Mississippi River Valley Division,
Regional Planning and Environment Division South

Port of Rosedale Feasibility Study

Appendix D – Cost Engineering

January 2023

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Basis of Estimate

1.1 Classification of Estimate

The project cost estimate was developed in the MCACES MII cost estimating software and used the standard approaches for a feasibility estimate structure regarding labor, equipment, materials, crews, unit prices, quotes, sub-contractor markups and prime contractor markups. This philosophy was taken wherever practical within the time constraints. It was supplemented with estimating information from other sources where necessary such as from quotes, bid data, and Architect-Engineer (A-E) estimates. It is to be noted that after development of Abbreviated Risk Analysis (ARA), the costs withing the Tentatively Selected Plan were further refined so some minor inconsistencies between the Cost Appendix and the Engineering Appendix may be present.

Cost estimates for the Tentatively Selected Plan were developed at a Class 3 level of effort utilizing largely parametric unit prices from sources such as historical Government and Commercial bid data, A-E cost estimates available from design reports, RS Means Cost Data Books and other available historical cost data sources.

1.2 Project Description

The existing barge loading facility (JANTRAN), that is located approximately halfway up the navigation channel en route to the turning basin, poses navigational challenges when in operation. Its location in a bend creates challenges for pilots, particularly when barges that are being loaded encroach into the existing navigation channel. In this alternative, this bend of the channel is being widened to 200’ from the 150’ that is currently authorized. This will allow larger barge configurations to more easily navigate the bend. The channel is also being realigned in the vicinity of the JANTRAN facility to avoid encroachments from barges that are moored at the facility for loading and unloading

The current authorized navigation channel is 150’ wide. As part of this alternative the entire channel between the Mississippi River and the turning basin at the upper end of the port will be widened to 185’ feet (except for the portion mentioned above, which will be widened to 200’). This additional width will facilitate two-way traffic as well as support larger barge configurations.

The final main feature is a reconfiguration and enlargement of the turning basin. The current authorized turning basin is 400’x1000’. This alternative lengthens the channel to extend through the existing turning basin and relocate the turning basin further upstream past its current location. The new turning basin is also enlarged to 600’ x 1000’. This increase in size allows larger barge configurations to utilize the turning basin, and its new location will provide more frontage for the port.

1.3 Direct Costs

Direct Costs are based on anticipated labor, equipment, and material necessary to construct this project. Direct costs have been calculated independent of the contractor assigned to perform the task.

1.3.1 Quantities

Quantities were provided by MVK Design and geotechnical sections for the dredged material (land and water based)

1.3.2 Labor

Labor rates were developed comparing Region 3 labor market wages with the local Davis-Bacon Wage Determination, using whichever was determined greater. Regional wage information was formulated from data gathered from USACE, Vicksburg District construction projects in the region and is assumed to be a fair representation of wage rates for the Rosedale area.

1.3.3 Equipment

Rates used are based on the latest USACE EP-1110-1-8, Region III. Adjustments are made for fuel and facility capital cost of money (FCCM). Full FCCM/Cost of Money rate is the latest available. The MII program takes the EP-recommended discount, but no other adjustments have been made to the FCCM. Equipment was chosen based on historical knowledge of similar projects.

1.3.4 Crews

The work is typical to the Mississippi area and is well understood by the cost engineers. The crews and productivity rates were checked by estimators and comparisons with historical cost data were referenced. Crews and productivity rates were adjusted as necessary based upon those findings to reflect reasonable crew sizes and production rates.

1.3.5 Work Schedule

Most crew work hours are assumed to be 12 hours, 7 days/week, with there being 2 shifts per day, which is typical for the project area.

1.3.6 Productivity

Productivity has been assigned to each crew reflective of the expected output per unit of measure for the specific task listed in the cost estimate. Notes in the estimate identify specific alterations to productivity due to workspace access.

1.3.7 Sales Tax

Local taxes on supplies and materials needed for construction would be applied based on the county that contains the work. Reference the tax rate website for Mississippi: http://www.salestaxstates.com. The project is located in Rosedale,

Mississippi and the tax rate is 7.00%. As such, the tax rate used for this project is 7.00%.

1.4 Indirect Costs

Indirect costs are based on the Prime Contractors markups, which include Job Office Overhead (JOOH), Home Office Overhead (HOOH), Profit, and Bond, and Project (Owner) Costs, which include Escalation and Contingency. The same is applied for the Subcontractor markups.

