

SCOPE OF SERVICES

HAZEN AND SAWYER SERVICE ORDER No. 33

CITY OF MIAMI BEACH PUBLIC WORKS DEPARTMENT

STAR ISLAND FORCE MAIN

DESIGN CRITERIA PACKAGE

PROJECT BACKGROUND

The City of Miami Beach (CITY) transmits wastewater from Terminal, Hibiscus, Palm and Star Islands to Miami Beach via an existing 10-inch diameter force main located between Pump Station 2 on Star Island and Miami Beach. The existing subaqueous main, located primarily below the mudline of Biscayne Bay, has exceeded its useful life. The CITY has proposed replacement of the existing main with a 16-inch ID main. Refer to **Figure 1**.



Figure 1: Star Island FM Replacement Location Map

The CITY previously retained AECOM to prepare a Basis of Design Report for the project, which was issued on May 25, 2022. The Report recommendation was to proceed with replacement of the existing force main with a new 16" main via Horizontal Directional Drill between Star Island and Miami Beach, designated as "Alternative 1A".

Due to the criticality of this asset, the CITY has requested that Hazen and Sawyer (**HAZEN**) submit a proposal for engineering services to assist with a two-step design-build procurement of a Design-Build Firm (DBF). This will include preparation of a Design Criteria Package for the detailed design and construction of replacement of the approximately 3,175 LF of force main between Pump Station No. 2 on Star Island eastward to the terminus point in 10th Street on Miami Beach. The engineering services proposed include data collection, development of the Step 1 Request for Qualifications (RFQ) documents along with the Step 2 Request for Proposals (RFP) Design Criteria Package documents. This Service Order will result in the



Design Criteria Package that the CITY will use in procurement of a DBF to replace the force main identified in herein. This service order will require **HAZEN** to provide engineering services needed to deliver the following tasks:

- **Task 1 - Coordination Meetings and Data Review** that includes the project initiation meeting and monthly progress meetings with CITY staff in addition to reviewing existing records.
- **Task 2 – Permitting** shall include application for applicable permits required for construction of the proposed improvements and identification of permits to be acquired by the Design-Build Firm.
- **Task 3 – Design Criteria Package (DCP)** shall include preparation of a DCP that meets the requirements of Florida Statute 287.055. and will include sufficient detail and performance-based criteria so that Design Build Firms (DBF) can provide a complete proposal for review and evaluation by the CITY. **HAZEN** will provide procurement assistance to the CITY as requested. **HAZEN** will also serve in the capacity of Design Criteria Professional and provide services during detailed design of the force main.
- **Task 4 – Procurement Assistance** that includes assisting the CITY during the procurement and selection of a DBF. Services will include: preparation of solicitation documents for DBF pre-qualification, review of submitted Statements of Qualifications and Proposals, attendance at pre-proposal, pre-bid and selection committee meetings, timely responses to inquiries by prospective bidders, and service as the technical advisor to the CITY during the review of the proposals.
- **Task 5 – Services During Design** shall include review of the Design-Build Firm's design submittal and clarifications of the Design Criteria Package during the design phase of the project.
- **Task 6 – Construction Administration Services** will not be included within this scope of services, but could be provided via an amendment.

SCOPE OF SERVICES AND DELIVERABLES

HAZEN will provide professional engineering services to the CITY as described below.

Task 1 - Coordination Meetings and Data Review

A project initiation meeting will be conducted at the beginning of the Service Order to confirm the CITY's goals and objectives; identify roles, responsibilities, and communication protocols for the project team members; confirm concepts to be included in the Design Criteria Package; identify existing information related to the project; and discuss the overall project work plan, deliverables, schedule, and critical milestones.

After the project initiation meeting, **HAZEN** will attend a maximum of four (4) stakeholder coordination meetings with the CITY and stakeholders to discuss project coordination issues. The purpose of each meeting will be to review and coordinate project/design constraints to the project as it relates to existing conditions, public impacts and future work. Potential stakeholder meetings include: Palm Hibiscus Star Islands Association, West Avenue Neighborhood Enhancements Project team, West Avenue Neighborhood Association, etc. The meeting will be attended by up to three **HAZEN** Team Members.

HAZEN will review the following information for the project:

- Proposed and available existing utility information, including review of as-built drawings for water and sewer facilities. This will include a review of information for the existing sewer facilities to which the proposed pipeline will connect.
- Utility coordination, including a design ticket request through Sunshine One Call of Florida to identify utility available information in the areas of the potential routes. Impacted utility owners will be coordinated with to obtain available utility information.

Task 1 Deliverables:

- Attendance to project initiation meeting by up to three staff members, including preparation of presentation, agenda, and minutes.



- Attendance to up to four (4) stakeholder coordination meetings by up to three staff members, including preparation of presentation, agenda, and minutes.

Task 2 – Permitting

As part of the permitting services task, **HAZEN** will perform the following environmental permitting for both the geotechnical boring and pipeline phases of the project:

- Conduct submerged lands determination and easement research
- Conduct pre-application meetings with Miami-Dade County Department of Environmental Resources Management (DERM), Florida Department of Environmental Protection (FDEP), and if available the United States Army Corps of Engineers (USACE) and United States Coast Guard (USCG)
- For the HDD portion of the project, **HAZEN** will develop a frac out plan as required to obtain environmental permit approval.
- Permit application preparation and submittal to each agency
 - Geotechnical Boring Phase:
 - USACE
 - FDEP
 - DERM
 - USCG
 - Subaqueous Pipeline Phase:
 - USACE
 - FDEP permit items not requiring 100% design
 - Permit processing assistance

It is assumed that the Design-Build Firm, not **HAZEN**, will be responsible for the following additional permits/regulatory approvals relating to rights-of-way and pipelines:

- FDEP permit items requiring 100% design
- DERM (Sewer Main Extension)
- MDWASD
- FDOT Permit
- MDC DTPW
- MOT Permits
- Dewatering Permit
- NPDES Permit

Certain items required by FDEP to issue an Environmental Resource Permit, including the survey to issue the submerged lands easement, will require 100% design to be completed. **HAZEN** will submit all available items required for permitting ahead of 100% design. It is assumed that an RFI will be issued by FDEP, and the Design-Build Firm will be responsible for submitting the RFI response involving items requiring 100% design. The DBF will be responsible for hiring a Surveyor to develop and submit the signed and sealed submerged land easement sketch and legal description in accordance with FDEP requirements.

