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June 2007

TOWN OF PRINCEVILLE FLOOD REDUCTION PROJECT FEASIBILITY STUDY

TOWN OF PRINCEVILLE
EDGECOMBE COUNTY
NORTH CAROLINA

PROJECT MANAGEMENT PLAN
EXECUTIVE SUMMARY



**US Army Corps
of Engineers**
Wilmington District

Princeville Flood Reduction Project
Project Management Plan
Executive Summary
January 26, 2006

1.0. Introduction

A Project Management Plan (PMP) is prepared in accordance with Engineer Regulation (ER) 5-1-11, Program and Project Management, dated February 27, 1998, ER 1105-2-100, Planning Guidance Notebook, dated April 22, 2001, and Engineer Pamphlet (EP) 1165-2-1, Digest of Water Resources Policies and Authorities, dated July 30, 1999. The purpose of the PMP is to provide a project level implementation strategy for all project development phases (planning, engineering and design, and construction). Project Management Plans are not intended to be all-inclusive nor to anticipate or include all possible changes to a project during the lifecycle of its development. This PMP is being developed as a dynamic document that will require periodic updates to reflect progress, and revisions to reflect major changes in the scope, schedule, cost and/or resourcing of the project. Project Management Plans are stand alone documents that provide all scheduling and cost information necessary to implement the project.

The feasibility study encompasses all planning and engineering required to evaluate possible alternative solutions to accomplish the goals of the project. This may include the addition to or the modification of an existing project or the proposal for a new project.

The Project Management Plan provides a comprehensive plan for the development of a Feasibility Study Report for the Town of Princeville Flood Reduction Project. During this feasibility study participants will be mindful of the unique cultural and historical values of the community and the importance of providing a level of protection against flooding to reduce any future losses to this community.

1.2. Authority

The feasibility study will be conducted in response to Public Law 106-246, dated July 13, 2000, which reads as follows:

"For an additional amount for "General Investigations", \$3,500,000, to remain available until expended, of which \$1,500,000 shall be for a feasibility study and report of a project to provide flood damage reduction for the town of Princeville, North Carolina, and of which \$2,000,000 shall be for preconstruction engineering and design of an emergency outlet from Devils Lake, North Dakota, to the Shyenne River: Provided, That the entire amount is designated by the

Congress as an emergency requirement pursuant to section 251(b)(2)(A) of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended."

1.3. Project Background and New Initiatives

1.3.1. Location and Description

The Town of Princeville is a small community of approximately 2,100 residents, located in the east central area of Edgecombe County. The city limits encompass a 1.39 square mile area in the alluvial floodplain on the left descending bank of the Tar River, immediately across the river from Tarboro, North Carolina; refer to Figure 1 Project Location Map.

The study area is located in the eastern portion of North Carolina in the 1st Congressional District. The Tar River basin lies entirely within the State of North Carolina, and has a drainage area of 2,140 square miles above the towns of Tarboro and Princeville. The total drainage area of the Pamlico-Tar basin is about 3,610 square miles. The basin begins in the Piedmont Plateau, extends in a southeast direction, crosses the "Fall Line", and traverses the Coastal Plain to the Pamlico River and then on to Pamlico Sound. It is approximately 160 miles long and has an average width of 30 miles. The basin is primarily an agricultural area, with some manufacturing and lumbering. Corn, tobacco, and cotton are the principal crops. Rocky Mount, Tarboro, Princeville, Greenville, Henderson, and Washington, are among the towns located in the basin.

The Town of Princeville has the unique historic significance of being the first town chartered by African Americans in the United States. Newly freed slaves, originally settled the area that is now Princeville, shortly after the Civil War, in 1865. In February 1885, the North Carolina General Assembly passed the act to incorporate the town of Princeville, making it the nation's oldest black incorporated town.

1.3.2. 905(b) Reconnaissance Study

The primary objectives of the reconnaissance phase are to (1) determine whether the flooding issues identified in Princeville, NC, warrant Federal participation in a feasibility study, (2) define the Federal interest, consistent with Army policies, costs, benefits and environmental impacts, (3) assess the level of interest and support from non-Federal entities in cost sharing for the feasibility phase and project construction, (4) make a recommendation whether or not to proceed with feasibility investigation and (5) prepare a Project Management Plan (PMP).

