**UPPER MISSISSIPPI RIVER RESTORATION**
**FEASIBILITY REPORT**
**WITH INTEGRATED ENVIRONMENTAL ASSESSMENT**

# GILEAD SLOUGH
# HABITAT REHABILITATION AND ENHANCEMENT PROJECT

**POOL 25, UPPER MISSISSIPPI RIVER MILES 246-251**
**CALHOUN COUNTY, IL**

## Appendix J: Cost

US Army Corps of Engineers®
St. Louis District

October **2025**
Draft Version

Upper Mississippi River Restoration
Leading·Innovating·Partnering

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# 1 COST ESTIMATE SUMMARY

## 1.1 GENERAL

The Upper Mississippi River Restoration (UMRR) Gilead Slough HREP project area is located on the left descending bank of the Mississippi River between river miles (RM) 253 - 248, approximately five miles north-northwest of Batchtown, Illinois. The study area is located within Calhoun County, Illinois on federally owned lands, managed by the U.S. Fish and Wildlife Service (USFWS) under a cooperative agreement with USACE as part of the General Plan (GP) lands agreement. The study area is located in Pool 25 within the Lower Impounded Cluster.

The objectives for the Gilead Slough Habitat Rehabilitation and Enhancement Project are:

- Objective 1: Enhance depth, flow and substrate diversity and connectivity of aquatic habitat throughout study area;
- Objective 2: Manage the sediment inputs in the side channel and slough areas;
- Objective 3: Restore topographic and bathymetric diversity and improve desired vegetative community composition throughout the project area.

The final array of alternatives include:

- No Action
- Alternative 1 – Minimum
- Alternative 2 – Intermediate
- Alternative 3 – Maximum

The measures included in each Alternative are listed below:

<u>Alternative 1 – Minimum</u>:

- Barbs
- Scour Structures
- EPM Backwater Dredging
- Dredging
- Island Creation

<u>Alternative 2 – Intermediate</u>:

- Water Control Structure (3)
- Barbs
- Hardpoints
- Scour Structures
- Bankline Protection
- Moist Soil Units
- Gradual Slope Revetment
- EPM Backwater Dredging
- Dredging
- Island Creation

<u>Alternative 3 – Maximum</u>:

- Water Control Structure (3)
- Barbs

- Hardpoints
- Scour Structures
- Bankline Protection
- Moist Soil Units
- Gradual Slope Revetment
- EPM Backwater Dredging
- Dredging
- Island Creation

Alternative level cost estimates were produced for each alternative and an abbreviated risk analysis was conducted to develop project contingency. The tentatively selected plan is: Alternative 2 – Intermediate Habitat Benefits Alternative.

## 1.2 BASIS OF COST ESTIMATE

The cost estimates have been prepared based on current concept designs and site-specific information available to date.

Quantities were developed by the MVS Civil Design Section. The cost estimates were developed using MCACES, CEDEP and Microsoft Excel. The wage rates were developed using Davis Bacon, Heavy & Highway construction for Calhoun County, IL IL20250017 Last Revised January 10, 2025. The MII 2024 Equipment Region 5 was used for equipment rates. The 2024 Cost Book was used.

It is assumed that all stone for the project will be furnished and delivered via barge to the project area. It is assumed that all primary, secondary, and tertiary areas will be dredged with a cutter-suction pipeline dredge. Material that is dredged by the cutter-suction dredge will be used for island creation via a pipeline and booster pumps. EPM and River connection dredging will be done by an excavator on land during low water periods and transported down river to island area with a barge and tugboat. Material will be offloaded by a barge mounted excavator and then the barge will return to dredge area.

## 1.3 CONTINGENCIES

The Abbreviated Risk Analysis process indicated a total project contingency of 33%. The construction estimate indicated a contingency of 36%. Planning, engineering and design indicated a contingency of 18% and construction management indicated a contingency of 14%.

## 1.4 PLANNING, ENGINEERING, AND DESIGN (PED)

Planning, engineering, and design costs are based on historical data of similar projects in the St. Louis District. Recommended percentages by the cost MCX were taken into consideration as well. 18% of the construction cost was used to determine the PED costs. The Monitoring and Adaptive Management (MAM) costs were developed by the PDT and will be included in the PED account.

## 1.5 CONSTRUCTION MANAGEMENT

Construction Management costs are based on historical data of similar projects in the St. Louis District. Recommended percentages by the cost MCX were taken into consideration as well. 10% of the construction cost was used to determine the CM costs.

