December 1, 2021

Karl Hagerman
Utility Director
Petersburg Borough
khagerman@petersburgak.gov

Subject: Proposal for Blind Slough Hydroelectric Project Final Design and Construction Management

Dear Mr. Hagerman:

McMillen Jacobs Associates (McMillen Jacobs) is pleased to submit our proposal for the professional engineering services for the final design and construction management for the refurbishment of the Blind Slough Hydroelectric Project (Project). We are confident that the McMillen Jacobs' team represents the best company to meet Petersburg Borough (Borough) requirements. With our highly qualified team of hydro professionals and our familiarity with the Project, we will be extremely cost effective at developing the design and construction documents to refurbish the Project. We have organized our proposal to follow the specific outline of tasks presented in the RFP tailoring our approach to highlight our specific qualifications, and address the following:

- Estimate of T&M costs inclusive of all work described below, including all expenses related to the completion of the work.
- A work schedule that clearly describes the calendar dates for starting and completing of each task.
- A listing of staff and resources required to complete the work.
- Special considerations anticipated for completion of the work.

McMillen Jacobs brings a proven track record of delivering complex water resources and hydroelectric projects utilizing a Design-Bid-Build contract delivery mechanism. We are confident of our ability to continue a strong and collaborative working relationship with the Borough providing the effective communication, decision making, and partnership required to move the project from preliminary engineering through to the initiation of commercial power generation. Our proposed team has McMillen Jacobs' staff in every key role—all of which worked on the engineering services for this Project and the preliminary design and equipment procurement work that this proposal is based on.

Mort McMillen, as the Principal-in-Charge, has the authority to make all executive decisions for McMillen Jacobs providing effective and swift decision making. Mort has served in the same role for the Allison Creek Hydroelectric Design-Build Project working closely with the Copper Valley Electric Authority in managing the project. Their partnership served as the foundation in developing a fully collaborative working relationship within the team, quick response to project issues and challenges, and effective financial management. Through Mort's leadership, we developed a project configuration and construction approach which delivered the project $10 million under the original cost estimate, while also maximizing generation output. Mort McMillen will provide quality assurance and control and be a technical resource for the design team.

Don Jarrett, as the Project Manager, brings over 35-years of hydroelectric project engineering, design, construction and operations experience to the team. Don will provide leadership and oversight of the development of the plans and specifications for both turbine-generator equipment procurement and the on-site construction contract.

Our in-house FERC/regulatory team, led by Cory Warnock, is ideally suited to lead the permitting and FERC consultation/compliance work activities for this Project. Cory has extensive experience with the State of Alaska regulatory agencies and has a successful track record of delivering permits to meet construction timelines, while maintaining exceptional relationships with the agencies. Cory is well respected with FERC and brings experience in managing the FERC compliance on projects in Alaska.

Our team provides the following benefits to the District:

- Our Project Manager, Don Jarrett, has participated in over a dozen refurbishment / construction projects and led the recently completed the $80 million Box Canyon Hydroelectric Turbine Upgrade Project for the Pend Oreille Public Utility District bringing a proven ability to successfully deliver challenging projects on time and within budget.
- Key Team Members bring an average of over 22 years of experience in the industry.
- All of the engineers required to stamp drawings are Registered Professional Engineers in the State of Alaska.
- Every member of our team brings experience that is unique to hydroelectric projects—having completed over 150 projects at hydropower facilities in the last 10 years.
- Customer service is our priority—80% of our work is from repeat clients.
- Key Team Members demonstrate experience in providing support to start-up and commissioning, balance of plant, and integration of the turbine-generator package up to the utility inter-tie point.
- Our multi-disciplined team brings extensive depth to execute hydropower projects such as the Blind Slough Hydroelectric Project.

If you have additional questions, please feel free to call or email us at maramcmillen@mcmjac.com or mortmcmillen@mcmjac.com, or call at (208) 342-4214 or cell at (208) 869-4007 (Mara) (208) 830-1394 (Mort).

Sincerely,

Mara McMillen
President of McMillen LLC,
dba McMillen Jacobs Associates

Morton D. McMillen, PE
Executive VP of McMillen LLC,
dba McMillen Jacobs Associates

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1.0 Cost Details

1.1 Scope of Work

McMillen Jacobs Associates (McMillen Jacobs) completed the study of the Blind Slough Hydroelectric Project in 2019. This work included a Condition Assessment (CA) of the Blind Slough Hydroelectric Project (Project) for the Borough of Petersburg, Municipal Power and Light (Borough). The CA was performed by a multidisciplinary team of professional engineers who used their experience with other hydroelectric facilities and information provided by the Borough to assess the condition of the Project. The Project is generally operating well with a high availability and a low operating cost. Project operations and maintenance (O&M) staff are knowledgeable and have a long association with the Project. The CA concluded with a list of recommendations for work needed to maintain the Project operation for the term of the current Federal Energy Regulatory Commission (FERC) license and future licenses.

