STATEMENT OF QUALIFICATIONS

CITY OF GRAND PRAIRIE

Request for Proposal for Dorchester Levee Pump Replacement and Related Improvements

July 17, 2018

FREESE AND NICHOLS
4055 International Plaza, Suite 200
Fort Worth, Texas 76109-4895
817-735-7300

FREESE AND NICHOLS

Innovative approaches
Practical results
Outstanding service

July 17th, 2018

Stephanie W. Griffin, P.E., CFM
Stormwater Utility Manager and Floodplain Administrator
City of Grand Prairie
P.O. Box 534045
Grand Prairie, Texas 75053-4045

RE: Request for Proposal for Dorchester Levee Pump Replacement and Related Improvements

Dear Ms. Griffin:

Freese and Nichols, Inc. (FNI) is pleased to submit our proposal for Engineering Services for the City of Grand Prairie. As a multi-discipline firm, we have an exceptional ability to perform this work to the highest standards. We know FNI's award-winning group can effectively facilitate your visions and goals on this project.

We have assembled a strong team of professionals with a broad range of abilities. This submittal expands on our key strengths and team experience, qualifications and assets for this project, which include:

DEPTH OF EXPERIENCE – FNI is Texas' leader in the design and construction management of water pumping systems, having designed more than 60 pump station projects totaling over 5.9 billion gallons per day (BGD) in capacity in the last 10 years. Many of those pump stations involved surge modeling, hydraulic design, flow control and metering facility, back-up power generation and SCADA programming. FNI focuses on obtaining the best value for the Owner by designing facilities that are reliable, flexible, safe to operate and offer the lowest life-cycle costs. This experience will enable the Dorchester Levee project to be executed with a high degree of quality and expertise.

INNOVATION – Three of FNI's conveyance projects earned Outstanding Civil Engineering Achievement Awards from the Texas Section of the American Society of Civil Engineers, recognizing FNI's innovative, sustainable and successful designs. No other firm has won the award for a water transmission project. FNI will bring innovative solutions to the Dorchester Levee project.

CLIENT SERVICE – We offer excellent client service to Grand Prairie. We understand that engineering is only part of our services. We are committed to providing the level of service needed to make the project a success for Grand Prairie.

STAFF AND AVAILABILITY – The resumes of our proposed Project Manager Aaron Conine and other key staff assigned to this project are included in this submission. Our firm is available to perform the work required for this project without delay.

The following table includes a breakdown of our fees for the project and an hourly rate with maximum basis:

Task	Not to Exceed Fee
Project Management, Study and Final Design	$157,347
Bid Phase	$13,827
General Representation	$40,781
Total	**$211,955**
Special Services	**$8,216**
Total with Lump Sum (-3%)	**$213,566**

Since the city has indicated they would prefer a lump sum engineering contract, the **total cost with lump sum reductions amount of $213,566** is shown.

If you have any questions about our proposal, please feel free to contact us. We look forward to this opportunity and hope to hear from you soon.

Sincerely,

Aaron Conine, P.E., ENV SP
Project Manager
817-735-7469
Aaron.conine@freese.com

Nick Lester, P.E.
Principal-In-Charge
817-735-7393
ncl@freese.com

TEAM QUALIFICATIONS

PROJECT MANAGEMENT

FNI has extensive experience developing project and program management plans (PMP). Our PMP will include a detailed work plan along with communication strategies for coordination with City staff, stakeholders, designers, contractors and the public. FNI understands the importance of service and support for the City. Our management staff is based out of the firm's Fort Worth office and many of our team members work and live in the local area, so we have a vested interest in the successful implementation and completion of this project.

1. Working with City Staff – We recognize that FNI is supplementing the City's experienced and capable staff, and we will work to blend our talents with those City staff members to form an integrated project team focused on meeting the City's goals for each project.
2. Familiarity – FNI is familiar with the City's standard details, specifications, processes, City plans-and-specs approval process,permit approval process, and has worked with City staff on many projects. Using our experience we can maintain schedule and minimize delays.
3. Project Management – We understand that the critical path will be finalizing the stormwater model and finalizing which PS upgrades from special services will be worth the City's investment. We will focus on these activities to maintain the project schedule. We have a large staff of engineers and technicians, as needed, to maintain the project schedule.
4. Solving Problems with Leadership in Action – Even in the best managed project, problems do occasionally arise that must be addressed quickly and effectively to reduce the impact on cost and keep the project on schedule. Our commitment to project leadership is demonstrated by taking the lead in finding solutions to the problems that arise on a project.

PROJECT TEAM

We've put forth the advance-planning effort to verify we have the **right team members,** in the **right place,** with the **right availability** to meet client goals. Several factors influenced this choice, including individual experience and history of working together on common projects.

Our chosen team combines decades of experience in a wide range of disciplines. This complementary blend of team member expertise in their various areas of specialization results in a solid, well-rounded team, which ultimately benefits the client.

Beyond the proposed team, FNI has access to **750+ employees firmwide** to assist, as necessary. As a firm focused on client service, we will commit the resources required to get the job done.

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

A lack of attention to quality can result in a poorly designed and constructed project and future headaches for the City. FNI is committed to verifying quality at every project milestone. We accomplish this via our internal Quality Assurance/Quality Control (QA/QC) program, which includes a review of each technical element of the project by experienced personnel within the firm. Our QA/QC program is rooted in a system of formal checklists, meticulous analysis and design, and construction excellence to help produce quality deliverables and service for the City.

FIRM DESCRIPTION

FNI is an award-winning, multidiscipline engineering, planning and architecture firm founded in Fort Worth, Texas, in 1894. We work seamlessly across all disciplines, giving our clients the benefit of multiservice integration with an approach that is as innovative as it is practical. Together, more than 750 professionals deliver quality consulting services that reflect the FNI vision — to be the firm of choice for clients and employees.

FNI has consistently enjoyed financial stability as a result of conservative accounting methods and realistic budgeting. FNI has minimal long-term debt. Additionally, we maintain very minimal short-term debt, and currently have no outstanding amounts under our line of credit. We also maintain an account that will cover the cost of our professional liability premium. Our financial stability has sustained FNI through various economic cycles that have occurred in the past century. This stability is passed on to our clients through the confidence in knowing that we have and can sustain our quality services during tighter economic cycles.

PROJECT UNDERSTANDING

FNI has reviewed the City of Grand Prairie's Project description for the design of upgrades to the Dorchester Levee Pump Station. Upgrades will include replacement of three vertical centrifugal pumping units, starters, electrical upgrades to the existing pump station (PS), SCADA upgrades to incorporate the existing sluice gates into the system so that they can be operated automatically, sizing a generator & fuel tank to be on site, and the associated connections between the electrical upgrades and existing pump station (PS). As part of the pump replacements, FNI will conduct a stormwater model to verify required capacity of the pump station and analyze the load capability of the levee to handle the weight of the generator.