In order to confirm hydraulic conditions and demonstrate level of service is maintained with the final pipeline layouts and interconnects, some additional hydraulic modeling will need to be performed. The results of these analyses will be provided to the regulatory agencies as required. **HAZEN** will provide this Hydraulic Analysis Technical Memorandum to the DBF for inclusion with permit applications, to assist with obtaining regulatory approvals.

All permitting fees are to be paid by CITY.

Task 2 Deliverables:

- Hydraulic Analysis Technical Memorandum: (1) electronic copy, signed and sealed.

Task 3 – Design Criteria Package

Task 3.1 – Geotechnical Investigation

HAZEN shall employ the services of a professional geotechnical engineer in the State of Florida (GEOTECHNICAL SUBCONSULTANT) to perform geotechnical analyses of the proposed improvement areas. Locations of proposed geotechnical borings are shown in attached **Figure 2**. GEOTECHNICAL SUBCONSULTANT shall perform a geotechnical investigation as follows:

- Existing Utility Locations: GEOTECHNICAL SUBCONSULTANT shall perform underground utility clearance through Sunshine State One Call of Florida.
- Borings: The eight (8) project borings shall be standard penetration test (SPT) borings per ASTM D-1586 to the depths indicated below. Layout of soil borings in the field and mobilization of drill rig, barge and crew to the project site is included. Borings shall be offset 25-ft from proposed pipe alignment, where feasible.
 - Three (3) Land Borings
 - B-1 and B-8: to a depth of 50-ft below grade
 - B-7: to a depth of 70-ft below grade
 - Five (5) Water Borings
 - B-2, B-3 and B-6: to a depth of 70-ft below bay bottom
 - B-4 and B-5: to a depth of 80-ft below bay bottom
- Permits and Maintenance of Traffic (MOT): GEOTECHNICAL SUBCONSULTANT shall utilize traffic barricades, cones, and flaggers to the extent necessary and required. MOT and Rights-of-Way Permits, where necessary, are the responsibility of the GEOTECHNICAL SUBCONSULTANT. **HAZEN** will acquire resource permits for the water borings (i.e., USACE, FDEP, MDC DERM).
- Asphalt Cores: GEOTECHNICAL SUBCONSULTANT shall collect asphalt cores at location of any borings performed within the roadway.
- Patching: All borings shall be sealed with grouting upon completion. If borings penetrate pavement sections, pavement shall be patched as acceptable to CITY Standards.
- Soils Parameters and Laboratory Testing: Collect soil samples from the test boring locations. Visually classify soil samples using the Unified Soil Classification System (USCS) in general accordance with the ASTM D-2488. Selected soil samples will be tested for index properties to aid in the classification for engineering purposes (ASTM D-2487). The following information shall be provided by GEOTECHNICAL SUBCONSULTANT for each distinct soil type encountered in the soil borings:
 - Organic Content Analysis
 - Moisture Content
 - Grain Size Analysis for granular soils
- Report: GEOTECHNICAL SUBCONSULTANT shall prepare and provide a written geotechnical report containing as a minimum the following items:
 - Overall site map showing the locations of soil borings.
 - Overall site and surface conditions.

- Ground water level elevations (including seasonal fluctuation).
- Results of field exploration and soil laboratory testing.
- Soil borings profiles showing soil identifications, depth, groundwater, and standard penetration “N-values”, and soil description.
- Soil classification per United Soil Classification System (USCS).
- Recommendations for pipeline bedding, backfill and compaction.
- Recommendations for groundwater control during pipeline trenching.
- Engineering recommendations for the following parameters: USCS, unit weight, dry unit weight, shear modulus, cohesion and internal friction angle, soil bearing capacity, and unconfined compressive strength.
- It is anticipated that trenches up to 10-feet deep will be needed for construction of new underground piping and manholes. Provide the following relative to trenching:
 - Permissible excavation slopes;
 - Sheet piling and shoring recommendations;
 - Suitability of excavated material for use as fill or backfill.
- Locations and descriptions of any existing fill or potentially deleterious materials encountered that may interfere with construction progress or structure performance.
- General considerations for temporary excavations as related to Occupational Safety and Health Administration regulations.

Task 3.2 – Surveys and Underground Utilities Locates

HAZEN will employ the services of a Certified Land Surveyor in the State of Florida (SURVEYOR SUBCONSULTANT) to perform the required topographic, bathymetric and benthic surveys necessary to complete design of the Design Criteria Package. The base map created will be used to generate plan and profile drawings for the subject project. SURVEYOR SUBCONSULTANT will perform topographic, bathymetric and benthic surveying and locate utilities at the areas of work. The survey shall include the following:

- Code Requirements: The survey will meet the current surveying requirements of the Board of Professional Surveyors and Mappers of the State of Florida, as defined in Chapter 5J-17.050 - .052, Florida Administrative Code.
- Extent of Survey: The survey shall identify right-of-way lines, property lines and platted easements within the survey area identified. Survey shall extend 25 feet outside the right-of-way unless specifically indicated elsewhere (where accessible, as permitted by the adjacent property owners, and can be done safely by the Survey crew in the field).
- Property Lines: SURVEYOR SUBCONSULTANT shall conduct deed research to identify property ownership along the survey limits and show property lines and property owners' addresses on the drawings for all adjacent properties. Owners shall be identified by deed book and page number.
- Easements: SURVEYOR SUBCONSULTANT shall identify existing easements within the survey area that appear on a recorded plat.
- Title Searches: SURVEY SUBCONSULTANT shall contract with a title company to provide a title search of the below properties located within the survey limits. Information/easements shall be

added to the survey drawings.

