Providence River and Harbor Federal Navigation Project
Rhode Island Dredged Material Management Plan
And Environmental Assessment
EAXX-202-00-E6P-1737974837

Appendix J
Design and Construction Cost Estimates

WALLA WALLA COST ENGINEERING MANDATORY CENTER OF EXPERTISE

COST AGENCY TECHNICAL REVIEW

CERTIFICATION STATEMENT

NAE – Project Number 107660

Providence River and Harbor Federal Navigation Project
Rhode Island DMMP and EA

The Providence River and Harbor Federal Navigation Project Dredge Material Management Plan and Environmental Assessment, as presented by the New England District, has undergone a successful Cost Agency Technical Review (Cost ATR), performed by the Walla Walla District Cost Engineering Mandatory Center of Expertise (Cost MCX) team. The Cost ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies. This certification signifies the products meet the quality standards as prescribed in ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of March 4, 2026, the Cost MCX certifies the estimated total project cost:

FY26 Project First Cost: $225,718,000
Fully Funded Amount: $324,359,000

Cost Certification assumes Efficient Implementation (Funding). It remains the responsibility of the District to correctly reflect these cost values within the Final Report and to implement effective project management controls and implementation procedures including risk management through the period of Federal Participation.

Digitally signed by
NELSON.DEREK.D
UANE.1235538233

Derek D. Nelson, TCCC
Chief, Cost Engineering MCX
Walla Walla District

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

PROJECT: **Providence River DMMP**
PROJECT NO: 107660
LOCATION: Providence River DMMP

DISTRICT: NAE **PREPARED: 3/2/2026**
POC: CHIEF, COST ENGINEERING, Chris Tilley

This Estimate reflects the scope and schedule in report; Providence River and Harbor Federal Navigation ProjectRhode Island Dredged Material Management PlanAnd Environmental AssessmentEAXX-202-00-E6P-1737974837Appendix EEn

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)			
						Program Year (Budget EC): 2026 Effective Price Level Date: 1 OCT 25									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	**TOTAL ($K)**	Spent Thru: **1-Oct-25** ($K)	**TOTAL FIRST COST** ($K)	NFLATEI (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*		*K*	*L*	*M*	*N*	*O*
12	NAVIGATION PORTS & HARBORS	$156,235	$48,433	31.0%	$204,667	0.0%	$156,235	$48,433	$204,667	$0	$204,667	42.8%	$223,088	$69,157	$292,245
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	#N/A	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$156,235	$48,433		$204,667	0.0%	$156,235	$48,433	$204,667	$0	$204,667	42.8%	$223,088	$69,157	$292,245
01	LANDS AND DAMAGES	$0	$0	-	$0	-	$0	$0	$0	$0	$0	-	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN	$9,820	$3,044	31.0%	$12,864	0.0%	$9,820	$3,044	$12,864	$0	$12,864	50.6%	$14,789	$4,585	$19,374
31	CONSTRUCTION MANAGEMENT	$6,249	$1,937	31.0%	$8,187	0.0%	$6,249	$1,937	$8,187	$0	$8,187	55.6%	$9,725	$3,015	$12,739
	PROJECT COST TOTALS:	$172,304	$53,414	31.0%	$225,718		$172,304	$53,414	**$225,718**	$0	**$225,718**	43.7%	$247,602	$76,757	$324,359

ESTIMATED TOTAL PROJECT COST: **$324,359**

_______________ **CHIEF, COST ENGINEERING, Chris Tilley**

_______________ **PROJECT MANAGER, Miranda Cashman**

_______________ **CHIEF, REAL ESTATE, Tim Shugert**

_______________ **CHIEF, PLANNING, Wendy Gendron**

_______________ **CHIEF, ENGINEERING, Dave Margolis**

_______________ **CHIEF, OPERATIONS, Eric Pedersen**

_______________ **CHIEF, CONSTRUCTION, Ray Goff**

_______________ **CHIEF, CONTRACTING,Sheila Winstonvincuilla**

_______________ **CHIEF, PM-PB, Karen Umbrell**

_______________ **CHIEF, DPM, Janet Harrington**

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

**** CONTRACT COST SUMMARY ****

PROJECT: Providence River DMMP
LOCATION: Providence River DMMP
This Estimate reflects the scope and schedule in report; Providence River and Harbor Federal Navigation ProjectRhode Island Dredged Material Management PlanAnd Environmental AssessmentEAXX-202-00-E6P-1737974837Appendix EEn

DISTRICT: NAE
POC: CHIEF, COST ENGINEERING, Chris Tilley
PREPARED: 3/2/2026

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
<> Dredging to Create New Edgewood Shoals North CAD Cell (3,329,834 cy dredged) with Disposal to Various Locations INCLUDING the Beneficial Use Locations* * Includes contingency based on the CSRA 2025 09 24. PED and CM was revised from 4% to 6%, and 2.5% to 4% per ATR comment.		Estimate Prepared:			**25-Feb-26**	Program Year (Budget EC):			2026					
		Effective Price Level:			1-Oct-25	Effective Price Level Date:			1 OCT 25					
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	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 1 or CONTRACT 1													
12	Construct Edgewood Shoals North CAD Cell w/BU's (CYCLE 1)	$52,266	$16,203	31.0%	$68,469	0.0%	$52,266	$16,203	$68,469	2028Q1	5.3%	$55,054	$17,067	$72,121
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$52,266	$16,203	31.0%	**$68,469**		$52,266	$16,203	$68,469			$55,054	$17,067	$72,121
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	$275	$85	31.0%	$360	0.0%	$275	$85	$360	2027Q1	3.1%	$284	$88	$372
0.2%	Planning & Environmental Compliance	$110	$34	31.0%	$144	0.0%	$110	$34	$144	2027Q1	3.1%	$113	$35	$149
3.2%	Engineering & Design	$1,651	$512	31.0%	$2,162	0.0%	$1,651	$512	$2,162	2027Q1	3.1%	$1,702	$528	$2,229
0.2%	Reviews, ATRs, IEPRs, VE	$110	$34	31.0%	$144	0.0%	$110	$34	$144	2027Q1	3.1%	$113	$35	$149
0.2%	Life Cycle Updates (cost, schedule, risks)	$110	$34	31.0%	$144	0.0%	$110	$34	$144	2027Q1	3.1%	$113	$35	$149
0.2%	Contracting & Reprographics	$110	$34	31.0%	$144	0.0%	$110	$34	$144	2027Q1	3.1%	$113	$35	$149
0.6%	Engineering During Construction	$330	$102	31.0%	$432	0.0%	$330	$102	$432	2028Q1	6.3%	$351	$109	$460
0.4%	Planning During Construction	$220	$68	31.0%	$288	0.0%	$220	$68	$288	2028Q1	6.3%	$234	$73	$306
0.2%	Adaptive Mgmt & Monitoring (Shellfish Relocation)	$300	$93	31.0%	$393	0.0%	$300	$93	$393	2028Q1	6.3%	$319	$99	$418
0.2%	Project Operations	$110	$34	31.0%	$144	0.0%	$110	$34	$144	2027Q1	3.1%	$113	$35	$149
	Real Estate (All Federal Labor)	$20	$6	31.0%	$26	0.0%	$20	$6	$26	2028Q3	8.0%	$22	$7	$28
31	CONSTRUCTION MANAGEMENT													
2.8%	Construction Management	$1,442	$447	31.0%	$1,889	0.0%	$1,442	$447	$1,889	2028Q1	6.3%	$1,533	$475	$2,008
0.6%	Project Operation:	$288	$89	31.0%	$378	0.0%	$288	$89	$378	2028Q1	6.3%	$307	$95	$402
0.7%	Project Management	$360	$112	31.0%	$472	0.0%	$360	$112	$472	2028Q1	6.3%	$383	$119	$502
10.0%	**CONTRACT COST TOTALS:**	$57,703	$17,888		$75,591		$57,703	$17,888	**$75,591**			$60,754	$18,834	**$79,588**

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

**** CONTRACT COST SUMMARY ****

PROJECT: Providence River DMMP
LOCATION: Providence River DMMP
This Estimate reflects the scope and schedule in report; Providence River and Harbor Federal Navigation ProjectRhode Island Dredged Material Management PlanAnd Environmental AssessmentEAXX-202-00-E6P-1737974837Appendix EEn

DISTRICT: NAE
POC: CHIEF, COST ENGINEERING, Chris Tilley
PREPARED: 3/2/2026

<> Maintenance Dredge FNP (2,138,173 cy) with Disposal to Edgewood Shoals North CAD Cell.*
* Includes contingency based on the CSRA 2025 09 24. PED and CM was revised from 4% to 6%, and 2.5% to 4% per ATR comment.

