

Brunswick Harbor Modifications Study, Glynn County, GA

Draft Integrated Feasibility Report and Environmental Assessment

Cost Engineering Appendix

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401**



June 2020

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1.0 Project Description

This report presents the U.S. Army Corps of Engineers (USACE), Savannah District (CESAS), plan to examine harbor modifications to reduce transportation cost inefficiencies experienced by the largest ship type (roll-on/roll-off) utilizing Brunswick Harbor. The purpose of the study is to investigate existing conditions in the Brunswick Harbor and propose modifications with the purpose of contributing to national economic development while protecting the nation's environment and considering improved safety for navigating vessels. This estimate is in the alternatives phase. The project is in Brunswick, Georgia in Glynn County.

The Port of Brunswick, GA is the largest auto-port in the U.S. Last year, over 629,000 combined auto/machinery units moved through the port for import or export (GPA, 2019). The Brunswick Harbor Channel is a 36' deep (MLLW) by 400' wide channel. The channel was designed in the 1990s for a Roll-on/Roll-off (Ro/Ro) design vessel with dimensions of 660 feet long and 106 feet wide. Today, longer and wider vessels use the channel. This study was authorized under Section 1207 of the Water Resources Development Act (WRDA) 2016 and appropriations were received in FY2019 to begin the study. A Feasibility Cost-Sharing Agreement was executed in April 2019.

A similar study was performed in 2008 which included similar measures to the study being performed today. ROM estimates were generated for the PDT escalating the costs from the 2008 study using CWCCIS. Current costs will be provided for the study alternatives per USACE and other applicable regulations.

Alternatives generated by the study include combinations of four different dredging scenarios involving four areas and potentially two different disposal sites. The sites all include deepening and/or widening of the existing navigation channel. The areas include the following:

- Cedar Hammock Range Bend Widener
- Turning Basin
- Sidney Lanier Bridge
- St. Simon's Sound Channel Widener

Disposal sites include the following:

- Andrews Island
- Bird Island

All baseline costs are calculated using the existing Andrews Island as a disposal area. The navigation channel has historically been maintained using a suction cutter head dredge with materials being disposed of on Andrews Island. No sunk costs have been expended as the project is not yet authorized. All first costs assume budget year 2020.

See Section 5.6 of the main report for the anticipated cost share of the project.

1.1 Alternative 1: No Action Alternative

The No Action Alternative is analyzed as the future without-project conditions for comparison with the action alternatives. Taking no action would mean continuing

standard operations at Brunswick Harbor with no improvements to the Federal navigation channel. All physical conditions at the time of this analysis are assumed to remain. The new berth at Colonel’s Island and terminal expansion are included in the No Action Alternative. The No Action Alternative assumes one way RO/RO traffic within Brunswick Harbor, however vessels do occasionally meet in two locations – the St. Simons Sound and the Colonels Island Turning Basin. Vessels rarely meet in the turning basin as conditions must be ideal for the maneuver to take place and both pilots must agree to it. Meetings in the St. Simons Sound occur outside of the federal channel. The No Action Alternative also assumes O&M dredging would occur within the Federal navigation channel at authorized depths (-36 MLLW + 2’ Allowable Over Depth).

1.2 Alternative 2: Bend Widener

Alternative 2 would expand the Cedar Hammock Range bend widener located between stations 20+300 to 23+300. The bend widener would be expanded by a maximum of 321 feet on the north side and at a length of approximately 2,700 feet. Approximately 205,000 cubic yards of material would need to be dredged to expand the bend widener. Most of the dredged material would be placed in the Andrews Island Dredged Material Management Facility. Beneficial use of a portion of material from the bend widener is being considered for placement on the existing Bird Island to address erosion concerns.

Table 1 – Alternative 2 – Total Project Cost Summary

Brunswick Harbor Modification Study - ALT 2						
Bend Widener						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$5,424	\$1,844	\$7,268	\$7,268	\$8,571
18	Cultural Resource Preservation	\$562	\$191	\$753	\$753	\$915
	SubTotal	\$5,986	\$2,035	\$8,021	\$8,021	\$9,485
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$542	\$184	\$726	\$726	\$850
31	Construction Management	\$509	\$173	\$682	\$682	\$850
	Total	\$7,050	\$2,396	\$9,445	\$9,445	\$11,191

Brunswick Harbor Modification Study - ALT 2 w O&M						
Bend Widener and Turning Basin Expansion						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$6,056	\$2,059	\$8,115	\$8,115	\$10,361
18	Cultural Resource Preservation	\$562	\$191	\$753	\$753	\$915
	SubTotal	\$6,618	\$2,250	\$8,868	\$8,868	\$11,275
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$599	\$204	\$803	\$803	\$1,050
31	Construction Management	\$564	\$192	\$682	\$756	\$1,050
	Total	\$7,794	\$2,649	\$10,442	\$10,442	\$13,381

1.3 Alternative 3: Turning Basin Expansion

Alternative 3 would include expanding the existing turning basin at the Colonel’s Island facility along approximately 3,200 feet increasing the width by a maximum of 395 feet

along South Brunswick River from stations 0+900 to 5+300. The turning basin expansion would require approximately 346,000 cubic yards of dredged material to be removed. All of the dredged material would be placed in the Andrews Island Dredged Material Management Facility.

Table 2 – Alternative 3 – Total Project Cost Summary

Brunswick Harbor Modification Study - ALT 3						
Turning Basin						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$4,800	\$1,632	\$6,432	\$6,432	\$7,585
18	Cultural Resource Preservation	\$562	\$191	\$753	\$753	\$915
	SubTotal	\$5,362	\$1,823	\$7,185	\$7,185	\$8,499
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$486	\$165	\$651	\$651	\$762
31	Construction Management	\$455	\$155	\$610	\$610	\$762
	Total	\$6,316	\$2,146	\$8,462	\$8,462	\$10,028

Brunswick Harbor Modification Study - ALT 3 w O&M						
Bend Widener and Turning Basin Expansion						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$11,666	\$3,966	\$15,632	\$15,632	\$27,033
18	Cultural Resource Preservation	\$562	\$191	\$753	\$753	\$915
	SubTotal	\$12,228	\$4,158	\$16,385	\$16,385	\$27,947
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$1,106	\$376	\$1,482	\$1,482	\$2,936
31	Construction Management	\$1,038	\$353	\$610	\$1,391	\$2,936
	Total	\$14,384	\$4,890	\$19,274	\$19,274	\$33,765

1.4 Alternative 4: Meeting Area West of Sidney Lanier Bridge

Alternative 4 would create a RO/RO vessel meeting area upstream of the Sidney Lanier Bridge to the turning basin at the Colonel's Island facility (a distance of approximately 8,700 feet). This part of the Federal Navigation Channel is currently 400 feet wide. The Federal channel would be expanded by approximately 200 feet on both the north and south side of the channel to create a new channel width of 800 feet from stations 34+200 to 43+200. The meeting area would require dredging of approximately 800,000 cubic yards of material. All of the dredged material would be placed in the Andrews Island Dredged Material Management Facility.

Table 3 - Alternative 4 - Total Project Cost Summary

Sidney Lane Channel Widener						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$12,493	\$4,248	\$16,741	\$16,741	\$19,740
18	Cultural Resource Preservation	\$562	\$191	\$753	\$753	\$915
	SubTotal	\$13,055	\$4,439	\$17,494	\$17,494	\$20,655
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$1,173	\$399	\$1,572	\$1,572	\$1,840
31	Construction Management	\$1,110	\$377	\$1,487	\$1,487	\$1,840
	Total	\$15,351	\$5,218	\$20,569	\$20,569	\$24,342

1.5 Alternative 5: Meeting Area at St. Simon's Sound

Alternative 5 would create a RO/RO vessel meeting area located at St. Simon's Sound near the entrance channel to Brunswick Harbor. Since this area is naturally deep water, no dredging would be required. Creating a meeting area at St. Simon's Sound would re-locate the north toe of the existing channel approximately 800 feet to the north from stations -6+800 to 4+300. Alternative 4 would expand the Federal channel at St. Simon's Sound by 800 feet north of the existing channel along a length of approximately 10,000 feet. The existing channel centerline would not change.

Table 4 - Alternative 5 - Total Project Cost Summary

		St. Simons Meeting Area				
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$0	\$0	\$0	\$0	\$0
18	Cultural Resource Preservation	\$562	\$191	\$753	\$753	\$915
	SubTotal	\$562	\$191	\$753	\$753	\$915
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$50	\$17	\$67	\$67	\$78
31	Construction Management	\$47	\$16	\$63	\$63	\$78
	Total	\$672	\$227	\$899	\$899	\$1,087

1.6 Alternative 6: Bend Widener and Turning Basin Expansion

Alternative 6 is a combination of the bend widener and the turning basin expansion. Alternative 6 includes the 205,000 cubic yards of material at the bend widener and the 346,000 cubic yards of material at the turning basin expansion for a total of approximately 551,000 cubic yards of material. Disposal options are the same as Alternatives 2 and 3.

Table 5 - Alternative 6 – Total Project Cost Summary

Brunswick Harbor Modification Study - ALT 6						
Alternative 6, BW + TB						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$8,113	\$2,758	\$10,871	\$10,871	\$12,819
18	Cultural Resource Preservation	\$1,001	\$340	\$1,341	\$1,341	\$1,629
	SubTotal	\$9,114	\$3,099	\$12,213	\$12,213	\$14,449
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$822	\$279	\$1,101	\$1,101	\$1,289
31	Construction Management	\$775	\$264	\$1,039	\$1,039	\$1,289
	Total	\$10,724	\$3,645	\$14,368	\$14,368	\$17,032

Brunswick Harbor Modification Study - ALT 6 w O&M						
Bend Widener and Turning Basin Expansion						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$15,611	\$5,308	\$20,919	\$20,919	\$34,058
18	Cultural Resource Preservation	\$1,001	\$340	\$1,341	\$1,341	\$1,629
	SubTotal	\$16,612	\$5,648	\$22,260	\$22,260	\$35,687
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$1,499	\$510	\$2,009	\$2,009	\$3,663
31	Construction Management	\$1,413	\$480	\$1,039	\$1,893	\$3,663
	Total	\$19,537	\$6,641	\$26,178	\$26,178	\$42,958

1.7 Alternative 7: Bend Widener, Turning Basin Expansion, and Meeting Area West of Sidney Lanier Bridge

Alternative 7 is a combination of the bend widener, turning basin expansion, and meeting area west of the Sidney Lanier Bridge. Alternative 7 includes the 205,000 cubic yards of material at the bend widener, 346,000 cubic yards at the turning basin expansion, and 800,000 cubic yards at the meeting area west of the Sidney Lanier Bridge for a total of approximately 1,352,000 cubic yards of dredged material. Disposal options are the same as Alternatives 2 and 3.

Table 6 - Alternative 7 - Total Project Cost Summary

Brunswick Harbor Modification Study - ALT 7						
Bend Widener, Turning Basin Expansion, and Meeting Area West of Sidney Lanier Bridge						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$19,006	\$6,462	\$25,468	\$25,468	\$30,032
18	Cultural Resource Preservation	\$1,262	\$429	\$1,691	\$1,691	\$2,054
	SubTotal	\$20,268	\$6,891	\$27,159	\$27,159	\$32,086
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$1,826	\$621	\$2,447	\$2,447	\$2,865
31	Construction Management	\$1,723	\$586	\$2,309	\$2,309	\$2,865
	Total	\$23,830	\$8,101	\$31,930	\$31,930	\$37,807

Brunswick Harbor Modification Study - ALT 7 w O&M						
Bend Widener, Turning Basin Expansion, and Meeting Area West of Sidney Lanier Bridge						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$26,504	\$9,011	\$35,515	\$35,515	\$51,270
18	Cultural Resource Preservation	\$1,262	\$429	\$1,691	\$1,691	\$2,054
	SubTotal	\$27,766	\$9,440	\$37,206	\$37,206	\$53,324
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$2,503	\$851	\$3,354	\$3,354	\$5,238
31	Construction Management	\$2,361	\$803	\$2,309	\$3,164	\$5,238
	Total	\$32,643	\$11,097	\$43,740	\$43,740	\$63,733

1.8 Alternative 8: Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon’s Sound

Alternative 8 is a combination of the bend widener, turning basin expansion, and meeting area at St. Simon’s Sound. Alternative 8 includes the 205,000 cubic yards of material at the bend widener, 346,000 cubic yards at the turning basin expansion, and 0 cubic yards at the meeting area at St. Simon’s Sound for a total of approximately 551,000 cubic yards of dredged material. Disposal options are the same as Alternatives 2 and 3.

