



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-N

31 JAN 2008

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Barataria Basin Barrier Shoreline Ecosystem Restoration
Study Peer Review Plan (PRP)

1. References:

a. EC 1105-2-408, Peer Review of Decision documents,
31 May 2005.

b. Memorandum CECW-CP, 30 March 2007, subject: Peer Review
Process.

c. Memorandum, March 2007, subject: Supplemental
information for the "Peer Review Process."

2. I hereby approve subject Peer Review Plan and concur in the
conclusion that the technical review of this feasibility study
consist of Independent Technical Review performed outside the
New Orleans District by another Corps district in coordination
with MVD and the Planning Center of Expertise (PCX). In
addition, an external peer review will be warranted due to the
risks and magnitude of the proposed project. The proposed PRP
has been coordinated with the Ecosystem Restoration Center of
Expertise. The PRP complies with all applicable policies and
provides an adequate independent technical review of the plan
formulation, engineering and environmental analyses, and other
aspects of the plan development.

3. The District should take steps to post the PRP to its web
site and to provide a link to the Ecosystem Restoration PCX for
their use. Before posting to the web site, the names of the
Corps/Army employees should be removed in accordance with
reference 1.d. above

4. The MVD point of contact is Mr. ~~XXXXXXXXXX~~; CEMVD-PD-N,
~~XXXXXXXXXX~~.

Encl

ROBERT CREAR
Brigadier General, USA
Commanding



**US Army Corps
of Engineers®**
New Orleans District



**Louisiana Department
of Natural Resources**

LOUISIANA COASTAL AREA (LCA), LOUISIANA

ECOSYSTEM RESTORATION

Barataria Basin Barrier Shoreline Ecosystem Restoration

Feasibility Study

Peer Review

2007

1.0 PROJECT DESCRIPTION

1.1 Decision Document

The Barataria Basin Barrier Shoreline Ecosystem Restoration Feasibility Study was identified in the LCA Study as a project that addresses ecosystem restoration for the Barataria Basin Barrier segment of the Louisiana Gulf coast. The feasibility phase of this project is cost shared 50/50 with the project sponsor, the State of Louisiana, with the Louisiana Department of Natural Resources (LDNR) as its representative. Based on the programmatic evaluation in the LCA Study, the Caminada Headland and Shell Island reaches of the Gulf shoreline were identified as critical, near-term restoration efforts that are needed to prevent larger scale, potentially irreversible ecosystem impacts. These two reaches are the only segments of the Barataria Basin Barrier Shoreline that are not addressed by ongoing or recently completed restoration efforts.

1.2 General Site Description

Caminada Headland

Restoration of the Barataria Basin Barrier Shoreline will help sustain significant and unique coastal habitats, protect threatened and endangered species, and provide a sediment source for areas east and west of the headland. Incidental benefits provided by restoration of the Caminada Headland would include added storm surge protection of Port Fourchon, state highways and the only hurricane evacuation route available to the region, Louisiana Highway I.

The Caminada Headland component of the Barataria Basin Barrier Shoreline Restoration project includes restoration of the shoreline and adjacent interior marshes. Restoration features will be combined into alternative plans that meet the following project objectives:

- Maintain the Caminada Headland which will preserve a critical barrier headland without disrupting the natural hydrologic regime;
- Preserve the integrity of the barrier headland;
- Sustain and improve shoreline, dune and interior marsh habitat quality for essential fish and wildlife species;
- Reduce wave energy transmission that damages interior marsh and chenier ridge habitats north of the Caminada Headland;
- Sustain the extent of interior marsh, chenier ridges, and barrier headland;
- Restore the hydrology of the interior marshes of the Caminada Headland.

Alternative plans that will be developed and evaluated to address these objectives could include restoration of the shoreline by using dredge material to replenish beach face and dune ridge landforms, modifying or removing existing structures, periodic nourishment of restored dune and berm features, placement of terminal stabilization structures, restoration of chenier ridges, and creation of adjacent interior marshes and marsh nourishment with dredged material. Restored landforms could be planted with native vegetation to restore habitat development, quality, and diversity, and reduce erosion. Locations for potential shoreline restoration and interior marsh creation along the Caminada Headland reach of the Barataria Basin Barrier Shoreline are shown on Figure 1.

