

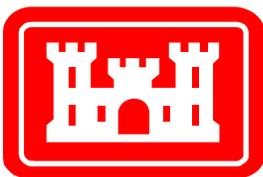
Town of Princeville
Edgecombe County, North Carolina

Town of Princeville Flood Risk Management Feasibility Study

PEER REVIEW PLAN



Princeville during Hurricane Floyd flooding



**US Army Corps
of Engineers**

Wilmington District

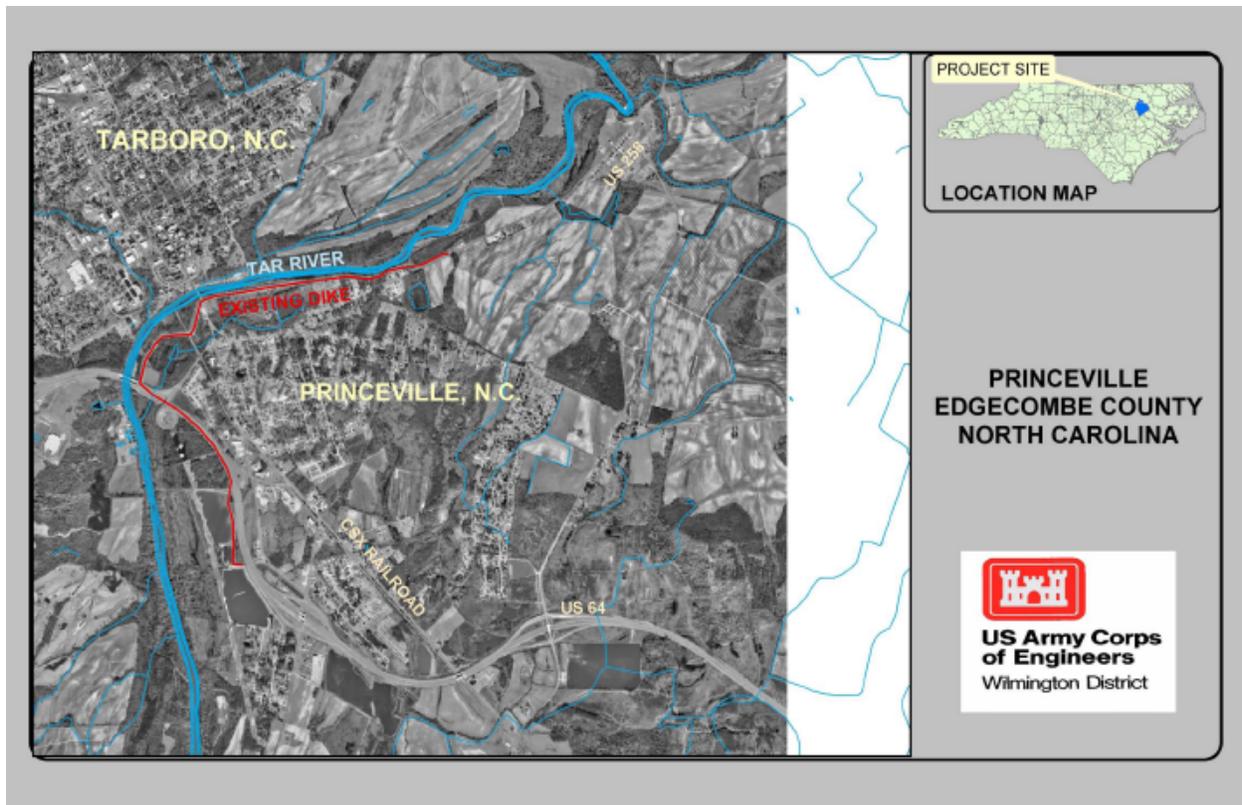


Figure 1.2 Project Location Map

1.0 Introduction

Princeville is a town rich in historical and cultural importance, particularly to Americans of African descent who comprise about 97 percent of the population. It was here in 1865, at the height of the Civil War, that one of the earliest documented groups of freedmen found a safe haven from the threats of war and resentment from many Southern whites. Protected by their own numbers and a nearby-stationed troop of union soldiers, the community provided a safe haven for the congregation of freedmen who squatted there. Unfortunately, the only land that the whites were willing to part with for a settlement of this size was a swampy, mosquito-infested patch of land directly in the middle of a dangerous floodplain along the east bank of the Tar River.

