IMPERIAL STREAMS AND SALTON SEA ECOSYSTEM RESTORATION FEASIBILITY STUDY

PROJECT MANAGEMENT PLAN

A Partnership of the U.S. Army Corps of Engineers and the California Department of Water Resources and Salton Sea Authority

October 2023

Salton Sea Authority

DEPARTMENT OF WATER RESOURCES · STATE OF CALIFORNIA ·

Project Management Plan Acceptance Sheet

I have reviewed this document and certify that it contains accurate content and is sufficient to guide the execution of the Imperial Streams and Salton Sea *Ecosystem Restoration Feasibility Study* General Investigations (GI) Project.

Project Delivery Management Team Member	Date
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Jodi Clifford: Chief, Planning Division	
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Tiffany Bostwick: Chief, Environmental Resources Branch	
Daria Mazey: Chief, Plan Formulation Branch	
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Susie Ming: Project Manager	

Final Approval

Imperial Streams and Salton Sea Ecosystem Restoration Project Management Plan

Approving Official	Date

_____ _____

Justin Gay
Deputy District Engineer
Los Angeles District

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James Newcomb
Assistant Deputy Director
CA Department of Water Resources

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G. Patrick O'Dowd
Executive Director/General Manager
Salton Sea Authority

Revisions to PMP

Revision Number	*Revision Date*	*Section*	*Description of Revision*

Acronyms

AE	Architectural and Engineering
ASM	Acquisition Strategy Meeting
ATR	Agency Technical Review
BIM	Building Information Model
CAR	Coordination Act Report
CDFW	California Department of Fish and Wildlife
CEFMS	Corps of Engineers Financial Management System
CEQA	California Environmental Quality Act
CMIS	Corporate Management Information System
CSRA	Cost Schedule Risk Analysis
Corps	U.S. Army Corps of Engineers
CWWBS	Civil Works Work Breakdown Structure
CWE	Current Working Estimates
CMP	Cost Management Plan
DCG-CEO	Deputy Commanding General of Civil and Emergency Operations
DEIR	Draft Environmental Impact Report
DMP	Data Management Plan
DQC	District Quality Control/Quality Assurance
DWR	California Department of Water Resources
DX	Directorate of Expertise
EC	Engineer Circular
ECOPCX	Ecosystem Planning Center of Expertise
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EM	Engineer Manual
EPA/USEPA	U.S. Environmental Protection Agency
ER	Engineer Regulation
ERDC	U.S. Army Engineer Research and Development Center
FR	Feasibility Report
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
GIS	Geographic Information Systems
H & H	Hydrology and Hydraulics
HQUSACE	Headquarters, U.S. Army Corps of Engineers
HTRW	Hazardous, Toxic, and Radioactive Waste
IDIQ	Indefinite Delivery Indefinite Quantity
IEPR	Independent External Peer Review
IFR	Integrated Feasibility Report
IPR	In-Progress Review
IWR	Institute for Water Resources
LEDPA	Least Environmentally Damaging Practicable Alternative
LERRD	Land, Easements, Rights-of-way, Relocations, and Disposal Areas
MCACES	Micro-computer Aided Cost Estimating System
Cost MCX	Cost Center of Expertise (Walla Walla District)

MIPR	Military Interdepartmental Purchase Request
MLLW	Mean Lower Low Water
MOA	Memorandum of Agreement
NEPA	National Environmental Protection Act
NER	National Ecosystem Restoration
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
SPD	South Pacific Division
OASA (CW)	Office of the Assistant Secretary of the Army (Civil Works)
OC	Office of Counsel
O&M	Operation and Maintenance
OMB	Office of Management and Budget
OWPR	Office of Water Project Review
SPK	Sacramento District
SPL	Los Angeles District
PED	Pre-Construction Engineering and Design
PES	Project Executive Summary
PCX	Planning Center of Expertise
PMBP	Project Management Business Process
PMP	Program Management Plan
PM	Project Manager
PDT	Project Delivery Team
PRB	Project Review Board
QCP	Quality Control Plan
RE	Real Estate
RED	Regional Economic Development
RIT	Regional Integration Team
ROD	Record of Decision
S&A	Supervision and Administration
SACCR	Schedule and Cost Change Request
SHPO	State Historic Preservation Office
SOP	Standard Operating Procedures
SOW	Scope of Work
SSA	Salton Sea Authority
TPCS	Total Project Cost Summary
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Services
VT	Vertical Team
WBS	Work Breakdown Structure
WRDA	Water Resources Development Act

Table of Contents

1 FOREWORD

This Project Management Plan (PMP) provides a summary of tasks required to complete the feasibility study and highlights PMP task and schedule revisions. This PMP details the tasks necessary (including cost and schedule) for major planning decisions and general estimates for tasks necessary to complete the study. The general estimates outline the tasks that are necessary for future milestones to complete a 3x3x3 compliant feasibility study within 3 years and for no more than $3 million in accordance with the Implementation Guidance for Section 1011 of WRRDA 2014, Vertical Integration and Acceleration of Studies dated July 19, 2018. Complex studies, such as this study, may require time and funds beyond three years and three million dollars to complex.

2 PURPOSE

2.1 PROJECT MANAGEMENT PLAN SCOPE

This PMP provides a summary of tasks required to complete the feasibility study. The purpose of the PMP is to establish a strategy for management of the study to ensure that the project is executed in a manner that achieves program and project objectives, within approved schedules and budget, and maximizes effectiveness within the constraints of limited resources. This is accomplished through the development of and adherence to a series of management plans that define the strategy for conducting project activities. It defines processes for the management of:

- Scope
- Cost
- Schedule
- Quality Assurance and Control
- Acquisition
- Risk
- Change
- Data
- Project Closeout

2.2 FEASIBILITY SCOPE AND DOCUMENTATION

The acceptance on the task descriptions, time, and cost estimates addressed in this PMP constitute overall agreement of the PMP between the U.S. Army Corps of Engineers, Los Angeles District (Corps) and the non-Federal sponsors, which are the CA Department of Water Resources (DWR) and Salton Sea Authority (SSA). This is a living document and more detail will be provided for future tasks and milestones as the study progresses. Updates to this PMP will be prepared as needed. The information contained in this PMP will be used to update appropriate budgetary and other related documents for the feasibility study.

The Corps, DWR and SSA have undertaken the *Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study* to determine if feasible alternatives exist to restore degraded ecosystem structure, function, and dynamic processes at the Salton Sea. Alternatives are formulated to be efficient, effective, complete, and acceptable; feasible alternatives which meet each of these criteria (See ER 1105-2-100 for additional explanation). The Project Delivery Team (PDT) will follow the Corps' six-step planning process to address the study problems, opportunities,

objectives, and constraints. The PDT will develop and screen an array of alternatives, evaluate economic impacts and assess environmental impacts of the alternatives, and identify if a feasible plan exists that is economically justified, environmentally acceptable and meets the study objectives described in the section titled *Planning Process*.

The purpose of the environmental analysis in this feasibility study is to estimate the National Ecosystem Restoration (NER) benefits associated with the restoration of aquatic ecosystem habitats as well as to evaluate impacts of alternatives on the Salton Sea and surrounding areas. Engineering analyses will include hydraulic and hydrology engineering and geotechnical engineering design of any alternative affecting the sea and surrounding areas.

The decision document will be an Integrated Feasibility Report (IFR), which is a combination of the study Feasibility Report (FR) and the National Environmental Policy Act (NEPA) document anticipated to be an EIS. The IFR will describe current problems and opportunities to be addressed during the study, preferences of the sponsors, and views of the public, and will establish planning criteria and objectives used to formulate and evaluate alternative plans. In addition, the IFR will document the evaluation of alternative plans and provide the foundation for plan selection. The IFR will include a net benefit analysis and a full environmental analysis of proposed restoration measures. The IFR will also present details of Corps and City participation needed to implement a plan.

2.3 Study Area Location

Figure 1 shows the general study area which includes the Salton Sea, its tributaries, and the playa and surrounding areas suitable for restoration. Salton Sea is a shallow, saline, terminal lake sustained by agricultural discharge from the Imperial Valley. The lake provides significant habitat for birds (an estimated 400 bird species rely upon the lake) as well as habitat for several state and federally listed species. The sea is naturally receding due to evaporation causing an increase in salinity and the concentration of pollutants.

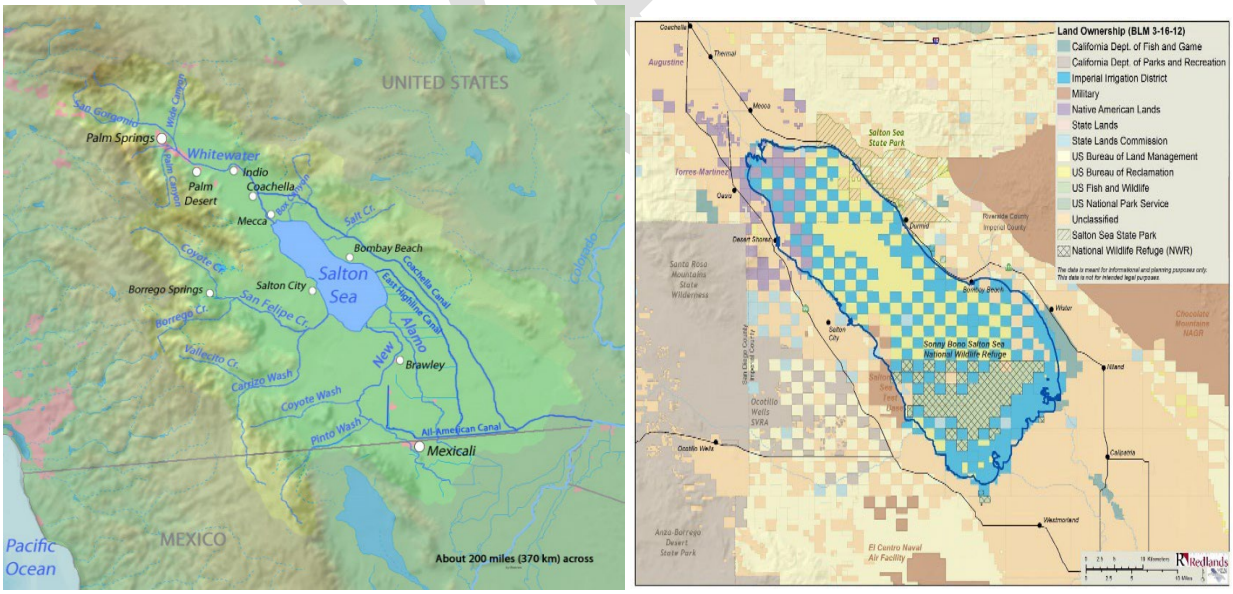

FIGURE 1 - STUDY AREA

2.4 Planning Process

Plan formulation includes the formulation and evaluation of a range of alternatives to meet specific project goals and objectives. Alternatives will be evaluated based on costs, environmental impacts, engineering feasibility, socio-cultural impacts, and ecosystem output. The USACE planning process is a structured approach to problem solving which involves six steps applied iteratively:

- Step 1: Identify problems and opportunities;
- Step 2: Inventory and forecast conditions;
- Step 3: Formulate alternative plans;
- Step 4: Evaluate alternative plans;
- Step 5: Compare alternative plans;
- Step 6: Select a plan

The study problems, opportunities, objectives, and constraints help define the feasibility study scope, which consists primarily of steps 2 through 6. Step 1 was completed with input during a scoping charette in March 2023, but may be further refined. The results from Step 1 are presented below.

2.4.1 Problems

- The quality and quantity of habitat at the Salton Sea has degraded and continues to degrade due to:
    - Reduced inflows / smaller footprint of the Sea, which supports less habitat
    - Increasing salinity beyond the tolerance of plant and fish species
    - Introduced nutrients such as nitrogen and phosphorus which can lead to harmful algal blooms
    - Concentrating selenium which can lead to bioaccumulation in species
    - Increasing development in Imperial and Coachella Valleys
- As the Salton Sea shrinks, emissive seabed is exposed and contributes to dust storms, reduced air quality, and impacts the health and wellness of local residents.

2.4.2 Opportunities

As part of an aquatic ecosystem restoration feasibility study, there are opportunities to:

- Utilize a watershed approach to remove salts and pollutants from the system before runoff enters the sea
- Improve habitat for migratory birds
- Improve habitat for federally listed endangered pupfish
- Create recreation opportunities in conjunction with ecosystem restoration
- Create local jobs through improved recreation opportunities
- Reduce impacts to the quality of life of nearby communities negatively affected by emissive playa particulates
- Incorporate Indigenous Ecological Knowledge into potential ecosystem restoration efforts
- Improve interagency collaboration for watershed systems management
- Increase agricultural production on exposed playa

2.4.3 Goal and Objectives

The initial goal and objectives are listed below. These will be refined during the planning process, after additional research, to provide more definition in type, quality and quantity necessary to address problems and take advantage of opportunities.

Goal: Restore degraded structure, function, and dynamic processes to a less degraded, more natural condition.

Objectives

- Improve the quality, quantity, and complexity of aquatic, wetland, and riparian habitat to support increased populations and diversity of fish and wildlife, including migratory and resident birds and threatened and endangered species.
- In conjunction with aquatic, wetland, and riparian habitat restoration, reduce the surface area of exposed emissive seabed to reduce the effect of dust storms.
- In conjunction with aquatic ecosystem restoration, improve recreation opportunities to benefit local communities, as well as support job creation and local tourism.

2.4.4 Constraints and Considerations

The following planning considerations have been identified for areas that the study should not negatively impact.

Constraints

- Avoid, minimize, or mitigate for historic and cultural resources
- Avoid, minimize, or mitigate for environmental resources and impacts
- Adhere to applicable policies and law
- Avoid introducing flood risk
- Availability of water will impact the scale of restoration efforts and types of plantings
- USACE policy prohibits constructing projects on other federal agency lands; therefore, the patchwork pattern of federal land ownership around the Salton Sea may constrain where and what types of projects may be constructed
- Avoid recommendations that adversely impact communities surrounding the Salton Sea
- Avoid negatively impacting Endangered Species Act listed species
- USACE policy related to HTRW may limit action in areas with high concentrations of selenium
- Avoid negatively impacting existing restoration features, such as those included in the Salton Sea Management Program Phase 1: 10-Year Plan (Planning – Salton Sea Management Program (ca.gov))

Considerations

- Agricultural runoff is the primary source of inflow to the Salton Sea and the agriculture industry is a major economic driver of the area. The study should avoid inhibiting agricultural practices.
- The Salton Sea and surrounding areas are located between the San Andreas and Imperial Faults with several other regional fault lines running beside or under the Sea's footprint. Historical earthquakes in the Salton Sea region have caused widespread damage to the canals used to irrigate the Imperial and Mexicali Valleys. The study should consider seismic implications on the performance of alternatives.
- Avoid jeopardizing lithium mining opportunities which are important to the local economy.

2.4.5 Communication/Public Involvement

Communication and Public Involvement efforts were developed to ensure timely, efficient information distribution to internal and external stakeholders to ensure their active participation in the overall study efforts where applicable. Communication will be done in a fair, transparent, and equitable manner to ensure all affected rightsholders and stakeholders can engage and have access to relevant information on the feasibility study. The Public Involvement Plan (PIP), included in Appendix B, outlines the opportunities and challenges for engaging Cooperating and Participating agencies, local communities, Tribes, and interested stakeholders during the feasibility study process. The overarching goals and objectives of the study teams communication and engagement efforts are:

Goals:

Transparently explain the USACE role and study purpose
Provide equitable and accessible opportunities for engagement in the study process
Understand community and Tribal concerns and interests
Establish clear, consistent expectations of the USACE study process
Develop/establish long-term relationships with all demographics of the community

Objectives:

Encourage participation in public meetings, public review, and comment periods as part of the NEPA process by providing Spanish translation, multiple meetings times, and accessible meeting venues
Provide explanation of the importance, value, and criticality of USACE study effort and how it relates to the overall restoration efforts of the Salton Sea
Deliver message that will create general understanding of the USACE study process and opportunities to provide input
Seek support for the project from stakeholders and elected officials

3 FEASIBILITY STUDY MILESTONES

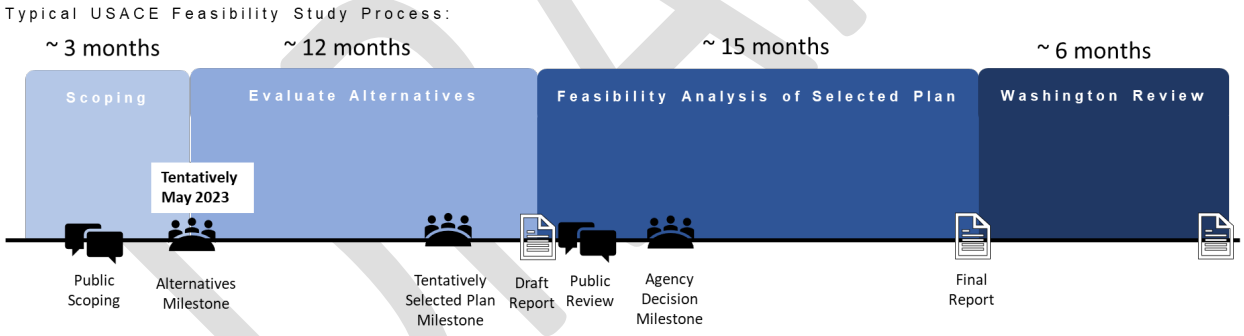

FIGURE 2 - FEASIBILITY PHASE MILESTONES

Figure 2 outlines the Feasibility Study Milestones. The milestones are Alternatives, Tentatively Selected Plan, Agency Decision, and Chief's Report. The scope for this study reflects necessary work activities and products from the project delivery team (PDT) to achieve these milestones as well as required reviews. The types of reviews and scopes are elaborated in the *Review Plan*. This study uses a review plan developed in accordance with EC 1165-2-209. The EC outlines four general levels of review:

- District Quality Control/Quality Assurance (DQC)
- Agency Technical Review (ATR)
- Independent External Peer Review (IEPR)
- Policy and Legal Compliance Review (PLCR)

In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

The goals and purpose of each milestone are outlined below. Scoping is for work activities and products necessary to meet the goals of each milestone.

3.1 Alternatives Milestone

To reach this point, the PDT narrows the initial array of alternatives to be considered by ensuring project goal and objectives are being met. In addition, the PDT identifies critical risks in the risk register and identifies ways to reduce uncertainty about planning decisions regarding the array of alternatives that are carried forward for further analysis and evaluation. This may require additional data collection, engagement of the Planning Centers of Expertise, etc. The PDT should continue strategic interactions with the vertical team (including the RIT, ATR lead, and OWPR lead) during in-progress reviews (IPRs) and informal communication, as needed. District Quality Control will be engaged in this earliest phase of the study. The PDT is also identifying the criteria that will be used to evaluate the alternatives based upon the objectives of the study.

Goals/Action

- The PDT and Vertical Team agree:
    - on the focused array of alternatives
    - on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone)
    - on how to continue the analysis and evaluation on the focused array of alternatives
    - that the objectives of the study are consistent with Corps and Sponsor authorities and priorities
- Complete milestone meeting within the first *six months* of the study
- Reduce the risk associated with a poor planning decision by using available and targeted data

Milestone Scope

To reach this milestone, the PDT narrows the initial array of alternatives to be considered by:

- addressing critical risks identified in the risk register
- reducing uncertainty about planning decisions for the focused array of alternatives that are carried forward for further analysis and evaluation including additional data collection if needed
- engaging the Planning Centers of Expertise and the vertical team (including the RIT, ATR lead and OWPR lead) during in-progress reviews (IPRs) and informal communication as needed
- engaging District Quality Control

Before the Alternatives Milestone meeting, the PDT:

- updates the draft report synopsis and provides the draft report synopsis to the Vertical Team as a read-ahead
- updates the Risk Register

- updates the team's process documents as needed with the next steps of the study –the decision management plan, review plan, etc.[1]
- conducts a planning charrette[2]

3.2 Tentatively Selected Plan Milestone

During this phase of the feasibility study, the PDT uses a reasonable level of detail to collect data and model alternatives to analyze and evaluate effectiveness with the intent of identifying a Tentatively Selected Plan (TSP). The team will decide during the scoping phase the method and criteria for TSP selection. The team will conduct In Progress Reviews (IPR), as needed, with the PDT and Vertical Team. Updates to the risk register, decision management plan(s), and documentation of key decisions (decision log) should be products of the IPRs. The TSP will be either the National Ecosystem Restoration (NER) Plan or the Locally Preferred Plan (LPP). Once agreed upon, the TSP recommendations will be included in the draft feasibility report to be released for public and agency review.

Goal/Action

- The Vertical Team and Project Delivery Team agree on the plan that will be identified as the Tentatively Selected Plan in the Feasibility Report released for public and agency review.

Milestone Scope

- Collect data and model alternatives (use a reasonable level of detail) to analyze and evaluate effectiveness with the intent of identifying a Tentatively Selected Plan (TSP). Analysis and evaluation is based on the criteria and methods established in the Alternatives Milestone
- Conduct In-progress Reviews as needed with the PDT and Vertical Team
- Update the risk register, decision management plan(s) and documentation of key decisions (decision log)
- Read-aheads for the TSP Milestone meeting include the updated report synopsis, current risk register, current decision management plan for the next major planning decision, and decision log documenting key decisions to date
- Either before or after the TSP Milestone meeting, the complete draft Feasibility Report and appendices are reviewed for legal sufficiency by the District Office of Counsel. A certificate of legal sufficiency is required before the report can be released for concurrent public, technical, legal (HQUSACE and SPD), and policy review.
- Following the milestone meeting:
    - an updated decision log documenting decisions and agreements are vetted with the Vertical Team
    - the draft report is released for concurrent public, technical, legal (HQUSACE/SPD), and policy review and comments are resolved

[1] The decision management plan should be focused on the needs of the study and focus on the decisions to be made. It is not simply a list of tasks or a replacement of the Project Management Plan.

[2] A planning charrette brings together the PDT and vertical team, expert planners, the SWR and SSA (project sponsors), and resource agencies in an early structured workshop to work collaboratively through at least one iteration of the six-step planning process.

3.3 AGENCY DECISION MILESTONE

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document and resolution of the comments. If the study requires Independent External Peer Review (IEPR), the milestone will be scheduled to follow receipt of the IEPR panel's findings, which could be up to 60 days after the public comment period, or longer if approved by the Chief of Engineers (per Section 2034 of WRDA 2007).

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

GOALS/ACTIONS

- Complete concurrent public, technical, legal, policy, and independent external review of the FR/EIS (draft report and NEPA document) and resolve comments
- Obtain Agency Recommended Plan designation from the Deputy Commanding General of Civil and Emergency Operations (DCG-CEO)
- Conduct Feasibility Level Design Phase

MILESTONE SCOPE

Before the Agency Decision Milestone meeting, the PDT:

- Considers all review comments, conducting IPRs as necessary, and updates the decision log, as needed.
- Updates the Risk Register and develops a summary of significant ("High") risk issues that will be addressed during the feasibility-level design phase of the study or that the team plans to carry forward into Pre-Construction Engineering and Design.
- Updates the team's process documents as needed with the next steps of the study – the decision management plan, review plan, etc.
- Develops read ahead information for the meeting, e.g., briefing presentation, a report synopsis and highlights of public, technical, policy, legal and IEPR comments.

After the Agency Decision Milestone meeting, the PDT:

- Documents the results of the Agency Decision Milestone in a "Memorandum for the Record" and decision log
- Develops the Final Draft Report
- Undertakes the Feasibility Level Design phase
    - Sufficiently detailed design on the TSP (and NER Plan if LPP is selected), in order to improve accuracy of implementation costs, engineering effectiveness, and economic benefits.
    - Preparation of the final feasibility report with identification of the agency recommendation.
    - Cost Schedule Risk Analysis (CSRA).
- In-progress reviews (IPRs) as necessary to resolve any policy or agency issues.
- Release of Division Engineer's Notice
- Additional planning and design of the recommended plan to reduce risk of uncertainty with cost data, engineering effectiveness, environmental impacts, and economic benefits

- Brief OWPR Chief

3.4 Chief's Report Milestone

Following brief to the OWPR Chief, the PDT finalizes the Feasibility Report, and a draft Report of the Chief of Engineers (Chief's Report) and disseminates these for state and agency review, during which time a concurrent public review takes place. Following resolution of state and agency comments, the Final Report is submitted to HQUSACE along with the Chief's Report. The Chief's Report is a brief summary of the project and contains his recommendation. After it is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

Once the Chief of Engineers signs the report signifying approval of the project recommendation, the Chief of Staff signs the notification letters forwarding the Chief's Report to the chairpersons of the Senate Committee on Environment and Public Works and the House of Representatives Committee on Transportation and Infrastructure. The signed Chief's Report is then returned to the Regional Integration Team (RIT), which prepares the final package for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

Goals/actions

- Resolve state and agency comments
- Complete Final Feasibility Report and submit to HQUSACE

4 Teams, Roles, and Responsibilities

The Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study is particularly complex and high profile. Efforts are currently underway to conduct a review on the study scope and schedule, to inform the 3x3x3 exemption package planned for submittal to HQ with the VTAM package. Based on the size and scale of the study, there is value in considering it a "Mega-Study" in terms of internal oversight and leadership attention. The following tenets apply to this planning study, following recommendations for USACE Mega-Projects (ECB 2023-11):

Mega-Study Governance Structure

A three-tiered governance structure will be used to facilitate conflict resolution and ensure successful partnering at all levels of the organizations. Senior Project Executive with making sure this complex management structure is maintained. The three tiered Mega-Study governance structure is set up to quickly spot and address any breakdowns in this structure The following three tiers will be responsible for project oversight and ensuring successful project execution.