A reconnaissance report was conducted under section 905(b) of the Water Resources Development Act of 1986. The major findings of the report were that the Town of Princeville was seeking an increased level of flood protection (which at that time was believed to be at the 300-year flood event level) provided by an existing levee to a 500-

year event or greater level. The town was at that time thought to be protected at a level higher than the FEMA standard of 100-year level of protection (the level of protection has since been determined to be under the 100-year level). The rationale for the increased level of protection stems from the desire to protect a town that carries significant historical value. The alternatives considered in the reconnaissance report included: modifications to the existing levee, construction of a reservoir, or construction of a high flow bypass channel. All of the alternatives were estimated to cost in the millions of dollars; however, aid offered from public and private entities indicated strong support for the preservation of the town.

The reconnaissance report, submitted on 31 May 2001, recommended that the Federal Government proceed to the Feasibility Phase and initiate cost-shared feasibility studies for flood damage reduction for the Town of Princeville. The analysis and its recommendation were approved on 22 June 2001 by the Chief of Planning and Policy Division, Directorate of Civil Works, US Army Corps of Engineers.

1.3.3. New Initiatives

After reviewing the Reconnaissance Report and coordination with the state and the community, a different approach to the solution was taken. The costs of the proposed alternatives were beyond what the community and the state could support. The decision was made to reduce the proposed level of protection from the previously requested 500-year or more level of protection down to the level provided by the main portion of the existing Levee (approximately the 110-year level). This will reduce the scope of the project to a scale that can be supported by the state and community. Both the community and the state also requested the provision of a flood warning system.

2.0. Feasibility Study Products

2.1. Feasibility Report

This product includes all activities leading to approval of the final Feasibility Report and the National Environmental Policy Act (NEPA) document by Headquarters, USACE, and the Office of the Assistant Secretary of the Army (Civil Works). It describes all of the problem identification and formulation activities that were conducted during the feasibility phase to identify and recommend plans of improvement. It will also include a required NEPA compliance document, which will describe all activities leading to the assessment of environmental impacts, related to the various projects being investigated. NEPA activities will include: scoping, and preparation of the environmental documents; public coordination and review and notification of findings; Section 106 and other environmental compliance documentation; coordination of the study and results with all interested parties; initial and final review by the South Atlantic Division; Policy review by Headquarters, USACE; and ultimately to Congress. The feasibility study will culminate in the Notice of the Division Engineer. Assuming an April 2005 feasibility study start date, the Final Feasibility Report is scheduled for completion in February 2007.

2.1.1. Preliminary Project Cooperation Agreement and Financing Plan

As recommended plans are finalized, coordination will take place between the Corps of Engineers and the non-Federal sponsor to review the model language for the Preliminary Project Cooperation Agreement (PCA). Letters of intent that acknowledge the requirements of local cooperation and express good faith intent to provide required items of local cooperation for the recommended project(s) will be developed by the non-Federal sponsor. The Wilmington District will prepare an assessment of the non-Federal sponsor's capability to implement the financing plans and will perform an ability to pay analysis. Coordination of the PCA model and the preliminary financing plan will be completed concurrent with the draft feasibility report.

2.1.2. Draft Project Management Plan

Concurrent with the feasibility study, a draft PMP will be prepared based on the recommended measures. A baseline cost estimate will be developed and the draft PMP will address the schedule and cost of Preconstruction Engineering and Design (PED) and construction activities. These activities will include preparation of plans and specifications for the initial construction contracts. The draft PMP will address the development of additional products and detailed plans for successful management and completion of the projects.

2.1.3. Other Supporting Plans

Other supporting plans will be developed as needed as the study progresses to address specific items such as Engineering appendix, real estate acquisition, quality control, value engineering, environmental and cultural resources, safety and security, and project operation and maintenance.

2.1.4. Other Supporting Documents and Maps

Any documents and maps that are produced during the preparation of the Feasibility Report and are not restricted from publication will be made available to the sponsor for briefings and education.

2.1.5. Work Product Coordination

As equal partners in the study, both the Wilmington District and sponsor will be required to provide a project manager to work on the actual development of tasks described in the PMP, where applicable. All products will be developed and reviewed jointly. When the Wilmington District or the sponsor accomplishes work elements independently through in-house staff or by contract or interagency agreement, the partner accomplishing the work element will allow the other partner to review and make comments on draft work products and also on final products. If a contract is used to accomplish work products, the District and the sponsor will jointly, develop the scopes of work, review requests for proposals, and review proposals received. No contracts or agency agreements will be eligible for funding by project funds unless the concept for the work element and the request for proposals have been approved by both partners.