Overhead assumptions may include costs for the superintendent, the office manager, pickup trucks, periodic travel costs, communications, temporary offices (contractor and Government), office furniture, office supplies, computers and software, as-built drawings and minor designs, tool trailers, staging setup, camp/facility/kitchen maintenance and utilities, utility service, toilets, safety equipment, security and fencing, small hand and power tools, project signs, traffic control, surveys, temporary fuel tank station, generators, compressors, lighting and minor miscellaneous items

1.4.1 Job Office Overhead (JOOH)

The estimated percentages for Field Office Overhead were based upon estimating and negotiation experience, and consultation with local construction representatives. The estimates used a field office overhead rate based on the average of relevant jobs with a similar scope and magnitude.

Different percentages are used when considering the scope of work for each feature. However, when reviewing historical cost pricing data, a range of 10 -20% is typically used. The field office overhead rate of 10% was used for the prime contractors, which was based on historical projects. A field office overhead rate of 6% was used for subcontractors

1.4.2 Home Office Overhead (HOOH)

The estimated percentages vary based upon consideration of 8(a), small business and unrestricted prime contractors. The rates were based upon estimating and negotiating experience, and consultation with local construction representatives. Different percentages are used when considering the contract acquisition strategy regarding small business 8(a), competitive small business and large business, high to low, respectively. For Home Office Overhead a percentage of 10% was assumed for the prime contractor while a percentage of 15% was applied to a subcontractor.

1.4.3 Bonds

The Bond interest rate was assumed to be 1.2%, applied against the prime contractor.

1.4.4 Excise Tax

The state of Mississippi applies an approximate 3.62% tax on business on work within the state.

1.4.5 Contingency

Contingencies for the alternatives were developed using the USACE Abbreviated Cost Risk Analysis (ARA) program. An ARA is a qualitative approach used by the PDT to address key risk concerns for major features of work and their impact to cost and schedule drivers such as Project Scope Growth, Acquisition Strategy, Construction Elements, Quantities, Specialty Fabrication or Equipment, Cost Estimate Assumptions and External Project Risks. The development of the ARA resulted in a total composite risk contingency of 49.77% for the Tentatively Selected Plan (TSP), Alternative 7, considering all factors of the project. It should be noted Real Estate, PED and S&A costs were not included in formulating the composite risk contingency.

1.4.6 Escalation

The escalation for the structural items taken from the historical cost pricing data were based upon the latest version of the USACE Engineering Manual (EM) 1110-2-1304, “Civil Works Construction Cost Index System (CWCCIS)”.

1.5 Project Feature Codes

1.5.1 Navigation, Ports and Harbors (Code 12)

This feature code includes all the necessary direct costs (material, labor, and equipment) and indirect costs (JOOH, HOOH, Profit, Bonds, Contingency, and Escalation) for the clearing, snagging and dredging within the harbor.

1.5.2 Planning, Engineering and Design (Code 30)

This feature includes all engineering, design, surveys, preparation of detailed plans and specifications, and related work required for the construction of the project, including relocations and is assumed to be approximately 8.7% of the construction cost.

1.5.3 Construction Management (Code 31)

This feature includes such functions as inspection, supervision, project office administration, and distributive costs of area office and general overhead charged to the project and assumed approximately 12,000 + 8.0% of the construction Costs.

1.6 Major Assumptions

- Construction Procurement – Project will require one contract action in order to complete the project.
- Design and Administration of Construction – The design and construction oversight will primarily be performed by the U.S. Army Corps of Engineers (USACE) Vicksburg District.
- Hazardous, Toxic and Radioactive Waste (HTRW)- During HTRW surveys, the samples collected do not fall within range of contamination. At this time there is no reason to believe HTRW will be found, therefore, the estimates do not include costs for any potential HTRW. However, risks associated with the potential of HTRW being discovered were included in the ARA.

- Plans and Specifications – P&S will be fully developed by USACE personnel
- For estimating purposes, a single subcontractor was utilized. In the field it is possible that multiple subcontractors and vendors will be used; however, it is assumed they will have a similar markup scheme.

