



Public Works Department • Water and Wastewater Services
WATER AND WASTEWATER ENGINEERING DIVISION
2555 West Copans Road • Pompano Beach, Florida 33069
PHONE: 954-831-0745 • FAX: 954-831-0798/0925

MEMORANDUM

DATE: August 14, 2025

TO: File

THRU: Alan W. Garcia, PE, Director
Water and Wastewater Services

Alan Garcia
Digitally signed by Alan Garcia
Date: 2025.08.14 15:46:52 -04'00'

FROM: Alicia Dunne, PE, PMP, Director
Water and Wastewater Engineering Division

Alicia Dunne
Digitally signed by Alicia Dunne
Date: 2025.08.14 15:12:25 -04'00'

**SUBJECT: Acceptance of PFAS Billing Rate Terms - Carollo Engineers, Inc.
BCWWS RFP No. PNC2128715P1 - Engineering Services for PFAS Water
Treatment / Transmission System Improvements**

This memorandum provides justification for accepting the billing rate terms proposed by Carollo Engineers, Inc. for Engineering Services for PFAS Water Treatment/Transmission System Improvements, as discussed during our negotiation meetings. County standards typically cap the multiplier at 3.0, the operating margin at 10%, and individual billing rates at \$300/hour and \$350/hour for senior technical leadership (principal / specialist).

1. Multiplier Cap

Carollo's proposed multiplier of 3.07 aligns with industry standards for firms providing consulting services in water and wastewater treatment. National market data indicates that firms in this sector carry higher overhead and fringe percentages than local firms, due to the need for specialized expertise and advanced technical resources.

The proposed multiplier is consistent with negotiated multipliers observed in similar contracts, which range from 3.06 to 3.20. A comparative spreadsheet detailing local vs. national firm multipliers is attached.

Acceptance of PFAS Billing Rate Terms - Carollo Engineers, Inc.
BCWWS RFP No. PNC2128715P1 - Engineering Services for PFAS Water Treatment / Transmission System Improvements
August 14, 2025

This multiplier has been previously accepted by Broward County in multiple Carollo contracts, including:

- Continuing Engineering Services for Water Treatment Systems (PNC2127317P1 / PNC2117097P1)
- Potable Water Storage Tanks and Pumping Stations (R1220410P01)
- Subcontract with Black & Veatch for the Retail Potable Water and Wastewater Master Plan (PNC2126569P1)

2. Operating Margin

Carollo's proposed operating margin of 12.0% is derived from the established 3.07 multiplier and their current audited FAR. This structure ensures consistency in billing practices and aligns with the firm's standard cost-recovery requirements for high-level engineering expertise.

3. Senior Technical Leadership Category

The County recognizes the value of specialized technical expertise for complex projects and therefore accepts \$350/hour cap for the principal and specialist labor categories.

This provision allows participation by staff members with exceptional knowledge and skills in their respective disciplines, which is critical for addressing PFAS treatment and transmission system challenges. It is further noted that this category will not constitute a significant portion of total labor hours on any future amendment to the agreement.

In conclusion, the acceptance of these billing rate terms is justified based on industry standards, audited cost data, and the need for flexibility in securing specialized expertise. These terms will allow the County to procure high-quality professional services essential for the successful delivery of our water treatment system projects.

If you have any questions regarding this project, you may contact Alicia Dunne (954) 831-0793.

