

**CITY AND BOROUGH OF SITKA, ALASKA
GARY PAXTON INDUSTRIAL PARK (GPIP) – RAMP PROJECT
CONCEPT NO. 3**

PRELIMINARY DESIGN SUMMARY

Prepared By PND Engineers, Inc. September 30, 2019

The purpose of this document is to provide the City and Borough of Sitka (CBS) with an overall summary of the scoping, preliminary concept design work and environmental permitting assessment completed for the Gary Paxton Industrial Park (GPIP) project. PND Engineers, Inc. (PND) worked with CBS to obtain background information and input from both the GPIP Board and Public Works Department staff. PND assembled a list of anticipated environmental permits and construction requirements. The objective of these efforts is to provide CBS with a preliminary phased concept plan with owner input to assist with moving the project forward.

Background Information

CBS provided PND with electronic copies of Sawmill Cove/GPIP area showing water and sewer from the GIS system. The information was dated from the early 2000's and no current topographic survey information appears to be available for the area.

CBS Coordination

PND and CBS have conducted two Joint Work Sessions for the GPIP ramp project conducted in Sitka. The culmination of these Joint Work Sessions included two power point presentations that defined Sitka's wishes to proceed with Concept No. 3.

PND's technical memorandum dated July 19, 2019 addresses wash water industry standard effluent and allowable influent flows. The estimated maximum daily flow is 2,000 gpd if a single pressure washer is used. The daily flow will increase to 4,000 gpd when two pressure washers are used at larger vessels. Subsequent to issuing the memorandum, Shilo Williams, CBS Environmental Superintendent provided verbal authorization of the onsite treatment methodology and discharge of the wash water to the municipal sewer system.

PND's coordination with Brian Doyle, CBS Chief Waste Water Operator yielded sewer force main input parameters including that the existing force main elevation is approximately at 6' below grade and an adjacent Eone pump station services The Boat Company in Sawmill Cove. An equivalent pump station will be required at GPIP. The pump station should be equipped with a local high water warning light but is not required to be built to CBS Standards.

PND's technical memorandum dated August 23, 2019 addresses on site wash water schematics, equipment information and temporary (relocatable) wash down facilities. The information includes the wash water route, required equipment and cut sheets. The temporary wash down pad is a PVC liner and associated costs are included in the preliminary cost estimate for the facility.

PND's letter dated February 21, 2019 addresses Concept No. 3 operational issues and it recommended that an easement be established for encroaching mooring lines and vessel operations for the existing Utility Dock.

Project Development Phasing

The rough order magnitude (ROM) budget estimate for Concept No. 3 and temporary wash down pad are divided into three construction phases and are summarized as follows:

Phase I brings the facility into limited operation. Improvements include: a gravel ramp, armor rock, storm drain improvements, water service, a temporary wash down pad (summertime use), on site pretreatment of wash water and discharge of wash water into the municipal sewer system and electrical power.

The estimated budget for Phase I is **\$1,055,219.00**, including indirect costs and 10% contingency.

Concept No. 3, Sheet 1 of 3

Ramp Profile, Sheet 2 of 3

Schematic Plan, Sheet 3 of 3

Phase II improvements include uplands site grading, storm drain improvements, water services, asphalt repairs, concrete ramp planks, concrete apron, concrete wash down pad with hydronic piping, power and lighting over a portion of the site. **Note:** wash down pad is a summer time use for Phase II.

The estimated budget for Phase II is **\$2,511,430.00**, including indirect costs and 10% contingency.

Phase III improvements include additional upland grading and drainage, connecting the hydronic piping from the wash down pad, constructing a utility building with restroom (Note: wash down pad allows wintertime use), timber boarding float with concrete abutment, 100 ton self-propelled submersible hydraulic trailer, power and lighting.

The estimated budget for Phase III is **\$3,977,388.00**, including indirect costs and 10% contingency.

An overall estimated budget of the GPIIP project is \$7,544,038.00, including indirect costs and 10% contingency.

Design-Build Components

PND was requested by CBS to incorporate six Design-Build components into the report including soft costs.