# Gilead Sough

Minimum Alternative 9/23/2025

| ITEM | ESTIMATED AMOUNT | |
|---|---|---|
| Mobilization and Demobilization | $985,000 | |
| Access and Staging | | |
| Clearing & Grubbing | $14,000 | |
| Stripping | $9,000 | |
| Gravel | $85,000 | |
| Pipeline Dredging | $5,055,000 | |
| Mechanical Dredging | $964,000 | |
| Island Creation | $2,120,000 | |
| Scour Structures | $110,000 | |
| Barbs | $20,000 | |
| SUBTOTAL: | $9,362,000 | |
| Contingency: | $3,089,000 | 33% |
| SUBTOTAL: | $12,451,000 | |
| E & D | $2,241,000 | 18% |
| S & A | $1,245,000 | 10% |
| MAM | $2,835,000 | |
| REAL ESTATE | $31,000 | |
| **TOTAL COST:** | **$18,803,000** | |

O&M Costs: $0

# Gilead Sough

Intermediate Alternative 9/23/2025

| ITEM | ESTIMATED AMOUNT |
|---|---|
| Mobilization and Demobilization | $985,000 |
| Access and Staging | |
| Clearing & Grubbing | $14,000 |
| Stripping | $9,000 |
| Gravel | $85,000 |
| Pipeline Dredging | $5,055,000 |
| Mechanical Dredging | $964,000 |
| Island Creation | $2,120,000 |
| Bank Protection | $77,000 |
| Scour Structures | $107,000 |
| Barbs | $20,000 |
| Moist Soil Unit | $800,000 |
| Hard Points | $850,000 |
| Gradual Slope Revetment | $680,000 |
| Water Control Structure | $140,000 |
| Seeding | $30,000 |
| SUBTOTAL: | $11,936,000 |
| Contingency: | $3,939,000 |
| SUBTOTAL: | $15,875,000 |
| E & D | $2,858,000 |
| S & A | $1,588,000 |
| MAM | $3,500,000 |
| REAL ESTATE | $31,000 |
| **TOTAL COST:** | **$23,852,000** |

| | | |
|---|---|---|
| Contingency: | $3,939,000 | 33% |
| E & D | $2,858,000 | 18% |
| S & A | $1,588,000 | 10% |

O&M Costs: $33,750

# Gilead Sough

Maximum Alternative 9/23/2025

| ITEM | ESTIMATED AMOUNT | |
|---|---|---|
| Mobilization and Demobilization | $985,000 | |
| Access and Staging | | |
| Clearing & Grubbing | $14,000 | |
| Stripping | $9,000 | |
| Gravel | $85,000 | |
| Pipeline Dredging | $5,055,000 | |
| Mechanical Dredging | $4,550,000 | |
| Island Creation | $2,120,000 | |
| Bank Protection | $134,000 | |
| Deflection Dike | $155,000 | |
| Scour Structures | $107,000 | |
| Barbs | $20,000 | |
| Moist Soil Unit | $800,000 | |
| Hard Points | $850,000 | |
| Gradual Slope Revetment | $251,000 | |
| Water Control Structure | $140,000 | |
| Pump Station | $130,000 | |
| Seeding | $35,000 | |
| SUBTOTAL: | $15,440,000 | |
| Contingency: | $5,095,000 | 33% |
| SUBTOTAL: | $20,535,000 | |
| E & D | $3,696,000 | 18% |
| S & A | $2,054,000 | 10% |
| MAM | $5,256,000 | |
| REAL ESTATE | $31,000 | |
| **TOTAL COST:** | **$31,572,000** | |

O&M Costs: $49,750

**Abbreviated Risk Analysis**

Project (less than $40M): **Gilead Slough Alternatives**
Project Development Stage/Alternative: **Feasibility (Alternatives)**
Risk Category: **Low Risk: Typical Construction, Simple**

