

1316 COUNTY-CITY BUILDING  
227 W. JEFFERSON BOULEVARD  
SOUTH BEND, INDIANA 46601-1830



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CITY OF SOUTH BEND JAMES MUELLER, MAYOR  
**BOARD OF PUBLIC WORKS**

October 14, 2025

Ms. Amber Funke  
Black and Veatch  
8415 Allison Pointe Blvd., Suite 410  
Indianapolis, IN 46250  
[FunkeA@bv.com](mailto:FunkeA@bv.com)

RE: Amendment No. 1 to Owner-Engineer Agreement

Dear Ms. Funke:

At its October 14, 2025 meeting, the Board of Public Works approved the above referenced amendment for services for the design and technical support for SCADA in the amount of \$1,508,475.

Enclosed please find the original of the agreement for your signature. Please sign and return the agreement to [hhorvath@southbendin.gov](mailto:hhorvath@southbendin.gov). Please retain a copy for your records.

If you have any further questions, please call this office at (574) 235-9251.

Sincerely,

/s/ Hillary Horvath

Hillary Horvath, Clerk

Enclosures  
HH

**AMENDMENT TO OWNER-ENGINEER AGREEMENT**  
**Amendment No. 1**

1. *Background Data:*

- a. Effective Date of Owner-Engineer Agreement: October 14, 2025
- b. Owner: Board of Public Works, City of South Bend, Indiana
- c. Engineer: Black & Veatch
- d. Project: WWTP Lift Station Cellular Measurement and RF Desktop Design

2. *Description of Modifications:*

- a. Engineer shall perform or furnish the following Additional Services:

This Amendment No. 1 to the WWTP Lift Station Cellular Measurement and RF Desktop Design project (Project) includes additional project administration, data collection, design services, bid phase services, and construction phase services to support Phase 2 of the project. The Scope of Services as defined in the Agreement shall be revised to include the following additions, modifications, and clarifications.

The previously defined Tasks 101 through 105 are complete and will be referred to as Phase 1 – WWTP Lift Station Cellular Measurement and RF Desktop Design. The following additional Phase 2 task items shall be added to the Scope of Services:

**Phase 2 – South Bend Wastewater Lift Station SCADA Refresh**

*Project Description* – The City of South Bend, Indiana (Owner) wastewater remote site control system and communications hardware and technology are nearing the end of their operational lifespan. This scope of services is for a project to upgrade remote site control systems and communications across 54 lift stations and 10 control valves/gates. BV Engineering team (Engineer) shall work closely with the Owner to deliver this scope of work.

The current Allen-Bradley SLC 500 series, as well as the MicroLogix 1000 and 1100 series Programmable Logic Controllers (PLCs), have been classified as “Discontinued” by Allen-Bradley and are no longer supported. Additionally, the existing Allen-Bradley MicroLogix 1400 PLC is classified as “Active Mature” and will soon cease to be actively support by Allen-Bradley.

Similarly, on the communication side, the MDS 9790 MAS radio has been classified as “Discontinued” since 2016 by GE Vernova and is no longer supported. MDS SD9 radios are also nearing their end-of-life cycle since they were released in 2009.

The remote sites predominantly rely on radio-based SCADA telemetry communications with the Wastewater Treatment Plant (WWTP). This involves use of licensed 900 MHz frequencies. Radio communication systems are serial-based, have limited bandwidth, and are susceptible to signal interruptions. Furthermore, some sites are interconnected by fiber optic cables, which, although not restricting bandwidth, create a number of dependencies and single points of failure.

The following table lists the remote sites to be upgraded under this scope.