McMillen Jacobs was also retained to perform an analysis of alternatives based on the CA results for major maintenance (for life extension) and capital improvements for the Project. The Alternatives Development and Evaluation report documented and evaluated the alternatives developed to recommend major maintenance and capital improvements for the Project.

Finally, McMillen Jacobs prepared a Capital Improvement Plan (CIP) for the Project based on the CA and the evaluation of the alternatives presented in the Alternatives Development and Evaluation Report. The CIP presents the plan for powerhouse refurbishment and penstock repair.

It was recommended that the two projects (powerhouse refurbishment and penstock repair) be combined into a single coordinated construction project to minimize outages and make any modifications to the lower part of the penstock to accommodate a new turbine. A single general contractor should coordinate both activities to minimize outages and schedule conflicts. This construction contract would be awarded through a competitive bidding process. It was also recommended that the Borough procure the turbine-generator and auxiliary electrical equipment directly through a competitive bidding process. This procurement approach will provide the greatest level of control over the equipment to be installed in the powerhouse and provide all necessary information for the design of the powerhouse modifications. This equipment would then be provided to the general contractor for the powerhouse refurbishment. Total costs were estimated at $8.1 million in December 2021 as part of the 60% Design Documentation Report. Cost estimates will be updated as the design progresses. This contract schedule will require about 3 years to complete including design, equipment procurement, and construction.

As a part of the CIP, the following tasks were defined:

- **Task 1 Preliminary Engineering**
- **Task 2 Equipment Procurement Bid Documents**
- **Task 3 Equipment Bidding Assistance**
- **Task 4 Equipment Design and Manufacturing Support**
- **Task 5 Engineering for Construction Contract**
- **Task 6 Construction Contract Bidding**
- **Task 7 Engineering Support During Construction**
- **Task 8 Regulatory and Permitting Support**
- **Task 9 Project Management**

Each of these tasks are discussed below. Table 1.1 presents a summary of the costs estimated for each task and a detailed breakdown of costs is located at the end of this section.

Proven Performance
Cost-Effective Designs

"Your value engineering effort saved the project $2.9M or 30% reduction in capital cost. The design-build contract was awarded in December 2010 and was completed 9 months ahead of schedule and within budget. Thank you and your design-build team for the thorough and professional performance. I very much enjoyed working with you all; very high caliber team. McMillen is a most impressive design and construction vendor." - Jim Burby, Retired Project Manager, US Fish & Wildlife Service for the Don Edwards Ponds Design-Build Project.

1.1.1 Task 1- Preliminary Engineering (Completed)

Preliminary engineering was needed to fully define the final scope of refurbishment work at the Project, collect additional information needed for design, develop plans and specifications for the two contracts (equipment procurement and on-site construction), refine costs, etc. Significant activities needed for the development of the plans and specifications include the inspection of the penstock interior (via remotely operated vehicle and further field inspections) and a detailed topographic survey of the penstock (to provide as-built information on the penstock features, slopes for access improvements, etc.). The survey facilitated McMillen Jacobs' work in developing detailed drawings for repair of the penstock and improvements to the penstock access. As noted in the previous studies, McMillen Jacobs recommended complete equipment replacement inside the powerhouse.

The preliminary design work was completed in January 2020.

1.1.2 Task 2- Equipment Procurement Bid Documents (Completed)

McMillen Jacobs completed the preparation of bid documents for the Borough to purchase turbine, generator, and ancillary electrical equipment. As was discussed in the CIP, McMillen Jacobs recommended the Borough purchase all new powerhouse generating equipment. Plans and specifications were prepared to allow a competitive bid process for the supply of the equipment.

As noted in the Preliminary Design, we recommended procurement of a new two-jet impulse turbine, turbine inlet valve and hydraulic power unit and governor, new brushless excited synchronous generator, new generator switchgear, breaker controls, and protective relays. The selected manufacturer will provide submittals demonstrating that the equipment is in conformance with the specifications and receives appropriate factory acceptance tests prior to shipment. The supplier will also provide detailed drawings of the equipment, installation instructions, and field service engineers to oversee installation, startup, and commissioning.

1.1.3 Task 3- Equipment Bidding Assistance (Completed)

McMillen Jacobs assisted the Borough in soliciting bids, responding to bidder questions, issuing addenda when appropriate, attending a pre-bid meeting, evaluating the bids, and making a recommendation for award. The equipment procurement contract was bid, bids evaluated and a contract with Gilkes awarded in June 2020. Because of the need to secure financing for the Project a notice to proceed with the equipment procurement contract was delayed until November 1, 2021. It is not expected that equipment will be delivered to the site until November 2022.

