BILL NO. S-14-07-03

SPECIAL ORDINANCE NO. S-87-14

AN ORDINANCE approving PROFESSIONAL ENGINEERING SERVICES - THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT) FINAL PLANNING AND DESIGN - W.O. #76003 between BLACK & VEATCH CORPORATION and the City of Fort Wayne, Indiana, in connection with the Board of Public Works.

NOW, THEREFORE, BE IT ORDAINED BY THE COMMON COUNCIL OF THE CITY OF FORT WAYNE, INDIANA:

SECTION 1. That the PROFESSIONAL ENGINEERING SERVICES - THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT) FINAL PLANNING AND DESIGN - W.O. #76003 by and between BLACK & VEATCH CORPORATION and the City of Fort Wayne, Indiana, in connection with the Board of Public Works, is hereby ratified, and affirmed and approved in all respects, respectfully for:

> All labor, insurance, material, equipment, tools, power, transportation, miscellaneous equipment, etc., necessary for Professional Engineering Services to provide geotechnical, hydraulic modeling, land surveying, utility coordination, drafting and design services in order to complete the final bidding doucments for the 3RPORT project:

involving a total cost of TWELVE MILLION, THREE HUNDRED FORTY-THREE THOUSAND, NINE HUNDRED ELEVEN AND 00/100 DOLLARS - ($12,343,911.00). A copy of said Contract is on file with the Office of the City Clerk and made available for public inspection, according to law.

SECTION 2. That this Ordinance shall be in full force and effect from and after its passage and any and all necessary approval by the Mayor.

Council Member

APPROVED AS TO FORM AND LEGALITY

Carol Helton, City Attorney

City Utilities
Engineering

Interoffice Memo

Date: **July 1, 2014**

To: Common Council Members

From: Kelly Bajic, Program Manager, City Utilities Engineering

RE: Contract Title: Three Rivers Protection & Overflow Reduction Tunnel (3RPORT) Final Planning and Design
W.O. #76003

Consultant Selected: Black & Veatch Corporation

Black & Veatch was selected for this project along with Arcadis & CH2M HILL as the design team. It was decided to utilize three professional service agreements to reduce costs and to keep objective oversight of three large design elements of the project: the tunnel along with its associated drop shafts, the deep dewatering pump station, and the relief and consolidation sewers.

Black & Veatch will be partnering with 10 other engineering firms under this agreement including the following: American Structurepoint, Barr & Prevost, CDM Smith, Commonwealth Engineers, DLZ, Eastern Engineering, GAI, JTL, LimnoTech and VS Engineering. This team utilizes many of Fort Wayne's local consulting firms.

Contract Value: $12,343,911.00

The consultant shall provide: Professional engineering services to provide geotechnical, hydraulic modeling, land surveying, utility coordination, drafting and design services in order to complete the final bidding documents for the 3RPORT project.

Project Description: The City of Fort Wayne entered into a Consent Decree in April of 2008 with the U.S. Environmental Protection Agency (EPA), U.S. Department of Justice (DOJ), and Indiana Department of Environmental Management (IDEM) to implement a combined sewer overflow (CSO) Long Term Control Plan (LTCP). The Long Term Control Plan is intended to reduce the volume of combined sewerage that is discharged into the waterways within the City of Fort Wayne. The largest project within the Long Term Control Plan is the Three Rivers Protection & Overflow Reduction Tunnel or the 3RPORT.

The tunnel will extend about 5 miles from Foster Park through downtown Fort Wayne and end at the Water Pollution Control Plant on Dwenger Avenue. Located between 150 and 250 feet below ground, the tunnel will be 12-16 feet in diameter. The project will also include nearly two miles of relief sewer from Airport Expressway to Foster Park.

Design will also include consolidation sewers, drop shafts and a deep dewatering pump station. As part of the overall tunnel system, approximately a mile of consolidations sewers and 10-15 drop shafts will be designed. Consolidation sewers are near surface sewers that will collect combined sewerage from the existing sewer system and convey it to the drop shafts. Drop shafts are vertical connections that will drop the combined sewerage into the tunnel during wet weather. The deep dewatering pump station will dewater the tunnel to the plant for treatment after a wet weather event.

The design phase of the 3RPORT will take approximately three years to be completed. Construction is estimated to begin in 2017 and the project is to be finished by 2023-2025.

Implications of not being approved: The 3RPORT project is the largest and most important project in Fort Wayne's Long Term Control Plan to reduce the amount of combined sewage that is discharged to our rivers during wet weather. This project will meet Consent Decree requirements of CSO Control Measures (CMs) 11 and 12 which are required to be completed by 2022 and 2025, respectfully. With such a large scale project, it is necessary to begin the final planning and design process in order to meet these mandated completion dates.

If Prior Approval is being Requested, Justify: n/a

Selection and Approval Process: The consultant was selected through the Competitive Sealed Proposal (CSP) process. Request for Qualifications were sent in October of 2013 to over 120 firms soliciting teams and individual firms for the design of 3RPORT. Two full teams submitted on the RFQ which was comprised of 19 firms altogether, and eleven separate specialty submittals were also received. Proposals were evaluated by a multi-disciplinary team from Fort Wayne Utilities. Based on the strength of the qualifications, both teams were shortlisted. Interviews were conducted in February 2014, and a Request for Proposals was sent to both teams in April 2014. Best and Final proposals were received by Fort Wayne Utilities in May 2014. The key items that the review team was looking for in the proposals were: a project team that had experience in similar projects, tunnel design professionals who are at the top of their field, and a strong approach to the project itself. Another key item was that the team would support local partners and local jobs since it was a priority for this project to engage firms who were committed to Fort Wayne. Using this procedure, Utilities Engineering found Black & Veatch's proposal to be the best value. The Board of Public Works approved the professional services agreement on June 25, 2014.

Funding: The Professional Services Agreement (PSA) will be funded by the 2014 Sewer Revenue Fund (SRF) Bond.

CC: BOW
Matthew Wirtz
T.J. Short
Diane Brown
Chrono
File

PROFESSIONAL SERVICES AGREEMENT

For

THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT) FINAL PLANNING AND DESIGN ("Project")

This Agreement is by and between

CITY OF FORT WAYNE ("CITY")

By and through its

Board of Public Works
City of Fort Wayne
200 E Berry Street
Fort Wayne, IN 46802

and

BLACK & VEATCH CORPORATION ("ENGINEER")
202 West Berry Street
Suite 250
Fort Wayne, Indiana 46802

Who agree as follows:

CITY hereby engages ENGINEER to perform the services set forth in Part I - Services ("Services") and ENGINEER agrees to perform the Services for the compensation set forth in Part III - Compensation ("Compensation"). ENGINEER shall be authorized to commence the Services upon execution of this Agreement and written authorization to proceed from CITY. CITY and ENGINEER agree that these signature pages, together with Parts I-IV and attachments referred to therein, constitute the entire Agreement ("Agreement") between them relating to the Project.

APPROVALS

APPROVED FOR CITY

BOARD OF PUBLIC WORKS

BY: _____
Robert P. Kennedy, Chair

BY: _____
Mike Avila, Member

BY: _____
Kumar Menon, Member

ATTEST: _____
Victoria Edwards, Clerk

DATE: June 25, 2014

APPROVED FOR ENGINEER

BY: _____
Donnie Ginn, P.E. Associate Vice President

DATE: 6/16/2014

PART I

SCOPE OF BASIC ENGINEERING SERVICES

A. GENERAL

The City of Fort Wayne has entered into a Consent Decree with the U.S. Environmental Protection Agency (EPA), U.S. Department of Justice (DOJ), and the Indiana Department of Environmental Management (IDEM) to implement a combined sewer overflow (CSO) Long Term Control Plan (LTCP) to reduce the volume of combined sewage that is discharged into the waterways within the City of Fort Wayne. Control Measure Nos. 11 & 12 of the Long Term Control Plan includes the Wayne Street and St. Marys Parallel Interceptors which have been renamed to the Three Rivers Protection & Overflow Reduction Tunnel (3RPORT). The tunnel is anticipated to be fully operational by the end of 2022 and the relief sewer by the end of 2025. The proposed tunnel will receive flows from combined sewer outfalls to reduce combined sewer overflows to the St. Marys and Maumee Rivers to four overflow events within a typical year. The tunnel will then convey the flow to the Wet Weather Pump Station (WWPS) for transfer to and storage in the Wet Weather Ponds (WWP) or will convey the flow directly to the Water Pollution Control Plant (WPCP) for treatment.

B. PROJECT DESCRIPTION

The 3RPORT Final Planning and Design project consists of performing the final planning, preliminary design and final design for the 3RPORT Project. These Services will consist of tasks to enable ENGINEER to develop drawings and specifications suitable for bidding including, but not limited to, overall project management, administration and coordination; final planning; geotechnical investigations, groundwater monitoring and environmental services; utility coordination; field survey and land and easement acquisition assistance; hydraulic modeling; preliminary design including developing technical memoranda; final design; participation in a Value Engineering workshop; assisting in the development of stakeholder outreach presentations; and assisting during the bidding phases.

C. SCOPE OF SERVICES

The ENGINEER is part of a larger team comprised of the CITY; Black and Veatch Corporation; ARCADIS and CH2M HILL, working cooperatively for the management, planning and design of 3RPORT facilities. The duties of the ENGINEER, as named in this Agreement, are to perform the Services as provided in Attachment 1 and in accordance with Table 1 – Responsibility Matrix.

In the Responsibility Matrix, the term "Lead Firm" refers to the ENGINEER with whom the responsibility of the identified Tasks resides. The term "Support Firm" refers to an ENGINEER that contributes management and/or technical expertise and input to the Lead Firm but does not have responsibility for the final product.

D. SCHEDULE

ENGINEER shall be authorized to commence Services set forth herein upon Notice to Proceed issued by the CITY and for the duration as generally noted below. The Project will be based upon the design schedule as shown within Attachment 2. This schedule is based on receiving a Notice to Proceed by June 25, 2014.

E. SUPPLEMENTAL SERVICES

Upon separate written authorization by the CITY and negotiated fees, ENGINEER may provide additional services as listed in Attachment 1 under "Supplemental Services".

Table 1. Responsibility Matrix

Tasks	Black & Veatch	ARCADIS	CH2M HILL
Phase 1 Project Management, Administration and Coordination	Lead		
Phase 2 Final Planning	Lead		
Phase 3 Geotechnical Investigations, Groundwater Monitoring and Environmental Services	Lead		
Phase 4 Utility Coordination	Lead		
Phase 5 Field Survey and Land and Easement Acquisition Assistance	Lead		
Phase 6 Modeling	Lead		
Phase 7 Preliminary Design	Lead		
Phase 8 Final Design	Lead		
Phase 9 Value Engineering	Lead		
Phase 10 Community and Stakeholder Outreach Program	Lead		
Phase 11 Bidding Assistance	Lead		
Phase 12 – Program Management Assistance, Administration and Coordination			
Task 1201 Program Management			
A. Operational Strategy Activities		Support	Lead
B. Critical Path Reporting and Program Review Meetings		Support	Lead
C. Technical Advisory Committee		Support	Lead
D. Pre-Selected Professional Services Providers		Lead	Support
E. Design Services Performed by Others		Lead	Support
F. Other Design-related Services, as Directed by the City		Lead	
G. General Regulatory Support		Lead	Support
H. PMIS		Lead	
I. Model Assistance		Lead	
J. Technical Memorandum Assistance		Support	Lead
Task 1202 - Staff Augmentation		Lead	
Task 1203 - Program Administration			
A. Program Management Plan		Lead	Support
B. Program Risk Management Plan		Lead	Support
C. Program Budget Control		Support	Lead
Task 1204 - Project Meetings and Workshops			
A. Project Meetings		Support	Lead
B. Workshops		Support	Lead

PART II

CITY'S RESPONSIBILITIES

In addition to other responsibilities set forth in this Agreement, CITY shall, at its expense, do the following in a timely manner so as not to delay the Services:

A. CITY'S REPRESENTATIVE

CITY will designate a representative for the Project who shall have the authority to act as the CITY's representative to respond to questions, transmit instructions, receive information, interpret and define CITY's requirements, serve as liaison with the ENGINEER and make decisions with respect to the Services. The CITY's representatives for this Agreement will be T.J. Short P.E. and Kelly Bajic P.E.

B. DATA

CITY will provide available information, including previous reports, environmental assessments, investigations and other studies in the possession of CITY relevant to the design of the Project. This will include, but is not limited to, providing the following planning documents, studies and other relevant publications:

- CSO Consent Decree
- Long Term Control Plan
- Parallel Interceptor Phase I Study
- 3RPORT Routing Study
- 3RPORT Phase I Geotechnical Data Report
- CSO Subbasin PER (Preliminary Engineering Reports)
- Information on CSO outfall pipes and associated regulators (including CCTV)
- Collection System modeling input files

C. GROUNDWATER MONITORING

Upon finalization of the Groundwater Management Plan and installation of the piezometers, groundwater monitoring shall commence for developing the baseline or pre-construction conditions. CITY will provide staff to support the ENGINEER during the initial four bi-weekly measurements. Subsequently CITY will perform up to 100 bi-weekly readings. CITY will update the monitoring spreadsheet and submit the level measurements to ENGINEER on a bi-weekly basis.

D. FOSTER PARK RELIEF SEWER – FAIRFAX EXTENSION

CITY will prepare items pertaining to the 30 Percent Design Development and Final Design for the southernmost 5,382 linear feet of the Foster Park Relief Sewer. This design of the proposed sewer shall commence at the upstream face of the Drop Structure No. 2 and end at the downstream face of the diversion structure located at the intersection of Fairfax Road and Old Mill Road.

E. EASEMENTS AND PROPERTY ACQUISITION

CITY will prepare right-of-entry for the geotechnical investigations based on the properties identified in the Task 302 and Task 304 workplans.

CITY will perform Easement and Property Acquisitions including property valuation, land and easement negotiations and legal services.