ESTIMATED COST: Estimate Prepared: **25-Feb-26**; Effective Price Level: 1-Oct-25

PROJECT FIRST COST (Constant Dollar Basis): Program Year (Budget EC): 2026; Effective Price Level Date: 1 OCT 25

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
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	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 2 or CONTRACT 2													
12	Providence River FNP Maintenance Dredging to ESN (CYCLE 1)	$22,912	$7,103	31.0%	$30,014	0.0%	$22,912	$7,103	$30,014	2028Q4	7.4%	$24,609	$7,629	$32,237
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$22,912	$7,103	31.0%	**$30,014**		$22,912	$7,103	$30,014			$24,609	$7,629	$32,237
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	$121	$37	31.0%	$158	0.0%	$121	$37	$158	2027Q1	3.1%	$124	$39	$163
0.2%	Planning & Environmental Compliance	$48	$15	31.0%	$63	0.0%	$48	$15	$63	2027Q1	3.1%	$50	$15	$65
3.2%	Engineering & Design	$724	$224	31.0%	$948	0.0%	$724	$224	$948	2027Q1	3.1%	$746	$231	$977
0.2%	Reviews, ATRs, IEPRs, VE	$48	$15	31.0%	$63	0.0%	$48	$15	$63	2027Q1	3.1%	$50	$15	$65
0.2%	Life Cycle Updates (cost, schedule, risks)	$48	$15	31.0%	$63	0.0%	$48	$15	$63	2027Q1	3.1%	$50	$15	$65
0.2%	Contracting & Reprographics	$48	$15	31.0%	$63	0.0%	$48	$15	$63	2027Q1	3.1%	$50	$15	$65
0.6%	Engineering During Construction	$145	$45	31.0%	$190	0.0%	$145	$45	$190	2028Q4	8.8%	$157	$49	$206
0.4%	Planning During Construction	$96	$30	31.0%	$126	0.0%	$96	$30	$126	2028Q4	8.8%	$105	$33	$138
0.2%	Adaptive Management & Monitoring	$48	$15	31.0%	$63	0.0%	$48	$15	$63	2028Q4	8.8%	$52	$16	$69
0.2%	Project Operations	$48	$15	31.0%	$63	0.0%	$48	$15	$63	2027Q1	3.1%	$50	$15	$65
	Real Estate (All Federal Labor)	$20	$6	31.0%	$26	0.0%	$20	$6	$26	2027Q1	3.1%	$21	$6	$27
31	CONSTRUCTION MANAGEMENT													
2.8%	Construction Management	$632	$196	31.0%	$828	0.0%	$632	$196	$828	2028Q4	8.8%	$688	$213	$901
0.6%	Project Operation:	$126	$39	31.0%	$166	0.0%	$126	$39	$166	2028Q4	8.8%	$138	$43	$180
0.7%	Project Management	$158	$49	31.0%	$207	0.0%	$158	$49	$207	2028Q4	8.8%	$172	$53	$225
10.0%	**CONTRACT COST TOTALS:**	$25,223	$7,819		$33,042		$25,223	$7,819	**$33,042**			$27,060	$8,389	**$35,449**

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

**** CONTRACT COST SUMMARY ****

PROJECT: Providence River DMMP — DISTRICT: NAE — PREPARED: 3/2/2026
LOCATION: Providence River DMMP — POC: CHIEF, COST ENGINEERING, Chris Tilley
This Estimate reflects the scope and schedule in report; Providence River and Harbor Federal Navigation ProjectRhode Island Dredged Material Management PlanAnd Environmental AssessmentEAXX-202-00-E6P-1737974837Appendix EEn

Civil Works Work Breakdown Structure | **ESTIMATED COST** | **PROJECT FIRST COST (Constant Dollar Basis)** | **TOTAL PROJECT COST (FULLY FUNDED)**

<> Dredging to Create New Edgewood Shoals South CAD Cell (3,083,284 cy) with Disposal to Various Locations NOT Including the Beneficial Use Locations*
* Includes contingency based on the CSRA 2025 09 24. PED and CM was revised from 4% to 6%, and 2.5% to 4% per ATR comment.

Estimate Prepared: **25-Feb-26**
Effective Price Level: 1-Oct-25

Program Year (Budget EC): 2026
Effective Price Level Date: 1 OCT 25

WBS NUMBER *A*	Civil Works Feature & Sub-Feature Description *B*	COST ($K) *C*	CNTG ($K) *D*	CNTG (%) *E*	TOTAL ($K) *F*	ESC (%) *G*	COST ($K) *H*	CNTG ($K) *I*	TOTAL ($K) *J*	Mid-Point Date *P*	INFLATED (%) *L*	COST ($K) *M*	CNTG ($K) *N*	FULL ($K) *O*
	PHASE 3 or CONTRACT 3													
12	Construct Edgewood Shoals South CAD Cell (CYCLE 2)	$58,957	$18,277	31.0%	$77,234	0.0%	$58,957	$18,277	$77,234	2048Q1	76.0%	$103,764	$32,167	$135,931
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$58,957	$18,277	31.0%	**$77,234**		$58,957	$18,277	$77,234			$103,764	$32,167	$135,931
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	$310	$96	31.0%	$406	0.0%	$310	$96	$406	2047Q1	93.2%	$599	$186	$785
0.2%	Planning & Environmental Compliance	$124	$38	31.0%	$163	0.0%	$124	$38	$163	2047Q1	93.2%	$240	$74	$314
3.2%	Engineering & Design	$1,862	$577	31.0%	$2,439	0.0%	$1,862	$577	$2,439	2047Q1	93.2%	$3,596	$1,115	$4,711
0.2%	Reviews, ATRs, IEPRs, VE	$124	$38	31.0%	$163	0.0%	$124	$38	$163	2047Q1	93.2%	$240	$74	$314
0.2%	Life Cycle Updates (cost, schedule, risks)	$124	$38	31.0%	$163	0.0%	$124	$38	$163	2047Q1	93.2%	$240	$74	$314
0.2%	Contracting & Reprographics	$124	$38	31.0%	$163	0.0%	$124	$38	$163	2047Q1	93.2%	$240	$74	$314
0.6%	Engineering During Construction	$372	$115	31.0%	$488	0.0%	$372	$115	$488	2048Q1	99.3%	$742	$230	$972
0.4%	Planning During Construction	$248	$77	31.0%	$325	0.0%	$248	$77	$325	2048Q1	99.3%	$495	$153	$648
0.2%	Adaptive Management & Monitoring (Shellfish Relocation)	$300	$93	31.0%	$393	0.0%	$300	$93	$393	2048Q1	99.3%	$598	$185	$783
0.2%	Project Operations	$124	$38	31.0%	$163	0.0%	$124	$38	$163	2047Q1	93.2%	$240	$74	$314
	Real Estate (All Federal Labor)	$20	$6	31.0%	$26	0.0%	$20	$6	$26	2022Q1	-10.3%	$18	$6	$23
31	CONSTRUCTION MANAGEMENT													
2.8%	Construction Management	$1,626	$504	31.0%	$2,131	0.0%	$1,626	$504	$2,131	2048Q1	99.3%	$3,242	$1,005	$4,247
0.6%	Project Operation:	$325	$101	31.0%	$426	0.0%	$325	$101	$426	2048Q1	99.3%	$648	$201	$849
0.7%	Project Management	$407	$126	31.0%	$533	0.0%	$407	$126	$533	2048Q1	99.3%	$811	$251	$1,062
10.0%	**CONTRACT COST TOTALS:**	$65,049	$20,165		**$85,214**		$65,049	$20,165	**$85,214**			$115,712	$35,871	**$151,583**

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

**** CONTRACT COST SUMMARY ****

PROJECT: Providence River DMMP
LOCATION: Providence River DMMP
This Estimate reflects the scope and schedule in report; Providence River and Harbor Federal Navigation ProjectRhode Island Dredged Material Management PlanAnd Environmental AssessmentEAXX-202-00-E6P-1737974837Appendix EEn

DISTRICT: NAE
POC: CHIEF, COST ENGINEERING, Chris Tilley
PREPARED: 3/2/2026

<> Maintenance Dredge FNP (2,035,120 cy) with Disposal to Edgewood Shoals South CAD Cell.*
* Includes contingency based on the CSRA 2025 09 24. PED and CM was revised from 4% to 6%, and 2.5% to 4% per ATR comment.

