

August 7, 2015

PND 102029.10

Shawn Bell
Harbormaster
Haines Borough
P.O. Box 1209
Haines, Alaska 99827

Re: Portage Cove Harbor Expansion
95% Design Review Submittal

Dear Mr. Bell:

PND has prepared the 95% design review submittal for the Portage Cove Harbor Expansion project. This submittal contains plans, structural calculations, technical specifications, bid documents, project manual, cost estimate and schedule for the project at approximately 95% design completion.

Scope of Improvements

The scope of improvements under this phase of the project generally includes the following:

- 700 Ft Permeable Wave Barrier
- Entrance, basin expansion and inner harbor dredging along A & B Floats
- Rough graded parking area to allow upland disposal of a portion of the dredge spoils
- Relocation of existing sewer outfall line to allow dredging and wave barrier construction
- Mooring piles along the wave barrier and for the Transient Float

Scope and Design Issues

PND has addressed several additional scope items since the 65% design review submittal. A summary of the most significant items follows.

1. **Seaplane Float & Transient Float:** Relocation of the seaplane float and partial demolition of the transient float were deleted from the scope as instructed. Both of these floats will remain in place upon completion of this project. The seaplane float will be temporarily relocated by the Borough following removal of pile hoops by the Contractor in order to complete the dredging under this float. The transient float will remain in place during dredging and all mooring piles will be replaced, utilizing mostly Borough supplied materials from your inventory. Please reconfirm the Borough's available pile inventory prior to bid – lengths and pile wall thickness. Replacing the mooring piles on the Transient Float will require disconnecting the existing lighting fixtures and power service then transferring them over to the new piles. Rather than adding electrical scope to this project, we recommend the Borough disconnect and then reconnect the power cables to the light fixtures. We will specify that the Contractor salvage and reattach the existing fixtures to the new piles. Please confirm this plan is acceptable.
2. **24" Mooring Piles on Inside of Wave Barrier:** At your request, we have added four each 24" diameter mooring piles to be installed along the inside of the wave barrier in order for the Borough to relocate existing work floats to that area. The piles will predominantly come from the Borough's inventory of left over material from the PC Dock. We will specify that the Contractor splice the required lengths, add cutting shoes and install the piles at the designed location. Please review the location for these four piles as shown on sheet 1.07.

3. **Parking Area Storm Drains:** PND has continued development of the upland parking/staging area and associated storm drains as shown on sheets 1.05 and 4.01. It is critical to the design of the new storm drains that we obtain the invert elevation for the existing 12" diameter drain pipe buried in the existing parking lot at the north end. This pipe connects to new manhole structure S2 and thus controls the design elevations of all downstream drain piping. Please take steps to uncover this pipe and determine its location both horizontally and vertically so we may complete the drainage design through the new fill area. PND will send a surveyor to Haines once the pipe is uncovered by the Borough.
4. **Wastewater Outfall Pipe:** PND has delivered the design plans and supporting calculations to ADEC for plan review. We have also delivered the Owner Statement documents to Brian Lemcke for Borough signature and remittance of payment to ADEC for conducting the review. Please confirm that the signed documents and fee payment have been forwarded to ADEC by the Borough.
5. **Staging and Parking Area Coordination during Construction:** The contractor will need a staging area during construction for staging equipment, materials and office trailers. We suggest the existing parking lot near the ice house be made available for this purpose with a public access corridor being maintained to the fuel dock, fuel tanks and ice house. Please confirm this is acceptable with the Borough and if not, where else the staging area can be located within close proximity to the work.
6. **Dredging Inner Harbor Areas:** We have added specification language under Section 02881 indicating the ongoing moorage activity within the existing harbor and requiring 7 day advance notice of any vessel aisle way closures. Closure would be limited to a maximum of 48 hours to allow vessels in and out of their stalls. Please confirm this closure period will work for the Borough. Secondly, in order to access the dredge area along the north side of Float A, the 24' finger floats may need to be removed, therefore those vessels will be displaced for up to 30 days. Please advise how you wish to manage the temporary relocation of these vessels under the construction contract.
7. **Wave Barrier:** Access ladders have been added at three locations along the inside face of the wave barrier as requested. Sacrificial anodes have been added to both sides of the wave barrier and on all bearing support piles for cathodic protection. The anodes are included under an Additive Alternate Bid Schedule as requested.