- 33 Star Island, Miami Beach, FL 33139
- 34 Star Island, Miami Beach, FL 33139
- Aboveground Improvements: SURVEYOR SUBCONSULTANT shall locate aboveground and visible improvements, including pavement, pavement markings, slabs, fences, signs, overhead wires, water meters, valve boxes, cleanouts, handholes, markers, utility poles, trees, manhole covers, and other utility features within the limits of the survey. In littoral areas the mean high water level and riparian lines, shoreline vegetation, embankment caps and seawalls, rip rap, drainage outfalls, etc. shall also be located.
- Manholes and Accessible Underground Piping: Manhole covers, rims, pipe inverts, and pipe sizes shall be measured on sanitary and drainage structures found within the survey limits, if accessible and physically unobstructed, otherwise they will be noted on the drawing. In addition, top of nut (TON) elevations for all water valves shall be measured.
- Tree Survey: Existing trees, six (6) inches in diameter and above, at four (4) feet above ground, shall be located and identified with diameter and common name. Each tree shall be assigned a unique tree identification number.
- Topographic Points: Elevations cross sections shall be taken at 50-ft intervals along roadways. Maintenance of traffic to be provided as required for data collection. Areas outside of roadway right-of-way shall include spot elevations on a 50-ft grid, though include interim changes in grade.
- Benthic Resource Survey: Biological resources shall be accurately surveyed within the subaqueous area to document existing areas of significant biological importance including sea grasses.
- Horizontal Datum and Vertical Datum: Horizontal datum shall be North American Datum of 1983 (NAD 83/99), Florida State Plane Coordinate System, Florida East Zone, scaled to ground. Vertical datum shall be relative to National American Vertical Datum of 1988 (NAVD88), and based on National Geodetic Survey (NGS), or FDOT benchmarks. One sheet of the SURVEYOR SUBCONSULTANT's drawings shall include a graphic that illustrates conversion from NGVD29 to NAVD88.
- Coordination with Available Information and Hazen Client: SURVEYOR SUBCONSULTANT shall coordinate with the CITY, and integrate available information in CITY GIS databases for water, storm water, sewer and record available record drawings to mark utilities.
- Benchmarks: SURVEYOR SUBCONSULTANT shall provide at least three (3) semi-permanent survey control and benchmarks along the project corridor, one in Star Island right-of-way, one on the Star Island seawall and one on Miami Beach on the 10th Street seawall. Elevations shall be tied to at least two (2) National Geodetic Survey (NGS) Benchmarks located on or near the project site.
- Baselines: Survey baseline shall approximate the center of the right-of-way when possible. Baselines shall increase in stationing. The value starting station shall be chosen in such a manner as to guard against the likelihood of negative stationing in the event that the project is extended down-station. Suggested beginning stations are 50+00 for primary baselines.
- Statement of Accuracy: Included with the survey deliverables shall be a statement of accuracy indicating the dates of collection, surveyor name and license number, coordinate systems used, benchmarks referenced, and degree of accuracy achieved (e.g., +/- ft) in the horizontal and vertical planes.
- Subsurface Utility Engineering: Subsurface utility investigation shall be performed by SURVEYOR SUBCONSULTANT to determine approximate location of existing underground utilities at potential

utility crossings. Subsurface utility investigation shall include the following:

- Perform horizontal locations of existing conductive utilities using electromagnetic induction and ground penetrating radar techniques. Work shall be performed to Quality Level B standards in accordance with CI/ASCE 38-02.
 - Mark selected targets on the ground surface using American Public Works Association (APWA) color marking standards.
 - Request a design ticket through Sunshine One Call of Florida.
 - Coordinate with utility owners and review and/or obtain available documentation as it relates to the project.
 - Underground utilities shall be provided in a separate CAD file.
- Vacuum Excavation and Location: SURVEYOR SUBCONSULTANT to perform underground utility locations to verify through vacuum excavation the horizontal and vertical position of existing underground utilities. SURVEYOR SUBCONSULTANT shall subcontract to perform underground utility location to verify through vacuum excavation the horizontal and vertical position of existing underground utilities at the locations selected by **HAZEN** (to be determined). Utility locates shall be requested through Sunshine One Call of Florida. Work shall be performed to Quality Level A standards in accordance with CI/ASCE 38-02. SURVEYOR SUBCONSULTANT shall submit a report indicating the underground utility horizontal location, the depth, lay direction, diameter and the material for each pot hole. SURVEYOR SUBCONSULTANT shall include the location of each pothole on the final survey. Compensation for vacuum excavation, report, and location on the survey inclusive of travel costs, MOT costs and other direct costs for each pothole shall be paid on a per pothole basis, and also based on hard surface or soft surface excavation and shall be on a not-to-exceed basis.
 - The basis for the not-to-exceed proposal shall be 10 hard surface excavations and 10 soft surface excavations.
 - Survey Limits and Special Requirements: The approximate survey limits are provided in attached **Figure 2**. Additional description for corridor to be surveyed is provided below;
 - The full width of the rights-of-way and Miami Beach property on Star Island (approx. 200-ft) adjacent the Miami Beach Water Tower as shown in **Figure 2**.
 - A 40-ft wide area centered on the property line between two properties: 33 Star Island and 34 Star Island, Miami Beach, FL 33139. An existing 5-ft FDOT easement exists along these property lines, approximately 400-ft in length.
 - Bathymetric and Benthic Surveys: A 50-ft wide corridor of Biscayne Bay centered along the proposed pipe alignment as shown in **Figure 2**. The bathymetric survey shall include profiles lines taken to accurately map the bay bottom and sea floor. The benthic survey shall accurately map resources within the project corridor.
 - The full width of the right-of-way along 10th Street between the seawall and Alton Road as shown in **Figure 2**.
 - Survey Deliverables: SURVEY SUBCONSULTANT shall provide five (5) electronic deliverables to **HAZEN** following collection of field data – a Point Database, a CADD Survey Drawing, a CADD Surface TIN or Model, and a CADD drawing for both underground utilities and vacuum excavations. These files must be maintained and delivered throughout the project as work is requested. Drawing methods and layering must conform to Hazen and Sawyer standards as provided within or as indicated within the attached “Survey_Seed.dwg” provided to the Surveyor by Hazen and Sawyer. In addition, signed and sealed survey drawings shall be provided as indicated below.

