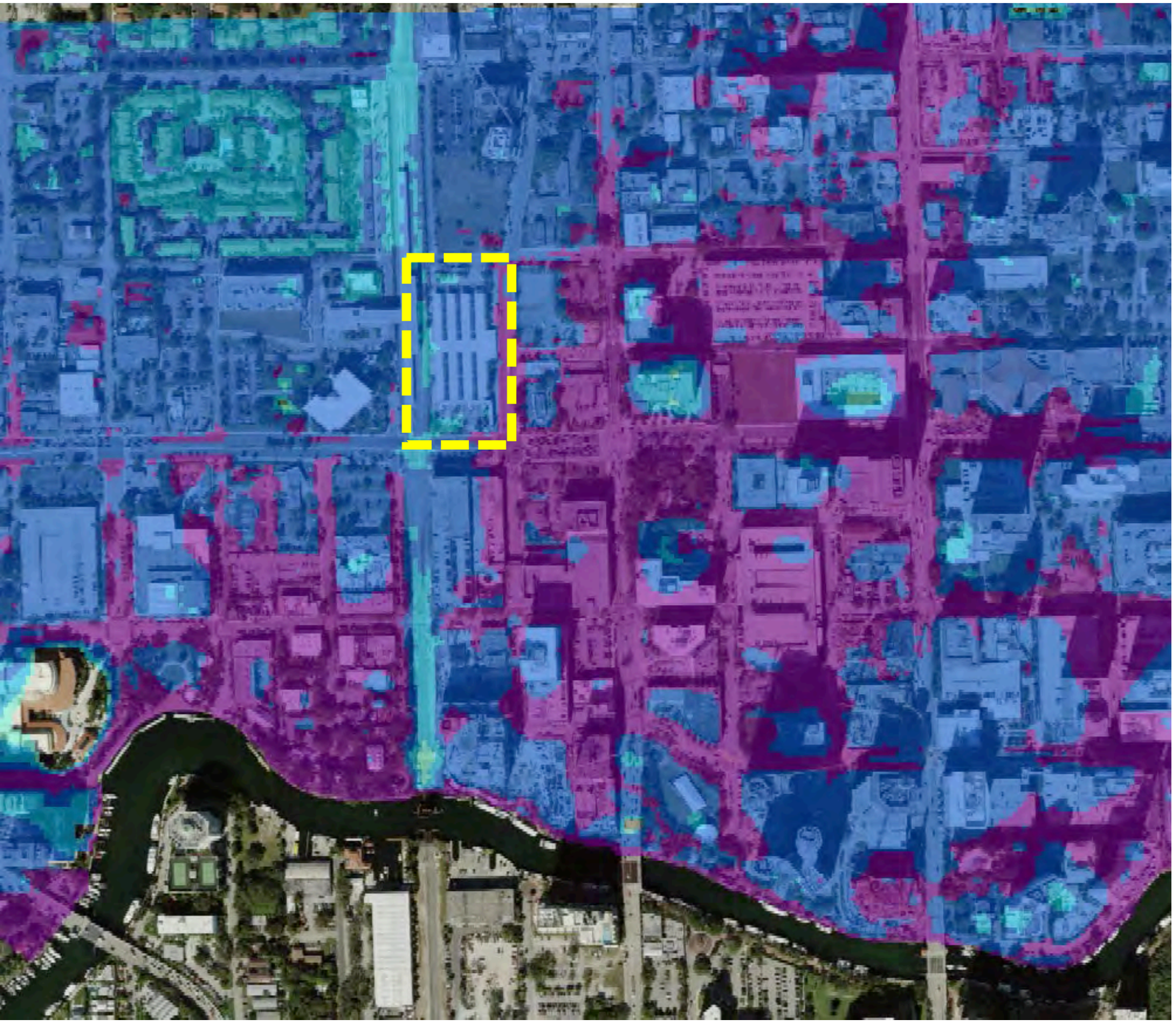
While we are examining the resilience of the site, the resilience of the surrounding area is essential.

< 1 foot

< 1-2 feet

< 2 - 3 feet

< 3 + feet



2070 Category 5 Worst Case Scenario

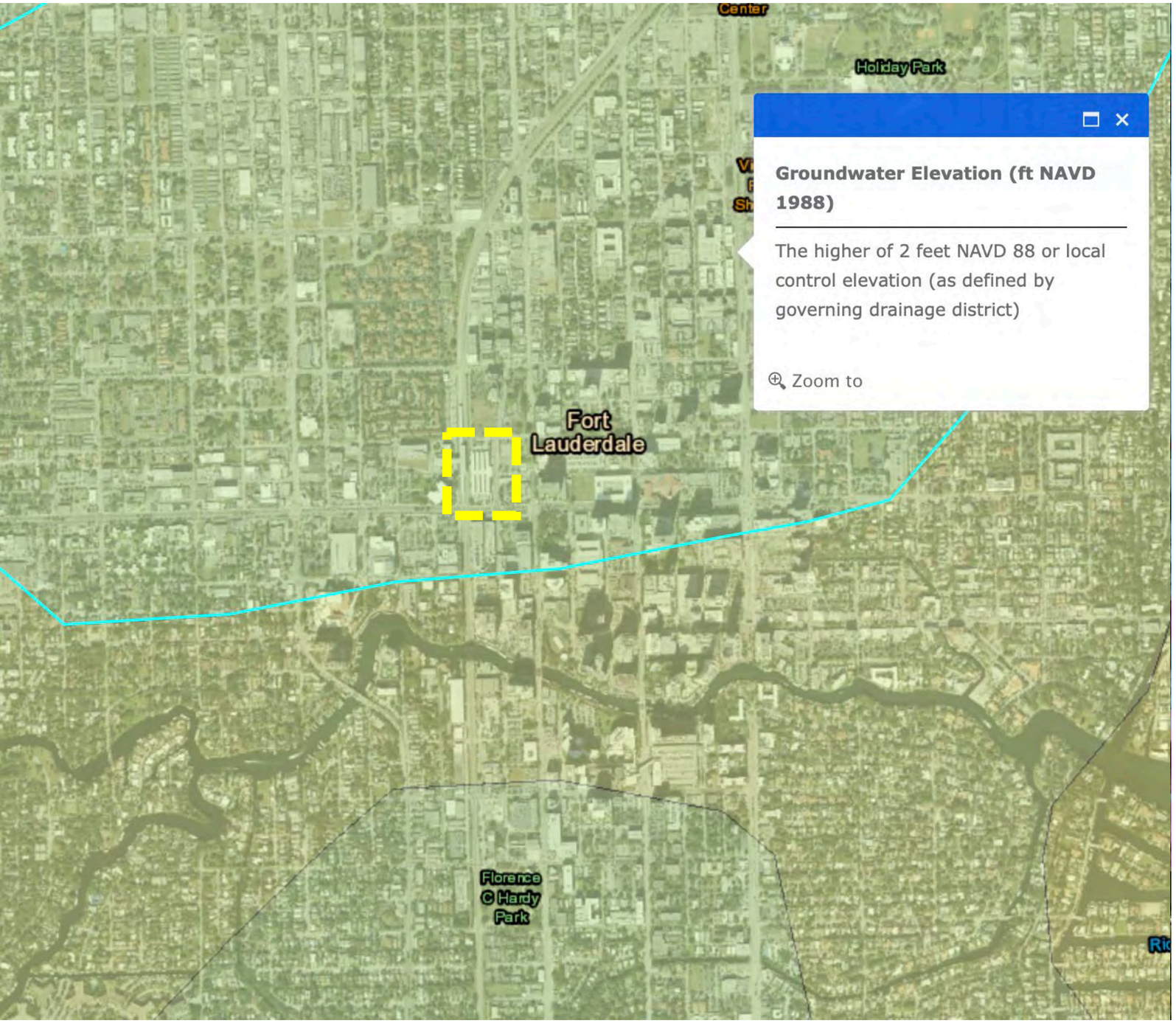
Category 5 Maximum of Maximums (MOM) from NOAA SLOSH model + 40 inches of Sea Level Rise

< 1 foot

< 1-3 feet

< 3 - 5 feet

< 5 + feet



Future Groundwater Inundation

This is based on the average wet season elevation of the groundwater and should be taken account when considering water management at the site.

- 2’ NAVD88 (based on 2060)
- 1.2’ of sea level rise between 2060 and 2070.
- The recommendation would be to examine how a groundwater level of **2.2’ NAVD88** would affect site water management.

Strategies for flooding, sea level rise, and groundwater

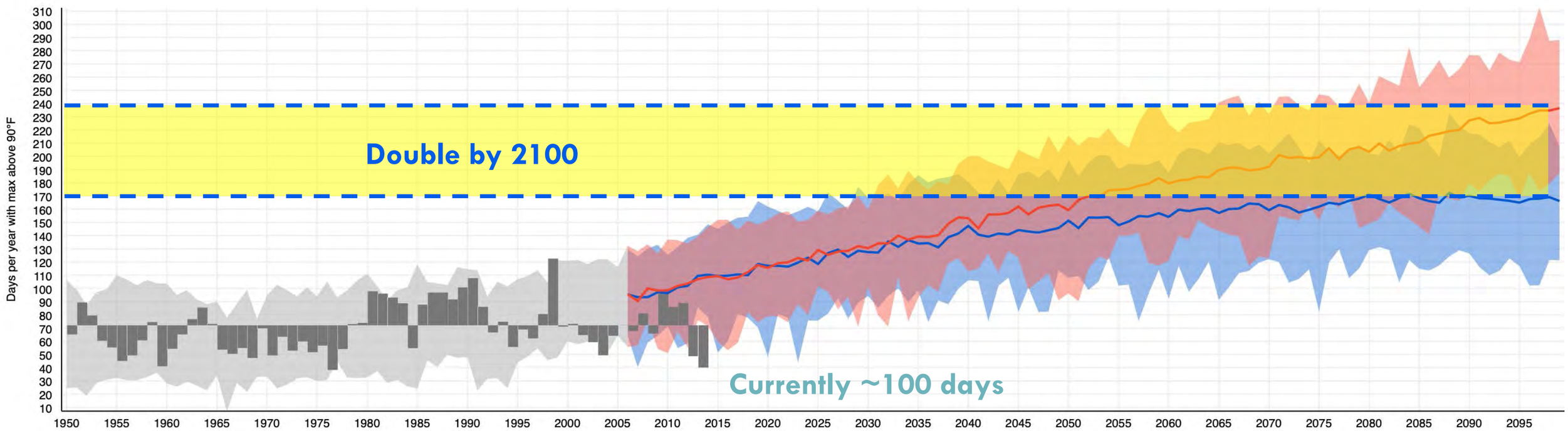
- **Elevate the structure and surrounding area** – how high to elevate to protect, while also considering current access
- Adaptative capacity? **Create high ceilings on first floor** to elevate in the future
- **Water management will be important**

Extreme Heat

- **What do more days with extreme heat mean for operations?**
  - HVAC and energy usage;
  - Access;
  - Outdoor space; and
  - Access to garage.

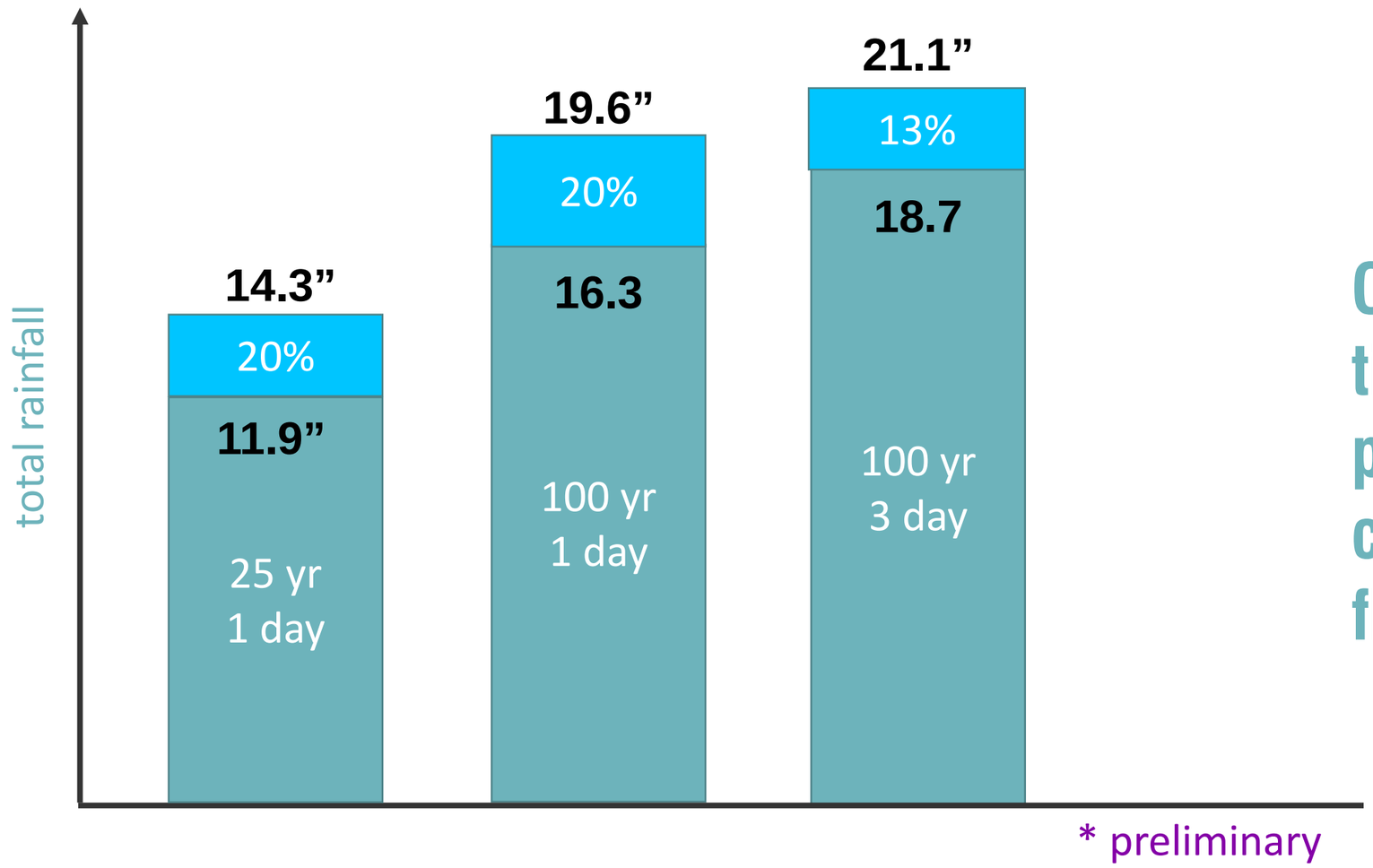
Strategies:

- Shade **(manmade and natural/trees**
- Vegetation
- Cool pavement
- Geometry (think about the flow around the building)



Heavy Rainfall

- Starting to see more intense rainstorms – this makes stormwater management more challenging
- Ability to store and convey more water on-site is essential
- There is a need to be innovative, especially when considering the urban environment – cisterns and blueroofs



On top of groundwater and tidal flooding, rainfall patterns are expected to change, as well (compound flooding).

