PEER REVIEW PLAN

Middle Rio Grande Bosque Restoration, New Mexico
General Investigation Detailed Feasibility Study

Prepared By:

U.S. Army Corps of Engineers
Albuquerque District

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TABLE OF CONTENTS

PURPOSE 1
APPLICABILITY 2
REFERENCES 2
STUDY OVERVIEW 3
REVIEW REQUIREMENTS 5
REVIEW PLAN 9
Basic Information 9
Process 10
PCX Coordination 10
Timing 11
Communication 11
Review Disciplines 12
Project Delivery Team Members 12
ATRT (Determined by Eco-PCX) 13
ATRT Responsibilities 13
PDT responsibilities 14
Resolution 14
RP Certification 14
IEPR Process 15
REVIEW COSTS 15
REVIEW MILESTONES SCHEDULE 15
Public Comment 16
Dissemination of Public Comment 16
Potential Alternatives 16
Model Certification 17
Project Cost Estimates 19
RP Approval 19
Appendix A – Team Members 25
Project Delivery Team Members 25
ATRT (Current) 25

REVIEW PLAN
Middle Rio Grande Bosque Feasibility, New Mexico
General Investigation Detailed Feasibility Study
ALBUQUERQUE DISTRICT
2009-03-04

PURPOSE

This document presents the process that assures quality products for the Middle Rio Grande Bosque Feasibility, NM, General Investigation (GI) Detailed Feasibility Study, a single purpose project. This Review Plan (RP) defines the responsibilities and roles of each member on the study and technical review team. This RP includes an Agency Technical Review (ATR) plan that is governed by the South Pacific Division (SPD) Quality Assurance plan. The basis for the Quality Assurance Plan is the SPD Quality Management Plan. The RP is also the Quality Control Plan (QCP) for this study

The products to be reviewed by the Agency Technical Review Team (ATRT) include, but are not necessarily limited to:

1 Feasibility Scoping Meeting (FSM or F3) report
    - The purpose of the FSM is to bring the USACE vertical team, the non-Federal sponsor, and resource agencies together to reach agreement on the problems and solutions to be investigated during the feasibility study and the scope of analysis required.

2 Alternative Formulation Briefing (F4) report
    - The AFB was established to save time and costs in the preparation and review of feasibility and general re-evaluation reports, and to facilitate Headquarters participation in plan formulation. The purpose of the AFB is to confirm that the plan formulation and selection process, the tentatively selected plan, and the definition of Federal and non-Federal responsibilities are consistent with applicable laws, statutes, Executive Orders, regulations and current policy guidance. The goal is to identify and resolve any legal or policy concerns that would otherwise delay or preclude Washington-level approval of the draft report, and to allow the districts to release the draft report to the public concurrent with the Headquarters policy compliance review of the draft report.

3 Ecosystem Restoration Modeling
    - Ecosystem Restoration modeling is a planning tool that analyzes ecosystem responses to changes in flow regime, elevation, plantings, etc. and to assist in determining ecosystem values.

4 NEPA documentation
    - The NEPA scoping process determines the scope of issues to be addressed and identifies the significant issues related to a proposed action.
    - Environmental Assessments (EA) are the process of estimating and evaluating significant short-term and long-term effects of a program or project on the quality of its location's environment. It also includes

identifying ways to minimize, mitigate, or eliminate these effects and/or compensate for their impact. Also called environmental evaluation.

5 Civil Works Review Board
   - The CWRB briefing is the corporate checkpoint for determining that the final decision and NEPA documents, and the proposed Report of the Chief of Engineers are ready to release for State and Agency (S&A) Review as required by the Flood Control Act of 1944, as amended (33 U.S.C. 701-1).

6 Final report for HQUSACE review
   - HQUSACE is responsible for establishing technical, policy, and legal compliance requirements for specific projects, and providing final compliance documentation for Washington-level decision makers, generally the Chief of Engineers, ASA(CW), OMB, and Congress. The HQUSACE team is responsible for confirming the policy and legal compliance planning products; supporting the resolution of issues requiring HQUSACE, ASA (CW) or OMB decisions; continuously evaluating the overall project development process, including the peer review and policy compliance processes (including responsibilities delegated to MSCs); and recommending appropriate changes when warranted.

Under the provisions of new Corps of Engineers policies, as detailed in references listed below, the ATR will be conducted by specialists from Corps organizations outside of the Albuquerque District. ATR will be conducted for all decision documents and modeling, and will be independent of the technical production of the project. This Review Plan is, by reference, a part of the Project Management Plan (PMP) for this Feasibility Study.

APPLICABILITY

This document provides the QCP for this Feasibility Study. It identifies quality control processes and technical review for all work to be conducted under this study authority, including in-house, sponsor and contract work.

