

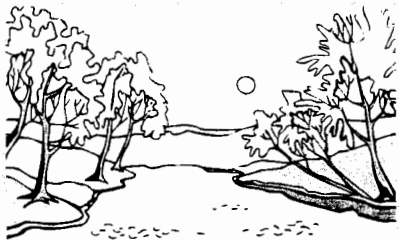


THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

ADDENDUM TO OCTOBER 26, 2004 A G E N D A

Add the following to **ACTION ITEMS**:

- F. Approve Agreement with HDR Inc. to prepare engineering design and environmental studies for constructing improvements along the Upper Bear River, Western Pacific Interceptor Canal and Yuba River levees.



THREE RIVERS LEVEE IMPROVEMENT AUTHORITY

October 26, 2004

TO: Three Rivers Levee Improvement Authority Board
FROM: Charles K. McClain, Executive Director *Charles K. McClain*
SUBJECT: Contract with HDR Inc. to Provide Engineering Design and
Environmental Services for Upper Bear River, WP Interceptor Canal and
Yuba River

Recommended Action

Approve contract with HDR Inc. to prepare engineering design and environmental studies for constructing improvements along the Upper Bear River, Western Pacific Interceptor Canal and Yuba River levees in Reclamation District 784.

Purpose of Recommended Action

The contract components are necessary to enable construction of levee improvements along the reaches of the Upper Bear River, Western Pacific Interceptor Canal and Yuba River to occur during 2005.

Background

Engineering design and environmental services are needed to analyze alternatives and prepare final construction documents such as plans and specifications, design analysis and construction cost estimates. The objective of this project is to repair the levees in order to begin the process of obtaining FEMA certification. The project in and of itself will not achieve FEMA certification for the South Yuba Basin Area, but is a significant part of achieving certification along with the proposed setback levee project for the Bear and Feather Rivers. HDR Inc. has expressed its willingness to certify the levee work it designs and oversees should the U.S. Army Corps of Engineers not be willing or able to provide certification of the levee work.

Fiscal Impact

Funding for the contract will come from Proposition 13 grant funds under the 2000 Water Bond Act. The application for the grant funds has been submitted to the California Department of Water Resources for approval. Notice to proceed on the contract award will not be provided until such time as TRLIA receives written notification of the grant award by the Department of Water Resources.



October 21, 2004

Mr. Ric Reinhardt
MBK Engineers
2450 Alhambra Boulevard, 2nd Floor
Sacramento, CA 95817

RE: Scope of Services for Engineering Design and Environmental Services for Phase 2 Levee Repairs – Upper Bear River, WP Interceptor Canal and Yuba River

Dear Mr. Reinhardt:

Attached, please find our scope, schedule, and fee proposal for accomplishing engineering design and environmental studies for constructing the second phase improvements along the Upper Bear River, WP Interceptor Canal and Yuba River levees in Reclamation District No. 784. We are providing you with this package in anticipation that you will forward it along to the Three Rivers Levee Improvement Authority for their action.

A summary of project tasks and the cost for each is presented below:

Item	Budget
Basic Services	
Task 1 - Project Management	\$170,350
Task 2 – Bear River and WPIC Predesign	\$50,654
Task 3 - Yuba River Predesign	\$28,748
Task 4 – WPIC Levee Extension Predesign	\$20,883
Task 5 – Plans, Specifications & Estimates	\$246,983
Task 6 – Rights-of-Way, Easement Requirements, and Utility Coordination	\$27,819
Task 7 – Environmental Documents and Permits	\$289,803
Task 8 - Pre-Bid Assistance and Construction Support	\$93,507
Total - Basic Services (Phase II Work)	\$928,747
Amended Contract Amount (Additional Funding Required = \$419,257)	\$2,087,747
Optional Services	\$1,207,146

The original contract for the Upper Bear River and WP Interceptor Canal Levee Repairs project executed on January 8, 2004, is in the amount of \$1,668,490. Approximately 69 percent of this amount, or \$1,159,000, has been expended to date (expenditures through Sep 2004). The effort for the basic services described in this scope of work is \$928,747. Adding this to the amount already expended would result in an amended contract amount of \$2,087,747, an overall increase of \$419,257 over the original contract amount.

If you have any questions about our scope, schedule or fee estimate modifications, please call Mr Ken Myers at (916) 817-4860. We are excited about the opportunity to work with you on this project.

Sincerely,

Patrick J. Flynn, P.E.
Vice President
Attachments

Kenneth R. Myers, P.E.
Water Resources Program Manager

KRM/CEK/cdh:04103b

Scope of Work

**Phase II Levee Repairs – Upper Bear River, WP
Interceptor Canal and Yuba River**

**Three Rivers Levee Improvement Authority
Marysville, California**



2365 Iron Point Road, Suite 300
Folsom, CA. 95630

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PROJECT BACKGROUND AND OVERVIEW

PROJECT OVERVIEW

Engineering design and environmental services have been requested for the Bear River and WPIC levees, and the south Yuba River levee protecting RD No. 784. The services to be provided to the Three Rivers Levee Improvement Authority (TRLIA) are preliminary engineering including an analysis of alternatives, environmental documentation and preparation of final construction documents (plans, specifications, design analysis and construction cost estimate). The objective of the project is to repair the levees in order to begin the process to achieve FEMA certification. This project in and of itself will not achieve FEMA certification, but is preliminary to future work required to achieve certification by others.

Services to be provided include:

- ▶ Review available geotechnical field investigations, laboratory tests, and analyses and evaluations of existing levee foundation conditions along the Bear River, WPIC, and Yuba River levees in the project areas. Review with project team members previous analyses and Bases of Design that have been completed for the Bear and WPIC levees and the Yuba River levee repairs and complete revisions if necessary.
- ▶ Environmental permitting for the Bear River, WPIC and Yuba River levee repair projects as well as environmental permitting for the Bear River Setback Levee.
- ▶ Prepare preliminary and final design plans for the Bear River, WPIC and Yuba River levee improvements.
- ▶ Prepare construction cost estimates of project features at the preliminary and final design submittals.
- ▶ Prepare draft construction schedules at the preliminary and final design stages.
- ▶ Develop contract technical specifications.
- ▶ Prepare permit applications and required supporting documents for regulatory agencies and utilities. Provide assistance to TRLIA staff in securing permits as required.
- ▶ Construction services including pre-bid assistance, field reviews, response to contractor's request or information, and review of shop drawings. Provide as-built documentation at the end of construction. Construction management services are included in this proposal as an optional service.
- ▶ Coordinate with the USACE and other agencies during design and construction.

Basis of Design Reports for each element of the project, 30 Percent, 90 Percent and Final PS&E are to be reviewed by TRLIA and their consultants, the California State Department of Water Resources (DWR), and USACE. Engineering consultant will be responsible for integrating review comments and providing record of responses.

PROJECT BACKGROUND AND OVERVIEW

The scope of work has been divided into ten tasks outlining the design and construction process, optional services, deliverables and assumptions:

1. Project Management
2. Bear River and WPIC Levees Predesign
3. Yuba River Levee Predesign
4. WPIC Levee Extension Predesign
5. Plans, Specifications and Estimates (PS&E)
6. Rights-Of-Way, Easement Requirements And Utilities Coordination
7. Environmental Documents and Permits
8. Pre-Bid Assistance and Construction Support
9. Optional Items

Note: Where task descriptions are based on assumptions, a change in the quantity of scope of the assumption shall constitute justification for additional fee and/or time.

Task 1.0 Project Management

1.1. Project Management

Project management is the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project. Meeting or exceeding stakeholder needs and expectations invariably involves balancing competing demands among:

- ▶ Scope, time, cost, and quality.
- ▶ Stakeholders with differing needs and expectations.
- ▶ Identified requirements and unidentified expectations.

Assumptions:

- ▶ Assume one calendar year maximum duration based on uncertainty of construction schedule.

1.2. Project Guide

CONSULTANT shall develop a Project Guide that includes objectives, organization, scope of services, schedule, budget, QA/QC, communications, document control, cost controls, invoicing and reporting.

Deliverables:

- ▶ Project Guide (2 copies).
- ▶ Project schedule (2 copies).