Blue/Green Roof Concept

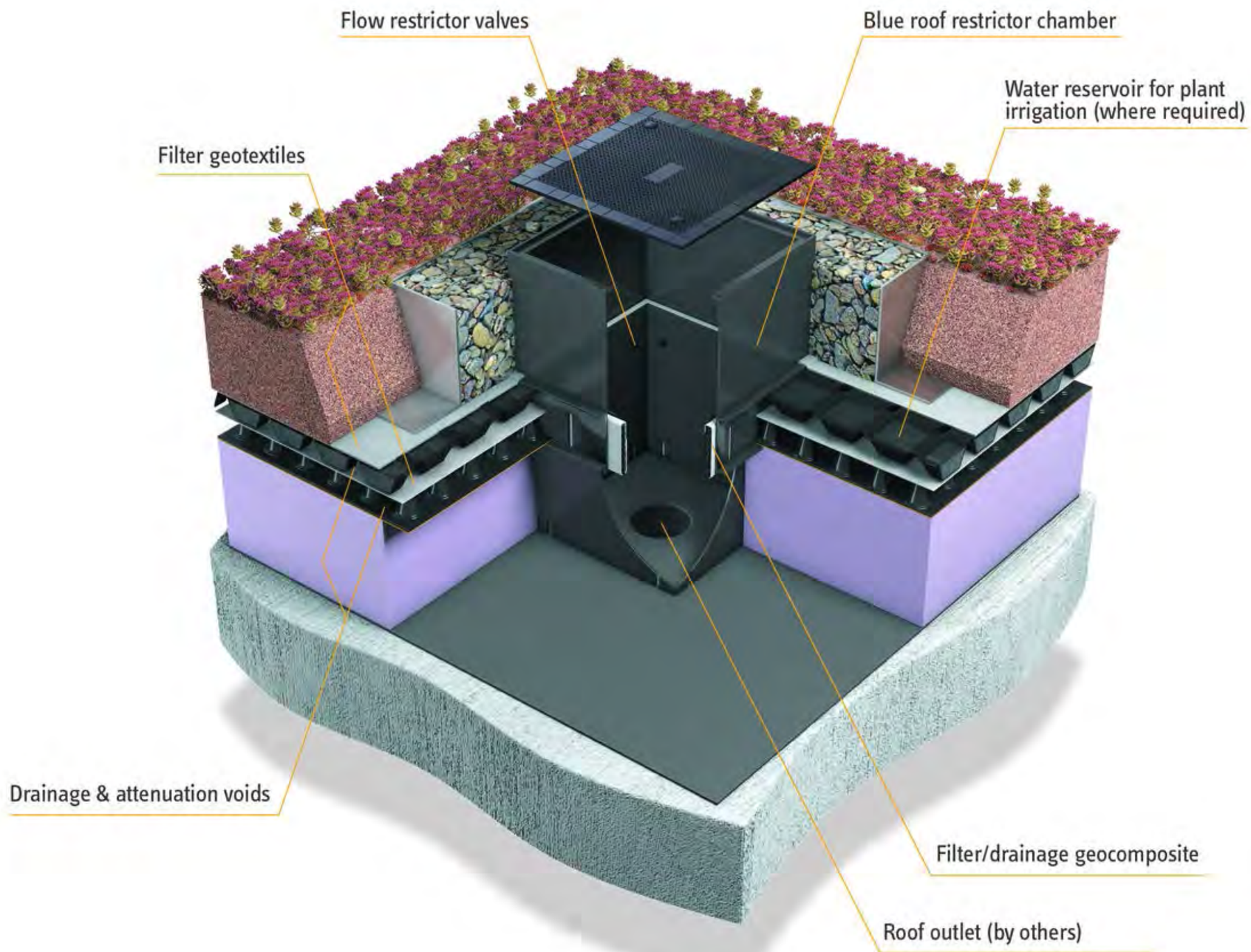
Opportunity to create a signature resilient feature

- Desire to create **community green space** (thinking about current and future heat)
- Desire for **stormwater retention** (thinking about future storm conditions)
- Desire to create **sustainable space(s)**

Amenity terrace blue roof (ph: ABG)

CU Park in Thailand

Stormwater Rooftop System



ABG blueroof restrictor chamber diagram

Future Conditions Recommendations

- Use Broward County future conditions groundwater elevation map (2060) with updated Unified Sea Level Rise Projections (for 2070 too).
- Use heavier rainfall conditions projected by County work in stormwater modeling.
- Examine where tidal flooding will occur and how off-site resilience may effect JGCC operations.
- Consider more frequent and hotter days as part of the landscape of the JGCC:
  - Access from the garage;
  - Amenities; and
  - HVAC and energy usage.

Open Questions

- Select a risk threshold for flooding?
- Select a projected heat increase threshold?
- Create a signature stormwater resilience project?

Q+A SESSION

March 05, 2020

FOCUS SESSION: SUSTAINABILITY

JGCC

Joint Government Center Campus

ZYSCOVICH

March 5, 2020

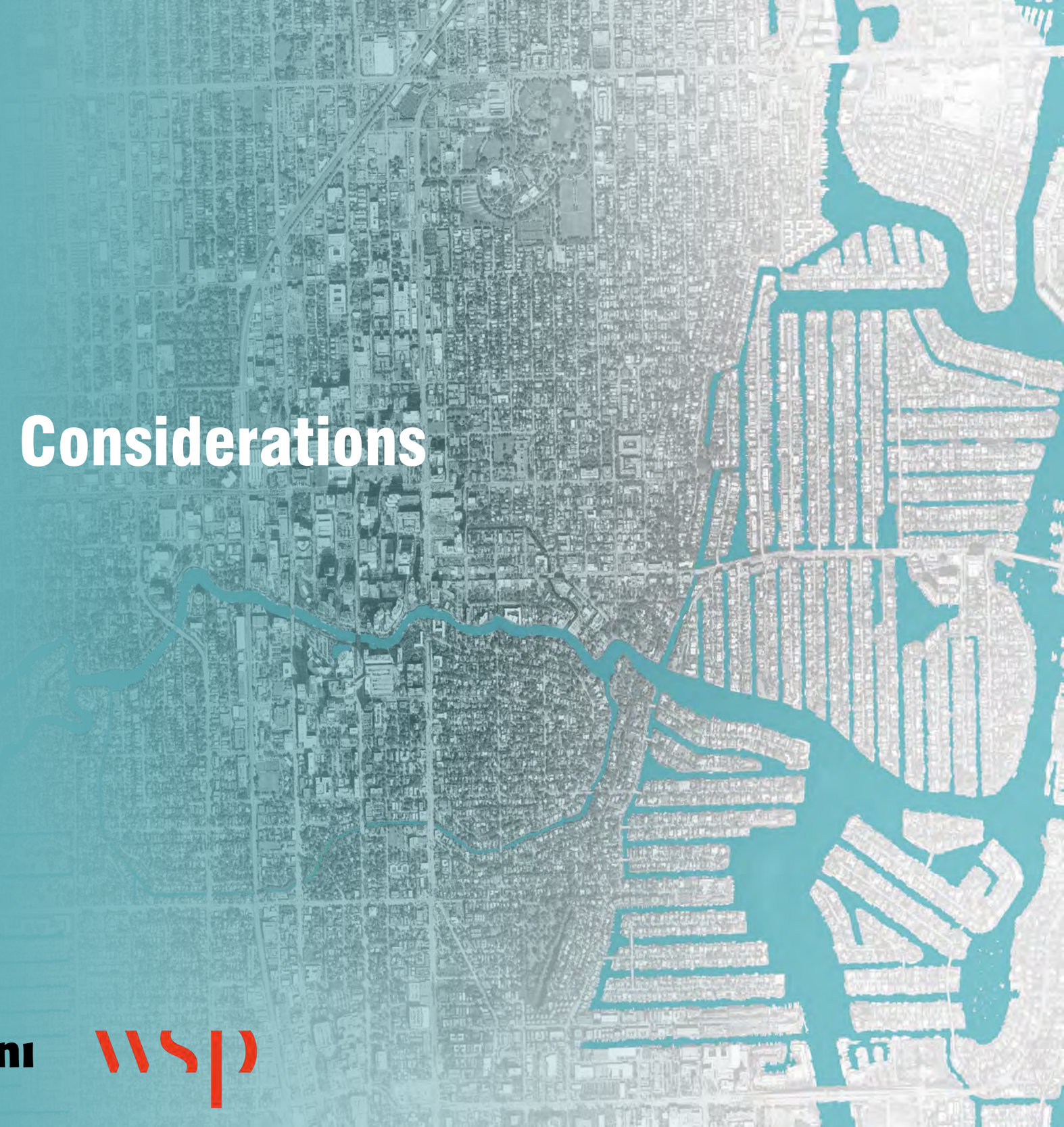
JGCC

Joint Government Center Campus
FOCUS SESSION: SECURITY

10:30 AM – 12:30 PM

ZYSCOVICH

Security Planning and Considerations



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Security Standards for Consideration

- FEMA-426 / BIPS-06 – Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings
- Department of Defense Unified Facilities Criteria (UFC) 4-010-01 – Minimum Anti-Terrorism Standards for Buildings
- ASCE 59-11 and GSA Progressive Collapse Analysis and Design Guidelines – Supporting the structural analysis and performance related to an explosive event.
- ASTM F1642 – Standard Test Method for Glazing and Glazing Systems Subject to Airblast Loadings
- ASTM F2656 – Standard Test Method for Crash Testing of Vehicle Interdiction Barriers
- Department of State – Certification Standard (K-Rating) for Vehicle Interdiction Barrier Crash Testing
- UL 752 – Standard for Bullet Resistant Materials, Devices and Fixtures
- HP White TP-0500 – Standard for Forced Entry Resistant Materials
- Department of Homeland Security – CCICADA Best Practices in Anti-Terrorism Security
- Crime Prevention Through Environmental Design (CPTED) Principles
- Other industry standards may be further identified during the planning and design criteria development process and may be recommended project design criteria. These will include current contemporary facilities and best practices implemented recently and for other similar facilities.

Building Infrastructure Security

- Structural design
- Façade design
- Glazing design
- Door construction
- Utility support structures
- Points of entry (POE) for all major incoming utility and communication services to support redundancy and life safety operations

Emergency Rescue and Recovery Systems (ERR)

- Fire protection systems
- Fire alarm and audible evacuations systems
- Stair pressurization systems
- Smoke purge systems
- ATS switch-gear
- Emergency power systems
- UPS Systems for networks and systems listed as ERR
- Access Control systems
- Video surveillance systems
- Specialty VoIP intercom systems
- Radio and DAS systems
- Vertical transportation
- Exit stairs

Building Security Systems

- Access Control and Alarm Monitoring
- Duress/Call for Help Systems
- Video Surveillance Systems
- Specialty VoIP Intercom Systems
- Radio and DAS Systems
- Mass Notification System, Staff Specific (Not Fire Life Safety)
- Law Enforcement Specific Systems
  - Sheriffs Detainee Physical and Operational Layouts
  - Door Locking (Holding Cells)

Building Operational Security

- Consider the prime law enforcement agency responsible for the perimeter
- Consider the prime law enforcement agency responsible for the County occupancy
- Consider the prime law enforcement agency responsible for the City occupancy
- Consider the prime law enforcement agency responsible for the Courts
- Consider the prime law enforcement agency responsible for staffing the Security Operations center (SOC)
- Consider joint responsibilities of each major stakeholder

Security Operations and Control Center

- **Operations in the SOC**
- Monitor and Control all video systems
- Monitor and control all access control and intrusion systems
- Monitor access and video coverage of data rooms, (satellite or dishes if applicable)
- Monitor cable TV stations as desired
- Monitor and/or control Fire systems
- Monitor and control all elevator cabs
- Monitor BMS systems
- Maintain communications by radio, primary and back-up
- Maintain IP phone communications

Security Operations and Control Center

- Maintain non-VOIP phone communications
- Monitor all generators' status
- Monitor power, (normal and UPS) for each stake holder (if different)
- Monitor cooling status of IT and security closets and spaces
- Maintain/monitor SAT phone status
- Capability to provide video feeds to Sheriff or other agencies
- Consider connection to outside location where emergency response and mobile command vehicles will respond or stage for special events, planned or emergency scenarios
- Participate in discussions with all agencies and first responders prior to design phase

Security Operations and Control Center

Construction and design criteria for perimeter walls and infrastructure

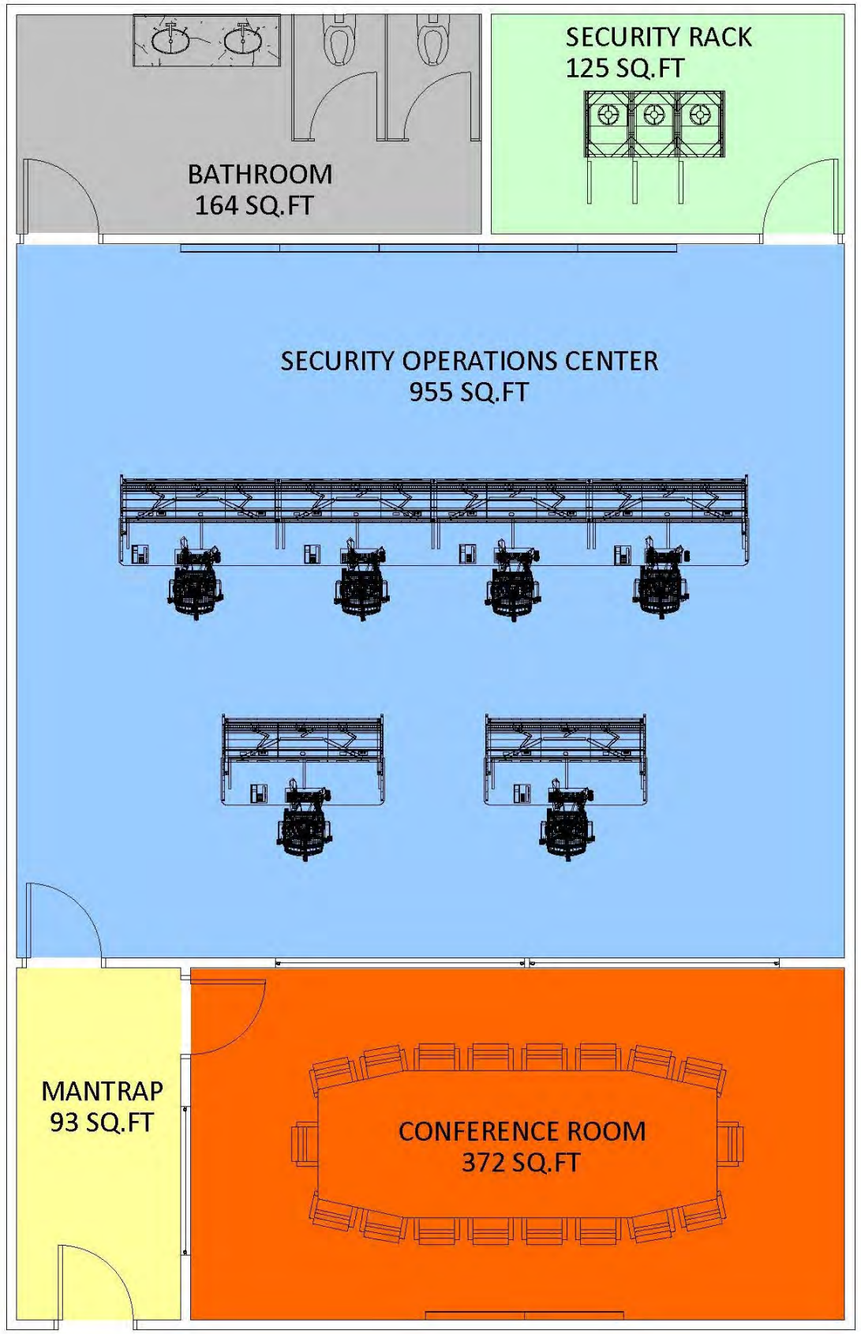
- Force resistant exterior walls, doors, floors and ceilings,15-minute FE rated
- STC rating of 45, includes doors, walls, ceilings, and Duct work.
- Command center proper shall be acoustically isolated from balance of the space.
- Conference Room will be acoustically isolated from balance of the space, or from adjacent spaces if not part of the SOC suite
- Slab to slab construction
- No utilities or infrastructure, not directly feeding the space shall cross the ceilings or under the floors.
- Raised floor area for rack room, command center and conference room, 6 inch minimum
- Rubber non-static flooring in SOC
  - Combination standing/sitting furniture in SOC to be considered when designing height of tiers and location seats in SOC
- Location to be away from public access, away from Loading dock and other high threat areas, multiple pathways from exterior, ideally in core or similar construction.
- Location shall be away from public parking and public pedestrian pathways to the extent possible.