Project Budget

The attached cost estimate has been updated to reflect the current scope of improvements developed to a 95% design completion level. It incorporates the Borough's review and direction since delivery of the 65% design documents. The total project budget including contingency and all known indirect costs is estimated at \$21.69 million. The 95% estimate has increased by \$0.57 million since the 65% design submittal due to the additional scope items added by the Borough, consisting of the sacrificial anodes, access ladders and 13 new float mooring piles. Interestingly, the current 95% cost estimate is now the same as PND's initial 2014 planning level budget prepared prior to the commencement of the design phase. The bid schedule includes a base bid and four additive alternates as follows.

Bid Schedule	Estimated Total Project Cost*
Base Bid: 604 LF Wave Barrier, Primary Dredge Area, Parking Area, Sewer	\$ 19,173,970
Add. Alt A: Dredge Middle Basin & Transient Float Work	\$ 663,432
Add Alt. B: Dredge North Basin	\$ 73,920
Add Alt C: 97 LF South End Wave Barrier	\$ 1,357,110
Add Alt D: Sacrificial Anodes	\$ 423,808
Total Recommended Project Budget	\$ 21,692,239

State and Federal Permit Applications & Compensatory Mitigation

PND has previously delivered Hart Crowser's Biological Assessment (BA) and ecological Functional Assessment (FA) outlining the Borough's proposed Mitigation Plan as In Lieu fees contracted through SEAL Trust. We have also delivered an Alternatives Analysis as required under the Section 404(b)(1) Guidelines of the Clean Water Act. These documents along with the DA Permit Application were transmitted to the USACE for regulatory review in late July. Subsequent discussions with Randy Vigil at the USACE Juneau Regulatory Office indicate that the review period will be approximately 120 calendar days from date of submission. The earliest authorization date is currently estimated to be around the first of December 2015.

PND has received confirmation from the Environmental Protection Agency (EPA) that no further review is necessary from that agency to relocate the sewer outfall pipe. We have transmitted the engineering documents to ADEC for Plan Review as discussed in item 4 above and are currently awaiting their response.

Project Schedule

An updated project schedule is enclosed for your review. While the engineering design tasks are on schedule, the critical path to project completion remains with authorization of the environmental permits by state and federal regulatory agencies. We currently anticipate delivery of all permits by December 1, 2015 as can be seen at line 14 of the attached schedule. Typically all permit authorizations must be issued before the project is advertised for construction bids. Please advise whether the Borough wishes to wait until all permits are in hand before advertising the project or whether you wish to advertise in advance and then issue the permits by addendum. Final project completion is scheduled by June 30, 2017 to align with the current grant completion deadline.

The delivery and review of PND's 95% design submittal is shown on lines 15 and 16. The design phase remains on schedule with bid ready documents due on December 4th to align with the anticipated receipt of the permit authorizations. To meet that schedule we request your written review comments to this 95% design submittal by August 27th.

PND looks forward to receiving your comments to this 95% design submittal and would like to schedule a review work session at your earliest possible convenience. Please feel free to contact us if you have any immediate questions or concerns regarding the project. We look forward to our continued work with the Borough as we proceed with the preparation of stamped bid ready contract documents.