Tier 1: The Executive Leadership Team

- COL Caldwell, South Pacific Division, Commander
- Mr. John Moreno, South Pacific Division, Programs Director (Chair)
- Mr. Eric Bush, HQUSACE, Chief of Planning
- Mr. Pete Perez, HQUSACE, Chief of Engineering
- Ms. Cindy Messer, Lead Deputy Director, California Department of Water Resources
- Mr. G. Patrick O'Dowd, Salton Sea Authority Executive Director

- COL Baker, Los Angeles District, Commander

Responsibilities: Tier 1 members are responsible for executive level coordination to ensure resource availability and project execution. The Chair will distribute updates and other important materials to Tier 1 members as needed.

Meeting Frequency: Annually, with ad hoc meetings as determined by the Chair

Tier 2: The Business Assurance Team

- COL Baker, Los Angeles District, Commander
- Mr. Justin Gay, Los Angeles District, Deputy District Engineer (Chair)
- Mr. James Newcomb, CA Department of Water Resources
- M. G. Patrick O'Dowd, Salton Sea Authority
- Mr. Wes Coleman, HQUSACE, Chief of Office of Water Project Review
- Mr. Charles Wilson, HQUSACE, Regional Integration Team
- Dr. Josephine Axt, South Pacific Division, Chief of Planning
- Mr. John Keever, South Pacific Division, Chief of Engineering & Construction
- Ms. Kelly Keefe, Ecosystem Restoration Planning Center of Expertise, Director

Responsibilities: Tier 2 members are responsible for engaging at the senior District, Division, HQUSACE, and Planning Center of Expertise levels, to assure that appropriate business processes are employed for successful study decision making. The Chair will distribute quarterly updates and other important materials to team members.

Meeting Frequency: Every four months (Dec, Apr, Aug)

Tier 3: The Management Team

- COL Baker, Los Angeles District, Commander
- Mr. Justin Gay, Los Angeles District, Deputy District Engineer (Chair)
- Mr. James Newcomb, CA Department of Water Resources
- M. G. Patrick O'Dowd, Salton Sea Authority
- Mr. Wes Coleman, HQUSACE, Chief of Office of Water Project Review
- Mr. Charles Wilson, HQUSACE, Regional Integration Team
- Dr. Josephine Axt, South Pacific Division, Chief of Planning
- Mr. John Keever, South Pacific Division, Chief of Engineering & Construction
- Ms. Kelly Keefe, Ecosystem Restoration Planning Center of Expertise, Director

Responsibilities: Tier 3 members are responsible for engaging at the District, Division, and Planning Center of Expertise level to provide direct study oversight to assist with study progress and issue resolution, as well as to inform Tier 1 and 2 decision makers. The Chair will distribute monthly meeting notes and other important materials to team members.

Meeting Frequency: Monthly

Director of Civil Works

The Chair of the Executive Leadership Team (Mr. Moreno) is accountable to the Director of Civil Works for study success. Mr. Moreno will provide a written update to the Director of Civil Works every six months (Jan and June). In progress reviews will be set up at the Director's discretion. IPRs will include information such as:

- Baseline and current study schedule.
- Funding status (received, expended, anticipated, including Federal and non-Federal).
- Cost and schedule trends, including leading indicators and corrective actions.
- A summary of any outstanding issues.

Facilitated Partnering

The CA DWR and SSA are the Non-Federal Sponsors (NFSs) for this study; the CA DWR and SSA will complete the majority of the public outreach, translations of the documents and other technical data collection/analysis for the study as work in kind. Successful partnering with CA DWR and SSA will be critical to project success. A professional facilitator will be employed for annual partnering sessions to help strengthen this relationship.

The first facilitated partnering session will be held after the exemption request is approved (submittal to HQ in October 2023). It will include key project delivery team (PDT) members from USACE, the CA DWR, and the SSA. Members from all three tiers of the governance structure will be invited to participate. The session will culminate in a signed partnering amendment to the agreement. In addition to partnering with the Sponsors, major partnering efforts will be described in the communication plan.

Enhanced Communication and Stakeholder Engagement

Stakeholder and public engagement will be critical for study success. The study's communication plan will document roles and responsibilities, overarching strategy, and specifics on outreach to ensure appropriate stakeholder engagement. Based on the magnitude and scope of the study, it will be important to ensure early communication and clear public outreach to avoid misperceptions and efficiently conduct reviews.

Lessons Learned and Knowledge Management

Lessons learned from this and other ongoing feasibility studies will be applied to continuously improve the study process. As other studies report lessons learned they will be integrated into the PMP and study processes by relevant PDT members. Lessons learned on this study will be reported at Business Assurance Team meetings. Knowledge management concepts are critical to implementation of this study. ProjectWise will be used to easily share working documents among the team.

Integrated Master Project Schedule

An Integrated Master Schedule (IMS), Cost and Schedule Risk Assessments/Registers shall be maintained throughout the life of the study. The IMS will include all activities and will be updated with actual dates and remaining durations at least monthly. The IMS will also be reviewed with the team to be prepared and complete tasks that will affect activities in the critical path. PMs will utilize the capabilities of P2 for monitoring and reporting cost and schedule metrics during the entire project/program life cycle. Quarterly meetings will be held to provide a line item review of schedule and cost.

ENTERPRISE PDT

The Project Delivery Team was developed utilizing District, regional, and national members. PDT members include experts from Los Angeles, Sacramento, and New Orleans Districts. The Ecosystem Restoration Planning Center of Expertise is also exceptionally engaged. The Sponsors are conducting a portion of the work, and is making use of in house expertise as well as outside consulting firms.

The scope of work for the study will undergo Independent Technical Review (ITR) outside of the Corps, via contract, to assess the adequacy and reasonableness of the tasks and costs in the Project Management Plan for the study to conduct appropriately scaled economic, engineering, and environmental analyses for use in determining Federal interest and a recommended plan. The ITR will be conducted by subject matter experts with extensive experience in planning for coastal and flood risk management systems as well as individual projects in major urban areas as part of comprehensive urban master planning. The panel's expertise will represent a balance of experience between the USACE planning process and best practices used with similar efforts both internationally and within the United States and California.

Communities of Practices (CoPs) will also be engaged as needed to assure the highest level of technical quality is brought to bear within the Corps (e.g., model selection and application, environmental compliance, engineering analyses). Agency Technical Reviewers and Legal and Policy Compliance Reviewers will be strategically engaged to ensure alignment on level of detail, types of analyses, and planned documentation, and Independent External Peer Review will be conducted.

The PDT conducts the study. The Project Manager (PM) and the Planner are the project and study leads, respectively. This effort will be assisted by the sponsors, other federal and state agencies, and several specialized teams. These teams are:

- Project Delivery Team
- Scoping Cadre
- Executive Committee
- Vertical Team
- District Quality Control (DQC) Team
- Agency Technical Review (ATR) Team
- Independent External Peer Review (IEPR) Team

4.1 PROJECT MANAGER (PM)

The PM for the study is Susie Ming. The PM will be directly responsible for the timely and successful completion of the study. The PM for DWR is James Newcomb and for SSA is G. Patrick O'Dowd.

4.2 PROJECT DELIVERY TEAM (PDT)

The PDT is responsible for the study of the Imperial Stream and Salton Sea ecosystem restoration alternatives, and development of the products resulting from the study. The Lead Planner will be the study team leader and main author of the study decision document, which will be a Feasibility Report (FR). The Environmental Coordinator will be the lead for the environmental analysis effort and main author of the NEPA/environmental compliance document, which is anticipated to be an Environmental Impact Statement (EIS). The integrated report is called an Integrated Feasibility Report (IFR).

Name	Office	Position
Susie Ming	CESPL-PMN-C	Project Manager
Chris Romero/Brian Kim	CESPL-PMN-N	Asst. Project Managers
Leigh Skaggs	CEMVP-PDF	Planning Mentor
Corrine Stetzel	CESPK-PDW-F	Lead Planner
Lindsay Floyd	CESPK-PDW-W	Asst. Planner
Sasha Voight	CESPK-PDW-E	Sr. Economist
John Petrie	CESPL-EDH-H	Engineering Tech lead
Huma Nisar	CESPL-EDD-B	Civil Engineer/Design
Mohammad Seif	CESPL-EDD-B	Civil Engineer
Isaac Mudge	CEMVN-EDH	Hydrologic Engineer
Mike Hrzic	CEMVN-EDH	Hydraulic Engineer
Jeff Guh	CESPL-ED-DS	Structural Engineer
Emily Lester	CESPL-PDR-L	Environmental Coordinator
Aelna Sakamoto	CESPL-PDR-L	Biologist
Pratyush (Patrick) Pandey	CESPL-EDG-A	Geotechnical Engineer
Jeff Geraci	CESPL-EDG-G	Geologist
Stephanie Dang	CESPL-EDS-C	Cost Engineer
Eric Nguyen	CESPL-REC	Real Estate Specialist
Michael O'Hara	CESPL-PDR-Q	Cultural Resource Specialist
Danielle Storey	CESPL-PD-RN	District Tribal Liaison
Chris Stanton	CESPL-PD-RN	Environmental Justice Specialist
Melanie Ellis	CESPL-MPV	Public Involvement Specialist/Outreach Coordinator
Enoch Burrola	CESPL-ED	Surveys
Arnecia Williams	CESPL-ED-DV	Value Engineer

4.3 SCOPING CADRE

Name	Office	Position
Patrick McKinley (SPL)	CESPL-MP	Project Management
Alarice Hansberry (SPD)	CECC	OC
Rob Browning (SWT)	CENWK-PMP-F	Economics
Megan McGuire (MVP)	CEMVP-PDC	Environmental
Leigh Skaggs (MVP)	CEMVP-PDF	Plan Formulation/Planning Mentor
Ryan Taylor (SPD)	CESPD-PDR	Real Estate
Todd Swannack (ERDC)	CEERD-EEW	ENW
Jessie Mizic (NWP)	CENWP-PMF	Public Involvement / Environmental Justice
Steve Turnbull (ERDC)	CEERD-HFH	Geotechnical

Mark Shafer	CESWD-PDP	Water Quality

4.4 Executive Committee

The Executive Committee is a senior oversight group composed of senior Los Angeles District leadership and members of the DWR and SSA. The District Engineer is the chair of this committee. The purpose of the Executive Committee is to provide high level guidance and to resolve issues that cannot be resolved at the PDT or Study Management Team (SMT) level. The Executive Committee meets to receive a status briefing from the SMT and is expected to meet annually, or as needed, to resolve issues that arise.

4.5 District Quality Control Team

The District Quality Control (DQC) Team is composed of district staff with expertise in the various disciplines that are required for the Draft IFR. The purpose of the DQC is to provide quality control of the Draft IFR and all substantial work products utilized in the development of the report prior to release by the Los Angeles District. DQC reviewers include the PDT and their chain of command supervisors along with other District technical reviewers.

4.6 Vertical Team

The Vertical Team includes the South Pacific Division Regional Integration Team (SPD-RIT) at Headquarters United States Army Corps Engineers (HQUSACE), South Pacific Division District Support Team (SPD-DST) in Sacramento, Los Angeles District (SPL) representatives, as needed, the Study Management Team, the Ecosystem Restoration Planning Center of Expertise (ECOPCX) as needed, and the PDT. The Vertical Team's purpose is to resolve policy and technical issues before these impact study schedule. The members of the Vertical Team will coordinate with staff at the South Pacific Division and HQUSACE, as appropriate, to answer questions that are raised, and to assure adequate oversight of the report as it progresses through the review process.

4.7 Agency Technical Review (ATR) Team

An ATR is a review coordinated through the Planning Center of Expertise (PCX) for ecosystem restoration, and the Mandatory Center of Expertise (MCX) for Cost Estimating. The ATR is conducted by Corps technical experts from Districts other than Los Angeles District. The specifics of ATR are discussed in Appendix A, Review Plan. The ATR team is assigned by the primary PCX upon request from Los Angeles District.

4.8 Independent External Peer Review (IEPR)

A Type I IEPR is required when a study determines, or anticipates, that specific criteria will be met as per Appendix D of EC 1165-2-214, Civil Works Review Policy. For the purposes of this study, the PDT proposes Type I IEPR shall occur, based on a risk-informed decision process described in the attached Review Plan (Appendix A).

4.9 Sponsors and Stakeholders

The DWR and SSA are the non-federal sponsors of the study. DWR and SSA have been involved in the development of this PMP. Stakeholders are anyone who has a direct or indirect interest in the outcome of the study. Primary stakeholders include but are not limited to:

Federal:

- Senator Alex Padilla (CA)

- Senator Laphonza Buterl (CA)
- Senator Mark Kelly (AZ)
- Senator Kristen Sinema (AZ)
- Congressman Darrell Issa (CA-48)
- Congressman Raul Ruiz (CA-25)
- Congresswoman Susie Lee (NV-3)
- Congressman Ken Calvert (CA-41)
- Corps of Engineers (District, Division, HQ, ECO-PCX)
- U.S. Fish and Wildlife Service (USFWS)
- Environmental Protection Agency (EPA), Region 9
- Bureau of Land Management
- Bureau of Reclamation
- Bureau of Indian Affairs
- U.S. Geological Survey, Region 8
- Department of Agriculture
- Department of Energy

Non-Federal:

- California Department of Natural Resources
- California Department of Transportation
- California Department of Fish and Wildlife, Inland Deserts Region
- California State Parks
- California Department of Public Health
- California State Water Resources Control Board
- California Air Resources Board
- California Environmental Protection Agency
- Imperial County
- Riverside County
- San Diego County
- City of Palm Springs
- City of Brawley
- City of Calexico
- City of Westmoreland
- City of Holtville
- City of Coachella
- City of Cathedral City
- City of Palm Desert
- City of Calipatria
- City of Brawley
- City of El Centro
- City of Indio
- City of La Quinta
- City of Indian Wells

- Imperial Irrigation District
- Coachella Valley Water District
- California State University, Water Resources Institute
- Colorado River Regional Water Quality Control Board
- San Diego County Water Authority
- Pueblo Unido CDC
- California Rural Legal Assistance
- South Coast Air Pollution Control District
- Department of Toxic Substances Control
- Salton City Community Services District
- Coachella Valley Association of Governments
- Desert Recreation District
- Southern California Association of Governments (subcommittee for Racial Equity and Regional Planning)
- Subcommittee for Resilience and Conservation

Tribal:

- Torres-Martinez Desert Cahuilla Indians (Riverside County)
- Twenty-Nine Palms Band of Mission Indians (Riverside County)
- Cabazon Band of Mission Indians (Riverside County)
- Quechan Indian Tribe (Imperial County)
- Agua Caliente Band of Cahuilla Indians (Riverside County)
- Augustine Band of Mission Indians (Riverside County)
- Cahuilla Band of Indians (Riverside County)
- Morongo Band of Mission Indians (Riverside County)
- Pechanga Band of Luiseño Indians (Riverside County)
- Ramona Band of Cahuilla Mission Indians (Riverside County)
- Santa Rosa Band of Cahuilla Indians (Riverside County)
- Soboba Band of Luiseno Indians (Riverside County)
- Barona Band of Mission Indians (San Diego County)
- Campo Band of Kumeyaay Indians (San Diego County)
- Ewiiaapaayp Band of Kumeyaay Indians (San Diego County)
- Santa Ysabel Band of Diegueno Indians (San Diego County)
- Inaja-Cosmit Band of Mission Indians (San Diego County)
- Jamul Indian Village (San Diego County)
- La Jolla Indian Reservation (San Diego County)
- La Posta Band of Mission Indians (San Diego County)
- Los Coyotes Band of Mission Indians (San Diego County)
- Manzanita Band of Kumeyaay Nation (San Diego County)
- Mesa Grande Band of Mission Indians (San Diego County)
- Pala Band of Mission Indians (San Diego County)
- Pauma Band of Mission Indians (San Diego County)
- Rincon Band of Luiseno Indians (San Diego County)
- San Pasqual Band of Dieguel Mission Indians (San Diego County)

- Sycuan Band of the Kumeyaay Nation (San Diego County)
- Viejas Band of Kumeyaay Indians (San Diego County)

Public:

- Salton Sea Action Committee
- Sea and Desert Interpretive Association
- Salton Sea Coalition
- Salton Sea Partnership – Conservation Groups
- Alianza Coachella Valley
- Audubon California
- Sierra Club California
- Comite Civico del Valle
- Defenders of Wildlife
- Environmental Defense Fund
- Kounkuey Design Initiative
- Leadership Counsel for Justice and Accountability
- Pacific Institute
- The EcoMedia Compass
- North End Alliance
- Bombay Beach Community Services District
- Imperial Valley Vegetable Growers
- Imperial Valley Equity and Justice Coalition
- Imperial Valley Wellness Foundation
- Our Roots
- CRLA
- Los Amigos de la Comunidad
- RAIZES
- Community Unity
- United for Justice, Inc.
- Campesino Unidos
- Coachella Mountain Conservancy
- Consejo de Federaciones Mexicanas
- Desert Health Care Foundation
- Imperial Valley LGBTQ Resource Center
- Inland Congregations United for Change
- Innercare (Clinicas de salud del Pueblo)

Education Institutions:

- UCSD (Scripps Institution of Oceanography)
- UC Berkley
- UC Irvine
- Loma Linda University
- College of the Desert

- Oasis Bird Observatory
- Point Blue Conservation
- UC Davis
- Local schools (K-12, magnet, charter, home and private schools)

4.10 Project Management Plan Tasks

The relationship between the study phase and related phases of project development is illustrated in Figure 3. Level 1 is the study itself, with successive levels representing discrete phases or aspects of project development. Level 4 represents the sub-products necessary to produce the FR/EIS and associated appendices. A WBS is applied to these study products and sub-products creating a hierarchy of activities. The WBS provides a means to organize the study phase activities in a logical sequence and identify products or deliverables through the various stages of the study phase.

LEVEL 1 (Project):

- Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study

LEVEL 2 (Major phases of project development):

- Feasibility study phase
- Pre-construction engineering and design (PED) phase
- Construction phase
- Operation and maintenance phase

LEVEL 3 (Product of the Feasibility Study phase):

- Decision Document (IFR)
- Environmental Impact Statement (EIS)

LEVEL 4 (Features of the decision document):

- Environmental Analysis
- Engineering Analysis
- Economics Analysis
- Cost Analysis
- Real Estate Requirements

FIGURE 3 - PROJECT DEVELOPMENT LEVELS (PHASING)

5 SCOPE MANAGEMENT PLAN

5.1 APPLICABLE GUIDANCE

The study will generally be conducted in accordance with criteria and guidance applicable to USACE feasibility studies, including the following:

- USACE "Project Management Business Process," May 2009.
- USACE "Environmental Operating Principles."
- ER 5-1-11, "Program and Project Management," August 17, 2001.
- ER 1105-2-100, "Planning Guidance Notebook, April 22, 2000, including "Appendix G, Amendment #1" June 30, 2004, and "Appendix H, Amendment #1" November 20, 2007.
- ER 1110-2-1150, "Engineering and Design for Civil Works Projects," August 31, 1999.
- ER 11-1-321, "Value Engineering", February 28, 2005.
- ER 405-1-12, "Real Estate Handbook," November 20, 1985.
- "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies," U.S. Water Resources Council, March 10, 1983, as revised.
- ER 200-2-2, "Procedures for Implementing NEPA", U.S. Army Corps of Engineers, March 4, 1988.
- ER 1105-2-61 "Feasibility and Post-Authorization Study Procedures and Report Processing Requirements."
- EC 1105-2-405, Division Engineers Submittal of Final Decision Document for Projects Requiring Specific Authorization, Corps of Engineers, March 31, 2005.
- EC 1105-2-406, Planning District Engineers Presentation of Final Decision Document for Projects Requiring Specific Authorization, March 31, 2005.
- EC-1105-2-407, Planning Models Improvement Program: Model Certification, May 31, 2005.
- EC-1165-2-214, Civil Works Review Policy, December 15, 2012
- EC-1105-2-409, Planning in a Collaborative Environment, May 31, 2005.
- ER-1110-1-12, Quality Management, September 30, 2006.
- ER110-2-1302, Civil Works Cost Estimating.
- ER 1110-2-10-1150, Engineering and Design of Civil Works Projects.
- ETL 1110-2-573, Engineering and Design: Construction Cost Estimating Guide for Civil Works, September 30, 2008.
- All applicable federal, state and local policies and regulations pertinent to fish and wildlife.

5.2 SCOPE MANAGEMENT

Scope management is one of the most critical activities performed by the PDT to produce a product that meets the sponsor's needs while remaining on schedule and within budget. Scope management is done to assure that the scope and any proposed modifications are necessary to precede or produce the Final Feasibility Report. A concern in most studies is scope creep. *Scope creep* is a term for inclusion of nonessential tasks in the scope or carried out without being documented in the scope. The PDT will continuously evaluate its work effort to assure that only required work is performed. Required work is work necessary to precede or produce the Final Feasibility Report. Furthermore, no change that has significant impact on cost, scope or schedule as determined by the Project Managers for the Corps and Non-Federal Sponsors will be incorporated into the scope without being coordinated and approved by the sponsors. See the Change Management Plan (Section 12) for further explanation.

6 FUNDING MANAGEMENT PLAN

6.1 BASELINE STUDY BUDGET ESTIMATE

The typical $3,000,000 study budget as part of the 3x3x3 planning paradigm will not adequately complete the study considering the study area's complexity. The study team will request a 3x3x3 planning paradigm exemption and recommend completing the feasibility study by pursuing course of action (COA) #2, which will increase the study cost by $12.847 million plus $120,000 for independent External Peer Review (IEPR), for a total of $15,967,000. Due to the complex nature of the study area, the additional funding is appropriate to develop appropriate ecological and hydrologic/hydraulic modeling that will sufficiently result in viable plan selection. A detailed bottom-up estimate based on the Work Breakdown Structure (WBS) is discussed in this section. Each member of the PDT has prepared a budget estimate for the work in which they are responsible. Quality control and Agency Technical Review (ATR) costs are also included in the budget estimate. The study baseline cost estimate is summarized by project milestone in Table 1 and by resource category in Table 2. A more detailed presentation of costs can be found in Table 3.

The PM will allocate funds to the PDT for completion of products and deliverables. The PM is responsible for management of all contingencies. Technical leads are responsible for sub-allocations and detailed budgeting for their assigned products. Changes to the baseline cost and schedule will only occur in accordance with the Change Management process discussed in Section 12 of this PMP.

TABLE 1- SUMMARY OF COSTS BY PROJECT MILESTONE (ASSUMED RECOMMENDED COA 2)

Milestone	Budget (Rounded)
Alternatives	$885,000
Tentatively Selected Plan	$8,388,000
Agency Decision Milestone	$2,700,000
Final Report	$1,788,000
Chief's Report	$721,000
TOTAL Budget	**$14,482,000**
Contingency	$1,365,000
IEPR[1]	$120,000
PROJECT TOTAL	**$15,967,000**

[1] IEPR funds are 100% federal cost.

