

## TECHNOLOGY PRODUCTS AGREEMENT BETWEEN BROWARD COUNTY AND MOTOROLA SOLUTIONS CONNECTIVITY, INC. FOR NEXT GENERATION 911 SYSTEM

This Technology Products Agreement {"Agreement"} is between Broward County, a political subdivision of the State of Florida {"County"}, and Motorola Solutions Connectivity, Inc., a California corporation authorized to transact business in the State of Florida {"Contractor" or "Motorola"} {each a "Party" and collectively referred to as the "Parties"}.

### RECITALS

A. County, through its Office of Regional Communications and Technology {"ORCAT"}, provides the infrastructure for the County's Regional Public Safety Communications System for both regional and non-regional public safety answering points {"PSAPs"} in Broward County.

B. Pursuant to the terms of this Agreement, Contractor will provide a market-ready National Emergency Number Association {"NENA"} i3-compliant Next Generation 911 System that includes an emergency services internet protocol network and other services for County's regional and nonregional PSAPs.

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

### ARTICLE 1. DEFINITIONS

- 1.1. **Applicable Law** means all applicable laws, codes, advisory circulars, rules, regulations, and ordinances of any federal, state, county, municipal, or other governmental entity, as may be amended.
- 1.2. **Board** means the Board of County Commissioners of Broward County, Florida.
- 1.3. **Business hours or business day** means 7 a.m. to 7 p.m. Eastern Time during weekdays that are not County holidays or on which County has not otherwise declared its offices closed.
- 1.4. **Code** means the Broward County Code of Ordinances.
- 1.5. **Contract Administrator** means the Director of ORCAT, the Assistant Director of ORCAT, or such other person designated by the Director of ORCAT in writing.
- 1.6. **County Business Enterprise or CBE** means an entity certified as meeting the applicable requirements of the Broward County Business Opportunity Act, Section 1-81, et seq., of the Code.
- 1.7. **Documentation** means all manuals, user documentation, specifications, and other related materials pertaining to the Software that Contractor customarily furnishes to licensees of the Software or purchasers of the services covered by this Agreement.

1.8. **Equipment** means the hardware and other property listed in Exhibit A being provided to County pursuant to this Agreement, including any embedded software and firmware incorporated therein or customarily provided to purchasers of such hardware or other property.

1.9. **License Fee, Subscription Fee, or Support and Maintenance Fee** means the fee associated with use or support of the applicable Products, as outlined in Exhibit B.

1.10. **Notice to Proceed** means a written authorization issued by the Contract Administrator to proceed with a project, phase, or task.

1.11. **Products** means all Software, Subscriptions, Equipment, and Services provided or required to be provided by Contractor, as further specified in Exhibit A.

1.12. **Purchasing Director** means County's Director of Purchasing.

1.13. **Services** means all activities required by Contractor under this Agreement, including any required installation, integration, programming, configuration, customization, operation, and enhancements of the Products, together with necessary and appropriate consulting, training, Support and Maintenance, project management, other services to meet County's ongoing needs in connection with the Products, and any other services as further specified in Exhibit A, as well as any Optional Services procured under this Agreement.

1.14. **Software** means all proprietary or third-party software listed in Exhibit A or other intellectual property rights licensed to County or third-party users pursuant to this Agreement, including the computer programs (in machine readable object code form) and any subsequent updates, upgrades, releases, or enhancements thereto developed during the term of this Agreement.

1.15. **Subcontractor** means any entity or individual, including any subconsultants, that provides Services to County through Contractor, regardless of tier.

1.16. **Subscriptions** means all proprietary or third-party subscriptions listed in Exhibit A provided to County or third-party users pursuant to this Agreement, including all subscription-based services or solutions such as Software as a Service ("SaaS") or Platform as a Service ("PaaS"), and any subsequent updates, upgrades, releases, or enhancements thereto developed during the term of this Agreement.

1.17. **Support and Maintenance** means the support and maintenance required for County to achieve and maintain optimal performance of Products or the System, including as further described in Exhibit D.

1.18. **System or NG911 System** means the complete NG911 System provided by Contractor pursuant to this Agreement as part of its Services hereunder, including all Products listed on Exhibit A and any other Products or Services that Contractor will make available to County and third-party users under this Agreement.

## ARTICLE 2. EXHIBITS

<b>Exhibit A</b>	<b>Statement of Work</b>
<b>Exhibit B</b>	<b>Payment Schedule</b>
<b>Exhibit C</b>	<b>Security Requirements</b>
<b>Exhibit D</b>	<b>Hosting, Support, and Maintenance Services</b>
<b>Exhibit E</b>	<b>Minimum Insurance Coverages</b>
<b>Exhibit F</b>	<b>Work Authorization Form</b>
<b>Exhibit G</b>	<b>Supplemental Service Level Agreement</b>

## ARTICLE 3. SCOPE OF SERVICES & TERMS OF USE

3.1. Scope of Services. Contractor shall perform all Services, including without limitation the work specified in Exhibit A (the "Statement of Work"). The Statement of Work is a description of Contractor's obligations and responsibilities and is deemed to include preliminary considerations and prerequisites, and all labor, materials, equipment, and tasks that are such an inseparable part of the work described that exclusion would render performance by Contractor impractical, illogical, or unconscionable.

3.2. Software and Subscriptions Rights. This Section 3.2 applies solely to Software and/or Subscriptions provided under the terms of the Agreement.

3.2.1. Software License. Contractor grants to County a perpetual, royalty-free, nonexclusive license to the Software, with no geographical limitations, for the number of users stated in Exhibit A (if no number is stated, then an unlimited number of users), including to any embedded third-party software within the Software. This license is granted solely for County purposes, including on- and off-site access, and for the benefit of and use by all agencies within County, including the offices of the County constitutional officers if elected by County. The Software rights granted to County in this Agreement shall not require or otherwise be contingent upon the continuance of Support and Maintenance.

3.2.2. Subscription Rights. Contractor grants to County a royalty-free, nonexclusive right to access and use the Subscriptions for the duration of this Agreement, with no geographical limitations, for the number of users stated in Exhibit A (if no number is stated, then for an unlimited number of users), including the right to use any third-party software or technology embedded in or otherwise required to operate or allow access to the Subscriptions and the right to make any temporary files or copies required to utilize the Subscriptions. This right to use is granted solely for County purposes, including on- and off-site access, and for the benefit of and use by all agencies within the County, including the offices of the County constitutional officers if elected by County.

3.2.3. Authorized Users and Additional Licenses. Unless otherwise stated in Exhibit A, County and any of its employees, agents, contractors, suppliers, and other third parties authorized by County may concurrently operate and use the Products for County purposes. If additional licenses or users are requested by County, the Purchasing Director is authorized to

execute a Work Authorization (in substantially the same form as Exhibit F), subject to the Purchasing Director's execution authority as stated in Section 3.8, to purchase additional licenses or users for the fee specified in Exhibit B.

3.2.4. Permitted Hardware and Environments. Unless otherwise stated in Exhibit A, County may install, use, and operate the Software and Subscriptions on any hardware. For any Software, County may, at no additional cost: (a) install, use, and operate the Software on separate servers and in any and all development, test, failover, disaster recovery, and backup environments or configurations; (b) if required by reason of an emergency, disaster, or operational need, or for testing of recovery resources, temporarily use the Software on recovery resources, including recovery resources that may not be owned by County; (c) copy the Software for backup and archiving purposes for the purposes of support or maintenance by County or others hired by County to provide such support or maintenance; and (d) utilize a hosted environment, including without limitation through a third-party hosting provider, for any permitted uses of the Software.

3.2.5. Prohibited Uses. Except as otherwise provided in this Agreement or required under Applicable Law, County shall not reproduce, publish, or license the Software or Subscriptions to others. County shall not modify, reverse engineer, disassemble, or decompile the Software or Subscriptions, or any portion thereof, except (a) to the extent expressly authorized in Exhibit A, in which event such authorized actions shall be deemed within the license grant of Section 3.2, or (b) to the extent permitted under any applicable open-source license.

3.3. Hosting. Any costs to County for any hosting provided by Contractor of the Software, Subscriptions, System, or Services are included within the fees listed in Exhibit B and will be provided at no additional cost to County, unless otherwise expressly stated in Exhibit B. Contractor, the Software, the Subscriptions, and the System shall comply for the duration of this Agreement with the Hosting, Support, and Maintenance Services requirements set forth in Exhibit D and the Supplemental Service Level Agreement set forth in Exhibit G, unless otherwise expressly approved in writing by the County's Chief Information Officer or their written designee. If and to the extent of any conflict between Exhibit D and Exhibit G, the more stringent requirement will apply.

3.4. Support and Maintenance. For so long as requested by County and for all Products other than Subscriptions, Contractor shall provide County with Support and Maintenance for the Products and the System as set forth in Exhibit D. Contractor shall provide County with Support and Maintenance for Subscriptions as set forth in Exhibit D, so long as County pays the Subscription Fee stated in Exhibit B. Support and Maintenance shall be invoiced and paid in accordance with the Payment Schedule set forth in Exhibit B, except that for the first year following Final Acceptance, all Support and Maintenance for Software and Equipment is included at no cost to County. County may elect to discontinue or recommence Support and Maintenance for some or all Products upon thirty (30) days prior written notice, and County shall only be obligated to pay for the time periods actually covered by Support and Maintenance at the rates stated in Exhibit B.

3.5. Updates, Upgrades, and Releases. Throughout the Term, Contractor shall promptly provide to County, with advance notice and at no additional cost, any and all software and firmware updates (including error corrections, bug fixes, security updates, and patches), upgrades, and new releases to the Products, including all that Contractor makes available at no additional cost to other licensees of the applicable Products or users of all or part of the System. All such updates, upgrades, and new releases shall remain the sole property of Contractor and shall be deemed to be included within the scope of the licenses and subscriptions for Products granted under this Agreement. Installation or implementation of any such update, upgrade, or release in the County's environment requires prior written authorization by the Contract Administrator.

3.6. Compatibility. Throughout the Term, Contractor shall ensure the continued compatibility of the Products with all major releases, updates, or upgrades of any third-party software used by County for access or operation of the System, including without limitation Active Directory (AD) and Geographic Information System Mapping (GIS). If Contractor is not able to support any third-party software update, upgrade, or new release that changes major functionality and is not compatible with the Products, Contractor shall use all reasonable efforts to resolve such issues and to provide optimal functionality of the Software or the Subscriptions consistent with this Agreement. If Contractor is unable to provide continued optimal functionality of the Products consistent with this Agreement due to any third-party software release, update, or upgrade, County shall be entitled to a refund of any Support and Maintenance Fee or Subscription Fee paid for the affected time period and affected Products and may, at County's sole election, terminate the Agreement upon written notice with no further obligation to Contractor.

3.7. Documentation. Contractor shall deliver copies of the Documentation to County concurrently with delivery of the Products, and thereafter shall promptly provide any updated Documentation as it becomes available during the Term of this Agreement. Contractor represents and warrants that the Documentation is sufficiently comprehensive and of sufficient quality to enable a competent user to operate the Products efficiently and in accordance with Exhibit A. County has the right to copy, reproduce, modify, and create derivative works utilizing the Documentation as County deems necessary provided such activities are solely for the purpose of use of the Products as permitted under this Agreement.

3.8. Optional Services. If any Services, or the quantity thereof, are identified as optional ("Optional Services"), County may select the type, amount, and timing of Optional Services pursuant to a work authorization ("Work Authorization") in substantially the form attached as Exhibit F, executed by Contractor and County pursuant to this section. Any Optional Services procured, when combined with the other required Services, shall not result in a payment obligation exceeding the applicable maximum amount stated in Section 5.1. Notwithstanding anything to the contrary in this Agreement, Work Authorizations shall be executed on behalf of County as follows: (a) the Contract Administrator may execute Work Authorizations for which the total aggregate cost to County is less than \$50,000; (b) the Purchasing Director may execute Work Authorizations for which the total aggregate cost to County is within the Purchasing Director's delegated authority; and (c) any Work Authorization above the Purchasing Director's

delegated authority requires express approval by the Board. Contractor shall not commence work on any Work Authorization until receipt of a purchase order and a Notice to Proceed issued by the Contract Administrator.

#### **ARTICLE 4. TERM AND TIME OF PERFORMANCE**

4.1. Term. This Agreement begins on the date it is fully executed by the Parties ("Effective Date") and continues through five (5) years after Final Acceptance ("Initial Term"), unless otherwise terminated or extended as provided in this Agreement. The Initial Term, Renewal Term(s), and any Extension, as those terms are defined in this article, are collectively referred to as the "Term."

4.2. Renewals. County may renew this Agreement for up to five (5) additional one (1) year terms (each a "Renewal Term") on the same rates, terms, and conditions stated in this Agreement by sending written notice to Contractor at least thirty (30) days prior to the expiration of the then-current term. The Purchasing Director is authorized to exercise any Renewal Term(s), and notice of same to Contractor by electronic mail alone shall be effective and sufficient.

4.3. Extension. If the Purchasing Director determines, in their sole discretion, that unusual or exceptional circumstances render the exercise of a Renewal Term not practicable, or that no Renewal Term remains available and expiration of this Agreement would result in a gap in necessary Services, then the Purchasing Director may extend this Agreement for one or more periods not to exceed three (3) months in the aggregate ("Extension") on the same rates, terms, and conditions as existed at the end of the then-current term. The Purchasing Director may exercise the Extension by written notice to Contractor at least thirty (30) days prior to the end of the then-current term stating the duration of the Extension. The Extension must be within the authority of the Purchasing Director or otherwise authorized by the Board.

4.4. Funding. County affirms that it has signatory authority to execute this contract. County will pay all proper invoices as received from Contractor in accordance with the terms of this Agreement; and any material changes in scope of Services to the extent not expressly addressed herein will be addressed by a mutually executed Work Authorization or amendment to this Agreement. Contractor acknowledges that County may require the issuance(s) of a purchase order or notice to proceed as part of County's procurement process. Issuance or nonissuance of a purchase order or notice to proceed does not modify or alleviate any Party's contractual obligations as defined in this Agreement. The continuation of this Agreement beyond the end of any County fiscal year (October 1 through September 30) is subject to both the appropriation and the availability of funds pursuant to Chapter 129 and, if applicable, Chapter 212, Florida Statutes. If amounts to be paid by County under this Agreement are budgeted to be funded with transportation surtax proceeds pursuant to Section 212.055(1), Florida Statutes, and such proceeds are not appropriated or available for any reason, County shall have no obligation to use ad valorem funds or any other funding source to make any payment(s) required under this Agreement and County may terminate this Agreement for convenience pursuant to Article 11.

4.5. Timetable. If Contractor fails to achieve Final Acceptance within eighteen (18) months after the Effective Date, County shall have the option to terminate the Agreement by written notice from its Contract Administrator, in which event all sums paid by County under this Agreement, if any, shall be reimbursed to County by Contractor within fifteen (15) days. For purposes of this section, any delays caused by County prior to Final Acceptance shall extend the Final Acceptance deadline by the same number of days as the delay caused by County.

4.6. Time of the Essence. Time is of the essence for Contractor's performance of the duties, obligations, and responsibilities required by this Agreement.

**ARTICLE 5. COMPENSATION**

5.1. Maximum Amounts. For all Products and Services provided under this Agreement, County will pay Contractor up to a maximum amount as follows:

<b>Services/Products</b>	<b>Term</b>	<b>Not-To-Exceed Amount</b>
Services through Final Acceptance	Initial Term	\$1,700,000
Services and Support and Maintenance Fees after Final Acceptance	Initial Term	\$10,530,000
Services and Support and Maintenance Fees	Renewal Term(s)	\$2,290,000 per Renewal Term (total \$11,450,000 for all Renewal Terms)
Optional Services	Duration of Agreement	\$2,000,000
<b>TOTAL NOT TO EXCEED</b>		<b>\$25,680,000</b>

Payment shall be made only for Services actually performed and completed pursuant to this Agreement as set forth in Exhibit B, which amount shall be accepted by Contractor as full compensation for all such Services. Contractor acknowledges that the amounts set forth in this Agreement are the maximum amounts payable and constitute a limitation upon County's obligation to compensate Contractor for Products and Services. These maximum amounts, however, do not constitute a limitation of any sort upon Contractor's obligation to perform all Services.

5.2. Method of Billing and Payment.

5.2.1. Unless otherwise stated in Exhibit B, Contractor must submit invoices no more often than once monthly, but only after the Services invoiced have been completed. Invoices are due within fifteen (15) days after the end of the month covered by the invoice, except that the final invoice must be received no later than sixty (60) days after the expiration or earlier termination of this Agreement. Contractor's delayed submission of any invoice by more than sixty (60) days, absent good cause approved in writing by the Contract Administrator, may, at the Contract Administrator's sole discretion, result in a waiver of any right to payment for the invoiced Products and Services. Unless otherwise

stated in Exhibit B or the applicable Work Authorization, any Optional Services shall be invoiced in accordance with the existing invoicing schedule for any like goods or services provided under this Agreement, including (if applicable) invoiced pro rata for the initial invoice period. Invoices shall describe the Services performed and, as applicable, the personnel, hours, tasks, or other details as requested by the Contract Administrator. Contractor shall submit a Certification of Payments to Subcontractors and Suppliers (Form 00924, available at <https://www.broward.org/Purchasing/Pages/StandardTerms.aspx>) with each invoice that includes Services performed by a Subcontractor. The certification shall be accompanied by a copy of the notification sent to each unpaid Subcontractor listed on the form, explaining the good cause why payment has not been made to that Subcontractor.

5.2.2. Invoices shall be in the amounts set forth in Exhibit B for the applicable Services.

5.2.3. County shall pay Contractor within thirty (30) days after receipt of Contractor's proper invoice in accordance with the "Broward County Prompt Payment Ordinance," Section 1-51.6 of the Code. To be deemed proper, all invoices must: (a) comply with all applicable requirements, whether set forth in this Agreement or the Code; (b) be submitted pursuant to instructions prescribed by the Contract Administrator; and (c) be submitted to both the County's Accounting Division (via email at [AccountsPayable@Broward.org](mailto:AccountsPayable@Broward.org)) and to the Contract Administrator. Payments shall be sent to Contractor's address in accordance with Article 13, unless otherwise requested by Contractor in writing and approved by the Contract Administrator in writing. Payments may be withheld for failure of Contractor to comply with a term, condition, or requirement of this Agreement. County may set off any amounts Contractor owes to County under this Agreement against any amounts County owes to Contractor under this Agreement.

5.2.4. Contractor must pay Subcontractors and suppliers within fifteen (15) days after receipt of payment from County for such subcontracted work or supplies. If Contractor withholds an amount as retainage from Subcontractors or suppliers, Contractor shall release such retainage and pay same within fifteen (15) days after receipt of payment of retained amounts from County. Failure to pay a Subcontractor or supplier in accordance with this section shall be a material breach of this Agreement, unless Contractor demonstrates to Contract Administrator's satisfaction that such failure to pay results from a bona fide dispute with the Subcontractor or supplier and, further, Contractor promptly pays the applicable amount(s) to the Subcontractor or supplier upon resolution of the dispute. Contractor shall include requirements substantially similar to those set forth in this section in its contracts with Subcontractors and suppliers.

5.3. Reimbursable Expenses. Contractor shall not be reimbursed for any expenses it incurs unless expressly provided for in this Agreement. Reimbursement of any travel costs or travel-related expenses permitted under this Agreement shall be limited to those permitted under Section 112.061, Florida Statutes, except to the extent that Exhibit B expressly provides

otherwise. County shall not be liable for any expenses that exceed those allowed by Section 112.061 or that were not approved in writing in advance by the Contract Administrator.

5.4. Subcontractors. Contractor shall invoice Subcontractor fees only in the actual amount paid by Contractor, without markup or other adjustment.

5.5. Withholding by County; Overcharges. Notwithstanding any provision of this Agreement to the contrary, County may withhold payment, in whole or in part, (a) in accordance with Applicable Law, or (b) to the extent necessary to protect itself from loss on account of (i) inadequate or defective work that has not been remedied or resolved in a manner satisfactory to the Contract Administrator, or (ii) Contractor's failure to comply with any provision of this Agreement. The amount withheld shall not be subject to payment of interest by County. In the event of an overcharge by Contractor in any amount, Contractor shall promptly refund to County such overcharged amount. If the overcharge exceeds five percent (5%) of the total amount charged in the invoice where the overcharge occurred, Contractor shall, in addition to refunding the overcharged amount, pay liquidated damages in the amount of fifteen percent (15%) of the overcharged amount within thirty (30) days after demand by County as just compensation for damages incurred by County due to the overcharge, including, but not limited to, County's administrative costs and loss of potential investment returns (including interest).

5.6. Fixed Pricing. Unless otherwise stated in Exhibit B, prices shall remain firm and fixed throughout the Term, including any extension terms. However, Contractor may offer incentive or volume discounts to County at any time.

## **ARTICLE 6. DELIVERY, TESTING AND ACCEPTANCE**

6.1. Delivery. Unless otherwise stated in Exhibit A, Contractor shall, within seven (7) days after the Effective Date, make the Software and the Subscriptions available electronically to County. All County license keys, usernames, and passwords shall be authenticated by Contractor and perform according to Exhibit A (Statement of Work).

6.2. Final Acceptance Testing. This Section 6.2 applies to the Products, System, and Services provided under the terms of the Agreement. Section 22.148 of the Broward County Administrative Code requires that all applicable software purchases be inspected and tested by County, including verification by its Enterprise Technology Services Division ("ETS"), prior to final written acceptance of the System and System Services. Within thirty (30) days after completion of all Services (or as otherwise stated in Exhibit A) relating to the installation, implementation, and integration of the Products and System provided under this Agreement, County shall conduct testing to determine whether the System: (i) properly functions with any applicable operating software; (ii) provides the capabilities stated in this Agreement and the Documentation; and (iii) if applicable, meets the acceptance criteria stated in the Statement of Work (the criteria referenced in (i), (ii), and (iii) are collectively referred to as the "Final Acceptance Criteria"). In the event of a conflict between the Documentation and the acceptance criteria stated in the Statement of Work, the Statement of Work shall prevail. Final payment shall not be made to Contractor prior to the written confirmation by the County's Chief Information Officer or their

written designee that the Products and System have successfully passed the Final Acceptance Criteria, and such written confirmation shall constitute "Final Acceptance." In the event of a conflict with regard to timing or process between this Section 6.2 and the applicable statement of work, the applicable statement of work will govern.

6.2.1. The testing period shall commence on the first business day after Contractor informs County in writing that it has completed the Services required to be performed prior to testing and that the System is ready for testing, and shall continue for a period of up to thirty (30) days (or as otherwise stated in the applicable statement of work). During the testing period, County may notify Contractor in writing of any error or defect in the System so that Contractor may make any needed modifications or repairs. If Contractor so elects in writing, testing will cease until Contractor resubmits for Final Acceptance testing, at which time the testing period shall be reset to that of a first submission for testing.

6.2.2. County shall notify Contractor in writing of its Final Acceptance or rejection of the System, or any part thereof, within fifteen (15) days after the end of the testing period (or as otherwise stated in the applicable statement of work), as same may be extended or reset. If County rejects the System, or any part thereof, County shall provide notice identifying the criteria for Final Acceptance that the System failed to meet. Following such notice, Contractor shall have thirty (30) days to (a) modify, repair, or replace the System or any portion thereof, or (b) otherwise respond to County's notice. If Contractor modifies, repairs, or replaces the System or portion thereof, the testing period shall re-commence consistent with the procedures set forth above in this Section 6.2.

6.2.3. If Contractor fails to remedy the reason(s) for County's rejection of the System, or any part thereof, within ninety (90) days after County's initial notice of rejection, County may elect, in writing, to either accept the System as it then exists or to reject the System (or System Services, as applicable) and terminate the Agreement or applicable Work Authorization. If County elects to reject the System (or System Services, as applicable) and terminate the Agreement or applicable Work Authorization, all sums paid by County under the Agreement or applicable Work Authorization shall be reimbursed to County by Contractor within fifteen (15) days after such election is made. If County elects to accept the System as it then exists (partial acceptance), Contractor shall continue to use its best efforts to remedy the items identified in the applicable notice of rejection. If, despite such continuing best efforts, Contractor fails to remedy the issue(s) identified by County within a reasonable time as determined by County, then County shall be entitled to deduct from future sums due under the Agreement the value of the rejected portion of the System as mutually determined by the Parties. If the Parties cannot agree upon such value, County shall have the right to reject the System and terminate the Agreement or applicable Work Authorization on the terms stated above in this section.

## **ARTICLE 7. CONFIDENTIAL INFORMATION, PROPRIETARY RIGHTS, SECURITY REQUIREMENTS**

7.1. Contractor Confidential Information. Contractor represents that the Software and the Subscriptions contain proprietary products and trade secrets of Contractor. Accordingly, to the

full extent permissible under Applicable Law, County agrees to treat intellectual property within the Software or the Subscriptions as confidential in accordance with this article. For any other material submitted to County, Contractor must separately submit and conspicuously label as "RESTRICTED MATERIAL - DO NOT PRODUCE" any material (a) that Contractor contends, constitutes, or contains its trade secrets under Chapter 688, Florida Statutes, or (b) for which Contractor asserts a right to withhold from public disclosure as confidential or otherwise exempt from production under Florida public records laws (including Chapter 119, Florida Statutes) (collectively, "Restricted Material"). In addition, Contractor must, simultaneous with the submission of any Restricted Material, provide a sworn declaration or affidavit in a form acceptable to County from a person with personal knowledge attesting that the Restricted Material constitutes trade secrets or is otherwise exempt or confidential under Florida public records laws, including citing the applicable Florida statute and specifying the factual basis for each such claim. Upon request by County, Contractor must promptly identify the specific applicable statutory section that protects any particular document. If a third party submits a request to County for records designated by Contractor as Restricted Material or for trade secret material in the Software or the Subscriptions, County shall refrain from disclosing such material unless otherwise ordered by a court of competent jurisdiction, authorized in writing by Contractor, or the claimed exemption is waived. Any failure by Contractor to strictly comply with the requirements of this section shall constitute Contractor's waiver of County's obligation to treat the records as Restricted Material. Contractor must indemnify and defend County and its employees and agents from any and all claims, causes of action, losses, fines, penalties, damages, judgments, and liabilities of any kind, including attorneys' fees, litigation expenses, and court costs, relating to nondisclosure of Restricted Material or materials relating to the Software or the Subscriptions in response to a third-party request.

7.2. County Confidential Information. All materials, data, transactions of all forms, financial information, documentation, inventions, designs, and methods that Contractor obtains from County in connection with this Agreement, that are made or developed by Contractor in the course of the performance of the Agreement, or in which County holds proprietary rights, constitute "County Confidential Information." All County-provided employee information, financial information, and personally identifiable information for individuals or entities interacting with County (including, without limitation, social security numbers, birth dates, banking and financial information, and other information deemed exempt or confidential under Applicable Law} also constitute "County Confidential Information."

7.2.1. County Confidential Information may not, without the prior written consent of County, or as otherwise required by Applicable Law, be used by Contractor or its employees, agents, Subcontractors, or suppliers for any purpose other than for the benefit of County pursuant to this Agreement. Neither Contractor nor its employees, agents, Subcontractors, or suppliers may sell, transfer, publish, disclose, display, license, or otherwise make available to any other person or entity any County Confidential Information without the prior written consent of County.

7.2.2. Contractor expressly agrees to be bound by and to defend, indemnify, and hold harmless County and its officers and employees from the breach of Applicable Law by Contractor or its employees, agents, Subcontractors, or suppliers regarding the unlawful use or disclosure of County Confidential Information.

7.2.3. Upon expiration or termination of this Agreement, or as otherwise demanded by County, Contractor shall immediately turn over to County all County Confidential Information, in any form, tangible or intangible, possessed by Contractor or its employees, agents, Subcontractors, or suppliers.

7.3. Confidential Information; Generative Artificial Intelligence. Unless expressly authorized in this Agreement or in writing in advance by the Contract Administrator, Contractor is strictly prohibited from disclosing, uploading, or otherwise making available to third parties, directly or indirectly, including but not limited to through utilization of generative artificial intelligence tools, any exempt, confidential, sensitive security, or personal information of County. Contractor must ensure that any use of generative artificial intelligence tools by Contractor or its Subcontractors does not involve the disclosure of exempt, confidential, sensitive security, or personal information, including without limitation for large language model learning or training. Contractor must implement and maintain appropriate technological and operational safeguards to ensure compliance with the obligations of this section.

7.4. Maintenance of Confidential Information. Each Party shall advise its employees, agents, Subcontractors, and suppliers who receive or otherwise have access to the other Party's Confidential Information (as described in Section 7.1 or Section 7.2, as applicable) of their obligation to keep such information confidential, and shall promptly advise the other Party in writing if it learns of any unauthorized use or disclosure of said Confidential Information. In addition, the Parties agree to cooperate fully and provide all reasonable assistance to ensure the confidentiality of the other Party's Confidential Information as described in this article.

7.5. County Proprietary Rights. Contractor acknowledges and agrees that County retains all rights, title, and interest in and to all materials, data, documentation, and copies thereof furnished by County to Contractor under this Agreement, including all copyright and other proprietary rights therein, which Contractor as well as its employees, agents, Subcontractors, and suppliers may use only in connection with the performance of this Agreement.

7.6. Contractor Proprietary Rights. Except for custom work products, if any, County acknowledges that all copies of the Software (in any form) and the Subscriptions are the sole property of Contractor or third-party licensor. County shall not have any right, title, or interest to any such Software or Subscriptions except as expressly provided in this Agreement and shall take reasonable steps to secure and protect the Software and the Subscriptions consistent with maintenance of Contractor's proprietary rights therein.

7.7. Data and Privacy. Contractor shall comply with all applicable data and privacy laws and regulations, including without limitation Section 501.171, Florida Statutes, and shall ensure that County data processed, transmitted, or stored by Contractor or in the System is not accessed,

transmitted, or stored outside the United States. Contractor shall not sell, market, publicize, distribute, or otherwise make available to any third party any personal identification information (as defined by Sections 501.171, 817.568, or 817.5685, Florida Statutes) that Contractor may receive or otherwise have access to in connection with this Agreement, unless expressly authorized in advance by County. If applicable and requested by County, Contractor shall ensure that all hard drives or other storage devices and media that contained County data have been wiped in accordance with the then-current best industry practices, including without limitation DOD 5220.22-M, and that an appropriate data wipe certification is provided to the satisfaction of the Contract Administrator.

7.8. Entities of Foreign Concern. The provisions of this section apply only if this Agreement provides access to an individual's personal identifying information. By execution of this Agreement, the undersigned authorized representative of Contractor hereby attests under penalty of perjury as follows: Contractor is not owned by the government of a foreign country of concern, is not organized under the laws of nor has its principal place of business in a foreign country of concern, and the government of a foreign country of concern does not have a controlling interest in Contractor; and the undersigned authorized representative of Contractor declares that they have read the foregoing statement and that the facts stated in it are true. Terms used in this section that are not otherwise defined in this Agreement shall have the meanings ascribed to such terms in Section 287.138, Florida Statutes.

7.9. Security Requirements. Contractor, the Products, and the System must meet or exceed all security requirements set forth in Exhibit C at all times throughout the Term, unless otherwise expressly approved in writing by the County's Chief Information Officer or their designee. Contractor will cooperate with County and provide any and all information that County may reasonably request to determine appropriate security and network access restrictions and verify Contractor compliance with County security requirements, including as stated in this section.

7.10. Custom Work Products. To the extent this Agreement (including the Statement of Work, any subsequent Work Authorization, any amendment, or the procurement documents relating to this Agreement) identifies deliverables that constitute custom work products that Contractor is required to develop and furnish, the Parties agree that County shall own all rights, title, and interest in and to all such custom work products and that they shall be deemed to constitute "works made for hire" under the United States Copyright Act, 17 U.S.C. § 101. If, for any reason, any custom work product would not be considered a "work made for hire" under Applicable Law, Contractor hereby exclusively and irrevocably sells, assigns, and transfers to County all of Contractor's rights, title, and interest in and to such custom work product and in and to any copyright or copyright application(s) related thereto. Contractor agrees that neither it nor its agents shall use or disclose any custom work product except for County's benefit as required in connection with Contractor's performance under this Agreement, unless Contractor has obtained County's prior written consent to such use or disclosure. "Custom work product" shall not include any software, copyrighted material, or other proprietary material developed by Contractor or any third party prior to the Effective Date, but shall include any modification(s) thereof developed pursuant to this Agreement. To the full extent applicable, Contractor shall

provide County with the source code and object code for all custom work products upon Final Acceptance of the Software or System, or within thirty (30) calendar days after written request by the Contract Administrator, whichever occurs first.

7.11. Injunctive Relief; Survival. The Parties represent and agree that neither damages nor any other legal remedy is adequate to remedy any breach of this article, and that the injured party shall therefore be entitled to injunctive relief to restrain or remedy any breach or threatened breach. The obligations under this article shall survive the termination of this Agreement or of any license granted under this Agreement.

## **ARTICLE 8. REPRESENTATIONS AND WARRANTIES**

8.1. Ownership. Contractor represents and warrants that it is the owner of all right, title, and interest, or that it has the right to grant to County the rights and the licenses granted under this Agreement, in and to the Software, Subscriptions, and Services provided by Contractor to County or utilized by Contractor in providing the Services, and that Contractor has not knowingly granted rights or licenses to any other person or entity that would restrict rights and licenses granted hereunder, except as may be expressly stated herein.

8.2. Limited Warranty. Contractor represents and warrants to County that, throughout the Term, the Products and System will perform substantially as described in the Documentation and in Exhibit A. This warranty does not cover any failure of the Products resulting from: (a) use of the Products in a manner other than that for which they were intended; (b) any modification of the Products by County that is not authorized by Contractor; or (c) County's provision of improperly formatted data to be processed through the System.

8.3. Warranty Regarding Viruses and PCI Compliance. Contractor further represents, warrants, and agrees that the Products are free from currently-known viruses or malicious software (at the time the Products and any subsequent versions thereof are provided to County), and that Contractor has and will continue, for the full Term of this Agreement, to use commercially reasonable security measures to ensure the integrity of the Products from data leaks, hackers, denial of service attacks, and other unauthorized intrusions. If the Services or Products involve the acceptance, processing, transmission, or storage of any credit cardholder data, Contractor represents and warrants that the Services and Products comply with the most recent Security Standards Council's Payment Card Industry ("PCI") Payment Application Data Security Standard ("DSS") and that such compliance will be maintained throughout the Term. Contractor shall also ensure, for the duration of the Agreement, that all electronically printed receipts generated in connection with the Services or Products comply with the Fair and Accurate Credit Transactions Act ("FACTA"), 15 U.S.C. § 1681c(g), as amended, including that card numbers and expiration dates are properly truncated in accordance with the requirements of FACTA.

8.4. ADA Compliance. Contractor represents and warrants that the Products and System are, and for the duration of the Agreement will remain, fully accessible and compliant with the Americans with Disabilities Act, 42 U.S.C. § 12101, Section 504 of the Rehabilitation Act of 1973, and all other Applicable Law. Contractor further represents and warrants that the Products, the

System, and all deliverables provided to County for online utilization meet or exceed the World Wide Web Consortium/Web Content Accessibility Guidelines (WCAG) 2.1 Level AA standard or any higher standard as may be adopted by the International Organization for Standardization or required by Applicable Law. Upon request, Contractor will provide County with any accessibility testing results and written documentation verifying accessibility, as well as promptly respond to and resolve accessibility complaints.

8.5. Intellectual Property Warranty. Contractor represents and warrants that at the time of entering into this Agreement, no claims have been asserted against Contractor (whether or not any action or proceeding has been brought) that allege that any part of the Products or System infringes or misappropriates any patent, copyright, mask copyright, or any trade secret or other intellectual or proprietary right of a third party, and that Contractor is unaware of any such potential claim. Contractor also agrees, represents, and warrants that the Products, System, Services, and Support and Maintenance to be provided pursuant to this Agreement will not infringe or misappropriate any patent, copyright, mask copyright, or any trade secret or other intellectual or proprietary right of a third party.

8.6. Representation of Authority. Contractor represents and warrants that this Agreement constitutes the legal, valid, binding, and enforceable obligation of Contractor, and that neither the execution nor performance of this Agreement constitutes a breach of any agreement that Contractor has with any third party or violates Applicable Law. Contractor further represents and warrants that execution of this Agreement is within Contractor's legal powers, and each individual executing this Agreement on behalf of Contractor is duly authorized by all necessary and appropriate action to do so on behalf of Contractor and does so with full legal authority.

8.7. Solicitation Representations. Contractor represents and warrants that all statements and representations made in Contractor's proposal, bid, or other supporting documents submitted to County in connection with the solicitation, negotiation, or award of this Agreement, including during the procurement or evaluation process, were true and correct when made and are true and correct as of the date Contractor executes this Agreement, unless otherwise expressly disclosed in writing by Contractor.

8.8. Contingency Fee. Contractor represents and warrants that it has not employed or retained any person or entity, other than a bona fide employee working solely for Contractor, to solicit or secure this Agreement and that it has not paid or agreed to pay any person or entity, other than a bona fide employee working solely for Contractor, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement.

8.9. Truth-In-Negotiation Representation. Contractor's compensation under this Agreement is based upon its representations to County, and Contractor certifies that the wage rates, factual unit costs, and other information supplied to substantiate Contractor's compensation, including without limitation those made by Contractor during the negotiation of this Agreement, are accurate, complete, and current as of the date Contractor executes this Agreement. Contractor's compensation may be reduced by County, in its sole discretion, to correct any inaccurate,

incomplete, or noncurrent information provided to County as the basis for Contractor's compensation in this Agreement.

8.10. Public Entity Crime Act. Contractor represents that it is familiar with the requirements and prohibitions under the Public Entity Crime Act, Section 287.133, Florida Statutes, and represents that its entry into this Agreement will not violate that statute. Contractor further represents that there has been no determination that it committed a "public entity crime" as defined by Section 287.133, Florida Statutes, and that it has not been formally charged with committing an act defined as a "public entity crime" regardless of the amount of money involved or whether Contractor has been placed on the convicted vendor list.

8.11. Discriminatory Vendor and Scrutinized Companies Lists; Countries of Concern. Contractor represents that it has not been placed on the "discriminatory vendor list" as provided in Section 287.134, Florida Statutes, and that it has not been identified as a company or other entity subject to scrutiny under Sections 215.473 or 215.4725, Florida Statutes. Contractor represents and certifies that it is not, and throughout the Term will not be, ineligible to contract with County on any of the grounds stated in Section 287.135, Florida Statutes. Contractor represents that it is, and throughout the Term will remain, in compliance with Section 286.101, Florida Statutes.

8.12. Claims Against Contractor. Contractor represents and warrants that there is no action or proceeding, at law or in equity, before any court, mediator, arbitrator, governmental or other board or official, pending or, to the knowledge of Contractor, threatened against or affecting Contractor, the outcome of which may (a) affect the validity or enforceability of this Agreement, (b) materially and adversely affect the authority or ability of Contractor to perform its obligations under this Agreement, or (c) have a material and adverse effect on the consolidated financial condition or results of operations of Contractor or on the ability of Contractor to conduct its business as presently conducted or as proposed or contemplated to be conducted.

8.13. Verification of Employment Eligibility. Contractor represents that Contractor and each Subcontractor have registered with and use the E-Verify system maintained by the United States Department of Homeland Security to verify the work authorization status of all newly hired employees in compliance with the requirements of Section 448.095, Florida Statutes, and that entry into this Agreement will not violate that statute. If Contractor violates this section, County may immediately terminate this Agreement for cause and Contractor shall be liable for all costs incurred by County due to the termination.

8.14. Warranty of Performance. Contractor represents and warrants that it possesses the knowledge, skill, experience, and financial capability required to perform and provide all Services and that each person and entity that will provide Services is duly qualified and, to the extent required, licensed and certified by all appropriate governmental authorities to perform such Services, and is sufficiently experienced and skilled in the area(s) for which such person or entity will render Services. Contractor represents and warrants that the Services shall be performed in a skillful and respectful manner, that it has or will obtain all necessary permits and approvals by applicable regulatory entities to perform the Services unless otherwise expressly stated herein,

and that the quality of all Services shall equal or exceed prevailing industry standards for the provision of such Services.

8.15. Prohibited Telecommunications. Contractor represents and certifies that Contractor and all Subcontractors do not use, and throughout the Term will not provide or use, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, as such terms are used in 48 C.F.R. §§ 52.204-24 through 52.204-26.

8.16. Criminal History Screening Practices. If this Agreement is subject to the requirements of Section 26-125(d) of the Code, Contractor represents and certifies that Contractor will comply with Section 26-125(d) of the Code throughout the Term.

8.17. Domestic Partnership Requirement. Unless this Agreement is exempt from the provisions of the "Broward County Domestic Partnership Act," Section 16½-157 of the Code ("Act"), Contractor certifies and represents that it shall at all times comply with the provisions of the Act. The contract language referenced in the Act is deemed incorporated in this Agreement as though fully set forth in this section.

8.18. Breach of Representations. Contractor acknowledges that County is materially relying on the representations, warranties, and certifications of Contractor stated in this article, and County shall be entitled to exercise any or all of the following remedies if any such representation, warranty, or certification is untrue: (a) recovery of damages incurred; (b) termination of this Agreement without any further liability to Contractor; (c) set off from any amounts due Contractor the full amount of any damage incurred; and (d) debarment of Contractor.

## **ARTICLE 9. INDEMNIFICATION AND LIMITATION OF LIABILITY**

9.1. Indemnification. Contractor shall indemnify, hold harmless, and defend County and all of County's current, past, and future officers, agents, and employees (collectively, "Indemnified Party") from and against any and all causes of action, demands, claims, losses, liabilities, and expenditures of any kind, including attorneys' fees, court costs, and expenses, including through the conclusion of any appellate proceedings, raised or asserted by any person or entity not a party to this Agreement, and caused or alleged to be caused, in whole or in part, by any breach of this Agreement by Contractor, or any intentional, reckless, or negligent act or omission of Contractor, its officers, employees, or agents, arising from, relating to, or in connection with this Agreement (collectively, a "Claim"). If any Claim is brought against an Indemnified Party, Contractor shall, upon written notice from County, defend each Indemnified Party with counsel satisfactory to County or, at County's option, pay for an attorney selected by the County Attorney to defend the Indemnified Party. The obligations of this section shall survive the expiration or earlier termination of this Agreement. If considered necessary by the Contract Administrator and the County Attorney, any sums due Contractor under this Agreement may be retained by County until all Claims subject to this indemnification obligation have been settled or otherwise resolved. Any amount withheld shall not be subject to payment of interest by County.