Attachment: Multipliers Comparison: Local vs. National Firms

AD/MM/ss

C: Merle Medina, WWED
Lance Saltzman, PE, WWED
Nancy Olesen, Assistant Manager, Purchasing
File: BCWWS RFP No. PNC2128715P1

Multipliers Comparison: Local vs. National Firms						
Contract Nbr	Project Nbr	Project Name	Vendor	Year Approved	Services	Multiplier
	1149	CENTRAL COUNTY NIP BP 1, 4, & 7	CRAVEN THOMPSON & ASSOCIATES INC	1996	Distr. & Coll. Design/CMS	2.968
	1149	CENTRAL COUNTY NIP BP 2,5,8, & 11	CHEN & ASSOCIATES CONSULTING ENGINEERS	1997	Distr. & Coll. Design/CMS	3.135
	1149	CENTRAL COUNTY NIP BP 3, 6, 9, 10 & 12	SHAH, DROTOS & ASSOCIATES PA	1998	Distr. & Coll. Design/CMS	2.968
	1153	NORTH CENTRAL COUNTY NIP	CRAVEN THOMPSON & ASSOCIATES INC	1999	Distr. & Coll. Design/CMS	2.968
	1156	BROADVIEW PARK NIP	CHEN & ASSOCIATES CONSULTING ENGINEERS	2003	Distr. & Coll. Design/CMS	3.080
	9051	UAZ 124, 308 & 310 PIPE REPLACEMENT	CRAVEN THOMPSON & ASSOCIATES INC	2005	Distr. & Coll. Design/CMS	2.440
	1152	NORTH COUNTY NIP NE QUAD BP 9-11	CRAVEN THOMPSON & ASSOCIATES INC	2006	Distr. & Coll. Design/CMS	2.620
	1152	NORTH COUNTY NIP SW QUAD BP 13-15 & BP 12	MILLER LEGG & ASSOCIATES INC	2008	Distr. & Coll. Design/CMS	2.992
9059CONS	9059	UAZ 303 / UAZ 316 / UAZ 318 & UAZ 314	CHEN & ASSOCIATES CONSULTING ENGINEERS	2008	Distr. & Coll. Design/CMS	3.070
R1025211R2		General Services Agreement	CRAVEN THOMPSON & ASSOCIATES INC	2013	Distr. & Coll. Design/CMS	2.740
R1090025P1	9181	Retail Potable Water and Wastewater Master Plan	CDM SMITH INC	2014	Distr. & Coll. Master Plan	3.070
R1418115P1		Professional Services for Subsurface Utility Locating	CRAVEN THOMPSON & ASSOCIATES INC	2016	Distr. & Coll. Design/CMS	2.880
R1356803P1		Consultant Engineering Services for Water & Sanitary Sewer UAZ 110/111/113	CHEN MOORE & ASSOCIATES INC	2016	Distr. & Coll. Design/CMS	2.920
		General Services Agreement	KEITH & ASSOCIATES INC	2017	Distr. & Coll. Design/CMS	2.350
R1294801P1		Water and Sanitary Sewer System Improvements for Hillsboro Mile and UAZ 108, 122 and 123	CRAVEN THOMPSON & ASSOCIATES INC	2018	Distr. & Coll. Design/CMS	2.890
PNC2117097P1_1		General Services Agreement	CHEN MOORE & ASSOCIATES INC	2019	Distr. & Coll. Design/CMS	2.860
PNC2117589P1		Sanitary Sewer Collection System for District 2 Septic Tank Elimination Area 2-F	THOMPSON & ASSOCIATES INC	2019	Distr. & Coll. Design/CMS	2.990
PNC2116651P1		Regional Transmission System Master Plan (STUDY)	BLACK & VEATCH CORP	2019	Distr. & Coll. Master Plan	3.070
PNC2118897P1		North County Reclaimed Water System Expansion	THOMPSON & ASSOCIATES INC	2020	Distr. & Coll. Design/CMS	2.990
PNC2118689P1		DISTRICT 3C WATER IMPROVEMENTS AND STEP	CRAVEN THOMPSON & ASSOCIATES INC	2020	Distr. & Coll. Design/CMS	2.740