Table 7 - Alternative 8 - Total Project Cost Summary

Brunswick Harbor Modification Study - ALT 8						
Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon’s Sound						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$8,453	\$2,874	\$11,327	\$11,327	\$13,357
18	Cultural Resource Preservation	\$1,262	\$429	\$1,691	\$1,691	\$2,054
	SubTotal	\$9,715	\$3,303	\$13,018	\$13,018	\$15,411
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$875	\$298	\$1,173	\$1,173	\$1,373
31	Construction Management	\$825	\$281	\$1,106	\$1,106	\$1,373
	Total	\$11,428	\$3,884	\$15,312	\$15,312	\$18,160

Brunswick Harbor Modification Study - ALT 8 w O&M						
Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon’s Sound						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$15,951	\$5,423	\$21,374	\$21,374	\$34,595
18	Cultural Resource Preservation	\$1,262	\$429	\$1,691	\$1,691	\$2,054
	SubTotal	\$17,213	\$5,852	\$23,065	\$23,065	\$36,649
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$1,552	\$528	\$2,080	\$2,080	\$3,746
31	Construction Management	\$1,463	\$497	\$1,106	\$1,960	\$3,746
	Total	\$20,241	\$6,881	\$27,121	\$27,121	\$44,086

1.9 Alternative 9: Bend Widener, Turning Basin Expansion, Meeting Area West of Sidney Lanier Bridge and Meeting Area at St. Simon’s Sound

Alternative 9 includes the 551,000 cubic yards of dredging to occur at the bend widener and turning basin plus creation of a RO/RO vessel meeting area upstream of the Sidney Lanier Bridge to the turning basin at the Colonel’s Island facility and creation of a meeting area at St. Simon’s Sound, as described in the previous alternatives. The total dredging amount for Alternative 5 is approximately 1,352,000 cubic yards. Disposal options are the same as Alternatives 2 and 3.

Table 8 - Alternative 9 - Total Project Cost Summary

Brunswick Harbor Modification Study - ALT 9						
Bend Widener, Turning Basin Expansion, Meeting Area West of Sidney Lanier Bridge and Meeting Area at St. Simon's Sound						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$19,006	\$6,462	\$25,468	\$25,468	\$30,032
18	Cultural Resource Preservation	\$1,323	\$450	\$1,773	\$1,773	\$2,153
	SubTotal	\$20,329	\$6,912	\$27,241	\$27,241	\$32,185
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$1,832	\$623	\$2,455	\$2,455	\$2,874
31	Construction Management	\$1,728	\$588	\$2,316	\$2,316	\$2,874
	Total	\$23,902	\$8,125	\$32,027	\$32,027	\$37,924

Brunswick Harbor Modification Study - ALT 9 w O&M						
Bend Widener, Turning Basin Expansion, Meeting Area West of Sidney Lanier Bridge and Meeting Area at St. Simon's Sound						
CWBS	Feature	Construction	Contingency	Total	First Cost	Total Cost
09	Channels and Canals	\$26,504	\$9,011	\$35,515	\$35,515	\$51,270
18	Cultural Resource Preservation	\$1,323	\$450	\$1,773	\$1,773	\$2,153
	SubTotal	\$27,827	\$9,461	\$37,288	\$37,288	\$53,423
01	Lands and Damages	\$13	\$3	\$16	\$16	\$17
30	Preconstruction Engineering and Design	\$2,509	\$853	\$3,362	\$3,362	\$5,248
31	Construction Management	\$2,366	\$804	\$2,316	\$3,170	\$5,248
	Total	\$32,715	\$11,122	\$43,836	\$43,836	\$63,850

2.0 Basis of Estimate

2.1 Basis of Design

The level of design developed for this report is approximately 15%. Given this level of design, the estimate falls into a Class 4 category per ER 1110-2-1302. In general, costs were derived using corollary data from similar projects completed recently and scaled up or down to the projected design. For the corollary cost data, recent projects in close geographic proximity with similar scope were used when possible to give the most reasonable similar costs. Refer to the Engineering Design Appendix for further details on the basis of design and plan drawings.

2.2 Basis of Quantities

- a) The quantity takeoffs were developed by the technical team. Composition of dredged materials were approximated from a singular cross section provided by the Geotechnical Engineer and are assumed to be representative of the entire area to be dredged. See the Geotechnical Engineering Report for more information. As additional information is obtained pertaining to the composition of the dredged material, the estimate will be refined.
- b) Estimated new work quantities were calculated for each individual navigational feature using Autodesk Civil 3d. The quantities for each navigational feature were calculated to -36 ft MLLW and -38 ft MLLW using the June/July 2019 bathymetric

data. -36 ft MLLW represents the current authorized project depth and -38 ft MLLW represents the allowable overdepth during dredging.

Table 9 – Quantities from Engineering Appendix

Estimated Dredging Quantities per Navigational Feature

Navigational Feature	Depth (ft MLLW)	Cut (CY)
Bend Widener	-38	205,159
Turning Basin 1	-38	458,087
Turning Basin 2	-38	693,488
Turning Basin 3	-38	623,948
Turning Basin 4	-38	346,462
Sidney Lanier Meeting Area	-38	800,074
St. Simon's Sound Meeting Area	-38	0

3.0 Estimate

The design was refined and a cost estimate was developed for each alternative. First Cost includes all costs in FY2020 dollars, Total Project Cost includes escalation to the mid-point of construction and contingency.

3.1 General Assumptions

- a) No (hard) rock excavation is included. Sections indicate “weathered limestone”. Assume that this can be dredged using the same dredging equipment. No blasting is included.
- b) All dredged material is assumed to be disposed of on Andrews Island. An alternative disposal site for beneficial use is Bird Island.
- c) Operations and maintenance costs are assumed to be directly related to surface area of navigation areas. That is, the incremental increase in cost for O&M costs is parametrically related to existing costs, based on surface area (square feet of navigation channel).
- d) Water from effluent filter cells will be discharged into the waterway. No additional treatment is needed.
- e) No environmental mitigation is included.
- f) Contractor staging area is assumed to be at area TBD. This is the same area that will be used for annual maintenance dredging.
- g) Quantities include two (2) feet for allowance dredging of over-dig for non-pay is included for all dredged areas and alternates.

- h) Dredging areas are computed from plans utilizing software. A dredging prism was not provided. Bank heights were calculated (approximated) using dredging volumes and surface areas.
- i) Pipeline distances are approximated using Google Earth images. Pipelines are measured from the middle of the dredged area.
- j) Material composition provided by Geotechnical Engineering. Compositions are as follows:

Table 10 – Material Composition

Location	Dredge Volume	Surface Area	1,200 GR/L	1,300 GR/L	1,400 GR/L	1,700 GR/L	1,900 GR/L	2,000 GR/L	2,000 GR/L	2,300 GR/L	2,400 GR/L	2,000 GR/L
			Mud&Silt	Mud&Silt	Mud&Silt	Loose Sand	Loose Sand	Comp Sand	Stiff Clay	Comp Shell	Soft Rock	Blast Rock
Bend Widener	205,159 CY	564,881 SF	23.2%	0.0%	7.7%	3.1%	6.5%	17.6%	8.0%	0.0%	33.7%	0
Turning Basin	346,462 CY	530,096 SF	5.7%	2.5%	3.4%	30.7%	26.4%	8.4%	10.1%	0.0%	12.8%	0.0%
Channel Widener (Sidney Lanier)	800,074 CY	2,361,796 SF	2.6%	0.0%	1.9%	25.1%	15.0%	4.9%	21.0%	0.0%	29.6%	0.0%
St. Simon's Sound Meeting Area	0 CY	100,000 SF	100.0%									

4.0 Construction Schedule

A formal construction schedule was not developed for the project. The estimate assumes that dredged materials financial resources and other commodities will be available as needed to complete the project efficiently. Since field office overhead is estimated as a percentage of the construction cost, the duration will not have an impact on the estimates. However, the duration does have an impact on the estimates once escalation is applied.

5.0 Risk Assessment

An abbreviated risk analysis (ARA) was performed for the project. A contingency was developed for each major construction feature. A weighted average was calculated for each estimate using these contingencies.

6.0 Real Estate Costs

Real estate costs were provided by the PDT and are included in the estimate.

7.0 References

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.

U.S. Army Corps of Engineers, 1999, *Engineering and Design for Civil Works Projects, Engineering Regulation 1110-2-1150*, Department of the Army, Washington D.C., 31 August 1999.

U.S. Army Corps of Engineers, 2008, *Civil Works Cost Engineering, Engineering Regulation 1110-2-1302*, Department of the Army, Washington D.C., 15 September 2008.

U.S. Army Corps of Engineers, 2008, *Construction Cost Estimating Guide For Civil Works*,
Engineering Technical Letter 1110-2-573, Department of the Army, Washington D.C.,
30 September 2008.

U.S. Army Corps of Engineers, 2014, *Civil Works Construction Cost Index System*,
Engineering Manual 110-2-1304, Department of the Army, Washington D.C., 31 March
2014.

PROJECT: **Brunswick Harbor Modification Study - ALT 2**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$5,424	\$1,844	34%	\$7,268		\$5,424	\$1,844	\$7,268		\$7,268	17.9%	\$6,396	\$2,175	\$8,571
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34%	\$753		\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
			-	-		-						-			
	CONSTRUCTION ESTIMATE TOTALS:	\$5,986	\$2,035		\$8,021		\$5,986	\$2,035	\$8,021		\$8,021	18.3%	\$7,079	\$2,407	\$9,485
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$542	\$184	34%	\$726		\$542	\$184	\$726		\$726	17.1%	\$635	\$216	\$850
31	CONSTRUCTION MANAGEMENT	\$509	\$173	34%	\$682	0.0%	\$509	\$173	\$682		\$682	23.0%	\$626	\$213	\$839
	PROJECT COST TOTALS:	\$7,050	\$2,396	34%	\$9,445		\$7,050	\$2,396	\$9,445		\$9,445	18.5%	\$8,353	\$2,839	\$11,191

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST:		\$11,191
ESTIMATED FEDERAL COST:	65%	\$7,274
ESTIMATED NON-FEDERAL COST:	35%	\$3,917
22 - FEASIBILITY STUDY (CAP studies):		\$2
ESTIMATED FEDERAL COST:	50%	\$1
ESTIMATED NON-FEDERAL COST:	50%	\$1
ESTIMATED FEDERAL COST OF PROJECT		\$7,275