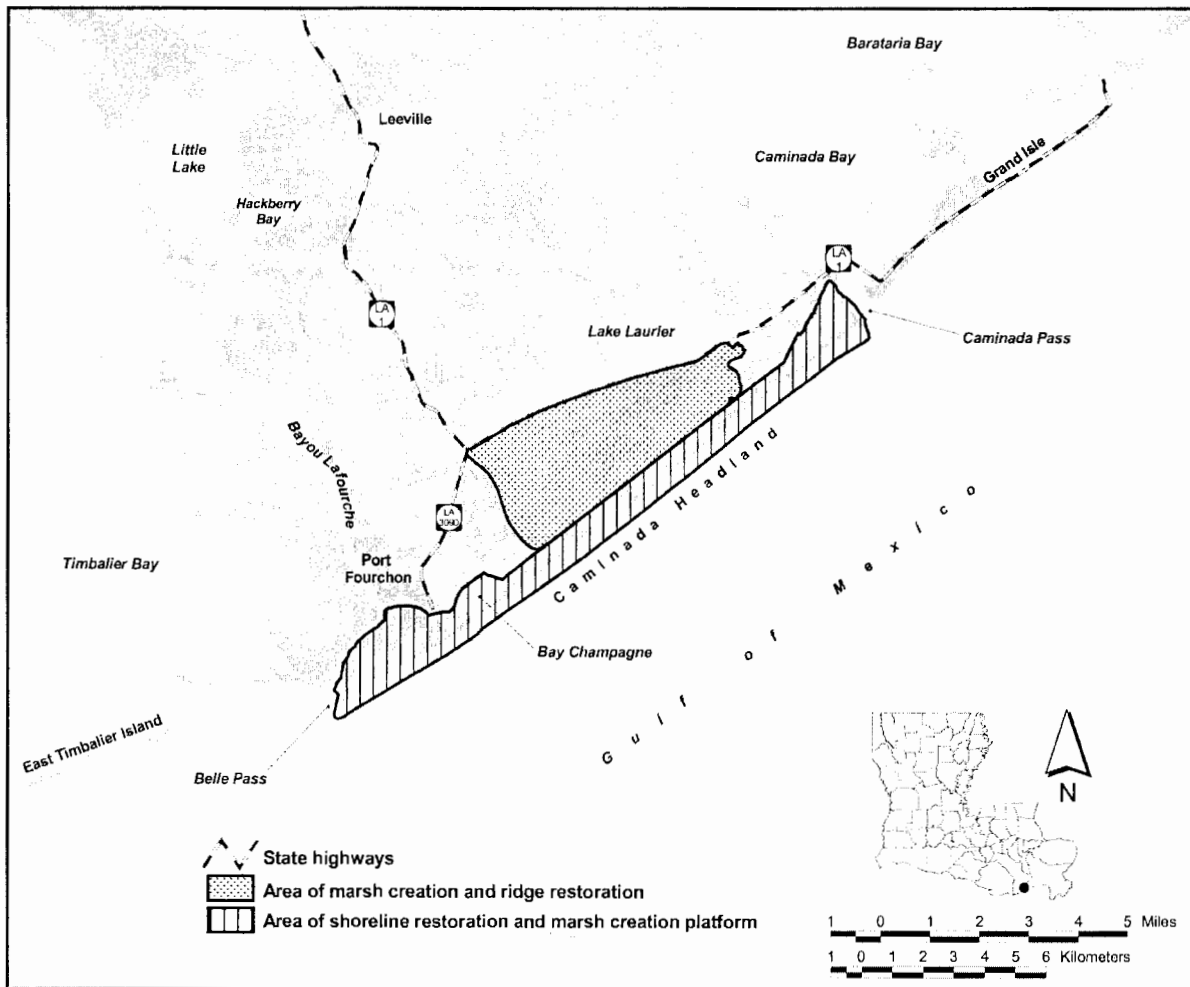


Figure 1. Location of Potential Shoreline Restoration and Interior Marsh Creation for the Caminada Headland

Shell Island

Restoration features for the Shell Island reach of the Barataria Basin Barrier Shoreline will be developed to re-establish a barrier between a threatened estuarine ecosystem and the Gulf of

Mexico by restoring the geomorphic structure and function of this barrier island. Restoring the geomorphic function of Shell Island would promote the re-establishment of long-shore sediment transport along the Gulf shoreline, which, in turn, would support shorelines and critical shoreline habitats west of the Empire Waterway. Restoring the barrier island system along this reach would also reduce the existing marine influence that has encroached into the marsh environment behind the former location of Shell Island. Incidental benefits provided by this ecologic restoration would include increased protection of the nearby Belle Pass navigational channel and oil and gas facilities located along the rim of the inland bays from erosion and storm surges.

