

**Brunswick Harbor Navigation Project Modifications
and Harbor Dredging Operations and Maintenance
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**



November 2021

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- Attachment 1 – Total Project Cost Worksheets
- Attachment 2 – Project Schedule (Preliminary/Draft)

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 tentatively selected plan 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 per USACE and other applicable regulations. Nine alternatives were investigated. All included modifications to the existing navigable pass. Cost models were developed using CEDEP, and an Abbreviated Risk Analysis was also performed for the alternatives. Descriptions for the alternatives are included in the Main Report.

The Recommended Plan includes the following:

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

Disposal site includes the following:

- Andrews 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 program year 2022.

The cost share for the project is 75% Federal, 25% Non-Federal.

1.1 Alternatives

An Alternative study was completed in June 2020. Alternatives generated by the study include combinations of four different dredging scenarios involving four areas and potentially two different disposal sites. Both Andrews Island and Bird Island disposal site

near the dredged area. 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 alternatives First Costs were calculated to FY 2020. The contingency development was an abbreviated risk analysis and was the same for all alternatives, as all the proposed alternatives had similar risks. Andrews Island was selected as the final disposal site for all alternatives due to historic dredging in the area and existing infrastructure (pipelines). The navigation channel has historically been maintained using a suction cutter head dredge with materials being disposed of on Andrews Island.

- Alternative 1: No action alternative. No costs calculated.
- Alternative 2: Expand the Cedar Hammock Range bend widener located between stations 20+300 to 23+300. Approximately 205,000 cubic yards of material would need to be dredged to expand the bend widener.
- Alternative 3: Expand the existing turning basin at the Colonel's Island from stations 0+900 to 5+300. Approximately 346,000 cubic yards of dredged material to be removed.
- Alternative 4: Create a RO/RO vessel meeting area upstream of the Sidney Lanier Bridge to the turning basin at the Colonel's Island facility from stations 34+200 to 43+200. The meeting area would require dredging of approximately 800,000 cubic yards of material.
- Alternative 5: 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 5 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.
- Alternative 6: A combination of the bend widener and the turning basin expansion for a total of approximately 551,000 cubic yards of material.
- Alternative 7: A combination of the bend widener, turning basin expansion, and meeting area west of the Sidney Lanier Bridge and a total of approximately 1,352,000 cubic yards of dredged material.
- Alternative 8: A combination of the bend widener, turning basin expansion, and meeting area at St. Simon's Sound and a total of approximately 551,000 cubic yards of dredged material.

- Alternative 9: Includes 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 9 is approximately 1,352,000 cubic yards.

Table 1 – Alternatives

All Costs are x \$1000					
Alternative (excluding O&M)	Construction	Contingency	Total	First Cost	Total Cost
Alternative 2	\$7,050	\$2,396	\$9,446	\$9,446	\$11,191
Alternative 3	\$6,316	\$2,146	\$8,462	\$8,462	\$10,028
Alternative 4	\$15,351	\$5,218	\$20,569	\$20,569	\$24,342
Alternative 5	\$672	\$227	\$899	\$899	\$1,087
Alternative 6	\$10,724	\$3,645	\$14,369	\$14,369	\$17,032
Alternative 7	\$23,830	\$8,101	\$31,931	\$31,931	\$37,807
Alternative 8	\$11,428	\$3,884	\$15,312	\$15,312	\$18,160
Alternative 9	\$23,902	\$8,125	\$32,027	\$32,027	\$37,924

1.2 Recommended Plan (Alternative 8) includes Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon's Sound

The Recommended Plan 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.

The design was improved from the alternatives analysis phase as additional soil borings were obtained, and additional bathometric data was included. See sections 2.0 and 3.0 for additional information.

Bend Widener 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. The bend widener would be dredged to a depth of -38 feet MLLW (including allowable over-depth). Approximately 205,000 cubic yards of material would need to be dredged to expand the bend widener. The dredged material would be placed in the Andrews Island DMCA.