- Point Database: SURVEY SUBCONSULTANT shall provide all spot elevations in a spreadsheet (i.e. Microsoft Excel) in comma or tab delimited (spaced) format in PNEZD arrangement (Point Number, Northing, Easting, Elevation, Description). These software file extensions may vary from .txt, .xls, or .csv.
- CADD Survey Drawing: The Survey Drawing shall be provided in a separate AutoDesk (AutoCAD) drawing file (.dwg) including all planimetric data and generated topographic contours. All CADD drawings to be provided to Hazen and Sawyer shall be drawn on the layer system as indicated in the "SURVEY_SEED.dwg" provided with this document. A list of these layers, descriptions, lineweights, types, and colors can be provided upon request. Topographic information for interval contours and index contours shall be drawn using two dimensional (2D) polylines having a fixed elevation equal to the contour elevation and a thickness of zero (0). The contours shall be drawn on appropriate layers for interval or index contours as a single continuous 2D polyline for each elevation. In any case, three dimensional (3D) polylines are not acceptable.
- CADD Surface TIN or Model: A Surface Model shall be created and provided by the SURVEY SUBCONSULTANT from ground elevation shots in the specified horizontal and vertical datum and modified by surveyor placed breaklines and boundaries as part of the surveyor's normal best practices for creating topographic contours.
- CADD Underground Utility Drawing: Underground utilities shall be provided as a separate AutoDesk (AutoCAD) drawing file (.dwg).
- CADD Vacuum Excavations Drawing: Underground utility locations verified via vacuum excavation shall be provided as a separate AutoDesk (AutoCAD) drawing file (.dwg).
- Record Survey Drawings: One (1) electronic copy of signed and sealed survey drawings shall be provided, including the name and license number of the surveyor, name and address of the survey firm, date of survey, datum referenced, statement of accuracy, and all other information as required by the State of Florida.
- Vacuum Excavation Reports: Results of the vacuum excavations shall be submitted as a report indicating the underground utility horizontal locations, the depths, lay directions, diameters and the materials for each pot hole.

Task 3.3 – Design Criteria Package Documents

HAZEN will prepare:

- A Draft DCP,
- A 100% DCP,
- A Final Bid/RFQ DCP that meet the requirements of Florida Statute 287.055

HAZEN will serve as the Design Criteria Professional as defined in Section 287.055(2)(k) of the Florida Statutes for the force main replacement. The DCP will include performance-based criteria as described below:

- Project Description:
 - Project scope, limits and definition
 - Operational condition (flow and pressure) for the existing force main and existing network
 - Preliminary by-pass requirements, if necessary
 - Establishment of connection points for existing facilities
 - Identification of right-of-way and easement requirements.
- Relevant information from the Geotechnical Report

- **HAZEN** shall provide topographic, bathymetric and benthic survey by a Florida Registered Surveyor to locate all above ground and underground features, and any additional data required for the completion of the design, permitting, and construction of the project.
- The DCP shall include conceptual plans that illustrate the proposed force main replacement. The centerline of the pipe shall be stationed.
- Documentation provided by the CITY on existing underground utilities within the vicinity of the proposed piping improvements will be incorporated into the DCP.
- Criteria for utility locating, permits, and utility connections.
- General performance-based specifications that identify the minimum requirements for execution of the work. It is anticipated that the standard front-end documents generated by the Procurement Department will be provided by the CITY. It is also anticipated that the CITY Public Works Manual will be incorporated by reference into the DCP. The specifications shall address the following:
 - Pipeline size
 - Material specifications
 - Excavation and backfill requirements
 - Minimum cover requirements
 - Isolation valve requirements
 - Air release valve requirements
 - Staging areas
 - Construction sequence restrictions
 - Site usage
 - Trenchless technology specifications
 - Site maintenance
 - Provisions for temporary utilities, as applicable
 - Requirements for Maintenance of Traffic
 - Restoration requirements
 - Permitting requirements for permits obtained by the DBF
 - Erosion and sedimentation control
- Guidance on directional drill entry points and exit points to minimize disruptions to area residents and businesses, if needed.
- Requirements for production of contract drawings, including progress document sets at the 60%, 90%, and 100% design completion stages.
- Requirements for construction services performed by a Design Build Professional, including shop drawing review, RFI disposition, and provision of record drawings.
- Requirements for responsibility of all permits not obtained by **HAZEN**.
- Project Schedule
- Opinion of Probable Cost
 - **HAZEN** will provide a Class 5 estimate of probable construction cost in accordance with American Association of Cost Engineering (AACE) International Recommended Practice 56R-08 Cost Estimate Classification System – As Applied for the Building and General Construction Industries. Class 5 estimates will be provided at both the Draft DCP and 100% DCP stages.
 - In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for the project, **HAZEN** has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, **HAZEN** makes no warranty that the CITY's actual project costs, financial aspects, economic feasibility, or schedules will not vary from **HAZEN**'s opinions, analyses, projections, or estimates.

At each submittal stage, **HAZEN** shall submit the plans and specifications for CITY review.

The Draft DCP will be submitted to the CITY for review and comment. It is anticipated the CITY will complete its review of the Draft DCP within 10 working days of receipt of the submittal package. **HAZEN** will attend



one (1) virtual meeting with CITY representatives to receive their design input, which will be incorporated into the 100% DCP. **HAZEN** shall prepare the agenda and submit meeting minutes to the CITY.

The 100% DCP will be submitted to the CITY for review and comment. It is anticipated the CITY will complete its review of the 100% DCP within 10 working days of receipt of the submittal package. **HAZEN** will attend one (1) virtual meeting with CITY representatives to receive their design input, which will be incorporated into the Final Bid/RFQ DCP. **HAZEN** shall prepare the agenda and submit meeting minutes to the CITY.