TABLE 2- SUMMARY OF COSTS BY RESOURCE

Discipline	Budget (Rounded)
Mega Programs & Project Mgmt.	$2,247,000
Hydrology and Hydraulics	$742,000

Engineering Tech Lead, ENG Mega Mgmt	$2,246,500
GIS	$742,100
Survey and Mapping	$1,263,500
Geology	$174,100
Geotech	$1,049,300
Civil Design B	$522,200
Structural Engineering	$500,400
Cost Engineering	$700,000
Real Estate	$336,400
Environmental	$379,000
Plan Formulation and Mega Mgmt	$399,800
Economics	$2,269,000
Public Involvement, Mega Mgmt	$1,888,200
Sponsors In-Kind	$581,200
Reviews	$198,600
TOTAL	**$14,482,200**
Contingency	$1,364,310
TOTAL + Contingency	**$15,847,000**

TABLE 3 - DETAILED COST

Feasibility Budget	Alternatives	TSP	Agency Decision	Final Report	Chief's Report	TOTAL BUDGET
Mega Programs & Project Mgmt.	$111,600	$1,015,000	$644,400	$335,900	$139,600	$2,247,000
Hydrology and Hydraulics	$68,600	$446,900	$133,900	$66,700	$26,000	$742,000
Engineering Tech Lead, Mega Mgmt.	$43,900	$945,600	$194,200	$65,300	$14,500	$1,264,000
GIS	$6,900	$141,000	$19,300	$5,500	$1,400	$174,000
Survey and Mapping	$45,000	$897,300	$46,500	$38,800	$21,700	$1,049,000
Geology	$50,600	$262,200	$69,400	$127,700	$12,300	$522,000
Geotech	$54,900	$235,500	$66,000	$120,000	$24,000	$500,000
Civil Design B	$42,400	$405,000	$141,800	$52,700	$58,100	$700,000
Structural Engineering	$41,200	$175,500	$70,500	$41,000	$8,200	$336,000
Cost Engineering	$22,300	$34,100	$137,700	$81,900	$103,000	$379,000
Real Estate	$60,800	$186,500	$63,800	$67,600	$21,100	$400,000
Environmental	$69,000	$1,700,500	$316,500	$160,500	$22,500	$2,269,000
Plan Formulation, Mega Mgmt	$151,200	$834,200	$484,900	$364,800	$53,100	$1,888,000
Economics	$35,800	$390,100	$71,900	$29,800	$53,600	$581,000
Public Involvement, Mega Mgmt	$27,000	$90,500	$40,500	$20,300	$20,300	$199,000
Work in Kind (WIK)	$40,500	$560,800	$101,300	$128,300	$74,300	$905,000
Reviews	$13,500	$67,500	$97,200	$81,000	$67,500	$327,000
SUB-TOTAL W/O Contingency and IEPR	$885,200	$8,388,200	$2,699,800	$1,787,800	$721,200	$14,482,000
Contingency	$-	$830,340	$272,440	$188,200	$73,330	$1,364,000
IEPR (Federal Cost Only)	$-	$120,000				$120,000
TOTAL BUDGET	$885,200	$9,338,540	$2,972,240	$1,976,000	$794,530	**$15,967,000**

6.2 Sponsor Cost Sharing Requirements

The study is cost shared in accordance with the Water Resources Development Act (WRDA) of 1986, (P.L. 99-662) Section 105, which provides for cost sharing requirements for federal projects. Planning studies are to be cost shared equally, i.e., 50% - 50%, between the Corps and the non-federal sponsors. The exception is the Independent External Peer Review (IEPR) panel contract, which is fully funded by the Corps.

For purposes of allocating the cost share, a total study cost of $9,732,000 was originally used. However, as seen portrayed above in the previous section, the study team refined COA 2's budget, which increased to approximately $16 million and will require more cost share from the non-federal sponsors. The non-federal sponsors fully support the study team's COA 2 and are prepared to amend the Feasibility Cost Share Agreement (FCSA) accordingly. The DWR and SSA would be required to provide $7,923,500 to complete the Feasibility Phase. The Corps would be required to provide $7,923,500 to fund cost shared work. This excludes $120,000 for IEPR.

The DWR and SSA will use a combination of work in kind and cash contributions to reach their requirement. Currently, the work in kind is projected to consist of public involvement support, specifically provision of public meeting support, report translation and printing. Table 4 shows a summary of the projected DWR and SSA in-kind contributions and cash contributions categorized by project milestone.

TABLE 4- SUMMARY OF DWR AND SSA COST SHARE CONTRIBUTION BY MILESTONE

Milestone	Work In Kind	Cash	Total
Alternatives Milestone	$40,500	$402,100	$442,600
Tentatively Selected Plan	$561,400	$3,632,700	$4,194,100
Agency Decision Milestone	$101,300	$1,248,600	$1,349,900
Final Report	$128,000	$765,900	$893,900
Chief's Report	$74,000	$286,600	$360,600
Contingency	0	$682,155	$682,100
TOTAL	$905,000	$7,018,500	$7,923,500

Funds Management

Fund expenditures will be tracked by the Corps of Engineers Financial Management System (CEFMS), which is integrated with P2, which is the Corps project management tracking system. Federal and sponsor funds will be tracked separately, and in-kind contributions and SCT costs will be captured and credited against the sponsor's financial obligation.

Work performed by the PDT will be authorized through work requests made in writing or given verbally by the PM. Contract expenditures will be captured as billings are paid. Expenditures will be monitored at least monthly by the PM through the use of P2 fund status reports. The PM will provide quarterly financial and status statements to the sponsors.

The budget is based on assumptions made at the initiation of the study phase. Some of these assumptions may be wrong, resulting in more or less work than initially anticipated. As the study progresses, additional requirements may be identified. These changes to the initial assumptions will have an impact on study cost, scope and schedule. To provide for changes, a contingency of approximately $1,364,000 has been included in the original estimate. All changes that will have any significant impact on study cost will be processed through the Change Management Plan (see Section 12 of this PMP). Changes will be coordinated with the sponsor, especially when they have significant impact on cost, scope, or schedule.

7 SCHEDULE MANAGEMENT PLAN

7.1 SCHEDULE DEVELOPMENT

The schedule developed by the PDT is based on the scope identified in the WBS. The PDT identified logical relationships and constraints between tasks, and this information is entered into the P2 schedule component by the schedulers to produce the study schedule.

7.2 SCHEDULE MANAGEMENT

The PM is responsible for execution and control of the study. Because the product is a planning study, the Planning Lead and PM will partner to conduct day to day operational control of the study execution and to assure that the study process and products are developed in accordance with this PMP. Study progress will be reviewed at least monthly. Work progress will be provided by PDT members to the PM for the purpose of updating P2. Based on this information, the PM will determine the study progress against the schedule and budget. Deviations in schedule and/or study costs will be identified, and corrective action will be initiated.

The schedule is based on assumptions made at the initiation of the study phase. Some of these assumptions may be wrong, resulting in more or less work than initially anticipated. As the study progresses, additional requirements may be identified. These changes to the initial assumptions will have an impact on study schedule, scope and study cost. All changes that will have any significant impact on study schedule will be processed through the Change Management Plan (see Section 12 of this PMP). Changes will be coordinated with the sponsor, especially where they have significant impact on schedule, cost or scope.

7.3 MILESTONE SCHEDULE

This study will be completed in 8 years as per the requested exemption. To comply with this timeline, a focused array of alternatives will need to be identified and approved by the USACE vertical team (district, division, headquarters) within about the first six months at the Alternatives Milestone. The Tentatively Selected Plan is scheduled to be identified by October 2027. Concurrent reviews will take place following this milestone and will need to be resolved prior to the Agency Decision Milestone scheduled for February 2029. Following this milestone, a feasibility-level design phase will be conducted, and final report submitted in advance of the brief to OWPR Chief meeting to be held approximately April 2030. The remaining 8 months will be needed to complete the Chief's Report, concluding the feasibility phase in December 2030. Table 5 outlines this schedule.

TABLE 5- MILESTONE SCHEDULE

Milestone	Date (approximate)	Duration (approximate)
FCSA	16 December 2022	-
Alternatives Milestone	23 August 2023	8 months
Tentatively Selected Plan	October 2027	49 months
Release of Draft Report	January 2028	3 months
Agency Decision Milestone	February 2029	12 months
Final Report	April 2030	14 months
Chief's Report	December 2030	8 months

8 PROJECT QUALITY CONTROL PLAN

8.0 PURPOSE

USACE must ensure that its products and processes comply with law and policy. Proposed projects must be environmentally, economically and technically appropriate, accurate, and correct in their content and recommendations. This Project Quality Control Plan (QCP) presents the process that assures quality products. The purpose of the plan is to assure that:

- The IFR is consistent with current criteria, procedures and policy;
- Clearly justified and valid assumptions used are in accordance with established guidance and policy, with any deviations clearly identified and properly approved;
- Concepts, features, analytical methods, analyses, and details are appropriate, fully coordinated, and correct;
- Problems/issues are properly defined and scoped;
- Conclusions and recommendations are reasonable; and
- The QCP defines the responsibilities and roles of each review element involved in the quality control process.

8.1 METHODOLOGY

GENERAL PROCESS

The quality management methodology that governs the Corps' project review process is specified by EC 1165-2-214, Civil Works Review. This EC details the requirements for review of the IFR. The Review Plan for this study documents this process for this study and is attached as Appendix A of this PMP. The review plan is separately reviewed by the PCX and approved by South Pacific Division and is posted on the District's public website.

The quality management process incorporates reviews both within and external to the District. The EC briefly discusses review within the District but focuses on external reviews. Within the District, quality management is addressed at the technical section level, by the PDT, and by the District Quality Control (DQC) review. Quality control responsibilities, including team member roles in reviews, internal reviews (PDT and DQC) and technical and policy reviews, are all explained in detail in the Review Plan (see Appendix A).

Technical Coordination

Generally, product development shall be performed in accordance with established criteria and guidance and with established policy. Meetings with the appropriate review team members during the planning process will be held at key decision points. Meetings will also be held to discuss and resolve technical and/or policy issues that may arise during the course of product development. Technical issues and concerns raised during the technical review process will be documented, as will the resolution of these issues and concerns.

9 Acquisition Management Plan

9.1 Purpose

The intent of the Acquisition Management Plan is to identify which study products will be obtained through contract and to establish the method of contracting. The types of contracting include: assistance by other federal agencies; acquisition of commercial products; personal and engineering services; and work-in-kind by the sponsors. The products acquired include: data, data interpretation and analysis; modeling and other engineering services; report preparation; public outreach assistance; and reviews.

The project delivery acquisition strategy outlines the methods of contracting that will be used throughout the duration of the study, design and construction elements of the project. The PDT will identify and summarize the procurement options and/or methods of contracting for each resource and for producing each product associated with the FR/EIS. Separate acquisition strategies need to be identified for the design and construction elements of the project.

At this time the following contract procurements are anticipated:

- Sediment Sampling, Collection, Testing and/or Characterization
- Biological Surveys and Habitat Evaluation
- Agency Technical Reviews

9.2 Acquisition Requirements

A formal written acquisition plan requiring higher level approval may be required. Contract thresholds in the Engineer Federal Acquisition Regulation Supplement dictate when formal written acquisition plans are required. The study products anticipated to be acquired are detailed below.

Data

Property information including boundaries and ownership will be provided by the non-federal sponsor. Sampling of sediment and soils will be obtained by an IDIQ contract.

Modeling and Engineering Services

At this time, it is anticipated that all modeling will be performed in-house by SPL.

Reviews

ATR will be obtained through the lead PCX with a government order to another Corps District.

10 RISK MANAGEMENT PLAN

Risk Management is an on-going systematic process of identifying, analyzing and responding to risk. Risks are events or circumstances that have a positive or negative impact on the execution of the project. Risk is a product of probability of an event or circumstance occurring and the severity of the impact if it occurs. Higher risks generally have a combination of greater impacts and likelihood. Risks that could impact product delivery quality, scope, schedule, and/or budget are to be identified and assessed by the PDT. Risk management is a four-step process of identification of potential impacts, assessment of probability of occurrence, qualification and/or quantification of impact, and preparation of a method of avoiding or minimizing the impact of the risk. A subset of the risk management plan is the cost risk management plan which is a specialized process to assess and the risk of construction cost uncertainty. This process is conducted by the cost engineer and impacts design methods, materials, construction methods and timing, and cost contingency.

The PDT is identifying and assessing risks in the e-risk register, including quantification of impacts and risk management strategies. The e-risk registered can be accessed at the following link: https://err.sec.usace.army.mil/projects.

11 PUBLIC INVOLVEMENT PLAN (PIP)

The Public Involvement Coordinator, with the help of the PDT and relevant PCX will develop Public Involvement Plan (PIP) and will conduct outreach prior to the Tentatively Selected Plan (TSP). The PIP, attached as Appendix B, will utilize organizational research information, multi-media engagement platforms, and translation services provided by the local sponsors. The PIP will implement a tiered engagement approach to ensure engagements are conducted at the appropriate level to ensure time and project cost efficiency.

12 CHANGE MANAGEMENT PLAN

12.1 PMP

The study process can be dynamic; thus, the PMP will likely need to be revised during the life of the project. Any PDT member can request a team meeting to discuss technical issues or new information. The PDT is responsible for determining when amendments or modifications to this PMP are required. In all cases the SMT (Project Managers from the Corps and the City as well as the Study Planner) must concur with any changes before the PMP is amended or modified and before any corresponding work activities can be undertaken.

Only required work activities can be undertaken. Work activities are required only if they are necessary to produce the Final Feasibility Report. Prior to being performed required work not in the current version of the PMP must be justified to the SMT. If the Study Management Team agrees the work is required, then the PMP or a PMP revision log must be modified. Then the work may proceed. If the SMT does not determine the work is required, then the issue may be elevated by the SMT or proponent. In all cases the work in question must not be performed without SMT concurrence.

PDT members are responsible for monitoring their work items and identifying when changes are necessary. Significant changes will require the generation of a change request form in P2, revising the PMP, and requesting a

Schedule and Cost Change Request (SACCR). For the purposes of this project, "significant" category changes will include:

- Unanticipated or unbudgeted environmental, economic or social issues
- Congressional funding reductions
- Additional analysis
- Additional data-gathering requirements

All other changes will be considered "minor" and will be documented by the PM in the PMP revision log.

12.2 SACCR

SACCRs are required when the project scope changes, the total cost of a project (or authorized portion) will increase and/or the completion date of a project (or authorized portion) will slip. Project SACCRs will be prepared by the PM and submitted to SPD for approval. All approved SACCRs will be retained in the project directory.

12.3 Change Request Form

Change Requests can be presented in the form of verbal or informal requests; however, as a best practice proposed changes should be formally recorded to facilitate the understanding of the intent of the proposed change. The Change Request Form provides a means of documenting the impact of proposed changes and provides the rationale for approving changes that exceed the project's baseline performance thresholds. Change Request Forms will be posted to the project in P2.

13 Data Management Plan (DMP)

13.1 Purpose

This DMP outlines the goals and responsibilities for the collection and life cycle maintenance of data used by the PDT members, partners, sponsors, and stakeholders. Data management is also a key component to Value and Quality Management. Data management utilizes the concept of an enterprise District repository for data with manager(s) responsible for maintenance/storage of data from all projects. This concept reduces the collection of redundant data and provides a central location for PDT members to determine available information for a project. The concept of data management extends outside the time frame of a single project PDT. Geospatial data management for one project spans from initial data searches/collection, supplemental data collection, use of data, database management, and storage of data after completion of the project.

13.2 Goals

The goal for the DMP is to support the PDT's execution of civil works design and construction projects. This goal is achieved by:

- Providing accurate, efficient, and effective information to meet project requirements;
- Protecting and preserving corporate investment in geospatial data, applications and institutional knowledge;

- Facilitating effective evolution of Geographic Information Systems (GIS), Computer Aided Draft and Design (CADD), and other geospatial technologies, as well as coordinate consistent implementation and deployment of related technologies within the District;
- Identifying the overall goal of the data management effort; including collection, management, and archiving of data, including applicable standards.

13.3 RESPONSIBILITIES

PROJECT MANAGER

The PM is responsible for:

- Communicating the need for each PDT member to follow the DMP responsibilities and goals outlined
- Ensuring that data management policies are integrated into the project delivery process to optimize overall value;
- Auditing PDT members for compliance with responsibilities and goals outlined;
- Following up with PDT members found to be deficit in data management and elevating concerns as needed;
- Requesting and reminding PDT members that schedules are developed and adequate funds are budgeted for all data management activities, including review by District, partners, and customers.

PROJECT DELIVERY TEAM

Each member of the PDT is responsible for:

- Developing a Data Management Plan by discipline or overall project responsibility
- Upon request providing the PM with a copy of a written DMP
- Designated members of the PDT are responsible for:
    - Helping protect the investment in CADD, geospatial data, applications and institutional knowledge.
    - Facilitating the sharing of CADD and geospatial data among civil, military and environmental projects.
    - At the project initiation phase determining how large of a role CADD and geospatial technologies will play.
    - Identifying CADD and geospatial data requirements and ensuring that the appropriate CADD, geospatial, and data standards are followed. This includes following the current AE/C CADD standard, Spatial Data Standards for Facilities, Infrastructure and Environment and development of Federal Geographic Data Committee (FGDC) metadata.
    - Developing and maintaining a geospatial data management plan for the life cycle of the project.
    - Coordinating with District and Division Geospatial Data Managers on policy requirements.

13.4 OBJECTIVES

- All submittals as delineated in the AE contract and per the submittal register for the construction contract will be in accordance with both the Scope of Work and Acquisition Strategy Meeting (ASM) notes.
- Project Management related documents (PMPs, Value Engineering Study, etc.) will be attached to the Corporate Management Information System (CMIS).
- When appropriate, actual design will incorporate the use of Building Information Model (BIM)

13.5 Data Location by File Type

Project Files

All project working files are to be maintained on the District ProjectWise site**.** No project files should be maintained on local or private file locations. This requirement is to prevent loss of important work in the event the PDT member is unavoidably absent from the PDT for an extended period of time or leaves the PDT. It is also important in that supervisors and/or PDT members may need to consult in-progress work to respond to data calls.

14 Closeout Management Plan

14.1 Purpose

This closeout management plan summarizes the processes that will be performed at the completion of the study phase of the project.

14.2 General

At the completion of the study phase, the PM shall initiate all financial closeout actions. This will include audit, a letter to the sponsors informing them of the audit results, and reconciliation of final cost-sharing obligations. The PDT will ensure that all project documents are appropriately filed. The project would be completed by the Issuance of the LRR Division Commander's Notice (Milestone CW2060). The Closeout Plan will take about four months to complete. The closeout plan for this phase is comprised of the three items as follows:

- Final Accounting of Project Costs;
- After Action Review; and,
- Recommendation for Design, Implementation Phase Funding.

Key areas of the following processes are highlighted here for consideration.

IMPORTANT: Guidance and quotes from processes (below) are made here for reference purposes only. The on-line PMBP shall be accessed to obtain all current information that is relevant to the processes that are referenced.

14.3 Responsibilities

Project Execution & Control

TABLE 6 - EXECUTION

PM	Verify that adequate funds are available to begin/continue execution, and progress project.
PM	Request PDT progress project activities.
PDT	Review project activities to determine the need for progressing and updating schedule or funding.
PDT	Review PMP, including Change Management, Safety, Communications, Quality, Risk, Acquisition, and Closeout. The PMP will be the continuing vehicle for measuring the quality of a project. Evaluation of quality objectives within the PMP is a continuous activity during project execution.
PDT	Progress and update project activities, including any known issues.

PDT	Notify PM in accordance with Communications Plan –that funding and activities have been reviewed.
PDT	Determine if changes need to be made. (Ref. Change Management PROC3010)
PM	Go to PROC4000 – Activity/Program Closeout.

ACTIVITY/PROGRAM CLOSEOUT – PROC4000

From PROC4000 - "…This process is performed whenever projects and/or phases of projects, including specific activities, are completed or terminated…" Closeout of projects and/or phases of projects may serve at least four critical purposes:

- Transferring of cost to the appropriate accounts;
- Reprogramming excess funds;
- Recording of post-completion events and decisions made; and
- Providing an administrative record to serve as a basis for judicial review community relations.

TABLE 7 – CLOSEOUT

PM	Ensure PDT reviews un-liquidated CEFMS for completed activities.
PDT	Clear outstanding obligations and commitments.
PDT	Close work items/reallocate funds, if appropriate.
PDT	If an activity has an asset work item - Process cost transfer or Plant in Service, in accordance with applicable regulations, policies, and local SOPs.
PDT	Determine whether activities represent completion of a product or project phase.

GENERAL GUIDANCE

TABLE 8 - GENERAL GUIDANCE

PM	Ensure the completed products are turned over to the sponsors.
PM	Ensure PDT completes all (applicable) closeout documents (e.g., contractor and A-E evaluations, and transfer documents), and that these documents are completed in accordance with applicable regulations.
PDT	Complete all closeout documents and request feedback from sponsors**.**
PDT	Complete Lessons Learned.
PM	Cost Sharing - Examine total expenditures for each type of funds to determine if correct cost sharing exists. Initiate balancing of accounts.
PDT	Process cost transfer as necessary, in accordance with cost-sharing requirements and applicable regulations, policies, and local SOPs.
PM	Prepare and send customer memorandum closing project with appropriate documents attached.
PM	Organize records and store/archive properly.

15 SCOPES OF WORK

15.1 PROJECT MANAGEMENT

ALTERNATIVES MILESTONE

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, and that the objectives of the study are consistent with Corps authorities and priorities.

TENTATIVELY SELECTED PLAN MILESTONE

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be identified in the draft feasibility study report released for public and agency review and the analysis the PDT used to reach that decision.

The project manager will attend meetings with the Non-federal Sponsors in order to develop the best opportunities for the Non-federal Sponsors to ensure its needs are being met. The project manager will continue to assist with the distribution of funding to all parties working on the Feasibility Study and oversee the entire budget for the project and coordinate the distribution with the Non-federal Sponsors.

MILESTONE SCOPE

- Collect data and model alternatives (use a reasonable level of detail, the same for all alternatives) to analyze and evaluate effectiveness with the intent of identifying a Tentatively Selected Plan (TSP). Analysis and evaluation is based on the criteria and methods established in the Alternatives Milestone.
- Conduct In-progress Reviews as needed with the PDT and Vertical Team
- Update the risk register, decision management plan(s) and documentation of key decisions (decision log)
- Read-aheads for the TSP Milestone meeting include the updated report synopsis, current risk register, current decision management plan for the next major planning decision, and decision log documenting key decisions to date
- Either before or after the TSP Milestone meeting, the draft Feasibility Report and appendices are reviewed for legal sufficiency by the District Office of Counsel. District Counsel certification of legal sufficiency is required before the report can be released for concurrent public, technical, legal (HQUSACE/SPD), and policy review.
- Following the milestone meeting:
    - an updated decision log documenting decisions and agreements are vetted with the Vertical Team
    - the draft report is released for concurrent public technical, legal (HQUSACE/SPD), and policy review and comments are resolved

AGENCY DECISION MILESTONE

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the IFR as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the PDT will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the

recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

The project manager will coordinate with the Non-federal Sponsors and attend meetings to advise on the project development and the necessity for the selected project and support the team's decisions in working towards the brief to OWPR.

MILESTONE SCOPE

Before the Agency Decision Milestone meeting, the Project Manager:

- Considers all review comments, conducting IPRs as necessary, and updates the decision log, as needed.
- Updates the Risk Register and develops a summary of significant ("High") risk issues that will be addressed during the feasibility-level design phase of the study or that the team plans to carry forward into Pre-Construction Engineering and Design.
- Updates the team's process documents as needed with the next steps of the study – the decision management plan, review plan, etc.
- Develops read ahead information for the meeting, e.g., briefing presentation, a report synopsis and highlights of public, technical, policy, legal and IEPR comments.

After the Agency Decision Milestone meeting, the Project Manager:

- Documents the results of the Agency Decision Milestone in a "Memorandum for the Record" and decision log
- Develops the draft Final IFR
- Undertakes the Feasibility Level Design phase
    - Sufficiently detailed design on the TSP (and NED Plan if LPP is selected), in order to improve accuracy of implementation costs, engineering effectiveness, and economic benefits.
    - Preparation of the final IFR with identification of the agency recommendation.
    - Cost Schedule Risk Analysis (CSRA).
- In-progress reviews (IPRs) as necessary to resolve any policy or agency issues.
- Release of Division Engineer's Notice
- Additional planning and design of the recommended plan to reduce risk of uncertainty with cost data, engineering effectiveness, environmental impacts, and economic benefits

FINAL REPORT

The brief to OWPR determines if the final IFR and the proposed Report of the Chief of Engineers are ready to be released for State and Agency review.

The Project Manager will assist with the development of the read ahead material and briefing of the upper management for their presentation of the project to the `.

MILESTONE ACTIONS

- Conclude Feasibility Level Design phase
- Complete Final IFR
- Prepare for and present to the OWPR Chief

Chief's Report Milestone

The final IFR is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)). The project manager will be available to answer any questions that may need to be answered.

Goals/Actions

- Resolve state and agency comments
- Complete Final IFR and submit to HQUSACE

15.2 Planning

Alternatives Milestone

At this milestone, the PDT and Vertical Team agree on an array of alternatives, on the criteria to evaluate and compare the alternatives, on how to continue the analysis and evaluation on the focused array of alternatives, and that the objectives of the study are consistent with Corps authorities and priorities. As part of this milestone, the decision maker seeks to affirm the project delivery team's preliminary analysis of the Federal Interest and the projected scope, schedule, and budget for the study.

Thus, the lead planner, with support from a junior planner, will conduct meetings, oversee and apply screening criteria applied to arrive at an initial array of alternatives, and facilitate the team toward developing the focused array of alternatives. The lead planner will conduct the Scoping Charrette, be actively involved with preparation and participation at the NEPA public scoping meeting and facilitate the Alternatives Milestone meeting. Additionally, the planners will work closely with PM and the PDT to develop a set of courses of action (COAs) projecting the necessary schedule, budget, and activities needed to complete the study.

Milestone Scope

To reach this milestone the lead planner assists the PDT in developing and potentially narrowing the initial array of alternatives to be considered by:

- Conduct a planning charrette to verify problems, opportunities, objectives, and constraints, identify management measures, formulate alternative plans, and develop evaluation criteria.
- Coordinate PDT efforts to reduce uncertainty about alternative plans that are carried forward for further analysis and evaluation.
- Facilitate the PDT to apply screening criteria to reach the focused array of alternatives.
- Coordinate and document existing and future without project conditions.
- Engage the Planning Centers of Expertise and the vertical team (including the RIT, ATR lead and OWPR lead) during in-progress reviews (IPRs) and informal communication as needed.
- In collaboration with the environmental planner, coordinate and facilitate a NEPA scoping meeting, compiling public comments, and utilizing those comments for future planning steps.
- Identify known technical and/or policy issues to identify the focused array
- Coordinate rough order of magnitude cost estimates, assess environmental effects, and describe benefits of alternative plan.
- Develop COAs for scope, schedule, and budget to complete the study.