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 2
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
09	Bend Widener CHANNELS & CANALS	\$5,424	\$1,844	34.0%	\$7,268		\$5,424	\$1,844	\$7,268	2025Q3	17.9%	\$6,396	\$2,175	\$8,571
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34.0%	\$753		\$562	\$191	\$753	2026Q3	21.5%	\$683	\$232	\$915
CONSTRUCTION ESTIMATE TOTALS:		\$5,986	\$2,035	34.0%	\$8,021		\$5,986	\$2,035	\$8,021			\$7,079	\$2,407	\$9,485
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$30	\$10	34.0%	\$40		\$30	\$10	\$40	2023Q3	14.1%	\$34	\$12	\$46
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$311	\$106	34.0%	\$417		\$311	\$106	\$417	2023Q3	14.1%	\$355	\$121	\$475
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$15	\$5	34.0%	\$20		\$15	\$5	\$20	2023Q3	14.1%	\$17	\$6	\$23
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$180	\$61	34.0%	\$241		\$180	\$61	\$241	2025Q3	23.0%	\$221	\$75	\$297
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$479	\$163	34.0%	\$642		\$479	\$163	\$642	2025Q3	23.0%	\$589	\$200	\$790
0.3%	Project Operation:	\$15	\$5	34.0%	\$20		\$15	\$5	\$20	2025Q3	23.0%	\$18	\$6	\$25
0.3%	Project Management	\$15	\$5	34.0%	\$20		\$15	\$5	\$20	2025Q3	23.0%	\$18	\$6	\$25
CONTRACT COST TOTALS:		\$7,050	\$2,396		\$9,445		\$7,050	\$2,396	\$9,445			\$8,353	\$2,839	\$11,191

PROJECT: **Brunswick Harbor Modification Study - ALT 2 w O&M**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$6,056	\$2,059	34%	\$8,115		\$6,056	\$2,059	\$8,115		\$8,115	27.7%	\$7,732	\$2,629	\$10,361
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34%	\$753		\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
				-								-			
				-								-			
	CONSTRUCTION ESTIMATE TOTALS:	\$6,618	\$2,250		\$8,868		\$6,618	\$2,250	\$8,868		\$8,868	27.1%	\$8,414	\$2,861	\$11,275
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$599	\$204	34%	\$803		\$599	\$204	\$803		\$803	30.8%	\$784	\$266	\$1,050
31	CONSTRUCTION MANAGEMENT	\$564	\$192	34%	\$682	10.8%	\$564	\$192	\$756		\$756	37.4%	\$775	\$264	\$1,039
	PROJECT COST TOTALS:	\$7,794	\$2,649	34%	\$10,442		\$7,794	\$2,649	\$10,442		\$10,442	28.1%	\$9,986	\$3,394	\$13,381

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST:		\$13,381
ESTIMATED FEDERAL COST:	65%	\$8,697
ESTIMATED NON-FEDERAL COST:	35%	\$4,683
22 - FEASIBILITY STUDY (CAP studies):		\$2
ESTIMATED FEDERAL COST:	50%	\$1
ESTIMATED NON-FEDERAL COST:	50%	\$1
ESTIMATED FEDERAL COST OF PROJECT		\$8,698

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 2 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
	Bend Widener and Turning Basin Expansion													
09	CHANNELS & CANALS	\$5,424	\$1,844	34.0%	\$7,268		\$5,424	\$1,844	\$7,268	2025Q3	17.9%	\$6,396	\$2,175	\$8,571
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34.0%	\$753		\$562	\$191	\$753	2026Q3	21.5%	\$683	\$232	\$915
CONSTRUCTION ESTIMATE TOTALS:		\$5,986	\$2,035	34.0%	\$8,021		\$5,986	\$2,035	\$8,021			\$7,079	\$2,407	\$9,485
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$30	\$10	34.0%	\$40		\$30	\$10	\$40	2023Q3	14.1%	\$34	\$12	\$46
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$311	\$106	34.0%	\$417		\$311	\$106	\$417	2023Q3	14.1%	\$355	\$121	\$475
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$15	\$5	34.0%	\$20		\$15	\$5	\$20	2023Q3	14.1%	\$17	\$6	\$23
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$180	\$61	34.0%	\$241		\$180	\$61	\$241	2025Q3	23.0%	\$221	\$75	\$297
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$479	\$163	34.0%	\$642		\$479	\$163	\$642	2025Q3	23.0%	\$589	\$200	\$790
0.3%	Project Operation:	\$15	\$5	34.0%	\$20		\$15	\$5	\$20	2025Q3	23.0%	\$18	\$6	\$25
0.3%	Project Management	\$15	\$5	34.0%	\$20		\$15	\$5	\$20	2025Q3	23.0%	\$18	\$6	\$25
CONTRACT COST TOTALS:		\$7,050	\$2,396		\$9,445		\$7,050	\$2,396	\$9,445			\$8,353	\$2,839	\$11,191

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 2 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 1-Oct-19 Estimate Price Level:				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
O&M Costs															
09	CHANNELS & CANALS	\$632	\$215	34.0%	\$847		\$632	\$215	\$847	2045Q2	111.4%	\$1,336	\$454	\$1,790	
	Total 50-Yr O&M Costs														
CONSTRUCTION ESTIMATE TOTALS:		\$632	\$215	34.0%	\$847		\$632	\$215	\$847			\$1,336	\$454	\$1,790	
01	LANDS AND DAMAGES			25.0%											
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$3	\$1	34.0%	\$4		\$3	\$1	\$4	2044Q1	157.1%	\$8	\$3	\$10	
0.0%	Planning & Environmental Compliance			34.0%											
5.2%	Engineering & Design	\$33	\$11	34.0%	\$44		\$33	\$11	\$44	2044Q1	157.1%	\$85	\$29	\$114	
0.0%	Reviews, ATRs, IEPRs, VE			34.0%											
0.3%	Life Cycle Updates (cost, schedule, risks)	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2044Q1	157.1%	\$5	\$2	\$7	
0.0%	Contracting & Reprographics			34.0%											
3.0%	Engineering During Construction	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69	
0.0%	Planning During Construction			34.0%											
0.0%	Adaptive Management & Monitoring			34.0%											
0.0%	Project Operations			34.0%											
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2045Q2	170.7%	\$138	\$47	\$185	
0.3%	Project Operation:	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2045Q2	170.7%	\$5	\$2	\$7	
0.3%	Project Management	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2045Q2	170.7%	\$5	\$2	\$7	
CONTRACT COST TOTALS:		\$744	\$253		\$997		\$744	\$253	\$997			\$1,634	\$556	\$2,189	

PROJECT: **Brunswick Harbor Modification Study - ALT 3**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$4,800	\$1,632	34%	\$6,432		\$4,800	\$1,632	\$6,432		\$6,432	17.9%	\$5,660	\$1,924	\$7,585
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34%	\$753		\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
			-	-								-			
	CONSTRUCTION ESTIMATE TOTALS:	\$5,362	\$1,823		\$7,185		\$5,362	\$1,823	\$7,185		\$7,185	18.3%	\$6,343	\$2,157	\$8,499
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$486	\$165	34%	\$651		\$486	\$165	\$651		\$651	17.1%	\$569	\$193	\$762
31	CONSTRUCTION MANAGEMENT	\$455	\$155	34%	\$610	0.0%	\$455	\$155	\$610		\$610	23.0%	\$560	\$190	\$750
	PROJECT COST TOTALS:	\$6,316	\$2,146	34%	\$8,462		\$6,316	\$2,146	\$8,462		\$8,462	18.5%	\$7,485	\$2,544	\$10,028

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$10,028
 ESTIMATED FEDERAL COST: **65%** \$6,518
 ESTIMATED NON-FEDERAL COST: **35%** \$3,510

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$6,519

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 3
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
09	CHANNELS & CANALS	\$4,800	\$1,632	34.0%	\$6,432		\$4,800	\$1,632	\$6,432	2025Q3	17.9%	\$5,660	\$1,924	\$7,585
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34.0%	\$753		\$562	\$191	\$753	2026Q3	21.5%	\$683	\$232	\$915
CONSTRUCTION ESTIMATE TOTALS:		\$5,362	\$1,823	34.0%	\$7,185		\$5,362	\$1,823	\$7,185			\$6,343	\$2,157	\$8,499
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$27	\$9	34.0%	\$36		\$27	\$9	\$36	2023Q3	14.1%	\$31	\$10	\$41
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$279	\$95	34.0%	\$374		\$279	\$95	\$374	2023Q3	14.1%	\$318	\$108	\$427
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$13	\$4	34.0%	\$17		\$13	\$4	\$17	2023Q3	14.1%	\$15	\$5	\$20
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$161	\$55	34.0%	\$216		\$161	\$55	\$216	2025Q3	23.0%	\$198	\$67	\$265
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$429	\$146	34.0%	\$575		\$429	\$146	\$575	2025Q3	23.0%	\$528	\$179	\$707
0.3%	Project Operation:	\$13	\$4	34.0%	\$17		\$13	\$4	\$17	2025Q3	23.0%	\$16	\$5	\$21
0.3%	Project Management	\$13	\$4	34.0%	\$17		\$13	\$4	\$17	2025Q3	23.0%	\$16	\$5	\$21
CONTRACT COST TOTALS:		\$6,316	\$2,146		\$8,462		\$6,316	\$2,146	\$8,462			\$7,485	\$2,544	\$10,028

PROJECT: **Brunswick Harbor Modification Study - ALT 3 w O&M**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$11,666	\$3,966	34%	\$15,632		\$11,666	\$3,966	\$15,632		\$15,632	72.9%	\$20,174	\$6,859	\$27,033
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34%	\$753		\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
				-								-			
				-								-			
	CONSTRUCTION ESTIMATE TOTALS:	\$12,228	\$4,158		\$16,385		\$12,228	\$4,158	\$16,385		\$16,385	70.6%	\$20,856	\$7,091	\$27,947
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$1,106	\$376	34%	\$1,482		\$1,106	\$376	\$1,482		\$1,482	98.1%	\$2,191	\$745	\$2,936
31	CONSTRUCTION MANAGEMENT	\$1,038	\$353	34%	\$610	128.1%	\$1,038	\$353	\$1,391		\$1,391	105.9%	\$2,138	\$727	\$2,865
	PROJECT COST TOTALS:	\$14,384	\$4,890	34%	\$19,274		\$14,384	\$4,890	\$19,274		\$19,274	75.2%	\$25,198	\$8,566	\$33,765

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$33,765
 ESTIMATED FEDERAL COST: **65%** \$21,947
 ESTIMATED NON-FEDERAL COST: **35%** \$11,818

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$21,948

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 3 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)									
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	Bend Widener and Turning Basin Expansion													
09	CHANNELS & CANALS	\$4,800	\$1,632	34.0%	\$6,432		\$4,800	\$1,632	\$6,432	2025Q3	17.9%	\$5,660	\$1,924	\$7,585
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34.0%	\$753		\$562	\$191	\$753	2026Q3	21.5%	\$683	\$232	\$915
CONSTRUCTION ESTIMATE TOTALS:		\$5,362	\$1,823	34.0%	\$7,185		\$5,362	\$1,823	\$7,185			\$6,343	\$2,157	\$8,499
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$27	\$9	34.0%	\$36		\$27	\$9	\$36	2023Q3	14.1%	\$31	\$10	\$41
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$279	\$95	34.0%	\$374		\$279	\$95	\$374	2023Q3	14.1%	\$318	\$108	\$427
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$13	\$4	34.0%	\$17		\$13	\$4	\$17	2023Q3	14.1%	\$15	\$5	\$20
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$161	\$55	34.0%	\$216		\$161	\$55	\$216	2025Q3	23.0%	\$198	\$67	\$265
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$429	\$146	34.0%	\$575		\$429	\$146	\$575	2025Q3	23.0%	\$528	\$179	\$707
0.3%	Project Operation:	\$13	\$4	34.0%	\$17		\$13	\$4	\$17	2025Q3	23.0%	\$16	\$5	\$21
0.3%	Project Management	\$13	\$4	34.0%	\$17		\$13	\$4	\$17	2025Q3	23.0%	\$16	\$5	\$21
CONTRACT COST TOTALS:		\$6,316	\$2,146		\$8,462		\$6,316	\$2,146	\$8,462			\$7,485	\$2,544	\$10,028