2.2. Study Tasks Required to Produce Products, Analyze Alternatives, and Determine Feasibility

The following is a generalized description of the tasks for this study. This is not an exhaustive list, but rather provides an idea of the primary activities that will comprise the bulk of the work required for the feasibility study.

- Determination of the damages with the existing conditions to evaluate the cost/benefit ratio for various alternatives.
- Development and evaluation of alternatives to provide the Town of Princeville with a level of protection that is equal to that of the main portion of the levee. This will require that the first floor elevation and values of existing structures be obtained.
- The existing North Carolina Flood Plain Mapping Office Flood Insurance HEC-RAS model will be evaluated and changes necessary to model changed conditions due to the proposed project will be made
- The various alternatives will be evaluated by the Geotechnical and Engineering Design sections to make sure that they are structurally sound.
- The existing LIDAR data developed by the State of North Carolina will be used to evaluate the alignments and comparative construction quantities of alternatives.
- Once an alternative is selected the required survey will be obtained for the detailed design.
- The proposed alternatives will also have to be coordinated with the community as to the acceptability.
- As alternatives are developed and checked, construction cost estimates will be developed. The feasibility and constructability of the alternatives will be constantly reviewed, keeping in mind that the community is of historical significance, and that they will not create a significant impact on the neighboring communities.
- With the additional levees the interior drainage will have to be reevaluated.
- All of the proposed alternatives will be evaluated as to their impact on wetlands, cultural, archeological, and social resources.
- A communication plan will be developed and implemented to ensure that key stakeholders, as well as the general public, are aware of the study efforts. The plan will provide ample opportunities for questions and comments that will be considered in the development of potential alternatives.

A Flood Response Plan will be developed for river flooding threats. This plan will begin with the Flood Warning and Forecasting System being developed for the Tar River Basin by the NC Flood Plain Mapping Office. The plan will address the various flood response actions, the times required to take the actions, and the warning times available. The final plan will recommend, based on the forecast flood hydrographs, which actions to take and when. Another feature of the study will be to assess the costs and effectiveness of public flood warning systems such as reverse 911, radio, and sirens.

The preparation of the preliminary Project Cooperation Agreement and Financing Plan will require the Project Manager work closely with the non-federal sponsors to develop a document that is accurate and acceptable to all involved.

The Project Delivery Team(PDT), in conjunction with the non-federal sponsor, will accomplish the preparation of the Draft Project Management Plan.

During the development of the Feasibility Report the PDT may be required to develop other plans to supplement the Project Management Plan (e.g. Communication Plan, Contracting Plan, Occupational Safety and Health Plan, etc..)

2.3. Project Delivery Team (PDT)

The following individuals from the Corps of Engineers, State of North Carolina, Town of Princeville, and Edgecombe County will comprise the core-working group for the project development.

<u>INDIVIDUAL</u>	<u>ORGANIZATION</u>	<u>RESPONSIBILITY</u>
John Morris	State of NC	Sponsor's representative
Darren England	State of NC	Sponsor's liaison
Christine Brayman	USACE	District's representative
Thomas Blount	USACE	Project Manager
Ray Batchelor	USACE	Technical Lead
Allen Davis	USACE	Lead Planner
George Ebia	USACE	Economics
Ed Dunlop	USACE	Design
Stacey Smith	USACE	Geotechnical
Virginia Rynk	USACE	Hydrology & Hydraulics
John Caldwell	USACE	Cost Engineering
Hugh Heine	USACE	Environmental
Richard Kimmel	USACE	Archeological
Sherrel Bunn	USACE	Contracting
Justin McCorcle	USACE	Legal
Belinda Estabrook	USACE	Real Estate
Sam Knight	Princeville	Community Involvement & Town Information
Lorenzo Carmen	Edgecombe Co.	Community Involvement & County Information

2.4. Critical Assumptions and Constraints

Any alternative that is to be considered shall be evaluated using the following constraints: (1) There shall be no significant increase in the flood elevations on the Tar River, (2) There shall not be a ring dike around the Town of Princeville, (3) Any area that is protected by a levee shall have an egress to high ground, (4) Minimal wetlands impact.