Security Operations and Control Center

Construction and design criteria for perimeter walls and infrastructure

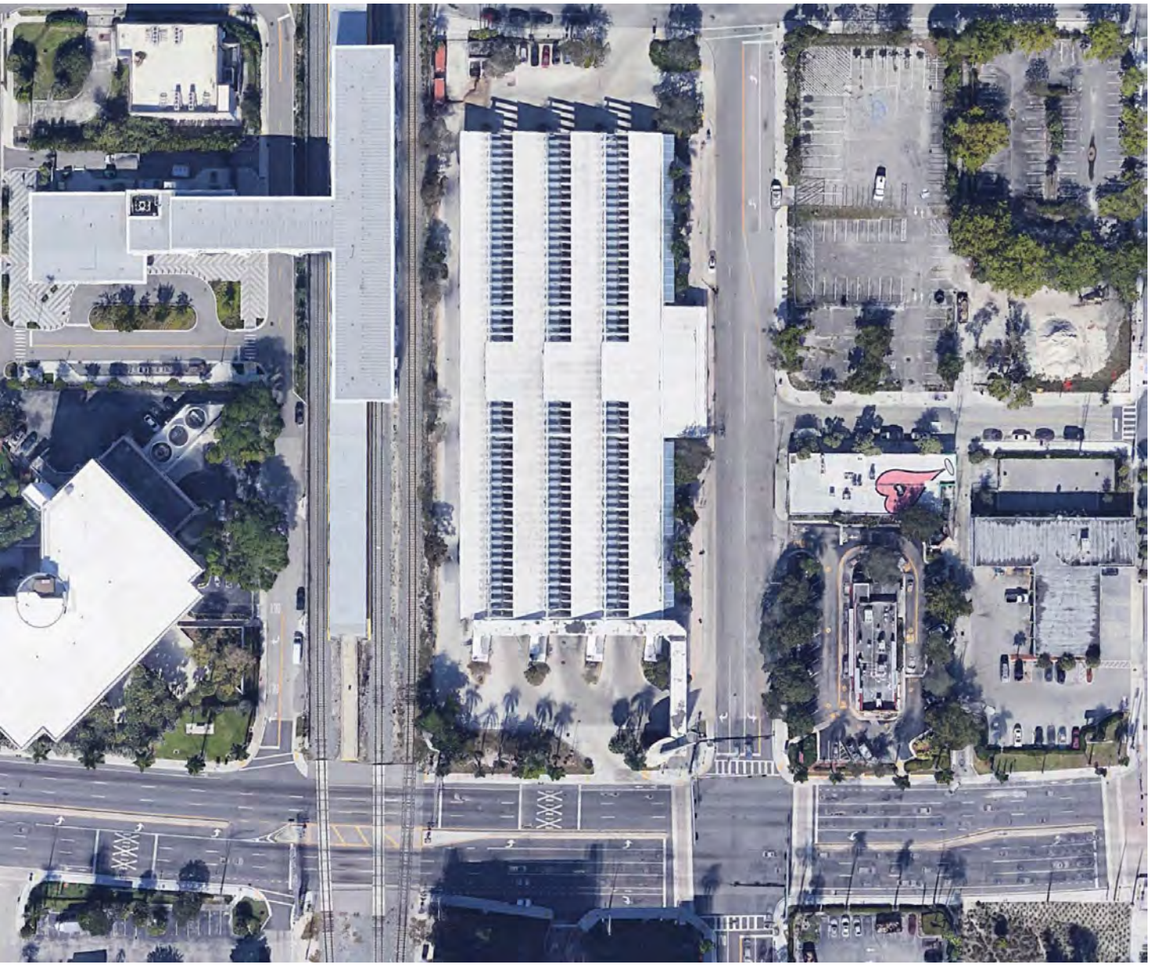
- Dedicated entrance to the suite, from staff corridor side, accessible to stairs and elevators.
- Dedicated entry to the suite/conference room for staff, first responders, VIP's and authorized persons
- All entries to SOC will be "person trap" design.
- Normal power, generator power and UPS power shall be provided, to all circuits in the suite
- Ideally, separate electrical distribution panel for all circuits in the space shall be mounted in the suite proper
- Consider a separate generator dedicated to the SOC and cross connected to base building Life Safety Generator
- HVAC must be 24/7/365, separate T Stats for each space
- Rack room cooling may be separate, similar to IT closet standards
- Sprinkler system is only allowable system to have water crossing the space, all other plumbing shall circumvent the perimeter and not enter the suite from any direction
- Lighting and floor types may include;
  - Multiple dimmer controlled circuits be designed for the Command Center and the Conference room
  - Task lighting for the SOC operators, and/or for all seats in the command center
  - Lighted-Vision walls between SOC and Conference room that can be turned on/off as needed

Security Operations and Control Center



Current Security Program Data from Client Team

- Security of personnel and building is a critical design component of the Program
- Segregate public spaces from back of house spaces
- Locate publicly accessible spaces together
- Issue and develop policy for all staff to display ID's and use a s ACS credential
- Develop screening process for public and design lobbies accordingly
  - Multi layered approach will be required for the different staff types and destination
  - Multi layered approach will be required for the different visitor types and destination
- Develop security specific programs for each space and occupancy of the project



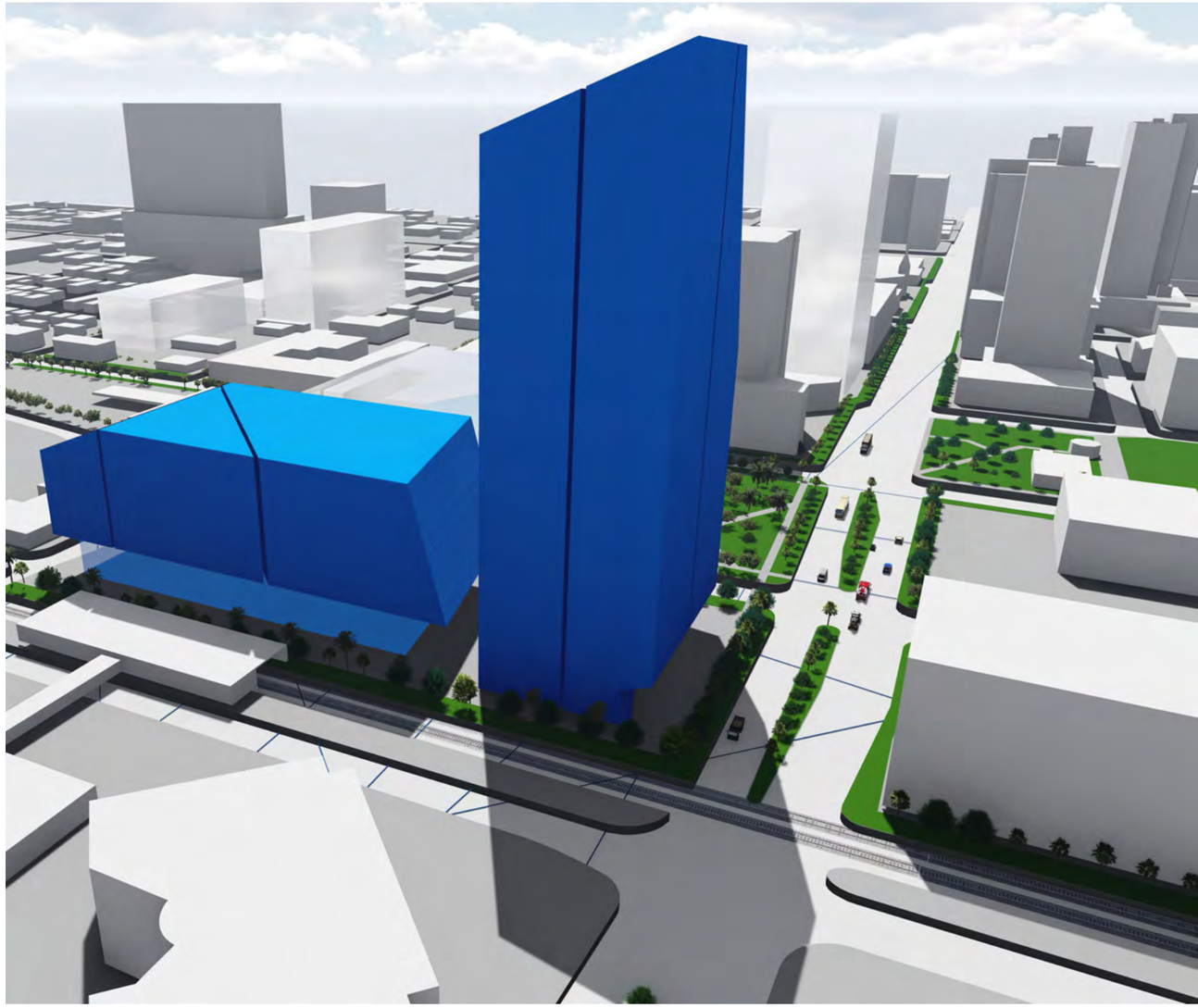
Site Security

- Site layout and access pathways by vehicles and pedestrians.
- Vehicle interdiction for vehicles, deliveries, staff parking, public parking, special visitor parking, vehicular screening.
- Modify with the county and city, existing or proposed traffic patterns on adjacent streets

Click Here

Site Security and Adjacencies

- Parking Garage
- Transit Terminal
- City Streets
- Current and planned developments



Site Security

- Pedestrian and staff access and screening
    - Public entries
    - Staff entries
    - “Special staff” entries
    - Judges
    - Commissioners
    - Law Enforcement
    - Loading docks
    - Ability to screen vehicles

Blast & Protection Engineering

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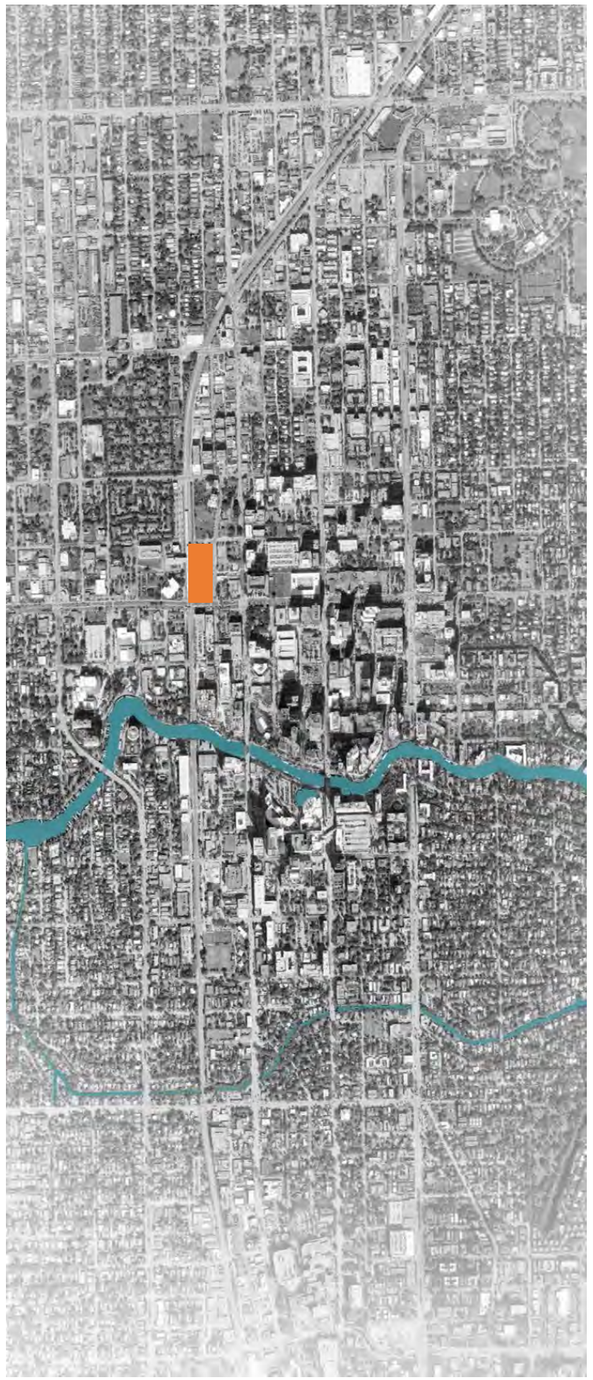


