# NAPA SANITATION DISTRICT

**HDR ENGINEERING, INC. - TASK ORDER No. 31**
**Pond Levee Maintenance Project**
**PROJECT (CIP 20707)**

Date: _____

Issued under Professional Services Agreement dated _____.

**To:** HDR Engineering, Inc.

**Project Description:**

Pond Levee Maintenance Project - Professional Design Services.

**Description of Scope of Services to be performed by Consultant under this Task Order:**

See Exhibit 'A' – Scope of Services

| | |
|---|---|
| **Description of Services to be Provided by District:** | See Exhibit 'A' –Scope of Services |
| **Deliverables:** | See Exhibit 'A' –Scope of Services |
| **Consultant Project Manager:** | Arun Parsons, PE |
| **Consultant Quality Control Manager:** | Craig Olson, PE |
| **Schedule to Perform Services:** | Design completed by October 2020 |
| **Time & Materials Not-to-Exceed Cost Limit:** | $287,375.37 |
| | See Exhibit 'B' –Fee Schedule |

**APPROVALS:**

**HDR ENGINEERING, INC.**

By: _____ _____
Authorized Representative Date

**NAPA SANITATION DISTRICT**

By: _____ _____
Purchasing Agent Date

NSD Account No.: CIP 20707

# Exhibit A

APRIL 8, 2020

Mr. Simon Kobayashi
Napa Sanitation District
1515 Soscol Ferry Road
Napa, CA 94558

## Napa Sanitation District: *Task Order No. TBD CIP 20707*

**SCOPE OF SERVICES**
HDR Engineering, Inc., (Consultant) will provide design and bidding services for the 2020 Pond System Embankment Repair (CIP #20707) project (Project), as set forth in the scope of services below.

**RFQ Summary of Work:**
The design effort will include an evaluation of cost, schedule, access, geotechnical assessment, including predicted settling rate, and existing operational constraints. It shall also include a condition assessment of the existing levee. The final deliverable will be a set of bid documents for public bidding.

**General Description of Work**
This scope of work includes the following tasks:

- Geotechnical explorations and evaluation to inform pond levee repair design and borrow source determination
- Borrow source determination
- Condition assessment of existing pond levees where work will occur
- Design of repairs for two pond levee sites (approximately 700 feet along the southwest side of Pond 2 and 700 feet along the northwest side of Pond 3) consisting of raising the levee to 10.5 feet post settlement
- Replacement and/or abandonment design of remaining legacy transfer structures
- Support during Bidding

**Task 1 – Project Kickoff and Work Plan**
Consultant will participate in an on-site project kickoff meeting to discuss tasks described in this scope. Following the kickoff meeting, Consultant will prepare and submit a Work Plan. The Work Plan will include a project schedule showing deliverables and associated review periods, an organization chart showing key personnel, and a description of the quality control processes to be implemented by Consultant. The Work Plan will be submitted to Napa Sanitation District (District) for their information. Consultant will provide the District a monthly progress report that summarizes Consultant activities, deliverables, schedule, and planned activities. It is assumed the project duration is seven months from notice to proceed.

**Task 2 – Data Collection**

It is assumed that the District has already provided Consultant all the available data with the oxidation ponds as part of the development of this Scope of Work. This data is summarized in Attachment 1.

**Subtask 2.1 – Field investigations:** Following Project Kickoff, Consultant will conduct a one--day field investigation to evaluate and log existing levee conditions and determine the necessary type and extents of repairs. It is anticipated that approximately 2,700 linear feet of existing levee will be investigated, based on the information provided in the RFQ supporting documents and allowing for overlap of the investigation to levee that is good condition.

Evaluation of existing levee embankment will consist of logging deficiencies, such as rutting, erosion, depressions, slumping, cracking, vegetation, and encroachments.

Consultant will develop a Field Investigation Report summarizing findings of existing levee for informational purposes. The Field Investigation Report will consist of one Final version.

**Subtask 2.2 – Field Survey:** Consultant will perform field survey gathering point elevations at the outside toe, grade breaks, edge-of-travel way, crest, edge of travel way, and waterside slope. Points will be taken at 50-foot intervals. The survey will cover work areas and areas immediately adjacent.