The replacement pumps will be one 75 horsepower (hp) pump and two 150 hp pumps. The existing PS substation will provide 480V power to the pumps through the existing PS. The electrical upgrades will consist of the new switchgear, and panels. The pumps will be controlled locally or through SCADA.

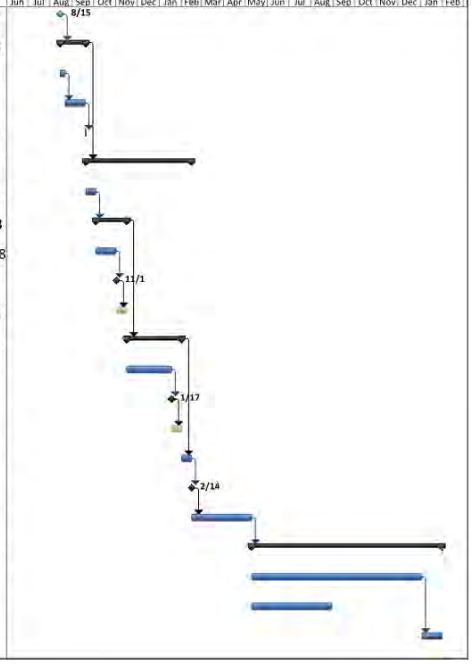
It is assumed that the pumping units will be bid and awarded as part of a bid package that includes the PS electrical upgrades and other selected improvements by the City of Grand Prairie. The electrical upgrades will include new switchgear, starters (Across the Line Starters, Soft Starters and VFDs), conduit and cabling from the existing stepdown transformers to the PS and the new pumps. SCADA system upgrades will be coordinated with the existing Grand Prairie SCADA System. FNI also understands that the City currently has an Emergency Action Plan for the area protected by this PS and levee and they would like FNI as part of this project to review the Emergency Action Plan and see if there is a solution that would eliminate the "sand bag" wall across Carrier Parkway.

PROJECT APPROACH

The first step in the project approach would be to perform the engineering analysis requested in the City's project description as a Technical Report. The Technical Report will include recommended alternatives as well as associated costs for the optional pump station enhancements that the City expressed interest in during the site visit. Meet with City in a review workshop to receive their input and then move forward into full design of the aspects of the project that are deemed necessary to the pump replacement and any additional items that the City may want to incorporate in to the bidding documents that have been listed in the RFQ but are not necessarily required to accomplish the pump replacement. Below is a proposed schedule.

Dorchester Levee Pump Replacement and Related Improvements

ID	WBS	Task Name	Duration	Start	Finish
1	1	NTP	0 days	Wed 8/15/18	Wed 8/15/18
2	2	**Study Phase**	**5.2 wks**	**Wed 8/15/18**	**Wed 9/19/18**
3	2.1	Review Existing Site Information	1 wk	Wed 8/15/18	Tue 8/21/18
4	2.2	Prepare Stormwater Report	4 wks	Wed 8/22/18	Tue 9/18/18
5	2.3	Perform Study Workshop with Grand Prairie	1 day	Wed 9/19/18	Wed 9/19/18
6	3	**Design Phase**	**21.2 wks**	**Thu 9/20/18**	**Thu 2/14/19**
7	3.1	Prelim System Hydraulics	2 wks	Thu 9/20/18	Wed 10/3/18
8	3.2	**60% Documents**	**6.2 wks**	**Thu 10/4/18**	**Thu 11/15/18**
9	3.2.1	60% Plans, Specs, OPCC	4 wks	Thu 10/4/18	Wed 10/31/18
10	3.2.2	Submit 60% to Grand Prairie	0 days	Thu 11/1/18	Thu 11/1/18
11	3.2.3	60% Design Review by Grand Prairie	2 wks	Fri 11/2/18	Thu 11/15/18
12	3.3	**90% Documents**	**11 wks**	**Fri 11/16/18**	**Thu 1/31/19**
13	3.3.1	90% Plans, Specs, OPCC	9 wks	Fri 11/16/18	Thu 1/17/19
14	3.3.2	Submit 90% to Grand Prairie	0 days	Thu 1/17/19	Thu 1/17/19
15	3.3.3	90% Design Review by Grand Prairie	2 wks	Fri 1/18/19	Thu 1/31/19
16	3.4	Final Plans, Specs, OPCC	2 wks	Fri 2/1/19	Thu 2/14/19
17	3.5	Submit Final Design to Grand Prairie	0 days	Thu 2/14/19	Thu 2/14/19
18	4	**Bid/Award**	**3 mons**	**Fri 2/15/19**	**Thu 5/9/19**
19	5	**Construction Phase**	**38 wks**	**Fri 5/10/19**	**Thu 1/30/20**
20	5.1	Pump Replacement	170 days	Fri 5/10/19	Thu 1/2/20
21	5.2	Electrical Upgrades	80 days	Fri 5/10/19	Thu 8/29/19
22	5.3	Record Documents and Project Closeout	20 days	Fri 1/3/20	Thu 1/30/20



PROJECT EXPERIENCE MATRIX									
		PUMP STATION				PIPELINES			
CLIENT AND LOCATION	PROJECT	CAPACITY (MGD)	LAKE/RIVER INTAKE	MULTIPLE INTAKE LEVELS	DEEP WETWELL OR SHAFTS	DIAMETER (IN)	LENGTH (LF)	TUNNEL/TRENCHLESS	ROCK TUNNELING
City of Grand Prairie	South Sector Pump Station	10	Booster	NA	NA	NA	N/A	NA	NA
City of Grand Prairie	South Sector Transline Ph II & PH III	NA	NA	NA	NA	24"/18"	15,000	Yes	Soil
City of Grand Prairie	Robinson Road WL	NA	NA	NA	NA	36"/30"	8,000	Yes	Soil
SJRA - Lake Conroe	Lake Conroe Raw Water Intake PS	126	Lake	Yes	No	60	1 mile	NA	NA
NTMWD - Trinity River	Trinity River Main Stem Pump Station	60	River	No	No	66	15 miles	2 x 48"	Soil
Sabine River Authority - Orange	Sabine River Intake Pump Station	75	River	No	Yes	66	8 miles	NA	NA
City of Corpus Christi, Colorado River	Mary Rhodes Ph. 2 Intake PS	46	River	No	Yes	48	40 miles	2 x 48"	Soil
NTMWD - Trinity River	East Fork Diversion Pump Station	165	River	No	No	78	1 mile	NA	NA
Parsons - Lake Granbury	AES Intake Pump Station	6	Lake	Yes	No	24	4 miles	NA	NA
Calpine - Richland Chambers Reservoir	Raw Water Intake Pump Station	10	Lake	Yes	Yes	30	5 miles	2 x 36"	Soil
City of Cleburne - Lake Aquilla	Aquilla Pump Station	7	Lake	Yes	Yes	24	36 miles	30"	Shale
NTMWD - Lake Lavon	RWPS No. 3 Expansion	85	Lake	Yes	Yes	NA	NA	NA	NA
CRMWD - Colorado River	Colorado City PS Rehabilitation	5	River	No	Yes	30"	1 mile	NA	NA
CRMWD - Lake Thomas	Lake Thomas Intake PS Rehab	24	Lake	Yes	Yes	30	30 miles	NA	NA

PROPOSED TEAM

Grand Prairie TEXAS

City of Grand Prairie

Stephanie Griffin, P.E., CFM

PRINCIPAL-IN-CHARGE
Nick Lester, P.E.