ESTIMATED COST: Estimate Prepared: **25-Feb-26**; Effective Price Level: 1-Oct-25

PROJECT FIRST COST (Constant Dollar Basis): Program Year (Budget EC): 2026; Effective Price Level Date: 1 OCT 25

TOTAL PROJECT COST (FULLY FUNDED): FULLY FUNDED PROJECT ESTIMATE

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
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	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	PHASE 4 or CONTRACT 4													
12	Providence River FNP Maintenance Dredging to ESS (CYCLE 2)	$22,100	$6,851	31.0%	$28,950	0.0%	$22,100	$6,851	$28,950	2048Q4	79.5%	$39,661	$12,295	$51,956
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	#N/A	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
	CONSTRUCTION ESTIMATE TOTALS:	$22,100	$6,851	31.0%	**$28,950**		$22,100	$6,851	$28,950			$39,661	$12,295	$51,956
01	LANDS AND DAMAGES	$0	$0	0.0%	$0	0.0%	$0	$0	$0	0	0.0%	$0	$0	$0
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	$116	$36	31.0%	$152	0.0%	$116	$36	$152	2047Q1	93.2%	$225	$70	$294
0.2%	Planning & Environmental Compliance	$47	$14	31.0%	$61	0.0%	$47	$14	$61	2047Q1	93.2%	$90	$28	$118
3.2%	Engineering & Design	$698	$216	31.0%	$914	0.0%	$698	$216	$914	2047Q1	93.2%	$1,348	$418	$1,766
0.2%	Reviews, ATRs, IEPRs, VE	$47	$14	31.0%	$61	0.0%	$47	$14	$61	2047Q1	93.2%	$90	$28	$118
0.2%	Life Cycle Updates (cost, schedule, risks)	$47	$14	31.0%	$61	0.0%	$47	$14	$61	2047Q1	93.2%	$90	$28	$118
0.2%	Contracting & Reprographics	$47	$14	31.0%	$61	0.0%	$47	$14	$61	2047Q1	93.2%	$90	$28	$118
0.6%	Engineering During Construction	$140	$43	31.0%	$183	0.0%	$140	$43	$183	2048Q4	104.1%	$285	$88	$373
0.4%	Planning During Construction	$93	$29	31.0%	$122	0.0%	$93	$29	$122	2048Q4	104.1%	$190	$59	$249
0.2%	Adaptive Management & Monitoring	$47	$14	31.0%	$61	0.0%	$47	$14	$61	2048Q4	104.1%	$95	$29	$124
0.2%	Project Operations	$47	$14	31.0%	$61	0.0%	$47	$14	$61	2047Q1	93.2%	$90	$28	$118
	Real Estate (All Federal Labor)	$20	$6	31.0%	$26	0.0%	$20	$6	$26	2022Q1	-10.3%	$18	$6	$23
31	CONSTRUCTION MANAGEMENT													
2.8%	Construction Management	$610	$189	31.0%	$799	0.0%	$610	$189	$799	2048Q4	104.1%	$1,244	$386	$1,630
0.6%	Project Operation:	$122	$38	31.0%	$160	0.0%	$122	$38	$160	2048Q4	104.1%	$249	$77	$326
0.7%	Project Management	$152	$47	31.0%	$200	0.0%	$152	$47	$200	2048Q4	104.1%	$311	$96	$408
10.0%	**CONTRACT COST TOTALS:**	$24,330	$7,542		**$31,872**		$24,330	$7,542	**$31,872**			$44,075	$13,663	**$57,738**

Design Maturity Determination for Cost Certification – Version 3, Revised 12 Sept 2024

Date: 11/24/25
P2 Designation/Project Name: 107660 / Providence River DMMP

The Chief of Engineering is responsible for the technical content and engineering sufficiency for all engineering products produced by the command. As such, I have performed the Management Control Evaluation per Engineer Regulation (ER) 1110-2-1150, Engineering and Design for Civil Works Projects, Appendix H, Internal Management Control Review Checklist.

The current design DOES NOT require HQ approval (i.e., engineering waivers), requiring a deviation from mandatory requirements and mandatory standards, as defined in ERs, Engineering Manuals, Engineering Technical letters, and Engineering Circulars.

The current hydrology and hydraulics modeling is at 100 % design maturity, per reference (h) below.

The current geotechnical data and subsurface investigations are at 100 % design maturity, per reference (h) below. Subsurface investigations shall also include investigations of potential borrow and spoil areas.

The current survey data is at 75 % design maturity, per reference (h) below.

Other major technical and/or scope assumptions and risks include the following, which will be refined as the design progresses.

Given the consistent results from the geotechnical borings we do not anticipate the need for any additional borin

The aggregate for all features is 35 % design maturity. Therefore, per Engineer Regulation 1110-2-1302, Civil Works Cost Engineering, I certify that the design deliverables used to generate the cost products for this project and the estimate meet the requirements for a CLASS 3 estimate, as per reference (a) below. Design risks, impacts and remaining efforts are summarized on page 2.

The total project baseline schedule for this project is 36 months. This schedule was coordinated with the Project Manager, Project Delivery Team, and Non-Federal Sponsor, and takes into consideration the project constraints, including district execution capacity, capability of providing real estate in a timely fashion, and cost-share budget requirements, along with the market conditions, including industry capability to execute the project.

Considering risks and assumptions noted above, along with all other concerns documented in the Risk Register, the Cost and Schedule Risk Analysis has developed a contingency of 31 % at the 80 % confidence level for the defined project scope.

Chief of Engineering

David Margolis
Printed Name

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2026.03.04 09:01:49 -05'00'

Signature

Design Maturity Determination for Cost Certification, Remaining Work

If an engineering waiver is required, list the risks and remaining design work needed to mitigate this issue in the current design. Identify remaining effort to complete the design required for 100% design.

N/A

Identify remaining effort to complete geotechnical design effort required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

No additional geotechnical investigation is required for this project.

Identify remaining effort required to complete H&H required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

No additional H&H modeling is required for this project.

Identify remaining effort needed to complete survey data required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

Updated contract survey for the maintenance dredging of the Providence River FNP will be conducted this FY. The study has capture historical shoal rates and based the cad cell sizing on the most recent survey data available. Survey for this study is approximately 5 years old. The engineering appendix covers detailed shoaling rate calculations through 2027, which is the date of the initial maintenance cycle.

If the project is anticipated to be executed in parts, provide a design assessment (percent complete) of each part/phase below.

Phase 1 - Edgewood Shoals North Cad cell with Providence River FNP maintenance dredging in CY27 is 35% design complete.

Phase 2 Edgewood Shoals South Cad cell with Providence River FNP maintenance dredging in CY47 is 35% design complete.