With the end of the Civil War, freedmen were advised by Union soldiers to return to their former masters' plantations to live and work for pay. However, most of the Princeville squatters refused, opting instead to remain in place, continue to build their community, and, too often, battle the flooding Tar River. In 1885, state of North Carolina officials, impressed with the tenacity of the people in this dilapidated refuge, drew up an official charter and Princeville became what is generally acknowledged as the oldest incorporated black town in the United States.

Princeville is located directly across the Tar River from the predominantly white community of Tarboro. Located on the higher banked west side of the river, Tarboro residents were generally happy with the proximity and isolation of the black community across the river. The blacks were kept at distance yet close for hiring as laborers. The two towns coexisted harmoniously enough, but at least once a decade Princeville would inevitably be ravaged by floods. This devastation occurred periodically until 1965 when the USACE constructed an earthen dike. The dike protected Princeville from floods for more than thirty years, but in 1999, it was no match for Hurricane Floyd. Hurricane Floyd flanked the dike and breached sections. All the nearly 1,000 structures in Princeville were flooded, most of them up to their rooftops.

Similarities abound between the plight of Princeville residents following Hurricane Floyd and New Orleans residents following Hurricane Katrina. Flood waters from Floyd put Princeville under water for 11 days. Relief was slow in coming and some suggested the slow response was racially motivated. Following the flood, many Princeville citizens felt they were pressured by both federal and local governments to abandon the town. FEMA's only offer was for an all-or-nothing buyout of the entire town. Accusations flew when they observed similarly-affected white communities receiving large payouts of money to rebuild, not relocate.

The Princeville town commissioners declined the FEMA buyout offer by a 3-2 vote. Voting against the buyout, Mayor Delia Perkins said, "Rebuilding is staying with your heritage. We plan to stay." "Princeville was more than a place, it was a piece of history." Just as with New Orleans, the consensus was that this was more than just a spot on the map, given its unique historic and cultural importance in American history. In the spring of 2000, some 6 months after Hurricane Floyd, only 100 of 875 families had moved back into their homes. A year later, more than 300 former Princeville families still lived in the temporary camper park FEMA established on the grounds of a women's prison outside of Rocky Mount, some 25 miles from Princeville.

The freedmen were allowed to build their homes in this area largely because no one else wanted it. Then, after nearly 150 years of history there, their descendents were told their best recourse following the devastating flood of 1999 was to abandon their homes. But flood events were not the only adversity that Princeville residents have had to overcome over the years. Many senior citizens still remember the "Jim Crow" laws banishing blacks to "colored only" sections in restaurants, theaters and other public places. Their parents and grandparents even battled a racist-motivated campaign to have the Princeville charter revoked in 1909.

The decision to remain in Princeville following Hurricane Floyd was not the only time in the town's history that decision was reached. Beginning in 1879, there was a mass exodus of blacks from North Carolina to the Midwest, particularly to Kansas and Indiana. They were seeking more economic and political freedom. Fearful of losing their source of dependable and inexpensive labor, the white Democratic press in Edgecombe County did everything in its power to dissuade blacks from leaving. Again, during and after World War I, large numbers of blacks were migrating to the more

industrialized north to find jobs and escape the white supremacy movement in the south. Between 1910 and 1923, Princeville's population dropped from 636 to 300. But with each threat of the town dissolving, Princeville overcame the adversity and pressed on. Rather than just another town, Princeville is in a real sense one large, extended family living together in one area. Many residents have lived in the same home or on the same property for three to four generations.

This study for Princeville is being conducted under the Water Resources Development Act of 1986 and in response to Public Law 106-246, dated July 13, 2000. Following the devastation of the town by waters of Hurricane Floyd, President William J. Clinton issued Executive Order (EO) 13146, tasking an interagency President's Council with developing "assessments and recommendations to repair and rebuild Princeville, and, to the extent practicable, protect Princeville from future floods." The United States Army Corps of Engineers (USACE) was the agency assigned the lead in developing alternative flood risk management measures.

The USACE has basically conducted the study following its established guidelines just as it would any flood risk management study. However, there is some relatively new guidance applicable for these studies. Wilmington District believes that there are significant Other Social Effects attributable to the least cost alternative plan of improvement at Princeville, North Carolina, in addition to the basic flood risk management benefits from the NED account. The benefits attributable to this least cost alternative are primarily intangible and unrelated to commercial value. With the inclusion of these OSE benefits, the District finds that implementation of the recommended least cost plan of improvement is in the Federal interest and a necessary component of any general effort to protect and enhance Princeville as the centerpiece of the community's heritage, as well as a national cultural resource.