PROJECT MANAGER
Aaron Conine, P.E., ENV SP

QUALITY CONTROL
Kelly Wood, P.E.

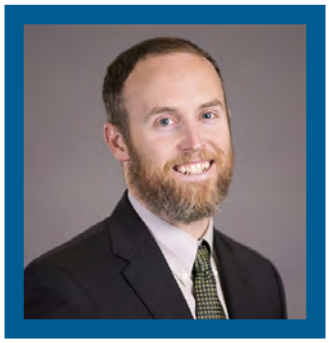
LEVEE ANALYSIS
Janis Murphy, P.E.

STRUCTURAL ANAYSIS
Peter Bartels, P.E.

GENERATOR/E&I
Jeff Hensley, P.E.

STORMWATER MODELING
Jeremy Dixon, P.E.

PUMP REPLACEMENT
Aaron Conine, P.E.



EXPERIENCE
11 years

EDUCATION
M.S., Civil Engineering, Southern Methodist University

B.S., Civil Engineering, United States Air Force Academy

REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #109794

Envision Sustainability Professional

AARON CONINE, P.E., ENV SP

WATER/WASTEWATER TRANSMISSION AND UTILITIES

Aaron Conine is an experienced Project Manager/Engineer with a background in water transmission and water and wastewater utility projects, including pipelines and mains, and pump stations and lift stations. In addition to routing studies, preliminary and final design, and construction services, Aaron is experienced in working closely with railroads, the Texas Department of Transportation (TxDOT), franchise utilities and other agencies to keep his clients' projects moving forward through the permitting and coordination processes. He is a skilled communicator who fully understands the importance of helping his clients make fully informed, project decisions. During Aaron's career as a civil engineering officer with the U.S. Air Force, he managed more than a dozen projects valued at nearly $50 million. He also served as the Program Manager for a base-relocation program that included more than 50 projects.

RELEVANT EXPERIENCE:

36-inch SH 360 Grand Prairie/Mansfield Joint Use Water Line | City of Grand Prairie, TX | Project Manager
Sara Jane Roadway Extension and Bridge Expansion | City of Grand Prairie, TX | Project Team
Benbrook Pump Station Analysis | City of Weatherford, TX | Project Team
SH 183 Utility Relocations | CSJ Engineering Associates | Project Team
Ragland and Day Miar Road Reconstruction | City of Grand Prairie, TX | Utility Design Lead
Lake Thomas Pump Station Design and Rehabilitation | Colorado River Municipal Water District | Assistant Project Manager
Robinson Road Waterline | City of Grand Prairie, TX | Project Manager

EXPERIENCE
24 years

EDUCATION
B.S., Civil Engineering, Texas Tech University

REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #87944

KELLY WOOD, P.E.

ASSOCIATE/ WATER/WASTEWATER TRANSMISSION AND UTILITIES

Kelly Wood is a Senior Project Manager in FNI's Water Resources Group, and he specializes in design, rehabilitation and project management for water transmission projects. His experience includes route studies, design, rehabilitation, hydraulic analysis and construction representation for the full scope of water transmission systems, including pump stations, pipelines and ground storage tanks. Kelly is an experienced designer of several small dams and detention facilities and has provided hydrologic/hydraulic analysis and design for stormwater facilities and hydraulic structures.

RELEVANT EXPERIENCE:

Raw Water Production Facility | Colorado River Municipal Water District | Project Team
Danforth Road Pump Station Rehabilitation | City of Edmond, OK | Project Manager
Midlothian Water Supply Project | City of Grand Prairie, TX | Project Manager
Mansfield Water Supply Pump Station | City of Grand Prairie, TX | Project Manager
Wallace and Lavon Pump Station Rehabilitations | City of Garland, TX | Project Team
Surface Water Supply Project Booster Pump Station | West Harris County Regional Water Authority | Project Manager

JANIS MURPHY, P.E.

WATER RESOURCES/ ASSOCIATE

Janis Murphy is a senior civil engineer in FNI's North Texas Water Resource Design Group. Ms. Murphy is one of Texas' most reliable and diverse project managers for dam-related engineering projects. Ms. Murphy is an FNI Associate whose experience includes the study, design and inspection of water resources-related structures. Ms. Murphy has been Project Manager and Project Engineer for numerous hydrologic and hydraulic analysis, and emergency action plans, as well as the rehabilitation of dozens of dams across Texas with construction costs totaling more than $200 million. Her experience ranges from dam safety programs for small privately-owned dams to some of Texas' largest dams and reservoirs.

EXPERIENCE
39 years

EDUCATION
B.S., Civil Engineering, Texas A&M University

REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #61882

AFFILIATIONS
American Society of Civil Engineers
Association of State Dam Safety Officials

RELEVANT EXPERIENCE:

Dam Safety Inspections | Texas Commission on Environmental Quality | Project Manager
Dam Safety Evaluations for Decker and Longhorn Dams | City of Austin, TX | Project Team
Lake Worth Dam Rehabilitation | City of Fort Worth, TX | Project Manager
Flood Protection Levee Design | City of Liberty, TX | Project Engineer
Lake Conroe Dam Gate Study | San Jacinto River Authority | Project Manager
Riverdale Levee Certification | Riverdale Levee Improvement | Project Engineer
Dam Safety Inspections and H&H Guidelines | Texas Commission on Environmental Quality | Project Team
Roy Orr Boulevard and Corn Valley Road Bridge Repairs | City of Grand Prairie, TX | Project Team

JEREMY DIXON, P.E., CFM

STORMWATER MANAGEMENT

Jeremy Dixon is a Project Engineer and Certified Floodplain Manager in FNI's Southeast Division Stormwater Management Group. He routinely performs H&H analysis and generates written reports for various stormwater projects. His experience also includes drainage studies, floodplain management, and review of drainage studies for compliance with current design criteria. He is proficient in HEC-RAS, HEC-HMS, InfoWorks ICM, HEC-GeoRAS, HEC-GeoHMS, development of ArcGIS scripts, and GIS applications for water resources.