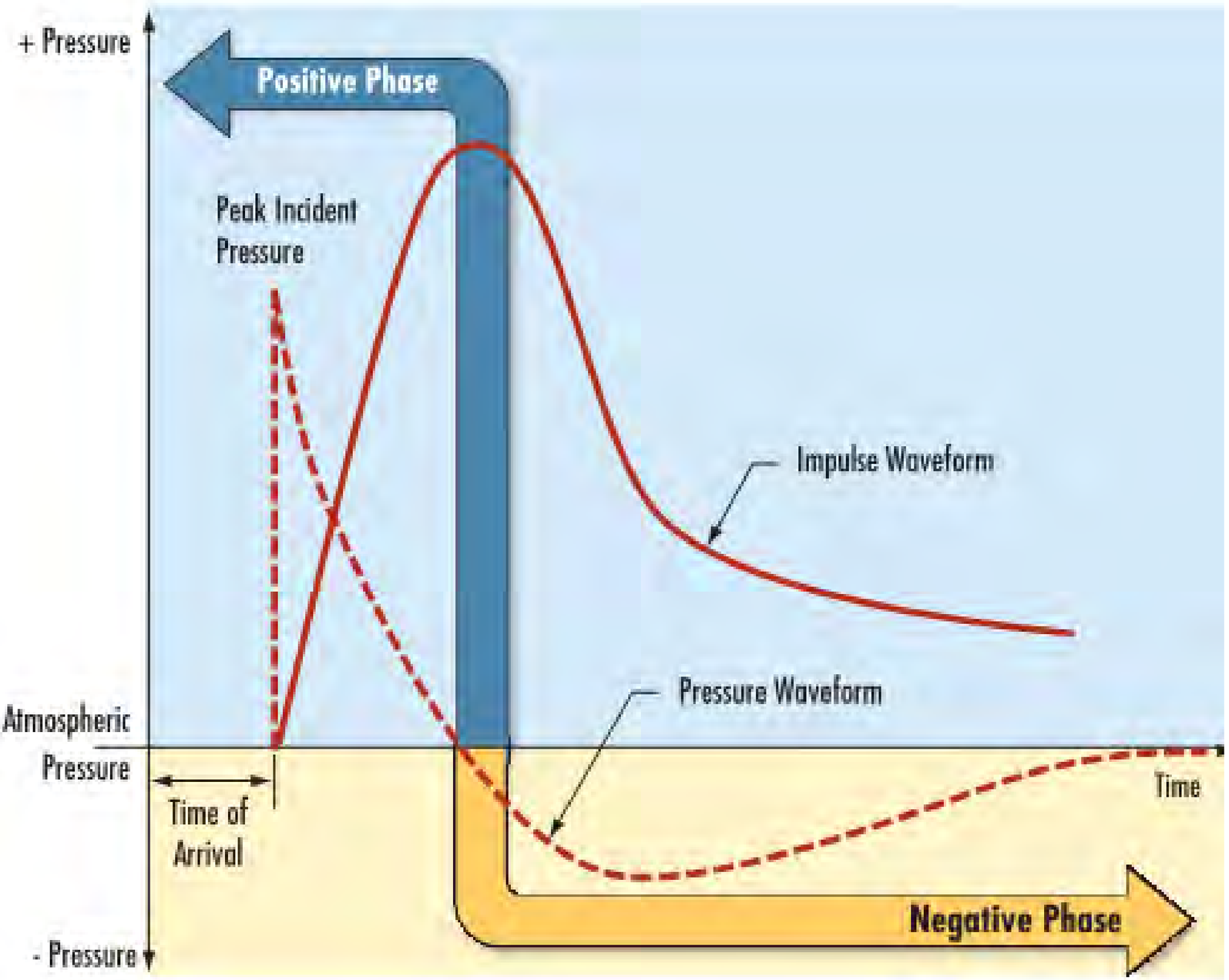
Blast & Protection Engineering

01
Effects of Explosive Blasts on Buildings

02
Site Blast Risk Assessment

03
Structural Design Considerations

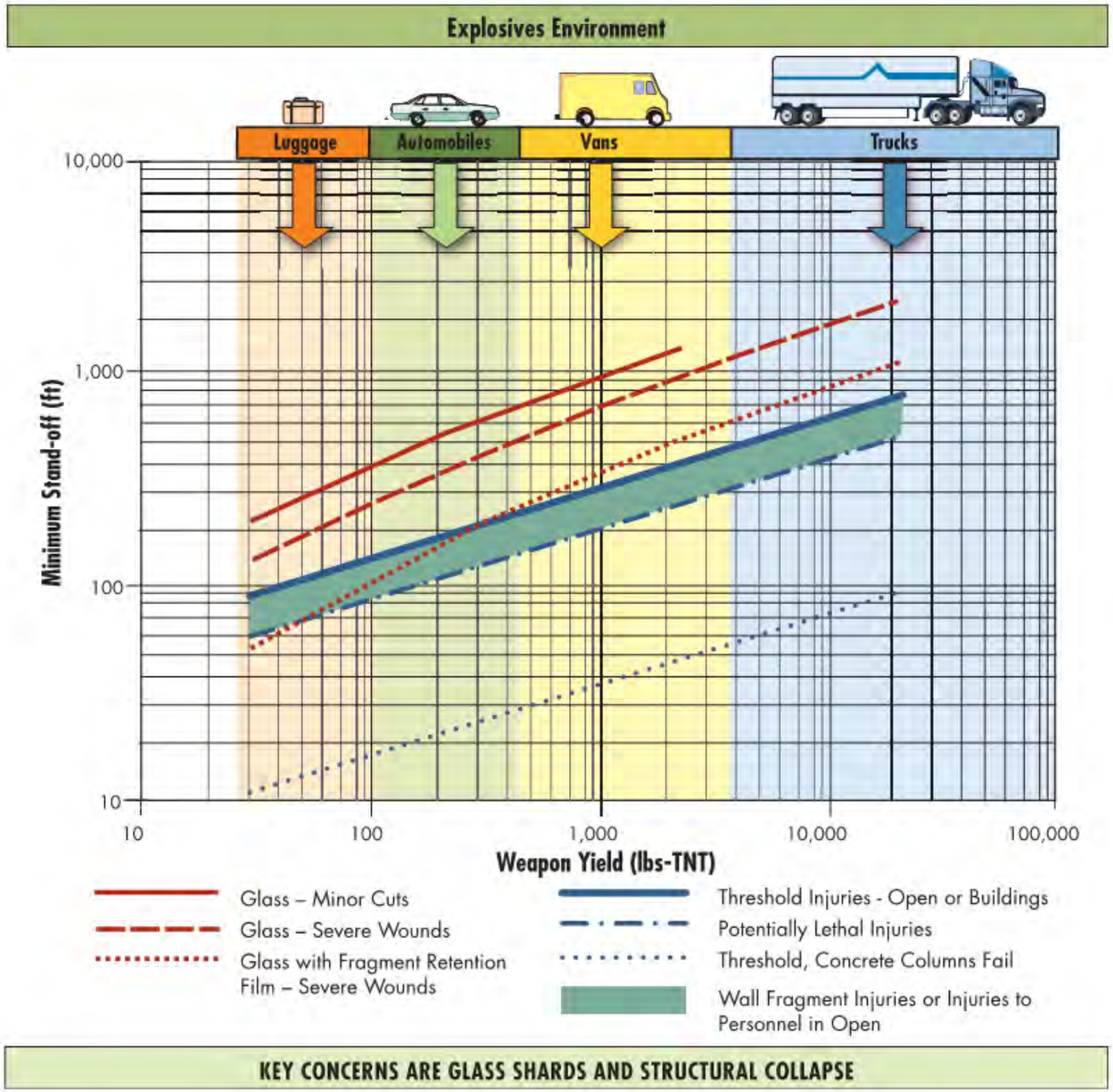
Effects of Explosive Blasts on Buildings



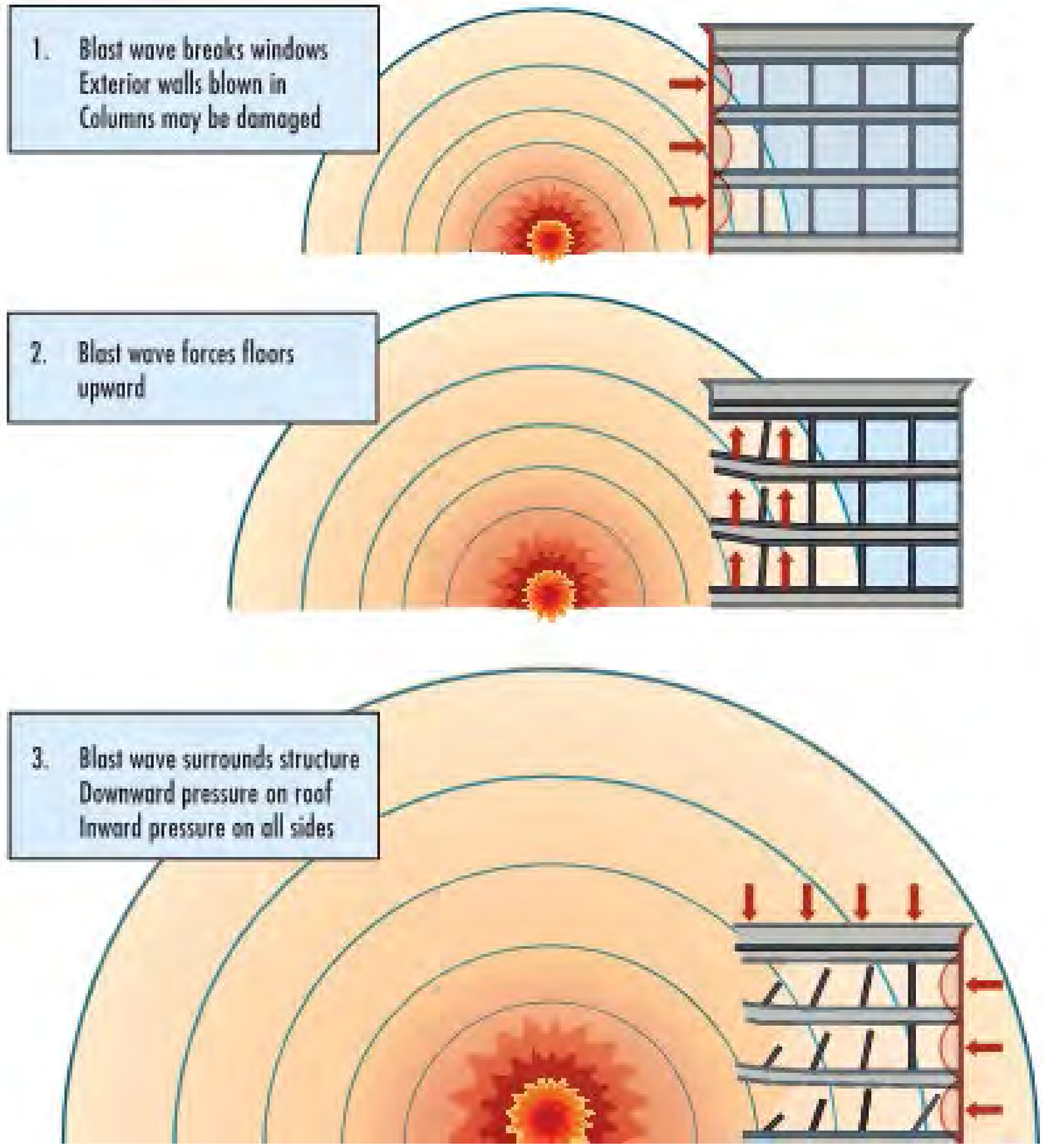
Blast Wave Phases & Terminology

- Shock Wave – initial impact pressure
  - Positive Phase
  - Negative Phase
- Impulse – pressures over duration of blast
- Incident Pressure
- Reflected Pressure
- Dynamic Pressure

Blast Range-to-Effects



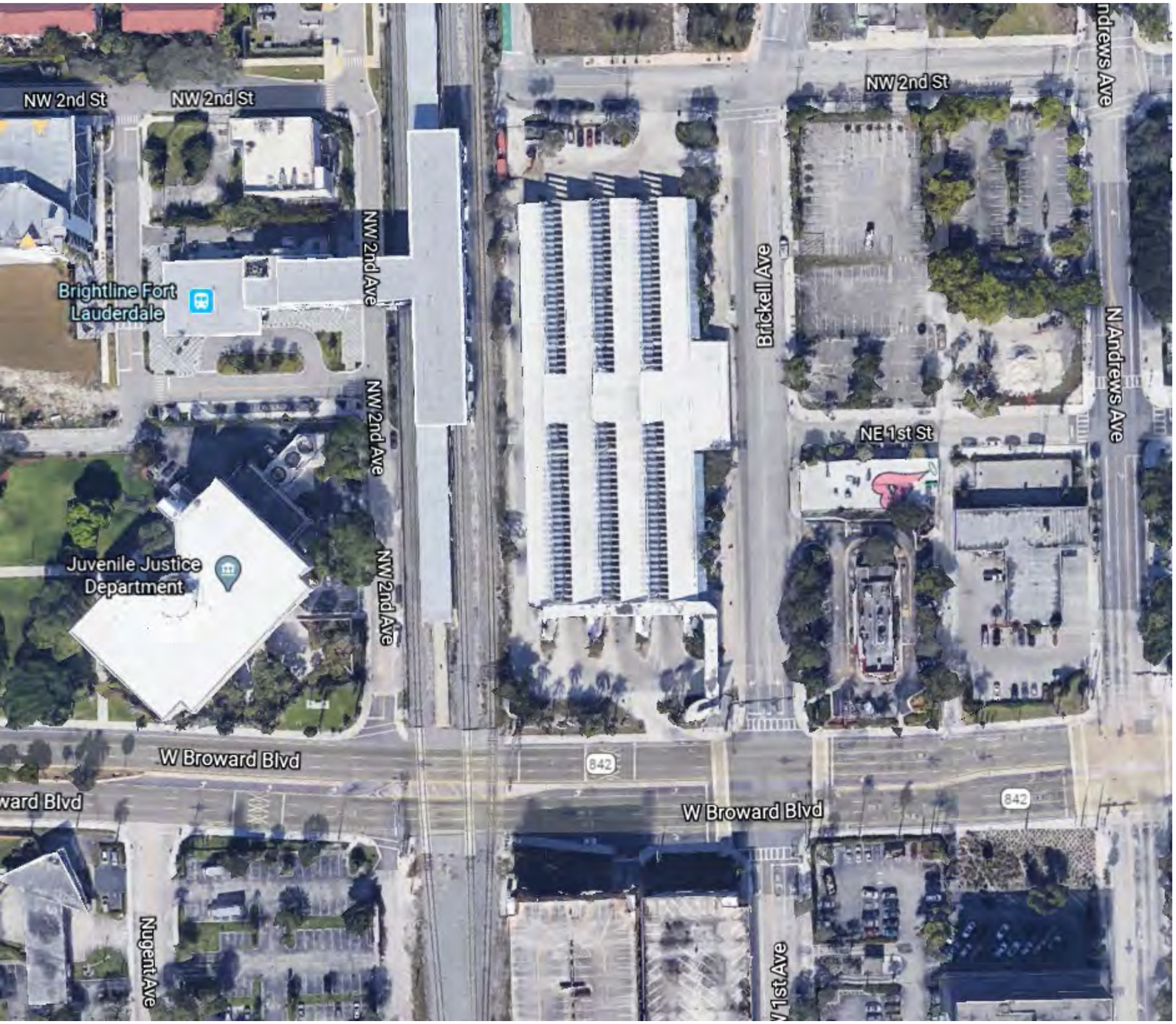
- Explosive pressures decay as range increases.
- Most severe effects are typically localized in proximity to detonation location.
- Reflected pressures are amplified on obstructions dependent on angle of incidence of blast shock wave.