<b>SITE</b>	<b>SITE #</b>
<b>27th Street</b>	31
<b>Airport/Lathrop (underground station)</b>	67
<b>Ameritech</b>	92
<b>Augustine Lakes</b>	N/A
<b>Blackthorn Liftstation</b>	81
<b>Blue Heron</b>	80
<b>Calvert St De-Water (Renewable Dr)</b>	N/A
<b>Clay - Cleveland</b>	61
<b>Clay - Sunybrook</b>	4
<b>Clay Fire</b>	15
<b>Colfax</b>	21a
<b>Corby</b>	24
<b>Creekwood</b>	5b
<b>CSO 003</b>	N/A
<b>CSO 004</b>	N/A
<b>CSO 014</b>	N/A
<b>CSO 022</b>	N/A
<b>CSO 025</b>	N/A
<b>CSO 026</b>	N/A
<b>CSO 027/028</b>	N/A
<b>CSO 044</b>	N/A
<b>Deer Hollow</b>	38
<b>Douglas &amp; Maple</b>	6
<b>East Gate</b>	5a
<b>Edison</b>	85
<b>Farmington 1</b>	14a
<b>Farmington 2 (Carriage Hills)</b>	14b
<b>Fernwood</b>	70
<b>Fredrickson Park Flare</b>	N/A
<b>Georgetown</b>	13
<b>Geyer Ditch</b>	87
<b>Inwood/Ironwood Storm &amp; Sanitary</b>	33a/b
<b>Keller Park</b>	60
<b>Kensington Gate #1</b>	N/A
<b>Kensington Gate #2</b>	N/A
<b>Kensington Gate #3</b>	N/A
<b>Kensington Gate #4</b>	N/A
<b>Larrison</b>	96
<b>Main Gate/CSO 045</b>	N/A
<b>Mayflower</b>	73
<b>Miami Basin</b>	N/A

<b>SITE</b>	<b>SITE #</b>
<b>Michigan Street</b>	20
<b>Miles Dental (underground station)</b>	46
<b>Monroe-Edgewater</b>	21b
<b>New Cleveland (Bypass, underground station)</b>	90
<b>New London</b>	3
<b>Notre Dame Flowmeter</b>	N/A
<b>Olive Road</b>	91
<b>Poppy Road</b>	86
<b>Renewable Drive</b>	43
<b>River Commons (Laurel Road, underground station)</b>	65
<b>River Commons @ River</b>	66
<b>Rosemary (underground station)</b>	23
<b>Sage</b>	88
<b>Smilax</b>	95
<b>Southfield</b>	32
<b>Sports Complex</b>	82
<b>Summerhill</b>	17
<b>Vaness LS</b>	01a
<b>Vaness Storm</b>	01b
<b>West Pointe</b>	84
<b>Willowgate Trails</b>	72
<b>Willows</b>	69
<b>County-City Building</b>	N/A

*Definition of Terms* – The following terms are used throughout the document:

- Radio Vendor refers to the third-party vendor who will procure, configure, test, and install all radio devices and their ancillaries.
- System Integrator refers to the third-party vendor who will procure, configure, install, and test PLCs and HMIs.

## **Phase 2 Scope of Services**

### **TASK 200 – PROJECT ADMINISTRATION**

#### **Task 201 – Project Management and Administration**

Engineer will provide administration and management of project. This includes preparation of project management documents including project initiation, project procedures manual, budget, schedule, and quality assurance and quality control plan. Engineer will review ongoing activities, monitor schedule and budget, review progress with Owner on a regular basis, and discuss issues with the Owner as they are noted.

Engineer will provide project supervision, direction, and coordination with the Owner's management and staff. Project administration and management also includes budget and schedule control, client management support, resource management, document control, coordination of activities, monthly invoicing including a project status report, and project close-out for up to 18 months. Engineer will

maintain a change register of any scope changes affecting the project budget or schedule and review it with the Owner monthly. Engineer will discuss and receive written approval for any scope changes from the Owner prior to proceeding.