References:

a. ER 1110-2-1302 – Civil Works Cost Engineering
b. CECW-EC memorandum dated 05-June-2023MFR, Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering
c. ER 1165-2-217 – Civil Works Review Policy
d. ER 1110-2-1150 – Engineering and Design for Civil Works Projects
e. ER 1110-345-700 – Design Analysis, Drawings and Specifications
f. EM 5-1-11 – Project Delivery Business Process (PDBP)
g. Engineering and Construction Bulletin (ECB) 2023-9 – Civil Works Design Milestone Checklists

Design Maturity Determination for Cost Certification – Instructions

Paragraph 1 – Design Date: Use the drop-down menu to populate the date of the design.

Paragraph 1 – Project Information: Enter the P2 Project number and Project name.

Paragraph 3 – Engineering Waivers: Use the drop-down menu to populate this field with either “Does,” or “Does not.” If an engineering waiver is needed, or anticipated to be needed, provide the specific waiver required for the Project. A waiver is any deviation from current mandatory standards, as indicated.

Paragraph 4 – Hydrology and Hydraulics: Populate this field with the % design maturity.

Paragraph 5 – Geotechnical Information: Populate this field with the % design maturity.

Paragraph 6 – Survey Data: Populate this field with the % design maturity.

Paragraph 7 – Other Technical Assumptions and/or Scope: Enter any other major technical assumptions or scope assumptions here. Only include assumptions that pertain to design. Template discussion fields are provided as a courtesy. Please include additional pages as necessary.

Paragraph 8 – Signature: Print the name and provide the title and signature for the District’s Chief of Engineering. This authority cannot be delegated; however, the Deputy Chief of Engineering and Design may sign the form in the absence of the Chief of Engineering. All fillable fields must be populated (use N/A if not applicable) in order for the document to be signed.

Page 2 – Remaining Work: Identify the current baseline design assumptions and the remaining design effort and risks to complete 100% design for the authorized project. If the project is to be broken into parts or phases, provide details on the aggregate design level of each phase and anticipated timeline for completion.

1. Introduction

1.1 Preface

The costs presented in this appendix include a Class 3 cost estimate that has been prepared for the recommended plan. The cost for the recommended plan included in the final report was certified by the Mandatory Cost Center of Expertise (MCX). The cost engineering analysis corresponds with 1) maintenance dredging of Providence River and Harbor Federal Navigation Project (FNP) to authorized depths; and 2) the construction of two new confined aquatic disposal cells for placement of material unsuitable for open water placement.

1.2 Study Purpose

The Providence River and Harbor FNP requires periodic dredging in order to maintain a safe and navigable channel. The purpose of a Dredge Material Management Plan (DMMP) is to determine the Federal Base Plan, or Recommended Plan, for managing O&M dredging needs through at least a 20-year period. This Study identifies a recommended plan for maintaining the Providence FNP to its authorized -40 ft MLLW (mean lower low water) depth through 2048.

1.3 Study Area

The Providence River FNP extends through the upper half of Narragansett Bay in Rhode Island and consists of a 16.8-mile-long channel and turning basin that is authorized to a depth of -40 feet MLLW (Figure J-1). The FNP provides access to large commercial navigation traffic for the entire region. The DMMP recommended plan also includes maintenance of three adjacent shallow-draft FNPs: Pawtuxet Cove, Bullocks Point Cove, and Apponaug Cove.

1.4 Recommended Plan

The recommended plan includes the construction of two confined aquatic disposal (CAD) cells and associated access channels, and two cycles of dredging over the 20-year study period. Cycle One will construct a CAD cell with a capacity of 2,848,901 cubic yards (cy) from -60 ft to -11 ft MLLW, resulting in the excavation of 3,329,834 cy of material in the Edgewood Shoals basin. Following the construction of the Cycle One Edgewood Shoals North (ESN) CAD cell, approximately 2,150,000 cy of unsuitable material will be dredged from the Providence River FNP and will be placed in the ESN CAD cell. Cycle Two will construct the Edgewood Shoals South (ESS) CAD cell, south of the ESN CAD cell, with a capacity of 2,860,683 cy from -60 ft to -11 ft MLLW, resulting in the excavation of 3,083,284 cy of material. Following the construction of the ESS CAD cell, approximately 1,990,800 cy of unsuitable material will be dredged from the Providence River FNP and will be placed in the ESS CAD cell. The sizing for both CAD cells also includes capacity for adjacent shallow-draft FNPs maintenance dredging over the 20-year period, as well as non-Federal capacity for State and local dredging needs (100% non-Federally funded).

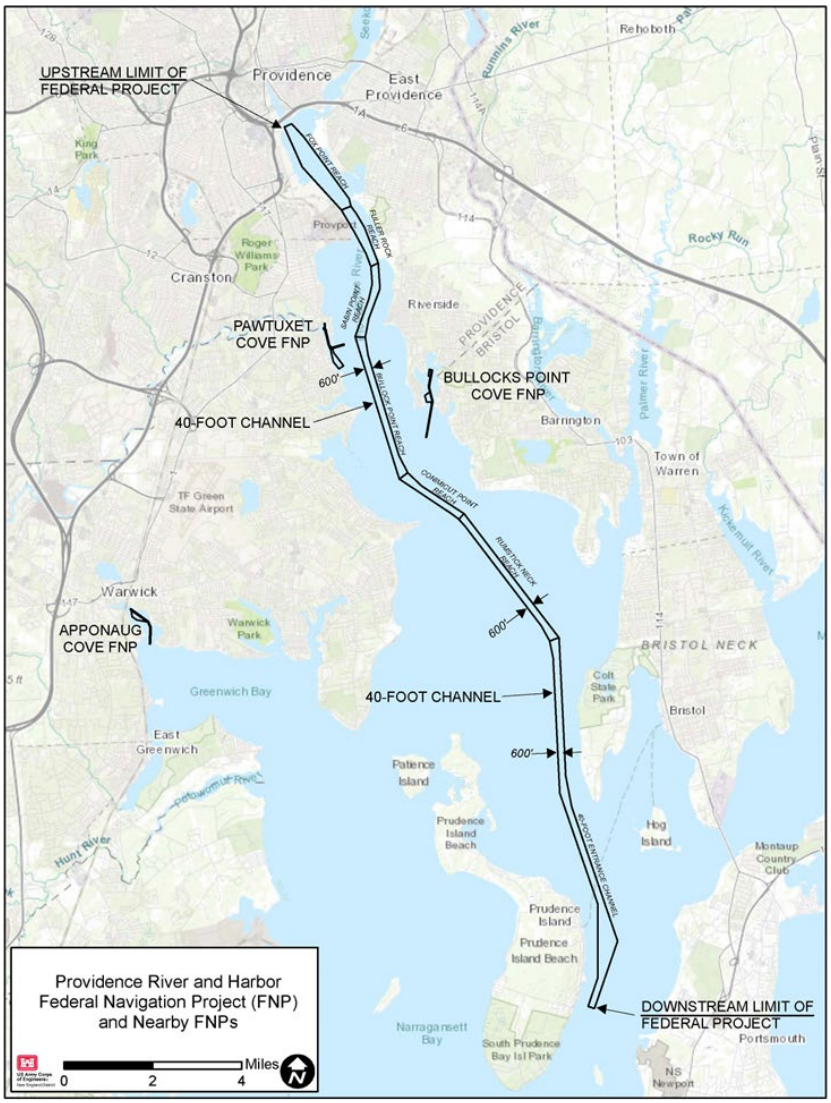


Figure J-1: Project River Harbor Federal Navigation Project and three adjacent shallow-draft FNPs (Pawtuxet Cove, Bullocks Point Cove, and Apponaug Cove) included in the DMMP recommended plan.

1.5 Non-Federal Sponsor Cost Share

Cost sharing is required by 33 U.S.C. § 2211 and Section 101 of the Water Resources Development Act of 1986, as amended, and is detailed in Engineering Regulation 1105-2-100. Cost sharing requirements are further detailed in the USACE's 1998 Policy Guidance Letter No. 47 for construction of all disposal facilities associated with FNPs, including disposal facilities for FNP maintenance. The Non-Federal Sponsor (NFS) is the Rhode Island Coastal Resources Management Council (CRMC) who will cost share the construction of the disposal facilities in accordance with ER 1105-2-100. The NFS has requested an additional 300,000 cy of capacity in each CAD cell for additional State needs which will be managed by the CRMC over the lifecycle of the CAD cell remaining open. The additional State-requested capacity is 100% non-Federal cost and was not included in the alternatives cost analysis.