Damage Effects

- Blast damages structure and façade components
- Debris impact acts in addition to blast impact
- Related to size of the blast and level of protection provided by design

Site Blast Risk Assessment

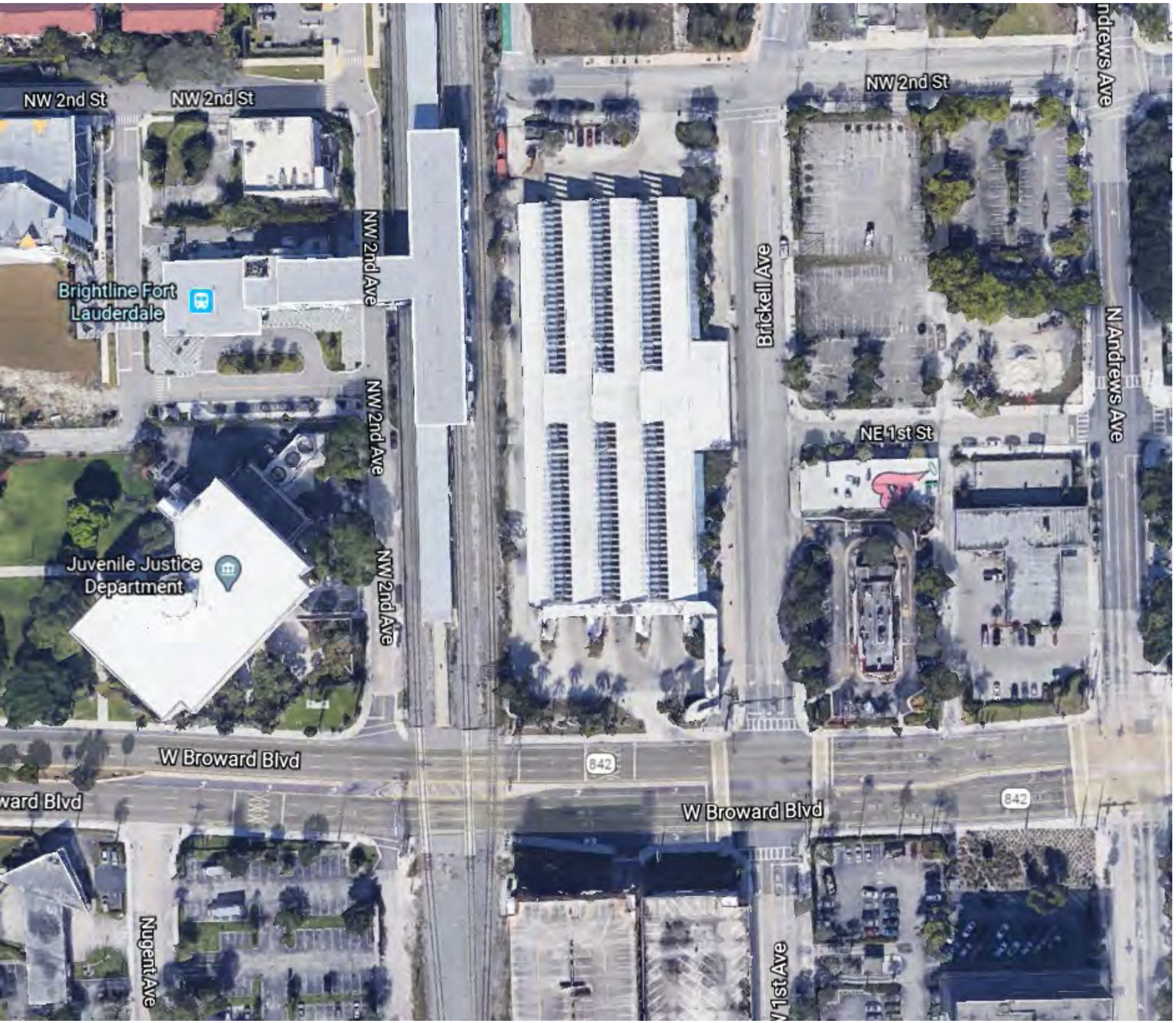


Possible Exterior Explosion Locations

- Adjacent Roadways
  - Broward Blvd
  - Brickell Ave
  - NW 2nd St.
- Nearby Potential Targets
  - Brightline Station
  - Juvenile Justice Department

Building Vulnerabilities

- **Internal Vehicular and Pedestrian Circulation**
  - Transit Center
  - Driveways
  - Parking Areas/Garages
  - Connecting Pedestrian Bridges
  - Sidewalks
- **Unsecured Areas**
  - Entry/Lobby Areas
  - Loading Docks
  - Mailrooms
  - Service Entrances



Site Limitations

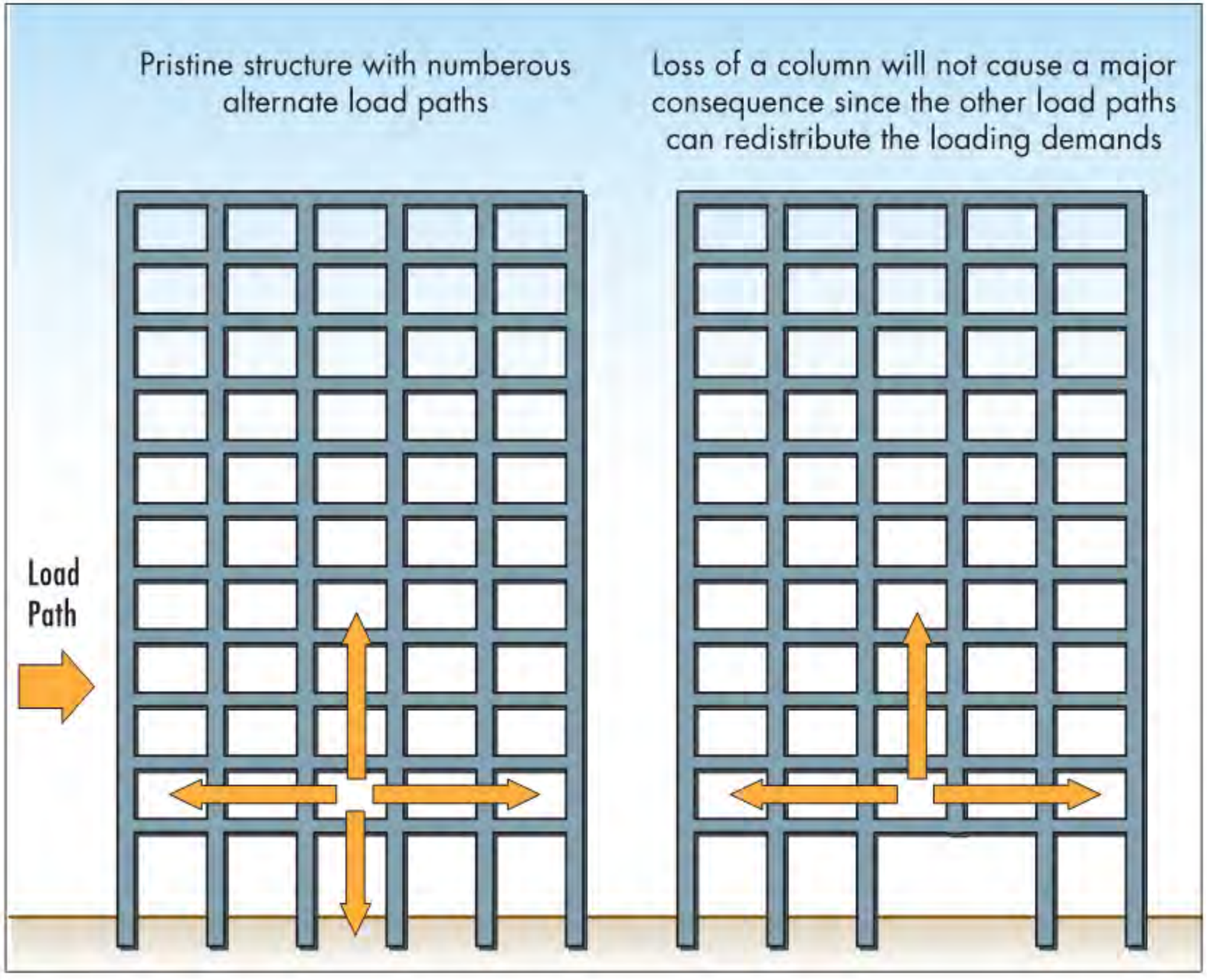
- Dense urban area restricts use of large standoff zones to create a buffer from explosions on adjacent streets.
- High traffic volume on Broward Blvd. increases threat from vehicular attack.

Site Countermeasures to Limit Blast Effects

Site Perimeter Barriers

- Elevated Ground Floor Level
- Fixed Bollards
- Sculptural or Seating
- Walls
- Hardened Street Furniture
  - Benches
  - Lampposts
  - Parking Meters
  - Signposts
- Fences
- Engineered Planters
- Heavy Landscaping
- Collapsible Surfaces

Structural Design Considerations



General Considerations

- Localized failure is likely
- Prevent progressive collapse of entire structure – Alternate Path Method
  - Limit column spacing for redundancy
  - Limit use of transfer girders to reduce vulnerability
  - Design for ductility in members and connections
- Slabs and secondary components designed for uplift blast pressures
- Utilize large mass structures for increased robustness
- Utilize two-way floor systems
- Columns designed to span two or three levels without buckling

Structural Hardening

- **Exterior Detonation**
  - Harden site elements to provide initial barrier to building
  - Depending on projected intensity of blast, affected levels to be hardened
    - Primary framing elements in unsecured areas
    - Secondary elements above unsecured areas
  - Interior barriers provided to protect from debris impact and propagation of explosion
    - Fully grouted reinforced CMU walls
    - Reinforced concrete walls

- **Interior Detonation**
  - Depending on projected intensity of blast, affected lower levels to be hardened
    - Primary framing elements in unsecured areas
    - Secondary elements above unsecured areas
  - Structure hardened to provide containment of blast from secured areas
  - Hardened exterior walls/structures to limit impact on adjacent buildings
    - Fully grouted reinforced CMU
    - Reinforced concrete

Structural Hardening

- **Transit Center/Garage Detonation**
  - Separation of transit center/garage structure from government center structure
  - Provide hardened structure barrier at transit center/garage to government center interface
  - Entire structure assumed to be vulnerable
    - Provide hardened members
    - Design for ductility

Glazing & Façade

Performance Condition	Protection Level	Hazard level	Description of Window Glazing Response
1	Safe	None	Glazing does not break, no visible damage to glazing or frame.
2	Very High	None	Glazing cracks but is restrained by the frame. Dusting or very small fragments near sill or on floor acceptable.
3a	High	Very Low	Glazing cracks. Fragments enter space and land on floor no further than 3.3 ft. from window.
3b	High	Low	Glazing cracks. Fragments enter space and land on floor no further than 10 ft. from window.
4	Medium	Medium	Glazing cracks. Fragments enter space and land on floor and impact a virtical witness panel at a distance of no more than 10 ft. from the window at a height no greater than 2 ft. above the floor.
5	Low	High	Glazing cracks and window system fails catastrophically. Fragments enter space impact a vertical witness panel at a distance of no more then 10 ft. from thee window at a height greater than 2 ft. above the floor.

- Design to ensure ductile failure
  - Absorbs energy through deflection and transmit lower forces to supporting structure
- Minimize amount of glass and other fragments projected into the surrounding areas
  - Use laminated glass

Sources

- FEMA-426/BIPS-06 *Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings*
- FEMA-427 *Primer for Design of Commercial Buildings to Mitigate Terrorist Attacks*
- GSA *Alternate Path Analysis & Design Guidelines for Progressive Collapse Resistance*
- GSA *Site Security Design Guide*
- UFC 3-340-02 *Structures to Resist the Effects of Accidental Explosions*
- UFC 4-023-03 *Design of Buildings to Resist Progressive Collapse*

Q+A SESSION

JGCC

Joint Government Center Campus
FOCUS SESSION: SECURITY

ZYSCOVICH

March 5, 2020

JGCC

Joint Government Center Campus
FOCUS SESSION: TECHNOLOGY

ZYSCOVICH

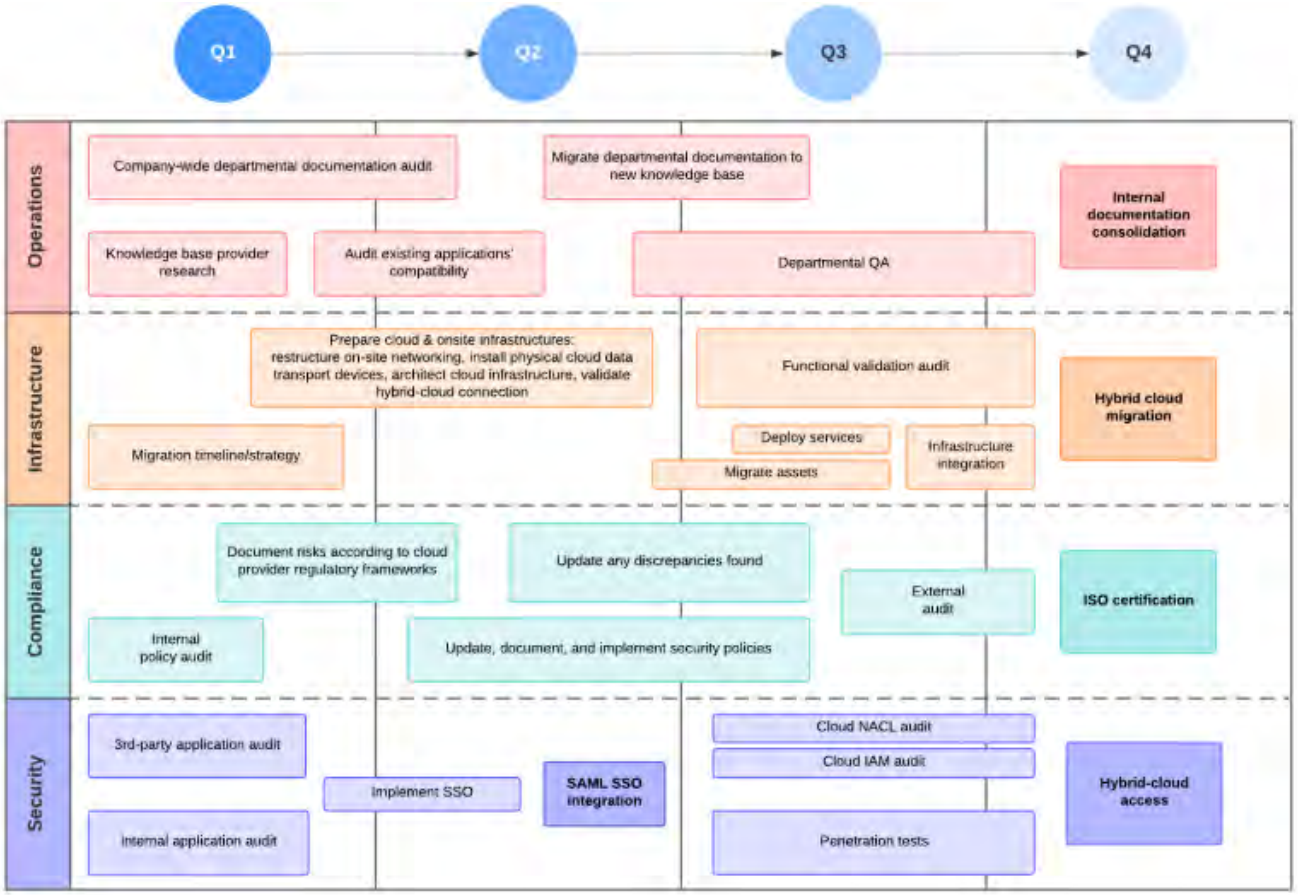
AGENDA

- Goals of the design criteria
- Emerging technologies
- Programming
- County requirements
- City requirements
- Shared resources