F. DECISIONS

CITY will provide all criteria and full information as to CITY's requirements for the Services and make timely decisions on matters relating to the Services.

G. MEETINGS

CITY will attend Project meetings identified within the Scope of Services. CITY will review and provide comments on project meeting notes.

H. DOCUMENT REVIEWS

CITY will examine documents submitted by ENGINEER (including obtaining advice of an attorney, insurance counselor, and other advisors or consultants as CITY deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.

I. ACCESS

CITY will provide access to Project premises for ENGINEER and the ENGINEER's representatives and/or subcontractors to provide services as defined under this Agreement.

J. OTHER CONSULTANTS

CITY will advise ENGINEER of the scope of services of any independent consultants employed by CITY to perform or furnish services in regard to the Project.

K. PROJECT MANAGEMENT INFORMATION SYSTEM (PMIS)

CITY will provide access and support for the CITY's Project Management Information System (PMIS) for duration of Project.

L. PROJECT DEVELOPMENTS

CITY will give prompt written notice to ENGINEER whenever the CITY becomes aware of any event, occurrence, condition or circumstance which may affect the ENGINEER's performance of Services, or any defect or nonconformance in ENGINEER's Services, the Work, or in the performance of any Contractor.

PART III

COMPENSATION

A. COMPENSATION

Compensation for Services performed in accordance with Part I – Scope of Basic Engineering Services and referenced Exhibits of this Agreement will be based on hours actually spent and expenses actually incurred with a not-to-exceed engineering fee of $ 12,343,911 as summarized in Attachment 3 – Scope of Services Fee Proposal..

ENGINEER's costs will be based on the hours incurred to complete the Project times the hourly rates of the various personnel, per Attachment 4 – Hourly Rate Schedule. All reimbursable costs incurred for the Project will be invoiced at cost.

Payment for outside consulting and/or professional services or legal services performed by a Subconsultant will be billed at actual cost to ENGINEER plus 5 percent for administrative costs. An invoice supporting Subconsultant services and charges will be provided as backup. The ENGINEER will obtain written CITY approval before authorizing these services.

B. BILLING AND PAYMENT

1. Timing/Format

   a. ENGINEER shall invoice CITY monthly for Services completed at the time of billing. Such invoices shall be prepared in a form and supported by documentation as CITY may reasonably require.

   b. CITY will pay ENGINEER within 30 days of receipt of approved invoice.

PART IV
STANDARD TERMS AND CONDITIONS

1. STANDARD OF CARE. Services shall be performed in accordance with the standard of professional practice ordinarily exercised by the applicable profession at the time and within the locality where the services are performed. No warranty or guarantee, express or implied, are provided, including warranties or guarantees contained in any uniform commercial code.

2. CHANGE OF SCOPE. The scope of Services set forth in this Agreement is based on facts known at the time of execution of this Agreement, including, if applicable, information supplied by ENGINEER and CITY. ENGINEER will promptly notify CITY of any perceived changes of scope in writing and the parties shall negotiate modifications to this Agreement.

3. SAFETY. ENGINEER shall establish and maintain programs and procedures for the safety of its employees. ENGINEER specifically disclaims any authority or responsibility for general job site safety and safety of persons other than ENGINEER employees.

4. DELAYS. If events beyond the control of ENGINEER, including, but not limited to, fire, flood, explosion, riot, strike, war, process shutdown, act of God or the public enemy, and act or regulation of any government agency, result in delay to any schedule established in this Agreement, such schedule shall be extended for a period equal to the delay. In the event such delay exceeds 90 days, ENGINEER will be entitled to an equitable adjustment in compensation.

5. TERMINATION/SUSPENSION. Either party may terminate this Agreement upon 30 days written notice to the other party in the event of substantial failure by the other party to perform in accordance with its obligations under this Agreement through no fault of the terminating party. CITY shall pay ENGINEER for all Services, including profit relating thereto, rendered prior to termination, plus any expenses of termination.

ENGINEER or CITY, for purposes of convenience, may at any time by written notice terminate the services under this Agreement. In the event of such termination, ENGINEER shall be paid for all authorized services rendered prior to termination including reasonable profit and expenses relating thereto.

6. REUSE OF PROJECT DELIVERABLES. Reuse of any documents or other deliverables, including electronic media, pertaining to the Project by CITY for any purpose other than that for which such documents or deliverables were originally prepared, or alternation of such documents or deliverables without written verification or adaptation by ENGINEER for the specific purpose intended, shall be at CITY's sole risk.

7. OPINIONS OF CONSTRUCTION COST. Any opinion of construction costs prepared by ENGINEER is supplied for the general guidance of the CITY only. Since ENGINEER has no control over competitive bidding or market conditions, ENGINEER cannot guarantee the accuracy of such opinions as compared to contract bids or actual costs to CITY.

8. RELATIONSHIP WITH CONTRACTORS. ENGINEER shall serve as CITY's professional representative for the Services, and may make recommendations to CITY concerning actions relating to CITY's contractors, but ENGINEER specifically disclaims any authority to direct or supervise the means, methods, techniques, sequences or procedures of construction selected by CITY's contractors.

9. MODIFICATION. This Agreement, upon execution by both parties hereto, can be modified only by a written instrument signed by both parties.

10. PROPRIETARY INFORMATION. Information relating to the Project, unless in the public domain, shall be kept confidential by ENGINEER and shall not be made available to third parties without written consent of CITY.

11. INSURANCE. ENGINEER shall maintain in full force and effect during the performance of the Services the following insurance coverage; provided, however, that if a High Risk Insurance Attachment is attached hereto, the requirements of the High Risk Insurance Attachment shall be substituted in lieu of the following requirements;

a) Worker's Compensation per statutory requirements
b)General Liability $1,000,000 minimum per occurrence/ $1,000,000 aggregate (if the value of the projects exceeds $10,000,000 then this shall be $5,000,000 aggregate).
c) Automobile Liability $1,000,000 per occurrence
d) Products Liability $1,000,000 per occurrence
e) Completed Operations Liability $1,000,000 minimum per occurrence

The Certificate of Insurance must show the City of Fort Wayne, its Divisions and Subsidiaries as an Additional Insured and a Certificate Holder on all policies with exception of Worker's Compensation / Employer Liability and Professional Liability (if required) and a Certificate Holder, with 30 days notification of cancellation or non-renewal. All Certificates of Insurance should be sent to the following address:
City of Fort Wayne Purchasing Department
200 East Berry St, Suite 490
Fort Wayne, IN 46802

12. INDEMNITIES. To the fullest extent permitted by law, ENGINEER shall indemnify and save harmless the CITY from and against loss, liability, and damages sustained by CITY, its agents, employees, and representatives by reason of injury or death to persons or damage to tangible property to the extent caused directly by the negligent errors or omissions of ENGINEER, its agents or employees.

13. LIMITATIONS OF LIABILITY. Each party's liability to the other for any loss, cost, claim, liability, damage, or expense (including attorneys' fees) relating to or arising out of any negligent act or omission in its performance of obligations arising out of this Agreement, shall be limited to the amount of this Agreement. Absent gross negligence or knowing and willful misconduct which causes a loss, neither party shall be liable to the other for any indirect, special or consequential damage of any kind whatsoever.

14. ASSIGNMENT. The rights and obligations of this Agreement cannot be assigned by either party without written permission of the other party. This Agreement shall be binding upon and insure to the benefit of any permitted assigns.

15. ACCESS. CITY shall provide ENGINEER safe access to any premises necessary for ENGINEER to provide the Services.

16. PREVAILING PARTY LITIGATION COSTS. In the event any actions are brought to enforce this Agreement, the prevailing party shall be entitled to collect its litigation costs from the other party.

17. NO WAIVER. No waiver by either party of any default by the other party in the performance of any particular section of this Agreement shall invalidate another section of this Agreement or operate as a waiver of any future default, whether like or different in character.

18. SEVERABILITY. The various term, provisions and covenants herein contained shall be deemed to be separate and severable, and the invalidity or unenforceability of any of them shall not affect or impair the validity or enforceability of the remainder.

19. AUTHORITY. The persons signing this Agreement warrant that they have the authority to sign as, or on behalf of, the part for whom they are signing.

20. STATUTE OF LIMITATION. To the fullest extent permitted by law, parties agree that, except for claims for indemnification, the time period for bringing claims regarding ENGINEER's performance under this Agreement shall expire one year after Project Completion.

21. CONSENT DECREE NOTIFICATION. ENGINEER shall perform, or cause others to perform, all Services undertaken in connection with this Agreement in a good and workman-like manner and in conformance with the terms of the Consent Decree entered in the U.S District Court on April 1, 2008 by the United States and State of Indiana. ENGINEER acknowledges that it has been provided a complete copy of the Consent Decree which can be viewed at:
http://www.cityoffortwayne.org/utilities/clean-river-team/32-consent-decree.html

22. DOCUMENT RETENTION. Notwithstanding any other provision of this Agreement, ENGINEER agrees to preserve all non-identical copies of all documents, records and other information (whether in physical or electronic form) within ENGINEER's possession or control and which relate, in any manner, to the performance of the Services undertaken in connection with this Agreement for a period of 1 year after the completion contemplated by the Agreement (the "Retention Period"). Prior to the end of the Retention Period, or at any earlier time if requested by the CITY, ENGINEER shall provide the CITY with complete copies of such documents, records and other information at no cost to the CITY. The copies shall be provided to the CITY on CD or DVD media, and individual files shall be in Adobe PDF format. The individual files shall be contained in a ZIP formatted file, and the filename of the ZIP shall include the name of the project and the ENGINEER. No part of any file shall be encrypted or protected from copying. Such copies shall be accompanied by a verified written statement from the ENGINEER attesting that it has provided the CITY with complete copies of all documents, records and other information which relates to the Services contemplated by the Agreement.

ATTACHMENT 1
SCOPE OF SERVICES
For
THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT)
FINAL PLANNING AND DESIGN

PHASE 1 – PROJECT MANAGEMENT, ADMINISTRATION AND COORDINATION

Provide overall direct project coordination with CITY, and management of teaming partners for the 3RPORT program.

TASK 101 – PROJECT MANAGEMENT

Provide project management and administration related to the services included herein. Project management and administration will include project team and subconsultant coordination and management.

TASK 102 – SCHEDULE AND BUDGET CONTROL

Prepare and submit for review and approval a detailed program schedule utilizing Primavera Version 6 or Microsoft Project scheduling software for each of the work elements defined herein. The schedule shall include meetings and workshops. The schedule shall be updated on a quarterly basis and submitted to the CITY for review and approval.

ENGINEER shall provide CITY with estimates of cash flow projections for planning and design services including subconsultants' work. The cash flow information shall be calculated to match the monthly invoicing for the month in which the work is performed. The cash flow projections shall be reviewed and approved by CITY.

An updated cash flow projection shall be provided on a quarterly basis with the updated project schedule.

ENGINEER shall maintain a trend register of any scope changes affecting the project budget or schedule. ENGINEER shall discuss and receive written approval of any scope changes from CITY prior to proceeding.

TASK 103 – RISK MANAGEMENT

Prepare Risk Management Plan for project to identify and monitor project risks. The process will develop a Risk Register (matrix) to facilitate ownership of risks and to identify mitigation strategies. Risks will be ranked based on overall impact and probability. Mitigation measures and contingency plans will be outlined in a matrix format, or Risk Register. Initial "seed" plan will be developed during an initial Risk Management Plan workshop and will be further developed as additional risks and hazards are identified throughout the project. The Risk Register will be reviewed and updated at each progress meeting as discussed in Task 106.

The Risk Management Plan should address specifically how project risks will be identified and managed through planning, design, construction, commissioning and operation. The Risk Management Plan should include, as a minimum, the following items:

- Risk Register
- Qualitative Risk Assessment
- Quantitative Risk Assessment
- Recommended Management Plan
- Risk Response Planning
- Risk Monitoring and Control Methodology

This Risk Register is expected to be used for the entire 3RPORT program and to be updated at progress meetings. ENGINEER shall update the Risk Register before meetings and will provide copies to CITY for review.

TASK 104 – PROJECT MANAGEMENT AND QUALITY CONTROL PLAN

ENGINEER shall prepare and submit for approval a project management plan to document quality assurance and quality control procedures, key project personnel, lines of communication, project administration procedures, and file and document control. The project management plan shall document the scope, schedule and budget.

The ENGINEER will provide contract management and subcontractor coordination. The ENGINEER shall be responsible for quality control of all its deliverables and for maintaining effective coordination with the CITY's management and staff. The ENGINEER will provide management information, including Project Status Reports needed to verify compliance with project budgets and schedules and the expected high standard of quality of work. This report is intended to keep CITY fully informed with respect to project progress, accomplishments, issues, potential problems, and suggested corrective action for problem resolution plans.

TASK 105 – MONTHLY INVOICING AND PROGRESS REPORTS

ENGINEER shall submit to CITY monthly invoices accompanied by a written monthly progress report. Invoicing shall indicate the CITY project number, purchase order number, total contract amount, total amount previously invoiced, and current invoice amount. Invoices shall include break out of staff billing rates within each Task/Subtask item. The monthly progress report shall include a project description, name of firm, project manager, percent complete for the current period and the project, work completed during the past month, work anticipated during the next month, and any information needed or items requiring CITY decisions or input. Monthly progress format shall be reviewed and approved by CITY.

On a weekly basis throughout the project duration, ENGINEER shall electronically send to CITY a brief summation of work completed during the week by ENGINEER and anticipated activities for the following week along with other information deemed pertinent. The format of this report shall be agreed to by CITY. This report shall be provided by close of business Friday or the last business day of the week.

