Petersburg Navigation Improvements

Appendix E: Cost Engineering Appendix

Petersburg, Alaska

US Army Corps of Engineers
Alaska District

PETERSBURG NAVIGATION IMPROVEMENTS
PETERSBURG BOROUGH, ALASKA

COST ENGINEERING

BASIS OVERVIEW

This Cost Engineering Basis will be consolidated into the decision document *Petersburg Navigation Improvements Feasibility Report* for Petersburg, Alaska. The purpose of the feasibility study is to evaluate the feasibility and environmental effects of implementing navigation improvement measures in South Harbor at Petersburg, Alaska. This Appendix discusses the cost assumptions, methodology, materials, labor, and equipment utilized in the contract construction cost estimates.

SCOPE - PROJECT TYPE, FEATURES, & ALTERNATIVES

Petersburg municipality is a census-designated place in Petersburg Borough, Alaska. Petersburg Borough was incorporated on January 3, 2013. Petersburg, Latitude 56.8143, Longitude -132.9523, is located in Alaska's southeast panhandle, on the northwest end of Mitkof Island, where the Wrangell Narrows meet Frederick Sound. It lies midway between Juneau and Ketchikan, about 120 miles from either community.

Petersburg falls within the southeast maritime climate zone, characterized by cool summers, mild winters and heavy rain throughout the year. Petersburg has developed into one of Alaska's major fishing communities. Across the narrows is the town of Kupreanof, which was once busy with fur farms, a boat repair yard, and a saw mill.

Petersburg is accessed by air and water. Freight arrives by barge, ferry, or cargo plane. It is on the mainline state ferry route and has ferry terminals on the north and south ends of Mitkof Island. The state-owned James A. Johnson Airport has a runway for scheduled jet service and small plane charter services. Lloyd R. Roundtree Seaplane Base (on the Wrangell Narrows) allows for float plane services. Remote areas of the Borough are served by small state-owned boat docks at Papke's Landing in the Wrangell Narrows, on Kupreanof Island at the City of Kupreanof, and in Hobart Bay.

Petersburg Harbor facilities include a petroleum wharf, barge terminals, three boat harbors (North, Middle, and South) with moorage for 700 boats, a boat launch, and a boat haul-out. There is no deep-water dock for large ships (such as cruise ships); passengers are lightered to shore. Boat launch ramps are located on the south end of Mitkof Island at Banana Point, Blaquerie Point, and Woodpecker Cove. The state-owned Mitkof Highway carries traffic north and south and is paved or chip sealed for 28 miles between the South Mitkof Ferry Terminal and the airport.

Currently, marine vessels experience delays and damages due to lack of sufficient harbor draft and isostatic rebound. The primary purpose for this study is to determine the feasibility of navigation improvements that would decrease transportation inefficiencies within the harbor system. The intention of this project is dredging the protective harbor improvement measures.

The primary selected project feature is dredging the South Harbor (about 14.5 acres). The Entrance Channel areas will be dredged to a max pay depth of about -20 MLLW. The commercial and recreational floats will be dredged to a maximum of -19 MLLW and -11 MLLW, respectively. The sump area will be dredged to -10 MLLW. A 1-foot allowance is calculated into the max pay dredge quantity. There is about a 14-foot tide level difference between MLW and MHW, with a Mean Tide of 8.3 feet above MLLW.

The minor project feature is dredge material handling and disposal. The dredge material was tested with low or no contamination, qualifying it for clean unrestricted in-water disposal. Frederick Sound, approximately two miles east of the harbor system, is the designated disposal area for the dredged material.

MAJOR ASSUMPTIONS - COST ESTIMATE BASIS SUMMARY

Documents Referenced for Cost Scope of Work: Alternatives Sketches, Geotechnical Survey Drawings, Quantities from Designers, and the Feasibility Report.