1.7 References

1. U.S. Army Corps of Engineers, 1993, Engineering and Design Cost Engineering Policy and General Requirements, Engineering Regulation 1110-1-1300, Department of the Army, Washington D.C., 26 March 1993.
2. Engineering Regulation 1110-2-1150, Department of the Army, Washington D.C., 31 August 1999.
3. U.S. Army Corps of Engineers, 2016, Civil Works Cost Engineering, Engineering Regulation 1110-2-1302, Department of the Army, Washington D.C., 30 June 2016.
4. U.S. Army Corps of Engineers, 2022, Construction Equipment Ownership and Operating Expense Schedule, Region III, Engineering Pamphlet 1110-1-8, Department of the Army, Washington D.C., January 2022.
5. U.S. Army Corps of Engineers, 2016, Civil Works Construction Cost Index System (CWCCIS), Engineering Manual 1110-2-1304, Department of the Army, Washington D.C., 30 September 2019.
6. U.S. Army Corps of Engineers, 2000, Planning Guidance Notebook, Engineering Regulation 1105-2-100, Department of the Army, Washington D.C., 22 April 2000.

1.8 Attachments

1. MII Estimate for the TSP
2. Abbreviated Risk Analysis (ARA)
3. Total Project Cost Summary (TPCS)

Appendix D: Cost Engineering

Attachment 1 – MII Report

Rosedale Harbor

Rosedale, Mississippi

The Port of Rosedale Expansion

FEASIBILITY REPORT

Rosedale Harbor TSP

The scope includes evaluation of alternatives, including the no-action alternative (Alt.1), to provide navigation improvements in the Port of Rosedale harbor that maximize net benefits while minimizing environmental impacts. The alternatives evaluated limited dredging depths to 9 feet below the Low Water Reference Plane (LWRP) (Elevation 93 feet MSL) to remain consistent with current dredging maintenance operations. Structural measures include: Widen the channel at the JANTRAN location, lengthen the channel, expand the basin, create new turning basins , relocate the JANTRAN floating doc and supporting infrastructure and relocate the recreational boat launch. Measures were combined in various arrangements to form an array of complete alternatives to meet project objectives.

Estimated by	
Designed by	
Prepared by	McKinsey Vroman
Preparation Date	5/17/2024
Effective Date of Pricing	5/17/2024
Estimated Construction Time	Days

Description	UOM	Quantity	DirectLabor	DirectEQ	DirectMatl	DirectSubBid	SubCMU	CostToPrime	PrimeCMU	ContractCost
Contract Cost Summary Report			**160,801.22**	**106,942.41**	**1,281.60**	**9,150.00**	**459,884.68**	**3,227,359.62**	**1,113,369.62**	**4,340,729.24**
			160,801.22	*106,942.41*	*1,281.60*	*9,150.00*		*3,227,359.62*		*4,340,729.24*
7 Alternative 7	**EA**	**1.00**	**160,801.22**	**106,942.41**	**1,281.60**	**9,150.00**	**459,884.68**	**3,227,359.62**	**1,113,369.62**	**4,340,729.24**
			27,137.60	*9,062.89*	*601.20*	*9,150.00*		*799,573.68*		*1,075,409.40*
7.1 MOBILIZATION AND DEMOBILIZATION	**EA**	**1.00**	**27,137.60**	**9,062.89**	**601.20**	**9,150.00**	**0.00**	**799,573.68**	**275,835.71**	**1,075,409.40**
			26,660.43	*15,390.52*	*680.40*	*0.00*		*67,551.35*		*90,855.11*
7.2 CLEARING & SNAGGING/ MITIGATION	**EA**	**1.00**	**26,660.43**	**15,390.52**	**680.40**	**0.00**	**0.00**	**67,551.35**	**23,303.76**	**90,855.11**
			107,003.19	*82,489.00*	*0.00*	*0.00*		*2,360,234.59*		*3,174,464.74*
7.3 DREDGE	**EA**	**1.00**	**107,003.19**	**82,489.00**	**0.00**	**0.00**	**459,884.68**	**2,360,234.59**	**814,230.15**	**3,174,464.74**

Appendix D: Cost Engineering

Attachment 2 – Abbreviated Risk Analysis

Rosedale Harbor

Rosedale, Mississippi

The Port of Rosedale Expansion

FEASIBILITY REPORT

Abbreviated Risk Analysis

Project (less than $40M): **Project Example** — **Alternative:** **Alt 7**

Project Development Stage/Alternative: **Feasibility (Alternatives)**

Risk Category: **Moderate Risk: Typical Project Construction Type** — **Meeting Date:** **6/16/2022**