Before the Alternatives Milestone meeting and with support from the PDT, the lead planner:

- Creates milestone read ahead material including the report summary, presentation slide deck, and project study issue checklist. Read aheads will be provided to the Vertical Team at least 1-week prior to the milestone meeting.
- Populates and updates the Risk Register.
- Updates the team's process documents as needed with the next steps of the study, i.e., the decision management plan, review plan, etc.
- Conducts milestone readiness in-progress review(s) with the Vertical Team.
- Drafts memorandums for record (MFR) after IPRs and milestone meetings.

After the Alternatives Milestone, the planners in conjunction with the larger PDT, will assist SPD in preparation of the Vertical Team Alignment Memo (VTAM). The VTAM will affirm the path forward for the study in terms of scope, schedule, budget, and need for a 3x3 exemption. Activities for preparing the VTAM include:

- Prepare briefing materials
- Assist SPD with writing VTAM, as needed
- Write MFR documenting key meetings
- Hold briefings as needed

Tentatively Selected Plan Milestone

The purpose of the Tentatively Selected Plan (TSP) Milestone is to obtain Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and confirm the analysis the PDT used to reach that decision.

The plan formulation section ensures each alternative in the focused array plus the without project/no action alternative is evaluated based on the criteria chosen in the Alternatives Milestone, criteria necessitated by guidance or regulation, and the extent each alternative meets the overall planning objectives and constraints. The planner will facilitate the tentative selection of a plan, prepare all reporting documentation for the milestone with the support of the PDT, and coordinate District and Agency (DQC and ATR) reviews.

Milestone Scope

- Compare plans and effects, including leading the cost-effectiveness and incremental cost analysis.
- Facilitate identifying the TSP and developing supporting rationale.
- Support Ecological Modeling discussions and efforts between PDT, SMEs, and Eco-PCX.
- Organize and attend a future hydrology workshop to increase confidence in future inflow projections.
- Participates in abbreviated cost schedule risk analysis.
- Support and oversee tentative selection of an alternative plan by the PDT and document rationale for PDT analyses.
- Support public/EJ outreach efforts.
- Conduct In-progress Reviews and draft MFRs as needed with the PDT and Vertical Team.
- Prepare milestone meeting read ahead materials.
- Draft and update previously drafted sections of the main feasibility report.
- Facilitate DQC and district review of draft feasibility report prior to public release.
- Update the risk register, decision management plan(s) and documentation of key decisions (decision log).
- Facilitate the Tentatively Selected Plan milestone meeting.
- Identify the path forward for refining the TSP (feasibility level design).

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

The plan formulation section will support this review process by coordinating prompt PDT member responses to reviewer and public comments, working with the PDT to resolve comments to the extent practical, revising the draft report and ensuring PDT members revise all modeling and draft appendices as necessary, reporting revised results to management, and preparing for and facilitating the milestone meeting.

Milestone Scope

Before the Agency Decision Milestone meeting the planner:

- Considers all review comments, assign PDT members to respond to comments
- Help resolve District, Division/Headquarters, Agency Technical Review (ATR), and IEPR comments by assigning PDT members, responding to planning-specific comments
- Holds IPRs and drafts MFRs as necessary
- Supports resolution of review comments through coordinating PDT member responses, changes to the appendices, changes to the modeling, and additional analysis as needed
- Updates the Risk Register and develops a summary of significant ("High") risk issues that will be addressed during the feasibility-level design phase of the study or that the team plans to carry forward into Pre-Construction Engineering and Design.
- Prepare milestone meeting read ahead materials
- Support public/EJ outreach efforts

After the Agency Decision Milestone meeting, the plan formulation section:

- Develops the Final Draft Report
- Develops higher resolution on features of the recommended plan
- Coordinates with the PDT to optimize performance of the Recommended Plan and improve accuracy of cost estimates (feasibility level design phase).
- Supports reviews (DQC, ATR, IEPR) of the Final Report and appendices
- Supports IEPR close out activities
- Continues public outreach efforts
- Performs In-progress reviews (IPRs) as necessary to resolve any policy or agency issues
- Revise final report as needed

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for

the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)). The economic section will support these efforts in a limited, as-needed capacity.

GOALS/ACTIONS

- Develop briefing materials as needed (such as talking points and placemats)
- Support resolution of state and agency comments
- Support completion of Final Feasibility Report, prepare final report package and submit to HQUSACE

15.3 TECHNICAL LEAD

The Technical Lead (TL) serves as the proponent for technical quality of deliverables throughout the feasibility study. TL responsibilities include ensuring technical quality for the project/product remains uncompromised through coordination and collaboration with the PM, the members of the PDT, the DQC review team, and all stakeholders while conforming to schedules, budget, and customer expectations. While the TL is the proponent for technical quality, each member of the PDT retains responsibility for technical quality.

The TL will coordinate with the PM to ensure proper definition of project scope and schedule, ensure project requirements are understood, establish clear and accurate criteria, and document guidance and direction for the technical disciplines. Any proposed change to the project scope, budget, or schedule that may affect the technical quality of the product must be coordinated through the TL and the TL will immediately inform the PM of any such issue. No decision affecting quality management procedures may be made unilaterally. The TL will work with the PM, Lead Planner, and technical disciplines to resolve any such issue.

ALTERNATIVES MILESTONE

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

MILESTONE SCOPE

To reach this milestone, the TL will work towards narrowing an initial array of alternatives/measures into a focused array. To achieve this, the TL will:

- Participate in meetings and perform necessary coordination among technical disciplines to meet the project needs and ensure technical quality of engineering products.
- Participate in planning charrettes as required.
- Participate in the creation and updates of living project documents including the Risk Register, Scoping Plan, Decision Management Plan, Decision Log, Review Plan, and Project Management Plan.
- Research existing project conditions including gathering data from the non-Federal Sponsors and other publicly available information to assist the technical PDT members with their information and data needs.
- Assist the Lead Planner and PM in creation of documents for the AM Milestone meeting and presentation.

TENTATIVELY SELECTED PLAN MILESTONE

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

Milestone Scope

To reach this milestone, the TL will work towards screening alternatives/measures and working with technical disciplines to accomplish analysis required for screening and comparison of alternatives. To achieve this, the TL will:

- Participate in meetings and perform necessary coordination among technical disciplines to meet the project needs and ensure technical quality of engineering products.
- Update and keep current all project documents, as applicable.
- Work with the technical PDT members as well as non-Federal Sponsor to ensure information and data needs are met.
- Work with technical PDT members to make sure appropriate level of technical analysis is taking place for feasibility level screening and cost estimating; and resolving issues that may affect technical quality of deliverables.
- Assist Lead Planner and PM in creation of documents for the TSP Milestone meeting and presentation.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft IFR as well as the IEPR including resolution of comments. The Chief of Office of Water Project Review determines if the analyses and findings are sufficient to approve release of a draft IFR for concurrent public and policy review, ATR, and IEPR.

The PDT and Vertical Team bring forward the TSP to Senior Leadership, including the Deputy Commanding General of Civil and Emergency Operations (DCG-CEO) for confirmation. With confirmation, this plan becomes the Agency Recommended Plan and receives increased engineering and cost design /detail sufficient to complete the feasibility study report.

Milestone Scope

- Participate in meetings and perform necessary coordination among technical disciplines to meet the project needs and ensure technical quality of engineering products.
- Update and keep current all project documents, as applicable.
- Participate in vertical team, public, legal and policy reviews, and coordinate among technical disciplines to address issues resulting from these reviews.

Senior Leader's Panel

The OWPR determines if the final IFR document and the proposed Report of the Chief of Engineers are ready to be released for State and Agency review.

Milestone Scope

- Participate in meetings and perform necessary coordination among technical disciplines to meet the project needs and ensure technical quality of engineering products.
- Update and keep current all project documents, as applicable.

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Coordinate among technical disciplines to ensure consistent resolution of state and agency comments.
- Coordinate among technical disciplines to complete Final Feasibility Report and submit to HQUSACE.

15.4 GEOTECHNICAL ENGINEERING BRANCH (SOILS DESIGN & MATERIALS SECTION AND GEOLOGY & INVESTIGATION SECTION)

Geotechnical Engineering Analysis and Report: A Geotechnical engineering appendix will be prepared for the Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study (FS) that supports the alternative analyses and the recommended plan. The main geotechnical report efforts will be managed and conducted by the Los Angeles District Geology & Investigation Section and Soils Design & Materials Section.

15.4.1 GEOLOGY & INVESTIGATIONS SECTION

ALTERNATIVES MILESTONE

The Geology Team and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

MILESTONE SCOPE

To reach this milestone the Geology Team narrows the initial array of alternatives to be considered by:

- Meeting attendance and coordination.
- Site visit and recon.
- Participate in Planning Charette
- Review existing data and project information
- Review Plan Input

Before the Tentatively Selected Plan Milestone meeting the Geology Team:

- Develop and update the Risk Register
- Obtain pertinent geologic/geotechnical data, reports, publications
- Review/Summarize pertinent geologic/geotechnical data, reports, publications
- Inform H&H Groundwater Interface Analysis
- Support slope stability, settlement, seismic and foundation analysis and provide geologic concerns
- Provide concerns and impacts regarding potential borrow sources
- Evaluation criteria selection; analyze geology/geotechnical constraints; analyze existing data and prepare maps and figures for Main Geotechnical Appendix.
- Participate in Future Hydrology Workshop
- Support PDT during Feasibility Level Design phase
- Updates the team's process documents as needed with the next steps of the study, the decision management plan, review plan, etc.
- Prepare draft portions of Main Geotechnical Appendix.
- Assist PDT in developing draft decision document.
- Provide PDT comment responses

- Provide DQC comment responses

TENTATIVELY SELECTED PLAN MILESTONE

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis for the PDT used to reach that decision.

MILESTONE SCOPE

- Meeting attendance and coordination.
- Update Risk Register
- Continue assembling existing information and preparing existing geology/geotechnical information pertaining to focused array of alternatives.
- Design maps and data figures to showcase existing information needed to support alternatives.
- Update Decision Management Plan and Review Plan.
- Update pertinent portions of the draft Geotechnical Appendix
- Respond to PDT, DQC and ATR review comments and update Geotechnical Appendix.

AGENCY DECISION MILESTONE

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments. The Chief of Office of Water Project Review determines if the analyses and findings are sufficient to approve release of a draft report and NEPA document for concurrent public and policy review, ATR, and IEPR.

The PDT and Vertical Team bring forward the TSP to Senior Leadership, including the Deputy Commanding General of Civil and Emergency Operations (DCG-CEO) for confirmation. With confirmation, this plan becomes the Agency Recommended Plan and receives increased engineering and cost design /detail sufficient to complete the feasibility study report.

MILESTONE SCOPE

- Meeting attendance and coordination.
- Update the Risk Register.
- Conduct IPRs as necessary and update the decision log as needed.
- Update the decision management plan, review plan, etc.
- Develop Geology/Geotechnical read ahead information for the meeting, briefing presentation, a report synopsis, and highlights of public, technical, policy, legal and IEPR comments.
- Respond to/resolve PDT, DQC, HQ, Office of Counsel, Public and Stakeholder's comments.
- Attend comment resolution meeting.
- Develop the Final Report and Geotechnical Appendix to include geotechnical impacts, and concerns related to the conceptual alternatives design.
- Prepare the Final IFR with agency recommendation.
- Participate in Cost Schedule Risk Analysis (CSRA) workshop
- Support In-progress reviews (IPRs) as necessary to resolve any policy or agency issues.
- Refine the recommended plan.
- Resolve state and agency comments for Geotechnical Appendix

CHIEF'S REPORT MILESTONE

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Completed Final Report and Geotechnical Appendix.
- Support PDT activities during this milestone

15.4.2 SOILS DESIGN & MATERIALS SECTION

ALTERNATIVES MILESTONE

The Soils Team and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

MILESTONE SCOPE

To reach this milestone the Soils Team narrows the initial array of alternatives to be considered by:

- Meeting attendance and coordination.
- Site visit and recon.
- Participate in Planning Charette
- Review existing data and project information
- Review Plan Input

Before the Tentatively Selected Plan Milestone meeting the Soils Team will:

- Develop and update the Risk Register
- Obtain pertinent geologic/geotechnical data, reports, publications
- Review/Summarize pertinent geologic/geotechnical data, reports, publications
- Inform H&H Groundwater Interface Analysis
- Conduct slope stability, settlement, seismic and foundation analysis,
- Evaluate design criteria and provide Geotech/geology constraints
- Support Geology in concerns and impacts regarding potential borrow sources
- Evaluation criteria selection; analyze geology/geotechnical constraints; gather and analyze existing data and prepare maps and figures for Main Geotechnical Appendix.
- Participate in Future Hydrology Workshop
- Support PDT during Feasibility Level Design phase
- Updates the team's process documents as needed with the next steps of the study, the decision management plan, review plan, etc.
- Prepares draft portions of Main Geotechnical Appendix.
- Assist PDT in developing draft decision document.
- Provide PDT comments and responses

- Provide DQC comment responses

Tentatively Selected Plan Milestone

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

Milestone Scope

- Meeting attendance and coordination.
- Update Risk Register
- Continue assembling existing information and preparing existing geology/geotechnical information pertaining to focused array of alternatives.
- Design maps and data figures to showcase existing information needed to support alternatives.
- Update Decision Management Plan and Review Plan.
- Update slope stability, settlement, seismic and foundation analysis and provide concerns, impacts and cost on focused array of alternatives.
- Update pertinent portions of the draft Geotechnical Appendix
- Respond to PDT, DQC and ATR review comments and update Geotechnical Appendix.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments. The Chief of Office of Water Project Review determines if the analyses and findings are sufficient to approve release of a draft report and NEPA document for concurrent public and policy review, ATR, and IEPR.

The PDT and Vertical Team bring forward the TSP to Senior Leadership, including the Deputy Commanding General of Civil and Emergency Operations (DCG-CEO) for confirmation. With confirmation, this plan becomes the Agency Recommended Plan and receives increased engineering and cost design /detail sufficient to complete the feasibility study report.

Milestone Scope

- Meeting attendance and coordination.
- Update the Risk Register.
- Conduct IPRs as necessary and update the decision log as needed.
- Update the decision management plan, review plan, etc.
- Develop Geology/Geotechnical read ahead information for the meeting, briefing presentation, a report synopsis, and highlights of public, technical, policy, legal and IEPR comments.
- Respond to/resolve PDT, DQC, HQ, Office of Counsel, Public and Stakeholder's comments.
- Attend comment resolution meeting.
- Develop the Final Report and Geotechnical Appendix to include geotechnical impacts, and concerns related to the conceptual alternatives design.
- Prepare the Final IFR with agency recommendation.
- Participate in Cost Schedule Risk Analysis (CSRA) workshop
- Support In-progress reviews (IPRs) as necessary to resolve any policy of agency issues.
- Refine the recommended plan.

- Resolve state and agency comments for Geotechnical Appendix

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

Goals/Actions

- Completed Final Report and Geotechnical Appendix.
- Support PDT activities during this milestone.

15.5 Civil Design

All Civil Design work and products will conform to the latest edition of the following regulations and publications:

- ER 1110-2-1150, Engineering and Design for Civil Works Projects
- ER 1105-2-100, Planning Guidance Notebook
- EC 1165-2-209, Civil Works Review Policy
- EM 1110-2-2000, Standard Practice for Concrete for Civil Works Structures
- EM 1110-2-2102, Waterstops and Other Preformed Joint Materials for Civil Works Structures.
- EM 1110-2-2902, Conduits, Culverts, and Pipes, U.S.

Scoping and alternatives Milestone

Milestone Scope

To reach this milestone Civil Design supports narrowing the initial array of alternatives to be considered by:

- Participating in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
- Participating in a planning charrette as required. These charrettes will be structured workshops centered on the Six-Step planning process which includes specifying the problems and opportunities, taking inventory and forecasting conditions, formulating alternative plans, evaluating effects of alternative plans, comparing alternative plans, and selecting a recommended plan).
- Making the necessary site visits to thoroughly familiarize themselves with the project site and the surrounding area.
- Participating in the creation of and keep current with project documents. These documents will include the Risk Register, Scoping Plan, Decision Management Plan/Decision Log, Review Plan, Project Management Plan, preliminary maps, and drawings.
- Researching the existing project conditions, identify uncertainties and potential impacts, participate in the initial formulation of alternatives, and be responsible for the development of all the preliminary cost and quantity estimates required during the Scoping phase.
- Prepare Scope for Surveying/Mapping. Scope will include acquiring new aerial photographs and topographic/planimetric computerized mapping of the project area.
- Prepare preliminary alternative concepts proposed for the project

- Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
- Perform research, collect information, and review project documents and related construction items for the purpose of estimating quantities, and formulating the focused array of alternatives.
- Construction Quantities check/evaluation for the focused array of Alternatives.
- Prepare alternatives plans, design write up and quantities with input from the PDT, develop in the focused array.
- Prepare preliminary concept for Civil Design appendix for inclusion into the draft report. The appendix will contain narrative, tables, preliminary plan, and will present all the Civil Design products developed thus far.
- Participate in the DQC processes by attending meetings, issuing correspondence, preparing submittal packages and incorporating/resolving comments in Dr. Checks, an online tool to document the review process. The DQC process will be accomplished through the District's in-house review of the Civil Design products.

Before the ADM, the Civil Design will:

- Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
- Update and keep current all documents as identified in the Scoping section above, as applicable.
- Perform research, collect information, and review project documents and related construction items for the purpose of estimating quantities, and formulating a focused array of alternatives.
- Begin construction quantities check/evaluation for the focused array of alternatives.
- Develop the plan for the focused array of alternatives. These Plans will be used to work on the quantities for the Current Working Estimates (CWE's).

Participate in DQC and vertical team reviews and respond to, address, and incorporate comments generated during these reviews, as required.

TENTATIVELY SELECTED PLAN AND FINAL REPORT MILESTONE

MILESTONE SCOPE

The Civil Design will:

- Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
- Prepare recommended final plans based on hydraulic analyses of design requirements. Final design plates will include following
    - Plan/Profile, general cross-sections, and typical cross-section for the recommended plan
    - Additional information will be referenced on the plan and profile sheets, including: boring locations, utilities, a staging/storage area, access roads, culverts, inlet/outlet structures, existing and proposed side drains, ditches, disposal site, any known utilities, and real estate easements.
    - Existing and proposed Fencing and other features that maybe require for the project
- Update and keep current all documents as identified in the Scoping, Alternatives, and MDM Milestone sections above, as applicable.
- Participate in vertical team, public, legal and policy reviews, and address Civil Design issues resulting from these reviews.
- Make follow-up site visits as needed.

- Update and keep current all documents as identified in the Scoping, Alternatives, and TSP Milestone sections above, as applicable.
- Ensure that quantity take-off evaluations for the Recommended Plan are as accurate as possible and based on available engineering and design data.
- Prepare detail quantities for the Recommended Plan for cost engineers.
- With input from the PDT, assist Cost engineer on Cost and Schedule Risk Analysis (CSRA) for the Recommended Plan. The CSRA will determine the contingency values to be used in the TPCS.
- PED and S&A costs will be calculated as percentages of construction (or as man-hour estimates) and shall be provided by the Project Manager.
- Assist Cost engineer on a construction schedule for the Recommended Plan.
- Prepare a final Civil Design appendix for inclusion into the report. The appendix will contain the following:
    - List of Plates
    - General description of the study area
    - Site selection and project development
        - Existing Structures
        - Surveying/Mapping
        - Design Alternatives
        - Detail Description of the Recommended Plan
        - Project Features
            - Preliminary Recommended Alternative
            - Design Plates
            - Other Features
            - Utilities/Side drains
            - Fencing/Post and Cable Railing
            - Any Aesthetic Treatments
            - Structural Requirements
            - Environmental Requirements
        - Construction Consideration
            - Disposal Site
            - Haul Routes
            - Staging/Storage Areas
            - Access during Construction
        - Relocations
            - Utilities
            - Overhead Lines (Poles) if any
            - Fences
        - Real Estate
            - Permanent Easement
            - Temporary Easement
            - Real Estate Plan and gross Appraisal
    - Construction Material and Procedures
    - Operation & Maintenance
    - Project Design & Construction Schedule
    - Quantities and cost estimates
    - Plates

- Participate in both the DQC and ATR processes for the Recommended Plan, by attending meetings, issuing correspondence, preparing submittal packages and incorporating/resolving comments in Dr. Checks. The DQC process will be accomplished through the District's in-house review of the Civil Design products.
- Resolve any outstanding Civil Design issues resulting from technical, vertical team, public, legal and policy reviews.
- If a Locally Preferred Plan (LPP) is selected in addition to the Recommended Plan, a separate set of Civil Design products will be developed by the Civil engineer to support the LPP. Additional Civil Design labor will be required.
- Resolve state and agency comments.
- All the exhibits will be provided in 11"x17" Sheets size
- Complete Final Decision Document and submit to HQUSACE

15.6 Structural Design

Structural design will conform to the latest edition of the following regulations and publications:

- EM 1110-2-2000, Standard Practice for Concrete Civil Work Structures, U.S. Army Corps of Engineers
- EM 1110-2-2502, Retaining and Flood Walls, 29 Sep 1989.
- EM 1110-2-2100, Stability Analysis of Concrete Structures, 1 Dec 2005.
- EM 1110-2-2104, Strength Design for Reinforced Concrete Hydraulic Structures, 30 November 2016.
- EM 1110-2-2906, Design of Pile Foundations, 15 January 1991.
- ER 1110-2-1150, Engineering and Design for Civil Works Projects, U.S. Army Corps of Engineers, 31 March 1994.
- ER 1110-2-1806, Earthquake Design and Evaluation for Civil Works Projects, 31 May 2016.
- ACI 318-19, Building Code Requirements for Structural Concrete and Commentary.
- AISC 325-11: Steel Construction Manual, 14th edition, March 2011.
- ASCE7-16: Minimum Design Loads for Buildings and Other Structures, 2016.

Scoping and alternatives Milestone

Milestone Scope

To reach this milestone Structural Design will support other disciplines' selection of the initial array of alternatives to be considered by:

- Participating in meetings and perform the necessary coordination and administrative work as required to meet the project needs and schedules.
- Participating in a planning charrette as required.
- Making the necessary site visits to thoroughly familiarize themselves with the project site and the surrounding area.
- Participating in the creation of and keep current with project structural documents.
- Assess the existing as-built structural conditions, identify potential impacts of structures to other disciplines, and participate in the initial formulation of alternatives
- Prepare preliminary alternative structural concepts proposed for the project
- Prepare alternatives structural concept plans and structural design documents, as required.
- Participate in the DQC processes by attending meetings, issuing correspondence, preparing submittal packages and incorporating/resolving comments in Dr. Checks, an online tool to document the review process.

Before the MDM, Structural Design will:

- Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
- Update and keep current all structural documents as identified in the Scoping section above, as applicable.
- Perform structural analysis, as necessary, and review relevant project documents to support the progress of other disciplines.
- Participate in DQC and vertical team reviews and respond to, address, and incorporate comments generated during these reviews, as required.

TENTATIVELY SELECTED PLAN AND FINAL REPORT MILESTONE

MILESTONE SCOPE

Structural Design will:

- Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
- Prepare recommended structural plans based on input from other disciplines, including
    - Conceptual Structural Plans
    - Typical structural sections
    - Typical structural details
    - Additional information required by project progress.
- Update and keep current all documents as identified in the Scoping, Alternatives, and MDM Milestone sections above, as applicable.
- Participate in vertical team, public, legal and policy reviews, and address Civil Design issues resulting from these reviews.
- Make follow-up site visits as needed.
- With input from the PDT, assist Cost engineer on Cost and Schedule Risk Analysis.
- Prepare a final Structural Design appendix for inclusion into the report.
- Participate in both the DQC and ATR processes for the Recommended Plan, by attending meetings, issuing correspondence, preparing submittal packages and incorporating/resolving comments in Dr. Checks.
- Resolve any outstanding Structural Design issues resulting from technical, vertical team, public, legal and policy reviews.

15.7 COST ENGINEERING

All Cost Engineering work and products will conform to the latest edition of the following regulations and publications:

a. ER 1110-1-1300, Cost Engineering Policy and General Requirements
b. ER 1110-2-1302, Civil Works Cost Engineering
c. ER 1110-3-1301 Hazardous, Toxic and Radioactive Waste Cost Engineering
d. ETL 1110-2-573, Construction Cost Estimating Guide for Civil Works
e. EP 1110-1-8, Equipment Ownership and Operating Expense Schedule - Region 7
f. EM 1110-2-1304, CWICCS
g. ECB 2007-17, Cost Risk Analysis Methods
h. ER 1110-2-1150, Engineering and Design for Civil Works Projects
i. ER 1105-2-100, Planning Guidance Notebook
j. EC 1165-2-209, Civil Works Review Policy

Alternatives Milestone

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

Milestone Scope

To reach this milestone Cost Engineering supports narrowing the initial array of alternatives to be considered by:

1. Participating in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
2. Participating in planning charrettes as required. These charrettes will be structured workshops centered on the Six-Step planning process which includes specifying the problems and opportunities, taking inventory and forecasting conditions, formulating alternative plans, evaluating effects of alternative plans, comparing alternative plans, and selecting a recommended plan.
3. Making the necessary site visits to thoroughly familiarize themselves with the project site and the surrounding area.
4. Participating in the creation of and keeping current with project documents. These documents will include the Risk Register, Scoping Plan, Decision Management Plan/Decision Log, Review Plan, Project Management Plan, preliminary maps, and drawings.
5. Researching the existing project conditions, identifying uncertainties and potential impacts, participating in the initial formulation of alternatives, and be responsible for the development of all the preliminary cost and quantity estimates required during the Scoping phase.