The existing levee reduces the average annual expected flood damages to a statistically very low level. Although the yearly probability of damage is low, Hurricane Floyd demonstrated that wholesale flooding is still a threat. Via the *Princeville 905(b) Reconnaissance Study*, approved on 22 June 2001 by the Chief of Planning and Policy Division, Directorate of Civil Works, USACE, Wilmington District presented a wide variety of potential structural and nonstructural damage reduction measures to the town, county, and state governments. These measures included upstream reservoirs, channel and bridge conveyance improvements, a bypass channel, levee modifications, flood proofing, elevation, and relocation. Many of these measures were dropped from further consideration for social, environmental, or technical reasons before costs and benefits need be estimated. Refer to the *Princeville Project Management Plan* for further clarification:

http://www.saw.usace.army.mil/Princeville/Princeville_files/Princeville%20Executive%20Summary%2006_07_07.pdf

The only general measure remaining after preliminary screening was some type of modification of the existing levee. Such a modification could include combinations of

raising and lengthening the existing levee, but not to the elevation of requiring a ring dike, or reducing the conveyance of the Tar River floodplain. An increase in the existing dike elevation, for the main part of the dike, was determined to cause an increase in the river flood stages and so screened out.

The final result of the screening process was a set of alternatives which would extend the existing levee to prevent flanking by floodwaters where the existing ground is low. A variety of possible alignments for the levee extensions was developed.

2.0 The Peer Review Plan

This Peer Review Plan (PRP) is a collaborative product of the project delivery team (PDT) and the National Flood Risk Management Planning Center of Expertise (FRM PCX). The study PDT and Independent Technical Review (ITR) team will manage the PRP, which is a component of the study quality control plan and project management plan. Each of the following paragraphs (a.) through (j.) correspond to the guidance provided in paragraphs 6.a. through j. of Engineering Circular 1105-2-408, "Peer Review of Decision Documents":

a. Decision Document and Team Members. The *Town of Princeville, NC Flood Risk Management Feasibility Study* shall be the decision document. The primary purpose of the study, as described in the introduction, is to address creating a practical level of flood risk management for the Town of Princeville. The study is addressing additional flood reduction by preventing floodwaters from flanking the existing levee through existing low areas. The existing levee would be extended using berms, floodwalls, or other structures to intercept flanking floodwaters. Surface drainage inside the existing dike, and its proposed extensions, is being addressed by the study as well. Economic benefits and costs are being evaluated for various alternative layouts of the levee extensions. The work involves plan formulation, the development of a Flooding Preparation and Evacuation Planning Guide, flood modeling, conceptual engineering analysis, environmental, social and cultural considerations, economic analysis, and preparation of a real estate plan. The estimated range of construction cost for the levee extension alternatives varies between \$16.5 million and \$21.5 million. The range of estimated construction cost is well below the \$40 million threshold that would trigger an automatic EPR, although EPR is anticipated for the particular subjects of Other Social Effects and Flood Modeling.

For the use of any planning or decision models, the requirements of EC 1105-2-407, *Planning, Planning Models Improvement Program: Model Certification* will be satisfied as to model certification; that is, that the model(s) utilized are reviewed and certified by the appropriate PCX.

Key PDT members are shown in the table below.

KEY PROJECT DELIVERY TEAM MEMBERS			
ROLE	NAME	ORGANIZATION	CHIEF
Non-Federal Sponsor		State of North Carolina Department of Environment and Natural Resources	
Non-Federal Sponsor		State of North Carolina Department of Environment and Natural Resources	
Stakeholders		Town of Princeville, NC	
		Town of Tarboro, NC	
		Edgecombe County Manager	
		Division 4 NCDOT	
Resource Agencies		US Fish and Wildlife Service	
		NC Wildlife Resources Commission	
		National Marine Fisheries Service	
		NC Division of Water Quality	
		NC Division of Coastal Management	
Project Manager		SAW-PM-C	
Program Manager		SAW-PM-P	
Technical Lead		SAW-TS-PF	
Design		SAW-TS-ED	
Environmental		SAW-TS-PE	
Cultural Resources		SAW-TS-PE	
Geotechnical		SAW-TS-EG	
Survey		SAW-TS-EE	
Flood Plain Modeling		SAW-TS-PF	
Interior Drainage		SAW-TS-EG	
Cost		SAW-TS-EE	
Contracting		SAS-CT-P	
Economics		SAW-TS-PF	
		SAW-TS-PF	
Real Estate		SAS-RE-RP	
Legal		SAW-OC	
Value Engineering		SAW-TS-EE	
Planning		SAW-TS-PF	