GOALS FOR DESIGN CRITERIA PACKAGE

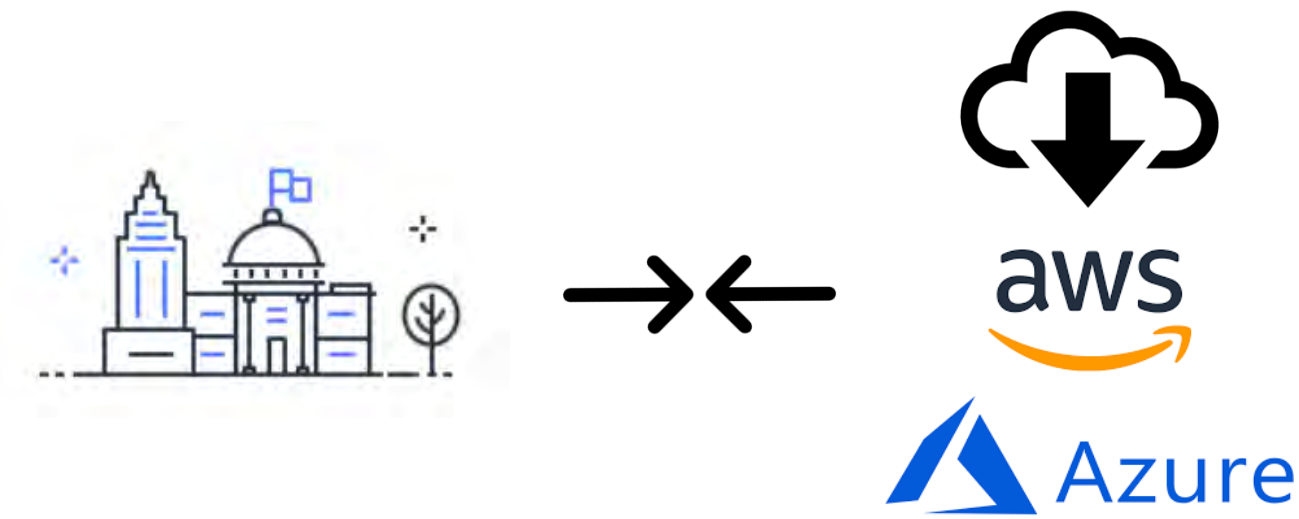
- Macro Goals
  - Flexibility
  - System Stability
  - Network Security
  - Ease of Management
  - Integration (between systems and with building management systems)
- Micro Goals
  - Chambers
  - Command and Control Rooms
  - Teleconference and Meeting Rooms

FLEXIBILITY

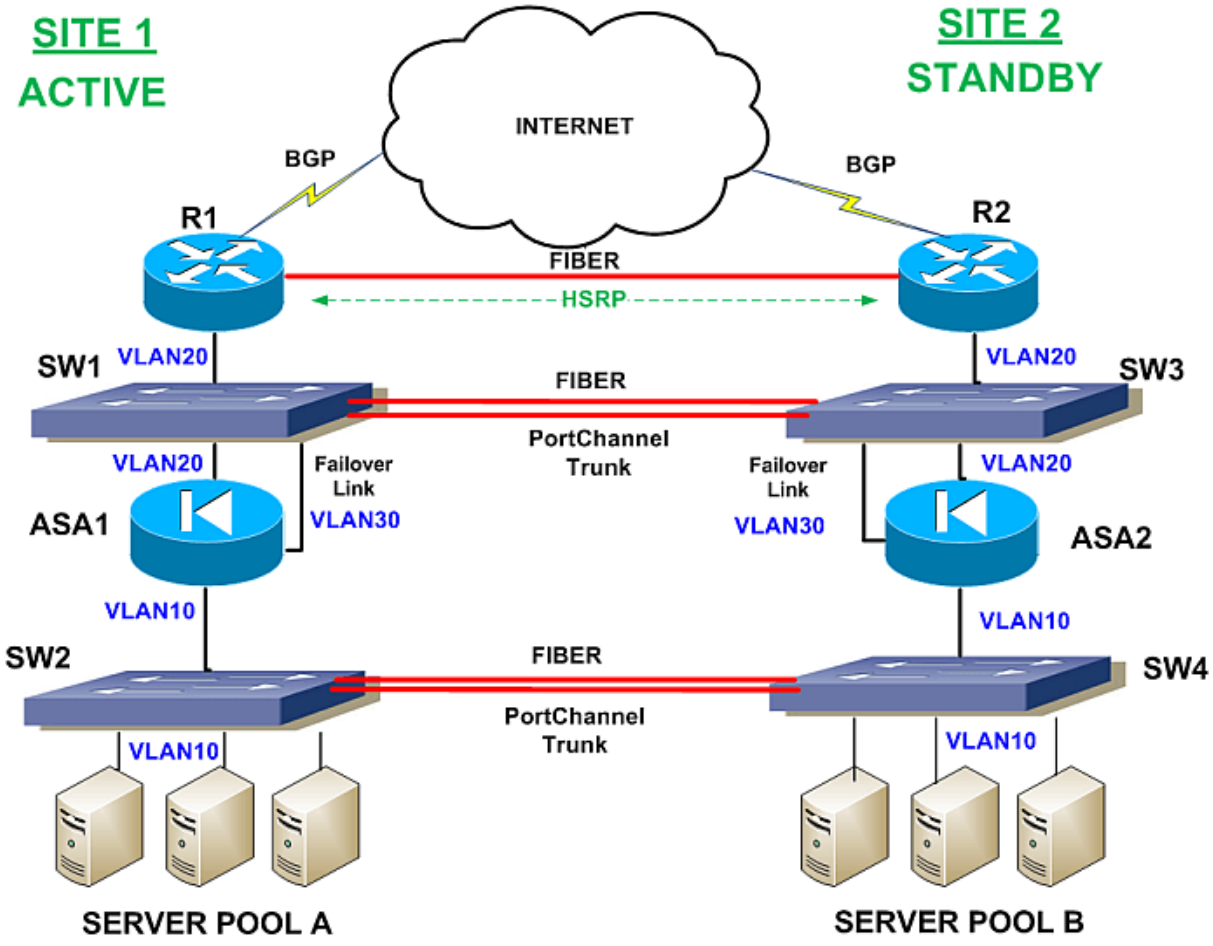


FLEXIBILITY

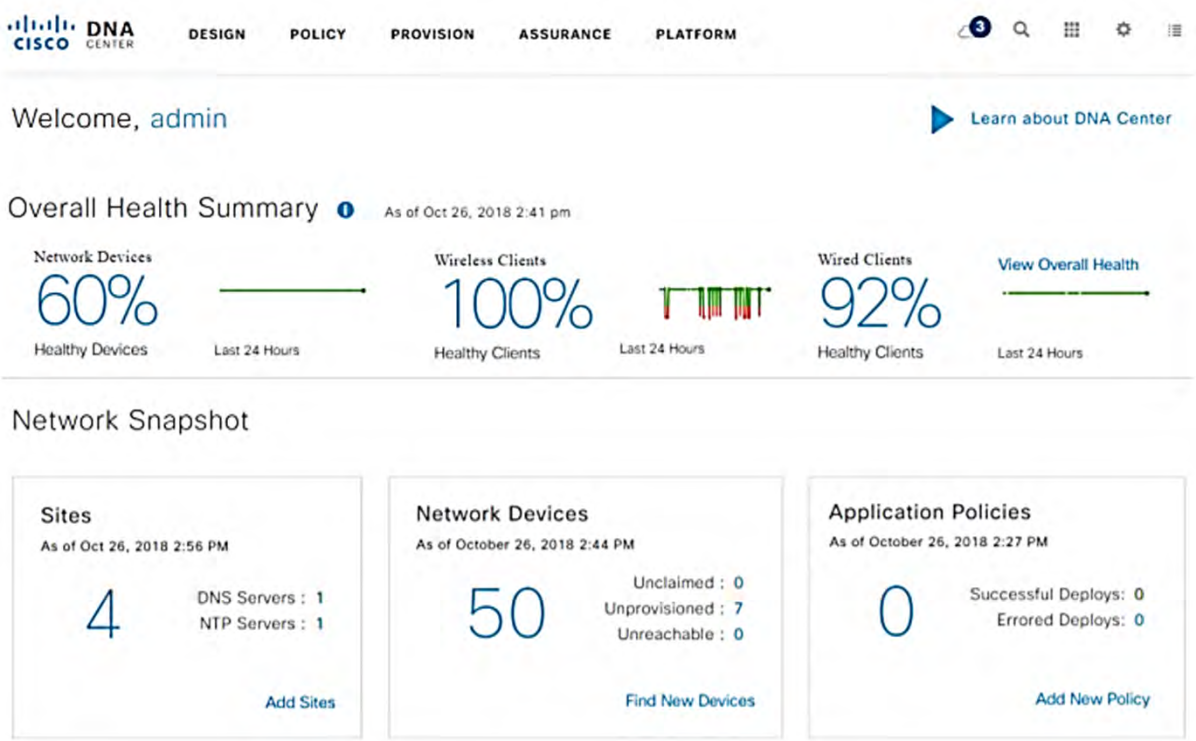
- User mobility
- Remote user access (internal & external)

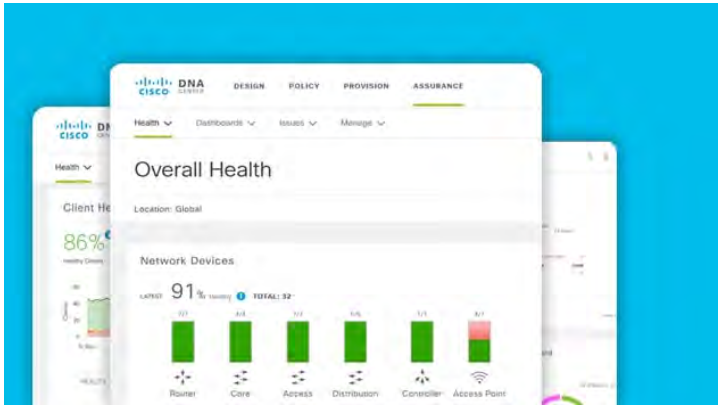


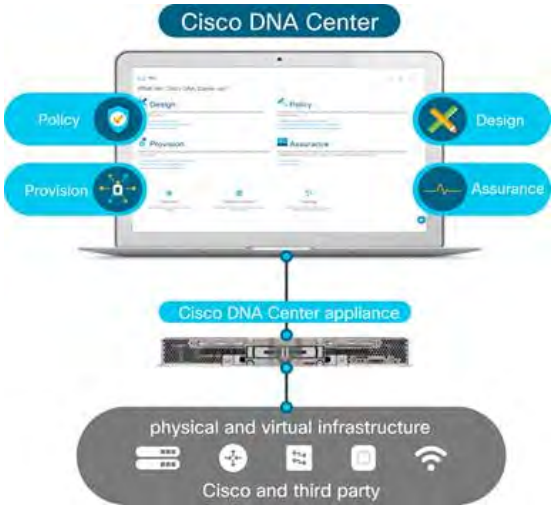
STABILITY


SITE 1
ACTIVE
SITE 2
STANDBY
INTERNET
BGP
BGP
R1
R2
FIBER
HSRP
SW1
VLAN20
VLAN20
SW3
FIBER
PortChannel
Trunk
VLAN20
Failover
Link
VLAN30
Failover
Link
VLAN30
VLAN20
ASA1
ASA2
VLAN10
VLAN10
SW2
FIBER
SW4
PortChannel
Trunk
VLAN10
VLAN10
SERVER POOL A
SERVER POOL B

EASE OF MANAGEMENT





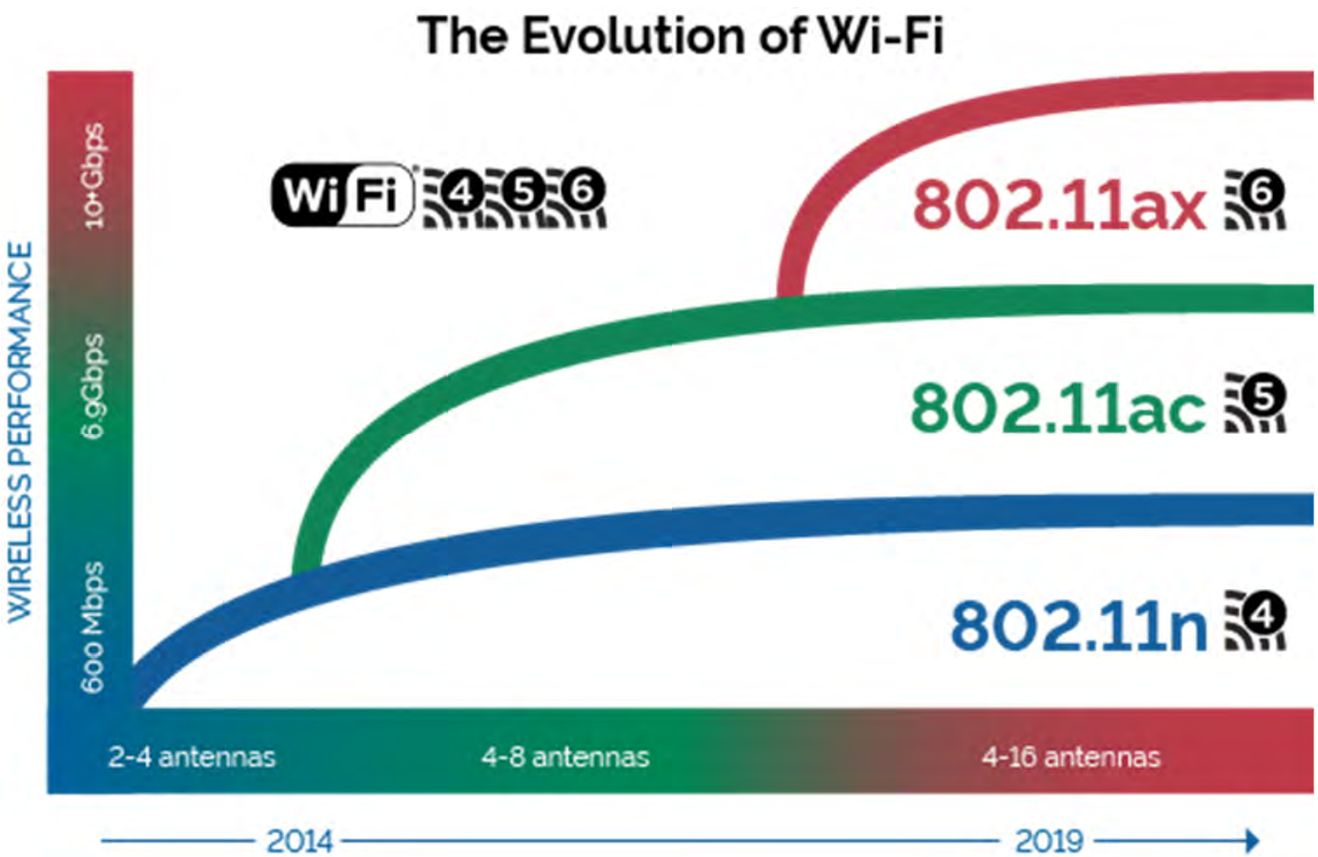


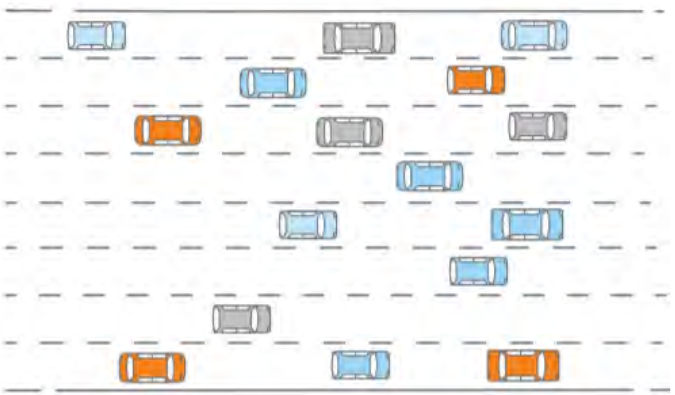
TECHNOLOGY INTEGRATION

- Technology for Visitor Experience
  - Online appointments
  - Kiosks for check-in
  - Digital Signage for digital content to enhance user experience
- Navigation and Wayfinding
  - Digital Wayfinding integrated with Digital Signage
  - Room reservation signage on Chambers

