**EXHIBIT A**
**SCOPE OF WORK**
CITY OF NORTH PORT
BIG SLOUGH FLOOD REDUCTION FEASIBILITY STUDY
DELOACH ENGINEERING SCIENCE, PLLC

## General Overview

The Big Slough Watershed is located in southeastern Sarasota County and is tributary to the Myakka River. Portions of the City of North Port located east of the Myakka River are within the southern portion of the Big Slough Watershed. The Big Slough Canal (also called Myakkahatchee Creek in its lower reaches) passes from north to south and receives inflows from numerous waterways within the City. Those waterways provide surface drainage across most of North Port before the Big Slough Canal discharges beneath U.S. Highway 41 toward its confluence with the Myakka River.

The City has routinely experienced flooding in the Big Slough Watershed. Two such flood zones are the areas near Myakkahatchee Creek at I-75 and the areas in and around the Jockey Club.

- The Myakkahatchee Creek at I-75 Study Area covers approximately 335 acres adjacent to the Myakkahatchee Creek. The area is bounded on the east by Sumter Boulevard and traversed from east to west by Interstate Highway 75.

- The northern section of the Jockey Club Study Area covers approximately 62 acres and is bounded on the north by Appomattox Drive, on the west by Pan American Boulevard, and on the east by Myakkahatchee Creek. The southern section of the Jockey Club Study Area near Ketona Road is also included and is approximately 82 acres in size.

The Big Slough Flood Reduction Feasibility Study is comprised of two distinct parts:

- Part 1 is to evaluate localized flooding along Myakkahatchee Creek within the I-75 and Jockey Club Study Areas and recommend specific construction projects or other methods to mitigate flooding.

- Part 2 is to evaluate preliminary regional concepts including, but not limited to, those previously developed by others, with the intent to advance large scale solutions to mitigate flooding throughout the City of North Port.

## Scope of Services

DeLoach Engineering Science, PLLC (CONSULTANT), upon receiving direction and notice to proceed from the City of North Port (CITY), shall conduct a stormwater study to evaluate feasibility and cost effectiveness of various solutions intended to reduce flooding in the City of North Port within the Big Slough Watershed. The stormwater evaluations shall employ data and a watershed model previously developed by Ardaman & Associates, Inc. for the North Port/Big Slough Watershed Management Program (WMP) project.

That prior project was cooperatively funded by the Southwest Florida Water Management District (SWFWMD) and the City of North Port and was completed in 2014. The existing watershed model was developed using CHAN Version 2.03 (Aquarian Software, Inc.). All data collected, work products generated, and reports submitted under the North Port/Big Slough WMP project will be obtained by the CITY and provided to the CONSULTANT for use in performing this flood reduction study.

The flood reduction study will be performed in two distinct parts, each comprised of multiple tasks as outlined in the following. Part 1 is a concentrated effort which considers solutions to reduce flooding through implementing localized improvements within certain identified neighborhoods that are adjacent to Myakkahatchee Creek at I-75 and at the Jockey Club while Part 2 is a broader study which considers a regional approach to reduce flooding in other portions of the City.

Part 1. Part 1 activities shall include field surveying, hydraulic modeling, alternatives analyses, and cost benefit assessments needed to evaluate feasibility of options to alleviate flooding in the local neighborhoods. The project shall include community outreach meetings to receive input of concerns from residents. The study shall include a determination of the reasons for flooding, either from conditions within the neighborhoods or from backwater of the Myakkahatchee Creek and interconnected waterways and retention ditches. Solutions may include, but not be limited to: storm sewer construction, pump stations, raised road elevations, flood walls, flood gates, land acquisition, and any combination thereof. The study shall include but not be limited to evaluating mean annual, 10, 25, and 100 year 1-day and 100 year 5-day storm events.

The CONSULTANT shall determine which solution for these storm events provides the best cost/benefit. In assessing feasibility of various solutions, it should be noted that drainage improvements may not eliminate flooding entirely but instead may reduce the depth, duration, and/or frequency of flooding to levels that nevertheless result in reduced annualized damages and a substantial benefit to the community.