Task 3 Deliverables:

- Geotechnical Engineering Report: (1) electronic copy, signed and sealed.
- Topographic, Bathymetric and Benthic Survey: (1) electronic copy, signed and sealed.
- Draft DCP: (1) electronic copy of DCP plans and specifications, (1) electronic copy of Class 5 cost estimate.
- 100% DCP: (1) electronic copy of DCP plans and specifications, (1) electronic copy of Class 5 cost estimate.
- Final Bid/RFP DCP: (1) electronic copy of DCP plans and specifications.

Task 4 – Procurement Assistance

Design-Build Procurement will follow the typical CITY two-step process of both the Request for Qualifications (RFQ) step along with the Request for Proposals (RFP) step.

Task 4.1 – RFQ Development

As the first step of the two-step design-build procurement, **HAZEN** will assist the CITY in development of the RFQ solicitation for pre-qualification of DBFs. **HAZEN** will work with CITY staff to develop the qualification-based evaluation criteria. The solicitation shall contain a brief description of the work, submittal requirements for prospective DBFs, and minimum qualifications for DBFs.

Task 4.2 – RFQ Step and Evaluation of Qualification Packages/References

HAZEN shall evaluate all submitted Qualification packages for compliance with the RFQ. **HAZEN** will perform the following:

- Attend pre-proposal meeting with prospective DBFs, prepare technical portion of meeting agenda as warranted.
- Prepare responses to inquiries (RFIs) during the proposal period and prepare addenda, assuming up to ten (10) RFIs. No addenda are assumed.
- Evaluation of Statement of Qualifications (SOQ) packages, assuming up to five (5) proposals are received. Evaluation shall include check for responsiveness and reference checks. **HAZEN** will provide input on the proposals relative to compliance with the RFQ documents.
- Participate in a meeting with CITY selection committee.

Task 4.3 – RFP Step and Evaluation of Proposal Packages/References

HAZEN will provide assistance to the CITY during procurement of the DBF via the RFP step, upon request. Assistance may include:

- Fill in appropriate blanks and make suitable adjustments to tailor the CITY's provided DCP "front-end" document.
- Attending pre-bid conference with prospective bidders and prepare technical portion of meeting agenda.

- Respond to questions using the Addenda form provided by the CITY for expedited response time and generate necessary supporting documents, as applicable, and submit to the CITY for distribution to registered plan holders. Prepare responses to inquiries (RFIs) during the proposal period and prepare addenda, assuming up to twenty (20) RFIs and six (6) addenda.
- Provide input on the proposals relative to compliance with the DCP documents. Evaluate the bid schedules, provide support for evaluation of the apparent utilities contractor's qualifications for undertaking the utility work on the project and provide a recommendation of award upon request. Evaluation of the technical aspects of the DBF proposals (assuming up to 5 proposals).
- Participate in a meeting with CITY selection committee and up to two negotiation meetings with the CITY and DBF.
- This scope of services includes no allowance to assist CITY in the event of a bid protest.

Task 4.1 & 4.2 Deliverables:

- RFQ documents for inclusion in the solicitation: (1) electronic copy, both Microsoft Word and PDF formats.
- Responses to questions from prospective bidders and supporting documents for CITY distribution.
- Tabulated summary and evaluation of the proposals relative to compliance with the RFQ documents

Task 4.3 Deliverables:

- Pre-bid conference technical agenda and meeting minutes in the format of an addendum.
- Responses to questions from prospective bidders, supporting documents, and addenda for CITY distribution for up to six (6) addenda.
- Table with input on the proposals relative to compliance with the DCP documents

Task 5 - Services During Design

HAZEN will provide assistance to the CITY during the preparation of the DBF's design. This scope of services is based on a design-build contract duration of eighteen (18) months with an active construction time of eight (8) months. Any additional time beyond this will require an approved agreement. Assistance may include the following:

- Response to up to ten (10) RFIs by the CITY or DBF.
- Review of 30% plans and specifications including input on the successful DBF design documents relative to compliance with the DCP documents.
- Review of 70% plans and specifications including input on the successful DBF design documents relative to compliance with the DCP documents.
- Review of Issued for Construction documents and provide input on the successful DBF design documents relative to compliance with the DCP documents.
- Participate in up to twelve (12) progress meetings or design review meetings with the CITY and DBF during the design phase. The meeting summary for each meeting will be developed by the DBF.

Task 6 - Construction Administration Services

Construction related efforts are not included within this scope of services but can be provided via a follow-up amendment.

ASSUMPTIONS

This scope of services is based on the following assumptions:

1. This scope is based on proceeding with the HDD route “Alternative 1A” as indicated in the AECOM Basis of Design Report titled “Star Island 16-inch Force Main Subaqueous Crossing”, dated May 25, 2022. Should the CITY choose to modify the selected alignment, Hazen reserves the right to seek an amendment to this service order based on work completed to date relative to the change in scope.
2. The CITY will provide **HAZEN** with the CAD and drawing files prepared by AECOM during the Basin of Design Report stage, as well as available utility as-builts.
3. The CITY will assist in providing access to the easement area on Star Island; access will be required by both the SURVEY SUBCONSULTANT and the GEOTECHNICAL SUBCONSULTANT. Site visits for this work will require the presence of CITY personnel.
4. The CITY will provide available information and record drawings for the existing water, sewer and storm drainage along the project corridor, as well as any other pertinent data requested by **HAZEN**.
5. Record drawings for the Star Island and 10th Street rights-of-way, roadways, seawalls, etc. will be made available to **HAZEN**.
6. The CITY will provide **HAZEN** with the RFQ and RFP documents for their most recent Design-Build project in order to facilitate conformance with CITY standards.
7. The CITY acknowledges that **HAZEN**'s analysis is based on information made available at the time of this Service Order and data gathered during site visits and meetings.
8. The CITY will provide all requested information within a reasonable timeframe. It is assumed that all information provided by the CITY is complete and accurate. Additionally, the CITY agrees to work with **HAZEN** to ensure compliance with the proposed schedule.
9. The final alignment of the proposed pipeline is achievable within the surveyed area. If a fatal conflict exists that **HAZEN** was not aware of at the time of scope development, then additional survey may be required.
10. A cursory search was completed for contaminated sites within the vicinity of the project area on the FDEP Contamination Locator Map. Contaminated sites were not identified in the project area. It is assumed that contaminated sites are not located within the vicinity of the project area that would require a dewatering plan, hazardous material management planning, coordination with FDEP or DERM, or other associated requirements.