For more information regarding the PRP, the project manager for the Princeville Flood Risk Management project may be contacted as follows:

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b. External Peer Review. EC 1105-2-408 provides the process for deciding whether or not to employ external peer review. The following is an excerpt of EC section 9.a: *Decision documents covered by this Circular will undergo EPR if there is a vertical team consensus (involving district, major subordinate command and Headquarters members) that the covered subject matter (including data, use of models, assumptions, and other scientific and engineering information) is novel, is controversial, is precedent setting, has significant interagency interest, or has significant economic, environmental and social effects to the nation. Decision documents covered by this Circular that do not meet the standard shall undergo ITR as described in paragraph 8, above.*

Evaluation. Following is an External Peer Review Decision Checklist based upon the five considerations listed in EC 1105-2-408:

1. Novel subject matter? No. Flood reduction modeling, as well as design of elements such as levees, berms, walls, and surface drainage for flood risk management, are typical subject matter.

2. Controversial subject matter? Yes. Flood Modeling is controversial in that it is the primary determinant of predicted effects of the project for Princeville, Tarboro, and surrounding areas. It also dictates the design of the final set of alternatives. All subject matter of a controversial nature has been thoughtfully considered by the entire PDT throughout the process so far. Items of potential controversy, and their disposition, include the following:

- Potential increase of flood levels in the town of Tarboro: alternatives which could increase flood levels in Tarboro, such as raising the top elevation of the existing levee, were screened out of consideration. Flood modeling is receiving independent review by the USACE Hydrologic Engineering Center, Davis, CA,

and the town of Tarboro will have the option to do their own review of the modeling. An EPR is anticipated for this subject.

- Forms of flood reduction unacceptable to citizens of Princeville: all such alternatives, such as building a ring dike, have been screened out of consideration.
- Property-owner objections to alignment and location of certain levee extension features: the pros and cons of the design of each variation of such features are being coordinated with the town at large, and weighed for the best alternative. Specific property-owner issues are to be resolved as the final version emerges.

There has been consensus among PDT members on selection and evaluation of the alternatives to date.

3. Precedent setting? No. The flood risk management alternatives being considered are various forms of extending the existing levee. Flood modeling, levee extensions, and interior drainage are all based on well-established precedents. Methods and models used for decision-making and technical analysis are in common use by Corps Districts.

4. Unusually significant interagency interest? No. Alternatives that would adversely affect the existing environmental aspects of the Tar River, or wetlands within the project area, have been screened from further consideration. Interagency coordination during the alternatives screening process determined levels of environmental effect for each alternative. The level of interagency interest has been normal and as would be expected for a project of this nature.

5. Unusually significant economic, environmental, and social effects to the nation? Yes. The improvement of flood risk management for Princeville by extension of the existing levee would provide unusually significant economic, environmental, or social effects to the nation. Reference Executive Order 12898 - *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

In addition to the above checklist, the following items are noted:

- **Complexity.** The proposed alternatives for flood risk management by extension of the existing levee require relative evaluation as to acceptability to the town, practicality, and cost; however, these elements do not pose unusually complex challenges. Through the screening process and PDT consensus, a straightforward set of preferred alternatives has emerged.
- **Influential science.** There is no expectation that influential scientific information or high influential scientific assessment will be disseminated by the study. Already-existing scientific methodology is being used to establish best alternatives for flood risk management by extension of the existing levee.

- **Effect of conclusions.** Conclusions reached on the alternatives would not change current practices or affect present policy. The preferred alternatives are based on common practices and policy for flood risk management, based on extension of the existing levee.
- **Risk.** For the preferred alternatives, only those based on extension of the existing levee, there are no added significant elements of risk and uncertainty related to direct endangerment of human life or property damage. The preferred alternatives would all serve to better manage the existing risk of flooding in Princeville.

Decision. For this study, the PDT suggests that EPR is required at this time, only for the particular subjects of Other Social Effects and Flood Modeling. The option of instituting further EPR continues, and may be applied if found to be appropriate for selected disciplines at a later time.

