CONTINUING AUTHORITIES PROGRAM

PROJECT REVIEW PLAN

Approved: November 6, 2024

Project Name: Eagle Creek Section 205 Project, Dorchester County, South Carolina

P2 Number: 473391

Decision Document Type: Definite Project Report

Project Type: Flood Risk Management

District: Charleston (SAC)

District Contact: Mark Messersmith, Project Manager, (843) 329-8131

Major Subordinate Command (MSC): South Atlantic Division (SAD)

MSC Contact: Eric Lynn

Review Management Organization (RMO): SAD

RMO Contact: Eric Lynn

Key Review Plan Dates

Date of RMO Endorsement of Review Plan: 06 Nov 2024

Date of MSC Approval of Review Plan: 06 Nov 2024

Date of IEPR Exclusion Approval: N/A (see info provided within)

Date of Last Review Plan Revision: 08 Aug 2024 (was never approved)

Date of Review Plan Web Posting: 06 Nov 2024

Date of Congressional Notifications:

Milestone Schedule (for CAP 205)

| | Scheduled (P2 Date) | Anticipated Date | Completed Date |
|--------------------------|---------------------|------------------|----------------|
| Tentatively Selected | 20 March 2025 | 6 Feb 2024 | |
| Plan (CW190) | | | |
| Release Draft | 7 July 2025 | 27 Feb 2024 | |
| Report to Public | | | |
| Final Report | 18 November 2025 | TBD | |
| Transmittal to MSC | | | |
| Decision Document | 18 December 2025 | TBD | |
| Approval (CW170) | | | |

Project Fact Sheet

March 2024

Project Name: Eagle Creek Section 205 Project

Location: Summerville, South Carolina, Dorchester County

Authority: Section 205 of the Flood Control Act of 1948

Sponsor: Dorchester County, South Carolina

Type of Study: Section 205 Feasibility Study

Project Area: The study area is located in Dorchester County, South Carolina where Charleston and Berkeley County intersect. This area is part of the Charleston-North Charleston Metropolitan Statistical Area. The study area is more specifically located within the Spencer Branch Watershed, which includes two converging streams, Eagle and Chandler Bridge Creeks, as well as several canals and ditches. Eagle Creek is approximately one mile long before being joined by Chandler Creek. Eagle Creek eventually flows into the Ashley River, which is tidally influenced and flows into the Atlantic Ocean.

Project Description: Over the course of its one-mile stretch, Eagle Creek flows along several neighborhoods, such as Tranquil Acres, Tranquil Estates, Grand Oaks Preserve, and Summerwood. Eagle Creek experiences channel capacity issues during intense storm events, causing recurrent flooding within residential areas surrounding Eagle Creek over the past 10+years. Channel capacity issues are further exacerbated by (1) the inability for Eagle Creek to drain properly when Ashley River, the receiving body, is high due to tides and storm surge; (2) the historic road adjacent to Eagle Creek acts as a barrier and obstructs wetland connectivity; (3) diminished hydrologic capacity; and (4) downstream Eagle Creek is narrower than upstream creating a hydrologic pinch-point. As a result of these issues, over twenty residential homes in the study area have experienced recurrent flooding damages.

The Project Delivery Team identified a range of potential structural, nature-based, and nonstructural measures that could be undertaken to achieve project objectives. Potentially viable measures were identified and combined into alternative plans. Initially, nine alternatives were developed for evaluation and comparison: (1) No Action, (2) Channel Modification, (3) Benching upstream and downstream portions of Eagle Creek, (4) Benching only downstream portion of Eagle Creek, (5) Benching only upstream portion of Eagle Creek, (6) Channel Modification and Benching Upstream, (7) Elevation of Residential Structures, (8) Detention Basin, and (9) Channel Deepening. These alternatives are being evaluated further during the feasibility phase.

Federal Interest: A favorable Federal Interest Determination was made 12 June 2023.

Risk Identification: Wetland impact assessments and cultural resource investigations are being performed. There are likely to be some minor mitigation costs for both. An integrated environmental assessment is being prepared as part of the study. Life safety risks are likely to be insignificant as there is no history of life loss as a result of Eagle Creek flood events. The proposed plans will avoid impacting the environment beyond the potential for mitigation and preparation of an Environmental Impact Statement is not required. Failure of any of the project features being evaluated would not result in a breach flood wave and the project features will

not result in water surface elevations above those which would occur without the project. Therefore, there is no incremental risk for this project. None of the measures will increase water surface elevations through the use of levees, dams, or floodwalls, as there are none proposed as measures for this project.



Study Area

1. FACTORS AFFECTING THE LEVELS OF REVIEW

Scope of Review. No special technical, institutional, or social challenges are anticipated. The MSC commander currently has authority to approve the Definite Project Report.