TASK 106 – PROJECT MEETINGS

ENGINEER shall prepare for and conduct project meetings and progress meetings with CITY. Meetings that shall be included are as follows:

- One project kick-off meeting
- Forty progress meetings
- Ten utility coordination meetings
- Ten land and easement acquisition meetings

- Six regulatory agency meetings

The duration of each meeting is anticipated to be four hours. ENGINEER shall prepare the meeting agenda, handouts, and presentations (if required). Progress meetings may also include technical memoranda, design documents and other deliverable reviews. The Risk Register maintained by the ENGINEER will also be reviewed and updated at progress meetings. The ENGINEER shall document all project decisions made. The ENGINEER will supply hard copy and electronic version of meeting summaries to CITY. Meetings shall be held at CITY's or ENGINEER's office in Fort Wayne.

TASK 107 – WORKSHOPS

At key decision points in the project, convene project workshops with integrated team members based on the task to be discussed. ENGINEER shall prepare for and conduct 12 workshops. The duration of each workshop is anticipated to be four hours. ENGINEER shall prepare the workshop meeting agenda, handouts, and presentations, and shall prepare for and coordinate each workshop. Workshops shall be held at CITY's or ENGINEER's office in Fort Wayne.

TASK 108 – MEETING AND WORKSHOP SUMMARIES

ENGINEER shall prepare and issue a summary of all meetings and workshops and shall distribute the summaries to CITY within 10 business days following the meeting. The ENGINEER shall document all project decisions made at these meetings and workshops. ENGINEER shall make corrections identified by CITY and distribute revised final meeting summaries.

TASK 109 – QUALITY CONTROL

ENGINEER shall perform Quality Control (QC) of all project deliverables prior to submittal to CITY including all deliverables prepared by subconsultants. Engineer shall internally document comments and resolution in tabular format.

TASK 110 – PROJECT WEBSITE

ENGINEER shall develop, implement, and maintain a project website to provide online project communication and collaboration for CITY's and ENGINEER's Project Team. The project website shall be used to establish a central library and repository for drawing files, text files, reports and other project documents that will be accessible to CITY's and ENGINEER's Project Team. Access to the project website shall be controlled and secured, and training for CITY's Project Team shall be provided by ENGINEER if needed.

TASK 111 – LOCAL FIRM AND EBE/MBE/WBE MANAGEMENT

ENGINEER shall develop and implement a program for Local firm and EBE/MBE/WBE subconsultant utilization, management, coordination and mentoring. Local firm and EBE/MBE/WBE subconsultant utilization and activities shall be included in ENGINEER's progress reports. Reporting format shall be reviewed and approved by CITY.

PHASE 2 – FINAL PLANNING

TASK 201 – DATA COLLECTION, REVIEW AND ANALYSIS

ENGINEER shall plan, coordinate, monitor and document data collection and analysis activities.

Collect, review, organize and analyze existing available planning documents, studies and other relevant publications.

Obtain, examine and evaluate current public and private utility records for information needed during project design.

Plan and conduct interviews with CITY's Engineering and Operations staff and other knowledgeable officials to gain their input on a variety of subjects including existing conditions of sewer system outfalls, existing and historical maintenance programs, problem areas in and around the proposed project sites, and geological and geographical conditions.

Make reconnaissance visits to the project areas to view the general contour of surface including its relief and the position of natural, man-made features and to identify any surface constructability issues. Inspect for area surface water bodies and drainage channels to be incorporated into the topographic survey.

CITY will provide information on outfall pipes and associated regulators. CCTV will be provided by the CITY to determine locations and verify conditions.

TASK 202 – FINAL PLANNING EVALUATION STUDY

ENGINEER shall develop a Final Planning Evaluation Study report. The final planning shall include a comprehensive report covering all aspects of the project planning including confirmation of the selected alternative; final alignment optimization; confirmation of the working and retrieval shaft locations; drop and vent shaft locations; adit locations and lengths; near surface infrastructure including diversion structures, consolidation sewers, gate and screen structures; and approach channels.

The Final Planning Evaluation Study report shall follow the 3RPORT Routing Study format and content, and shall include any new subject matter required for a comprehensive CSO wet weather tunnel project.

TASK 203 – 3RPORT OPERATIONAL PLAN

ENGINEER shall prepare a 3RPORT Operational Plan with an overall wet weather strategy that describes the fill, drain, monitoring and maintenance process of the 3RPORT system including:

- Operation of each connection to the existing combined sewer system
- Operation of each drop shaft including screening facilities and odor control
- Evaluate effectiveness to divert the overflows from CSO 048 directly into the tunnel rather than pumping directly to the Wet Weather Pond #1. The plan should also include how to address meeting CSO Control Measure #10 critical milestone within the Long Term Control Plan Table 4.2.4.1.
- Modified operation of Brown St, Nebraska, Third St, Griswold, and Morton Street Pump Stations
- Interface between 3RPORT Tunnel and Wet Weather Pump Station #1

- Interface between 3RPORT Tunnel and Water Pollution Control Plant
- Interface between 3RPORT Deep Dewatering Pump Station and Wet Weather Pump Station #1
- Interface between 3RPORT Deep Dewatering Pump Station and Water Pollution Control Plant
- Critical control points within the existing combined sewer system

The Operational Plan shall reflect the planned operation of the system, general limitations of proposed equipment and facilities and recommended intervals for general maintenance. This plan shall be developed in coordination with the CITY, utilizing workshops to educate and engage CUE staff regarding design elements and their intended operation.

PHASE 3 – GEOTECHNICAL INVESTIGATIONS, GROUNDWATER MONITORING AND ENVIRONMENTAL SERVICES

TASK 301 – GEOTECHNICAL AND GROUNDWATER DATA REVIEW

Data and reports generated from previous phases of the project shall be reviewed. This task includes, but is not limited to, the following:

- Soil and rock boring logs, pressure test results, and groundwater level readings.
- Previous data collection and aquifer analysis.
- Obtain and review parcel-level mapping to understand the location of the properties and well locations in relation to the tunnel alignment.
- Review of known existing locations, depths, and pumping rates from Indiana Department of Natural Resources (IDNR) for existing wells in the project area. This shall include field investigations, parcel-level evaluations of wells in relation to the tunnel alignment, and additional conversations with IDNR to confirm existing wells in the project area. If wells are not considered "significant water withdrawal facilities", IDNR may not be aware of their presence since only "significant water withdrawal facilities", defined as withdrawing more than 100,000 gallons of water per day, are required to register with IDNR and report water use.
- Review of available groundwater quality and groundwater level data in the project area.
- Review of proposed tunnel construction techniques to minimize groundwater infiltration and exfiltration during and after construction.
- Review of existing and proposed piezometers for the project.

TASK 302 – PHASE II GEOTECHNICAL INVESTIGATION WORK PLAN

Before proceeding with the geotechnical investigations, ENGINEER shall evaluate and analyze available geotechnical and hydrogeological data to prepare a Phase II Geotechnical Investigation Work Plan for conducting drilling and testing. The draft plan shall be submitted to CITY for review. ENGINEER shall revise the plan as required by CITY and finalize the plan prior to conducting field activities. Key aspects ENGINEER shall consider in the plan include:

- Type, location, extent, schedule, coordination and rationale of all drilling and testing.
- Collection and review of existing data.
- Assist CITY in developing and implementing stakeholder, citizen and community group outreach efforts and notification activities at least two weeks in advance of commencing the field investigations.

- Perform or arrange for laboratory testing on selected soil and rock samples as required. Rock samples shall be tested for rock strength, deformability, abrasion, hardness and others, as required.
- Upon receipt of CITY's written notification, conduct the Phase II geotechnical investigation in accordance with the approved final plan.

TASK 303 – PHASE II GEOTECHNICAL INVESTIGATIONS

ENGINEER shall provide geotechnical investigation services including a minimum of 16 additional deep borings to 300 feet deep (6 inclined borings and 10 vertical borings) or to provide an overall boring spacing of about 1,200 feet between borings on average. The geotechnical investigations shall also include a minimum of 20 additional shallow borings, 14 borings to 50 feet deep and 6 borings to the top of rock at locations of inclined borings to collect overburden data. ENGINEER shall install piezometers in all vertical deep and shallow borings.

The Phase II Geotechnical Investigations shall include furnishing all labor, materials, and equipment. ENGINEER shall perform geotechnical field work and field drilling oversight and logging. Up to two drilling rigs may be required to complete field efforts to meet the schedule. Manage the overall geotechnical field investigation and laboratory services. ENGINEER shall deliver borings upon completion of each boring at a site designated by CITY for storage.

Perform the geotechnical investigation to obtain and evaluate subsurface information required to support detailed design development of the tunnel, shafts, structures, consolidation sewers and the Foster Park Relief Sewer. The methodology and detailed scope of work for completion of Phase II borings and piezometers required for further bedrock and overburden soil characterization shall be prepared by the ENGINEER.

TASK 304 – PHASE III GEOTECHNICAL INVESTIGATION WORK PLAN (IF REQUIRED)

Before proceeding with the geotechnical investigations, ENGINEER shall evaluate and analyze available geotechnical and hydrogeological data to prepare a Phase III Geotechnical Investigation Work Plan for conducting drilling and testing. The draft plan shall be submitted to CITY for review. ENGINEER shall revise the plan as required by CITY and finalize the plan prior to conducting field activities. Key aspects ENGINEER shall consider in the plan include:

- Type, location, extent, schedule, coordination and rationale of all drilling and testing.
- Collection and review of existing data.
- Assist CITY in developing and implementing stakeholder, citizen and community group outreach efforts and notification activities at least two weeks in advance of commencing the field investigations.
- Perform or arrange for laboratory testing on selected soil and rock samples as required. Rock samples shall be tested for rock strength, deformability, abrasion, hardness and others, as required.
- Upon receipt of CITY's written notification, conduct the Phase III geotechnical investigation in accordance with the approved final plan.

TASK 305 – PHASE III GEOTECHNICAL INVESTIGATIONS (IF REQUIRED)

ENGINEER shall provide geotechnical investigation services including a minimum 6 additional deep borings to 300 feet deep (2 inclined borings and 4 vertical borings) if required to obtain additional information for the GDR. The geotechnical investigations shall also include a

minimum of 6 additional shallow borings, 4 borings to 50 feet deep and 2 borings to the top of rock at locations of inclined borings to collect overburden data. ENGINEER shall install piezometers in all vertical deep and shallow borings.

The Phase III Geotechnical Investigations shall include furnishing all labor, materials, and equipment. ENGINEER shall perform geotechnical field work and field drilling oversight and logging. Up to two drilling rigs may be required to complete field efforts to meet the schedule. Manage the overall geotechnical field investigation and laboratory services. ENGINEER shall deliver borings at a site designated by CITY for storage.

Perform the geotechnical investigation to obtain and evaluate subsurface information required to support detailed design development of the tunnel, shafts, structures and consolidation sewers. The methodology and detailed scope of work for completion of Phase III borings and piezometers required for further bedrock and overburden soil characterization shall be prepared by the ENGINEER.

TASK 306 – GEOTECHNICAL DATA REPORT

ENGINEER shall prepare a Geotechnical Data Report (GDR), which, at a minimum, shall include an overview of the geologic setting, a description of the current and previous site exploration programs, boring and piezometer logs, field and laboratory test descriptions and results, and geologic profiles. The GDR shall be submitted upon completion of the Phase II Geotechnical Investigations. If needed, a Phase III Geotechnical Instigation would be completed if additional information is found to be required for the GDR. The GDR would then be updated and shall be resubmitted upon completion of the Phase III Geotechnical Investigations.

TASK 307 – GEOTECHNICAL BASELINE REPORT

ENGINEER shall prepare a Geotechnical Baseline Report (GBR) that generally complies with guidelines given by the Technical Committee on Geotechnical Reports of the Underground Technology Research Council, American Society of Civil Engineers (ASCE). The GBR shall include the hierarchy of the GBR within the Contract Documents, a project description, sources of regional and site specific geology with reference to the GDR, previous construction experience where appropriate, geological profiles, ground characterization and design and construction considerations for tunnels, shafts, and sewers. Establish baselines for tunnel, sewers and shaft groundwater inflow, excavation, ground support, grouting; anticipated ground behavior and tunneling conditions; characterize soil and groundwater contamination; determine gaseous ground classification and additional ventilation needs due to hazardous or explosive gases; archeological artifacts or cultural resources at shaft sites and other items as determined by CITY or as shown to be necessary by the ongoing planning efforts.

The purpose of the GBR is to provide a contractual description of the ground conditions to be anticipated during construction of the proposed tunnel and associated sewers, connection tunnels and appurtenances. The GDR, GBR, Contract Drawings and specifications taken together are intended to be the primary tool for evaluating potential differing site conditions during construction. The GBR is the sole location of text interpreting the data contained in the GDR. Baseline statements in the GBR, although not a warranty, represent contractual definitions with respect to administration of the Differing Site Conditions (DSC) clause by CITY and ENGINEER. The draft GBR shall be submitted to CITY with the 90-percent design deliverable, and following review by the CITY shall be finalized for final contract documents submittal.

TASK 308 – ENVIRONMENTAL SITE ASSESSMENTS

ENGINEER shall perform a Preliminary Environmental Assessment (PEA) for any sites that may be disturbed under this project such as the tunnel working/exit shaft sites, drop shaft sites, consolidation sewers and relief sewers. The PEA should identify areas where a Phase I Environmental Site Assessments (ESAs) should be completed. After review and approval of the CITY, the ESA Phase I shall be completed including an ESA report summarizing the findings. If the findings of the Phase I ESA indicate the probability of environmental concerns, a Phase II ESA shall be performed at select sites.

ENGINEER shall assume up to ten Phase I ESAs and up to six Phase II ESAs will be required. ENGINEER shall proceed with the Phase I & II ESAs only after approved by the CITY. Phase II ESA reports shall be submitted to the CITY.

TASK 309 – GROUNDWATER MANAGEMENT PLAN

The purpose of the Groundwater Management Plan (GWMP) is to address groundwater protection and monitoring along the alignment, prior to, during and after construction. The preliminary plan shall use geotechnical and hydrogeological data that is available at the time of the Notice-To-Proceed. The plan shall be updated as more data are collected. A draft Groundwater Management Plan shall be prepared and submitted by the ENGINEER with the 30-percent deliverables. A final Groundwater Management Plan shall be prepared and submitted by the ENGINEER with the 60-percent deliverables. Ten copies of the draft and final copies shall be provided to the CITY.