9.2. Infringement Remedy. If the Products or any portion thereof are finally adjudged to infringe, or in Contractor's opinion are likely to become the subject of such a Claim, Contractor shall, at County's option, either: (i) procure for County the right to continue using the Products; (ii) modify or replace the Products to make them noninfringing; or (iii) refund to County all fees paid under this Agreement. Contractor shall have no liability regarding any infringement claim caused by any County modification of the Products not specifically authorized in writing by Contractor.

9.3. Limitation of Liability. Neither Contractor nor County shall be liable to the other Party for any damages under this Agreement that exceed the largest of the following amounts: (a) \$100,000; (b) twice the maximum compensation amount specified in Section 5.1; or (c) the amount of insurance Contractor is required to provide under Article 10. Neither Party shall be liable for the other Party's special, indirect, punitive, or consequential damages (including damages resulting from lost data or records other than costs incurred in the recovery thereof), even if the Party has been advised that such damages are possible, or for the other Party's lost profits, lost revenue, or lost institutional operating savings. These limitations of liability shall not apply to (i) any Claim resulting from Contractor's actual or alleged disclosure of County Confidential Information or resulting from an actual or alleged data breach in violation of Applicable Law, (ii) any Claim resulting from an actual or alleged infringement of any interest in any Product, or (iii) any indemnification obligation under this Agreement.

#### **ARTICLE 10. INSURANCE**

10.1. Throughout the Term, Contractor shall, at its sole expense, maintain the minimum insurance coverages stated in Exhibit E in accordance with the terms and conditions of this article. Contractor shall maintain insurance coverage against claims relating to any act or omission by Contractor, its agents, representatives, employees, or Subcontractors in connection with this Agreement. County reserves the right at any time to review and adjust the limits and types of coverage required under this article.

10.2. Contractor shall ensure that "Broward County" is listed and endorsed as an additional insured as stated in Exhibit E on all policies required under this article.

10.3. On or before the Effective Date or at least fifteen (15) days prior to commencement of Services, as may be requested by County, Contractor shall provide County with a copy of all Certificates of Insurance or other documentation sufficient to demonstrate the insurance coverage required in this article. In the event of a claim, upon request, Contractor shall provide, within thirty (30) days after receipt of a written request from County, a copy of the policies providing the coverage required by this Agreement where the County is required to be included as an additional insured on the policy. Contractor may redact portions of the policies that are not relevant to the insurance claim.

10.4. Contractor shall ensure that all insurance coverages required by this article remain in full force and effect without any lapse in coverage throughout the Term and until all performance required of Contractor has been completed, as determined by Contract Administrator.

Contractor or its insurer shall provide notice to County of any cancellation or modification of any required policy at least thirty (30) days prior to the effective date of cancellation or modification, and at least ten (10) days prior to the effective date of any cancellation due to nonpayment, and shall concurrently provide County with a copy of its updated Certificates of Insurance evidencing continuation of the required coverage(s).

10.5. All required insurance policies must be placed with insurers or surplus line carriers authorized to conduct business in the State of Florida with an A.M. Best rating of A- or better and a financial size category class VII or greater, unless otherwise approved by County's Risk Management Division in writing.

10.6. The Commercial General Liability and Automobile Liability insurance coverages shall provide primary coverage and not require contribution from any County insurance, self-insurance, or otherwise, which shall be in excess of and shall not contribute to the required insurance provided by Contractor.

10.7. Contractor shall be solely responsible for and shall pay any deductible or self-insured retention applicable to any claim against County.

10.8. Unless prohibited by the applicable policy, Contractor waives any right to subrogation that any of Contractor's insurers may acquire against County, and shall obtain same in an endorsement of Contractor's insurance policies.

10.9. Contractor shall require that each Subcontractor maintains insurance coverage that adequately covers the Services provided by that Subcontractor on substantially the same insurance terms and conditions required of Contractor under this article. Contractor shall ensure that all such Subcontractors comply with these requirements and that "Broward County" is named as an additional insured under the Subcontractors' applicable insurance policies. Contractor shall not permit any Subcontractor to provide Services unless and until all applicable requirements of this article are satisfied.

10.10. If Contractor or any Subcontractor fails to maintain the insurance required by this Agreement, County may pay any costs of premiums necessary to maintain the required coverage and deduct such costs from any payment otherwise due to Contractor. If requested by County, Contractor shall provide, within one (1) business day, evidence of each Subcontractor's compliance with this article.

10.11. If any of the policies required under this article provide claims-made coverage: (1) any retroactive date must be prior to the Effective Date; (2) the required coverage must be maintained after termination or expiration of the Agreement for at least the duration stated in Exhibit E; and (3) if coverage is canceled or nonrenewed and is not replaced with another claims-made policy form with a retroactive date prior to the Effective Date, Contractor must obtain and maintain "extended reporting" coverage that applies after termination or expiration of the Agreement for at least the duration stated in Exhibit E.

## ARTICLE 11. TERMINATION

11.1. Termination for Cause. This Agreement may be terminated for cause by the aggrieved Party if the Party in breach has not corrected the breach within ten (10) days after receipt of written notice from the aggrieved Party identifying the breach. This Agreement may be terminated for cause by County for reasons including, but not limited to, any of the following:

11.1.1. Contractor's (a) failure to suitably or continuously perform the Services in a manner calculated to meet or accomplish the objectives in this Agreement or Work Authorization, (b) suspension or debarment by a state or federal governmental entity or by a local governmental entity with a population in excess of one million people, or (c) repeated submission (whether negligent or intentional) for payment of false or incorrect bills or invoices;

11.1.2. By the County Administrator or the Director of Office of Economic and Small Business Development ("OESBD") for fraud, misrepresentation, or material misstatement by Contractor in the award or performance of this Agreement or that violates any applicable requirement of Section 1-81, et seq., of the Code; or

11.1.3. By the Director of OESBD upon the disqualification of Contractor as a CBE if Contractor's status as a CBE was a factor in the award of this Agreement, or upon the disqualification of one or more of Contractor's CBE participants by the Director of OESBD if any such participant's status as a CBE firm was a factor in the award of this Agreement.

Unless otherwise stated in this Agreement, if this Agreement was approved by Board action, termination for cause by County must be by action of the Board or the County Administrator; in any other instance, termination for cause may be by the County Administrator, the County representative expressly authorized under this Agreement, or the County representative (including any successor) who executed the Agreement on behalf of County. If County erroneously, improperly, or unjustifiably terminates this Agreement for cause, such termination shall be deemed a termination for convenience pursuant to Section 11.2 effective thirty (30) days after such notice was provided and Contractor shall be eligible for the compensation provided in Section 11.2 as its sole remedy.

11.2. Termination for Convenience; Other Termination. This Agreement may also be terminated for convenience by the Board with at least thirty (30) days' advance written notice to Contractor. Contractor acknowledges that it has received good, valuable, and sufficient consideration for County's right to terminate this Agreement for convenience including in the form of County's obligation to provide advance written notice to Contractor of such termination in accordance with this section. This Agreement may also be terminated by the County Administrator upon such notice as the County Administrator deems appropriate under the circumstances if the County Administrator determines that termination is necessary to protect the public health, safety, or welfare. If this Agreement is terminated by County pursuant to this section, Contractor shall be paid for any Services properly performed through the termination date specified in the written notice of termination, subject to any right of County to retain any

sums otherwise due and payable, and County shall have no further obligation to pay Contractor for Services under this Agreement.

11.3. Notice of termination shall be provided in accordance with the "Notices" section of this Agreement except that notice of termination by the County Administrator to protect the public health, safety, or welfare may be oral notice that shall be promptly confirmed in writing.

11.4. In addition to any termination rights stated in this Agreement, County shall be entitled to seek any and all available contractual or other remedies available at law or in equity including recovery of costs incurred by County due to Contractor's failure to comply with any term(s) of this Agreement.

#### **ARTICLE 12. EQUAL EMPLOYMENT OPPORTUNITY AND CBE COMPLIANCE**

12.1. Contractor and Subcontractors shall not discriminate on the basis of race, color, sex, religion, national origin, disability, age, marital status, political affiliation, pregnancy, or any other basis prohibited by Applicable Law in the performance of this Agreement. Contractor shall include the foregoing or similar language in its contracts with all Subcontractors, except that any project assisted by U.S. Department of Transportation funds shall comply with the nondiscrimination requirements in 49 C.F.R. Parts 23 and 26.

#### **ARTICLE 13. MISCELLANEOUS**

13.1. Contract Administrator Authority. The Contract Administrator is authorized to coordinate and communicate with Contractor to manage and supervise the performance of this Agreement. Contractor acknowledges that the Contract Administrator has no authority to make changes that would increase, decrease, or otherwise materially modify the Statement of Work except as expressly set forth in this Agreement or, to the extent applicable, in the Broward County Procurement Code. Unless expressly stated otherwise in this Agreement or otherwise set forth in the Code or the Broward County Administrative Code, the Contract Administrator may exercise ministerial authority in connection with the day-to-day management of this Agreement. The Contract Administrator may also approve in writing minor modifications to the Statement of Work that do not increase the total cost to County or waive any rights of County.

13.2. Rights in Documents and Work. Any and all reports, photographs, surveys, documents, materials, or other work created by Contractor specifically for County in connection with performing Services, whether finished or unfinished ("Documents and Work"), shall be owned by County, and Contractor hereby transfers to County all right, title, and interest, including any copyright or other intellectual property rights, in or to the Documents and Work, and shall provide any documentation necessary to effectuate such transfer. Unless otherwise expressly stated herein, County has the right to use, reproduce, modify, distribute, and publicly display the Documents and Work, in whole or in part, in any medium and for any purpose, in perpetuity and without restriction. Contractor represents and warrants that it has all necessary legal rights to provide the Documents and Work and to grant County the rights stated in this Agreement. Contractor must deliver the Documents and Work to the Contract Administrator within ten (10)

business days after expiration or termination of this Agreement. Any compensation due to Contractor may be withheld until all Documents and Work are provided as set forth herein. Contractor shall ensure that the requirements of this section are included in all of Contractor's agreements with Subcontractor(s).

13.3. Public Records. Notwithstanding any other provision in this Agreement, any action taken by County in compliance with, or in a good faith attempt to comply with, the requirements of Chapter 119, Florida Statutes, shall not constitute a breach of this Agreement. If Contractor is acting on behalf of County as stated in Section 119.0701, Florida Statutes, Contractor shall:

13.3.1. Keep and maintain public records required by County to perform the Services;

13.3.2. Upon request from County, provide County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time and at a cost that does not exceed that provided in Chapter 119, Florida Statutes, or as otherwise provided by Applicable Law;

13.3.3. Ensure that public records that are exempt or confidential and exempt from public record requirements are not disclosed except as authorized by Applicable Law for the duration of the Term and after completion or termination of this Agreement if the records are not transferred to County; and

13.3.4. Upon expiration or termination of this Agreement, transfer to County, at no cost, all public records in possession of Contractor or keep and maintain public records required by County to perform the Services. If Contractor transfers the records to County, Contractor shall destroy any duplicate public records that are exempt or confidential and exempt. If Contractor keeps and maintains the public records, Contractor shall meet all requirements of Applicable Law for retaining public records. All records stored electronically must be provided to County upon request in a format that is compatible with the information technology systems of County.

If Contractor receives a request for public records regarding this Agreement or the Services, Contractor must immediately notify the Contract Administrator in writing and provide all requested records to County to enable County to timely respond to the public records request. County will respond to all such public records requests.

**IF CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 954) 357-8570, MNAIRN@BROWARD.ORG, 115 S. ANDREWS AVE., SUITE 325, FORT LAUDERDALE, FLORIDA 33301.**

13.4. Audit Rights and Retention of Records. County shall have the right to audit the books, records, and accounts of Contractor and all Subcontractors that are related to this Agreement.

Contractor and all Subcontractors shall keep such books, records, and accounts as may be necessary to record complete and correct entries related to this Agreement and performance under this Agreement. All such books, records, and accounts shall be kept in written form or in a form capable of conversion into written form within a reasonable time; upon request by County, Contractor and all Subcontractors shall make same available to County in written form at no cost and allow County to make copies. Contractor shall provide County with reasonable access to Contractor's facilities, and County shall be allowed to interview all employees to discuss matters pertinent to the performance of this Agreement.

Contractor and all Subcontractors shall preserve and make available, at reasonable times within Broward County, Florida, for examination and audit, all financial records, supporting documents, statistical records, and any other documents pertinent to this Agreement for at least three (3) years after expiration or termination of this Agreement or until resolution of any audit findings, whichever is longer. This section shall survive any dispute or litigation between the Parties, and Contractor expressly acknowledges and agrees to be bound by this section throughout the course of any dispute or litigation with County. Any audit or inspection pursuant to this section may be performed by any County representative (including any outside representative engaged by County). Contractor hereby grants County the right to conduct such audit or review at Contractor's place of business, if deemed appropriate by County, with seventy-two (72) hours' advance notice. Contractor shall make all such records and documents available electronically, in common file formats, and/or via remote access, if and to the extent requested by County.

Any incomplete or incorrect entry in such books, records, and accounts shall be a basis for County's disallowance and recovery of any payment based upon such entry. Contractor shall refund to County any overcharged amount identified as a result of an audit, regardless of the amount of the overcharge. If the overcharge exceeds five percent (5%) of the total contract charges audited by County, Contractor shall, in addition to refunding the overcharged amount, pay liquidated damages in the amount of fifteen percent (15%) of the overcharged amount as just compensation for damages incurred by County due to the overcharge, including, but not limited to, County's administrative costs and loss of potential investment returns (including interest). Any adjustments or payments due as a result of such audit must be made within thirty (30) days after presentation of County's findings to Contractor.

Contractor shall ensure that the requirements of this section are included in all agreements with all Subcontractor(s).

13.5. Independent Contractor. Contractor is an independent contractor of County, and nothing in this Agreement shall constitute or create a partnership, joint venture, or any other relationship between the Parties. In providing Services, neither Contractor nor its agents shall act as officers, employees, or agents of County. Contractor shall not have the right to bind County to any obligation not expressly undertaken by County under this Agreement.

13.6. Regulatory Capacity. Notwithstanding the fact that County is a political subdivision with certain regulatory authority, County's performance under this Agreement is as a Party to this Agreement and not in its regulatory capacity. If County exercises its regulatory authority, the

exercise of such authority and the enforcement of Applicable Law shall have occurred pursuant to County's regulatory authority as a governmental body separate and apart from this Agreement, and shall not be attributable in any manner to County as a Party to this Agreement.

13.7. Sovereign Immunity. Except to the extent sovereign immunity may be deemed waived by entering into this Agreement, nothing herein is intended to serve as a waiver of sovereign immunity by County nor shall anything included herein be construed as consent by County to be sued by third parties in any matter arising out of this Agreement.

13.8. Third-Party Beneficiaries. Neither Contractor nor County intends to primarily or directly benefit a third party by this Agreement. Therefore, the Parties acknowledge that there are no third-party beneficiaries to this Agreement and that no third party shall be entitled to assert a right or claim against either of them based upon this Agreement.

13.9. Notices. Unless otherwise stated herein, for notice to a Party to be effective under this Agreement, notice must be sent via U.S. first-class mail, hand delivery, or commercial overnight delivery, each with a contemporaneous copy via email, to the addresses listed below and shall be effective upon mailing or hand delivery (provided the contemporaneous email is also sent). A Party may change its notice address by giving notice of such change in accordance with this section.

FOR COUNTY:

Broward County Office of Regional Communications & Technology Division  
Attn: Tracy Jackson  
115 South Andrews Avenue, Room 325, Fort Lauderdale, Florida 33301  
Email: [tjackson@broward.org](mailto:tjackson@broward.org) with a copy to [mnairn@broward.org](mailto:mnairn@broward.org)

FOR CONTRACTOR:

Motorola Solutions Connectivity, Inc.  
Attn: Legal Department  
500 West Monroe Street, Chicago, IL 60661  
Email: [jeff.nodland@motorolasolutions.com](mailto:jeff.nodland@motorolasolutions.com) with a copy to  
[Rodrigo.olazabal1@motorolasolutions.com](mailto:Rodrigo.olazabal1@motorolasolutions.com)

13.10. Subcontracting; Assignment; Change of Control. All Subcontractors must be expressly identified in this Agreement or otherwise approved in advance and in writing by County's Contract Administrator. Except for approved subcontracting, neither this Agreement nor any right or interest in it may be assigned, transferred, subcontracted, or encumbered by Contractor without the prior written consent of County. Any change of control (as defined herein) shall be deemed an assignment. Any assignment, transfer, encumbrance, or subcontract in violation of this section shall be void and ineffective, constitute a breach of this Agreement, and permit County to immediately terminate this Agreement, in addition to any other remedies available to County at law or in equity. County reserves the right to condition its approval of any assignment, transfer, encumbrance, or subcontract upon further due diligence and an additional fee paid to County to reasonably compensate it for the performance of any such due diligence.

For purposes of this section, "change of control" means: (a) a transfer of more than fifty percent (50%) of the ownership interests in Contractor, whether in a single transaction or a series of related transactions; (b) a merger, consolidation, or other reorganization that results in a change in voting control in Contractor or in the entity that controls Contractor's business; or (c) the sale, lease, or transfer of all or substantially all of Contractor's assets. A change of control does not include (i) a transfer to an entity wholly owned, directly or indirectly, by Contractor or its parent, or (ii) a transfer between existing owners of Contractor that does not result in a change in majority ownership; provided, however, that any such transfer shall not relieve Contractor of its obligations under this Agreement unless County expressly agrees otherwise in writing.

13.11. Conflicts. Neither Contractor nor its employees shall have or hold any continuing or frequently recurring employment or contractual relationship that is substantially antagonistic or incompatible with Contractor's loyal and conscientious exercise of judgment and care related to its performance under this Agreement. During the Term, none of Contractor's officers or employees shall serve as an expert witness against County in any legal or administrative proceeding in which they or Contractor is not a party, unless compelled by legal process. Further, such persons shall not give sworn testimony or issue a report or writing as an expression of such person's expert opinion that is adverse or prejudicial to the interests of County in connection with any such pending or threatened legal or administrative proceeding unless compelled by legal process. The limitations of this section shall not preclude Contractor or any persons in any way from representing themselves, including giving expert testimony in support of such representation, in any action or in any administrative or legal proceeding. If Contractor is permitted pursuant to this Agreement to utilize Subcontractors to perform Services, Contractor shall require such Subcontractors, by written contract, to comply with the provisions of this section to the same extent as Contractor.

13.12. Materiality and Waiver of Breach. Each requirement, duty, and obligation set forth in this Agreement was bargained for at arm's-length and is agreed to by the Parties. Each requirement, duty, and obligation set forth in this Agreement is substantial and important to the formation of this Agreement, and each is, therefore, a material term. County's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of this Agreement. To be effective, any waiver must be in writing signed by an authorized signatory of the Party granting the waiver.

13.13. Compliance with Laws. Contractor, the Products, the System, and the Services must comply with all Applicable Law, including, without limitation, the Americans with Disabilities Act, 42 U.S.C. § 12101, Section 504 of the Rehabilitation Act of 1973, and the requirements of any applicable grant agreements.

13.14. Severability. If any part of this Agreement is found to be unenforceable by any court of competent jurisdiction or contrary to Applicable Law, that part shall be deemed severed from this Agreement and the balance of this Agreement shall remain in full force and effect.

13.15. Joint Preparation. This Agreement has been jointly prepared by the Parties and shall not be construed more strictly against either Party.

13.16. Interpretation. The titles and headings contained in this Agreement are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement. All personal pronouns used in this Agreement shall include any other gender, and the singular shall include the plural, and vice versa, unless the context otherwise requires. Terms such as "herein" refer to this Agreement as a whole and not to any particular sentence, paragraph, or section where they appear, unless the context otherwise requires. Whenever reference is made to a section or article of this Agreement, such reference is to the section or article as a whole, including all subsections thereof, unless the reference is made to a particular subsection or subparagraph of such section or article. Any reference to "days" means calendar days, unless otherwise expressly stated. Any reference to approval by County shall require approval in writing, unless otherwise expressly stated.

13.17. Priority of Provisions. If there is a conflict or inconsistency between any term, statement, requirement, or provision of any document or exhibit attached to, referenced by, or incorporated in this Agreement and any provision within an article or section of this Agreement, the article or section shall prevail and be given effect.

13.18. Law, Jurisdiction, Venue, Waiver of Jury Trial. This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. The exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claim arising from, related to, or in connection with this Agreement must be litigated in federal court, the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **EACH PARTY HEREBY EXPRESSLY WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT.**

13.19. Amendments. Unless expressly authorized herein, no modification, amendment, or alteration of any portion of this Agreement is effective unless contained in a written document executed with the same or similar formality as this Agreement and by duly authorized representatives of County and Contractor.

13.20. Prior Agreements. This Agreement represents the final and complete understanding of the Parties regarding the subject matter of this Agreement and supersedes all prior and contemporaneous negotiations and discussions regarding same. All commitments, agreements, and understandings of the Parties concerning the subject matter of this Agreement are contained herein.

13.21. HIPAA Compliance. County has access to protected health information ("PHI") that is subject to the requirements of 45 C.F.R. Parts 160, 162, and 164 and related regulations. If Contractor is considered by County to be a covered entity or business associate or is required to comply with the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") or the

Health Information Technology for Economic and Clinical Health Act ("HITECH"), Contractor shall: (a) fully protect individually identifiable health information as required by HIPAA and/or HITECH; and (b) comply with the Business Associate Agreement attached hereto, if any, or, if such agreement is not attached hereto and if requested by County, execute a Business Associate Agreement in the form set forth at [www.broward.org/Purchasing/Pages/StandardTerms.aspx](http://www.broward.org/Purchasing/Pages/StandardTerms.aspx). The County Administrator is authorized to execute a Business Associate Agreement on behalf of County. Where required, Contractor shall handle and secure such PHI in compliance with HIPAA, HITECH, and related regulations and, if required by HIPAA, HITECH, or other Applicable Law, include in its "Notice of Privacy Practices" notice of Contractor's and County's uses of client's PHI. The requirement to comply with this provision, HIPAA, and HITECH shall survive the expiration or earlier termination of this Agreement. Contractor shall ensure that the requirements of this section are included in all agreements with Subcontractors.

13.22. Payable Interest.

13.22.1. Payment of Interest. Unless prohibited by Applicable Law, County shall not be liable for interest to Contractor for any reason, whether as prejudgment interest or for any other purpose, and Contractor waives, rejects, disclaims, and surrenders any and all entitlement to interest in connection with a dispute or claim arising from, related to, or in connection with this Agreement.

13.22.2. Rate of Interest. If the preceding subsection is inapplicable or is determined to be invalid or unenforceable by a court of competent jurisdiction, the annual rate of interest payable by County under this Agreement, whether as prejudgment interest or for any other purpose, shall be, to the full extent permissible under Applicable Law, one quarter of one percent (0.25%) simple interest (uncompounded).

13.23. Incorporation by Reference. Any and all Recital clauses stated above are true and correct and are incorporated in this Agreement by reference. The attached Exhibits are incorporated into and made a part of this Agreement.

13.24. Multiple Originals and Counterparts. This Agreement may be executed in multiple originals or in counterparts, whether signed physically or electronically; each of which shall be deemed to be an original, and all of which, taken together, shall constitute one and the same agreement.

13.25. Use of County Name or Logo. Contractor shall not use County's name or logo in marketing or publicity materials without prior written consent from the Contract Administrator.

13.26. Living Wage Requirement. If Contractor is a "covered employer" within the meaning of the "Broward County Living Wage Ordinance," Sections 26-100 through 26-105 of the Code, Contractor shall fully comply with the requirements of such ordinance and shall pay to all of its employees providing "covered services," as defined in the ordinance, a living wage as defined therein. Contractor shall ensure all Subcontractors that qualify as "covered employers" fully comply with the requirements of such ordinance.

13.27. Polystyrene Food Service Articles. Contractor shall not sell or provide for use on County property expanded polystyrene products or food service articles (e.g., Styrofoam}, unencapsulated expanded polystyrene products, or single-use plastic straws or stirrers, as set forth in more detail in Section 27.172, Broward County Administrative Code.

13.28. Anti-Human Trafficking. By execution of this Agreement by the undersigned authorized representative of Contractor, Contractor hereby attests under penalty of perjury that Contractor does not use coercion for labor or services, as such terms are defined in Section 787.06, Florida Statutes; under penalties of perjury, the undersigned authorized representative of Contractor declares that they have read the foregoing statement and that the facts stated in it are true.

13.29. Emergency Response. If this Agreement is for Products or Services related to emergency response for a natural emergency and Contractor breaches this Agreement during an emergency recovery period, as such period is defined in Section 252.505, Florida Statutes, Contractor must pay County a \$5,000 penalty plus damages, which shall be actual and consequential damages or, if expressly stated otherwise in this Agreement, liquidated damages, in accordance with Section 252.505, Florida Statutes.

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IN WITNESS WHEREOF, the Parties hereto have made and executed this Agreement: Broward County, through its Board of County Commissioners, signing by and through its Mayor or Vice-Mayor, authorized to execute same by Board action on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_; and Motorola Solutions Connectivity, Inc., signing by and through its duly authorized representative.

COUNTY


ATTEST:

Broward County, by and through  
its Board of County Commissioners


By: \_\_\_\_\_  
Broward County Administrator, as  
ex officio Clerk of the Broward County  
Board of County Commissioners

By: \_\_\_\_\_  
Mayor  
\_\_\_\_ day of \_\_\_\_\_, 20\_\_

Approved as to form by  
Andrew J. Meyers  
Broward County Attorney  
115 South Andrews Avenue, Suite 423  
Fort Lauderdale, Florida 33301  
Telephone: (954) 357-7600

By  \_\_\_\_\_  
Sara Cohen (Date)  
Assistant County Attorney

Rene D. Harrod  
cn=Rene D. Harrod, o=Broward  
County, ou=Broward County  
Attorney's Office,  
email=rharrod@broward.org, c=US

By  \_\_\_\_\_  
Rene D. Harrod (Date)  
Chief Deputy County Attorney

Rene D. Harrod  
cn=Rene D. Harrod, o=Broward  
County, ou=Broward County  
Attorney's Office,  
email=rharrod@broward.org, c=US

RDH  
Moto Next Gen 911  
3/11/26  
#1220180.1

**TECHNOLOGY PRODUCTS AGREEMENT BETWEEN BROWARD COUNTY AND MOTOROLA  
SOLUTIONS CONNECTIVITY, INC. FOR NEXT GENERATION 911 SYSTEM**

CONTRACTOR

**MOTOROLA SOLUTIONS CONNECTIVITY, INC.**

By:   
\_\_\_\_\_  
Authorized Signer

Daniel Sanchez, Territory Vice President  
Print Name and Title

13th day of May, 2026

## **Exhibit A Statement of Work (SOW)**

*The following terms used in this SOW have the following meanings:*

**911 Service Provider** - telephone service provider that currently provides call routing and delivery services of legacy e911 calls in County.

**Call Ingress** - the 911 call entry point into the network

**Call Egress** - the 911 call exit point from the network into the PSAPs

**Design Documents** - These documents are provided by Contractor after the Design Sessions are complete. The Design Sessions are conducted by Contractor. The Design Documents shall include, but are not limited to the design specific to updated architecture diagrams, network, implementation strategy, call flow and call routing schemas, NG911 System backup and restore procedures and schedules, alternate routing and NG911 System failover schemas for hardware and software fail points, media recording process within the NG911 System, all interfaces including network to network, Abandonment switch failure process, and PSAP Uniform Resource Identifiers (URI) mapping to Call Handling Equipment (CHE) queues.

**Event Plan** - A step-by-step plan of every action, including actions by third-party vendors, Contractor, and County, that is required to be executed prior to, during, and after cutover for each PSAP. Each step in the Event Plan shall include the date, start time, duration, task, location, and resource(s) assigned.

**Functional Element(s)** - The software features and interfaces provided by Contractor as a part of Contractor's Next Generation Core Services (Next Generation Core Services) that is designed to perform all call routing, location validation and security within Contractor's NG9-1-1 System. The Functional Elements include, but are not limited to, the Legacy Network Gateway, Legacy Selective Router Gateway, Border Control Function, Emergency Services Routing Proxy, Policy Routing Function, Emergency Call Routing Function, Location Validation Function, Spatial Interface, Location Database, Master Street Address Conversion Service, and Network to Network Interface.

**Legacy Systems** - The current analog circuit switched 911 call routing and call delivery infrastructure for emergency services (collectively, the "Legacy 911 Systems").

**Originating Service Provider (OSP)** - A communications provider that enables subscribers to originate 911 voice or non-voice messages from a public network to a Public Safety Answering Points (PSAPs). The OSP provides a wide range of services, including wireline, wireless, and voice over internet protocol (VoIP) services.

**Service Management System (or ServiceNow)** - Application used by Contractor to document, manage, and track all events and incidents. Service Management System shall provide

customizable notifications, sent via email or SMS, for all events, scheduled maintenance, and other key activities.

**Service Request** (also referred to as a **Ticket** or a **Trouble Ticket**) - A formal request issued by the NSOC to resolve an issue, obtain a new service, obtain information, or change a current service. A Service Request will be generated based on an NG911 System alarm condition or an issue or defect reported by County, a Motorola service technician, an NG911 System user, a 911 service provider, or an affiliated Originating Service Provider.

**Soak Period** - A thirty (30) calendar day period of stability between the implementation of the NG911 System in the Regional environment before proceeding to implement the NG911 System in the Non-Regional environment.

## INTRODUCTION

Broward County ("County") is the second most populous county in the State of Florida with a population of almost two million residents covering an area of thirteen hundred and twenty-three square miles. County's Office of Regional Communications and Technology (ORCAT) manages County's Regional Public Safety Communications Infrastructure, Public Safety Applications, and the Consolidated Regional E-911 Call Taking/Dispatching System. County also provides E-911 technology services and support to the Non-Regional PSAPs.

The mission-critical public safety communications and applications are used daily for Call Taking and Dispatching within the Public Safety Answering Points (PSAPs) for emergency response. The Regional Communications System includes three Regional PSAPs (outlined below) that cover 28 cities in Broward County, operating with common call-taking and dispatching protocols using a centralized technology platform.

There are three cities that also operate PSAPs outside of the Regional Communications System – Coconut Creek, City of Coral Springs, and City of Plantation – which comprise the Non-Regional PSAPs. Coconut Creek and Coral Springs are collocated in a single PSAP.

The system includes the 911 Phone System, Voice Recording System, and 911 Voice and Broadband Network.

## 1. Project Description

Contractor will provide a market-ready National Emergency Number Association (NENA) i3-compliant Next Generation 911 System ("System" or "NG911 System"), which includes an Emergency Services Internet Protocol (IP) Network (ESInet) and Next Generation Core Services (NGCS), and GIS Support Services for the Regional and Non-Regional PSAPs within Broward County. Contractor shall be responsible for designing, documenting, installing, securing, operating, maintaining, monitoring, and enhancing the NG911 System in alignment with ongoing industry standards.

The technology changes associated with the NG911 System are expected to provide vast improvements over the current analog system infrastructure. The NG911 System will provide the following improvements:

- Provide a network to process and deliver wireline, wireless, VoIP, text (RTT, Short Message Service [SMS], Rich Communication Services [RCS], Message Session Relay Protocol [MSRP], Instant Messaging [IM]), and Multimedia Service (MMS) calls/requests for emergency response seamlessly. The NG911 System shall provide the delivery of Telecommunications Device for Deaf (TDD) and TTY communications.
- Provide enhanced survivability, reliability, and network resiliency through the distributed design of NG911 System (e.g., delivery of calls to virtual PSAPs, between regional and non-regional environments, Network-to-Network Interfaces [NNI] to other ESNets).
- Provide faster call set-up time. The ability for NG911 System to provide end-to-end IP connectivity shall eliminate the use of the current Centralized Automatic Message Accounting (CAMA) trunks and reduce the circuit switch call set-up time.
- Provide the capability for the public to access the PSAP from anywhere, at any time, and from multiple devices via approved Internet of Things (IoT) and other available technology advancements.
- Provide interoperability for call, text, and multi-media delivery, transfer, and call processing capability within jurisdiction, across agencies, counties, and regions with predefined routing capability, which will enable County to continue to comply with Section 365.177, Florida Statutes (enacted by House Bill 441 (2019)), which requires that each county in the state have the ability to transfer 911 calls, text, and multimedia within its jurisdiction and outside its jurisdiction.
- Provide improved real time location information from the 911 caller at the mobile device level when provided by the wireless carrier. In the event real time location information is unavailable by the carrier, the NG911 System will utilize the Location Database provided by Contractor to retrieve and present location information to the PSAPs, so long as such data is available within the Location Database.
- Provide enhanced reporting capabilities on-premise and within the NG911 System. This includes the Eclipse platform and any other platform necessary to meet existing or future reporting needs, as determined by County.
- In the event of a primary call handling system failure, Contractor shall provide cloud-based call handling capability using VESTA NXT Continuity with a minimum of twenty positions (20) for the Regional and ten positions (10) for Non-Regional PSAPs during the initial implementation. The VESTA NXT Continuity (formally VESTA Emergency Backup System) shall provide the following:

- NENA i3-compliant call handling
  - Connects via the Internet
  - Provides call delivery to the VESTA NXT Continuity platform from the NGCS platform via an i3 IP network
  - No required backroom equipment
  - CDR (Call Detail Record) captured in the cloud for 9-1-1 calls handled on VESTA NXT Continuity positions
  - Text-to-9-1-1 capability (SMS/MSRP)
  - Call audio stored in cloud for as long as customer subscribes to the service with the caveat that long-term storage may increase storage costs
  - Captures call media which can be downloaded from cloud for 9-1-1 calls handled in backup mode
  - Caller location display
  - Supplemental caller location
  - Includes Command Central Evidence for media storage
  - Total number of concurrent users procured under this Agreement
- Contractor shall setup, configure, and implement all call routing protocols, call delivery information, and call capacity at the new North PSAP location in Fort Lauderdale, Florida as previously existed at the current North PSAP.

Contractor shall provide all required hardware, software, configuration, and services associated with this Statement of Work at the following locations unless otherwise advised by County:

PSAP	PSAP Address
Regional	
Central	10440 W Oakland Park Blvd, Sunrise, FL 33351
North*	4900 West Copan's Road, Coconut Creek, FL 33066
South	6057 SW 198th Terrace, Pembroke Pines, FL 33332
Non-Regional	
Coral Springs	2801 Coral Springs Drive, Coral Springs, FL
Plantation	451 NW 70th Terrace, Plantation, FL

PSAP	PSAP Address
Emergency Operation Center (EOC)	201 NW 84th Ave, Plantation, FL (Unmanned Backup PSAP)
Broward Test Lab (Future)	
Broward Test Lab Center	Current Plan 5301 NW 33 <sup>rd</sup> Avenue Fort Lauderdale, Florida 33309

\*The current North Regional PSAP will be relocated to 1801 N.W. 49 Street, Fort Lauderdale 33309 by 4Q 2026 or 1Q 2027. The Test Lab will be implemented in 2Q 2028.

The tables below (i.e. Metrics, Current Technology and Call Data Breakdown) provide processed call and text data based on the timeframes noted. Contractor's System must be designed and implemented to accommodate these metrics including continued anticipated growth. The technology section below outlines the systems, voice network capacity, and software versions currently deployed in County for the Regional and Non-Regional PSAPs.

#### A. Metrics

PSAP Call Data FY25 (10/1/2024 - 9/30/2025)	Regional	Non-Regional	Total
Total Incoming 911, Text, Alarm, Incoming Non-Emergency Requests	1,843,200	487,655	2,330,855
Total 911 Calls Incoming - Includes TTYs, TTY Challenges, and Abandoned Calls	1,084,707	131,519	1,216,226
Total Text-to-911 Incoming	4,132	1,006	5,138
Total Transfer Calls	93,773	14,739	108,512
Total of Number Call Taking Position	113*	60	173

\* As of 4Q, 2026, the 113 Call Taking Positions includes the additional twenty-two (22) for the relocated North Regional PSAP.

#### B. Current Technology and Call Data Breakdown

Number	Annual Information Area	North Regional	Central Regional	South Regional	Coral Springs	Plantation	EOC
<b>Call Detail</b>							
1	Incoming 911 calls (10/1/2024 - 9/30/2025)	329,633	493,191	261,883	75,132	56,387	N/A

Number	Annual Information Area	North Regional	Central Regional	South Regional	Coral Springs	Plantation	EOC
2	Incoming Non-Emergency calls (10/1/2024 - 9/30/2025)	221,986	79,012	170,447	104,269	77,157	N/A
3	Outbound calls (10/1/2024 - 9/30/2025)	150,947	184,550	107,281	58,689	32,358	N/A
4	Transfer out (10/1/2024 - 9/30/2025)	38,766	37,719	17,288	9,664	5,075	N/A
Technology							
1	Primary or Secondary PSAP	Primary	Primary	Primary	Primary	Primary	Backup
2	Computer-aided Dispatch (CAD) System	Motorola P1	Motorola P1	Motorola P1	Central Square	Hexagon	N/A
3	NICE X.X Voice Recording System	9.2	9.2	9.2	9.2	9.2	9.2
4	RapidSOS	Yes	Yes	Yes	Yes	Yes	Yes
5	Remote VIPER Laptops	N/A	30	N/A	8	8	N/A
6	911 Incoming CAMA Trunks (Concurrent Voice Paths)	55	50	21	28	6	26
7	Automatic Location Identification (ALI) Circuits	2	2	2	2	2	2
8	Geographic Information System (GIS) Repository	N/A	Primary	N/A	N/A	N/A	Backup
9	Internet Circuit for VIPER 7	2	2	2	2	2	2

### C. Current Environment

Refer to Section 7, Architecture Diagram (Existing environment) for more information regarding County's current environment.

#### 1. 911 Call Ingress

Call ingress is how telephone providers send 911 calls to the 911 Service Provider. Today, these calls are sent over dedicated legacy CAMA or Signaling System 7 (SS7) trunks. The carrier calculates the number of trunks needed. The trunks are set up between the OSP and the selective router of the 911 Service Provider.

#### 2. Call Routing

The 911 Service provider's selective router receives the 911 calls and routes those calls to the selected PSAP using either the incoming trunk identification (ID) or the phone number provided with the call. The selective router has limited routing options, usually only normal, alternate (if the call cannot get to the normal route), and default (if the provider does not know where to send the call).

#### 3. 911 Call Egress/Call Delivery

911 Call Egress or call delivery is how the calls are delivered to the PSAPs. The calls are split into multiple incoming trunk groups (wireline and wireless) to the Call-Handling Equipment (CHE) for each PSAP location. In addition, the trunk groups contain individual trunks that are terminated at multiple CHE hosts for diversity. The VIPER CHE then delivers the call to the proper PSAP for the Non-Regional PSAPs and to the automatic call distribution (ACD) system for the Regional PSAPs. The location information is then requested by the CHE at the PSAP via dedicated ALL circuits.

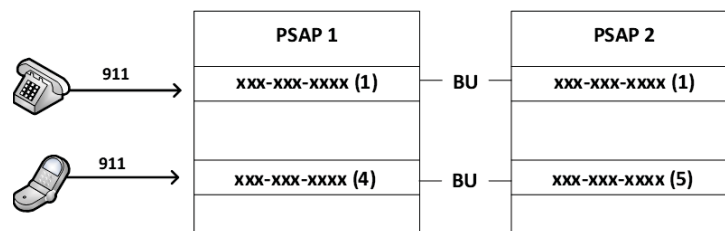


Figure 1: 911 Example Call Egress Trunk Diversity

#### 4. Alternate Call Routing/Failover

The Legacy System provides limited alternate routing, so County implemented contingency plans to overcome these limitations. While there are several scenarios developed, the remediation of them is accomplished by the two methods described below.

(a) VIPER CHE Configurations

The alternate routing of calls between PSAPs within one environment and the Regional PSAP CAD failover (local mode) when VIPER is fully functional is accomplished via VIPER features.

With the implementation of the NG911 System, County is planning for an additional level of alternate routing that may go to alternate environments (i.e., Regional versus Non-Regional) or neighboring counties to answer calls. This has not been implemented in the legacy environment due to the limitations of the current system. The time to alternate route calls will be significantly reduced in the NG911 System environment.

(b) Manual Trunking Changes

If calls must be sent from one environment to another, the trunking must be switched to the new destination PSAP trunks. The 911 staff must contact the 911 provider to redirect calls from the current environment to the alternate environment, which will take a significant amount of time in the current environment. For example, the calls that normally go into the trunks of a PSAP that has been abandoned need to be redirected to the trunks of the new destination PSAP. This involves making changes to the routing table in the selective router and takes significant time to complete by the 911 service provider.

**5. Security**

Security in the Legacy System has been limited due to the restricted access to the 911 system. Only authorized providers can access the 911 system, and then, in most cases, only using specific types of traffic such as CAMA or SS7.

County implemented dedicated trunk groups for TDoS remediation (TDoS trunks are not included in the totals listed in the Current Technology table above).

**6. Network Redundancy and Resiliency**

The Legacy System has limited redundancy and resiliency. County instituted additional backup trunking to diverse locations to help provide resiliency (backup trunks are not included in the totals listed in the Current Technology table above). Resiliency is limited by being connected to a single primary selective router.

**7. Call Processing**

The VIPER 7 CHE is used to process 911 calls and retrieve location information. For the Regional PSAPs, calls are routed to the three PSAPs, processed by the hosted VIPER, and delivered to the appropriate PSAPs by the VIPER ACD. For the Non-Regional PSAPs, calls are sent to the PSAPs, processed by VIPER, and delivered to the appropriate PSAP via ring groups.

VIPER also provides the ability to reroute calls between the PSAPs within each system environment (Regional or Non-Regional) but not between system environments.

## **8. Interfaces**

The current 911 system is interconnected to the VIPER CHE. VIPER has interfaces to the CAD system and the Voice Recording System (VRS), replicated database servers for reporting, the Securelogix servers for TDoS mitigation of administrative lines in the Regional environment, and Power Management Information System (MIS).

## **9. Reporting**

The CHE Power MIS Reporting System provides preformatted and ad hoc reports for VIPER CHE statistics. PSAP managers have access to these reports. The CHE also has an ePrinter that captures the Call Detail Record (CDR) for each call.