Sincerely,

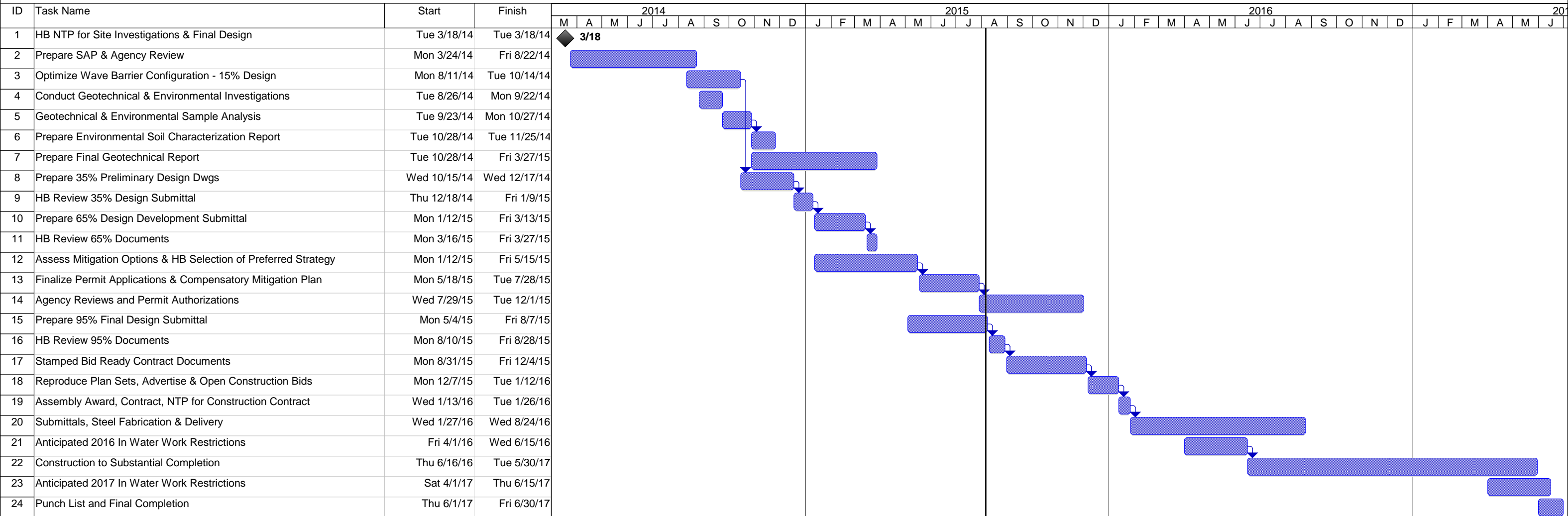
PND Engineers, Inc. | Juneau Office
























Dick Somerville, P.E.
Vice President

Enclosures

**SOUTH PORTAGE COVE HARBOR EXPANSION
PROJECT SCHEDULE
WAVE BARRIER, DREDGING, SEWER OUTFALL & PARKING AREA ROUGH GRADE**



PND No. 102029 August 7, 2015	Task		Rolled Up Split		External Milestone		Duration-only		Progress	
	Split		Rolled Up Milestone		Inactive Task		Manual Summary Rollup		Deadline	
	Milestone		Rolled Up Progress		Inactive Milestone		Manual Summary			
	Summary		External Tasks		Inactive Summary		Start-only			
	Rolled Up Task		Project Summary		Manual Task		Finish-only			