The Shell Island component of the Barataria Basin Barrier Shoreline Restoration will be designed to restore the natural sustainability of the barrier shoreline system, while protecting the quality and quantity of habitats along this shoreline reach and adjacent back-barrier marshes. Restoration features will be combined into alternative plans that meet the following project objectives:

- Improve the geomorphic features and function of the barrier shoreline in the vicinity of Shell Island, allowing for the natural processes of overwash and migration over the project life;
- Reestablish the separation of the interior bays from the Gulf of Mexico;
- Enhance shoreline, dune and back-barrier marsh to increase habitat for essential fish and wildlife species both on the barrier island and in the consequently developed quiescent bays;
- Reduce wave energy transmission that damages habitat in the interior bays and marshes north of Shell Island;
- Increase sediment input to supplement long-shore sediment transport processes.

These objectives for restoration of the Shell Island reach will be addressed through development and evaluation of alternative plans that could include dredging and placement of material to restore the shore face, restoration of berm and dune landforms along the east and west reaches of this shoreline segment, placement of dredged material to create back-barrier marshes landward of the restored barrier shorelines, construction of containment features to stabilize marshes, and planting of native vegetation to promote habitat development and decrease erosion. Locations for potential shoreline restoration and interior marsh creation along the Shell Island reach of the Barataria Basin Barrier Shoreline are shown on Figure 2.

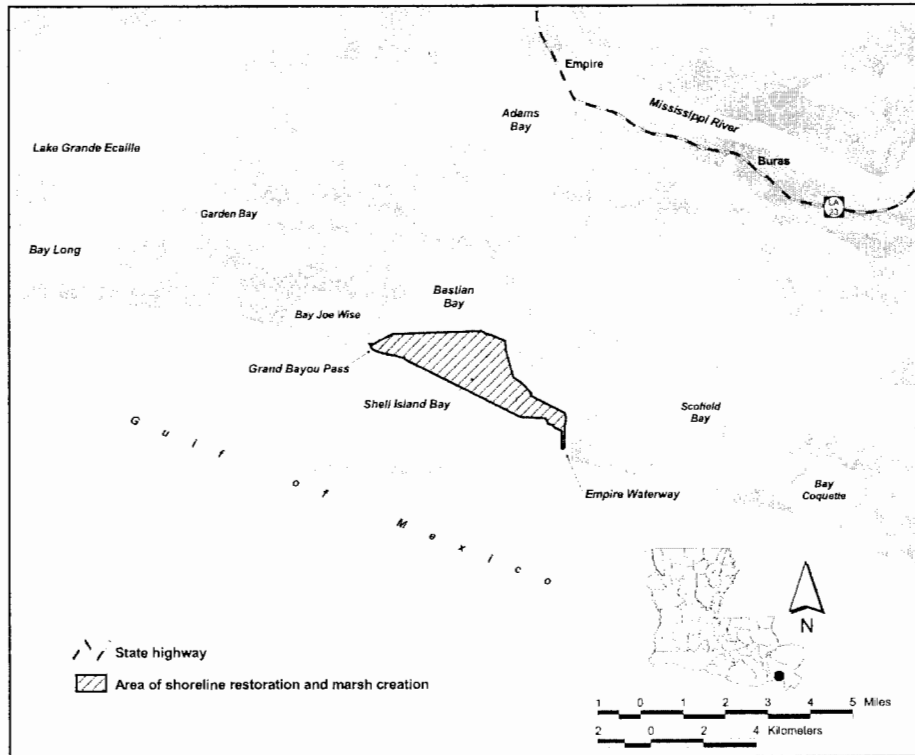


Figure 2. Location of Potential Shoreline Restoration and Back-Barrier Marsh Creation for Shell Island

1.3 STUDY PURPOSE AND SCOPE

1.3.1 Study Purpose

The proposed action to be evaluated in this report is the restoration of the Barataria Basin Barrier Shoreline through shoreline and marsh restoration. The purpose of the proposed action is to restore the geomorphic function of the barrier shoreline of providing ecosystem habitat. In addition, the barrier shoreline also provides some degree of storm surge protection.

