



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



**Louisiana Department  
of Natural Resources**

---

**LOUISIANA COASTAL AREA (LCA),  
LOUISIANA**

**ECOSYSTEM RESTORATION**

**Beneficial Use of Dredged Material (BUDMAT)  
Program**

**Programmatic Feasibility Study**

**Peer Review**

**2007**

## 1.0 PROJECT DESCRIPTION

---

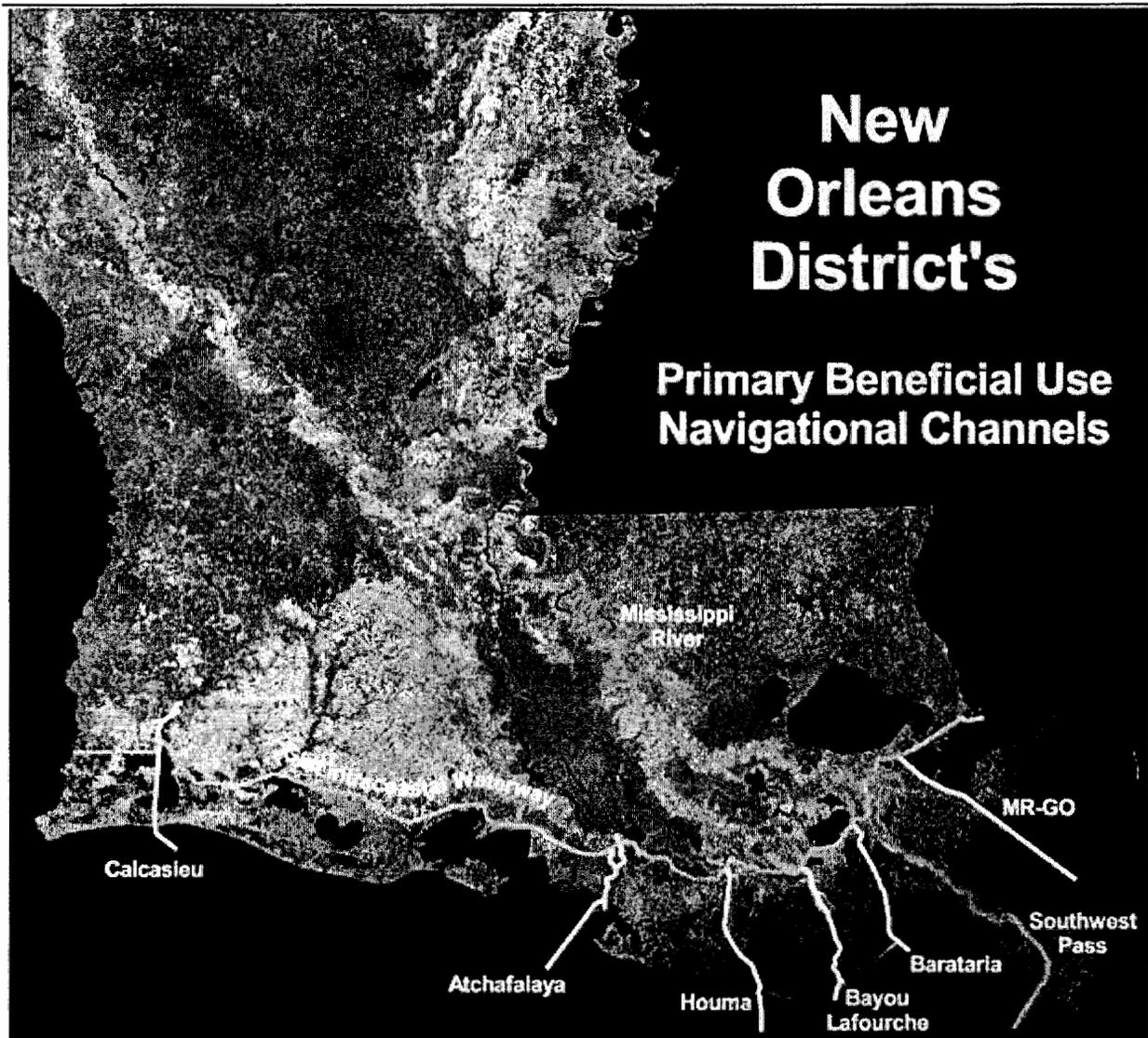
### 1.1 Decision Document

The Beneficial Use of Dredged Material Program has been identified as a critical near-term restoration project in the November 2004 Louisiana Coastal Area (LCA), Louisiana Ecosystem Restoration Study (LCA Study) and was recommended for programmatic authorization by the Chief of Engineers in January 2005. 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.