Before the Alternatives Milestone meeting the Cost Engineer will:

1. Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
2. Update and keep current all documents as identified in the Scoping section above, as applicable.
3. Perform research, collect information, and review project documents and related construction items for the purpose of estimating costs and quantities, and formulating a focused array of alternatives.
4. Begin construction quantities check/evaluation for the focused array of alternatives.
5. Begin development of cost estimates for the focused array of alternatives. These estimates will be in the form of Current Working Estimates (CWE's) presented in MS Excel format. Each CWE will incorporate all Federal and non-Federal costs for construction, mitigation, restoration, LERRD's, PED, S&A, and risk-based contingency, categorized into the applicable Civil Works Work Breakdown Structure (CWWBS). The minimum level of detail will be Class 4, as defined in paragraph 15 of ER 1110-2-1302.
6. Participate in District Quality Control (DQC) and vertical team reviews and respond to, address, and incorporate comments generated during these reviews, as required.

Tentatively Selected Plan Milestone

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

Milestone Scope

1. Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.

2. Update and keep current all documents as identified above in the Scoping and Alternatives Milestone sections, as applicable.
3. Perform research, collect information, and review project documents and related construction items for the purpose of estimating costs and quantities, and formulation the focused array of alternatives.
4. Check/evaluate Construction Quantities for the focused array of Alternatives.
5. Prepare a CWE for each of the alternatives in the focused array by updating quantities, unit costs, methods of construction, material sources, disposal sites, etc.
6. Develop related O&M costs for the focused array of alternatives (i.e., typically required by Economics Section for their analysis).
7. With input from the PDT, develop an abbreviated cost and schedule risk analysis for each alternative in the focused array. The purpose of this analysis is to identify the appropriate contingency values to be used in the CWE for each alternative.
8. Provide air quality calculations to support the environmental coordinator as needed. Information provided will include type and number of equipment, days of use, equipment horsepower rating, number of employees, truck trips, and disposal distances, etc.
9. Prepare a draft cost engineering appendix for inclusion into the draft feasibility report. The appendix will contain narrative, tables, figures, sketches, and will present all of the cost engineering products developed thus far.
10. Participate in both the District Quality Control (DQC) and Agency Technical Review (ATR) processes by attending meetings, issuing correspondence, preparing submittal packages and incorporating/resolving comments in Dr. Checks, an online tool to document the review process. The DQC process will be accomplished through the District's in-house review of the cost engineering products. ATR will be performed by the Cost Engineering MCX in the Walla Walla District.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

Milestone Scope

The Cost Engineer will:

1. Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
2. Update and keep current all documents as identified in the Scoping, Alternatives, and TSP Milestone sections above, as applicable.
3. Participate in vertical team, public, legal and policy reviews, and address cost engineering issues resulting from these reviews.

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Resolve state and agency comments
- Complete Final Feasibility Report and submit to HQUSACE

OFFICE OF WATER PROJECT REVIEW

The Office of Water Project Review (OWPR) Chief will be briefed and determine if the final feasibility study report/NEPA document and the proposed Report of the Chief of Engineers are ready for the Chief of Engineers final review/signature and IFR is ready for release for State and Agency review.

MILESTONE ACTIONS

1. Participate in meetings and perform the necessary coordination and administrative work as required to meet the project needs.
2. Make follow-up site visits as needed.
3. Update and keep current all documents as identified in the Scoping, Alternatives, and TSP Milestone sections above, as applicable.
4. Ensure that quantity take-off evaluations for the Recommended Plan are as accurate as possible and based on available engineering and design data.
5. Prepare a construction cost estimate using the Micro-computer Aided Cost Estimating Systems MCACES (MII, current build) detailed cost estimating software for the Recommended Plan. The labor unit costs will be calculated from the labor database in MII, which will contain the latest Davis-Bacon wage rates for the county in which the project is located. Equipment unit costs will come from the equipment database in MII, which will contain the latest publication of EP 1110-1-8, Equipment Ownership and Operation Expense Schedule – Region 7. Material costs will be obtained from vendor quotes for significant items (generally 20% value compared to the highest material cost item) and the MII cost book (latest version) for the other items. The minimum level of detail will be Class 3, as defined in paragraph 15 of ER 1110-2-1302.
6. Develop descriptive statements regarding methods of construction, placement procedures, material sources and price quotes, types of equipment required, crew compositions, labor rates, indirect costs, jobsite conditions, haul distances and cycle times, estimated production rates, environmental restrictions, site ingress and egress, diversion and control of water, dewatering, and other assumptions for inclusion into the construction cost estimate for the Recommended Plan. These items will be shown as notes in the MII folders.
7. With input from the PDT, develop a Cost and Schedule Risk Analysis (CSRA) for the Recommended Plan. The CSRA will determine the contingency values to be used in the TPCS.
    a. For projects with a fully funded cost over $40M, a formal CSRA will be developed. The model will be based on the latest version of the Crystal Ball software, and the results of the CSRA will be presented in a CSRA appendix.
    b. For projects with a fully funded cost under $40M, an abbreviated CSRA will be developed. The model will be based on the latest version of the abbreviated CSRA excel spreadsheet template, and the results of the abbreviated CSRA will be presented in the Cost Engineering appendix.
8. Prepare a certified Total Project Cost Summary (TPCS) for the Recommended Plan. The TPCS will incorporate all Federal and non-Federal costs for construction, mitigation, restoration, LERRD's, PED, S&A, and risk-based contingency, categorized into the applicable Civil Works Work Breakdown Structure (CWWBS).
    a. The MII construction cost estimate will serve as the foundation of the TPCS.
    b. The Estimated Cost figures will be escalated to program year (Project First Cost) and to midpoint of construction (Fully Funded cost), respectively.
    c. The cost for each reach or phase (contract) will be displayed on detail sheets and summarized on the Summary Sheet.
    d. Costs for LERRD's will break out Relocation costs separately from the other Lands and Damages costs, which will be reported as a construction cost under WBS 02 RELOCATIONS.

e. PED and S&A costs will be calculated as percentages of construction (or as man-hour estimates) and shall be provided by the Project Manager. PED and S&A costs associated with Relocations that are LERRD shall be broken out.
f. Only one cost certification will occur and will take place as part of the Chief's Final Report.

9. Develop a construction schedule for the Recommended Plan.
   a. The schedule will be based on the durations generated in MII.
   b. The schedule will identify the interrelation of timeframes of the major features of work, and the sequence and duration of tasks.
   c. The schedule will consider time-sensitive procurements, weather, environmental requirements, and project restrictions.
   d. The schedule will form the basis of the escalation timeframes used in the TPCS.
   e. The schedule will be provided in Excel or MS Project format.
10. Prepare a final cost engineering appendix for inclusion into the feasibility report. The appendix will contain narrative, tables, figures, sketches, and will present all of the cost engineering products developed for this project.
11. Participate in both the District Quality Control (DQC) and Agency Technical Review (ATR) processes for the Recommended Plan, by attending meetings, issuing correspondence, preparing submittal packages and incorporating/resolving comments in Dr. Checks. The DQC process will be accomplished through the District's in-house review of the cost engineering products. ATR will be performed by the Cost Engineering MCX in the Walla Walla District.
12. Resolve any outstanding cost engineering issues resulting from technical, vertical team, public, legal and policy reviews.
13. If a Locally Preferred Plan (LPP) is selected in addition to the Recommended Plan, a separate set of cost engineering products will be developed by the cost engineer to support the LPP. Additional Cost Engineering labor will be required.

15.8 VALUE ENGINEERING

Value Engineering/Value Management (VE/VM) is an organized effort to analyze the functions of design, construction, operations, maintenance, facilities, equipment, procedures, methods and supplies to ensure that these functions are achieved at the lowest total cost while maintaining requirements for performance, reliability, quality, maintainability, safety and the users/County's needs. A basic VE goal during the life of the project is to strive to improve value in overall project cost. The VE process is not required as per Policy Letter 2017-01, VE in Planning dated 24MAY17.

15.9 ECONOMICS

ALTERNATIVES MILESTONE

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

Thus, the economic section will participate in meetings, contribute to screening criteria applied to arrive at a focused array of alternatives, and assist the team with arriving at the focused array. The project economist will also evaluate existing and historical socio-economic conditions and collect and aggregate existing recreation data in preparation for the next milestone.

MILESTONE SCOPE

To reach this milestone the economic section assists the PDT with narrowing the initial array of alternatives to be considered by:

- conduct the existing conditions analysis for demographics/socioeconomics and limited recreation and data gathering
- develop a "what-if" agricultural scenario based on addition of a nonstructural alternative: acquiring water rights from farmers
- reducing uncertainty about planning decisions for the focused array of alternatives that are carried forward for further analysis and evaluation including additional data collection if needed
- contributing to screening criteria and application of those criteria to reach the focused array of alternatives
- engaging the Planning Centers of Expertise and the vertical team (including the RIT, ATR lead and OWPR lead) during in-progress reviews (IPRs) and informal communication as needed
- engaging District Quality Control

Before the Alternatives Milestone meeting and with support from the economic section, the PDT:

- updates the draft report synopsis and provides the draft report synopsis to the Vertical Team as a read-ahead
- updates the Risk Register
- updates the team's process documents as needed with the next steps of the study –the decision management plan, review plan, etc.
- conducts a planning charrette

TENTATIVELY SELECTED PLAN MILESTONE

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

The economic section will evaluate each alternative in the focused array plus the without project/no action alternative for National Ecosystem Restoration (NER) benefits using Cost Effectiveness/Incremental Cost Analysis. The economist will indirectly compare nonmonetary benefits with monetary costs to determine "best buy plans" that are both cost efficient and effective alternatives, which aids in identifying the NER Plan. The economist will also provide other metrics to assist the team with identifying the TSP or LPP as needed. District and Agency (DQC and ATR) reviews will be conducted by assigned experts and supported by the economic section.

MILESTONE SCOPE

- Perform CE-ICA analysis and combined plan analysis to support identification of "best buy plans" and the Tentatively Selected Plan (TSP); conduct multiple iterations of measures, scales of measures, estimated outputs, estimated costs, and identify the incremental benefits and costs of project features
- Conduct other social effects (OSE) analysis, referencing the USACE OSE primer (with specific emphasis on EJ communities and environmental services benefits), and regional economic development (RED) analysis using the Regional Economic System (RECONS)
- Conduct the Unit Day Value (UDV) recreation analysis at the appropriate level of detail for each alternative
- Develop an evaluation system (I.e. Multiple Decision Criteria Analysis) across the NED, OSE, RED, and EQ accounts; assign weights to metrics to help identify the plan that maximizes comprehensive benefits
- Complete the draft economic appendix

- Support DQC and ATR; respond to reviews; revise modeling and appendix as needed
- Conduct In-progress Reviews as needed with the PDT and Vertical Team
- Update the risk register, decision management plan(s) and documentation of key decisions (decision log)

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

The economic section will support this review process by providing prompt responses to reviewer and public comments, resolving comments to the extent practical, revising the modeling and the draft appendix as necessary, reporting revised results to the team, and supporting the milestone meeting.

Milestone Scope

Before the Agency Decision Milestone meeting the economic section:

- Considers all review comments, supporting IPRs as necessary
- Supports resolution of review comments through responses, changes to the appendix, changes to the modeling, and additional analysis as needed
- Updates the Risk Register and develops a summary of significant ("High") risk issues that will be addressed during the feasibility-level design phase of the study or that the team plans to carry forward into Pre-Construction Engineering and Design.
- Conducts risk and uncertainty analysis as needed

After the Agency Decision Milestone meeting, the economic section:

- Develops the Final Draft Economic Appendix
- Supports the Feasibility Level Design phase
    - improve accuracy of economic results through refining assumptions, inputs, and rerunning models as needed
    - Preparation of the final feasibility report with identification of the agency recommendation.
    - Additional planning and design of the recommended plan to reduce risk of uncertainty with cost data, engineering effectiveness, environmental impacts, and economic benefits

Office of Water Project Review

The OWPR determines if the final feasibility study report/NEPA document and the proposed Report of the Chief of Engineers are ready to be released for State and Agency review.

Revision to modeling and results may be required from the feasibility level design phase as well as additional reviewer comments. The economic section will support this process by providing input, timely responses to reviewer comments, and necessary revisions to modeling and the draft appendix.

Milestone Actions

- Resolve District, Division, Agency Technical Review (ATR) comments
- Revise model and economic appendix as needed
- Conclude Feasibility Level Design phase: complete revised modeling, report and document results
- Support completion of Final Report
- Support presentation to the OWPR

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)). The economic section will support these efforts in a limited, as-needed capacity.

Goals/Actions

- Support resolution of state and agency comments
- Support completion of Final Feasibility Report and submit to HQUSACE

15.10 Real Estate

Alternatives Milestone

To reach the Alternatives Milestone, the realty specialist will need to complete the following:

- Identify Real Estate (RE) footprint for each alternative
- Identify parcel ownerships within the RE footprint for each alternative
- Identify interest to be acquired within the RE footprint in support of the construction, operation and maintenance of each alternative.
- Identify any Facility or Utility Relocations (if any)
- Identify the staging area(s)
- Identify disposal area(s)
- Identify any associated RE risk for each alternative

Milestone Scope

As the PDT narrows the initial array of alternatives to be considered, the realty specialist will:

- Address critical risks identified in the risk register
- Further analysis and evaluation including additional data collection
- Engage District Quality Control Reviewer

Before the Alternatives Milestone meeting the PDT:

- Update the Risk Register
- Update the team's process documents as needed with the next steps of the study –the decision management plan, review plan, etc.
- Attend planning Charrette

Tentatively Selected Plan (TSP) Milestone

To meet the TSP Milestones outlined, the realty specialist will:

Milestone Scope

- Provide a draft of the Real Estate Plan (REP)
- Provide Real Estate Appendix based upon the TSP Provide a draft of the Gross Appraisal
- Provide a draft of the Gross Appraisal/Cost Estimate
- Develop a LEERDS cost estimate for each alternative
- Attend In-progress Reviews as needed with the PDT and Vertical Team
- Update the Risk Register (as needed)
- Potentially provide opinions of compensability for facility/utility relocations (if any)
- Develop a Parcel Map for the REP
- Attend the PDT Meetings
- Attend the TSP Milestone Meeting(s)
- Complete a Labor Cost Estimate
- Respond to DCQ comments and make revisions
- Send Risk Letter to the Sponsors
- Start discussion and coordination with other Federal agencies who hold land in fee regarding land use.
- Discuss MOU options with other Federal agencies.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

Milestone Scope

Before the Agency Decision Milestone meeting, the realty specialist will:

- Incorporate any changes which were not identified in the TSP
- Update the Risk Register and develop a summary of significant (“High”) risk issues that will be addressed during the feasibility-level design phase of the study or that the team plans to carry forward into Pre-Construction Engineering and Design.
- Prepare read-ahead information for the meeting, e.g., briefing presentation, a report synopsis and highlights of public, technical, policy, legal and IEPR comments.

After the Agency Decision Milestone meeting, the realty specialist will:

- Documents the results of the Agency Decision Milestone in a “Memorandum for the Record” and decision log
- Revise REP
- Address In-progress reviews (IPRs) as necessary to resolve any policy or agency issues.

15.11 ENVIRONMENTAL

This section describes the effort required for the environmental (Section 15.11.1), biological (Section 15.11.2), and cultural (Section 15.11.3) studies, as well as U.S. Fish and Wildlife Service Coordination (15.11.4) to support the Imperial Streams and Salton Sea Ecosystem Restoration Study. An IFR incorporating the Feasibility Study, Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) will be completed to comply with the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable Federal and State laws, Federal Executive Orders, and Corps policies and guidelines.

The appendices shall include preparation of a 404(b)(1) Evaluation, an air quality analysis including air emissions estimates (including criteria pollutants and Green House Gases), a Monitoring and Adaptive Management Plan (MAMP), a Fish and Wildlife Coordination Act (FWCA) appendix, a cultural resources appendix, and, if applicable, biological species lists, Biological Opinion (BO), agency correspondence, and agency and public comments with Corps responses. Other appendices may be included that provide significant information to be considered by decision makers. The Environmental Coordinator will prepare a request to the Regional Water Quality Control Board (RWQCB) for 401 Certification (in compliance with the Clean Water Act). The biologist is responsible for consultation with the FWS, any consultation required under the Endangered Species Act, FWCA, and preparation of the Monitoring and Adaptive Management Plan (MAMP) appendix. The environmental coordinator will coordinate with the archaeologist on consultation with the State Historic Preservation Officer (SHPO) under the National Historic Preservation Act (NHPA).

The Draft IFR will be circulated to appropriate Federal, state, and local governments, public agencies, interested organizations, and individuals. Comments received on the Draft IFR will be addressed, and revisions will be made in accordance with Federal and State laws, and a Final IFR will be prepared.

15.11.1 ENVIRONMENTAL COORDINATOR

The Environmental Coordinator will work closely with the Lead Planner. The Lead Planner will serve as the primary author for the IFR, the Environmental Coordinator will ensure that the report is technically adequate for purposes of compliance with the NEPA and the CEQA. The Environmental Coordinator shall be responsible for preparing the following sections of the Integrated Report including: 1) Affected Environment; 2) Environmental Consequences; 3) Coordination and Consultation; 4) Environmental Law Compliance and Commitments; 5) List of Preparers and Reviewers; 7) Cumulative Impacts, 8) Unavoidable Significant Impacts, 9) identify the environmentally preferable alternative, 10) identify the Least Environmentally Damaging Practicable Alternative (LEDPA), 11) Relationship Between Short-Term Uses of the Environmental and Maintenance and Enhancement of Long-Term Productivity, 12) Irreversible and Irretrievable Commitment of Resources, 13) Growth Inducing Impacts and 14) References as they pertain to the environmental portions of the IFR. A draft ROD will be prepared to accompany the OWPR package.

The Environmental Coordinator will provide a description of existing and expected future without-project conditions for each of the following resource areas. This will serve as the affected environment section to satisfy NEPA requirements and will also provide descriptions of baseline and future without-project conditions to satisfy plan formulation requirements. Descriptions of all direct, indirect, and cumulative impacts that would be induced by implementation of the project, the no-action alternative, reasonable action alternatives, and any mitigation measures that would be required to address these impacts shall be described. For the IFR, the environmental coordinator is responsible for:

a. Physical Environment: This section will identify and describe all physical features including geology, topography, seismicity, liquefaction, erosion, sedimentation, mineral resources, and landforms. An assessment of potential impacts of each alternative shall be analyzed and compared.

b. Water Resources: Existing water quality related data including surface and ground water quality shall be discussed. An assessment of potential water resources impacts of each alternative shall be analyzed and compared. If applicable, a 404(b)(1) analysis demonstrating substantial compliance with the Clean Water Act shall be prepared. An application for Section 401 Water Quality Certification shall be prepared and coordinated with the applicable RWQCB.

c. Air Quality: Existing information on the baseline air quality data shall be described to document the ambient air quality conditions within and adjacent to the project area. Future trends for air quality based on State Implementation Plans or other applicable air quality attainment plans shall be described. The study will conduct an applicability analysis on potential criteria pollutant emissions for all sources associated with the project in accordance with the Clean Air Act. A section on Greenhouse Gases shall be included. An assessment of potential air quality impacts of each alternative shall be analyzed and compared. A General Conformity Determination, if required, is included in this Scope of Work.

d. Climate Change: The most recent information regarding the significance of global climate change shall be described and the potential impacts that global climate change may have on the proposed project shall be described. An assessment of potential impacts of each alternative on predicted trends/impacts on global climate change shall be analyzed and compared. Sea level Rise should be assessed in accordance with applicable Corps' and state published guidance.

e. Land Use: Review applicable land use plans, such as general plans, comprehensive plans, etc., to identify existing and planned land uses for lands within the project study area. In addition, applicable land use policies will also be noted and described. An assessment of potential land use impacts of each alternative shall be analyzed and compared.

f. Noise: Assess the existing noise environment in the vicinity of the study area, including existing noise sources and sensitive receptors (residences, hospitals, etc.), including noise-sensitive wildlife. This includes determining local noise standards and regulations and assessing noise levels that would result from implementing and operating the project alternatives. An assessment of potential noise impacts of each alternative shall be analyzed and compared.

g. Hazardous and Toxic Waste Materials (HTRW): Summarize the findings of the HTRW database review that will be performed by the Los Angeles District Geotechnical.

h. Socioeconomics and Environmental Justice: Summarize population, housing, and employment information for the project vicinity. Assess minority and low-income populations impacted. Any disproportionate impacts to these populations from implementation of any of the alternatives will be identified in accordance with Executive Order 12898. An assessment of potential socioeconomics and environmental justice impacts of each alternative shall be analyzed and compared.

i. Traffic and Transportation: Provide information of various means of transportation and traffic patterns in and around the project area and describe impacts the proposed project may have on local and regional traffic and transportation systems.

j. Public Services and Utilities: Describe existing utilities obtained from Engineering Division, the non-federal sponsors, and other entities in the project study area, including electrical and gas facilities and pipelines, wastewater facilities, telecommunications, etc. This section will also describe relevant public services in this area, such as public schools, law enforcement, fire protection, etc. Potential impacts to public services and/or utilities from implementation of the alternatives will be described, including any mitigation measures needed to address those impacts. An assessment of potential public services and utilities impacts of each alternative shall be analyzed and compared.

k. Recreation: Describe recreation resources in the vicinity of the project study area. This includes parks, trails, and other recreational use areas. Potential impacts to existing and future recreation from implementation of the alternatives will be described, including any mitigation measures needed to address those impacts. An assessment of potential recreational impacts of each alternative shall be analyzed and compared.

l. Safety and Public Health. Describe baseline conditions including medical and emergency needs within the proposed project area and how public safety and health issues may be impacted by the proposed project, and address potential issues such as fire, mosquitoes, and risk to human life as identified in Executive Order 11988, by complying with Engineering Regulation (ER) 1165-2-26, Water Resources Policies and Authorities - Implementation of Executive Order 11988 on Flood Plain Management. An assessment of potential safety and public health impacts of each alternative shall be analyzed and compared.

m. Aesthetics. Describe the aesthetic setting for the project study area including visual quality, auditory quality, oratory quality, and other inherent esthetic qualities that may be impacted by the proposed project. An assessment of potential aesthetics impacts of each alternative shall be analyzed and compared.

n. Sustainability. Describe the baseline conditions and the potential impacts the proposed project may have on environmental, economic, and energy sustainability within the proposed project area.

o. Cumulative Impacts. Describe past, present and reasonably foreseeable future impacts and relate to current project.

p. Compliance with applicable laws: Compliance with Applicable Laws and Regulations section shall include:

1. U.S. Fish and Wildlife Coordination Act (16 U.S.C. 661)
2. Endangered Species Act, as amended (16 U. S. C. 1531 et seq.)
3. Fish and Wildlife Coordination Act of 1958 (Public Law 85-624).
4. Migratory Bird Treaty Act (MBTA) (16 U. S. C. 715- 715s)
5. Clean Water Act 33 U.S. C. 1251 et seq.
6. Clean Air Act of 1970 (42 U.S.C. 7401 et seq.)
7. Noise Control Act of 1972 (42 USC 4901 et seq.) as amended
8. National Historic Preservation Act (16 U.S.C. 460b, 470l-470n)
9. Federal Water Project Recreation Act (Public Law 89-72)
10. Comprehensive Environmental Response, Compensation and Liability Act (42 U. S. C. 9601 et seq.)
11. Executive Order 11514, Protection and Enhancement of Environmental Quality
12. Executive Order 11991, Relating to Protection and Enhancement of Environmental Quality
13. Executive Order 11990, Protection of Wetlands
14. Executive Order 12088, Federal Compliance with Pollution Control Standards
15. Executive Order 12898, Environmental Justice Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations Executive Order 13112, Invasive Species

Alternatives Milestone

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

Milestone Scope

To reach this milestone the Environmental Coordinator supports the initial array of alternatives to be considered by:

- Addressing critical risks identified in the risk register
    - Reducing uncertainty about planning decisions for the focused array of alternatives that are carried forward for further analysis and evaluation by: Conducting a literature search including review of existing environmental studies of the project area. If other agency data is used, reconnaissance level surveys may be conducted to confirm the resources are correctly identified and the information is accurate. Information based on literature searches, reconnaissance, and existing environmental conditions will be documented, compiled, and incorporated into the baseline conditions of the Affected Environment of the Integrated Report.
    - Attend PDT meetings, site visits, and meetings with local officials, as necessary.
    - Attendance at planning charrette for alternatives development, includes a site visit for all resource areas to project area.
    - Conducting public scoping meeting
- Review problems and opportunities for the project area and review and define objectives and constraints with PDT. Participates in the development of alternatives in coordination with PDT.
- Support development of habitat evaluation procedure required data and modeling needed to perform Cost Effective/Incremental Cost Analysis.
- Document existing and future-without project environmental conditions in the Affected Environment section of the Integrated Feasibility Report. Identify requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), other applicable Federal environmental laws and Executive Orders with which the study project must comply.
- Prepares Affected Environment (existing conditions) Section and conceptual discussion of no action alternative (future without project condition), and action alternatives for the Alternatives Milestone including resources listed above. Material prepared for the Alternatives Milestone shall be sufficient to demonstrate an appropriate array of alternatives has been defined for the NEPA/CEQA document and in accordance with applicable Corps policy. Will maintain environmental portion of administrative record for the project. Identify resource issues which may affect alternatives under consideration.
- Engaging the Planning Centers of Expertise and the vertical team (including the RIT, ATR lead and OWPR lead) during in-progress reviews (IPRs) and informal communication as needed
- Coordinate with the USEPA, Air Boards, Water Board, and other resource agencies for participation in charrette or review of conceptual alternatives
- Engaging District Quality Control
- Updates the draft report synopsis and provides the draft report synopsis to the Vertical Team as a read-ahead
- Updates the Risk Register
- Updates the team's process documents as needed with the next steps of the study –the decision management plan, review plan, etc.