EXPERIENCE
6 years

EDUCATION
M.S., Civil Engineering, Texas Tech University

B.S., Civil Engineering, Texas Tech University

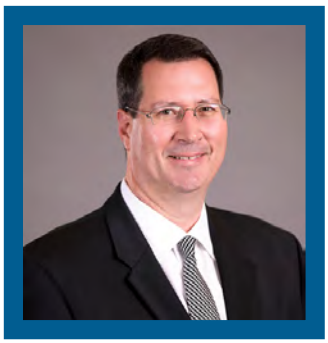
REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #121614

Certified Floodplain Manager
#2416-13N

AFFILIATIONS
Texas Floodplain Management Association

RELEVANT EXPERIENCE:

Fort Bend County LID 2 EAP | Fort Bend County, TX | Project Team
Downtown Revitalization Plan | City of Port Arthur, TX | Project Engineer
Drainage On-Call | City of Dallas, TX | Project Team
SH 99 Brazos River Bridge Erosion | Fort Bend County Toll Road Authority | Project Engineer
Model and Map Management (M3) Program | Harris County Flood Control District | Project Team
FBC LID 7 Erosion Study | Fort Bend County, TX | Project Team
TB Dam Part 12 Report | Toledo Bend Project Joint Operation | Project Team



JEFF HENSLEY, P.E.

MEP GROUP MANAGER/ VICE PRESIDENT, PRINCIPAL

Jeff Hensley is an FNI Vice President/Principal and the firm's Mechanical/Electrical/Plumbing (MEP) Group Manager. His project experience includes electrical and instrumentation design, motor starting and short-circuit analysis, value engineering, shop drawing review, inspections, start-up testing, witness testing, preliminary design, scope development and preparation of specifications for major electrical and instrumentation equipment.

EXPERIENCE
27 years

EDUCATION
B.S., Electrical Engineering, Kansas State University

REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #84677

10.4.2 Pump Stations-Electrical
#14651

AFFILIATIONS
Institute of Electrical and Electronics Engineers

RELEVANT EXPERIENCE:

Granger Lake Raw Water Pump Station and Transmission Line | Brazos River Authority | Electrical Engineer
Lake Thomas Pump Station Rehabilitation | Colorado River Municipal Water District | Project Team
Elm Fork Flood Protection Project: Phases I, II and III | City of Dallas, TX | Project Team
Broadway Pump Station Rehabilitation | City of Garland, TX | Project Team
Stormwater Pump Station Program Management | City of Dallas, TX | Electrical Engineer
Wheeler Branch Dam and Raw Water Pump Station | Somervell County Water District | Project Team
Midlothian Water Supply Project | City of Grand Prairie, TX | Project Team

NICK LESTER, P.E.

PRINCIPAL/ TRANSMISSION AND UTILITIES

Nick Lester is an FNI Vice President/Principal and an experienced pump station/pipeline Project Manager and Construction Manager for water and wastewater projects. He has extensive experience in the Southwest, having managed projects for water districts, river authorities and municipalities. He has performed route selection, preliminary design and design for $500 million of large-diameter pipelines in the last five years, including the Ward County Transmission System, which was honored by the American Council of Engineering Companies as one of the nation's top projects. It also earned the American Society of Civil Engineers' (ASCE) Outstanding Engineering Achievement Award (OCEA), one of five projects nationally, and ASCE's state-level OCEA.

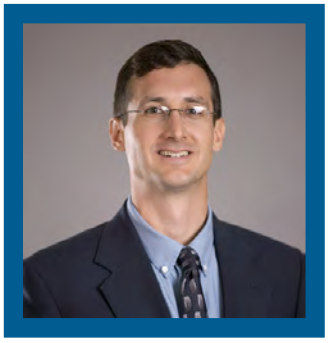
EXPERIENCE
17 years

EDUCATION
B.S., Civil Engineering, Texas A&M University

REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #97365

RELEVANT EXPERIENCE:

Williamson County Pipeline Rehabilitation | Brazos River Authority | Project Team
Lake Thomas Pump Station Rehabilitation | Colorado River Municipal Water District | Project Manager
Odessa Lift Stations No.1 and 2 Rehabilitation | Colorado River Municipal Water District | Project Manager
Lake Meredith Pump Station | Canadian River Municipal Water Authority | Project Manager
Wheeler Branch Dam and Raw Water Pump Station | Somervell County Water District | Project Engineer
Lake Thomas Pump Station Design and Rehabilitation | Colorado River Municipal Water District | Client Representative



PETER BARTELS, P.E.

STRUCTURAL ENGINEER/ ASSOCIATE

Peter Bartels is an FNI Associate and Structural Engineer experienced in design of steel, concrete, and masonry buildings and concrete for water and wastewater treatment plants, pump stations and water transmission. His experience includes a variety of material types, structural systems, environments and end-user demands. In addition, Peter has experience performing site visits and observations of construction work.

RELEVANT EXPERIENCE:

Broadway Pump Station Rehabilitation | City of Garland, TX | Project Team
Danforth Road Pump Station Rehabilitation | City of Edmond, OK | Project Team
Mansfield Water Supply Pump Station | City of Grand Prairie, TX | Project Team
Lake Thomas Pump Station Rehabilitation | Colorado River Municipal Water District | Project Team
Granger Lake Raw Water Pump Station and Transmission Line | Brazos River Authority | Electrical Engineer

EXPERIENCE
18 years

EDUCATION
M.S., Structural Engineering, West Virginia University

B.S., Civil Engineering, West Virginia University

REGISTRATIONS/CERTIFICATIONS
Professional Engineer,
TX #94584

TEAM'S AVAILABILITY

AVAILABLE RESOURCES

We are committed to providing responsive service and understand that time is money. The location of our project team members, our familiarity with the area and our prior experience providing professional services to the City give us the ability to provide a quick response.

Our team's current workload will not hinder our ability or commitment to provide the City with the same quality and timely service as received by all of our clients.

Each proposed team member is available to begin your project upon receipt of a signed contract from the City. However, should additional resources become required throughout the course of providing services, or should the project schedule become accelerated, FNI can draw from the expertise and resources of our entire firm to help meet your needs. We will commit the resources necessary to get the job done.

DEDICATING RESOURCES TO THE PROJECT

FNI has assembled the right people, in the right place, and with the right availability to successfully execute the City's project. FNI's Aaron Conine will manage the project from our Fort Worth office and will maintain access to our local engineers and support staff and the resources of more than 750 professionals firm-wide. Each team member is available to begin the project immediately.