### **D. General Overview of NG911 System**

This is a high-level general overview of the NG911 System being provided by Contractor. Contractor shall be deploying components and applications to accomplish the high-level requirements noted in the overview sections below along with the specific requirements specified in the subsequent sections of this SOW:

#### **1. 911 Call Ingress**

OSPs shall deliver calls to at least two Points of Interconnection (POIs), which will provide resiliency in the call ingress to NG911 System. Contractor shall implement at least four POIs, two of which must be within 100 miles of Broward County. There shall be no single point of failure during the entire routing process of a County 911 call, Text, or multi-media request.

##### *a) Call Routing*

Contractor shall have at least three geographically diverse data centers provisioned to route the calls for County. GIS data from County GIS repository shall be used for geospatial routing. NG911 System uses IP-based transport and not the point-to-point circuits of Legacy System, which allows for faster routing across the systems.

The location information shall be provided to the CHE during the call setup, not after the call is received. There shall be no single point of failure during the entire routing process of a County 911 call.

##### *b) 911 Call Egress/Call Delivery*

For each environment (Regional and Non-Regional), each PSAP shall have two circuits that will terminate at the VIPER load balancer. Each circuit shall be sized to handle all calls for each environment, plus a 25% growth factor. In addition, each environment shall have two additional backup circuits that terminate directly into VIPER servers to provide alternate delivery paths if the primary paths fail, or the load balancers do not function. Each PSAP shall have network equipment installed to interconnect to the ESInet. This equipment is typically a router and switch. There shall be no single point of failure during the entire routing process of a County 911 call.

c) *Alternate Call Routing/Failover*

Rerouting calls based on the call type, geographic location of the caller, or specific error conditions is all possible with NG911. The existing routing within the environment (with VIPER in service) and local mode scenarios will be managed by VIPER as it is now. For the failure of a single- or two-PSAP load balancer(s) or VIPER telephony server(s), Contractor shall be able to detect the failure and institute predefined or default alternate routing immediately. The need to transfer calls to the other environments shall be automatically implemented by Contractor by using pre-planned routing rules approved by County and not require manual changes to the circuits when VIPER is in one environment (Regional or Non-Regional) and unable to take calls (e.g., no users logged in, equipment failure, manual switch).

Routing outside of the Broward County will be implemented using interconnectivity to the neighboring counties. This shall be implemented with multiple interconnectivity options available (including at least automatically, manually by switches, and calls to Contractor) to trigger pre-planned rules. There shall be no single point of failure during the entire routing process of all 911 calls. Contractor shall set up tertiary backup circuits into County PSAPs using wireless or satellite technology to deliver 911 calls in the event of an ESInet failure.

d) *Security*

NG911 uses standards-based systems and IP protocols, which presents a higher risk than legacy analog technology. To protect the NG911 System, Contractor shall use the Border Control Function (BCF) between the NG911 System and all outside interfaces or interconnections. Compliance with the *NENA Security for Next-Generation 9-1-1 Standard {NG-SEC}* is required for the NG911 System.

Many agencies rely on Certification Authorities for authentication and preventing security risks. According to NENA/NIOC 01-002, *NIOC PSAP Credentialing Agency {PCA} Certificate Validation Guidelines*, Certification Authorities (CAs), and the infrastructure they support, form the basis for one of the primary mechanisms for providing assurance of identity. The widely placed trust in CAs is at the heart of security mechanisms used to protect sessions and transactions for Next Generation 9-1-1 (NG9-1-1). National Emergency Number Association's i3 and associated standards require Transport Layer Security (TLS) throughout the ecosystem to allow for secure communications and a single shared root of trust to assist with the operation and interoperability of the NG911 System. TLS relies on CAs to identify Servers and Clients. The root of trust in the NG9-1-1 Public Key Infrastructure (PKI) is the PCA.

In addition, the NG911 System shall use a complex group of monitoring, scanning, and controls including virus protection, intrusion detection, intrusion prevention, configuration management password requirements, Multifactor Authentication (MFA), and lab testing before changes are made to protect the network and components of the NG911 system.

To help reduce or eliminate TDoS attacks, the NG911 System will utilize the newer protocols of Secure Telephone Identity Revisited (STIR) and Signature-based Handling of Asserted Information Using toKENs (SHAKEN). STIR/SHAKEN is used to verify callers on the systems. Calls that fail this verification shall be identified to the CHE based on attestation information from the NGCS in the

NG911 System so they can be processed if there is a valid emergency. This process will be used to reduce the number of swatting incidents.

e) *Network Redundancy and Resiliency*

Network redundancy and resiliency are the basis of NG911 and are built in from the beginning. There shall be geographic and carrier-diverse components to prevent a disaster from impacting the entire system. There shall be no single point of failure during the entire routing process of a County 911 call.

f) *Call Processing*

The VIPER CHE is used to process 911 calls and retrieve location information. For the Regional PSAPs, calls are routed to the three PSAPs, processed by the hosted VIPER, and delivered to the appropriate PSAPs by the VIPER Automatic Call Distribution (ACD). For the Non-Regional PSAPs, calls are sent to the PSAPs, processed by VIPER, and delivered to the appropriate PSAP via ring groups.

VIPER also provides the ability to reroute calls between the PSAPs within each system environment (Regional or Non-Regional) but not between system environments.

g) *Interfaces*

The NG911 System shall be interconnected to the VIPER CHE. VIPER has interfaces to the CAD system and the Voice Recording System (VRS), replicated database servers for reporting, the Securelogix servers for TDoS mitigation of administrative lines in the Regional environment, Power Management Information System (MIS), and the data warehouse (future). Contractor shall ensure County's NG911 System is able to interconnect with the NG911 systems of neighboring jurisdictions to transfer calls and to provide the ability to use neighboring jurisdictions and backup PSAPs, if needed, using NNIs.

*Reporting*

Power MIS will provide preformatted and ad hoc reports of the data from the VIPER CHE. PSAP managers will have access to these reports. In addition, Contractor shall provide a comprehensive reporting application (Eclipse Analytics ) and dashboard that gathers and presents additional information such as call volumes, call types, abandoned calls, network processing times, logs from each NGCS Functional Element, transfer dates/times, alternate routing counts, and ESInet-to-ESInet counts. Contractor will provide reporting on service requests for response and resolution times of reported issues.

## 2. Services Description

Contractor shall provide the following deliverables as part of this Statement of Work:

**A. Software (also referred to herein as "System Services")**

Contractor shall deliver, install, configure, and test the NG911 System as described herein, including the System Services identified below. Upon Final Acceptance the Software will be supported in accordance with Exhibit D (Hosting, Support, and Maintenance Services).

Model	Description	QTY
NGCS	VESTA NXT Router Service	N/A
Data Analytics (Eclipse)	Eclipse Analytics License, SaaS, per Viper position	219
VESTA NXT Continuity	An emergency backup cloud call taking solution (referred to as VESTA NXT Continuity). Access and use Rights for VESTA NXT Continuity for emergency backup purposes, concurrent users.	30

**B. Equipment**

Contractor shall deliver, install, configure, and test all Equipment that is required for the NG911 System as described herein, including the Equipment identified below. Upon Final Acceptance the Equipment will be supported in accordance with Exhibit D (Hosting, Support, and Maintenance Services).

Model	Description	QTY
Arista Edge 720 VeloCloud Edge OS appliance	SD-WAN device utilizing VeloCloud Orchestrator operating system, 2 at each Viper host site	12
2U Rack Mount Shelf	Each rack shelf holds two Arista Edge 720 VeloCloud Edge OS appliances, 1 at each Viper host site, if not provided by County	6
Motorola EDG	Emergency Data Gateway (EDG), 2 at each Viper host site (Primary and Secondary)	12
*Firewall (e.g., FortiGate 70g)	Firewall utilizing FortiOS operating system, 2 at each Viper host site	12

\* The need for this line item will be assessed during the Design Sessions. If County approves this line item is not needed, then this equipment will not be provided and the associated cost per Exhibit B-1 will be reduced from the applicable invoice(s).

The following equipment will be provided by County based on the recommended specifications provide by Contractor for the VESTA NXT Continuity Solution.

Operating System (OS)	Windows 11 Pro 64-bit with latest security and windows updates and patches
Web Browser	HTML5 Google Chrome (latest version)
Monitors	<ul style="list-style-type: none"> <li>• <b>Screen size:</b> 21 Inches (23/24 inches Preferred)</li> <li>• <b>Screen resolution:</b> 1080p (Full HD)</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Screen aspect ratio:</b> 16:9</li> </ul> <p><b>Minimum number of monitors:</b> 1 (consider two, to support additional features)</p>
Hardware	<ul style="list-style-type: none"> <li>• <b>Processor:</b> i3 (i5 processor preferred)</li> <li>• <b>RAM:</b> 4GB (8GB preferred)</li> <li>• <b>Hard drive:</b> 128GB</li> <li>• <b>Graphics card:</b> Support for two monitors or more, with WebGL2 support</li> <li>• <b>USB:</b> available port for headset connectivity</li> </ul>
VESTA NXT Continuity - Android or Chromebook based tablet equipment	<ul style="list-style-type: none"> <li>• <b>Chromebook:</b> Runs latest Chrome Operating systems, with latest security and updates and patches</li> <li>• <b>Android Tablets:</b> Runs latest Android Operating systems, with the latest security updates and patches</li> <li>• <b>Web Browser:</b> HTML5 Google Chrome (latest version)</li> <li>• <b>USB:</b> available port for headset connectivity</li> </ul>

### 1. New Equipment

The Equipment to be provided and supported by Contractor includes but is not limited to the following:

- Contractor shall provide, install, and configure a total of twelve (12) Arista Software Defined Wide Area Network (SD-WAN) Edge 720 (or substantially similar, subject to County approval) for ESInet connectivity within the Regional and Non-Regional PSAP(s). Contractor shall also provide network connections to the devices via fiber or copper (as applicable, based on the network cabling available to the network) provider. Contractor shall provide each PSAP with two Fortigate 70g firewalls deployed in high-availability mode to which all appliances can connect and gain the resiliency of the SD-WAN ESInet connectivity. These firewalls consume an average of 12.3W and a maximum of 12.8W. All CHE host locations that are connected to the call routing service will have a pair of HA Arista SD-WAN Edge 720 (or similar) devices, a pair of Fortigate 70g firewalls, and Motorola Emergency Data Gateway installed.
- All PSAP locations that are connected to the call routing service will have a pair of Arista SD-WAN Edge 720 (or similar) devices installed in a high availability (HA) configuration for ESInet connectivity. Contractor shall also provide network connections to the devices via fiber or copper, as applicable (based on the network cabling available to the network provider). The typical power consumption for the device is 30 watts and heat load is 102.36 BTU/hour.
- Each PSAP shall have a Motorola Emergency Data Gateway device for MIS data collection, and the power consumption is 36W.
- All components installed by Contractor in the PSAPs shall also meet the following requirements:

- All components shall be locally redundant at the hardware and software application layers.
- All hardware and software shall be: new not used; currently available on the open market; and not identified as end of life by the manufacturer during the Term of this Agreement.
- All powered devices shall include a minimum of two redundant power supplies (each of which shall be able to power the device alone and which would be connected to separate circuits). For devices with single power supplies running in a high-availability mode, each device will be connected to a separate power source.
- Failure of any single instance of a hardware or software element or physical connection shall not negatively impact the overall System performance.
- All network-connected elements shall support at least two redundant network interfaces.
- Capacity to handle 50% growth without requiring the replacement of any hardware or software components provided initially by Contractor. Contractor will conduct sufficient load testing to confirm capacity and provide documentation confirming same to County on an annual basis.
- Voice and data circuits delivered from diverse providers to each CHE host location.
- Must properly flag emergency services circuits and provide Telecommunications Service Priority (TSP) for priority repair and installation of voice and data circuits.

## **2. Spare Parts**

Contractor will provide sufficient spare parts, which shall be located at a local (i.e., within Broward County) storage depot to restore service and allow for the replacement of critical and major parts not functioning, all within the response times listed in this Agreement, including Exhibit D.

## **C. Professional Services**

Contractor shall provide all necessary services to implement the NG911 System at all of the Regional and Non-Regional and Test Lab Sites listed above. The services shall include but are not limited to the following:

- All necessary installation (including onsite), setup, and configuration services.
- Onsite Project Management, Technical and Engineering Support, and Client Management Onsite system integration and interface setup, test, and implementation to all third-party systems.

- Onsite training, development, and custom training delivery tailored to County's implementation of NG911 System.
- Provide documentation, including training manuals, user guides, and a NG911 training video via a separate webinar (i.e., MS Teams) session from the instructor-led sessions, and record off of a single position for audio and video, resulting in an MP4 recording for Broward to use as refresher training for their personnel.
- Administrate, coordinate, and lead onsite Design Sessions with County representatives, third-party vendors including presenting proposed Design Document(s), and receiving and incorporating all feedback received from County; the final Design Document is subject to written approval by County Contract Administrator.
- Coordinate and lead all onsite technical architecture Design Sessions to produce the most optimal design for delivery, system redundancy with no single points of failure of any component or call flow, and call processing.
- Contractor shall develop a phased approach for this project, including:
  - Develop an Event Plan with step-by-step pre, during, and post event activities with time duration for each activity to cutover the NG911 System in the Regional and Non-Regional environments by each PSAP.
  - Develop an implementation strategy for the Regional and Non-Regional environments to ensure that the NG911 System deployment does not adversely impact the existing operation during installation, testing, and/or Go-Live.
- Provide onsite technical support for Preliminary Acceptance Testing, Go-Live, and Post-Go Live Support.
- Contractor shall provide a Client Service Representative (CSR) during Go-Live, Final Acceptance Testing, and for the duration of the Term. This person shall be the primary point of contact for all issues for the operation of the NG911 System for the Term (i.e., ten years after Final Acceptance, if all renewals are exercised). County will review and approve the CSR and, if the CSR needs to be replaced, the replacement will be subject to County review and written approval.
- All Services shall be provided in compliance with County's Change Management Process and within the specified maintenance window of 11pm to 6am Monday through Thursday or as otherwise approved by County.
- Services will include configuring the NG911 System to provide County-requested reporting and analytics for transactional logs and call reporting.

### 3. Technical Approach

Contractor shall provide services as follows:

#### **A. Project Kickoff**

The project kickoff meeting shall be held no later than ten (10) business days after County's issuance of the Notice to Proceed (NTP) for the project. Contractor shall provide a detailed agenda and presentation of the Project Overview, Key Milestones, Key Benefits, Implementation Strategy, Operational, and Technical Resource requirements at this meeting at least five (5) business days prior to the project kickoff meeting. Contractor Technical Project Lead and Project Manager shall be onsite during this meeting.

#### **B. Design, Delivery, Installation, and Configuration**

Contractor shall be responsible for and provide facilitation of at least six (6) onsite three-hour Design Sessions to develop the Design Documents. All Contractor Subject Matter Experts (SME) shall be onsite during this project activity. The Design Documents are subject to final approval by County. The draft Design Documents shall be provided to County for review and approval within ten (10) business days after the final Design Session, and the Final Design Document shall be provided to County within ten (10) business days after the delivery of County's comments on the draft Design Documents.

Contractor Design Sessions shall provide a matrix of defined PSAP Uniform Resource Identifiers (URIs) and CHE queues, including those for rarely used dynamic geofencing. The Policy Routing Function (PRF) and Policy Routing Rules (PRR) are created by Contractor for all alternative routing scenarios. Once the predefined scenarios are built, there shall be a formal change process for enacting any changes of the predefined configuration to ensure that no loops in routing get created.

#### *Avoid PSAP Disruption*

Contractor shall schedule all activities to avoid PSAP disruption or impacts to County's PSAP operation for all changes. This includes onsite work as well as availability of systems. Contractor shall define the process to prioritize, schedule, and coordinate project activities with County and PSAPs as a part of the Design Sessions and Event Plan development.

#### *Not a First Application Site*

County shall not be a first application site to introduce new applications, components, or features, absent prior written approval by the Contract Administrator. Contractor must use any new applications, components, and features in a production environment for at least thirty (30) business days and provide documentation of the results before provisioning the changes in County's NG911 System.

## **C. General System Requirements**

### *NENA I3 Standard-based Systems*

All components and systems provided by Contractor shall be standards-based systems that comply with nationally accepted standards and requirements applicable to NG911 IP network architecture, security, and interface functionality, including the NENA i3 standards.

### *Standard-based Compliance*

All aspects of the NG911 system design, deployment, operation, and security provided by Contractor shall be in full compliance with all applicable industry standards, requirements, and recommendations. The applicable NG911 Standards Development Organizations (SDOs) and other entities include, at a minimum:

- Alliance for Telecommunications Industry Solutions (ATIS)
- Association of Public-Safety Communications Officials (APCO) International
- Department of Justice (DOJ)
- International Organization of Standards (ISO)
- Internet Engineering Task Force (IETF)
- National Emergency Number Association (NENA)
- National Institute of Standards and Technology (NIST)
- Open Systems Interconnection (OSI)
- Telecommunications Industry Association (TIA)
- The Monitoring Association (TMA)
- Underwriters Laboratories (UL)

A list of adopted standards and other documents are included in Appendix A.

### *Multiple NGCS Data Centers*

Contractor shall deploy NGCS at multiple data centers but no less than three geo-diverse sites in such a way that a single major incident cannot impact more than one data center site. One data center shall be in Florida.

## **D. Data Center Requirements**

All data centers proposed by Contractor, including POIs and aggregation sites, shall have a level of protection and capabilities to make the site resilient. Data centers shall meet all of the following:

- All power sources are redundant and diverse (i.e., at least two separate circuits) with an Uninterruptible Power Supply (UPS) system and generator backup for a minimum of 72 hours
- Voice and data circuits delivered via diverse entrances into the facilities

- Voice and data circuits delivered from diverse providers to each Next Generation Core Services (NGCS) host location
- Voice and data circuits delivered from diverse providers to each CHE host location
- Secured rack space or data center
- Minimum Tier 3 rated
- Hardened facilities that can withstand Enhanced Fujita Scale (EF) 5-category winds up to 318 miles per hour
- Must provision circuits with Telecommunications Service Priority (TSP) classification
- Capacity to handle 50% growth without requiring the replacement of any hardware or software components

Multi-Factor Authentication (MFA) shall be implemented for any access to externally accessible portals, user interfaces (UIs), and Functional Elements of the NG911 System (e.g., Policy Routing Function [PRF] portal, reporting portal, system dashboards, etc.).

#### *Product Roadmap*

Contractor shall provide an annual product roadmap of any NG911 features that are currently not available with projected timeframes for such features to become generally available.

Contractor's roadmap currently includes plans and timeframes to roll out the following features and functions, which are an integral part of this Agreement and will, subject to County prior written approval and in coordination with County as to timing, be implemented in the System by Contractor at no additional cost to County promptly upon availability, which shall be no later than the dates stated below:

- Multimedia (e.g., video, images) applications delivered as part of the NG911 System: Contractor will continue to actively collaborate with early adopter service and content providers to enable multimedia payloads for both traditional and automated emergency requests. (Implemented no later than 12/31/2026).
- Artificial Intelligence (AI) systems: This feature includes AI-powered call routing, Interactive Multimedia Response (IMR), and Policy Routing Function (PRF). Contractor shall integrate AI as a core component of the NG911 System to enhance situational awareness and operational efficiency. (Implemented no later than 6/30/2027)
- Use cases will include Enhanced Call Triage, Dynamic Routing and Resource Allocation, Intelligent Routing Policy, and Next-Generation Call Automation (Implemented no later than 12/31/2027)

- Internet of Things (IoT): The AI-powered IMR and Emergency Services Routing Proxy (ESRP) will serve as the intelligence layer that processes data from wearables, connected cars, and other IoT sensors, allowing the NG911 System to appropriately route information that can be shared without the need for a human operator. (Implemented no later than 9/30/2027)
- User-editable PRF (Implemented no later than 9/30/2026)
  - Routing rules for each element of the Session Initiation Protocol (SIP) header and the ability to route voice and data based on any element. This shall include routing a single session to multiple destinations. This includes a PRF that will permit bridging language translators and the PSAP with the call delivery, or possibilities of delivering voice and video to two endpoints.
- The call routing service product development team has plans for enhancing the PRF. This includes the leverage of multiple element state conditions coupled with 911 authority policies to empower agency stakeholders. The NG911 System will provide intelligent user feedback and safeguards to prevent policy changes or practices that might create negative or undesired results (Implemented no later than 3/31/2028).
- Integration with the Nationwide Public Safety Broadband Network (NPSBN) being implemented by the First Responder Network Authority (FirstNet) (Implemented no later than 1/1/2027)
- Emergency call taking positions in the cloud, as another tier of contingency if a PSAP's positions become unavailable or if a PSAP is uninhabitable, shall be available at the Go-Live for each environment (i.e. Regional and Non-Regional) (Implemented no later than 3/31/27 for Regional and 5/31/27 for Non-Regional)
- Single Session to Multiple Destinations: The roadmap includes an Intelligent Messaging & Routing feature with the ultimate goal of "ad-hoc routing and message crafted ad-hoc." This points to the ability to route different components of a single session (e.g., voice, video, data) to multiple destinations, such as bridging a language translator with the PSAP or routing voice and video to separate endpoints. (Implemented no later than 1/1/2028).

#### *System and Network Time Changes*

Contractor shall ensure that all software, firmware, functional elements, and components of the NG911 System are configured to ensure that there are no adverse impacts on the systems, software, or the operation as a result of date and time changes.

#### *Single Points of Failure*

Contractor shall ensure there is no single point of failure in the design and implementation of the NG911 System equipment and network within or outside of Broward County.

### *Abandoned Call Backs*

In the event of a failure to deliver wireline, wireless, text, and/or VoIP calls into the PSAP during a Contractor outage, Contractor shall provide real-time reporting of received calls or a portal that provides on-demand real-time access to retrieve a list of callers, each individual address or location, time and date of call, and the 10-digit number from which the caller contacted the PSAP for call back.

### *System Backups*

Contractor shall maintain backups of the entire NG911 System and every associated component for County with a minimum of two copies maintained at geo diverse sites. Contractor shall provide a copy of the proposed backup plan at the conclusion of the Design Sessions.

### *Alarm Notification*

Contractor shall provide an alarm notification template for all Functional Elements and components and configure the template based on critical and major alarm conditions with notifications to County. Alarm notification shall be provided to County for NG911 System failure, alternate routing, rerouting, failover, and overflow routing.

## **A. Lab and Testing**

### *Provide Test Environment*

Contractor shall provide access to the NG911 System in a testing environment. The test environment shall simulate the same features and functions of the actual County production NG911 system including the hardware and software that is not interconnected to the live environment of County

### *Test Numbers*

Contractor shall provide test numbers that simulate different call types-at a minimum, wireline, wireless, and VoIP.

### *Test Lab*

Contractor shall provide a call routing service virtual lab environment from a cloud native instance for County staff to connect to. Contractor's lab environment shall simulate County's production environment for call routing and call delivery and shall be used to test, before promotion to live production, all changes that (1) are likely to result in observable changes to the functionality of the System, (2) constitute security patches or functionality upgrades, or (3) could impact call routing and call delivery. Contractor shall provide an interconnection to County's future lab environment, which is targeted for implementation in 2Q2028. Contractor will interconnect to County's lab environment within three (3) months after implementation of County's lab environment.

Contractor shall test all new features, functions, equipment, and software (including patches and upgrades) in Contractor's lab environment before being deployed. All testing results shall be included with the information on the NG911 System changes for County's approval before

implementation in the production environment. County reserves the right to observe testing and add additional tests.

*Interconnection of the NG911 to County's Test Environment*

Contractor shall interconnect to County's test environment. County will develop and deploy a test environment that will include test systems for CHE, Computer Aided Dispatch (CAD), and Voice Recording Systems (VRS). County's test environment targeted for 2Q 2028.

**E. Technical System Requirements**

**1. 911 Call Ingress**

**Authority to Operate:** Contractor shall have and maintain the authority to operate and bill as a service provider in the State of Florida.

**OSP Integration:** For the integration of all OSPs' connectivity for wireline, wireless, and VoIP traffic, as well as Multiline Telephone Systems (MLTSs), Contractor shall:

- Coordinate with County to obtain a letter of authority/agency
- Establish interconnection, commercial agreements, and trunking
- Provide Interface Control Documents (ICDs) for all OSPs, CHE, and other third-party providers requiring ESInet connectivity
- Coordinate with all telecommunications providers and manage circuit order processes, including testing and integration
- Analyze current trunk engineering for 911 traffic and validate any trunk rebalancing for public-safety-grade service
- Provide weekly updates to County on the migration status and interface types for all OSPs.

**Multiple POIs:** Contractor shall provide multiple POIs for OSPs both locally and nationally with a minimum of four POIs-at least two within 100 miles of Broward County. Having local and national POIs will provide OSPs with interconnection choices. Contractor will provide the following locations as available POIs (as elected by OSP Carrier):

- SIP: Orlando
- SIP: Tampa
- In LATA (within 100 miles):
  - Time Division Multiplex (TDM): Miami

- TDM: West Palm Beach
- TDM: Pompano Beach
- Motorola will maintain availability of the following national POIs for accessibility to County:
  - Chicago, IL
  - Dallas, TX
  - Ashburn, VA

**OSP Connections to POIs:** Contractor shall interconnect each OSP with at least two POIs for call receipt. Contractor shall permit all OSPs to interconnect to more than two POIs for diversity at an OSP's discretion.

**ALI Migration:** Contractor shall manage the ALI transition, including the following as needed:

- Master Street Address Guide (MSAG) maintenance during the migration of OSPs
- MSAG Conversion Service (MCS)
- Service order input (SOI) process for subscriber records to include and moves, adds, and changes of ALI records
- Integration and provisioning for MLTS databases
- Pseudo automatic number identification (pANI) provisioning and shell records management
- Coordination of all provider records from the legacy ALI database to the replacement Location Database (LDB) and any dual provisioning necessary during the transitional phases of the project
- Provide reporting for all data within the LDB via a web-based tool
- Migration plan and migration to i3 call ingress

**Manage OSP Migration:** County is seeking a true NENA i3 system but understands that there will be some transitional steps. Contractor shall manage and implement all moves, adds, changes, and deletions of connections from the OSPs, in accordance with the FCC's OSP Migration Order. Contractor shall monitor these connections and proactively work with the respective OSPs to resolve problems as they occur. Contractor shall provide weekly progress reports to County associated with the transition of OSPs.

After all OSPs have been migrated to Phase One i3 Call Delivery, Contractor shall coordinate with the incumbent OSPs to remove all legacy components.

**Manage OSP Moves, Adds, and Changes:** Contractor shall manage and implement all adds, moves, changes, and deletions of connections to OSPs, both TDM and IP-based, in accordance with the Federal Communications Commission (FCC) Report and Order Facilitating Implementation of NG911 Services (FCC 24- 178); monitor these connections; and proactively work with the respective OSPs to resolve problems as they occur.

**Integrated Text to 911:** Contractor shall integrate with the Text Control Center (TCC) to provide text-to-911 via the NG911 System, including the ability to process Real-Time Text (RTT), Rich Communication Services text, transfer text sessions, and bridge text sessions.

Per the FCC Report & Order 24-78, OSPs are required to deliver text services directly to PSAPs, effectively removing the need for intermediate Text Control Centers (TCCs). As part of the OSP Migration to Phase Two i3 Call Delivery, Contractor shall coordinate the removal of the TCC from the Call Flow at the early stages of Phase Two to eliminate costs.

## 2. NG911 Processing - GIS

### *Governing GIS Standards*

Contractor shall comply with all applicable NENA standards and technical documents pertaining to GIS, including but not limited to (in the event a standard is updated between authoring this document and release by County, the latest version of the standard shall apply):

- NENA Standard for NG9-1-1 GIS Data Model, NENA-STA-006.2a-2022
- NENA Standard for NG9-1-1 Additional Data, NENA-STA-012.2 2017
- NENA NG9-1-1 United States Civic Location Data Exchange Format (CLDXF) Standard, NENA-STA 004.1.1-2014
- NENA GIS and Data Collection Standards, NENA 02-014
- NENA Information Document for Synchronizing Geographic Information System Databases with MSAG & ALI, NENA 71-501
- NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1, NENA-INF-014.1 2015
- NENA Standard Data Formats for E9-1-1 Data Exchange & GIS Mapping, NENA-STA-015.10-2018

County understands the importance of GIS data to the successful operation of an end-state NG911 System. While County will work with Contractor to ensure County's GIS meets the needs

of the NG911 migration, County will not be required to customize the GIS data or maintain multiple versions of GIS data or workflows to meet the needs of Contractor.

#### *GIS Datum*

Contractor shall accept GIS data in the datum and projection used by County. County currently maintains GIS data in World Geodetic System 84 (WGS84) (NG911 GIS data layers) and Florida State Plane North American Datum of 1983 (NAD83) for multi-use GIS data layers.

#### *GIS Transformations and Projections*

Transformations between datums require complex calculations and can seriously degrade the accuracy of the GIS data. County shall retain oversight of all transformations and reprojection of GIS data.

Contractor shall coordinate all datum transformations with County and shall defer to County for approval on every transformation setting to ensure the most accurate transformation possible.

#### *GIS Schema*

County will not update the native schema for any GIS dataset used by other applications or public safety agencies within Broward County without prior written notice to Contractor. Contractor shall provide field mapping and Extract, Transform, Load (ETL) scripts required to convert County's GIS data into the NG911 schema and perform conversions if needed.

#### *GIS Data Validation Settings*

Contractor shall make available to County all validation settings; x, y cluster tolerances; topology tolerances; and all transformation pathways and shall notify County prior to any changes in these settings or the validation process.

#### *Legacy Location Data*

County certifies that the match rate between County's GIS data and the legacy location tables meets or exceeds NENA recommendations. Contractor shall work with all OSPs to acquire ALI and MSAG records as necessary for NGCS GIS and legacy data validation as required by Contractor. Contractor is responsible for all costs associated with legacy data acquisition.

#### *Orphaned ALI Records*

Contractor shall resolve orphaned ALI records (invalid civic address) with the ALI provider. County shall not be responsible for updating or deleting ALI records.

#### *Transition-Related Costs*

Contractor shall be responsible for all costs associated with transitioning to geospatial call routing and location validation. This includes GIS-based MSAG conversion and maintenance during the transition period.

#### *SI GIS Data Uploads*

County maintains GIS data in Esri file geodatabase format. Contractor shall accept Esri file geodatabase uploads from County through the SI.

#### *SI and NGCS Pravisianing*

Contractor shall include all tools necessary for the GIS data upload, validation, and publishing to the NG911 System. This shall include required licensing and applicable maintenance fees where necessary (other than Esri software already in use by County) for the Term and migration to NG911.

#### *Nanduplicative GIS Data*

County intends to continue maintaining a single set of GIS data for NG911 System and the CAD system. Contractor shall work with County to ensure all fields necessary to support both applications are contained and maintained in the GIS dataset attribution tables. Where NG911 requirements contradict CAD requirements, CAD standards shall prevail (e.g., one-way streets versus drawing centerlines in the direction of increasing addresses).

#### *Exception Codes*

Contractor shall provide a means for applying a persistent exception code to non-critical errors so that the same are not included in discrepancy reports and do not adversely affect legacy data to GIS match rates.

#### *SI Pravisianing*

Contractor shall pull GIS data from County GIS data repository rather than require County to push (upload) GIS data to the SI. The data pulled can be automated by Contractor or scheduled by County, as selected by County.

County's GIS data already resides within Motorola's Spatial Interface. The GIS data shall be directly provisioned to the ECRF and LVF without any changes to County's processes.

#### *SI Message Lagging*

Contractor shall provide and retain message logging of all SI transactions, success and failures, caller phone numbers, caller addresses, and date and time stamps for 30 days at a minimum.

#### *GIS Database*

Contractor's GIS database shall support updates from Esri geodatabases.

#### *GIS Database Verificatian and Validatian*

Contractor's SI shall validate GIS database changes before they are implemented. Exceptions shall be provided in the form of a report from the SI of any records that failed the validation process.

#### *GIS Data*

Contractor understands that all GIS data is the property of County and that none of the data shall be shared with anyone without County's consent.

#### *GIS Maintenance and Support*

Contractor shall design, develop, and implement a method to upload regularly scheduled County GIS data updates to the NGCS from the GIS Repository with clearly documented data requirements. Contractor will provide a dedicated resource to assist County with executing all

recurring GIS maintenance activities associated with the project. The resource will serve as a backup to County GIS Specialist for the duration of the Term.

### **3. NG911 Processing - Data Processing**

#### *GIS Upload*

Contractor shall provide a user-friendly method for County to manually upload GIS files on demand as well as the data requirements from County's GIS repository. Additionally, Contractor shall be responsible for converting any GIS data derived from legacy MSAG into spatial format ensuring it complies with NENA schema required for the NG911 System. Contractor shall upload GIS files with clearly documented data requirements from County's GIS repository.

#### *Alternate Routing Data*

Alternate routing plans shall utilize the Uniform Resource Identifier (URI) defined within the PSAP boundaries.

#### *Data for the Policy Routing Function {PRF}*

The PRF is a Functional Element provided with the NG911 System used for alternate routing of 911 calls under certain conditions. The conditions and alternate routing options shall be defined during the Design Sessions.

Contractor shall provide a method and portal to access and manage the PRF routing plans.

#### *CHE Configuration Data*

Contractor shall provide a process to access and manage the configuration data for the CHE needed to implement and operate the NG911 System. The process will also be used when there is a need to make changes to the call flow and delivery within the CHE that impacts the NG911 System call routing schema.

Contractor shall work cooperatively with the County's CHE provider to define queues associated with routing URIs and required labels and tags, which will require the County's approval.

#### *Routing and Configuration Data*

Contractor shall provide a process to manage the configuration data from County's NG911 system needed by the CHE and other PSAP systems to interoperate on the NG911 System.

### **4. NG911 Processing - Call Routing**

#### *Legacy Systems Connectivity*

Contractor shall coordinate and implement connectivity to legacy selective routers to support transfers to neighboring agencies not served by County.

Contractor shall connect the NG911 System to the legacy selective router(s) serving Broward County during the OSP migration stage of the project. Once migration is complete, Contractor shall deliver Basic SIP or i3 SIP calls, based on the capabilities of the neighboring service provider,

to support transfers to all surrounding counties and transfer partners; therefore, no Legacy Selective Router Gateway (LSRG) shall be required.

#### *NG911 Systems Connectivity*

Contractor shall coordinate, set up, and implement the Network to Network Interfaces (NNI) to connect to all neighboring ESInets (i.e., Collier, Miami Dade, Palm Beach, Monroe, Orange, and Hillsborough counties) not served by County's NG911 System to support i3 transfers to neighboring agencies and future Continuity-of-Operation Plans (COOP). Contractor shall develop, provide specifications, and implement NNI interfaces to other ESInets with County's NG911 System at least sixty (60) days in advance of the first PSAP implementation.

#### *Rules, Policies, and Algorithms*

Contractor shall work with County to design all the rules, policies, and algorithms that will be available to route calls in a manner similar to the County routing groups currently in place. All policy based rules shall be approved by County prior to production use. Contractor shall provide all approved rules, policies, and algorithms that will be available to route calls similar to the County routing groups currently in place.

During deployment, Contractor's project managers and system engineers shall collaboratively work with PSAP personnel to develop custom policy routing rules tailored to the PSAP's operational requirements. This includes supporting call transfers, selective transfer agencies, and alternate, overflow, and abandonment routing.

#### *Distribution of Calls to PSAPs*

Contractor shall route calls similar to the routing groups currently in place, including call labels/flags/tags required by the CHE for various call functions and distribution rules currently in place.

Contractor shall provision the PSAP configurations in the Router Service based on information gathered during the Design Sessions. This ensures that existing routing logic is captured and applied in the new NG911 System.

The PRF shall provide relevant flags, such as a "call-diverted flag," to alternate routing destinations, as defined in the NENA i3 standard. This effectively acts as a call label, flags, or tag, indicating that a call has been rerouted by policy.

Contractor shall work with the CHE provider to ensure that call handling Automatic Call Distribution (ACD) rules and NGCS Policy Routing Function (PRF) rules work in conjunction with each other. This means that if the Call Routing Service cannot deliver a call to the primary designated PSAP, it can be presented to another PSAP, a specific queue, or other destinations, depending on the ACD rules already established by the PSAP.

#### *Credentialing*

Contractor shall provide or acquire appropriate system and device credentialing that will permit the exchange of data and calls with surrounding jurisdictions. Credentialing is an important

component for interoperability with other systems. Contractor shall work cooperatively with County during the Design Sessions to allow County to select the best credentialing solution to be implemented by Contractor. This applicable terms and conditions for the acquired credentialing system shall be the terms and conditions of this Agreement unless otherwise approved in advance in writing by County's Contract Administrator. Contractor's credentialing solution shall provide for credentialing through all of the following methods:

- Capability to acquire certificates from a NIOC PCA-vetted Intermediate Certificate Authority (ICA) and ability to validate NIOC PCA Certificates for authenticity
- Interoperate with the NIOC PCA for credentialing (Contractor NIOC PCA implementation through its own ICA or a state or regional NIOC ICA)
- Provide a system that utilizes certificate-based role authentication in accordance with the PCA outlined in NENA-STA-010.3 2021 and in deployment with the NIOC Certificate Policy
- Support the authentication of roles using the certificate obtained from the NIOC PCA
- Support credentialing with the Forest Guide and hierarchical ECRFs when integrated with state or adjacent NG911 systems

#### *Call Routing Configurations*

Contractor shall implement call-routing configurations, rules, policies, and algorithms to distribute calls to the two environments (Regional and Non-Regional) and multiple hosts, similar to the current County distribution model. All calls will be routed based on data received. Contractor shall lead Design Sessions to gather all required information to develop procedures, processes, and rules to distribute calls to the hosts in the Regional and Non-Regional environments.

The Design Sessions will include the mapping of Emergency Services URIs (ESURIs) to support Call Functions and Distribution Rules.

Policy Routing Rules (PRR) shall be set to deliver calls to the PSAP Host servers based on the ESURI if the Load Balancers cannot be reached for any reason.

Contractor shall have PRRs provisioned for rerouting under conditions of abandonment, inability to connect, and overflow. The calls shall be routed to another destination which may include a different ESURI, SIPURI (ESInet), or TelURI (10-digit dialing). Some alternate routes to external agencies may be based on the geographic location of the call.

#### *Services, Applications, and/or Functional Elements Anticipated*

Contractor shall provide the following NENA i3-compliant Functional Elements as part of the overall NG911 System:

- Legacy Network Gateway (LNG)/Legacy Selective Router Gateway (LSRG) - An LNG provides a signaling and media interconnection point between callers in legacy wireline/wireless originating networks and the i3 architecture. The LNG logically resides between the originating network and the ESInet and allows i3 PSAPs to receive emergency calls from legacy originating networks. An LSRG provides an interface between a 911 selective router and an ESInet, enabling calls to be routed and/or transferred between legacy and NG911 networks. Both an LNG and an LSRG are transitional elements and are decommissioned once all legacy routing systems have transitioned to SIP-based traffic.
- Border Control Function (BCF) - A BCF provides secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall, admission control, and may include anchoring of sessions and media as well as other security mechanisms to prevent deliberate or malicious attacks.
- Emergency Services Routing Proxy (ESRP) - An ESRP provides a SIP proxy service that selects the next-hop routing within the ESInet based on location, service Uniform Resource Name (URN), and policy. The Originating ESRP receives calls from the BCF at the edge of the ESInet and one or more Intermediary ESRPs may exist that route to the Terminating ESRP.
- Policy-based Routing Function (PRF) - A PRF stores Policy Routing Rules (PRRs) that are used by the ESRP to make policy-based call routing decisions in the delivery of a call to a PSAP. The PRF shall be used to dynamically modify call routing based on various conditions, including network state, PSAP state, caller location, media type, and/or language preference.
- Emergency Call Routing Function (ECRF) - An ECRF provides a Location-to-Service Translation (LoST) protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a Uniform Resource Identifier (URI) used to route an emergency call to the appropriate PSAP for the caller's location or to a responder agency.
- Location Validation Function (LVF) - A LVF provides a LoST protocol server where civic location information is validated against the authoritative GIS database information.
- Spatial Interface (SI) - The SI provides a standardized interface between the GIS data and the Functional Elements that consume GIS data (i.e., ECRF, LVF, and mapping data service).
- Location Database (LDB) - The LDB provides the current information, functionality, and interfaces of legacy 911's ALI database but can also use the new protocols required in an NG911 deployment.

- Network Time Protocol (NTP) and Time Source - An NTP service synchronizes network time between servers, clients, and applications across a network. The time source provides consistent, credible, and accurate time synchronization to ensure system performance. This time shall also be synchronized with the internal CHE.
- Master Street Address Guide (MSAG) Conversion Service (MCS) - An MCS is a service that provides conversion between Presence Information Data Format - Location Object (PIDF-LO) and MSAG data.
- Network-to-Network Interface (NNI) to Other Neighboring NG911 Systems - An NNI enables the interconnection and exchange of data between different distinct networks or NG911 systems typically operated by different service providers or organizations. An NNI allows disparate networks to seamlessly communicate with each other, facilitating the transmission of voice, data, and multimedia traffic.

There shall be multiple instances of each Functional Element listed above to ensure that there is no single point of failure. Contractor shall provide all services, applications, and functions as described above for County, inclusive of all call routing and call handling requirements outlined in this SOW.

#### *Regional PSAP Routing*

The CHE has been implemented to provide advanced routing capabilities. These capabilities are expected to remain. Regional PSAP routing shall include:

- Ability for all calls to be load-balanced across the three hosts
- Ability for the VIPER load balancers to distribute calls to the VIPER servers regardless of the designated PSAP
- Ability for the VIPER CHE to distribute calls to all PSAPs regardless of the designated PSAP
- Ability of the VIPER CHE to identify the designated PSAP and distribute to the designated local PSAP to the caller when needed (CAD failure operations)

The existing VIPER routing capabilities shall be retained; however, configurations may need to transition from TDM call delivery from the OSPs into i3 call delivery, which no longer has designated trunks. The ESURI will be used by VIPER, as well as other information carried within the SIP header, to determine the best route for that call to take within the CHE.

#### *Non-Regional PSAP Routing*

Non-Regional PSAP routing shall include:

- Ability for all calls to be load-balanced across the three hosts similar to how it is balanced for County as of the Effective Date of this Agreement

- Ability for the VIPER load balancers to distribute calls to the VIPER servers regardless of the proper PSAP
- Ability for the VIPER CHE to distribute calls to the proper PSAP

The existing VIPER routing capabilities shall be retained; however, configurations may need to transition from TDM call delivery from the OSPs into i3 call delivery, which no longer has designated trunks; Contractor will lead any needed transition. The ESURI will be used by VIPER, as well as other information carried within the SIP header, to determine the best route for that call to take within the CHE.