- <u>Will the study likely be challenging?</u> The project occurs in a small watershed in a suburban area, with minimal real estate availability. Ensuring a constructable project that meets the overall objectives of the project will be challenging.
- <u>Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks.</u> Modeling the hydrology and hydraulics (H&H) is expected to be complex. Risks associated with uncertainty of the hydrologic

information, have diminished as the study has progressed. Environmental impact assessments and potential mitigation costs, as well as cultural resource impacts resulting from proximity to historic rice fields are potential risks to the project.

- Is the project likely to be justified by life safety or is the study or project likely to involve significant life safety issues: The project will reduce frequency of flooding in populated suburban areas and there would be no incremental life safety risk for the project or as a result of failure of any project features. Based on existing information about life-safety risk and measures being considered, the District Chief of Engineering has determined that there is not a significant threat to human life associated with aspects of the study or failure of the proposed project. This will continue to be evaluated and the Review Plan will be revised if appropriate, as the study progresses. Therefore, a Safety Assurance Review (SAR) is not required at this time.
- <u>Has the Governor of an affected state requested a peer review by independent</u> <u>experts?</u> No.
- <u>Will it likely involve significant public dispute as to the project's size, nature, or effects?</u> No. Local acceptability and affordability will be a challenge, as with any cost-shared project; but sufficient alternatives have been formulated and evaluated to confirm that the proposed project is the least-cost alternative that meets all of the planning objectives, while minimizing adverse impacts.
- Is the project/study likely to involve significant public dispute as to the economic or environmental cost or benefit of the project? No, this is unlikely at this time for the same reasons as cited above. Additionally, if Comprehensive Benefits/Other Social Effects (OSE) are appropriately considered, then dispute over the recommended plan is expected to be less likely.
- <u>Is the information in the decision document or anticipated project design likely to be</u> <u>based on novel methods, involve innovative materials or techniques, present complex</u> <u>challenges for interpretation, contain precedent-setting methods or models, or present</u> <u>conclusions that are likely to change prevailing practices?</u> No.
- <u>Does the project design require redundancy, resiliency, and/or robustness, unique</u> <u>construction sequencing, or a reduced or overlapping design/construction schedule?</u> Not likely, but this will be further determined in the design phase.
- Is the estimated total cost of the project greater than \$200 million? No.
- Will an Environmental Impact Statement be prepared as part of the study? No.
- <u>Is the project expected to have more than negligible adverse impacts on scarce or</u> <u>unique tribal, cultural, or historic resources?</u> No, however it is anticipated that cultural resource investigative studies will be needed prior to construction due to proximity to historic rice fields.
- <u>Is the project expected to have substantial adverse impacts on fish and wildlife</u> <u>species and their habitat prior to the implementation of mitigation measures?</u> No, but

necessary impacts to the creek and temporary impacts to wetlands within the project area are likely to occur.

• Is the project expected to have, before mitigation measures, more than a negligible adverse impact on an endangered or threatened species or their designated critical habitat? No.

2. REVIEW EXECUTION PLAN

This section describes each level of review to be conducted or reasoning for exclusion of various reviews.

Table 1 provides the estimated schedules and costs for reviews. The specific expertise required for the teams are identified in later subsections covering each review. These subsections also identify requirements, special reporting provisions, and sources of more information.

| Products to Undergo Review | Review Level | Start Date | End Date | Cost | Complete |
|--|-------------------------------|-------------|-------------|-------|----------|
| Early Model Results | DQC/`ATR | As Needed | As Needed | TBD | No |
| Draft Definite Project Report/EA | DQC | 9 Dec 2024 | 20 Dec 2024 | \$40K | No |
| | ATR | 13 Jan 2025 | 31 Jan 2025 | \$50K | No |
| | Policy and Legal Review | 9 Dec 2024 | 20 Dec 2024 | N/A | No |
| Final Definite Project Report/EA | DQC | TBD | TBD | \$40K | No |
| | ATR | TBD | TBD | \$50K | No |
| | Policy and Legal Review | TBD | TBD | N/A | No |

Table 1. Level of Review.

a. DISTRICT QUALITY CONTROL

All decision documents (including data, analyses, environmental compliance documents, etc.) undergo DQC. This internal review process covers basic science and engineering work products. It fulfills the project quality requirements of the Project Management Plan. The home district shall manage DQC and will appoint a DQC Lead to manage the local review (see ER 1165-2-217, section 8.a.1). Table 2 identifies the required expertise for the DQC team. Multiple disciplines can be reviewed by one team member as appropriate.