Restoration of the shoreline and interior coastal marshes of Caminada Headland and Shell Island would restore critical habitat, form and function, and long-term sustainability of the barrier shoreline. The proposed action would help restore the diversity of coastal habitats (ranging from shorelines, dunes, and ridges to forested swamps, freshwater, intermediate, brackish and saline marshes, freshwater lakes, and bays of variable salinity). These landforms, along with their related hydrologic and biological processes, provide unique habitats that are crucial to the viability of migratory birds (providing breeding, wintering, and stopover habitat), commercial and recreational fisheries (the broad estuaries bordering the Gulf contribute nearly 20% of the volume of U.S. fisheries), and a great variety of terrestrial and aquatic species.

1.3.2 Study Scope

This report is an Integrated Feasibility Report and EIS. The scope of the decision document is the evaluation of the restoration of the Caminada Headland and Shell Island reaches within the Barataria Basin Barrier Shoreline. Coastal restoration efforts for the other reaches in the Barataria Basin Barrier Shoreline are being addressed through other programs, such as Coastal Wetland Planning, Protection, and Restoration Act (CWPPRA).

The study considers all reasonable alternatives including:

- Alternatives considered under previously initiated studies for restoration of the Caminada Headland and Shell Island reaches (prompted by, and including, the LCA Report 2004).
- Alternative borrow sources to be used in dune and marsh construction, including offshore, nearshore, riverine, and other sources.
- Alternatives of varying widths and configurations of barrier shorelines as well as varying heights of restored dunes.
- Consideration of marsh restoration as a platform for barrier shoreline rollover.
- Recommendations from interested parties submitted during scoping and public meetings, and meetings with stakeholders.

1.4 Problem and Opportunities

The Barataria Basin barrier system separates the Gulf of Mexico from the back-barrier estuarine and freshwater wetland environment helping to maintain the salinity gradients important to estuarine and freshwater wetland species. As islands erode and are breached, marine forces are allowed to affect the interior boundaries of the estuaries, thereby accelerating land loss and switching from freshwater and brackish habitats to more saline conditions. In addition, barrier islands serve as valuable storm buffers protecting communities, industry, and associated infrastructure from storm surges.

While transformation of barrier islands is a natural process, the sustainability of a barrier island can be significantly influenced by human activity. Marine influences, particularly those associated with tropical storm events, gradually erode and rework the structure of the barrier islands. Longshore transport of sand and sediment deposits often offset losses from recurring storm and repeated wave action. However, human activities (such as: construction of navigation channels, oil and gas industry pipelines, breakwaters and jetties; and vehicular access to the beach) can significantly reduce or eliminate the ability for these natural processes to rebuild the barrier islands.

2.0

QUALITY CONTROL AND REVIEW

This quality plan was developed to insure that high quality products are produced within the New Orleans District. This plan establishes the policies, procedures, and organizational responsibilities for providing quality control of planning products for this project. The report will disseminate influential scientific information and assessments further necessitating the importance of the quality review process.

The quality control plan (QCP) for the Barataria Basin Barrier Shoreline Ecosystem Restoration Feasibility Study provides a technical review mechanism insuring that quality products are developed during the course of the study by the New Orleans District (MVN). The technical review of the feasibility study will consist of In House Review and Independent Technical Review. An additional level of policy review for the Barataria Basin Barrier Shoreline Ecosystem Restoration Feasibility Study will be performed at the Headquarters of the United States Army Corps of Engineers (HQUSACE) and will insure that all applicable statutes have been applied with respect to cost sharing, project purpose, and budget criteria. All processes, quality control, quality assurance, and policy review, will complement each other producing a seamless review process that identifies and resolves technical and policy issues during the course of the study.