1.3. Project Kick-Off Meeting

CONSULTANT will attend a project kick off meeting with TRLIA and other interested agencies (e.g., USACE). At the meeting, the purpose, goals, timeline, design criteria, deliverables schedule and defined objectives of Scope of Services will be discussed. Consensus will be reached on the technical aspects of the project. Environmental documentation, permitting and public outreach issues will be discussed. During the kick off meeting CONSULTANT will gather data and materials and identify information sources (beyond the existing compliance documentation. The primary objective of the kick-off is to give the project team a thorough understanding of the project and to provide an opportunity for TRLIA staff to update the team on changes in the project or priorities from the time of the first phase of work. The scope of services and project schedule will be refined as needed if determined necessary by the meeting participants.

Deliverables:

- ▶ Meeting notes.
- ▶ Refined scope of services and schedule (if needed).

SCOPE OF SERVICES

Comments/Assumptions:

- ▶ One four-hour meeting will be required.
- ▶ If required, refined scope and schedule will be prepared within one week of the kick-off meeting.

1.4. Monthly Status Meetings

CONSULTANT will coordinate monthly meetings with TRLIA to discuss project progress and issues that may affect project design or schedule. Appropriate CONSULTANT team members will attend as needed.

Deliverables:

- ▶ Meeting notes.

Comments/Assumptions:

- ▶ One 2 hour meeting will be required each month.

1.5. Monthly Progress Reports

CONSULTANT will prepare monthly progress reports that document project activities and update the project schedule and budget.

Deliverables:

- ▶ Progress reports (2 copies).

1.6. Quality Control

CONSULTANT will prepare a Quality Control Plan (QCP), which will provide the policies and specific actions that will be taken to ensure that high quality products are on time and within the specified budget. The QCP will define CONSULTANT's management philosophy, approach and dedication for providing TRLIA with deliverables and supporting documents that are complete, conform to standards and meet or exceed the expectations of CONSULTANT and TRLIA. The Quality Control team will review technical approach as well as all deliverables submitted to TRLIA.

Deliverables:

- ▶ QC Plan (included in Project Guide).
- ▶ QC reviews on each deliverable.

Comments/Assumptions:

- ▶ QC reviews will be completed for all major deliverables.

SCOPE OF SERVICES

1.7. Agency Coordination

CONSULTANT will facilitate coordination between TRLIA, USACE, Reclamation Board, DWR, and other involved agencies during the duration of the project.

Deliverables:

- ▶ Meeting notes, telephone conversation records and correspondence.

Comments/Assumptions:

- ▶ Files of external coordination will be provided.

Task 2.0 Bear River and WPIC Levees Predesign

2.1. Revisit Previous Analyses and Basis of Design

Gather and review with the project team existing data, including as-built drawings, design criteria, previous analyses, subsurface information, laboratory data, seepage analyses, and Basis of Design. Confirm with TRLIA and USACE that approach outlined in previously prepared Basis of Design is appropriate for project requirements.

Deliverables:

- ▶ None.

Comments/Assumptions:

- ▶ TRLIA will provide CONSULTANT with all available data from their files.
- ▶ Additional data may be obtained from Yuba County, USACE and DWR.

2.2. Predesign of New Pump Station #6

CONSULTANT will prepare a preliminary design for a new pump station that is to replace the existing Algodon Pump Station #6. The new pump station is to be located approximately 500 feet upstream from the current location and the southernmost 500 feet of the Algodon Canal is to be backfilled. The new pump station design will match that of the existing pump station; however, consideration will be given for the potential need for increased pumping capacity in the future. The predesign will include the layout of the Algodon Canal low level outlet pipeline that will connect the canal with the Bear River, as well as an outlet pipeline for the pump system. Power supply for the existing pump station will be extended to the new pump location.

Deliverables:

- ▶ Pump Station #6 Predesign Technical Memorandum which will describe pump station layout, pump capacity, and low level outlet and pump outlet pipeline configurations.

Comments/Assumptions:

- ▶ The new Pump Station #6 will be constructed considering the design parameters (e.g., pumping capacity, flow rates, etc.) of the existing pump station.
- ▶ TRLIA will provide CONSULTANT with all available data from their files on required pumping capacity, low level outlet capacity, future pumping requirements (if applicable) and power sources.

SCOPE OF SERVICES

2.3. Check Point Meeting

CONSULTANT will conduct a meeting to review and verify with TRLIA and USACE the plan for repairs to the Bear River and WPIC levees. This meeting will coincide with the Check Point Meetings for the WPIC levee extension and Yuba River levee improvements, as described in Tasks 3.5 and 4.4.

Deliverables:

- ▶ Meeting Minutes.

Comments/Assumptions:

- ▶ One 4 hour meeting will be required.

2.4. Basis of Design Revisions

The Basis of Design Technical Memorandum for the Bear River and WPIC Levee Improvements Project originally submitted in June of 2004 will be updated as necessary.

Deliverables:

- ▶ Basis of Design Technical Memorandum (10 copies).

Comments/Assumptions:

- ▶ This element of the project will consist of levee improvements to the Bear River and WPIC levees, between Stations 131+00 and 332+50.
- ▶ Basis of Design TM will be submitted for review if significant changes are made as compared to the originally submitted memorandum. Comments will be incorporated into the 30 percent PS&E package.

2.5. Submit Basis of Design Technical Memorandum

2.6. TRLIA and Agency Review

TRLIA and outside agency review of Basis of Design Technical Memorandum.

Comments/Assumptions:

- ▶ Assume 7-calendar day review concurrent with preparation of 30 Percent PS&E.

Task 3.0 Yuba River Levee Predesign

3.1. Revisit Previous Analyses and Basis of Design

Gather and review with the project team existing data, including as-built drawings, design criteria, previous analyses, subsurface information, laboratory data, seepage analyses, and Basis of Design. Confirm with TRLIA and USACE that approach outlined in previously prepared Basis of Design is appropriate for project requirements.

Deliverables:

- ▶ None.

Comments/Assumptions:

- ▶ TRLIA will provide CONSULTANT with all available data from their files.
- ▶ Additional data may be obtained from Yuba County, USACE and DWR.

3.2. Check Point Meeting

CONSULTANT will conduct a meeting to review and verify with TRLIA and USACE the plan for levee repair design. This meeting will coincide with the Check Point Meetings for the Bear River and WPIC levees improvements and WPIC levee extension, as described in Tasks 2.3 and 3.4.

Deliverables:

- ▶ Meeting Minutes.

Comments/Assumptions:

- ▶ One four-hour meeting will be required.

3.3. Basis of Design Revisions

The Basis of Design Technical Memorandum for the Yuba River Levee Improvements Project originally submitted in August of 2004 will be updated as necessary.

Comments/Assumptions:

- ▶ This element of the project will consist of levee improvements to the Yuba River south levee, between the existing USACE cutoff walls, Stations 0+00 and 50+00 (approx.).

3.4. Submit Basis of Design Technical Memorandum

Deliverables:

- ▶ Basis of Design Technical Memorandum (10 copies).

SCOPE OF SERVICES

Comments/Assumptions:

- ▶ Basis of Design TM will be submitted for review if significant changes are made as compared to the originally submitted memorandum. Comments will be incorporated into the 90 percent PS&E package.

3.5. TRLIA and Agency Review

TRLIA and outside agency review of Basis of Design Technical Memorandum.

Comments/Assumptions:

- ▶ Assume 7-calendar day review concurrent with preparation of 30 Percent PS&E.

Task 4.0 WPIC Levee Extension Predesign

Preliminary predesign activities are outlined in this task. Additional predesign activities for the WPIC Levee Extension are described in Task 9.1, Option 1.

4.1. Review of Existing Data

Gather and review existing data, including as-built drawings, design criteria, previous studies, subsurface information, laboratory data, seepage analyses, etc.

Deliverables:

- ▶ None.

Comments/Assumptions:

- ▶ TRLIA will provide CONSULTANT with all available data from their files.
- ▶ Additional data may be obtained from Yuba County, USACE and DWR.

4.2. Evaluation of WPIC Termination Alternatives

Evaluate site conditions at the northern terminus of the WPIC levee, including operations of the proposed flood detention basin, and develop a recommended layout for the levee near its termination point. Consideration will be given to a new levee situated just west of SR 70 (extending approximately one mile from the intersection of the existing levee and SR 70), and to the potential use of the SR 70 as an alternative flood control embankment.

Deliverables:

- ▶ Technical Memorandum outlining options and recommended approach.