PNC2123898P1		Consultant Services for Water and Wastewater Projects Regional Effluent and Reuse Solutions Cat. 3	THOMPSON & ASSOCIATES INC	2023	Distr. & Coll. Design/CMS	2.760
PNC2125566P1_1		Professional Services for Subsurface Utility Engineering	CTS ENGINEERING, INC.	2023	Distr. & Coll. Design/CMS	3.000
PNC2124299P1_1		Consultant for Engineering Svc	KEITH AND ASSOCIATES INC	2023	Distr. & Coll. Design/CMS	3.000
9197		NRWWTP STRUCTURAL STEEL	LADKAS-YOHALEM	2023	TREATMENT PLANT	2.890
9070		LOCATE SURFACE VISIBLE UTILITY FACILITIES - PHASE II	KEITH & ASSOCIATES INC	2009	TREATMENT PLANT	2.530
		General Services Agreement	KEITH & ASSOCIATES INC	2013	TREATMENT PLANT	2.980
R1007403R1		NRWWTP Structural Steel Replacement	LADKAS	2013	TREATMENT PLANT	2.814
9195		NRWWTP CAPACITY IMPROVEMENTS	HILLERS ELECTRICAL ENGINEERING	2013	TREATMENT PLANT	2.880
9195		NRWWTP CAPACITY IMPROVEMENTS	CRAVEN THOMPSON & ASSOCIATES INC	2014	TREATMENT PLANT	2.656
		General Services Agreement	CES CONSULTANTS	2014	TREATMENT PLANT	2.990
9195		NRWWTP CAPACITY IMPROVEMENTS	CHEN & ASSOCIATES CONSULTING ENGINEERS	2014	TREATMENT PLANT	2.997
8624		NORTH REGIONAL WASTEWATER TREATMENT PLANT	HAZEN & SAWYER PC	2007	TREATMENT PLANT	3.105
		General Services Agreement	HAZEN & SAWYER PC	2008	TREATMENT PLANT	3.200
		General Services Agreement	MALCOLM-PIRIE	2008	TREATMENT PLANT	3.200
9073		WTP 1A ANION EXCHANGE TREATMENT UNIT	CDM SMITH INC	2010	TREATMENT PLANT	3.100
9130		WTP 1A TREATMENT PLANT EXPANSION	MWH AMERICAS INC	2010	TREATMENT PLANT	3.200
R1008103R1		General Services Agreement	BROWN & CALDWELL	2013	TREATMENT PLANT	3.070
		General Services Agreement	BLACK & VEATCH, INC.	2013	TREATMENT PLANT	3.070
R1025211R1		General Services Agreement	CDM SMITH INC	2013	TREATMENT PLANT	3.070
R0999201R1		NRWWTP CAPACITY IMPROVEMENTS	HAZEN & SAWYER PC	2013	TREATMENT PLANT	3.070
Y1099512R1		North Regional Wastewater Treatment Pumping System and Septage Receiving Facility Updating	CDM SMITH INC	2014	TREATMENT PLANT	3.070
R1007402R1		NRWWTP FACILITIES IMPROVEMENTS	HAZEN & SAWYER PC	2014	TREATMENT PLANT	3.070
R1060205P1		NRWWTP Consulting Engineering Services for Reclaimed Water Plant Expansion	BROWN & CALDWELL	2014	TREATMENT PLANT	3.060
R1061305P1		NRWWTP Fine Bubble Aeration Basin Conversion	HAZEN & SAWYER PC	2015	TREATMENT PLANT	3.070
R1151105P1		NRWWTP Electrical Load and Motor Control Center	CDM SMITH INC	2015	TREATMENT PLANT	3.070
PNC2117097P1_2		Engineering Services for potable Water Storage Tanks	CAROLLO	2016	TREATMENT PLANT	3.070
PNC2115559P1_1		General Services Agreement - Studies and Reports	BROWN & CALDWELL	2019	TREATMENT PLANT	3.070
PNC2127317P1		General Service Agreement - Water Treatment Systems	CAROLLO	2024	TREATMENT PLANT	3.070
PNC2127317P1		General Service Agreement - Wastewater Treatment and Transmission Systems	HAZEN & SAWYER PC	2024	TREATMENT PLANT	3.070