**Alternative:** **Maximum Alternative**
**Meeting Date:** **2/4/2025**

Total Estimated Construction Contract Cost = $ 14,925,000

| | CWWBS | Feature of Work | Estimated Cost | | % Contingency | $ Contingency | Total |
|---|---|---|---|---|---|---|---|
| | 01 LANDS AND DAMAGES | Real Estate | | | | $ - | $ - |
| 1 | 06 FISH AND WILDLIFE FACILITIES | **Mobilization & Demobilization** | $ 985,000 | | 48% | $ 470,913 | $ 1,455,913 |
| 2 | 06 FISH AND WILDLIFE FACILITIES | **Access & Staging** | $ 108,000 | | 30% | $ 31,992 | $ 139,992 |
| 3 | 06 FISH AND WILDLIFE FACILITIES | **Dredging** | $ 9,605,000 | | 37% | $ 3,543,272 | $ 13,148,272 |
| 4 | 06 FISH AND WILDLIFE FACILITIES | **Rock Features** | $ 3,215,000 | | 31% | $ 983,307 | $ 4,198,307 |
| 5 | 06 FISH AND WILDLIFE FACILITIES | **Water Control Structure** | $ 91,000 | | 32% | $ 29,033 | $ 120,033 |
| 6 | 06 FISH AND WILDLIFE FACILITIES | **Pump Station** | $ 91,000 | | 28% | $ 25,053 | $ 116,053 |
| 7 | 06 FISH AND WILDLIFE FACILITIES | **Moist Soil Unit** | $ 800,000 | | 36% | $ 287,123 | $ 1,087,123.16 |
| 8 | 06 FISH AND WILDLIFE FACILITIES | **Seeding** | $ 30,000 | | 23% | $ 6,924 | $ 36,923.89 |
| 12 | All Other | **Remaining Construction Items** | $ - | *0.0%* | 0% | $ - | $ - |
| 13 | 30 PLANNING, ENGINEERING, AND DESIGN | **Planning, Engineering, & Design** | $ 2,067,840 | | 18% | $ 377,941 | $ 2,445,781 |
| 14 | 31 CONSTRUCTION MANAGEMENT | **Construction Management** | $ 1,148,800 | | 14% | $ 159,725 | $ 1,308,525 |
| XX | FIXED DOLLAR RISK ADD (EQUALLY DISPERSED TO ALL, MUST INCLUDE JUSTIFICATION SEE BELOW) | | | | | $ - | |

| **Totals** | | | | | |
|---|---|---|---|---|---|
| Real Estate | $ - | 0% | $ - | $ - | |
| Total Construction Estimate | $ 14,925,000 | 36% | $ 5,377,616 | $ 20,302,616 | |
| Total Planning, Engineering & Design | $ 2,067,840 | 18% | $ 377,941 | $ 2,445,781 | |
| Total Construction Management | $ 1,148,800 | 14% | $ 159,725 | $ 1,308,525 | |
| Total Excluding Real Estate | **$ 18,141,640** | **33%** | **$ 5,915,282** | **$ 24,056,922** | |
| | | **Base** | **50%** | **80%** | |
| **Confidence Level Range Estimate ($000's)** | | $18,142k | $21,691k | $24,057k | |