Comments/Assumptions:

- ▶ TRLIA will provide CONSULTANT with all necessary hydraulic data and preliminary design and operation data on the proposed Olivehurst Detention Basin.

SCOPE OF SERVICES

Task 5.0 Plans, Specifications and Estimates (PS&E)

CONSULTANT shall generate finished construction drawings, specifications, and estimate of probable construction costs suitable for bidding and construction. PS&E shall be completed for levee improvements to the Bear River and WPIC levees, between Stations 131+00 and 332+50, design of a replacement for Pump Station #6 approximately 500 feet upstream of its existing location, and levee improvements to the Yuba River south levee, between the existing USACE cutoff walls, Stations 0+00 and 50+00 (approx.). PS&E shall be an iterative process involving three levels of design (30 percent, 90 percent, and 100 percent).

PS&E shall be reviewed by TRLIA and other agencies (including USACE) at the 30 percent and 90 percent levels. CONSULTANT shall revise PS&E incorporating the comments from each review. The preparation of PS&E shall include plans, details, cross sections, technical specifications, quantity calculations, and preliminary and estimate of probable construction costs. CONSULTANT shall complete utility coordination related to the construction documents that are required for construction.

5.1. 30 Percent PS&E

30 Percent PS&E shall include analyses, design, preliminary plans, preliminary technical specifications, preliminary quantities and a preliminary budget level cost estimate. The design will be submitted following internal QC review.

5.1.1. Drawings

Drawings shall be prepared using AutoCad LDD software. A complete sheet listing will be provided. These plans shall include general layouts, preliminary topographic survey and mapping data, limited cross-sections, and levee profile. The drawings shall be developed in accordance with USACE formats (Tri-Service A/E/C CADD Standards).

5.1.2. Technical Specifications

Technical specifications shall include preliminary specifications for major design features. Technical specifications shall be prepared in Microsoft Word™.

5.1.3. Engineering Report

CONSULTANT shall prepare written documentation of engineering design. Documentation shall consist of separate binders containing analyses, design calculations, quantity take-offs and geometric calculations.

5.1.4. Cost Estimate

CONSULTANT shall prepare a budget level cost estimate. Quantity take-off calculations and cost estimates shall be prepared in a Microsoft Excel™ spreadsheet.

SCOPE OF SERVICES

5.1.5. Quality Control

The 30 Percent submittal shall undergo an internal quality assurance/quality control review per the project Quality Control Plan (QCP) prior to submittal.

5.1.6. Submit 30 Percent PS&E

Deliverables:

- ▶ 30 Percent PS&E Package (10 copies).

5.1.7. 30 Percent TRLIA and Agency Review

A one-week review of 30 Percent PS&E will be conducted by TRLIA and other agencies. At the end of the review period, a design review meeting will be held with TRLIA and USACE to discuss comments.

Deliverables:

- ▶ Meeting Notes.

Comments/Assumptions:

- ▶ An expedited review process will require one week.
- ▶ One 4-hour design review meeting will be required.

5.2. 90 Percent PS&E

Design will proceed to the 90 Percent level; during which comments received on the 30 Percent design will be incorporated. The 90 Percent submittal will include a full set of drawings, draft specifications, quantities, and an MCACES cost estimate). Final detailed survey topography and survey control will be included. 90 Percent PS&E will be submitted following internal QC.

5.2.1. Drawings

It is anticipated that plans shall include the sheets listed below. The drawings shall be developed in accordance with USACE formats (Tri-Service A/E/C CADD Standards). Anticipated sheets are listed below for each project element:

SCOPE OF SERVICES

Table 1. Drawings Common to all Project Elements

Type of Drawings	Number of Sheets
<i>General</i>	
Title Sheet, Index, Abbreviation and Notes	3 Sheets
Location Maps	1 Sheet
<i>Civil Plans, Cross Sections and Details</i>	
Cutoff Wall Details	1 Sheet
Earthwork and Other Details	1 Sheet
Site Restoration Details	1 Sheet
USACE standard details	1 Sheet
General Notes and Points of Contact	1 Sheet
TOTAL	9 Sheets

Table 2. Bear River / WPIC Preliminary Drawing List

Type of Drawings	Number of Sheets
<i>General</i>	
Survey Control Points	1 Sheet
Levee Alignment Tabulation	1 Sheet
Access and Staging Area Plans	2 Sheets
<i>Civil Plans, Cross Sections and Details</i>	
Orthophotos, Plan and Profiles (1 in = 40 ft)	32 Sheets
Curve and Tangent Tables	1 Sheet
Cross Sections (1 in = 10 ft)	31 Sheets
<i>Utility Drawings</i>	
Utility Location Reference Table	1 Sheet
Pump Station #6 Drawings	6 Sheets
Misc Utilities and Notes	1 Sheet
<i>Soil Borings and Profiles</i>	
Logs of Explorations	12 Sheets
Cone Penetration Test Results	15 Sheets
TOTAL	77 Sheets

SCOPE OF SERVICES

Table 3. Yuba River South Levee Preliminary Drawing List

Type of Drawings	Number of Sheets
General	
Survey Control Points	1 Sheet
Levee Alignment Tabulation	1 Sheet
Access and Staging Area Plans	1 Sheet
Civil Plans, Cross Sections and Details	
Orthophotos, Plan and Profiles (1 in = 40 ft)	4 Sheets
Curve and Tangent Tables	1 Sheet
Cross Sections (1 in = 10 ft)	5 Sheets
Utility Drawings	
Utility Location Reference Table	1 Sheet
Misc Utilities and Notes	1 Sheet
Soil Borings and Profiles	
Logs of Explorations	6 Sheets
Cone Penetration Test Results	10 Sheets
TOTAL	31 Sheets

5.2.2. Specifications

Technical specifications shall include all required sections. The technical specifications shall be developed in accordance with USACE formats. Specifications shall be prepared utilizing SpecsIntact.

5.2.3. Engineering Report

CONSULTANT shall prepare written documentation of engineering design. Documentation shall consist of separate binders containing analyses, design calculations, quantity take-offs and geometric calculations.

5.2.4. Estimate of Probable Construction Costs

CONSULTANT shall prepare a detailed estimate of probable construction costs using the USACE program, MCACES.

5.2.5. Quality Control

The 90 Percent submittal shall undergo an internal quality assurance/quality control review per the project Quality Control Plan (QCP) prior to submittal.

SCOPE OF SERVICES

5.2.6. Submit 90 Percent PS&E

Deliverables:

- ▶ 90 Percent PS&E (10 copies).

5.2.7. 90 Percent TRLIA and Agency Review

A one-week review of 90 Percent PS&E will be conducted by TRLIA and other agencies. At the end of the review period, a design review meeting will be held with TRLIA and USACE to discuss comments.

Deliverables:

- ▶ Meeting Notes.

Comments/Assumptions:

- ▶ An expedited review process will require one week.
- ▶ One 4-hour design review meeting will be required.

5.3. Final PS&E

Design will proceed during which comments received on the 90 Percent PS&E will be incorporated. A final round of internal QC will be implemented. The Final Plans and Specifications will include bid-ready construction drawings and specifications. A final cost estimate will be prepared (using USACE program MCACES) and submitted separately.

5.3.1. Final Drawings

A set of final bid ready construction drawings shall be prepared, which will incorporate appropriate comments received.

5.3.2. Final Specifications

A set of final bid ready specifications shall be prepared, which will incorporate appropriate comments received.

5.3.3. Engineering Report

CONSULTANT shall prepare written documentation of engineering design. Documentation shall consist of separate binders containing analyses, design calculations, quantity take-offs and geometric calculations.

5.3.4. Estimate of Probable Construction Costs

Based on the final design, CONSULTANT shall prepare a final estimate of probable construction costs using MCACES. The estimate will be submitted to TRLIA under a separate cover.

SCOPE OF SERVICES

5.3.5. Quality Control

The final submittal shall undergo an internal quality assurance/quality control review per the project Quality Control Plan (QCP) before submittal.

Deliverables:

- ▶ One full-size and 10 half-size reproducible sets of construction plans.
- ▶ One unbound set of special and technical provisions (technical specifications).
- ▶ Final engineer's estimate.