**Subtask 2.3 – Geotechnical Explorations and Laboratory Testing:** This task will include subsurface exploration along the tops of levees in the maintenance areas. Consultant proposes up to two borings along the southwestern levee of Pond 2 and up to two borings along the northwestern levee of Pond 3 to depths of about 50 to 70 feet, or to bedrock, whichever is shallower. Previous test borings performed elsewhere along the pond levees encountered Young Bay Mud extending to as deep as 52 feet. The borings need to identify the full depth of this layer and the upper portion of the underlying soil layer to adequately characterize subsurface conditions for settlement and stability analyses.

Prior to conducting the subsurface explorations, Consultant will prepare a Field Work Plan and Health and Safety Plan, obtain the applicable drilling permit, and check for the presence of underground utilities by contacting Underground Service Alert. Consultant will retain and coordinate with an appropriate exploration vendor to select suitable exploration equipment for the proposed borings. Drill cuttings and fluids in drums will be contained and transported to a nearby temporary storage area provided by the District. Following chemical testing of samples of the drummed materials, Consultant's vendor will arrange to have the materials transported to a suitable disposal facility. This scope and fee assume that the subsurface materials encountered are free of contaminants. If that is not the case, additional scope and fee would be needed for soil handling and disposal.

Consultant will collect soil samples of potential borrow sources from up to three areas nearby the District's properties for laboratory testing. Consultant's scope and fee

assumes that the potential borrow sources will be identified by the District, be accessible for sampling, and be located within 20 miles of the site.

Consultant will retain a laboratory testing vendor to perform geotechnical laboratory tests on selected samples obtained from the borings and the potential borrow source materials. Testing will include moisture content, density, Atterberg limits, gradation, consolidation, and shear strength, as appropriate.

## Task 3 – Design Analyses

**Subtask 3.1 – Geotechnical Analyses and Reporting:** Consultant will perform engineering analyses to develop geotechnical conclusions and recommendations for the proposed levee maintenance project.

Settlement analyses will be performed to estimate the magnitudes of settlement that will be reached 5 years after the levees are raised, and the corresponding overbuild heights needed to achieve a crest elevation of 10.5 feet at that time.

Stability analyses will be performed for the raised levees at two cross sections, one at the southwestern portion of the Pond 2 levee, and one at the northwestern portion of the Pond 3 levee. For each cross section location, stability analyses will be performed for the proposed levee, one levee geometry and one design water surface elevation for the following conditions: 1) Stability at the end of levee raising, 2) Stability under rapid drawdown loading conditions (when pond water is lowered rapidly), and 3) Stability under seismic loading, using pseudo-static analysis methods.

It is assumed that liquefiable and seismically unstable conditions will not be encountered, and this scope does not include detailed analysis of such conditions or design for their mitigation. Should liquefiable or seismically unstable conditions be encountered, Consultant will inform the District to the extent that this scope allows.

Consultant will prepare a report that will describe the subsurface conditions encountered and will include, as appropriate, field and laboratory test data, logs of the test borings, and a site plan showing the locations of the borings. The report will present our discussions, conclusions, and recommendations regarding the following:

- Vicinity map and exploration location plan
- Logs of the test borings
- Site geology and seismicity
- Soil and groundwater conditions encountered
- Findings of the potential for seismic hazards, including liquefaction
- Findings of the soil properties from analysis of the three potential borrow sources noted in Section 2.3 above
- Discussion of requirements and considerations for temporary construction slopes and shoring

- Recommendations for earthwork for the pond levee raises and as backfill for removed/replaced water transfer structures, including subgrade preparation, allowable fill materials, placement and compaction of fill, and suitability of potential borrow materials for use as fill
- Recommendations for gravel roadway on top of levee, including gravel section thickness and gradation requirements

**Subtask 3.2 – Transfer Structure Analyses:**
Subtask 3.2.1 – For existing transfer structures to be replaced, Consultant will use the design developed for the 2019 design of replacement transfer structures (District CIP 19717) as a starting point. It is assumed that only minimal adjustments to elevations or grading, if any, will need to be made by Consultant to the CIP 19717 design to adapt to the replacement of structures under this CIP.

Subtask 3.2.2 – For existing transfer structures to be abandoned, Consultant will design the abandonment of the transfer structure by grouting in place. If structure is deemed to require removal rather than grouting in place, a scope modification may be required.