The review process will insure that a cost-effective solution, that meets the sponsor's requirements, is developed. Technical review will assure accountability for the technical quality of the product. Each technical review objective in the QCP will be satisfied through a seamless review process performed inside the MVN (In House Review), outside the MVN (Independent Technical Review), MVD (quality assurance of technical products), and HQUSACE (policy review). The quality control plan is based upon applicable guidance from higher authority including the Engineering Circular 1105-2-408 titled: Peer Review of Decision Documents dated May 31, 2005, Report of the Task Force on Technical Review, dated December 1994, and CELMV-ET memorandum of 23 September 1995, subject: Lower Mississippi Valley Division, Directorate of Engineering and Technical Services, Quality Control and Quality Assurance Guidance.

2.1 In House Review (IHR)

IHR will be performed inside the New Orleans District

2.1.1 In House Review Teams

In House Review will be completed by an In House Review Team (IHRT) whose members should be from the same function/discipline (engineering, economics, etc.) as their PDT counterpart. IHRT members will come from inside the New Orleans District,

but must not have been involved with the preparation of the product/study under review. They will be selected and certified as qualified reviewers by their respective functional Chiefs. The team will be established at the inception of a study, and team continuity will be maintained through the life of the study to the maximum extent possible. The tiered IHR approach as described in MVD memorandum dated 14 February 2003 is the guiding instrument for IHR team establishment.

2.1.2 Planning, Programs, and Project Management Division In House Review Team Leader

The IHRT leader will coordinate the review process to ensure consistency and completeness of reviewed documents. The IHRT leader will monitor and inform the PDT and IHRT when comments and responses have been completed. Once all comments and responses have been resolved, the IHRT leader and PM will provide all certifications and an electronic or hard copy of IHR comments and responses.

2.2 Independent Technical Review (ITR)

ITR will consist of a single level study review performed outside the New Orleans District by the Planning Center of Expertise of another District. ITR is to be performed in the summer of 2008.

2.2.1 External Peer Review (EPR).

This feasibility study meets the EPR criteria of EC 1105-2-408. The cost of this project exceeds \$40 million. Therefore, it is subject to the EPR process. Additionally, EPR will be added to the Louisiana Coastal Area, Barataria Basin Barrier Shoreline Ecosystem Restoration feasibility study because the risk and magnitude of the proposed project are such that a critical examination by a qualified person or team outside of the Corps and not involved in the day-to-day production of the technical product is necessary. By memo dated 31 January 2008, MVD approved the Peer Review Plan and concurred with its conclusions. EPR will be performed outside the New Orleans District and managed by the Planning Center of Expertise. It is recommended that the EPR be conducted by disseminating the project information to select subject matter experts, asking each to review and to provide comments. EPR is expected to be performed in the fall of 2008.

2.2.2 Planning Center of Expertise (PCX)

A Corps of Engineers PCX, other than the New Orleans District, will be responsible for the accomplishment and quality of EPR for the Louisiana Coastal Area, Barataria Basin

Barrier Shoreline Ecosystem Restoration feasibility study. Centers must use subject matter experts outside the Corps to conduct the EPR. Therefore, the appropriate Center will manage rather than conduct the EPR.

The Louisiana Coastal Area, Barataria Basin Barrier Shoreline Ecosystem Restoration feasibility study primarily falls under the PCX business program “Ecosystem Restoration”. This PCX will coordinate with other PCX and offices to ensure that a review team with appropriate expertise is assembled. The District will coordinate with NWW Cost Estimating Directory of expertise for the review of the cost estimate.

2.2.3 Schedule and Team Members

The IHRT and ITRT will be comprised of similar disciplines as the PDT, and will have experience in the type of analyses in which they are responsible for reviewing. Each team member will be senior or equal in experience to the analyst or production person.

Recommended members of the ITRT are:

Name	DISCIPLINE	DIVISION	BRANCH
TBD	Economist	Planning, Programs, & Project Mgmt Division (PPPMD)	Economic and Social Analysis
TBD	Environmentalist	PPPMD	Planning and Compliance
TBD	Cultural Resource Specialist	PPPMD	Planning and Compliance
TBD	Project Manager	PPPMD	Project Mgmt Branch
TBD	Hydraulic Engineer	Engineering	Hydraulics & Hydrologic
TBD	Civil Engineer	Engineering	Cost Engineering
TBD	Geotechnical Engineer	Engineering	Geotechnical
TBD	Civil Engineer	Engineering	Civil Branch
TBD	Real Estate Specialist	Real Estate	

The EPR team will be selected by the PCX. Recommended members of the EPRT are:

Name	DISCIPLINE
TBD	Hydraulic Engineer
TBD	Coastal Engineer
TBD	Coastal Geomorphologist
TBD	Wetland Ecologist/Biologist

2.2.4 DrChecks

ITR of this decision document will be conducted using the online DrChecks system (www.projnet.org). Use of DrChecks will document all ITR comments, responses, and associated resolution accomplished throughout the study delivery process.