Turning Basin Expansion would include expanding the existing turning basin at Colonel's Island Terminal along approximately 4,100 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 be dredged to a depth of -38 feet MLLW (including allowable over-depth). The turning basin expansion would require approximately 346,000 cubic yards of dredged material to be removed. It is expected that all dredged material would be placed in the Andrews Island DMCA. Beneficial use of dredged material would be considered; however, a suitable location has not been identified.

Meeting Area at St. Simons Sound would create a RO/RO vessel meeting area located at St. Simons Sound near the entrance channel to Brunswick Harbor. No dredging is required for this alternative since the area has naturally deep water. Creating a meeting area at St. Simons Sound would relocate the north toe of the existing channel approximately 800 feet to the north along a length of approximately 10,000 feet from stations -6+800 to 4+300. The existing channel centerline would not change. Cost drivers are associated with cultural resource preservation surveys of St. Simon's Island to the north.

Table 2 – Recommended Plan - Total Project Cost Summary (Costs are x \$1,000)

Brunswick Harbor Modification Study - Recommended Plan						
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	\$9,350	\$1,683	\$11,033	\$11,435	\$12,737
18	Cultural Resource Preservation	\$755	\$136	\$891	\$1,009	\$1,159
	SubTotal	\$10,105	\$1,819	\$11,924	\$12,444	\$13,896
01	Lands and Damages	\$4	\$1	\$5	\$5	\$5
30	Planning Engineering and Design	\$1,070	\$193	\$1,263	\$1,293	\$1,362
31	Construction Management	\$519	\$93	\$612	\$627	\$1,362
	Total	\$11,698	\$2,106	\$13,804	\$14,369	\$15,946

2.0 Basis of Estimate

2.1 Basis of Design

The level of design developed for this report is approximately 35%. Given this level of design, the estimate falls into a Class 3 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 mean low water level (MLLW) represents the current authorized

project depth and -38 ft MLLW represents the allowable overdepth during dredging.

Table 3 – Quantities from Engineering Appendix

Navigational Feature	Depth (feet MLLW)	Cut (CY)
Bend Widener	-38	205,159
Turning Basin 4	-38	346,462
St. Simon's Sound Meeting Area	-38	0

3.0 Estimate

The design was refined and a cost estimate was developed for the recommended plan. First Cost includes all costs in FY2022 dollars, Total Project Cost includes escalation to the mid-point of construction and contingency.

3.1 General Assumptions

- a) All dredge activities will be done with a 24” cutter head suction dredge.
- b) Mobilization and Demobilization was based on dredge type and size (24 inch).
- c) 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.
- d) All dredged material is assumed to be disposed of on Andrews Island.
- e) 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).
- f) No environmental mitigation is included.
- g) Contractor staging area is assumed to be Historical Staging Area 9.5A parcel for harbor dredging. This is provided by the sponsor. This is the same area that has been used for annual maintenance dredging.
- h) Quantities include an allowance dredging for pay and non-pay over-depth.
- 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 4 – Material Composition

Brunswick Harbor Modification Study, Bend Widener										
Description	Mud&Silt	Mud&Silt	Mud&Silt	Loose Sand	Loose Sand	Comp Sand	Stiff Clay	Comp Shell	Soft Rock	Blast Rock
Density	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
Factor	3	2.5	2	1.1	1	0.9	0.5-0.7	0.4-0.6	0.3-0.5	0.2-0.3
Percent Comp.	0.0%	0.0%	0.0%	35.9%	16.2%	13.1%	11.9%	14.3%	7.1%	1.7%

Brunswick Harbor Modification Study, Turning Basin										
Description	Mud&Silt	Mud&Silt	Mud&Silt	Loose Sand	Loose Sand	Comp Sand	Stiff Clay	Comp Shell	Soft Rock	Blast Rock
Density	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
Factor	3	2.5	2	1.1	1	0.9	0.5-0.7	0.4-0.6	0.3-0.5	0.2-0.3
Total Vol.	16.7%	0.0%	0.0%	35.4%	9.6%	1.7%	7.5%	29.2%	0.0%	0.0%

3.2 General Conditions, Overhead, and Profit

The estimate includes indirect costs such as overhead, profit and bonding. A contingency was developed through risk analysis and added to the total estimate to account for current design uncertainties that will be refined as the plan progresses.