- Prepare and participate in Alternatives Milestone Conference with vertical team for concurrence on the array of alternatives and respond to comments.
- Conducts a planning charrette
- Reviews public and agency comments received during scoping process and disseminates to PDT

TENTATIVELY SELECTED PLAN MILESTONE

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

MILESTONE SCOPE

- Visit the site to analyze impacts of the alternatives.
- Revise existing and future-without project report based on DQC, ATR, and policy and legal reviews.
- Attend and participate in PDT meetings. Provide input into the development and screening of alternatives.
- Prepare analysis of alternatives for each appropriate resource area and prepare the Environmental Consequences Section for inclusion into the Feasibility Report. The environmental document will include a section on potential direct, indirect, and cumulative impacts for each project alternative. Cumulative impacts will include discussion of past, present, and reasonably foreseeable future actions under each alternative. Potential impacts will be determined by comparing the future with and future without project conditions. Prepare draft documentation and appendices.
- Develop a draft 404(b)(1) analysis.
- Prepare draft Compliance with Environmental Laws section.
- Prepare draft 401 Water Quality Certification application, if required.
- Prepare appropriate best management practices and/or avoidance, minimization, and/or compensation measures for affected resources.
- Provide the draft NEPA document to the Cooperating and Participating Agencies for minimum 30 calendar day review.
- Respond to Cooperating and Participating Agency comments on draft NEPA document.
- Drafting and publishing federal Notice of Intent (NOI); coordinate with the Sponsors for the publishing of the state Notice of Preparation (NOP)
- Document, public involvement, and necessary consultations, develop a list of document preparers.
- Coordinate with the lead plan formulator to prepare documents for DQC, ATR, IEPR, and legal and policy review.
- Respond to DQC, ATR including non-Federal sponsors comments, IEPR, and legal and policy review comments in Dr. Checks or another written format, as requested.
- Coordinate with PDT on selection of TSP.
- Prepare for and participate in the TSP Conference.
- Update the risk register, decision management plan(s) and documentation of key decisions (decision log)
- Provide documents to DQC, IEPR, and OC
- Respond to comments from DQC, IEPR, and OC, revise DEIS/DEIR and 404(b)(1) Evaluation
- Following the milestone meeting:
    - an updated decision log documenting decisions and agreements are vetted with the Vertical Team
    - the draft report is developed and released for concurrent public technical, legal, and policy review and comments are resolved
- Prepare Interested Parties Letter, mailing labels, and organize preparation of emailing or mailing process.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA/CEQA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsors(s) ready to support project implementation, the Milestone meeting can be scheduled.

Milestone Scope

- Before the Agency Decision Milestone meeting, the Environmental Coordinator:
- Prepares the Notice of Availability (NOA) to be printed in the Federal Register (FR). Prepares the MIPR for publishing of the NOA. Prepares and distributes the Notice of Preparation (NOP).
- Prepare and conduct public meetings with the non-Federal sponsors.
- Finalize draft NEPA document for public review
- Post draft NEPA document to Federal Register
- Revises the impact analysis (Environmental Consequences), compensation and avoidance measures for affected resources, Cumulative Impacts, Compliance with Environmental Laws, agency and public mailing list based on received comments.
- Prepare for and be available to participate in the Milestone Conference.
- Prepares written response to comments
- Draft environmental components of Final IFR
- Provide documents to DQC, IEPR, and OC
- Respond to comments from DQC, IEPR, and OC, revise Final IFR.
- Coordinate issuance of final state certifications (401 WQC, CCD), if required; provide list of conditions to PDT

After the Agency Decision Milestone meeting, the Environmental Coordinator undertakes:

- Preparation of the final feasibility report with identification of the agency recommendation.
- Revise NEPA document per public comment
- Provide Revised NEPA document to Cooperating and Participating Agencies for additional review
- Respond to any remaining Cooperating and Participating Agency comments
- Prepare draft Decision Document
- In-progress reviews (IPRs) as necessary to resolve any policy or agency issues.
- Participates planning and design of the recommended plan to reduce risk of uncertainty with cost data, engineering effectiveness, environmental impacts, and economic benefits
- Finalize mitigation and monitoring requirements

Office of Water Project Review

The Office of Water Project Review (OWPR) determines if the Final IFR and the proposed Report of the Chief of Engineers are ready to be released for State and Agency review.

MILESTONE ACTIONS

- Complete Final IFR
- Complete DQC on the Final IFR.
- Prepare for and present to the Office of Water Projects Review
- Prepare Final IFR for vertical team coordination and input into OWPR.
- Prepare Draft Final Record of Decision (ROD).
- Distribute Final IFR for State and Agency Review and to other appropriate agencies and interested parties, including coordination of printing and copying with non-Federal sponsors, preparing mailing labels and processing for mailing (similar to the draft report).

CHIEF'S REPORT MILESTONE

The final Feasibility Study Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Resolve state and agency comments
- Respond to public review comments and prepare Final IFR. Incorporate and respond to written public review comments on the Draft IFR, oral comments presented at the final public meeting, and internal review comments.
- Prepare Notice of Completion (NOC) and Final IFR for publication on-line in the FR.
- Finalize ROD

15.11.2 BIOLOGICAL RESOURCES

The biological resources studies for this project will primarily focus on mapping and species inventory, surveys of biological resources, as needed, development of ecosystem restoration alternatives, and assessment of potential effects to biological resources, including species listed as endangered or threatened under the Endangered Species Act and California Endangered Species Act. For the purposes of this project management plan, formal consultation with the USFWS under Section 7 of the Endangered Species Act may be needed. The habitat and species assessment will include mapping and inventory of all major habitat types within the project area. Biological resources information will be supplemented with information provided by the U.S. Fish and Wildlife Service (USFWS) in consultation in accordance with the Fish and Wildlife Coordination Act. The following specific tasks will be performed during the feasibility study in support of the preparation of the IFR.

ALTERNATIVES MILESTONE

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

MILESTONE SCOPE

- Review reconnaissance level environmental information in preparation for the public scoping meeting(s) to solicit input concerning study scope, local interests, and concerns to be addressed in the IFR.
- Participate in public scoping meeting(s).

- Attend PDT Meetings, site visits, and meetings with local officials, as necessary.
- Attendance at Planning charrette for alternatives development.
- Prepare for and participate in the NEPA public scoping meeting, includes a site visit.
- Review problems and opportunities for the project area and review and define objectives and constraints with PDT. Participate in the development of alternatives in coordination with the PDT.
- Baseline Conditions and Future Without Project information for biological resources will be established based upon review of existing information (literature review) including, but not limited to published and unpublished reports on biological resources specific to the project area, general information on the species and habitats that occur in the project area, existing NEPA documents for similar projects and field surveys and investigations conducted for this project.
- Survey/GIS Mapping/Spatial Analysis. Determine requirements for spatial analysis including habitat mapping requirements and species survey requirements. Perform mapping/survey or develop and administer contract as appropriate. In coordination with the GIS analyst, the mapping of riparian, wetland, and marine habitats, and known locations of species of concern, as appropriate, will be entered into the GIS database.
- Document existing and future-without project biological resources conditions including habitat types, species presence, and sensitive species.
- Develop a Habitat Evaluation Procedure and Model in coordination with the appropriate resource agencies to determine existing and future without project habitat units. Coordinate Habitat Evaluation Procedure and Model with appropriate Planning Center of Expertise for model approval or certification.
- Prepare for and participate in PDT and project coordination meetings with agencies to include, but not limited to the non-Federal sponsors, USFWS, USEPA, California Department of Fish and Wildlife (CDFW), resource agencies, and stakeholders.
- Provide input into the development of the feasibility-level alternatives related to biological resources. Identify resource issues which may affect alternative under consideration
- Prepare and participate in Alternative Milestone meeting for concurrence on the array of alternatives.
- Prepare and manage a SOW and MIPR for USFWS work in accordance with the Fish and Wildlife Coordination Act.
- Coordinate with USFWS as appropriate on Draft Planning Aid Letter (PAL) under FWCA

Tentatively Selected Plan Milestone

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

Milestone Scope

- Revise existing and future-without project report based on DQC, ATR, and policy and legal reviews.
- Attend and participate in PDT meetings. Provide input into the development and screening of alternatives. Coordinate with the PDT on necessary mitigation and formulate mitigation measures as required.
- Coordinate with GIS analyst to update mapping as appropriate based on refined alternatives.
- Finalize functional assessment habitat evaluation for the action alternatives in coordination with appropriate resource agencies.
- Potential impacts of alternatives to biological resources will be evaluated

- Documentation will include descriptions of feasibility-level alternatives and impact (beneficial and adverse) to biological resources from each alternative. Coordinate with Environmental Coordinator on Draft IFR documentation.
- Prepare for and participate in project meetings.
- Prepare a determination under the Endangered Species Act for Threatened or Endangered species or their critical habitat that may be affected by project activities. Conduct formal coordination with the USFWS if species will be affected.
- Coordinate with USFWS as appropriate on Draft Coordination Act Report (CAR) under FWCA.
- Coordinate with PDT on selection of TSP.
- Participate in the review process meetings and response to comments.
- Prepare for and attend the TSP Milestone conference.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA/CEQA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

Milestone Scope

- Refine impact analysis and mitigation plans based on updated information and comments provided at the TSP Milestone meeting.
- Review draft CAR from USFWS as appropriate and provide responses to recommendations.
- Refine a monitoring and adaptive management plan (MAMP) to record the success of the recommended mitigation.
- Assist in preparing Final IFR Document for public review.

Office of Water Project Review

The Office of Water Project Review (OWPR) determines if the Final IFR and the proposed Report of the Chief of Engineers are ready to be released for State and Agency review.

Milestone Actions

- Complete Final IFR
- Complete DQC on the Final IFR.
- Prepare for and present to the OWPR

Final Report Milestone

The final Feasibility Study Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Respond to public review comments and prepare Final IFR. Incorporate and respond to written public review comments on the Final IFR, and internal comments.
- Complete DQC on the Final IFR.

CHIEF'S REPORT MILESTONE

The final Feasibility Study Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Resolve state and agency comments
- Respond to public review comments and prepare Final IFR. Incorporate and respond to written public review comments on the Draft IFR, oral comments presented at the final public meeting, and internal review comments.
- Prepare Notice of Completion (NOC) and Final IFR for publication on-line in the FR.
- Finalize ROD

15.11.3 CULTURAL RESOURCES STUDIES

This section describes the effort required for the cultural resources studies to support the feasibility study. This task will be conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, 36 CFR 800 "Protection of Historic Properties," and Corps Engineering Regulation 1105-2-100. This task will determine the impacts of projects alternative on cultural resources within the Area of Potential Effects (APE). Estimates are based on the assumption that several resources are present and will require moderate-level investigation; that Native American groups in the area are active and may require higher than average consultation. The presence of large, complicated resources would require additional time and funding.

The end product of this task shall be a professional technical report that describes all known or identified cultural resources and historic properties within the APE and assesses the potential impact of the selected project alternative on these resources. The report will also describe the potential range of preservation or mitigation efforts and the associated costs of these studies.

ALTERNATIVES MILESTONE

The PDT and Vertical Team agree on the focused array of alternatives, on the criteria to evaluate and compare the alternatives to select the agency recommended plan (Agency Decision Milestone), on how to continue the analysis and evaluation on the focused array of alternatives, that the objectives of the study are consistent with Corps authorities and priorities.

MILESTONE SCOPE

- Attend and participate in meetings and site visits.
- Baseline conditions for cultural resources will be established based on review of existing information (records and literature review). This review includes but is not limited to published and unpublished reports on previous archival and archeological investigations, known/recorded sites, and general culture history for the APE based upon previous research. The records and literature search will involve review of archeological resources maps, historic topographic maps, and historic register lists. All the searches are for data on

cultural resources, including prehistoric, historic, cultural, and spiritual/religious sites. A search will be requested from the Native American Heritage Commission (NAHC) to determine whether or not sacred sites are recorded within or near the study area. Identified cultural resources will be evaluated for potential eligibility for the National Register of Historic Places.

- Initial Native American Consultation - Native American issues will be addressed in accordance with Section 106 of the National Historic Preservation Act, the American Indian Religious Freedom Act of 1978. These laws and regulations all require that government agencies consult with Native Americans to determine their interests in federal projects. Based on a list provided by the NAHC, the Corps will notify Native American groups known to have an interest in the APE for the proposed project.
- Remote sensing surveys and pedestrian cultural resources surveys may be required to verify existing information, as needed, and to determine presence or absence of cultural resources within the APE that have not been previously investigated.
- Prepare existing and future-without project documentation.

Tentatively Selected Plan Milestone

The Tentatively Selected Plan (TSP) Milestone meeting ensures Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and the analysis the PDT used to reach that decision.

Milestone Scope

- Attend and participate in meetings.
- Review and update baseline conditions as needed. Obtain additional detail for with project conditions.
- If required, perform testing of cultural resources to determine National Register eligibility.
- Coordination/Consultation with California State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act (36 CFR 800), as amended. The Corps determines the APE, the presence/absence of historic properties, and the effect of the project on those properties, and request input and/or concurrence from SHPO on the identification, determinations, and findings.
- Continued Native American Consultation - Native American issues will be addressed in accordance with Section 106 of the National Historic Preservation Act, the American Indian Religious Freedom Act of 1978. These laws and regulations all require that government agencies consult with Native Americans to determine their interests in federal projects. Based on a list provided by the NAHC, the Corps will notify Native American groups known to have an interest in the APE for the proposed project.
- Coordinate with Environmental Coordinator on draft IFR documentation. Documentation will include descriptions of feasibility-level alternatives and preliminary impact (beneficial and adverse) to cultural resources from each alternative.
- Participate in the review process meetings and response to comments.
- Prepare for and attend the TSP Milestone conference.
- Prepare for and participate in Final Public Meeting. Provide pertinent information to meeting facilitator, prepare response to public comments

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA/CEQA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

MILESTONE SCOPE

- Revise and update documents as necessary. NEPA document input & final SHPO and Native American coordination.
- Cultural Resources Final Draft Report - Prepare final draft report of test results, if necessary. Results of these studies shall be included in the NEPA documents.
- Develop Programmatic Agreement (PA) for treatment of historic properties, if necessary.
- Assist in preparing Final IFR Document for public review.

OFFICE OF WATER PROJECT REVIEW

The Office of Water Project Review (OWPR) determines if the Final IFR and the proposed Report of the Chief of Engineers are ready to be released for State and Agency review.

MILESTONE ACTIONS

- Complete Final IFR
- Complete DQC on the Final IFR.
- Prepare for and present to the Office of Water Projects Review

FINAL REPORT MILESTONE

The final Feasibility Study Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)).

GOALS/ACTIONS

- Respond to public review comments and prepare Final IFR. Incorporate and respond to written public review comments on the Final IFR, and internal ITR comments.
- Participate in ATR and quality control of Final IFR document.
- Final results of testing, treatment and mitigations required for historic properties, documented in NEPA documents

15.11.4 U.S. FISH & WILDLIFE SERVICE (USFWS) COORDINATION

This section describes the effort required to support the Feasibility Study. This task includes studies by the U.S. Fish and Wildlife Service (USFWS) in fulfillment of the requirements of the Fish and Wildlife Coordination Act. The principal USFWS products are the draft and final PAL and draft and final CAR. The PAL will inform the Corps of USFWS recommendations early in the planning process. The CAR will present USFWS opinions on impacts of alternatives on fish and wildlife resources and recommend types and amounts of mitigation for habitat losses. The Corps will coordinate with USFWS and supervise the interagency contract as part of its environmental impact studies task. As part of the coordination process, the U.S. Fish and Wildlife Service, along with the Corps will assess existing and with-project habitat values using a habitat evaluation.

- FWCA CAR will be prepared by the U.S. Fish and Wildlife Service in support of the recommended plan.
- Attendance and participation in the functional habitat evaluation assessment from the Alternatives through Agency Decision Milestone.
- Attend meetings, conferences, reviews, and coordinate as required and assist in the feasibility study throughout all the study milestones. All data collected and/or developed shall be fully coordinated with the study team and the non-Federal sponsors.

NON-FEDERAL SPONSORS

CEQA coordination: In development of the IFR, the non-federal sponsors will provide information and support for development of the document in compliance with CEQA. The Corps with be the lead agency under NEPA, and the Non-Federal Sponsors will be the lead agency under CEQA.

15.12 HYDROLOGY & HYDRAULIC ENGINEERING

Engineering Analysis and Report - A hydraulic and hydrology engineering appendix will be prepared for the Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study (FS) that supports the alternative analysis and the recommended plan. The hydraulic and hydrology engineering appendix will be prepared at a level of detail necessary to develop a defensible baseline cost estimate that addresses pertinent cost factors with adequate contingency factors. The hydraulic and hydrology engineering appendix will document the results of available hydraulic and hydrology engineering investigations conducted during the FS, including surveying and mapping, hydraulic and hydrology analyses, and hydraulic and hydrology modeling.

The hydraulic and hydrology analyses and modeling efforts will be managed and/or conducted by the New Orleans District with additional support by ERDC. The specific tasks include evaluation of without-project conditions, with-project conditions, design of improvement alternatives, review of numerous model studies and assessments to determine the influence of the proposed modifications to the ISSS project and surrounding environment, and identifying field data needs. The model studies and assessments to be reviewed and evaluated as part of this effort may include the following: *Salton Sea Long-Range Plan 2022*, and studies completed by the Salton Sea Authority (Imperial Irrigation District, Coachella Valley Water District, Imperial and Riverside Counties), UC Riverside Salton Sea Task Force, among other State and Federal efforts..

After completion of the above mentioned tasks, the methods, assumptions, and outcomes of each effort will be documented in the hydraulic and hydrology engineering appendix. Descriptions of the required engineering technical analyses to complete the FS are detailed below.

ALTERNATIVES MILESTONE

To reach the Alternatives Milestone hydraulic and hydrology Engineering proposes to complete the following tasks:

- Provide a description of alternatives during initial plan formulation.
- Develop design parameters for sizing and layout of project alternatives.
- Attend meetings and prepare documents for the alternatives milestone.

TENTATIVELY SELECTED PLAN (TSP) MILESTONE

The following discusses the objectives, assumptions, analysis, and outputs proposed for COA 2 to meet the TSP Milestones outlined. The hydraulic and hydrology objective for COA 2 is to provide the base line level of information to evaluate the environmental function of the proposed alternatives. A detailed analysis was performed for 12 recommended alternatives. The 12 alternatives will be analyzed for 6 hydrologic scenarios, 4 long term scenarios

and 2 seasonal based scenarios. The hydrologic scenarios are based on the High, Low and Very Low probability inflows outlined in the 2022 Salton Sea Long Range Plan, and further refined based on current best available information by the Future Hydrology Workshop, and a Log-Pearson Type III flow analysis and assessment of measured frow data from the three USGS gages flowing into the Salton Sea, including the Whitewater River from the north and the New River and Alamo River from the South. The workshop will look to either accept or refine the Long Range Plan water budget inputs for adjacent surface runoff, agricultural inflow contributions, groundwater interaction, evaporation, supplemental inflow sources and industrial flow considerations. COA 2 approach is to utilize 4 long term scenarios as recommended by the Future Hydrology Workshop, and 2 seasonal hydrologic scenarios, 1 extreme dry season and 1 wet period to consider shorter duration extreme low or high fluctuations. In addition to a refined hydrologic input, COA 2 performs a detailed hydraulic analysis using a 2 Dimensional gridded shallow water program called the Adaptive Hydraulics model (AdH), which will have a spatially varying computational mesh throughout the study area. The AdH model will compute surface elevation, depth, velocity, flow, water temperature, and salinity. The Gridded Surface Subsurface Hydrologic Analysis model (GSSHA) will be linked to the main hydraulic model and used to model wetland performance, since the GSSHA model has better groundwater modeling capabilities than the AdH model. The GSSHA model will produce the same outputs as the AdH model. These outputs will be provided to the ecological models.

Hydraulics and hydrology engineering proposes to complete the following tasks:

- Attend PDT Meetings, site visits, and meetings with local officials, as necessary.
- Coordinate with PDT on selection of TSP.
- Participate in the review process meetings and response to comments.
- Prepare for and attend the TSP Milestone conference.
- Contribute to the Water Budget Working Group to refine long term water supply forecasts for 4 hydrologic scenarios. A future hydrology workshop is planned to coordinate past studies and input from local partner agencies.
    - Climate Change: The most recent information regarding the significance of global climate change shall be described and the potential impacts that global climate change may have on the proposed project shall be described based on climate projects from available State and Federal projections. An assessment of potential impacts of each alternative on predicted trends/impacts on global climate change shall be analyzed and compared.
    - Coordinate with USACE, Non-Federal Sponsors, and other relevant agencies and consultants to identify and review all relevant hydraulic and hydrology engineering reports and prepare a brief summary. Coordinate with GIS unit regarding data protocols.
    - Evaluation of Existing Conditions - This task includes: a) the collection, inventory, and review of such data as historical surveys to evaluate existing morphological conditions.
    - A tier 1 analysis will be initiated prior to the hydrology workshop. The PDT has assumed that a Tier 2 analysis will be needed given the criticality of the future climate condition in the performance of the proposed alternatives, since all evidence leads to lower sea water levels. Both the Non-Federal sponsors and USACE recognize the critical future conditions of the sea. It has been assumed that a Tier 2 analysis will be required to satisfy current USACE guidance related to climate impact assessments. The Tier 2 analysis will consist of the water supply workshop, refinement of future water supply projections.
- Determine 4 long term water budget scenarios and 2 seasonal severe events.
- A hydrologic analysis will be performed using HMS to quantify the event based hydrologic secondary inflows and to provide an order of magnitude estimate of long term contributions. The surface runoff analysis will utilize the SCS CN rainfall-runoff approach, calibrated using a reference reach approach. Future rainfall projections will be considered in the hydrologic analysis.
- Develop an AdH hydraulic model for the Salton Sea and immediate adjacent areas around the Salton Sea,
    - Aggregate existing topographic and bathymetric data.

    - Identify datasets for meteorologic, hydrologic, and water quality variables that can help inform boundary conditions for existing conditions.
    - Identify datasets for water level, temperature, and salinity within the model domain that can serve as calibration and validation data sets for those variables.
        - Ensure that the variables against which the model is calibrated are the same variables that will be provided to the ecological models to quantify essential habitat.
        - Ensure that the datasets that inform the boundary conditions are different from the datasets that are used for calibration.
    - Where lack of data is determined to compromise the accuracy of the model, scope out data collection options that would minimize the accuracy risk.
    - Create monthly timeseries for the boundary condition variables to represent future scenarios, based on the future hydrology workshop and data review.
- Create AdH-linked GSSHA model for the wetland areas along the perimeter of the Salton Sea.
- Calibrate and validate existing conditions models.
- Create model representations for the 12 alternatives proposed at the AMM.
- Run each alternative under the 6 different hydrologic scenarios.
- Provide relevant outputs to ecological models to use as inputs.
- Document findings in H&H appendix.
- Attend meetings, incorporate comments and update report documents for the TSP milestone.
- Targeted ATR's will be performed at key technical milestones.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project.

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)). The economic section will support these efforts in a limited, as-needed capacity.

Goals/Actions

• Support resolution of state and agency comments
• Support completion of Final Feasibility Report and submit to HQUSACE

15.13 Geographic Information Systems

Alternatives Milestone

In support of the identification of study alternatives, the Geographic Information Systems (GIS) tasks include:

- Provide data management support as needed for PDT, including evaluation and comparison of relevant data.
- Provide any and all geographic/spatial support for the project, including: development of tables, graphs, charts, and maps for PDT meetings to reach the Alternatives Milestone Meeting.