2.2.5 Public Involvement

The public will have several opportunities to comment on the feasibility study through a public involvement plan which will be developed and implemented through a notice of study initiation, public meetings, and workshops. This will give the Corps the opportunity to exchange information with the public and insure that individuals with an inherent interest in the study are identified and contacted allowing them to voice their views and concerns relative to the study process.

A mailing list developed during the reconnaissance phase will serve as a notice of study initiation. Next, various public meetings and workshops will be conducted to gather and provide feedback from the public, formulate a consensus, and generally keep interested parties informed. One public meeting will be scheduled subsequent to the public release of the draft feasibility report and environmental assessment to present the study conclusions. Throughout the study other public meetings and workshops will be held if necessary.

Although exact comments will not be provided to the ITR team, significant and relevant public comments will have been addressed by In House Review prior to ITR submittal. Any major changes in the study resulting from these comments will be made available to the PCX.

2.3 Technical Review Meetings and Critical Checkpoints

The quality control process recognizes that the appropriate place to perform one-on-one verification for Planning, Programs, Project Management Division and Engineering Division, Economics Branch, Environmental Branch, and Real Estate Division products will vary among the functional areas. However, the verifications will occur before the release of data and/or final products to another office/division, and may include reviewers and PDT members from other functional areas. The one-on-one verifications for the divisions will occur numerous times throughout the schedule. Each one-on-one verification meeting will be documented and become part of the quality control records used in the quality assurance process by MVD.

In addition to the one-on-one verification process, there are also points within the study

process where it is appropriate for the ITRT and PDT to perform the verification process as a team. This feature of the quality control process allows the flexibility to optimize the one-on-one verification process within the functional area while maintaining the team concept during the Technical Review Meetings. Each meeting will be documented and become part of the quality control records used in the quality assurance process by MVD. These points in the study process would typically occur during: scoping and plan formulation, defining of existing conditions, alternative screening, plan selection, report review, and the preparation of the project management plan.

The Barataria Basin Barrier Shoreline Ecosystem Restoration feasibility study utilizes the Wetland Value Assessment (WVA) methodology developed for the evaluation of proposed Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) projects. The planning model is used to determine environmental benefits. The WVA methodology is similar to the U.S. Fish and Wildlife Service's Habitat Evaluation Procedures (HEP), in that habitat quality and quantity are measured for baseline conditions and predicted for future without-project (FWOP) and future with-project (FWP) conditions. Model certification will be requested through ERDC.

2.4 Quality Control Records

Quality control records for Planning, Programs, Project Management Division and Engineering Division, Economic Branch, Environmental Branch, and Real Estate Division products will be maintained in a technical review package prepared by the PDT leader and included in the Barataria Basin Barrier Shoreline Ecosystem Restoration feasibility study. The package will consist of review comments, and a certification checklist. The review comments will summarize the major issues/comments from the independent technical review along with the response or resolution to each comment. The Planning, Programs, and Project Management Division technical review checklist will also be included within the report as a means of documenting the In House Review and Independent Technical Review.

The Planning, Programs, and Project Management Division and Engineering Division checklists will assure that the major elements of the quality control plan have been followed. Planning, Programs, and Project Management Division reviewers will sign the checklist, certifying that, for their particular subject area, the document conforms to pertinent regulations, guidance, and sound professional practices.

Prior to the submittal of the draft report to HQUSACE the checklist will be completed by the Planning, Programs, and Project Management Division functional chief, reviewed by the Chief of Planning, Programs, and Project Management Division, and signed by the District Commander as part of the required report documentation. Engineering Division's quality control records, comments and resolutions, will accompany the design document. The design checklists will serve as a tool for the ITRT and will become part of the District's files.