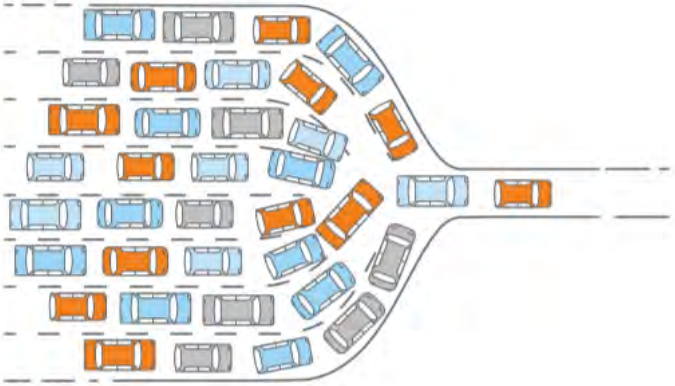
EMERGING TECHNOLOGIES

WIRELESS EVOLUTION





Multi-user Multiple Input/Multiple Output (MU MIMO)

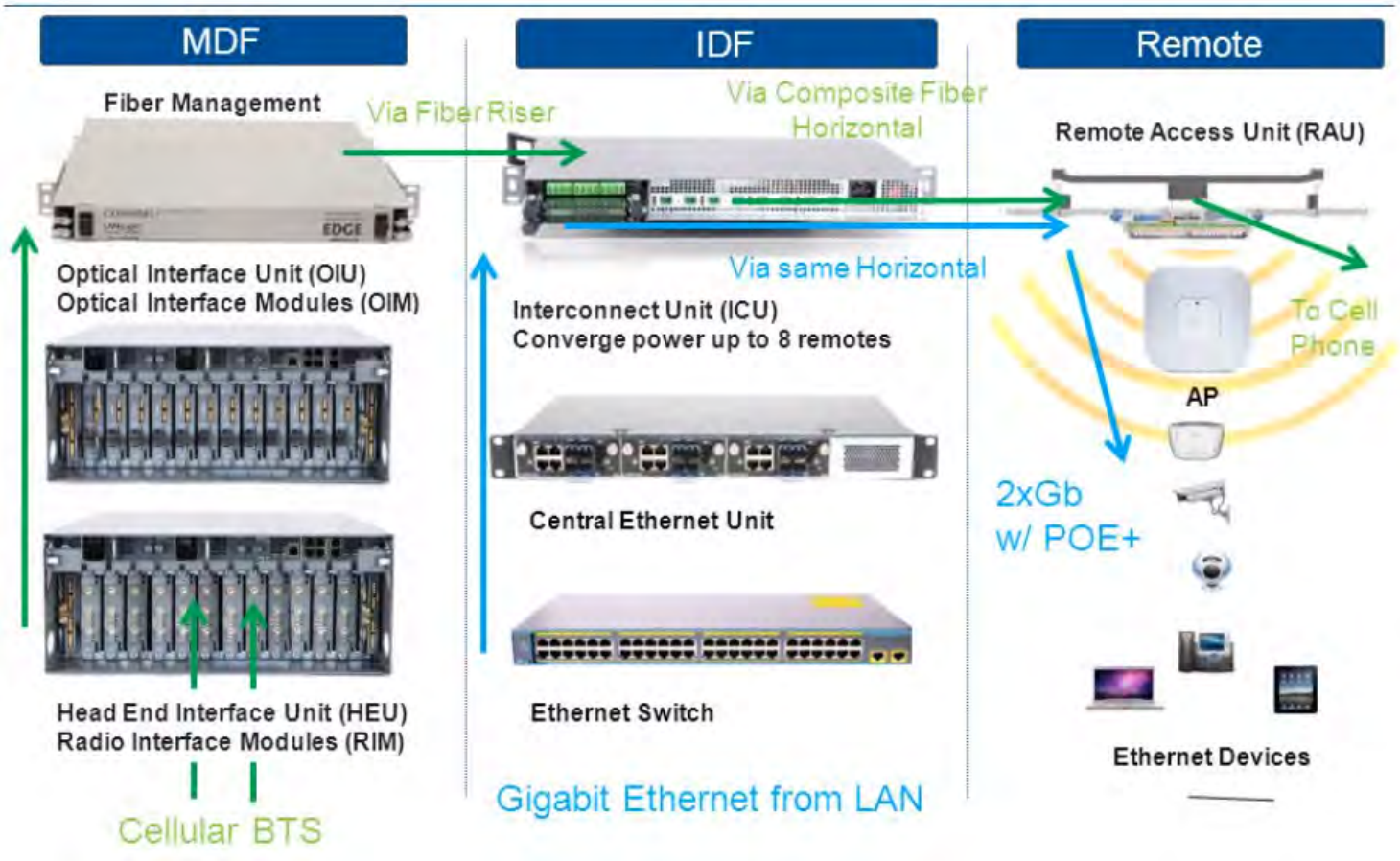


WIFI PLANNING DISCUSSION

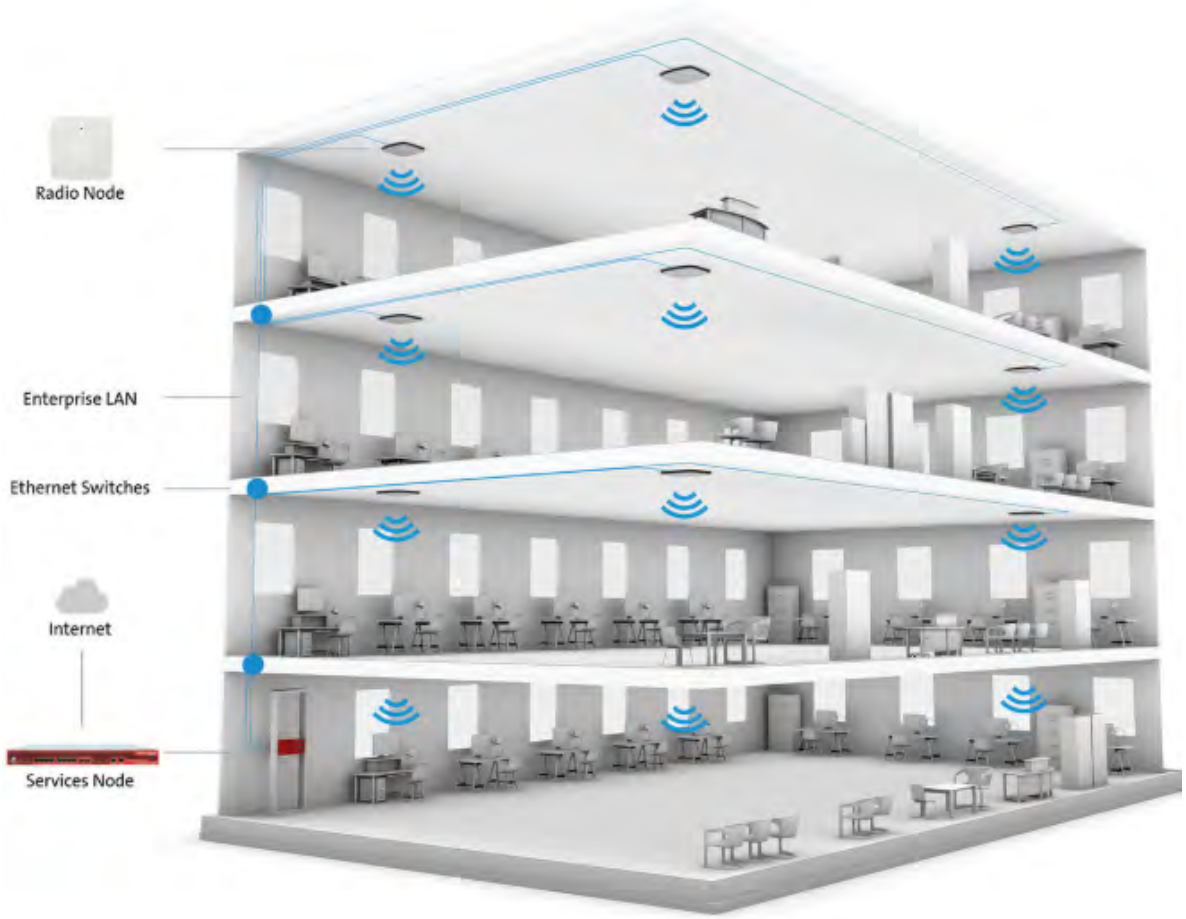
- QUESTIONS TO CONSIDER FOR 802.11AX
  - Can you ensure all users have a good experience on your network across your entire campus?
  - Are you implementing more applications that will support voice and video?
  - As IoT (Internet of Things) devices are deployed, how prepared are you for their impact on business services?
  - Because users connect from everywhere today, are you worried about network access security?
  - Have you factored in future switched and PoE requirements?
  - Are you ready for the density of Wi-Fi 6 and older devices that will be connecting to your network?

WIRELESS EVOLUTION

FIBER BASED DISTRIBUTION ANTENNA SYSTEM



SMALL CELL DISTRIBUTION ANTENNA SYSTEM



5G AND WIFI – COMPLEMENTARY TECHNOLOGIES

5G will augment Wi-Fi, not replace it

HIGH POWER PoE

Standard	IEEE 802.3af	IEEE 802.3at	IEEE 802.3bt			
Power	15.4 W	30 W	45W	60W	75W	90W
	2003	2009	2018 High power standard			

Benefits

POE TECHNOLOGY ENABLES TRANSFER OF DATA (ELECTRIC SIGNALS) AND ELECTRIC POWER OVER THE SAME CABLE		
Easier and quicker to install Locate anywhere	Lower cost cabling Low maintenance Conserve energy	Monitor and control devices

HIGH POWER PoE - APPLICATIONS

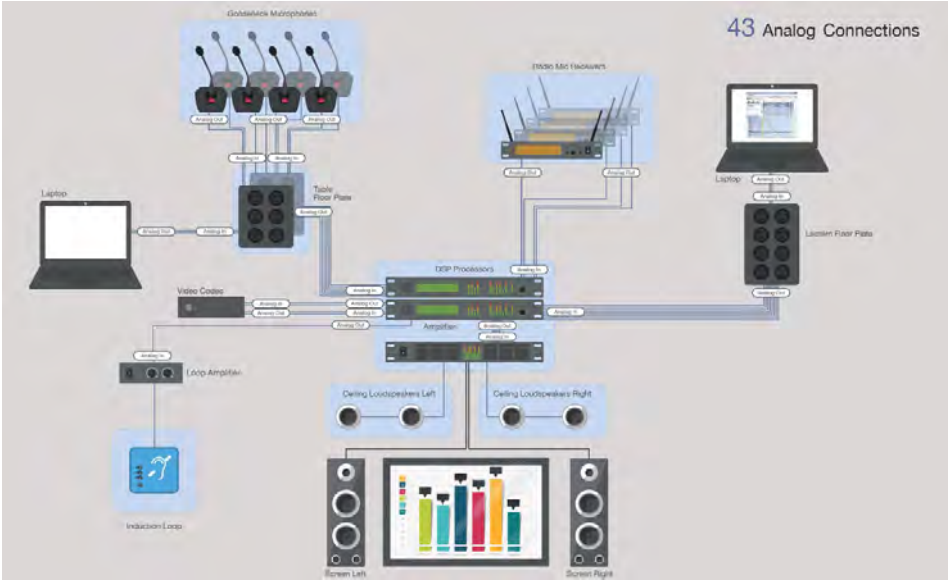
- Building infrastructure such as LED lighting
- Digital signage & IT Devices
- High Performance Wireless Access Points that support IEEE 802.11ax and 802.11ac Wave 2 that may require more than 30 W to function or that can take advantage of the increased watts to provide “pass-thru” power to an endpoint
- High definition pan-tilt-zoom security cameras with heaters for harsh environments

HIGH POWER PoE PLANNING DISCUSSION

- QUESTINS TO CONSIDER FOR HIGH POWER PoE
  - Have you considered the additional heat load in the IT room and the importance of cable bundling?
  - Are your current network switches compatible?
  - As PoE devices are deployed, how prepared are you for their impact on business services?