Malcolm Baldrige
National Quality Award
2010 Award Recipient

OUR GUIDING PRINCIPLES

We are ethical
We deliver quality
We are responsive
We add value
We improve continuously
We are innovative
We develop professionally
We respect others
We appreciate our clients and fellow employees
We give back to our communities

FREESE AND NICHOLS

4055 International Plaza, Suite 200
Fort Worth, Texas 76109-4895
817-735-7300
817-735-7491 fax
www.freese.com

Attachment A

Specific Scope of Work for the Dorchester Levee Pump Replacement and Related Improvements

General – This scope of work is based upon the design of upgrades to the Dorchester Levee Pump Station. Upgrades will include replacement of three vertical centrifugal pumping units with new motor controllers, electrical upgrades to the existing pump station (PS), SCADA upgrades to incorporate the existing sluice gates into the system so that they can be operated automatically, sizing a generator & fuel tank to be on site, and the associated connections between the electrical upgrades and existing pump station (PS).

The replacement pumps will be one 75 horsepower (hp) pump and two 150 hp pumps. The existing PS substation will provide 480V power to the pumps through the existing PS. The electrical upgrades will consist of the new switchgear, power panels, back-up diesel driven generator and automatic transfer switch. The pumps will be controlled locally or through SCADA.

It is assumed that the pumping units will be bid and awarded as a single bid package that includes the PS electrical upgrades and other selected improvements by the City of Grand Prairie. The electrical upgrades will include new switchgear, starters (Across the Line, Soft Starters or VFDs), conduit and cabling from the existing stepdown transformers to the PS and the new pumps. SCADA system upgrades will be coordinated with the existing Grand Prairie SCADA System.

City of Grand Prairie will provide regulatory models for West Fork Trinity River, Johnson Creek, and existing Dorchester Pump Station. Grand Prairie will provide record drawings, operational procedures, and operation logs for a recent storm of concern at the Dorchester Pump Station.

The OWNER shall provide the following items for the development of the Project:

- Pay for all fees, permits, mitigation cost, utilities, and electric power service costs
- Project inspection

Basic Services – FNI will provide the following as part of the Basic Services of the Project:

1. **PROJECT MANAGEMENT:**
    a. Attend a kick-off meeting to clarify OWNER'S requirements for the project, review pertinent data, review project staffing and organization, and present the initial work plan and schedule.
    b. Provide administration and management of The Project. Review ongoing activities of all parties. Monitor schedule monthly. Monitor and update budget at milestones.
    c. Provide monthly update reports which include the following:
        i. Status of the work
        ii. Major tasks to be completed in the next month
        iii. Discussion of major issues
        iv. Scope changes to project scope or Engineer's scope

v. Project budget update (if major changes since the last update)
vi. Project schedule update (if major changes since the last update)
vii. Status of deliverables

2. **STUDY PHASE**
    a. Review existing drawings and layouts provided by OWNER to understand requirements of site and limitations.
    b. Perform one site visit to confirm existing site layout and condition of PS, discharge pipeline, and sluice gates.
    c. Review the existing site and electrical distribution system layout and determine the electrical upgrades required based on proposed new pump sizes.
    d. Work in conjunction with storm water report to confirm pump sizes.
    e. Prepare Technical Memorandum evaluating the proposed electrical upgrades to the pump station electrical distribution system, the proposed layout of the emergency back-up generator and recommendations.
    f. Prepare Storm water report
        i. FNI will review existing HEC-1 model of Dorchester Pump Station and convert to latest version of HEC-HMS. FNI will execute the HEC-HMS model and document any differences in calculated water surface elevation.
        ii. FNI will update HEC-HMS model to reflect the existing sump volume, existing pump capacity, existing/ultimate upstream land use, and current regulatory design storm events. FNI will evaluate capacity of existing pump and sump configuration with existing and/or ultimate land use. Tailwater will be based on regulatory levels on West Fork Trinity River and/or Johnson Creek.
        iii. FNI will develop three (3) alternatives to the pump and sump configuration including:
            1. Increase pump capacity to maintain existing 100-year sump elevation with current sump volume
            2. Increase sump volume to maintain existing 100-year sump elevation with current pump capacity
            3. Additional configuration to provide improved 100-year sump elevation
        iv. FNI will provide recommended set point elevations and representative pump curves for each alternative analyzed.
    g. Submit engineering analysis reports to OWNER
    h. Sit down with OWNER and perform a workshop to discuss questions and receive comments from OWNER.

3. **DESIGN PHASE**
    a. Review data for existing pump equipment and current system hydraulics and verify pump flow and head requirements. It is assumed that all three pumps will be replaced with similar capacity pumps and will be of similar materials of construction as the existing.
    b. Confirm hydraulics with existing data and flow data developed during the study phase as part of the H&H modeling task.
    c. Coordinate with pump motor and generator vendors for layouts, pricing and delivery schedules.

d. An evaluation of the existing PS structure will be conducted to confirm that the pump and any piping modifications will be supported
e. Select pumps and motors to replace existing pumps.
f. Confirm existing discharge pipeline is sufficient for the new pumps.
g. Furnish necessary information to utility companies whose facilities may be affected, or services may be required for the Project.
h. Prepare 60% plans, specifications, contract documents, Opinions of Probable Costs (OPCC), designs, and layouts of improvements to be constructed.
i. Perform one site visit to answer questions brought up during 60% design phase.
j. Submit plans, specifications, contract documents, and OPCC to the OWNER.
k. 60% Review: Furnish four copies of the preliminary 60% plans, specifications, and OPCC.
    i. Documents will include drawing sheets and specifications with some minor corrections or notes
    ii. FNI will meet with OWNER to present plans, specifications, and OPCC and receive comments.
l. Update 60% plans, specifications, and OPCC based on workshop comments.
m. Prepare bidder's proposal forms (project quantities) of the improvements to be constructed.
n. Prepare 90% plans, specifications, contract documents, and OPCC, and bid proposal forms.
o. Perform one site visit to answer questions brought up during 90% design phase.
p. 90% Review: Furnish four copies of preliminary 90% plans, specifications, OPCC, and bid proposals.
    i. Review documents will include all drawing sheets and specifications with some minor corrections and notes remaining.
    ii. FNI will meet with OWNER to present plans, specifications, and OPCC and receive comments
q. Upon final approval by OWNER, FNI will complete the plans and specifications and provide OWNER four (4) sets of copies of "Final" plans and specifications.

4. **BID PHASE –** After completion of the design services and approval of "Final" drawings and specifications by OWNER, CONSULTANT will proceed with the performance of services in this phase as follows:
    a. Assist Owner in securing bids. Advertise the project on CIVCAST and issue a Notice to Bidders to prospective contractors and vendors listed in FNI's database of prospective bidders. Provide a copy of the notice to bidders for Owner to use in notifying construction news publications and publishing appropriate legal notice. The cost for publications shall be paid by Owner.
    b. Assist Owner by responding to questions and interpreting bid documents. Prepare and issue addenda to the bid documents to plan holders if necessary.
    c. Assist Owner in the opening, tabulating, and analyzing the bids received. Review the qualification information provided by the apparent low bidder to determine if, based on the information available, they appear to be qualified to construct the project.