REFERENCES

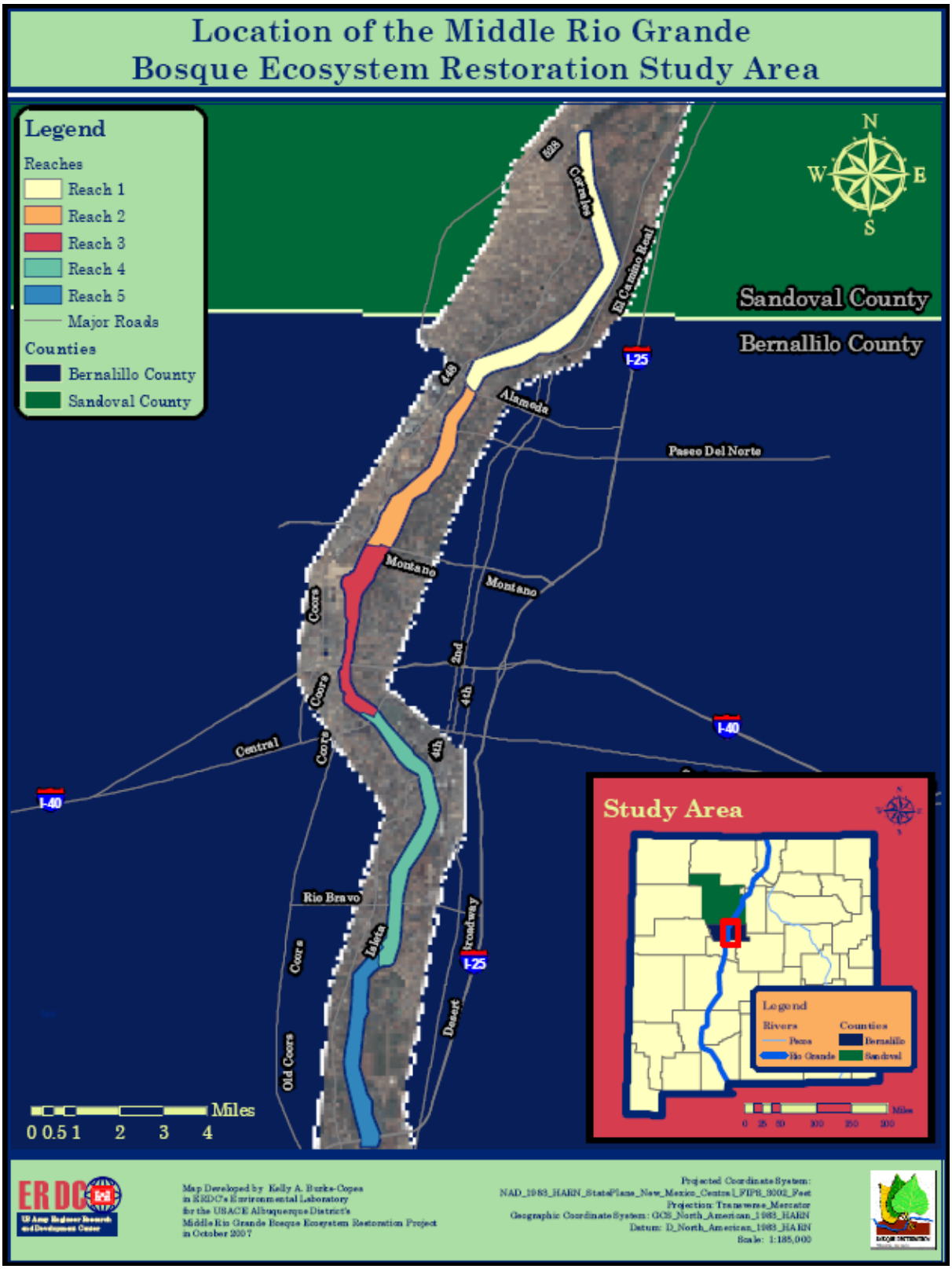
- EC 1165-2-203 “Policy Compliance Review Checklist”, 1996-10-15
- EC 1105-2-408 “Peer Review of Decision Documents”. 2005-05-31
- ER 1105-2-100 “Planning Guidance Notebook & Appendices D, F, G & H”, as amended
- CECW-CP Memo for Distribution, “Peer Review Process”, 2007-03-30
- EC 1105-2-410 (Pre-Publication Review), “Review of Decision Documents”, 2008-08-22

STUDY OVERVIEW

The Middle Rio Grande Bosque (Bosque) is a riparian area located in the middle reach of the Rio Grande, in the vicinity of the City of Albuquerque, New Mexico. The Northern extent of the Corrales Bosque Preserve forms the north boundary of the Study Area, while the southern boundary is formed by the northern limits of the Pueblo of Isleta (Figure 1.2). The area is defined on the east and west by the flood control levees, although the areas adjacent to the levees within the original floodplain have also been considered in this report. The Study Area is approximately 26 miles in length along the river and roughly 5,300 acres in size. The Bosque that embraces the Study Area was historically arguably one of the largest cottonwood riparian galleries in the southwestern United States and can be seen on the following map.

The project consists of clearing and removing of dead and down wood, as well as the removal of exotic invasive non-native plants. Jetty jacks that are not required for flood control or water conveyance will also be removed. Non-native species of plants will be removed and replaced with plantings of new plantings native over-story and under-story plants including cottonwood poles, willows, and other native riparian species. “Dead and down” trees will be removed to reduce the fire threat within the study area. Recreational and educational opportunities will be analyzed, as will the potential for over bank flooding and establishment of wetlands and Southwestern Willow Flycatcher habitat.