Quantities and dimensions were provided by the project designers (see APPENDIX, HYDRAULIC DESIGN). Project conditions and construction costing were based upon the alternatives presented. Lands and Damages costs were provided by the Real Estate Branch, POA. The D&I, SIOH and Cost Share costs were provided by the project PM/PF.

Labor rates are based on Alaska Laborers' & Mechanics' Minimum Rates of Pay, 1 Sep 2018. Equipment rates are based on MII Equipment 2018, Region 09. CEDEP was used to calculate most likely direct cost of dredging and disposal. Fuel price is volatile across Alaska, and contractors often purchase bulk quantities and mobilize the majority of the fuel they expect to use to have a reliable supply and known price; third party deliveries to remote sites are uncertain and subject to rapid price increases.

A Prime Contractor was assumed to execute the dredging and disposal, with Sub-Contractors executing technical support such as Hydrographic and Topographic Surveys. A Tug & Barge owned by the Prime contractor was used to calculate mob/demob of assumed dredge plant and support equipment. Other Sub-contractors were used for alternatives as needed, as the work could be specialized, hazardous, and likely executed concurrently with the dredging and disposal.

The dredging work is well understood, and access to the harbor would be with marine floating equipment, as was the case in dredging Petersburg North Harbor in 2013. Dredging with disposal in-water has been accomplished a number of times in previous Alaska dredging contracts. Weather is a direct impact on working in the marine coastal environment with both land-based and floating equipment. There may be local ordinance constraints and environmental windows to complete the work, and Marine vessel traffic accessing Petersburg may experience delays and temporary mooring relocations.

Project cost risks include: encountering large rocks or marine debris; mischaracterization of dredge materials; vessel traffic delays; freezing temperatures; and storms and increased

wind/waves. The project dredge Max Pay depth is about 30 feet below MSL and is not anticipated to contain scarce or unique cultural, historic, or tribal resources. This work has moderate to average project cost risk.

Contingency for alternative selection was derived from the Cost Abbreviated Risk Analysis (ARA). The ARA defined contingencies for the project budget. Construction Escalation is based on the Civil Works Construction Cost Index System (CWCCIS), EM 1110-2-1304, dated 30 Sep 2017. Please refer to the Total Project Cost Summary (TPCS) for cost share breakdown.

The Construction Contractor will furnish all labor, equipment, supplies, and materials to accomplish the work. Contract acquisition is assumed to be IFB. Construction can occur between October 15th and March 15th and has been coordinated with the appropriate agencies.

COST ESTIMATE SUMMARY – ARA - TPCS

The project cost of Alternative 3, South Harbor Dredging Only, is $7 million at the Current Contract Cost level. The Abbreviated Risk Analysis put the project cost Contingency at moderate due to the uncertainty of the need to remove hard-packed material. These issues are being reviewed and it is anticipated the data will be refined during Design and Implementation. The Project First Cost of the Recommended Plan is $10.6 million.

**** TOTAL PROJECT COST SUMMARY ****

PROJECT: **Navigation Improvements CAP Sec 107 Alt#2 Non-Structural**
PROJECT NO: **P2 447803**
LOCATION: **PETERSBURG HARBOR, ALASKA**

DISTRICT: **ALASKA DISTRICT, POA** PREPARED: **2/13/2019**
POC: **CHIEF, COST ENGINEERING, Karl Harvey**

This Estimate reflects the scope and schedule in report; Petersburg CAP 107 Final Array of Alternatives 7 May 2018