1.1.4 Task 4- Equipment Design and Manufacturing Support

During the design and manufacturing of the powerhouse equipment, McMillen Jacobs will support the Borough with a kickoff meeting, design coordination meetings, submittal reviews, and witness of factory acceptance tests

(FAT). For overseas FAT, we propose to utilize the services of a third-party inspector. We have routinely utilized Brazil Quality Services (BQS) for these inspection services as a cost-effective alternative to expensive overseas trips.

Submittal reviews are an important method to ensuring the equipment is being manufactured in accordance with the level of quality required by the specifications. The manufacturer will be required to submit material test reports to verify materials are provided and tested in accordance with the specifications. The specifications will require various non-destructive testing methods to verify quality requirements are being satisfied.

Submittals will be provided not just for the turbine and generator, but all equipment being supplied. Important submittals will include control schematics and control logic narratives provided by the control's integrator. The specifications will require these submittals to address start-stop logic and capabilities for remote and local control of the turbine-generator. The PLC logic will be required to provide for all specified start-stop and load control logic. Trip and alarm logic will be carefully reviewed to verify that proper equipment protection is being provided as required by the specifications.

1.1.5 Task 5- Engineering for Long Lead Site Equipment Procurement and Construction Contract

This task will involve the development of the bid documents for both the procurement of long lead equipment and the on-site construction work. Procurement of long lead equipment will include the bypass valve and guard valves as these are expected to have a 20-week delivery. The construction contract will involve the demolition and removal of the existing powerhouse equipment as well as the penstock repair and the installation, startup and commissioning of the new equipment. While preliminary plans and specifications will have been developed during the preliminary engineering task, new information will become available from the equipment manufacturer that needs to be added and will modify some of the drawings previously developed. We will provide intermediate plans and specifications to the Borough for review and then finalize the plans and specifications.

1.1.6 Task 6- Construction Contract Bidding

McMillen Jacobs will assist the Borough with bid advertisement and issuance of bid documents to prospective bidders. As a part of this task we will review and respond to all material questions from bidders as well as facilitate and lead a pre-bid meeting in Petersburg. Finally, we will evaluate the bids and recommend an award to the Borough. We have already solicited budgetary proposals from several contractors and expect that there will be strong interest from contractors to pursue this contract. We anticipate that bidders will need several months to prepare a bid for the work. Prior to issuing a notice to proceed to the selected contractor the Borough will need to have received FERC approvals for construction.

1.1.7 Task 7- Engineering Support During Construction

As a part of this task McMillen Jacobs will:

a. Lead Pre-construction meeting in Petersburg with construction contractor and Borough.
b. Assist Borough with communications and coordination with Crystal Lake Hatchery regarding water supply requirements.
c. Provide on-site construction oversight and inspection, including daily inspection reports and monthly progress reports.
d. Lead all progress meetings via teleconference or on-site as required.
e. Review contractor submittals.
f. Review and address all design clarification/verification requests.
g. Prepare change order RFP's as required. Evaluate change order proposals and recommend acceptance or rejection to Borough.

We have budgeted for one of our Resident Project Engineers to oversee the construction contractor's work and provide the documentation for the tasks listed above. As a part of the work, they will monitor construction quality requirements and have third-party quality testing performed (concrete cylinder testing, etc.). All construction monitoring and inspection will be performed in accordance with a Quality Control and Inspection Plan (QCIP) that will be prepared by our staff for review and approval by FERC. The engineer will also verify all Temporary Erosion and Soil Control Plan (TESCP) requirements are being implemented and maintained. The contract documents will include the QCIP and TESCP.

1.1.8 Task 8- Regulatory and Permitting Support

Initial consultation with FERC has indicated the need for a non-capacity amendment, followed by the development and filing of the amendment application. Non-capacity amendments to a Project license generally do not require a rigorous three-stage consultation process and are typically completed within several months. Non-capacity amendment documents can vary based on a variety of factors including the type of infrastructural modifications being proposed and FERC's preferences related to how those modifications are documented. As such, early consultation with FERC to determine the amendment application process and requirements will help to ensure that the Project receives all regulatory approvals in a reasonable timeframe.

We have include a budget estimate for the FERC and Agency consultation process and for the development of the Amendment Application.

1.1.9 Task 9- Project Management

This work task consists of the effort required to efficiently manage the project, including coordination meetings, progress reports, invoicing, and other administrative/management needs.

1.2 Cost Summary

Table 1.1 presents a summary of the proposed McMillen Jacobs' costs. A detailed level of effort spreadsheet showing a breakdown of the costs is presented at the end of this section.