The study will focus principally on quantifying hydraulic performance, cost of implementation, and value of benefits derived from reduced flooding and will address other equally important issues qualitatively. For example, hydraulic performance will be summarized with simulation pre vs post peak stage and peak discharge tables for use in demonstrating no adverse impacts in a Statewide Environmental Resource permit (SWERP) application. On the other hand, wetland impacts associated with implementing the various solutions will be addressed qualitatively. For example, while no formal wetland jurisdictional boundary will be developed, potential wetland impacts will be identified based on engineering-level site visits, review of aerial photography, National Wetlands Inventory (NWI) and hydric soil mapping, etc., in order to estimate potential mitigation requirements and associated costs. Wetland impacts and other factors that are addressed qualitatively in the course of this study would need to be deferred in any Statewide Conceptual ERP application and later resolved during subsequent construction permitting (when final design of the improvements has been completed, wetland jurisdiction has been properly established, wetland impacts and mitigation have been quantified, etc.)

It is anticipated that Part 1 will result in a conceptual plan for improvements covering multiple sites and facilities and that a Statewide Environmental Resource Permit (SWERP) will be submitted for Conceptual Approval of the overall plan for flood reduction in these areas. The SWERP application would include: conceptual-level drawings and/or diagrams describing the plan for improvements in general terms; a narrative including summary of project purpose, proposed facilities, and pre/post hydraulic performance; and calculations (pre/post storm event simulation results) to demonstrate no adverse impacts with

respect to water quantity. Site-specific design and environmental matters (including wetland impacts and mitigation) would be deferred to one or more future SWERP construction applications for implementation of the proposed improvements.

The CONSULTANT shall review and provide a timely response to up to two (2) Requests for Additional Information (RAIs) from SWFWMD. It is expected that District review times will be on the order of one (1) month each and that CONSULTANT response times will be on the order of two (2) weeks each.

1.1 Project Development

1.1.1 Kickoff Meeting and Initial Field Visit

1.1.2 Data Collection and Assembly (as available from WMP Project files and other City sources)
Collect and assemble all available data from the City of North Port as may be needed to support development of flood reduction strategies in the local areas of interest. *Based upon review of available data and the project approach, assess outstanding data needs and coordinate with the City on a plan for acquisition of that data or on a revised approach to the project. For example, hydraulic analyses performed by the CONSULTANT are intended to support conceptual level design and permitting and it is expected that the current Big Slough CHAN model is sufficiently accurate, "as-is", to support that effort. Therefore, only a minor portion of the overall project budget has been allocated for additional field data collection by approximate methods and/or to allow for a small amount of supplemental field survey to identify a small number of pipe and ditch bottom elevations by a PLS. Similarly, accuracy of cost-benefit evaluations will depend in large part on accuracy of finished floor elevations, estimated construction costs, and structure and home content values. It is assumed that finished floor elevations can be adequately approximated from available LiDAR-based terrain information and that a field survey of structure elevations will not be performed. Construction costs and structure and home content values will be estimated using readily available information for the region. Accuracy of the benefit-cost evaluation would be enhanced if surveyed finished floor elevations, local construction cost information, home value data, and other relevant cost information can be obtained from Sarasota County or other sources.*

1.1.2.1 CHAN Model from North Port/Big Slough WMP Project
1.1.2.2 Geodatabase from North Port/Big Slough WMP Project
1.1.2.3 Terrain from North Port/Big Slough WMP Project
1.1.2.4 PLS Survey from North Port/Big Slough WMP Project
1.1.2.5 Land Use from North Port/Big Slough WMP Project
1.1.2.6 Parcels from City of North Port
1.1.2.7 Utilities from City of North Port (for specific areas)

1.1.3 Summary of Prior Work Performed, Alternatives Considered, and Findings
Provide a brief summary description of prior work performed in the Big Slough Watershed by CDM (1996) and Ardaman & Associates (2014) as relates to flooding and flood reduction plans. To the extent possible based upon a review of available prior reports and/or discussion with agency staff, describe all alternatives that were previously considered, summarize findings of hydraulic analyses that were performed, and discuss other factors (cost, environmental, land availability, etc.) which may have proven to be barriers to project implementation. Also describe any drainage improvements that were implemented.

1.1.3.1 Ardaman
1.1.3.2 CDM

1.1.4 Project Plan Formulation

Develop a Project Plan document describing project goals, objectives, and limits. Include project scope and schedule, resource allocations, and budget estimates. Attach quality assurance, quality control, safety, and project communication plans.