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
						Program Year (Budget EC): 2019									
						Effective Price Level Date: 1-Oct- 18									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	REMAINING COST ($K)	Spent Thru: 1-Oct-19 ($K)	TOTAL FIRST COST ($K)	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
12	NAVIGATION PORTS & HARBORS	$28,242	$8,280	29%	$36,522		$28,242	$8,280	$36,522		$36,522	3.0%	$29,097	$8,530	$37,628
	#N/A		-			-						-			
	#N/A		-			-						-			
			-			-						-			
	CONSTRUCTION ESTIMATE TOTALS:	$28,242	$8,280		$36,522		$28,242	$8,280	$36,522		$36,522	3.0%	$29,097	$8,530	$37,628
01	LANDS AND DAMAGES		-			-						-			
30	PLANNING, ENGINEERING & DESIGN	$4,236	$955	23%	$5,192		$4,236	$955	$5,192		$5,192	2.4%	$4,337	$978	$5,315
31	CONSTRUCTION MANAGEMENT	$2,259	$507	22%	$2,766	0.0%	$2,259	$507	$2,766		$2,766	6.3%	$2,402	$539	$2,941
	PROJECT COST TOTALS:	$34,738	$9,742	28%	$44,480		$34,738	$9,742	$44,480		**$44,480**	3.2%	$35,836	$10,047	$45,884

CHIEF, COST ENGINEERING, Karl Harvey

PROJECT MANAGER, Amber Metallo

CHIEF, REAL ESTATE, Michael Coy

CHIEF, PLANNING, Cindy Upah

CHIEF, ENGINEERING SERVICES, Doug Bliss

CHIEF, OPERATIONS, Julie Anderson

CHIEF, CONSTRUCTION, Jim Jeffords

CHIEF, CONTRACTING, Aldone Graham

CHIEF, RM, Karen Farmer

CHIEF, DPM-CW, Bruce Sexauer

ESTIMATED TOTAL PROJECT COST:		**$45,884**
ESTIMATED FEDERAL COST:	10%	$4,588
ESTIMATED NON-FEDERAL COST:	90%	$41,295
22 - FEASIBILITY STUDY (CAP studies):		**$712**
ESTIMATED FEDERAL COST:	84%	$601
ESTIMATED NON-FEDERAL COST:	16%	$111
ESTIMATED FEDERAL COST OF PROJECT		**$5,189**

**** TOTAL PROJECT COST SUMMARY ****

PROJECT: **Navigation Improvements CAP Sec 107 Alt#3 Dredge Sth Hbr -18 => Frederick Snd**
PROJECT NO: **P2 447803**
LOCATION: **PETERSBURG HARBOR, ALASKA**

DISTRICT: **ALASKA DISTRICT, POA**
PREPARED: **2/13/2019**
POC: **CHIEF, COST ENGINEERING, Karl Harvey**

This Estimate reflects the scope and schedule in report; Petersburg CAP 107 Final Array of Alternatives 7 May 2018

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
								Program Year (Budget EC):		2019					
								Effective Price Level Date:		1-Oct- 18					
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	REMAINING COST ($K)	Spent Thru: 1-Oct-18 ($K)	TOTAL FIRST COST ($K)	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
12	NAVIGATION PORTS & HARBORS	$2,931	$780	27%	$3,711		$2,931	$780	$3,711		$3,711	4.0%	$3,049	$812	$3,861
12	NAVIGATION PORTS & HARBORS	$3,990	$1,368	34%	$5,359		$3,990	$1,368	$5,359		$5,359	4.0%	$4,151	$1,424	$5,575
	#N/A		-			-						-			
			-			-						-			
	CONSTRUCTION ESTIMATE TOTALS:	$6,921	$2,149		$9,070		$6,921	$2,149	$9,070		$9,070	4.0%	$7,201	$2,236	$9,436
01	LANDS AND DAMAGES		-			-						-			
30	PLANNING, ENGINEERING & DESIGN	$1,039	$178	17%	$1,217		$1,039	$178	$1,217		$1,217	3.3%	$1,073	$184	$1,257
31	CONSTRUCTION MANAGEMENT	$553	$125	23%	$678		$553	$125	$678		$678	8.5%	$600	$136	$736
	PROJECT COST TOTALS:	$8,513	$2,452	29%	$10,965		$8,513	$2,452	$10,965		**$10,965**	4.2%	$8,874	$2,556	$11,429