TASK 310 – GROUNDWATER MONITORING

Upon finalization of the Groundwater Management Plan and installation of the piezometers, groundwater monitoring shall commence for developing the baseline or pre-construction conditions. ENGINEER shall develop a monitoring spreadsheet and perform up to four bi-weekly (every two weeks) groundwater level measurements at installed piezometers at up to 48 locations along the 3RPORT corridor. The CITY will provide staff trained to perform groundwater level measurements, to support the ENGINEER during the initial four bi-weekly measurements. Up to 100 bi-weekly readings will be subsequently performed by CITY. CITY will update the monitoring spreadsheet and submit the level measurements to ENGINEER on a bi-weekly basis. ENGINEER shall perform QC on the data delivered by the CITY.

ENGINEER shall prepare up to 16 quarterly technical memoranda summarizing the results for monitoring baseline conditions within 20 business days of the end of the quarter.

TASK 311 – GROUNDWATER QUALITY SAMPLING AND TESTING

ENGINEER shall collect groundwater samples at select locations along the 3RPORT alignment consistent with the Phase II ESAs. A total of eight sampling cycles shall be included. Sampling shall commence following installation of piezometers and shall be performed on a quarterly basis. Each sampling cycle shall consist of approximately eight samples for a total of 64 samples. Samples shall be delivered to a certified laboratory to perform tests for chemical analyses (sulfates and chlorides), environmental analyses (volatile and semi-volatile organics) and other tests as recommended by the ENGINEER and approved by the CITY. ENGINEER shall perform analyses of the tests results. ENGINEER shall prepare a report summarizing the test results at the conclusion of all testing. Laboratory testing costs will be the responsibility of the CITY.

ENGINEER shall provide a summary of the quarterly results along with the quarterly groundwater level measurements report.

TASK 312 – SENSITIVE AREA AND PERMIT EVALUTATION AND PREPARATION

ENGINEER shall perform an evaluation of all areas to be disturbed, crossed or modified by 3RPORT facilities to identify sensitive areas and those requiring permits. Evaluations shall include, but not be limited to:

- Wetlands
- Endangered species, such as Indiana Bat
- Floodway / Floodplain
- INDOT (Indiana Department of Transportation) jurisdiction
- IDEM (Indiana Department of Environment Management) jurisdiction
- USACE (United States Army Corps of Engineers) jurisdiction
- IDNR (Indiana Department of Natural Resources) jurisdiction
- Railroads jurisdiction
- Sensitive facilities, such as hospitals

The findings of the evaluation shall be documented in a summary or log that includes identification of key timetables, milestones and requirements.

It is expected that multiple permits will be required, reflecting the phase construction of the 3RPORT facilities. ENGINEER shall perform all work required to prepare permit applications for routing through the appropriate agencies on a timetable appropriate for construction. Draft permits shall be routed for CITY comment and approval prior to submittal. ENGINEER shall act as the key contact for the permits, coordinating with the CITY on any comments and/or additional requests from the agencies.

The ENGINEER shall support the CITY coordination with Authorities Having Jurisdiction by developing and providing descriptive materials including mapping, graphic images and data.

PHASE 4 – UTILITY COORDINATION

TASK 401 – UTILITY COORDINATION

ENGINEER shall verify location of utilities using public utility designation services along the selected alignment. Provide subsurface utility alignments based on the surface utility features found and on records that are provided by the utility companies within the proposed alignment survey limits. Include the utility alignments in the project AUTOCAD drawing files.

ENGINEER shall coordinate with the Indiana "811" Call Before You Dig notification system prior to the geotechnical investigations and potholing program. ENGINEER shall obtain confirmation that each utility has field located their facilities prior to beginning geotechnical investigations and potholing.

After the recommended alignments are developed by ENGINEER and approved by CITY, preliminary utility coordination plans shall be distributed to the utilities. Utility coordination meetings shall be held for the purpose of discussing the following:

- To confirm that the existing facilities shown on the aerial plans are reliable.

- To review the potential points of conflict to see if revisions can be implemented that reduce the impact to a utility or utilities with minimal cost to the City.
- To discuss the proposed project schedule to determine if utility design and relocation schedules are compatible or if adjustments to the project schedule should be considered.
- To determine if separate right-of-way clearing projects or centerline staking activities are needed prior to commencing future utility relocation efforts.
- Determine if the acquisition of additional right-of-way or utility easements is required to accommodate utility relocation.

TASK 402 – SELECT POTHOLING SERVICES

ENGINEER shall develop a plan for performing select potholing to verify existing utilities in areas of critical near surface infrastructure. ENGINEER shall provide oversight and administration of potholing activities. CITY will be responsible for performing or contracting with a contractor to perform the potholing work.

PHASE 5 – FIELD SURVEY AND LAND AND EASEMENT ACQUISITION ASSISTANCE

TASK 501 – FIELD SURVEY

Identify facilities and utilities requiring field survey and mapping to complete the design of the proposed facilities. The total project length is approximately 46,400 feet. This includes up to 25,700 feet of survey for the proposed main tunnel, up to 5,000 feet of survey for proposed connection tunnels, up to 10,800 feet of survey for the Foster Park Relief Sewer, and up to 5,000 feet of survey for the proposed consolidation sewers. The survey corridor width shall be based upon estimated pipe size and type of construction method. ENGINEER shall notify public and private property owners, as required.

Provide the following survey and mapping services needed to prepare the design plans:

- Provide horizontal and vertical control along entire survey corridor. The horizontal and vertical control shall comply with the North American Vertical Datum 1988 (NAVD 88) and the 1983 Indiana State Plane Coordinate System East Zone, respectively.
- Install survey monuments along the tunnel, consolidation sewer and relief sewer alignments at approximately every 1,000 feet or verify that an existing monument exists.
- Survey marked utilities. Show any sanitary or storm sewers within the survey corridor, including inverts. CITY will assist with names, addresses and contact person for each utility company.
- Collect survey topography within the survey corridor and at shaft locations as outlined below.
- Section corners shall be surveyed and shown relative to this project.
- Prepare a digital terrain model for the surveyed area in AutoCAD format.
- Prepare a field survey book complying with City of Fort Wayne standards.
- Plot topographic, property and right-of-way line features in AutoCAD format. Include name of owner and parcel number for each property identified.
- Prepare a Route Survey Plat and Report complying with Rule 12, Title IAC 865.
- Conduct topographic surveys of the locations for 13 drop shaft sites, one retrieval

shaft site and one working shaft site. Typical drop shaft sites are anticipated to be approximately one acre, retrieval shaft sites are anticipated to be approximately five acres, and the working shaft site is anticipated to be approximately ten acres in area.

- Prepare survey base maps to show project corridor property data, topographic features at shaft and sewer areas, and existing utilities. Survey geotechnical boring and piezometer locations.

TASK 502 – LAND AND EASEMENT ACQUISITION ASSISTANCE

CITY will provide right-of-entries for the proposed geotechnical investigations based on parcels identified in Task 302 and Task 304 workplans or subsequently identified.

ENGINEER shall complete land and easement acquisition assistance for up to 95 parcels for subsurface easements, up to 95 parcels for permanent surface easements, and up to 250 parcels for temporary easements. Services shall include development of legal descriptions and plats for use by CITY. Property valuations, land and easement negations, and legal services shall not be included.

PHASE 6: MODELING

TASK 601 – HYDRAULIC ASSESSMENT TO SUPPORT FINAL PLANNING

CITY will provide the calibrated hydraulic model representing the preliminary configuration of the 3RPORT System for use by the ENGINEER in evaluating the system hydraulics. ENGINEER shall review the required data, background information, and river levels, needed to support hydraulic evaluations.

ENGINEER shall use the model to conduct the hydraulic assessment of the 3RPORT system, and Treatment Plant Complex, and provide tunnel configuration and operational insights to support final planning of the deep tunnel, adits, consolidation and relief sewers, and DDPS for the 3RPORT program. The hydraulic assessment includes coming up with the information needed to develop the operational plan and overall wet weather strategy under Phase 2 and conducting operational analyses to optimize solutions to meet Consent Decree (CD) requirements and reach target levels of service for the sanitary sewer. It should also include maximizing flows to the Water Pollution Control Plant (WPCP) before the Wet Weather Pump Station (WWPS) activates.

The operational analyses should include smart operations with Real Time Control (RTC) that can help Fort Wayne provide higher level of service with same facility sizing. Scenarios such as extreme point and spatially varied rainfall conditions, high river level conditions, sewer system interdependencies (i.e., competing interests between CSO control and level of service in the sanitary sewered areas) should be evaluated and addressed via a well configured RTC operation.

ENGINEER shall use the model to perform long-term model simulations using the representative five-year period to confirm 3RPORT sizing and operational strategies and Consent Decree compliance.

Task 601.1 – Hydraulic Assessment Work Plan

ENGINEER will perform all hydraulic modeling of the existing collection system feeding the tunnel system to support technical memoranda development, preliminary design effort, and preliminary Operational Plan development.

The hydraulic assessment will include the following items:

1. Existing Modeling Information Review
   - ENGINEER shall review existing available planning documents, studies and other publications relevant to collection system modeling, to gain additional understanding of existing planning work conducted by the CITY. Examples of available information are reports and model versions from 3RPORT preliminary routing study and the ongoing wet-weather optimization project.
   - ENGINEER shall prepare and deliver a memorandum summarizing the modeling work to be performed as part of the Hydraulic Assessment support.

2. Prepare Hydraulic Assessment Work Plan

ENGINEER shall develop a hydraulic assessment work plan based on information reviewed in Task 601.1.1 and inputs provided by the CITY. This hydraulic work plan shall include the following:

- Goals and objectives of Tasks 601 and 602.
- Summary review of information collected
- Workshop summary
- Memorandum summarizing the modeling work to be performed
- Schedule
- Communication Protocol

3. Deliverables for this task include:
   - A memorandum on the modeling support that will be provided.
   - A Hydraulic Assessment Work Plan

Task 601.2 – Hydraulic Assessment for Preliminary 3RPORT Configuration

1. Evaluation of Preliminary 3RPORT Configuration

The CITY will provide the ENGINEER with a hydraulic model representing future facilities/conditions to include the preliminary configuration of the 3RPORT system, anticipated future wet-weather improvements in sanitary sewer area and future dry- and wet-weather flow projections. The CITY will provide river boundary inputs to be used. Specific future conditions time horizon shall be determined by the CITY at the time of model delivery to the ENGINEER.

ENGINEER shall use the hydraulic model provided by the CITY to conduct one 5-year continuous simulation using 1993 – 1997 rainfall data. ENGINEER shall also conduct one event based simulation using a specific Fort Wayne Design Storm, provided by the CITY, representing target level of service (LOS). These model simulations shall evaluate whether the performance of the preliminary configuration of 3RPORT system meets LTCP requirements for the combined sewer area and maintain the targeted LOS in the sanitary sewer service area.

2. Develop Operational Insights Using Preliminary 3RPORT Configuration

ENGINEER shall process the preliminary 3RPORT configuration model simulation results from the 5-year continuous simulation and event based simulation to develop

operational insights to support Phase 2. The following key components of 3RPORT system will be studied:

- CSO outfalls
- 3RPORT
- Drop shafts
- Connection tunnels
- Deep Dewatering Pump Station
- Wet Weather Pump Station #1
- Wet-weather Ponds and bleedback system
- Water Pollution Control Plant – Headworks
- Consolidation and relief sewers
- Key existing interceptors adjacent to 3RPORT system and WPCP
- Key pump stations: Brown Street, Nebraska, Third Street, Griswold and Morton Street
- Key critical control points such as CSO regulators elevations, flow diversion elevations

ENGINEER shall prepare the following information using model simulation results of the preliminary 3RPORT configuration to support the Engineer and Engineer's tunnel system modeling subconsultant with development of 3RPORT Operational Plan.

- Operational aspects of each 3RPORT component connection to the existing combined sewer system
- Operational aspects of the Brown Street, Nebraska, Third Street, Griswold, and Morton Street Pump Stations
- Hydrodynamic relationship between 3RPORT Tunnel, Deep Dewatering Pump Station, Wet-Weather Pump Station #1 and Water Pollution Control Plant Headworks

ENGINEER shall prepare a technical memorandum describing the operational insight at the points of interests listed above, using the model simulation results from Task 601.2.1. No additional model simulations shall be performed under this subtask.

3. Deliverables for this task include:
   - Model simulation input/output files
   - A summary Hydraulic Assessment and Operation Insights Technical Memorandum

Task 601.3 – 3RPORT System Configuration / Operational Optimization Analysis

1. Initial Optimization Opportunities Identification

Using preliminary 3RPORT system configurations, ENGINEER shall identify up to twelve potential configuration modifications and enhanced operational opportunities that can efficiently and cost-effectively meet or exceed CD requirements and target levels of service for the sanitary sewer area. Model simulation results from Task 601.2 shall be used and post-processed to support this analysis.

Examples of potential configuration modifications to be identified are:

- Specific configuration of connections between the existing combined sewer and the consolidation/relief sewers
- Consolidation sewer connection to drop shafts

- Existing CSO regulator configurations
- Tunnel conveyance/storage trade-offs
- Deep Dewatering Pump Station

Examples of potential operational opportunities to be identified are:

- 3RPORT Tunnel Drop shaft operations
- Consolidation and relief sewers operations
- 3RPORT Tunnel Deep Dewatering Pump Station operations
- Existing pump station operations
- RTC / automation aspects within the 3RPORT System
- Water Pollution Control Plant Headworks operations
- Wet-Weather Pump Station operations

ENGINEER shall review any adjustments needed for hydraulic assessment identified in the memorandum from Task 601.1. Any additional model simulation needed will be performed as a supplemental service.