Comments/Assumptions:

- ▶ The work would consist of various levee improvements to Stations 131+00 through 332+50 of the Bear River / WPIC levee, and seepage/stability berm and relief well levee improvements to Stations 4+05 through 26+00 of the south levee of the Yuba River in accordance with USACE review and acceptance as documented through the project Quality Control Process.
- ▶ Ten sets of the Bid ready Construction Drawings and Specifications will be submitted, including full size drawings.
- ▶ One master copy on the Construction Drawings will also be included as ink on mylar.
- ▶ Any opinions of probable project costs or probable construction cost provided by CONSULTANT are made on the basis of information available to CONSULTANT and on the basis of CONSULTANT's experience and qualifications, and represents its judgment as an experienced and qualified engineer. However, since CONSULTANT has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor methods of determining prices, or over competitive bidding or marked conditions, CONSULTANT does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable costs CONSULTANT prepares.

Task 6.0 Rights-Of-Way (ROW), Easement Requirements and Utilities Coordination

6.1. Real Estate Requirements

CONSULTANT will identify temporary construction and permanent easements based on 30 Percent PS&E (including requirements for drainage, levee, temporary construction staging, etc). CONSULTANT shall coordinate with the Yuba County, UPRR and Caltrans during preparation of the traffic-handling plan that addresses impacts of construction.

Deliverables:

- ▶ Land use rights map delineating all temporary construction and permanent easements required for the project. (10 copies).

6.2. Utility Identification Coordination

6.2.1. Conflict Identification

CONSULTANT shall provide coordination with TRLIA and relevant utility companies regarding the potential impact of the proposed project on existing and planned future utilities. CONSULTANT shall collect information and identify conflicts.

Deliverables:

- ▶ Utility Inventory (10 copies).

6.2.2. Utility Relocation Coordination

CONSULTANT shall coordinate with the appropriate agencies for the relocation of identified utility conflicts.

Deliverables:

- ▶ Meeting Notes, telephone conversation records and correspondence.

Comments/Assumptions:

- ▶ Files of external coordination will be provided.

Task 7.0 Environmental Documents and Permits

This task includes environmental permitting for the Bear River setback levee project, WPIC/Bear River levee repair project, and environmental permitting for Phase II of the Yuba River levee repair project. CEQA compliance documentation and environmental permitting for the WPIC levee extension project is an optional task described under Task 8.

7.1. WPIC-Bear River Levee Improvements and Bear River Levee Setback

This element includes environmental permitting for the WPIC-Bear River Levee improvements and the Bear River levee setback project. The Three Rivers Levee Improvement Authority completed CEQA documentation for the WPIC-Bear River Levee improvements in August 2004. CEQA documentation for the Bear River setback levee will be completed in late 2004.

Single permit applications will be prepared for the combined WPIC/Bear River and Bear River setback project. It is assumed that no additional permits or thresholds would be triggered by the new levee from the comprehensive project. Permitting requirements are expected to include:

- ▶ Clean Water Act Section 404 – Individual Permit,
- ▶ National Historic Preservation Act Section 106,
- ▶ Clean Water Act Section 401,
- ▶ Endangered Species Act compliance and,
- ▶ DFG Streambed Alternation Agreement.

Compliance with CWA Section 404 will likely result in the US Army Corps of Engineers issuing an Individual Permit (IP). Prior to issuing an IP, it is expected that the Corps will require NEPA documentation. The NEPA documentation is not included in this scope of work. Because of the presence of endangered species in the project area, the Corps will be required to consult with the US Fish and Wildlife Service under Section 7 of the Federal Endangered Species Act. This consultation will require preparation of a biological assessment, to be prepared under this scope of work.

Deliverables:

- ▶ Individual Permit Applications.

7.2. Yuba River Levee Repair Project Endangered Species Compliance

During the CEQA compliance phase for the Yuba River Levee Repair Project, it was discovered that the Phase II project area includes elderberry shrubs, which are the host plants of the valley elderberry longhorn beetle (a Federally listed species). It is understood that ESA compliance relative to these shrubs will be necessary for any project components associated with work outside of the crown of the levee,

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including work proposed for berms, relief wells, or vegetation removal on the landside of the levee. ESA compliance be initiated as soon as possible for construction in 2005. Although not presently anticipated, it should be noted that ESA compliance could also be triggered by any improvements constructed on the waterside of the levee as well.

Because the project will not affect jurisdictional waters, a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers will not be required (further, National Historic Preservation Act Section 106 and Clean Water Act Section 401 Certification will not be triggered). As a federal lead is not identified based on permitting or funding, it is assumed that Endangered Species Act compliance will be via Section 10 consultation, necessitating a Habitat Conservation Plan (HCP).

An environmental technical study will be prepared that includes a description of the analysis methods, the affected environment (setting), and the environmental consequences or impacts of the project.

Existing and available information that pertains to the project area will be obtained and reviewed. This will include records from the California Natural Diversity Database (NDDDB), environmental documents prepared for other projects in the region, and additional information as required. After reviewing existing information, the coordination will occur with the CDFG and the U.S. Fish and Wildlife Service (USFWS) to obtain additional information, discuss survey methods, discuss documentation procedures, and determine specific format and content requirements for the biological studies.

The technical study will include a description of special-status wildlife, special-status plants, noxious weeds, plant communities and association wildlife habitats, and native trees. Results of this study will be incorporated into the HCP. Resources located during field surveys will be mapped on aerial photographs and documented on field data forms. The survey corridor will include the existing and proposed right-of-way, equipment and material staging areas, and temporary access roads.

Consultation meetings with CDFG and USFWS biologists will be coordinated to discuss impacts to listed species and potential mitigation measures.

A conceptual mitigation and monitoring design will be prepared to illustrate the optimal mitigation strategy that includes project goals, success criteria, implementation plan and schedule, maintenance recommendations, and monitoring methods. The mitigation plan will be developed as a component of the HCP.

A draft HCP will be prepared for resource agency review. It is assumed that the CDFG and USFWS will not require additional field studies to support analysis of potential growth-inducing impacts on endangered species.

Deliverables:

- ▶ Habitat Conservation Plan.

7.3. Reclamation Board Encroachment Permit for Bear River, WPIC and Setback Levees

A combined Reclamation Board encroachment permit application and supporting documentation will be prepared for three sets of levee improvements within Reclamation District No. 784 more closely defined as follows: (1) approximately 2 miles of a set-back levee on the right bank of the lower Bear River located between the Feather River and State Route 70; (2) approximately 0.7 miles of Bear River levee repairs and improvements that are proposed along the right bank levee of the Bear River between the proposed set-back levee and the Western Pacific Interceptor Canal (WPIC) levee; and (3) approximately 5.5 miles of levee repairs and improvements to the WPIC levee between the Bear River on the south and the WPIC levee intersection with State Route 70 on the north.

A project-specific encroachment permit application will be developed primarily from the following information: (a) the June 2004 TRLIA Bear River and WPIC Draft Basis of Design Technical Memorandum prepared by HDR; (b) the Bear River and WPIC FEIR prepared by Jones and Stokes, dated August 2004, (c) the Draft Report on Feasibility of the RD 784 Supplemental Flood Control Improvements, prepared by the Flood Control Study team, dated August 2004; (d) the DEIR Feather-Bear Rivers Levee Set Back Project, dated September 2004; and (e) information presented and exchanged at the State Reclamation Board meeting of September 17, 2004. Team coordination efforts will be needed before submitting an updated, project-specific encroachment permit application. The project-specific encroachment permit application for TRLIA's levee repairs/improvements on the Bear River and WPIC will require an endorsement from USACE, RD 784 and possibly from the neighboring Reclamation District - namely RD 1001. Consultant currently anticipates submitting a Reclamation Board permit application on September 24, 2004, with an optimistic anticipation of having the permit heard before the Reclamation Board at its November 19, 2004 meeting.

Tasks will include: (1) preparation and submittal of the subject Reclamation Board Encroachment Permit Application by September 24, 2004; (2) follow-up meetings and informational submittals, on an as-needed basis to the Reclamation Board staff prior to the anticipated hearing date of November 19, 2004; (3) review and recommendation of draft permit conditions and milestones on an as-needed basis; and (4) assist the consultant team with pre-construction design submittals to the Reclamation Board staff on an as-needed basis.

Deliverables:

- ▶ Reclamation Board Encroachment Permit Application.