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 3 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 1-Oct-19 Estimate Price Level:				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
O&M Costs															
09	CHANNELS & CANALS	\$6,866	\$2,334	34.0%	\$9,200		\$6,866	\$2,334	\$9,200	2045Q2	111.4%	\$14,514	\$4,935	\$19,448	
	Total 50-Yr O&M Costs														
CONSTRUCTION ESTIMATE TOTALS:		\$6,866	\$2,334	34.0%	\$9,200		\$6,866	\$2,334	\$9,200			\$14,514	\$4,935	\$19,448	
01	LANDS AND DAMAGES			25.0%											
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$34	\$12	34.0%	\$46		\$34	\$12	\$46	2044Q1	157.1%	\$87	\$30	\$117	
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
5.2%	Engineering & Design	\$357	\$121	34.0%	\$478		\$357	\$121	\$478	2044Q1	157.1%	\$918	\$312	\$1,230	
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
0.3%	Life Cycle Updates (cost, schedule, risks)	\$17	\$6	34.0%	\$23		\$17	\$6	\$23	2044Q1	157.1%	\$44	\$15	\$59	
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2045Q2	170.7%	\$3	\$1	\$4	
3.0%	Engineering During Construction	\$206	\$70	34.0%	\$276		\$206	\$70	\$276	2045Q2	170.7%	\$558	\$190	\$747	
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$549	\$187	34.0%	\$736		\$549	\$187	\$736	2045Q2	170.7%	\$1,486	\$505	\$1,991	
0.3%	Project Operation:	\$17	\$6	34.0%	\$23		\$17	\$6	\$23	2045Q2	170.7%	\$46	\$16	\$62	
0.3%	Project Management	\$17	\$6	34.0%	\$23		\$17	\$6	\$23	2045Q2	170.7%	\$46	\$16	\$62	
CONTRACT COST TOTALS:		\$8,069	\$2,743		\$10,812		\$8,069	\$2,743	\$10,812			\$17,714	\$6,023	\$23,736	

PROJECT: **Brunswick Harbor Modification Study - ALT 2**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$12,493	\$4,248	34%	\$16,741		\$12,493	\$4,248	\$16,741		\$16,741	17.9%	\$14,732	\$5,009	\$19,740
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34%	\$753		\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
				-								-			
				-								-			
	CONSTRUCTION ESTIMATE TOTALS:	\$13,055	\$4,439		\$17,494		\$13,055	\$4,439	\$17,494		\$17,494	18.1%	\$15,414	\$5,241	\$20,655
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$1,173	\$399	34%	\$1,572		\$1,173	\$399	\$1,572		\$1,572	17.1%	\$1,373	\$467	\$1,840
31	CONSTRUCTION MANAGEMENT	\$1,110	\$377	34%	\$1,487		\$1,110	\$377	\$1,487		\$1,487	23.0%	\$1,366	\$464	\$1,830
	PROJECT COST TOTALS:	\$15,351	\$5,218	34%	\$20,569		\$15,351	\$5,218	\$20,569		\$20,569	18.3%	\$18,167	\$6,175	\$24,342

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$24,342
 ESTIMATED FEDERAL COST: **65%** \$15,822
 ESTIMATED NON-FEDERAL COST: **35%** \$8,520

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$15,823

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 2
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19							
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
Sidney Lane Channel Widener															
09	CHANNELS & CANALS	\$12,493	\$4,248	34.0%	\$16,741		\$12,493	\$4,248	\$16,741	2025Q3	17.9%	\$14,732	\$5,009	\$19,740	
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34.0%	\$753		\$562	\$191	\$753	2026Q3	21.5%	\$683	\$232	\$915	
CONSTRUCTION ESTIMATE TOTALS:		\$13,055	\$4,439	34.0%	\$17,494		\$13,055	\$4,439	\$17,494			\$15,414	\$5,241	\$20,655	
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17	
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$65	\$22	34.0%	\$87		\$65	\$22	\$87	2023Q3	14.1%	\$74	\$25	\$99	
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
5.2%	Engineering & Design	\$679	\$231	34.0%	\$910		\$679	\$231	\$910	2023Q3	14.1%	\$775	\$263	\$1,038	
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
0.3%	Life Cycle Updates (cost, schedule, risks)	\$33	\$11	34.0%	\$44		\$33	\$11	\$44	2023Q3	14.1%	\$38	\$13	\$50	
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2	
3.0%	Engineering During Construction	\$392	\$133	34.0%	\$525		\$392	\$133	\$525	2025Q3	23.0%	\$482	\$164	\$646	
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
0.0%	Adaptive Management & Monitoring			34.0%											
0.0%	Project Operations			34.0%											
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$1,044	\$355	34.0%	\$1,399		\$1,044	\$355	\$1,399	2025Q3	23.0%	\$1,284	\$437	\$1,721	
0.3%	Project Operation:	\$33	\$11	34.0%	\$44		\$33	\$11	\$44	2025Q3	23.0%	\$41	\$14	\$54	
0.3%	Project Management	\$33	\$11	34.0%	\$44		\$33	\$11	\$44	2025Q3	23.0%	\$41	\$14	\$54	
CONTRACT COST TOTALS:		\$15,351	\$5,218		\$20,569		\$15,351	\$5,218	\$20,569			\$18,167	\$6,175	\$24,342	

PROJECT: **Brunswick Harbor Modification Study - ALT 5**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS			-		-					-				
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34%	\$753	-	\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
				-		-						-			
				-		-						-			
	CONSTRUCTION ESTIMATE TOTALS:	\$562	\$191		\$753		\$562	\$191	\$753		\$753	21.5%	\$683	\$232	\$915
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$50	\$17	34%	\$67		\$50	\$17	\$67		\$67	17.1%	\$59	\$20	\$78
31	CONSTRUCTION MANAGEMENT	\$47	\$16	34%	\$63		\$47	\$16	\$63		\$63	23.0%	\$58	\$20	\$77
	PROJECT COST TOTALS:	\$672	\$227	34%	\$899		\$672	\$227	\$899		\$899	21.0%	\$812	\$275	\$1,087

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$1,087
 ESTIMATED FEDERAL COST: **65%** \$707
 ESTIMATED NON-FEDERAL COST: **35%** \$381

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$708

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 5
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19							
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
09	St. Simons Meeting Area CHANNELS & CANALS			34.0%											
18	CULTURAL RESOURCE PRESERVATION	\$562	\$191	34.0%	\$753		\$562	\$191	\$753	2026Q3	21.5%	\$683	\$232	\$915	
CONSTRUCTION ESTIMATE TOTALS:		\$562	\$191	34.0%	\$753		\$562	\$191	\$753			\$683	\$232	\$915	
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17	
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$3	\$1	34.0%	\$4		\$3	\$1	\$4	2023Q3	14.1%	\$3	\$1	\$5	
0.0%	Planning & Environmental Compliance			34.0%											
5.2%	Engineering & Design	\$29	\$10	34.0%	\$39		\$29	\$10	\$39	2023Q3	14.1%	\$33	\$11	\$44	
0.0%	Reviews, ATRs, IEPRs, VE			34.0%											
0.3%	Life Cycle Updates (cost, schedule, risks)	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
0.0%	Contracting & Reprographics			34.0%											
3.0%	Engineering During Construction	\$17	\$6	34.0%	\$23		\$17	\$6	\$23	2025Q3	23.0%	\$21	\$7	\$28	
0.0%	Planning During Construction			34.0%											
0.0%	Adaptive Management & Monitoring			34.0%											
0.0%	Project Operations			34.0%											
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$45	\$15	34.0%	\$60		\$45	\$15	\$60	2025Q3	23.0%	\$55	\$19	\$74	
0.3%	Project Operation:	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2	
0.3%	Project Management	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2	
CONTRACT COST TOTALS:		\$672	\$227		\$899		\$672	\$227	\$899			\$812	\$275	\$1,087	

PROJECT: **Brunswick Harbor Modification Study - ALT 6**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$8,113	\$2,758	34%	\$10,871		\$8,113	\$2,758	\$10,871		\$10,871	17.9%	\$9,567	\$3,253	\$12,819
18	CULTURAL RESOURCE PRESERVATION	\$1,001	\$340	34%	\$1,341		\$1,001	\$340	\$1,341		\$1,341	21.5%	\$1,216	\$413	\$1,629
			-									-			
			-									-			
	CONSTRUCTION ESTIMATE TOTALS:	\$9,114	\$3,099		\$12,213		\$9,114	\$3,099	\$12,213		\$12,213	18.3%	\$10,783	\$3,666	\$14,449
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$822	\$279	34%	\$1,101		\$822	\$279	\$1,101		\$1,101	17.1%	\$962	\$327	\$1,289
31	CONSTRUCTION MANAGEMENT	\$775	\$264	34%	\$1,039		\$775	\$264	\$1,039		\$1,039	23.0%	\$954	\$324	\$1,278
	PROJECT COST TOTALS:	\$10,724	\$3,645	34%	\$14,368		\$10,724	\$3,645	\$14,368		\$14,368	18.5%	\$12,712	\$4,321	\$17,032

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$17,032
 ESTIMATED FEDERAL COST: **65%** \$11,071
 ESTIMATED NON-FEDERAL COST: **35%** \$5,961

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$11,072

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 6
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19							
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
Alternative 6, BW + TB															
09	CHANNELS & CANALS	\$8,113	\$2,758	34.0%	\$10,871		\$8,113	\$2,758	\$10,871	2025Q3	17.9%	\$9,567	\$3,253	\$12,819	
18	CULTURAL RESOURCE PRESERVATION	\$1,001	\$340	34.0%	\$1,341		\$1,001	\$340	\$1,341	2026Q3	21.5%	\$1,216	\$413	\$1,629	
CONSTRUCTION ESTIMATE TOTALS:		\$9,114	\$3,099	34.0%	\$12,213		\$9,114	\$3,099	\$12,213			\$10,783	\$3,666	\$14,449	
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17	
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$46	\$16	34.0%	\$62		\$46	\$16	\$62	2023Q3	14.1%	\$52	\$18	\$70	
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
5.2%	Engineering & Design	\$474	\$161	34.0%	\$635		\$474	\$161	\$635	2023Q3	14.1%	\$541	\$184	\$725	
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
0.3%	Life Cycle Updates (cost, schedule, risks)	\$23	\$8	34.0%	\$31		\$23	\$8	\$31	2023Q3	14.1%	\$26	\$9	\$35	
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2	
3.0%	Engineering During Construction	\$273	\$93	34.0%	\$366		\$273	\$93	\$366	2025Q3	23.0%	\$336	\$114	\$450	
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2	
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$729	\$248	34.0%	\$977		\$729	\$248	\$977	2025Q3	23.0%	\$897	\$305	\$1,202	
0.3%	Project Operation:	\$23	\$8	34.0%	\$31		\$23	\$8	\$31	2025Q3	23.0%	\$28	\$10	\$38	
0.3%	Project Management	\$23	\$8	34.0%	\$31		\$23	\$8	\$31	2025Q3	23.0%	\$28	\$10	\$38	
CONTRACT COST TOTALS:		\$10,724	\$3,645		\$14,368		\$10,724	\$3,645	\$14,368			\$12,712	\$4,321	\$17,032	