Public Works Department • Water and Wastewater Services
WATER AND WASTEWATER ENGINEERING DIVISION
2555 West Copans Road • Pompano Beach, Florida 33069
PHONE: 954-831-0745 • FAX: 954-831-0798/0925

MEMORANDUM

DATE: August 14, 2025

TO: File

THRU: Alan W. Garcia, PE, Director
Water and Wastewater Services

Alan Garcia
Digitally signed by Alan Garcia
Date: 2025.08.14 15:48:30 -04'00'

FROM: Alicia Dunne, PE, PMP, Director
Water and Wastewater Engineering Division

Alicia Dunne
Digitally signed by Alicia Dunne
Date: 2025.08.14 15:11:39 -04'00'

**SUBJECT: Acceptance of PFAS Billing Rate Terms - Brown and Caldwell (Subconsultant to Carollo Engineers, Inc.)
BCWS RFP No. PNC2128715P1 - Engineering Services for PFAS Water Treatment / Transmission System Improvements**

This memorandum provides justification for accepting the billing rate terms proposed by Brown and Caldwell as a subconsultant for Carollo Engineering, Inc for Engineering Services for PFAS Water Treatment/Transmission System Improvements, as discussed during our negotiation meetings. County standards typically cap the multiplier at 3.0, the operating margin at 10%, and individual billing rates at \$300/hour and \$350/hour for senior technical leadership (vice-president).

1. Multiplier Cap

Brown and Cadwell's proposed multiplier of 3.07 aligns with industry standards for firms providing consulting services in water and wastewater treatment. National market data indicates that firms in this sector carry higher overhead and fringe percentages than local firms, due to the need for specialized expertise and advanced technical resources.

The proposed multiplier is consistent with negotiated multipliers observed in similar contracts, which range from 3.06 to 3.20. A comparative spreadsheet detailing local vs. national firm multipliers is attached.

Acceptance of PFAS Billing Rate Terms - Brown and Caldwell (Subconsultant to Carollo Engineers, Inc.)
BCWWS RFP No. PNC2128715P1 - Engineering Services for PFAS Water Treatment / Transmission System Improvements
August 14, 2025

2. Senior Technical Leadership Category

The approved billing rate cap for the Senior Technical Leadership category (Vice President) is \$350/hour. Applying the approved multiplier of 3.07 to the base hourly rates results in only the Vice President position reaching this cap. All other senior technical roles, such as Executive Engineer, Chief Engineer, Managing Engineer, and similar high-level positions, calculate to \$300/hour when the approved multiplier is applied, and that calculated amount becomes the approved rate for those categories.

The \$350/hour rate for the Vice President reflects the County's recognition of the critical value that executive-level leadership provides in addressing complex PFAS treatment and transmission challenges. This category is expected to represent only a minimal portion of total labor hours in any current or future amendment, ensuring cost control while maintaining access to specialized expertise.

In conclusion, the acceptance of these billing rate terms is justified based on industry standards, audited cost data, and the need for flexibility in securing specialized expertise. These terms will allow the County to procure high-quality professional services essential for the successful delivery of our water treatment system projects.

If you have any questions regarding this project, you may contact Alicia Dunne (954) 831-0793.

Attachment: Multipliers Comparison: Local vs. National Firms

AD/MM/ss

C: Merle Medina, WWED
Lance Saltzman, PE, WWED
Nancy Olesen, Assistant Manager, Purchasing
File: BCWWS RFP No. PNC2128715P1