#### *Emergency Call Routing*

Contractor shall implement call-routing configurations, rules, policies, and algorithms to change the distribution of calls to the two environments (Regional and Non-Regional) and multiple hosts for the emergency routing scenarios.

Contractor shall develop procedures and processes to distribute calls to the hosts in each environment for the following predetermined emergency scenarios at a minimum:

- Loss of primary route to a host load balancer
- Loss of primary and secondary route to a host load balancer
- Loss of all routes to a single host in a single environment
- Loss of all routes to two hosts in a single environment
- Abandonment of a PSAP
- Abandonment of a single PSAP with transfer to another environment
- Abandonment of two PSAPs with transfer to another environment
- Loss of single environment
- Use of out-of-county PSAPs as backup PSAPs

Contractor shall set up Design Sessions, which includes Call Flow design with County to ensure continuity of business under each of these listed conditions above.

Contractor shall establish baseline Policy Routing Rules based on County's desire to maintain and enhance the resiliency of the current routing capabilities. The PRF acts hierarchically and allows for many alternate route solutions based on multiple criteria.

### *Geofencing*

Geofencing and routing calls to specific call takers/positions/queues/ring groups are needed as part of County's requirements. Contractor shall ensure selected queues or ring groups, PSAPs, or resources can be dynamically removed from receiving non-incident/event 911 calls.

Unique URIs shall be used to send to a specific PSAP queue, and upon PRF enablement by the PSAP, shall be redirected to another PSAP or PSAP queue for separate handling. For dynamic geofencing, a set of unique URIs associated with unique queues shall be defined and implemented together so that call takers are already in the new queue when the PRF is enabled.

### *Overflow Notification*

The NG911 System shall provide overflow notification to backup/alternate PSAPs that an incoming call is being routed to the alternate PSAP due to the primary PSAP(s) being unable to handle the incoming call load.

Contractor's call routing service shall comply with the NENA i3v3 standard and provides the "History-Info" data and reroute reasoning based on the section 10.20 "Route Cause" Registry, which is included in the signaling. County shall be able to configure the VIPER system to display any of the information desired from that standards-based data set. The information to be displayed on the VIPER will be defined during the Design Sessions.

## **5. NG911 Processing - Network Redundancy and Resiliency**

### *Redundant Circuits into the VIPER Load Balancers*

Contractor shall provision two redundant circuits into each location to terminate at the firewalls to which the VIPER load balancers will connect.

### *Redundant Circuits into the VIPER Servers*

Contractor shall provision two circuits into two locations in each environment (Regional and Non-Regional) to terminate at the firewalls to which the VIPER servers will connect.

### *Diverse Power*

All power shall be redundant and diverse (i.e., at least two separate circuits) with a UPS system and generator backup for each component of the NG911 System.

### *Diverse and Redundant Circuits*

All voice and data circuits shall be redundant and delivered via diverse entrances into all facilities, where available.

### *Wireless Connectivity*

Contractor shall provide a circuit using satellite, public safety broadband networks, or other Long-Term Evolution (LTE) or wireless connectivity as a tertiary backup for connectivity to all PSAPs for call delivery.

Contractor's NG911 System shall use High Availability Software Defined Wide Area Network (SD-WAN) edge devices for the PSAP's ESInet connectivity. The circuits connected to these devices

shall always be active. Contractor shall implement redundant connectivity via non-wired solution such as Dedicated Public Safety Broadband, Commercial Managed Broadband, LTE, and Low Earth Orbit (LEO) Satellite.

#### *Maintain Active Calls*

Contractor shall ensure that when the IP circuits between the NGCS and PSAPs fail for any reason during an active call, the voice or data shall fail over to the redundant IP circuit without dropping the call.

#### *All Circuits Used*

To ensure all connectivity is always available, all primary circuits shall be used in normal operation to process traffic. Secondary and tertiary circuits shall be active daily. The active secondary and tertiary circuits will demonstrate that the circuits are available and can support live traffic.

All circuits shall be active at all times using High Availability SD-WAN edge devices for the PSAP's ESInet connectivity. All network paths shall be maintained in an active state.

#### *Circuits Monitored*

All circuits shall always be monitored to ensure they are available when needed.

Contractor shall provide a comprehensive approach to circuit outage notifications and network management for the NG911 System which shall ensure continued monitoring throughout the Term. The comprehensive approach shall be designed to ensure rapid response, transparent reporting, and high system availability using the following circuit downtime notifications:

- Proactive Monitoring and Automated Alarming
  - The Network Security Operations Center (NSOC) actively and continuously monitors all network, computing, and software elements of the NG911 System 24x7x365, including holidays. This monitoring system includes probes actively polling the ESInet infrastructure.
  - NG911 System event and performance metrics shall be forwarded to the NSOC for real-time analysis and historical trend identification.
  - If a probe becomes unreachable or an issue is detected, a trouble ticket shall be automatically generated in the Service Management System, logging detailed event information. These alarms are correlated and shall be presented as incidents within NSOC dashboards for immediate response.
- Multi-Level Notification System
  - Notifications shall be provided through multiple channels, including phone calls, email, and SMS text messages.

- Contractor's Service Management System shall provide auto-generated notifications based on defined thresholds, such as the severity of an issue, activity type (e.g., change authorization request, pre-scheduled maintenance), or a threshold breach on a network or component.

## **6. NG911 Call Delivery - 911 Call Egress/Call Delivery to all PSAPs**

### *Call Egress/Call-Delivery Circuits*

Contractor shall provide the call egress/call-delivery circuits and associated infrastructure to meet the following requirements:

- Diverse entrance facilities for core sites
- Diverse entrance facilities to all CHE host locations that County deploys, whether local, remote data center, or cloud-based
- No single point of failure
- Use open standards
- IPv4 and IPv6 dual protocol stacks
- Border Gateway Protocol (BGP) utilizing bidirectional forwarding detection
- Multicast routing and switching
- Quality of service (QoS) marking using Differentiated Service Code Point (DSCP) to ensure the highest voice quality for all 911 calls
- Have a network traffic convergence of less than 54 milliseconds (ms)
- Maintain an MOS of 4.0 or better at the handoff to the CHE

### *NG911 Circuit Bandwidth*

Contractor shall provide bandwidth to the CHE at each host to be capable of operating the entire system plus 25% growth. Contractor shall ensure that in the event of a failure of the ESInet or CHE, a single connection to a single host will be large enough to handle all traffic.

### *Abandonment Switches*

Contractor shall provision the ability for authorized users to set an abandonment state at each PSAP, which, when activated, will automatically reroute calls to the pre-defined alternate endpoint for that PSAP based on the required routing configurations used today. Strict administrative policies and procedures will be developed by Contractor and put in place by County prior to Go-Live of the Regional PSAPs.

Contractor's Customer Web Portal (CWP) shall provide credentialed users with the ability to abandon a PSAP from any location. Upon activation, the predefined Policy Routing Rules (PRR) shall be made active and the NG911 System shall reroute those calls to their appropriate destination based on the URI and other pertinent information contained within the SIP Header Blocks.

*Policy-Based Rules*

Contractor shall provide a policy-based rules function and a user-accessible tool to manage the policy rule's function.

The following provisions shall be available, accessible, and functional by authorized personnel from either the PSAP or County:

- PSAP Abandonment Strategy: Authorized PSAP personnel shall be able to activate and deactivate a multi-level PSAP abandonment strategy via the CWP. This includes manual "make-busy" functionality to reroute calls.
- Alternate Routing Strategies: PSAP personnel shall be able to define alternate routing strategies to redirect calls when the primary PSAP cannot receive calls during outages or evacuations.
- Abusive Caller Mitigation: Authorized PSAP and NG911 staff shall be able to enact policy routing configurations to send calls from abusive callers to a predetermined destination, such as an automated attendant, low-priority queue, or a designated PSAP URI.
- Policy Routing Customization: PRF rules shall be viewed, modified, or customized by designated PSAP staff and agency administrators to optimize routing based on specific operational requirements identified during Design Sessions or on demand during an actual event.
- Call Type-Based Routing: Rules shall be configured based on call type (e.g., wireline, wireless, VoIP).
- Policy Rule Definition: PSAPs will participate in the development and approval of the Policy Routing Plan and define routing rules, including primary, alternate, busy, and overflow routing.

The following shall be provisioned by Contractor:

- Core Policy Management: Shall provide the overarching routing of calls through the call routing services of the NG911 System, including the ability to re-route calls during outages or based on the call handling status of a PSAP.

- Location-Based Routing: The NG911 System shall prioritize location-based routing using GIS data, but PRRs shall include fallbacks like ESN, community, FIPS codes, or trunk groups if geospatial routing is not possible.
- OSP and Trunk Group Routing: PRRs shall be based on the Originating Service Provider (OSP) or specific trunk groups.
- ESRP/PRF Interaction: The Emergency Services Routing Proxy (ESRP) queries the PRF to determine the next hop destination, leveraging queue and service state subscriptions to assess PSAP availability.

Contractor shall also provide the following Integration and Coordination:

- Contractor's NG911 System call routing service shall ensure that its Policy Routing Function (PRF) rules work in conjunction with Call Handling Automatic Call Distribution (ACD) rules.
- New routing rules or modifications shall go through the Change Management Process involving the Network & Security Operations Center (NSOC) to ensure all stakeholders are aware and potential impacts are assessed in advance.
- Contractor shall conduct quarterly reviews of policy routing rules to assess their impact on PSAP operations and provide a summary of the review with actionable items and commitment dates for changes noted after the Go-Live for each PSAP environment (Regional and Non-Regional).
- Training shall be provided on PRF policy management, covering how routing rules are used, modified, and how reporting/ logging can optimize them.

## **7. Emergency Incident Data Object (EIDO)**

The NGCS and ESInet shall support the exchange of EIDO over the ESInet between PSAPs and across NNIs to neighboring jurisdictions.

Contractor's NG911 System call routing service shall provide the transport of EIDO to and from the PSAP with proper credentialing. No action is necessary by County or CHE vendor to allow transport of EIDO as this is handled by NNIs with neighboring NGCS providers. PSAP personnel shall be able to initiate a transfer of a call with EIDO and allow a subscribe/notify event from a neighboring jurisdiction.

### *EIDO Access*

Contractor shall ensure that NG911 System enables the exchange of EIDO over the ESInet between PSAPs and across NNIs to neighboring jurisdictions. The NG911 System shall provide access from other jurisdictions to the EIDO message servers deployed in County's Regional and

Non- Regional environments to exchange EIDO data through multi factor authentication of all requestors for the information.

Contractor shall work with CHE vendor to preconfigure credentialed access to be able to exchange EIDO packets. County is only responsible for the CHE providers' coordination and testing of access and exchange of information.

*Early Media and Ring Back*

Contractor shall configure the functions within the NG911 System to provide early media and ring back from the PSAP CHE. Contractor shall coordinate configuration of the Regional environment to include early media and ring no answer to not impact the ACD in use.

*Early Media and Ring Na Answer*

Contractor shall configure the NG911 System in the Regional environment to include early media and ring no answer to not impact the ACD in use.

*Call Back and Bridging*

The NG911 System shall provide the ability to call back 911 callers and to bridge the calls to various agencies within and outside of Broward County.

*Call Back and Transfer*

Contractor shall provide an Outbound Call Interface Function (OCIF) to permit the call back and transfer of calls.

*Bridging*

Contractor shall provide a bridging function that will allow the conferencing of at least five callers simultaneously.

*Legacy System Manitarng*

After completion of Final Acceptance Testing, the Legacy Systems shall remain in place for at least 30 additional days. The Legacy Systems shall be monitored after Go-Live to ensure no traffic is processed by the Legacy Systems. If traffic is processed by the Legacy Systems, Contractor shall troubleshoot and identify the OSP and migrate the traffic to the NG911 System, and the 30-day period will begin again.

*Removal of Legacy Systems and Circuits*

After thirty (30) days of no traffic, Contractor shall lead the process, with the County's assistance and participation where necessary (for example, issuing disconnect orders with legacy system provider for legacy ESInet circuits), to terminate and remove unused Legacy Systems and circuits.

*Legacy Selective Rauter Retirement*

Contractor shall coordinate and execute plans to remove the legacy selective routers from the call flow to reduce future costs.

Contractor shall track OSP migrations and once they have all been migrated, continues to monitor the analog trunks for any activity. Once activity has stopped, Contractor shall start the decommissioning process.

#### *Terminate Legacy 911 Components*

Contractor shall manage the termination of the Legacy Systems at the direction of County after final acceptance and monitoring of legacy devices shows no activity for period of thirty (30) days. Contractor shall provide, prior to Go-Live for the Regional PSAPs, the step-by-step plan and process used to speedily terminate Legacy Systems at the Regional and Non-Regional PSAPs.

#### *Call Delivery Monitoring and Notifications*

Contractor shall monitor the processing of 911 calls through the Functional Elements of the NG911 System to the PSAPs.

As part of the call delivery monitoring, the following situations shall result in a trouble ticket being generated automatically for dispatch and resolution, and a notification to County:

- Call delivery between Functional Elements causes a call processing error shall generate an alarm.
- When all calls are not able to be delivered to the PSAP, Contractor shall generate an alarm and notifies the appropriate parties at County as well as the field personnel to confirm that alternate routing is activated.
- When there is a failure to deliver the 911 call, the alternate call routing plans are automatically used to route the calls. In the event the NG911 alternate routes are not available, the calls shall be routed to an alternate public switched telephone network (PSTN) path using a 10-digit number associated with the destination PSAP. If the primary path is unavailable, the calls shall be routed to the backup 10- digit number. The logging of such routing shall be available to County.

As soon as a call cannot reach its intended destination, an alarm shall be generated along with a trouble ticket in Contractor's ServiceNow application. Notifications shall be sent to County designated staff via email and/or a phone call to designated contact.

Policy Routing Rules (PRR) will immediately determine the next predefined hop for that call. The PRRs will be defined early in the deployment phase.

Calls that are rerouted shall be tagged so the receiving PSAP knows that it was not delivered to its intended PSAP.

The predefined routing plans will dictate the call flow for undelivered calls., whether it is to an alternate route or 10-digit numbers. Routing by the predefined routing plans will be activated automatically. The trouble ticket resolution will be handled by Contractor's Network and Security Operations Center (NSOC).

### *Call Queuing*

Contractor shall provide call queuing at the network level. If the network is unable to deliver the calls to the PSAP due to increased volume, the calls shall be queued and tracked at the network level. The NG911 System shall be able to process two hundred (200) calls simultaneously for each environment (Regional and Non-Regional).

Calls shall be delivered to the intended destination, in this case the VIPER load balancers, VIPER Hosts, or next hop according to the Policy Routing Rules predefined by County.

The NG911 System call routing service shall be set up and configured to meet or exceed County's requirements based on the Regional and Non-Regional current call taking onsite and remote position count plus 25% and to the maximum level of calls that can be queued in the VIPER phone system.

## **8. NG911 Call Delivery - Alternate Call Routing/Failover**

### *Activation of Alternate and Failover Routing*

The NG911 System shall permit the activation of alternate and failover routing to, at a minimum, mirror the current County routing by using passive (e.g., CHE status, etc.) and active (e.g., abandonment switch) methods.

Contractor shall define all contingency routing plans. These plans will consider PSAP availability and/or queue status.

These pre-defined Policy Routing Rules shall activate upon failure to route to the primary destination PSAP, with no required action from PSAP personnel (passive).

Policy Routing Rules shall be set up for the customer to activate (e.g., PSAP abandonment) manually. All rules will be defined during the Design Sessions.

### *Regional Environment Failover*

The NG911 System provided by Contractor shall support the activation of a Regional PSAP failover for a single PSAP or two PSAP failures with VIPER in service. Calls shall have tags or other methods of identification for the VIPER to be able to route the call appropriately. CAD failure scenarios will be managed by VIPER as it is now.

Contractor shall provide twenty (20) cloud-based positions within the Regional environment on the VESTA-NXT Continuity Call Handling platform.

### *Non-Regional Environment Failover*

The NG911 System shall support the activation of a Non-Regional PSAP failover for a single PSAP not functioning with VIPER in service; it will be managed by VIPER as it is as of the Effective Date of this Agreement. Calls shall have tags or other methods of identification for the VIPER to be able to route the calls appropriately.

Contractor shall provide six (6) cloud-based positions for the Coral Springs PSAP, and four (4) cloud-based positions for Plantation PSAP on the VESTA-NXT platform.

*Automatic Activation of Call Routing to the Other Environment*

The NG911 System shall permit the automatic activation of call routing from one environment to the other environment when VIPER in one environment (Regional or Non-Regional) is unable to process 911 calls (e.g., no users logged in, equipment failure, manual switch).

Alternate routing through the PRF shall occur when CHE is down, calls are not answered, overflow shall occur when agents aren't available, or manual abandonment is enabled. Alternate routing is also enhanced by the use of location-based alternate routes, where all calls go to multiple PSAPs based on where they occur in County.

*Activation of Call Routing to Other NG911 Systems*

The NG911 System shall permit the activation of call routing to other jurisdictions and shall be implemented using interconnectivity to neighboring counties.

*Legacy Selective Router Connectivity to Neighboring Agencies*

Contractor shall coordinate and execute connectivity to legacy selective routers to support call transfers to neighboring agencies not served by County's or other NG911 Systems. The NG911 System shall support the use of star codes and provide the ability to modify star codes. A list of star codes will be provided by County during the Design Sessions, if relevant.

*NG911 System Connectivity to Neighboring Agencies*

Contractor shall coordinate and execute connectivity to neighboring NG911 systems to support call transfers and alternate routing to neighboring agencies not served by County's NG911 System.

Contractor currently has connectivity to all NGCS providers surrounding Broward County. A Network-to-Network Interface (NNI) shall be used to define how calls will be processed between the providers. Contractor shall assist the CHE vendor in configuring transfer buttons that are not location-based.

**9. NG911 Call Delivery - Call Processing**

*Integrate with VIPER 7 in the Regional Environment*

Contractor shall integrate with the VIPER 7 in the Regional environment to ensure that all current functions of VIPER continue to function, including the load sharing and ACD functions.

Contractor's call routing service is CHE-agnostic. Contractor shall develop a plan with the existing CHE provider to enable SIP delivery of calls and associated HTTP-Enabled Location Delivery (HELD) and Additional Data Repository (ADR) information services during the analysis and design phase of the project. Contractor shall work closely with the CHE provider to ensure that the project stays on schedule, ensure that the call queues match up with the PSAP (Uniform Resource

Identifier) URIs and agreed upon alternate routing scenarios All functionality of VIPER 7 SP2 or higher shall be tested with Contractor's routing platform for ensuring continued operation.

*Integrate with VIPER 7 in the Non-Regional Environment*

Contractor shall integrate with the VIPER 7 in the Non-Regional environment to ensure that all current functions of VIPER continue to function, including the load sharing functions.

Contractor's call routing service is CHE-agnostic. Contractor shall develop a plan with the existing CHE provider to enable SIP delivery of calls and associated HTTP-Enabled Location Delivery (HELD) and Additional Data Repository (ADR) information services during the analysis and design phase of the project lifecycle. Contractor shall work closely with the CHE provider to ensure that the project stays on schedule, ensure that the call queues match up with the PSAP (Uniform Resource Identifier) URIs and agreed upon alternate routing scenarios. All functionality of VIPER 7 SP2 or higher shall be tested with Contractor's routing platform for ensuring continued operation.

*Data Supports VIPER 7 Functions*

Contractor shall work cooperatively with the CHE vendor to ensure that the data provided by Contractor meets the needs of the CHE to continue to provide all current functions. Contractor shall provide documentation on the configurations and data exchanges to the CHE vendor and work cooperatively to interconnect.

*Call Processing by Type*

The NG911 System shall process and deliver wireline, wireless, VoIP, text (RTT, Short Message Service [SMS], Message Session Relay Protocol [MSRP], Instant Messaging [IM]), and Multimedia Service (MMS) calls/requests for emergency response seamlessly.

The NG911 System shall accept and deliver Telecommunications Device for Deaf (TDD) and TTY calls.

*Caller Location Information*

Contractor shall ensure that the NG911 System utilizes the location information for each 911 call at the handheld device-level, as provided by the Carrier, for call routing and call processing. In the event real time location information is unavailable by the carrier, the NG911 System will utilize the Location Database provided by the Contractor to retrieve and present location information to the PSAPs.

*NGCS Media Recording*

Contractor shall ensure that the NG911 System provides call and media recording for all calls processed by VESTA-NXT Continuity positions. The PSAP and other County staff shall have access to the recordings via the web portal.

As of the Effective Date of this agreement, the NG911 System currently includes neither the ability to output necessary information to permit the recording of calls and media from the NG911 System nor the logging and recording capability to preserve them. Contractor plans to

offer this functionality within the Term of this Agreement. Unless otherwise directed by County, promptly upon Contractor's first generally available (non-beta) offering of this functionality to any customer, Contractor shall implement the output functionality to permit call and media recording from the NG911 System along with the functionality to log, record, and preserve such recordings, along with the ability to support and maintain such functionality, at no additional cost to County, with such implementation completed within six (6) months after the first offering of this functionality to any customer by Contractor.

VESTA NXT Continuity, a nomadic, cloud-based emergency call-handling solution designed as a failover system for premise-based 911 call handling systems, is capable of recording voice and media content and storing these voice and media recordings. Thus, in an emergency backup scenario, should VESTA NXT Continuity be utilized, Motorola will be able to provide voice and media recording and storage, through the tools inherently available in VESTA NXT Continuity.

## **10. NG911 System Logging**

### *System Lagging*

Contractor shall maintain logs of all changes made in the policy store with date of change, time of change, and username of the user who made each change. The information logged shall be available for up to one year with the option for County to purge the logs on demand without additional costs.

Contractor shall provide transactional logging information for each Functional Element (i.e., Emergency Services Routing Proxy [ESRP], Legacy Network Gateway [LNG], BCF, PRF, Location Validation Function [LVF], Legacy Selective Router Gateway [LSRG], Spatial Interface [SI], and Emergency Call Routing Function [ECRF]). The transactional database logs for 911 calls shall include date and time stamp of the call, calling number, SIP header information, routing destination, call or record process success/failures, transfers, ALI database transactions, and alternate routing, which includes call counts. The log retention period shall be a minimum of thirty (30) calendar days.

### *System Lagging Repositories*

Contractor shall provide transactional logging repositories at two different data centers for each Functional Element (i.e., ESRP, LNG, BCF, PRF, LVF, LSRG, SI, and ECRF). The log retention period shall be a minimum of thirty (30) calendar days.

### *System Lag Retrieval*

Contractor shall provide a user-friendly portal to retrieve transactional logs in near real-time for each Functional Element (i.e., ESRP, LNG, BCF, PRF, LVF, LSRG, SI, and ECRF). Contractor shall provide a process to retrieve the logs.

Contractor shall permit authorized personnel with the applicable credentials to access the web-based reporting system to run reports associated with transactional logging in near real-time as i3 events are sent from Functional Elements as they occur without having to wait until call disconnect.

## **F. Testing**

Contractor's Technical SME shall conduct NG911 System Testing to ensure that it provides the functions specified in this SOW. Such testing shall include all test items listed in the Preliminary Acceptance Testing (PAT) identified in Section 13 of this SOW. County and Contractor may also mutually agree to add additional test criteria to ensure that all aspects of the NG911 System are tested and ready for production. Contractor's Technical SME shall provide successful test results to County based on NG911 System Tests conducted, prior to County commencing PAT.

There are three stages of testing for the NG911 project. The stages include the following:

- The NG911 System Testing confirms that the new NG911 System has been installed and configured as requested by County. This testing is performed by Contractor prior to the commencement of the Preliminary Acceptance Testing.
- Preliminary Acceptance Testing (PAT) will allow County to verify all configuration requirements, interfaces, and functional specifications. Preliminary Acceptance Testing will be conducted by County and commence immediately after installation and notification by Contractor that the system has successfully passed NG911 System Testing, coupled with the actual test results. County will develop a comprehensive test plan and strategy with consultation and onsite meeting participation from Contractor's designated technical project lead for PAT.
- Final Acceptance Testing shall be performed by Contractor resource(s) and County for sixty (60) days after Go-Live is successfully achieved for the Regional and Non-Regional environments. Contractor shall be responsible for resolving any issues encountered during Final Acceptance testing.

### **1. NG911 System Testing**

NG911 System testing shall be conducted by Contractor and shall include executing County's Preliminary Acceptance Testing criteria outlined in Section 13 below to ensure that the system is ready for County testing. County shall also verify and validate Contractor's system testing results before County commences Preliminary Acceptance Testing.

Contractor's NG911 System Testing shall include, but is not limited to the following:

- Ingress of Calls from Originating Service Providers.
- Routing of Calls to Individual PSAPs.
- Routing Policy Verification.
- NGCS Failover Testing.

- Network Hardware Failure, Failover, and Recovery.
- Call Processing during Host and Network Failure. Failover, and Recovery.
- Abandonment Switch functions
- Vesta NXT Continuity Emergency Call Handling Testing
- Complete Testing of the Web Portal for Reporting and PRF updates
- Cloud Recording of calls
- Eclipse Report Testing

## **2. Preliminary Acceptance Testing**

Preliminary Acceptance Testing shall be performed by County after NG911 System Testing is completed by Contractor. Preliminary Acceptance Testing criteria is outlined in Section 13 (Preliminary Acceptance Testing) below. Contractor Installation Engineer shall be onsite for a period of up to twenty (20) business days during PAT to resolve any issues. If any Severe or Critical issues (as defined in the Agreement) exist after ten (10) days following the commencement of Preliminary Acceptance Testing, Contractor Project Manager shall coordinate the extension of onsite support until these issues are resolved, at no additional cost to County.

## **G. Cutover; Go-Live**

### **1. Go-Live (Cut Over)**

Cutover shall occur after the successful completion of Preliminary Acceptance Testing (PAT). Contractor technical lead and project management resources shall be onsite during Go-Live. Contractor shall provide an Event Plan at least sixty (60) calendar days prior to the Go-Live for each PSAP to allow County time to review and approve.

- Contractor shall coordinate with all parties required for cutover.
- In the event of any major or critical issues that surface after PAT, the PSAP and County representatives will make the final determination to back out, roll back, or postpone the Go-Live.
- County reserves the right to determine when a backout procedure is initiated.

The cutover plan shall be a step-by-step Event Plan with every activity along with the expected duration of each activity.

- Go-Live will occur after the successful completion of Preliminary Acceptance Testing by County.
- Contractor will cutover each PSAP within the same environment as defined by County.
- County will determine the order in which each PSAP will cutover and the timeframe between cutover.
- Contractor shall provide the list of other third-party Technical Resources required for the cutover.
- Contractor shall provide a Go/No Go checkpoints throughout the cutover process

At the completion of cutover, trouble ticketing, reporting, and notification procedures shall be provided by Contractor to County.

#### *Go-Live by Environment*

Contractor shall perform cut over for each environment (Regional and Non-Regional) separately and by PSAP within each environment. After the Regional PSAPs are cut over successfully, the NG911 System will run for a Soak Period before the Non-Regional PSAPs are cutover. County will notify Contractor when the Non-Regional PSAP cutover may occur.

## **2. Post Go-Live Support**

### (a) Post Go-Live Support

Contractor shall provide onsite and remote support during the post Go-Live period to meet all service levels. For a period of fifteen (15) business days following Go-Live, Contractor's Technical SME shall be onsite to support the Regional PSAPs. For a period of fifteen (15) business days following Go-Live, Contractor's Technical SME shall be onsite to support the Non-Regional PSAPs. This period may restart at the discretion of County if there are any critical or major issues during the post Go-Live period, at no additional cost to County.

### (b) Escalation Procedures

At the completion of cutover, Contractor shall provide escalation procedures with the name and title of the contact, cell phone number, and email address of each level of management, up to the Chief Operating Officer (COO), to ensure that all service levels are met.

Upon the Effective Date, Contractor shall provide a detailed list of escalation team members, including their names, email addresses, and phone numbers, for each level of management assigned to your account. This information shall be updated annually to ensure it's always current.

Contractor shall provide a dedicated Customer Service Manager (CSM) who will serve as the primary point of escalation throughout the Period of Performance, ensuring that all service levels are met and issues are resolved in a timely manner.

#### **H. Final Acceptance**

Upon Go-Live of each environment (i.e., Regional and Non-Regional), County shall conduct Final Acceptance for sixty (60) days consistent with the Final Acceptance Test criteria stated in Section 14 below. Contractor shall be responsible for resolving any issues during Final Acceptance. The sixty (60) days of Final Acceptance shall align with the overall acceptance period for the NG911 project. Contractor shall be responsible for resolving all issues to the satisfaction of County during Final Acceptance. Final acceptance will not be issued for Regional environment or the Non-Regional environment until the all respective PSAPs in each environment operate for sixty (60) calendar days without encountering Severity Level 1 through Severity Level 3 issues on the NG911 System. If a Severity Level 1 through Severity Level 3 issue occurs, the sixty (60) calendar-day period shall restart following the successful resolution of the event.

## **4. Implementation**

#### **A. Site Survey**

##### Site Survey

Contractor shall perform a site survey at each PSAP (South, Central, North, Coral Springs, Plantation, New North, and EOC) within seven (7) business days after the Project Kickoff meeting.

During the site survey, Contractor shall:

- Determine the interface cable lengths
- Determine the power requirements
- Determine hardware installation requirements at each PSAP-six (6) total
- Provide a copy of the site survey, final report summary by site, and recommendations to County. The final report summary shall include all recommendations for remediation for County and Contractor.
- Determine rack usage space at each PSAP- six (6) total.

Contractor shall provide the final report summary with all recommendations and the site survey within five (5) business days after completion of all site surveys. County shall review and consent to all recommendations included in the final report summary. Any recommended or remediation actions by Contractor shall be completed by Contractor before beginning hardware installations.

Contractor shall gather configuration and other data inputs for system design, configuration, and installation during the Design Sessions.

## **B. Implementation Strategy**

Contractor shall provide an implementation strategy document for each environment (Regional and Non-Regional) to County within fifteen (15) days after completing all Design Sessions. The implementation strategy shall include a step-by-step implementation plan with specific locations of components. The implementation strategy shall be cooperatively developed with County. This document shall be reviewed by County and approved by County before Contractor proceeds with implementation. The Implementation Strategy will be developed during the Design Sessions.

### **1. General Requirements**

All installation and setup of hardware, software, System, services, and interfaces shall be completed without impact to PSAP operations. Contractor staff shall ensure that all activities associated with this project are completed without disrupting PSAP daily operations. All work areas assigned to Contractor staff must be maintained and kept in working order throughout the entire project.

#### *Design Sessions*

Contractor shall conduct onsite in-depth Design Sessions with County to develop and formalize the NG911 system design.

#### *Design Specifications*

Contractor shall provide a draft Design Document to County within ten (10) days after the final Design Session. This document shall be reviewed by County and approved by County before implementation. The final Design Document shall be provided to County within ten (10) business days after the delivery of County's comments on the draft Design Documents.

Contractor shall provide a functional call flow and system diagram to represent the proposed NG911 System. The Diagram shall depict the call flow and system architecture required to meet the requirements outlined in this Statement of Work and the specification defined in the Design Sessions.

#### *NGCS Preparation and Configuration*

Contractor shall configure all of the hardware and software required for the NG911 System in accordance with the agreed-to Design Document.

#### *Engineering and Ordering of IP Circuits as Necessary*

Contractor shall design, order, and implement all necessary IP circuits to the various required PSAPs and POIs.

#### *Procurement and Pre-configuration of Equipment to be Installed at the PSAPs*

Contractor shall procure all Equipment and shall ensure all Equipment to be installed at each PSAP has been preconfigured.

*Site Preparation and Circuit Delivery*

Contractor shall prepare the site and deliver all of the necessary circuits to each PSAP.

*Equipment Delivery to the PSAPs*

Contractor shall be responsible for the shipment, delivery, and installation of all Equipment. County is not responsible for equipment shipment, delivery, or installation. All Equipment shall be shipped by Contractor to the appropriate County facility, and Contractor will then access and install at the applicable PSAP.

**2. Installation at the Regional PSAPs**

Contractor shall install the required Equipment at the Regional PSAPs.

*Connectivity between the PSAP and NGCS at the Regional PSAPs*

Contractor shall interconnect, configure, and test the installed Equipment at the Regional PSAPs, and shall confirm that the connectivity is performing as expected and communicating with Contractor's data centers.

*Configuration of the CHE and Other Interfaced Systems at the Regional PSAPs*

Contractor shall interconnect the NG911 System to the Regional CHE to receive and process call, text, and multimedia data.

**3. Installation at the Non-Regional PSAPs**

Contractor shall install the required Equipment at the Non-Regional PSAPs.

*Connectivity between the PSAP and NGCS at the Non-Regional PSAPs*

Contractor shall interconnect, configure, and test the installed Equipment at the Non-Regional PSAPs, and shall confirm that the connectivity is performing as expected and communicating with Contractor's data centers.

*Configuration of the CHE and Other Interfaced Systems at the Non-Regional PSAPs*

Contractor shall interconnect the NG911 System to the Non-Regional CHE to receive and process call, text, and multimedia data.

**4. Reports**

*Single Reporting Platform*

Contractor shall provide a single reporting platform that can be configured based on each user's role, unique USERID, and access permissions. The portal shall support at least sixty (60) end-users that will complete daily reporting activities regarding call processing performance.

Contractor shall provide purpose-built reporting platforms for domain-specific applications (e.g., end-to-end call log reporting vs. case management). Each platform (e.g. Transactional log reporting, call investigation reporting, trouble ticket reporting, quality assurance reporting) by itself can support County's requirements.

*Reporting Platform PSAP Functions*

The single reporting platform provided by Contractor shall include a dashboard and portal for access by each PSAP manager, County staff, and others as approved by County to run the below reports. All reports shall be able to be run for specific dates and times. These reports shall be run for specific PSAPs and be limited to specific PSAPs for specific users.

The reporting platform for the PSAPs shall include, at a minimum, the following data elements and reports:

- Date and time stamp
- Call delivery time
- Call answer time
- Call disconnect time
- Call duration
- Average call duration
- Average call answer time
- Seizure time
- Call volumes by call type
- Alternate-routed calls
- Text-to-911 instances
- Abandoned calls
- Call volume by hour
- Call volume by day of the week
- Individual call information
- Summary of call volumes
- Call transfers/bridges
- Call conferences

- Agent availability
- Call volumes by OSP
- Repeat callers
- Routing method (e.g., geospatial, Federal Information Processing Standard [FIPS]/emergency service number [ESN], default, etc.)
- Call failures (e.g., ANI/ALI issues, SIP header)

The ad-hoc reporting feature of Contractor's Eclipse Analytics shall allow common language search activities for on-the-fly reporting, data drilldowns, quality assurance, call investigations, and more.

#### *Reporting Platform County Staff Functions*

Contractor shall provide a dashboard and portal for access by County staff and others as approved by County to run the below reports. All reports shall be available for specific dates and times.

The reporting platform for County staff shall include at a minimum:

- Call processing time between elements
- Payload processing time
- Calls per circuit
- Call distribution to PSAP circuits
- Circuit utilization from OSP
- Circuit utilization to PSAP
- All NGCS element usage volumes (all elements used in Contractor's NG911 System)
- End-to-end call-flow analysis
- Event by incoming IP address
- NOC-to-NOC reporting, trouble reporting, and tracking
- Root cause analyses
- Service availability for each component including ESInet segments

- Monitoring, alarming, and logging
- MOS

#### *Access to Logs via the Reporting Platform*

Contractor shall provide access to all system logs using the NG911 System portal or another similar platform. Log access shall include:

- Transactional database logs associated with each SIP header and URI, and additional information provided to County
- Retrieval of log information shall include calling number, SIP header information, call destination, successful, failures, transfers, ALI database transactions, and alternate routed calls (e.g., default, PSTN gateway, special processing, or overflow), which includes call counts
- Log retrieval shall be available by groups of calls (e.g., 911 versus non-emergency versus text-to-911) and date range of calls.

#### *Real-time System Monitoring*

Contractor shall provide access to real time system monitoring to County using the NG911 System portal. The NG911 System shall provide real time web-based monitoring of County traffic into the system at the Functional Element level and facilities (network connections). The status shall be updated every fifteen (15) seconds, which includes active, slow response, and failures.

#### *Monthly Reports from the Trouble Ticketing System*

At the completion of Final Acceptance, trouble ticketing, reporting, and notification procedures shall be provided to County and the PSAPs. Contractor shall provide direct access to the ticketing system to monitor ticket activities.

### **C. Change Management**

#### *Change Control Process*

A formal change control process shall be followed for both scheduled and emergency changes with rollback procedures, notifications, and management approvals that are strictly followed by technicians to prevent unnecessary and/or uncontrolled changes from negatively impacting the 911 system in County.

Contractor shall comply and align the change control process with County's change control process for all changes to:

- New NG911 features or functions
- Security changes (software, applications, and configurations)

- Changes to OSP ingress hardware and software
- Call routing and delivery to the PSAPs
- Any change that will impact the PSAPs

Contractor shall, at a minimum:

- Submit all change requests using County's Change Request Template
- Submit all change requests to County E911 Office for approval
- Participate in the change review process, which includes meetings to present all change requests
- Provide any additional information or changes to the plan to meet County's requirements
- Immediately upon completion of the change, notify County of the results via email

Contractor shall employ an IT Information Library (ITIL)-based Change Management process for its Next Generation Core Services (NGCS) and ESInet solutions to ensure standardized methods and procedures are followed for completing all NG911 System changes efficiently and promptly. This process is crucial for maintaining service quality and minimizing disruption, especially in mission-critical public safety environments.

The Change Review process:

- Establish Purpose and Principles
- Notify the E911 Office
- Initiation and Documentation (Request for Change - RFC)
- Assessment and Planning:
- Approval Process of Change
- Change Request Review with County Stakeholders
- Implementation and Monitoring
- Notification of Change outcome to E911 Office
- Post-Implementation Review

- Customer Web Portal Tools and Access (Customer Hub or IT Service Management Services Now)

#### *Change Notifications*

Contractor shall notify County at least seven (7) calendar days prior to all routine installations, changes, updates, upgrades, and maintenance.

## 5. Interfaces

Contractor shall coordinate and lead the effort to ensure that the interfaces are set up, tested, and implemented successfully with each of the respective third-party vendors within the agreed upon project schedule.

#### *Interface to VIPER*

Contractor shall interface the NG911 System into County's VIPER 7 platform to allow the NGCS and CHE to exchange routing, call data and activity data, including all configurations and settings needed. County's VIPER system includes the use of ACD and Interactive Voice Response (IVR) capabilities. Contractor shall work cooperatively with the CHE vendor to interface and test these connections and interconnect the NG911 System to the CHE in each environment.

#### *Other Interfaces*

The following interfaces are expected to be impacted by the NG911 implementation.

- Incoming POIs
- Legacy Systems
- Other NG911 systems
- PSTN, wireless, and VoIP systems
- VIPER EIDO server
- Interface to CAD
- TCC
- SecureLogix

#### *Interface Documentation*

Contractor shall provide interface documentation on the configurations, mapping, and data exchanges to the other contractor interfaces deployed by neighboring counties and work cooperatively to interconnect. These include but may not be limited to:

- Incoming POIs

- Legacy Systems
- Other NG911 systems
- PSTN, Wireless, and VoIP systems
- VIPER EIDO server
- TCC
- Interface to CAD

#### *Multimedia Sessions*

Contractor shall interface with the wireless providers to deliver multimedia such as video and pictures as a part of the proposed NG911 System. Deployment of this function to the PSAP will be determined on an individual PSAP basis.

## **6. Project Management**

### **A. Project Management Responsibilities**

At least four (4) weeks before the project commences, Contractor shall assign a dedicated Project Manager. The Project Manager shall:

- Ensure the Scope of Work (SOW) is completed (includes a Project Schedule of key milestones).
  - Equipment delivery
  - Installation and configuration
  - Testing schedule
  - Go-live schedule
- Ensure that Contractor-assigned resources are scheduled for the activities and deliverables outlined in the Project Plan and Project Schedule.
- Perform comprehensive risk assessment and mitigation planning.
- Ensure project status meetings are scheduled, led, and documented, and meeting minutes are distributed within 24 hours of all meetings.
- Maintain an issues log and ensure all issues are prioritized and worked in a timely manner during the life of the project.

- Maintain all project-related communications and documentation.
- Ensure the site survey is scheduled and completed in accordance with this SOW.
- Review all actions for remediation from the site survey. Contractor and County will walk through and verify that site and system environment are ready for installation at least ninety (90) calendar days prior to installation.
- Review system design, coordinate all Design Sessions with County's project manager, and obtain County approval of the final design.
- Ensure site and network architecture diagrams are completed as required up front and a final as-built diagram is provided to County prior to project closeout.
- Ensure project kickoff meeting is scheduled with County and held via teleconference or on site, at County's option. The agenda and format of the meeting must be pre-proved by County, and shall generally use a presentation format, when possible.
- Schedule all Design Sessions and document the results and actions of each session.
- Perform overall project coordination for all the activities assigned to Contractor personnel and the overall project.
- Develop a project schedule in coordination with County's project manager using MS Project application.
- Conduct and ensure weekly or bi-weekly project status meetings are scheduled, led, and meeting minutes are documented and published. During these meetings, Contractor's Project Manager will ensure that tasks are completed on time, issues are being resolved, risks are being mitigated and all project resources are aligned with the project's objectives.
- Ensure County configuration for equipment staging is collected and communicated to Contractor local personnel.
- Ensure that equipment staging is carefully planned and completed on time.
- Ensure that shipping is managed properly for on schedule arrival.
- Ensure proper coordination of on-site delivery.
- Ensure equipment receipt and validation of equipment inventory after receipt.
- Ensure all Contractor assigned resources are scheduled, committed, and managed throughout the lifecycle of the project.

- Maintain all overall project related communications and documentation.
- Work closely with County's project manager to coordinate all activities.
- Maintain issue log and ensure all issues are prioritized, worked, and escalated in a timely manner.
- Escalate issues that may potentially cause delays on the project.
- Review Go-Live Event Plan covering pre-event, during-event, and post-event activities with County at least twenty (20) business days prior to the project's implementation.
- Complete site book for delivery to County upon Final Acceptance. The site book will contain a log of all the implementation tasks (e.g., installation, configuration, final architecture diagrams, training material, and testing).