| DQC Team Disciplines | Expertise Required |
|-------------------------|---|
| DQC Lead | A senior professional, with at least 10 years' experience preparing Civil Works decision documents and conducting DQC. The lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc). |
| Planning | A senior water resources planner with at least 10 years' experience in formulating flood risk reduction alternatives for Section 205 studies and general planning policy. |
| Economics | A senior economist with at least 10 years of experience with the methods and analyses used in Section 205 planning studies, including familiarity with the HEC-FDA model. |
| Environmental Resources | A senior environmental resources professional with at least 10 years specialized experience in evaluation of riparian and wetland resources, and with experience in the preparation of NEPA documents and the pertinent planning and policy requirements related to NEPA. Also needs to review the cultural section. |
| Engineering | A senior hydraulic and/or civil engineer with at least 10 years of experience and an expert in the field of hydraulics, possessing a thorough understanding of interior flood control, open channel dynamics, enclosed channel systems, application of detention/retention basins, application of levees and flood walls, non- structural solutions involving flood warning systems and flood proofing, etc and/or computer modeling techniques that will be used such as HEC-RAS, FLO-2D, UNET, TABS, HEC-HMS. Can also be an expert in civil design and layout. |
| Cost Engineering | A senior cost engineer with at least 10 years of experience and an expert in the preparation of cost estimates for Section 205 projects. |
| Real Estate | A senior realty specialist, with at least 10 years of experience and an expert in the area of real estate planning and acquisition for federal projects, and in the preparation of real estate plans. |

Table 2. Required DQC Expertise.

Documentation of DQC. Quality Control should be performed continuously throughout the study. A specific certification of DQC completion is required at the draft and final report stages. Documentation of DQC should follow the District Quality Manual and the MSC

Quality Management Plan. An example DQC Certification statement is provided in ER 1165-2-217.

Documentation of completed DQC should be provided to the MSC, RMO and ATR Team leader prior to initiating an ATR. The ATR team will examine DQC records and comment in the ATR report on the adequacy of the DQC effort. Missing or inadequate DQC documentation can result in delays to the start of other reviews.

DQC of the draft report and appendices will occur prior to the TSP milestone meeting and once again prior to release of the final report.

Recommended Best Planning Practice: Use Projnet software to document DQC. Attach a Projnet report to the DQC Certification to help illustrate the thoroughness of the DQC.

b. AGENCY TECHNICAL REVIEW

The ATR will assess whether the analyses are technically correct and comply with guidance, and that documents explain the analyses and results in a clear manner.

The review is performed by a qualified team from outside SAC that is not involved in the day-to-day production of the project/product. The ATR Team Lead shall be ATR Certified and may be from within SAD per the SAD CAP PgMP. The remainder of the team should be comprised of certified USACE personnel if available. Lists of certified reviewers are maintained by the various technical Communities of Practice (see ER 1165-2-217). If approved by the RMO, uncertified reviewers may be used with sufficient supervision.

Table 3 identifies the disciplines and required expertise for this ATR Team.

| ATR Team Disciplines | Expertise Required |
|----------------------|---|
| ATR Lead | A senior professional with at least 10 years |
| | of experience preparing Civil Works |
| | decision documents and conducting ATR. |
| | The lead should have the skills to manage |
| | a virtual team through an ATR. The lead |
| | may serve as a reviewer for a specific |
| | discipline (such as planning economics, |
| | environmental resources, etc). The ATR |
| | Lead MUST be from outside the MSC. |
| Planning | The Planning reviewer should be a senior |
| | water resources planner with at least 10 |
| | years of experience in formulating flood risk |
| | reduction alternatives for Section 205 |
| | studies and general planning policy |
| Economics | The economics reviewer should be a senior |
| | economist with at least 10 years of |
| | experience and familiar with the methods |
| | and analyses used in Section 205 planning |
| | studies. The economics reviewer should |
| | also be familiar with the HEC-FDA model. |

Table 3. Required ATR Team Expertise

| Environmental Resources | The Environmental Resources reviewer should have at least 10 years of experience in the preparation of NEPA documents and the pertinent planning and policy requirements related to NEPA. Also needs to review the cultural section. |
|-------------------------|--|
| Engineering | A senior hydraulic and/or civil engineer with at least 10 years of experience and an expert in the field of hydraulics, possessing a thorough understanding of interior flood control, open channel dynamics, enclosed channel systems, application of detention/retention basins, application of levees and flood walls, non-structural solutions involving flood warning systems and flood proofing, etc and/or computer modeling techniques that will be used such as HEC-RAS, FLO-2D, UNET, TABS, HEC- HMS. Can also be an expert in civil design and layout. |
| Cost Engineering | The Cost Engineering reviewer shall be Cost DX Staff or Cost DX Pre-Certified Professional with at least 10 years of experience preparing cost estimates for Section 205 projects. |
| Real Estate | The Real Estate team member shall have at least 10 years of experience in the preparation of real estate plans for civil works projects, such as those implemented under Section 205. |