**Task 4 – Prepare Bidding Plans and Specifications**
Consultant will provide final design services (preparation of bidding documents, including plans and specifications) for the Project. Up to 17 drawings will be required for the Project, including the following:

- Cover, Location Map, List of Sheets
- Legend, Symbols, and Abbreviations
- Overall Site Plan, Access, and Survey Control
- Control Line and Construction Limit
- Typical Levee Repair Detail
- Levee Plan and Profile (up to four sheets)
- Levee Repair Cross-Sections (up to four sheets)
- Miscellaneous Roadway Segments and Embankment Repair Details
- Preliminary Grading Plan at designated borrow source (up to two sheets)
- Transfer Structural Replacement and Abandonment Details

The technical specifications will be prepared in MasterFormat. The District's standard front-end documents (Divisions 0 and 1) will be used and it is assumed will require minimum modifications. Consultant will prepare technical specifications (Divisions 2 through 46). A separate and detailed engineer's estimate of probable construction cost will also be provided.

Drawings, specifications, and engineer's estimate of probable construction cost will be submitted to the District for review and approval at the 50%, 90%, and 100% design stages. Consultant will institute and maintain a quality assurance/quality control (QA/QC) program for the work performed on the Project. For objectivity, senior technical staff, not involved in the Project, will perform internal QA/QC upon completion of the 50%, 90%, and 100% bidding documents before they are submitted to the District.

The following subtasks are anticipated:

**Subtask 4.1 - 50% Design:** Consultant will prepare design memorandum, drawings, outline of specifications, construction schedule and an MS Excel-based engineer's estimate of probable construction cost to the 50% level for review and comment by District staff. The drawings will include general sheets, plan and profile, typical sections, and preliminary details. Specifications will include a table of contents, and unedited master guidespecs only. The construction schedule will include phases from bid advertisement, construction procurement, construction, and contract closeout.

**Subtask 4.2 - 50% Review Meeting:** Consultant will meet with District staff to discuss comments on the 50 percent design submittal.

**Subtask 4.3 - 90% Design:** After incorporation of District comments on the 50% design, Consultant will prepare design memorandum, drawings, specifications, construction schedule and an MS Excel-based engineer's estimate of probable construction cost to the 90% level. The drawings will be updated with detailed sections every 100 feet, a defined construction limit, and near final details. Specifications will be updated to be project specific.

**Subtask 4.4 - 90% Review Meeting:** Consultant will meet with District staff to discuss comments on the 90% design submittal.

**Subtask 4.5 – 100% Design:** After incorporation of the District's comments on the 90% design, Consultant will provide final design memorandum, design drawings, specifications, construction schedule, and an MS Excel-based engineer's estimate of probable construction cost. The 100% design will be ready to advertise.

## Task 5 - Bidding Services

The following services will be provided by Consultant during the bidding phase of this Project:

**Subtask 5.1 - Attend Prebid Conference:** District will prepare a prebid agenda, and lead a prebid conference and site visit at the District's offices with the Consultant representative.

**Subtask 5.2 - Respond to Contractor Questions and Prepare Addendum:** Consultant will provide responses for up to 15 contractor questions provided to Consultant by the District during the bidding period. If necessary, Consultant will prepare one addendum/conformed set to the contract documents for distribution to each

planholder of record. Any addendum prepared shall be electronically submitted to the District by Consultant and distributed by the District to bidders, so that all planholders of record have at least seven calendar days to respond to addendum requirements.

**Services to be Provided by the District:**

- Furnish latest District front-end documents in electronic format
- 2019 Pond Transfer Structure Design (District CIP 19717) CAD files
- 2019 Levee Embankment Road Settlement Survey CAD files

**Deliverables (all electronic format):**

- Work Plan
- Field Investigation Report
- Draft Geotechnical Analysis Report
- Final Geotechnical Analysis Report
- 50% submittal of plans and outline of specifications for District review
- 90% submittal of plans and specifications for District review
- Final plans and specifications for bidding purposes
- 50%, 90%, and 100% engineer's estimate of probable construction cost
- Bid tabulation
- Up to one addendum to the contract documents

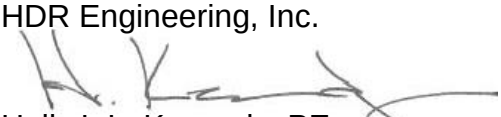
**Additional Assumptions**

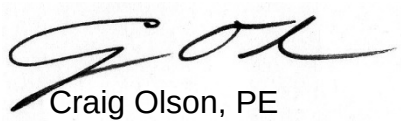
- All submittals will be electronic
- The District has provided Contractor all available data
- Subsurface conditions are free of contaminants
- The District will identify potential borrow sources
- The District will identify benchmarks and preferred datum for surveying
- No permits are necessary for drilling
- The conformed set / addendum will consist of minor linework and note changes only

**COST ESTIMATE**
Consultant's cost estimate to complete the scope of services described above is attached on the following page.