7.4. Other Permits

CONSULTANT will work with other agencies and affected parties to help secure needed encroachment and other permits. It is anticipated that encroachment permits may be required from the California Department of Transportation (Caltrans) and the Union Pacific Railroad for levee improvement work near their facilities.

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Task 8.0 Pre-Bid Assistance and Construction Support

After the Final PS&E are submitted, CONSULTANT shall assist TRLIA during the pre-construction and construction phases of the project. CONSULTANT bidding and construction services shall consist of the following:

8.1. Bidding Support (Addenda and Clarifications)

CONSULTANT shall assist TRLIA with the bidding process, including responding to provide addenda clarifying or technical questions related to the construction drawings from potential bidders.

Deliverables:

- ▶ One addendum to bid documents.

Comments/Assumptions:

- ▶ One addendum will be required.

8.2. Pre-Bid Meetings

CONSULTANT shall attend a pre-bid meeting as requested by TRLIA. In addition, one meeting is assumed for coordination with TRLIA.

Deliverables:

- ▶ Meeting notes.

Comments/Assumptions:

- ▶ One pre-bid meeting and one coordination meeting are assumed.

8.3. Pre-Construction Meeting

CONSULTANT shall attend a pre-construction meeting as requested by TRLIA.

Deliverables:

- ▶ Meeting Notes.

Assumptions:

- ▶ One meeting will be required.

8.4. Construction-Phase Services

CONSULTANT shall assist TRLIA and TRLIA's Construction Manager as directed by TRLIA. This support may include the following:

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8.4.1. Request for Information Support

CONSULTANT shall assist TRLIA with Requests for Information (RFIs) submitted by TRLIA's Contractor and shall respond to RFIs related to CONSULTANT's scope of services.

Deliverables:

- ▶ Responses to RFIs.

Assumptions:

- ▶ 10 RFIs will be submitted.

8.4.2. Shop Drawings and Submittal Clarification

CONSULTANT shall review submittals from the Contractor as required by the technical specifications for clarification on behalf of TRLIA. CONSULTANT shall review shop drawings submitted by Contractor for work related to CONSULTANT's scope of services as requested by TRLIA. CONSULTANT shall review and accept Contractor submittals, such as shop drawings, product data, samples and other data, as required by CONSULTANT, but only for the limited purpose of checking for conformance with the design concept and the information expressed in the contract documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication process, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. CONSULTANT's review shall be conducted with reasonable promptness while allowing sufficient time in CONSULTANT's judgment to permit adequate review. Review of a specific item shall not indicate that CONSULTANT has reviewed the entire assembly of which the item is a component. CONSULTANT shall not be responsible for any deviations from the contract documents not brought to the attention of CONSULTANT in writing by the Contractor. CONSULTANT shall not be required to review partial submissions nor those for which submissions of correlated items have not been received.

Deliverables:

- ▶ Reviews of submittals and shop drawings.

Assumptions:

- ▶ Ten (10) submittal reviews.
- ▶ Eight (8) submittals, and up to two (2) resubmittals.

8.4.3. Change Order Support

Should there be a change of conditions, claim, or other basis for a Change Order, CONSULTANT, as directed by TRLIA, shall review the validity of the request and shall assist TRLIA in its response.

Assumptions:

- ▶ Two (2) change orders will be submitted.

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8.4.4. Field Visits and Site Meetings

CONSULTANT shall conduct periodic field visits to observe progress and as requested by TRLIA. CONSULTANT shall also attend bi-weekly site meetings between TRLIA and the Contractor. CONSULTANT's observation or monitoring portions of the work performed under construction contracts shall not relieve the contractor from its responsibility for performing work in accordance with applicable contract documents. CONSULTANT shall not control or have charge of, and shall not be responsible for, construction means, methods, techniques, sequences, procedures of construction, health or safety programs or precautions connected with the work and shall not manage, supervise, control or have charge of construction. CONSULTANT shall not be responsible for the acts or omissions of the contractor or other parties on the project. CONSULTANT shall be entitled to review all construction contract documents and to require that no provisions extend the duties or liabilities of CONSULTANT beyond those set forth in the CONSULTANT's Agreement with TRLIA.

Deliverables:

- ▶ Meeting and field notes.

Comments/Assumptions:

- ▶ Four (4) field visits and four (4) construction meetings will be required.

8.4.5. Record Documents

Based on change orders and field revisions to the construction drawings, CONSULTANT shall compile record drawings of the constructed improvements for each bid package. Upon completion of the construction contract, CONSULTANT shall compile for and deliver to TRLIA, a set of Record Documents conforming to the marked-up prints, drawings and other data furnished to CONSULTANT by the Contractor. This set of Record Documents shall show the reported location of the work and significant changes made during the construction process. Because these Record Documents are based on unverified information provided by other parties that shall be assumed reliable, CONSULTANT cannot and does not warrant their accuracy. It is assumed that no changes shall be made to title sheets, standard details, demolition/staging, traffic control plans, boring logs, and the horizontal control plan.

Deliverables:

- ▶ Record Drawings.

Assumptions:

- ▶ As-built information including changes will be provided by TRLIA and/or Contractor.
- ▶ 32 hours of CAD operator time will be required to incorporate all changes.

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Task 9.0 Optional Items

9.1. OPTION 1 - WPIC Levee Extension Predesign - Additional Services

9.1.1. Geotechnical Investigation and Analyses

9.1.1.1. Field Exploration

Subsurface exploration will be performed for approximately one mile of new levee west of Highway 70, consisting of 10 borings to a depth of 30 to 40 feet by the hollow stem auger method. Samples will be taken at 2.5-foot intervals in the upper 20 feet, and at 5-foot intervals below. Upon completion, the borings will be backfilled with cement grout. Kleinfelder will obtain Yuba County drilling permits for the borings.

9.1.1.2. Laboratory Testing

Laboratory testing will be performed on samples from the borings drilled to assist in classification of the soils and assessment of engineering properties. We anticipate these tests to consist mostly of sieve analyses, strength tests and Atterburg Limits tests.

9.1.1.3. Preparation of Geotechnical Investigation TM

A two-dimensional slope stability and seepage analysis of the proposed levee cross-section will be performed based on two subsurface profiles. A Geotechnical Alternatives Analysis Technical Memorandum will be prepared describing the analyses and assessments described above. This memorandum will include a summary of the conditions observed in the field, a description of the site geology, a summary of the slope stability and seepage analyses, conclusions and recommendations regarding the geotechnical aspects of levee design and construction, and graphics including a site plan, a location map, boring logs, and laboratory test results.

Deliverables:

- ▶ Geotechnical Alternatives Analysis Technical Memorandum. (10 copies).

9.1.2. Check Point Meeting

CONSULTANT will conduct a meeting to review with TRLIA and USACE the Basis of Design for the new WPIC extension levee. This meeting will coincide with the Check Point Meetings for the Bear River and WPIC levees and Yuba River levee improvements, as described in Tasks 2.3 and 4.4.

Deliverables:

- ▶ Meeting Minutes.

Comments/Assumptions:

- ▶ One 4 hour meeting will be required.

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9.1.3. Basis of Design

A Basis of Design Technical Memorandum will be prepared for the WPIC levee extension element of the project, which will include design levee profiles, material properties, subsurface conditions, seepage analyses, erosion control measures, geotechnical recommendations, construction access requirements, and preliminary quantities and costs.

Deliverables:

- ▶ Basis of Design Technical Memorandum (10 copies).

Comments/Assumptions:

- ▶ Sufficient topographic survey data for the project area will be submitted to HDR in electronic AutoCad form.
- ▶ This element of the project will consist of a new extension to the WPIC levee, beginning at the northern end of the existing WPIC levee and extending north for approximately one mile.
- ▶ Basis of Design TM will be submitted for review. Comments will be incorporated into the 30 percent PS&E package.

9.1.4. Submit Basis of Design Technical Memorandum

9.1.5. TRLIA and Agency Review

TRLIA and outside agency review of Basis of Design Technical Memorandum.

Comments/Assumptions:

- ▶ Assume 7-calendar day review concurrent with preparation of 30 Percent PS&E.

9.2. OPTION 2 - PS&E for WPIC Levee Extension

CONSULTANT shall generate finished construction drawings, specifications, and estimate of probable construction costs suitable for bidding and construction. PS&E shall be completed for design of a new extension to the WPIC levee, beginning at the northern end of the existing WPIC levee and extending north for approximately one mile. This option will be completed following the work performed as part of Option 1. Under this option, the design of the WPIC extension will be incorporated into the contract design package that is described in Task 4. This optional task is not for a stand alone set of contract documents.