_____ CHIEF, COST ENGINEERING, Karl Harvey

_____ PROJECT MANAGER, Amber Metallo

_____ CHIEF, REAL ESTATE, Michael Coy

_____ CHIEF, PLANNING, Cindy Upah

_____ CHIEF, ENGINEERING SERVICES, Doug Bliss

_____ CHIEF, OPERATIONS, Julie Anderson

_____ CHIEF, CONSTRUCTION, Jim Jeffords

_____ CHIEF, CONTRACTING, Chris Tew

_____ CHIEF, RM, Karen Farmer

_____ CHIEF, DPM-CW, Bruce Sexauer

ESTIMATED TOTAL PROJECT COST:		**$11,429**
ESTIMATED FEDERAL COST:	90%	$10,286
ESTIMATED NON-FEDERAL COST:	10%	$1,143
22 - FEASIBILITY STUDY (CAP studies):		**$712**
ESTIMATED FEDERAL COST:	84%	$601
ESTIMATED NON-FEDERAL COST:	16%	$111
ESTIMATED FEDERAL COST OF PROJECT		**$10,887**

**** TOTAL PROJECT COST SUMMARY ****

PROJECT: **Navigation Improvements CAP Sec 107 Alt#3 Dredge Sth Hbr -19 => Frederick Snd**
PROJECT NO: **P2 447803**
LOCATION: **PETERSBURG HARBOR, ALASKA**

DISTRICT: **ALASKA DISTRICT, POA**
PREPARED: **3/19/2019**
POC: **CHIEF, COST ENGINEERING, Karl Harvey**

This Estimate reflects the scope and schedule in report; Petersburg CAP 107 Final Array of Alternatives 7 May 2018

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
									Program Year (Budget EC):	2019					
									Effective Price Level Date:	1-Oct- 18					
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	REMAINING COST ($K)	Spent Thru: 1-Oct-19 ($K)	TOTAL FIRST COST ($K)	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
12	NAVIGATION PORTS & HARBORS	$2,928	$842	29%	$3,770		$2,928	$842	$3,770		$3,770	5.6%	$3,091	$889	$3,980
12	NAVIGATION PORTS & HARBORS	$1,299	$291	22%	$1,589		$1,299	$291	$1,589		$1,589	5.6%	$1,371	$307	$1,678
12	NAVIGATION PORTS & HARBORS	$2,718	$609	22%	$3,327		$2,718	$609	$3,327		$3,327	5.6%	$2,870	$643	$3,512
			-			-						-			
	CONSTRUCTION ESTIMATE TOTALS:	$6,944	$1,742		$8,686		$6,944	$1,742	$8,686		$8,686	5.6%	$7,331	$1,839	$9,171
01	LANDS AND DAMAGES		-			-						-			
30	PLANNING, ENGINEERING & DESIGN	$1,042	$214	21%	$1,256		$1,042	$214	$1,256		$1,256	3.1%	$1,074	$221	$1,295
31	CONSTRUCTION MANAGEMENT	$556	$114	20%	$670		$556	$114	$670		$670	7.8%	$599	$122	$722
	PROJECT COST TOTALS:	$8,542	$2,070	24%	$10,612		$8,542	$2,070	$10,612		**$10,612**	5.4%	$9,005	$2,183	$11,188

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CHIEF, DPM-CW, Bruce Sexauer

ESTIMATED TOTAL PROJECT COST:		**$11,188**
ESTIMATED FEDERAL COST:	**63%**	$7,004
ESTIMATED NON-FEDERAL COST:	**37%**	$4,183
22 - FEASIBILITY STUDY (CAP studies):		**$712**
ESTIMATED FEDERAL COST:	57%	$406
ESTIMATED NON-FEDERAL COST:	43%	$306
ESTIMATED FEDERAL COST OF PROJECT		**$7,605**