ENGINEER shall prepare a technical memorandum summarizing the potential configuration modifications and operational opportunities to help optimize solutions to meet CD requirements and reach target levels of service for the sanitary sewer area.

2. 3RPORT Operation Plan Support: CSO 048 Controls Configuration Evaluation
The CITY shall provide ENGINEER inputs on two CSO 048 controls configurations for evaluation in this subtask. ENGINEER shall develop model representations of the provided two configurations using the model completed in Task 601.2 with preliminary 3RPORT configuration or the model completed with optimized 3RPORT configuration. CITY shall provide ENGINEER inputs on which version of model to be built upon on in this evaluation. ENGINEER shall make event-based test runs to address any inappropriate model instabilities.

ENGINEER shall perform two event based model simulations using the 21st largest storm from the five representative years (1993 – 1997) under two configurations: one configuration with overflows from CSO 048 directly discharging into the tunnel and the other configuration with overflows from CSO 048 directly discharging into WPCP.

ENGINEER shall compare the model simulation results and evaluate the impact of both CSO 048 discharge configurations to the 3RPORT system configuration, WPCP, Wet Weather Pump Stations and other CSOs. ENGINEER shall evaluate the effectiveness of both configurations.

ENGINEER shall prepare a technical memorandum summarizing the CSO 048 controls evaluation findings to support 3RPORT Operational Plan development.

3. 3RPORT Operational Plan Support: Pump Stations Operations Evaluation
Based on the operational opportunities identified by ENGINEER, ENGINEER shall develop model representations of the three operational opportunities at the existing pump stations, using the model completed in Task 601.2 with preliminary 3RPORT configuration or the model completed in Task 601.3 with optimized 3RPORT configuration. CITY shall provide ENGINEER inputs on which version of model to be built upon on in this evaluation. ENGINEER shall make event-based test runs to address any inappropriate model instabilities.

ENGINEER shall perform three event based model simulations with three variations of operational schemes at Brown Street, Nebraska, Third Street, Griswold, and Morton Street Pump Stations. If an individual pump station needs to be evaluated, those efforts shall be covered as a supplemental service.

ENGINEER shall compare the model simulation results from this subtask and develop insights of each operation variation to the CSO discharges, 3RPORT system and existing collection system.

ENGINEER shall incorporate a summary of the pump stations operation evaluation findings in a technical memorandum to support the 3RPORT Operational Plan development.

4. 3RPORT Configuration Optimization Screening and Evaluation

Based on the configuration optimization opportunities identified by the ENGINEER, and agreed to by the CITY, ENGINEER shall develop model representations of four alternative configuration optimization opportunities using the model completed in Task 601.2 with preliminary 3RPORT configuration. ENGINEER shall make event-based and continuous-period test runs to address any inappropriate model instabilities.

ENGINEER shall screen four configuration modifications of the 3RPORT system, identified and selected by the ENGINEER and CITY. The screening is to consist of conducting four event-based model simulations. ENGINEER shall compare the model simulation results and assess the impact of the configuration modifications.

ENGINEER shall evaluate two configuration modifications of 3RPORT system, identified and selected by the ENGINEER and CITY. The evaluation is to consist of conducting two five-year model simulations, one for each selected configuration, using rainfall input from 1993 – 1997.

ENGINEER shall compare the five-year model simulation results from this subtask and determine the impacts of each configuration modification to the CSO discharges, 3RPORT system and existing collection system.

Consultant shall incorporate a summary of the 3RPORT configuration optimization results in a technical memorandum.

5. 3RPORT Operational Analysis

Based on the operational opportunities for 3RPORT system, identified by ENGINEER , and agreed to by the CITY, ENGINEER shall develop model representations of eight alternative operational opportunities using the model completed in Task 601.2 with preliminary 3RPORT configuration or the model completed in this task with optimized configurations. ENGINEER shall make event-based and continuous-period test runs to address any model instabilities.

ENGINEER shall screen eight alternative operations to the preliminary 3RPORT system, identified and selected by the ENGINEER and CITY. The screening is to consist of conducting eight event-based model simulations. ENGINEER shall compare the model simulation results and assess the impact of each alternative operation. An alternative operation can contain more than one operational modification in 3RPORT system.

ENGINEER will select three alternative operations in 3RPORT system for further evaluation.

After three alternative operations are selected from the initial screening, ENGINEER will perform a sensitivity analysis under varied conditions to provide hydraulic information to support the development of the Operational Plan.

To support the development of operational rules, ENGINEER shall evaluate three screened alternative operations in the 3RPORT system, identified and selected by the ENGINEER and CITY. The evaluation consists of the following:

- Conduct three five-year model simulations using rainfall input from 1993 – 1997 under normal boundary conditions, provided by the CITY.
- Conduct nine event based model simulations under various boundary scenarios such as 1) extreme point rainfall conditions, 2) spatially varied rainfall conditions, and 3) high river level conditions. The three screened alternative operations for 3RPORT will be evaluated under the above three boundary scenarios. ENGINEER shall use the rainfall analysis conducted in 2008 System Wide Interceptor Model project to select the extreme point rainfall conditions and spatially varied rainfall conditions to be used in this sensitivity analysis. The ENGINEER or CITY shall provide high river level conditions for this sensitivity analysis.

ENGINEER shall compare the five- year model simulation results from this subtask and determine the impacts of the three screened alternative operations to CSO discharges, the 3RPORT system and the existing collection system. ENGINEER shall compare the event-based model simulation results from this subtask and develop operational insights under different rainfall and river conditions.

ENGINEER shall summarize 3RPORT operation analysis results in a technical memorandum to support 3RPORT Operational Plan development.

6. Deliverables for this task include:
    - Model simulation input and output files (26 event-based simulations and 5 five-year simulations).
    - Five Technical Memoranda to support 3RPORT Operational Plan development and the Final Planning Study. The technical memoranda include:
        - Initial Optimization Opportunities Identification
        - CSO 048 Controls Evaluation,
        - Existing Pump Stations Operation and Optimization Evaluation
        - 3RPORT System Configuration Optimization
        - 3RPORT System Operational Analysis

TASK 602 – TUNNEL SYSTEM HYDRAULIC MODELING

ENGINEER shall use the model completed from Task 601 to perform long-term model simulations using the representative five-year period to confirm 3RPORT sizing and operational strategies. The results from the model runs shall be used to develop design flows and realistic depiction for diversion structures, consolidation and relief sewers, drop shafts, connection tunnels, DDPS and the main tunnel for the 3RPORT.

1. ENGINEER will utilize the preliminary design configuration and operational scheme of the 3RPORT system that is to be verified through model simulations.

If needed, ENGINEER shall update the model representation of 3RPORT system completed from Tasks 601.1, 601.2, and 601.3 to reflect the provided configuration and operational scheme for verification. ENGINEER shall perform one long-term model simulations using the representative five-year period to confirm 3RPORT sizing and operational strategies meeting CD requirements. Model boundary conditions for this simulation shall be provided by the ENGINEER and CITY. ENGINEER shall perform one event based model simulation to verify 3RPORT sizing and operational strategies meeting targeted LOS in sanitary sewer area. The results from the model runs shall be used to develop design flows and field verified realistic depiction for of diversion structures, consolidation and relief sewers, drop shafts, connection tunnels, DDPS and the main tunnel for the 3RPORT system.

ENGINEER shall prepare a technical memorandum summarizing hydraulic information such as design flows for each component in the 3RPORT system to support design.

ENGINEER shall perform a sensitivity analysis for needed configuration adjustments. Up to two additional 5-year simulations and three single-event based simulations will be conducted. ENGINEER shall also prepare up to fifteen schematic drawings showing model representation of diversion structures, consolidation and relief sewers, drop shafts, connection tunnels, DDPS and the main tunnel for the 3RPORT system.

2. Deliverables for this task include:
   - Model Simulation input and output files
   - CSO Outfall Hydrographs
   - A summary Hydraulic Technical Memorandum

ENGINEER shall also perform Computational Fluid Dynamic (CFD) modeling of the Deep Dewatering Pump Station for optimal operation of the pumps and the drop shaft surface structures to optimize the approach channels under a variety of flow conditions utilizing established industry software.

TASK 603 TUNNEL SYSTEM TRANSIENT & SURGE MODLEING

ENGINEER shall review the Tunnel System Hydraulic Model from Task 602 and the preliminary tunnel system alignments, and determine the information required for surge control as well as tunnel and deep pump station operating procedures and scenarios. ENGINEER shall develop a tunnel system transient and surge model for use in analyzing the 3RPORT. ENGINEER shall model up to 10 scenarios using the calibrated surge model. Perform transient and surge modeling for the tunnel system and provide recommendations for surge control. Based on the overflow/capture requirements in CITY's CSO LTCP, ENGINEER shall complete review of available modeling information and the results of the tunnel surge model developed by ENGINEER to finalize the tunnel size and slope and perform hydraulic analyses.

PHASE 7 – PRELIMINARY DESIGN

ENGINEER shall be responsible for preparing the preliminary and 30-percent design in accordance with the project planning and reports, based on the following preliminary design information:

- Up to 25,700 feet of approximately 12-foot finished diameter tunnel.
- The tunnel will be located approximately 150 feet below the surface on average in rock. ENGINEER will evaluate alternative depths based on the available geotechnical data to minimize groundwater inflow.
- Up to 4,900 feet of connection tunnels in rock.
- A new connection sewer to convey flows to two (2) existing 96-inch RCP pipes that cross under the Maumee River and connect to the Wet Weather Pump Station (WWPS).
- Up to 10,800 feet of near surface pipeline along the Rivergreenway Trail in Foster Park.
- Up to 5,000 feet of consolidation sewers. It is assumed that 75-percent will be open cut construction and 25-percent tunneling methods.
- The main tunnel will be designed to be constructed using a tunnel boring machine (TBM) and to be partially or fully concrete lined.
- Thirteen drop shafts, one working shaft and one retrieval shaft. Vent shafts and de-aeration chambers will be designed for each drop shaft and dewatering pump station.
- Diversion structures downstream of existing regulators and upstream of CSO outfalls, where feasible.
- Gate and screen structures at each drop shaft site that will use a remote actuated gate.
- Approach channel at each drop shaft.
- Mechanical, electrical and instrumentation design associated with gate controls at each drop shaft site and dewatering pump station.
- An approximately 10 foot by 15 foot mechanical/electrical/instrumentation building will be designed for each drop shaft site to house equipment. The building will be pre-fabrication construction.
- A dewatering pump station with an approximate capacity of 20 million gallons per day.
- Connection of the dewatering pump station to the Wet Weather Pump Station and Water Pollution Control Plant.

TASK 701 – TECHNICAL MEMORANDA

ENGINEER shall prepare technical memoranda for the 3RPORT program on a variety of tunnel system subjects to assist in making key program decisions. The technical memoranda shall be comprehensive documents providing the background, purpose, development of alternatives, evaluation of alternatives, figures, photographs, drawings, summary of case studies (where applicable), opinion of probable construction costs using appropriate contingencies, operation and maintenance (O&M) costs, and summary of findings, conclusions and recommendations. ENGINEER's technical memoranda development effort shall include all required research, investigations, evaluations and calculations. Technical Memoranda shall be submitted as indicated on Task 102 Schedule. The following is a list of technical memoranda that shall be developed for the 3RPORT program:

1. Working Shaft Requirements: Present requirements for the working shaft including size, location, access, easements, haul routes, flood zones, etc.

2. Tunnel Cunette Evaluation: Evaluate constructing a cunette in the tunnel invert for operations and maintenance.

3. Diversion Structure Evaluation: Develop and evaluate criteria for design of diversion structures. Document and assess the condition and configuration of the existing regulator and combined sewer near the proposed diversion structure locations.

4. Tunnel Spoils Handling: Identify likely handling sites, trucking routes and potential disposal locations for tunnel spoils. ENGINEER shall identify up to two alternative disposal or reuse plans aimed at minimizing cost of disposal. Develop preliminary traffic plans for spoils hauling from the working shaft sites. Identify special traffic maintenance issues and recommend mitigation measures to minimize adverse construction impacts. Evaluate reuse of tunnel spoils as fill or beneficial aggregate, stormwater management, and long term operations and maintenance of the tunnel system.

5. Tunnel Alignment and Sizing Evaluation: Based on a review of geotechnical data, property considerations, required flow receiving points, and other pertinent considerations, in conjunction with the overflow/capture requirements in CITY's CSO LTCP, ENGINEER shall complete review of available modeling information and the results of the tunnel surge model developed by ENGINEER to finalize the tunnel size and slope.

6. Shaft Siting Evaluation
   a. Evaluate and refine preliminary shaft site locations identified in the "3RPORT Routing Study".
   b. Identify easement needs for the shafts and appurtenant structures. Provide plan view showing permanent and temporary rights-of-way required at each shaft location, including access and staging areas for maintenance as well as access and temporary staging requirements during construction. Identify known utilities at shaft locations. Define requirements for utility crossings and utilities requiring relocation prior to or during construction.
   c. Identify potential environmental impacts based on records review for each shaft location. Such impacts may include steep slopes, stream/river crossing or stream buffer, floodplain and wetland or wetland buffer encroachment, surface water and groundwater pollution, groundwater withdrawal, air and noise pollution, sedimentation and erosion, historical or archaeological sites, and possible impacts to wildlife. Indicate potential mitigation measures that may be required and scopes required for the next assessment phase.
   d. Identify social and community impacts for each shaft location. Such impacts include parkland encroachment, recreational area disturbances, traffic disruption, safety, noise, dust, long-term visual impact, residential and commercial access during construction, settlement, seismic monitoring, site security to minimize public endangerment and utility service disruptions. Define impacts that are permanent and temporary. Indicate potential mitigation measures that may be required.
   e. Address access and maintenance considerations for shaft locations.