However, as of the date of this RP, the purpose of this Feasibility study is to determine the potential to investigate and provide ecosystem restoration to various areas along the Middle Rio Grande through New Mexico.


Location of the Middle Rio Grande
Bosque Ecosystem Restoration Study Area
Legend
Reaches
Reach 1
Reach 2
Reach 3
Reach 4
Reach 5
Major Roads
Counties
Bernalillo County
Sandoval County
N
W
E
S
Sandoval County
Bernallilo County
Alameda
Paseo Del Norte
Montano
Coors
Central
Rio Bravo
Broadway
Desert
Old Coors
I-25
I-40
Miles
0 0.5 1 2 3 4
Study Area
Legend
Rivers
Pecos
Rio Grande
Counties
Bernalillo
Sandoval
ERDC
Map Developed by Kelly A. Burke-Copes
in ERDC's Environmental Laboratory
for the USACE Albuquerque District's
Middle Rio Grande Bosque Ecosystem Restoration Project
in October 2007
Projected Coordinate System:
NAD_1983_HARN_StatePlane_New_Mexico_Central_FIPS_3002_Feet
Projection: Transverse_Mercator
Geographic Coordinate System: GCS_North_American_1983_HARN
Datum: D_North_American_1983_HARN
Scale: 1:185,000

REVIEW REQUIREMENTS

EC 1105-2-410 outlines the requirement of the three review approaches (DQC, ATR, and IEPR). This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate PCX. The Study will investigate ecosystem restoration issues in the study area. The study area coincides with an existing USACE Federal project Plan formulation will be constrained by the FRM purpose of the. Therefore, the ECO-PCX is the primary PCX for coordination.

(1) District Quality Control. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the 2003 Project Management Plan (PMP) for the Study (to which this Review Plan will ultimately be appended). It is managed in the Albuquerque District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include the MSC and District Quality Management Plans (QMPs) providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, certification of without-project hydrology prior to the Feasibility Scoping Meeting, a Value Engineering study based on the Alternative Review Conference pre-conference documentation, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and recommendations before approval by the District Commander. The Major Subordinate Command (MSC)/District are directly responsible for the QM and QC respectively, and to conduct and document this fundamental level of review. A Quality Control Plan (QCP) is included in the PMP for the subject study and addresses DQC by the MSC/District; DQC is not addressed further in this Review Plan. DQC is required for this study.

(2) Agency Technical Review. EC 1105-2-410 re-characterized ATR (which replaces the level of review formerly known as Independent Technical Review) as an in-depth review managed within USACE and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-410 requires that DrChecks (https://www.projnet.org/projnet/) be used to document all ATR comments, responses, and associated resolution accomplished.

This Review Plan outlines the proposed approach to meeting this requirement for the Study. ATR is required for this study.

(3) Quality Control and Agency Technical Review of Contractor Products. In accordance with SPD Regulation 1110-1-8, SPD Quality Management Plan, Section 6.13, contractors shall be responsible for quality control of their work in order to maintain contractor responsibility. The QCP for a contractor's work products shall be reviewed and approved by the responsible function chief at the District. A quality control certification shall be provided for all contractor work products. The District will perform a PDT-review of all contractor work products for scope compliance, but agency technical review of the contractor's work will be performed only for special cases when special expertise is required. In accordance with Section 8.10 of Appendix C of the SPD QMP, the ATR team will perform an independent quality assurance review to ensure that contractor products are in compliance with applicable laws, regulations and sound technical practices.

(4) Independent External Peer Review. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c)(3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. The IEPR will be on the technical aspects of the project, rather than agency and Administration policies. This Review Plan outlines the planned approach to meeting this requirement for the Study.

(5) Policy and Legal Compliance Review. In addition to the technical reviews, decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in Washington-level determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. Technical reviews described in EC 1105-2-410 are to augment and complement the policy review processes by addressing compliance with published Army polices pertinent to planning products, particularly polices on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Counsel will generally not participate on ATR teams, but may at the discretion of the district or as directed by higher authority. When policy

and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration polices, nor are they expected to address such concerns. An IEPR team should be given the flexibility to bring important issues to the attention of decision makers. Legal reviews will be conducted concurrent with ATR of the AFB pre-conference documentation, and the draft and final Feasibility Study/EA.

(6) Planning Center of Expertise (PCX) Coordination. EC 1105-2-410 outlines PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for Ecosystem Restoration. The ECO-PCX is responsible for the accomplishment and quality of ATR and IEPR for the Study. The ECO-PCX may conduct the review or manage the ATR and IEPR reviews to be conducted by others.

(7) Review Plan Approval and Posting. In order to ensure the Review Plan is in compliance with the principles of EC 1105-2-410 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, in this case the Commander, South Pacific Division (SPD). Once the Review Plan is approved, the Albuquerque District will post it to its district public website and notify SPD and the ECO-PCX.