PND developed rough order magnitude (ROM) budget estimates as follows:

1. Water Treatment – A wash water onsite pre-treatment facility is constructed in a concrete vault with filter system, install water service, sewer lift station and electrical hookup to the sewer system provided.
 - a. The estimated budget for item 1 is **\$461,378.00**
2. Collect Water and Wash Down Facility – Construct a concrete wash down pad with hydronic heat piping and a temporary wash down pad.
 - a. The estimated budget for item 2 is **\$399,035.00**
3. Boat Ramp – The existing ramp is upgraded to an 8% grade, widened, concrete ramp planks installed and a concrete apron placed at the top of the ramp.
 - a. The estimated budget for item 3 is **\$1,946,284.00**
4. Upland Improvements – Patch asphalt, construct utility building with hydronic boilers for the heated wash down pad and restroom and provide power and lighting to the site.
 - a. The estimated budget for item 4 is **\$2,579,463.00**
5. Timber Float – A timber boarding float and associated steel piles are installed at the launch ramp.
 - a. The estimated budget for item 5 is **\$910,831.00**
6. Equipment – A self-propelled submersible hydraulic trailer is furnished.
 - a. The estimated budget for item 6 is **\$1,277,400.00**

Project Permitting

List of environmental and operational permits required include:

1. USACE – Section 10 and Section 404 Authorizations
2. ADFG Fish Habitat Permit
3. ADEC Stormwater Treatment & Runoff Design Review
4. ADEC Water & Sewer Utilities
5. ADEC MSGP Operational SWPPP for Boatyards
6. Local Building Permits
7. Access Easement to define the ramp and existing Utility Dock operations, see PND letter dated February 21, 2019.

Attachments

ROM Budget Estimate – Concept No. 3
ROM Design Build List of Boat Haul Out Facility Items
Concept No. 3, Sheet 1 of 3
Ramp Profile, Sheet 2 of 3
Schematic Plan, Sheet 3 of 3
PND technical memorandum dated July 19, 2019
PND technical memorandum dated August 23, 2019
PND Letter Dated February 21, 2019

ROM Budget Estimate – Concept No. 3
&
ROM Design Build List of Boat Haul Out Facility
Items

GARY PAXTON INDUSTRIAL PARK (GPIP)
RAMP PROJECT

ROM BUDGET ESTIMATE - CONCEPT NO.3
w/ PRELIMINARY PHASING PLAN

PND PROJECT 182060.01



PREPARED BY: PND ENGINEERS, INC.
Prepared on: September 30, 2019

Item	Item Description	Units	Quantity	Unit Cost	Amount	Preliminary Phasing Plan			
						PH 1	PH 2	PH 3	Sum Check
1505.1	Mobilization	LS	All Req'd	8%	\$436,980	\$54,256	\$147,344	\$235,380	\$436,980
2060.1	Demolition and Disposal	LS	All Req'd	\$100,000	\$100,000		\$75,000	\$25,000	\$100,000
2202.1	Excavation	CY	6,300	\$15	\$94,500		\$47,250	\$47,250	\$94,500
2202.2	Class A Shot Rock Borrow	CY	12,600	\$25	\$315,000	\$9,450	\$148,050	\$157,500	\$315,000
2202.3	Class B Shot Rock Borrow	CY	5,000	\$20	\$100,000	\$100,000			\$100,000
2204.1	Base Course, Grading A	CY	500	\$50	\$25,000		\$25,000		\$25,000
2204.2	Base Course, Grading C-1	CY	6,300	\$50	\$315,000		\$157,500	\$157,500	\$315,000
2205.1	Armor Rock	CY	3,000	\$55	\$165,000	\$165,000			\$165,000
2205.2	Underlayer Rock	CY	350	\$45	\$15,750	\$15,750			\$15,750
2501.1	Storm Drainage Improvements w/ BMP's	LS	All Req'd	\$250,000	\$250,000	\$75,000	\$50,000	\$125,000	\$250,000
2601.1	Water Service and Yard Pedestals	LS	All Req'd	\$250,000	\$250,000	\$25,000	\$100,000	\$125,000	\$250,000
2601.2	Sewer Service and Lift Station	LS	All Req'd	\$50,000	\$75,000	\$75,000			\$75,000
2601.3	Temporary Wash Down Pad	LS	All Req'd	\$75,000	\$75,000	\$75,000			\$75,000
2702.1	Construction Surveying	LS	All Req'd	\$60,000	\$60,000	\$15,000	\$21,000	\$24,000	\$60,000
2801.1	ACP Patch Repairs	LS	All Req'd	\$50,000	\$50,000		\$25,000	\$25,000	\$50,000
2714.1	Geotextile Fabric	SY	5,000	\$7	\$35,000			\$35,000	
2893.1	Timber Boarding Float	SF	2,800	\$200	\$560,000			\$560,000	
2896.1	Furnish and Install Steel Pipe Pile	EA	7	\$10,000	\$70,000			\$70,000	
3305.1	Concrete Approach Abutment	LS	All Req'd	\$15,000	\$15,000			\$15,000	
3305.2	Concrete Approach Apron	LS	All Req'd	\$60,000	\$60,000		\$60,000		\$60,000
3305.2	Precast Concrete Ramp Planks	SF	12,500	\$60	\$750,000		\$750,000		\$750,000
3306.1	Concrete Wash Down Pad w/ Hydronic Piping	CY	130	\$1,100	\$143,000		\$143,000		\$143,000
11000.1	Grit Chamber, O/W Separator, Filter Vault	LS	All Req'd	\$75,000	\$75,000	\$75,000			\$75,000
13000.1	Utility Building w/ Hydronic Boiler	SF	960	\$400	\$384,000			\$384,000	\$384,000
13130.1	100 T Self Propelled Submersible Hydraulic Trailer	LS	All Req'd	\$1,000,000	\$1,000,000			\$1,000,000	\$1,000,000
16000.1	Power and Lighting	LS	All Req'd	\$480,000	\$480,000	\$48,000	\$240,000	\$192,000	\$480,000
ESTIMATED CONSTRUCTION BID PRICE					\$5,899,230	\$732,456	\$1,989,144	\$3,177,630	\$5,899,230
Contingency (10%)					\$589,923	\$73,246	\$198,914	\$317,763	\$589,923
Environmental Permitting					\$70,000	\$50,000	\$10,000	\$10,000	\$70,000
Bathymetric & Topographic Survey & Geotechnical Investigation					\$100,000	\$75,000	\$15,000	\$10,000	\$100,000
Final Design & Contract Documents					\$471,938	\$73,246	\$159,132	\$239,561	\$471,938
Contract Administration and Construction Inspection					\$412,946	\$51,272	\$139,240	\$222,434	\$412,946
TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS					\$7,544,038	\$1,055,219	\$2,511,430	\$3,977,388	\$7,544,038