## **B. Project Plan and Schedule**

Contractor shall provide a draft comprehensive project plan and timeline (a task-oriented Gantt chart based on the project plan and delivered in Microsoft Project) that shows the entire project calculated from the Project Kickoff to Go-live within ten (10) days after Project Kickoff.

Minimum required project activities for the comprehensive project plan and timeline shall include, but not limited to the following:

- Site Survey and remediation
- Delivery, installation and labeling of all equipment on premise and within the NGCs domain
- Schedule and strategy for connecting other ESInets (such as Collier, Miami Dade, Palm Beach, Monroe, Orange, and Hillsborough counties)
- Buildout of operational NGCS
- Buildout of OSP meet points
- Schedule and strategy for connecting OSPs
- Implementation of all Reporting and NG911 System logging access
- Rollout of all features within the scope of this SOW
- Training for Regional and Non-Regional end-users

- Development of Implementation Strategy and Event Plan by PSAP
- Integration and transition of the existing GIS Repository update process
- Decommissioning CAMA trunks by PSAP
- Activation and monitoring by the Network & Security Operations Center (NSOC)
- Fully functional spatial routing of calls
- Implementation of multimedia (e.g. video, pictures, sensor, etc.)
- Final Design Sessions based on Statement of Work
- All phases of testing by environment (e.g. Contractor System testing, Preliminary Acceptance Testing, Final Acceptance Testing after Go-Live)
- Cutover by environment and PSAP (i.e. Regional PSAPs and then Non-Regional PSAPs)

The plan shall describe the schedule, processes, communications, risk and mitigation factors, and detailed integration of Functional Elements including features that may be staged for implementation such as geospatial routing. The plan shall also include the following:

- Implementation Schedule
- Continuation of Operations (COOP) Plan, including, at a minimum:
  - Lists of critical systems
  - Restoration procedures
  - Exercise or testing procedures
- Post-deployment Operational and System Security Plans
- Detailed description of the activities, personnel, schedule, standards, and methodology
- Acceptance Test Plan, including, at a minimum:
  - Test scripts and method
  - Strategy and procedure
  - Expected results for each element
- Project Plan Change Management process

- Communication Plan, including, at a minimum:
  - Adequate measures to communicate with Contractor to resolve issues
  - Communicate resolution end-to-end
- Incident Response Plan
- Incident Communication Plan
- Escalation Procedures
- Risk Register and Mitigation Plans
- Lifecycle Management Plan
  - System Security Plan
  - Plan of Action and Milestones

#### **C. Final Project Plan**

A final project plan, timeline, and a Gantt chart in Microsoft Project format shall be provided by Contractor to County within ten (10) business days after comments are received from County regarding the initial plan submitted.

#### **D. Weekly Project Calls**

Contractor shall conduct weekly project calls. These project calls shall include an agenda before the meetings and cover, at a minimum, work to date, work for the next two (2) weeks, and any issues that may impact the project along with risk and mitigation actions to address risk. Contractor's PM shall provide weekly written reports, distributed within twenty-four (24) hours of the project call, that capture the minutes and action items from the call.

#### **E. Project Monthly Status Reports**

Contractor shall provide monthly progress reports before the 15th of the next month throughout the duration of the project. Weekly reports will be due following equipment delivery. Weekly progress reports shall be provided to County at least twenty-four (24) hours prior to the project status meeting.

Monthly or weekly progress reports shall contain details relating to the following tasks:

- Activities to include:
  - Accomplishments since the previous reporting period

- PSAP data gathering
  - Staging and lab testing
  - Installation, set up, and configuration
  - Device and circuit installation progress at each site
  - Connectivity information for CHE provider
  - ALI/Location Database (LDB) transition
  - GIS data readiness
  - NGCS provisioning status
- Updated schedule and comparison to baseline
  - Issue and Risk tracking with classification of issues (i.e., critical, major, and minor)
  - Pre-cutover testing
  - Cutover schedule plans

## **F. Staffing**

### **1. Technical Project Lead**

Contractor shall assign a single Technical Project Lead. This person shall be the primary point of contact for all technical issues and lead all technical aspects of the planning, design, installation, migration, and operation of the NG911 System. County will review and approve the Technical Lead and, if the Technical Lead needs to be replaced, County will review and approve the replacement.

The Technical Lead shall have at a minimum, the following qualifications:

- Knowledge of the latest technology and business models related to NG911
- Extensive experience and knowledge of industry standards and best practices regarding NG911
- A minimum of three (3) years of experience designing and consulting on large NG911 projects
- A minimum of three (3) years employed by Contractor

- A minimum of two (2) years and two (2) completed NG911 implementation of a similar size to County's

## **2. Client Services Representative**

Contractor shall provide a Client Service Representative (CSR) after Final Acceptance. This person shall be the primary point of contact for all issues for the operation of the NG911 System for the Period of Performance. County will review and approve the CSR and, if the CSR needs to be replaced, County will review and approve the replacement.

The CSR shall participate in the project lifecycle from the Analysis and Design phase to Go-Live and shall have at a minimum, the following qualifications:

- Knowledge of Contractor's technology and processes related to NG911
- A minimum of three (3) years employed by Contractor
- Experience managing with a minimum of two (2) years and two (2) NG911 projects of a similar size to County's

## **3. Additional Staff and Organization Chart**

Contractor shall provide a functional organizational chart for the NG911 project listing all key staff and the resumes for each assigned staff represented on the functional organizational chart at the time of any changes.

## **4. Staff CJIS Certification Requirements**

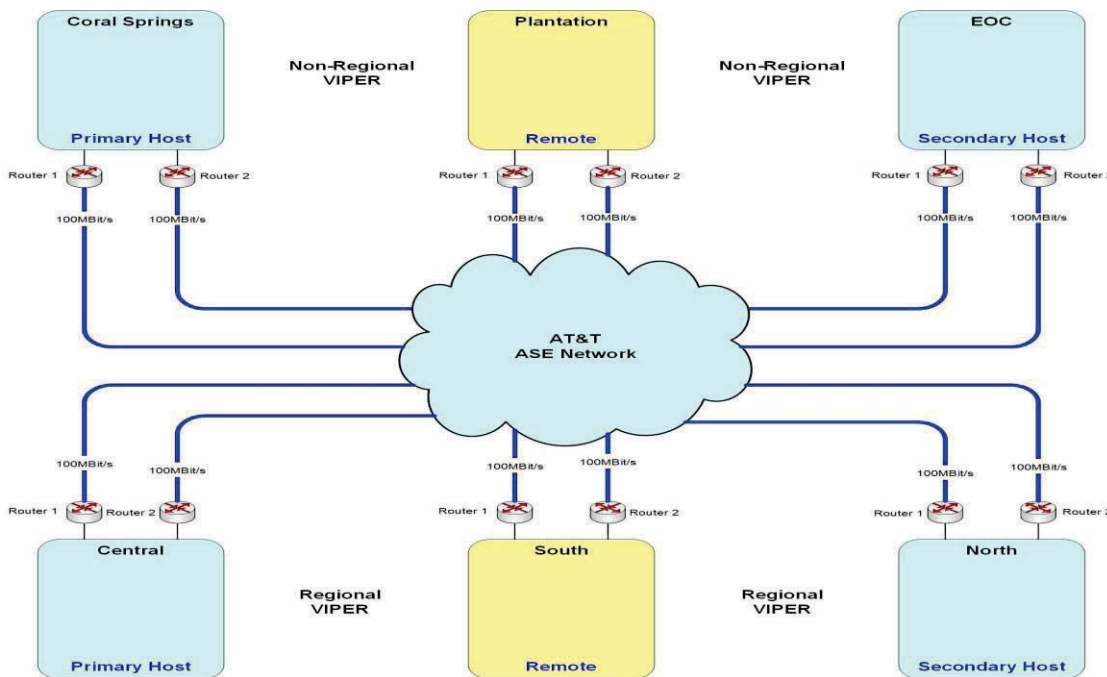
All Contractor's staff and subcontractors with access to the components of the NG911 System shall have a background check and Criminal Justice Information Services (CJIS) Level 1 basic security awareness certification. All staff that will be onsite at a County PSAP shall also have CJIS Level 4 advanced security awareness certification which requires Levels 1, 2, and 3 certifications.

# **7. Architecture Diagram**

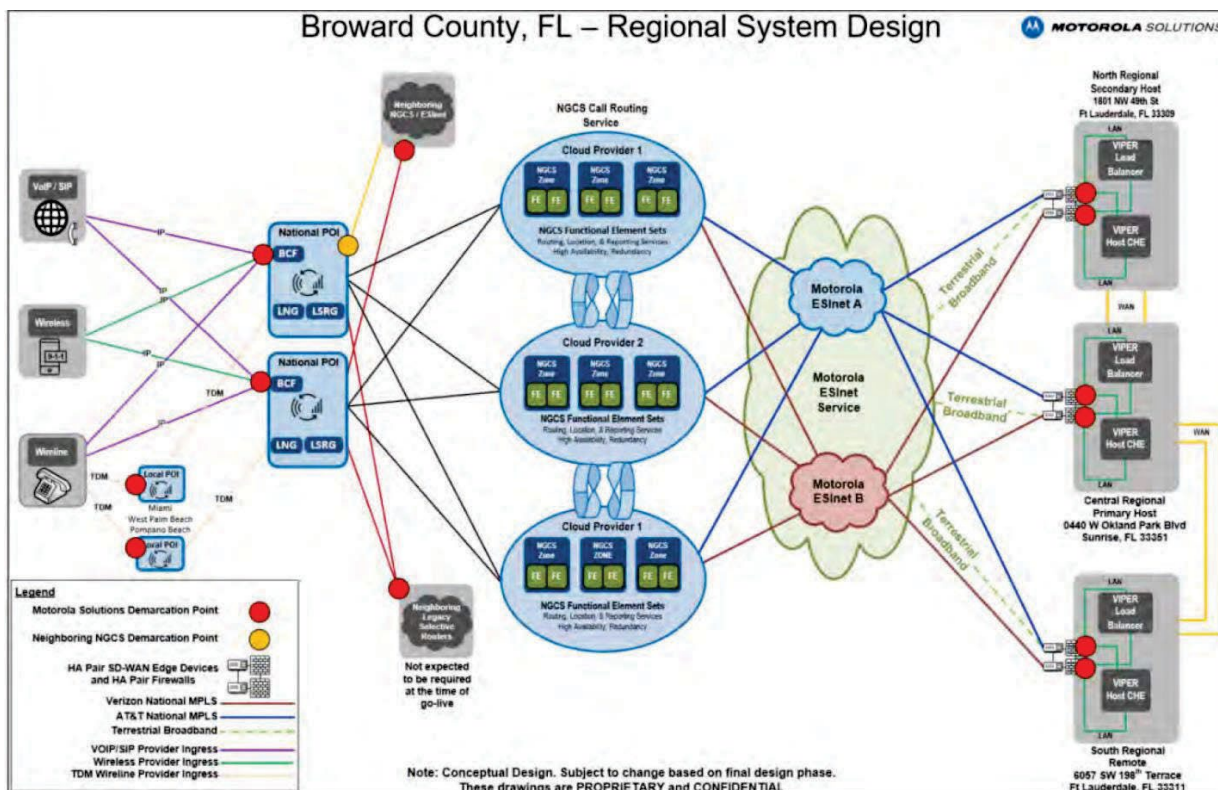
## **A. Architecture Diagram (Existing environment)**

Currently, the Originating Service Providers (OSPs) deliver their calls to a primary 911 selective router. A single selective router delivers most 911 calls to the two environments (Regional and Non-Regional) using multiple trunk groups of wireline and wireless traffic from geographic areas. Each trunk group is split between the three PSAPs and three hosts in each environment for diversity. Annexations by County have required additional trunks from two other selective routers (Palm Beach County and Dade County) to be implemented.

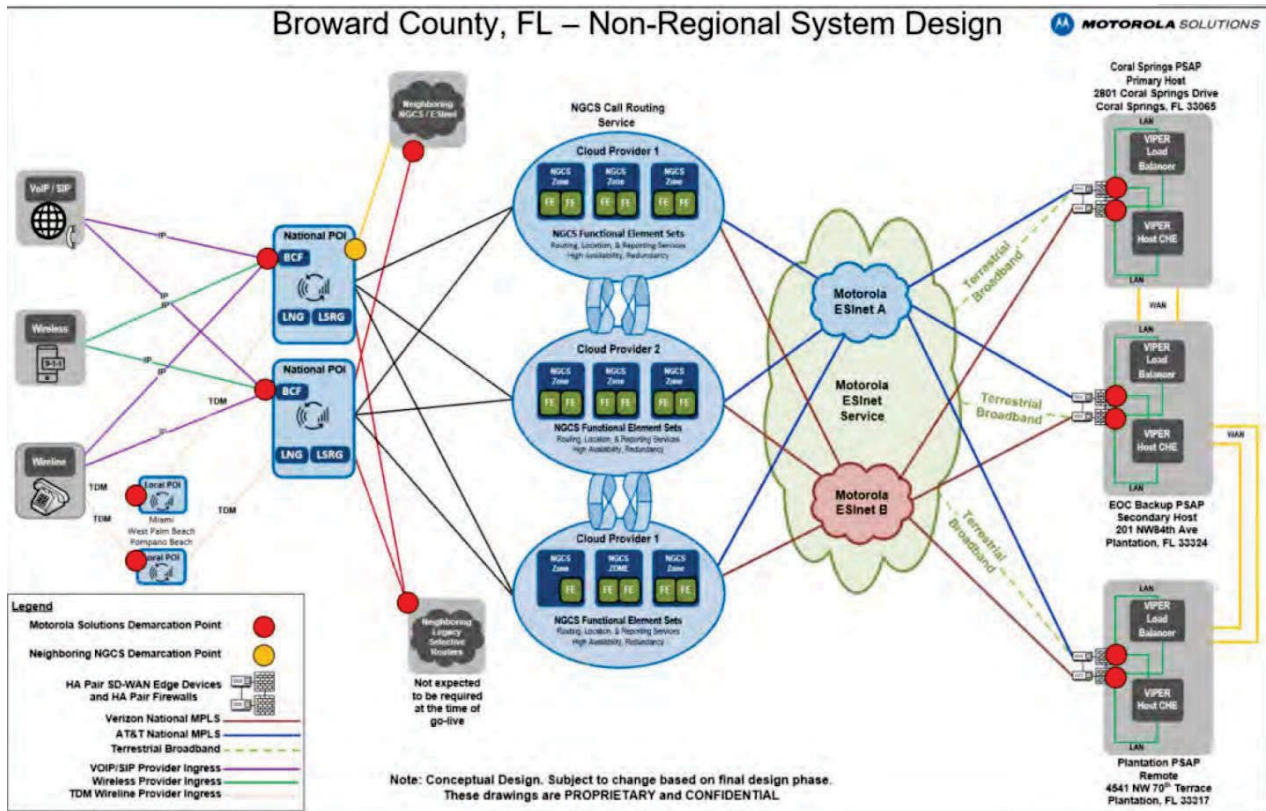
Figure 2: High-level Current 911 System



**B. Motorola Solutions Proposed NG911 Network Diagram - Regional PSAPs**



### C. Motorola Solutions Proposed NG911 Network Diagram - Non-Regional PSAPs



## 8. Documentation

### A. Implementation and Change Method of Procedure

Contractor shall provide a step-by-step Event Plan with a backout plan for review by County a minimum of sixty (60) calendar days prior to initial go-live for each PSAP and seven calendar days for all other changes.

### B. As-Built/System Documentation

Immediately following the Design Sessions and prior to beginning installation, Contractor shall provide an architecture diagram depicting the network and all components for the Regional and Non-Regional PSAP environments, detailed network design drawings reflecting the physical and virtual IP paths, all NG911 System components, reporting systems, and devices provided to each PSAP, including what is provided by subcontracted last-mile providers and/or resellers. This documentation shall remain current for the Term.

The documents shall include call flow diagrams, contingency routing connectivity, proposed NNIs to neighboring counties for interoperability, failover, and backup components including call taking positions in the cloud.

### **C. System Restoration**

Contractor shall provide a documented restoration process for the NG911 System for the Regional and Non-Regional environments. A test run of the restoration process shall be executed semi-annually.

## **9. Security and Access**

### **A. Network & Security Operation Center (NSOC)**

Contractor shall provide a NSOC staffed 24/7/365, including holidays to support for the proposed NG911 System for County's Regional and Non-Regional PSAPs.

The NSOC shall perform the following:

- The NSOC shall monitor tickets, open tickets for alarm conditions and dispatch if needed, and initiate failover of any component of the system.
- Support includes monitoring by onsite live staff, remote response, and onsite response for Critical and Major issues based on the service level defined herein for all NG911 System components.
- Monitoring will include real-time alarm monitoring at the NG911 Providers Network Operations Center and logging of every alarm with notifications provided to designated staff within County
- Response includes remote actions by NSOC staff and dispatching onsite personnel to the data centers, field, or County sites.

### **B. Security Generally**

#### *United States {U.S.}-based Support*

All access to County systems shall be U.S.-based; there shall be no offshore remote access into the systems installed within County network for monitoring, general system administration, maintenance, or troubleshooting.

#### *All System Changes Tested*

All routine patches, updates, or new application software, hardware or configurations shall be tested in the lab environment before being put into production. Detailed reports of the testing shall be available to County.

County shall be notified in advance of all testing and reserves the right to observe testing at its discretion.

*All Systems Monitored*

All networks, hardware, and software shall be monitored and provide alarms to notify of out-of-normal operations.

*Edge Security*

Contractor shall deploy BCFs at all network edges to include intrusion detection and prevention systems.

*Security Information and Event Manager {SIEM}*

Contractor shall integrate with County's SIEM Splunk Tool (within six (6) months after full implementation of the NG911 System) for onsite logging events. The log retention period shall be a minimum of 30 calendar days.

Contractor shall provide County access to the logs of other systems and devices in the NG911 System for tracking the calls and issues. The log retention period shall be a minimum of thirty (30) calendar days.

*User Notifications and Communications*

Contractor shall have a system that performs outward notifications and updates of customer tickets through phone, email, and text. Contractor shall notify County via the contact methods provided of all Contractor infrastructure failures and/or outages within fifteen (15) minutes of discovery. For all outages, Contractor must also contact the 911 Coordinator or the designated backup via phone.

*NENA NG-SEC Compliance*

At all times, Contractor and the System shall be NENA NG-SEC-compliant with the then-current version (e.g., currently NENA-STA-040.2-2024) and shall provide any information or documentation to County as may be requested to demonstrate same.

*Third-party Audits*

Contractor shall permit County to engage third-party security auditors to examine the provided NG911 System. These audits will be no more frequent than annually, and the first audit can be as early as the Preliminary Acceptance Testing period.

**C. Cyber Security**

**1. Cybersecurity Framework (CSF)**

Contractor shall implement NGCS cybersecurity and system security based on County's CSF, including at a minimum:

- NG911 security compliance by requirement of NG-SEC

- Incident response requirements and notification
- Portal and system access - unique username, password (12 characters) with MFA, 90-day expiration of password
- SIP encryption
- Digital certificates
- NIST CSF 2.0 compliance
- TDoS detection and mitigation
- Distributed Denial of Service (DDoS) detection and mitigation
- Third-party audits allowed with initial audit during preliminary acceptance
- Implement authentication/passwords policy that defines authentication and password requirements.
  - Minimum 12 characters
  - Mixed case
  - One unique character
  - Remember last three passwords
  - Quarterly review of Access Control Lists (ACLs)
- Implement MFA for certain mission-critical accounts, at a minimum

## **2. Cybersecurity Plans and Implementation**

Contractor shall provide copies of the following plans, policies, processes, and implementations as a part of the Design Sessions and/or prior to Go-Live for the Regional PSAPs, as indicated below for each item, for Regional and Non Regional PSAPs.

- Cybersecurity Framework - provide during Design Session
- Incident Response Plan - provide prior to Go-Live for the Regional PSAPs
- Incident Response Action Plan - provide prior to Go-Live for the Regional PSAPs
- Cybersecurity considerations document - provide during Design Session

- Roadmap to NENA NG-SEC - provide during Design Session
- Unique username and passwords for all system access - provide during Design Session
- Zero trust architecture - provide during Design Session
- Risk Management Plan/Strategy - provide during Design Session
- Cybersecurity controls (e.g., TDoS, DDoS, ransomware attacks) - provide during Design Session
- SIEM integration - provide prior to Go-Live for the Regional PSAPs
- NG-SEC compliance and controls - provide during Design Session
- Backup procedures - provide during Design Session
- Restoration procedure - provide during Design Session
- After-Action Review (AAR) process - provide prior to Go-Live for the Regional PSAPs
- Cybersecurity maintenance and administration policy to ensure confidentiality, integrity, and availability for on-premise and hosted NG911 System components, which includes:
  - Patch Management - provide during Design Session
  - Antivirus - provide during Design Session
  - Time Synchronization - provide during Design Session
  - Security Event Logging - provide prior to Go-Live for the Regional PSAPs
  - Remote Access - provide during Design Session
- Continuous security monitoring, detection, and response policy-defining cyber security monitoring and how often that information will be reviewed - provide during Design Session

### **3. Proactive Cybersecurity Analysis**

Contractor shall perform proactive analysis and assessment of the network for vulnerabilities on an hourly and daily basis.

There are two components for proactive analysis: 1) the security of the network infrastructure and 2) the data application infrastructure.

For the Network: Contractor shall only run OEM-recommended "most stable" major release versions. Within those major releases, release patches, and when related to the mitigation of a vulnerability, the Product Security Incident Response Teams will publish the vulnerability details and recommended remediation, including applicable patch information.

When Contractor receives any notice of a vulnerability, Contractor shall prioritize the assessment of the criticality, including NG911 system exposure. If Contractor deems the exposure is high risk, Contractor shall lab test and plan an immediate remediation; if low risk, Contractor shall plan an appropriate timed remediation. Contractor shall plan all patching in a staggered method to prevent all networks from impact. This shall include the WANs to the PSAPs, Data center systems, and the POIs into the NG911 core with a minimum of a one-week gap between segments to mitigate any impact of an unknown software bug. Contractor shall also run monthly NNESSUS Vulnerability Scans internally on all components, in the data plane and not in the data plane. Contractor shall also scan its monitoring and management systems, Contractor shall configure all networking components to be fully locked down and logged using Authentication Authorization and Accounting (AAA), including two Factor Authentication with no shared accounts or passwords.

For the data application infrastructure: Contractor shall conduct Proactive Analysis and assessment of the Network for Vulnerabilities monthly for known vulnerabilities.

Contractor shall use tools to scan the systems. For containerized or serverless applications, Twistlock is specified, and for other applications, deploying Twistlock Runtime Defenders on VMs is preferred, or using Nessus, OWASP Dependency-Check, or WhiteSource.

Contractor shall perform Routine Full and Partial Assessments of Application Layer/cloud apps daily.

Contractor shall generate and store a detailed Common Vulnerabilities and Exposures( CVE) report for their images for each scan performed. These reports shall be retained in accordance with the Broward County records' retention requirements.

Contractor shall provide Broward County a Monthly CVE Summary Report in the monthly project review. While there are no retention requirements for these summary reports, their monthly generation ensures a regular assessment cycle.

Contractor shall address all vulnerabilities based on their CVSS V3.1 severity score or the required response and resolution time frames, whichever is less: "Critical" and "High" vulnerabilities must be addressed within 10 days of discovery, "Medium" within 90 days, and "Low" within 180 days.

Contractor shall perform and report - NGWAN monthly NNESSUS Vulnerability Scans and Application Layer/cloud apps scanning daily. A sample report will be reviewed during the Design Sessions.

#### **4. STIR/SHAKEN**

Contractor shall implement STIR/SHAKEN and pass information including attestation to the CHE.

The call routing service from Contractor shall support STIR/ SHAKEN facing OSPs that remit 911 calls to our network by the 1st quarter of 2026.

Contractor's call routing service will pass through STIR/ SHAKEN information provided by the OSPs in locations to VIPER 7 and other call handling solutions.

#### **5. TDOS and DDOS Prevention**

Contractor shall implement hardware, software, services, and training to identify, respond, and prevent TDOS and DDOS attacks as a part of the proposed NG911 System.

Contractor shall address TDoS and DDoS attacks with a multi-layered approach that includes technical measures, operational strategies, and robust monitoring. Contractor's NG911 system integrates protection through:

- Core Principles
- Response Mechanisms
- Security Posture
- System Resilience

Incident response to TDoS and DDoS attacks shall comply with NIST Cybersecurity Framework which includes the following actions for all incidents:

- Identify - Develop the organizational understanding to manage cybersecurity risk to systems, assets, data, and capabilities.
- Protect - Develop and implement the appropriate safeguards to ensure delivery of critical infrastructure services. The Protect Function supports the ability to limit or contain the impact of a potential cybersecurity event.
- Detect - Develop and implement the appropriate activities to identify the occurrence of a cybersecurity event. The Detect Function enables timely discovery of cybersecurity events.
- Respond - Develop and implement the appropriate activities to act regarding a detected cybersecurity event. The Respond Function supports the ability to contain the impact of a potential cybersecurity event.

- Recover - Develop and implement the appropriate activities to maintain plans for resilience and to restore any capabilities or services that were impaired due to a cybersecurity event. The Recover Function supports timely recovery to normal operations to reduce the impact of a cybersecurity event.

**6. Other Cybersecurity Requirements**

All cybersecurity on the systems used by County shall meet or exceed Florida's CS/HB 7055 Cybersecurity Operating Procedures Standard Operating Procedure (SOP) (following objectives set forth per Florida Statutes Section 282.3185), which will be adopted as operating procedures and processes by County. Contractor will take on a lead role in assessing, documenting and reporting to the State as required by such statutory requirements with pre-approval by County of all reports before submission to the State.

**10. Managerial Approach & Communications**

**A. Managerial Approach**

Contractor shall ensure that the persons responsible for the performance of the services under this Agreement and, to the extent applicable, identified below (collectively "Key Personnel"), are appropriately trained and experienced with dedicated time to this project to perform in accordance with this Statement of Work (SOW). To the extent Contractor seeks or is required to make any change to the composition of the Key Personnel, Contractor shall provide County with thirty (30) days advanced notice (or as much advance notice as is possible if thirty (30) days' notice is not possible) regarding such changes and the management plan associated with such changes. County shall not be responsible for any additional costs associated with a change in Key Personnel.

Name	Title	Email & Phone Number
Robert M. Alderman	Motorola Solutions - NGCS Sr. Project Manager	robert.adelman@motorolasolutions.com (210)870-7616
James Conklin	Motorola Solutions - Technical Subject Matter Expert (SME)	james.conklin@motorolasolutions.com (954)365-1765
Dale Whaley	Motorola Solutions - NGCS Operation and Customer Service Manager	dale.whaley@motorolasolutions.com (951)719-2361
Lisa Madden	Motorola Solutions - NGCS Regional Account Manager	Lisa.Madden@motorolasolutions.com (207)468-5461
Marcella Tellez	Motorola Solutions - Senior Account Manager	Marcella.Tellez@motorolasolutions.com (954)383-3644

**B. Communications**

Event	Objective	Medium/ Frequency	Resources Assigned	Owner	Deliverable
Project Kickoff	Introduce the project team and the project. Review project objectives, stakeholder participation, milestones, and management approach.	Onsite Meeting	Project Team, End Users	Motorola Solutions Project Manager (Lead), County Project Manager	Agenda and Meeting Minutes
Design Session & Technical Design	Motorola Solutions shall facilitate all Design Sessions with the appropriate stakeholders to design and document all deliverables outlined under the Service Description section along with all interfaces documented herein	Onsite Meeting	Project Team, End Users, PSAP management and Motorola Solutions SME	Motorola Solutions (Lead), County Project Manager will assist	Design Specifications for all deliverables and Interfaces
Installation, Configuration, Planning, and Execution	Installation and configuration shall be done by two onsite Motorola Solutions technical subject matter experts (SME) resources scheduled.	Daily Status briefings until post support is complete	Project Manager and Technical SME	Motorola Solutions Technical SME	All phases referenced for the project are complete
Event Plan	Discuss and develop an Event Plan	Onsite	Project Team and Motorola Solutions SME	Motorola Solutions Technical SME (Lead)/County's Technical Lead and Project Manager	Documented Event Plan and Meetings Minutes
Project Status Report	Report on the status of the project including activities, progress, and issues. Included in the meetings will be discussion and actions related to risk mitigation and issue resolution regarding the project.	Onsite and Conference Calls / bi-Weekly & Weekly	Project Team and End Users	Motorola Solutions project Manager	Project Status Reporting and Meeting Minutes
Cutover and Post Cutover Support	Cutover and post cutover shall be done by onsite Motorola Solutions Technical SME resources scheduled and dedicated onsite for	Daily status briefings until post support is complete.	Project Manager and Technical SME	Motorola Solutions Technical SME and County Technical	All phases of the project are complete; there are no

Event	Objective	Medium/ Frequency	Resources Assigned	Owner	Deliverable
	cutover and 15 days for post cutover.			designated Technical Staff	critical or major issues during Post Cutover.

## 11. Timeline Expectations

Contractor shall provide a detailed timeline of all activities and the duration of each associated with the proposed implementation for County with a breakdown of activities for Regional and Non-Regional PSAPs. Contractor shall achieve Go-Live for the Regional environment within twelve (12) months after the Project Kickoff meeting and Non-Regional Go-Live within fifteen (15) months after the Project Kickoff meeting. The NG911 System project key milestones (Regional and Non-Regional) shall comply with the following timeline, unless modification is approved by the Contract Administrator:

Task/Activity	Timeframe	Deadline
Project Kickoff (regional and Non-Regional)	2Q, 2026	n/a
Site Survey (Regional and Non-Regional)	2Q, 2026	n/a
Design and Development (Regional and Non-Regional)	3Q, 2026	n/a
<b>Regional PSAP(s)</b>		
Equipment Delivery	4Q, 2026	n/a
Install, Setup, and Configuration (Hardware and Software)	4Q, 2026	n/a
System Integration Testing	1Q, 2027	n/a
Network Testing	1Q, 2027	n/a
Preliminary Acceptance Testing (PAT)	2Q, 2027	n/a
Onsite Training (Admin, end-User)	2Q, 2027	n/a
Go-Live	2Q, 2027	April 30, 2027
Final Acceptance (Regional)	2Q, 2027	May 31, 2027
<b>Non-Regional PSAP(s)</b>		
Equipment Delivery	1Q, 2027	n/a
Install, Setup, and Configuration (Hardware and Software)	2Q, 2027	n/a
System Integration Testing	2Q, 2027	n/a
Network Testing	2Q, 2027	n/a
Preliminary Acceptance Testing (PAT)	2Q, 2027	n/a
Onsite Training (Admin, end-User)	2Q, 2027	n/a
Go-Live	2Q, 2027	Jun 30, 2027
Final Acceptance (Non-Regional)	3Q, 2027	July 31, 2027

## 12. Training

### A. Types of training

Contractor shall provide training as detailed below:

#### *Train-the-Trainer Training*

Contractor shall provide a minimum four (4) onsite train-the-trainer training sessions of up to fifteen (15) people per session, as determined by County, on the dashboard/portal, PRF, incident reporting, ticketing tools, and other provided interfaces and applications to County staff.

#### *Dashboard/Partial Training*

Contractor shall provide a minimum four (4) onsite user training sessions on the dashboard/portal to County and PSAP staff.

#### *GIS Taal Training*

Contractor shall provide a minimum of one onsite training session on the GIS tools provided.

#### *Incident Reporting and Ticketing Taal Training*

Contractor shall provide a minimum of three onsite training sessions on incident reporting, the retrieval of Service Request data, and ticketing tools.

#### *PRF Management Training*

Contractor shall provide a minimum of two onsite training sessions on PRF management.

#### *Change Management Training*

Contractor shall provide a minimum of one onsite training session on change management requests, processes, and tools, including SOI updates and ALI discrepancy procedures.

#### *Recording of Training Sessions*

Contractor shall record all training sessions required above for playback later.

#### *Training Materials and Curriculum*

Training materials and curriculum shall be provided minimum sixty (60) business days prior to the respective training.

### B. Training Materials

Each training session attendee shall be provided with learning materials (e.g., student handbook, user guides, etc.). All training materials shall be provided electronically in native format (e.g., PowerPoint, Word, etc.) to County and shall be updated throughout the terms of the contract. Web-based training shall be provided during the Period of Performance for use by County for refresher and initial training as needed.

### C. Training Mode

Contractor shall provide a training mode as a part of the NG911 System to deliver calls to positions. This shall include, but not limited to the following:

- Ability to direct training calls to a specific PSAP
- A minimum of two (2) test call numbers for each environment and call type (e.g., wireline, wireless, VoIP)
- Ability to direct to specific position (optional)
- Ability to configure test systems in the user portal (optional)

## 13. Preliminary Acceptance Testing Criteria

The following test cases shall be performed by County during the Preliminary Acceptance Testing for Regional and Non-Regional PSAP(s) to ensure that the NG911 System is functioning per County requirements. Additional test criteria and test scripts may be added based on the Design Sessions and approval of design.

Test Item	Test Case	County Acceptance Criteria
PAT001	Verify that Call can be answered.	Successfully was able to answer the call at PSAP and has voice both ways and location information displays correctly.  To be tested at each PSAP.
PAT002	Place a test 911 call on 'Hold' and retrieve it (Regional & Non-Regional PSAP).	Successfully placed a 911 call on 'Hold' and was able to retrieve the call.  To be tested at each PSAP.
PAT003	Place a test 911 call on 'Park' and retrieve it (Regional PSAPs only).	Successfully placed a 911 call on 'Park' and was able to retrieve the call.  To be tested at each Regional PSAP.
PAT004	Verify that a Call can be placed on hold can be picked up by a different position.	Successfully verified that the call was placed on hold for 30 seconds and picked up again by a different position.  To be tested at each PSAP.

Test Item	Test Case	County Acceptance Criteria
PAT005	Verify that the Call can be picked up by two call-takers.	<p>Successfully verified that the call was answered by a call-taker, and a second call-taker can pick up the call. All parties can communicate.</p> <p>To be tested at each PSAP.</p>
PAT006	Verify that the call can be picked up by multiple call-takers.	<p>Successfully verified that the call was answered by a call-taker, and at least two additional call-takers were able to pick up the call and all parties can communicate.</p> <p>To be tested at each PSAP.</p>
PAT007	Verify that the call can be disconnected.	<p>Successfully verified that the call was disconnected by the call-taker and the session ends and is verified in the NGCS logs.</p> <p>To be tested at each PSAP.</p>
PAT008	Verify that Call can be transferred using a one-button transfer.	<p>Successfully transferred the call by using a one-button transfer and the receiving PSAP verifies that audio and data were received correctly.</p> <p>Test calls within one environment, to the other environment, and to outside Broward County shall be tested.</p> <p>To be tested at each PSAP.</p>
PAT009	Verify Call can be transferred using a Agency contact list.	<p>Successfully transferred the call by using a Agency contact list and the receiving PSAP verified that audio and data were received correctly.</p> <p>Test calls within the environment, to the other environment, and to outside Broward County shall be tested.</p> <p>To be tested at each PSAP.</p>
PAT010	Verify Call can be transferred using a manual entry of the ten-digit destination.	<p>Successfully transferred the call by dialing a ten-digit number and the receiving PSAP verifies that audio and data were received correctly.</p>

Test Item	Test Case	County Acceptance Criteria
		<p>Test calls within the environment, to the other environment, and to outside Broward County shall be tested.</p> <p>To be tested at each PSAP.</p>
PAT011	Verify Transfers initially bridge the caller, call-taker, and destination.	<p>Successfully transferred the call and the NGCS initially bridges the caller, call-taker, and destination. Verify audio and all data (SIP and location) are presented to the destination.</p> <p>When the call-taker disconnects, the caller and destination remain connected. Verify audio and all data (SIP and location) are still available.</p> <p>To be tested at each PSAP.</p>
PAT012	Verify Placing a bridged call on hold does not disconnect.	<p>Successfully Bridged the call to another PSAP and have the call-taker place the call on hold. The caller and destination can still communicate both ways. The call-taker picks up and all parties can still communicate.</p> <p>To be tested at each PSAP.</p>
PAT013	Verify Placing a bridged call on hold at the destination.	<p>Successfully bridged the call to another PSAP and have the destination place the call on hold. Verify audio and all data (SIP and location) are still available.</p> <p>The destination picks up. Verify audio and all data (SIP and location) are still available.</p> <p>To be tested at each PSAP.</p>
PAT014	Verify One-button/preprogrammed transfers.	<p>Successfully verified all one-button/preprogrammed transfers are tested.</p> <p>To be tested at each PSAP.</p>
PAT015	Verify that a Baudot call can be received	<p>Successfully confirmed TTY communication in Baudot.</p>
<b>Network to Network Call Transfers</b>		

Test Item	Test Case	County Acceptance Criteria
(Regional PSAPs, Non-Regional PSAPs, and to other PSAPs outside of County, (Collier, Palm Beach, Miami Dade, Seminole County))		
<b>911 Call Transfer</b>		
PAT016	Verify that the Call received at Regional PSAP can be transferred to Non-Regional PSAPs	Successfully was able to transfer the call to all Non-Regional PSAPs and verified that audio and call data were transferred correctly.
PAT017	Verify that the Call received at Non-Regional can be transferred to Regional PSAPs	Successfully was able to transfer the call to all Regional PSAPs and verified that audio and call data were transferred correctly.
PAT018	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Palm Beach County	Successfully was able to transfer the call to Palm Beach County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
PAT019	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Miami Date County	Successfully was able to transfer the call to Miami Date County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
PAT020	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Seminole County	Successfully was able to transfer the call to Seminole County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
PAT021	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Collier County	Successfully was able to transfer the call to Collier County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
PAT022	Verify the call can placed on "Hold" after being transferred to all neighboring Counties ((Collier, Palm Beach,	Successfully was able to place the call on "Hold" and the Caller and the receiving PSAP can communicate after the transferring PSAP. The originating PSAP can take the call of "Hold" and all three parties can communicate.

Test Item	Test Case	County Acceptance Criteria
	Miami Dade, Seminole County)	
<b>Receiving calls (Audio and Text) from other Counties (Collier, Palm Beach, Miami Dade, Seminole County)</b>		
PAT023	Verify that call can be received and pressed on "Hold" and picked back up from all neighboring Counties (Collier, Palm Beach, Miami Dade, Seminole County) into each Regional and Non-Regional PSAPs.	Successfully received a call from other Counties (Collier, Palm Beach, Miami Dade, Seminole County) with clear audio and correct data and placed on "Hold" and then picked up.
PAT024	Verify that Text can be received from all neighboring Counties (Collier, Palm Beach, Miami Dade, Seminole County) into each Regional and Non-Regional PSAPs.	Successfully received a Text from other Counties (Collier, Palm Beach, Miami Dade, Seminole County) with clear audio and correct data.
<b>Text-to-911 Transfer</b>		
PAT025	Verify that the Text received at each Regional PSAP can be transferred to each Non-Regional PSAPs	Successfully was able to transfer the Text to each Non-Regional PSAPs and verified that data was transferred correctly.
PAT026	Verify that the Text received at each Non-Regional can be transferred to each Regional PSAPs	Successfully was able to transfer the Text to each Regional PSAPs and verified that data was transferred correctly.
PAT027	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Palm Beach County	Successfully was able to transfer the Text to Palm Beach County and verified that data was transferred correctly.

Test Item	Test Case	County Acceptance Criteria
PAT028	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Miami Date County	Successfully was able to transfer the Text to Miami Date County and verified that data was transferred correctly.
PAT029	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Seminole County	Successfully was able to transfer the Text to Seminole County and verified that data was transferred correctly.
PAT030	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Collier County	Successfully was able to transfer the Text to Collier County and verified that data was transferred correctly.
<b>Multimedia</b>		
PAT031	Verify that a Multimedia session can be received at each Regional and Non-Regional PSAPs and be able to transfer the session to other neighboring Counties (Miami, Palm Beach, Collier, and Seminole)	Successfully verified that a Multimedia session was received and transferred from each Regional and Non-Regional PSAPs to other specified Counties.
PAT032	Verify that a Multimedia session from other neighboring Counties (Miami, Palm Beach, Collier, and Seminole) can be received at Regional and Non-Regional PSAPs.	Successfully verified that a Multimedia session from other neighboring Counties (Miami, Palm Beach, Collier, and Seminole) can be received at Regional and Non-Regional PSAPs.
<b>EIDO Capability Transfer</b>		
PAT033	Verify Transfer of EIDO within the environment	Successfully verified that at a call was transferred to the PSAP within the environment with EIDO capabilities. Verified that the receiving PSAP can

Test Item	Test Case	County Acceptance Criteria
	(Regional vs. Non-Regional).	<p>access and retrieve the EIDO from the VIPER message server.</p> <p>To be tested at each PSAP.</p>
PAT034	Verify Transfer of EIDO between the environment (Regional vs. Non-Regional).	<p>Successfully verified that at a call was transferred to the PSAP between the environment with EIDO capabilities. Verified that the receiving PSAP can access and retrieve the EIDO from the VIPER message server.</p> <p>To be tested at each PSAP.</p>
PAT035	Verify Transfer of EIDO of neighboring Counties (Miami, Palm Beach, Collier, and Seminole).	<p>Successfully verified that at a call was transferred to the PSAP outside of Broward County environment with EIDO capabilities. Verified that the receiving PSAP can access and retrieve the EIDO from the VIPER message server.</p> <p>To be tested at each PSAP.</p>
<b>Failover</b>		
PAT036	Verify Single PSAP failover Call Delivery.	<p>Successfully verified that call was delivered to the other two PSAPs when one PSAP was disabled.</p> <p>To be tested for each environment (Regional and Non-Regional).</p>
PAT037	Verify Two PSAPs failover Call Delivery.	<p>Successfully verified that call was delivered to the other PSAP when two PSAPs were disabled.</p> <p>To be tested for each environment (Regional and Non-Regional).</p>
PAT038	Verify Secondary route to the VIPER server.	<p>Successfully verified that by disabling all load balancers in one environment; all calls failed over to secondary route to the VIPER server.</p> <p>To be tested for each environment (Regional and Non-Regional).</p>

Test Item	Test Case	County Acceptance Criteria
PAT039	Verify Failover between each environment.	<p>Successfully verified that by disabling all PSAPs in one environment; all calls fail over to the other environment.</p> <p>To be tested for each environment (Regional and Non-Regional).</p>
PAT040	Maintain Active Call	<p>Successfully verified that While a call is in progress, disconnect the circuit to test the circuit fail over of the call (voice survival). Verify that audio and data transfer correctly.</p> <p>To be tested at each PSAP.</p>
PAT041	Maintain Active Text session	<p>Successfully verified that while a Text session is in progress, disconnect the circuit to test the circuit fail over of the call (voice survival). Verify that Text and data transfer correctly.</p> <p>To be tested at each PSAP.</p>
PAT042	Maintain Active Multimedia session	<p>Successfully verified that While a call is in progress, disconnect the circuit to test the circuit fail over of the call (voice survival). Verify that Multimedia and data are correct.</p> <p>To be tested at each PSAP.</p>
PAT043	Verify Failover to other PSAPs	<p>Successfully was able to disable all PSAPs in both environments; failed over to neighboring PSAPs according to the plan.</p> <p>To be tested for each environment.</p>
PAT044	Verify Failover to other PSAPs reverts to normal routing.	<p>Successfully verified the restored PSAPs and failover reverts to normal operations.</p> <p>To be tested for the entire system.</p>
PAT045	Verify Call Routing using Tertiary backup for connectivity	<p>Successfully verified that the calls are routed to Regional and/or Non-Regional PSAPs using the tertiary backup (I.e. satellite, public safety broadband networks, or other long-term evolution (LTE) or wireless connectivity).</p>

Test Item	Test Case	County Acceptance Criteria
PAT046	Verify full CHE functionality of VESTA-NXT in case of Regional and Non-Regional CHE failure at a dedicated PSAP locations	Successfully verified that VESTA-NXT provides full functionality similar to County current CHE.
<b>OSP Wireline/Wireless/VoIP Calls</b>		
PAT047	Initiate a Wireless 911 call using AT&T Network	Successfully verified that call was received from each OSP (AT&T) with clear audio and correct data.  To be tested at each PSAP.
PAT048	Initiate a Wireless 911 call using Verizon Network	Successfully verified that call was received from each OSP (Verizon) with clear audio and correct data.  To be tested at each PSAP.
PAT049	Initiate a Wireless 911 call using T-Mobile Network	Successfully verified that call was received from OSP (T-Mobile) with clear audio and correct data.  To be tested at each PSAP.
PAT050	Initiate a Wireline 911 call	Successfully verified that call was received the call with clear audio and correct data.  To be tested at each PSAP.
PAT051	Initiate a VOIP 911 call	Successfully verified that call was received the call with clear audio and correct data.  To be tested at each PSAP.
PAT052	Initiate a Text-to-911	Successfully verified that Text was received with correct data.  To be tested at each PSAP.
PAT053	Initiate a Multimedia Call	Successfully verified that Multimedia call was received the call with clear audio and correct data.