Multipliers Comparison: Local vs. National Firms						
Contract Nbr	Project Nbr	Project Name	Vendor	Year Approved	Services	Multiplier
	1149	CENTRAL COUNTY NIP BP 1, 4, & 7	CRAVEN THOMPSON & ASSOCIATES INC	1996	Distr. & Coll. Design/CMS	2.968
	1149	CENTRAL COUNTY NIP BP 2,5,8, & 11	CHEN & ASSOCIATES CONSULTING ENGINEERS	1997	Distr. & Coll. Design/CMS	3.135
	1149	CENTRAL COUNTY NIP BP 3, 6, 9, 10 & 12	SHAH, DROTOS & ASSOCIATES PA	1998	Distr. & Coll. Design/CMS	2.968
	1153	NORTH CENTRAL COUNTY NIP	CRAVEN THOMPSON & ASSOCIATES INC	1999	Distr. & Coll. Design/CMS	2.968
	1156	BROADVIEW PARK NIP	CHEN & ASSOCIATES CONSULTING ENGINEERS	2003	Distr. & Coll. Design/CMS	3.080
	9051	UAZ 124, 308 & 310 PIPE REPLACEMENT	CRAVEN THOMPSON & ASSOCIATES INC	2005	Distr. & Coll. Design/CMS	2.440
	1152	NORTH COUNTY NIP NE QUAD BP 9-11	CRAVEN THOMPSON & ASSOCIATES INC	2006	Distr. & Coll. Design/CMS	2.620
	1152	NORTH COUNTY NIP SW QUAD BP 13-15 & BP 12	MILLER LEGG & ASSOCIATES INC	2008	Distr. & Coll. Design/CMS	2.992
9059CONS	9059	UAZ 303 / UAZ 316 / UAZ 318 & UAZ 314	CHEN & ASSOCIATES CONSULTING ENGINEERS	2008	Distr. & Coll. Design/CMS	3.070
R1025211R2	9181	General Services Agreement	CRAVEN THOMPSON & ASSOCIATES INC	2013	Distr. & Coll. Design/CMS	2.740
R1090025P1		Retail Potable Water and Wastewater Master Plan	CDM SMITH INC	2014	Distr. & Coll. Master Plan	3.070
R1418115P1		Professional Services for Subsurface Utility Locating	CRAVEN THOMPSON & ASSOCIATES INC	2016	Distr. & Coll. Design/CMS	2.880
R1356803P1		Consultant Engineering Services for Water & Sanitary Sewer UAZ 110/111/113	CHEN MOORE & ASSOCIATES INC	2016	Distr. & Coll. Design/CMS	2.920
		General Services Agreement	KEITH & ASSOCIATES INC	2017	Distr. & Coll. Design/CMS	2.350
R1294801P1		Water and Sanitary Sewer System Improvements for Hillsboro Mile and UAZ 108, 122 and 123	CRAVEN THOMPSON & ASSOCIATES INC	2018	Distr. & Coll. Design/CMS	2.890
PNC2117097P1_1		General Services Agreement	CHEN MOORE & ASSOCIATES INC	2019	Distr. & Coll. Design/CMS	2.860
PNC2117589P1		Sanitary Sewer Collection System for District 2 Septic Tank Elimination Area 2-F	THOMPSON & ASSOCIATES INC	2019	Distr. & Coll. Design/CMS	2.990
PNC2116651P1		Regional Transmission System Master Plan (STUDY)	BLACK & VEATCH CORP	2019	Distr. & Coll. Master Plan	3.070
PNC2118897P1		North County Reclaimed Water System Expansion	THOMPSON & ASSOCIATES INC	2020	Distr. & Coll. Design/CMS	2.990
PNC2118689P1		DISTRICT 3C WATER IMPROVEMENTS AND STEP	CRAVEN THOMPSON & ASSOCIATES INC	2020	Distr. & Coll. Design/CMS	2.740
PNC2123898P1		Consultant Services for Water and Wastewater Projects Regional Effluent and Reuse Solutions Cat. 3	THOMPSON & ASSOCIATES INC	2023	Distr. & Coll. Design/CMS	2.760