PROJECT: **Brunswick Harbor Modification Study - ALT 6 w O&M**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$15,611	\$5,308	34%	\$20,919		\$15,611	\$5,308	\$20,919		\$20,919	62.8%	\$25,416	\$8,642	\$34,058
18	CULTURAL RESOURCE PRESERVATION	\$1,001	\$340	34%	\$1,341		\$1,001	\$340	\$1,341		\$1,341	21.5%	\$1,216	\$413	\$1,629
			-									-			
			-									-			
	CONSTRUCTION ESTIMATE TOTALS:	\$16,612	\$5,648		\$22,260		\$16,612	\$5,648	\$22,260		\$22,260	60.3%	\$26,632	\$9,055	\$35,687
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$1,499	\$510	34%	\$2,009		\$1,499	\$510	\$2,009		\$2,009	82.4%	\$2,734	\$929	\$3,663
31	CONSTRUCTION MANAGEMENT	\$1,413	\$480	34%	\$1,039	82.3%	\$1,413	\$480	\$1,893		\$1,893	89.7%	\$2,680	\$911	\$3,592
	PROJECT COST TOTALS:	\$19,537	\$6,641	34%	\$26,178		\$19,537	\$6,641	\$26,178		\$26,178	64.1%	\$32,059	\$10,899	\$42,958

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$42,958
 ESTIMATED FEDERAL COST: **65%** \$27,923
 ESTIMATED NON-FEDERAL COST: **35%** \$15,035

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$27,924

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 6 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)									
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	Bend Widener and Turning Basin Expansion													
09	CHANNELS & CANALS	\$8,113	\$2,758	34.0%	\$10,871		\$8,113	\$2,758	\$10,871	2025Q3	17.9%	\$9,567	\$3,253	\$12,819
18	CULTURAL RESOURCE PRESERVATION	\$1,001	\$340	34.0%	\$1,341		\$1,001	\$340	\$1,341	2026Q3	21.5%	\$1,216	\$413	\$1,629
CONSTRUCTION ESTIMATE TOTALS:		\$9,114	\$3,099	34.0%	\$12,213		\$9,114	\$3,099	\$12,213			\$10,783	\$3,666	\$14,449
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$46	\$16	34.0%	\$62		\$46	\$16	\$62	2023Q3	14.1%	\$52	\$18	\$70
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$474	\$161	34.0%	\$635		\$474	\$161	\$635	2023Q3	14.1%	\$541	\$184	\$725
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$23	\$8	34.0%	\$31		\$23	\$8	\$31	2023Q3	14.1%	\$26	\$9	\$35
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$273	\$93	34.0%	\$366		\$273	\$93	\$366	2025Q3	23.0%	\$336	\$114	\$450
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$729	\$248	34.0%	\$977		\$729	\$248	\$977	2025Q3	23.0%	\$897	\$305	\$1,202
0.3%	Project Operation:	\$23	\$8	34.0%	\$31		\$23	\$8	\$31	2025Q3	23.0%	\$28	\$10	\$38
0.3%	Project Management	\$23	\$8	34.0%	\$31		\$23	\$8	\$31	2025Q3	23.0%	\$28	\$10	\$38
CONTRACT COST TOTALS:		\$10,724	\$3,645		\$14,368		\$10,724	\$3,645	\$14,368			\$12,712	\$4,321	\$17,032

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 6 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Oct-19 Estimate Price Level:				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
O&M Costs														
09	CHANNELS & CANALS	\$7,498	\$2,549	34.0%	\$10,047		\$7,498	\$2,549	\$10,047	2045Q2	111.4%	\$15,850	\$5,389	\$21,238
	Total 50-Yr O&M Costs													
CONSTRUCTION ESTIMATE TOTALS:		\$7,498	\$2,549	34.0%	\$10,047		\$7,498	\$2,549	\$10,047			\$15,850	\$5,389	\$21,238
01	LANDS AND DAMAGES			25.0%										
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$37	\$13	34.0%	\$50		\$37	\$13	\$50	2044Q1	157.1%	\$95	\$32	\$127
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
5.2%	Engineering & Design	\$390	\$133	34.0%	\$523		\$390	\$133	\$523	2044Q1	157.1%	\$1,003	\$341	\$1,344
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
0.3%	Life Cycle Updates (cost, schedule, risks)	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2044Q1	157.1%	\$49	\$17	\$65
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2045Q2	170.7%	\$3	\$1	\$4
3.0%	Engineering During Construction	\$225	\$77	34.0%	\$302		\$225	\$77	\$302	2045Q2	170.7%	\$609	\$207	\$816
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$600	\$204	34.0%	\$804		\$600	\$204	\$804	2045Q2	170.7%	\$1,624	\$552	\$2,176
0.3%	Project Operation:	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69
0.3%	Project Management	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69
CONTRACT COST TOTALS:		\$8,813	\$2,996		\$11,809		\$8,813	\$2,996	\$11,809			\$19,348	\$6,578	\$25,926

PROJECT: **Brunswick Harbor Modification Study - ALT 7**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)			
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19			Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)						
09	CHANNELS & CANALS	\$19,006	\$6,462	34%	\$25,468		\$19,006	\$6,462	\$25,468		17.9%	\$22,412	\$7,620	\$30,032
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34%	\$1,691		\$1,262	\$429	\$1,691		21.5%	\$1,533	\$521	\$2,054
			-								-			
			-								-			
	CONSTRUCTION ESTIMATE TOTALS:	\$20,268	\$6,891		\$27,159		\$20,268	\$6,891	\$27,159		18.1%	\$23,944	\$8,141	\$32,086
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$1,826	\$621	34%	\$2,447		\$1,826	\$621	\$2,447		17.1%	\$2,138	\$727	\$2,865
31	CONSTRUCTION MANAGEMENT	\$1,723	\$586	34%	\$2,309		\$1,723	\$586	\$2,309		23.0%	\$2,120	\$721	\$2,841
	PROJECT COST TOTALS:	\$23,830	\$8,101	34%	\$31,930		\$23,830	\$8,101	\$31,930		18.4%	\$28,215	\$9,592	\$37,807

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$37,807
 ESTIMATED FEDERAL COST: **65%** \$24,575
 ESTIMATED NON-FEDERAL COST: **35%** \$13,233

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$24,576

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 7
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
09	CHANNELS & CANALS	\$19,006	\$6,462	34.0%	\$25,468		\$19,006	\$6,462	\$25,468	2025Q3	17.9%	\$22,412	\$7,620	\$30,032
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34.0%	\$1,691		\$1,262	\$429	\$1,691	2026Q3	21.5%	\$1,533	\$521	\$2,054
CONSTRUCTION ESTIMATE TOTALS:		\$20,268	\$6,891	34.0%	\$27,159		\$20,268	\$6,891	\$27,159			\$23,944	\$8,141	\$32,086
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$101	\$34	34.0%	\$135		\$101	\$34	\$135	2023Q3	14.1%	\$115	\$39	\$154
0.0%	Planning & Environmental Compliance	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
5.2%	Engineering & Design	\$1,054	\$358	34.0%	\$1,412		\$1,054	\$358	\$1,412	2023Q3	14.1%	\$1,202	\$409	\$1,611
0.0%	Reviews, ATRs, IEPs, VE	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.3%	Life Cycle Updates (cost, schedule, risks)	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2023Q3	14.1%	\$58	\$20	\$78
0.0%	Contracting & Reprographics	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2025Q3	23.0%	\$2	\$1	\$3
3.0%	Engineering During Construction	\$608	\$207	34.0%	\$815		\$608	\$207	\$815	2025Q3	23.0%	\$748	\$254	\$1,002
0.0%	Planning During Construction	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.0%	Adaptive Management & Monitoring	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.0%	Project Operations	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$1,621	\$551	34.0%	\$2,172		\$1,621	\$551	\$2,172	2025Q3	23.0%	\$1,994	\$678	\$2,672
0.3%	Project Operation:	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84
0.3%	Project Management	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84
CONTRACT COST TOTALS:		\$23,830	\$8,101		\$31,930		\$23,830	\$8,101	\$31,930			\$28,215	\$9,592	\$37,807

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 7
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Oct-19 Estimate Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
O&M Costs														
09	CHANNELS & CANALS			34.0%										
	Total 50-Yr O&M Costs			34.0%										
CONSTRUCTION ESTIMATE TOTALS:														
01	LANDS AND DAMAGES			25.0%										
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management			34.0%										
0.0%	Planning & Environmental Compliance			34.0%										
5.2%	Engineering & Design			34.0%										
0.0%	Reviews, ATRs, IEPRs, VE			34.0%										
0.3%	Life Cycle Updates (cost, schedule, risks)			34.0%										
0.0%	Contracting & Reprographics			34.0%										
3.0%	Engineering During Construction			34.0%										
0.0%	Planning During Construction			34.0%										
0.0%	Adaptive Management & Monitoring			34.0%										
0.0%	Project Operations			34.0%										
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management			34.0%										
0.3%	Project Operation:			34.0%										
0.3%	Project Management			34.0%										
CONTRACT COST TOTALS:														

PROJECT: **Brunswick Harbor Modification Study - ALT 7 w O&M**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)			
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19			Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)						
09	CHANNELS & CANALS	\$26,504	\$9,011	34%	\$35,515		\$26,504	\$9,011	\$35,515		44.4%	\$38,261	\$13,009	\$51,270
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34%	\$1,691		\$1,262	\$429	\$1,691		21.5%	\$1,533	\$521	\$2,054
			-								-			
			-								-			
	CONSTRUCTION ESTIMATE TOTALS:	\$27,766	\$9,440		\$37,206		\$27,766	\$9,440	\$37,206		43.3%	\$39,794	\$13,530	\$53,324
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$2,503	\$851	34%	\$3,354		\$2,503	\$851	\$3,354		56.2%	\$3,909	\$1,329	\$5,238
31	CONSTRUCTION MANAGEMENT	\$2,361	\$803	34%	\$2,309	37.0%	\$2,361	\$803	\$3,164		62.9%	\$3,847	\$1,308	\$5,155
	PROJECT COST TOTALS:	\$32,643	\$11,097	34%	\$43,740		\$32,643	\$11,097	\$43,740		45.7%	\$47,563	\$16,170	\$63,733

- ____ CHIEF, COST ENGINEERING, Paul Smith
- ____ PROJECT MANAGER, Jeff Schwindaman
- ____ CHIEF, REAL ESTATE, Ralph Werthmann
- ____ CHIEF, PLANNING, Kimberly Garvey
- ____ CHIEF, ENGINEERING, Tracey Hendren
- ____ CHIEF, OPERATIONS, Michael Montone
- ____ CHIEF, CONSTRUCTION, Kenneth Gray
- ____ CHIEF, CONTRACTING, Paige Blechinger
- ____ CHIEF, PM-PB, Thomas Woodie
- ____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$63,733
 ESTIMATED FEDERAL COST: **65%** \$41,427
 ESTIMATED NON-FEDERAL COST: **35%** \$22,307

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$41,428

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 7 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20 Estimate Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
09	CHANNELS & CANALS	\$19,006	\$6,462	34.0%	\$25,468		\$19,006	\$6,462	\$25,468	2025Q3	17.9%	\$22,412	\$7,620	\$30,032
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34.0%	\$1,691		\$1,262	\$429	\$1,691	2026Q3	21.5%	\$1,533	\$521	\$2,054
CONSTRUCTION ESTIMATE TOTALS:		\$20,268	\$6,891	34.0%	\$27,159		\$20,268	\$6,891	\$27,159			\$23,944	\$8,141	\$32,086
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$101	\$34	34.0%	\$135		\$101	\$34	\$135	2023Q3	14.1%	\$115	\$39	\$154
0.0%	Planning & Environmental Compliance	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
5.2%	Engineering & Design	\$1,054	\$358	34.0%	\$1,412		\$1,054	\$358	\$1,412	2023Q3	14.1%	\$1,202	\$409	\$1,611
0.0%	Reviews, ATRs, IEPs, VE	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.3%	Life Cycle Updates (cost, schedule, risks)	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2023Q3	14.1%	\$58	\$20	\$78
0.0%	Contracting & Reprographics	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2025Q3	23.0%	\$2	\$1	\$3
3.0%	Engineering During Construction	\$608	\$207	34.0%	\$815		\$608	\$207	\$815	2025Q3	23.0%	\$748	\$254	\$1,002
0.0%	Planning During Construction	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.0%	Adaptive Management & Monitoring	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.0%	Project Operations	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$1,621	\$551	34.0%	\$2,172		\$1,621	\$551	\$2,172	2025Q3	23.0%	\$1,994	\$678	\$2,672
0.3%	Project Operation:	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84
0.3%	Project Management	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84
CONTRACT COST TOTALS:		\$23,830	\$8,101		\$31,930		\$23,830	\$8,101	\$31,930			\$28,215	\$9,592	\$37,807