We look forward to continuing to provide the District with excellent service. If you have any questions, please contact Craig Olson at 916.817.4889 or Craig.Olson@hdrinc.com.

Sincerely,
HDR Engineering, Inc.





Holly L.L. Kennedy, PE
Senior Vice President

Craig Olson, PE
Project Manager

# Exhibit B

## Fee Proposal Summary

| ITEM | Wage Rates | Total Task Fee |
|---|---|---|
| Task 1. Work Plan and Project Kick Off | 2020 | **$ 17,254.39** |
| Task 2. Data Collection | 2020 | **$ 80,771.63** |
| Task 3. Design Analysis | 2020 | **$ 40,987.47** |
| Task 4.1 and 4.2. 50% Design | 2020 | **$ 57,635.70** |
| Task 4.3 and 4.4. 90% Design | 2020 | **$ 48,454.81** |
| Task 4.5 100% Design | 2020 | **$ 33,559.68** |
| Task 5.1 to 5.5 Bid Support | 2020 | **$ 8,711.71** |
| | Subtotal: | **$ 287,375.37** |

**Proposed Total Fee Including Labor, Direct Costs and Vendors**

| Items | Contract Fee Estimate | | | Task 1 Work Plan/Kickoff | | | Task 2 Data Collection | | | Task 3 Design Analysis | | | Task 4.1 and 4.2 50% Design | | | Task 4.3 and 4.4 90% Design | | | Task 4.5 100% Design | | | Task 5 Bid Support | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | Rate | Total | Amount | Rate | Total | Amount | Rate | Total | Amount | Rate | Total | Amount | Rate | Total | Amount | Rate | Total | Amount | Rate | Total | Amount | Rate | Total |
| **Direct Labor and Indirect Costs** | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Direct Labor Hours | | | 1,292.0 | | | 77.0 | | | 200.0 | | | 220.0 | | | 316.0 | | | 256.0 | | | 185.0 | | | 38.0 |
| Total Direct Labor Cost | | | $ 239,896.31 | | | $ 17,122.79 | | | $ 34,293.58 | | | $ 40,957.22 | | | $ 57,550.90 | | | $ 48,319.25 | | | $ 33,539.68 | | | $ 8,112.91 |
| Overhead Markups;incl in Fully Burdened LRs(0.00%) | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - |
| **Total Direct Labor and Indirect Cost** | | | **$ 239,896.31** | | | **$ 17,122.79** | | | **$ 34,293.58** | | | **$ 40,957.22** | | | **$ 57,550.90** | | | **$ 48,319.25** | | | **$ 33,539.68** | | | **$ 8,112.91** |
| **Other Direct Costs** | | | | | | | | | | | | | | | | | | | | | | | | |
| Xerox Black & White (8.5 x 11) | 500 pages | $0.08/pages | $ 40.00 | 25 pages | $0.08/pages | $ 2.00 | 25 pages | $0.08/pages | $ 2.00 | 50 pages | $0.08/pages | $ 4.00 | 100 pages | $0.08/pages | $ 8.00 | 100 pages | $0.08/pages | $ 8.00 | 100 pages | $0.08/pages | $ 8.00 | 100 pages | $0.08/pages | $ 8.00 |
| Xerox Color (8.5 x 11) | 75 pages | $0.89/pages | $ 66.75 | - | $0.89/pages | $ - | - | $0.89/pages | $ - | 25 pages | $0.89/pages | $ 22.25 | - | $0.89/pages | $ - | - | $0.89/pages | $ - | - | $0.89/pages | $ - | 50 pages | $0.89/pages | $ 44.50 |
| Xerox Black & White (11x17) | 350 pages | $0.16/pages | $ 56.00 | - | $0.16/pages | $ - | 25 pages | $0.16/pages | $ 4.00 | 25 pages | $0.16/pages | $ 4.00 | 75 pages | $0.16/pages | $ 12.00 | 75 pages | $0.16/pages | $ 12.00 | 75 pages | $0.16/pages | $ 12.00 | 75 pages | $0.16/pages | $ 12.00 |
| Xerox Color (11x17) | 25 pages | $1.78/pages | $ 44.50 | - | $1.78/pages | $ - | - | $1.78/pages | $ - | - | $1.78/pages | $ - | - | $1.78/pages | $ - | - | $1.78/pages | $ - | - | $1.78/pages | $ - | 25 pages | $1.78/pages | $ 44.50 |
| Plotting Black & White - Bond (22x34) | 25 pages | $2.00/pages | $ 50.00 | - | $2.00/pages | $ - | - | $2.00/pages | $ - | - | $2.00/pages | $ - | - | $2.00/pages | $ - | - | $2.00/pages | $ - | - | $2.00/pages | $ - | 25 pages | $2.00/pages | $ 50.00 |