PNC2125566P1_1		Professional Services for Subsurface Utility Engineering	CTS ENGINEERING, INC.	2023	Distr. & Coll. Design/CMS	3.000
PNC2124299P1_1		Consultant for Engineering Svc	KEITH AND ASSOCIATES INC	2023	Distr. & Coll. Design/CMS	3.000
9197		NRWWTP STRUCTURAL STEEL	LADKAS-YOHALEM	2023	TREATMENT PLANT	2.890
9070		LOCATE SURFACE VISIBLE UTILITY FACILITIES - PHASE II	KEITH & ASSOCIATES INC	2009	TREATMENT PLANT	2.530
		General Services Agreement	KEITH & ASSOCIATES INC	2013	TREATMENT PLANT	2.980
R1007403R1		NRWWTP Structural Steel Replacement	LADKAS	2013	TREATMENT PLANT	2.814
9195		NRWWTP CAPACITY IMPROVEMENTS	HILLERS ELECTRICAL ENGINEERING	2014	TREATMENT PLANT	2.880
9195		NRWWTP CAPACITY IMPROVEMENTS	CRAVEN THOMPSON & ASSOCIATES INC	2014	TREATMENT PLANT	2.656
9195		General Services Agreement	CES CONSULTANTS	2014	TREATMENT PLANT	2.990
8624		NRWWTP CAPACITY IMPROVEMENTS	CHEN & ASSOCIATES CONSULTING ENGINEERS	2014	TREATMENT PLANT	2.997
		NORTH REGIONAL WASTEWATER TREATMENT PLANT	HAZEN & SAWYER PC	2007	TREATMENT PLANT	3.105
		General Services Agreement	HAZEN & SAWYER PC	2008	TREATMENT PLANT	3.200
9073		WTP 1A ANION EXCHANGE TREATMENT UNIT	MALCOLM-PIRIE	2008	TREATMENT PLANT	3.200
9130		WTP 1A TREATMENT PLANT EXPANSION	CDM SMITH INC	2010	TREATMENT PLANT	3.100
R1008103R1		General Services Agreement	MWH AMERICAS INC	2010	TREATMENT PLANT	3.200
		General Services Agreement	BROWN & CALDWELL	2013	TREATMENT PLANT	3.070
		General Services Agreement	BLACK & VEATCH, INC.	2013	TREATMENT PLANT	3.070
R1025211R1		General Services Agreement	CDM SMITH INC	2013	TREATMENT PLANT	3.070
R0999201R1		NRWWTP CAPACITY IMPROVEMENTS	HAZEN & SAWYER PC	2013	TREATMENT PLANT	3.070
Y1099512R1		North Regional Wastewater Treatment Pumping System and Septage Receiving Facility Updating	CDM SMITH INC	2014	TREATMENT PLANT	3.070
R1007402R1		NRWWTP FACILITIES IMPROVEMENTS	HAZEN & SAWYER PC	2014	TREATMENT PLANT	3.070
R1060205P1		NRWWTP Consulting Engineering Services for Reclaimed Water Plant Expansion	BROWN & CALDWELL	2014	TREATMENT PLANT	3.060
R1061305P1		NRWWTP Fine Bubble Aeration Basin Conversion	HAZEN & SAWYER PC	2015	TREATMENT PLANT	3.070
R1151105P1		NRWWTP Electrical Load and Motor Control Center	CDM SMITH INC	2015	TREATMENT PLANT	3.070
PNC2117097P1_2		Engineering Services for potable Water Storage Tanks	CAROLLO	2016	TREATMENT PLANT	3.070
PNC2115559P1_1		General Services Agreement - Studies and Reports	BROWN & CALDWELL	2019	TREATMENT PLANT	3.070
PNC2127317P1		General Service Agreement - Water Treatment Systems	CAROLLO	2024	TREATMENT PLANT	3.070
PNC2127317P1		General Service Agreement - Wastewater Treatment and Transmission Systems	HAZEN & SAWYER PC	2024	TREATMENT PLANT	3.070