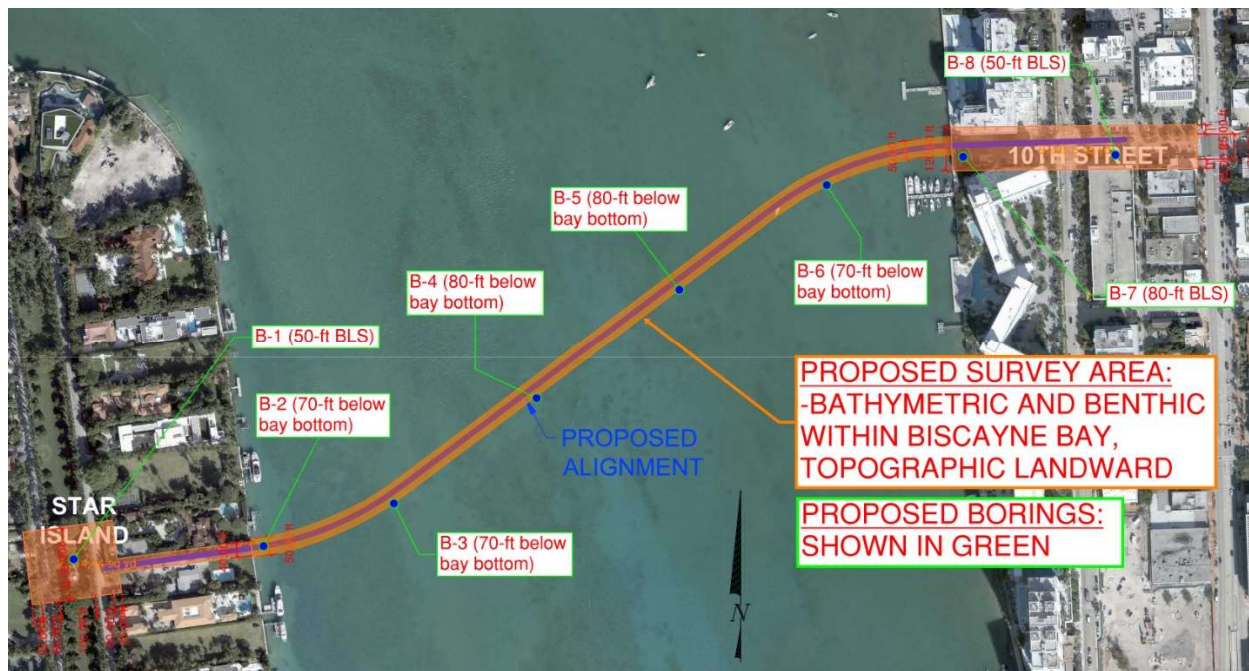


Figure 2: Star Island FM Replacement Survey and Geotechnical Extents



PERFORMANCE SCHEDULE

The proposed performance schedule is detailed in **Appendix A – Performance Schedule**. The Notice to Proceed (NTP) defines the official commencement of the **HAZEN's** contract. The schedule presented in **Appendix A** assumes receipt of NTP in October 2, 2023.

METHOD OF COMPENSATION

HAZEN shall perform the services defined in this scope of services for a lump sum fee of \$331,774 and support services reimbursable expenses of \$307,590 and travel related expense of \$3,000 for a total fee of \$642,364. Travel related expenses are an allowance set aside by the CITY and shall only include actual travel related expenditures made by HAZEN's project team members from outside the tri-county area in the interest of the project. Justification for travel would include necessary site visits by HDD experts. Travel reimbursement will be in accordance with the City's travel policy OD.20.01 "Travel on City Business." **HAZEN** will provide the CITY an invoice on a monthly basis. The invoice shall be consistent with the schedule of values and shall include a brief description of the work invoiced. The breakdown of fees per task is detailed in **Appendix B – Fee Estimate**.

Authorization

A handwritten signature in blue ink, appearing to read "Jayson Page".