Total Estimated Construction Contract Cost = $ 4,340,800

	CWWBS	Feature of Work	Estimated Cost		% Contingency	$ Contingency	Total
	01 LANDS AND DAMAGES	Real Estate	$ 63,000		25%	$ 15,750	$ 78,750
1	12 NAVIGATION, PORTS AND HARBORS	Mob/Demob	$ 1,075,400		27%	$ 288,274	$ 1,363,674
2	12 NAVIGATION, PORTS AND HARBORS	Clearing and Snagging/Mitigation	$ 90,900		25%	$ 22,803	$ 113,703
3	12 NAVIGATION, PORTS AND HARBORS	Dredging	$ 3,174,500		61%	$ 1,936,044	$ 5,110,544
4					0%	$ -	$ -
5					0%	$ -	$ -
6					0%	$ -	$ -
7					0%	$ -	$ -
8			$ -		0%	$ -	$ -
9			$ -		0%	$ -	$ -
10			$ -		0%	$ -	$ -
11			$ -		0%	$ -	$ -
12	All Other	Remaining Construction Items	$ -	0.0%	0%	$ -	$ -
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	$ 590,000		25%	$ 146,143	$ 736,143
14	31 CONSTRUCTION MANAGEMENT	Construction Management	$ 359,000		32%	$ 116,553	$ 475,553
XX	FIXED DOLLAR RISK ADD (EQUALLY DISPERSED TO ALL, MUST INCLUDE JUSTIFICATION SEE BELOW)					$ -	

Totals					
Real Estate	$ 63,000	25%	$ 15,750	$ 78,750.00	
Total Construction Estimate	$ 4,340,800	51.77%	$ 2,247,120	$ 6,587,920	
Total Planning, Engineering & Design	$ 590,000	24.77%	$ 146,143	$ 736,143	
Total Construction Management	$ 359,000	32.47%	$ 116,553	$ 475,553	
Total Excluding Real Estate	$ 5,289,800	47.45%	$ 2,509,817	$ 7,799,617	
		Base	50%	80%	
Confidence Level Range Estimate ($000's)		$5,290k	$6,796k	$7,800k	

* 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.	

Project Example Alt 7

Feasibility (Alternatives)

Abbreviated Risk Analysis

Meeting Date: 16-Jun-22

Risk Level

	Negligible	Marginal	Moderate	Significant	Critical
Very Likely	2	3	4	5	5
Likely	1	2	3	4	5
Possible	0	1	2	3	4
Unlikely	0	0	1	2	3

Risk Register

Risk Element	Feature of Work	Concerns	PDT Discussions & Conclusions (Include logic & justification for choice of Likelihood & Impact)	Impact	Likelihood	Risk Level
Project Management & Scope Growth				**Maximum Project Growth**		**75%**
PS-3	Dredging	Funding Difficulties?	Partial Ped dollar have been received. No issues with Non fed sponsor. No major issues anticipated. Same for all features of work and design.	Negligible	Unlikely	0
Acquisition Strategy				**Maximum Project Growth**		**30%**
AS-3	Dredging	• Limited bid competition anticipated?	No firm contracting plan has been established to date; however, due to the nature of work, acquisition strategy will most likely be either unrestricted sealed bid or a task order award on existing MS River Dredges MATOC. Likelihood of impact is unlikely and potential impact is marginal. Same for all features of work and design.	Marginal	Unlikely	0
Construction Elements				**Maximum Project Growth**		**25%**
CON-1	Mob/Demob	High risk or complex construction elements, site access, in-water?	High water event could cause extra mob/demob costs. The long pumping distance could cause extra boosters.	Moderate	Possible	2
CE-2	Clearing and Snagging/Mitigation	• Potential for construction modification and claims?	Cultural findings would cause modifications to the clearing and snagging.	Moderate	Unlikely	1
CE-3	Dredging	• Potential for construction modification and claims?	Turbidity monitoring will be needed in the neighboring water body which could affect productivity. In addition, there are dredging restrictions for sturgeon spawning. These requirements are known and will be in the contract therefore it is anticipated to be unlikely to affect cost. However, the impact would be moderate.	Moderate	Unlikely	1
CE-13	Planning, Engineering, & Design	• Potential for construction modification and claims?	cultural finding would cause extra PED.	Moderate	Possible	2
CE-14	Construction Management	• Potential for construction modification and claims?	Cultural finding would cause extra CM.	Moderate	Possible	2
Specialty Construction or Fabrication				**Maximum Project Growth**		**65%**
SC-1	Mob/Demob	Extra or special equipment may be needed depending on methodology.	Assume to be low risk.	Negligible	Unlikely	0