The technical review will be coordinated by the PDT and performed at another Corps District (or Districts) throughout the course of the study. ITR activities will also be coordinated with the FRM PCX and the SAD. In addition to ITR, other review milestones have, and will, ensure that the analysis is technically correct, properly focused, and consistent with Corps policy, as follows:

- Feasibility Scoping Meeting
- In-Progress Review
- Value Engineering Analysis
- Alternative Formulation Briefing
- Draft Policy Review
- Civil Works Review Board

These reviews have, and will, provide adequate oversight to the study and, together with the NEPA review process, help ensure a technically-sound and policy-consistent report.

c. Anticipated Peer Review Schedule. Based on the current project schedule, following is a list of review milestones.

REVIEW MILESTONE	COMPLETION DATE	
Initiation of study	June	2005
External Peer Review (EPR) - EPR only for the particular subjects of Other Social Effects and Flood Modeling	December	2007
AFB Independent Technical Review (ITR) - AFB Read-Ahead Package, to be reviewed by the FRM PCX Independent Technical Review team	December	2007
AFB Read-ahead Package to SAD/HQUSACE - Advance AFB Read-ahead Package, to be reviewed by SAD/HQUSACE prior to the AFB	February	2008
Alternative Formulation Briefing (AFB) - AFB materials and presentation, to be reviewed by SAD/HQUSACE; AFB followed by Project Guidance Memorandum from HQ, directing continuing project development	April	2008
ITR of Draft Report/EIS - Initial Draft Feasibility Report/EIS, to be reviewed by the FRM PCX Independent Technical Review team	September	2008
Draft Report/EIS to SAD/HQUSACE - ITR'd Draft Feasibility Report/EIS, to be reviewed by SAD/HQUSACE	November	2008

As indicated by the bolded items, EPR and ITR peer reviews are scheduled to occur December 2007 and September 2008.

d. Conducting External Peer Review. External Peer Review, as discussed in EC 1105-2-408, is suggested by the PDT at this time only for the particular subjects of Other Social Effects and Flood Modeling. The option of instituting further EPR continues, and may be applied if found to be appropriate for selected disciplines at a later time.

e. Public Comment on Decision Document. The public will have an opportunity to comment on the document as part of the National Environmental Policy Act (NEPA) compliance activities, including circulation of the draft and final NEPA documents in May and October 2008. Once completed, the Integrated Feasibility Report and EIS will be disseminated to resource agencies, interest groups, and the public as part of the NEPA environmental compliance review. Reference "FEIS / NEPA Public Review" as highlighted in the "Peer Review Plan" flow chart included as Attachment 1. Public entities and private individuals may also review and comment on draft documents as members of the PDT.

f. Provision of Public Comments to Reviewers. All significant and relevant public comments will be provided as part of the review package to Peer Reviewers as

they are available and may include but not be limited to: scoping letters, meeting minutes, other received letters, and emails.

g. Anticipated Number of Reviewers. Approximately 12 reviewers would be anticipated for ITR, which will be conducted using DrChecks software. For EPR, the National Flood Risk Management Planning Center of Expertise shall make the final determination for the needed number of reviewers for the EPR.

h. Primary Review Disciplines and Expertise. The number of reviewers (Level of Review) shall vary as depicted under “Review Phase” in the “Peer Review Flow Diagram” included as Attachment 1. In the event EPR is used at a later date, the National Flood Risk Management Planning Center of Expertise shall make the final determination for reviewers, based upon discipline scoping by Wilmington District. Following is a preliminary list of review disciplines for Independent Technical Review.

PRELIMINARY REVIEW DISCIPLINES FOR ITR
Flood risk management
Flood Plain modeling
Design, flood risk management levees, berms, walls
Structural, flood risk management levees, berms, walls
Hydraulics & hydrology
Environmental
Cultural Resources
Geotechnical
Cost engineering: To be conducted by reviewer from Walla Walla District Directorate of Expertise for Civil Works Cost Engineering (CENWW-EC-X).
Real Estate
Economics
Legal
Operations
Construction
Planning

Following is a preliminary list of review disciplines for External Peer Review.