Documentation of ATR. Projnet will be used to document all ATR comments, responses and resolutions. Comments should be limited to those needed to ensure product adequacy. If a concern cannot be resolved by the ATR team and PDT, it will be elevated to the vertical team for resolution using the ER 1165-2-217 issue resolution process. Concerns can be closed in Projnet by noting the concern has been elevated for resolution. The ATR Lead will prepare a Statement of Technical Review (see ER 1165-2-217, Section 9), for the draft and final reports, certifying that review issues have been resolved or elevated. Comments from the public review of the draft report will be provided to the ATR team prior to review of the final report. ATR may be certified when all concerns are resolved or referred to the vertical team and the ATR documentation is complete.

ATR of the draft report and appendices will occur after DQC and prior to the TSP milestone meeting and once again prior to release of the final report.

Recommended Best Planning Practice: All members of the ATR team should use the four part comment structure (see EC 1165-2-217).

c. INDEPENDENT EXTERNAL PEER REVIEW

IEPR for Continuing Authorities studies is governed by EP 1105-2-58, "Planning – Continuing Authorities Program", dated 01 March 2019 and by ER 1165-2-17, "Civil Works Review Policy", dated 01 May 2021.

As per Section 9.3.2.2 of ER 1165-2-17, CAP projects are excluded from IEPR except those with decision documents that include an EIS. This project will not require an EIS, therefore, the Eagle Creek Feasibility Study is excluded from performing an IEPR.

Failure of the project features would not result in a breach flood wave and the project features will not result in water surface elevations above those which would occur without the project. Therefore, there is no incremental life safety issues that are anticipated, and a Safety Assurance Review (SAR) is not required.

d. MODEL CERTIFICATION OR APPROVAL

(i.) Planning Models

Per EP 1105-2-58, approval of planning models is not required for CAP, but planners should utilize certified models when they are available. The ATR certification package will include an explicit statement that states that the models and analyses are used appropriately and in a manner that is compliant with Corps policy, and they are theoretically sound, computationally accurate, and transparent. The ATR certification package will address any limitations of the model, or its use documented in study reports. The following models in Table 4 may be used to develop the decision document.

| Model Name and | Brief Model Description and How It | Certification/Approval |
|----------------|--|------------------------|
| Version | Will Be Used in the Study | |
| HEC-FDA 2.0 | The Hydrologic Engineering Center's Flood Damage Reduction Analysis (HEC-FDA) program provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program will be used to evaluate and compare the future-without and future-with project conditions to aid in the selection of a recommended plan to manage flood risk. | Certified |

Table 4. Planning Models

(ii). Engineering Models

The USACE Scientific and Engineering Technology Initiative has identified many engineering models as preferred or acceptable for use in studies. These models should be used when appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR. Table 5 lists the Engineering Models expected for this study.

Table 5. Engineering Models

| Model Name and Version | Brief Model Description and How It Will Be Used in | Approval Status |
|------------------------|--|-----------------|
| | the Study | |
| HEC-RAS | The HEC River Analysis System (HEC-RAS) software allows performance of one- dimensional steady flow, one and two-dimensional unsteady flow calculations, sediment transport/mobile bed computations, and water temperature/water quality modeling. The program will be used to evaluate the future-without and future-with project conditions to aid in the selection of a recommended plan to manage flood risk. | Certified |

Recommended Best Planning Practice: Hold an early coordination call (prior to the Alternatives Milestone) with the appropriate Planning Center(s) of Expertise to discuss model applications and any review needs for approval or certification of the planning models to be employed.

e. POLICY AND LEGAL REVIEW

All decision document, report recommendations, and the supporting analyses and coordination, will be reviewed for compliance with law and policy in accordance with EP 1105-2-58. Policy and Legal review is managed by the SAD Planning and Policy CAP Manager.

The Policy Review Team will be invited to participate in key meetings during the development of decision documents as well as Planning Milestone meetings. These engagements may include In-Progress Reviews, Issue Resolution Conferences or other vertical team meetings plus the milestone events.

Decision document review comments from the Policy Review team will be documented in a Memorandum for the Record (MFR).

Teams may choose to capture some of the policy review input in a risk register if appropriate. These items should be highlighted at future meetings until the issues are resolved. Any key decisions on how to address risk or other considerations should be documented in an MFR.

Policy and legal review will occur prior to the release of the draft report and appendices and once again prior to release of the final report.