#### Task 202 – Kickoff Meeting

The kick-off meeting will be held virtually to introduce project team members from the Owner and Engineer to provide a clear statement of the goals and critical success factors. Engineer will conduct the meeting and provide meeting minutes. The following topics will be covered at the project kick-off meeting:

- Review of Scope of Services
- Schedule and Deliverables
- Project Team Roles and Responsibilities
- Communication and Contact Information
- Review Periods
- Existing Documentation and Software Availability
- Changes of Scope Procedures

#### TASK 300 – DATA COLLECTION AND SITE INVESTIGATION

##### Task 301 – Document Review

Owner will provide Engineer with as-built PLC programs that include documentation for the 64 remote sites. Engineer will review these programs to determine if an I/O list can be created for each remote site. Any program that is missing I/O documentation, the Engineer will flag and as-built I/O on-site during task 302.

Concurrently, Engineer will conduct a review of Owner's current LAN/WAN infrastructure, its logical architecture, physical infrastructure, technology components, and performance.

Engineer, along with Owner's point of contact (POC), will review Owner's current LAN/WAN architecture and design to ensure any network switches to support this effort meets the Owner's functional and technical requirements for new network devices. If specific requirements of an existing system are not available, Engineer will leverage experience and industry benchmark for system requirements to support new network devices.

Engineer will assess the current network infrastructure and its ability to support the system requirements which will include the following activities:

- Logical Analysis – the overall network logical architecture and design and its ability to support services.
- Physical Analysis – the physical network which includes network devices, transport media, physical infrastructure such as space, power and environmental aspects.
- Performance – overall network availability, utilization, and response time

Engineer understands that there will likely not be any new network switches at the Lift Station sites and the new radio equipment will connect back to remote layer 3 switches, except for Lift Stations with

planned fiber connectivity. Engineer will review and validate all network deployment diagrams and documents and provide any feedback that might improve efficiency and security.

#### Task 302– Remote Site Visits

During the study phase for this project the Engineer visited 21 of the 64 remote sites to document the existing conditions. Under this scope, Engineer SCADA team will visit the remaining 43 remote sites to document existing PLC conditions. Each site will be evaluated individually to determine if the old PLC and HMI can be removed and replaced with a new PLC and HMI or if a new control panel is needed. Additionally, any of the 21 sites that were visited during the study phase may be revisited if additional information is required. Two (2), 5-day site visits with one (1) staff member of the Engineer are included for this task.

#### TASK 400 – DETAILED DESIGN

##### Task 401 – 90% Remote Site Design Drawings and Specifications

After site visits, Engineer will create design drawings and specifications that includes I/O lists for the control upgrades at the remote sites taking into consideration the new GE MCR radio deployment. Two drawings will be created for each remote site showing the removal of existing, location of the new, and layout of the PLC and HMI. Design will replace the existing PLCs with CompactLogix® 5380 and utilize the Dual IP mode to connect to a local network and a SCADA network. The SCADA network will use DNP3 communication protocol over the upgraded communications network. If an HMI needs to be replaced or added, Automation Direct C-More EA9 models will be used for small remote sites and Allen-Bradley PanelView 7 will be used for large remote sites. The new MCR radios will likely be separate from the PLC panel but that is to be determined on a case-by-case basis.

Additionally, design documents of Lift Stations on fiber shall include required network devices such as switches or routers based on Owner’s existing document network architecture/design or based on overview and guidance from Owner’s IT/OT networking professionals. Engineer understands that there will likely not be any new network switches at most of the Lift Station sites and the new radio equipment will connect back to remote layer 3 switches. Engineer will review any high level and detail design for the network and provide feedback.

##### Task 402 – 90% Remote Site Design Documents Review Workshop

Once the 90% remote site design drawings are drafted, the Engineer will submit to the Owner for review. The Owner will have two weeks to review and comment on the submittals. The Owner will submit review comments and red lines to Engineer for review. Engineer and Owner will meet virtually for a review workshop to review the Owner’s comments. If changes are needed based on the review comments Engineer will document changes to be made to the design documents and act accordingly.

##### Task 403 – Signed and Sealed Documents

Engineer will make modifications to the design drawings as agreed upon following the workshop conducted in Task 402. Engineer will provide a signed and sealed set of design drawings and documents

for the control upgrades at the remote sites. Owner will use this set of documents to open bid the control upgrades for the remote sites.