1.2 Define Existing Flooding Problems

1.2.1 Confirm Ability to Reproduce WMP Project Model Results

Perform "Existing Condition" storm event simulations using CHAN model input data taken from the North Port/Big Slough WMP Project. Simulated events include synthetic design storms with mean annual through 100-year return periods and 24-hour and 5-day rainfall durations, using rainfall distributions consistent with SWFWMD WMP Guidelines. Compare simulation results (runoff volume, peak runoff, peak discharge, and peak stage) for each event to simulation results reported in the Ardaman database in order to confirm that the model results can be reproduced. Map flood inundation areas and compare flood extents to similar mapping previously performed by Ardaman to confirm results. *Note: Hydraulic analyses performed by the CONSULTANT are intended to support conceptual level design and permitting and it is expected that the current Big Slough CHAN model is sufficiently accurate, "as-is", to support that effort. Therefore, only a minor portion of the overall project budget has been allocated for modifications to the existing condition model to better represent local conditions in the two areas of interest.*

1.2.1.1 Simulations of Mean Annual to 100-Year Events

1.2.1.2 Flood Mapping and Comparison to Ardaman Results

1.2.1.3 Update Model to include a Small Number of Prior Conveyance Improvements

1.2.1.4 Flood Mapping and Comparison of Updated Model to Ardaman Results

1.2.2 Characterize Local Flooding Conditions

Develop inundation maps, level of service tables, and other materials to describe existing flooding conditions (extent, depth, duration, and frequency) in each of the local areas being investigated. Include annotation to describe local rainfall excess as well as flow rates and paths of stormwater passing into and out of each problem area. Identify the principal "reason(s)" for flooding in terms of local conveyance and/or storage deficiencies, backwater effects from interconnected waterways resulting in reduced local drainage capacity or actual backflow into the area, uncontrolled overflows from upstream or adjacent lands, etc.

1.2.2.1 Myakkahatchee Creek at I-75

1.2.2.2 Jockey Club

1.3 Operations Staff Meeting and Team Field Visit

1.3.1 Meeting Topics

1.3.1.1 Prior Work and Project Plan

1.3.1.2 Existing Flooding Problems and Potential Solutions – with Operations Staff Input

1.3.1.3 Approach to Evaluation of Hydraulic Performance of Potential Solutions

1.3.1.4 Cost-Benefit and Other Project Considerations and Constraints

1.3.1.5 Refinements and Development of a Recommended Plan

1.3.1.6 Remaining Project Schedule and Upcoming Community Meeting

1.4 Formulate List of Potential Solutions for Hydraulic Evaluation

1.4.1 Describe Each Potential Solution and Any Known or Expected Obstacles to Success

1.4.2 Identify Additional Data Needs to Support Hydraulic Evaluation

1.4.3 Meeting to Review and Discuss List of Potential Solutions

1.4.4 Select a Set of Alternatives from Among Potential Solutions for Hydraulic Evaluation

1.5 Evaluate Hydraulic Performance of Selected Set of Alternatives

1.5.1 Perform Hydraulic Analyses

1.5.2 Summarize Hydraulic Performance

1.5.3 Meeting to Review and Discuss Performance of Alternatives
1.5.4 Identify Preferred Plan(s) of Improvements
1.6 Refine Preferred Plan(s) of Improvements
1.6.1 Evaluate Site Conditions and Design/Permitting Constraints of Preferred Plan(s)
1.6.2 Refine Preferred Plan(s) to Address Site Conditions and Design/Permitting Constraints
1.6.3 Perform Hydraulic Analyses of Refined Plan(s)
1.6.4 Perform Cost-Benefit Analysis of Refined Plan(s)
1.6.5 Meeting to Review and Discuss Refined Plan(s)
1.6.6 Select Recommended Plan
1.7 Community Outreach Meeting
1.7.1 Meeting Topics
1.7.1.1 Project Update
1.7.1.2 Summary of Plan Development
1.7.1.3 Description of Recommended Plan
1.7.1.4 Performance of Recommended Plan
1.7.1.5 Cost-Benefit
1.7.1.6 Public Input
1.7.1.7 Remaining Project Schedule and Upcoming Presentation to City
1.8 Summarize and Present Recommended Plan of Improvements
1.8.1 Finalize Recommended Plan and Project Deliverables
1.8.1.1 Pre/Post Models and Result Tabulations
1.8.1.2 Conceptual-Level Design Drawings
1.8.1.3 Opinion of Probable Cost (incl. detailed design, permitting, land, and construction)
1.8.1.4 Cost-Benefit
1.8.1.5 Report and Mapping
1.8.1.6 Training City staff in use of CHAN Modeling Software
1.8.2 Meeting with City Administrative Staff
1.8.3 Statewide Environmental Resource Permitting
1.8.3.1 SWFWMD Pre-App Meeting for Statewide Conceptual (or simple Standard) ERP
1.8.3.2 Application Preparation/Submittal and Response to Two (2) RAIs