****** TOTAL PROJECT COST SUMMARY ******

****** CONTRACT COST SUMMARY ******

PROJECT: Navigation Improvements CAP Sec 107 Alt#3 Dredge Sth Hbr -19 => Frederick Snd
LOCATION: PETERSBURG HARBOR, ALASKA
This Estimate reflects the scope and schedule in report; Petersburg CAP 107 Final Array of Alternatives 7 May 2018

DISTRICT: ALASKA DISTRICT, POA
POC: CHIEF, COST ENGINEERING, Karl Harvey

PREPARED: 3/19/2019

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 21-Dec-18 Estimate Price Level: 1-Oct-18				Program Year (Budget EC): 2019 Effective Price Level Date: 1 -Oct-18								
				RISK BASED										
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	CONTRACT 1													
12	HARBORS - MOBILIZE / DEMOBILIZE	$2,928	$842	28.8%	$3,770		$2,928	$842	$3,770	2021Q1	5.6%	$3,091	$889	$3,980
12	GNF HARBORS - MECHANICAL DREDGING	$1,299	$291	22.4%	$1,589		$1,299	$291	$1,589	2021Q1	5.6%	$1,371	$307	$1,678
12	LSF HARBORS - MECHANICAL DREDGING	$2,718	$609	22.4%	$3,327		$2,718	$609	$3,327	2021Q1	5.6%	$2,870	$643	$3,512
	CONSTRUCTION ESTIMATE TOTALS:	$6,944	$1,742	25.1%	$8,686		$6,944	$1,742	$8,686			$7,331	$1,839	$9,171
01	LANDS AND DAMAGES			20.0%										
30	PLANNING, ENGINEERING & DESIGN													
4.0%	Project Management	$278	$57	20.6%	$335		$278	$57	$335	2019Q3	2.0%	$283	$58	$342
1.0%	Planning & Environmental Compliance	$69	$14	20.6%	$83		$69	$14	$83	2019Q3	2.0%	$70	$14	$85
4.5%	Engineering & Design	$312	$64	20.6%	$376		$312	$64	$376	2019Q3	2.0%	$318	$65	$383
0.5%	Reviews, ATRs, IEPRs, VE	$35	$7	20.6%	$42		$35	$7	$42	2019Q3	2.0%	$36	$7	$43
0.5%	Life Cycle Updates (cost, schedule, risks)	$35	$7	20.6%	$42		$35	$7	$42	2019Q3	2.0%	$36	$7	$43
0.5%	Contracting & Reprographics	$35	$7	20.6%	$42		$35	$7	$42	2021Q1	7.8%	$38	$8	$45
1.0%	Engineering During Construction	$69	$14	20.6%	$83		$69	$14	$83	2021Q1	7.8%	$74	$15	$90
0.5%	Planning During Construction	$35	$7	20.6%	$42		$35	$7	$42	2019Q3	2.0%	$36	$7	$43
2.0%	Adaptive Management & Monitoring	$139	$29	20.6%	$168		$139	$29	$168	2020Q2	4.8%	$146	$30	$176
0.5%	Project Operations	$35	$7	20.6%	$42		$35	$7	$42	2020Q4	6.8%	$37	$8	$45
31	CONSTRUCTION MANAGEMENT													
3.5%	Construction Management	$243	$50	20.4%	$293		$243	$50	$293	2021Q1	7.8%	$262	$54	$316
2.5%	Project Operation:	$174	$36	20.4%	$210		$174	$36	$210	2021Q1	7.8%	$188	$38	$226
2.0%	Project Management	$139	$28	20.4%	$167		$139	$28	$167	2021Q1	7.8%	$150	$31	$180
	CONTRACT COST TOTALS:	$8,542	$2,070		$10,612		$8,542	$2,070	**$10,612**			$9,005	$2,183	**$11,188**