3.3 Mobilization & Demobilization

Historic costs were analyzed to compare mobilization and demobilization costs. The estimate includes mobilization and demobilization costs as well as movement costs for pipeline.

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

A risk analysis was performed for the project. A contingency was developed from the risk charette done 08-09-MAR 2021. A weighted average was calculated for the selected plan using these contingencies. Top risks are mentioned below.

- A. Modifications and Claims: Changes to the contract can cause cost increases. These are typically for unforeseen conditions.
- B. Fuel Costs: The cost for the project is heavily dependent on fuel costs. The petroleum market has been volatile, with large swings in cost.
- C. Contractor Availability: Competition has had a large impact on project costs for the area. The less competition, the greater the cost.
- D. Shift Work: The contractor may use more, or less crews than assumed. The baseline estimate is using crew shifts based on historic maintenance dredging from the area.
- E. Production Rates: The contractor may have more, or less, efficient equipment than assumed in the estimate.

F. Variation in Quantities: Final quantities will be determined as the design progresses. Differences in quantities will affect project cost.

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, 2016, *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.

**WALLA WALLA COST ENGINEERING
MANDATORY CENTER OF EXPERTISE**

COST AGENCY TECHNICAL REVIEW

CERTIFICATION STATEMENT

For Project No. 465055

SAS – Brunswick Harbor Modification Study

The Brunswick Harbor Modification Study, as presented by Savannah District, has undergone a successful Cost Agency Technical Review (Cost ATR), performed by the Walla Walla District Cost Engineering Mandatory Center of Expertise (Cost MCX) team. The Cost ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies. This certification signifies the products meet the quality standards as prescribed in ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of October 18, 2021, the Cost MCX certifies the estimated total project cost:

FY 22 Project First Cost: \$14,369,000
Fully Funded Amount: \$15,946,000

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



**FOR: Michael P. Jacobs, PE, CCE
Chief, Cost Engineering MCX
Walla Walla District**

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

Printed:10/18/2021

Page 1 of 2

PROJECT: **Brunswick Harbor Modification Study - Recommended Plan**
 PROJECT NO: **465055**
 LOCATION: **Brunswick, Georgia**

DISTRICT: **Savannah**

PREPARED: **10/7/2021**

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:		REMAINING COST (\$K)	TOTAL FIRST COST (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
						2022	1-Oct-21	1-Oct-20	Spent Thru:						
09	CHANNELS & CANALS	\$9,350	\$1,683	18%	\$11,033	3.6%	\$9,690	\$1,744	\$11,435	\$11,435	11.4%	\$10,794	\$1,943	\$12,737	
18	CULTURAL RESOURCE PRESERVATION	\$755	\$136	18%	\$891	13.3%	\$855	\$154	\$1,009	\$1,009	14.8%	\$982	\$177	\$1,159	
			-				-					-			
	CONSTRUCTION ESTIMATE TOTALS:	\$10,105	\$1,819		\$11,924	4.4%	\$10,546	\$1,898	\$12,444	\$12,444	11.7%	\$11,776	\$2,120	\$13,896	
01	LANDS AND DAMAGES	\$4	\$1	25%	\$5	8.4%	\$4	\$1	\$5	\$5		\$4	\$1	\$5	
30	PLANNING, ENGINEERING & DESIGN	\$1,070	\$193	18%	\$1,263	2.4%	\$1,095	\$197	\$1,293	\$1,293	5.3%	\$1,154	\$208	\$1,362	
31	CONSTRUCTION MANAGEMENT	\$519	\$93	18%	\$612	2.4%	\$531	\$96	\$627	\$627	9.0%	\$579	\$104	\$684	
	PROJECT COST TOTALS:	\$11,698	\$2,106	18%	\$13,804		\$12,177	\$2,192	\$14,369	\$14,369	11.0%	\$13,513	\$2,433	\$15,946	

- _____ 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

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

**** CONTRACT COST SUMMARY ****

PROJECT: Brunswick Harbor Modification Study - Recommended Plan
 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: 10/7/2021




