| Plotting Color - Bond (22x34) | 25 pages | $15.00/pages | $ 375.00 | - | $15.00/pages | $ - | - | $15.00/pages | $ - | - | $15.00/pages | $ - | - | $15.00/pages | $ - | - | $15.00/pages | $ - | - | $15.00/pages | $ - | 25 pages | $15.00/pages | $ 375.00 |
| Miscellaneous Supplies | | $100.00 | $ - | | $100.00 | $ - | | $100.00 | $ - | | $100.00 | $ - | | $100.00 | $ - | | $100.00 | $ - | | $100.00 | $ - | | $100.00 | $ - |
| Mailings and Communications | | $49.00 | $ - | | $49.00 | $ - | | $49.00 | $ - | | $49.00 | $ - | | $49.00 | $ - | | $49.00 | $ - | | $49.00 | $ - | | $49.00 | $ - |
| Other Outside Expenses | | $2,500.00 | $ - | | $2,500.00 | $ - | | $2,500.00 | $ - | | $2,500.00 | $ - | | $2,500.00 | $ - | | $2,500.00 | $ - | | $2,500.00 | $ - | | $2,500.00 | $ - |
| **Subtotal Repro & Expenses** | | | $ 632.25 | | | $ 2.00 | | | $ 6.00 | | | $ 30.25 | | | $ 20.00 | | | $ 20.00 | | | $ 20.00 | | | $ 534.00 |
| Travel & Per Diem: | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional PDT and coordination meetings: | | | | | | | | | | | | | | | | | | | | | | | | |
| POV Milage (@ $0.54 / mile) | 814 miles | $0.540/miles | $ 439.56 | 240 miles | $0.540/miles | $ 129.60 | 120 miles | $0.540/miles | $ 64.80 | - | $0.540/miles | $ - | 120 miles | $0.540/miles | $ 64.80 | 214 miles | $0.540/miles | $ 115.56 | - | $0.540/miles | $ - | 120 miles | $0.540/miles | $ 64.80 |
| Parking | | $ 20.00 | $ - | | $ 20.00 | $ - | | $ 20.00 | $ - | | $ 20.00 | $ - | | $ 20.00 | $ - | | $ 20.00 | $ - | | $ 20.00 | $ - | | $ 20.00 | $ - |
| Air Fare | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - |
| Per Diem (Hotel, Food, Misc. Expenses) | | | | | | | | | | | | | | | | | | | | | | | | |
| Hotel | 2 pages | $ 95.00 | $ 190.00 | | $ 95.00 | $ - | 2 | $ 95.00 | $ 190.00 | | $ 95.00 | $ - | | $ 95.00 | $ - | | $ 95.00 | $ - | | $ 95.00 | $ - | | $ 95.00 | $ - |
| Hotel Tax | 2 pages | $ 7.13 | $ 14.25 | | $ 7.13 | $ - | 2 | $ 7.13 | $ 14.25 | | $ 7.13 | $ - | | $ 7.13 | $ - | | $ 7.13 | $ - | | $ 7.13 | $ - | | $ 7.13 | $ - |
| Food | 2 pages | $ 54.00 | $ 108.00 | | $ 54.00 | $ - | 2 | $ 54.00 | $ 108.00 | | $ 54.00 | $ - | | $ 54.00 | $ - | | $ 54.00 | $ - | | $ 54.00 | $ - | | $ 54.00 | $ - |
| Car Rental | - | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - | | | $ - |
| **Subtotal Travel** | | | **$ 751.81** | | | **$ 129.60** | | | **$ 377.05** | | | **$ -** | | | **$ 64.80** | | | **$ 115.56** | | | **$ -** | | | **$ 64.80** |
| **Subtotal Other Direct Expenses** | | | **$ 1,384.06** | | | **$ 131.60** | | | **$ 383.05** | | | **$ 30.25** | | | **$ 84.80** | | | **$ 135.56** | | | **$ 20.00** | | | **$ 598.80** |
| **Vendors** | | | | | | | | | | | | | | | | | | | | | | | | |
| Field Surveying | | | $ 4,900.00 | | | | | | $ 4,900.00 | | | | | | | | | | | | | | | |
| Drilling and Lab Testing | | | $ 39,000.00 | | | | | | $ 39,000.00 | | | | | | | | | | | | | | | |
| **Subtotal Vendors** | | | **$ 43,900.00** | | | **$ -** | | | **$ 43,900.00** | | | **$ -** | | | **$ -** | | | **$ -** | | | **$ -** | | | **$ -** |
| **HDR Markup on Vendors (5%)** | | | **$ 2,195.00** | | | **$ -** | | | **$ 2,195.00** | | | **$ -** | | | **$ -** | | | **$ -** | | | **$ -** | | | **$ -** |
| **TOTAL PROJECT COST** | | | **$ 287,375.37** | | | **$ 17,254.39** | | | **$ 80,771.63** | | | **$ 40,987.47** | | | **$ 57,635.70** | | | **$ 48,454.81** | | | **$ 33,559.68** | | | **$ 8,711.71** |