Abbreviated Risk Analysis

Project (less than $40M): **Petersberg SBH Dredging**

Project Development Stage/Alternative: **Feasibility (Recommended Plan)**

Risk Category: **Moderate Risk: Typical Project Construction Type**

Alternative: **Alt#3 Dredging & Disposal South Hbr**

Meeting Date: **5/11/2018**

Total Estimated Construction Contract Cost = **$ 6,944,245**

	CWWBS	Feature of Work	Contract Cost		% Contingency	$ Contingency	Total
	01 LANDS AND DAMAGES	Real Estate	$ -		20.00%	$ -	$ -
1			$ -		0.00%	$ -	$ -
2	12 NAVIGATION, PORTS AND HARBORS	Mob/Demob	$ 2,927,764		28.77%	$ 842,445	$ 3,770,208
3	12 NAVIGATION, PORTS AND HARBORS	Slope Protection	$ -		0.00%	$ -	$ -
4	12 NAVIGATION, PORTS AND HARBORS	South Hbr Basin Dredging & Disposal	$ 4,016,482		22.40%	$ 899,771	$ 4,916,253
5	12 NAVIGATION, PORTS AND HARBORS		$ -		0.00%	$ -	$ -
6	12 NAVIGATION, PORTS AND HARBORS		$ -		0.00%	$ -	$ -
7	12 NAVIGATION, PORTS AND HARBORS		$ -		0.00%	$ -	$ -
8	12 NAVIGATION, PORTS AND HARBORS		$ -		0.00%	$ -	$ -
9	12 NAVIGATION, PORTS AND HARBORS		$ -		0.00%	$ -	$ -
10	12 NAVIGATION, PORTS AND HARBORS	Remove / Replace New South Hbr Floats	$ -		0.00%	$ -	$ -
11			$ -		0.00%	$ -	$ -
12	All Other	Remaining Construction Items	$ -	*0.0%*	0.00%	$ -	$ -
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	$ 1,041,637	15.0%	20.55%	$ 214,086	$ 1,255,723
14	31 CONSTRUCTION MANAGEMENT	Construction Management	$ 555,540	8.0%	20.43%	$ 113,484	$ 669,023
XX	FIXED DOLLAR RISK ADD (EQUALLY DISPERSED TO ALL, MUST INCLUDE JUSTIFICATION SEE BELOW)					$ -	

Totals					
Real Estate	$ -	0.00%	$ -	$ -	
Total Construction Estimate	$ 6,944,245	25.09%	$ 1,742,216	$ 8,686,461	
Total Planning, Engineering & Design	$ 1,041,637	20.55%	$ 214,086	$ 1,255,723	
Total Construction Management	$ 555,540	20.43%	$ 113,484	$ 669,023	
Total Excluding Real Estate	**$ 8,541,422**	**24%**	**$ 2,069,786**	**$ 10,611,208**	
		Base	**50%**	**80%**	
Confidence Level Range Estimate ($000's)		$8,541k	$9,783k	$10,611k	

* 50% based on base is at 5% CL.

Fixed Dollar Risk Add: (Allows for additional risk to be added to the risk analsyis. Must include justification. Does not allocate to Real Estate.	

2020 Navigation Improvements, Dredge South Harbor -19.25 ft mllw, Petersburg, Alaska Alt #3 CWE

Petersburg municipality is a census-designated place in Petersburg Borough, Alaska. Petersburg Borough was incorporated on January 3, 2013. This project for Petersburg Harbor, is intended as dredging the protective harbor improvement measures. Petersburg, Latitude 56.8143, Longitude -132.9523, is located in Alaska's southeast panhandle, on the northwest end of Mitkof Island, where the Wrangell Narrows meet Frederick Sound. It lies midway between Juneau and Ketchikan, about 120 miles from either community. The proposed construction work would start in 2020 and finish by 2021.

Petersburg is about 875 barge miles from Seattle, 1050 miles from Anchorage, 1400 miles from Dutch harbor, and 1950 miles from San Diego.