## TASK 500 – SERVICE CONTRACT NEGOTIATION SUPPORT

### Task 501 – Support Services

Engineer will provide remote support to the Owner in the negotiation of a service contract with the Radio Vendor and System Integrator. The service contract will include the procurement of the PLCs, HMIs, and radios needed to upgrade the remote sites, including the Admin Bldg., CCB, and Poppy Rd. Engineer shall provide a Bill of Material (BoM) to the Owner, including all equipment models and counts, based on the design drawings. The Owner will release one service contract to the radio vendor and another service contract to the system integrator based on the radio vendor and system integrator recommendations by the Engineer. The Engineer will support the Owner through the service contract negotiating by assisting in the following:

- Reviewing the service contract
- Responding to technical questions from the radiovendor and system integrator

Engineer will not participate in the writeup and creation of any documents or service level agreements between awarded vendor/system integrator and Owner.

## TASK 600 – CONSTRUCTION PHASE SERVICES

### Task 601 – Controls Equipment Configuration and Programming

Engineer will configure and program the new PLCs and HMIs for each of the remote sites offsite. The PLCs and HMIs will be simulated in the Engineer's office environment to reduce onsite configuration and travel cost.

### Task 602 – Radio Vendor Installation and Support

#### **Communications**

Engineer will work closely with the selected Radio Vendor to support the MAS and remote sites radio configuration, testing, optimization, and installation to ensure that the radio devices perform and function as advertised:

- Radio Configuration (Licensed 900MHz & AT&T FirstNet):
  - Identify the 900MHz band radio configurations needed to support the Owner's field devices.
  - Coordinate with the Radio Vendor to test each device before field deployment and installation.
- Functionality Testing:
  - Using the functionality requirements listed in the service contract issued by the Owner, Engineer will lead and oversee functionality testing alongside the Radio Vendor to ensure that the equipment functions as quoted.

- SIM Card Configuration:
  - Engineer, along with the selected Radio Vendor, will configure the FirstNet SIM cards and assign them to each radio according to its needs. A table shall be developed to track the SIM card assignment(s) for each radio.
- Installation:
  - Prior to any new radio equipment installation, Engineer, in collaboration with the Radio Vendor, shall conduct a sweep of the existing feedline and antenna at each Lift Station location. This will ensure that the existing feedline and antenna can be reused and are in great usable condition.
  - In the case where a sweep reveals that a feedline and/or antenna is no longer performing within specifications, Engineer will make recommendations accordingly on a case-by-case basis.
- Remote Support:
  - The Engineer shall provide remote support during the installation phase of the project, with on-site support scheduled as needed. Two (2), 5-day site visit with one (1) staff member of the Engineer is included for this task.
  - The Engineer shall also provide remote support to the System Integrator through the whole integration process.
  - The Engineer will oversee all network configurations performed by Owner for each MAS and Lift Station site.

#### Task 603 – New Panel Factory Acceptance Testing (FAT)

Engineer and System Integrator will perform a Factory Acceptance Test (FAT) on any new control panels that need to be built. FAT testing will be conducted at the System Integrator's facilities. Three (3), 5-day site visit with one (1) staff member of the Engineer is included for this task.

#### Task 604 – Remote Site Radio and Controls Replacement and Commissioning

### **Controls**

Engineer will monitor the System Integrator as they will replace the PLCs and HMIs or entire control panel for remote sites on as needed basis. Each remote site will be commissioned to verify operations and communications back to WWTP. There are ten (10) critical remote sites that cannot experience downtime. For these sites the wiring from the old PLC to the new PLC will occur on a pump by pumps basis. This will prevent the site from experiencing downtime. Two (2) sites per week for the fifty-four (54) non-critical remote sites, one (1) site per week for the ten (10) critical remote sites, and one (1) additional trip for any cleanup work are assumed for this task for a total of thirty-eight (38) 5-day trips to complete this task. Engineer will provide one (1) staff member during each of these trips.