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

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

**Gilead Slough Alternatives Maximum Alternative**

Feasibility (Alternatives)
Abbreviated Risk Analysis
**Meeting Date:** 4-Feb-25

**Risk Level**

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

# Risk Register

| Risk Element | Feature of Work | Concerns | PDT Discussions & Conclusions (Include logic & justification for choice of Likelihood & Impact) | Impact | Likelihood | Risk Level |
|---|---|---|---|---|---|---|
| **Project Management & Scope Growth** | | | | **Maximum Project Growth** | | **40%** |
| PS-1 | Mobilization & Demobilization | • Potential for scope growth, added features?<br>• Funding Difficulties? | Alternative estimate does not include temporary mob/demob costs. If construction window is relatively long, there is a chance contractor could have to demob from site. Could structure bid schedule to have temporary mob/demob CLIN so that contractor does not include this cost in the base MOB/DEMOB CLIN. Risk is considered marginal and possible. Current estimate only assumes one contract. There is a potential to have multiple awards due to funding capacities. Could split into multiple stages. Impact on mob/demob would be significant. | Significant | Likely | 4 |
| PS-2 | Access & Staging | • Potential for scope growth, added features?<br>• Project accomplishes intent? | PDT is assuming construction easements will be utilized. Real estate will provide rough order of magnitude for easements. Most material will be pumped to island creation area, therefore, unlikely to need more staging area. | Marginal | Possible | 1 |
| PS-3 | Dredging | • Potential for scope growth, added features?<br>• Project accomplishes intent? | No concern for adding more quantity for dredging. Dredged material is assumed to be piped to island creation feature. Minimal concern that there could be too much material for island creation. Material may need to be disposed somewhere else off site. Concern is low. CDEP estimate accounts for booster pumps due to long distances of pumping material. | Marginal | Possible | 1 |
| PS-4 | Rock Features | | No concerns. | Negligible | Possible | 0 |
| PS-5 | Water Control Structure | • Potential for scope growth, added features? | Estimate is using parametric costs for similar water control structures. More detailed quotes and specific crews will need to be obtained as design progresses. | Moderate | Possible | 2 |
| PS-6 | Pump Station | | No concerns. | Negligible | Unlikely | 0 |
| PS-7 | Moist Soil Unit | • Potential for scope growth, added features? | Low concern for adding area for the MSU feature. There is a higher liklihood of decreasing rather than adding area. | Marginal | Possible | 1 |
| PS-8 | Seeding | • Potential for scope growth, added features? | Low concern for adding area for the MSU feature. There is a higher liklihood of decreasing rather than adding area. | Marginal | Possible | 1 |
| PS-11 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| PS-12 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| PS-13 | Planning, Engineering, & Design | • Potential for scope growth, added features? | | Moderate | Possible | 2 |
| PS-14 | Construction Management | No concerns. | No concerns. | Negligible | Unlikely | 0 |
| **Acquisition Strategy** | | | | **Maximum Project Growth** | | **30%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| AS-1 | Mobilization & Demobilization | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-2 | Access & Staging | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-3 | Dredging | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-4 | Rock Features | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-5 | Water Control Structure | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-6 | Pump Station | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-7 | Moist Soil Unit | • Contracting plan firmly established? | MVS acquisition per Contracting Division is typically to award as 8a or small business for non-complex contracts unless they require a specialty contractor. The total dollar amount of this project is over the set aside threshold, therfore, there should be competition during bidding. | Moderate | Possible | 2 |
| AS-8 | Seeding | | Seeding will likely be subbed out. | Negligible | Unlikely | 0 |
| AS-12 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| AS-13 | Planning, Engineering, & Design | • Contracting plan firmly established? | Acquisition Strategy won't impact design | Negligible | Unlikely | 0 |
| AS-14 | Construction Management | • Contracting plan firmly established? | Acquisition Strategy won't impact construction management | Negligible | Unlikely | 0 |
| **Construction Elements** | | | | **Maximum Project Growth** | | **15%** |
| CON-1 | Mobilization & Demobilization | • Accelerated schedule or harsh weather schedule? | Assumed that the dredge equipment can only be mobilized during higher flow periods. If a low flow event occurs during construction period the dredge equipment may not be able to mobilize. | Moderate | Possible | 2 |
| CE-2 | Access & Staging | • Accelerated schedule or harsh weather schedule? | Mostly building upon existing roads. Access to the site is already established. No concern. | Negligible | Unlikely | 0 |
| CE-3 | Dredging | • High risk or complex construction elements, site access, in-water? | If the cut/fill balance does not even out and the project area does not have enough disposal areas identified, could run into water quality concerns with in-water disposal. If contractor has to do a turbidity curtain or other water quality monitoring, it could lower production rates singificantly. Concern is moderate | Moderate | Possible | 2 |