SC-2	Clearing and Snagging/Mitigation	• Confidence in constructability or methodology?	Assume to be low risk.	Marginal	Unlikely	0
SC-3	Dredging	• Ability to reasonably transport? Confidence in methodology?	Potential impacts: There is a marine fabrication facility nearby (northern end) that could cause heavy metals to be found in dredged material. If heavy metals are found then limitations on disposal would be imposed.	Critical	Possible	4
Technical Design & Quantities				**Maximum Project Growth**		**30%**
T-2	Clearing and Snagging/Mitigation	• Level of confidence based on design and assumptions?	Confident in the clearing and snagging quantities.	Negligible	Unlikely	0
T-3	Dredging	• Level of confidence based on design and assumptions?	Lidar and hydro survey were taken. Fairly confident in estimate, however there was some time between survey. Fairly confident in quantities, but they could go up or down. Likely with moderate impact.	Moderate	Likely	3
T-14	Construction Management	• Level of confidence based on design and assumptions?	If the amount of dredge material increase then CM cost will increase.	Moderate	Likely	3
Cost Estimate Assumptions				**Maximum Project Growth**		**35%**
EST-1	Mob/Demob	• Assumptions regarding crew, productivity, overtime?	Based on historical data.	Marginal	Possible	1
EST-2	Clearing and Snagging/Mitigation	• Assumptions regarding crew, productivity, overtime?	Custom crew developed.	Marginal	Possible	1
EST-3	Dredging	• Assumptions regarding crew, productivity, overtime?	Researched historical data and confirmed in CEDEP. Using cutterhead dredge. Material will be piped to Mississippi (2.7 miles)	Marginal	Possible	1
External Project Risks				**Maximum Project Growth**		**40%**
EX-1	Mob/Demob	• Unanticipated inflations in fuel, key materials?	Fuel rates, inflation, access to material and labor are issues that could increase costs and schedule Assume	Moderate	Likely	3
EX-2	Clearing and Snagging/Mitigation	• Unanticipated inflations in fuel, key materials?	Fuel rates, inflation, access to material and labor are issues that could increase costs and schedule Assume	Moderate	Likely	3
EX-3	Dredging	• Unanticipated inflations in fuel, key materials?	Fuel rates, inflation, access to material and labor are issues that could increase costs and schedule Assume	Moderate	Likely	3
EX-13	Planning, Engineering, & Design	• Unanticipated inflations in fuel, key materials?	Fuel rates, inflation, access to material and labor are issues that could increase costs and schedule Assume	Moderate	Likely	3
EX-14	Construction Management	• Unanticipated inflations in fuel, key materials?	Costs due to potential dredge breakdowns. Parts currently have long lead times.	Moderate	Likely	3

Appendix D: Cost Engineering

Attachment 3 – Total Project Cost Summary

Rosedale Harbor

Rosedale, Mississippi

The Port of Rosedale Expansion

FEASIBILITY REPORT

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

PROJECT: **Rosedale Harbor Feasibility Study**
PROJECT NO: **472096**
LOCATION: **Rosedale, MS**

DISTRICT: **MVK**
PREPARED: **9/26/2023**
POC: **CHIEF, COST ENGINEERING, TAFT Y. TUCKER**

This Estimate reflects the scope and schedule in report; Report Name and date

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
						Program Year (Budget EC): 2024 Effective Price Level Date: 1-Oct- 23									
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-23 ($K)	TOTAL FIRST COST ($K)	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
12	NAVIGATION PORTS & HARBORS	$4,341	$2,247	52%	$6,588		$4,341	$2,247	$6,588		$6,588	7.5%	$4,666	$2,416	$7,082
			-			-						-			
			-			-						-			
			-			-						-			
	CONSTRUCTION ESTIMATE TOTALS:	$4,341	$2,247		$6,588		$4,341	$2,247	$6,588		$6,588	7.5%	$4,666	$2,416	$7,082
01	LANDS AND DAMAGES	$63	$16	25%	$79		$63	$16	$79		$79	4.1%	$66	$16	$82
30	PLANNING, ENGINEERING & DESIGN	$590	$146	25%	$736		$590	$146	$736		$736	5.7%	$624	$154	$778
31	CONSTRUCTION MANAGEMENT	$359	$117	32%	$476		$359	$117	$476		$476	10.8%	$398	$129	$527
	PROJECT COST TOTALS:	$5,353	$2,526	47%	$7,878		$5,353	$2,526	$7,878		**$7,878**	7.5%	$5,753	$2,716	$8,469