Table J-1: Cost-sharing Responsibilities of the Non-Federal Sponsor for Operation & Maintenance Dredging Operations.

Source of Material for CAD Cell Capacity	Up-Front Percentage	Post Construction Percentage
Providence FNP (40-Foot-Deep (MLLW) Project)	25.00%	10.00% of cost of constructing disposal facility paid over a period not to exceed 30 years
Shallow Draft FNP Volumes (up to 20-Foot-Deep (MLLW))	10.00%	
Non-Federal Capacity Volume	100.00%	

2. Alternatives Cost Analysis

During the plan formulation process, the selection of the recommended plan was evaluated with a Class 4 cost estimate of each alternative. The Class 4 estimates utilized a simplified construction schedule and an Abbreviated Risk Analysis (ARA)-derived contingency percentage.

Alternative 2A was identified as the least-cost alternative including beneficial use (BU). Alternative 2C was identified as the least-cost alternative that excluded BU. Since the beneficial use plan (2A) is less costly than the non-beneficial use plan (2C), the beneficial-use component was not separated out for cost sharing purposes and alternative 2A became the recommended plan. Alternative 2A, selected as the recommended plan, is described in Section 2.4.

Once the recommended plan was identified, further refinement of the cost estimate inputs were incorporated into a Class 3 cost estimate for the recommended plan. The cost inputs that were adjusted are as follows:

- CAD cell and FNP dredge quantities were updated by Engineering.
- The cost of shellfish relocation increased based on recommendations from the Rhode Island Department of Environmental Management (RI DEM) (Account 30).
- The pre-construction engineering and design (PED) percentage increased (Account 30).
- The construction management (CM) percentage increased (Account 31).
- A construction schedule was developed incorporating environmental time-of-year windows.
- A Cost and Schedule Risk Analysis (CSRA) was performed to determine project contingency.

3. Recommended Plan Basis of Costs

3.1 Dredging and Placement

The basis of the cost estimate for the project alternatives rests with the work associated with the construction activities required to execute the recommended plan, including dredging, hauling

and placement of nearly 5,000,000 cy of maintenance material over two cycles of dredging in a 20-year period. The maintenance material to be removed from the authorized FNP channels includes sedimentation, much of which is unsuitable for open water placement. Each CAD cell's construction will precede the dredging activities: Cycle One to be constructed in 2027 with dredging in 2028, and Cycle Two to be constructed in 2047 with dredging in 2048.

In order to access the CAD cell locations, an access channel will be excavated for each CAD cell between the Providence River FNP and Edgewood Shoals basin. The unsuitable material from the ESN CAD (Cycle One) construction will be placed at Port Edgewood Basin. The suitable material from the ESN CAD (Cycle One) and access channel will be placed in four locations:

- Beneficial Use: fill and capping material in the Port Edgewood Basin
- Beneficial Use: capping material for five open Fox Point Reach North CAD cells used during the 2003-2005 maintenance cycle of the Providence River FNP
- Beneficial Use: capping material at a subtidal dredge material disposal site in Narragansett Bay adjacent to Prudence Island
- Open water disposal at the U.S. Environmental Protection Agency (EPA) designated Rhode Island Sound Disposal Site

The unsuitable material from the ESS CAD (Cycle Two) construction will be placed in the Cycle One ESN CAD cell. The suitable material from the ESS CAD and access channel will be placed in three locations:

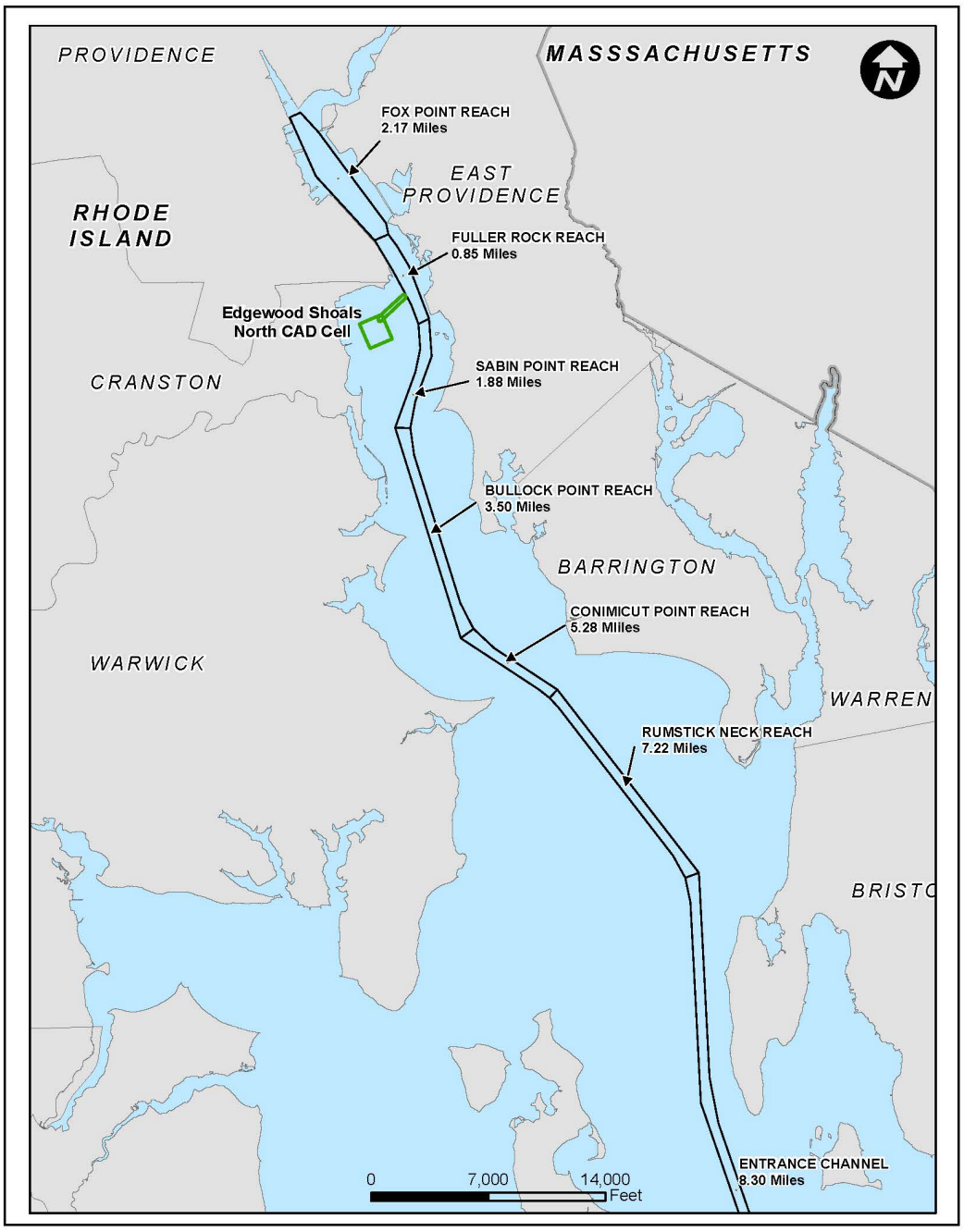
- Beneficial Use: capping material for the ESN CAD cell
- Beneficial Use: capping material for two open Fox Point Reach North CAD cells used during the 2003-2005 maintenance cycle of the Providence River FNP
- Open water disposal at the EPA designated Rhode Island Sound Disposal Site

3.2 Cost Assumptions

This cost estimate assumes that all sediments will be mechanically dredged and hauled in scows to the placement sites. The equipment used for the CAD cell dredging was assumed to include a 26 CY bucket and 26 CY dredge. The equipment used for the FNP maintenance dredging assumed a 40 CY bucket and 56 CY dredge. Haul distances used in the estimate are shown in Figure J-2 (Cycle One) and Figure J-3 (Cycle Two). All dredging estimates are produced with the Corps of Engineers Dredge Estimating Program (CEDEP). Production and cost assumptions are applied based on typical and reasonable performance of the work by a well-equipped dredging contractor. The CEDEP estimates are on-file at the New England District.