3.0. Communications

The Town of Princeville feasibility study will require input from many different work elements, the sponsor, and other external organizations, such as consultants, and other government agencies. Proper coordination among these study participants is essential to maintain the project schedule, to avoid duplication of efforts, to detect problems in a timely manner, and to maintain agreement and cooperation on the direction of the study. Therefore, formal coordination mechanisms are described in this PMP.

3.1. Internal Communications Mechanisms

Internal coordination mechanisms will be used to ensure that effective internal command, control, and coordination is maintained during the feasibility study. The primary internal coordination mechanisms will be the monthly Project Review Board (PRB) meetings, monthly meetings of the Project Delivery Team, and Issue Resolution Conferences scheduled at critical phases of the study. An earned value analysis will also be accomplished on a monthly basis. The purpose of the analysis is to assess actual study progress against scheduled progress in regards to both cost and schedule. This analysis also will indicate cost and schedule variances. Day to day communications will be accomplished using the following directory to store all project data and correspondence, <\\sawserv1\projects1\princevilleGI> and e-mail.

Executive Committee. As indicated in the Feasibility Cost Sharing Agreement (FCSA), management of the overall study will be the responsibility of the Executive Committee, which will be comprised of the a representative designated by the Wilmington District's District Engineer; and a representative designated by the non-Federal sponsor, the State of North Carolina.

The Executive Committee will meet throughout the study to review study progress, finances, and findings as developed and reported by the study team. Either representative may call a meeting with reasonable notice provided. The representatives of the non-Federal sponsor, State of North Carolina, will be equal partners with the Corps representatives on the Executive Committee. The District and sponsor's representatives will co-chair the committee. The Executive Committee will manage the overall study by: (1) maintaining a working knowledge of the feasibility study, (2) assisting in resolving emerging policy issues, (3) ensuring that evolving study results and policies are consistent and coordinated, (4) directing the study management team, and (5) reviewing and approving decisions made by the study management team.

The Executive Committee will participate in Issue Resolution Conferences (IRCs). The committee is also responsible for resolving any disputes that may arise during the study. The committee will agree on solutions and study direction, which may include study termination. At least one IRC will be held prior to the public distribution of the draft feasibility report to ensure that all issues are resolved before the final report is submitted to higher authority. Additional IRCs will be held, as required, throughout the study to

resolve any problems that may arise. As detailed in the FCSA, the Executive Committee must approve any significant amendments to the FCSA. Significant changes are defined as any modification to the FCSA that increases the total study costs by more than 15 percent. They must also approve any reassignment of work items between the non-Federal sponsor and the Federal government.

The Executive Committee is also responsible for decisions on whether to suspend or terminate studies under conditions of the FCSA. The committee will also resolve any disputes that are not resolved by the study team and will appoint representatives from their respective organizations to serve on the study team.

3.2. External Communications Mechanisms

All significant external communications should be routed through both the Corps and Sponsor for review and comment. Major project announcements or press releases will be coordinated and jointly issued. Coordination outside the Corps of Engineers and non-Federal sponsors will be necessary to ensure the success of the feasibility study. External agency counterparts for the environmental work effort include: U.S. Environmental Protection Agency (EPA), Advisory Council on Historic Preservation (ACHP), U.S. Fish and Wildlife Service (USFWS), State Historic Preservation Officer (SHPO), the State of North Carolina, and the N.C. Department of Economics and Natural Resources (NCDENR), including the Division of Water Quality and the Division of Water Resources.

1. *Public Meetings/Workshops.* These gatherings will be scheduled throughout the study period to gather input, report on study progress, or to report study findings.
2. *Study Briefings and Fact Sheets.* Study briefings will be provided and fact sheets prepared throughout the study period for congressional representatives, state and local officials, and others, as appropriate.

The status and schedule of the project will be posted on the internet and will be accessible from the Wilmington District home page at http://www.saw.usace.army.mil/Authorized_Projects/Princeville.htm

4.0. Change Management

A Project Management Plan is a living document that will be updated or revised, as necessary, throughout the life of the project. Updates are defined as changes to the PMP that occur on a regular basis and do not substantially modify the schedule, cost, or annual work plan for the project. Updates may result from posting of actual data, corrections to erroneous information, or the addition of new data identified by the project manager. Updates may be made by the project manager at any time and presented at each Project Delivery Team meeting or Corps' monthly Project Review Board meeting. PMP revisions are defined as changes that reflect significant changes in the project scope, schedule, cost, and/or annual work plan. PMP revisions may be scheduled or

unscheduled depending on the nature of the change and/or the occurrence of a significant event/milestone or phase of project development. Revisions to the PMP require formal approval by the Corps and project Sponsor.