	CHIEF, COST ENGINEERING, TAFT Y. TUCKER
	PROJECT MANAGER, BARRETT G. MOORE
	CHIEF, REAL ESTATE, CHRYSTAL L. SPOKANE
	CHIEF, PLANNING, TRAVIS J. CREEL
	CHIEF, ENGINEERING, HENRY A. DULANEY
	CHIEF, OPERATIONS, JULIE D. VIGNES
	CHIEF, CONSTRUCTION, WILLIAM T. SHOWS
	CHIEF, CONTRACTING, DAVITA S. BALOUE
	CHIEF, PM-PB, PATRICIA R. HEMPHILL
	CHIEF, DPM, PATRICIA R. HEMPHILL

ESTIMATED TOTAL PROJECT COST:		**$8,469**
ESTIMATED FEDERAL COST:	**80%**	$6,775
ESTIMATED NON-FEDERAL COST:	**20%**	$1,694
22 - FEASIBILITY STUDY (CAP studies):		**$675**
ESTIMATED FEDERAL COST:	50%	$387
ESTIMATED NON-FEDERAL COST:	50%	$287
ESTIMATED FEDERAL COST OF PROJECT		**$7,162**

Filename: CAP TPCS Alternative 7
TPCS

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

**** CONTRACT COST SUMMARY ****

PROJECT: Port of Rosedale Expansion Feasibility Study
LOCATION: Rosedale, MS
This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: MVK
POC: CHIEF, COST ENGINEERING, TAFT Y. TUCKER
PREPARED: 9/26/2023

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 28-Jul-22 Estimate Price Level: 1-Oct-23				Program Year (Budget EC): 2024 Effective Price Level Date: 1 -Oct-23								
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	RISK BASED 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*
	Alternative 7													
12	NAVIGATION PORTS & HARBORS	$4,341	$2,247	51.8%	$6,588		$4,341	$2,247	$6,588	2027Q2	7.5%	$4,666	$2,416	$7,082
	CONSTRUCTION ESTIMATE TOTALS:	$4,341	$2,247	51.8%	$6,588		$4,341	$2,247	$6,588			$4,666	$2,416	$7,082
01	LANDS AND DAMAGES	$63	$16	25.0%	$79		$63	$16	$79	2025Q3	4.1%	$66	$16	$82
30	PLANNING, ENGINEERING & DESIGN													
0.8%	Project Management	$35	$9	24.8%	$44		$35	$9	$44	2025Q3	5.0%	$37	$9	$46
1.0%	Planning & Environmental Compliance	$43	$11	24.8%	$54		$43	$11	$54	2025Q3	5.0%	$45	$11	$56
7.8%	Engineering & Design	$340	$84	24.8%	$424		$340	$84	$424	2025Q3	5.0%	$357	$88	$445
0.4%	Reviews, ATRs, IEPRs, VE	$17	$4	24.8%	$21		$17	$4	$21	2025Q3	5.0%	$18	$4	$22
1.0%	Life Cycle Updates (cost, schedule, risks)	$43	$11	24.8%	$54		$43	$11	$54	2025Q3	5.0%	$45	$11	$56
0.6%	Contracting & Reprographics	$26	$6	24.8%	$32		$26	$6	$32	2027Q2	10.8%	$29	$7	$36
1.0%	Engineering During Construction	$43	$11	24.8%	$54		$43	$11	$54	2027Q2	10.8%	$48	$12	$59
1.0%	Planning During Construction	$43	$11	24.8%	$54		$43	$11	$54	2025Q3	5.0%	$45	$11	$56
	Adaptive Management & Monitoring			24.8%										
	Project Operations			24.8%										
31	CONSTRUCTION MANAGEMENT													
7.5%	Construction Management	$326	$106	32.5%	$432		$326	$106	$432	2027Q2	10.8%	$361	$117	$478
	Project Operation:			32.5%										
0.8%	Project Management	$33	$11	32.5%	$44		$33	$11	$44	2027Q2	10.8%	$37	$12	$48
	CONTRACT COST TOTALS:	$5,353	$2,526		$7,878		$5,353	$2,526	**$7,878**			$5,753	$2,716	**$8,469**