(8) Safety Assurance Review (SAR). In accordance with Sections 2034 and 2035 of WRDA 2007, EC 1105-2-410 and pending additional guidance all projects addressing flooding or storm damage reduction must undergo a SAR during design and construction. Safety assurance factors (significant threat to human life, project cost thresholds, etc.) must be considered in the planning study phase and in all reviews for those studies. Updated guidance on the civil works review process including implementation guidance for Sections 2034 and 2035 is under development. This study will address safety assurance factors, which at a minimum will be included in the draft report. Prior to preconstruction engineering and design (PED) of the project identified for construction, a PMP will be developed that will include SARs during design and construction.

Challenges to the study include:

1. Functioning as a critical link in a corridor that includes two designated Wild and Scenic River areas, eight national refuges and several state parks and wildlife management areas;
2. Accomplishing sustainable restoration within a riverine system managed to store and deliver water for municipal/agricultural uses and reduce flood risk though dams, levees and channelization;

3 A lack of Corps approved habitat evaluation models for ecosystem restoration in the southwest.

This project is considered to have low overall risk because:

1 SPA and other Federal agencies have completed studies and projects of this nature but in a smaller scale recently and successfully;
2 Health and human safety factors are minimal.

This project study does not require an IEPR. It will include an Environmental Assessment (EA), but not include an Environmental Impact Statement (EIS) since the PDT has determined that the study / project:

1 Is not expected to be controversial;
    - Public meetings have not shown there to be any public dispute as to the size, nature or effects of the project.
2 Is not expected to be controversial;
    - Public meetings have not shown there to be any public dispute as to the economic or environmental cost or benefit of the project.
3 Is not expected to be controversial;
    - It is well know among local, tribal, state and Federal resource agencies that SPA has an ongoing ecosystem restoration project Within the Middle Rio Grande. No governmental agencies have demonstrated any significant opposition to date.
4 Is not expected to have adverse impacts on scarce or unique cultural, historic, or tribal resources;
    - Sites for ecosystem restoration will be chosen with the consent of tribal sponsors to avoid all cultural, historic, or tribal resources.
5 Is not expected to have adverse impacts on any fish or wildlife species or their habitat whether or not they be listed as endangered or threatened under the Endangered Species Act of 1973;
    - The primary goal of the study is to benefit fish and wildlife species and their habitat. Experience doing similar ecosystem restoration projects within SPA has shown that adverse impacts are unlikely.
6 Is not likely to contain influential scientific information, nor is it likely to be a highly influential scientific assessment;
    - The study uses experience and information created by other local entities to do similar ecosystem restoration within the region.
7 Does not involve the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates;
8 Is not expected to be based on novel methods, does not present complex challenges for interpretation, does not contain precedent-setting methods or

models, and will not present conclusion that are likely to change prevailing practices.

- Ecosystem restoration within the Rio Grande Basin is an activity for which SPA has ample experience and industry to treat this activity as routine and to be able to determine what methods and models will be used.

9 Has minimal life safety risk;

- Experience doing similar ecosystem restoration project within SPA has shown that adverse impacts are unlikely.

10 Is expected to have a total project cost of approximately $25 million;
11 Has not received a request from New Mexico's governor for either an EIS or an IEPR;
12 Has not received a request from the head of any Federal or state agency for an EIS and will not have an IEPR.

As a result, DQC and ATR will focus on:

1 Completeness and compliance of H&H analysis;
2 Review of the planning process and criteria applied;
3 Review of the methods of preliminary analysis and design;
4 Compliance with sponsor, program and NEPA requirements;
5 Completeness of preliminary design and support documents; and
6 Spot checks for interdisciplinary coordination.

REVIEW PLAN

Basic Information

Documentation that will be the ultimate focus of the peer review process is:

1 F3 Report
2 Ecosystem Restoration Preliminary Alternatives Modeling
3 With-Project Hydraulics and Hydrology
4 F4 Alternative Formulation Briefing Report
5 Environmental Assessment
6 Civil Works Review Board
7 Final report for HQUSACE review

Process

The ATRT process begins after the ATRT has been assigned by the Eco-PCX, and covers the PMP and the models to be used in the analyses. As alternative plans are formulated, the review process focuses on data, assumptions and the engineering, scientific, economic, social & environmental analysis process. Major review process milestones include the F3, F4, and Environmental Assessment.

An ATRT Leader is designated for the review by the Eco-PCX and comes from outside the MSC. The PDT requests that the PCX recommend an ATRT Leader and ATRT from district(s) that has experience with ecosystem restoration in large, semi-arid river systems similar to that in the Middle Rio Grande valley. In general, the ATRT Leader is responsible for providing information necessary for setting up the reviews, communicating with the Project Manager and Plan Formulator, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATRT, ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy. The ATRT Leader reviews the draft and final reports to determine if there is substantial new information that requires further review prior to ATR certification.

Per the PMP, the local sponsors are included in the review process during ATRT review as part of their in-kind contributions to the study / project. Additional in-kind contributions provided by the local sponsors are:

1. Existing reports and hard data that can contribution to the study / project;
2. Assistance during public involvement actions;
3. Assistance during the formulation of alternatives;
4. Determining the location of ecosystem restoration projects.