#### General Site Description

The study area is Louisiana's coastal area from Mississippi to Texas. Louisiana parishes included in the study area include Ascension, Assumption, Calcasieu, Cameron, Iberia, Jefferson, Lafourche, Livingston, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, and Vermilion. The following seven navigation channels represent an initial list of areas (used for cost estimating purposes) with the most significant opportunities for additional beneficial use of dredged material in coastal Louisiana under the LCA Program beyond that accomplished in the USACE Operations and Maintenance (O&M) Program, see figure 1:

- The Barataria Bay Waterway, LA project; (the bar channel is currently maintained about every 3 years, while the bay reach is dredged less frequently)
- The MR&T project, Head of Passes and Southwest Pass; (dredged annually, but beneficial use of dredged material will depend on the use of a cutterhead dredge in this area, and a cutterhead dredge has not been used for the last 2-3 years due to shoaling conditions being more conducive to hopper dredging than cutterhead dredging)
- The Atchafalaya River and Bayous Chene, Boeuf, and Black, LA, project; (the Horseshoe, bay, and bar channel reaches are dredged annually)
- The inland reach of the Calcasieu River and Pass, LA, project; and (some part of the inland reach is dredged each year, but beneficial use opportunities are much more limited for the upper inland reach from about Mile 24 to Mile 35)
- The Houma Navigation Canal. (bay and bar channel reaches are maintained on an approximately 3 year frequency)
- Bayou Lafourche, LA project; (the bar channel is projected to be dredged every other year, while the inland reach is projected to be dredged every 3 – 5 years)
- The Mississippi River Gulf Outlet (MRGO), LA, project; (dredged annually in the bay and bar reaches)(NOTE – this channel is currently under study for potential deauthorization)



## 1.2 STUDY PURPOSE AND SCOPE

### 1.2.1 Study Purpose

The LCA BUDMAT Program will optimize the use of dredged material resulting from the maintenance of federally maintained navigational channels to 1) restore formerly existing coastal wetlands; 2) reduce, halt or reverse the loss of existing coastal wetlands; 3) create coastal wetlands where none existed previously; or 4) provide protection to any of the above wetland situations or other coastal landscape features within the study placement area. The Beneficial Use of Dredged Material Program costs are those costs incurred above and beyond the ordinary costs incurred with USACE O&M dredging and disposal operations in accordance with their established base plan for maintenance

dredging activities. The base plan is determined by applying the Federal standard which requires maintenance dredging and disposal activities to be conducted in the most cost effective, environmentally acceptable manner.

### **1.2.2 Study Scope**

This report is an Integrated Programmatic Feasibility Report and EIS. The scope of the decision document is to 1) provide a program guidance/management and decision process for the selection of projects to be implemented under the LCA BUDMAT Program, 2) describe an adaptive management process for the LCA BUDMAT Program, 3) identify beneficial use opportunities, and 4) describe the potential impacts of the LCA BUDMAT Program. As the Study focus is on the implementation of the LCA BUDMAT Program as opposed to specific projects implemented under the LCA BUDMAT Program, the alternatives considered will primarily deal with various ways to select projects for implementation under the LCA BUDMAT program. The environmental, cultural, and socioeconomic analysis focuses on the generic impacts of implementing the LCA BUDMAT Program on the basis of global knowledge and identifies key issues that subsequent, project-specific assessments should consider. Thus, it is expected that subsequent NEPA documents prepared for site-specific projects implemented under the LCA BUDMAT Program will tier off of this Integrated Programmatic Feasibility Report and EIS.