Part 2. Part 2 activities shall include field investigations, hydraulic modeling, alternatives analyses, and cost benefit assessments needed to advance preliminary concepts to achieve flood mitigation in areas where residential structures are shown as flooding in the recently updated Flood Insurance Rate Maps (FIRMs) including, but not limited to, those previously suggested in the North Port/Big Slough WMP project by Ardaman & Associates, Inc. and/or in the Big Slough Watershed Study by Camp Dresser & McKee, Inc. The work will include identification of candidate site(s), citing of relevant permitting requirements for construction and operation of facilities, and providing cost estimates for detailed design, permitting, land acquisition, and construction. The CONSULTANT shall consider mixed use of regional facilities such as, but not limited to, storage for water supply to the City's water treatment plant, recreational activities, and environmental opportunities such as preserves and water quality improvement.

Using the previously developed CHAN model, the CONSULTANT shall perform a limited number of screening-level simulations in order to evaluate feasibility of regional concepts to achieve flood reduction. In assessing feasibility of various solutions, it should be noted that improvements may not eliminate flooding entirely but instead may reduce the depth, duration, and/or frequency of flooding to levels that nevertheless result in reduced annualized damages and a substantial benefit to the community.

It is anticipated that Part 2 will result in a detailed planning-level document describing a small number of regional projects which exhibit potential flood reduction benefits based upon screening-level hydraulic evaluations performed as part of this project. The planning document would include: conceptual-level drawings and/or diagrams describing the regional plan(s) for improvements in general terms; a narrative including summary of project purpose, proposed facilities, environmental and other constraints, and expected hydraulic performance; and calculations (screening-level pre/post storm event simulation results) to demonstrate anticipated flood reduction and identify potential adverse impacts with respect to water quantity. A project plan and cost estimate for each regional flood reduction concept would be provided along with a discussion on future SWERP application(s) for implementation of the proposed improvements. Due to the size and scope of those solutions, additional funding would be required to fully develop and implement the regional projects. It should also be noted that additional analyses required to support design and permitting of mixed-use regional solutions may include additional storm event hydraulic modeling as well as continuous simulations, water quality evaluations, hydroperiod analyses, water quality studies, water supply evaluations, etc. Planning-level cost estimates will address those additional analyses as well as engineering design, environmental permitting, land acquisition, construction, and other costs.

2.1 Formulate List of Regional Flood Reduction Concepts
- 2.1.1 Describe Each Potential Solution and Known or Expected Obstacles to Success
- 2.1.2 Identify Additional Data Needs to Support Hydraulic Evaluation
- 2.1.3 Meeting to Review and Discuss List of Potential Solutions
- 2.1.4 Select a Set of Alternatives for Further Evaluation

2.2 Landowner Outreach Meeting(s) (including State agencies)

2.3 Evaluate Hydraulic Performance of Selected Set of Alternatives
- 2.3.1 Perform Screening-Level Hydraulic Analyses
- 2.3.2 Summarize Hydraulic Performance
- 2.3.3 Meeting to Review and Discuss Performance of Alternatives
- 2.3.4 Identify Preferred Plans for Regional Improvements

2.4 Summarize and Present Preferred Plan(s) for Regional Improvements
- 2.4.1 Screening-Level Hydraulic Model Pre/Post and Result Tabulations
- 2.4.2 Conceptual-Level Drawings and Plan Descriptions
- 2.4.3 Site Conditions and Design Constraints
- 2.4.4 Relevant Permitting Requirements
- 2.4.5 Opinion of Probable Cost (for detailed analysis, design, permitting, land, and construction)
- 2.4.6 Planning-Level Report and Mapping