PCX Coordination

The appropriate PCX for this document is the National Ecosystem Planning Center of Expertise located at MVD. This review plan will be submitted through the PDT District (SPA) Planning Chief Kris Schafer (505-342-3201, Kristopher.T.Schafer@usace.army.mil), through the SPD Planning Division Team Lead, Alicia Kirchner (916-557-6767, Alicia.E.Kirchner@usace.army.mil) to the PCX Director, Rayford Wilbanks (601-634-5847, Rayford.E.Wilbanks@usace.army.mil), and PCX Deputies, Susan Smith (601-634-5827, Susan.K.Smith@usace.army.mil) and David Vigh (601-634-5854, David.A.Vigh@usace.army.mil), for approval. The above mentioned may be contacted for additional information regarding the RP.

The PCX will be asked to manage the review, and is requested to review and comment on the sufficiency of the ATRT proposed above. The approved review plan will be posted to the PCX and SPA websites. Any public comments on the review plan will be collected by the Office of Water Project Review (OWPR) and provided to the PDT District for resolution and incorporation if needed.

Timing

The ATR Peer Review process was completed January FY08 with the draft F3 report. The F4 ATR was completed in March FY09, and will be followed by the completion of the draft Final Report in June FY09.

Communication

1 The team will use DrChecks to document the ATR process. The Project Manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and ATRT members. An electronic version of the document, appendices, and any significant and relevant public comments in Word format shall be posted at: ftp://ftp.usace.army.mil/pub/ at least one business day prior to the start of the comment period.

2 The PDT shall send the ATRT Leader one hard copy (with color pages as applicable) of each document and appendices for each ATRT member such that the copies are received at least one business day prior to the start of the comment period. For those ATR members not requiring hard copies for their review, documents will be posted at: ftp://ftp.usace.army.mil/pub/ at least one business day prior to the start of the comment period.

3 The PDT shall host an ATR kick-off meeting virtually to orient the ATRT during the first week of the comment period. If funds are not available for an on-site meeting, the PDT shall provide a presentation about the project, including photos of the site, for the ATRT.

4 The Project Manager shall inform the ATRT Leader when all responses have been entered into DrChecks.

5 A revised electronic version of the report and appendices with comments incorporated shall be posted at ftp://ftp.usace.army.mil/pub/ for use during back checking of the comments.

6 PDT members shall contact ATRT members or leader as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

7 Reviewers will be encouraged to contact PDT members directly via email or phone to clarify any confusion. DrChecks shall not be used to post questions needed for clarification.

8 The ATRT, PDT, and vertical team shall conduct an after action review (AAR) no later than three weeks after the policy guidance memo is received from HQUSACE for the AFB and draft reports.

Review Disciplines

The expertise that should be brought to the review team may include, but is not necessarily limited to, the following:

1 Hydraulic Engineering – The reviewer(s) should have extensive knowledge of HEC-RAS modeling including the use of GIS (ARC-INFO) inputs to the model. The reviewer(s) should also have a solid understanding of the geomorphology of alluvial rivers.

2 Economics – The reviewer should be familiar with the processes used in evaluation of ecosystem restoration project and have recent experience in preparing economic analysis plans for ecosystem restoration feasibility studies.

3 Biology and Ecosystem – The reviewer should have a solid background in the restoration of stream channels and wetlands, and understand the factors that influence the reestablishment of native species of plants and animals.

4 Plan Formulation – The reviewer should have recent experience in reviewing Plan Formulation processes for multi-objective studies and be able to draw on "lessons learned" in advising the PDT of best practices.

Project Delivery Team Members

See Appendix A

ATRT (Determined by Eco-PCX)

With the selection of the ATRT and having completed the F4 in March FY09, a TRSS is not expected to be planned at this time.

See Appendix A

ATRT Responsibilities

1 Eco-PCX Standard Operating Procedures and Program Management Plan can be found at: http://el.erdc.usace.army.mil/ecocx/

2 Reviewers shall review the draft report to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments on the report shall be submitted into DrChecks.

3 Reviewers shall pay particular attention to one's discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.

4 Grammatical and editorial comments shall not be submitted into DrChecks. Comments but should be submitted to ATRT Leader via electronic mail using tracked Changes feature in the Word document or as a hard copy mark-up. The ATRT Leader shall provide these comments to the Project Manager.

5 Review comments shall contain these principal elements:

- A clear statement of the concern;
- The basis for the concern, such as law, policy, or guidance;
- Significance for the concern; and
- Specific actions needed to resolve the comment.

6 The "Critical" comment flag in DrChecks shall not be used unless the comment is discussed with the ATRT Leader and/or the Project Manager first

PDT responsibilities

1 The PDT shall review comments provided by the ATRT in DrChecks and provide responses to each comment using "*Concur*", "*Non-Concur*", or "*For Information Only*". *Concur* responses shall state what action was taken and provide revised text from the report if applicable. *Non-Concur* responses shall state the basis for the disagreement or clarification of the concern and suggest actions to negotiate the closure of the comment.