| | | Quality Control | Project Manager | Senior Civil | Staff Civil | Senior H&H | Senior Geotech | Staff Geotech | CAD/BIM | Admin. | Project Controller | Task Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PROPOSED LABOR HOURS** | | **$ 295.95** | **$ 349.70** | **$ 169.49** | **$ 123.76** | **$ 235.46** | **$ 321.95** | **$ 159.84** | **$ 149.18** | **$ 107.54** | **$ 117.20** | |
| **BASE** | | | | | | | | | | | | |
| **TASK 1** | **Work Plan and Project Kickoff** | | | | | | | | | | | |
| | Monthly Progress Report | | 14.0 | | | | | | | 5.0 | 16.0 | **35.0** |
| | On-site Kickoff Meeting | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | | **16.0** |
| | Draft Work Plan | | 4.0 | 8.0 | | | 2.0 | 2.0 | | 1.0 | | **17.0** |
| | Final Work Plan | | 2.0 | 4.0 | | | 2.0 | | | 1.0 | | **9.0** |
| | **Subtotal Direct Labor Hours** | 0.0 | 24.0 | 16.0 | 4.0 | 0.0 | 8.0 | 2.0 | 0.0 | 7.0 | 16.0 | 77.0 |
| | **Subtotal Direct Labor Cost** | $ - | $ 8,392.80 | $ 2,711.80 | $ 495.04 | $ - | $ 2,575.56 | $ 319.67 | $ - | $ 752.80 | $ 1,875.12 | $ 17,122.79 |
| **BASE** | | | | | | | | | | | | |
| **Task 2** | ***Data Collection*** | | | | | | | | | | | |
| | *Task 2.1 - Field Investigations* | | | 12.0 | 8.0 | | | 12.0 | | | | **32.0** |
| | *Field Investigation Report* | 1.0 | | 3.0 | 3.0 | | 2.0 | 3.0 | | | | **12.0** |
| | *Task 2.2 - Aerial Survey* | | | 2.0 | | | | | 16.0 | | | **18.0** |
| | *Task 2.3 - Geotechnical Exploration* | | | | | | 14.0 | 124.0 | | | | **138.0** |
| | **Subtotal Direct Labor Hours** | 1.0 | 0.0 | 17.0 | 11.0 | 0.0 | 16.0 | 139.0 | 16.0 | 0.0 | 0.0 | 200.0 |
| | **Subtotal Direct Labor Cost** | $ 295.95 | $ - | $ 2,881.29 | $ 1,361.36 | $ - | $ 5,151.12 | $ 22,217.07 | $ 2,386.80 | $ - | $ - | $ 34,293.58 |
| **BASE** | | | | | | | | | | | | |
| **Task 3** | ***Design Analyses*** | | | | | | | | | | | |
| | *Task 3.1 - Geotechnical Analyses* | | | | | | | | | | | |
| | 3.1.1 - Geotechnical Analysis | 6.0 | 1.0 | | | | 16.0 | 80.0 | | | | **103.0** |
| | 3.1.2 - Geotechnical Report (draft and final) | 6.0 | 1.0 | | | | | 64.0 | | 6.0 | | **77.0** |
| | *Task 3.2 - Transfer Structure Replacement or Abandonment* | | | | | | | | | | | |
| | 3.2.1 - Design of replacement structure | 2.0 | | 4.0 | 4.0 | 8.0 | | | 2.0 | | | **20.0** |
| | 3.2.2 - Design of abandonment | 2.0 | | 4.0 | 4.0 | 8.0 | | | 2.0 | | | **20.0** |
| | **Subtotal Direct Labor Hours** | 16.0 | 2.0 | 8.0 | 8.0 | 16.0 | 16.0 | 144.0 | 4.0 | 6.0 | 0.0 | 220.0 |