# BIG SLOUGH FLOOD REDUCTION FEASIBILITY STUDY for CITY OF NORTH PORT

## DeLoach Engineering Science, PLLC - Project Plan with Timeline, Manhour and Fee Estimate

| Task Descriptions | Principal Engineer | Project Engineer | GIS Analyst | Sub-Consultant | Reimb. Expenses | Estimated Fee | Start Date | End Date | Task Duration | Project Duration |
|---|---|---|---|---|---|---|---|---|---|---|
| **1.1 Project Development** | | | | | | **$13,290.00** | | | | |
| 1.1.1 Kickoff Meeting and Initial Field Visit | **8** | **8** | 0 | **8** | $0.00 | $4,040.00 | 3-Oct-16 | 7-Oct-16 | 5 | 5 |
| 1.1.2 Data Collection and Assembly | **4** | **6** | **10** | **4** | $0.00 | $3,290.00 | 3-Oct-16 | 14-Oct-16 | 12 | 12 |
| 1.1.3 Summary of Prior Work Performed, Alternatives and Findings | **8** | 0 | 0 | **8** | $0.00 | $2,960.00 | 3-Oct-16 | 21-Oct-16 | 19 | 19 |
| 1.1.4 Project Plan Formulation | **12** | 0 | 0 | **4** | $0.00 | $3,000.00 | 3-Oct-16 | 28-Oct-16 | 26 | 26 |
| **1.2 Define Existing Flooding Problems** | | | | | | **$14,820.00** | | | | |
| 1.2.1 Confirm Ability to Reproduce WMP Project Model Results | **2** | **32** | **16** | **2** | $0.00 | $6,660.00 | 10-Oct-16 | 21-Oct-16 | 12 | 19 |
| 1.2.2 Characterize Local Flooding Conditions | **8** | **16** | **16** | **16** | $0.00 | $8,160.00 | 17-Oct-16 | 28-Oct-16 | 12 | 26 |
| **1.3 Operations Staff Meeting and Team Field Visit** | | | | | | **$5,340.00** | | | | |
| 1.3.1 Meeting Topics (Preparation, Attendance, and Field Visit) | **12** | **12** | 0 | **8** | $0.00 | $5,340.00 | 31-Oct-16 | 4-Nov-16 | 5 | 33 |
| **1.4 Formulate List of Potential Solutions for Hydraulic Evaluation** | | | | | | **$12,960.00** | | | | |
| 1.4.1 Describe Each Potential Solution and Any Known or Expected Obstacles to Success | **8** | **8** | 0 | **8** | $0.00 | $4,040.00 | 31-Oct-16 | 11-Nov-16 | 12 | 40 |
| 1.4.2 Identify Additional Data Needs to Support Hydraulic Evaluation | **4** | **8** | **3** | **4** | $0.00 | $2,860.00 | 14-Nov-16 | 18-Nov-16 | 5 | 47 |
| 1.4.3 Meeting to Review and Discuss List of Potential Solutions | **8** | **8** | 0 | **8** | $0.00 | $4,040.00 | 21-Nov-16 | 25-Nov-16 | 5 | 54 |
| 1.4.4 Select a Set of Alternatives from Among Potential Solutions for Hydraulic Evaluation | **4** | **4** | 0 | **4** | $0.00 | $2,020.00 | 28-Nov-16 | 2-Dec-16 | 5 | 61 |
| **1.5 Evaluate Hydraulic Performance of Selected Set of Alternatives** | | | | | | **$44,820.00** | | | | |
| 1.5.1 Perform Hydraulic Analyses (w/ estimated $10,000 Field Survey by PLS) | **8** | **80** | 0 | **40** | **$10,000.00** | $29,520.00 | 5-Dec-16 | 30-Dec-16 | 26 | 89 |
| 1.5.2 Summarize Hydraulic Performance | **8** | **24** | **16** | **16** | $0.00 | $9,240.00 | 2-Jan-17 | 13-Jan-17 | 12 | 103 |
| 1.5.3 Meeting to Review and Discuss Performance of Alternatives | **8** | **8** | 0 | **8** | $0.00 | $4,040.00 | 16-Jan-17 | 20-Jan-17 | 5 | 110 |
| 1.5.4 Identify Preferred Plan(s) of Improvements | **4** | **4** | 0 | **4** | $0.00 | $2,020.00 | 23-Jan-17 | 27-Jan-17 | 5 | 117 |
| **1.6 Refine Preferred Plan(s) of Improvements** | | | | | | **$66,220.00** | | | | |