7. Consolidation Sewer Evaluation:
   a. Develop conceptual design plans and profiles for each consolidation sewer.
   b. Identify easement needs for the consolidation sewers and appurtenant structures. Provide plan views showing permanent and temporary rights-

of-way required at each consolidation sewer location, including access and staging areas for maintenance as well as access and temporary staging requirements during construction. Identify known utilities impacting consolidation sewers. Define requirements for utility crossings and utilities requiring relocation prior to or during construction.

c. Identify potential environmental impacts based on records review for each proposed consolidation sewer location. Such impacts may include steep slopes, stream/river crossing or stream buffer, floodplain and wetland or wetland buffer encroachment, surface water and groundwater pollution, groundwater withdrawal, air and noise pollution, sedimentation and erosion, historical or archaeological sites, and possible impacts to wildlife. Indicate potential mitigation measures that may be required and scopes required for the next assessment phase.

d. Identify social and community impacts for each consolidation sewer location. Such impacts include parkland encroachment, recreational area disturbances, traffic disruption, safety, noise, dust, long-term visual impact, residential and commercial access during construction, settlement, seismic monitoring, site security to minimize public endangerment and utility service disruptions. Define impacts that are permanent and temporary. Indicate potential mitigation measures that may be required.

8. Foster Park Relief Sewer Evaluation: Review and evaluate the preliminary design criteria for the Foster Park Relief Sewer.

9. Deep Dewatering Pump Station Evaluation: Evaluate the DDPS alternatives and station layout.

10. Tunnel Liner Analysis: Conduct a tunnel liner analysis considering normal hydraulic operating conditions. Perform an economic analysis to evaluate up to three alternatives including the "No Liner" alternative.

11. Odor Control Assessment and Design Considerations: Provide preliminary recommendations for odor control systems including applicable technologies, preliminary considerations of mechanical equipment, preliminary recommendations relative to consumables such as chemicals and media, and development of a typical odor control facility conceptual design layout.

12. Drop Shaft Configuration Evaluation: Evaluate drop shaft configurations and provide a recommendation for standard drop shaft design. Drop shaft configurations evaluated shall at a minimum include vortex with various inlet (e.g., scrolls, helical and tangential) and baffle arrangements.

13. Consolidation Sewer Excavation and Backfill Analysis: Evaluate excavation, support and backfill alternatives for consolidation sewers.

14. Tunnel Excavation Methods and Initial Support Evaluation: Identify and recommend different methods of construction and supporting the tunnels and adits.

15. Shaft Excavation Methods and Initial Support Evaluation: Using conditions inferred from the geotechnical investigations, evaluate excavation and support methods for shaft construction.

16. CSO Flow Control Evaluation: Review and evaluate alternatives for controlling flow entering the 3RPORT.

17. Construction Site Access, Staging, and Traffic Control: Develop contractor alternatives for implementation into the contract documents.

18. Groundwater Long-Term Monitoring and Management: Utilize data recorded for the groundwater level measurements. Identify impacts of dewatering on the existing wells within surrounding areas and recommend mitigation measures to minimize adverse impacts. Develop alternatives for groundwater handling, treatment, and disposal during tunnel construction.

19. Groundwater Impacts and Handling: Identify impacts of dewatering on the existing wells within surrounding areas and recommend mitigation measures to minimize adverse impacts. Develop alternatives for groundwater handling, treatment, and disposal during tunnel construction.

20. Construction Utilities: Identify likely power and water needs associated with the construction of the tunnel, pump station, and appurtenances.

21. Green Infrastructure and Sustainable Design: Review and evaluate green infrastructure and sustainable design concepts and recommend applications along the 3RPORT alignment.

22. Alternative Delivery Methods: Conduct project delivery evaluation to determine the most effective manner to package construction contracts and bidding approach for the various portions of the project. Evaluate construction phasing and construction sequencing requirements for the project, based on such factors as funding availability, size of bid packages, competitive bidding, etc.

23. Tunnel System Instrumentation and Controls: Develop instrumentation and controls options for tunnel system control and provide a recommended strategy.

24. Venting of Drop Shafts: Evaluate alternatives for venting of the drop shafts to the atmosphere and develop a standard venting design.

25. Floatables Control: Review various scenarios to control floatables associated with CSO outfalls to meet Control Measure 13 of the LTCP with the exception of CSO Outfalls 017, 021 and 029.

TASK 702 – 30 PERCENT DESIGN DEVELOPMENT

ENGINEER shall prepare the 30-percent design documents for the 3RPORT program. The 30-percent design level of effort shall include:

1. Plot existing utilities and property information on aerial maps to produce base maps for detailed analysis and conceptual planning. ENGINEER shall provide and plot the proposed tunnel, relief sewer and consolidation sewer alignments and diversion

structures, gate and screen structures, working shaft, retrieval shaft and drop shafts. ENGINEER shall submit ten copies of the draft aerial maps to CITY on 11 X 17 inch sheets in a 3-ring binder for review. ENGINEER shall conduct a workshop to review alignments and near surface infrastructure with CITY and to obtain comments. Following the workshop, ENGINEER shall update the aerial maps and re-submit them to the CITY for final review and comment.

2. Prepare preliminary plan, profile and site layout drawings showing characteristics of the project area including the location of utilities, parcels, storm, sanitary and combined sewers and structures, and other pertinent information.

3. Prepare preliminary construction schedules and an opinion of the probable construction and O&M costs of the 30-percent design.

4. Submit up to ten copies of the 30-percent design deliverable, which shall include, but not be limited to: the GDR; conceptual plan and profile; Basis of Design Report; technical memorandums 1-25; public participation preparation and meeting summaries; preliminary design criteria; and summaries of workshops. The 30-percent design shall include an analysis of the hydraulic and structural effectiveness, constructability, access shaft locations and sizes, drop structure locations, diversion structure locations, consolidation and relief sewer alignments, inflow control recommendations, opinion of probable construction costs, O&M costs, selected main and connection tunnel and consolidation and relief sewer alignments, floatables control, easement needs and other topics described in this Scope of Work.

5. The southernmost 5,382 linear feet of the Foster Park Relief Sewer, referred to as the Fairfax Extension, commencing at the upstream face of Drop Structure No. 2 and ending at the downstream face of the diversion structure located at the intersection of Fairfax Rd and Old Mill Rd., is excluded from the above Scope of Services. This portion will be the responsibility of CITY to prepare items pertaining to the 30 Percent Design Development as described above.

PHASE 8 – FINAL DESIGN

ENGINEER shall be responsible for preparing 60-percent, 90-percent, pre-final and final designs in accordance with the preliminary design information. Prepare Construction Contract Documents for the 3RPORT using ENGINEER's front end documents (with approval from CITY), supplementary conditions, technical specifications and drawings. CITY standard specifications shall be used as the base for applicable work, including Instrumentation and Control design subject to concurrence by ENGINEER. Supplementary Conditions shall address specific contract requirements for tunnel projects including bidding procedures. It is estimated that there could be up to eight (8) Construction Contract Documents prepared to accept bids from contractors. The Construction Contract Documents are estimated to include up to eight (8) separate packages including the following: one (1) tunnel/drop shafts package, one (1) deep dewatering pump station package, (4) four consolidation sewer packages and (2) two packages for the Foster Park Relief Sewer and its associated consolidation sewers. The third Foster Park Relief Sewer package, referred to as the Fairfax Extension, will be designed by the CITY. for the Foster Park Relief Sewer comprising of the southern 5,382 linear feet, excluding the diversion structure, will be the responsibility of CITY and is excluded from this scope of work.

TASK 801 – 60-PERCENT DESIGN

The following shall be completed for the 60-percent design:

1. Incorporate comments received from CITY on the 30-percent submittal and develop drawings to 60-percent completion. Results of the surge modeling shall be used by ENGINEER to develop detailed design criteria, structural loads, flows and sizing for the main tunnel, connector tunnels, drop shafts, and active and passive flow controls.

2. Develop front end documents, supplementary conditions and technical specifications to 60-percent completion for the 3RPORT.

3. Conduct early coordination meetings with local, State and Federal regulatory agencies where permits or approvals are required as identified in the 30-percent design.

4. Update Opinion of Probable Construction Cost and O&M cost for each construction contract based on the information developed in the 60-percent documents.

5. Produce a critical path construction schedule based on known geotechnical parameters (rock quantities, TBM advance rates, support quantities, etc) and design details for each construction contract to reliably estimate construction duration for inclusion in the specifications.

6. Submit up to ten copies of the 60-percent design submittal for review by CITY.

TASK 802 – 90-PERCENT DESIGN

The following shall be completed for the 90-percent design:

1. Develop front-end documents, supplementary conditions, technical specifications and drawings to 90-percent completion, incorporating comments from CITY received from the 60-percent design submittal.

2. Update Opinion of Probable Construction Cost and O&M cost based on the information developed in the 90-percent documents.

3. Update the critical path construction schedule and cash flow analysis based on design details to reliably estimate construction duration for inclusion in the specifications.

4. Submit up to ten copies of the 90-percent design submittal for review by CITY.

5. Prepare applicable permit applications including a set of the 90-percent design documents to Local, State and Federal regulatory agencies for approval(s).

TASK 803 – PRE-FINAL AND FINAL CONSTRUCTION CONTRACT DOCUMENTS

The following shall be completed for the pre-final and final Construction Contract Documents:

1. Incorporate 90-percent review comments received from CITY and regulatory agencies into the pre-final design and prepare the pre-final Construction Contract Documents consisting of front-end documents, supplementary conditions, technical specifications and drawings.

2. Incorporate pre-final review comments received from CITY and prepare final Construction Contract Documents consisting of front-end documents, supplementary conditions, technical specifications and drawings.

3. Final Construction Contract Documents shall be signed and sealed by a professional engineer registered in the State of Indiana.

4. Prepare final Engineer's Opinion of Probable Construction Cost and O&M cost based on the information developed for the Final Construction Contract Documents. Prepare Opinion of Probable Construction Cost in format of the bid form for ease of bid evaluation.

5. Prepare final critical path construction schedule based on design details to reliably estimate construction duration for inclusion in the specifications.

6. Submit ten copies of the pre-final and final Construction Contract Documents to CITY.

PHASE 9 – VALUE ENGINEERING

TASK 901 – VALUE ENGINEERING

The ENGINEER, in coordination with the Program Management team, shall coordinate independent Value Engineering (VE) studies of the project. The VE studies will be conducted over a three day period, following delivery of the 30-percent design deliverable. Additional VE studies may be completed as a supplemental service. This task will be led by ENGINEER and supported by the Program Management Team. The Project Management Team will provide an experienced Facilitator to conduct and document the VE study. The VE Facilitator shall meet industry-accepted standards regarding certification and experience. A total of four VE participants, experienced with large scale CSO programs and tunnel systems, shall comprise the VE team. Two professionals shall be selected and provided by the ENGINEER. Two professionals shall be selected and provided by the CITY at the CITY's cost.

ENGINEER shall prepare for and make a presentation on the project background, respond to questions, and cooperate fully with the designated VE study team during each study period. A preliminary VE study report shall be prepared by the VE Facilitator within 30 days following completion of each VE study. ENGINEER shall document concurrence or disagreement with each of the VE proposals contained in the preliminary VE report using a tabular format, acceptable to CITY. ENGINEER shall submit comments to the VE study team and CITY for discussion and incorporation into a final VE study report.

For the VE proposals that are accepted, ENGINEER shall prepare an implementation plan and schedule for incorporating the VE recommendations into the 60-percent design, as appropriate. Where accepted VE recommendations are determined to be beyond the original Scope of Services, compensation shall be mutually agreed upon between CITY and ENGINEER prior to initiation of any work on out of scope activities.

ENGINEER shall furnish the services to prepare documentation for the VE team, provide transportation along the project corridor for one site visit for the VE study, and provide reproduction of the VE team preliminary and final VE study report. VE studies shall be conducted at the CITY's or ENGINEER's office in Fort Wayne.

PHASE 10 – COMMUNITY AND STAKEHOLDER OUTREACH PROGRAM

TASK 1001 – COMMUNITY AND STAKEHOLDER OUTREACH AND ENGAGEMENT PLAN

ENGINEER, working closely with CITY and CITY's Outreach Consultant, shall assist in the development of a comprehensive strategic community and stakeholder outreach program plan to be implemented by CITY. The plan will engage the public and stakeholders regarding program activities and the benefits of the program to the City of Fort Wayne. ENGINEER shall interface with CITY personnel to provide information on the 3RPORT program being designed and coordinate on community outreach presentations.

TASK 1002 – COMMUNITY/STAKEHOLDER OUTREACH MEETINGS

ENGINEER shall participate in up to twelve community/stakeholder outreach meetings to provide community/stakeholder updates on the 3RPORT design. ENGINEER shall be prepared to present technical information and answer questions from the community. Meeting minutes shall be prepared by CITY's Outreach Consultant and reviewed and commented on by ENGINEER.

TASK 1003 – MEDIA RELATIONS

ENGINEER, shall provide input to the CITY in creating news releases and associated material (fact sheets, graphics, photos, digital animation) for distribution to local media at the completion of three key milestones as follows:

- Preliminary planning
- 60% design completion
- Final design completion

CITY shall be responsible for all news releases and other material. CITY shall be the primary media contact and any media inquiries received by ENGINEER shall be directed to CITY for response. CITY will distribute all finalized material to the media.

If requested by CITY and only with a CITY staff member present, ENGINEER shall meet with the media to fulfill information or interview requests.

PHASE 11 – BIDDING ASSISTANCE

TASK 1101 – BIDDING ASSISTANCE

ENGINEER shall provide engineering services during the bid period.