Test Item	Test Case	County Acceptance Criteria
		To be tested at each PSAP.
PAT054	Verify RTT testing (VIPER 7 capability)	Successfully placed an RTT call to the PSAP and process the call. Verify that all data is received. Verify that interconnected systems (CAD, voice logging recorder, etc.) correctly capture the data and RTT string.
<b>PSTN Transfer</b>		
PAT055	Verify PSTN transfer.	Successfully transferred a call to the PSTN; ensured the audio is available both ways.  To be tested at each PSAP.
PAT056	Verify PSTN transfer to invalid number.	Successfully transferred a call to the PSTN, specifically to an Interactive Voice Response (IVR), 800 number, invalid number, busy number, etc. When the response, busy, or IVR message is heard, disconnect the destination to test if the bridge can remove the transferred-to party. Verify that audio and data return correctly.  To be tested at each PSAP.
PAT057	Verify Multiple bridged.	Successfully Bridged six parties together and verify that audio and data are available to all parties.  To be tested at each PSAP.
<b>GIS/Location Information</b>		
PAT058	Verify Geospatial and load sharing.	Successfully was able to send multiple calls to the environment; review logs to verify the geospatial routing and load sharing between the PSAPs are correct.  To be tested for each environment (Regional and Non-Regional).

Test Item	Test Case	County Acceptance Criteria
PAT059	Verify Calls are properly configured for the VIPER to process appropriately.	<p>Successfully Sent multiple calls to the environment. Reviewed logs to verify the calls are properly distributed to the call-takers by the VIPER CHE.</p> <p>To be tested for the Regional PSAPs.</p>
PAT060	Calls are properly configured for the VIPER to process appropriately in local mode.	<p>Place the PSAP in local mode to simulate a CAD failure. Send multiple calls to the environment; verify the calls are properly distributed to the proper PSAP by the VIPER CHE.</p> <p>To be tested for the Regional PSAPs to verify calls are identified with the correct PSAP.</p>
PAT061	Verify Location Information rebid	<p>Successfully verified that the Location Information rebid is refreshed each time the 'RTX' button is pressed in the Power 911 screen (while on an active call).</p> <p>To be tested at each PSAP.</p>
PAT062	Verify HELD requests for location information.	<p>Perform HELD requests from CHE to NGCS for location information.</p> <p>To be tested at each PSAP.</p>
PAT063	Verify LoST requests for responder information.	<p>Perform a LoST request from CHE to ECRF for responder information.</p> <p>To be tested at each PSAP.</p>
PAT064	Verify ADR query	<p>Perform an ADR query for wireless subscriber/provider/service information, etc.</p> <p>To be tested at each PSAP.</p>
PAT065	Verify PSAP reporting capabilities	<p>At the completion of the testing and periodically throughout the final acceptance period, run each report available to the PSAP and test each available variation or criteria available in the report.</p> <p>To be tested at each PSAP.</p>

Test Item	Test Case	County Acceptance Criteria
PAT066	Broward County 911 reporting capabilities	At the completion of the testing and periodically throughout the final acceptance period, run each report available to Broward County 911 and test each available variation or criteria available in the report.
PAT067	VIPER Regression Testing	Successfully Conducted all workstation and Power MIS tests from the VIPER cutover.  To be tested at each PSAP.
PAT068	Verify Regression Testing - CAD data transfer from CHE	Conduct all CHE to CAD tests: <ul style="list-style-type: none"> <li>• Verify data transfers from CHE <ul style="list-style-type: none"> <li>○ ANI/ALI</li> <li>○ Times</li> <li>○ Position</li> </ul> </li> </ul> Verify data is parsed to the correct fields.  To be tested at each PSAP.
<b>Voice Recording (Audio &amp; Text)</b>		
PAT069	Verify Regression testing - VRS data captured from CHE - VESTA NXT Continuity	Conduct all CHE to VRS tests: <ul style="list-style-type: none"> <li>• Verify audio is captured and understandable</li> <li>• Verify teletypewriter (TTY) audio is captured and understandable</li> <li>• Verify data is captured correctly <ul style="list-style-type: none"> <li>○ SIP Headers</li> <li>○ Location Information</li> <li>○ Times</li> <li>○ Position</li> </ul> </li> <li>• Text transcript</li> </ul> To be tested at each PSAP.
<b>ACD vs. Ringer Call Notification</b>		
<b>Call Delivery</b>		
PAT070	Verify that the call-taker can receive a call using	Successfully was able to receive a call and was able to complete a session via ACD distribution.

Test Item	Test Case	County Acceptance Criteria
	<b>ACD</b> distribution (Regional).	
PAT071	Verify that the call-taker can receive a call via <b>ringer</b> notification (Non-Regional).	Successfully was able to receive a call and was able to complete a session.
PAT072	Verify that the call-taker can receive a Text-to-911 message using <b>ACD</b> distribution (Regional).	Successfully was able to receive a Text to 911 message and was able to complete a session via ACD distribution.
PAT073	Verify that the call-taker can receive a Text to 911 message via <b>ringer</b> notification (Non-Regional).	Successfully was able to receive a Text to 911 message and was able to complete a session.
PAT074	Verify a distinguished audible alert when a text is received at a position	Verify that the text is received by the PSAP with an audible "beep".
PAT075	Verify that a text message can be transferred/conferenced from one call taker to another.	Successfully verified that a text message can be transferred/conferenced from one call taker to another.  To be tested for all PSAPs.
<b>Eclipse Application</b>		
PAT076	Verify that the authorized users can access Eclipse application.	Successfully verified that the authorized user can access Eclipse and retrieve call records.  To be tested for all PSAPs.
PAT077	Verify all test call records for Regional and Non-Regional PSAP(s) appear in Eclipse application.	Successfully verified that the record for all test calls appeared in the Eclipse application.  To be tested for all PSAPs.
PAT078	Verify that Eclipse application contains the report and logs in dashboard and portal	Successfully verified that the authorized user can access Eclipse and retrieve call records. 1. Call processing time between elements 2. Payload processing time

Test Item	Test Case	County Acceptance Criteria
	specified in County Acceptance Criteria.	3. Calls per Circuit 4. Call distribution to PSAP circuit 5. Circuit utilization from OSP 6. Circuit utilization to PSAP 7. All NGCS element usage volumes (all elements used in Contractor's NG911 System) 8. End-to-end call-flow analysis 9. Event by incoming IP address 10. NOC-to-NOC reporting, trouble reporting, and tracking 11. Root cause analyses 12. Service availability for each component including ESInet segments 13. Monitoring, alarming, and logging 14. MOS
<b>NG911 System Login Reporting</b>		
PAT079	Verify that authorized user can access portal to retrieve transactional Log in Real Time	Successfully verified that user can access the logs for each functional element (i.e., ESRP, LNG, BCF, PRF, LVF, LSRG, SI, and ECRF).
PAT080	Verify that the System Log contains the accurate real time data for each functional element	Successfully verified that system log contains correct data for each functional element (i.e., ESRP, LNG, BCF, PRF, LVF, LSRG, SI, and ECRF).
<b>NG911 System Alarm Notification</b>		
PAT081	Verify NG911 System Alarm is generated alternate routing, rerouting, failover, and overflow routing.	System successfully generated an alarm for each of the conditions specified and it was received by County.

## 14. Final Acceptance Testing Criteria

After successful Preliminary Acceptance Testing and Go-Live, County shall conduct Final Acceptance Testing alongside Contractor personnel.

Prior to County issuing written notice of Final Acceptance, the following test cases for Final Acceptance shall be performed for both Regional and Non-Regional PSAP(s) to ensure that the NG911 System is fully functioning.

Test Item	Test Case	County Acceptance Criteria
FAT001	Verify that Call can be answered.	Successfully was able to answer the call at PSAP and has voice both ways and location information displays correctly.  To be tested at each PSAP.
FAT002	Place a test 911 call on 'Hold' and retrieve it (Regional & Non-Regional PSAP).	Successfully placed a 911 call on 'Hold' and was able to retrieve the call.  To be tested at each PSAP.
FAT003	Place a test 911 call on 'Park' and retrieve it (Regional PSAPs only).	Successfully placed a 911 call on 'Park' and was able to retrieve the call.  To be tested at each Regional PSAP.
FAT004	Verify that a Call can be placed on hold can be picked up by a different position.	Successfully verified that the call was placed on hold for 30 seconds and picked up again by a different position.  To be tested at each PSAP.
FAT005	Verify that the Call can be picked up by two call-takers.	Successfully verified that the call was answered by a call-taker, and a second call-taker can pick up the call. All parties can communicate.  To be tested at each PSAP.
FAT006	Verify that the call can be picked up by multiple call-takers.	Successfully verified that the call was answered by a call-taker, and at least two additional call-takers were able to pick up the call and all parties can communicate.  To be tested at each PSAP.
FAT007	Verify that the call can be disconnected.	Successfully verified that the call was disconnected by the call-taker and the session ends and is verified in the NGCS logs.  To be tested at each PSAP.

Test Item	Test Case	County Acceptance Criteria
FAT008	Verify that Call can be transferred using a one-button transfer.	<p>Successfully transferred the call by using a one-button transfer and the receiving PSAP verifies that audio and data were received correctly.</p> <p>Test calls within one environment, to the other environment, and to outside Broward County shall be tested.</p> <p>To be tested at each PSAP.</p>
FAT009	Verify Call can be transferred using a Agency contact list.	<p>Successfully transferred the call by using a Agency contact list and the receiving PSAP verified that audio and data were received correctly.</p> <p>Test calls within the environment, to the other environment, and to outside Broward County shall be tested.</p> <p>To be tested at each PSAP.</p>
FAT010	Verify Call can be transferred using a manual entry of the ten-digit destination.	<p>Successfully transferred the call by dialing a ten-digit number and the receiving PSAP verifies that audio and data were received correctly.</p> <p>Test calls within the environment, to the other environment, and to outside Broward County shall be tested.</p> <p>To be tested at each PSAP.</p>
FAT011	Verify Transfers initially bridge the caller, call-taker, and destination.	<p>Successfully transferred the call and the NGCS initially bridges the caller, call-taker, and destination. Verify audio and all data (SIP and location) are presented to the destination.</p> <p>When the call-taker disconnects, the caller and destination remain connected. Verify audio and all data (SIP and location) are still available.</p> <p>To be tested at each PSAP.</p>

Test Item	Test Case	County Acceptance Criteria
FAT012	Verify Placing a bridged call on hold does not disconnect.	<p>Successfully Bridged the call to another PSAP and have the call-taker place the call on hold. The caller and destination can still communicate both ways. The call-taker picks up and all parties can still communicate.</p> <p>To be tested at each PSAP.</p>
FAT013	Verify Placing a bridged call on hold at the destination.	<p>Successfully bridged the call to another PSAP and have the destination place the call on hold. Verify audio and all data (SIP and location) are still available.</p> <p>The destination picks up. Verify audio and all data (SIP and location) are still available.</p> <p>To be tested at each PSAP.</p>
FAT014	Verify One-button/preprogrammed transfers.	<p>Successfully verified all one-button/preprogrammed transfers are tested.</p> <p>To be tested at each PSAP.</p>
FAT015	Verify that a Baudot call can be received	<p>Successfully confirmed TTY communication in Baudot.</p>
<p><b>Network to Network Call Transfers</b> (Regional PSAPs, Non-Regional PSAPs, and to other PSAPs outside of County, (Collier, Palm Beach, Miami Dade, Seminole County))</p>		
<p><b>911 Call Transfer</b></p>		
FAT016	Verify that the Call received at Regional PSAP can be transferred to Non-Regional PSAPs	<p>Successfully was able to transfer the call to all Non-Regional PSAPs and verified that audio and call data were transferred correctly.</p>
FAT017	Verify that the Call received at Non-Regional can be transferred to Regional PSAPs	<p>Successfully was able to transfer the call to all Regional PSAPs and verified that audio and call data were transferred correctly.</p>

Test Item	Test Case	County Acceptance Criteria
FAT018	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Palm Beach County	Successfully was able to transfer the call to Palm Beach County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
FAT019	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Miami Date County	Successfully was able to transfer the call to Miami Date County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
FAT020	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Seminole County	Successfully was able to transfer the call to Seminole County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
FAT021	Verify that the Call received at each Regional and Non-Regional PSAPs can be transferred to Collier County	Successfully was able to transfer the call to Collier County and verified that audio and call data were transferred correctly and the caller and the receiving PSAP can communicate after the transferring PSAP disconnect.
FAT022	Verify the call can placed on "Hold" after being transferred to all neighboring Counties ((Collier, Palm Beach, Miami Dade, Seminole County)	Successfully was able to place the call on "Hold" and the Caller and the receiving PSAP can communicate after the transferring PSAP. The originating PSAP can take the call of "Hold" and all three parties can communicate.
<b>Receiving calls (Audio and Text) from other Counties (Collier, Palm Beach, Miami Dade, Seminole County)</b>		
FAT023	Verify that call can be received and pressed on "Hold" and picked back up from all neighboring Counties (Collier, Palm Beach, Miami Dade, Seminole County) into each Regional and Non-Regional PSAPs.	Successfully received a call from other Counties (Collier, Palm Beach, Miami Dade, Seminole County) with clear audio and correct data and placed on "Hold" and then picked up.

Test Item	Test Case	County Acceptance Criteria
FAT024	Verify that Text can be received from all neighboring Counties (Collier, Palm Beach, Miami Dade, Seminole County) into each Regional and Non-Regional PSAPs.	Successfully received a Text from other Counties (Collier, Palm Beach, Miami Dade, Seminole County) with clear audio and correct data.
<b>Text-to-911 Transfer</b>		
FAT025	Verify that the Text received at each Regional PSAP can be transferred to each Non-Regional PSAPs	Successfully was able to transfer the Text to each Non-Regional PSAPs and verified that data was transferred correctly.
FAT026	Verify that the Text received at each Non-Regional can be transferred to each Regional PSAPs	Successfully was able to transfer the Text to each Regional PSAPs and verified that data was transferred correctly.
FAT027	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Palm Beach County	Successfully was able to transfer the Text to Palm Beach County and verified that data was transferred correctly.
FAT028	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Miami Date County	Successfully was able to transfer the Text to Miami Date County and verified that data was transferred correctly.
FAT029	Verify that the Text received at each Regional and Non-Regional PSAP can be transferred to Seminole County	Successfully was able to transfer the Text to Seminole County and verified that data was transferred correctly.
FAT030	Verify that the Text received at each Regional and Non-Regional PSAP	Successfully was able to transfer the Text to Collier County and verified that data was transferred correctly.

Test Item	Test Case	County Acceptance Criteria
	can be transferred to Collier County	
<b>Multimedia</b>		
FAT031	Verify that a Multimedia session can be received at each Regional and Non-Regional PSAPs and be able to transfer the session to other neighboring Counties (Miami, Palm Beach, Collier, and Seminole)	Successfully verified that a Multimedia session was received and transferred from each Regional and Non-Regional PSAPs to other specified Counties.
FAT032	Verify that a Multimedia session from other neighboring Counties (Miami, Palm Beach, Collier, and Seminole) can be received at Regional and Non-Regional PSAPs.	Successfully verified that a Multimedia session from other neighboring Counties (Miami, Palm Beach, Collier, and Seminole) can be received at Regional and Non-Regional PSAPs.
<b>EIDO Capability Transfer</b>		
FAT033	Verify Transfer of EIDO within the environment (Regional vs. Non-Regional).	Successfully verified that at a call was transferred to the PSAP within the environment with EIDO capabilities. Verified that the receiving PSAP can access and retrieve the EIDO from the VIPER message server.  To be tested at each PSAP.
FAT034	Verify Transfer of EIDO between the environment (Regional vs. Non-Regional).	Successfully verified that at a call was transferred to the PSAP between the environment with EIDO capabilities. Verified that the receiving PSAP can access and retrieve the EIDO from the VIPER message server.  To be tested at each PSAP.
FAT035	Verify Transfer of EIDO of neighboring Counties	Successfully verified that at a call was transferred to the PSAP outside of Broward County

Test Item	Test Case	County Acceptance Criteria
	(Miami, Palm Beach, Collier, and Seminole).	environment with EIDO capabilities. Verified that the receiving PSAP can access and retrieve the EIDO from the VIPER message server.  To be tested at each PSAP.
<b>Failover</b>		
FAT036	Verify Single PSAP failover Call Delivery.	Successfully verified that call was delivered to the other two PSAPs when one PSAP was disabled.  To be tested for each environment (Regional and Non-Regional).
FAT037	Verify Two PSAPs failover Call Delivery.	Successfully verified that call was delivered to the other PSAP when two PSAPs were disabled.  To be tested for each environment (Regional and Non-Regional).
FAT038	Verify Secondary route to the VIPER server.	Successfully verified that by disabling all load balancers in one environment; all calls failed over to secondary route to the VIPER server.  To be tested for each environment (Regional and Non-Regional).
FAT039	Verify Failover between each environment.	Successfully verified that by disabling all PSAPs in one environment; all calls fail over to the other environment.  To be tested for each environment (Regional and Non-Regional).
FAT040	Maintain Active Call	Successfully verified that While a call is in progress, disconnect the circuit to test the circuit fail over of the call (voice survival). Verify that audio and data transfer correctly.  To be tested at each PSAP.
FAT041	Maintain Active Text session	Successfully verified that while a Text session is in progress, disconnect the circuit to test the circuit

Test Item	Test Case	County Acceptance Criteria
		<p>fail over of the call (voice survival). Verify that Text and data transfer correctly.</p> <p>To be tested at each PSAP.</p>
FAT042	Maintain Active Multimedia session	<p>Successfully verified that While a call is in progress, disconnect the circuit to test the circuit fail over of the call (voice survival). Verify that Multimedia and data are correct.</p> <p>To be tested at each PSAP.</p>
FAT043	Verify Failover to other PSAPs	<p>Successfully was able to disable all PSAPs in both environments; failed over to neighboring PSAPs according to the plan.</p> <p>To be tested for each environment.</p>
FAT044	Verify Failover to other PSAPs reverts to normal routing.	<p>Successfully verified the restored PSAPs and failover reverts to normal operations.</p> <p>To be tested for the entire system.</p>
FAT045	Verify Call Routing using Tertiary backup for connectivity	<p>Successfully verified that the calls are routed to Regional and/or Non-Regional PSAPs using the tertiary backup (I.e. satellite, public safety broadband networks, or other long-term evolution (LTE) or wireless connectivity).</p>
FAT046	Verify full CHE functionality of VESTA-NXT in case of Regional and Non-Regional CHE failure at a dedicated PSAP locations	<p>Successfully verified that VESTA-NXT provides full functionality similar to County current CHE.</p>
<b>OSP Wireline/Wireless/VoIP Calls</b>		
FAT047	Initiate a Wireless 911 call using AT&T Network	<p>Successfully verified that call was received from each OSP (AT&amp;T) with clear audio and correct data.</p> <p>To be tested at each PSAP.</p>

Test Item	Test Case	County Acceptance Criteria
FAT048	Initiate a Wireless 911 call using Verizon Network	Successfully verified that call was received from each OSP (Verizon) with clear audio and correct data.  To be tested at each PSAP.
FAT049	Initiate a Wireless 911 call using T-Mobile Network	Successfully verified that call was received from OSP (T-Mobile) with clear audio and correct data.  To be tested at each PSAP.
FAT050	Initiate a Wireline 911 call	Successfully verified that call was received the call with clear audio and correct data.  To be tested at each PSAP.
FAT051	Initiate a VOIP 911 call	Successfully verified that call was received the call with clear audio and correct data.  To be tested at each PSAP.
FAT052	Initiate a Text-to-911	Successfully verified that Text was received with correct data.  To be tested at each PSAP.
FAT053	Initiate a Multimedia Call	Successfully verified that Multimedia call was received the call with clear audio and correct data.  To be tested at each PSAP.
FAT054	Verify RTT testing (VIPER 7 capability)	Successfully placed an RTT call to the PSAP and process the call. Verify that all data is received. Verify that interconnected systems (CAD, voice logging recorder, etc.) correctly capture the data and RTT string.
<b>PSTN Transfer</b>		
FAT055	Verify PSTN transfer.	Successfully transferred a call to the PSTN; ensured the audio is available both ways.  To be tested at each PSAP.

Test Item	Test Case	County Acceptance Criteria
FAT056	Verify PSTN transfer to invalid number.	<p>Successfully transferred a call to the PSTN, specifically to an Interactive Voice Response (IVR), 800 number, invalid number, busy number, etc. When the response, busy, or IVR message is heard, disconnect the destination to test if the bridge can remove the transferred-to party. Verify that audio and data return correctly.</p> <p>To be tested at each PSAP.</p>
FAT057	Verify Multiple bridged.	<p>Successfully Bridged six parties together and verify that audio and data are available to all parties.</p> <p>To be tested at each PSAP.</p>
<b>GIS/Location Information</b>		
FAT058	Verify Geospatial and load sharing.	<p>Successfully was able to send multiple calls to the environment; review logs to verify the geospatial routing and load sharing between the PSAPs are correct.</p> <p>To be tested for each environment (Regional and Non-Regional).</p>
FAT059	Verify Calls are properly configured for the VIPER to process appropriately.	<p>Successfully Sent multiple calls to the environment. Reviewed logs to verify the calls are properly distributed to the call-takers by the VIPER CHE.</p> <p>To be tested for the Regional PSAPs.</p>
FAT060	Calls are properly configured for the VIPER to process appropriately in local mode.	<p>Place the PSAP in local mode to simulate a CAD failure. Send multiple calls to the environment; verify the calls are properly distributed to the proper PSAP by the VIPER CHE.</p> <p>To be tested for the Regional PSAPs to verify calls are identified with the correct PSAP.</p>
FAT061	Verify Location Information rebid	<p>Successfully verified that the Location Information rebid is refreshed each time the</p>

Test Item	Test Case	County Acceptance Criteria
		'RTX' button is pressed in the Power 911 screen (while on an active call).  To be tested at each PSAP.
FAT062	Verify HELD requests for location information.	Preform HELD requests from CHE to NGCS for location information.  To be tested at each PSAP.
FAT063	Verify LoST requests for responder information.	Perform a LoST request from CHE to ECRF for responder information.  To be tested at each PSAP.
FAT064	Verify ADR query	Perform an ADR query for wireless subscriber/provider/service information, etc.  To be tested at each PSAP.
FAT065	Verify PSAP reporting capabilities	At the completion of the testing and periodically throughout the final acceptance period, run each report available to the PSAP and test each available variation or criteria available in the report.  To be tested at each PSAP.
FAT066	Broward County 911 reporting capabilities	At the completion of the testing and periodically throughout the final acceptance period, run each report available to Broward County 911 and test each available variation or criteria available in the report.
FAT067	VIPER Regression Testing	Successfully Conducted all workstation and Power MIS tests from the VIPER cutover.  To be tested at each PSAP.
FAT068	Verify Regression Testing - CAD data transfer from CHE	Conduct all CHE to CAD tests: <ul style="list-style-type: none"> <li>● Verify data transfers from CHE</li> <li>○ ANI/ALI</li> <li>○ Times</li> </ul>

Test Item	Test Case	County Acceptance Criteria
		<ul style="list-style-type: none"> <li>○ Position</li> </ul> <p>Verify data is parsed to the correct fields.</p> <p>To be tested at each PSAP.</p>
<b>Voice Recording (Audio &amp; Text)</b>		
FAT069	Verify Regression testing – VRS data captured from CHE – VESTA NXT Continuity	Conduct all CHE to VRS tests: <ul style="list-style-type: none"> <li>● Verify audio is captured and understandable</li> <li>● Verify teletypewriter (TTY) audio is captured and understandable</li> <li>● Verify data is captured correctly               <ul style="list-style-type: none"> <li>○ SIP Headers</li> <li>○ Location Information</li> <li>○ Times</li> <li>○ Position</li> </ul> </li> <li>● Text transcript</li> </ul> <p>To be tested at each PSAP.</p>
<b>ACD vs. Ringer Call Notification</b>		
<b>Call Delivery</b>		
FAT070	Verify that the call-taker can receive a call using <b>ACD</b> distribution (Regional).	Successfully was able to receive a call and was able to complete a session via ACD distribution.
FAT071	Verify that the call-taker can receive a call via <b>ringer</b> notification (Non-Regional).	Successfully was able to receive a call and was able to complete a session.
FAT072	Verify that the call-taker can receive a Text-to-911 message using <b>ACD</b> distribution (Regional).	Successfully was able to receive a Text to 911 message and was able to complete a session via ACD distribution.
FAT073	Verify that the call-taker can receive a Text to 911 message via <b>ringer</b>	Successfully was able to receive a Text to 911 message and was able to complete a session.

Test Item	Test Case	County Acceptance Criteria
	notification (Non-Regional).	
FAT074	Verify a distinguished audible alert when a text is received at a position	Verify that the text is received by the PSAP with an audible "beep".
FAT075	Verify that a text message can be transferred/conferenced from one call taker to another.	Successfully verified that a text message can be transferred/conferenced from one call taker to another.  To be tested for all PSAPs.
<b>Eclipse Application</b>		
FAT076	Verify that the authorized users can access Eclipse application.	Successfully verified that the authorized user can access Eclipse and retrieve call records.  To be tested for all PSAPs.
FAT077	Verify all test call records for Regional and Non-Regional PSAP(s) appear in Eclipse application.	Successfully verified that the record for all test calls appeared in the Eclipse application.  To be tested for all PSAPs.
FAT078	Verify that Eclipse application contains the report and logs in dashboard and portal specified in County Acceptance Criteria.	Successfully verified that the authorized user can access Eclipse and retrieve call records. <ol style="list-style-type: none"> <li>1. Call processing time between elements</li> <li>2. Payload processing time</li> <li>3. Calls per Circuit</li> <li>4. Call distribution to PSAP circuit</li> <li>5. Circuit utilization from OSP</li> <li>6. Circuit utilization to PSAP</li> <li>7. All NGCS element usage volumes (all elements used in Contractor's NG911 System)</li> <li>8. End-to-end call-flow analysis</li> <li>9. Event by incoming IP address</li> <li>10. NOC-to-NOC reporting, trouble reporting, and tracking</li> <li>11. Root cause analyses</li> <li>12. Service availability for each component including ESInet segments</li> <li>13. Monitoring, alarming, and logging</li> <li>14. MOS</li> </ol>

Test Item	Test Case	County Acceptance Criteria
<b>NG911 System Login Reporting</b>		
FAT079	Verify that authorized user can access portal to retrieve transactional Log in Real Time	Successfully verified that user can access the logs for each functional element (i.e., ESRP, LNG, BCF, PRF, LVF, LSRG, SI, and ECRF).
FAT080	Verify that the System Log contains the accurate real time data for each functional element	Successfully verified that system log contains correct data for each functional element (i.e., ESRP, LNG, BCF, PRF, LVF, LSRG, SI, and ECRF).
<b>NG911 System Alarm Notification</b>		
FAT081	Verify NG911 System Alarm is generated alternate routing, rerouting, failover, and overflow routing.	System successfully generated an alarm for each of the conditions specified and it was received by County.

## 15. Appendix A: Adopted Standards and Best Practices

SDO	Standard ID	Standard Title	Standard Description	Latest Rev/ Release Date
APCO/TMA	2.101.3-2021	Alarm Monitoring Company to Emergency Communications Center (ECC) Computer- Aided Dispatch (CAD) Automated Secure Alarm Protocol (ASAP)	Provides detailed information on data elements and structure standards for electronic transmission of new alarm events from an alarm monitoring company to an ECC.	Version 3.4 2021
APCO/NENA	1.102.3.2020	Emergency Communications Center (ECC) Service Capability Criteria Rating Scale	APCO and NENA jointly have developed an assessment tool to evaluate current capabilities of the ECC against models representing the best level of preparedness, survivability, and sustainability amidst a wide range of natural and manmade events.	Version 3 2020
ATIS/TIA	ATIS J-STD-110.01.V002	Joint ATIS/TIA Native SMS/ MMS Text To 9-1-1	The purpose of this Standard is to define the requirements,	Release 2

SDO	Standard ID	Standard Title	Standard Description	Latest Rev/ Release Date
		Requirements and Architecture Specification	architecture, and procedures for text messaging to 9- 1-1 emergency services using native CMSP SMS or MMS capabilities for the existing generation and next generation (NG9-1-1) Public Safety Answering Points (PSAPs).	May 1, 2015
ATIS	ATIS-0500017	Considerations for an Emergency Services Next Generation Network (ES-NGN)	Identifies standards and standards activities that are relevant to the evolution of emergency services networks in the context of next-generation telecommunications networks.	Version 1 June 2009
U.S. Dept of Justice/ Federal Bureau of Investigation	CJISD-ITS-DOC-08140-5.9	Criminal Justice Information Services (CJIS) Security Policy	Provides information security requirements, guidelines, and agreements reflecting the will of law enforcement and criminal justice agencies for protecting the sources, transmission, storage, and generation of criminal justice information.	Version 5.9 June 1, 2020
IETF	RFC 3261	SIP: Session Initiation Protocol	Describes the SIP, an application-layer control (signaling) protocol for creating, modifying, and terminating sessions (including Internet telephone calls, multimedia distribution, and multimedia conferences) with one or more participants.	June 2002
IETF	RFC 6874	Representing IPv6 Zone Identifiers in Address Literals and Uniform Resource Identifiers (URI)	Extends RFC 3986 to include IPv6 to include zone identifiers and address literals	February 2013
IETF	RFC 8865	T.140 Real-Time Text Conversation over WebRTC	Specifies how a Web Real-Time Communication (WebRTC) data channel can	January 2021

SDO	Standard ID	Standard Title	Standard Description	Latest Rev/ Release Date
		Data Channels	be used as a transport mechanism for real- time text.	
NENA/APCO	REQ-001.1.2-2018	Next Generation 9-1-1 PSAP Requirements Document	Provides requirements for functions and interfaces between an i3 PSAP and NGCS, and among Functional Elements associated with an i3 PSAP	Version 1.1.2 June 10, 2018
NENA	NENA-STA-006.2- 2022	Standard Data Formats for 9-1-1 GIS Data Model	This document defines the GIS data information, formats, requirements and related information used in NENA Next Generation 9-1-1 (NG9-1-1) Core Services (NGCS)	Revised September 23, 2022
NENA	STA-008.2-2014 (originally 70-001)	Registry System Standard	Describes how registries (lists of values used in NG911 functional element standards) are created and maintained	Version 2 October 6, 2014
NENA	STA-010.3b-2021	NENA i3 Standard for Next Generation 9-1-1	Builds upon prior NENA publications including i3 requirements and architecture documents and provides additional detail on functional standards	Version 3b October 7, 2021
NENA	INF-016.2-2018 (formerly 08-506)	Emergency Services IP Network Design Information Document (ESIND) for NG9-1-1	Provides information that will assist in developing the requirements for and/or designing an i3-compliant ESInet	Version 2 April 5, 2018
NENA	08-751	i3 Technical Requirements Document	Provides requirements for ESInet architecture and security, among other i3 PSAP functions, and establishes a foundation for future i3 standards development	Version 1 September 28, 2006
NENA	54-750	NENA/APCO Human Machine Interface & PSAP Display Requirements (ORD)	Prescribes requirements for the human machine interface (HMI) display for the Next Generation 9-1-1 (NG9- 1-1) System	Version 1 October 20, 2010
NENA	75-001 (Currently being updated)	Security for Next Generation 9-1-1 (NG-SEC)	Establishes the minimal guidelines and requirements	February 6, 2010

SDO	Standard ID	Standard Title	Standard Description	Latest Rev/ Release Date
	will become NENA- STA- 040.2		for levels of security applicable to NG9-1-1 entities	
NENA	75-502	Next Generation 9-1-1 Security (NG-SEC) Audit Checklist	Provides the educated user a method to document an NG- SEC Audit	Version 1 December 14, 2011
NENA	NENA-INF- 015.1- 2016	NG9-1-1 Security (NG- SEC) Information Document	Provides mechanisms and best practices for cybersecurity for i3 systems	Version 1 December 8, 2016
NENA	NENA-INF- 040.2- 2022	NENA Managing & Monitoring NG9-1-1 Information Document	Provides guidance on best practices for monitoring and managing NG9-1-1 services and infrastructure.	Version 2 July 27, 2022
NENA	NENA-STA- 021.1a- 2022	NENA Standard for Emergency Incident Data Object (EIDO)	Provides standard format for exchanging emergency incident data between disparate systems and agencies	Version 1a April 19, 2022
NENA	NENA STA- 031.1- 2021	NENA Standard for Interconnecting Emergency Services IP Networks and Public Safety Broadband Networks	Establish standards for interconnections between ESInets and other broadband networks used by first responders.	October 14, 2021
NENA/NIOC	NIOC V1.0.0	NG9-1-1 Interoperability Oversight Commission (NIOC) (PSAP) Credentialing Authority (PCA) Certification Validation Guidelines	Provides the security requirements needed to support the secure validation for issuance of Certificates in NG9-1-1 by the PCA Certification Authorities (CAs) in the NG9-1-1 Public Key Infrastructure.	V1.0.0 February 9, 2022
NIST	FIPS 140-3	Security Requirements for Cryptographic Modules	Specifies security requirements that will be satisfied by a cryptographic module utilized with a security system protecting sensitive but unclassified information	Version 2 March 22, 2019
NIST	Cybersecurity Framework	Framework for Improving Critical Infrastructure Cybersecurity	Provides standards, guidelines, and best practices that promote the protection of critical infrastructure	Version 1.1 April 16, 2018

SDO	Standard ID	Standard Title	Standard Description	Latest Rev/ Release Date
TIA	TIA-942-B	Telecommunications Infrastructure Standard for Data Centers	Specifies the minimum requirements for telecommunications infrastructure of data centers and computer rooms, including single-tenant enterprise data centers and multi-tenant Internet-hosting data centers	Revision B July 12, 2017

**Appendix B: Acronyms**

<b>Acronyms</b>	<b>Terms</b>
AAR	After-action Review
ACD	Automatic Call Distribution
ACL	Access Control List
AI	Artificial Intelligence
ALI	Automatic Location Identification
ANI	Automatic Number Identification
APCO	Association of Public-Safety Communications Officials International
ASAP	Automated Secure Alarm Protocol
ASE	AT&T Switched Ethernet
ATIS	Alliance for Telecommunications Industry Solutions
BGP	Border Gateway Protocol
BCF	Border Control Function
CA	Certification Authority
CAD	Computer-aided Dispatch
CAMA	Centralized Automatic Message Accounting
CDR	Call Detail Record
CHE	Call-handling Equipment
CJIS	Criminal Justice Information Services
CLDXF	Civic Location Data Exchange Format
CMSP	Commercial Mobile Service Provider
COO	Chief Operating Officer
COOP	Continuity of Operations
COS	Class of Service
CS	Committee Substitute
CSF	Cybersecurity Framework
CSR	Client Service Representative
CTD	Communications and Technology Division
DDoS	Distributed Denial of Service
DOJ	Department of Justice
DSCP	Differentiated Service Code Point
ECC	Emergency Communications Center
ECRF	Emergency Call Routing Function
EF	Enhanced Fujita Scale
EIDO	Emergency Incident Data Object
EOC	Emergency Operations Center
ESIND	Emergency Services IP Network Design Information Document
ESInet	Emergency Services IP network
ES-NGN	Emergency Services Next Generation Network
ESN	Emergency Services Number

Acronyms	Terms
ESRP	Emergency Services Routing Proxy
ETL	Extract, Transform, Load
FCC	Federal Communications Commission
FIPS	Federal Information Processing Standard
FirstNet	First Responder Network Authority
FY	Fiscal Year
GIS	Geographic Information System
HB	House Bill
HMI	Human Machine Interface
IAM	Identity and Access Management
ICA	Intermediate Certificate Authorities
ICD	Interface Control Document
ID	Identification
IETF	Internet Engineering Task Force
IM	Instant Message
IoT	Internet of Things
IP	Internet Protocol
ISO	International Organization of Standards
IVR	Interactive Voice Response
LDB	Location Database
LNG	Legacy Network Gateway
LoST	Location to Service Translation
LSRG	Legacy Selective Router Gateway
LTE	Long-term Evolution
LVF	Location Validation Function
MCS	MSAG Conversion Service
MFA	Multi-factor Authentication
MIS	Management Information System
MLTS	Multiline Telephone System
MMS	Multimedia Service
MOP	Method of Procedure
MOS	Mean Opinion Score
ms	Millisecond
MSA	Metropolitan Statistical Area
MSAG	Master Street Address Guide
MSRP	Message Session Relay Protocol
NAD83	North American Datum of 1983
NENA	National Emergency Number Association
NG911 or NG9-1-1	Next Generation 911 (9-1-1)
NGCS	Next Generation Core Services
NG-SEC	Next Generation Security

Acronyms	Terms
NIOC	NG9-1-1 Interoperability Oversight Commission
NIST	National Institute of Standards and Technology
NNI	Network-to-network Interface
NOC	Network Operations Center
NPSBN	Nationwide Public Safety Broadband Network
NTP	Network Time Protocol
OCIF	Outbound Call Interface Function
ORCAT	Office of Regional Communications and Technology
OSI	Open Systems Interconnection
OSP	Originating Service Provider
pANI	Pseudo Automatic Number Identification
PBX	Private Branch Exchange
PCA	PSAP Credentialing Agency
PKI	Public Key Infrastructure
PL	Phone Line
PM	Project Manager
POI	Point of Interconnection
PRF	Policy Routing Function
PRR	Policy Routing Rules
PSAP	Public Safety Answering Point
PSTN	Public Switched Telephone Network
QoS	Quality of Service
RCA	Root Cause Analysis
RFC	Request for Comment
RFO	Reason for Outage
RTT	Real-time Text
SDO	Standards Development Organization
SHAKEN	Signature-based Handling of Asserted Information Using toKENS
SI	Spatial Interface
SIEM	Security Information and Event Management
SIP	Session Initiation Protocol
SLA or SSLA	Service Level Agreement or Supplemental Service Level Agreement
SMS	Short Message Service
SOC	Security Operations Center
SOI	Service Order Input
SOW	Statement of Work
SS7	Signaling System 7
STIR	Secure Telephone Identity Revisited
TCC	Text Control Center
TDD	Telecommunications Device for the Deaf
TDM	Time Division Multiplex

Acronyms	Terms
TDoS	Telephony Denial of Service
TIA	Telecommunications Industry Association
TLS	Transport Layer Security
TMA	The Monitoring Association
toKENS	
TSP	Telecommunications Service Priority
TTY	Teletypewriter
UI	User Interface
UL	Underwriters Laboratory
UPS	Uninterruptible Power Supply
URI	Uniform Resource Identifier
URN	Uniform Resource Name
VoIP	Voice over IP
VIPER	
VRS	Voice Recording System
WebRTC	
WGS84	World Geodetic System 84

**Exhibit B - Pricing and Payment Schedule**

**A. Total Project Cost**

The total project cost from Notice to Proceed through one year after Final Acceptance is set forth in the table below. Any travel expenses or fees incurred by Contractor under this Agreement shall be the sole responsibility of Contractor, unless otherwise expressly stated in this Agreement (including in Exhibit B) or applicable Work Authorization.