- If a new panel is required at a remote site, the System Integrator will install the panel and move the wiring for the PLC I/O from the old PLC to the new PLC. Once all the wiring is moved and the remote site is operating on the new PLC then the old PLC will be removed. Engineer will be on-site with the System Integrator to test the programming of the new PLC.



- If a new HMI is required at a remote site, the System Integrator will remove and replace the HMI and try to utilize the existing spot in the panel. Engineer will be on-site to test the programming of the new HMI.
- If a new panel is not required at a remote site, the System Integrator will un-wire, remove the old PLC, install the new PLC, and re-wire the new PLC I/O. Engineer will be on-site with the System Integrator to test the programming of the new PLC.
- City will be responsible for any bypass pumping or local temporary controls for a remote site if required during the installation of a new PLC and HMI. City and Engineer will evaluate each site to determine if bypass pumping or local temporary controls are required.

## Radio

Radio installation and commissioning shall take place prior to any PLCs/HMI activity to pave the way for a smooth transition over communications. It is estimated that a full day is needed to install the new radios, and decommission the old ones, at the Admin bldg., CCB, and Poppy Rd. Lift Station sites radio installation and commissioning shall not exceed couple of hours each. Engineer, in collaboration with Radio Vendor, shall provide a summary report for each site verifying proper functionality and connectivity. Report will be submitted to Owner for review.

It is imperative to note that the radio vendor subcontractor and the system integrator are not the same since the radio and SCADA tasks require two separate disciplines with different skillsets.

### Task 605 – Conformed to Construction Drawings

Engineer shall update design drawings with any changes made during installation and commissioning of the remote sites. A final set of drawings shall be submitted to the Owner. All documentation related to testing and commissioning will be also transmitted to the Owner.

- b. ~~The Scope of Services currently authorized to be performed by Engineer in accordance with the Agreement and previous amendments, if any, is modified as follows:~~ The Scope of Services and associated not-to-exceed fee for the Consultant's services described herein is based on the following assumptions:
  1. Owner to provide all as-built PLC diagrams for all Lift Stations to Engineer.
  2. Owner to configure network devices, such as switches, routers, firewalls, etc. Engineer to provide support and consultation.
  3. Owner will contract directly with the System Integrator and Radio Vendor while the Engineer will provide oversight.
  4. Existing equipment, such as antennas, feedlines, routers, and switches are expected to be in working condition. Any malfunctioning equipment will be reported to the Owner for replacement.
  5. System Integrator will provide the following under a separate scope of work:
    - AutoCAD drawings for electrical wiring.
    - Any new hardware required i.e. PLC, HMI, Control Panel.
    - Factory construction and testing of control panels.
    - Factory acceptance testing for new control panels.

- On-site installation of hardware, conduit, and wire.
  - On-site startup.
  - On-site training.
  - One (1) year warranty on part and labor.
6. Engineer will support the Owner through the service contract write up, negotiations, and award phases but will not participate in the write up process.
  7. This SOW does not include material and equipment cost.
- c. The responsibilities of Owner are modified as follows: N/A
- d. For the Additional Services or the modifications to services set forth above, Owner shall pay Engineer the following additional or modified compensation:

A Lump Sum amount of \$1,508,475 based on the following estimated distribution of compensation:

**Phase 1 – WWTP Lift Station Cellular Measurement and RF Desktop Design**

Study and Report Phase	<u>\$98,910.00</u>
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**Phase 2 – South Bend Wastewater Lift Station SCADA Refresh**

Task 200 – Project Administration	<u>\$40,682.00</u>
Task 300 – Data Collection and Site Investigation	<u>\$54,511.00</u>
Task 400 – Detailed Design	<u>\$161,279.00</u>
Task 500 – Service Contract Negotiation Support	<u>\$42,895.00</u>
Task 600 – Construction Phase Services	<u>\$1,110,198.00</u>

- e. The schedule for rendering services is modified as follows:

*Period of Service:* The compensation amount stipulated in Compensation Packet BC-1 is conditioned on a period of service not exceeding 18 months for the additional scope included herein. If such period of service is extended, the compensation amount for Engineer's services shall be appropriately adjusted.