### **1.3 Problem and Opportunities**

The USACE, Mississippi Valley Division, New Orleans District (the District) has the largest annual channel operations and maintenance (O&M) program in the USACE, with an annual average of 70 million cubic yards (mcy) (53.6 million cubic meters) of material dredged. At this time, approximately 14.5 mcy (11.1 million cubic meters) of this material is used beneficially in the surrounding environment with funding from either the O&M program itself or the Continuing Authorities Program (CAP) defined by the WRDA 1992 Section 204 for beneficial use of dredged material. The amount of material generated by O&M operations, the volume of material recovered for beneficial use in existing operations, and the potential total volume of material that can be reused varies considerably from year to year, based on the type of dredging operations being performed and their environmental setting. The LCA Plan's effectiveness would be enhanced by a programmatic authorization for expanding the beneficial use of dredged material. The proposed beneficial use program would allow the District to take greater advantage of existing sediment resources made available by maintenance activities to achieve restoration objectives.

## 1.4 Project Delivery Team

The project delivery team (PDT) is comprised of those individuals directly involved in the development of the decision document. Contact information and disciplines are listed below.

Member	Agency	Role	Phone
Bill Hicks	CEMVN-PM-C	Project Manager	504-862-1945
Bob Bosenberg	CEMVN-PM-C	Senior Project Manager	504-862-2522
Bill Fernandez	CEMVN-PM-C	P2 Luster Contractor	504-862-2240
Gary Rauber	CEMVN-PM-C	PM - Dredging	504-862-2543
Sue Hawes	CEMVN-PM	PM, Environment	504-862-2518
Chris Gilmore	CEMVN-PM-W	PM - CAP	504-862-1961
Beth McCasland	CEMVN-PM-RS	PM - NEPA/EIS	504-862-2021
Richard Gatewood	CEMVN-PM-RP	HTRW	504-862-1344
Richard Radford	CEMVN-PM-RN	Aesthetics	504-862-1927
Allan Hebert	CEMVN-PM-AW	Economics	504-862-1906
Jerica Richardson	CEMVN-PM-RN	Cultural Resources	504-862-2038
Andrew Perez	CEMVN-PM-RN	Recreation	504-862-1442
Julie Morgan	CEMVN-PM-C	PM - LCA Pub Affairs (FTL)	504-862-2587
Daryl Glorioso	CEMVN-OC	Attorney (FTL)	504-862-1941
Linda Mathies	CEMVN-OD-T	PM - O & M Dredging (FTL)	504-862-2318
Ed Creef	CEMVN-OD-T	PM - O & M Dredging	504-862-2521
Pam Deloach	CEMVN-ED-SP	Project Manager (FTL)	504-862-2621
Keith O'Cain	CEMVN-ED-LW	Waterways	504-862-2746
Rick Broussard	CEMVN-ED-LW	Waterways	504-862-2402
Brian Bonanno	CEMVN-ED-FD	Geotech	504-862-2983
John Petitbon	CEMVN-ED-C	Costs	504-862-2732
Del Britsch	CEMVN-ED-FG	Geotech	504-862-1022
Ed Blodgett	CEMVN-ED-HC	Hydraulics	504-862-2481

Donna Bivona	CEMVN-ED-HM	Water Quality	504-862-1812
Steve Servay	CEMVN-ED-HM	Water Quality	504-862-1816
Greg Debose	CEMVN-ED-SR	Relocations	504-862-2452
TBD	CEMVN-ED-HH	Hydrologic	
TBD	CEMVN-ED-SS	Survey Section	
Michelle Marceaux	CEMVN-RE-E	Real Estate (FTL)	504-862-1190
TBD	CEMVN-CT	Contracting (FTL)	
TBD	CEMVN-CD	Construction (FTL)	
Rayford Wilbanks	CEMVD-PD-N	DST	601-634-5847
Gary Ray	CEERD-EL-EEW	ERDC, S&T	601-634-2589
Timothy Welp	CEERD-HN-CD	ERDC, S&T	601-634-2083
Cathy Breaux	USFWS	Agency Liaison	504-862-2689
Angela Trahan	USFWS	Agency Liaison	337-291-3137
John Ettinger	USEPA	Agency Liaison	504-862-1119
Barbara Keeler	USEPA	Agency Liaison	214-665-6698
Clint Padgett	USGS	Agency Liaison	504-862-1074
Cindy Steyer	NRCS	Agency Liaison	225-389-0334
Troy Mallach	NRCS	Agency Liaison	337-291-3060
Brit Paul	NRCS	Agency Liaison	318-473-7816
Rick Hartman	NOAA	Agency Liaison	225-389-0508
Patrick Williams	NOAA	Agency Liaison	225-389-0508
Carol Parsons Richards	LDNR, CRD	Planning	225-342-9430
Chris Williams	LDNR, CED	PM	225-342-7549
Bren Haase	LDNR, CRD	Planning	225-342-1475
Andrew Beall	LDNR, CED	PM	225-342-6690
Dain Gillen	LDNR, CED	Engineering	225-219-0379
George Boddie	LDNR, CED	Engineering	504-280-4067
Maury Chatellier	LDNR, CED	Engineering	225-342-5944
Dona Ours	LDNR, CED	PM	225-342-1477