WBS Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 7-Oct-21 Estimate Price Level: 1-Oct-20				Program Year (Budget EC): 2022 Effective Price Level Date: 1-Oct-21								
		RISK BASED												
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simon's Sound													
09	CHANNELS & CANALS	\$9,350	\$1,683	18.0%	\$11,033	3.6%	\$9,690	\$1,744	\$11,435	2025Q3	11.4%	\$10,794	\$1,943	\$12,737
18	CULTURAL RESOURCE PRESERVATION	\$755	\$136	18.0%	\$891	13.3%	\$855	\$154	\$1,009	2026Q3	14.8%	\$982	\$177	\$1,159
CONSTRUCTION ESTIMATE TOTALS:		\$10,105	\$1,819	18.0%	\$11,924		\$10,546	\$1,898	\$12,444			\$11,776	\$2,120	\$13,896
01	LANDS AND DAMAGES	\$4	\$1	25.0%	\$5	8.4%	\$4	\$1	\$5	2022Q1		\$4	\$1	\$5
30	PLANNING, ENGINEERING & DESIGN													
0.7%	Project Management	\$75	\$14	18.0%	\$89	2.4%	\$77	\$14	\$91	2023Q3	3.8%	\$80	\$14	\$94
0.8%	Planning & Environmental Compliance	\$84	\$15	18.0%	\$99	2.4%	\$86	\$15	\$101	2023Q3	3.8%	\$89	\$16	\$105
3.9%	Engineering & Design	\$396	\$71	18.0%	\$467	2.4%	\$405	\$73	\$478	2023Q3	3.8%	\$421	\$76	\$496
1.2%	Reviews, ATRs, IEPRs, VE	\$125	\$23	18.0%	\$148	2.4%	\$128	\$23	\$151	2023Q3	3.8%	\$133	\$24	\$157
0.2%	Life Cycle Updates (cost, schedule, risks)	\$20	\$4	18.0%	\$24	2.4%	\$20	\$4	\$24	2023Q3	3.8%	\$21	\$4	\$25
0.4%	Contracting & Reprographics	\$40	\$7	18.0%	\$47	2.4%	\$41	\$7	\$48	2025Q3	9.0%	\$45	\$8	\$53
2.8%	Engineering During Construction	\$278	\$50	18.0%	\$328	2.4%	\$285	\$51	\$336	2025Q3	9.0%	\$310	\$56	\$366
0.2%	Planning During Construction	\$20	\$4	18.0%	\$24	2.4%	\$20	\$4	\$24	2023Q3	3.8%	\$21	\$4	\$25
	Adaptive Management & Monitoring			18.0%										
0.3%	Project Operations	\$32	\$6	18.0%	\$38	2.4%	\$33	\$6	\$39	2023Q3	3.8%	\$34	\$6	\$40
31	CONSTRUCTION MANAGEMENT													
4.6%	Construction Management	\$463	\$83	18.0%	\$546	2.4%	\$474	\$85	\$559	2025Q3	9.0%	\$517	\$93	\$610
0.3%	Project Operation:	\$28	\$5	18.0%	\$33	2.4%	\$29	\$5	\$34	2025Q3	9.0%	\$31	\$6	\$37
0.3%	Project Management	\$28	\$5	18.0%	\$33	2.4%	\$29	\$5	\$34	2025Q3	9.0%	\$31	\$6	\$37
CONTRACT COST TOTALS:		\$11,698	\$2,106		\$13,804		\$12,177	\$2,192	\$14,369			\$13,513	\$2,433	\$15,946