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 7 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Oct-19 Estimate Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
O&M Costs														
09	CHANNELS & CANALS	\$7,498	\$2,549	34.0%	\$10,047		\$7,498	\$2,549	\$10,047	2045Q2	111.4%	\$15,850	\$5,389	\$21,238
	Total 50-Yr O&M Costs			34.0%										
CONSTRUCTION ESTIMATE TOTALS:		\$7,498	\$2,549	34.0%	\$10,047		\$7,498	\$2,549	\$10,047			\$15,850	\$5,389	\$21,238
01	LANDS AND DAMAGES			25.0%										
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$37	\$13	34.0%	\$50		\$37	\$13	\$50	2044Q1	157.1%	\$95	\$32	\$127
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
5.2%	Engineering & Design	\$390	\$133	34.0%	\$523		\$390	\$133	\$523	2044Q1	157.1%	\$1,003	\$341	\$1,344
0.0%	Reviews, ATRs, IEPs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
0.3%	Life Cycle Updates (cost, schedule, risks)	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2044Q1	157.1%	\$49	\$17	\$65
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2045Q2	170.7%	\$3	\$1	\$4
3.0%	Engineering During Construction	\$225	\$77	34.0%	\$302		\$225	\$77	\$302	2045Q2	170.7%	\$609	\$207	\$816
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$600	\$204	34.0%	\$804		\$600	\$204	\$804	2045Q2	170.7%	\$1,624	\$552	\$2,176
0.3%	Project Operation:	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69
0.3%	Project Management	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69
CONTRACT COST TOTALS:		\$8,813	\$2,996		\$11,809		\$8,813	\$2,996	\$11,809			\$19,348	\$6,578	\$25,926

PROJECT: **Brunswick Harbor Modification Study - ALT 8**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)			
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): Effective Price Level Date:			Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)						
09	CHANNELS & CANALS	\$8,453	\$2,874	34%	\$11,327		\$8,453	\$2,874	\$11,327		17.9%	\$9,968	\$3,389	\$13,357
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34%	\$1,691		\$1,262	\$429	\$1,691		21.5%	\$1,533	\$521	\$2,054
			-				-				-			
			-				-				-			
	CONSTRUCTION ESTIMATE TOTALS:	\$9,715	\$3,303		\$13,018		\$9,715	\$3,303	\$13,018		18.4%	\$11,500	\$3,910	\$15,411
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$875	\$298	34%	\$1,173		\$875	\$298	\$1,173		17.1%	\$1,024	\$348	\$1,373
31	CONSTRUCTION MANAGEMENT	\$825	\$281	34%	\$1,106	0.0%	\$825	\$281	\$1,106		23.0%	\$1,015	\$345	\$1,360
	PROJECT COST TOTALS:	\$11,428	\$3,884	34%	\$15,312		\$11,428	\$3,884	\$15,312		18.6%	\$13,553	\$4,607	\$18,160

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$18,160
 ESTIMATED FEDERAL COST: **65%** \$11,804
 ESTIMATED NON-FEDERAL COST: **35%** \$6,356

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$11,805

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 8
 LOCATION: Brunswick, Georgia

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

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

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
	Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon's Sound													
09	CHANNELS & CANALS	\$8,453	\$2,874	34.0%	\$11,327		\$8,453	\$2,874	\$11,327	2025Q3	17.9%	\$9,968	\$3,389	\$13,357
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34.0%	\$1,691		\$1,262	\$429	\$1,691	2026Q3	21.5%	\$1,533	\$521	\$2,054
CONSTRUCTION ESTIMATE TOTALS:		\$9,715	\$3,303	34.0%	\$13,018		\$9,715	\$3,303	\$13,018			\$11,500	\$3,910	\$15,411
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$49	\$17	34.0%	\$66		\$49	\$17	\$66	2023Q3	14.1%	\$56	\$19	\$75
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$505	\$172	34.0%	\$677		\$505	\$172	\$677	2023Q3	14.1%	\$576	\$196	\$772
0.0%	Reviews, ATRs, IEPs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$24	\$8	34.0%	\$32		\$24	\$8	\$32	2023Q3	14.1%	\$27	\$9	\$37
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$291	\$99	34.0%	\$390		\$291	\$99	\$390	2025Q3	23.0%	\$358	\$122	\$480
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$777	\$264	34.0%	\$1,041		\$777	\$264	\$1,041	2025Q3	23.0%	\$956	\$325	\$1,281
0.3%	Project Operation:	\$24	\$8	34.0%	\$32		\$24	\$8	\$32	2025Q3	23.0%	\$30	\$10	\$40
0.3%	Project Management	\$24	\$8	34.0%	\$32		\$24	\$8	\$32	2025Q3	23.0%	\$30	\$10	\$40
CONTRACT COST TOTALS:		\$11,428	\$3,884		\$15,312		\$11,428	\$3,884	\$15,312			\$13,553	\$4,607	\$18,160

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 8
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Oct-19 Estimate Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
O&M Costs														
09	CHANNELS & CANALS Total 50-Yr O&M Costs			34.0%										
CONSTRUCTION ESTIMATE TOTALS:														
01	LANDS AND DAMAGES			25.0%										
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management			34.0%										
0.0%	Planning & Environmental Compliance			34.0%										
5.2%	Engineering & Design			34.0%										
0.0%	Reviews, ATRs, IEPRs, VE			34.0%										
0.3%	Life Cycle Updates (cost, schedule, risks)			34.0%										
0.0%	Contracting & Reprographics			34.0%										
3.0%	Engineering During Construction			34.0%										
0.0%	Planning During Construction			34.0%										
0.0%	Adaptive Management & Monitoring			34.0%										
0.0%	Project Operations			34.0%										
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management			34.0%										
0.3%	Project Operation:			34.0%										
0.3%	Project Management			34.0%										
CONTRACT COST TOTALS:														

PROJECT: **Brunswick Harbor Modification Study - ALT 8 w O&M**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)			
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): Effective Price Level Date:			Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)						
09	CHANNELS & CANALS	\$9,085	\$3,089	34%	\$12,174		\$9,085	\$3,089	\$12,174		24.4%	\$11,304	\$3,843	\$15,147
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34%	\$1,691		\$1,262	\$429	\$1,691		21.5%	\$1,533	\$521	\$2,054
			-				-				-			
			-				-				-			
	CONSTRUCTION ESTIMATE TOTALS:	\$10,347	\$3,518		\$13,865		\$10,347	\$3,518	\$13,865		24.1%	\$12,836	\$4,364	\$17,201
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$932	\$317	34%	\$1,249		\$932	\$317	\$1,249		25.9%	\$1,173	\$399	\$1,572
31	CONSTRUCTION MANAGEMENT	\$880	\$299	34%	\$1,106	6.7%	\$880	\$299	\$1,179		32.3%	\$1,164	\$396	\$1,560
	PROJECT COST TOTALS:	\$12,172	\$4,137	34%	\$16,309		\$12,172	\$4,137	\$16,309		24.8%	\$15,187	\$5,162	\$20,349

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$20,349
 ESTIMATED FEDERAL COST: **65%** \$13,227
 ESTIMATED NON-FEDERAL COST: **35%** \$7,122

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$13,228

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 8 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20 Estimate Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	RISK BASED				ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F									
09	Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon's Sound CHANNELS & CANALS	\$8,453	\$2,874	34.0%	\$11,327		\$8,453	\$2,874	\$11,327	2025Q3	17.9%	\$9,968	\$3,389	\$13,357
18	CULTURAL RESOURCE PRESERVATION	\$1,262	\$429	34.0%	\$1,691		\$1,262	\$429	\$1,691	2026Q3	21.5%	\$1,533	\$521	\$2,054
CONSTRUCTION ESTIMATE TOTALS:		\$9,715	\$3,303	34.0%	\$13,018		\$9,715	\$3,303	\$13,018			\$11,500	\$3,910	\$15,411
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$49	\$17	34.0%	\$66		\$49	\$17	\$66	2023Q3	14.1%	\$56	\$19	\$75
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
5.2%	Engineering & Design	\$505	\$172	34.0%	\$677		\$505	\$172	\$677	2023Q3	14.1%	\$576	\$196	\$772
0.0%	Reviews, ATRs, IEPs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.3%	Life Cycle Updates (cost, schedule, risks)	\$24	\$8	34.0%	\$32		\$24	\$8	\$32	2023Q3	14.1%	\$27	\$9	\$37
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2025Q3	23.0%	\$1	\$0	\$2
3.0%	Engineering During Construction	\$291	\$99	34.0%	\$390		\$291	\$99	\$390	2025Q3	23.0%	\$358	\$122	\$480
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2023Q3	14.1%	\$1	\$0	\$2
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$777	\$264	34.0%	\$1,041		\$777	\$264	\$1,041	2025Q3	23.0%	\$956	\$325	\$1,281
0.3%	Project Operation:	\$24	\$8	34.0%	\$32		\$24	\$8	\$32	2025Q3	23.0%	\$30	\$10	\$40
0.3%	Project Management	\$24	\$8	34.0%	\$32		\$24	\$8	\$32	2025Q3	23.0%	\$30	\$10	\$40
CONTRACT COST TOTALS:		\$11,428	\$3,884		\$15,312		\$11,428	\$3,884	\$15,312			\$13,553	\$4,607	\$18,160

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 8 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Oct-19 Estimate Price Level: 1-Oct-19				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19								
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
	O&M Costs													
09	CHANNELS & CANALS	\$632	\$215	34.0%	\$847		\$632	\$215	\$847	2045Q2	111.4%	\$1,336	\$454	\$1,790
	Total 50-Yr O&M Costs													
CONSTRUCTION ESTIMATE TOTALS:		\$632	\$215	34.0%	\$847		\$632	\$215	\$847			\$1,336	\$454	\$1,790
01	LANDS AND DAMAGES			25.0%										
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$3	\$1	34.0%	\$4		\$3	\$1	\$4	2044Q1	157.1%	\$8	\$3	\$10
0.0%	Planning & Environmental Compliance			34.0%										
5.2%	Engineering & Design	\$33	\$11	34.0%	\$44		\$33	\$11	\$44	2044Q1	157.1%	\$85	\$29	\$114
0.0%	Reviews, ATRs, IEPs, VE			34.0%										
0.3%	Life Cycle Updates (cost, schedule, risks)	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2044Q1	157.1%	\$5	\$2	\$7
0.0%	Contracting & Reprographics			34.0%										
3.0%	Engineering During Construction	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69
0.0%	Planning During Construction			34.0%										
0.0%	Adaptive Management & Monitoring			34.0%										
0.0%	Project Operations			34.0%										
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2045Q2	170.7%	\$138	\$47	\$185
0.3%	Project Operation:	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2045Q2	170.7%	\$5	\$2	\$7
0.3%	Project Management	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2045Q2	170.7%	\$5	\$2	\$7
CONTRACT COST TOTALS:		\$744	\$253		\$997		\$744	\$253	\$997			\$1,634	\$556	\$2,189