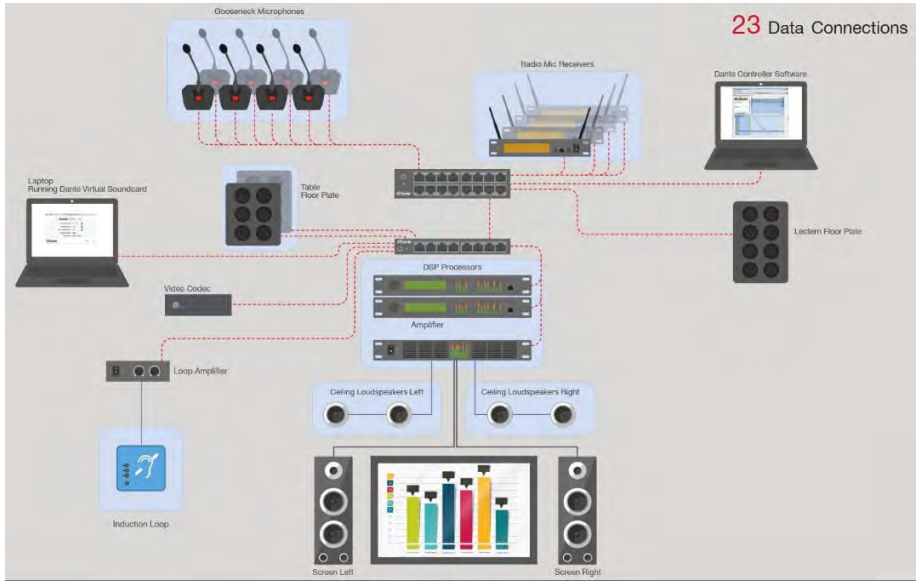
AUDIO VIDEO EVOLUTION

ANALOG

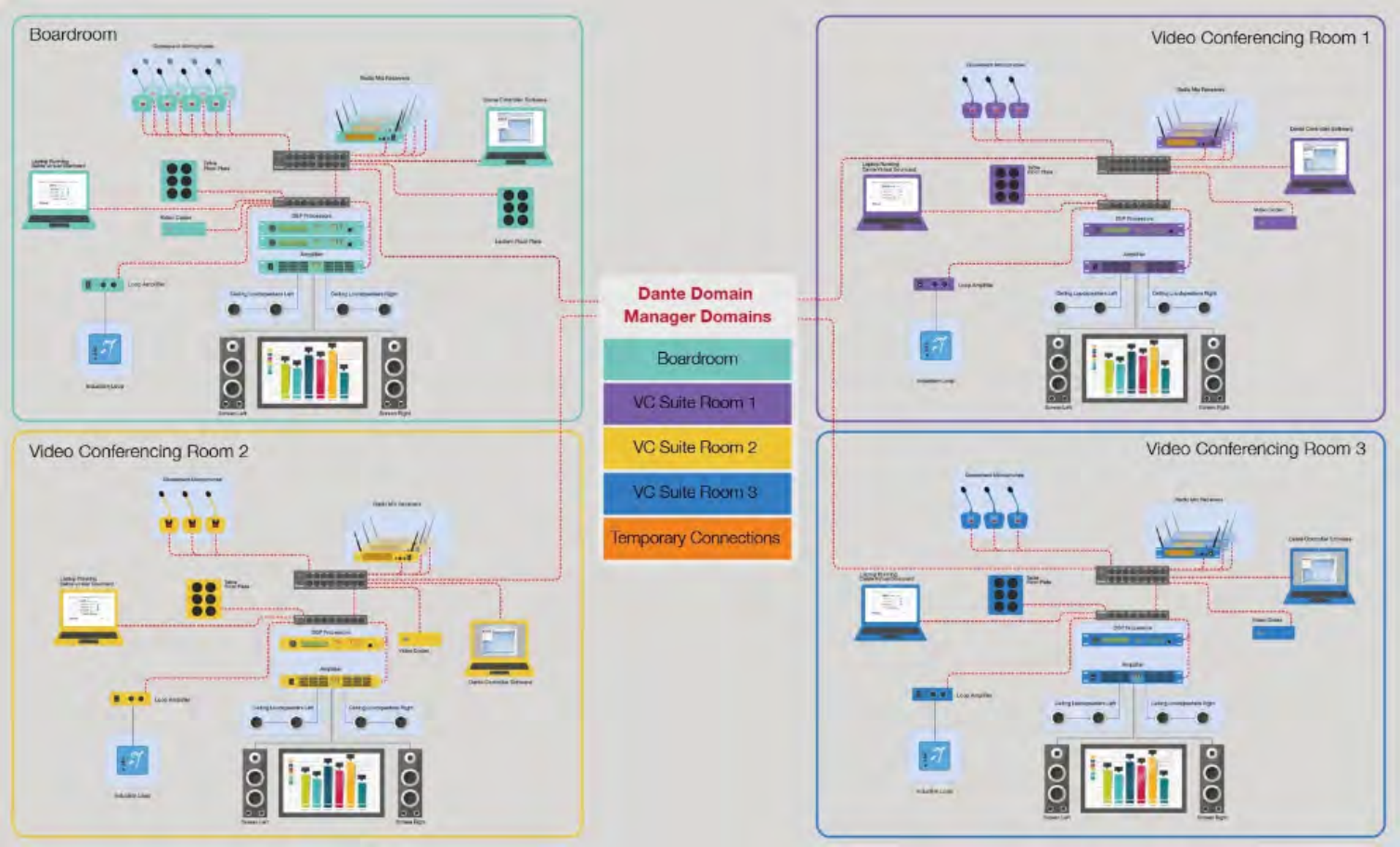


vs.

DIGITAL



AUDIO VIDEO EVOLUTION



SUMMARY

- Migration of technologies
- Future ready infrastructure planning
- Complementary technology planning
- Audio video evolution

PROGRAMMING

TECHNOLOGY SYSTEMS ANTICIPATED IN THIS BUILDING

- Data Network & Infrastructure
- VOIP Telephony
- Emergency Telephone System
- Public Address and Mass Notification (Combined?)
- Wi-Fi
- Cellular DAS
- Public Safety DAS (2-Hr rated rooms and survivable pathways)
- Audio Visual
- Video walls
- Master Clock System
- Dynamic Display System
- Parking Access and Revenue Control System
- Optional Technologies
  - Car Park Guidance System?
  - Sound Masking?
  - Beacon Technology?
  - Room Scheduling System?

RESPONSIBILITY MATRIX

- We propose providing a detailed responsibility matrix in Design Criteria Document (DCD) for design and construction for all technology systems
  1. Plan
  2. Specify
  3. Design
  4. Budget
  5. Procure
  6. Install

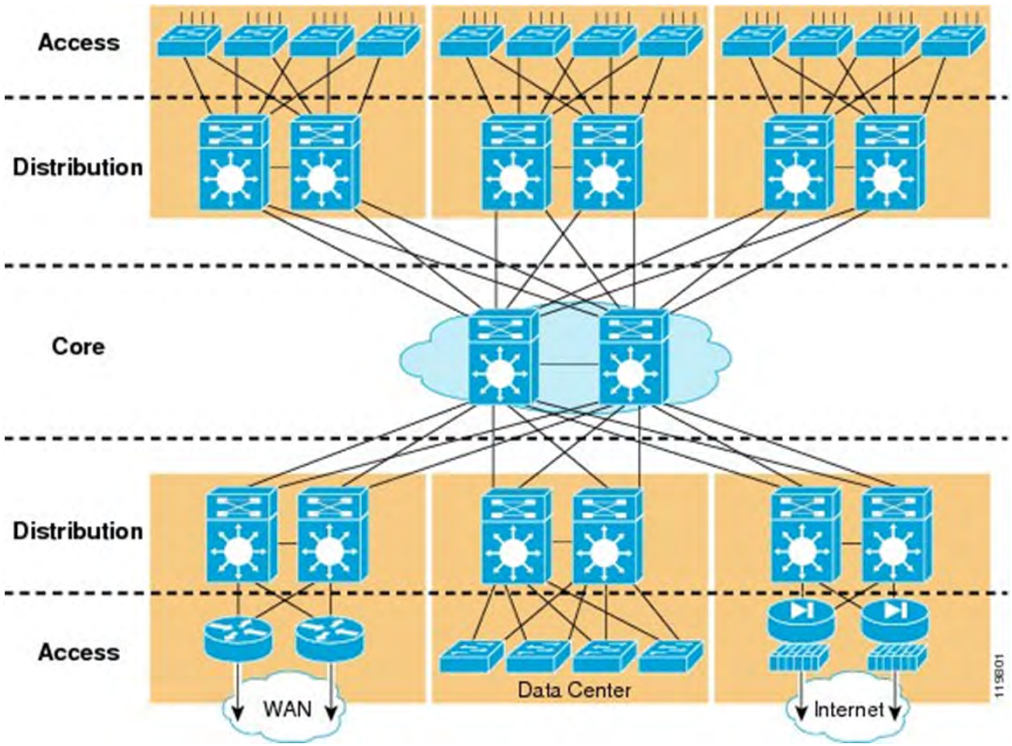
	PLAN				SPECIFY				DESIGN				BUDGET				PROCURE				INSTALL					
	Architect/Engineers	Interior Designer	Technology Consultant	Owner	Architect/Engineer	Interior Designer	Technology Consultant	Owner / Activation Budget	Architect/Engineer	Interior Designer	Technology Consultant	Owner	Architect / Contractor	Interior Designer	Technology Consultant	Owner	Contractor	Interior Designer	Technology Consultant	Owner	Contractor Install (and/or Relocate)	Rough-in by Contractor	Owner's Interiors Vendor	Owner's Equipment Logistics Vendor	Owner's Technology Vendor	Owner's Staff / Owner Directed Vendo
1. AUDIO / VISUAL SYSTEMS & EQUIPMENT																										
a. Projection Screens - Fixed			X		X		X		X		X		X		X					X	X	X			X	
c. Projection Screens - Movable				X				X								X				X					X	
d. Audio Visual Systems			X				X				X				X					X		X			X	
e. Video Projectors - Fixed			X				X				X				X					X		X			X	
f. Video Teleconferencing			X				X				X				X					X		X			X	
g. Sound Masking			X				X				X				X					X		X			X	
h. Public Address System			X				X				X				X					X		X			X	

TECHNOLOGY PROGRAM MANAGEMENT

- We propose adding a requirement in the DCD for Technology Program Management to be included for all technologies including Security Systems and Building Management Systems.
- This will reduce common gaps between different contractors, promote better integration, and better adherence to performance

PROPOSED DESIGN W/ CLIENT INPUT

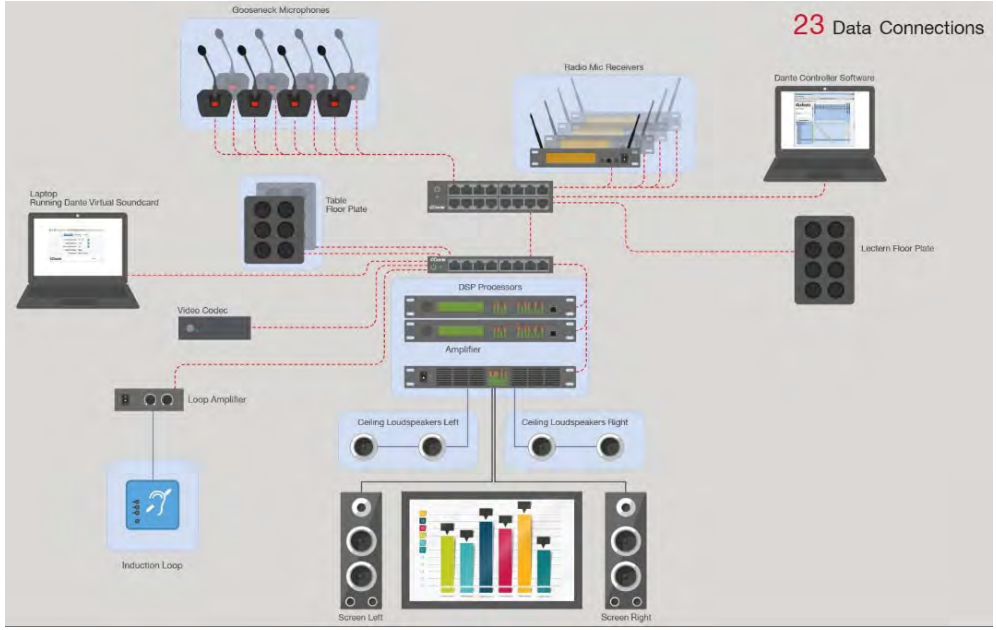
- Structured Cabling System
  - 3 Tier Network
  - Redundant Telecom rooms and equipment for County & City services
  - Diverse Fiber Pathways
  - Dual Service Provider Entrance
- Network
  - Converged network with VLAN
  - Separate Network for AV
  - 40G/100G Network
  - 1G to desktop
  - Wi-Fi 6
  - User Mobility
  - Remote access



PROPOSED DESIGN W/ CLIENT INPUT

- Audio Visual System
  - DANTE System
  - Digital Signage
  - Broadcasting Services
  - Emergency Operations Center
  - Interactive Collaboration Monitors
  - Ceiling speakers and microphones
  - Video Teleconferencing

- Distributed Antenna System
  - Fiber based DAS
  - Emergency Radio DAS (ERRC)



COUNTY REQUIREMENTS

COUNTY DISCUSSION – 2/7/2020

- Not looking to relocate Data Center as part of this project
- Finalizing ring w/ 100G Network Equipment
- Broadcasting & Webcasting done from 430, 302 and 301
  - TV control room
  - Editing Bays
  - Area for reporters
- Digital Signage in all buildings
- Assisted Listening System
- Requested video teleconferencing in this project
- Discuss Emergency Operations Center for this project
- Wi-Fi – Public and Private access
- TR's for AV need to be adjacent to spaces it is serving

CITY REQUIREMENTS

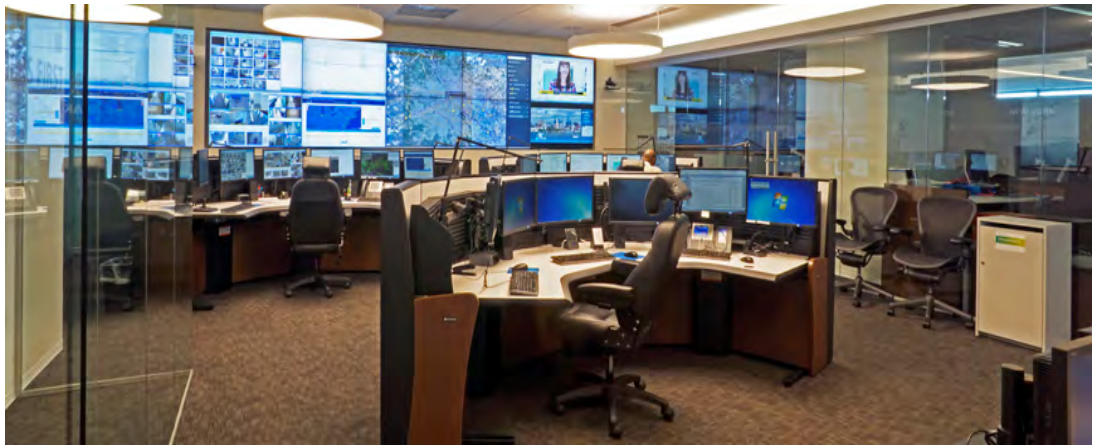
CITY DISCUSSION – 2/17/2020

- Potential to relocate Data Center to this location
- Potential for Emergency Operations Center (EOC) at this location
- Dual Entry Conduits to Building
- Standardized on Cisco Web Conferencing
- 10G/40G Network
- Logical Separation for Access Control and CCTV IP Cameras
  - Discuss Operational Needs
- Wi-Fi – Public and Private access
- VoIP Telephony System

SHARED RESOURCES

SHARED COUNTY AND CITY RESOURCES

- Emergency Operations Center
- Video Teleconferencing



QUESTIONS?

Global & Personal
Atlanta
Chicago
Dallas
Denver
Houston
Indianapolis
Kansas City
Mexico City
Miami
New Haven
New York
Philadelphia
Saint Louis
Seattle
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