| | **Subtotal Direct Labor Cost** | $ 4,735.12 | $ 699.40 | $ 1,355.90 | $ 990.08 | $ 3,767.40 | $ 5,151.12 | $ 23,016.24 | $ 596.70 | $ 645.26 | $ - | $ 40,957.22 |
| **BASE** | | | | | | | | | | | | |
| **Task 4.1 and 4.2** | ***Task 4.1 - Repair Design - 50%*** | | | | | | | | | | | |
| | *Design Memorandum* | | | | | | | | | | | |
| | 50% Design Memorandum | | 4.0 | 12.0 | 24.0 | 6.0 | 8.0 | 10.0 | 4.0 | 8.0 | | **76.0** |
| | QA/QC | 2.0 | | | | | | | | | | **2.0** |
| | *Plans* | | | | | | | | | | | |
| | Prepare 50% Drawings | | 6.0 | 34.0 | 18.0 | | 4.0 | 8.0 | 92.0 | | | **162.0** |
| | QA/QC | 10.0 | | | | | | | | | | **10.0** |
| | *Specifications* | | | | | | | | | | | |
| | Prepare 50% Bid Schedule and Technical Specifications | | 2.0 | 6.0 | 4.0 | 1.0 | 1.0 | 2.0 | | 8.0 | | **24.0** |
| | QA/QC | 10.0 | | | | | | | | | | **10.0** |
| | *Estimate of Probably Construction Cost* | | | | | | | | | | | |
| | Prepare 50% Cost Estimate | | 2.0 | 4.0 | 8.0 | | | | | | | **14.0** |
| | QA/QC | 2.0 | | | | | | | | | | **2.0** |
| | ***Task 4.2 - Review Meeting - 50%*** | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | | **16.0** |
| | **Subtotal Direct Labor Hours** | 24.0 | 18.0 | 60.0 | 54.0 | 11.0 | 17.0 | 20.0 | 96.0 | 16.0 | 0.0 | 316.0 |
| | **Subtotal Direct Labor Cost** | $ 7,102.68 | $ 6,294.60 | $ 10,169.25 | $ 6,683.04 | $ 2,590.09 | $ 5,473.07 | $ 3,196.70 | $ 14,320.80 | $ 1,720.68 | $ - | $ 57,550.90 |
| **BASE** | | | | | | | | | | | | |
| **Task 4.3 and 4.4** | ***Task 4.3 - Repair Design - 90%*** | | | | | | | | | | | |
| | *Design Memorandum* | | | | | | | | | | | |
| | Upate Design Memorandum to 90% | | 2.0 | 6.0 | 4.0 | 2.0 | 2.0 | 6.0 | | 2.0 | | **24.0** |
| | QA/QC | 1.0 | | | | | | | | | | **1.0** |
| | *Plans* | | | | | | | | | | | |
| | Prepare 90% Drawings | | 6.0 | 32.0 | 4.0 | | 2.0 | 4.0 | 80.0 | | | **128.0** |
| | QA/QC | 8.0 | | | | | | | | | | **8.0** |
| | *Specifications* | | | | | | | | | | | |
| | Prepare 90% Bid Schedule and Technical Specifications | | 4.0 | 18.0 | 4.0 | 8.0 | 4.0 | 4.0 | | 12.0 | | **54.0** |
| | QA/QC | 10.0 | | | | | | | | | | **10.0** |
| | *Estimate of Probable Construction Cost & Schedule* | | | | | | | | | | | |
| | Prepare 90% Cost Estimate and Schedule | | 1.0 | 4.0 | 8.0 | | | | | | | **13.0** |
| | QA/QC | 2.0 | | | | | | | | | | **2.0** |
| | ***Task 4.4 - Review Meeting - 90%*** | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | | **16.0** |
| | **Subtotal Direct Labor Hours** | 21.0 | 17.0 | 64.0 | 20.0 | 14.0 | 12.0 | 14.0 | 80.0 | 14.0 | 0.0 | 256.0 |