Syed Khalil	LDNR, CED	Geology	225-342-1641
Jeff Harris	LDNR, CMD	Consistency	225-342-7949
Greg Ducote	LDNR, CMD	Consistency	225-342-5052
James Altman	LDNR, Lands	Land Section	225-342-1934
James Wray	LDNR, Lands	Land Section	225-342-7329
Heather Finley	LDWF	Agency Liaison - Fisheries	225-765-2956
Mike Carloss	LDWF	Agency Liaison - Wildlife	337-373-0032
Ed Mouton	LDWF	Agency Liaison - Wildlife	337-373-0032
Manuel Ruiz	LDWF	Agency Liaison - Fisheries	225-765-2373
Kyle Balkum	LDWF	Agency Liaison	225-765-2819

## **2.0 QUALITY CONTROL AND REVIEW**

---

This quality plan was developed to insure that high quality products are produced within the Corps of Engineers' New Orleans District (CEMVN). This plan establishes the policies, procedures, and organizational responsibilities for providing quality control of planning products for this project.

The quality control plan (QCP) for the LCA BUDMAT Program Feasibility Study provides a technical review mechanism insuring that quality products are developed during the course of the study by the CEMVN. 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 LCA BUDMAT Program 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 CEMVN (In House Review), outside the CEMVN (Independent Technical Review), Corps of Engineers' Mississippi

Valley Division - CEMVD (quality assurance of technical products), and HQUSACE (policy review). Peer Review Teams will be responsible for verifying; 1) assumptions, 2) methods, procedures, and material used in analyses based on the level of analyses, 3) alternative evaluated is reasonable, 4) appropriateness of data used, and level of data obtained, 5) reasonableness of results, and 6) products meet sponsor needs and are consistent with law and existing policy. 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 CEMVN, 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. Each IHRT member will be senior or equal in experience to the analyst or production person. The makeup of the IHRT may be modified as the study progresses to match the review requirements. 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 CEMVD 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 CEMVN by the Planning Center of Expertise of another Corps of Engineers' District, Division, or Laboratory.

### 2.2.1 Planning Center of Expertise (PCX)

A Corps of Engineers PCX, other than the CEMVN, will be responsible for the accomplishment and quality of ITR for the LCA BUDMAT Program Feasibility Study. The Center may conduct the ITR themselves or manage the review conducted by others. If the PCX decides to manage the review from an outside source, these potential reviewers may include nominations from scientific or professional societies, if the Center so chooses.

The LCA BUDMAT Program Feasibility Study primarily falls under the PCX business program "Ecosystem Restoration". ITR for studies grouped in this program are performed in the CEMVD Office under the supervision of Rayford Wilbanks (601-634-5846). This PCX will coordinate with other PCX and offices to ensure that a review team with appropriate expertise is assembled.

### 2.2.2 ITR Schedule and Team Members

As with the IHRT, the ITR team (ITRT) will be comprised of the same disciplines on the PDT, and will have experience in the type of analyses in which they are responsible for reviewing. Each ITRT member will be senior or equal in experience to the analyst or production person. The amount of time it will take to conduct the ITR will depend on the workload and schedule of the PCX chosen to conduct or manage the reviews. The number of reviewers participating in the ITR will also be determined at a later date by the PCX, but should include members with expertise in the following disciplines:

Name	DISCIPLINE	DIVISION	BRANCH	SECTION
TBD	Economist	Planning, Programs, & Project Mgmt Division (PPPMD)	Economic and Social Analysis	Ecosystem Restoration Support
TBD	Environmentalist	PPPMD	Planning and Compliance	Ecological Planning & Restoration
TBD	Cultural Resource Specialist	PPPMD	Planning and Compliance	Natural/Cultural Resource Analysis
TBD	Recreational Resource Specialist	PPPMD	Planning and Compliance	Natural/Cultural Resource Analysis
TBD	Project Manager	PPPMD	Project Mgmt	