(ROM) Design Build List of Boat Haul Out Facility Items:

1. Wastewater on-site pre-treatment facility: Vault with filter, water service, sewer lift station and electrical hookup to the sewer system						
Item	Item Description	Units	Quantity	Unit Cost	Amount	Cumulative Sub-Total
1000.1	Contractor Design Services	LS	All Req'd	7%	\$18,529	
1505.1	Mobilization	LS	All Req'd	8%	\$17,200	
2202.2	Class A Shot Rock Borrow	CY	300	\$25	\$7,500	
2204.2	Base Course, Grading C-1	CY	500	\$50	\$25,000	
2601.1	Water Service	LS	All Req'd	\$25,000	\$25,000	
2601.2	Sewer Service and Lift Station	LS	All Req'd	\$75,000	\$75,000	
11000.1	Grit Chamber, O/W Separator, Filter Vault	LS	All Req'd	\$75,000	\$75,000	
16000.1	Power and Lighting	LS	All Req'd	\$40,000	\$40,000	
	ESTIMATED CONSTRUCTION BID PRICE				\$283,229	
	Contingency (10%)				\$28,323	
	Environmental Permitting				\$50,000	
	Topographic Survey & Geotechnical Investigation				\$50,000	
	Design Build - RFP Documents				\$30,000	
	Contract Administration and Construction Inspection				\$19,826	
	TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS				\$461,378	\$461,378
2. Wastewater collection and wash down facility: Temporary wash down pad system and concrete wash down pad with hydronic piping						
Item	Item Description	Units	Quantity	Unit Cost	Amount	
1000.1	Contractor Design Services	LS	All Req'd	7%	\$18,756	
1505.1	Mobilization	LS	All Req'd	8%	\$17,440	
2202.2	Class A Shot Rock Borrow	CY	300	\$25	\$7,500	
2204.2	Base Course, Grading C-1	CY	500	\$50	\$25,000	
2601.3	Temporary Wash Down Pad	LS	All Req'd	\$75,000	\$75,000	
3306.1	Concrete Wash Down Pad w/ Hydronic Piping	CY	130	\$1,100	\$143,000	
	ESTIMATED CONSTRUCTION BID PRICE				\$286,696	
	Contingency (10%)				\$28,670	
	Environmental Permitting				\$10,000	
	Topographic Survey & Geotechnical Investigation				\$25,000	
	Design Build - RFP Documents				\$20,000	
	Contract Administration and Construction Inspection				\$28,670	
	TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS				\$399,035	\$860,413
3. Boat Ramp: Upgrade to 8% ramp, increase width, concrete ramp planks, concrete apron						
Item	Item Description	Units	Quantity	Unit Cost	Amount	
1000.1	Contractor Design Services	LS	All Req'd	7%	\$102,117	
1505.1	Mobilization	LS	All Req'd	8%	\$108,060	
2202.2	Class A Shot Rock Borrow	CY	12,000	\$25	\$300,000	
2204.1	Base Course, Grading A	CY	500	\$50	\$25,000	
2205.1	Armor Rock	CY	3,000	\$55	\$165,000	
2205.2	Underlayer Rock	CY	350	\$45	\$15,750	
2714.1	Geotextile Fabric	SY	5,000	\$7	\$35,000	
3305.2	Concrete Approach Apron	LS	All Req'd	\$60,000	\$60,000	
3305.2	Precast Concrete Ramp Planks	SF	12,500	\$60	\$750,000	
	ESTIMATED CONSTRUCTION BID PRICE				\$1,560,927	
	Contingency (10%)				\$156,093	
	Environmental Permitting				\$30,000	
	Bathymetric & Topographic Survey & Geotechnical Investigation				\$50,000	