Recommend award of contracts or other actions as appropriate to be taken by Owner. Pre-qualification of all prospective bidders and issuing a list of eligible bidders prior to the bid opening is an additional service.

d. Assist the Owner in conducting a pre-bid conference for the construction projects and coordinate responses with Owner. Response to the pre-bid conference will be in the form of addenda issued after the conference. Attend the tour of the project site after the pre-bid conference.

e. Assist Owner in the preparation of Construction Contract Documents for construction contracts. Provide ten (10) sets of Construction Contract Documents which include information from the apparent low bidders bid documents, legal documents, and addenda bound in the documents for execution by the Owner and construction contractor. Distribute five (5) copies of these documents to the contractor with a notice of award that includes directions for the execution of these documents by the construction contractor. Provide Owner with the remaining five (5) copies of these documents for use during construction. Additional sets of documents can be provided as an additional service.

f. Furnish contractor copies of the drawings and specifications for construction pursuant to the General Conditions of the Construction Contract.

5. **CONSTRUCTION PHASE** – Upon completion of the bid or negotiation phase services, FNI will proceed with the performance of construction phase services as described below. FNI will endeavor to protect Owner in providing these services however, it is understood that FNI does not guarantee the Contractor's performance, nor is FNI responsible for supervision of the Contractor's operation and employees. FNI shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, or any safety precautions and programs relating in any way to the condition of the premises, the work of the Contractor or any Subcontractor. FNI shall not be responsible for the acts or omissions of any person (except its own employees or agents) at the Project site or otherwise performing any of the work of the Project.

   a. Assist Owner in conducting pre-construction conference with the Contractor, review construction schedules prepared by the Contractor pursuant to the requirements of the construction contract.

   b. Establish communication procedures with the Owner and contractor.

   c. Establish and maintain a project documentation system consistent with the requirements of the construction contract documents. Review contractor's submittals, including, requests for information, modification requests, shop drawings, schedules, and other submittals in accordance with the requirements of the construction contract documents for the projects.

   d. Make four site visits at a rate of once per month appropriate to the stage of construction to the site to observe the progress and the quality of work and to attempt to determine in general if the work is proceeding in accordance with the Construction Contract Documents. In this effort FNI will endeavor to protect the Owner against defects and

deficiencies in the work of Contractors and will report any observed deficiencies to Owner. Visits to the site more than the specified number are an additional service.

e. Notify the contractor of non-conforming work observed on site visits. Review quality related documents provided by the contractor such as test reports, equipment installation reports or other documentation required by the Construction contract documents.

f. Interpret the drawings and specifications for Owner and Contractor(s). Investigations, analyses, and studies requested by the Contractor(s) and approved by Owner, for substitutions of equipment and/or materials or deviations from the drawings and specifications is an additional service.

g. Process contract modifications and negotiate with the contractor on behalf of the Owner to determine the cost and time impacts of these changes. Prepare change order documentation for approved changes for execution by the Owner. Documentation of field orders, where cost to Owner is not impacted, will also be prepared. Investigations, analyses, studies or design for substitutions of equipment or materials, corrections of defective or deficient work of the contractor or other deviations from the construction contract documents requested by the contractor and approved by the Owner are an additional service. Substitutions of materials or equipment or design modifications requested by the Owner are an additional service.

h. Prepare documentation for contract modifications required to implement modifications in the design of the project. Receive and evaluate notices of contractor claims and make recommendations to the Owner on the merit and value of the claim based on information submitted by the contractor or available in project documentation. Endeavor to negotiate a settlement value with the Contractor on behalf of the Owner if appropriate. Providing these services to review or evaluate construction contractor(s) claim(s), supported by causes not within the control of FNI are an additional service.

i. Conduct, in company with Owner's representative, a final review of the Project for conformance with the design concept of the Project and general compliance with the Construction Contract Documents. Prepare a list of deficiencies to be corrected by the contractor before recommendation of final payment. Assist the Owner in obtaining legal releases, permits, warranties, spare parts, and keys from the contractor. Review and comment on the certificate of completion and the recommendation for final payment to the Contractor(s). Visiting the site to review completed work more than two trips are an additional service.

j. Revise the construction drawings in accordance with the information furnished by construction Contractor(s) reflecting changes in the Project made during construction. Two (2) sets of prints of "Record Drawings" shall be provided by FNI to Owner. One of the prints will be a full Mylar Record Drawings Set.

Special Services

Structural Design

1. Reinforcing of existing structure for new pump and piping loads
2. Construction phase review for structural items listed above.

Construction Phase Startup Testing

1. Provide 1 day of startup services for an electrical engineer and civil engineer to witness pump and electrical performance and system control.

Additional Services – This scope excludes the following items without written authorization from OWNER:

Geotechnical/Structural

1. Design of foundation slab for future generator.
2. Prepare Geotechnical report for future generator foundation.

Electrical Design for Pump Station

1. Design of interior and exterior lighting with LED fixtures to replace the existing lights.
2. Construction phase review for lighting upgrades.

Mechanical/HVAC

1. Design HVAC system to protect all appurtenances at Pump Station.

Pump and Discharge Design

1. Preparation of Design Documents for the discharge line from the Pump Station.

Stormwater Modeling

1. Assisting Owner in preparing for, or appearing at litigation, mediation, arbitration, dispute review boards, or other legal and/or administrative proceedings in the defense or prosecution of claims disputes with third parties.
2. Alternatives analysis or proposed conditions analysis to make improvements to existing drainage conditions
3. Final design, bid, or construction phase services
4. USACE 404 or other environmental permitting
5. LOMR, CLOMR or other FEMA coordination
6. Providing renderings, model, and mock-ups requested by the OWNER.
7. Making revisions to drawings or other report documents when such revisions are 1) not consistent with approvals or instructions previously given by OWNER or 2) due to other causes not solely within the control of FNI.
8. Providing services to investigate existing conditions or facilities, or to make measured drawings thereof, or to verify the accuracy of drawings or other information furnished by OWNER.
9. Meeting or trips in excess of the number of meetings included in Article I for site visits, coordination meetings, or other activities.
10. Preparing applications and supporting documents for government grants, loans, or planning advances and providing data for detailed applications.
11. Preparing data and reports for assistance to OWNER in preparation for hearings before regulatory agencies, courts, arbitration panels or any mediator, giving testimony, personally or by deposition, and preparations therefore before any regulatory agency, court, arbitration panel or mediator.
12. Design, contract modifications, studies or analysis required to comply with local, State, Federal or other regulatory agencies that become effective after the date of this agreement.