PROJECT: **Brunswick Harbor Modification Study - ALT 9**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$19,006	\$6,462	34%	\$25,468		\$19,006	\$6,462	\$25,468		\$25,468	17.9%	\$22,412	\$7,620	\$30,032
18	CULTURAL RESOURCE PRESERVATION	\$1,323	\$450	34%	\$1,773		\$1,323	\$450	\$1,773		\$1,773	21.5%	\$1,607	\$546	\$2,153
			-									-			
			-									-			
	CONSTRUCTION ESTIMATE TOTALS:	\$20,329	\$6,912		\$27,241		\$20,329	\$6,912	\$27,241		\$27,241	18.1%	\$24,019	\$8,166	\$32,185
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$1,832	\$623	34%	\$2,455		\$1,832	\$623	\$2,455		\$2,455	17.1%	\$2,145	\$729	\$2,874
31	CONSTRUCTION MANAGEMENT	\$1,728	\$588	34%	\$2,316	0.0%	\$1,728	\$588	\$2,316		\$2,316	23.0%	\$2,126	\$723	\$2,849
	PROJECT COST TOTALS:	\$23,902	\$8,125	34%	\$32,027		\$23,902	\$8,125	\$32,027		\$32,027	18.4%	\$28,303	\$9,622	\$37,924

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$37,924
 ESTIMATED FEDERAL COST: **65%** \$24,651
 ESTIMATED NON-FEDERAL COST: **35%** \$13,273

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$24,652

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 9
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19							
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
	Bend Widener, Turning Basin Expansion, Meeting Area West of Sidney Lanier Bridge and Meeting Area at St. Simon's Sound														
09	CHANNELS & CANALS	\$19,006	\$6,462	34.0%	\$25,468		\$19,006	\$6,462	\$25,468	2025Q3	17.9%	\$22,412	\$7,620	\$30,032	
18	CULTURAL RESOURCE PRESERVATION	\$1,323	\$450	34.0%	\$1,773		\$1,323	\$450	\$1,773	2026Q3	21.5%	\$1,607	\$546	\$2,153	
CONSTRUCTION ESTIMATE TOTALS:		\$20,329	\$6,912	34.0%	\$27,241		\$20,329	\$6,912	\$27,241			\$24,019	\$8,166	\$32,185	
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17	
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$102	\$35	34.0%	\$137		\$102	\$35	\$137	2023Q3	14.1%	\$116	\$40	\$156	
0.0%	Planning & Environmental Compliance	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3	
5.2%	Engineering & Design	\$1,057	\$359	34.0%	\$1,416		\$1,057	\$359	\$1,416	2023Q3	14.1%	\$1,206	\$410	\$1,616	
0.0%	Reviews, ATRs, IEPs, VE	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3	
0.3%	Life Cycle Updates (cost, schedule, risks)	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2023Q3	14.1%	\$58	\$20	\$78	
0.0%	Contracting & Reprographics	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2025Q3	23.0%	\$2	\$1	\$3	
3.0%	Engineering During Construction	\$610	\$207	34.0%	\$817		\$610	\$207	\$817	2025Q3	23.0%	\$751	\$255	\$1,006	
0.0%	Planning During Construction	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3	
0.0%	Adaptive Management & Monitoring	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3	
0.0%	Project Operations	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3	
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$1,626	\$553	34.0%	\$2,179		\$1,626	\$553	\$2,179	2025Q3	23.0%	\$2,001	\$680	\$2,681	
0.3%	Project Operation:	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84	
0.3%	Project Management	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84	
CONTRACT COST TOTALS:		\$23,902	\$8,125		\$32,027		\$23,902	\$8,125	\$32,027			\$28,303	\$9,622	\$37,924	

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 9
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:		1-Oct-19		Program Year (Budget EC):		2020						
		Estimate Price Level:				Effective Price Level Date:		1 -Oct-19						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)									
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	O&M Costs													
09	CHANNELS & CANALS			34.0%										
	Total 50-Yr O&M Costs													
CONSTRUCTION ESTIMATE TOTALS:														
01	LANDS AND DAMAGES			25.0%										
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management			34.0%										
0.0%	Planning & Environmental Compliance			34.0%										
5.2%	Engineering & Design			34.0%										
0.0%	Reviews, ATRs, IEPRs, VE			34.0%										
0.3%	Life Cycle Updates (cost, schedule, risks)			34.0%										
0.0%	Contracting & Reprographics			34.0%										
3.0%	Engineering During Construction			34.0%										
0.0%	Planning During Construction			34.0%										
0.0%	Adaptive Management & Monitoring			34.0%										
0.0%	Project Operations			34.0%										
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management			34.0%										
0.3%	Project Operation:			34.0%										
0.3%	Project Management			34.0%										
CONTRACT COST TOTALS:														

PROJECT: **Brunswick Harbor Modification Study - ALT 9 w O&M**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **2/3/2020**

POC: **CHIEF, COST ENGINEERING, Paul Smith**

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)				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19				Spent Thru: 1-Oct-15 (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						ESC (%)	COST (\$K)	CNTG (\$K)	REMAINING COST (\$K)						
09	CHANNELS & CANALS	\$26,504	\$9,011	34%	\$35,515		\$26,504	\$9,011	\$35,515		\$35,515	44.4%	\$38,261	\$13,009	\$51,270
18	CULTURAL RESOURCE PRESERVATION	\$1,323	\$450	34%	\$1,773		\$1,323	\$450	\$1,773		\$1,773	21.5%	\$1,607	\$546	\$2,153
			-									-			
			-									-			
	CONSTRUCTION ESTIMATE TOTALS:	\$27,827	\$9,461		\$37,288		\$27,827	\$9,461	\$37,288		\$37,288	43.3%	\$39,868	\$13,555	\$53,423
01	LANDS AND DAMAGES	\$13	\$3	25%	\$16		\$13	\$3	\$16		\$16	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN	\$2,509	\$853	34%	\$3,362		\$2,509	\$853	\$3,362		\$3,362	56.1%	\$3,916	\$1,331	\$5,248
31	CONSTRUCTION MANAGEMENT	\$2,366	\$804	34%	\$2,316	36.9%	\$2,366	\$804	\$3,170		\$3,170	62.8%	\$3,853	\$1,310	\$5,163
	PROJECT COST TOTALS:	\$32,715	\$11,122	34%	\$43,836		\$32,715	\$11,122	\$43,836		\$43,836	45.7%	\$47,650	\$16,200	\$63,850

- _____ CHIEF, COST ENGINEERING, Paul Smith
- _____ PROJECT MANAGER, Jeff Schwindaman
- _____ CHIEF, REAL ESTATE, Ralph Werthmann
- _____ CHIEF, PLANNING, Kimberly Garvey
- _____ CHIEF, ENGINEERING, Tracey Hendren
- _____ CHIEF, OPERATIONS, Michael Montone
- _____ CHIEF, CONSTRUCTION, Kenneth Gray
- _____ CHIEF, CONTRACTING, Paige Blechinger
- _____ CHIEF, PM-PB, Thomas Woodie
- _____ CHIEF, DPM, Erik Blechinger

ESTIMATED TOTAL PROJECT COST: \$63,850
 ESTIMATED FEDERAL COST: **65%** \$41,503
 ESTIMATED NON-FEDERAL COST: **35%** \$22,348

22 - FEASIBILITY STUDY (CAP studies): \$2
 ESTIMATED FEDERAL COST: 50% \$1
 ESTIMATED NON-FEDERAL COST: 50% \$1

ESTIMATED FEDERAL COST OF PROJECT \$41,504

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 9 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 3-Feb-20		Estimate Price Level: 1-Oct-19		Program Year (Budget EC): 2020		Effective Price Level Date: 1-Oct-19						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	RISK BASED		ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	ESC (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
				CNTG (%) E	TOTAL (\$K) F									
09	CHANNELS & CANALS	\$19,006	\$6,462	34.0%	\$25,468		\$19,006	\$6,462	\$25,468	2025Q3	17.9%	\$22,412	\$7,620	\$30,032
18	CULTURAL RESOURCE PRESERVATION	\$1,323	\$450	34.0%	\$1,773		\$1,323	\$450	\$1,773	2026Q3	21.5%	\$1,607	\$546	\$2,153
CONSTRUCTION ESTIMATE TOTALS:		\$20,329	\$6,912	34.0%	\$27,241		\$20,329	\$6,912	\$27,241			\$24,019	\$8,166	\$32,185
01	LANDS AND DAMAGES	\$13	\$3	25.0%	\$16		\$13	\$3	\$16	2022Q1	6.3%	\$13	\$3	\$17
30	PLANNING, ENGINEERING & DESIGN													
0.5%	Project Management	\$102	\$35	34.0%	\$137		\$102	\$35	\$137	2023Q3	14.1%	\$116	\$40	\$156
0.0%	Planning & Environmental Compliance	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
5.2%	Engineering & Design	\$1,057	\$359	34.0%	\$1,416		\$1,057	\$359	\$1,416	2023Q3	14.1%	\$1,206	\$410	\$1,616
0.0%	Reviews, ATRs, IEPs, VE	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.3%	Life Cycle Updates (cost, schedule, risks)	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2023Q3	14.1%	\$58	\$20	\$78
0.0%	Contracting & Reprographics	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2025Q3	23.0%	\$2	\$1	\$3
3.0%	Engineering During Construction	\$610	\$207	34.0%	\$817		\$610	\$207	\$817	2025Q3	23.0%	\$751	\$255	\$1,006
0.0%	Planning During Construction	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.0%	Adaptive Management & Monitoring	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
0.0%	Project Operations	\$2	\$1	34.0%	\$3		\$2	\$1	\$3	2023Q3	14.1%	\$2	\$1	\$3
31	CONSTRUCTION MANAGEMENT													
8.0%	Construction Management	\$1,626	\$553	34.0%	\$2,179		\$1,626	\$553	\$2,179	2025Q3	23.0%	\$2,001	\$680	\$2,681
0.3%	Project Operation:	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84
0.3%	Project Management	\$51	\$17	34.0%	\$68		\$51	\$17	\$68	2025Q3	23.0%	\$63	\$21	\$84
CONTRACT COST TOTALS:		\$23,902	\$8,125		\$32,027		\$23,902	\$8,125	\$32,027			\$28,303	\$9,622	\$37,924

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - ALT 9 w O&M
 LOCATION: Brunswick, Georgia
 This Estimate reflects the scope and schedule in report; Report Name and date

DISTRICT: Savannah
 POC: CHIEF, COST ENGINEERING, Paul Smith

PREPARED: 2/3/2020

WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: 1-Oct-19 Estimate Price Level:				Program Year (Budget EC): 2020 Effective Price Level Date: 1-Oct-19									
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	RISK BASED		TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
				CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O	
O&M Costs															
09	CHANNELS & CANALS	\$7,498	\$2,549	34.0%	\$10,047		\$7,498	\$2,549	\$10,047	2045Q2	111.4%	\$15,850	\$5,389	\$21,238	
	Total 50-Yr O&M Costs														
CONSTRUCTION ESTIMATE TOTALS:		\$7,498	\$2,549	34.0%	\$10,047		\$7,498	\$2,549	\$10,047			\$15,850	\$5,389	\$21,238	
01	LANDS AND DAMAGES			25.0%											
30	PLANNING, ENGINEERING & DESIGN														
0.5%	Project Management	\$37	\$13	34.0%	\$50		\$37	\$13	\$50	2044Q1	157.1%	\$95	\$32	\$127	
0.0%	Planning & Environmental Compliance	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
5.2%	Engineering & Design	\$390	\$133	34.0%	\$523		\$390	\$133	\$523	2044Q1	157.1%	\$1,003	\$341	\$1,344	
0.0%	Reviews, ATRs, IEPRs, VE	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
0.3%	Life Cycle Updates (cost, schedule, risks)	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2044Q1	157.1%	\$49	\$17	\$65	
0.0%	Contracting & Reprographics	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2045Q2	170.7%	\$3	\$1	\$4	
3.0%	Engineering During Construction	\$225	\$77	34.0%	\$302		\$225	\$77	\$302	2045Q2	170.7%	\$609	\$207	\$816	
0.0%	Planning During Construction	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
0.0%	Adaptive Management & Monitoring	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
0.0%	Project Operations	\$1	\$0	34.0%	\$1		\$1	\$0	\$1	2044Q1	157.1%	\$3	\$1	\$3	
31	CONSTRUCTION MANAGEMENT														
8.0%	Construction Management	\$600	\$204	34.0%	\$804		\$600	\$204	\$804	2045Q2	170.7%	\$1,624	\$552	\$2,176	
0.3%	Project Operation:	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69	
0.3%	Project Management	\$19	\$6	34.0%	\$25		\$19	\$6	\$25	2045Q2	170.7%	\$51	\$17	\$69	
CONTRACT COST TOTALS:		\$8,813	\$2,996		\$11,809		\$8,813	\$2,996	\$11,809			\$19,348	\$6,578	\$25,926	

New Report

Title Page

This report presents the U.S. Army Corps of Engineers (USACE), Savannah District (CESAS), plan to examine harbor modifications to reduce transportation cost inefficiencies experienced by the largest ship type (roll-on/roll-off) utilizing Brunswick Harbor. The purpose of the study is to investigate existing conditions in the Brunswick Harbor and propose modifications with the purpose of contributing to national economic development while protecting the nation's environment and considering improved safety for navigating vessels. This estimate is in the alternatives phase. The project is in Brunswick, Georgia in Glynn County.