Jayson Page, PE
Vice President

Appendix A

Performance Schedule


| ID | | Task Mode | Task Name | Duration | Start | Finish | Half 2, 2023 | | | | | Half 1, 2024 | | | | | Half 2, 2024 | | | | | Half 1, 2025 | | | | | Half 2, 2025 | | | | | Half 1, 2026 | | | | | Half 2, 2026 | | | | | | | | |
|--|--|-----------|---|-----------|--------------------|--------------|-----------------------|---|--------------------|---|-----------------|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|---|--|--|--|
| | | | | | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | | | |
| 1 | | | Task Order 33 - Star Island Force Main Design Criteria Package | 711 days | Fri 12/1/23 | Sat 8/22/26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | NTP | 0 edays | Fri 12/1/23 | Fri 12/1/23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | Subcontract Coordination | 10 edays | Fri 12/1/23 | Mon 12/11/23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | Task 1 - Coordination Meetings and Data Review | 60 edays | Mon 12/11/23 | Fri 2/9/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | Task 2 - Permitting | 128 days | Fri 12/1/23 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | Permitting for Geotechnical Borings (USACE/FDEP/DERM/USCG) | 128 days | Fri 12/1/23 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | Pre-App Meetings and Permit Application Preparations | 60 edays | Fri 12/1/23 | Tue 1/30/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | Permit Reviews, RFIs and Responses | 120 edays | Tue 1/30/24 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | Permit Issuances | 0 edays | Wed 5/29/24 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | Permitting for Pipelines (USACE/FDEP) | 128 days | Fri 12/1/23 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | Pre-App Meetings and Permit Application Preparations | 60 edays | Fri 12/1/23 | Tue 1/30/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | Permit Reviews, RFIs and Responses | 120 edays | Tue 1/30/24 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | Permit Issuances (FDEP Permit Issuance following DBF as-built/SSL easement) | 0 edays | Wed 5/29/24 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | Task 3 - Design Criteria Package | 197 days | Mon 12/11/23 | Wed 9/11/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | Geotechnical Investigation | 110 days | Wed 4/10/24 | Wed 9/11/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | Land Borings and Lab Testing | 49 edays | Wed 4/10/24 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | Water Borings and Lab Testing | 84 edays | Wed 5/29/24 | Wed 8/21/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | Report Development | 21 edays | Wed 8/21/24 | Wed 9/11/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | Surveys and Underground Utility Locates | 40 edays | Mon 12/11/23 | Sat 1/20/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | Prepare and Submit Draft DCP | 75 edays | Sat 1/20/24 | Thu 4/4/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | City Review of Draft DCP | 20 edays | Thu 4/4/24 | Wed 4/24/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | Draft DCP Review Meeting with City | 0 edays | Wed 4/24/24 | Wed 4/24/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | Prepare and Submit 100% DCP | 60 edays | Wed 4/24/24 | Sun 6/23/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | City Review of 100% DCP | 20 edays | Sun 6/23/24 | Sat 7/13/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | 100% DCP Review Meeting with City | 0 edays | Sat 7/13/24 | Sat 7/13/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | Prepare and Submit Final Bid DCP | 14 edays | Wed 8/28/24 | Wed 9/11/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | Task 4 - Procurement Assistance | 278 days | Thu 2/29/24 | Tue 3/25/25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | RFQ (Step 1) Hazen Provide Input to City | 30 edays | Thu 2/29/24 | Sat 3/30/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | RFQ (Step 1) City Internal Development of ITB Package Preparation | 60 edays | Sat 3/30/24 | Wed 5/29/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | RFQ (Step 1) Solicitation | 45 edays | Wed 5/29/24 | Sat 7/13/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | SOQ Package Reviews | 30 edays | Sat 7/13/24 | Mon 8/12/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | Evaluation Committee Meeting (Step 1) to Shortlist DBFs | 0 edays | Mon 8/12/24 | Mon 8/12/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | | | Notification to Shortlisted Firms | 7 edays | Mon 8/12/24 | Mon 8/19/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | | | RFP/DCP (Step 2) Solicitation | 45 edays | Wed 9/11/24 | Sat 10/26/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | | | Proposal Package Reviews | 30 edays | Sat 10/26/24 | Mon 11/25/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | | | Evaluation Committee Meeting (Step 2) | 0 edays | Mon 11/25/24 | Mon 11/25/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project: Schedule Star Island Es Date: Wed 10/4/23 | | | Task | | Project Summary | | Manual Task | | Start-only | | Deadline | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Split | | Inactive Task | | Duration-only | | Finish-only | | Progress | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Milestone | | Inactive Milestone | | Manual Summary Rollup | | External Tasks | | Manual Progress | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Summary | | Inactive Summary | | Manual Summary | | External Milestone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Page 1 Note: red bars indicate critical path. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ID |  | Task Mode | Task Name | Duration | Start | Finish | 1st 2, 2023 | | | | | Half 1, 2024 | | | | | Half 2, 2024 | | | | | Half 1, 2025 | | | | | Half 2, 2025 | | | | | Half 1, 2026 | | | | | Half 2, 2026 | | | | | | | | | |
|----|---|---|---|-----------|--------------|--------------|-------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|--------------|---|---|---|---|---|---|---|--|--|
| | | | | | | | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | | |
| 37 | |  | DBF Contract Negotiations | 30 edays | Mon 11/25/24 | Wed 12/25/24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | |  | City Approval of DBF Contract | 90 edays | Wed 12/25/24 | Tue 3/25/25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | |  | Design-Build NTP | 0 edays | Tue 3/25/25 | Tue 3/25/25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | |  | Task 5 - Services During Design | 261 days | Tue 3/25/25 | Wed 3/25/26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | |  | Design-Build Project Design Phase (review of 30 and 70% design docum | 365 edays | Tue 3/25/25 | Wed 3/25/26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | |  | Task 6 - Construction Services | 172 days | Thu 12/25/25 | Sat 8/22/26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | |  | Design-Build Project Construction Phase (providing limited CA services) | 240 edays | Thu 12/25/25 | Sat 8/22/26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |




Project: Schedule Star Island Es
Date: Wed 10/4/23


Task




Project Summary




Manual Task




Start-only




Deadline




Split




Inactive Task



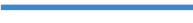
Duration-only




Finish-only




Progress




Milestone




Inactive Milestone




Manual Summary Rollup




External Tasks




Manual Progress




Summary




Inactive Summary



Manual Summary



External Milestone



Note: red bars indicate critical path.