13. Providing basic or additional services on an accelerated time schedule. The scope of this service include cost for overtime wages of employees and consultants, inefficiencies in work sequence and plotting or reproduction costs directly attributable to an accelerated time schedule directed by the OWNER.
14. Providing document revisions in excess of those outlined in Article I.
15. Provide a feasibility study to explore solutions to remove the need of the sandbag wall at Carrier Parkway
16. Perform a 1D/2D HEC-RAS model of the West Fork Trinity River, Johnson Creek, and interior drainage to confirm the controlling coincident event during storm events.

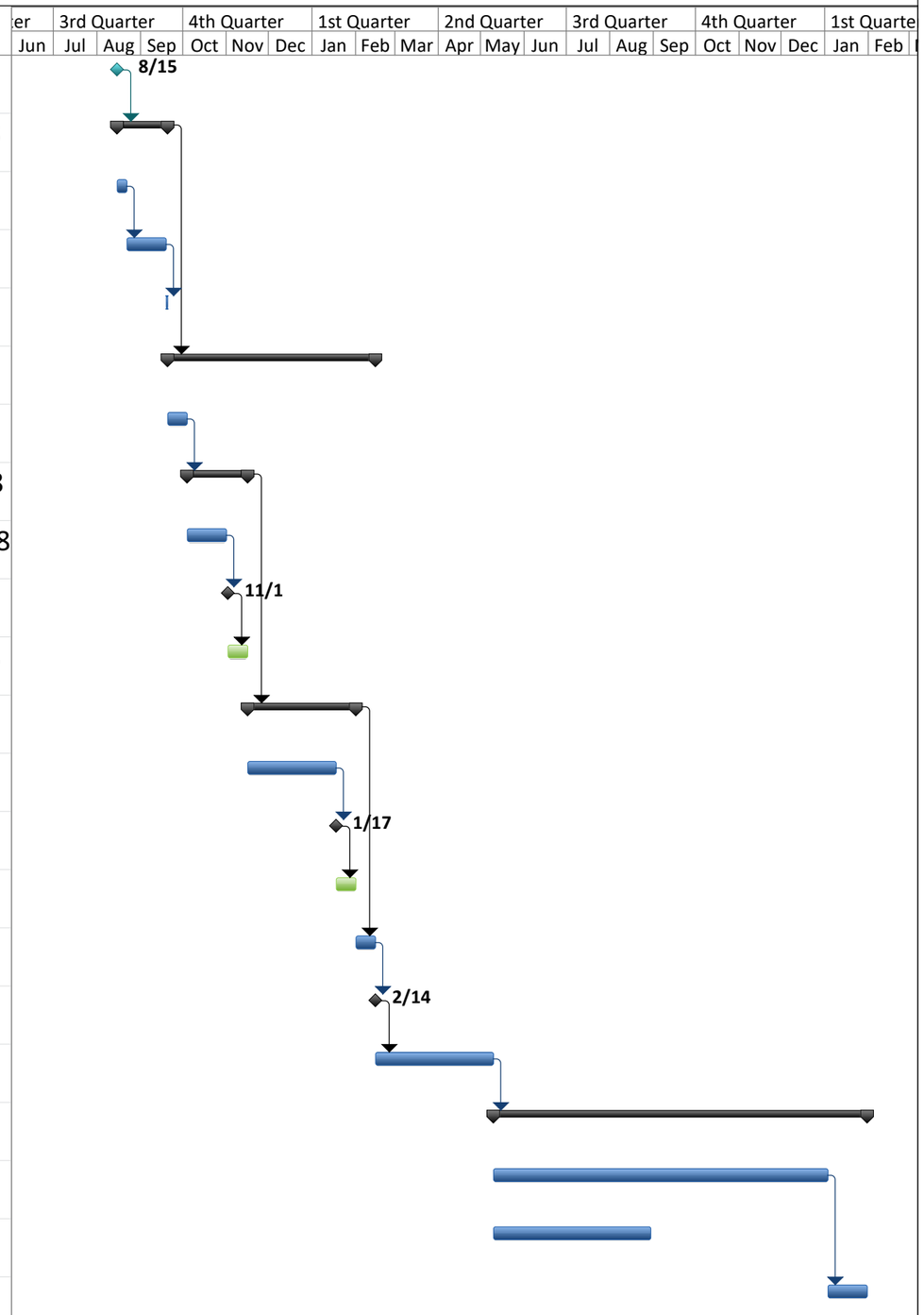
Schedule – This agreement shall become effective upon execution of this Agreement by the OWNER and the CONSULTANT and upon issuance of a notice to proceed by OWNER and shall remain in force for the period which may reasonably be required for the completion of the Project, including Additional Services, if any, and any required extensions approved by the OWNER. This agreement may be sooner terminated in accordance with the provisions hereof. Time is of the essence in the Agreement. The CONSULTANT shall make all reasonable efforts to complete the services set forth herein as expeditiously as possible. A schedule will be developed once a final scope is negotiated. It will be presented at the Project Kickoff Meeting.

Compensation – The compensation for this scope of work shall be per the lump sum not-to-exceed fees shown below:

Task	Not to Exceed Fee
Project Management, Study and Final Design	$157,347
Bid Phase	$13,827
General Representation	$40,781
Total	**$211,955**
Special Services	**$8,216**
Total with Lump Sum (-3%)	**$213,566**

Dorchester Levee Pump Replacement and Related Improvements

ID	WBS	Task Name	Duration	Start	Finish
1	1	NTP	0 days	Wed 8/15/18	Wed 8/15/18
2	**2**	**Study Phase**	**5.2 wks**	**Wed 8/15/18**	**Wed 9/19/18**
3	2.1	Review Existing Site Information	1 wk	Wed 8/15/18	Tue 8/21/18
4	2.2	Prepare Stormwater Report	4 wks	Wed 8/22/18	Tue 9/18/18
5	2.3	Perform Study Workshop with Grand Prairie	1 day	Wed 9/19/18	Wed 9/19/18
6	**3**	**Design Phase**	**21.2 wks**	**Thu 9/20/18**	**Thu 2/14/19**
7	3.1	Prelim System Hydraulics	2 wks	Thu 9/20/18	Wed 10/3/18
8	**3.2**	**60% Documents**	**6.2 wks**	**Thu 10/4/18**	**Thu 11/15/18**
9	3.2.1	60% Plans, Specs, OPCC	4 wks	Thu 10/4/18	Wed 10/31/18
10	3.2.2	Submit 60% to Grand Prairie	0 days	Thu 11/1/18	Thu 11/1/18
11	3.2.3	60% Design Review by Grand Prairie	2 wks	Fri 11/2/18	Thu 11/15/18
12	**3.3**	**90% Documents**	**11 wks**	**Fri 11/16/18**	**Thu 1/31/19**
13	3.3.1	90% Plans, Specs, OPCC	9 wks	Fri 11/16/18	Thu 1/17/19
14	3.3.2	Submit 90% to Grand Prairie	0 days	Thu 1/17/19	Thu 1/17/19
15	3.3.3	90% Design Review by Grand Prairie	2 wks	Fri 1/18/19	Thu 1/31/19
16	3.4	Final Plans, Specs, OPCC	2 wks	Fri 2/1/19	Thu 2/14/19
17	3.5	Submit Final Design to Grand Prairie	0 days	Thu 2/14/19	Thu 2/14/19
18	**4**	**Bid/Award**	**3 mons**	**Fri 2/15/19**	**Thu 5/9/19**
19	**5**	**Construction Phase**	**38 wks**	**Fri 5/10/19**	**Thu 1/30/20**
20	5.1	Pump Replacement	170 days	Fri 5/10/19	Thu 1/2/20
21	5.2	Electrical Upgrades	80 days	Fri 5/10/19	Thu 8/29/19
22	5.3	Record Documents and Project Closeout	20 days	Fri 1/3/20	Thu 1/30/20