2 PDT members shall contact the PM and ATRT managers to discuss any "non-concur" responses prior to submission.

3 SPA will provide revisions to the ATRT for final back check either as hardcopy or at: ftp://ftp.usace.army.mil/pub/.

Resolution

1 Agency Technical Reviewers shall back check PDT responses to the review comments and either close the comment or attempt to resolve any disagreements through conference calls.

2 Reviewers may "agree to disagree" with any comment response and close the comment with a detailed explanation. ATRT members shall keep the ATRT Leader informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during MSC and / HQ review.

RP Certification

To fully document the ATR process, a statement of technical review will be prepared. Certification by the ATRT Leader and the Project Manager will occur once issues raised by the reviewers have been addressed to the review team's satisfaction. Indication of this concurrence will be documented by the signing of a certification statement (see attachment). A summary report of all comments and responses will follow the statement and accompany the report throughout the report approval process.

IEPR Process

No External Peer Review process is anticipated at this time. It is anticipated that while this study will be challenging and beneficial, it will not be novel, controversial or precedent setting, nor have significant national importance.

REVIEW COSTS

1 The Albuquerque District shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided through government order. The Project Manager will work with the ATRT Leader to ensure that adequate funding is available and is commensurate with the level of review needed. Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.

2 The ATRT leader shall provide organization codes for each team member and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes.

3 Reviewers shall monitor individual labor code balances and alert the ATRT Leader to any possible funding shortages.

4 Once actual costs are determined, this RP will be revised. Until then, ATR review and assistance is estimated to be between $60-70,000 for the study.

REVIEW MILESTONES SCHEDULE

As of this date:

To Be Reviewed	Beginning Date	Ending Date
F3 Report		
- DQC		Nov 4-2007
- ATR		Jan 4-2008
Ecosystem Modeling		
- DQC	Nov 3-2008	Dec 12-2008
- ATR	Jan 17-2009	March 13-2009
With-Project H&H		
- ITR- Contractor	Nov 3-2008	Dec 8-2008

- DQC/Quality Assurance	Dec 9-2008	Dec 15-2008
-ATR-Quality Assurance	Jan 17-2009	March 11-2009
F4 Report		
- DQC	Jan 1-2009	Jan 15-2009
- ATR	Jan 17-2009	March 25-2009
Environmental Assessment		
- DQC	Feb 17-2009	Feb 27-2009
- ATR	March 2-2009	March 13-2009
F4a Report	Jul 2-2009	Jul 7-2009
F5 Report	Jul 20-2009	Jul 22-2009
F6 Report	Oct 14-2009	Oct 15-2009

Public Comment

Public involvement is anticipated throughout the Feasibility Study. An Executive Committee comprised of the District Engineer, Tribal Representatives, and the Corps Project Manager, meet quarterly. The continuing Public Involvement process is expected to occur as follows:

Public Comment Action	Estimated Date
Draft EA Public Meetings	June 23, 2009
Public Review Period	June 25-Aug 5 2009

(The public will have opportunity to provide written comments on draft EA and Feasibility Report)

Dissemination of Public Comment

It is anticipated that minutes of the meeting/conference will be made available to the ATR. These and all other comments received from the public can be disseminated to the ATRT using the Corps' ftp site.

Potential Alternatives

Alternatives are formulated to address a comprehensive Federal project for ecosystem restoration in order to:

1. Ensure that a wide variety of possible solutions were considered and took into account public and stakeholder concerns, the highest cost benefit output feasible and have the least negative impact on the human environment;
2. Provide decision-makers, both Federal and local, with information that may be utilized to help determine the balance between construction costs and social issues and concerns;
3. Comply with NEPA and other environmental laws and regulations;
4. Restore a diversity of riparian and associated floodplain habitats to a more natural state;
5. Provide an acceptable means of capturing storm water utilizing existing outfall structures and utilizing it to the benefit of restored ecosystems and habitat areas;
6. Maintain or enhance existing conveyance of peak discharges and ensure that project implementation would not increase flood flows or worsen flooding conditions downstream in existing developed areas;
7. Produce NER benefits while positively contributing to the NED Account, the Regional Economic Development Account and the Other Social Effects Account;
8. Provide a framework for responding to future urban development in the floodplain consistent with Executive Order 11988; and
9. Blend existing and proposed improvements where possible, to take advantage of local improvements and to be consistent with the future master planning of the local community.

Model Certification

The Ecosystem Restoration Models used during the study process were identified as the following and have been certified:

1. Habitat Evaluation Procedures (HEP) http://el.erdc.usace.army.mil/emrrp/emris/emrishelp6/habitat_evaluation_procedure_and_habitat_suitability_indices_tools.htm ;
    - Primary Purpose – To document the quality and quantity of available habitat for selected wildlife species or functionality of the Bosque ecosystem. HEP may be used in three planning activities: wildlife habitat assessments (including both baseline and future conditions), trade-off analyses, and compensation analyses.
    - Applicable habitat types – most terrestrial, wetland, and aquatic habitats in the United States
    - Category assessed – Habitat suitability for selected fish, wildlife, or invertebrates
    - Output – habitat suitability for each cover type and the entire project area for each evaluation species

- Comparison of habitat types – Can directly compare habitats within the geographic ranges of the evaluation species
- In accordance with the Model Certification White Paper dated Mar 08 drafted by the Eco-PCX, HEP has been recommended for use in Ecosystem Restoration Projects without further certification required as long as indicator species used in the Habitat Suitability Index (HSI)have published Blue Books (listed in white paper).
- Eco-PCX states that HEP has been cleared for use in Ecosystem Restoration Projects without further certification required as long as indicator species use in the Habitat Suitability Index (HSI) have Blue Books.