Table 1-1. Cost Summary

Task		Cost
1.0 Preliminary Engineering	$	
2.0 Equipment Procurement Documents	$	
3.0 Equipment Bidding Assistance	$	
4.0 Equipment Design/Manufacturing Support	$	167,968
5.0 Engineering for Construction Contract	$	340,464
6.0 Construction Contract Bidding	$	30,754
7.0 Engineering Support During Construction	$	412,176
8.0 Regulatory and Permitting Support	$	47,292
9.0 Project Management	$	37,268
TOTAL	**$**	**1,035,922**

2.0 Schedule

We have developed a detailed schedule for the tasks involved with the refurbishment of the Blind Slough Hydro Project with an anticipated notice-to-proceed to McMillen Jacobs by December 1, 2021. The schedule reflects the

predecessor task for each activity, for example, manufacturer submittals required for the development of the construction contract plans and specifications. A detailed Gantt Chart of the schedule is located at the end of this section.

3.0 Staff/Resources

McMillen Jacobs has assembled a highly technical team of professionals with the specialized qualifications required to successfully execute the Blind Slough Hydroelectric Refurbishment Project. This section will explain the structure of our team, introduce our key team members, and establish the anticipated roles and responsibilities. As shown in our organizational chart, it is our intent to offer the Borough full service for this Project, including assistance with FERC and regulatory support.

3.1 Organization Chart

Figure 3.1 presents McMillen Jacobs' team. The Borough has already worked with most of the staff that will be involved with the Project. It also provides the names of key members that are committed to your Project. The organizational chart identifies clear lines of communication and a path of resolution if needed. The experience and qualifications below provide the evidence that this team is fully capable of completing the scope of work. Our team averages over 25 years of experience in the design, construction, and/or operations of similar elements. Every member of our team brings experience that is unique to hydroelectric projects. Details on relevant qualifications are presented in the resumes for each individual at the end of this section. Our key staff resumes are located first, followed by the ITR team members, and then the design support team alphabetically by last name.

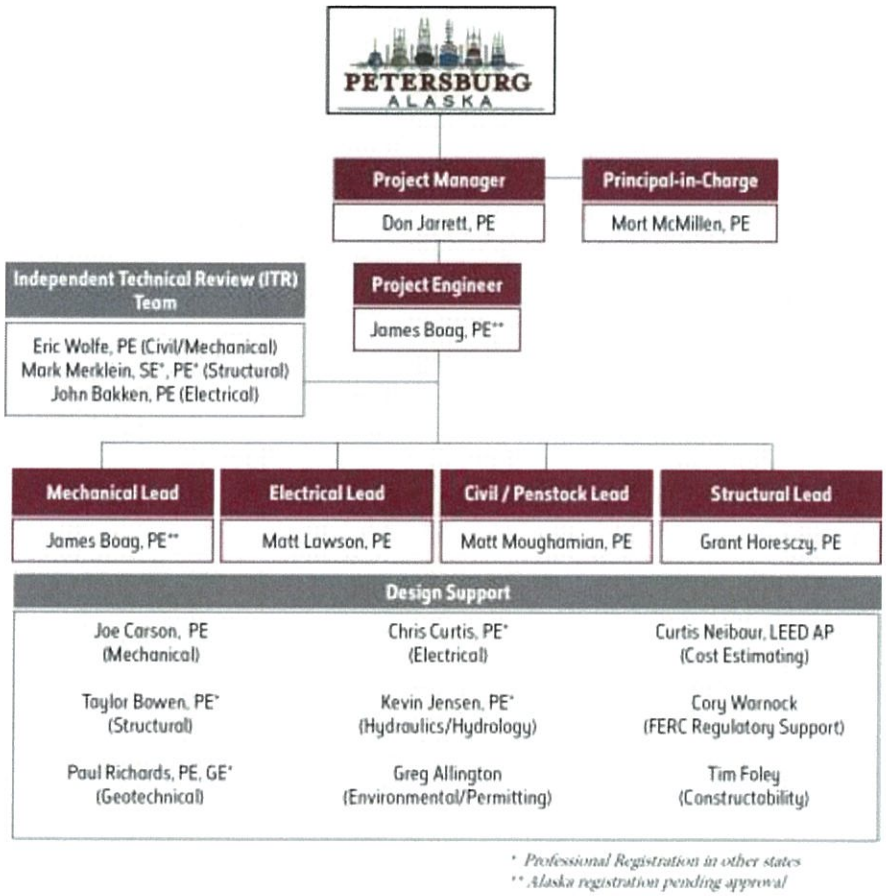


Figure 3-1. Organizational Chart

Mort McMillen will serve as the Principal-in-Charge with overall responsibility for management oversight of the Project. Mr. McMillen brings a proven record of managing challenging projects utilizing multi-discipline teams. He has participated in over 150 projects at hydroelectric facilities and dams throughout the country and specifically in the Columbia River Basin.