HAINES BOROUGH
PORTAGE COVE HARBOR EXPANSION
WAVE BARRIER, DREDGING, GRAVEL PARKING AREA &
SEWER LINE RELOCATION



95% DESIGN COMPLETION - COST ESTIMATE
AUGUST 7, 2015

BASE BID

Item	Item Description	Units	Quantity	Unit Cost	Amount
1505.1	Mobilization	LS	All Req'd	\$1,298,228	\$1,298,228
1570.1	Erosion and Sediment Control - Upland Measures and Monitoring	LS	All Req'd	\$20,000	\$20,000
1570.2	Silt Containment Boom with Navigation Lights	LF	1,500	\$30	\$45,000
2060.1	Demolition, Salvage and Disposal	LS	All Req'd	\$15,000	\$15,000
2060.2	Assist Owner with Seaplane Float Removal and Reinstallation	LS	All Req'd	\$5,000	\$5,000
2201.1	Clearing & Grubbing	AC	1.5	\$10,000	\$15,000
2202.1	Class A Shot Rock Borrow	CY	8,000	\$30	\$240,000
2202.2	Class B Shot Rock Borrow	CY	9,200	\$22	\$202,400
2204.1	Base Course Grading C-1	CY	400	\$50	\$20,000
2205.1	Class II Armor Rock	CY	3,400	\$60	\$204,000
2205.2	Class III Armor Rock	CY	3,100	\$70	\$217,000
2401.1	Furnish 16" Dia. HDPE Wastewater Outfall Pipe	LF	2,540	\$50	\$127,000
2401.2	Install 16" Dia. HDPE Wastewater Outfall Pipe Sta. 1+50 - 6+50	LF	505	\$80	\$40,400
2401.3	Install 16" Dia. HDPE Wastewater Outfall Pipe Sta. 6+50 - 8+25	LF	180	\$110	\$19,800
2401.4	Install 16" Dia. HDPE Wastewater Outfall Pipe Sta. 8+25 - 26+50	LF	1,840	\$320	\$588,800
2401.5	Furnish and Install Wastewater Outfall Diffuser	LS	All Req'd	\$20,000	\$20,000
2401.6	Connect to Existing 16" Dia. HDPE Outfall Pipe	LS	All Req'd	\$8,000	\$8,000
2402.1	Furnish and Install Wastewater Outfall Concrete Anchor, Type I	EA	170	\$100	\$17,000
2402.2	Furnish and Install Wastewater Outfall Concrete Anchor, Type II	EA	15	\$125	\$1,875
2501.1	12" CPEP Storm Drain Pipe	LF	160	\$50	\$8,000
2501.2	24" CPEP Storm Drain Pipe	LF	110	\$100	\$11,000
2501.3	36" CPEP Storm Drain Pipe	LF	560	\$120	\$67,200
2501.4	Clean Existing Storm Drain Pipe to Upstream Manhole	LS	All Req'd	\$3,000	\$3,000
2501.5	Connect to Existing Storm Drain Pipe	EA	4	\$1,000	\$4,000
2502.1	Storm Drain Manhole Type I	EA	3	\$10,000	\$30,000
2502.2	Storm Drain Manhole Type II	EA	1	\$5,000	\$5,000
2502.3	Storm Drain Oil-Water Separator	EA	1	\$40,000	\$40,000
2502.4	Storm Drain Outfall Structure	LS	All Req'd	\$40,000	\$40,000
2702.1	Construction Surveying	LS	All Req'd	\$200,000	\$200,000
2714.1	Geotextile Fabric	SY	15,000	\$4	\$60,000
2881.1	Dredging and Offshore Disposal	CY	88,000	\$25	\$2,200,000
2881.2	Dredging and Onshore Placement at Parking Area	CY	25,000	\$35	\$875,000
2896.1	Furnish & Install Wave Barrier Pile, 24 Inch Dia. X 0.500 Inch Thick w/Sheetpile Wing	EA	113	\$30,000	\$3,390,000
2896.2	Furnish Work Float Pile, 24 Inch Dia. X 0.500 Inch Thick	LF	40	\$150	\$6,000
2896.3	Furnish Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	LF	6,840	\$240	\$1,641,600
2896.4	Install Work Float Pile, 24 Inch Dia. X 0.500 Inch Thick Steel Pile	EA	4	\$5,000	\$20,000
2896.5	Install Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	EA	38	\$24,000	\$912,000
2896.6	SPIN FIN®, 30 Inch Dia. Pile	EA	36	\$5,000	\$180,000
2896.7	Field Splice Work Float Pile, 24 Inch Dia	EA	10	\$3,000	\$30,000
2896.8	Furnish & Install Cutting Shoe, 24 Inch Dia. Pile	EA	3	\$2,000	\$6,000
2900.1	Contingent Work - Drill Equipment Mobilization	CS	All Req'd	\$40,000	\$40,000
2900.2	Contingent Work - Equipment Rental	CMO	3	\$50,000	\$150,000
2900.3	Contingent Work - Drill Pile	CEA	10	\$25,000	\$250,000
2901.1	Furnish & Install Barrier Waler	LF	604	\$550	\$332,200
2901.2	Furnish & Install Bearing Cap & Connection	EA	19	\$25,000	\$475,000
2901.3	Wave Barrier Amenities - Fenders, Ladders, Nav. Light, Armor Excavation, Misc.	LS	All Req'd	\$200,000	\$200,000
	ESTIMATED CONSTRUCTION BASE BID PRICE				\$14,280,503
	CONTINGENCY (7%)				\$999,635
	CONTRACT ADMIN & CONSTRUCTION INSPECTION				\$999,635
	COMPENSATORY MITIGATION				\$100,000
	PLANNING, ALTERNATIVES ANALYSIS & PUBLIC INVOLVEMENT				\$260,777
	ENVIRONMENTAL INVESTIGATIONS, HABITAT STUDIES & PERMITTING				\$417,740
	GEOTECHNICAL INVESTIGATIONS				\$878,946
	SITE TOPOGRAPHIC & BATHYMETRIC SURVEYS				\$96,893
	FINAL ENGINEERING DESIGN & BID READY CONTRACT DOCUMENTS				\$1,139,841
	TOTAL RECOMMENDED PROJECT BUDGET				\$19,173,970
					\$19,173,970