2 Bosque Community Habitat Suitability Index Model (HSI)

- Primary Purpose – To document the existing and forecast future quality and quantity of available habitat within the study area. The model will be used to quantify changes in quantity and quality of habitat resulting from the future with and without projects. The model outputs will also facilitate evaluation of alternative plans and use of CE/ICA if applicable.
- Applicable habitat types – The Bosque Community model focuses on the accepted habitat types within cottonwood dominated riparian communities; a mosaic of mature riparian forests, intermediate-aged riparian woodlands, savannahs, riparian shrub lands, dry grass meadows and wet marshes.
- Category assessed – Habitat suitability for cottonwood dominated riparian community occurring in the Southwestern United States.
- Output – habitat suitability for each cover type and the entire project area
- Comparison of habitat types – Can directly compare habitats within the geographic ranges
- In accordance with the Model Certification White Paper dated Mar 08 drafted by the ECO-PCX, a less rigorous model assessment would be conducted to assess the technical and system quality of regional models used on projects that don't require Independent External Peer Review. The Corps' Engineering Research and Development Center Environmental Lab has prepared detailed model documentation and has conducted review of the Bosque HSI. This documentation and review is sufficient to demonstrate technical and system quality of the model for single-use on this project.
- Use of the model on this study has been coordinated with the ECO-PCX. The Bosque Community Habitat Suitability Index (HSI) is approved for single-application on the Middle Rio Grande Bosque Ecosystem Restoration, New Mexico General Investigation Feasibility Study. Use of this model on future projects will require additional coordination with the ECO-PCX to determine model review needs

- The ATR team should review the application of the Bosque Community Habitat Suitability Index (HSI) Model on the Middle Rio Grande Bosque Ecosystem Restoration, General Investigation Feasibility Study.

3 Habitat Evaluation and Assessment Tools (HEAT)
- The HEAT techniques utilized to date include: development of a multi-disciplinary evaluation team (E-Team)
- Collaborative development of a Multiple Formula Mode
- Development and implementation of field assessment sampling procedures
- Calculation of baseline conditions and formulation of restoration alternatives.
- HEAT is software used in many Corps projects that does not require certification.

Project Cost Estimates

1 Total project costs are estimated at approximately $25 million which is less than the $45 million cutoff for IEPR.

2 The Eco-PCX will coordinate and schedule with the Cost Engineering Directory of Expertise (DX) at the Walla Walla district to conduct reviews (ATR) of cost estimates, construction schedules and contingencies included in all decision documents requiring Congressional authorization.

3 The Cost Engineering DX will assign the reviewer(s) to the ATR teams and will utilize USACE personnel and/or the private sector to assure highly qualified persons are available to conduct these reviews. If the Cost Engineering DX identifies the need for an IEPR, it will inform the Eco-PCX and will assist the Eco-PCX with establishing the charge for the external independent peer review.

4 A Feasibility level Value Engineering (VE) Study was conducted February 09, 2009, with a formal VE Study planned when plans and specifications are developed.

RP Approval

The PDT will carry out the review plan as described. The Project Manager will submit the plan to the PDT District Planning Chief for approval. Coordination with PCX will occur through the PDT District Planning Chief. Signatures by the individuals below indicate approval of the plan as proposed.

REVIEW PLAN
Middle Rio Grande Bosque Feasibility, New Mexico
General Investigation Detailed Feasibility Study
ALBUQUERQUE DISTRICT
2009-03-04

STATEMENT ON THE COMPLETION OF ATR

The Army Corps of Engineers, Albuquerque District has completed the F3 Report with appendices of the Middle Rio Grande Bosque Feasibility, New Mexico, General Investigation study. Notice is hereby given that an ATR, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an independent team composed of _____ staff. All comments resulting from ATR have been resolved.

_____ _____
ATRT Leader, MRG Bosque Feasibility Date

_____ _____
Alicia Austin Johnson Date
Project Manager, MRG Bosque Feasibility

_____ _____
Kris Schafer Date
Chief, Planning Branch
Albuquerque District

CERTIFICATION OF ATR

A summary of all comments and responses are attached. Significant concerns and the description of the resolution are as follows:
(*Describe the major technical concerns, possible impact and resolution*)
As noted above, all concerns resulting from the ATR of the project have been fully resolved.