Appendix B

Fee Estimate

City of Miami Beach
Star Island Force Main Replacement
Fee Estimate

| Task No. | Task Description | Vice President | Senior Associate | Associate | Sr. Principal Engineer | Principal Engineer | Engineer | Assistant Engineer | Sr. Principal Designer | Principal Designer | Sr. Field Coordinator | Field Inspector | Administrator | Total Hours | Total Cost |
|------------------------|---|----------------|------------------|-----------|------------------------|--------------------|----------|--------------------|------------------------|--------------------|-----------------------|-----------------|---------------|-------------|------------|
| LABOR | | | | | | | | | | | | | | | |
| 1 | Coordination Meetings and Data Review (LS) | | | | | | | | | | | | | | |
| | Project Initiation Meeting and Minutes | | 2 | 3 | | | 4 | | | | | | | 9 | \$ 1,863 |
| | Stakeholder Coordination Meetings and Minutes (4) | | 4 | 12 | | | 16 | | | | | | | 32 | \$ 6,334 |
| | As-Built Review and Utility Coordination | | 2 | 20 | | | 60 | | | | | | | 82 | \$ 14,558 |
| Subtotal Task 1 | | 0 | 8 | 35 | 0 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 123 | \$ 22,755 |
| 2 | Permitting (LS) | | | | | | | | | | | | | | |
| | Permitting for Geotechnical Borings (USACE/FDEP/DERM/USCG) | 2 | 20 | 40 | 32 | 32 | 24 | | | | | | | 150 | \$ 31,083 |
| | Permitting for Pipelines (USACE/FDEP) | 2 | 20 | 60 | 32 | 32 | 24 | | | | | | | 170 | \$ 35,527 |
| | Hydraulic Analysis Technical Memorandum | | 16 | 20 | | 20 | | | | | | | | 56 | \$ 12,492 |
| Subtotal Task 2 | | 4 | 56 | 120 | 64 | 84 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 376 | \$ 79,102 |
| 3 | Design Criteria Package (LS) | | | | | | | | | | | | | | |
| 3.1 | Geotechnical Investigation | | | 8 | | | 12 | | | | | | | 20 | \$ 3,688 |
| 3.2 | Surveys and Underground Utility Locates | | | 8 | | | 12 | | | | | | | 20 | \$ 3,688 |
| 3.3 | Design Criteria Package Documents | | | | | | | | | | | | | | |
| | Draft DCP | 2 | 16 | 60 | | | 60 | | 80 | 48 | | | | 266 | \$ 50,955 |
| | 100% DCP | 2 | 8 | 30 | | | 30 | | 40 | 24 | | | | 134 | \$ 25,757 |
| | Review Meetings & Minutes (2) | | 4 | 8 | | | 8 | | | | | | | 20 | \$ 4,171 |
| | Final Bid DCP | 2 | 4 | 16 | | | 16 | | 40 | 24 | | | | 102 | \$ 19,298 |
| Subtotal Task 3 | | 6 | 32 | 130 | 0 | 0 | 138 | 0 | 160 | 96 | 0 | 0 | 0 | 562 | \$ 107,558 |
| 4 | Procurement Assistance (LS) | | | | | | | | | | | | | | |
| 4.1 | RFQ Development | 2 | 8 | 16 | | | 16 | | | | | | | 42 | \$ 8,903 |
| 4.2 | RFQ Step and Evaluation of Qualification Packages/References | | | | | | | | | | | | | | |
| | Pre-Proposal Meeting | 2 | 2 | 3 | 4 | | | | | | | | | 11 | \$ 2,600 |
| | Respond to RFIs (10) | | 5 | 5 | 10 | | | | | | | | | 20 | \$ 4,543 |
| | SOQ Package Review (5) | | 8 | 30 | | | 20 | | | | | | | 58 | \$ 12,090 |
| | Evaluation Committee Meeting | 2 | 2 | 2 | | | 2 | | | | | | | 8 | \$ 1,883 |
| 4.3 | RFP Step and Evaluation of Proposal Packages/References | | | | | | | | | | | | | | |
| | Pre-Bid Conference | | 2 | 2 | | | 2 | | | | | | | 6 | \$ 1,323 |
| | Respond to RFIs (20) | | 10 | 30 | | | 40 | | | | | | | 80 | \$ 15,835 |
| | Addenda (6) | | 6 | 12 | | | 18 | | 12 | | | | | 48 | \$ 9,467 |
| | Proposal Package Review (5) | 4 | 10 | 32 | 20 | | 25 | | | | | | | 91 | \$ 19,076 |
| | Evaluation Committee Meeting | | 2 | 2 | | | | | | | | | | 4 | \$ 1,004 |
| | DBF Negotiation Meetings Assistance (2) | 2 | 8 | 8 | | | | | | | | | | 18 | \$ 4,577 |
| Subtotal Task 4 | | 12 | 63 | 142 | 34 | 0 | 123 | 0 | 12 | 0 | 0 | 0 | 0 | 386 | \$ 81,300 |
| 5 | Services During Design (LS) | | | | | | | | | | | | | | |
| | Respond to RFIs (10) | | | 20 | 10 | | 10 | | | | | | | 40 | \$ 8,068 |
| | Review of 30% Plans and Specifications | 4 | 4 | 32 | 20 | | | | | | | | | 60 | \$ 13,415 |
| | Review of 70% Plans and Specifications | 2 | 2 | 8 | 16 | | | | | | | | | 28 | \$ 6,150 |
| | Review of Issued for Construction Plans and Specifications | | 2 | 8 | 8 | | | | | | | | | 18 | \$ 3,963 |
| | Progress or Design Review Meetings (12) | | 12 | 16 | | | 16 | | | | | | | 44 | \$ 9,463 |
| Subtotal Task 5 | | 6 | 20 | 84 | 54 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 190 | \$ 41,059 |
| 6 | Construction Services (TBD) | | | | | | | | | | | | | | |
| Subtotal Task 6 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | \$ - |
| Labor Sub-total | | | | | | | | | | | | | | | \$ 331,774 |
| REIMBURSABLES | | | | | | | | | | | | | | | |
| | Office and Travel Expenses (NTE) | | | | | | | | | | | | | | \$ 3,000 |
| | Topographic and Hydrographic Survey - Longitude (NTE) | | | | | | | | | | | | | | \$ 42,090 |
| | Vacuum Excavations - Longitude (NTE) | | | | | | | | | | | | | | \$ 24,000 |
| | Geotechnical Investigation - Langan (NTE) | | | | | | | | | | | | | | \$ 231,500 |
| | Benthic Survey - Olin Hydrographic (NTE) | | | | | | | | | | | | | | \$ 5,000 |
| | Submerged Lands and Easement Research -Environmental Solutions International, LLC (NTE) | | | | | | | | | | | | | | \$ 5,000 |
| Reimbursable Sub-total | | | | | | | | | | | | | | | \$ 310,590 |
| TOTALS | | | | | | | | | | | | | | | |
| Labor Rates Used | | 28 | 179 | 511 | 152 | 84 | 415 | 0 | 172 | 96 | 0 | 0 | 0 | 1,637 | \$ 642,364 |
| | | \$280.00 | \$280.00 | \$222.17 | \$203.26 | \$178.45 | \$159.24 | \$133.54 | \$187.90 | \$166.63 | \$170.17 | \$100.45 | \$100.45 | | |