	Design Build - RFP Documents				\$40,000	
	Contract Administration and Construction Inspection				\$109,265	
	TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS				\$1,946,284	\$2,806,697
4. Upland Improvements: Utility building with hydronic heating boilers, restroom, site paving repairs, site power & lighting, site grading						
Item	Item Description	Units	Quantity	Unit Cost	Amount	
1000.1	Contractor Design Services	LS	All Req'd	8%	\$164,274	
1505.1	Mobilization	LS	All Req'd	8%	\$69,920	
2060.1	Demolition and Disposal	LS	All Req'd	\$100,000	\$100,000	
2202.1	Excavation	CY	6,300	\$15	\$94,500	
2202.3	Class B Shot Rock Borrow	CY	5,000	\$20	\$100,000	
2204.1	Base Course, Grading A	CY	500	\$50	\$25,000	
2204.2	Base Course, Grading C-1	CY	6,300	\$50	\$315,000	
2501.1	Storm Drainage Improvements w/ BMP's	LS	All Req'd	\$250,000	\$250,000	
2601.1	Water Services and Yard Pedestals	LS	All Req'd	\$225,000	\$225,000	
2801.1	ACP Patch Repairs	LS	All Req'd	\$50,000	\$50,000	
13000.1	Utility Building w/ Hydronic Boiler	SF	960	\$400	\$384,000	
16000.1	Power and Lighting	LS	All Req'd	\$440,000	\$440,000	
	ESTIMATED CONSTRUCTION BID PRICE				\$2,217,694	
	Contingency (10%)				\$221,769	
	Environmental Permitting				\$10,000	
	Topographic Survey & Geotechnical Investigation				\$15,000	
	Design Build - RFP Documents				\$40,000	
	Contract Administration and Construction Inspection				\$75,000	
	TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS				\$2,579,463	\$5,386,160
5. Timber Float: Timber boarding float & associated steel pipe piles						
Item	Item Description	Units	Quantity	Unit Cost	Amount	
1000.1	Contractor Design Services	LS	All Req'd	7%	\$47,628	
1505.1	Mobilization	LS	All Req'd	8%	\$50,400	
2893.1	Timber Boarding Float	SF	2,800	\$200	\$560,000	
2896.1	Furnish and Install Steel Pipe Pile	EA	7	\$10,000	\$70,000	
	ESTIMATED CONSTRUCTION BID PRICE				\$728,028	
	Contingency (10%)				\$72,803	
	Environmental Permitting				\$10,000	
	Bathymetric & Topographic Survey & Geotechnical Investigation				\$20,000	
	Design Build - RFP Documents				\$30,000	
	Contract Administration and Construction Inspection				\$50,000	
	TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS				\$910,831	\$6,296,991
6. Equipment: Self-propelled submersible hydraulic boat trailer						
Item	Item Description	Units	Quantity	Unit Cost	Amount	
1000.1	Contractor Design Services	LS	All Req'd	5%	\$54,000	
1505.1	Mobilization	LS	All Req'd	8%	\$80,000	
13130.1	100 T Self Propelled Submersible Hydraulic Trailer	LS	All Req'd	\$1,000,000	\$1,000,000	
	ESTIMATED CONSTRUCTION BID PRICE				\$1,134,000	
	Contingency (10%)				\$113,400	
	Design Build - RFP Documents				\$20,000	
	Contract Administration and Construction Inspection				\$10,000	
	TOTAL RECOMMENDED PROJECT BUDGET - SITE IMPROVEMENTS				\$1,277,400	\$7,574,391