| CE-4 | Rock Features | • Accelerated schedule or harsh weather schedule? | Minimal concern for pool release/drawdown in anticipation of high flow events. Assumption is contractor could still work, but productivity could be impacted. | Moderate | Possible | 2 |
| CE-5 | Water Control Structure | No concerns. | | Negligible | Unlikely | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| CE-6 | Pump Station | No concerns. | Pump is relatively small and should be readily available. | Negligible | Unlikely | 0 |
| CE-7 | Moist Soil Unit | • Accelerated schedule or harsh weather schedule? | Area could be significantly wet at certain periods of the year which could impact schedule and when activities can occur. | Moderate | Possible | 2 |
| CE-8 | Seeding | • Accelerated schedule or harsh weather schedule? | Area could be significantly wet at certain periods of the year which could impact schedule and when activities can occur. | Moderate | Possible | 2 |
| CE-12 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| CE-13 | Planning, Engineering, & Design | No concerns. | No concerns. | Negligible | Unlikely | 0 |
| CE-14 | Construction Management | No concerns. | No concerns. | Negligible | Unlikely | 0 |
| **Specialty Construction or Fabrication** | | | | **Maximum Project Growth** | | **50%** |
| SC-1 | Mobilization & Demobilization | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-2 | Access & Staging | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-3 | Dredging | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-4 | Rock Features | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-5 | Water Control Structure | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-6 | Pump Station | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-7 | Moist Soil Unit | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-8 | Seeding | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-12 | Remaining Construction Items | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-13 | Planning, Engineering, & Design | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| SC-14 | Construction Management | No concerns. | Not applicable for this project. | Negligible | Unlikely | 0 |
| **Technical Design & Quantities** | | | | **Maximum Project Growth** | | **20%** |
| T-1 | Mobilization & Demobilization | | Mob & demob was estiamted in CEDEP. No land-based mob/demob crew was developed. Could impact overall costs but unlikely. | Moderate | Unlikely | 1 |
| T-2 | Access & Staging | • Level of confidence based on design and assumptions? | a waste loss factor was applied on quantities and access roads are being built upon existing gravel roads. | Negligible | Unlikely | 0 |
| T-3 | Dredging | • Level of confidence based on design and assumptions? | Survey data is within the last 2 years. Low liklihood of receiving an updated survey for potentially 5 years so quantities could change. However, dredge areas are mostly in backwater locations, so quantity risk should be considered moderate. | Moderate | Likely | 3 |
| T-4 | Rock Features | • Level of confidence based on design and assumptions? | Quantities could change based on contractor's ability to place stone for rock features. Impact is considered marginal and liklihood is possbile. | Marginal | Possible | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| T-5 | Water Control Structure | • Level of confidence based on design and assumptions? | WCS is placed in a low flow area. No concern for quantities or size of strcuture to increase. | Negligible | Unlikely | 0 |
| T-6 | Pump Station | • Level of confidence based on design and assumptions? | Unlikley for the pump to change as design progresses. Small area to be pumped therefore risk is low. | Negligible | Unlikely | 0 |
| T-7 | Moist Soil Unit | • Level of confidence based on design and assumptions? | Possibility of increased and/or decreased quantity because of adjacent property owners. Risk will eventually be mitigated by a new property boundrary survey | Moderate | Possible | 2 |
| T-8 | Seeding | No concerns. | | Negligible | Unlikely | 0 |
| T-12 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| T-13 | Planning, Engineering, & Design | No concerns. | | Negligible | Unlikely | 0 |
| T-14 | Construction Management | No concerns. | | Negligible | Unlikely | 0 |
| **Cost Estimate Assumptions** | | | | **Maximum Project Growth** | | **25%** |
| EST-1 | Mobilization & Demobilization | • Reliability and number of key quotes?<br>• Assumptions related to prime and subcontractor markups/assignments?<br>• Assumptions regarding crew, productivity, overtime?<br>• Site accessibility, transport delays, congestion?<br>• Overuse of Cost Book, lump sum, allowances?<br>• Lack confidence on critical cost items? | Cost was developed using CEDEP for the dredging equipment. Markups were applied in MII. At this level of design, a site specific crew has not been devleoped for land-based equipment mob & demob. However, with the cost used for mob & demob of dredge equipment, costs are unlikely to increase based on similar hisotrical MVS awards with similar scopes. | Marginal | Unlikely | 0 |
| EST-2 | Access & Staging | • Site accessibility, transport delays, congestion? | Estimate has items included for access roads and staging. The estimate does not include material for maintenance of the access and staging areas during life of the construction period. Also, if the assumed site access can't be used, there could be added costs for material to construct access roads. | Moderate | Possible | 2 |