Alternatives generated by the study include four different dredging scenarios involving four areas and potentially two different disposal sites. The sites all include deepening and/or widening of the existing navigation channel. The areas include the following:

- Cedar Hammock Range Bend
- Turning Basin
- Sidney Lanier Bridge
- St. Simon's Channel Widener

All baseline costs are calculated using the existing Andrews Island as a disposal area. The navigation channel has historically been maintained using a suction cutter head dredge with materials being disposed of on Andrews Island.

Estimated by CELRC

Designed by CESAS

Prepared by George Chartouni

Preparation Date 1/30/2020

Effective Date of Pricing 1/30/2020

Estimated Construction Time Days

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Description	Quantity	UOM	Project Cost
ALTERNATIVE SUMMARY			
ALT 02 Bend Widener Only	205,000	CY	5,985
09 Channels and Canals	1	EA	5,424
18 Cultural Resource Preservation	1	EA	562
ALT 03 Turning Basin Only	436,000	CY	5,362
09 Channels and Canals	1	EA	4,800
18 Cultural Resource Preservation	1	EA	562
ALT 04 Sidney Lane Channel Widener Only	800,000	CY	13,055
09 Channels and Canals	1	EA	12,493
18 Cultural Resource Preservation	1	EA	562
ALT 05 St. Simon's Meeting Area Only	1	CY	562
18 Cultural Resource Preservation	1	EA	562
ALT 06 Bend Widener and Turning Basin Expansion	551,000	CY	9,285
09 Channels and Canals	1	EA	8,283
18 Cultural Resource Preservation	1	EA	1,001
ALT 07 Bend Widener, Turning Basin Expansion, and Meeting Area West of Sidney Lanier Bridge	1,352,000	CY	20,269
09 Channels and Canals	1	EA	19,006
18 Cultural Resource Preservation	1	EA	1,262
ALT 08 Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon's Sound	551,000	CY	9,716
09 Channels and Canals	1	EA	8,453
18 Cultural Resource Preservation	1	EA	1,262
ALT 9 Bend Widener, Turning Basin Expansion, Meeting Area West of Sidney Lanier Bridge and Meeting Area at St. Simon's Sound	1,352,000	CY	20,329
09 Channels and Canals	1	EA	19,006
18 Cultural Resource Preservation	1	EA	1,323

Attachment 3 - Project Schedule

ID	Task Mode	Task Name	Start	Actual Start	Finish	Actual Finish	Resource Names	Duration	Gantt Chart (019)																																							
									Half 2, 2019			Half 1, 2020			Half 2, 2020			Half 1, 2021			Half 2, 2021			Half 1, 2022																								
									M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
1	✓	Feasibility Cost-Sharing Agreement Execution	Thu 4/11/19	Thu 4/11/19	Thu 4/11/19	Thu 4/11/19		0 days	◆ 4/11																																							
2		TOTAL TIME TO AMM	Fri 4/12/19	Fri 4/12/19	Tue 9/10/19	NA		108 days	[]																																							
3	✓	Receive Federal Funds	Mon 4/15/19	Mon 4/15/19	Thu 4/18/19	Thu 4/18/19	PM	4 days	PM																																							
4	✓	Receive Non-Federal Funds	Fri 4/12/19	Fri 4/12/19	Mon 4/22/19	Mon 4/22/19	PM	7 days	PM																																							
5	✓	Initial Scoping	Wed 5/1/19	Wed 5/1/19	Wed 5/15/19	Wed 5/15/19	PLAN	11 days	PLAN																																							
6	✓	Planning Charrette	Thu 5/16/19	Thu 5/16/19	Fri 5/17/19	Fri 5/17/19	PLAN	2 days	PLAN																																							
7	⚠	NEPA Scoping	Mon 6/3/19	Mon 6/3/19	Wed 7/31/19	NA	ENV	43 days	ENV																																							
8	⚠	USFWS Consultation	Mon 6/3/19	Mon 6/3/19	Wed 7/31/19	NA	ENV	43 days	ENV																																							
9	✓	Alternatives Formulation	Mon 6/3/19	Mon 6/3/19	Wed 7/24/19	Wed 7/24/19	PLAN	38 days	PLAN																																							
10	✓	Briefing to PM-P/C Chief and Leads	Mon 6/10/19	Mon 6/10/19	Mon 6/10/19	Mon 6/10/19	PLAN	1 day	PLAN																																							
11	✓	Review Plan	Fri 6/7/19	Fri 6/7/19	Tue 9/10/19	Tue 9/10/19		68 days	[]																																							
12	✓	Review Plan PCX Endorsement	Fri 6/7/19	Fri 6/7/19	Wed 7/10/19	Wed 7/10/19	PLAN	24 days	PLAN																																							
13	✓	Review Plan SAD Review	Thu 7/11/19	Thu 7/11/19	Fri 8/30/19	Fri 8/30/19	PLAN	37 days	PLAN																																							
14	✓	Review Plan Approval by SAD	Sat 8/31/19	Sat 8/31/19	Sat 8/31/19	Sat 8/31/19	PLAN	0 days	◆ 8/31																																							
15	✓	Post Review Plan (CW035) 6/25/2019	Tue 9/10/19	Tue 9/10/19	Tue 9/10/19	Tue 9/10/19	PLAN	1 day	PLAN																																							
16	✓	Project Management Plan	Mon 5/20/19	Mon 5/20/19	Fri 7/19/19	Fri 7/19/19		45 days	[]																																							
17	✓	Feedback from PDT	Mon 5/20/19	Mon 5/20/19	Tue 6/4/19	Tue 6/4/19	PM	12 days	PM																																							
18	✓	PDT Review	Wed 6/5/19	Wed 6/5/19	Fri 6/7/19	Fri 6/7/19	PM	3 days	PM																																							
19	✓	Manager Review	Mon 6/10/19	Mon 6/10/19	Mon 6/17/19	Mon 6/17/19	PM	6 days	PM																																							
20	✓	Out for Signatures	Tue 6/18/19	Tue 6/18/19	Thu 7/18/19	Thu 7/18/19	PM	23 days	PM																																							
21	✓	PMP Approval (CW040) 6/25/2019	Fri 7/19/19	Fri 7/19/19	Fri 7/19/19	Fri 7/19/19	PM	1 day	PM																																							
22	✓	AMM Deliverables	Mon 5/27/19	Mon 5/27/19	Fri 6/14/19	Fri 6/14/19		15 days	[]																																							
23	✓	Decision Log	Wed 6/5/19	Wed 6/5/19	Fri 6/14/19	Fri 6/14/19	PLAN	7 days	PLAN																																							
24	✓	Risk Register	Mon 5/27/19	Mon 5/27/19	Fri 6/14/19	Fri 6/14/19	PLAN	14 days	PLAN																																							
25	✓	Decision Management Plan	Wed 6/5/19	Wed 6/5/19	Fri 6/14/19	Fri 6/14/19	PLAN	8 days	PLAN																																							
26	✓	Report Summary	Mon 5/27/19	Mon 5/27/19	Fri 6/14/19	Fri 6/14/19	PLAN	15 days	PLAN																																							
27	✓	Slides	Mon 5/27/19	Mon 5/27/19	Fri 6/14/19	Fri 6/14/19	PLAN	15 days	PLAN																																							
28	✓	Project Checklist	Tue 6/4/19	Tue 6/4/19	Fri 6/14/19	Fri 6/14/19	PLAN	9 days	PLAN																																							
29	✓	Section 1002 Letter to NFS	Mon 6/3/19	Mon 6/3/19	Fri 7/5/19	Fri 7/5/19		25 days	[]																																							
30	✓	Draft Letter	Mon 6/3/19	Mon 6/3/19	Fri 6/14/19	Fri 6/14/19	PM	10 days	PM																																							
31	✓	Out for Signatures	Tue 6/18/19	Tue 6/18/19	Wed 7/3/19	Wed 7/3/19	PM	12 days	PM																																							
32	✓	Section 1002 Letter to NFS 7/10/2019	Tue 7/2/19	Tue 7/2/19	Fri 7/5/19	Fri 7/5/19	PM	4 days	PM																																							
33	✓	IPR with DQC/SAD/ATR Team	Tue 6/18/19	Tue 6/18/19	Tue 6/18/19	Tue 6/18/19	PLAN	1 day	PLAN																																							
34	✓	DQC	Thu 6/13/19	Thu 6/13/19	Mon 6/24/19	Mon 6/24/19	PLAN	6 days	PLAN																																							
35	✓	DQC - Incorporate and Respond	Tue 6/25/19	Tue 6/25/19	Wed 6/26/19	Wed 6/26/19	PLAN	2 days	PLAN																																							
36	✓	Submit Read-Aheads	Wed 6/26/19	Wed 6/26/19	Fri 6/28/19	Fri 6/28/19	PLAN	0 days	◆ 6/28																																							
37	✓	Alternatives Milestone Meeting (CW261) 7/15/2019	Mon 7/15/19	Mon 7/15/19	Mon 7/15/19	Mon 7/15/19	PLAN	1 day	PLAN																																							
38		TOTAL TIME TO TSP	Mon 6/17/19	Mon 6/17/19	Thu 4/9/20	NA		213 days	[]																																							
39	✓	AMM MFR	Tue 7/16/19	Tue 7/16/19	Fri 8/2/19	Fri 8/2/19	PLAN	14 days	PLAN																																							
40		NED Analysis	Mon 8/5/19	NA	Fri 10/25/19	NA	ECON	60 days	ECON																																							
41		Begin Draft Integrated Report	Mon 8/5/19	Mon 8/5/19	Fri 1/10/20	NA		115 days	[]																																							
42		Cultural Resources	Mon 8/5/19	Mon 8/5/19	Fri 1/10/20	NA		115 days	[]																																							
43	⚠	Impacts Analysis	Mon 8/5/19	Mon 8/5/19	Fri 1/10/20	NA	CULT	115 days	CULT																																							
44	⚠	Develop Programmatic Agreement	Mon 8/5/19	NA	Fri 1/10/20	NA	CULT	115 days	CULT																																							
45		Environmental Assessment	Mon 8/5/19	NA	Fri 1/10/20	NA	ENV	115 days	ENV																																							
46		Climate Change Analysis	Mon 10/28/19	NA	Fri 11/22/19	NA		4 wks	[]																																							

Project: BHMS Schedule v3
Date: Thu 11/21/19

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Manual Progress
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Progress	