Don Jarrett will serve as the Project Manager. Mr. Jarrett has over 40 years of hydroelectric experience, including design, support during construction, FERC compliance/consultation, environment/regulatory permitting, start-up and commissioning support, and leadership of multi-discipline teams.

3.2 Roles and Responsibilities

Table 3-1 lists the roles and responsibilities for the Project team.

Table 3-1. Staff Roles and Responsibilities

Key Member	Proposed Title	Role / Description
Mort McMillen	Principal-in-Charge	Responsible for ensuring staff resources are provided, oversight on the work execution, and executive with signature authority for the design team.
Don Jarrett	Project Manager, Startup & Commissioning	Provide day-to-day management of the design team. Primary point-of-contact for the Borough. QA/QC process implementation and oversight.
James Boag	Mechanical Lead	Engineering, procurement, and installation of the turbine-generator package including startup, testing, commissioning, operations, and maintenance.
Matt Lawson	Electrical Lead	Engineering of electrical and control equipment for equipment procurement and powerhouse construction contract.
Matt Moughamian	Civil / Penstock Lead	Site civil development, penstock repair engineering, and civil support for powerhouse refurbishment.
Grant Horeczy	Structural Lead	Engineering for powerhouse generating equipment foundations and modifications and penstock modifications and repairs.
Eric Wolfe, Mark Merklein, & John Bakken	ITR Team	Development and implementation of the Quality Management Plan, technical guidance, and review of submittals, reports, specs, and drawings for quality and conformance with requirements.
Greg Allington	Environmental/ Permitting Lead	Preparation of local, state, and federal environmental permits during the design process (if required). Includes coordination and negotiation with the involved agencies. Assist with preparation of temporary erosion and soil control plan. Assist consultation with SSRAA for hatchery flow maintenance during construction outages of the penstock. Oversee construction related activities such as preparing SWPPS and Spill Control Plans.
Taylor Bowen	Structural Support	Provide research, calculations, and drawings to support structural designs.
Joe Carson	Mechanical Support	Engineering for equipment procurement and powerhouse refurbishment including valves, gates, and other mechanical equipment.
Chris Curtis	Electrical Support	Engineering for electrical components of the powerhouse refurbishment.
Tim Foley	Constructability	Early planning with the design team, constructability reviews, scheduling, and management of construction activities.
Kevin Jensen	Hydraulics/ Hydrology Support	Support design team, hydraulic analysis and design, and develop inflow hydrology design flow range. Analysis for turbine-generator size optimization.

Curtis Neibaur	Lead Construction Estimator	Construction cost estimating.
Paul Richards	Geotechnical Support	Geotechnical investigations, foundation design, rock mechanics, and stability.
Cory Warnock	Regulatory/FERC Support	Regulatory / FERC compliance during design and construction.

3.3 Engineering, Permitting, and Design Experience

McMillen Jacobs has prepared plans and specifications for a wide range of features at hydropower projects including powerhouses and associated equipment, penstocks, spillways and gates, bridges and access roads, and diversion structures. We have a long history in managing multi-discipline teams providing design of civil, structural, mechanical, electrical, and geotechnical works. Our regulatory and permitting specialists have many years of experience managing FERC-directed compliance activities and obtaining local, state and other federal permits and approvals for the construction of hydroelectric upgrades. During construction, these same specialists direct environmental monitoring and permit compliance associated with land disturbing and in-water work.

We have developed design plans and specifications, engineering analysis, and permitting, and in some cases, constructed projects with similar features to the Blind Slough Hydro project including new powerhouse equipment, repairs to powerhouse structures, and repairs to existing penstocks. Our designs have often exceeded FERC requirements resulting in prompt FERC approval due to the detailed project construction documents, design report, calculations, and supporting documents. Similarly, our permitting process experience and established relationships has often resulted in obtaining permits on time with anticipated permit conditions.

A good example of our design capabilities is demonstrated by the *Allison Creek Hydro Design-Build Project in Valdez, Alaska,* where we developed full plans and specifications consisting of 240 drawings. Of particular note, is that this design was completed from initial concept through final stamped drawings in only 5 months. This included three formal review submittals to the client as well as a review meeting with the FERC technical lead at the 60% and 100% level of completion. During the design process, the value engineering process identified a tunnel through an existing ridge would be required to provide access to the diversion dam/intake and upper penstock for construction. This represented a major departure from the original FERC license as well as major revisions to the penstock plan/profile, thrust block location and design, and access road route. Coordination with FERC also required modification to the diversion dam foundation design between the 60% and 90% design submittal. These modifications were incorporated efficiently through the well-coordinated engineering disciplines and well experienced project manager's ability to efficiently implement design changes.