Grand Prairie
Dorchester Levee Pump Replacement and Related Improvements
7/16/2018
Detailed Cost Breakdown

Basic Services

Employee	Aaron Conine	Andrew Richardson	Kelly Wood	Aaron Litteken	Jeff Hensley	Scott Hubley	Jeremy Dixon	Wylie Gorup	Janis Murphy	Peter Bartels	Julia Whitcraft	Electrical Engineer IV	Wade Zemlock	Alex Trevizo	Brad Watson	Total Hours
Project Management																
Setup (1112)		4														4
Internal kick off meeting (1112, 1122, 1156,1110, 1125)	1	3	1				1		1	1		1				9
Attend client kickoff meeting (1112, 1122, 1156, 1110)	4	8					4		3			3				22
Coordination and monthly reports (1112)	12	24														36
Study Phase																
Review Existing drawings and information	2	12										6	2			22
Site Visit (1112,1122, 1156)	3	3					3	3		3		3	3			21
Prepare Stormwater report (1112, 1156)																
Data Collection								8								8
Review HEC-1 model							2	4								6
Convert HEC-1 model to HEC-HMS							4	4								8
Update HEC-HMS model to match existing conditions							2	8								10
Review regulatory elevations on WFTR and Johnson Creek							2	2								4
Pump Sump Analysis Config 1							2	8								10
Pump Sump Analysis Config 2							2	8								10
Pump Sump Analysis Config 3							2	8								10
Documentation						4	12	20								36
Submit Stormwater report																
Perform workshop with city to discuss reports (1112, 1125, 1156)	4	4										4				12
Design Phase																
Review existing data / hydraulics (1112)	2	16	1													19
Confirm hydraulics with existing data (1112)	2	2														4
Coordinate with pump, motor and VFD vendors (1112, 1122)	4	12	1		1	2						10	2			32
Evaulate existing PS structure to confirm that pump additions and any piping mod. Will be supported (1125)										8					2	10
Pump Selection (1112)	2	20	2													24
Confirm existing discharge line is sufficient		3														3
Furnish necessary information to utility companies (1112, 1122)	1				1							12	2			16
Prepare 60% Drawings (1112, 1122, 1110)	8	40	2	36								35	2	40		163
Prepare 60% Specs (1112, 1122, 1110)	2	20										6	2			30
Prepare 60% OPCC (1112,1122,1110)	1	6										4	1			12
Perform Site visit to answer questions	4	4								4		4	2			18
Internal 60% QC (1112, 1122, 1125, 1110)	4	4	4		4					1						17
Submit documents to Grand Prairie																
Review with City (Submit 4 copies) (1112)	4	4										4				12
Update 60% documents based on workshop	4	8							4							16
Prepare bidder's proposal forms		4														4
Prepare 90% Drawings (1112, 1122, 1125, 1110)	8	20		20								75	6	50	2	181
Prepare 90% Specs (1112, 1122, 1125, 1110)	4	20										12	3		2	41

Grand Prairie
Dorchester Levee Pump Replacement and Related Improvements
7/16/2018
Detailed Cost Breakdown

	Prepare 90% OPCC (1112, 1122, 1125, 1110)	1	4									4	1			10
	Perform Site visit to answer questions	4	4								2		4	4		18
	Internal 90% QC (1112, 1122, 1125, 1127, 1128, 1129)	4	4	4		4					1					17
	Submit 90% documents to City		3													3
	Review with City (Submit 4 copies) (1112)	4	4										4			12
	Finalize documents based on workshop	2	16		10								12	2	15	57
	Provide City with 4 finalized sets of documents		2													2
	Bid Phase															
	Bid Package #1 Pump Replacement															
	Advertise on Civcast, call prospective bidders (1112)		4													4
	Answer questions and issue addenda (1112)	4	6		4								4	1	6	25
	Attend bid opening (1112)															
	Review proposals or qualifications of low bidder (1112) [procurement method dependent]	3	10	1												14
	Recommend award of contract (1112)	1	1													2
	Assist in pre-bid meeting (1112)	4	8	4												16
	Assist in preparation of construction Contract Documents (Submit 10 copies) (1112 and 1129)	1	6		8								2		4	21
	Furnish Contractor Drawings and Specifications (1112)		2													2
	Construction Phase (1112)															
	Preconstruction meeting (1112 and 1129)	4	12													16
	Monthly reports (1112)	4	8													12
	Administer FNiManager (1112)		12													12
	Review shop drawings (1112, 1122, 1125 and 1127)		24			2							50	2		78
	Review pay applications (1112)	2	4													6
	4 site visit(s) (1112)	8	12										8			28
	Coordinate testing labs (1112, 1129)															
	Interpret drawings (1112)	4	8													12
	Change management (1112)	4	8													12
	Walk through at Substantial Completion (1112 and 1129)	8	8													16
	Walk through at Final Completion (1112 and 1129)	8											6			14
	Issue Record Drawings (Submit 2 copies) (1112)	4	8		16							2	4		8	42
	Total Basic Services Hours	**150**	**419**	**20**	**94**	**12**	**6**	**36**	**73**	**8**	**20**	**2**	**277**	**35**	**123**	**6**	**1,281**

Grand Prairie
Dorchester Levee Pump Replacement and Related Improvements
7/16/2018
Detailed Cost Breakdown

Special Services

Task	Employee	Aaron Conine	Andrew Richardson	Kelly Wood	Aaron Litteken	Jeff Hensley	Scott Hubley	Jeremy Dixon	Wylie Gorup	Janis Murphy	Peter Bartels	Julia Whitcraft	Electrical Engineer IV	Wade Zemlock	Alex Trevizo	Brad Watson	Total Hours
	Project Role																
	Tasks ↓ | Current Hourly Bill Rate →	$165	$145	$253	$133	$253	$253	$165	$145	$221	$190	$133	$165	$221	$103	$253	
	Structural																
	reinforcing existing PS for pump/new pipe										16	16					32
	1112																
	Startup witness testing (1112, 1122)	8											8				16