PS&E shall be an iterative process involving three levels of design (30 percent, 90 percent, and 100 percent). PS&E shall be reviewed by TRLIA and other agencies (including USACE) at the 30 percent and 90 percent levels. CONSULTANT shall revise PS&E incorporating the comments from each review. The preparation of PS&E shall include plans, details, cross sections, technical specifications, quantity

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calculations, and preliminary and estimate of probable construction costs. CONSULTANT shall complete utility coordination related to the construction documents that are required for construction.

9.2.1. 30 Percent PS&E

30 Percent PS&E shall include analyses, design, preliminary plans, preliminary technical specifications, preliminary quantities and a preliminary budget level cost estimate. The design will be submitted following internal QC review.

9.2.1.1. Drawings

Drawings shall be prepared using AutoCad LDD software. A complete sheet listing will be provided. These plans shall include general layouts, preliminary topographic survey and mapping data, limited cross-sections, and levee profile. The drawings shall be developed in accordance with USACE formats (Tri-Service A/E/C CADD Standards).

9.2.1.2. Technical Specifications

Technical specifications shall include preliminary specifications for major design features. Technical specifications shall be prepared in Microsoft Word™.

9.2.1.3. Engineering Report

CONSULTANT shall prepare written documentation of engineering design. Documentation shall consist of separate binders containing analyses, design calculations, quantity take-offs and geometric calculations.

9.2.1.4. Cost Estimate

CONSULTANT shall prepare a budget level cost estimate. Quantity take-off calculations and cost estimates shall be prepared in a Microsoft Excel™ spreadsheet.

9.2.1.5. Quality Control

The 30 Percent submittal shall undergo an internal quality assurance/quality control review per the project Quality Control Plan (QCP) prior to submittal.

9.2.1.6. Submit 30 Percent PS&E

Deliverables:

- ▶ 30 Percent PS&E Package (10 copies).

9.2.1.7. 30 Percent TRLIA and Agency Review

A one-week review of 30 Percent PS&E will be conducted by TRLIA and other agencies. At the end of the review period, a design review meeting will be held with TRLIA and USACE to discuss comments.

Deliverables:

- ▶ Meeting Notes.

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Comments/Assumptions:

- ▶ An expedited review process will require one week.
- ▶ One 4-hour design review meeting will be required.

9.2.2. 90 Percent PS&E

Design will proceed to the 90 Percent level; during which comments received on the 30 Percent design will be incorporated. The 90 Percent submittal will include a full set of drawings, draft specifications, quantities, and an MCACES cost estimate). Final detailed survey topography and survey control will be included. 90 Percent PS&E will be submitted following internal QC.

9.2.2.1. Drawings

It is anticipated that plans shall include the sheets listed below. The drawings shall be developed in accordance with USACE formats (Tri-Service A/E/C CADD Standards). Anticipated additional sheets that will be incorporated into the design package described in Task 5 are listed below:

Table 4. WPIC Extension Preliminary Drawing List

Type of Drawings	Number of Sheets
<i>General</i>	
Survey Control Points	1 Sheet
Levee Alignment Tabulation	1 Sheet
Access and Staging Area Plans	1 Sheet
<i>Civil Plans, Cross Sections and Details</i>	
Orthophotos, Plan and Profiles (1 in = 40 ft)	5 Sheets
Curve and Tangent Tables	1 Sheet
Cross Sections (1 in = 10 ft)	5 Sheets
<i>Utility Drawings</i>	
Utility Location Reference Table	1 Sheet
Misc Utilities and Notes	1 Sheet
<i>Soil Borings and Profiles</i>	
Logs of Explorations	3 Sheets
TOTAL	19 Sheets

9.2.2.2. Specifications

Technical specifications shall include all required sections. The technical specifications shall be developed in accordance with USACE formats. Specifications shall be prepared utilizing SpecsIntact.

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9.2.2.3. Engineering Report

CONSULTANT shall prepare written documentation of engineering design. Documentation shall consist of separate binders containing analyses, design calculations, quantity take-offs and geometric calculations.

9.2.2.4. Estimate of Probable Construction Costs

CONSULTANT shall prepare a detailed estimate of probable construction costs using the USACE program, MCACES.

9.2.2.5. Quality Control

The 90 Percent submittal shall undergo an internal quality assurance/quality control review per the project Quality Control Plan (QCP) prior to submittal.

9.2.2.6. Submit 90 Percent PS&E

Deliverables:

- ▶ 90 Percent PS&E (10 copies).

9.2.2.7. 90 Percent TRLIA and Agency Review

A one-week review of 90 Percent PS&E will be conducted by TRLIA and other agencies. At the end of the review period, a design review meeting will be held with TRLIA and USACE to discuss comments.

Deliverables:

- ▶ Meeting Notes.

Comments/Assumptions:

- ▶ An expedited review process will require one week.
- ▶ One 4-hour design review meeting will be required.

9.2.3. Final PS&E

Design will proceed during which comments received on the 90 Percent PS&E will be incorporated. A final round of internal QC will be implemented. The Final Plans and Specifications will include bid-ready construction drawings and specifications. A final cost estimate will be prepared (using USACE program MCACES) and submitted separately.

9.2.3.1. Final Drawings

A set of final bid ready construction drawings shall be prepared, which will incorporate appropriate comments received.

9.2.3.2. Final Specifications

A set of final bid ready specifications shall be prepared, which will incorporate appropriate comments received.

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9.2.3.3. Engineering Report

CONSULTANT shall prepare written documentation of engineering design. Documentation shall consist of separate binders containing analyses, design calculations, quantity take-offs and geometric calculations.

9.2.3.4. Estimate of Probable Construction Costs

Based on the final design, CONSULTANT shall prepare a final estimate of probable construction costs using MCACES. The estimate will be submitted to TRLIA under a separate cover.

9.2.3.5. Quality Control

The final submittal shall undergo an internal quality assurance/quality control review per the project Quality Control Plan (QCP) before submittal.

Deliverables:

- ▶ One full-size and 10 half-size reproducible sets of construction plans.
- ▶ One unbound set of special and technical provisions (technical specifications).
- ▶ Final engineer's estimate.

Comments/Assumptions:

- ▶ The work would consist of an extension of the WPIC levee west of Highway 70 running to the north for approximately one mile in accordance with USACE review and acceptance as documented through the project Quality Control Process.
- ▶ The design drawings described for this optional task will be incorporated into the contract documents described in Task 4. This scope is not for a stand alone set of contract documents.

9.3. OPTION 3 - Environmental Documentation, Permits for WPIC Levee Extension

9.3.1. WPIC Extension Levee CEQA Initial Study and Mitigated Negative Declaration

9.3.1.1. Prepare Project Description

CONSULTANT will prepare a project description reflective of the level of detail typically found in an Initial Study. CONSULTANT will work closely with the engineering team to prepare an accurate and thorough project description.

9.3.1.2. Prepare Administrative Draft Initial Study

Concurrent with preparation of the project description, CONSULTANT will begin preparing the other sections of the initial study. In addition to the project description, we propose that the initial study include an introduction, environmental setting, and impacts and mitigation measures if significant impacts are identified. We propose that the initial study address each of the topics indicated in the environmental

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checklist form in the State CEQA Guidelines. The impacts and mitigation chapter will include a discussion of the criteria for determining significance of an impact, impact mechanisms, and the impact assessment. As the analysis is being conducted, CONSULTANT will keep the Authority informed regarding the status and the conclusions of the impact analysis.

The State CEQA Guidelines encourage lead agencies to avoid preparing a “naked” or unsubstantiated checklist. CONSULTANT’s approach will be to address each of the topics indicated in the checklist and to clearly explain why the project would result in no impact, a less than significant impact, or a potentially significant impact. We suggest conducting as thorough an analysis as possible as a means to ensure the initial study/negative declaration is as legally defensible as possible. In addition, conducting a thorough analysis in the initial study will help to focus the analysis that may be conducted as part of an EIR. Although an EIR is presently not anticipated, a detailed analysis in an initial study will serve as the basis for eliminating some topics from consideration in an EIR to ensure streamlining.