Proven Performance
Design and FERC Approvals

"Despite the difficulty of the job, McMillen has been outstanding. The design featured many cost reduction measures that reduced the project from $60 million to $50 million….We are now 1 month into construction and McMillen is already

Most of our design projects for hydroelectric facilities present challenges due to their remote location, small footprint, difficult access, and a wide variety of environmental and FERC issues at each location. On the Grant Lake Hydroelectric Project, our team performed the initial alternative analysis for potential hydro sites throughout Alaska region for Homer Electric. Work included geotechnical site assessments, licensing documents for FERC, hydrologic and hydraulic analysis conceptual design, conceptual design for dam, powerhouse, penstock, and a

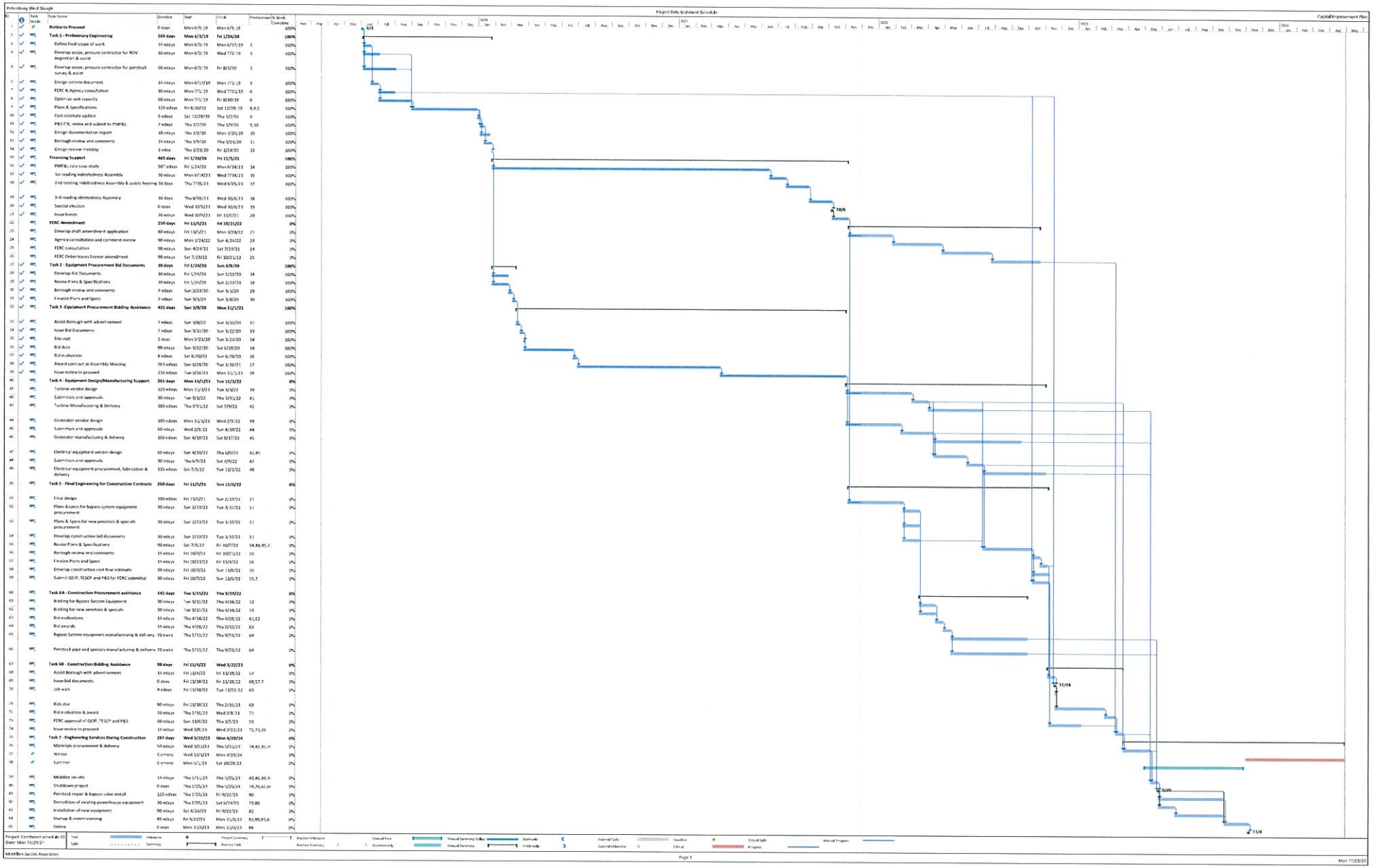
3,200-foot-long tunnel. Design development for this project required innovative water intake design to maintain pre-development water temperatures in Grant Creek to maintain spawning gravels.