PRELIMINARY REVIEW DISCIPLINES FOR EPR
Other Social Effects
Flood modeling

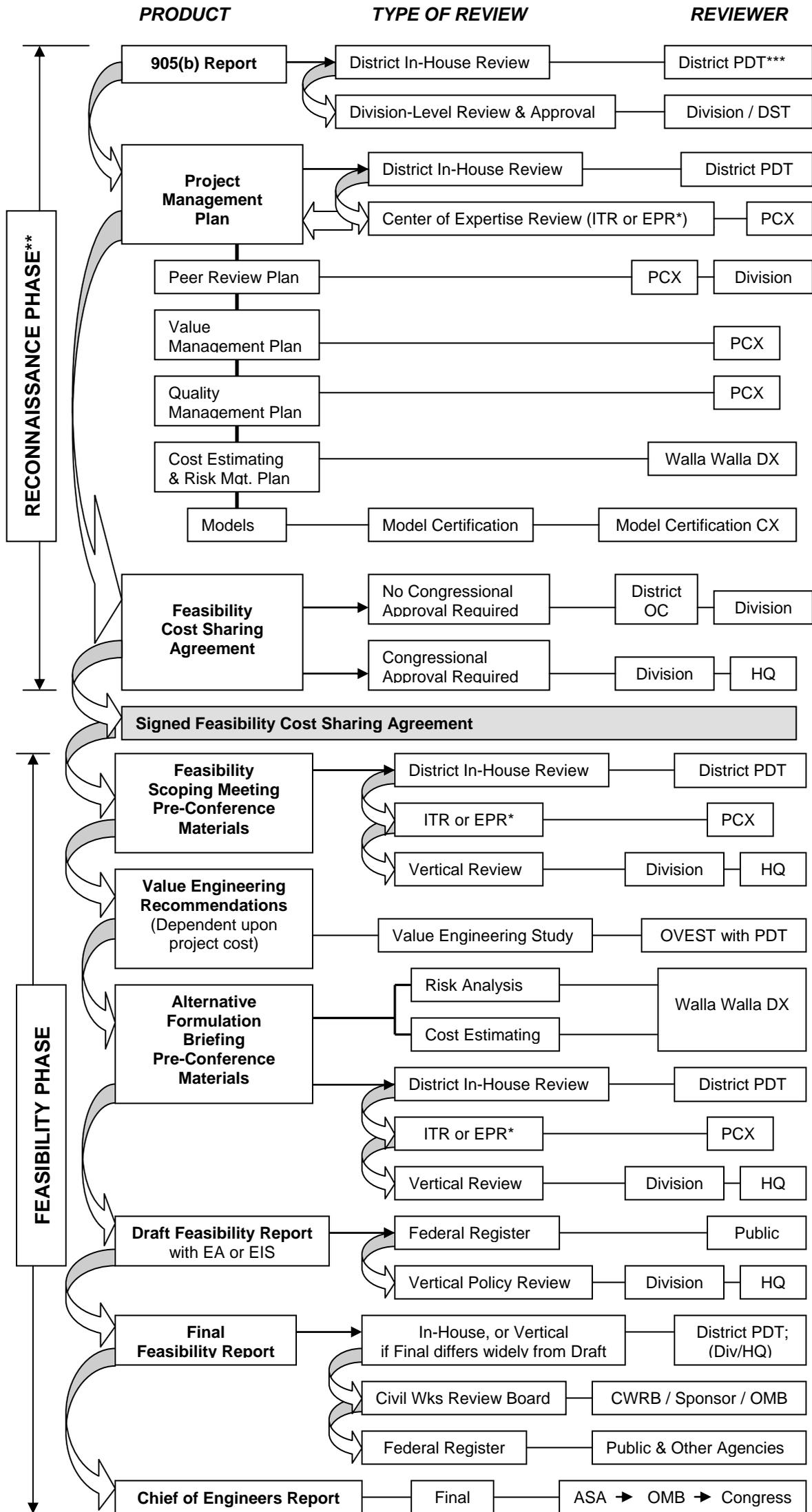
i. Selection of External Peer Reviewers. For EPR, the National Flood Risk Management Planning Center of Expertise shall make the final selection of reviewers for the required disciplines, as scoped in advance by Wilmington District.

j. Nomination of Peer Reviewers by the Public. For EPR, the National Flood Risk Management Planning Center of Expertise shall make the final determination as to which, if any, peer reviewers should be nominated by the public. Required disciplines for EPR will be scoped in advance by Wilmington District.

Peer Review Flow Diagram

ATTACHMENT 1

PEER REVIEW FLOW DIAGRAM



* Reference External Peer Review Decision Checklist in Section b., questions 1 - 5: if any changes occur in checklisted items, the vertical team will determine if External Peer Review (EPR) will be required.

**A Scoping Letter solicits Public involvement during Reconnaissance Phase.

***Project Delivery Team (PDT) includes the non-Federal Sponsor, stakeholders, and resource agencies.