<b>Item</b>	<b>Item Description</b>	<b>Total Cost</b>
1-1	<b>Primary Connectivity to PSAPs</b> - To provide primary connectivity to the Regional and Non Regional Public Safety Answering Points (PSAPs) through Load Balancers.	\$0.00
1-2	<b>Secondary Connectivity to each environment</b> - To provide secondary connectivity to the Regional and Non-Regional PSAP Environment through the VIPER Servers.	\$0.00
1-3	<b>Tertiary Connectivity to PSAPs</b> - To provide tertiary connectivity to the Regional and Non-Regional PSAPs through various options available (e.g. Non Terrestrial - Satellite, FirstNet, etc.).	\$0.00
1-4	<b>Connectivity to other networks (within Neighboring Counties)</b> - To provide connectivity to other networks through Network-to-Network Interfaces for NG911 systems and Legacy Systems.	\$0.00
1-5	<b>OSP in county POI Connectivity</b> - To provide OSP connectivity to POIs within Broward County.	\$0.00
2-1	<b>Next Generation Core Services Configuration</b> - To provide Next Generation Core Services as a part of the collection and configuration of all NGCS NENA i3 Core Functions including normal, business continuity, failover, and alternate call routing.	\$0.00
2-2	<b>NGCS Build Out - Call Ingress</b> - To provide NGCS Call Ingress Build Out Components used to receive calls from the OSPs such as BCF, POI, LNG, LSRG, etc.	\$0.00
2-3	<b>NGCS Build Out - Call Processing</b> - To provide NGCS Call Processing Build Out Components used to process calls in the NGCS such as ESRP, ECRF, PRF, etc.	\$0.00
2-4	<b>NGCS Build Out - Call Egress</b> - To provide NGCS Call Egress Build Out Components use to deliver calls to the PSAPs such as BCF, LPG, etc.	\$0.00
2-5	<b>NGCS Build Out - Data Systems</b> - To provide NGCS Data Systems Build Out Components used to collect, process, store and use NG911 data such as SI, LVF, GIS validation tools, GIS repository integration etc.	\$0.00
2-6	<b>Real Time Text and SMS Text to 911 Delivery</b> - To provide Transitional costs for Real Time Text and SMS Text to 911 delivery that is expected to be eliminated with OSP Phase 2 migration.	\$83,491.00
3-1	<b>Training</b> - To provide Training as indicated in sections TRN001-TRN012	\$0.00

Item	Item Description	Total Cost
3-2	<b>Onsite technical support for installation test, go live and post go live</b> - To provide Onsite technical support for installation test, go live and post go live.	\$0.00
3-3	<b>Project Management and Senior Technical Support</b> - To provide all Project Management and Technical Support onsite resources for the project kickoff, Design Sessions, all phases of testing, project implementation, and up to 20 business days per environment for post go live support.	\$0.00
3-4	<b>Integration / Coordination Services with OSPs, CHE, other service providers</b> - To provide Integration/Coordination Services with OSPs, CHE, other service providers.	\$0.00
3-5	<b>Design Sessions to include up to 6 onsite 3 hour sessions</b> - To provide Design Sessions to include up to 6 onsite 3 hour sessions.	\$0.00
4-1	<b>Ongoing Hosting Post Implementation</b> - To provide Ongoing Hosting during Implementation and the first year after Final Acceptance.	\$1,213,440.00
4-2	<b>Primary Connectivity to PSAPs</b> - To provide Primary Connectivity to the PSAPs during Implementation and the first year after Final Acceptance. .	\$125,880.00
4-3	<b>Secondary Connectivity to each environment</b> - To provide Secondary Connectivity to each environment during Implementation and the first year after Final Acceptance.	\$80,556.00
4-4	<b>Tertiary Connectivity to PSAPs</b> - To provide Tertiary Connectivity to the Regional and Non-Regional PSAPs through various options available (e.g. Non Terrestrial - Satellite, FirstNet, etc.) during Implementation and the first year after Final Acceptance.	\$22,656.00
4-5	<b>OSP in county POI connectivity</b> - To provide OSP connectivity to POIs within Broward County during Implementation and the first year after Final Acceptance.	\$0.00
4-6	<b>Connectivity to other networks (within Neighboring Counties)</b> - To provide OSP connectivity to POIs within Broward County during Implementation and the first year after Final Acceptance.	\$0.00
<b>Additional Items</b>		
1	<b>Motorola Solutions Cloud-based Call Handling Solutions - VESTA NXT Continuity</b> - ten (10) positions for the Regional and five (5) positions for Non-Regional PSAPs	\$0.00
2	<b>* Motorola Solutions Cloud-based Call Handling Solutions - VESTA NXT Continuity</b> - ten (10) positions for the Regional and five (5) positions for Non-Regional PSAPs	\$21,600.00 ((\$1,350.00 one-time setup, \$20,250 recurring)
3	<b>Motorola Solutions Reporting Application - Eclipse</b>	\$0.00
<b>Total Project Cost</b>		<b>\$1,547,623.00</b>

\* Contractor will extend a 10% discount to County for the purchase of additional VESTA NXT Call Handling Positions up to a maximum of seventy-five (75) additional positions.

**B. Payment Schedule**

The above-stated Total Project Cost of the NG911 System shall be invoiced and paid in accordance with the following Milestones. For each Milestone indicated below, Contractor shall invoice County the Invoice Amount only after receipt of written confirmation from County Contract Administrator or designated staff that the Milestone has been satisfactorily achieved.

Milestone	Percentage	Invoice Amount
Project Kick-Off	20%	\$309,524.60
Successful Preliminary Acceptance Testing - Regional	15%	\$232,143.45
Go-Live - Regional	10%	\$154,762.30
Successful Preliminary Acceptance Testing - Non-Regional	15%	\$232,143.45
Go-Live - Non-Regional	10%	\$154,762.30
Final Acceptance - Regional and Non-Regional	30%	\$464,286.90
<b>Total Fixed Fee Amount</b>	<b>100%</b>	<b>\$1,547,623.00</b>

**C. Additional Optional Services**

Upon County's written issuance of Notice(s) to Proceed for Optional Additional Professional Services, and solely to the extent of such Notices to Proceed, Contractor shall provide up to 515 hours of additional consulting and/or professional services at the hourly rate of \$194.00/hour, and/or additional hardware, software, and licenses, for a aggregate not-to-exceed amount of \$100,000.00. Any such consulting or professional services shall be utilized only on a time and materials basis and shall in no way duplicate work to be provided for the NG911 System under any of the foregoing sections in the Statement of Work. Any Additional Professional Services shall be invoiced monthly in arrears and are in addition to the amounts set forth in the sections above.

**D. Ongoing Services Fees (Subscriptions, Hosting, Support, and Maintenance Fees)**

Following one year after Final Acceptance, the ongoing fees, inclusive of all Subscriptions, Equipment, Hosting, Support, and Maintenance Services for the System, will be invoiced semi-annually in advance at the rates shown below. For example, if Final Acceptance occurs on April 1, 2028, then the first Semi-Annual Invoice Amount would be invoiced on April 1, 2029.

Unit or Term	Annual Fee	Semi-Annual Invoice Amount
Annually (commencing one year after Final Acceptance)	\$1,462,782.00*	\$731,391.00

\* The annual fee includes Items 4-1 through 4-6 under Section A above plus the ongoing cost (\$20,250/annually) for the fifteen (15) additional VESTA NXT Continuity concurrent positions.

**E. Optional Software, Equipment, and Services**

The Pricing Sheets attached hereto as Exhibit B-1 identifies Contractor's current price for optional services. County may elect to procure in the future at the listed selling price. If County elects to purchase optional Software, Equipment and Services, County shall also be entitled to any applicable promotion or discount being made generally available by Contractor to other customers at the time of County's purchase.

**Exhibit B-1 - Price List**

<b>Item Description</b>	<b>One-Time Fees for Initial Implementation*</b>	<b>Monthly Recurring Costs</b>
VESTA NXT Continuity, including AI Transcription and Translation, per concurrent user	\$100	\$125
VESTA NXT (Public Cloud) Call Handling, per position	\$21,443	\$1,399
VESTA NXT Managed Detection and Response, per position	n/a	\$58
VESTA NXT Call handling network up to 6 positions (includes all hardware, deployment, and special construction)	\$40,572	2,084
VESTA NXT Call handling network up to 16 positions (includes all hardware, deployment, and special construction)	\$40,572	3,500
VESTA NXT Call handling network up to 46 positions (includes all hardware, deployment, and special construction)	\$40,572	7,000
VESTA NXT Call handling network up to 96 positions (includes all hardware, deployment, and special construction)	\$40,572	9,834
Radius Plus, cloud enabled mapping service, per concurrent user	n/a	\$593
Radius Plus, per agency	\$5,000	\$572
Radius Call Taking Map, per concurrent user	n/a	\$450
Eclipse Analytics, per concurrent user	n/a	\$200
Lightning mobile app, per responder	n/a	\$15
Link Contributor, per concurrent user	\$7,500 per site	\$200
Link Exchange, per concurrent user (includes Link Contributor)	\$7,500 per site	\$300
Media storage (future offering, once industry standards are developed)	TBD	TBD
Professional Services: GIS, System Engineering	\$195/hr	n/a
Professional Services: Training, including travel	\$2,841/day	n/a
Professional Services: Cybersecurity	\$332/hr	n/a
PSAP NGCS Internet 150 mb down / 35 mb up	\$90	\$308
PSAP NGCS Hardware: Firewall (latest model)	\$2,812	n/a
PSAP NGCS Hardware: Emergency Data Gateway	\$2,500	n/a
Hyper - AI for non-emergency calls Up to 900,000 non-emergency calls/year package	\$25,000	\$37,500

\* The one-time costs for initial implementation only apply to the initial implementation of the particular service; if additional users/locations/etc. are added to a service previously implemented or procured, only the monthly recurring charge applies to the additional users/locations/etc.

## Exhibit C Security Requirements

### 1. Definitions

1.1. County Confidential Information means any County Data that includes employee information, financial information, protected health information, or personally identifiable information for individuals or entities interacting with County (including, without limitation, social security numbers, an individual's biometrics and geolocation, birth dates, banking and financial information, and other information deemed exempt or confidential under state or federal law or applicable regulatory body, including without limitation Section 501.171, Florida Statutes).

1.2. County Data means the data and information (including text, pictures, sound, graphics, video and other data) relating to County or its employees or subcontractors and any third parties, or made available or provided by County or its subcontractors and any third parties to Contractor, for or in the performance of this Agreement, including all derivative data and results derived therefrom, whether or not derived through the use of Contractor's services, whether or not electronically retained, and regardless of the retention media.

1.3. Equipment means the hardware being provided by Contractor under the Agreement.

1.4. Software means software provided or licensed by Contractor pursuant to the Agreement.

1.5. All other capitalized terms not expressly defined within this exhibit shall retain the meaning ascribed to such terms in the Agreement (and if not so defined, then the plain language meaning appropriate to the context in which it is used).

### 2. County Network Access

2.1. County Network Access. If Contractor will have access to any aspect of County's network via an Active Directory account, onsite access, remote access, or otherwise, Contractor must:

2.1.1. comply at all times with all applicable County access and security standards, regulatory requirements, policies, and procedures related to County's network, as well as any other or additional restrictions or standards for which County provides written notice to Contractor;

2.1.2. provide any and all information that County may reasonably request in order to determine appropriate security and network access restrictions and verify Contractor's compliance with County security standards;

2.1.3. provide privacy and cybersecurity training to its employees with access to County's network upon hire and at least once annually; and

2.1.4. notify County of any terminations or separations of Contractor's employees who had access to County's network.

In addition, for any remote access to County's network, Contractor must:

2.1.5. utilize secure, strictly controlled industry standards for encryption (e.g., Virtual Private Networks, Multi-Factor Authentication (MFA), passphrases), and safeguard

County Data that resides in or transits through Contractor's internal network from unauthorized access and disclosure;

2.1.6. utilize only connections that are under Contractor's complete control or under the complete control of a person or entity authorized in advance by County in writing; unencrypted third-party public WiFi networks are not permitted to be used to connect to County's network;

2.1.7. utilize only equipment that contains antivirus protection software with current signatures, a currently supported and fully patched operating system, firmware, and third-party applications that are configured for least privileged access;

2.1.8. utilize, at a minimum, industry standard security measures, as determined in County's sole discretion, to safeguard County Data that resides in or transits through Contractor's internal network from unauthorized access and disclosure; and

2.1.9. activate remote access from Contractor and its approved Subcontractors into County network only to the extent necessary to perform Services under this Agreement, deactivating such access immediately after use.

If at any point in time County, in the sole discretion of its Chief Information Officer (CIO), determines that Contractor's access to any aspect of County's network presents an unacceptable security risk, or if Contractor exceeds the scope of access required to perform the required Services under the Agreement, County may immediately suspend or terminate Contractor's access and, if the risk is not promptly resolved to the reasonable satisfaction of County's CIO, may terminate this Agreement or any applicable Work Authorization upon ten (10) business days' notice (including, without limitation, without restoring any access to County network to Contractor).

3. Data and Privacy. To the extent applicable to the Services being provided by Contractor under the Agreement, Contractor shall comply with all applicable data and privacy laws and regulations, including without limitation Florida Statutes Section 501.171 and Chapter 119, and shall ensure that County Data processed, transmitted, or stored by Contractor or in Contractor's system is not accessed, transmitted or stored outside the United States. Contractor shall not sell, market, publicize, distribute, or otherwise make available to any third party any personal identification or cybersecurity incident information (as defined by Florida Statutes Sections 501.171, 817.568, or 817.5685, or Chapter 119, as amended) that Contractor may receive or otherwise have access to in connection with this Agreement, unless expressly authorized in advance by County. If applicable and requested by County, Contractor shall ensure that all hard drives or other storage devices and media that contained County Data have been wiped in accordance with the then-current best industry practices, including without limitation DOD 5220.22-M, and that an appropriate data wipe certification is provided to the satisfaction of the Contract Administrator.

4. Cybersecurity Incidents. Contractor shall report any cybersecurity incident or random incident (as those terms are defined in Section 282.0041, Florida Statutes) impacting or relating to County Data (including but not limited to servers or fail-over servers) to County, including the details required by Section 282.3185(5)(a), in sufficient time to reasonably permit County to

timely comply with any required reporting under Section 282.3185(b) and no later than twenty-four (24) hours after becoming aware of such breach (or such shorter time period as may be required under applicable law), unless an extension is granted by County's CIO. Contractor shall provide County with a detailed incident report within five (5) days after becoming aware of the breach, including remedial measures instituted and any law enforcement involvement. Contractor shall fully cooperate with County on incident response, forensics, and investigations into Contractor's infrastructure as it relates to any County Data or County applications.

## 5. Managed or Professional Services

5.1. Managed or Professional Services. To the extent applicable to the Services being provided by Contractor under the Agreement:

5.1.1. Contractor shall ensure adequate background checks have been performed on any personnel having access to County Confidential Information. Contractor shall not knowingly allow convicted felons or other persons deemed by Contractor to be a security risk to access County Confidential Data. Contractor shall immediately notify County of any terminations or separations of Contractor's employees who performed Services under the Agreement and who had access to County Confidential Information or County network.

5.1.2. Contractor shall not release County Data or copies of County Data without the advance written consent of County. If Contractor will be transmitting County Data, Contractor agrees that it will only transmit or exchange County Data via a secure method, including HTTPS, SFTP, or another method approved by County's CIO.

5.1.3. Contractor shall ensure the use of any open source or third-party software or hardware does not undermine the security posture of Contractor or County.

6. System and Organization Controls (SOC) Report. If requested by County, Contractor must provide County with a copy of a current unqualified System and Organization Controls (SOC) 2 Type II Report for Contractor and for any third party that provides the applicable services comprising the NG911 System, inclusive of all five Trust Service Principles (Security, Availability, Processing Integrity, Confidentiality, and Privacy), or a sworn declaration certifying Contractor has obtained the referenced SOC 2 Type II Report and listing all complementary user entity controls (CEUCs) identified therein, prior to commencement of the Agreement and on an annual basis during the Agreement, unless this requirement is waived or substitute documentation is accepted in writing by County's CIO or designee.

## 7. Software Installed in County's Network

7.1. Software Installed in County's Network. To the extent Contractor provides any Software to be installed in County's network, Contractor must:

7.1.1. advise County of all versions of any third-party software (e.g., Java, Adobe Reader) to be installed and support updates for critical and high-risk vulnerabilities discovered in applicable third-party or open source software;

7.1.2. ensure that the Software is developed based on industry standards and best practices, including following secure programming techniques and incorporating security throughout the Software-development life cycle;

- 7.1.3. develop and maintain the Software to operate on County-supported and approved operating systems and firmware versions;
- 7.1.4. mitigate critical and high-risk vulnerabilities (as defined by Common Vulnerability and Exposures (CVE) scoring system) to the Software or Contractor platform within 30 days after patch release, and medium-risk vulnerabilities within 60 days after patch release, notifying County of proposed mitigation steps to be taken and timeline for resolution if Contractor is unable to apply a patch to remedy the vulnerability;
- 7.1.5. ensure the Software provides for role-based access controls and runs with least privilege access, enables auditing by default for any privileged access or changes, and supports electronic delivery of digitally signed upgrades from Contractor's or the third-party licensor's website;
- 7.1.6. ensure software connectivity to database systems can be configured to integrate with Active Directory (AD);
- 7.1.7. ensure the Software is not within three (3) years from its end-of-life date and provide County with end-of-life-schedules for all applicable Software;
- 7.1.8. support encryption using at a minimum Advanced Encryption Standard 256-bit encryption keys ("AES-256") or current industry security standards, whichever is higher, for County Confidential Data at rest and use transport layer security (TLS) 1.2 or current industry standards, whichever is higher, for data in motion; and
- 7.1.9. upon request by County, provide an attestation letter identifying date of the most recent security vulnerability testing performed and any vulnerabilities identified and mitigated (must be dated within six (6) months after any major release).

## 8. Equipment Leased or Purchased from Contractor

- 8.1. Equipment Leased or Purchased from Contractor. To the extent Contractor is the Original Equipment Manufacturer (OEM) or an authorized reseller for the OEM for any Equipment provided under this Agreement, Contractor must:
  - 8.1.1. ensure that physical security features to prevent tampering are included in any Equipment provided to County and ensure, at a minimum, industry-standard security measures are followed during the manufacture of the Equipment;
  - 8.1.2. ensure any Equipment provided does not contain any embedded remote-control features unless approved in writing by County's Contract Administrator, and disclose any default accounts or backdoors that exist for access to County's network;
  - 8.1.3. shall supply a patch, firmware update, or workaround approved in writing by County's Contract Administrator within thirty (30) days after identification of a new critical or high risk vulnerability, and within sixty (60) days after identification of a medium risk vulnerability and notify County of proposed mitigation steps taken;
  - 8.1.4. develop and maintain Equipment to interface with County-supported and approved operating systems and firmware versions;
  - 8.1.5. upon request by County, make available any required certifications as may be applicable per compliance and regulatory requirements (e.g., Common Criteria, Federal Information Processing Standard 140);

8.1.6. ensure the Equipment is not within three (3) years from its end-of-life date at the time of delivery and provide County with end-of-life-schedules for all applicable Equipment;

8.1.7. (for OEMs only) support electronic delivery of digitally signed upgrades of any applicable Equipment firmware from Contractor's or the OEM's website; and

8.1.8. (for OEMs only) upon request by County, provide an attestation letter identifying date of the most recent security vulnerability testing performed and any vulnerabilities identified and mitigated (must be dated within six (6) months after any major release).

9. HIPAA Compliance. County has access to protected health information ("PHI") that is subject to the requirements of 45 C.F.R. Parts 160, 162, and 164 and related regulations. If Contractor is considered by County to be a covered entity or business associate or is required to comply with the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") or the Health Information Technology for Economic and Clinical Health Act ("HITECH"), Contractor shall fully protect individually identifiable health information as required by HIPAA or HITECH and, if requested by County, shall execute a Business Associate Agreement in the form set forth at [www.broward.org/Purchasing/Pages/StandardTerms.aspx](http://www.broward.org/Purchasing/Pages/StandardTerms.aspx). County Administrator is authorized to execute a Business Associate Agreement on behalf of County. Where required, Contractor shall handle and secure such PHI in compliance with HIPAA, HITECH, and related regulations and, if required by HIPAA, HITECH, or other Applicable Law, include in its "Notice of Privacy Practices" notice of Contractor's and County's uses of client's PHI. The requirement to comply with this provision, HIPAA, and HITECH shall survive the expiration or earlier termination of this Agreement. Contractor shall ensure that the requirements of this section are included in all agreements with Subcontractors.

10. Application Development Services. To the extent applicable to the Services being provided by Contractor under the Agreement, Contractor shall develop, implement, and comply with industry-standard secure coding best practices as outlined by County's Service Provider Application Secure Coding Standard. In addition, if application development services are performed by Contractor augmented staff on behalf of County, staff must strictly follow and adhere to County's established application development policies, process, procedures, practices and standards. Upon request by County, Contractor shall provide an attestation letter to certify that security testing as specified above was performed along with security scan test results and tests performed. Any exceptions must be documented with the delivery of the attestation letter for acceptance by County.

## **Exhibit D**

### **Hosting, Support, and Maintenance Services**

Contractor shall provide Support and Maintenance Services as set forth in this Exhibit D for all Software, System, Equipment, and Services during the Term.

#### **1. Definitions**

**Issue(s)** - for the purpose of this exhibit only, means a problem detected through an alarm condition, reported by County, or discovered by Contractor that causes a failure or degradation of the NG911 System or any associated component or function of the NG911 System.

**Critical Component(s)** - includes those components in the NG911 System in which a failure of the component (regardless of redundancy) would prevent the Contractor from routing or delivering 911 calls and associated location and call back number to the County, to a PSAP, or to a neighboring county as required in Exhibit A (SOW). "Critical Component" includes all components whose failure would result in a Level 1 failure as defined under "Service Level Description & Examples" below.

**Functional Element(s)** - the software features and interfaces provided by Contractor as a part of Contractor's Next Generation Core Services (Next Generation Core Services) that are designed to perform all call routing, location validation and security within Contractor's NG911 System. The Functional Elements include, but are not limited to the Legacy Network Gateway, Legacy Selective Router Gateway, Border Control Function, Emergency Services Routing Proxy, Policy Routing Function, Emergency Call Routing Function, Location Validation Function, Spatial Interface, Location Database, Master Street Address Conversion Service, and Network to Network Interface.

**Next Business Day** - means the next Business Day during Standard Hours.

**On Site Support** - means Contractor's performance of Maintenance Services related to the NG911 System at County's locations.

**Service Request** (also referred to as a **Ticket**) - A formal request issued by the NSOC to resolve an issue, obtain a new service, obtain information, or change a current service. A Service Request will be generated based on an NG911 System alarm condition or an issue or defect reported by the County, a Motorola service technician, an NG911 System user, a 911 service provider, or an affiliated Originating Service Provider.

**Policy Routing Rules (PRR)** - customizable instructions that dictate how 911 calls, text and data are routed to the Public Answering Points (PSAPs). The PRRs will be developed during the Design Sessions of the project lifecycle, and they are expected to be refreshed as needed during post implementation.

**Contractor Dedicated Onsite Technician** - means Contractor certified technical personnel who provides Maintenance Services.

## 2. General System Hosting, Support, and Maintenance Services

Contractor shall provide County with Hosting, Support, and Maintenance Services so as to ensure and maintain optimal performance of the NG911 System consistent with the Statement of Work (SOW). The Maintenance and Support services shall include the following:

- One Contractor Dedicated Onsite Technician to County. The technician will be onsite a minimum of ten (10) days per month, unless there is a critical or major Issue that may require onsite time beyond ten (10) days within a month in which even the technician will be onsite for such additional time as necessary to resolve the critical and/or major issue(s). The technician will be onsite to work t service requests, consult, submit and execute Change Management Requests (CMRs), perform preventive maintenance, and conduct Moves, Adds, and Changes (MACs) as requested by the designated County point of contact. Contractor and County will develop a schedule to ensure that the onsite dedicated technician meets the ten (10) onsite requirement each month. The initial schedule shall be developed prior to Go-Live for the first PSAP environment (Regional or Non-Regional).
- Timely response and resolution of any errors, defects, malfunctions or other Issues (collectively, "Issues") affecting the use or performance of the System in keeping with the required Response Times stated in this document.
- Provide and facilitate the installation of software updates, patches, upgrades, and releases as they are made available to Contractor's clients.
- Proactively notify County of patches and updates affecting security.
- Test and apply software updates, patches, upgrades, releases, and/or workarounds on a test version of the applications before distribution to County's production systems.
- Use of ongoing best efforts to maintain the optimal functioning of the NG911 System, to correct programming, routing, and coding errors, and to provide solutions to known errors affecting the operation of the NG911 System.
- Routine notification to County, as it becomes available, of new or updated information pertaining to the Products, System, Services, and Documentation.
- Conduct executive meetings with County designated personnel on a semi-annual basis to provide organizational updates, product roadmap updates, and other agenda items that shall be developed between Contractor and County.
- Network & Security Operations Center (NSOC) to monitor NG911 System and Cybersecurity posture in real-time for any threats or breaches in security, and provide for timely response, Service Request creation, notification via email to Contractor Help Desk. The Help Desk shall contact Contractor's appropriate staff and County for timely response.
- Support and Maintenance shall be provided via telephone, electronic communication, remote access, on-site access, or as otherwise appropriate to resolve all NG911 System

Issues. Any updates, upgrades, releases, or other modifications to the NG911 System Equipment and Software shall be provided via electronic communication and be available for download via the Internet, if practicable. To the extent necessary to resolve an Issue or other support request, Contractor shall provide support on-site at any office or location of a County agency, as requested by County. Contractor represents that its personnel are suitably trained in the operation, support and maintenance of the NG911 System. If in the reasonable opinion of County, the personnel provided are not acceptable, Contractor agrees to provide suitable replacements immediately.

Contractor shall provide Support and Maintenance Services for all Equipment and Software that is installed by Contractor at the each of the PSAPs (the location and number of PSAPs may be modified by County Contract Administrator by written notice to Contractor), including the Broward Test Lab Center.

### **3. Service Descriptions and Service Requirements**

Contractor shall be responsible for the following Services and requirements:

(a) Equipment Support and Replacement

Contractor shall provide the following as part of its Support and Maintenance Services:

- Contractor shall maintain an adequate inventory of critical spare parts within Broward County, at no cost to County, to allow for the replacement of all onsite equipment not functioning as expected. Contractor shall provide a list of all spare part inventory items maintained at the nearby facility within ten (10) business days of installation for each environment.
- Contractor shall provide replacement or refurbished parts for any critical non-functional Equipment within the stated service levels in Severity Level Descriptions & Examples table and the Service Level Matrix table below.

(b) Dispatch and Onsite Support Services

Contractor shall provide the following dispatch and Onsite Support services:

- Contractor shall provide onsite technicians to respond to and resolve service requests for all Events related to onsite Equipment or Events related to the integration with onsite Equipment within the service levels listed in the Service Level Matrix table.
- The onsite technician(s) will provide Support and Maintenance Services as needed at the PSAP locations noted above, and shall also develop and implement Change Management Requests ("CMRs"), work with other vendors of County to triage, troubleshoot, address problems where interfaces/integrations are within the scope of this Agreement, plan and implement software upgrades, participate in bi-weekly and monthly meetings to provide status on Issues and requests, root cause analysis of Issues reported, and moves, adds, or changes (MACs).

- Provide root cause analysis of Issues reported in service requests. Root cause shall be defined as the factor identified through troubleshooting, that caused the Issue or problem, and which will be eliminated by implementation of a resolution.
- Onsite technicians shall meet or exceed the response times outlined in the Service Level Matrix table below twenty-four (24) hours a day, seven (7) days per week and 365 days per year including holidays.
- Onsite technicians shall be capable of consulting with third-party vendors, resolving Equipment, Software, configuration, interface, and network related problems.
- Contractor shall perform preventive maintenance on a monthly basis at each of the PSAPs. Preventive maintenance shall include, but not be limited to, maintenance to verify and perform backups on all systems, verify all onsite equipment statuses, resolve all alarms, perform firmware checks, hard drive checks, error log checks, alarm log checks, and check error lights. In addition, Contractor shall perform other preventive maintenance activities mutually agreed upon between County and Contractor on a monthly basis to avoid unexpected failures of the NG911 System or components of the NG911 System. A final report of all preventive maintenance activities conducted and the outcome of each shall be provided on a monthly basis to County.
- Contractor shall maintain a backup of all data, databases, logs, routing rules, and configurations within the NG911 System. Contractor shall maintain an updated backup schedule of all backups associated with the NG911 System and its associated components, ensure that the backups are performed automatically by the System on a daily, weekly, and monthly basis. There should be a minimum of two (2) copies of the backups maintained at geo-diverse sites. Contractor shall refresh the backup schedule and process on a semi-annual basis and provide a copy to County by the second and fourth quarter of each calendar year. Contractor shall provide to County a refreshed documented backup process for the NG911 System for the Regional and Non-Regional environments.
- Contractor shall refresh the restoration process on a semi-annual basis and provide a copy to County by the second and fourth quarter of each calendar year Contractor shall provide the refreshed restoration plan and process for the NG911 System for the Regional and Non-Regional environments. A test run of the restoration process shall be executed semi-annually.
- Contractor shall develop a step-by-step Method of Procedure (MOP) that identifies tasks in all Change Management Requests (CMRs) prior to their execution.
- Contractor shall, prior to the commencement of each CMR, provide sufficient written notification of such commencement to the E911 Administrator and stakeholders identified by County.
- Contractor shall, at the completion of each CMR, provide sufficient written notification of such completion to the E911 Administrator and stakeholders identified by County.
- Contractor shall complete all testing identified by County in each CMR for NG911

System changes. Contractor shall send an email to stakeholders identified by County after each CMR has been tested and completed.

- Contractor's Network & Security Operations Center (NSOC) shall proactively address Issues reported or detected by an alarm condition, ensure that a Service Request is opened and assigned and ensure that the Issue is resolved in a timely manner.
- All service requests opened and closed by Contractor will include an automatic email notification to County's Contract Administrator or designee(s).

(c) Remote Monitoring

Contractor shall provide the following monitoring services:

- Real time alarm monitoring for the NG911 System components located at all PSAP locations and at Contractor's data centers.
- Monitoring and automatic dispatch by Contractor shall be provided for all Issues impacting County's ability to receive and process calls delivered by the NG911 System.
- Dispatch shall be driven by service levels in the Service Level Matrix table.
- In accordance with the alarm definitions defined by County and agreed to by Contractor during the Design Sessions of the NG911 System deployment, Contractor shall ensure that an alarm definition document is maintained for all alarms generated by all Functional Elements and components in the system. Alarm notifications shall be sent via email as each alarm occurs to Contractor and County. Alarming should include notifications for alternate routing, rerouting, failover, and overflow.
- Contractor shall notify the Contract Administrator and/or designee via email of Issue detection, tracking, status updates, and resolution.
- Contractor shall dispatch technicians onsite in order to meet the requirements of the Service Level Matrix and for all alarm Events that impact call routing or delivery; or for critical component failures of the NG911 System that inhibit County's ability to receive, process, and record calls as specified in the SOW.

(d) Remote Technical Support

Contractor shall serve as the initial level of support via a toll-free telephone number to Contractor's NSOC to respond to any alarm conditions and resolve any System problems detected by the NG911 System monitoring process. Contractor shall notify County via phone call and email regarding any critical or major alarm conditions discovered through the alarm monitoring process.

Contractor's NSOC/SOC shall engage other Contractor resources and notify County via phone call and email should onsite dispatch be required.

Contractor shall notify County, via the contact methods provided, of all NG911 System infrastructure failures and/or outages within 5 minutes of discovery. For all outages, Contractor must also contact the 911 Coordinator or the designated backup via phone.

(e) Service Coverage and Maintenance Period

Contractor shall ensure the following service coverage is provided:

- Coverage shall be 24 hours a day, seven (7) days per week, 365 days per year with dispatched onsite technicians and Help Desk support, including holidays.
- During an emergency event activation (e.g., storm, PSAP evacuations, etc.) one technician may be required by the Contract Administrator to be dispatched on-site for eight (8) to twelve (12) hours per day as needed until recovery operations are complete, under safe and reasonable conditions at no additional costs to County.
- County will inform Contractor of emergency coverage at least seventy-two (72) hours prior to emergency activation when possible. In the event seventy-two (72) hour prior notification is not possible, County should make best efforts to notify Contractor of Contractor technician coverage for emergency event notification.

#### **4. Software and Equipment Upgrades**

Contractor shall inform County of all Software and Equipment end of sale, end of life, and end of support dates at least eighteen (18) months in advance to allow ample time to secure any required funding and complete the upgrades to the latest supported releases.

Contractor shall provide and install Software updates and patches at no additional cost to County to all onsite equipment.

Contractor shall install all Equipment/Software upgrades, new releases, updates, and patches using County's CMR process at no additional cost to County. Contractor shall coordinate with County to review new Software releases as they become available.

Contractor shall schedule the implementation of all updates, upgrades, patches, and new Software releases with the prior written approval of County. Contractor shall develop a step-by-step Event Plan, which lists every activity, duration of the activity, scheduled time for the activity during the upgrade, resources assigned, and conference bridge and submit to County for review and approval prior to implementation.

Contractor should provide a MOP with a step-by-step Event Plan and a backout plan for review by County a minimum of seven (7) calendar days prior to all system changes, patches, or planned maintenance activities.

Contractor shall ensure that Equipment and Software are kept up to date with all lifecycle updates to maintain ongoing support.

All installations, changes, updates, and maintenance should occur during County's maintenance periods (local time):

- Monday 2300 through Tuesday 0600
- Tuesday 2300 through Wednesday 0600
- Wednesday 2300 through Thursday 0600
- Thursday 2300 through Thursday 2400

Any exceptions to the maintenance periods above will need to be approved by County for any changes, updates, or maintenance directly impacting the NG911 System for County.

### **5. Response Times and Severity Levels**

Support and Maintenance Services shall be provided via telephone, electronic communication, on-site, remote or as otherwise appropriate to address the Issue. Any updates, upgrades, releases, or other modifications to the Software or Hardware shall be provided via electronic communication or delivered to designated locations by County. To the extent necessary to resolve an Event or other support request, Contractor shall provide support on-site at any office or location of a County agency.

Contractor agrees that its personnel shall be suitably trained in the operation, maintenance, and support of the NG911 System to meet or exceed the requirements in the Service Level Matrix below.

The NG911 System and all associated components within the SOW and noted in this Exhibit D shall maintain a system availability rate of 99.999% for each PSAP per month.

- **Incidents** - Service Level Description & Examples table (below) provides incident examples by Severity Level.
- **Trouble Reporting** - County will report all Issues via email or via the 1-800 number provided by Contractor. The call answering objective time requirement for Contractor at the help desk is ninety-five (95) percent of all calls within twenty (15) seconds.
- **Ticket Response Time** is defined as the time from which an alarm is generated or an Issue is detected by the NSOC to the time that a ticket has been opened to address the Issue and the time that Contractor resource is actively engaged in troubleshooting the Issue. If the Issue is not detected by the NSOC or via alarm notification, Ticket Response Time is the time from which the Issue is reported to the help desk to the time that a ticket has been opened to address the Issue and the time that Contractor resource is actively engaged in troubleshooting the Issue.
- **Resolution Time** is defined as the time from which an alarm is generated, or an Issue is detected by the NSOC, or the time from which an Issue is reported to the help desk, to the time that the Issue has been resolved and the NG911 System has been restored with County's approval.

- **Onsite Response Time** – Required 7 days per week, 24 hours per day, and 365 days per year, including holidays. Onsite Response Time is defined as the time from which an alarm is generated or an Issue is detected by the NSOC, or the time from which an Issue is reported to the help desk, to the time that a qualified technician has arrived onsite at the appropriate PSAP location to troubleshoot the reported trouble. See Service Level Matrix below.

### Severity Level Description & Examples

#### Level 1 - Critical

An Event shall be categorized as Severity Level 1 if it meets any of the following criteria:

- (a) Renders a business-critical system or primary and secondary Functional Elements unavailable or substantially unavailable. The loss of all call, text, RCS, RTT, TDD, TTY delivery, or call processing capability.
- (b) Failure of a failover for the system or any component of the system.
- (c) Cybersecurity (includes spoofing, TDoS, DDoS, and ransomware attacks) incidents that may impede the ability to route or process any 911 calls, or that generates additional call volume into the PSAPs.
- (d) Seriously impacts normal business operations
- (e) Failure of a Policy Routing Function (PRF) rule which results in County's inability to reroute calls to destinations defined in the Policy Store.
- (f) Voice quality Issue with a MOS score of less than 3.5.
- (g) Inability to process up to 200 calls simultaneously or transfer 911 calls within and outside of Broward County via the NG911 System.
- (h) Loss of primary, secondary, or tertiary connectivity that results in the Contractor's NG911 system being unable to route and deliver calls to valid destinations (as defined by the Parties) at the County, a PSAP, or neighboring county.
- (i) Web Portal failure where the portal is inaccessible to the County for rerouting calls.
- (j) Failure of Geospatial routing such that routing of calls to valid destinations (as defined by the Parties) is not occurring at any of County's PSAPs.
- (k) Critical alarm conditions by component or Functional Element.
- (l) It causes the complete failure or loss of functionality of a single or multiple Functional Elements, components, Services (e.g. STIR/SHAKEN information processing) or features.
- (m) Failure of an Abandonment Process which results in the NG911 system being unable to alternatively route calls to predefined or on-demand PSAP destinations.
- (n) Causes the loss of all text-to-911, and multi-media call delivery and call processing capability.

#### Examples of Critical Event:

- (o) Isolation of one or more PSAPs from the rest of the ESInet.
- (p) Inability to route calls to the designated PSAP for each environment.
- (q) TDoS/DDoS attacks.
- (r) Loss of any ESInet circuit or ESInet failure.
- (s) Decrease in throughput is greater than or equal to 2.5%.
- (t) Failure of PRF routing as defined.

- (u) Audio degradation for 911 calls, preventing call takers from hearing and conversing with callers.
- (v) Call transfer failures.
- (w) Loss of call delivery capability.
- (x) Loss of access to the web portal for call reporting, monitoring, and policy routing rule changes or updates.

## **Level 2 - Major**

An incident shall be categorized as Severity Level 2 if it meets any of the following criteria:

- (a) Causes the failure or loss of functionality of a single or multiple Functional Elements, components, or features, while the NG911 System itself remains operational
- (b) Causes a loss of 2.5% or more of call delivery and call taking volume overall for either Regional or Non-Regional PSAPs per hour, or 5% or more of call delivery and call taking volume at any individual PSAP per hour.
- (c) Causes the loss of all call taking capability.
- (d) Critical or Major alarm conditions by component or Functional Element.
- (e) Voice quality with a MOS score between 3.5 and 3.9
- (f) Transactional logs for functional elements and overall call processing become unavailable.
- (g) Inability to transfer 911 calls within and outside of Broward County via the NG911 System.
- (h) Failure of the NG911 System's ability to route calls from one environment to the other based on routing rules or on demand
- (i) Impedes the work of one or more individuals performing a critical business function (Portal Function).
- (j) SIEM log failures.
- (k) Failover of a Functional Element, SDWAN Edge devices, FortiGate firewalls, VESTA NXT router, or Data Gateway
- (l) Inability to deliver EIDO to all PSAPs.
- (m) Failure of two or more VESTA NXT Continuity positions.
- (n) Failure to record calls for VESTA-NXT Continuity positions.
- (o) Integration-related Issues with Call Handling Equipment.
- (p) Eclipse System Failure
- (q) Data corruption Issue.
- (r) Causes two (2) or more users to lose access to any system, service, software, equipment, or network component, or a key feature.

### Examples of Major Event:

- (s) Loss of redundant connectivity for any data center connection.
- (t) Loss of redundancy at a PSAP.
- (u) System, component, or functional element Issue that could result in loss of connectivity to a PSAP.
- (v) Decrease in throughput equal to or greater than 5% on any one circuit.
- (w) Loss of ANI or ALI for 911 calls.

- (x) Misrouting of one or more calls in an hour, calls, text, RCS, TDD, TTY, or RTT delivery failure.
- (y) Audio degradation for 911 calls.
- (z) Loss of transactional logs on the PRF element.
- (aa) Call transfer failures.
- (bb) Unable to reroute calls from Non-Regional to Regional.
- (cc) Unable to access SIEM logs and delivery failures of logs for Cybersecurity monitoring and mitigation.
- (dd) Failure or failover of an onsite device ,server, or other system component.
- (ee) Inability to access and generate reports.
- (ff) Inability to use two or more VESTA NXT positions for cloud-based call handling.
- (gg) Inability to record or retrieve recordings within NG911 System.
- (hh) Failure of Eclipse
- (ii) Inability to access system or corruption of data.

**Level 3 - Minor**

An incident shall be categorized as Severity Level 3 if it meets any of the following criteria:

- (a) Causes any performance degradation.
- (b) Causes an individual user to lose access to any system, service, software, equipment, or network component, or a key feature thereof.
- (c) Call delivery failure less than 2.5% per hour for each PSAP.
- (d) Results in malfunction or loss of any peripheral hardware or software component that does not impact call routing or call delivery.
- (e) Eclipse System data discrepancies or inability to generate required reporting, without loss of records and call data.

Examples of Minor Event:

1. Individual circuit failure or degradation.
2. Reports of a call delivery failure by the PSAP.
3. Loss of ANI for non-emergency calls
4. Audio degradation for non-emergency calls.
5. Data discrepancies on the reporting platform.

**Level 4 - Request or Enhancement**

Severity 4 incidents are non-service-affecting and include:

- (a) Enhancement requests.
- (b) Inquiries.
- (c) Maintenance.
- (d) Change Management Requests (CMR).

\* The examples listed above are provided for illustrative purposes only and shall not be construed to be a complete list; County reserves the right to classify an incident at the applicable Severity Level based on the stated criteria, regardless of whether the specific circumstance is listed above.

The Service Levels listed in the Service Level Matrix table (below) shall be met by Contractor as specified below for Ticket Response Time, Onsite Response Time, and communication intervals

associated with Issues reported under each Severity Level. All Issues reported should maintain their original ticket Severity Level throughout the ticket's lifecycle unless otherwise approved by County.