Our team has a rigorous quality assurance program to ensure a high-quality product which meets all FERC requirements. During design, we will finalize the design criteria document that is specific to the Project. Our team performs comprehensive calculations that are documented in a design documentation report (DDR). In addition, the drawings, specifications, and DDR have a documented independent technical review (ITR) performed by senior engineers. We expect that the final DDR will be submitted to the FERC to satisfy design documentation requirements that may be required as part of the Amendment.

4.0 Special Considerations

Table 4.1 below lists the special considerations relevant to the engineering for this Project. For the issues identified, we have proposed a means to mitigate each concern.

Number	Consideration	Approach
1	Hatchery Flows	We already had an initial discussion with the Hatchery Manager about hatchery flows during the penstock work. It will be important to continue these discussions and get clarity on the requirement for flow and water quality from SSRAA. It is not known if SSRA or other involved agencies will require monitoring for flow quantity and/or water quality.
2	FERC Amendment	As noted above a FERC non-capacity license amendment will be required. Public and involved agency consultation is expected to be limited by FERC.
3	Schedule	During preliminary design the need for a bypass valve to provide fish hatchery flows whenever the turbine is offline was identified. The bypass valve and its guard valve are long lead items. These will be separately procured and provided to the site contractor as Owner furnished equipment. This work is now shown on the schedule.
4	Local/State Permitting	The Borough will be responsible for any permitting related to the construction work.
5	FERC Reporting	The Borough will be responsible for FERC Construction reports.
6	Construction Quality Control	We have budgeted for the development of the FERC Quality Control and Inspection Plan. The Borough will cover all costs associated with the implementation of the QCIP, which includes concrete testing, weld inspection.


Petersburg Bird Slough
Project Refurbishment Schedule
Capital Improvement Plan
Task Name
Duration
Start
Finish
Predecessors
% Work Complete
Notice to Proceed
Task 1 - Preliminary Engineering
Financing Support
Task 2 - Equipment Procurement Bid Documents
Task 3 -Equipment Procurement Bidding Assistance
Task 4 - Equipment Design/Manufacturing Support
Task 5 - Final Engineering for Construction Contracts
Task 6A - Construction Procurement assistance
Task 6B - Construction Bidding Assistance
Task 7 - Engineering Services During Construction
Winter
Summer
6/3
10/6
11/18
5/25
11/6
Project: Combined schedule 20
Date: Mon 11/29/21
McMillen Jacobs Associates
Page 1
Mon 11/29/21