- f. Other portions of the Agreement (including previous amendments, if any) are modified as follows:

~~*{List other Attachments, if any}*~~

5. Agreement Summary (Reference only)
  - a. Original Agreement amount: \$98,910
  - b. Net change for prior amendments: \$0
  - c. This amendment amount: \$1,409,565
  - d. Adjusted Agreement amount: \$1,508,475

The foregoing Agreement Summary is for reference only and does not alter the terms of the Agreement, including those set forth in Exhibit C.

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in effect. The Effective Date of this Amendment is October 14, 2025.

**OWNER:**

**CITY OF SOUTH BEND, INDIANA  
BOARD OF PUBLIC WORKS**



Elizabeth A. Maradik, President



Gary A. Gilot, Member



Murray L. Miller, Member



Joseph R. Molnar, Vice President



Breana Micou, Member



Attest: Hillary R. Horvath, Clerk

Date: October 14, 2025

**ENGINEER:**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date Signed: \_\_\_\_\_

## BOARD OF PUBLIC WORKS AGENDA ITEM REVIEW REQUEST FORM

Date	<b><u>10/6/2025</u></b>	
Name	<b><u>Gemma Stanton</u></b>	Department <b><u>Public Works</u></b>
BPW Date	<b><u>10/14/2025</u></b>	Phone Extension <b>9083</b>

Review and Approval Required Prior to Submittal to Board

Diversity Compliance and Inclusion Officer ☐ Officer Name \_\_\_\_\_

BPW Attorney ☐ Attorney Name

Dept. Attorney ☐ Attorney Name \_\_\_\_\_

Purchasing ☐ **Mickey Lovy**Check the Appropriate Item Type – *Required for All Submissions*

<input type="checkbox"/> Professional Services Agreement	<input type="checkbox"/> Contract	<input type="checkbox"/> Proposal
<input type="checkbox"/> Open Market Contract	<input checked="" type="checkbox"/> Amendment/Addendum	<input type="checkbox"/> Special Purchase, QPA
<input type="checkbox"/> Bid Opening	<input type="checkbox"/> Bid Award	<input type="checkbox"/> Req. to Advertise
<input type="checkbox"/> Quote Opening	<input type="checkbox"/> Quote Award	<input type="checkbox"/> Reject Bids/Quotes
<input type="checkbox"/> Proposal Opening	<input type="checkbox"/> C/O & PCA No. _____	<input type="checkbox"/> PCA
<input type="checkbox"/> Chg. Order, No. _____	<input type="checkbox"/> Traffic Control	<input type="checkbox"/> Resolution
<input type="checkbox"/> Other: _____		<input type="checkbox"/> Ease./Encroach
		<input type="checkbox"/> Title Sheet

## Required Information

Company or Vendor Name

Black and Veatch

New Vendor

☐ Yes ☐ If Yes, Approved by Purchasing  
☒ No

**MBE/WBE Contractor**

<input type="checkbox"/> MBE	Completed E-Verify Form Attached	<input type="checkbox"/> Yes
<input type="checkbox"/> WBE		<input type="checkbox"/> No

Project Name

## Wastewater SCADA Update

Project Number

PROJ0000515 ; 124-003

Funding Source

Sewage Works Capital; PO-38379

Account No.

642-06-605-514-442005

Amount

**\$1,508,475**

## Terms of Contract

Hourly NTE

### Purpose/Description

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Engineering services for the design and technical support services for SCADA  
equipment replacement

## For Change Orders Only

Amount of	<input type="checkbox"/>	Increase	\$
	<input type="checkbox"/>	Decrease	(\$ )
Previous Amount		\$	

Increase	%

Current Percent of Change: Decrease (      %)

New Amount	\$	
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Increase	%
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Total Percent of Change: Decrease (      %)

Time Extension Amount: \_\_\_\_\_

New Completion Date: \_\_\_\_\_