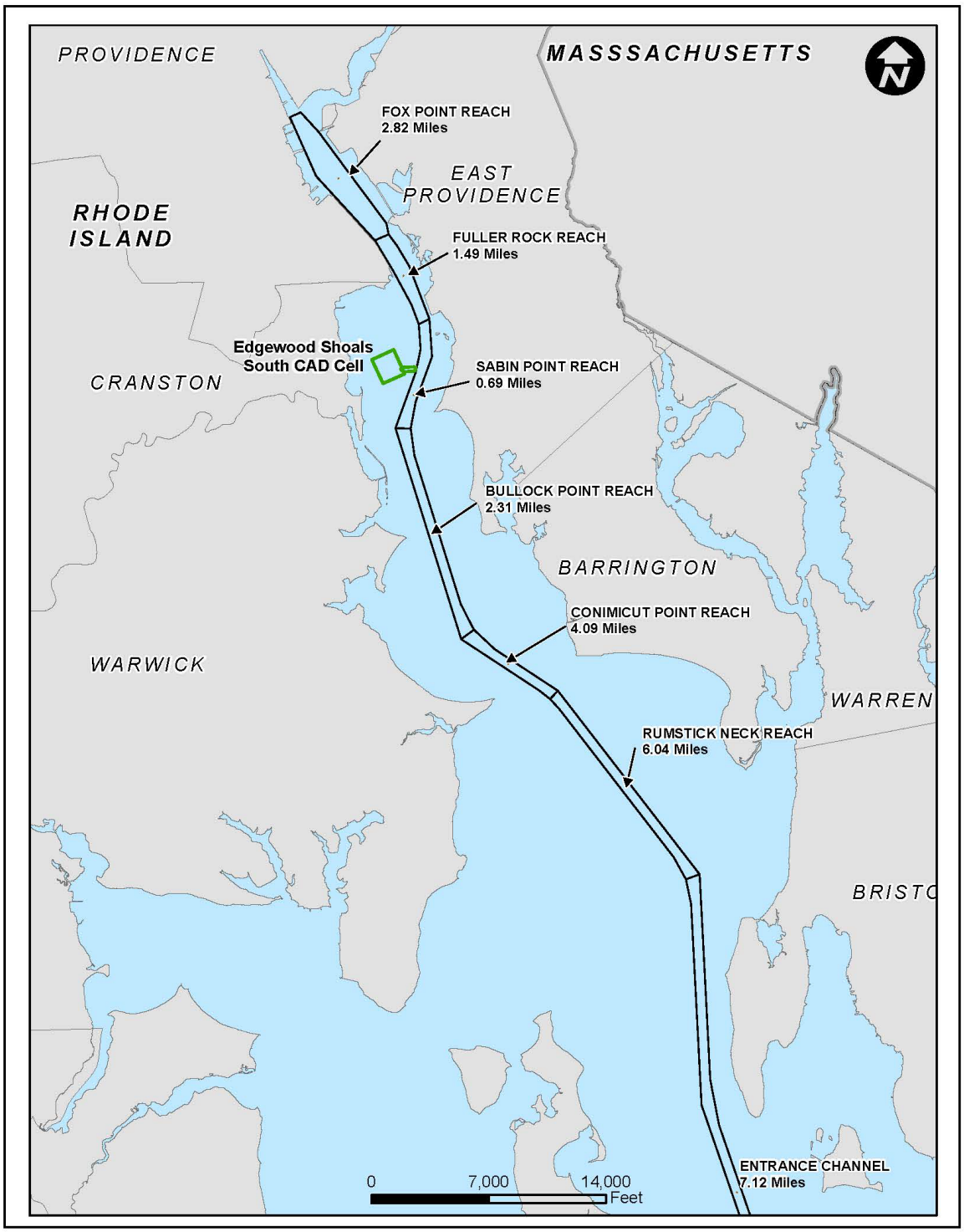
3.3 Maintenance Quantities

The estimated amount of material to be removed from the Providence River FNP dredging in 2028 was calculated using USACE's 2020 condition survey and historical data to establish a projected average short-term shoaling rate of 4,807 cy/month. A conservative long-term shoaling rate of 7,900 cy/month, calculated with historical data from 1971 through 2020 to account for uncertainties in future conditions, was used to calculate the estimated amount of material that will need to be removed during the 2048 dredging cycle.



Edgewood Shoals North CAD Cell Measure - Haul Distances from Providence FNP Reaches

Figure J-2: Haul Distances from the Providence FNP reaches to the ESN CAD cell (Cycle One).



Edgewood Shoals South CAD Cell Measure - Haul Distances from Providence FNP Reaches

Figure J-3: Haul Distances from the Providence FNP reaches to the ESS CAD cell (Cycle Two).

Table J- 2: Anticipated Dredged Material Placement and CAD Cell Construction Capacity Needs for Cycle-One Maintenance Dredging.

Cycle One- Maintenance Dredging Needs and CAD Cell Capacity	
Providence River FNP Dredging Needs	**Volume Needed to be Dredged (CY)**
Entrance Reach	33,411
Rumstick Neck Reach	11,924
Conimicut Point Reach	23,817
Bullock Point Reach	114,952
Sabin Point Reach	229,092
Fuller Rock Reach	381,119
Fox Point Reach	836,374
Total as of 2020 Survey	1,630,689
Providence FNP Shoaling through December 2027 (rounded) (Note 1)	442,244
Total Providence FNP Shoaling through December 2027	**2,072,933**
CAD Cell Capacity Requirements	**Capacity Needed (CY)**
Providence FNP, shoaling through Dec. 2027	2,072,933
Adjacent Shallow Draft FNPs, shoaling through Dec. 2027	
Bullock Point Cove	7,640
Pawtuxet Cove	35,600
Apponaug Cove	22,000
Total Shallow-Draft FNPs Shoaling through Dec. 2027	65,240
Starter Cell allowance for Cycle 2 (from excavation of Edgewood Shoals South CAD Cell)	38,300
State Allowance total	300,000
Subtotal CAD Cell Capacity for All Sources over 20 years	2,476,473
15% Bulking Factor (during placement)	371,321
Total with Bulking CAD Cell Capacity	**2,847,944**
Rounded	**2,850,000**
Edgewood Shoals North CAD Cell Volume	**Volume CY**
Excavated Volume for CAD Cell Construction	3,056,623
Capacity for Unsuitable Dredged Material (-60 to -11 ft MLLW)	2,848,901
Additional Capacity Anticipated due to Settling	
Additional material capacity after 20 years due to settling (original FNP volume to be excavated, assumed to be bulked 15% upon placement)	310,939
Potential additional space generated over 20 years of settlement and consolidation prior to final capping (estimated 3,770 CY/acre, ~51 acres) (Note 2)	192,000
Excavated Volume for Access Channel	273,211

Note 1: Providence River Estimated Short-Term Shoaling Volume, see Appendix E.
Note 2: Based on actual consolidation amounts at CAD cell 3AR in Fox Point Reach North.

Table J- 3: Anticipated Dredged Material Placement and CAD Cell Construction Capacity Needs for Cycle-Two Maintenance Dredging.