| | **Subtotal Direct Labor Cost** | $ 6,214.85 | $ 5,944.90 | $ 10,847.20 | $ 2,475.20 | $ 3,296.48 | $ 3,863.34 | $ 2,237.69 | $ 11,934.00 | $ 1,505.60 | $ - | $ 48,319.25 |
| **BASE** | | | | | | | | | | | | |
| **Task 4.5** | ***Repair Design - 100% Bid Set*** | | | | | | | | | | | |
| | *Design Memorandum* | | | | | | | | | | | |
| | Upate Design Memorandum to 100% | | 2.0 | 3.0 | 2.0 | 2.0 | 2.0 | 3.0 | | 1.0 | | **15.0** |
| | QA/QC | 1.0 | | | | | | | | | | **1.0** |
| | *Plans* | | | | | | | | | | | |
| | Prepare 100% Drawings | | 6.0 | 28.0 | 16.0 | | 1.0 | 2.0 | 70.0 | | | **123.0** |
| | QA/QC | 13.0 | | | | | | | | | | **13.0** |
| | *Specifications* | | | | | | | | | | | |
| | Prepare 100% Bid Schedule and Technical Specifications | | 2.0 | 7.0 | 4.0 | 2.0 | 1.0 | 2.0 | | 6.0 | | **24.0** |
| | QA/QC | 5.0 | | | | | | | | | | **5.0** |
| | *Estimate of Probable Construction Cost & Schedule* | | | | | | | | | | | |
| | Prepare 100% Cost Estimate and Schedule | | | 1.0 | 2.0 | | | | | | | **3.0** |
| | QA/QC | 1.0 | | | | | | | | | | **1.0** |
| | **Subtotal Direct Labor Hours** | 20.0 | 10.0 | 39.0 | 24.0 | 4.0 | 4.0 | 7.0 | 70.0 | 7.0 | 0.0 | 185.0 |
| | **Subtotal Direct Labor Cost** | $ 5,918.90 | $ 3,497.00 | $ 6,610.01 | $ 2,970.24 | $ 941.85 | $ 1,287.78 | $ 1,118.85 | $ 10,442.25 | $ 752.80 | $ - | $ 33,539.68 |
| **BASE** | | | | | | | | | | | | |
| **Task 5.1 to** | ***Task 5.1 - Attend Prebid Conference*** | | | | | | | | | | | |
| | Participate in Conference | | 4.0 | 4.0 | | | | | | | | **8.0** |
| | ***Task 5.2 - Respond to Contractor Questions, Addendum*** | | | | | | | | | | | |
| | Respond to RFIs | | 1.0 | 2.0 | | 1.0 | 1.0 | 2.0 | | 2.0 | | **9.0** |
| | Prepare Addendum | 2.0 | 2.0 | 3.0 | | 1.0 | 1.0 | | 8.0 | 1.0 | | **18.0** |
| | Distribute Bid Documents | | 1.0 | | 2.0 | | | | | | | **3.0** |
| | **Subtotal Direct Labor Hours** | 2.0 | 8.0 | 9.0 | 2.0 | 2.0 | 2.0 | 2.0 | 8.0 | 3.0 | 0.0 | 38.0 |
| | **Subtotal Direct Labor Cost** | $ 591.89 | $ 2,797.60 | $ 1,525.39 | $ 247.52 | $ 470.93 | $ 643.89 | $ 319.67 | $ 1,193.40 | $ 322.63 | $ - | $ 8,112.91 |
| | **Total Direct Labor Hours** | **84.0** | **79.0** | **213.0** | **123.0** | **47.0** | **75.0** | **328.0** | **274.0** | **53.0** | **16.0** | **1292.0** |
| | **Total Direct Labor Cost** | **$ 24,859.38** | **$ 27,626.30** | **$ 36,100.84** | **$ 15,222.48** | **$ 11,066.74** | **$ 24,145.88** | **$ 52,425.88** | **$ 40,873.95** | **$ 5,699.75** | **$ 1,875.12** | **$ 239,896.31** |