**Service Level Matrix**

Trouble Category	Ticket Response Time	Onsite Response Time	Resolution Time	Communication Interval
<b>Severity Level 1</b>	5 minutes	30 minutes	<p>1) If there is a failure from redundant Functional Elements or the NG911 System components are unavailable, Contractor shall dispatch a technician immediately and conduct a remote failover within five minutes of verifying that the active environment, network, or Functional Element is in a failed state, or conduct remote failover within ten minutes of an alarm condition, or a report from County of the Severity 1 Issue, whichever is earlier.</p> <p>2) If remote failover is not available but an onsite manual failover is required, Contractor will conduct a manual failover within five (5) minutes of onsite arrival, whichever is earlier. If neither (1) nor (2) are available, Contractor shall dedicate resources onsite or at its data center 24/7/365, including holidays to resolve the Issue or reduce the impact of the Issue to that of a Severity Level 3 ticket within five minutes.</p> <p>For all other Severity Level 1 defined components, resolution time shall be within 15 minutes from the alarm condition or reported Issue by County or within 30 minutes of onsite arrival for all issues requiring onsite response.</p>	On the half-hour or as agreed upon by County
<b>Severity Level 2</b>	5 minutes	1 hour	<p>For the Severity Level 2 defined components, resolution time shall be within 15 minutes from the alarm condition or reported Issue by County or within 30 minutes of onsite arrival for all Issues requiring onsite response.</p> <p>Contractor shall dedicate resources onsite or at its data center 24/7/365, including holidays to resolve the Issue, restore the NG911 System, or reduce the impact of the Issue to a Severity Level 3.</p>	Update every hour or as agreed upon by County

Trouble Category	Ticket Response Time	Onsite Response Time	Resolution Time	Communication Interval
<b>Severity Level 3</b>	2 hours	8 hours	For the Severity Level 3 defined components, resolution time shall be within 8 business hours from the alarm condition or reported Issue by County or within 8 hours of onsite arrival for all Issues requiring onsite response.	Every 8 hours or as agreed upon by County
<b>Severity Level 4</b>	Next Business Day	Next Business Day	Based on the estimate of effort to complete the request, which will be prioritized and scheduled as agreed upon between Contractor and County.	Updates as needed or as agreed upon by County

The Performance Measures listed in Service Performance Table (below) shall be met by Contractor as specified below. Contractor shall provide monthly metrics to County that measure each of the service performance items below by the 5<sup>th</sup> business day of each month.

**Service Performance Table** (per month tracking)

Service	Performance Measures
Uptime	99.999% measured at the PSAP - Contractor shall maintain 99.999% availability for all Critical Components of the NG911 System operating to route calls with the required information present in the call data for valid destinations at each applicable PSAP. Availability will be calculated by the total downtime at the PSAP for the NG911 System or a component of the system divided by the total available time per month.
Voice Quality	Meets or exceeds ITU-T-P.830 and must be able to maintain an MOS score of 4.0 or higher.
Call Delivery Time (Measured from presentation of call or invite at the POI to deliver to the CHE)	Less than 500ms and 95% of the calls less than 300ms
Network traffic convergence	Network convergence of less than 54ms
Latency	Less than or equal to 50ms
Jitter	Less than or equal to 5ms one way, end to end
Packet Loss	Less than 0.1%

a. Failure to Meet Required Onsite Response or Resolution Times

If Contractor fails to meet the Required Onsite Response or Resolution Times for Severity 1, 2, or 3, County may offset against any sums due to Contractor by 10% of the monthly invoices for each Event that Contractor failed to meet the Required Onsite Response Time or Resolution Time.

b. Service Credits

Contractor shall provide service credit(s) to County when the actual Ticket Response Time exceeds the Ticket Response Times in accordance with Table 4 (Service Credits) below.

Contractor shall provide service credit(s) to County when the NG911 System becomes unavailable due to an NG911 System routing or a component failure that impedes the ability of Contractor to deliver, or County to process, calls based on the specifications defined herein, including Policy Routing Rules (PRR).

If Contractor fails to meet the System Availability Performance of 99.999% as set forth herein or fails to provide County with a temporary workaround or program correction for a Severity 1 or 2 Issue within the timeframes stated below, then for each such failure, Contractor will Issue a credit to County in the following amounts:

**Service Credits Table**

Trouble Category	Ticket Response Time	Service Credit
Severity Level 1	5 minutes	10% of monthly invoice for each 5-minute increment past the Ticket Response time per incident
Severity Level 2	5 minutes	5% of monthly invoice for each 15-minute increment past the Ticket Response time per incident
Severity Level 3	2 hours	5% of monthly invoice for each 2-hour increment past the Ticket Response time per incident
Overall Performance	System Availability Performance	Service Credit
Service Performance (Based on availability of the System or a Critical Component of the System that impedes the ability to deliver and process calls based on the specifications defined herein.)	99.999%	Based on the duration of the failure to meet the service performance: <ul style="list-style-type: none"> <li>• 30 seconds to 5 minutes - 75% of monthly invoice</li> <li>• &gt; 5 minutes - 100% of monthly invoice</li> </ul>

County may request a service credit within 30 days after the date of the Event, and Contractor will apply credits to the next invoice.

**6. Managerial Approach & Communication**

Contractor's Key Personnel are identified in Exhibit A.

Contractor is responsible for all Contractor technician activity including, but not limited to, resource assignments, Service Level Matrix adherence, and communication with technicians. County, at the request of its stakeholders, has the ability to prioritize Service Request response and work efforts.

a. Management Meetings

Contractor shall ensure the following communication procedures are followed:

- On a monthly basis, Contractor shall conduct maintenance services meetings onsite or via phone conference to review status and progress updates on current Issues reported, chronic System problems, enhancement requests, escalated requests, monthly metrics, Service Request priorities, incident management opportunities, and root cause resolution on all Issues reported.
- Contractor shall conduct executive meetings with County designated personnel on a semi-annual basis to provide organizational updates, product roadmap updates, and other agenda items that shall be developed between Contractor and County.

b. Escalation

All service problems should be reported to the Motorola Help Desk at 800-722-3472. If a critical or major Issues are reported to the Help Desk, Contractor's internal notification process will result in notification to the designated staff at County, including Management Staff.

County may initiate the escalation process on all Severity 1 Issues after reporting the problem to Contractor Help Desk. Contractor's executive management (i.e., Director level or higher) shall engage and provide updates on all Severity 1 and Severity 2 service requests reported to designees at County in accordance with the communications intervals in the Service Level Matrix.

County may initiate the escalation process for Issues of any Severity Level if there is no significant progress with problem resolution or there are chronic system problems impacting County's Public Safety Answering Points (PSAPs). Chronic System problems include System Issues that recur more than two (2) times without root cause resolution.

Contractor will provide an Escalation Map with contact information for Executive Management level staff with oversight of NGCS.

c. Problem Resolution and Notification

Contractor shall ensure the following problem resolution and notification process is followed to resolve a Service Request and notify stakeholders.

- Root Cause Analysis (RCA) on Severity 1 - 3 service requests should be provided by Contractor in the Service Request Report Summary Report referenced below. Final resolution shall be noted in the Monthly Service Request Summary Report below.
- After any Issues are reported, Contractor shall provide a preliminary reason for outage (RFO) and restore service immediately through failover options. The final RFO/ RCA report shall include detailed outage causation, callers impacted, duration of outage, date and time of the outage, and any short- and/or long-term countermeasures implemented to prevent a recurrence.
- Contractor should provide final RCA, in writing, within three business days of service restoration.

- RFO/RCA reports that include any short- and/or long-term remedies, including implementation schedules, shall include follow-up reporting. County shall be notified by Contractor regularly (at minimum daily or weekly until fully resolved) and as actions are completed.
- All service requests must be closed only after the requestor has confirmed that the problem has been resolved or someone from the E911 Office has approved the Service Request to be closed.
- Contractor's Help Desk shall provide automated email notifications to designated County staff when service requests are opened and closed with the resolution noted in the service request.

**7. Reporting**

Contractor shall maintain records of its Support and Maintenance Services, and provide County with online access to a Service Request management system, which shall include at least the following:

- (a) Date, time, and name of contact for each Issue;
- (b) Date and time of response by Contractor;
- (c) Description of Issue and analysis of error, defect, or other Issue causing Issue;
- (d) All steps and actions taken to resolve the Issue;
- (e) Dispatch and onsite arrival times;
- (f) Date and time of resolution and name of County representative notified of resolution; and
- (g) Root Cause Analysis.

a. Service Request Report Summary

Contractor shall provide a weekly Service Request Summary report. The report shall include the date reported for each service request, problem description, date stamp with the current status, resolution/root cause, location, work performed, and technician assigned. Contractor shall send these reports electronically via email on a weekly basis to the designated County contact. The sample template for this report is shown below.

Incident #	Date and Time Reported	Reported By	Severity	Description	Status	Updates (<Date>: <Update>)	Assign To	Site	Notes/ Comments

Contractor shall provide remote access for County to Contractor Service Request system. This will provide real-time status for each Service Request as needed.

**b. Monthly Service Request Summary**

Contractor shall provide a monthly summary of all problems reported, which includes the date and time reported, problem description, resolution date and time, fault classification, root cause and resolution, location, Ticket Response time, dispatch request time, technician onsite arrival time, and other Service Request information. All times included in the Monthly Service Request Summary report shall be reported in the Eastern Standard Time (EST). Contractor shall send these reports electronically via email on a monthly basis to the designated County contact by the 5<sup>th</sup> business day of each month as well as statistics of Contractor's monthly compliance with the required Response Times and NG911 System and Component Availability.

Contractor shall work with County to finalize all fields in the Open and Closed Ticket reports including Ticket categories, Ticket Subcategories, Onsite Response time, and Ticket Response Time. The sample template for this report is as follows.

Incident #	Date and Time Reported by PSAP	Date and Time of alarm	Open Date and Time (Time Stamp)	PSAP or other location information where incident was reported	Severity Level	Reported by <First Name>	Reported by <Last Name>	Description of Incident	Ticket Response Time (time stamp)	Remote Response Time (time stamp)	Dispatch Arrival Time (time stamp)	Resolution Date and Time After Notice or alarm	Fault Classification	Root Cause	Close Date and Time	Status	Notes

Maintenance and Support Service Performance Report Summary template is below. The metrics by column shall be reported for the entire NG911 System and key components of the system (e.g. Functional Elements, Customer Web Portal, SD WAN Devices, ) on a monthly basis.

Availability Uptime (% Calculation)	Total Downtime	Total Available Time for Month	MOS	Call Delivery Time (less than 500ms)	% of Calls delivered in (95% of calls < 300ms)	Traffic Convergence (less than 54ms)	Latency (Less than or equal to 50ms)	Jitter (Less than or equal to 5ms)	Packet Loss (less than .1%)

**8. Responsibilities**

**a. Contractor Responsibilities**

Contractor responsibilities include but are not limited to the items listed below. Contractor's responsibilities are specified herein.

- Provide 24-hour per day coverage.
- Provide skilled and proficient Onsite Support personnel.
- Provide monthly reports to County by the 5th day of each month of all opened or closed tickets to include, but are not limited to the following; by severity, aging service requests by severity, closed service requests with resolution times and by fault classification (e.g. hardware failure, web application software failure, user requests, network equipment failure (on premise vs. off premise), call routing failure (functional element), primary circuit failure, VESTA NXT Continuity failure, NNI failure, etc.) of all root causes down to the lowest level for stratification, dispatch times, onsite arrival times for dispatch, system and component level availability, change management success rate specific to County, all service performance metrics in the Service Performance table above and mean time to repair.
- Address all service requests based on severity levels and prioritization provided by County.
- Escalate Issues when required to ensure timely resolution and notification to County.
- Provide bulletins and notifications of software updates via email to designated County contact.
- Plan, schedule, and install software and hardware updates and upgrades.
- Provide weekly updates, progress, and resolution reports on all open Issues and escalated Issues via email to County Contract Administrator and any other designated County contact(s).
- Work moves, adds, and change requests in order of priority by established by County.
- Resolve all NG911 System Issues based on the response and resolution time specified in the Service Level Matrix.
- Create and submit Change Management Requests (CMR) by the due date established by County and partake in the Change Management Review Meetings as required for CMRs submitted.
- Provide at least two resources for around the clock support at County's designated PSAPs during a declared emergency event as needed before, during, and after the event under safe conditions.
- Maintain and provide access to accurate documentation of all inventory, Equipment connections, and configurations to County within 24 hours of the request. This includes data and network cabling, power cabling, and cabinet layouts.
- Label all onsite equipment and cabling maintained by Contractor using labeling conventions as provided by County.
- Ensure that all NG911 System components remain in compliance with County Cyber Security Framework.

- Assist County on an annual basis in developing tabletop and failover drills with Contractor leading the entire effort between the Regional and Non-Regional PSAPs and designated neighboring PSAPs.
- Participating in Regional Meetings with County to formulate processes and technology integration procedures with neighboring counties for failover and alternative call routing and call handling options.
- Contractor shall maintain adequate equipment, including spares, and trained staff available remotely and/or onsite as required 24/7/365 to resolve Issues and failures within the response and resolution times outlined in the Tables 1 (Service Level Examples) and 2 (Service Level Matrix) above.
- Contractor shall provide a list of locations where equipment and staff will be located during the terms of the contract.
- Industry Standard Compliance - As industry standards evolve, the NG911 System shall be upgraded to maintain compliance with the current version of established industry standards. The NG911 System should support applicable new IP network and security industry standards within twenty-four (24) months of ratification. NAs updates are made to maintain compliance, the NG911 System shall not abandon services or feature functionalities in place at the time of the upgrade. Contractor shall uncover any performance or feature changes prior to the upgrade and report them to County for approval.
- Configuration Management - The configuration management process shall include the following:
  - All routine patches, upgrades, updates, or new application software, hardware or configurations shall be tested in the lab environment before being put into production. Detailed reports of the testing shall be available to County.
  - Frequency of scheduled software releases and the decision-making processes involved in determining what features and defect resolutions to include in a scheduled release.
  - Maintenance releases and feature releases shall be provided to County at no cost while a maintenance agreement is in place.
- Contractor shall provide access to the defect tracking system to allow County to track the progress of defect resolutions.
- Contractor shall provide a detailed description of the defect tracking and resolution process and provide training to County staff prior to final NG911 System acceptance.
- Contractor must have a procedure to manage and track changes made to the system. This is especially important when changes affect the performance of a particular device that needs to be returned to its former configuration. The configuration management procedure shall be available to maintenance personnel and County staff.
- Scheduled Maintenance - Contractor shall coordinate all scheduled maintenance using the change management process which includes Scheduled downtime and Preventive

maintenance

- GIS Maintenance - Contractor shall design, develop and maintain a method to upload regularly scheduled County GIS data updates to the NGCS with clearly documented data requirements.

b. County Responsibilities

- Log all Issues with Contractor Help Desk, except those that have already been reported by County or its third-party vendors.
- Provide information to Contractor which may be needed to resolve System Issues.
- Provide assistance to Contractor with testing changes, enhancements, and patches.
- Assist with creating any CMRs.
- Assist Contractor in prioritizing work requests and problems reported.
- Provide NG911 System user administration configuration requirements.

**Attachment: Acronyms**

Acronyms	Terms
AAR	After-action Review
ACD	Automatic Call Distribution
ACL	Access Control List
AI	Artificial Intelligence
ALI	Automatic Location Identification
ANI	Automatic Number Identification
APCO	Association of Public-Safety Communications Officials International
ASAP	Automated Secure Alarm Protocol
ASE	AT&T Switched Ethernet
ATIS	Alliance for Telecommunications Industry Solutions
BGP	Border Gateway Protocol
BCF	Border Control Function
CA	Certification Authority
CAD	Computer-aided Dispatch
CAMA	Centralized Automatic Message Accounting
CDR	Call Detail Record
CHE	Call-handling Equipment
CJIS	Criminal Justice Information Services
CLDXF	Civic Location Data Exchange Format
CMSP	Commercial Mobile Service Provider
COO	Chief Operating Officer

Acronyms	Terms
COOP	Continuity of Operations
COS	Class of Service
CS	Committee Substitute
CSF	Cybersecurity Framework
CSR	Client Service Representative
CTD	Communications and Technology Division
DDoS	Distributed Denial of Service
DOJ	Department of Justice
DSCP	Differentiated Service Code Point
ECC	Emergency Communications Center
ECRF	Emergency Call Routing Function
EF	Enhanced Fujita Scale
EIDO	Emergency Incident Data Object
EOC	Emergency Operations Center
ESIND	Emergency Services IP Network Design Information Document
ESInet	Emergency Services IP network
ES-NGN	Emergency Services Next Generation Network
ESN	Emergency Services Number
ESRP	Emergency Services Routing Proxy
ETL	Extract, Transform, Load
FCC	Federal Communications Commission
FIPS	Federal Information Processing Standard
FirstNet	First Responder Network Authority
FY	Fiscal Year
GIS	Geographic Information System
HB	House Bill
HMI	Human Machine Interface
IAM	Identity and Access Management
ICA	Intermediate Certificate Authorities
ICD	Interface Control Document
ID	Identification
IETF	Internet Engineering Task Force
IM	Instant Message
IoT	Internet of Things
IP	Internet Protocol
ISO	International Organization of Standards
IVR	Interactive Voice Response
LDB	Location Database
LNG	Legacy Network Gateway
LoST	Location to Service Translation
LSRG	Legacy Selective Router Gateway

Acronyms	Terms
LTE	Long-term Evolution
LVF	Location Validation Function
MCS	MSAG Conversion Service
MFA	Multi-factor Authentication
MIS	Management Information System
MLTS	Multiline Telephone System
MMS	Multimedia Service
MOP	Method of Procedure
MOS	Mean Opinion Score
ms	Millisecond
MSA	Metropolitan Statistical Area
MSAG	Master Street Address Guide
MSRP	Message Session Relay Protocol
NAD83	North American Datum of 1983
NENA	National Emergency Number Association
NG911 or NG9-1-1	Next Generation 911 (9-1-1)
NGCS	Next Generation Core Services
NG-SEC	Next Generation Security
NIOC	NG9-1-1 Interoperability Oversight Commission
NIST	National Institute of Standards and Technology
NNI	Network-to-network Interface
NOC	Network Operations Center
NPSBN	Nationwide Public Safety Broadband Network
NTP	Network Time Protocol
OCIF	Outbound Call Interface Function
ORCAT	Office of Regional Communications and Technology
OSI	Open Systems Interconnection
OSP	Originating Service Provider
pANI	Pseudo Automatic Number Identification
PBX	Private Branch Exchange
PCA	PSAP Credentialing Agency
PKI	Public Key Infrastructure
PL	Phone Line
PM	Project Manager
POI	Point of Interconnection
PRF	Policy Routing Function
PRR	Policy Routing Rules
PSAP	Public Safety Answering Point
PSTN	Public Switched Telephone Network
QoS	Quality of Service
RCA	Root Cause Analysis


Acronyms	Terms
RCS	Rich Communication Services
RFC	Request for Comment
RFO	Reason for Outage
RTT	Real-time Text
SDO	Standards Development Organization
SHAKEN	Signature-based Handling of Asserted Information Using toKENs
SI	Spatial Interface
SIEM	Security Information and Event Management
SIP	Session Initiation Protocol
SLA or SSLA	Service Level Agreement or Supplemental Service Level Agreement
SMS	Short Message Service
SOC	Security Operations Center
SOI	Service Order Input
SOW	Statement of Work
SS7	Signaling System 7
STIR	Secure Telephone Identity Revisited
TCC	Text Control Center
TDD	Telecommunications Device for the Deaf
TDM	Time Division Multiplex
TDoS	Telephony Denial of Service
TIA	Telecommunications Industry Association
TLS	Transport Layer Security
TMA	The Monitoring Association
TSP	Telecommunications Service Priority
TTY	Teletypewriter
UI	User Interface
UL	Underwriters Laboratory
UPS	Uninterruptible Power Supply
URI	Uniform Resource Identifier
URN	Uniform Resource Name
VoIP	Voice over IP
VIPER	Voice over Internet Protocol for Emergency Response
VRS	Voice Recording System
WGS84	World Geodetic System 84

### Exhibit E Minimum Insurance Requirements

Project: Next Generation 911 (NG911) Project  
Agency: Communications and Technology Division

TYPE OF INSURANCE	ADDL INSR	SUBR WVR	MINIMUM LIABILITY LIMITS		
				Each Occurrence	Aggregate
<b>GENERAL LIABILITY - Broad form</b> <input checked="" type="checkbox"/> Commercial General Liability <input checked="" type="checkbox"/> Premises-Operations <input type="checkbox"/> XCU Explosion/Collapse/Underground <input checked="" type="checkbox"/> Products/Completed Operations Hazard <input checked="" type="checkbox"/> Contractual Insurance <input checked="" type="checkbox"/> Broad Form Property Damage <input checked="" type="checkbox"/> Independent Contractors <input checked="" type="checkbox"/> Personal Injury <b>Per Occurrence or Claims-Made:</b> <input checked="" type="checkbox"/> Per Occurrence <input type="checkbox"/> Claims-Made <b>Gen'l Aggregate Limit Applies per:</b> <input type="checkbox"/> Project <input type="checkbox"/> Policy <input type="checkbox"/> Loc. <input type="checkbox"/> Other _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bodily Injury		
			Property Damage		
			Combined Bodily Injury and Property Damage	\$1,000,000	\$2,000,000
			Personal Injury		
			Products & Completed Operations		
<b>AUTO LIABILITY</b> <input checked="" type="checkbox"/> Comprehensive Form <input checked="" type="checkbox"/> Owned <input checked="" type="checkbox"/> Hired <input checked="" type="checkbox"/> Non-owned <input checked="" type="checkbox"/> Any Auto, If applicable <i>Note: May be waived if no driving will be done in performance of services/project.</i>			Bodily Injury (each person)		
			Bodily Injury (each accident)		
			Property Damage		
			Combined Bodily Injury and Property Damage	\$500,000	
<input type="checkbox"/> <b>EXCESS LIABILITY / UMBRELLA</b> <b>Per Occurrence or Claims-Made:</b> <input checked="" type="checkbox"/> Per Occurrence <input type="checkbox"/> Claims-Made <i>Note: May be used to supplement minimum liability coverage requirements.</i>					
<input checked="" type="checkbox"/> <b>WORKERS' COMPENSATION</b> <i>Required only if the vendor comes on site to perform services.</i>	N/A	<input checked="" type="checkbox"/>	Each Accident	STATUTORY LIMITS	
<input checked="" type="checkbox"/> <b>EMPLOYERS LIABILITY</b>			Each Accident	\$500,000	
<input checked="" type="checkbox"/> <b>CYBER LIABILITY</b>	N/A		Each Claim:	\$3,000,000	\$5,000,000
<input checked="" type="checkbox"/> <b>PROFESSIONAL LIABILITY (ERRORS &amp; OMISSIONS) / TECHNOLOGY ERRORS &amp; OMISSIONS</b>	N/A		Each Claim:	\$2,000,000	\$4,000,000
<b>Description of Operations:</b> Broward County is additional insured for liability. Insured's insurance shall provide primary coverage and shall not require contribution from the County, self-insurance or otherwise. Waiver of subrogation applies in favor of Broward County. For Claims-Made policies insurance must be maintained and evidence of insurance must be provided for at least three (3) years after completion of the contract or work.					

**CERTIFICATE HOLDER:**  
Broward County  
115 South Andrews Avenue  
Fort Lauderdale, Florida 33301

  
 Digitally signed by  
 COLLEEN POUNALL  
 Date: 2026.04.20  
 12:31:09 -04'00'  
 \_\_\_\_\_  
 Risk Management Division

**Exhibit F  
Work Authorization**

Agreement: [Title, Date, Contract Number]

Work Authorization No. \_\_\_\_\_

---

This Work Authorization is between Broward County and Contractor pursuant to the Agreement. Contractor affirms that the representations and warranties in the Agreement are true and correct as of the date this Work Authorization is executed by Contractor. In the event of any inconsistency between this Work Authorization and the Agreement, the provisions of the Agreement shall govern and control.

The time period for this Work Authorization will be from the date of County's Notice to Proceed until [ ( ) ] days after the Notice to Proceed, unless otherwise extended or terminated by the Contract Administrator.

**Services to be provided:**

[COMPOSE SIMPLE SUMMARY]

See Exhibit A for additional detail.

The applicable not-to-exceed amount stated in the Agreement for the Optional Services at issue is \$[\_\_\_\_\_].

The total fee for goods and services under this Work Authorization is \$[ ] ("Total Fee").

The Total Fee shall be invoiced by Contractor upon written acceptance by County of all goods and services required to be provided under this Work Authorization.

*(Signatures appear on the following page.)*

IN WITNESS WHEREOF, the Parties hereto have made and executed this Work Authorization No. [redacted], effective as of the date the last party signs this Work Authorization No. [redacted].

**County**

Broward County, by and through its [redacted]

By: \_\_\_\_\_

**Title**

\_\_\_\_ day of \_\_\_\_\_, 202\_\_

Contract Administrator

By: \_\_\_\_\_  
(Date}

Project Manager

By: \_\_\_\_\_  
(Date}

Approved as to form by  
Andrew J. Meyers  
Broward County Attorney  
115 South Andrews Avenue, Suite 423  
Fort Lauderdale, Florida 33301  
Telephone: (954} 357-7600

By \_\_\_\_\_

**Attorney's Name** (Date}

Senior/Assistant County Attorney

**Contractor**

By: \_\_\_\_\_

Authorized Signer

\_\_\_\_\_  
Print Name and Title

\_\_\_\_ day of \_\_\_\_\_, 20\_\_

## **Exhibit G Supplemental Service Level Agreement (SSLA)**

In connection with all Services provided to County under the applicable contract (the "Agreement"), Contractor shall, at no additional cost to County, meet or exceed the requirements set forth in this Supplemental Service Level Agreement ("SSLA") for the duration of the Agreement. The standards set forth herein are intended to reflect the current industry best practices for the Contractor Platform provided by Contractor under this Agreement. If and to the extent industry best practices evolve to impose higher standards than set forth herein, this SSLA shall be deemed to impose the new, higher standards upon Contractor. Contractor shall promptly notify County in writing of any material change to its compliance with these standards. Any approval required by County under this SSLA may be issued in writing by the Contract Administrator or the Broward County Chief Information Officer ("CIO").

Sections 1-5 of this SSLA apply to all aspects of the Contractor Platform. In addition, Sections 6 and 7 of this SSLA apply to any Software as a Service ("SaaS") or web hosting services provided to County under the Contractor Platform.

### **1. Definitions**

1.1. Contractor Platform means the full suite of Services provided by Contractor under the Agreement, including the NG911 System or other solution that stores, hosts, or transmits County Data. Contractor shall maintain the same standards set forth herein for its data centers and facilities that store or host County Data.

1.2. County Data means the data and information (including text, pictures, sound, graphics, video and other medium) relating to County or its employees or agents, or made available or provided by County or its agents to Contractor, for or in the performance of this Agreement, including all derivative data and results derived therefrom, whether or not derived through the use of the Contractor's services, whether or not electronically retained, and regardless of the retention media.

1.3. Any other capitalized terms not defined herein refer to those terms as defined in the Agreement, if so defined; if not defined in the Agreement, any other capitalized terms shall have their plain language meaning as used in the applicable context.

### **2. Security**

#### **2.1. General**

2.1.1. Contractor will ensure that County can authenticate all access by username/password and Multi-Factor Authentication (MFA). Upon request, Contractor shall restrict access to County Data to a specific source static IP address. Contractor shall ensure that separation of duties and least privilege access are enforced for privileged or administrative access to County Data and the Contractor Platform. Contractor's procedures for the following must be documented and made available upon request by County, including:

- 2.1.1.1. Evaluating security alerts and vulnerabilities;
- 2.1.1.2. Installing security patches and service packs;

- 2.1.1.3. Intrusion detection, incident response, and incident escalation/investigation;
- 2.1.1.4. Access and authorization procedures and resetting access controls (e.g., password policy);
- 2.1.1.5. Risk analysis and assessment procedures;
- 2.1.1.6. User access and termination procedures;
- 2.1.1.7. Security log review;
- 2.1.1.8. Physical facility access controls; and
- 2.1.1.9. Change control procedures.

2.1.2. Contractor shall ensure that its service providers, Subcontractors, and any third parties, including any data hosting providers, performing any Services related to this Agreement shall comply with all terms and conditions specified in this SSLA unless County, in writing, excuses specific compliance with any such term or condition. Contractor shall provide County with a list of any such service providers, Subcontractors or other third parties on an annual basis, upon County's request, and promptly upon a material change in the composition of such entities.

2.1.3. If a new or unanticipated vulnerability to the Contractor Platform is discovered by either County or Contractor, or if existing technical controls have ceased to function properly, the discovering party shall immediately notify the other party.

2.1.4. When technically feasible, for all software used, furnished, or supported under the Agreement, Contractor shall review such software to find and remediate security vulnerabilities during initial implementation and upon any significant modifications and updates to same.

2.1.5. Contractor must mitigate critical or high-risk vulnerabilities (as defined by Common Vulnerability and Exposures scoring system) to the Contractor Platform within 30 days after patch release. If Contractor is unable to apply a patch to remedy the vulnerability, Contractor must promptly notify County of proposed mitigation steps to be taken and develop and implement an appropriate timeline for resolution.

## 2.2. Controls

2.2.1. Prior to the Effective Date of the Agreement, and at least once annually and upon request for the duration of this Agreement, Contractor shall provide County with a copy of a current unqualified System and Organization Controls (SOC) 2 Type II, Report for Contractor's Organization or application, as well as any third party that provide hosting, SaaS, or data storage services for the Contractor Platform, inclusive of all five Trust Service Principles (Security, Availability, Processing Integrity, Confidentiality, and Privacy), unless the County's Chief Information Officer in their sole discretion approves other documentation of appropriate security controls implemented by Contractor. If the audit opinion in the SOC 2, Type II report is qualified in any way, Contractor shall provide sufficient documentation to demonstrate remediation of the issue(s) to the satisfaction of the County's Chief Information Officer.

2.2.2. Contractor shall maintain industry best practices for data privacy, security, and recovery measures, including, but not limited to, disaster recovery programs, physical facilities security, server firewalls, virus scanning software, current security patches, user authentication, and intrusion detection and prevention. Upon request by County, Contractor shall provide

documentation of such procedures and practices to County. Contractor shall utilize industry standard security measures to safeguard against unauthorized access to the Contractor Platform.

2.2.3. Contractor shall utilize antivirus protection software, updated and supported operating systems, firmware, third party and open source application patches, and firewalls to protect against unauthorized access to the Contractor Platform. Contractor shall conduct penetration testing internally and externally at least annually and after any significant infrastructure or application upgrade or modification to the Contractor Platform. Upon request, Contractor shall provide a letter attesting that Contractor performed the penetration testing, disclose the findings of the testing, and identify any remediation steps taken.

2.3. Network Architecture/Security. Contractor shall protect any Internet interfaces or web services provided under this Agreement using a security certificate from a certification authority ("CA") that meets or exceeds the CA/Browser Forum's latest Secure Sockets Layer ("SSL") baseline requirements and network and certificate systems security requirements. Contractor will support encryption using at a minimum Advanced Encryption Standard 256-bit encryption keys ("AES-256") or current industry security standards, whichever is higher, for the connection between any user or County network to the Contractor Platform.

2.4. Physical Architecture/Security. Contractor shall ensure the facilities that house the network infrastructure for the Contractor Platform are physically secured against threats such as unauthorized access and natural and environmental hazards, and entry controls are in place to limit and monitor physical access to the Contractor Platform. Contractor shall ensure adequate background checks are routinely performed on any personnel with access to County Data. Contractor shall not knowingly allow convicted felons or other persons deemed by Contractor to be a security risk to access County Data. Contractor shall provide privacy and cybersecurity training to its employees upon hire and at least once annually.

2.5. Incident Response

2.5.1. Contractor shall report any cybersecurity incident or random incident (as those terms are defined in Section 282.0041, Florida Statutes) impacting or relating to County Data (including but not limited to servers or fail-over servers) to County, including the details required by Section 282.3185(5)(a), in sufficient time to reasonably permit County to comply with any required reporting under Section 282.3185(b), and no later than twenty-four (24) hours after becoming aware of such breach (or such shorter time period as may be required under applicable law), unless an extension is granted by County's CIO. Contractor shall provide County with a detailed incident report within five (5) calendar days after becoming aware of the breach, which includes any remedial measures instituted and any law enforcement involvement. Contractor shall fully cooperate with County on incident response, forensics, and investigations into Contractor's infrastructure as it relates to any County Data or County applications.

2.5.2. Prior to the Effective Date of this Agreement, Contractor shall provide County with the names and contact information for a security point of contact and a backup security point of contact to assist County with cybersecurity incidents. Upon request by County, Contractor shall deliver to County in electronic form the website application activity such as logs of visits and user logins and logoffs by or on behalf of County on the Contractor Platform. County may, at its sole discretion, terminate all access to the Contractor Platform.

## 2.6. County Data

2.6.1. Contractor shall maintain controls that ensure logical separation of County Data from non-County data. Contractor agrees to provide at a minimum Advanced Encryption Standard 256-bit encryption ("AES-256") or current industry security standards (or whichever is higher} for all County Data that includes employee information, financial information, social security numbers, bank account numbers, username with passwords or security questions, cardholder data, or any other protected data such as Protected Health Information ("PHI") and Personally Identifiable Information ("PII"), and any other data as may be directed by County, and on all copies of such data stored, transmitted, or processed, at no additional charge to County, and shall classify such data internally at its highest confidentiality level. Contractor shall also ensure that the encryption key(s) are not stored with the encrypted data and are secured by a Hardware Security Module ("HSM"). Contractor shall immediately notify County of any compromise of any encryption key. Contractor shall provide a copy of County's encryption key(s) at County's request. Contractor shall prohibit the use of unencrypted protocols such as FTP and Telnet for the data identified in this paragraph.

2.6.2. Upon termination or expiration of this Agreement or end of serviceable life of any media used in connection with this Agreement, and upon written notification from County that the applicable County Data is currently maintained by County or otherwise securely stored, Contractor shall, at County's option, (a) securely destroy all media (including media used for backups} containing any County Data on all decommissioned hard drives or storage media in accordance with National Institute of Standards and Technology ("NIST") standards and provide to County a signed certificate of destruction within ten (10} business days, or (b) return to County all County Data and provide a signed certification within two (2} business days thereafter documenting that no County Data is retained by Contractor in any format or media.

2.6.3. County shall have the right to use the Products and Services and the Contractor Platform to provide public access to County Data as County deems appropriate or as otherwise required by law. County Data is the property solely of County and may not be reproduced or used by Contractor without County's prior written consent. Contractor and its Subcontractors will not publish, transmit, release, sell, or disclose any County Data to any third party without County's prior written consent. Contractor shall not modify or alter County Data (other than modifications strictly necessary to upload County Data to the Contractor Platform} without County's prior written consent. In the event of any impermissible disclosure, loss, or destruction of County Data caused in whole or in part by any action or omission of Contractor, Contractor must immediately notify County and take all reasonable and necessary steps to mitigate any potential harm, further disclosure, loss, and destruction.

## 3. Compliance

3.1. Contractor shall cooperate and provide any information requested by County relating to compliance and regulatory requirements, and will, upon request:

3.1.1. Provide a letter attesting that the Contractor performed vulnerability scans of authenticated and unauthenticated operating systems/networks, web applications, database applications, and the Contractor Platform;

3.1.2. Provide Contractor's architecture documents, cybersecurity policies and procedures (redacted, if necessary), and general network security controls documentation such as firewalls, Intrusion Detection System ("IDS"); and

3.1.3. Permit County to conduct a physical inspection of Contractor's facilities, but only to the extent such inspection is related to the security of and access to County Data or the Contractor Platform.

3.2. Contractor shall provide County with the ability to generate: account reports consisting of the account holder's name and application access rights; account management reports showing new users, access rights changes, and account termination with the associated time stamp information; and time-stamped user and administrator access (login/logout) and a list of activities performed by administrators, privileged users, or third-party contractors while using the System. Upon request by County, Contractor shall promptly provide County with access to time-stamped data transfer logs (including the account, a description of the data transferred and its size, and the user and account names for forensic purposes), time-stamped application and platform environment change control logs, and time-stamped data backup logs indicating the backup type (e.g., full, incremental, etc.).

3.3. Upon County's request, Contractor shall make available to County proof of Contractor's compliance with all applicable federal, state, and local laws, codes, ordinances, rules, and regulations in performing under this Agreement, including but not limited to: HIPAA compliance; Contractor's latest compliance reports (e.g., PCI Compliance report, SSAE 16 report, International Organization for Standardization 27001 (ISO 27001) certification); and any other proof of compliance as may be required from time to time.

#### **4. Infrastructure Management**

Contractor shall be able to process two hundred (200) calls simultaneously for each environment (Regional and Non-Regional). Subject to County approval, Contractor may recommend that non-routine reports and queries be limited to certain timeframes, quantities, or other specifications, if Contractor determines that such reports and queries cause degradation to response times affecting performance levels established in this SLA. Contractor shall routinely apply upgrades, new releases, and enhancements to the Contractor Platform as they become available and shall ensure that these changes will not adversely affect the Contractor Platform or County Data. County may control data that is populated on the demonstration and training system by requesting that Contractor perform any or all of the following: periodically refresh data from production; perform an ad hoc refresh of data from production; not refresh data from production until further notice from County; or refresh data on an ad-hoc basis with training data supplied by County.

#### **5. Transition/Disentanglement**

5.1. Contractor will complete the transition of any terminated Services or Support and Maintenance to County and any replacement provider(s) that County designates (collectively, the "Transferee"), without causing any unnecessary interruption of, or adverse impact on, the Services, County Data, or the ongoing business operation of County ("Disentanglement"). Contractor will work in good faith (including, upon request, with the Transferee) at no additional cost to County to develop an orderly Disentanglement plan that documents the tasks required to

accomplish an orderly transition with minimal business interruption or expense for County. Upon request by County, Contractor shall cooperate, take any necessary additional action, and perform such additional tasks that County may reasonably request to ensure timely and orderly Disentanglement, which shall be provided at the rate(s) specified in the Agreement or, if no applicable rate is specified, at a reasonable additional fee upon written approval by County.

Specifically, and without limiting the foregoing, Contractor shall:

5.1.1. Promptly provide the Transferee with all nonproprietary information needed to perform the Disentanglement, including, without limitation, data conversions, interface specifications, data about related professional services, and complete documentation of all relevant software and equipment configurations;

5.1.2. Promptly and orderly conclude all work in progress or provide documentation of work in progress to Transferee, as County may direct;

5.1.3. Refrain, without County's prior written consent, from transferring, reassigning, or otherwise redeploying any of Contractor's personnel during the Disentanglement period to the extent such action would impede performance of Contractor's obligations under the Agreement;

5.1.4. If applicable, with reasonable prior written notice to County, remove its assets and equipment from County facilities;

5.1.5. If County requests, and to the extent permitted under the applicable agreements, assign to the Transferee (or use its best efforts to obtain consent to such assignment where required) all contracts including third-party licenses and maintenance and support agreements, used by Contractor exclusively in connection with the Services or Support and Maintenance.

5.1.6. Deliver to Transferee all current, nonproprietary documentation and data related to County-owned assets and infrastructure; and

5.1.7. To the extent requested by County, provide County a list with current valuation based on net book value of any Contractor-owned tangible assets required to make the Contractor Platform available to County. County shall have the right to acquire any or all such assets for net book value. If County elects to acquire such assets for the net book value, Contractor shall use best efforts to ensure that any and all related warranties will transfer along with those assets.

## **6. Network Architecture/Security**

### **6.1. Network Architecture**

6.1.1. The Contractor Platform shall be protected behind a layer of firewalls utilizing a high-availability (HA) design. At County's request, Contractor shall submit a network architecture diagram of County's stored and transmitted data, including the location of the data center and details of connectivity for all third parties who have access to County Data. Any network security changes implemented by Contractor must not compromise the security of County Data. Using a tiered design, Contractor shall ensure that all database servers are protected behind a second set of internal firewalls. Contractor shall restrict inbound and outbound traffic to County's network to "deny all, permit by exception" configuration.

6.1.2. Contractor's wireless networks connected to the Contractor Platform shall at a minimum, be configured for Wi-Fi Protected Access 2 (WPA2)-Enterprise using Advanced Encryption Standard (AES) and Protected Extensible Authentication Protocol (PEAP), or current industry security standards (whichever is higher) to secure and protect County data.

6.2. Disaster Recovery. Contractor shall maintain a disaster recovery plan for the Contractor Platform with mirrored sites geographically to meet County's service level requirements in Exhibit D (Hosting, Support, and Maintenance Services) for NG911 System. Contractor shall conduct a disaster recovery test of the hosted or SaaS system that is utilized by or comprises the Contractor Platform on at least an annual basis, and shall notify County at least ten (10) days in advance of each such test. In addition, Contractor shall conduct a disaster recovery test specific to County in accordance with a documented procedure (runbook), including testing County Data and all elements of the Contractor Platform, in coordination with County at least once per year; the timing and duration of the County-specific test is subject to the approval of County.

6.3. County Data. Contractor shall make any County Data available to County upon request within one (1) business day and in any format reasonably requested by County, including, without limitation, Extensible Markup Language ("XML") and Structured Query Language ("SQL"), or in another format as may be mutually agreed by County and Contractor.

## **7. Service Availability**

### **7.1. System Availability**

7.1.1. Contractor guarantees that the NG911 System shall provide uptime of 99.999% availability for all Critical Components of the NG911 System at the applicable PSAP. Availability will be calculated by the total downtime at the PSAP for the NG911 System divided by the total available time per month.

### **7.2. Infrastructure Management**

7.2.1. To the extent the Contractor Platform provides or supports public access to users in Broward County or through the County's web pages, the Contractor Platform shall support up to 500,000 site hits per calendar day and capture the number of site hits by page for performance to standards reporting. Contractor will retain all County-related database records regardless of number or size.

7.2.2. To the extent the Contractor Platform includes an ad hoc reporting tool or standard reports, Contractor agrees to provide unlimited access to such functionality to County. Contractor agrees to support an unlimited number of queries and reports against County Data. County agrees that Contractor may put reasonable size limits on queries and reports to maintain System performance, provided such limits do not materially impact County's regular business operations.

7.2.3. Contractor shall conduct full, encrypted backups, which include System and user data, weekly and shall conduct incremental, encrypted backups daily. Encrypted backups will be written to a backup device with sufficient capacity to handle the data. Contractor shall retain a complete current set of encrypted backups for County's System, which includes County Data, with a retention period of at least 30 days, at a remote, off-site "hardened" facility from which data can be retrieved within one (1) business day at any point in time. Full System restoration performed as a recovery procedure after a natural disaster is included as part of the required performance by Contractor under this Agreement. Upon County's request, Contractor shall also provide restoration of individual file(s).

7.3. Performance Monitoring and Hosting Capacity Increases

7.3.1. If requested by County, Contractor shall provide standard reporting metrics of the Contractor Platform to County on a monthly basis which shall include: traffic patterns by user and by time; server load, including central processing unit load, virtual memory, disk and input/output channel utilization; transmission control protocol load for each server allocated in part or in full to County System; and system errors in the System, database, operating system, and each server allocated in part or in full to the System.

7.3.2. If County anticipates an increase in transaction volume or seeks to expand capacity beyond the limitations, if any, provided under the Agreement, Contractor will provide timeline to upgrade existing servers or deploy additional servers dedicated to County's System within fifteen (15) calendar days after written notice by County.