| 1.6.1 Evaluate Site Conditions and Design/Permitting Constraints of Preferred Plan(s) | **8** | **40** | **16** | **16** | $0.00 | $11,400.00 | 30-Jan-17 | 3-Feb-17 | 5 | 124 |
| 1.6.2 Refine Preferred Plan(s) to Address Site Conditions and Design/Permitting Constraints | **12** | **40** | **16** | **24** | $0.00 | $13,600.00 | 6-Feb-17 | 10-Feb-17 | 5 | 131 |
| 1.6.3 Perform Hydraulic Analyses of Refined Plan(s) | **8** | **80** | **16** | **24** | $0.00 | $18,240.00 | 13-Feb-17 | 3-Mar-17 | 19 | 152 |
| 1.6.4 Perform Cost-Benefit Analysis of Refined Plan(s) | **12** | **80** | **24** | **8** | $0.00 | $16,920.00 | 6-Mar-17 | 17-Mar-17 | 12 | 166 |
| 1.6.5 Meeting to Review and Discuss Refined Plan(s) | **8** | **8** | 0 | **8** | $0.00 | $4,040.00 | 20-Mar-17 | 24-Mar-17 | 5 | 173 |
| 1.6.6 Select Recommended Plan | **4** | **4** | 0 | **4** | $0.00 | $2,020.00 | 27-Mar-17 | 31-Mar-17 | 5 | 180 |
| **1.7 Community Outreach Meeting** | | | | | | **$5,880.00** | | | | |
| 1.7.1 Meeting Topics | **12** | **16** | 0 | **8** | **$0.00** | $5,880.00 | 27-Mar-17 | 31-Mar-17 | 5 | 180 |
| **1.8 Summarize and Present Recommended Plan of Improvements** | | | | | | **$86,640.00** | | | | |
| 1.8.1 Finalize Recommended Plan and Project Deliverables | 0 | 0 | 0 | 0 | $0.00 | $0.00 | 3-Apr-17 | 2-Jun-17 | 61 | 243 |
| 1.8.1.1 Pre/Post Models and Result Tabulations | **8** | **24** | 0 | **8** | $0.00 | $6,200.00 | 3-Apr-17 | 14-Apr-17 | 12 | 194 |
| 1.8.1.2 Conceptual-Level Design Drawings | **4** | **60** | **40** | **16** | $0.00 | $15,740.00 | 3-Apr-17 | 28-Apr-17 | 26 | 208 |
| 1.8.1.3 Opinion of Probable Cost (incl. detailed design, permitting, land, and construction) | **8** | **60** | **16** | **16** | $0.00 | $14,100.00 | 3-Apr-17 | 28-Apr-17 | 26 | 208 |
| 1.8.1.4 Cost-Benefit | **8** | **40** | 0 | **8** | $0.00 | $8,360.00 | 1-May-17 | 12-May-17 | 12 | 222 |
| 1.8.1.5 Report and Mapping | **32** | **16** | **40** | **16** | $0.00 | $15,120.00 | 1-May-17 | 26-May-17 | 26 | 236 |
| 1.8.1.6 Training City staff in use of CHAN Modeling Software | 0 | **8** | 0 | 0 | $0.00 | $1,080.00 | 1-May-17 | 26-May-17 | 26 | 236 |
| 1.8.2 Meeting with City Administrative Staff | **8** | **8** | **16** | 0 | $0.00 | $4,200.00 | 29-May-17 | 2-Jun-17 | 5 | 243 |
| 1.8.3 Statewide Environmental Resource Permitting (with Response to 2 RAIs) | **50** | **60** | **28** | **8** | $0.00 | $21,840.00 | 29-May-17 | 30-Sep-17 | 125 | 363 |
| **2.1 Formulate List of Regional Flood Reduction Concepts** | | | | | | **$7,790.00** | | | | |
| 2.1.1 Describe Each Potential Solution and Known or Expected Obstacles to Success | **2** | **4** | **2** | **4** | $0.00 | $1,840.00 | 31-Oct-16 | 25-Nov-16 | 26 | 54 |
| 2.1.2 Identify Additional Data Needs to Support Hydraulic Evaluation | **2** | **8** | **2** | **8** | $0.00 | $3,100.00 | 31-Oct-16 | 25-Nov-16 | 26 | 54 |
| 2.1.3 Meeting to Review and Discuss List of Potential Solutions | **2** | **4** | **2** | **4** | $0.00 | $1,840.00 | 31-Oct-16 | 25-Nov-16 | 26 | 54 |
| 2.1.4 Select a Set of Alternatives for Further Evaluation | **2** | **2** | 0 | **2** | $0.00 | $1,010.00 | 28-Nov-16 | 2-Dec-16 | 5 | 61 |