The Construction Contract Documents are estimate to include up to eight (8) separate packages including the following: one (1) tunnel/drop shafts package, one (1) deep dewatering pump station package, four (4) consolidation sewer packages and two (2) packages for the Foster Park Relief Sewer and its associated consolidation sewers. A third package for the Foster Park Relief Sewer comprising of the southern 5,382 linear feet, excluding the diversion structure, will be the responsibility of CITY and is excluded from the Scope of Services. Bid Phase services shall include the following services for up to eight (8) separate construction contract packages:

A. Coordinate Bid Advertisements. (Tunnel construction contract package only)

Assist and advise the CITY in placing the advertisements of the Invitation to Bid. Identify potential contractors and suppliers and assist with distributing copies of the Invitation to Bid. Maintain a record of prospective Bidders and suppliers to whom drawings or specifications have been issued through the City's Public Board of Works.

B. Interpret Construction Contract Documents.
Interpret Construction Contract Documents, if necessary, to provide responses to questions from Bidders during the Bid period. Prepare up to three addenda to the Construction Contract Documents for each package, if required.

C. Pre-Bid Meetings.
Administer and attend pre-bid conferences with CITY and contractors during the bidding period for each of the eight construction packages. Prepare pre-bid conference meeting summaries and distribute with an addendum.

D. Rock Core Oversight. (Tunnel construction contract package only)
ENGINEER shall provide two professionals located at the rock core storage site up to five days for up to 8 hours per day during the bidding period to assist bidders in viewing the rock cores and to maintain the integrity of the core samples at the storage site.

E. Assist During Bid Openings. (Tunnel construction contract package only)
Answer questions during Bid openings, make preliminary tabulation of Bids, and review questionnaires and Bids for completeness.

F. Review, Evaluate Bids and Assist with Notice-to-Proceed. (Tunnel construction contract package only)
Consult with CITY regarding the review and evaluation of the Bid of the apparent successful Bidders. The consultation will include analysis of information provided with the Bid. Prepare a memorandum summarizing the Bid results and evaluations.

Services shall include review of Contractor's bonds and insurance and forwarding the bonds and insurance certificates to the CITY for acceptance by the CITY's legal counsel. The ENGINEER's review of the bonds and insurance certificates is only for the purpose of determining if the Contractor has provided the general types and amounts of insurance required by the specifications and is not a legal review to determine if the Contractor's insurance coverage complies with all applicable requirements.

Services also include furnishing the Contractor with unsigned Construction Contract Documents, and transmitting the Construction Contract Documents to the CITY for signature and distribution. ENGINEER shall assist the CITY with preparation and submittal of the Contractor's Notice-to-Proceed.

G. Conform to Contract (CTC) of the Construction Contract Documents.
Prepare the Conformed to Contract (CTC) of the Construction Contract Documents. All addenda items and changes to the Construction Contract Documents will be updated by the ENGINEER.

PHASE 12 – PROGRAM MANAGEMENTASSISTANCE, ADMINISTRATION AND COORDINATION

The ENGINEER, shall provide support to the CITY in the management of the 3RPORT program tasks and contracts. The engineering and program oversight services provided by ENGINEER shall supplement the CITY's staff resources and are required to attain the schedule for the capital improvement projects required to successfully plan and design the 3RPORT projects.

TASK 1201 PROGRAM MANAGEMENT

ENGINEER shall provide general coordination and administrative services during the design. The ENGINEER will be assigned Tasks as necessary to support CITY staff. The general intent is as follows:

A. Operational Strategy Activities. Management and performance of operational strategy activities required as a prerequisite to the design tasks.

B. Critical Path Reporting and Program Review Meetings.
ENGINEER shall issue a monthly executive progress review of critical path Program items. The report shall specify actions taken and/or planned to maintain critical path milestones. Review and discussion of the Critical Path Report shall take place during regularly scheduled Program Review Meetings, unless a special meeting is warranted to facilitate corrective actions to remedy Program non-compliance items.

C. Technical Advisory Committee.
ENGINEER shall provide a Technical Advisory Committee (TAC) of senior-level individuals who have varied experience on other similar programs. TAC members will be subject to the approval of the CITY. Unless the CITY requests a different schedule, TAC meetings will be held quarterly to help provide Program oversight, including proactive planning, effective corrective actions processes, CITY partnering opportunities and establishment of "world class" Program goals.

D. Pre-Selected Professional Service Providers.
ENGINEER shall provide management and oversight for the Pre-Selected Professional Service Providers. Services provided may include surveying, boring and geotechnical analysis, potholing and other utility location services. Pre-Selected Professional Service Providers will be under direct contract to the CITY.

E. Design Services Performed by Others.
All Other Design Consultants providing design phase services on the Program will be under contract to the CITY. However, the Other Design Consultants will generally be working under the management of the ENGINEER, who shall facilitate, monitor, and report on their work as the CITY's agent. The management work by ENGINEER shall include, but not necessarily be limited to:

1. 30 Percent Design Reviews.
Other Design Consultants will be required to submit 30 percent design documents for review, to ensure consistency with the overall master planning documents. ENGINEER shall conduct design review workshops and summarize all attendees' comments and recommendations as action items. The minutes of workshops shall be distributed to all attendees of the workshops. ENGINEER shall request Other Design Consultants to address the action items in a timely manner.

2. LID/Green Infrastructure Technology.
ENGINEER will provide for a review of projects at 30 percent design level to identify available and applicable LID/Green Infrastructure Technologies that may be appropriate to the project. ENGINEER and, as necessary, third-party experienced engineers shall work with CITY staff to review and assess the applicability of such technologies to the project. Beyond 30 percent design, in ENGINEER's design oversight capacity, ENGINEER shall continue to attempt to identify ways to incorporate LED/Green Infrastructure technologies into projects.

3. Value Engineering (VE).
ENGINEER will arrange for a Value Engineering (VE) workshop for those projects that the CITY has determined should receive VE at 30 percent design level. ENGINEER will bring in a VE facilitator and draw appropriate engineers to participate in the workshop. CITY staff and two to three third-party experienced engineers shall participate in the workshops. ENGINEER will participate in Value Engineering (VE) workshop teams and review and comment on VE workshop reports.

ENGINEER shall assist the CITY in selecting cost-effective, practical, durable alternatives after evaluating VE recommendations. VE reports will be submitted when the final resolution is agreed on, and project designs will be revised to incorporate changes from the VE recommendations.

4. 60 Percent Design Reviews.
Other Design Consultants will be required to submit 60 percent design documents for review. ENGINEER shall conduct design review workshops and summarize all attendees' comments and recommendations as action items. The minutes of review workshops shall be distributed to all attendees of the workshops. ENGINEER shall request Other Design Consultant to address the action items in a timely manner.

5. Constructability Reviews.
ENGINEER shall conduct a full constructability and construction schedule review of each project after the 60 percent completion stage of the design. The purpose of this review is to identify potential issues that might impede or disrupt construction of facilities and modify the design as appropriate. CITY staff and ENGINEER will participate in the review of each project. The CITY may elect to include members of selected contractors in the constructability review of specific projects.

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6. Land Acquisition Planning.
Construction of facilities may require additional rights of way, easements and land acquisition. ENGINEER shall coordinate with the Other Design Consultants and the CITY in defining the right-of-way and land requirements needs of the recommended improvements so that these needs can be identified and the necessary planning be initiated to expedite implementation of the improvements. ENGINEER shall coordinate with CITY's real estate and legal staff to initiate land acquisition activities, including legal document preparation, appraisals, negotiations, acquisition, and recording

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7. Draft Bid Documents (95% Complete).

Other Design Consultants will be required to submit draft bid documents consisting of 95 percent level of complete design. ENGINEER shall conduct design review workshops and summarize all attendees' comments and distribute to all attendees of the workshops. This document will be substantially complete including all necessary bidding requirements so that the design intent is clear. These documents will be submitted by the Other Design Consultant or the CITY to regulatory review agencies having jurisdiction for approval.

8. Final Bidding and Contract Documents ("BID").
ENGINEER shall review the final Bidding and Contract documents and coordinate suggested corrections with Other Design Consultants. Support Phase 11 Bidding Assistance including attendance at pre-bids, review of Addendum(s) and support for bid award.

9. Estimates of Probable Construction Cost.
The Other Design Consultants are responsible for opinions of probable construction costs (Engineer's Estimates) to be submitted at 30, 60, 95, and 100 percent stages of the design. ENGINEER shall review the cost opinions and recommend changes to maintain consistency with the Program procedures. The information will used to update the overall program budget.

F, Other Design-related Services, as Directed by the CITY.
Existing design projects being performed for the CITY, which are associated with the LTCP, may, at the direction of the CITY, be incorporated into the program. Thereafter those existing projects shall be managed as described herein for new design contracts. Other projects may be incorporated at a support level, where ENGINEER will participate in the design reviews and/or as requested by the CITY. At a minimum, the progress of these projects will be tracked for Monthly Program Status reporting.

G. General Regulatory Support.
ENGINEER shall assist with Regulatory Support as requested by the City. Such support may include collecting and/or processing of data, assistance with regulatory reporting outside of the CD bi-annual report, NPDES Permit Assistance, CMOM and CSSOP updating and assistance with regulatory discussions and negotiations and post-construction monitoring.

H. PMIS.
ENGINEER shall provide an allowance for improvements to be completed to the Project Management Information System (PMIS) in support of 3RPORT program and CITY capital program management.

I. Hydraulic Model Assessment Assistance
ENGINEER shall assist with the oversight of Hydraulic Assessment including final planning, final design modeling and transient and surge modeling. Activities include supporting CITY with development of standards, participation in modeling oriented project meetings, supportive review of deliverable and providing assistance to the CITY on potential implications on other parts of the conveyance system.

J. Technical Memorandum Assistance
ENGINEER shall provide assistance to the CITY and the ENGINEER during the development of the Technical Memorandums under Phase 7 - Preliminary Design.

Activities include general assistance, document review and facilitating coordination with stakeholders.

TASK 1202 – STAFF AUGMENTATION

ENGINEER shall provide staff augmentation as requested by the CITY and allowed by budget to support the CITY's staff in managing the program.

TASK 1203 – PROGRAM ADMINISTRATION

ENGINEER shall provide overarching administrative support for the management of the overall scope, schedule, budget and quality of the work including, but not limited to:

A. Program Management Plan

Prepare and submit for approval a Program Management Plan that establishes the protocols for operation of the 3RPORT work. The ENGINEER shall work cooperatively with the City and other ENGINEERs to establish the program protocols and include individual Project Management Plans development under Project Management Administration and Coordination.

At a minimum, the Program Management Plan shall be reviewed quarterly and updated as required.

B. Program Risk Management Plan

Maintain a Programmatic Risk Management Plan that addresses all aspects of the 3RPORT work as well as risk internal to City Utilities Engineering. Risks managed under Project Management Administration, ENGINEER's Project Management and Coordination for all areas of the 3RPORT work will be incorporated. Project risk management plans developed under Project Management, Administration and Coordination shall be incorporated into the Programmatic Risk Management Plan.

This Risk Register is expected to be used for the entire 3RPORT program and to be updated at progress meetings. ENGINEER shall update the Risk Resister before meetings and will provide copies to CITY for review

C. Program Budget Control.

Provide support with monthly process of contract invoices and assistance maintain City Utilities Engineering internal financial system. Provide quarterly status and projections of cash flow in coordination with information provided under Project Management, Administration and Coordination.

Task 1204 – PROGRAM MEETINGS AND WORKSHOPS

ENGINEER shall provide appropriate staff to coordinate, support, and attend the meetings and workshops required to support the 3RPORT work and Design Consultants. Meetings between ENGINEER and CUE shall be included under Program Management

A. PROJECT MEETINGS

ENGINEER shall prepare for, coordinate and participate project meetings and progress meetings with CITY and ENGINEER. Meetings identified in Program Management, Administration and Coordination include are as follows:

- One project kick-off meeting
- Forty progress meetings
- Ten utility coordination meetings
- Ten land and easement acquisition meetings
- Six regulatory agency meetings

Meetings shall be held at CITY's or ENGINEER's office in Fort Wayne

B. WORKSHOPS

ENGINEER shall prepare for, coordinate and participate in workshops. Workshops identified in Program Management, Administration and Coordination include up to 12 workshops.

PROJECT DELIVERABLES

ENGINEER shall submit an electronic and five (5) hard copies of draft and final versions of all studies, reports, management plans, meeting summary notes, and technical memoranda. The ENGINEER shall provide the CITY with an electronic copy of a comment log with each deliverable for CITY's use in summarizing comments. The log shall include columns for CITY review comments and for ENGINEER responses. Following development of responses, ENGINEER shall review the comment log with the CITY to develop a resolution to the unresolved items. ENGINEER shall submit the final comment log to the CITY for record purposes.

SUPPLEMENTAL SERVICES

Any Services requested by the CITY which is not included in the tasks as described herein will be considered a Supplemental Service to this Professional Services Agreement and may be added to the Scope upon mutual agreement to an increase in the engineering fee.

Supplemental Services shall include, but are not limited to:

A. Additional meetings beyond those listed in the Scope of Services.

B. Meetings with local, State, or Federal agencies or utilities, or other affected parties to discuss the project, other than those specifically listed in the Scope of Services.

C. Appearances at public hearings or before special boards other than those listed in the Scope of Services.

D. Engineering Work required to meet the requirements of regulatory or funding agencies or may be required to respond to comments or necessary to implement the project.

E. Special consultants or independent professional associates requested or authorized by the CITY.

F. Physical modeling including drop shaft and deep pump station physical modeling.

G. Architectural design services of the Deep Dewatering Pump Station or other structures related to the tunnel system.

H. Design of educational centers proposed at shaft locations along the tunnel system and connection to the Rivergreenway Trail.

I. Design of green and sustainable solutions identified or requested by the CITY.

J. Design of cross connections between the 3RPORT and existing interceptor sewers.

K. Design of real time control measures at CSO connections to the 3RPORT.

L. Additional hydraulic modeling other than the modeling services included in the Scope of Services.

M. Closed circuit televising services of existing infrastructure required for tunnel system planning and design.

N. Additional value engineering studies other than those included in the Scope of Services.

O. Design of Foster Park Relief Sewer – Fairfax ExtensionPackage No. 3 which includes approximately 5,382 linear feet of sewer commencing at the upstream face of Drop Structure No. 2 and ending at the downstream face of the diversion structure.