Cycle Two- Maintenance Dredging Needs and CAD Cell Capacity	
Providence River FNP Dredging Needs	**Volume Needed to be Dredged(CYs)**
Providence FNP Maintenance (2027 Shoaling Volume)	
Entrance Reach	0
Rumstick Neck Reach	0
Conimicut Point Reach	0
Bullock Point Reach	0
Sabin Point Reach	0
Fuller Rock Reach	0
Fox Point Reach	0
Subtotal after 2028 Dredging Cycle Completed Note 1	**0**
Providence River Shoaling Jan 2028 to Dec 2047 Note 2	1,990,800
Total Providence FNP Shoaling through December 2047	**1,990,800**
CAD Cell Capacity Requirements	**Capacity Needed (CY)**
Providence FNP, shoaling through December 2047	1,990,800
Adjacent Shallow-Draft FNP, shoaling through December 2047	
Bullock Point Cove	7,100
Pawtuxet Cove	27,220
Apponaug Cove	10,000
Total Shallow-Draft FNPs	44,320
Starter Cell allowance for future dredging and placement requirements (example: from construction of a potential CAD cell in Fox Point Reach South)	150,000
State Allowance total	300,000
Subtotal CAD Cell Capacity Needs for All Sources over 20 years	2,485,120
15% Bulking Factor (during placement)	372,768
Total with Bulking CAD Cell Capacity	**2,857,888**
Rounded	**2,900,000**
Edgewood Shoals South CAD Cell Volume	**Volume CY**
Excavated Volume for CAD Cell Construction	2,976,148
Capacity for Unsuitable Dredged Material (-60 ft to -11 ft MLLW)	2,860,683
Additional Capacity Anticipated due to Settling	
Additional material capacity after 20 years due to settling (original volume to be excavated, assumed to be bulked 15% upon placement)	298,620
Potential additional space generated over 20 years of settlement and consolidation prior to final capping (estimated 3,770 CY/acre, ~51 acres) (Note 3)	192,000
Excavated Volume for Access Channel	107,137

Note 1: Assumed fully maintained after dredge operation in 2028.

Note 2: Providence River FNP estimated shoaling volume based on long-term shoaling rates between 1971-2020 to account for future uncertainty, see Appendix E.

Note 3: Based on actual consolidation amounts at CAD cell 3AR in Fox Point Reach North.

3.4 CAD Cell Quantities

The material excavated from each CAD cell, and construction access channel, includes both suitable and unsuitable material and will go to various locations for placement (described in Section 4.1).

Table J- 4: Material Quantities to be Excavated to Construct Edgewood Shoals North CAD Cell for Cycle One of the Recommended Plan.

Edgewood Shoals North CAD (Construction starting January 2027)	
Material to be excavated	**Volume (Cubic Yards)**
Main Cell – Unsuitable	37,400
Main Cell - Suitable	3,019,223
Access Channel - Suitable	273,211
Total Excavated (Suitable and Unsuitable)	**3,329,834**
Total Excavated – Suitable	3,292,434
CAD Cell Capacity (-11 to -60 ft MLLW)	**2,848,901**

Table J- 5: Material Quantities to be Excavated to Construct Edgewood Shoals South CAD Cell for Cycle Two of the Recommended Plan.

Edgewood Shoals South CAD (Construction starting January 2047)	
Material to be excavated	**Volume (Cubic Yards)**
Main Cell – Unsuitable	38,300
Main Cell - Suitable	2,937,848
Access Channel - Suitable	107,136
Total Excavated (Suitable and Unsuitable)	**3,083,284**
Total Excavated – Suitable	3,044,984
CAD Cell Capacity (-11 to -60 ft MLLW)	**2,860,683**

3.5 Lands & Damages

No real estate interests are required for the project. All lands required for the Federal Base Plan lie within the Federal Navigation Servitude.

3.6 Relocations

No relocations are required for the project.

3.7 Environmental and Cultural Mitigation

As part of the recommended plan, USACE will relocate shellfish (quahog) resources in the Edgewood Shoals area to outside the project area, to be defined by RI DEM, prior to CAD cell construction and dredge placement activities. RI DEM estimated the cost of shellfish relocation at $300,000. This cost is reflected in the TPCS sheets for the recommended plan.

No cultural mitigation is required for the project, and thus Cultural Mitigation Cultural Resource Preservation (Account 18) is not included.

3.8 Planning, Engineering and Design

30 Account: For the alternatives and for the recommended plan, the planning, engineering and design (PED) activity costs were estimated as a percentage of the construction costs. PED costs include the preparation of design documentation reports, plans, and specifications for the project, and engineering support during construction through project completion. It includes all the in-house labor based upon work-hour requirements, material and facility costs, travel, and overhead. For the Class 3 recommended plan, 6% of construction cost was carried for PED, based on the assumption that each cycle will require more than one contract. The expected acquisition strategy is unrestricted invitation for bid, and the cost estimate assumes a conservative acquisition strategy where the CAD cell construction will be solicited as a separate contract from FNP maintenance.

3.9 Construction Management

31 Account: For the alternatives and for the recommended plan, the construction management activity costs were estimated as a percentage of the construction costs. Construction management (CM) cost includes the in-house labor based upon work-hour requirements, materials, facility costs, support contracts, travel and overhead. Similar size and scope recent dredging contracts in New England District have had construction management around 2% of the contract cost. For the Class 3 recommended plan estimate for Providence, the CM percentage was determined to be 4% for both Cycle One and Cycle Two and is considered conservative based on prior dredging contracts of similar magnitude.

3.10 Construction Schedule

The construction schedule developed to support the Class 3 cost estimate for the recommended plan is included as Figure J-4. The full construction schedule spreadsheet with the supporting analysis can be found in Section 6 below.

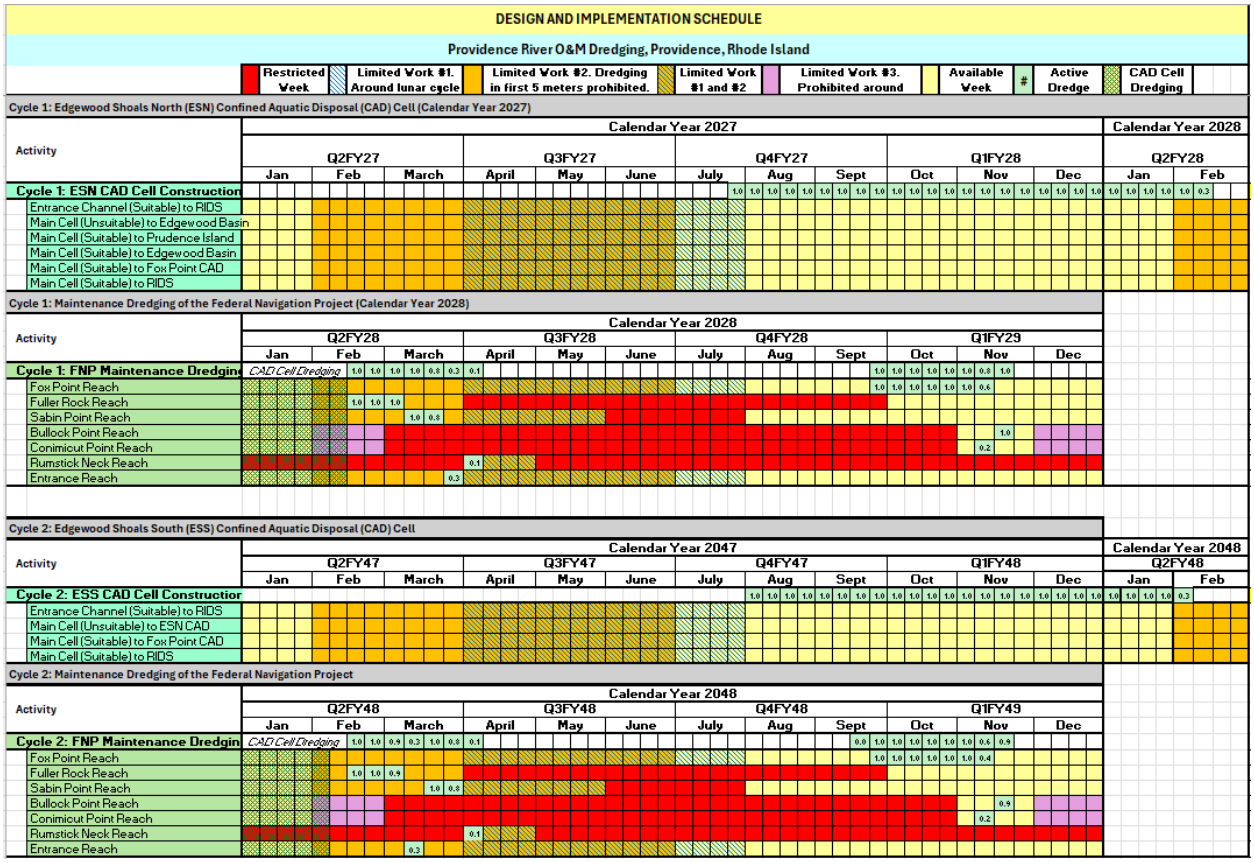


Figure J-4: Construction schedule developed to support the recommended plan.