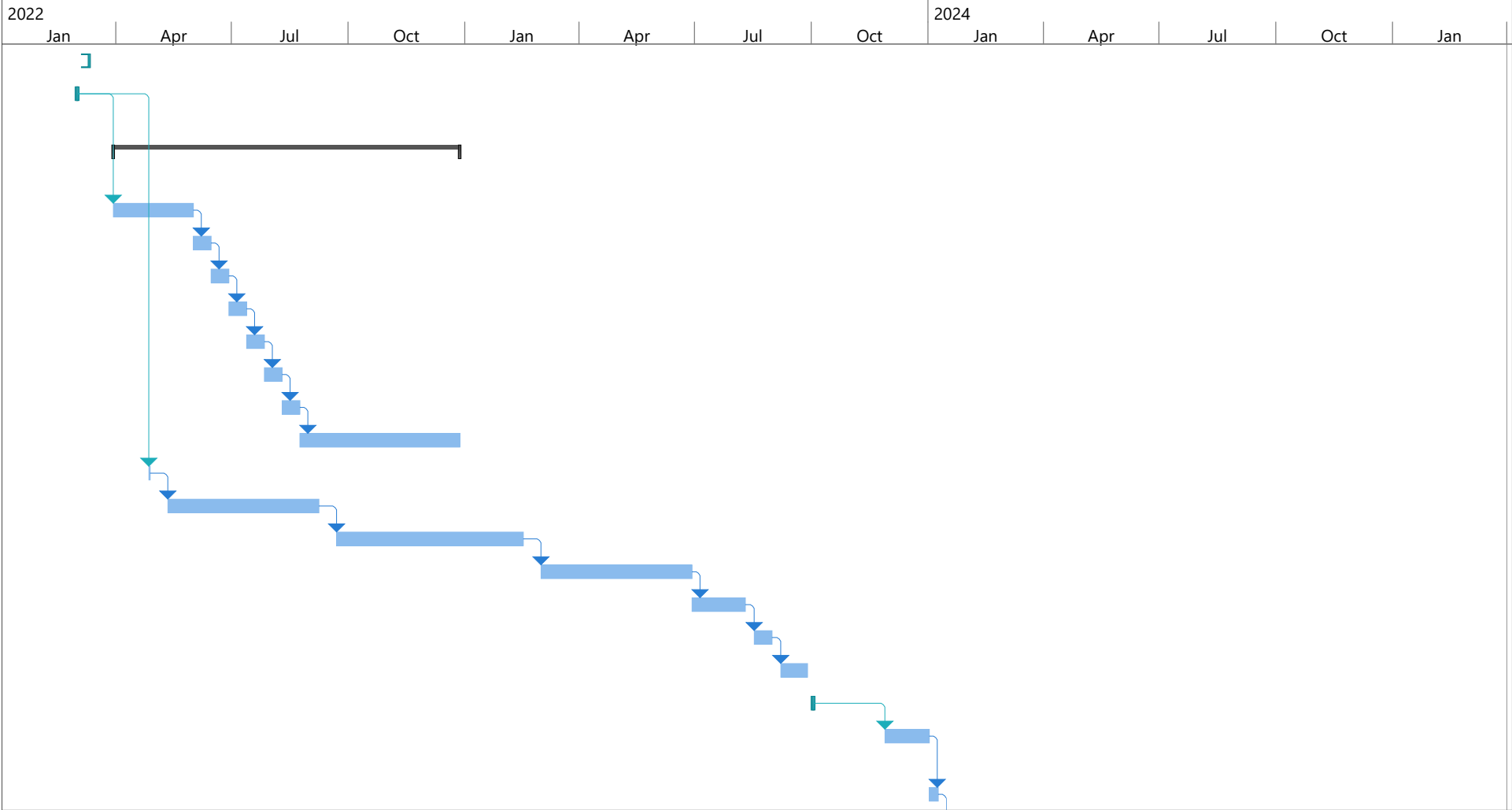
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Jan	Apr	Jul	Oct
1		Signed Chief's Report			Fri 3/11/22					
2		Receive FY22 Workplan Funds	1 day?	Tue 3/1/22	Tue 3/1/22					
3		Cultural Resources Contract	195 days	Wed 3/30/22	Tue 12/27/22					
4		Develop SOW	45 days	Wed 3/30/22	Tue 5/31/22	2FS+20 days				
5		TORN	10 days	Wed 6/1/22	Tue 6/14/22	4				
6		RFP	10 days	Wed 6/15/22	Tue 6/28/22	5				
7		POM	10 days	Wed 6/29/22	Tue 7/12/22	6				
8		Negotiate	10 days	Wed 7/13/22	Tue 7/26/22	7				
9		PNM	10 days	Wed 7/27/22	Tue 8/9/22	8				
10		Award	10 days	Wed 8/10/22	Tue 8/23/22	9				
11		CR Survey Execution	90 days	Wed 8/24/22	Tue 12/27/22	10				
12		Design Kickoff	1 day	Wed 4/27/22	Wed 4/27/22	2FS+40 days				
13		35%	85 days	Thu 5/12/22	Wed 9/7/22	12FS+10 days				
14		65%	105 days	Thu 9/22/22	Wed 2/15/23	13FS+10 days				
15		95%	85 days	Thu 3/2/23	Wed 6/28/23	14FS+10 days				
16		BCOES	30 days	Thu 6/29/23	Wed 8/9/23	15				
17		Final Drawings	10 days	Thu 8/17/23	Wed 8/30/23	16FS+5 days				
18		Design Approval	15 days	Thu 9/7/23	Wed 9/27/23	17FS+5 days				
19		Receive Funds Assurance	1 day?	Mon 10/2/23	Mon 10/2/23					
20		CT Prepares contract documents	25 days	Tue 11/28/23	Mon 1/1/24	19FS+40 days				
21		RTA	5 days	Tue 1/2/24	Mon 1/8/24	20				