			Branch	
TBD	Hydraulic Engineer	Engineering	Hydraulics & Hydrologic	Hydraulic Design
TBD	Civil Engineer	Engineering	Cost Engineering	
TBD	Geotechnical Engineer	Engineering	Geotechnical	
TBD	Civil Engineer	Engineering	Design Services	Projects Engineering
TBD	Civil Engineer	Operations	Operations Mgmt	
TBD	Realty Specialist	Real Estate	Acquisition and Leasing Branch	
TBD	Appraiser	Real Estate	Appraisal and Planning Branch	
TBD	Attorney	Real Estate	Acquisition and Leasing Branch	

### **2.2.3 DrChecks**

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

### **2.2.4 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 LCA BUDMAT Program Feasibility Study report 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 External Peer Review (EPR)

The LCA BUDMAT Program Feasibility Study does meet the EPR criteria of EC 1105-2-408. The cost of the LCA BUDMAT Program is estimated to be \$100 million over a ten year period which is well above the threshold of \$40 million. The study is therefore subject to the EPR process. EPR will be performed outside the CEMVN and managed by the PCX of another District.

### 2.3.1 Planning Center of Expertise (PCX)

A Corps of Engineers PCX, other than the CEMVN, will be responsible for the accomplishment and quality of EPR for the LCA BUDMAT Program Feasibility Study. Centers must use subject matter experts outside the Corps to conduct the EPR, so therefore the appropriate Center will manage rather than conduct the EPR.

The LCA BUDMAT Program Feasibility Study primarily falls under the PCX business program "Ecosystem Restoration". EPR for studies grouped in this program are performed in the CEMVD Office under the supervision of Rayford Wilbanks (601-634-5846). This PCX will coordinate with other PCX and offices to ensure that a review team with appropriate expertise is assembled.

### 2.3.2 EPR Schedule and Team Members

As with the IHRT and the ITRT, the EPR team (EPRT) will be comprised of the same disciplines on the PDT, and will have experience in the type of analyses in which they are responsible for reviewing. Each EPRT member will be senior or equal in experience to the analyst or production person. The amount of time it will take to conduct the EPR will depend on the workload and schedule of the PCX chosen to manage the EPR. The number of reviewers participating in the EPR will also be determined at a later date by the PCX, but should include members with expertise in the following disciplines:

Name	DISCIPLINE	DIVISION	BRANCH	SECTION
TBD	Economist	Planning, Programs, & Project Mgmt Division (PPPMD)	Economic and Social Analysis	Ecosystem Restoration Support
TBD	Environmentalist	PPPMD	Planning and Compliance	Ecological Planning & Restoration
TBD	Cultural Resource Specialist	PPPMD	Planning and Compliance	Natural/Cultural Resource Analysis
TBD	Recreational Resource Specialist	PPPMD	Planning and Compliance	Natural/Cultural Resource Analysis
TBD	Project Manager	PPPMD	Project Mgmt	

			Branch	
TBD	Hydraulic Engineer	Engineering	Hydraulics & Hydrologic	Hydraulic Design
TBD	Civil Engineer	Engineering	Cost Engineering	
TBD	Geotechnical Engineer	Engineering	Geotechnical	
TBD	Civil Engineer	Engineering	Design Services	Projects Engineering
TBD	Civil Engineer	Operations	Operations Mgmt	
TBD	Realty Specialist	Real Estate	Acquisition and Leasing Branch	
TBD	Appraiser	Real Estate	Appraisal and Planning Branch	
TBD	Attorney	Real Estate	Acquisition and Leasing Branch	

### 2.3.3 DrChecks

The use of DrChecks for EPR will remain optional, at the discretion of the respective review team.

### 2.3.4 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 LCA BUDMAT Program Feasibility Study report 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 EPR team, significant and relevant public comments will have been addressed by IHR and ITR prior to EPR submittal. Any major changes in the study resulting from these comments will be made available to the PCX.

## **2.4 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 division products will occur numerous times throughout the study effort. 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 technical review team 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.

## **2.5 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 LCA BUDMAT Feasibility Study. The package will consist of review comments, and a certification checklist. The review comments will summarize the major issues/comments from the in house and independent technical reviews 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 technical review team and will become part of the District's files.