If significant impacts are identified, the project team will propose mitigation to reduce those impacts to a less-than-significant level. We will develop mitigation that can be readily incorporated into a mitigation reporting and monitoring plan.

9.3.1.3. TRLIA Review

9.3.1.4. Prepare Initial Study

Under this task, CONSULTANT will incorporate Authority (and the Authority’s designees’) comments into a final version of the initial study. If necessary, we will meet with the Authority and their designees to review the draft initial study and discuss comments.

9.3.1.5. Prepare Administrative Draft Mitigated Negative Declaration

We have assumed that a mitigated negative declaration will be prepared for the project. The draft negative declaration will include a brief description of the project and proposed findings that the project will not result in a significant impact on the environment.

9.3.1.6. TRLIA Review

9.3.1.7. Prepare Mitigated Negative Declaration

CONSULTANT will incorporate comments into a mitigated negative declaration. CONSULTANT will prepare and distribute (on behalf of the Authority) a notice of intent to adopt the negative declaration.

9.3.1.8. Notice to Adopt Negative Declaration Filed

9.3.1.9. 30-day Public Review

9.3.1.10. Review Comments

CONSULTANT will assist the Authority in reviewing and considering agency and public comments on the Negative Declaration. CONSULTANT will assist in preparing the administrative record on how agency and public comments were considered by the Authority.

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9.3.1.11. Prepare Mitigation Reporting and Monitoring Plan

Authority must prepare and adopt a mitigation reporting and monitoring plan within two months of adopting the negative declaration. The mitigation reporting and monitoring plan will describe the mitigation measures, how the measures will be implemented, who will be responsible for implementing the measures, and performance standards. We assume that the mitigation reporting and monitoring plan would be prepared based on final mitigation adopted in the negative declaration; however, the proposed plan could be included in the review draft of the initial study at the Authority's discretion.

Comments/Assumptions:

- ▶ The appropriate document for California Environmental Quality Act compliance is a mitigated negative declaration based on the project as described in this scope of work.
- ▶ Sufficient project information will be available upon notice to proceed with the work, in terms of construction footprint, methods, and scheduling.

9.3.1.12. Negative Declaration Adopted by TRLIA

9.3.2. Expand Bear/WPIC Permit Packages to Include WPIC Extension

CONSULTANT will prepare the permit packages for the comprehensive Bear River/WPIC improvements to include the WPIC Extension levee. It is assumed that no additional permits or thresholds would be triggered by the new levee from the comprehensive project. These permits may include:

- ▶ Clean Water Act Section 404,
- ▶ National Historic Preservation Act Section 106,
- ▶ Clean Water Act Section 401,
- ▶ Endangered Species Act (federal and state), and
- ▶ Streambed Alternation Agreement.

9.4. OPTION 4 - Construction Management

CONSULTANT will provide Construction Management services during the construction phase of the Bear River, WPIC and Yuba River levee improvements project. The construction management team will administer the construction contract established between the Owner and the Contractor and will provide Quality Assurance services. It is assumed that all levee improvements will be completed under one construction contract.

9.4.1. Develop CM Plan/Project Setup

The construction management plan will be based on CONSULTANT standard procedures for construction management that are contained in the CONSULTANT Construction Management Reference

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Manual. The manual will be used by CM personnel so that standard procedures are used and QA/QC procedures are defined.

Project setup will require mobilization to the project, filing systems, communication systems, and office supplies.

Deliverables:

- ▶ Construction Management Plan.

Assumptions:

- ▶ Use of CONSULTANT's Construction Management Reference Manual as a template for project specific Construction Management Manual. The assumption is that the Contractor will supply an independent site trailer for CM team use as well as copy machine, fax machine, three computers, a document scanner, furniture, cleaning service, utility hookup, utility fees, and bathroom facilities.

9.4.2. Communications and Correspondence

CONSULTANT will be the communication hub for the project. All communication and correspondence from and to the Contractor, TRLIA, USACE, and CONSULTANT's subconsultants will go through CONSULTANT's construction management team. This duty involves processing and controlling large volumes of paperwork.

Deliverables:

- ▶ Correspondence, RFI and Submittal Logs.

Assumptions:

- ▶ One full time document controller will be needed for a 5-month duration construction period. CONSULTANT will use Project Tracker, CONSULTANT's in-house developed document tracking software program, to log and track project paperwork.

9.4.3. Contract Administration

CONSULTANT will provide a Construction Manager and Resident Engineer for the construction period. The Resident Engineer will be on site full time for the duration of the construction period. The Construction Manager and Resident Engineer will be responsible for contract administration, which includes the following:

- ▶ Serving as the coordinator and facilitator between the primary parties involved in the contract,
- ▶ Processing submittals,
- ▶ Reviewing the construction schedule and monitoring progress,
- ▶ Processing progress payments,

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- ▶ Using proper procedures to avoid and resolve disputes,
- ▶ Resolving potential claims,
- ▶ Negotiating and processing contract changes.

Deliverables:

- ▶ Daily Reports
- ▶ Monthly Status Reports.

Assumptions:

- ▶ One full time resident engineer will be needed for day to day contract management for a 5-month duration construction period. One part time construction manager will be needed for claims mitigation and change order negotiations for a 5-month duration construction period.
- ▶ All Phase 2 construction work for the Bear River, WPIC and Yuba River levees will be completed under one construction contract.

9.4.4. Quality Assurance Inspection and Testing

CONSULTANT will inspect and test to verify that the project is constructed in accordance with the requirements of the Contract. CONSULTANT will strive for the highest quality attainable within Project limitations. CONSULTANT will check materials brought on site for compliance with the Contract and approved submittals. CONSULTANT will check construction for proper location, dimension, elevation, and proper construction techniques. CONSULTANT'S geotechnical subconsultant will provide quality assurance testing of construction activities related to slurry wall construction and levee earthwork.

Deliverables:

- ▶ Daily reports.
- ▶ Test results.
- ▶ Photodocumentation.

Assumptions:

Two full time inspectors will be needed for a 5-month duration construction period.

9.4.5. Other Geotechnical Quality Assurance Testing and Inspection

Geotechnical SUBCONSULTANT (Kleinfelder) will provide the following scope of work for Construction Testing:

SCOPE OF SERVICES

SUBCONSULTANT will provide Quality Assurance testing to support the Construction Manager during construction of the proposed improvements. We understand that construction will take place over a 5 month time period. During that time period, we will provide 2 technicians on a full time basis. Our scope is based on the following assumptions:

- ▶ The USACE will provide FEMA certification for the levee improvements.
- ▶ The contractor will provide Quality Control testing in accordance with the USACE requirements for the project.
- ▶ Two technicians will be provided for 10 hrs per day (8hrs onsite and 2 hrs travel).

The following services will be provided:

- ▶ Provide 2 technicians for observation and testing of construction for 5 months. (2,000 hours).
- ▶ Provide Staff Engineer for data review of contractor QC testing and consultation. (200 hours).
- ▶ Provide Senior Geotechnical Engineer for consultation and construction meetings. (80 hours).
- ▶ Provided Principal Geotechnical Engineer for consultation and construction meetings. (40 hours).

Laboratory testing during construction:

- ▶ 30 permeability tests on wet-cast slurry samples.
- ▶ 30 unconfined compression tests on wet-cast slurry samples.
- ▶ 40 ASTM D1557 Compaction Curves.
- ▶ 40 Plasticity Index.
- ▶ 40 Sieve Analysis.

Deliverables:

- ▶ Daily reports.
- ▶ Test results.
- ▶ Final Summary Letter Report.

9.4.6. Final Completion/Project Closeout

CONSULTANT will obtain warranties, guaranties, and record drawings; develop a punchlist; verify lien releases; and process the last progress payment and final payment.

SCOPE OF SERVICES

Deliverables:

- ▶ Final Payment Forms Processed.

9.5. OPTION 3 - FEMA Certification for Contract Work

CONSULTANT to package contract items and perform additional FEMA-required analyses and studies (i.e., interior drainage studies, flood plain mapping, post-construction levee profiles and O&M Manuals) to achieve FEMA certification for the levee repairs completed as part of the contract work.

SCHEDULE FOR PERFORMANCE

Table 3. Schedule of completion.