TENTATIVELY SELECTED PLAN MILESTONE

In support of the tentatively selected alternatives, the Geographic Information Systems (GIS) tasks involve collection and analysis of spatial data sets including but not limited to:

- Develop Data Management Plan for PDT.
- Ortho-rectified aerial photos or LiDAR aerial imagery of the project area to include all management units.
- USGS Quadrangle (topographic) maps covering Imperial Streams and Salton Sea study area.
- Political boundaries up to and including the smallest administrative unit, city boundaries.
- Utility information to include both terrestrial based and underwater lines.
- Existing infrastructure (roads, bridge crossings, major utility crossing and lines, landfills, and grade control structures)
- Hydrographic data for Imperial Streams and Salton Sea study area.
- Geotechnical sampling data for Imperial Streams and Salton Sea study area.
- Asset management ownership identification of lands within the study area, identifying land ownership.
    - Locate geothermal resource areas, and relevant critical infrastructure.
- Existing recreation facilities including beaches, harbors, marinas, etc.
- Known locations of threatened, endangered or other species of concern, and associated habitats for areas in the Imperial Streams and Salton Sea.
- Any other pertinent supporting data needed to support PDT analysis and visualization.

To ensure high quality outputs, standards compliance tasks include:

- Ensure all GIS data complies with the CADD/GIS Technology Center Spatial Data Standards (SDS).
- Where appropriate, all field names of attribute data shall have a data dictionary and a definition of all codes used in the attribute fields.
- The horizontal positioning of all datasets shall be in the California State Plane Coordinate System Zone VI and the North American Datum of 1983 (NAD83), WKID: 2230 / Authority: EPSG. The geodetic reference for elevations and vertical data shall be based on the North American Vertical Datum of 1988 (NAVD 88).
- Ensure all metadata is FGDC compliant (www.fgdc.gov/metadata).
- Include the following metadata categories for all associated GIS datasets where applicable: Tags, Summary, Description, Credits, and Use Limitations.
- Document any discrepancies found during data acquisition and analysis.
- Make sure Point of Contact (POC) data is listed for acquired datasets and in-project produced datasets

Tasks in support of TSP alternatives for ecosystem restoration

- Collect, organize, and review publicly-accessible geospatial data.
- Coordinate with interested parties to review and standardize available data and prepare datasets to incorporate new data as available.
- Identify any data gaps. Use these gaps to identify baseline conditions and potential limitations.
- Support PDT through development of interactive webmap for alternatives development and analysis.
- Perform spatial analysis of both, without project, and with project restoration alternatives.
    - Develop parcel land ownership maps in support of Real Estate.
    - Use GIS to evaluate as-is conditions or 1st order maps, such as shoreline contours, geothermal resource areas, state and local assets etc.
    - Develop 2nd order valuation maps showing low-medium-high values of existing different habitat types, and other features pertinent to ecosystem restoration (water quality, circulation, etc.).

- Develop 3rd order suitability maps showing low-medium-high suitability for different habitat type conditions, such as depths suitability for introduced habitats, substrate quality, etc. These are the opportunities and constraints for restoration.
- Analysis will provide habitat acreages for specific alternatives and will be performed in close collaboration with environmental and engineering departments regarding the methodology development and analysis results.
- Coordinate with H&H and Environmental Branch to develop aspects of all alternatives for environmental restoration and other purposes as required to complete the with-project conditions scenario.

- Attend public meetings, TAC (technical advisory meetings) and prepare documents, maps, charts, and tables for the milestone; participate in the conference.
- Document all data dictionaries, accuracy notes, and time period of data content.
- Complete a Data Management Plan (DMP) for the Imperial Streams and Salton Sea GIS data based on USACE DMP templates.

Agency Decision Milestone

- Prepare/update documentation and attend meetings in support of the Agency Decision Milestone.
- Provide GIS support as needed for release of documents for DQC, ATR, IEPR, SPD, HQ and public review.
- Attend meetings, incorporate comments and update documents for the ADM.

Office of Water Projects Review

- Attend meetings and update report documents as needed.
- Respond to comments as necessary.

15.14 Survey and Mapping

Alternatives milestone

In support of the identification of study alternatives, the Survey and Mapping tasks involve collecting and researching all available survey data available for use:

1) Topographic Maps of the area.
2) Research any LiDAR data that can be used from local government agencies.
3) Third-party survey data

All Survey data collected from outside sources will need to be reviewed and verified using following tasks:

1) Ensure all survey data is following Survey and Mapping standards:
    a. EM 385-1-1 (2014) Safety and Health Requirements Manual
    b. EM 1110-1-1000 (2002) Photogrammetric and LiDAR Mapping
    c. EM 1110-1-1002 (2012) Survey Markers and Monumentation
    d. EM 1110-1-1003 (2011) NAVSRTAR Global Positioning System Surveying
    e. EM 1110-1-1004 (2002) Engineering and Design - Geodetic and Control Surveying
    f. EM 1110-1-1005 (2007) Control and Topographic Surveying
    g. EM-1110-1-2909 (2012) Geospatial Data and Systems
2) Ensure all survey data follows CADD standards:
    a. ERDC/ITL TR-19-6, A/E/C CAD Standard Release 6.1 (August 2019)
    b. ERDC/ITL TR-19-6, A/E/C Graphics Standard Release 2.1 (August 2019)
3) Perform survey field checks of all survey data.
4) Ensure all survey data comes from qualified professional survey firm with at least three years' experience.
5) Conduct field checks of primary and local control.
6) Ensure all third-party survey data is processed and configured to use government provided local and primary control.

7) Document any third-party data discrepancies found during data acquisition and analysis.

Survey and Mapping Section will be available for survey support during this feasibility study. The section will be available for any additional survey needs that arise during the study.

1) The horizontal positioning of all datasets shall be in the California State Plane Coordinate System Zone V and the North American Datum of 1983 (NAD83), WKID: 2229 / Authority: EPSG. The geodetic reference for elevations and vertical data shall be based on the North American Vertical Datum of 1988 (NAVD 88).
2) Present survey data using the latest MicroStation InRoads and Select Series 3 (OpenRoads)
3) Provide all field data in a mass ASCII points file with header with the following information:
    a. Project:
    b. Date:
    c. Surveyor: (name of firm and licensed surveyor)
    d. Area:
    e. Survey Type: (topographic, construction staking, boundary, etc.)
    f. Survey Method: (RTK, total station, digital levels, etc.)
    g. Unit of measure: (International Feet or US Survey Feesponsort)
    h. Vertical Datum: (include geoid model if applicable)
    i. Horizontal Datum: (include coordinate epoch)
    j. Projection: (must be appropriate state plane system)
    k. Control used: (must include primary NGS control points and local monuments established. Must give the PID for each NGS point)
    l. Data Format: (use easting, northing, elevation, point description
4) Make all verified survey data accessible to all disciplines involved in feasibility study.
5) Attend public meetings and prepare documents, maps, charts, and tables for the milestone; participate in the conference.
6) Document all survey data and archive for future use.
7) OPTIONAL: Coordinate with H&H, Geology/Geotech, Civil Engineering, Real Estate and Environmental Branch to perform AE contracted task orders in support of any TSP milestone selected. The AE Task order will be competed through our IDIQ contract and use a highly qualified firm selected by best practice and not lowest bid. The task order will incorporate Aerial Mapping, LiDAR, topography, Photogrammetry and planimetric. The purpose of this survey will provide technical support for all suggested milestone alternatives in this study and can be used for design purposes after agency decision milestone is selected.

Tentatively Selected Plan Milestone

1) Coordinate with H&H, Geology/Geotech, Civil Engineering, Real Estate, and Environmental Branch to perform in-house surveys in support of any TSP milestone selected.
2) Make survey data available to all parties including ACOE team members and sponsors in support of the TSP development effort.
3) Provide survey support as needed for conceptual designs, cost estimating take-offs, evaluation and comparison of alternatives, economic and environmental analysis.
4) Attend public meetings, TAC (technical advisory meetings) and prepare documents in support of survey data for the milestone and participate in conference.

Agency Decision Milestone

1) Prepare documentation and attend meetings in support of the Agency Decision Milestone.
2) Provide Survey Support as needed for release of documents for DQC, ATR, IEPR, SPD, HQ and public review.
3) Attend meetings, incorporate comments and update documents for the AD milestone.

15.15 Public and Tribal Involvement

Alternatives Milestone

At this milestone, the PDT and Vertical Team agree on an array of alternatives, on the criteria to evaluate and compare the alternatives, on how to continue the analysis and evaluation on the focused array of alternatives, and that the objectives of the study are consistent with Corps authorities and priorities. As part of this milestone, the decision maker seeks to affirm the project delivery team's preliminary analysis of the Federal Interest and the projected scope, schedule, and budget for the study.

Milestone Scope

To support the development of study problems, opportunities, objectives, constraints, existing and future without-project conditions, and an initial array of alternatives, the public involvement specialist will:

- Hold bi-lingual virtual scoping meetings with public, NGO groups, Tribes, and environmental justice advocacy groups.
- Work with NFS to translate meetings and outreach material into English and Spanish.
- Support an open 30-day public comment period, comments accepted as in-person comments, letters, and emails.
- Support developing responses to public comments.
- Present at Salton Sea Management Program monthly meetings.
- Support preparation and execution of in-person planning charrette.
- Develop public involvement plan with environmental justice considerations to ensure equitable access to participation.
- Perform stakeholder mapping exercise to develop and maintain a comprehensive contact list.

Tentatively Selected Plan Milestone

The purpose of the Tentatively Selected Plan (TSP) Milestone is to obtain Vertical Team concurrence on the TSP or the Locally Preferred Plan (LPP) that will be released as part of the draft feasibility study report for public and agency review and confirm the analysis the PDT used to reach that decision.

The public involvement specialist will ensure transparent communication of the study process updates and seek input from the local community and interested parties.

Milestone Scope

The public involvement specialist will:

- Provide study updates via emails and through the public facing USACE website.
- Work with NFS to translate meetings and outreach material into English and Spanish.
- Hold virtual public and Tribal outreach meetings (likely 2+ to accommodate community availability) prior to TSP Milestone.
- Present at Salton Sea Management Program monthly meetings.
- Maintain active email address for community to reach the study team. PDT will be as responsive as possible.
- Facilitate public and Tribal outreach meetings (likely 2+) following the release of the draft decision document.
- Support development of appendix with public comments and responses to transparently show how USACE incorporated comments into analysis.
- Support preparing for external meetings (public, NGO, EJ groups, Tribes) including meeting logistics and development of outreach materials such as fliers.

Agency Decision Milestone

The Agency Decision Milestone occurs after completion of the concurrent public, technical, legal, and policy review of the draft report and NEPA document as well as the Independent External Peer Review (IEPR) including resolution of comments.

In advance of the Agency Decision Milestone, the Project Delivery Team will work with the Vertical Team to address outstanding issues (technical, policy, or legal) raised during the concurrent review, via In Progress Reviews or other meetings/teleconferences. After the Vertical Team has confirmed that the analyses in the draft report and the recommendations as a result of the concurrent reviews are compliant with policy and that there is a capable non-Federal sponsor(s) ready to support project implementation, the Milestone meeting can be scheduled.

The public involvement specialist will support preparation for the Agency Decision Milestone by preparing for and facilitating public engagement opportunities including meetings, website updates, letters, and presentations at preexisting meetings.

Milestone Scope

- Provide study updates via emails and through the public facing USACE website.
- Work with NFS to translate meetings and outreach material into English and Spanish.
- Hold virtual public and Tribal outreach meetings (likely 2+ to accommodate community availability).
- Present at Salton Sea Management Program monthly meetings.
- Maintain active email address for community to reach the study team. PDT will be as responsive as possible.
- Support revisions of appendix with public comments and responses to transparently show how USACE incorporated comments into analysis.
- Support preparing for external meetings (public, NGO, EJ groups, Tribes) including meeting logistics and development of outreach materials such as fliers.

Chief's Report Milestone

The final Feasibility Report is submitted to USACE Headquarters (HQUSACE). The Chief's Report is developed for signature, chairpersons of the Senate Committee on Environment and Public Works, and the House of Representatives Committee on Transportation and Infrastructure are notified, and the final package is prepared for the Office of the Assistant Secretary of the Army for Civil Works (OASA (CW))

Milestone scope

- Support preparing for external meetings (public, NGO, EJ groups, Tribes) including meeting logistics and development of outreach materials such as fliers.
- Provide study updates via emails and through the public facing USACE website.
- Work with NFS to translate meetings and outreach material into English and Spanish.
- Maintain active email address for community to reach the study team. PDT will be as responsive as possible.

APPENDIX A: REVIEW PLAN (SEPARATE DOCUMENT)

TABLE OF CONTENTS

1. INTRODUCTION

The U.S. Army Corps of Engineers, Los Angeles District (USACE/Corps) and the non-Federal sponsors (NFS), California Department of Water Resources (DWR) and Salton Sea Authority (SSA), are conducting the Imperial Streams Salton Sea Ecosystem Restoration Feasibility Study. The purpose of the feasibility study is to restore degraded Salton Sea ecosystem structure, function, and dynamic processes to a less degraded, more natural condition.

2. BACKGROUND

Due to the continual ecological degradation, the Sea has been studied by state and local agencies over the last thirty years to develop a restoration plan. Since the community has experienced a long, significant study history without much perceived action, this plan will employ a collaborative communication and outreach opportunity to avoid:

- Meeting exhaustion
- Confusion between the Corps, state and local restoration efforts

The DWR and SSA are currently supporting the Salton Sea Management Program's Salton Sea Phase 1: 10-year Plan and Long-Range Planning efforts to implement dust suppression and ecological restoration projects. Through this effort, DWR and SSA have established regular, recurring communications with the local communities in and around the project area. Leveraging the existing communication and engagement forums will:

- Demonstrate the collaborative partnership
- Create efficient communication and outreach efforts
- Foster a transparent information sharing environment

This Public Involvement Plan (Plan) will outline the opportunities and challenges for engaging Cooperating and Participating agencies, local communities, Tribes, and interested stakeholders during the feasibility study process. Communication will be done in a fair, transparent, and equitable manner to ensure all affected Tribal partners and stakeholders have the opportunity to engage and have access to relevant information on the feasibility study.

3. STUDY AND STAKEHOLDER ASSESSMENT

The term "stakeholder" is used to encompass the general and specific publics who benefit from the feasibility study. "Tribal partners" refer to Tribes in and around the study area.

Prior to the Alternatives Milestone, the PDT met with DWR and SSA communication teams to review previous and on-going Salton Sea communications and outreach plans and conducted a brief stakeholder mapping exercise to ensure that all stakeholder groups were identified. The outcomes of this evaluation helped guide the development of a robust contact list, and identified the most effective strategies, tactics, tools and messages for public involvement.

This is expected to be a highly visible and complex study due to a number of factors including:

- Highly engaged stakeholders (including the State of California and Congressional representatives) wanting different outcomes from the study
- Potentially high-cost alternatives
- Study visibility at the local, state, and national levels
- Patchwork pattern of land ownership in the Salton Sea between local, state, and federal entities
- Presence of selenium and HTRW substances
- Importance of the Salton Sea as migratory bird habitat
- Uncertain future inflow scenarios due to climate change and water policy
- Nexus with Colorado River policies
- Large number of people experiencing environmental justice concerns in the study area
- Opportunities/challenges around lithium deposits and geothermal extractions

Due to the complex nature of the study, the desire from the NFS to continue their high caliber of public outreach, and the PDT's commitment to following the SPL Environmental Justice Strategic Plan, the PDT anticipates a high level of public and Tribal involvement throughout the study process. Strategies for implementing stakeholder involvement will be discussed in Section 6 of this Public Involvement Plan.

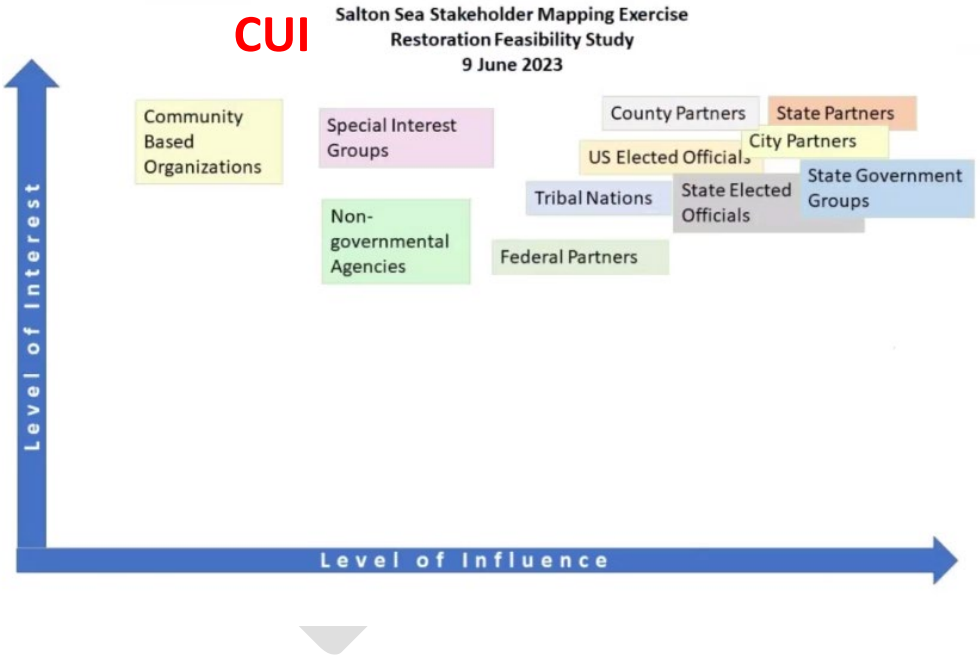

FIGURE 3. STAKEHOLDER AND TRIBAL PARTNERS ASSESSMENT

4. Public Involvement Goals and Objectives

With regards to the complex nature of the study and stakeholder engagement, the following goals and objectives were identified.

Goals:

- Transparently explain the USACE role and study purpose
- Provide equitable and accessible opportunities for engagement in the study process

- Understand community concerns and interests
- Understand Tribal concerns and interests
- Establish clear, consistent expectations of the USACE study process
- Develop/establish long-term relationships with all demographics of the community

Objectives:

- Encourage participation in public meetings, public review, and comment periods as part of the NEPA and Planning process
- Provide explanation of the importance, value, and criticality of USACE study effort and how it relates to the overall restoration efforts of the Salton Sea
- Deliver messaging that will create general understanding of the USACE study process and opportunities to provide input
- Seek support for the project from stakeholders, Tribal partners and elected officials

5. PDT AND NON-FEDERAL SPONSOR ROLES AND RESPONSIBILITIES

The PDT and NFS are responsible for carrying out public reviews and creating opportunities for public and Tribal involvement. Below, the roles and responsibilities of the PDT and NFS are described.

Product Delivery Team:

- Update 508-compliant public-facing website with key study updates
- Participate in monthly Salton Sea Management Program public meetings
- In conjunction with NFS, determine dates for public meetings and review periods
- Review public meeting outreach materials
- Participate in all public, Tribal, EJ, and NGO meetings
- Compile and respond to public comments
- Maintain active project email
- Send notification emails informing parties of upcoming engagement opportunities or review periods

Non-Federal Sponsors:

- Facilitate public meetings
- Coordinate with contractor to set up and run virtual meetings via Zoom
- Provide translation services of meetings, outreach materials, and reports
- Provide outreach materials advertising upcoming meetings or review periods (fliers noting date, time, and location of meetings)
- Notify interested parties of upcoming engagement opportunities through existing Salton Sea Management Program email listservs and social media
- Reserve spaces for in-person meetings
- Distribute hard copies of study materials to public spaces (post office, clubhouse, etc.) when needed

*Note: DWR and SSA have existing engagements with the community. Due to the extensive study efforts that have been conducted in the area and to avoid confusion, it's recommended that those channels be leveraged as much as possible.

6. STAKEHOLDER AND TRIBAL IDENTIFICATION AND ROLES

Stakeholders include any member of the public, including private organizations and non-governmental organizations; federal, state, and/or local agencies that might be able to affect, are affected by, or are interested in, the results of the USACE planning process. They are people or groups who see themselves as having rights and interests at stake, either directly or indirectly. Some people may not realize they are stakeholders (i.e., that they are affected by a USACE study, such as those identified as socially vulnerable populations).

Federally recognized tribes (as defined in section 102 of the Federally Recognized Indian Tribe List Act of 1994 (25 U.S.C. 5130)) and including Alaska Natives are not considered stakeholders due to their sovereign status, rather Tribes are considered rightsholders. For this study, we will use the term Tribal partners.

Stakeholders and Tribal partners were identified early in the study process through consultation with the Salton Sea Management Program and NFS.

6.1 COOPERATING AND PARTICIPATING AGENCIES

Section 1508.1(e) of NEPA defines cooperating agencies as "any federal agency (and a state, Tribal, or local agency with agreement of the lead agency) other than a lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major federal action that may significantly affect the quality of the human environment."

A cooperating agency is considered a federal jurisdictional agency with jurisdiction delegated by law, regulation, order, or otherwise over a review, analysis, opinion, statement, permit, license, or other approval or decision required for a project study under applicable federal laws or regulations. Similarly, participating agencies include all state and local agencies that have jurisdiction over the project, are required by low to conduct or issue a review, analysis, or opinion for the project, or are required to decide on issuing a permit, license, or approval for the project.

Section 1005 of WRRDA 2014 requires identifying and inviting cooperating and participating agencies to participate in a feasibility study if an environmental impact statement is prepared and may be required for studies in which an environmental assessment, categorical exclusion, or other NEPA document is prepared.

The list of Cooperating and Participating Agencies is shown below in Table 1.

TABLE 9. COOPERATING AND PARTICIPATING AGENCIES

Agency	Status	Response to Request Letters	Point of Contact
Bureau of Land Management	Cooperating Agency	07 March 2023	Shelly Lynch 1201 Bird Center Drive Palm Springs, CA 92262
Bureau of Reclamation	Cooperating Agency	20 March 2023	Jeremy Brooks, PMP Salton Sea Program Manager Bureau of Reclamation

			Lower Colorado Basin Office: 702-293-8157 Cell: 702-449-1016
U.S. Fish and Wildlife Service	Cooperating Agency	05 April 2023	Jonathan Shore, Project Leader Sonny Bono Salton Sea National Wildlife Refuge Coachella Valley National Wildlife Refuge U.S. Fish and Wildlife Service Department of the Interior, Region 8 906 W. Sinclair Road, Calipatria, CA 92233 Ph# (760) 348-5278, x225 Cell: (760) 336-1812
Bureau of Indian Affairs	Cooperating Agency	07 March 2023	Amy Dutschke Regional Director United States Department of the Interior Bureau of Indian Affairs, Pacific Region 2800 Cottage Way Sacramento, California 95825
Environmental Protection Agency Region 9	Cooperating Agency	30 March 2023	Hugo Hoffman (he/him) NEPA Reviewer Environmental Review Branch Tribal, Intergovernmental & Policy Division U.S. Environmental Protection Agency, Region 9 (415) 972-3929 | hoffman.hugo@epa.gov
Dept of Agriculture	Cooperating Agency	14 March 2023	Jennifer Cavanaugh | Environmental Compliance Coordinator - California Ecological Sciences Section | USDA Natural Resources Conservation Service Jennifer.cavanaugh@usda.gov | 530-792-5632
California Natural Resource Agency	Participating Agency	07 March 2023	Wade Crowfoot, Secretary for Natural Resources, California Natural Resources Agency 715 P Street, 20th Floor Sacramento, California 95814
California Dept of Fish and Wildlife Inland Deserts Region	Participating Agency	07 March 2023	Mr. Charlton H. Bonham Director California Department of Fish and Wildlife 715 P Street Sacramento, California 95814

6.2 TRIBES (TRIBAL PARTNERS)

The following list of Federally-recognized Tribes were invited to participate in the study and will continue to be notified of opportunities for engagement and review periods. The SPL Tribal Liaison and Cultural Resources PDT member are responsible for initiating Tribal engagement.

- Torres-Martinez Desert Cahuilla Indians (Riverside County)
- Twenty-Nine Palms Band of Mission Indians (Riverside County)
- Cabazon Band of Mission Indians (Riverside County)

- Quechan Indian Tribe (Imperial County)
- Agua Caliente Band of Cahuilla Indians (Riverside County)
- Augustine Band of Mission Indians (Riverside County)
- Cahuilla Band of Indians (Riverside County)
- Morongo Band of Mission Indians (Riverside County)
- Pechanga Band of Luiseño Indians (Riverside County)
- Ramona Band of Cahuilla Mission Indians (Riverside County)
- Santa Rosa Band of Cahuilla Indians (Riverside County)
- Soboba Band of Luiseno Indians (Riverside County)
- Barona Band of Mission Indians (San Diego County)
- Campo Band of Kumeyaay Indians (San Diego County)
- Ewiiaapaayp Band of Kumeyaay Indians (San Diego County)
- Santa Ysabel Band of Diegueno Indians (San Diego County)
- Inaja-Cosmit Band of Mission Indians (San Diego County)
- Jamul Indian Village (San Diego County)
- La Jolla Indian Reservation (San Diego County)
- La Posta Band of Mission Indians (San Diego County)
- Los Coyotes Band of Mission Indians (San Diego County)
- Manzanita Band of Kumeyaay Nation (San Diego County)
- Mesa Grande Band of Mission Indians (San Diego County)
- Pala Band of Mission Indians (San Diego County)
- Pauma Band of Mission Indians (San Diego County)
- Rincon Band of Luiseno Indians (San Diego County)
- San Pasqual Band of Dieguel Mission Indians (San Diego County)
- Sycuan Band of the Kumeyaay Nation (San Diego County)
- Viejas Band of Kumeyaay Indians (San Diego County)

6.3 Communities with Environmental Justice (EJ) Concerns

The ecological degradation and state of the Sea has serious and harmful impacts to the surrounding communities, who experience up to 100 dust storms per year and harmful air quality that does not meet state nor federal standards. Every census tract around the Salton Sea has EJ concerns identified for the community and the surrounding communities have a legacy of being underserved.