| EST-3 | Dredging | • Assumptions regarding crew, productivity, overtime?<br>• Site accessibility, transport delays, congestion? | Dredging estimate was developed using CEDEP software. Possible cost will increase due to site accessibility and production of dredging. | Marginal | Possible | 1 |
| EST-4 | Rock Features | • Assumptions regarding crew, productivity, overtime?<br>• Site accessibility, transport delays, congestion? | Estimate was developed using barge delivery. More design is necessary to determine which stone gradtions will be used for each rock feature. The type of stone selected could change the cost, but impact is marginal to neglibible. | Marginal | Possible | 1 |
| EST-5 | Water Control Structure | • Overuse of Cost Book, lump sum, allowances? | The cost book was used to price the water control structure. Project specific crews will need to be developed and a quote should be obtained for the aluminum pipe WCS with stoplogs | Moderate | Possible | 2 |
| EST-6 | Pump Station | • Overuse of Cost Book, lump sum, allowances? | Cost book items were used to estimate the pump station. A quote should be obtained for the diesel pump, and the pump. | Moderate | Possible | 2 |
| EST-7 | Moist Soil Unit | • Overuse of Cost Book, lump sum, allowances? | Cost book items were used for cut/fill. Site specific crews will need to be developed for. the detailed estimate. | Moderate | Possible | 2 |
| EST-8 | Seeding | | No concerns. | Negligible | Unlikely | 0 |
| EST-12 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| EST-13 | Planning, Engineering, & Design | | Estimate assumes historical MVS PED percentages. PED will need to be scoped out as design progresses. | Marginal | Possible | 1 |
| EST-14 | Construction Management | | Estimate assumes historical MVS CM percentages. CM will need to be scoped out as design progresses. | Marginal | Possible | 1 |
| **External Project Risks** | | | | **Maximum Project Growth** | | **20%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| EX-1 | Mobilization & Demobilization | • Potential for severe adverse weather?<br>• Political influences, lack of support, obstacles?<br>• Unanticipated inflations in fuel, key materials?<br>• Potential for market volatility impacting competition, pricing?<br>• Funding Constraints | Increasing fuel rates and material costs, along with labor shortages, have created inflated prices and uncertain competition. | Moderate | Likely | 3 |
| EX-2 | Access & Staging | • Unanticipated inflations in fuel, key materials?<br>• Potential for market volatility impacting competition, pricing? | Increasing fuel rates and material costs, along with labor shortages, have created inflated prices and uncertain competition. | Moderate | Likely | 3 |
| EX-3 | Dredging | • Unanticipated inflations in fuel, key materials?<br>• Potential for market volatility impacting competition, pricing? | Increasing fuel rates and material costs, along with labor shortages, have created inflated prices and uncertain competition. | Moderate | Likely | 3 |
| EX-4 | Rock Features | Potential for Severe Adverese Weather? | Adversse weather could effect the contract duration impacting the overall cost of construction. Escalation of material costs and labor rates would increase overall costs. Supply chain issues could make it difficult to acquire the number of trees necessary to complete this feature. Additionally, an icnrease in cost per tree could significantly raise the total project cost. | Significant | Possible | 3 |
| EX-5 | Water Control Structure | Potential for Severe Adverese Weather? | Adversse weather could effect the contract duration impacting the overall cost of construction. Escalation of material costs and labor rates would increase overall costs. Supply chain issues could make it difficult to acquire the number of trees necessary to complete this feature. Additionally, an icnrease in cost per tree could significantly raise the total project cost. | Significant | Possible | 3 |
| EX-6 | Pump Station | Potential for Severe Adverese Weather? | Adversse weather could effect the contract duration impacting the overall cost of construction. Escalation of material costs and labor rates would increase overall costs. Supply chain issues could make it difficult to acquire the number of trees necessary to complete this feature. Additionally, an icnrease in cost per tree could significantly raise the total project cost. | Significant | Possible | 3 |
| EX-7 | Moist Soil Unit | Potential for Severe Adverese Weather? | Adversse weather could effect the contract duration impacting the overall cost of construction. Escalation of material costs and labor rates would increase overall costs. Supply chain issues could make it difficult to acquire the number of trees necessary to complete this feature. Additionally, an icnrease in cost per tree could significantly raise the total project cost. | Significant | Possible | 3 |
| EX-8 | Seeding | Potential for Severe Adverese Weather? | Adversse weather could effect the contract duration impacting the overall cost of construction. Escalation of material costs and labor rates would increase overall costs. Supply chain issues could | Significant | Possible | 3 |
| EX-12 | Remaining Construction Items | | | Negligible | Unlikely | 0 |
| EX-13 | Planning, Engineering, & Design | • Unanticipated inflations in fuel, key materials?<br>• Potential for market volatility impacting competition, pricing? | The PED on this project will not change because of inflation of key materials. | Negligible | Unlikely | 0 |
| EX-14 | Construction Management | • Unanticipated inflations in fuel, key materials?<br>• Potential for market volatility impacting competition, pricing? | The CM on this project will not change because of inflation of key materials. | Negligible | Unlikely | 0 |