The PMP serves as the baseline for the identification and tracking of changes in the project's scope schedule and cost. Progress will be monitored through the use of performance reports with the goal of identifying changes as soon as possible and forecasting new schedules and/or cost. If changes in scope are identified, the Corps' Engineer Regulation 5-1-11, Program and Project Management, or other applicable rules and regulations will be utilized as the method to document and seek approval for the change.

Changes in project cost will be tracked using a Contingency Management Report. Approved increases in the project cost will be offset by an equal reduction in the available project contingency. The approval authority for utilizing contingency is prescribed in ER 5-1-11. Changes that will result in the estimated project cost (including contingencies) exceeding the baseline cost estimate will require approval by the Director of Civil Works. If the cost estimate is projected to exceed the baseline estimate by more than 20%, a Post Authorization Change will be required and will be submitted to higher authority and Congress for approval.

5.0. Feasibility Study Schedule

This section of the PMP defines the schedule for completion of major milestones and tasks for use in monitoring the progress of the feasibility study. The feasibility study schedule includes all critical study tasks, inter-relationships between tasks, key decision points, in-progress reviews, and issue resolution meetings. The major milestones for the feasibility study are shown below. Milestone dates assume an April 2005 study start and will be adjusted proportionally if study initiation occurs later.

Submit Recon Report to SAD/HQ	May 2001 (complete)
HQ Approves Recon Report	Jun 2001 (complete)
Draft Project Management Plan (PMP) To Sponsor for Review	Aug 2001 (complete)
Final PMP and Feasibility Cost Sharing Agreement (FCSA) to Sponsor <i>(revised Mar 2002 to account for changes due to delayed start)</i>	Oct 2001 (complete)
District & Sponsor Execute FCSA (Completion of Recon Phase)	Apr 2002
Revised Project Scope	Oct 2004
Revised PMP to Sponsor for review	Feb 2005
Final Revised PMP and Revised FCSA to Sponsor	Mar 2005
Initiate Feasibility Phase (Receipt of Funds from Sponsor)	Jun 2005
Initiate Feasibility Scoping (NEPA)	Jun 2005

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Filing of Final EIS/EA	Dec 2005
Conduct FSM	Feb 2006
Alternative Formulation Briefing	Jun 2006
ITR Draft Report	Sep 2006
Initiate Public Review of Draft Rpt	Oct 2006
Feasibility Report w/NEPA to SAD	Mar 2007
Chief's Report to ASA(CW)	Sep 2007
ROD Signed or FONSI Signed	Oct 2007

6.0. Feasibility Study Cost Estimate

This section of the PMP presents the cost estimate for the feasibility study. The feasibility study cost estimates for each activity by year are presented in Tables 3.

TABLE 3. FEASIBILITY STUDY COST ESTIMATES (\$1000)

Activity Name	Total FY05	Total FY06	Total FY07	TOTAL ALL FY's
Engineering Appendix	143	86	12	241
Socio-Economic	60	50	15	125
Real Estate	10	27	3	40
Environmental	90	65	15	170
Fish and Wildlife	20			20
Cultural Resources	30			30
Cost Estimates	2	33	5	40
Public Involvement	3	10	5	18
Plan Formulation	30	30	5	65
Draft Report Documentation		50		50
Final Report Documentation			30	30
Washington Review			50	50
Project/Program Mgmt.	20	35	15	70
Sub Total	408	386	155	949
Contingency & Travel 15%	61	58	23	142
S&A 10%	47	44	18	109
TOTAL	516	488	196	1200
Federal Share	258	244	98	600
Non-Federal Share	258	244	98	600
TOTAL	516	488	196	1200

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The following are the approvals for the Princeville, NC Flood Reduction Project Feasibility Project Management Plan's Executive Summary.

SAW-DDPM:

Ben Wood, P.E.
Deputy District Engineer, Programs & Project Mgmt.

Sponsor:

John Morris, NCDENR
Chief Division of Water Resources