Harbormaster's Office
223 Harbor Way in downtown Petersburg.
mailing address: P.O. Box 329, Petersburg, Alaska 99833
Phone: (907) 772-4688
Fax: (907) 772-4687
VHF Channel 16, CB-9
Harbormaster Glo Wollen
Port Administrator/Office Manager Ed Tagaban

Borough Sales Tax Rate 6%
Transient Room Tax 4%
Tobacco Excise Tax $2.03 each pack of cigarettes
Marijuana Excise Tax $25.00 per ounce

Estimated by	Al Arruda
Designed by	POA-EC-CW-HH
Prepared by	Al Arruda
Preparation Date	12/21/2018
Effective Date of Pricing	10/1/2018
Estimated Construction Time	150 Days

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Description	Quantity	UOM	ContractCost	Escalation	Contingency	SIOH	ProjectCost
Project Cost Summary Report			**6,944,245**	**0**	**0**	**0**	**6,944,245**
01 REAL ESTATE	**1.00**	**EA**	**0**	**0**	**0**	**0**	**0**
12 NAVIGATION, PORTS & HARBORS	**82,936.00**	**BCY**	**6,944,245**	**0**	**0**	**0**	**6,944,245**
Mobilization and Demobilization	**2.00**	**YR**	**2,927,764**	**0**	**0**	**0**	**2,927,764**
Submittals	**1.00**	**EA**	**17,706**	**0**	**0**	**0**	**17,706**
Mob/Demob Dredge Plant & Crew	**4.00**	**EA**	**2,895,609**	**0**	**0**	**0**	**2,895,609**
Road Mobilization	**4.00**	**EA**	**8,053**	**0**	**0**	**0**	**8,053**
Field Office Personnel Mob/Demob	**32.00**	**PN**	**61,545**	**0**	**0**	**0**	**61,545**
Dredge Mobilization	**2.00**	**EA**	**2,826,012**	**0**	**0**	**0**	**2,826,012**
Pre-Work	**1.00**	**EA**	**14,449**	**0**	**0**	**0**	**14,449**
Dredging -19.25, Frederick Sound Disposal	**82,936.00**	**BCY**	**4,016,482**	**0**	**0**	**0**	**4,016,482**
Temp Nav Bouys	**6.00**	**EA**	**18,334**	**0**	**0**	**0**	**18,334**
Temp Marker Bouys	**6.00**	**EA**	**9,167**	**0**	**0**	**0**	**9,167**
Dredging -19.25, Frederick Sound disposal	**82,936.00**	**BCY**	**3,786,313**	**0**	**0**	**0**	**3,786,313**
GNF -19.25	**28,523.00**	**BCY**	**1,147,675**	**0**	**0**	**0**	**1,147,675**
LSF -19.25	**54,413.00**	**BCY**	**2,638,638**	**0**	**0**	**0**	**2,638,638**
Surveys	**632,024.00**	**SF**	**202,668**	**0**	**0**	**0**	**202,668**
Hydrographic Surveys for Harbor Base Items, Complete	**6.00**	**EA**	**170,131**	**0**	**0**	**0**	**170,131**
Pre/Post Survey Field Work	**2.00**	**EA**	**63,806**	**0**	**0**	**0**	**63,806**
Interim Survey Field Work	**4.00**	**EA**	**50,033**	**0**	**0**	**0**	**50,033**
Survey Office Work	**6.00**	**EA**	**56,292**	**0**	**0**	**0**	**56,292**
0012 Hydrographic Surveys for Disposal Area, Complete - Frederick Sund	**2.00**	**EA**	**32,538**	**0**	**0**	**0**	**32,538**
Pre/Post Survey Field Work	**2.00**	**EA**	**13,774**	**0**	**0**	**0**	**13,774**
Survey Office Work	**2.00**	**EA**	**18,764**	**0**	**0**	**0**	**18,764**