Using the Council on Environmental Quality's CEJST Tool, the team identified the study area as encompassing communities facing EJ concerns relating to having a minority status, air quality, socioeconomic status, and English language proficiency.

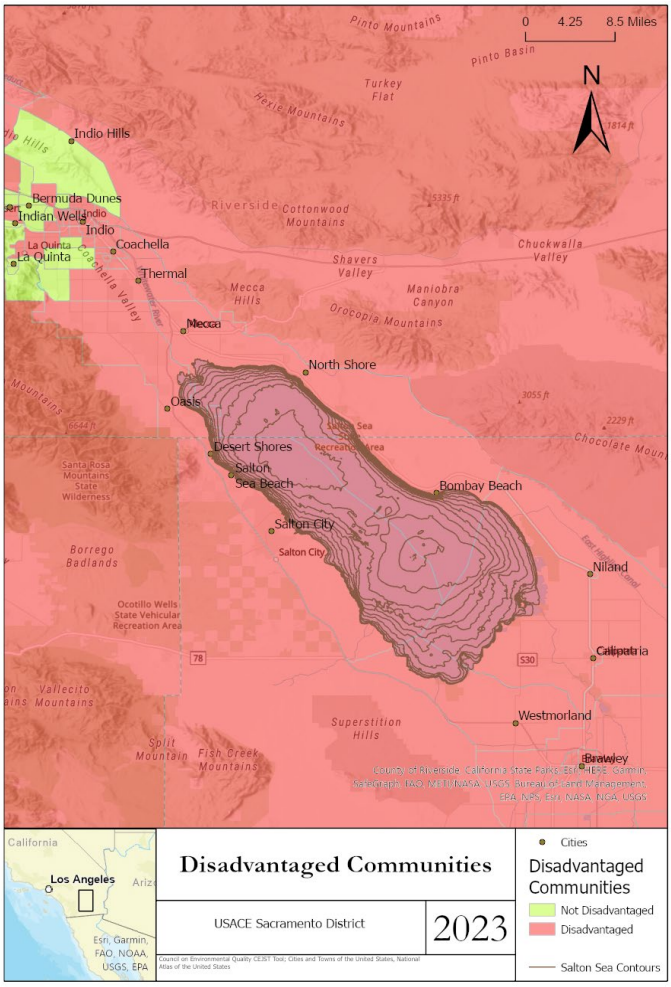

FIGURE 4. EJ MAPPING

Environmental Justice Considerations:

1. **Air quality:** The Salton Sea has been experiencing significant environmental problems, including declining water levels and rising salinity. This has led to the creation of dust storms that can spread hazardous air pollutants, including fine particulate matter and heavy metals, to surrounding communities. Many of these communities are low-income and predominantly Hispanic, which makes them particularly vulnerable to the health impacts of poor air quality.

2. **Health impacts:** The air pollution and other environmental problems associated with the Salton Sea can have significant health impacts, particularly for vulnerable populations such as children, the elderly, and those with pre-existing health conditions. Studies have linked exposure to particulate matter and other air pollutants to respiratory diseases, cardiovascular disease, and other health problems.

3. **Economic impacts:** The environmental problems at the Salton Sea can also have significant economic impacts on surrounding communities. The lake has historically been an important source of tourism and recreation, but declining water levels and poor water quality have led to a decline in these industries. This has had a disproportionate impact on low-income and minority communities that rely on these industries for employment.

4. **Tribal rights:** The Salton Sea is also of cultural and spiritual significance to several Native American tribes, including the Quechan, Cocopah, and Kumeyaay. The environmental problems at the Salton Sea can therefore have an impact on these tribes' cultural heritage and traditional practices.

Other Social Effects (OSE) Benefits:

1. **Improved Public Health:** The restoration of the Salton Sea ecosystem can help mitigate dust emissions that can lead to respiratory issues and other health problems for nearby communities.

2. **Increased Economic Opportunities:** Restoring the Salton Sea ecosystem can create new opportunities for tourism and recreation, which can boost local economies and provide jobs.

3. **Preservation of Cultural Heritage:** Several tribal communities have cultural ties to the Salton Sea and restoring the ecosystem can help preserve cultural heritage sites and practices.

4. **Enhanced Biodiversity:** Restoring the Salton Sea ecosystem can provide habitat for several endangered and threatened species, including migratory birds, fish, and other aquatic wildlife.

5. **Improved Water Quality:** Restoring the Salton Sea ecosystem can improve water quality, which can benefit nearby communities and ecosystems.

6. **Climate Change Mitigation:** Restoration of the Salton Sea ecosystem can contribute to climate change mitigation efforts by sequestering carbon and reducing greenhouse gas emissions.

OSE to Consider

1. Creation of employment and training opportunities for community members.
    a. Hiring and training local residents for restoration work can help build capacity and support local economies
    b. Lead to increased job security, higher incomes, and a stronger sense of community empowerment
2. Build trust and foster positive relationships between the project team and local residents.
    a. Involve community members in the planning and implementation of the effort,
    b. Ensure that local perspectives are taken into account
    c. Work is aligned with community values and needs.
    d. Help build long-term support for the project
    e. Foster a sense of ownership and pride among community members
3. Potential for improved health and well-being among local residents.
    a. Ecosystem restoration efforts can lead to improved air and water quality
    b. Focus on health benefits for community members
    c. Create opportunities for outdoor recreation and education
        i. Promote physical activity and mental well-being

6.4 General Public

The general public has a vested interest in the outcome of the study. From a local perspective, the project has an opportunity to improve quality of life through improved air quality, recreational opportunities, and potential creation of new jobs.

State and Federal entities have interest in the Salton Sea for improving the aquatic ecosystem for migratory birds and fish, working with communities facing EJ concerns, and for the lithium industry at Salton Sea, among other interests.

Below lists the federal, non-federal, public, and educational parties identified as stakeholders for the study.

Federal:

- Senator Alex Padilla (CA)
- Senator Dianne Feinstein (CA)
- Senator Mark Kelly (AZ)
- Senator Kristen Sinema (AZ)
- Congressman Darrell Issa (CA-48)
- Congressman Raul Ruiz (CA-25)
- Congresswoman Susie Lee (NV-3)
- Congressman Ken Calvert (CA-41)
- Corps of Engineers (District, Division, HQ, ECO-PCX)
- U.S. Fish and Wildlife Service (USFWS)
- Environmental Protection Agency (EPA), Region 9
- Bureau of Land Management
- Bureau of Reclamation
- Bureau of Indian Affairs
- U.S. Geological Survey, Region 8
- Department of Agriculture
- Department of Energy

Non-Federal:

- California Department of Natural Resources
- California Department of Transportation
- California Department of Fish and Wildlife, Inland Deserts Region
- California State Parks
- California Department of Public Health
- California State Water Resources Control Board
- California Air Resources Board
- California Environmental Protection Agency
- Imperial County
- Riverside County
- San Diego County
- City of Palm Springs
- City of Brawley
- City of Calexico
- City of Westmoreland
- City of Holtville
- City of Coachella
- City of Cathedral City
- City of Palm Desert
- City of Calipatria
- City of El Centro
- City of Indio
- City of La Quinta
- City of Indian Wells
- Imperial Irrigation District
- Coachella Valley Water District
- California State University, Water Resources Institute
- Colorado River Regional Water Quality Control Board
- San Diego County Water Authority
- Pueblo Unido CDC
- California Rural Legal Assistance
- South Coast Air Pollution Control District
- Department of Toxic Substances Control
- Salton City Community Services District
- Coachella Valley Association of Governments
- Desert Recreation District
- Southern California Association of Governments (subcommittee for Racial Equity and Regional Planning)
- Subcommittee for Resilience and Conservation

Public:

- Salton Sea Action Committee
- Sea and Desert Interpretive Association
- Salton Sea Coalition
- Salton Sea Partnership – Conservation Groups
- Salton Sea Management Program Engagement Community Committee
- Alianza Coachella Valley
- Audubon California
- Sierra Club California
- Comite Civico del Valle
- Defenders of Wildlife
- Environmental Defense Fund
- Kounkuey Design Initiative
- Leadership Counsel for Justice and Accountability
- Pacific Institute
- The EcoMedia Compass
- North End Alliance
- Bombay Beach Community Services District
- Imperial Valley Vegetable Growers
- Imperial Valley Equity and Justice Coalition
- Imperial Valley Wellness Foundation
- Our Roots
- CRLA
- Los Amigos de la Comunidad
- RAIZES
- Community Unity
- United for Justice, Inc.
- Campesino Unidos
- Coachella Mountain Conservancy
- Consejo de Federaciones Mexicanas
- Desert Health Care Foundation
- Imperial Valley LGBTQ Resource Center
- Inland Congregations United for Change
- Innercare (Clinicas de salud del Pueblo)

Education Institutions:

- UCSD (Scripps Institution of Oceanography)
- UC Berkley
- UC Irvine
- Loma Linda University
- College of the Desert
- Oasis Bird Observatory
- Point Blue Conservation
- UC Davis
- Local schools (K-12, magnet, charter, home and private schools

7. PUBLIC INVOLVEMENT

The goal of stakeholder engagement is to fully consider all views and information, improve the quality of decision-making, and increase the legitimacy of the decision reached by establishing and maintaining channels of communication with stakeholders throughout the planning process. The result is a better recommendation that is acceptable by the community.

Stakeholders will be involved in all phases of the six-step planning process, as shown in the figure below. During steps 1-3, the PDT will use various stakeholders' data and knowledge to help identify the problems, opportunities, objectives, and constraints. Local knowledge is critical for inventorying and forecasting future conditions in the area. Alternative plans should address the objectives and constraints and reflect input from stakeholders. Engagement during steps 4-6 include objective evaluation and comparison of alternative plans that reflect the early input of stakeholders, cost share partners, and environmental agencies in the study problems, opportunities, objectives, and constraints, as well as the laws and regulations guiding USACE decision processes.

Public involvement costs are included in the PMP and shown in Section 10.0 in this Plan. The current schedule reflects a 3x3-compliant study. Schedule is subject to change based on the Vertical Team's alignment for scope, schedule, budget to complete the study.

Plan Step	Tactic	Purpose	Schedule
1. **Identify Problems & Opportunities**	• Hold bi-lingual virtual scoping meetings with public, NGO groups, and environmental justice advocacy groups. • Translate meetings and outreach material into English and Spanish. • Open 30-day public comment period, comments accepted as in-person comments, letters, and emails. • Present at Salton Sea Management Program monthly meetings.	Seek public input to shape study problems, opportunities, objectives, and constraints to address the most important issues in the community, within USACE authority.	March -June 2023
2. **Inventory & Forecast**	• Hold in-person planning charrette.	Gain input from community subject matter experts on existing and future conditions at and around the Salton Sea and share USACE study process.	March 2023
3. **Form Alternative Plans**	• Provide study updates via emails and through the public facing USACE website, SSMP listserv, USACE and SSMP social media, and hard copies when needed (hard copies will be distributed by NFS team). • Translate meetings and outreach material into English and Spanish. • Hold virtual public meetings (likely 2+ to accommodate community availability) prior to TSP Milestone. • Present at Salton Sea Management Program monthly meetings. • Maintain active email address for community to reach the study team. PDT will be as responsive as possible.	Share study process updates with and seek input from community and interested parties.	June 2023 – February 2024
4. **Evaluate Alternative Plans**	• Provide study updates via emails and through the public facing USACE website, SSMP listserv, USACE and SSMP social media, and hard copies when needed (hard copies will be distributed by NFS team). • Maintain active email address for community to reach the study team. PDT will be as responsive as possible. • Present at Salton Sea Management Program monthly meetings.	Share study process updates with and seek input from community and interested parties.	February 2024 – May 2024
5. **Compare Alternative Plans**	• Provide study updates via emails and through the public facing USACE website, SSMP listserv, USACE and SSMP social media, and hard copies when needed (hard copies will be distributed by NFS team).	Share study process updates with and seek input from community and interested parties.	February 2024 – May 2024

	• Maintain active email address for community to reach the study team. PDT will be as responsive as possible. • Present at Salton Sea Management Program monthly meetings.		
6. **Select Recommended Plan**	• Hold in-person or virtual public meetings (likely 2+ to accommodate community availability) following release of the Draft Feasibility Report and EIS. • Open 45-day public comment period on Draft Report, comments accepted as in-person comments, letters, and emails. • Translate meetings and outreach material into English and Spanish. • Present at Salton Sea Management Program monthly meetings. • Hold virtual public meetings (likely 2+ to accommodate community availability) prior to ADM Milestone	Seek public input on alternative plans the TSP. Gain input on the draft report/EIS. Support transparency of the study decisions and methodology.	May 2024-Aug 2025

7.1 Key Messages and Information

The table below provides key messages for various stakeholder that are consistent with the communications plan provided by SPL PAO.

Interest/ Issue	They Need to Know From Us?	We Need to Know From Them?	Key Message
Adjacent landowners, general public	• Explain the USACE role and study purpose • Understand community concerns and interests • Establish clear, consistent expectations of the USACE study process • Develop/establish long-term relationships with all demographics of the community.	• Concerns • Opportunities	*1)* Through this study, USACE will explore possible opportunities for a federal interest in the Salton Sea restoration efforts. *2)* Through this study, USACE will explore possible opportunities for a federal interest in the Salton Sea restoration efforts. *3)* Identifying these opportunities can include looking at the aquatic, wetland and riparian habitats to support increased populations and diversity of fish and wildlife. *4)* This study will also explore incorporating Indigenous Ecological Knowledge into the restoration efforts. *5)* We are actively engaging the community to solicit input, but USACE will also be reviewing previously submitted comments for the Long-range and 10-year plans.
Political Interests / Elected Officials	• Explain the USACE role and study purpose • Understand community concerns and interests	• Concerns • Opportunities	*1)* The safety and health of the community, as well as our workers, is the number one priority for the Corps. *2)* Through this study, USACE will explore possible opportunities for a federal interest in the Salton Sea restoration efforts.

	• Establish clear, consistent expectations of the USACE study process • Develop/establish long-term relationships with all demographics of the community.		*3)* Identifying these opportunities can include looking at the aquatic, wetland and riparian habitats to support increased populations and diversity of fish and wildlife. *4)* This study will also explore incorporating Indigenous Ecological Knowledge into the restoration efforts. *5)* We are actively engaging the community to solicit input, but USACE will also be reviewing previously submitted comments for the Long-range and 10-year plans.
Media	• Explain the USACE role and study purpose • Understand community concerns and interests • Establish clear, consistent expectations of the USACE study process • Develop/establish long-term relationships with all demographics of the community.	• What is the pulse of the community regarding this project? • Will they provide support in delivering the message?	*1)* The safety and health of the community, as well as our workers, is the number one priority for the Corps. *2)* Through this study, USACE will explore possible opportunities for a federal interest in the Salton Sea restoration efforts. *3)* Identifying these opportunities can include looking at the aquatic, wetland and riparian habitats to support increased populations and diversity of fish and wildlife. *4)* This study will also explore incorporating Indigenous Ecological Knowledge into the restoration efforts. *5)* We are actively engaging the community to solicit input, but USACE will also be reviewing previously submitted comments for the Long-range and 10-year plans.
Agency Partners	• Explain the USACE role and study purpose • Understand community concerns and interests • Establish clear, consistent expectations of the USACE study process • Develop/establish long-term relationships with all demographics of the community.	• Current outreach and engagement efforts • Support for the study • Best practices	*1)* The safety and health of the community, as well as our workers, is the number one priority for the Corps. *2)* Through this study, USACE will explore possible opportunities for a federal interest in the Salton Sea restoration efforts. *3)* Identifying these opportunities can include looking at the aquatic, wetland and riparian habitats to support increased populations and diversity of fish and wildlife. *4)* This study will also explore incorporating Indigenous Ecological Knowledge into the restoration efforts. *5)* We are actively engaging the community to solicit input, but USACE will also be reviewing previously submitted comments for the Long-range and 10-year plans.

Cooperating and Participating Agency – Communication Methods

The NEPA coordinator PDT member is the primary point of contact for communicating with Cooperating and Participating agencies throughout the study. Communication methods include:

Communication method	When to be used
Email	Primary mode of correspondence
Letters	Sent prior to AMM to invite agencies to participate in study
Phone calls	As needed, typically used as a follow up to email correspondence
Virtual meetings	As needed, before major decision milestones.

7.2 Cooperating and Participating Agency Involvement

Cooperating and Participating Agencies will be invited to all public meetings and will have focused meetings as needed before major milestones. The NEPA coordinator is responsible for maintaining communications with these agencies.

The Cooperating and Participating Agencies will also be informed of study progress via quarterly email/study website updates.

Cooperating and Participating Agency Invitation Letters

Cooperating and Participating Agency invitation letters were sent on March 7, 2023 by the NEPA coordinator. Initial letter and responses are saved on Teams and can be made available as needed.

Cooperating and Participating Agency Participating in the 90-Day Interagency meeting

The USACE Los Angeles District held a virtual kick-off interagency coordination meeting over WebEx for the Imperial Streams Salton Sea and Tributaries Feasibility Study on March 16, 2023 from 2:00-3:30 PST/ 3:00-4:30 MST.

The presentation provided an overview of the study authority, preliminary problems, objectives and constraints, a brief overview of the planning process, and discussion of a 3x3 complaint schedule.

The March 16th meeting was intended for initial agency coordination purposes and to answer agency questions. Attendees were asked to forward the invite to all those within their agency who may need to attend.

Participants:

- Aelna Sakamoto, aelna.j.sakamoto@usace.army.mil
- Carol Roberts, carol_a_roberts@fws.gov
- Chris Chabot, christopher.l.chabot@usace.army.mil
- Corrie Stetzel, corrine.m.stetzel@usace.army.mil
- Emily Lester, emily.a.lester@usace.army.mil
- Evon Willhoff, evon.willhoff@water.ca.gov
- Felicia Sirchia, felicia_sirchia@fws.gov
- G. Patrick O'Dowd, gpodowd@saltonsea.com
- Ginger Vagenas, vagenas.ginger@epa.gov
- Hugo Hoffman, hoffman.hugo@epa.gov

- James Newcomb, james.newcomb@water.ca.gov
- Jon Avery, jon_avery@fws.gov
- Lowry Crook, lowry.crook@bbklaw.com
- Melinda Dorin, melinda.dorin@water.ca.gov
- Mike Boyles, mboyles@usbr.gov
- Morgan Capilla, capilla.morgan@epa.gov
- Sarvy Mahdavi, mahdavi.sarvy@epa.gov
- Shonna Dooman, sdooman@usbr.gov
- Tiffany Bostwick, tiffany.r.bostwick@usace.army.mil
- One call in number- 213-3****98

Meeting notes were compiled and store on Teams and will be made available as needed.

Cooperating And Participating Agency Review and Permitting Schedule

This section will include a strategy for development and approval of the cooperating and participating agency review and permitting schedule. Once the initial schedule is prepared and agreed-upon, it should be included in the PMP. As the schedule is updated, the updated schedule should be included in the PMP.

Section 1501.8(6) of NEPA, Section 2045(4)(b) of the WRDA 2007 implementation guidance, and Section 1005(5)(d) of the WRRDA 2014 implementation guidance require that a timeline for cooperating and participating agency reviews, analyses, opinions, permits, licenses, and approvals that must be issued or made for the project be developed and included in the PMP. The schedule should be discussed during the 90-day interagency meeting and developed in coordination with the cooperating and participating agencies. A draft of the schedule should be completed prior to the Alternatives Milestone Meeting (AMM) and included in the draft PMP prepared in advance of the AMM.

Pursuant to Section 10 of the WRRDA 2014 implementation guidance, "as soon as practicable but not later than 45 days after the close of the public comment period on a draft EIS, the PDT will reassess its schedule for completion of the environmental review process, in consultation with and the concurrence of each participating and cooperating agency and the project sponsor or joint lead agency, as applicable. The schedule shall consider the responsibilities of participating and cooperating agencies under applicable laws; the resources available to the project sponsor, joint lead agency, and other relevant federal and state agencies, as applicable; the overall size and complexity of the project; the overall schedule for and cost of the project; and the sensitivity of the natural and historical resources that could be affected by the project." The updated schedule should be included in the PMP.

Cooperating and Participating Agency – Feasibility Study preparation(s) and Review (s)

This section will be updated after the Notice of Intent to prepare an Environmental Impact Statement is posted in the Federal Register. After the PDT has more clarity about the decided path forward for the project scope, schedule, and budget, this section will discuss sections of the document that cooperating or participating agencies will prepare (if applicable). It will also discuss any portions of the draft and final feasibility study that will undergo early review by the cooperating and participating agencies.

7.3 Tribal Involvement

The Cultural Resources PDT member and the SPL Tribal Liaison are responsible for communicating and maintaining relationships with Tribes in the study area.

Tribes will be invited to all public meetings and an additional Tribal/EJ engagement meeting with be coordinated whenever there is a public meeting. The intent of this additional meeting is to facilitate smaller group discussions. Public meetings may be recorded for accountability whereas the Tribal/EJ meetings will not be recorded and thus may be more conducive for candid discussions.

Tribes will also be notified via email and the project website of key study updates.

7.4 Environmental Justice Involvement

The NEPA coordinator, Public Involvement Specialist, Project Manager, and Planners are primarily responsible for communication with communities experiencing EJ concerns and NGO advocacy groups. EJ considerations in the study area are discussed in Section 6.3 of this Public Involvement Plan.

Communities and NGO groups will be invited to all public meetings and an additional Tribal/EJ engagement meeting with be coordinated whenever there is a public meeting. The intent of this additional meeting is to facilitate smaller group discussions. Public meetings may be recorded for accountability whereas the Tribal/EJ meetings will not be recorded and thus may be more conducive for candid discussions.

EJ groups will also be notified via email and the project website of key study updates.

All meetings will provide live Spanish translation services and will be held at several times of day (when practicable) to make attendance as accessible as possible.

Outreach materials and the Decision Document will be translated into Spanish.

7.5 General Public Involvement

Public meetings will be held before every major study. Meetings will be held with ample time to incorporate public input into the analysis/report. The public will ideally be given 30-days' notice prior to a public meeting, a practice that is consistent with the Salton Sea Management Program's outreach strategy.

Meetings will be held via Zoom and will provide a live Spanish translation service. When possible, the PDT will host multiple meetings at different times of day to better reach community members. Outreach materials providing study updates or advertising upcoming public meetings will be provided in Spanish and English (this effort is led by the NFS).

In-person public meetings will be held when appropriate. The PDT tentatively plans to hold in-person public meetings during the NEPA review period following the release of the draft report.

Study updates will be provided quarterly via project website and email. The intent of the updates is to hold the PDT accountable for study progress and to transparently show the USACE planning process. These updates will inform the public on significant actions or decisions by the PDT and/or USACE Vertical Team. Updates may be sent more or less frequently as needed. Study updates will be written in "plain language" without technical jargon.

8. Documentation of Public Involvement

Comments received during public review period will be documented in an appendix of the Decision Document for transparency. Responses to comments will include how the feedback was used in the report, if applicable.

All comments received, including those during non-review periods, will be responded to. Response to comments will be a shared PDT responsibility with Project Management leading the effort to assign teammates to respond. These may not be included in the public comment appendix.

The project will maintain an active email account (CESPL-Imperial-Streams-Salton-Sea@usace.army.mil) and respond to inquiries.

9. Feasibility Study Website

The Imperial Streams and Salton Sea maintains a 508-compliant webpage for stakeholder consumption through the SPL public-facing website. The website link was provided during all public/Tribal/interagency meetings and will continue to be shared when appropriate.

The study team will provide quarterly updates on study progress and significant decisions to the website and via email. Language will be easy to understand and translated to Spanish by the NFS when appropriate. The NFS will also share study updates via their email listservs, the Salton Sea Management Program Website, and social media platforms.

The Project Manager is responsible for coordinating website updates with SPL PAO. The updates will be drafted by the planning and environmental team.

Project website: https://www.spl.usace.army.mil/Missions/Civil-Works/Projects-Studies/Imperial-Streams-Salton-Sea/

Project email: CESPL-Imperial-Streams-Salton-Sea@usace.army.mil

10. Public Involvement Budget

The budget is currently in review. This section will be updated after the study receives vertical team concurrence on the scope, schedule, and budget needed to complete the study.

Tentatively public involvement costs are estimated at $199,000.

A more detailed cost breakdown will be provided after the proposed budget is approved.

APPENDIX C: PRIMAVERA SCHEDULE (SEPARATE DOCUMENT)