3.11 Contingencies

As stated in ER 1110-2-1302, the goal in contingency development is to identify the uncertainty associated with an item of work or task, forecast the cost/risk relationship, and assign a value to this task that would limit the cost risk to an acceptable degree of confidence. Consideration must be given to the details available at each stage of planning, design, or construction for which a cost estimate is being prepared. Contingencies may vary throughout the cost estimate and could constitute significant portion of the overall costs when the lack of investigated data or design details are available. Contingency development and assignment describe the potential for cost growth is included in the cost estimate.

A CSRA is the process of understanding and estimating cost and time impacts of project risks and uncertainties in order to calculate an appropriate project contingency. A CSRA is required for decision documents for projects where the total project cost including inflation is $40 Million or greater, or for smaller complex projects having numerous work elements with differing uncertainties and unknown conditions (ER 1110-2-1302).

The CSRA Workshop was held September 24, 2025, where the PDT discussed project risks and cost drivers. The results of the CSRA found a contingency of 31% percent which was applied in the TPCS for the recommended plan. The CSRA report is included in Section 7 below.

4. Project Cost

The total costs of each measure as well as the total project costs for each alternative for the Providence River FNP maintenance dredging are included in the two tables below and exclude the cost of local needs.

The local NFS has requested 300,000 cy capacity be added to each CAD cell for local and State dredging needs. The cost of constructing the additional 300,000 cy CAD cell space will be 100% non-Federally funded and thus was excluded from the cost analysis of alternatives.

The recommended plan described in Section 2.4 design has exceeded 30% maturity and thus a Class 3 cost estimate is appropriate. The total project cost is estimated to be $324,358,000 inclusive of both Cycle One and Cycle Two CAD cell construction and maintenance cycles. Cycle One is estimated to cost $115,037,000 which includes $6,462,000 for PED, $75,032,000 for ESN CAD cell construction, and $33,543,000 for FNP maintenance dredging. Cycle Two is estimated to cost $209,322,000 which includes $12,913,000 for PED, $142,089 for ESS CAD cell construction, and $54,320,000 for FNP maintenance dredging. Please see the complete Total Project Cost Summary (TPCS) sheet for the recommended plan in Section 5 and the supporting MII summary sheets can be found in Section 8.

The construction of the CAD cells will be cost shared with the NFS. Table J- 6 and Table J- 7 outline how the NFS share was calculated for each cycle based on the varying cost share of each allotted use of CAD cell capacity. The maintenance dredging of the FNP is 100% Federal cost.

Table J- 6: Preferred Plan: Fully Funded Cost Sharing for Cycle-One CAD Cell Edgewood Shoals North Construction and Providence River and Harbor FNP Maintenance Dredging.

Dredge Volumes		Portion of Total Capacity	Proportional Cost	NFS Cost-Share Percentage	NFS Up-Front Cost
Project Portion	**CY**				
Providence FNP	2,072,933	83.71%	$ 66,619,176	25%	$ 66,619,176
Shallow-Draft FNPs Capacity	65,240	2.63%	$ 2,096,660	10%	$ 2,096,660
Starter Cell Capacity	38,300	1.55%	$ 1,230,872	25%	$ 1,230,872
Non-Federal Capacity (Additional Work)	300,000	12.11%	$ 9,641,292	100%	$ 9,641,292
TOTAL	**2,476,473**	**100.00%**	**$ 79,588,000**		**$ 79,588,000**

CAD Cell Design and Construction		
Federal Cost-Share Cost	$	52,774,530
Federal Cost Design Phase	*$*	*3,022,394*
Federal Cost Construction Phase	*$*	*49,752,136*
NFS Cost-Share Cost	$	26,813,470
NFS Cost Design Phase	*$*	*1,535,606*
NFS Cost Construction Phase	*$*	*25,277,864*
Total	**$**	**79,588,000**

Non-Federal Up-Front Cost	$ 26,813,470
Non-Federal Additional Cost (10%) Note 1	$ 7,958,800
Total NFS Cost	**$ 34,772,270**
Federal Cost CAD Cell	$ 52,774,530
Federal Cost for O&M Dredging	$ 35,449,000
Total Federal Cost	**$ 88,223,530**
Total Cost (plus NFS Additional Cost)	$ 122,995,800

Cycle Two Maintenance Dredging	
Design & Construction Phases- Fully Federally Funded	**$35,449,000**

Note 1: Per PGL No. 47, the NFS will have to pay an additional 10 percent of the cost of constructing the disposal facility, as well as other GNF costs, over a period of not to exceed 30 years but with the value of lands, easements, rights-of-way and relocations credited against this additional 10 percent payment.

All costs are financial costs, inflated to the midpoint of when various activities are expected to be performed. The Cost-sharing is derived by proportionately splitting out all of the various costs, including mobilization and demobilization, excavation, design, construction management, and other overhead costs throughout the design and construction of the CAD cell.

Table J- 7: Preferred Plan: Fully Funded Cost Sharing for Cycle-Two CAD Cell Edgewood Shoals South Construction and Providence River and Harbor FNP Maintenance Dredging.

Dredge Volumes		Portion of Total Capacity	Proportional Cost	NFS Cost-Share Percentage	NFS Up-Front Cost
Project Portion	**CY**				
Providence FNP	1,990,800	80.11%	$ 121,431,334	25%	$ 30,357,833
Shallow-Draft FNPs Capacity	44,320	1.78%	$ 2,703,354	10%	$ 270,335
Starter Cell Capacity	150,000	6.04%	$ 9,149,437	25%	$ 2,287,359
Non-Federal Capacity (Additional Work)	300,000	12.07%	$ 18,298,875	100%	$ 18,298,875
TOTAL	**2,485,120**	**100.00%**	**$ 151,583,000**		**$ 51,214,403**

CAD Cell Design and Construction	
Federal Cost-Share Cost	$100,368,597
Federal Cost Design Phase	*$6,284,997*
Federal Cost Construction Phase	*$95,064,753*
NFS Cost-Share Cost	$51,214,403
NFS Cost Design Phase	*$3,207,003*
NFS Cost Construction Phase	*$48,508,047*
Total	**$151,583,000**

Non-Federal Up-Front Cost	$ 51,214,403
Non-Federal Additional Cost (10%) Note 1	$ 15,158,300
Total NFS Cost	**$ 66,372,703**
Federal Cost CAD Cell	$ 100,368,597
Federal Cost for O&M Dredging	$ 57,738,000
Total Federal Cost	**$ 158,106,597**
Total Cost (plus NFS Additional Cost)	$ 224,479,300

Cycle Two Maintenance Dredging	
Design & Construction Phases- Fully Federally Funded	**$57,738,000**

Note 1: Per PGL No. 47, the NFS will have to pay an additional 10 percent of the cost of constructing the disposal facility, as well as other GNF costs, over a period of not to exceed 30 years but with the value of lands, easements, rights-of-way and relocations credited against this additional 10 percent payment.

All costs are financial costs, inflated to the midpoint of when various activities are expected to be performed. The Cost-sharing is derived by proportionately splitting out all of the various costs, including mobilization and demobilization, excavation, design, construction management, and other overhead costs throughout the design and construction of the CAD cell.