_____ _____
B.G. John R. McMahon Date
Division Engineer
South Pacific Division

REVIEW PLAN
Middle Rio Grande Bosque Feasibility, New Mexico
General Investigation Detailed Feasibility Study
ALBUQUERQUE DISTRICT
2009-03-04

STATEMENT ON THE COMPLETION OF ATR

The Army Corps of Engineers, Albuquerque District has completed the Ecosystem Restoration Modeling of the Middle Rio Grande Bosque Feasibility, New Mexico, General Investigation study. Notice is hereby given that an ATR, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an independent team composed of _____ staff. All comments resulting from ATR have been resolved.

_____ _____
ATRT Leader, MRG Bosque Feasibility Date

_____ _____
Alicia Austin Johnson Date
Project Manager, MRG Bosque Feasibility

_____ _____
Kris Schafer Date
Chief, Planning Branch
Albuquerque District

CERTIFICATION OF ATR

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B.G. John R. McMahon Date
Division Engineer
South Pacific Division

REVIEW PLAN
Middle Rio Grande Bosque Feasibility, New Mexico
General Investigation Detailed Feasibility Study
ALBUQUERQUE DISTRICT
2009-03-04

STATEMENT ON THE COMPLETION OF ATR

The Army Corps of Engineers, Albuquerque District has completed the F4 Report with appendices of the Middle Rio Grande Bosque Feasibility, New Mexico, General Investigation study. Notice is hereby given that an ATR, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an independent team composed of _____ staff. All comments resulting from ATR have been resolved.

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ATRT Leader, MRG Bosque Feasibility Date

_____ _____
Alicia Austin Johnson Date
Project Manager, MRG Bosque Feasibility

_____ _____
Kris Schafer Date
Chief, Planning Branch
Albuquerque District

CERTIFICATION OF ATR

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B.G. John R. McMahon Date
Division Engineer
South Pacific Division

REVIEW PLAN
Middle Rio Grande Bosque Feasibility, New Mexico
General Investigation Detailed Feasibility Study
ALBUQUERQUE DISTRICT
2009-03-04

STATEMENT ON THE COMPLETION OF ATR

The Army Corps of Engineers, Albuquerque District has completed the Environmental Assessment, with appendices of the Middle Rio Grande Bosque Feasibility, New Mexico, General Investigation study. Notice is hereby given that an ATR, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an independent team composed of _____ staff. All comments resulting from ATR have been resolved.

_____ _____
ATRT Leader, MRG Bosque Feasibility Date

_____ _____
Alicia Austin Johnson Date
Project Manager, MRG Bosque Feasibility

_____ _____
Kris Schafer Date
Chief, Planning Branch
Albuquerque District

CERTIFICATION OF ATR

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(*Describe the major technical concerns, possible impact and resolution*)
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B.G. John R. McMahon Date
Division Engineer
South Pacific Division

REVIEW PLAN
Middle Rio Grande Bosque Feasibility, New Mexico
General Investigation Detailed Feasibility Study
ALBUQUERQUE DISTRICT
2009-03-04

STATEMENT ON THE COMPLETION OF ATR

The Army Corps of Engineers, Albuquerque District has completed the Final Report to ASA / OMB / Congress with appendices of the Middle Rio Grande Bosque Feasibility, New Mexico, General Investigation study. Notice is hereby given that an ATR, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the customer's needs consistent with law and existing Corps policy. The ATR was accomplished by an independent team composed of _____ staff. All comments resulting from ATR have been resolved.

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ATRT Leader, MRG Bosque Feasibility Date

_____ _____
Alicia Austin Johnson Date
Project Manager, MRG Bosque Feasibility

_____ _____
Kris Schafer Date
Chief, Planning Branch
Albuquerque District

CERTIFICATION OF ATR

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(*Describe the major technical concerns, possible impact and resolution*)
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_____ _____
B.G. John R. McMahon Date
Division Engineer
South Pacific Division

Appendix A – Team Members

Project Delivery Team Members

Name	Discipline	Phone
Alicia Austin Johnson	Project Management	505-342-3635
Alan C De Baca	Cost Engineering	505-342-3377
Bruce Jordan	Geotechnical	505-342-3427
Ondrea Hummel	Environmental	505-342-3375
George Diewald	Structural Engineering	505-342-3311
Cecilia Horner	Environmental Engineering	505-342-3474
Jennifer Denzer	Geotechnical	505-342-3469
John Peterson	Geospatial	505-342-3664
Mark Doles	Plan Formulation	505-342-3364
Greg Everhart	Cultural Resources	505-342-3352
CJ Scussel	Real Estate	505-342-3229
Robert Browning	Economics	505-342-3366
Ron Kneebone	Tribal Liaison	505-342-3355
Steve Boberg	Hydrology, Hydraulics & Sedimentation [H&H]	505-342-3336
Corrina Chavez	Civil Engineering	505-342-3343

ATRT (Current)

Name	Discipline	District	Phone
Nedenia Kennedy	Environmental Compliance	SPL	213-452-3856
Scott Estergard	Plan Formulation	SPL	602-640-2003 x242
Mike Hallisy	Economics	SPL	213-452-3815
Tom Keeney	Biology/Ecology	SPL	213-452-3875
Stephen Dibble	Cultural Resources	SPL	213-452-3849
Stephen Gale	Real Estate	SPL	602-640-2016 x265