Petersburg - Blind Slough Hydro - Project refurbishment Budget

Staff	McMillen (PIC)	Jarrett (PM)	Horsczy (Struct)	Carson (Mech)	Lawson (Elect)	Moughamian (Civil)	CAD	Jensen (Hydraulic)	Warnock (Regulatory)	Johnson (Regulatory)	ITR Team	Neubar (Const. Est.)	Foley (Const. Review)	Boeg (Proj. Eng. Mech)	Schutt (Editor)	Construction Inspector									
Rates	$ 235	$ 235	$ 152	$ 150	$ 208	$ 215	$ 140	$ 170	$ 180	$ 134	$ 210	$ 170	$ 200	$ 235	$ 95	$ 175	Hours	Total Labor	Subcontractor	Airfare	Hotel / Car	Meals	Total Expenses	TOTAL
1.0 Preliminary Engineering	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Completed																	-	$ -					$ -	$ -
																		$ -					$ -	$ -
2.0 Equipment Procurement Documents	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Complete																	-	$ -					$ -	$ -
																		$ -					$ -	$ -
3.0 Equipment Bidding Assistance	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Complete																	-	$ -					$ -	$ -
																		$ -					$ -	$ -
4.0 Equipment Design/Manufacturing Support	-	144	-	232	296	-	-	-	-		-	-	-	104	16	-	792	$ 156,168	$ 10,000	$ 1,000	$ 500	$ 300	$ 11,800	$ 167,968
Kick off meeting		16		16	16									16			64	$ 13,248					$ -	$ 13,248
Submittal reviews		40		160	160									40			400	$ 76,080					$ -	$ 76,080
Coordination meetings		40		40	80									40	16		216	$ 42,960					$ -	$ 42,960
Monthly progress reports		40															40	$ 9,400					$ -	$ 9,400
Factory acceptance tests (third party inspection in Europe assumed)		8		16	40									8			72	$ 14,480	$ 10,000	1000	500	300	$ 11,800	$ 26,280
																	-	$ -					$ -	$ -
																	-	$ -					$ -	$ -
																	-	$ -					$ -	$ -
																	-	$ -					$ -	$ -
5.0 Engineering for Construction Contract	10	201	156	172	253	260	568	-	-		32	32	8	141	68	-	1,901	$ 340,464	$ -	$ -	$ -	$ -	$ -	$ 340,464
Develop Bid Documents (two contracts - equipment procurement long lead items and construction contract)	2	16		8	8	16									8		58	$ 11,294					$ -	$ 11,294
Revise drawings w/ equip. manufacturer information		81	131	105	161	170	536							82			1,266	$ 219,045					$ -	$ 219,045
Revise specifications with equip. manufacturer information		64	5	15	24	14								35	40		197	$ 38,045					$ -	$ 38,045
Review meeting (conference call)		8	8	8	8	8								8			48	$ 9,560					$ -	$ 9,560
Final Plans	4	4	4	4	4	4	16										40	$ 7,020					$ -	$ 7,020
Final specifications	4	4	4	4	4	4									4		28	$ 5,160					$ -	$ 5,160
Engineers estimate for bid		4										32	8	8			52	$ 9,860					$ -	$ 9,860
Finalize DDR & calculations		16		24	40	40								8	16		144	$ 27,680					$ -	$ 27,680
Internal Technical Review		4	4	4	4	4	16				32						68	$ 12,800					$ -	$ 12,800
																	-	$ -					$ -	$ -
																	-	$ -					$ -	$ -
																		$ -					$ -	$ -
6.0 Construction Contract Bidding	2	36	2	24	40	16	-	-	-		-	-	-	16	-	-	136	$ 28,354	$ -	$ 2,000	$ 300	$ 100	$ 2,400	$ 30,754
Assist Borough with call for bids (two contracts)		16															16	$ 3,760					$ -	$ 3,760
Attend site job walk for bidders		4			16	16								16			52	$ 11,468		2000	300	100	$ 2,400	$ 13,868
Assist Borough with bidder questions		8	2	12	12												34	$ 6,480					$ -	$ 6,480
Evaluate bids and make recommendation for award	2	8		12	12												34	$ 6,548					$ -	$ 6,548
																		$ -					$ -	$ -
7.0 Construction Management	-	192	40	144	332	192	80	-	-		-	-	-	264	-	720	1,964	$ 382,376	$ -	$ 9,000	$ 14,700	$ 6,100	$ 29,800	$ 412,176
Kick off meeting		16			16	16								8			56	$ 12,408		2000	300	100	$ 2,400	$ 14,808
Submittal reviews		24	40	40	140	40								40			324	$ 64,840					$ -	$ 64,840
Coordination meetings		40		40	40	40								40			200	$ 41,720					$ -	$ 41,720
Monthly progress reports		16			16	16								16			64	$ 14,288					$ -	$ 14,288
On-site construction support (one construction inspector for 3 months)		16		40	40	40								40		720	896	$ 162,080		3000	10800	4500	$ 18,300	$ 180,380
Startup & commissioning (1 month)		80		24	80	40								80			304	$ 66,440		4000	3600	1500	$ 9,100	$ 75,540
As builts							80							40			120	$ 20,600					$ -	$ 20,600
																		$ -					$ -	$ -
8.0 Regulatory and Permitting Support	-	24	-	-	-	24	48	-	16	138	-	-	-	20	-	-	270	$ 43,592	$ -	$ 3,000	$ 500	$ 200	$ 3,700	$ 47,292
FERC and regulatory agency filings/meetings		16				16	32		8	80				16			168	$ 27,600		3000	500	200	$ 3,700	$ 31,300
FERC license amendment application		4					16		8	50							78	$ 11,320					$ -	$ 11,320
FERC QCIP and TESCP Development and submittal		4				8				8				4			24	$ 4,672					$ -	$ 4,672
																		$ -					$ -	$ -
9.0 Project Management	-	40	-	16	16	16	-	-	-		-	-	-	40	40	-	168	$ 31,768	$ -	$ 3,000	$ 2,000	$ 500	$ 5,500	$ 37,268
Coordination, meetings, progress reports, invoicing & adminstrative		40		16	16	16								40	40			$ 31,768		3000	2000	500	$ 5,500	$ 37,268
																	-	$ -					$ -	$ -
																		$ -					$ -	$ -
																		$ -					$ -	$ -
																		$ -					$ -	$ -
Total Hours	12	637	198	588	937	508	696	-	16		32	32	8	585	124	720	5,231							
Total Budget	2,820	149,576	30,096	88,200	194,896	109,220	97,440	-	2,880		6,720	5,440	1,600	137,522	11,818	126,000		$ 982,722					$ 53,200	$ 1,035,922