P. Construction administration and engineering services.

Q. Construction inspection and management services.

R. Any start-up services including facility operation and maintenance manual (in addition to the equipment operation and maintenance manuals provided by the Contractor), and operator training.

S. Preparation for litigation, arbitration, or other legal or administrative proceedings; and appearances in court or at arbitration sessions in connection with the project.

T. Provision, through a subcontract, of photographs or videotapes of the site's topographic and infrastructure features.

U. Provision, through a subcontract, of any special reports or studies on materials and equipment requested by the CITY.

V. Monitoring site or adjacent sites for air quality and/or noise.

W. Provisions to prepare or conduct confined space evaluation or permits.

X. Providing written procedures, training, physical assessment, or any other Health and Safety provisions that may be required in the event hazardous materials are encountered.

Y. Development of hazardous waste treatment, mitigation or reduction systems for handling hazardous materials found or generated on the project.

ATTACHMENT 2
PROJECT SCHEDULE
For
THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT)
FINAL PLANNING AND DESIGN

The Project target milestones and schedule:

Task	Milestone Date
Anticipated Notice to Proceed	June 18, 2014
Initial Project Schedule	June 18, 2014
Initial Cashflow Projection	July 3, 2014
Draft Project Management and Quality Control Plan	July 3, 2014
Final Project Management and Quality Control Plan	July 24, 2014
Draft Risk Management Plan	July 30, 2014
Final Risk Management Plan	August 31, 2014
Final Planning Evaluation Study Report - Draft	November 21, 2014
Final Planning Evaluation Study Report – Final	December 19, 2014
Draft 3RPORT Operational Report	January 24, 2015
Environmental Summary Report	February 13, 2015
Final 3RPORT Operational Report	February 15, 2015
Route Survey and Plat Report	June 12, 2015
Draft Groundwater Management Plan	November 28, 2015
30 Percent Design Submittal	January 6, 2015
Final Groundwater Management Plan	January 9, 2015
30 Percent Value Engineering Workshop Memorandums	February 14, 2016
Draft Geotechnical Data Report	June 24, 2016
60 Percent Design Submittal	July 6, 2016
Final Geotechnical Data Report	August 17, 2016
Draft Geotechnical Baseline Report	October 1, 2016
Final Geotechnical Baseline Report	November 26, 2016
90 Percent Design Submittal	December 28, 2016
Pre-Final Design Submittal	March 29, 2017
Final Construction Documents Submittal	May 17, 2017
Permit Applications	Varies
Technical Memorandum	Varies

ATTACHMENT 3
SCOPE OF SERVICES FEE PROPOSAL
For
THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT)
FINAL PLANNING AND DESIGN

Phase 1 Services: Project Management, Administration & Coordination	$ 1,516,814
Phase 2 Services: Final Planning	$ 238,418
Phase 3 Services: Geotechnical Investigations, Groundwater Monitoring and Environmental Services	$ 2,056,112
Phase 4 Services: Utility Coordination	$ 77,341
Phase 5 Services: Field Survey and Land & Easement Acquisition Assistance	$ 749,270
Phase 6 Services: Modeling	$ 726,692
Phase 7 Services: Preliminary Design	$ 2,124,575
Phase 8 Services: Final Design	$ 3,634,509
Phase 9 Services: Value Engineering	$ 83,215
Phase 10 Services: Community and Stakeholder Outreach Plan	$ 198,069
Phase 11 Services: Bidding Services	$ 438,896
Phase 12 Services: Program Management, Administration & Coordination	$ N/A
Supplemental Services	$ 500,000
Total Not to Exceed Fee	**$12,343,911**

ATTACHMENT 4

HOURLY RATE SCHEDULE
For
THREE RIVERS PROTECTION & OVERFLOW REDUCTION TUNNEL (3RPORT)
FINAL PLANNING AND DESIGN

1. Payment of actual hourly rates for Services rendered by ENGINEER's employees in each billing class working directly on the Project. The rates shall include the cost of customary and statutory benefits, general and administrative overhead and profit. Hourly rates will be in accordance with the following schedule:

EMPLOYEE CLASSIFICATIONS	HOURLY RATE
Project Director	$260
Project Manager	$260
Deputy Project Manager	$195
Lead Tunnel Engineer	$260
Lead CCS Engineer	$220
Lead PS Engineer	$195
Technical / QC Specialist	$230
Tunnel / Geotechnical Engineer	$175
CFD Modeler	$125
Project Electrical/I&C Engineer	$195
Senior Project Engineer	$155
Project Engineer	$142
Design Engineer	$117
Architect	$120
Senior CAD / GIS Technician	$125
CAD / GIS Technician	$110
Project Assistant	$82

2. Payment for reimbursable costs, as authorized by the CITY, will be invoiced at cost. These items may include, but are not limited to: shipping charges; in-house printing services; special supplies not furnished by the CITY; or traveling and lodging expenses, as required, to perform project management, planning and design. Mileage for travel will be billed at the IRS business rate per mile for automobile transportation.

CITY OF FORT WAYNE, INDIANA

Black & Veatch Corporation
(Vendor Name)

VENDOR DISCLOSURE STATEMENT RELATING TO:
1. **FINANCIAL INTERESTS;**
2. **POTENTIAL CONFLICTS OF INTERESTS;**
3. **CURRENT AND PENDING CONTRACTS OR PROCUREMENTS**

Vendors desiring to enter into certain contracts with the City of Fort Wayne, Indiana (the "City") shall disclose their financial interests, potential conflicts of interest and current and pending contract or procurement information as set forth below.

The following disclosures by Vendors are required for all contracts with annual payments by the City in the amount of $25,000 or more. Vendors shall disclose the financial interests, potential conflicts of interest and other contract and procurement information identified in Sections 1, 2 and 3 below as a prerequisite for consideration of an award of contract by the City. This Disclosure Statement must be completed and submitted together with Vendor's contract, bid, proposal, or offer.

A publicly traded entity may submit its current 10K disclosure filing in satisfaction of the disclosure requirements set forth in Sections 1 and 2 below.

Section 1. Disclosure of Financial Interest in Vendor

a. If any individuals have either of the following financial interests in Vendor (or its parent), please check all that apply and provide their names and addresses (attach additional pages as necessary):

(i) Equity ownership exceeding 5% (See below)

The Black & Veatch Retirement Program, or Employee Stock Ownership Program (ESOP), holds 91% of the common shares of the Black & Veatch Holding Company (the Company) as of March 28, 2014. The ESOP shares are held in trust for the plan's 7,000 participants by the program's trustee, GreatBanc Trust Company. Aside from the ESOP, as of March 28, 2014 no one individual holds over 5% of the voting shares of the Company.

(ii) Distributable income share exceeding 5% (____)

(iii)Not Applicable (If N/A, go to Section 2) (____)

Name: Great Banc Trust Company, Trustee for the Black & Veatch Retirement Program Name: _____

Address: 801 Warrenville Road, Suite 500, Lisle, IL 60532 Address: _____

b. For each individual listed in Section 1a., show his/her type of equity ownership: sole proprietorship (___) stock (_X_) partnership interest (____) units (LLC) (____) other (explain)_____

c. For each individual listed in Section 1a., show the percentage of ownership interest in Vendor (or its parent): ownership interest:_____%

Section 2. Disclosure of Potential Conflicts of Interest (not applicable for vendors who file a 10K)

For each individual listed in Section 1a., check "Yes" or "No" to indicate which, if any, of the following potential

conflict of interest relationships apply. If "Yes", please describe using space under applicable subsection (attach additional pages as necessary):

a. City employment, currently or in the previous 3 years, including contractual employment for services. Yes _____ No. __X__

b. City employment of "Member of Immediate Family" (defined herein as: spouse, parent, child or sibling) including contractual employment for services in the previous 3 years. Yes _____ No. __X__

c. Relationship to Member of Immediate Family holding elective City office currently or in the previous 3 years. Yes _____ No. __X__

d. Relationship to Member of Immediate Family holding appointive City office currently or in the the previous 3 years Yes _____ No __X__

Section 3. DISCLOSURE OF OTHER CONTRACT AND PROCUREMENT RELATED INFORMATION

a. Does Vendor have **current** contracts (including leases) with the City? Yes __X__ No _____.

b. If "Yes", identify each current contract with descriptive information including purchase order or contract reference number, contract date and City contact using space below (attach additional pages as necessary).

- City Utilities – Three Rivers Protection and Overflow Reduction Tunnel Geotechnical Data Report Update and Groundwater Monitoring – Kelly Bajic
- City Utilities – Parallel Interceptor Evaluation Study Phase II – Kelly Bajic
- City Utilities – WPCP Control Measure 2 Permitting Support – Andrew Schipper
- City Utilities – WPCP 85 MGD Value Engineering and Contract Coordination – Zach Schortgen
- City Utilities – Three Rivers Filtration Plant UV Disinfection SCADA Server Improvements – Andrew Schipper
- City Utilities – WPCP Primary/Secondary Treatment and Digester Process Upgrades – Zach Schortgen
- City Utilities – WPCP Control Measure 2 Permitting Support 2014 – Andrew Schipper

c. Does Vendor have **pending** contracts (including leases), bids, proposals, or other pending procurement relationship with the City? Yes _____ No. __X__

If "Yes", identify each pending matter with descriptive information including bid or project number, contract date and City contact using space below (attach additional pages as necessary).

Section 4. CERTIFICATION OF DISCLOSURES

In connection with the disclosures contained in Sections 1, 2 and 3 Vendor hereby certifies that, except as described in attached Schedule A:

a. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, been debarred, suspended, proposed for debarment declared

ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;

b. No officer or director of Vendor (or its parent) or individual listed in Section 1a. is presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any offense;

c. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, had one or more public transactions (federal, state or local) terminated for cause or default;

d. No officer or director of Vendor (or its parent) or individual listed in Section 1a. has, within the five (5) year period preceding the date of this Disclosure Statement, been convicted, adjudged guilty, or found liable in any criminal or civil action instituted by the City, the federal or state government or any other unit of local government; and

e. Neither Vendor, nor its parent, nor any affiliated entity of Vendor, or any of their respective officers, directors, or individuals listed in Section 1a. is barred from contracting with any unit of any federal, state or local government as a result of engaging in or being convicted of: (i) bid-rigging; (ii) bid-rotating; or (iii) any similar federal or state offense that contains the same elements as the offense of bid-rigging or bid-rotating

f. Pursuant to IC 5-22-16.5, Vendor hereby certifies they do NOT provide $20 million dollars or more in goods or services to the energy sector of Iran. Vendor also certifies it is not a financial institution that extends $20 million dollars or more in credit that will provide goods or services to the energy sector of Iran or extends $20 million dollars or more in credit to a person identified on the list as a person engaging in investment activities in Iran.

The disclosures contained Sections 1, 2 and 3 and the foregoing Certifications are submitted by

Black & Veatch Corporation
(Name of Vendor)

202 W. Berry St, Suite 250, Fort Wayne, IN 46802
Address
(260) 420-2411
Telephone
ginndh@bv.com
E-Mail Address

The individual authorized to sign on behalf of Vendor represents that he/she: (a) is fully informed regarding the matters pertaining to Vendor and its business; (b) has adequate knowledge to make the above representations and disclosures concerning Vendor; and (c) certifies that the foregoing representations and disclosures are true and accurate to the best of his/her knowledge and belief.

Name (Printed) Donnie H. Ginn Title Associate Vice President

Signature [signature] Date 6/4/2014

NOTE: FAILURE TO COMPLETE AND RETURN THIS FORM WITH YOUR DOCUMENTATION MAY RESULT IN YOUR CONTRACT, OFFER, BID OR PROPOSAL BEING DISQUALIFIED FROM CONSIDERATION.

Public Hearing Date, if applicable _____

Read the first time in full and on motion by Councilman John Shoaff, Read the second time by title and referred to the City Utilities Committee. Read the third time in full and on motion by Councilman John Shoaff, placed on passage by the following vote:

	AYES	NAYS	ABSTAINED	ABSENT
TOTAL VOTES	9			
BENDER	✓			
CRAWFORD	✓			
DIDIER	✓			
HARPER	✓			
HINES	✓			
JEHL	✓			
PADDOCK	✓			
SHOAFF	✓			
SMITH	✓			

DATED: 7-22-14

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Passed and adopted by the Common Council of the City of Fort Wayne, Indiana, as ~~(ANNEXATION) (APPROPRIATION) (GENERAL)~~ (SPECIAL) ~~(ZONING)~~ ~~(RESOLUTION)~~ ORDINANCE NO. S-87-14 on the _____ day of _____, 2014

ATTEST:
Sandra E. Kennedy
SANDRA E. KENNEDY,
CITY CLERK

Martin N. Benda
PRESIDING OFFICER

Presented by me to the Mayor of the City of Fort Wayne, Indiana, on the 23rd day of July, 2014, at the hour of 1:00 o'clock P.M. E.S.T.

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Approved and signed by me this 23rd day of July, 2014, at the hour of 4:00 o'clock P.M. E.S.T.

Thomas C. Henry
THOMAS C. HENRY, MAYOR

BILL NO. S-14-07-03

COMMITTEE ON CITY UTILITIES

JULY 15, 2014

John Shoaff, Chair
Geoff Paddock, Co, Chair
All Council Members

AN ORDINANCE approving Professional Engineering Services – Three Rivers Protection & Overflow Reduction Tunnel (3RPORT) Final Planning and Design – W.O. #76003 between Black & Veatch Corporation and the City of Fort Wayne, Indiana in connection with the Board of Public Works. **COMMITTEE ON CITY UTILITIES HAVE HAD SAID** Ordinance under consideration and beg leave to report back to the Common Council that said ordinance

DO PASS	DO NOT PASS	ABSTAIN	NO REC

SANDRA E. KENNEDY
CITY CLERK