ADDITIVE ALTERNATE A-DREDGING MIDDLE BASIN AND TRANSIENT FLOAT WORK

Item	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1-A	Mobilization	LS	All Req'd	\$53,850	\$53,850	
2060.1-A	Demolition, Salvage and Disposal	LS	All Req'd	\$25,000	\$25,000	
2060.3-A	Remove, Salvage and Reinstall Existing Light Fixtures	LS	All Req'd	\$5,000	\$5,000	
2205.1-A	Class II Armor Rock	CY	200	\$60	\$12,000	
2881.1-A	Dredging and Offshore Disposal	CY	14,300	\$30	\$429,000	
2896.9-A	Furnish Transient Float Pile, 12.75 Inch Dia. X 0.500 Inch Thick	LF	140	\$75	\$10,500	
2896.10-A	Install Transient Float Pile, 12.75 Inch Dia. X 0.500 Inch Thick	EA	9	\$4,000	\$36,000	
2896.11-A	Field Splice Transient Float Pile, 12.75 inch Dia.	EA	7	\$2,000	\$14,000	
2896.12-A	Furnish & Install Cutting Shoe, 12.75 Inch Dia. Pile	EA	7	\$1,000	\$7,000	
ESTIMATED CONSTRUCTION ADDITIVE ALTERNATE A BID PRICE					\$592,350	
CONTINGENCY (5%)					\$29,618	
CONTRACT ADMIN & CONSTRUCTION INSPECTION					\$41,465	
TOTAL RECOMMENDED PROJECT BUDGET					\$663,432	\$19,837,402

ADDITIVE ALTERNATE B-DREDGING NORTH BASIN

Item	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1-B	Mobilization	LS	All Req'd	\$6,000	\$6,000	
2881.1-B	Dredging and Offshore Disposal	CY	2,000	\$30	\$60,000	
ESTIMATED CONSTRUCTION ADDITIVE ALTERNATE B BID PRICE					\$66,000	
CONTINGENCY (5%)					\$3,300	
CONTRACT ADMIN & CONSTRUCTION INSPECTION					\$4,620	
TOTAL RECOMMENDED PROJECT BUDGET					\$73,920	\$19,911,322

ADDITIVE ALTERNATE C-SOUTH END OF WAVE BARRIER

Item	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1-C	Mobilization	LS	All Req'd	\$110,155	\$110,155	
2896.1-C	Furnish & Install Wave Barrier Pile, 24 Inch Dia. X 0.500 Inch Thick w/Sheetpile Wing	EA	18	\$30,000	\$540,000	
2896.3-C	Furnish Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	LF	1,080	\$240	\$259,200	
2896.5-C	Install Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	EA	6	\$24,000	\$144,000	
2896.6-C	SPIN FIN®, 30 Inch Dia. Pile	EA	6	\$5,000	\$30,000	
2901.1-C	Furnish & Install Barrier Waler	LF	97	\$550	\$53,350	
2901.2-C	Furnish & Install Bearing Cap & Connection	EA	3	\$25,000	\$75,000	
ESTIMATED CONSTRUCTION ADDITIVE ALTERNATE C BID PRICE					\$1,211,705	
CONTINGENCY (5%)					\$60,585	
CONTRACT ADMIN & CONSTRUCTION INSPECTION					\$84,819	
TOTAL RECOMMENDED PROJECT BUDGET					\$1,357,110	\$21,268,431

ADDITIVE ALTERNATE D-ANODES

Item	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1-D	Mobilization	LS	All Req'd	\$34,400	\$34,400	
2996.1-D	Supply Anode	EA	360	\$475	\$171,000	
2996.2-D	Install Anode	EA	360	\$425	\$153,000	
2996.3-D	Field Photos, Continuity, Potential Readings & Report	LS	All Req'd	\$20,000	\$20,000	
ESTIMATED CONSTRUCTION ADDITIVE ALTERNATE D BID PRICE					\$378,400	
CONTINGENCY (5%)					\$18,920	
CONTRACT ADMIN & CONSTRUCTION INSPECTION					\$26,488	
TOTAL RECOMMENDED PROJECT BUDGET					\$423,808	\$21,692,239

NOTE: Costs for the parking area assume a gravel surface. Future paving, sidewalks, curbs, utilities, landscaping, restrooms and lighting improvements are not included in this estimate.