Project: BHMS_Design and Con
Date: Wed 4/21/21

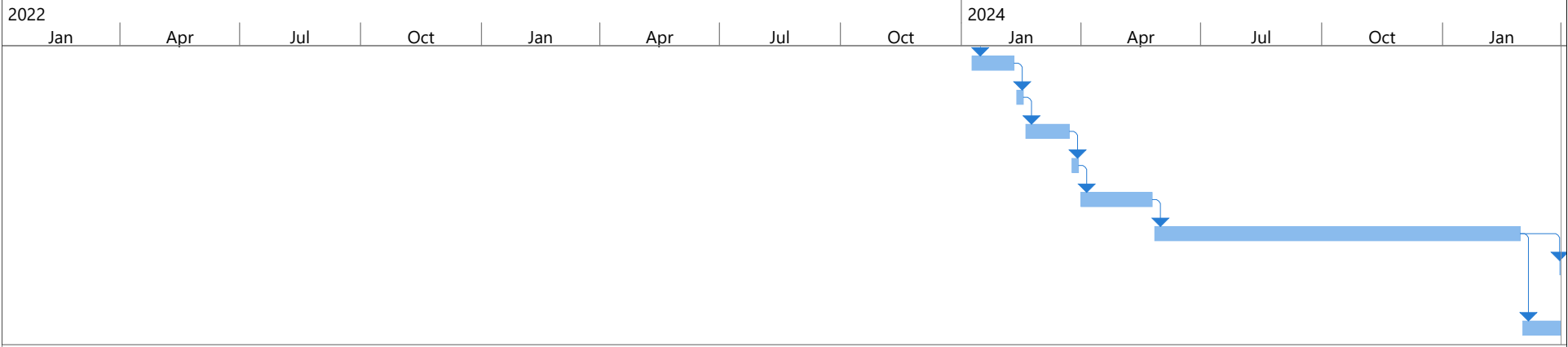
Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
Milestone		Duration-only		Deadline	
Summary		Manual Summary Rollup		Progress	
Project Summary		Manual Summary		Manual Progress	
Inactive Task		Start-only			
Inactive Milestone		Finish-only			

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Jan	Apr	Jul	Oct
22			Advertise	24 days	Tue 1/9/24	Fri 2/9/24	21				
23			Bid Opening	5 days	Mon 2/12/24	Fri 2/16/24	22				
24			Award	25 days	Mon 2/19/24	Fri 3/22/24	23				
25			NTP	5 days	Mon 3/25/24	Fri 3/29/24	24				
26			Mob	40 days	Mon 4/1/24	Fri 5/24/24	25				
27			Construction	200 days	Mon 5/27/24	Fri 2/28/25	26				
28			Project Physical Completion	1 day?	Mon 3/31/25	Mon 3/31/25	27FS+20 days				
29			Demob	21 days	Mon 3/3/25	Mon 3/31/25	27				

Project: BHMS_Design and Con Date: Wed 4/21/21	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			



Project: BHMS_Design and Con Date: Wed 4/21/21	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
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	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			



Project: BHMS_Design and Con
Date: Wed 4/21/21

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