| **2.2 Landowner Outreach Meeting(s) (including State agencies)** | | | | | | **$8,080.00** | | | | |
| 2.2.1 Meeting Topics | **16** | **16** | 0 | **16** | $0.00 | $8,080.00 | 31-Oct-16 | 2-Dec-16 | 33 | 61 |
| **2.3 Evaluate Hydraulic Performance of Selected Set of Alternatives** | | | | | | **$15,540.00** | | | | |
| 2.3.1 Perform screening-level Hydraulic Analyses | **8** | **24** | 0 | **16** | $0.00 | $7,640.00 | 2-Jan-17 | 6-Jan-17 | 5 | 96 |
| 2.3.2 Summarize Hydraulic Performance | **2** | **12** | **8** | **8** | $0.00 | $4,240.00 | 9-Jan-17 | 13-Jan-17 | 5 | 103 |
| 2.3.3 Meeting to Review and Discuss Performance of Alternatives | **4** | **4** | 0 | **4** | $0.00 | $2,020.00 | 16-Jan-17 | 20-Jan-17 | 5 | 110 |
| 2.3.4 Identify Preferred Plan(s) for Regional Improvements | **2** | **4** | 0 | **4** | $0.00 | $1,640.00 | 23-Jan-17 | 27-Jan-17 | 5 | 117 |
| **2.4 Summarize and Present Preferred Plan(s) for Regional Improvements** | | | | | | **$18,620.00** | | | | |
| 2.4.1 Screening-Level Hydraulic Model Pre/Post and Result Tabulations | **2** | **12** | 0 | **8** | $0.00 | $3,440.00 | 3-Apr-17 | 26-May-17 | 54 | 236 |
| 2.4.2 Conceptual-Level Drawings and Plan Descriptions | **2** | **12** | **8** | **2** | $0.00 | $3,160.00 | 3-Apr-17 | 14-Apr-17 | 12 | 194 |
| 2.4.3 Site Conditions and Design Constraints | **2** | **8** | **8** | **4** | $0.00 | $2,980.00 | 3-Apr-17 | 28-Apr-17 | 26 | 208 |
| 2.4.4 Relevant Permitting Requirements | **2** | **8** | 0 | **4** | $0.00 | $2,180.00 | 3-Apr-17 | 28-Apr-17 | 26 | 208 |
| 2.4.5 Opinion of Probable Cost (for detailed analysis, design, permitting, land, and construction) | **8** | **16** | 0 | 0 | $0.00 | $3,680.00 | 1-May-17 | 12-May-17 | 12 | 222 |
| 2.4.6 Planning-Level Report and Mapping | **8** | **4** | **4** | **4** | $0.00 | $3,180.00 | 1-May-17 | 26-May-17 | 26 | 236 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Labor Hours** | **352** | **900** | **307** | **394** | | | | | | |
| **Hourly Rate** | **$190.00** | **$135.00** | **$100.00** | **$180.00** | **Reimb.** | **Project** | **Start** | **End*** | **Days** | **Months** |
| **Labor Fee** | **$66,880.00** | **$121,500.00** | **$30,700.00** | **$70,920.00** | **$10,000.00** | **Schedule** | **3-Oct-16** | **30-Sep-17** | **363** | **12** |

* End date assumes 30-day review and 14-day response times by the District and Consultant, repectively.

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|---|---|---|---|---|---|---|---|---|---|---|
| **Total Estimated Fees** | **Part 1 :** | **$249,970.00** | **Part 2 :** | **$50,030.00** | | **$300,000.00** | | | **Total Duration** | **363** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scheduled Invoice No.** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **Total** |
| **Services Through Date** | **11/1/16** | **12/1/16** | **1/1/17** | **2/1/17** | **3/1/17** | **4/1/17** | **5/1/17** | **6/1/17** | **9/30/17** | **Fees** |
| **Lump Sum Fee Amount** | **$28,110.00** | **$34,170.00** | **$29,520.00** | **$30,840.00** | **$43,240.00** | **$28,860.00** | **$36,040.00** | **$47,380.00** | **$21,840.00** | **$300,000.00** |