Task Description	Duration
Task 1 - Project Management	Ongoing
Task 2 – Bear River and WPIC Predesign	82 days after NTP
Task 3 – Yuba River Predesign	82 days after NTP
Task 4 – WPIC Levee Extension Predesign	82 days after NTP
Task 5 – Plans, Specifications & Estimates	170 days after NTP
Task 6 – Rights-of-Way, Easement Requirements, and Utility Coordination	144 days after NTP
Task 7 – Environmental Documents and Permits	198 days after NTP
Task 8 - Pre-Bid Assistance and Construction Support	Per bid and construction sched

Notes:

- ▶ Survey mapping information by others to be supplied NLT November 15, 2004.

Services Provided By Others:

- ▶ Base mapping and field surveys (levee cross sections, property lines, utility locations). Mapping and survey data will be provided to CONSULTANT in hard copy and digital formats.
- ▶ Preparation of plats and descriptions.
- ▶ Appraisals, negotiations with property owners, and acquisitions.

SCOPE OF SERVICES

FEES AND PAYMENTS

Payment for all engineering services performed by CONSULTANT shall be on a time and materials basis as described by the terms of this Scope of Services. Payments made by TRLIA to CONSULTANT for engineering services shall be full compensation for all personnel, materials, supplies, and equipment used by CONSULTANT to complete the work.

CONSULTANT has prepared a cost breakdown for performing Tasks 1 through 8 of Project Management, Major Design Phases and Activities, CEQA/NEPA Documentation, Permitting, and Pre-Bid Assistance and Construction Services. Costs for individual tasks may vary above or below the estimates shown below, but will not exceed the total of \$928,747 for basic services.

Additional budget is included for Optional Services. CONSULTANT shall not commence work or incur charges for work included in Optional Services without prior written authorization from TRLIA.

The original contract for the Upper Bear River and WP Interceptor Canal Levee Repairs project executed on January 8, 2004, is in the amount of \$1,668,490. Approximately 69 percent of this amount, or \$1,159,000, has been expended to date (expenditures through Sep 2004). The effort for the basic services described in this scope of work is \$928,747. Adding this to the amount already expended would result in an amended contract amount of \$2,087,747, an overall increase of \$419,257 over the original contract amount.

Table 4. Not-to-Exceed total.

Item	Budget
Basic Services (Phase II Work)	
Task 1 - Project Management	\$170,350
Task 2 – Bear River and WPIC Predesign	\$50,654
Task 3 – Yuba River Predesign	\$28,748
Task 4 – WPIC Levee Extension Predesign	\$20,883
Task 5 – Plans, Specifications & Estimates	\$246,983
Task 6 – Rights-of-Way, Easement Requirements, and Utility Coordination	\$27,819
Task 7 – Environmental Documents and Permits	\$289,803
Task 8 - Pre-Bid Assistance and Construction Support	\$93,507
Total - Basic Services (Phase II Work)	\$928,747
Amended Contract Amount (Additional Funding Required = \$419,257)	\$2,087,747
Optional Services	\$1,207,146



HDR, INC.
STANDARD RATE SCHEDULE
December 2003 - December 2004

Classification	Rate
E7	\$ 195.00
E6	\$ 185.00
E5	\$ 155.00
E4	\$ 122.00
E3	\$ 100.00
E2	\$ 90.00
E1	\$ 80.00
T4	\$ 105.00
T3	\$ 91.50
T2	\$ 60.00
T1	\$ 48.00
Financial	\$ 95.00
Web Technician	\$ 81.00
Administrative/Clerical	\$ 61.00

Please Note: Rates include current overhead rate plus profit. Rates subject to change on an annual basis beginning January 1.

EXPENSES

In-House Expenses -

Technology Fee (per labor hour)	\$ 4.10
Vehicle Mileage (per mile)	\$ 0.375
Color Copy (per copy)	\$ 1.65
Photocopies (per copy)	\$ 0.10

Plotting (cost depends on size of plot)

	<i>Black and White</i>	<i>Color</i>
Bond	\$0.80 to \$3.50	\$10.50 to \$20.25
Vellum	\$1.60 to \$9.65	\$12.50 to \$24.75
Mylar	\$2.50 to \$14.85	\$15.00 to \$29.25

Other Expenses

Hired Services - Subconsultants, typing services, etc.
 Miscellaneous Supplies - Publications, printing, equipment rental, etc.

Please Note: Outside expenses are charged with a 10 percent markup.

THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
Phase II Levee Repair - Bear River, WPIC and Yuba River
FEE WORKSHEET

No.	Task Description	Labor										Total Labor (5)	Expenses	Sub-Consultants*		Total					
		PM E7	QC E8	Sr Engr E9	Constr E8	Cost E8	PE E5	Clv E4	Civ E2	CADD T3	Acc't			Clerk/Al	Hours		J&S	Klein/Schmidt	Klein/Fielder		
1. PROJECT MANAGEMENT																					
1.1	Project Management	160					60					24					46,880	5,067			50,927
1.2	Kick Off Meeting	8					8										860	6			866
1.3	Check Point Meeting	8					8										4,200	471			4,671
1.4	Monthly Status Meetings	96					96				24						36,064	3,857			39,921
1.5	Monthly Progress Reports	48					24				24						15,360	1,690			17,050
1.6	Quality Control	8					8										25,000	2,750			27,750
1.7	Agency Coordination	80					40										21,800	2,399			24,199
	Subtotal Project Management	416	40	40	56	0	264	0	0	48	0	48	0	0	0	0	151,488	16,881			170,359
2. BEAR RIVER AND WPIC (LEVEE) PREDESIGN																					
2.1	Revisit Previous Analysis and Basis of Design	8					16				24						6,200	682			6,882
2.2	Check Point Meeting	8					8										4,308	484			4,792
2.3	Check Point Meeting - Preferred Alternative(s)	8					12										4,398	484			4,882
2.4	Basis of Design Revisions	22					20				8						12,238	1,346			13,584
	Subtotal Bear/WPIC Level Pre-design	46	0	0	0	0	60	64	12	0	8	8	0	0	0	0	33,824	3,721			37,545
3. YUBA RIVER LEVEE PREDESIGN																					
3.1	Revisit Previous Analysis and Basis of Design	4					8				16						3,450	381			3,831
3.2	Check Point Meeting - Preferred Alternative(s)	8					12				8						4,396	484			4,880
3.3	Basis of Design	16					20				4						12,238	1,346			13,584
	Subtotal Yuba River Levee Pre-design	28	0	0	0	0	40	38	4	0	8	8	0	0	0	0	20,084	2,210			22,294
4. WPIC RIVER LEVEE EXTENSION PREDESIGN																					
4.1	Revisit Previous Analysis and Basis of Design	4					8				16						3,450	381			3,831
4.2	Evaluation of WPIC Termination Alternatives	8					16				8						13,252	1,458			14,710
	Subtotal WPIC Levee Extension Pre-design	12	0	0	0	0	24	16	0	0	0	0	0	0	0	0	16,702	1,839			18,541
5. PLANS, SPECIFICATIONS AND ESTIMATES (PSAE)																					
5.1	30 Percent PSAE	18					108				125						85,098	9,361			94,459
5.2	90 Percent PSAE	6					128				108						92,602	10,186			102,788
5.3	Final PSAE	4					36				44						37,612	4,137			41,749
	Subtotal PSAE	30	0	0	0	0	278	450	283	768	0	50	0	0	0	0	215,312	23,684			238,996
6. RIGHT-OF-WAY EASEMENT AND UTILITY REQUIREMENTS																					
6.1	Real Estate Requirements	8					24				24						11,346	1,248			12,594
6.2	Subtotal Right-of-Way Easement and Utility Requirements	8	0	0	0	0	44	24	120	44	0	8	8	0	0	0	13,746	1,509			15,255
7. ENVIRONMENTAL DOCUMENTATION AND PERMITS																					
7.1	WPIC-Bear River Levee Improvements and Bear River Levee	8					8				16						2,800	308			3,108
7.2	Yuba River Levee Endangered Species Compliance	8					108				125						832	92,602			93,434
7.3	Rec. Board Permit, WPIC and Bearback	8					16				4						2,180	240			2,420
7.4	Other Permits	32					36				40						9,920	961			10,881
	Subtotal Environmental Documents and Permits	48	0	0	0	0	118	116	84	0	102	622	0	0	0	0	18,700	1,837			19,537
8. PRE-BID ASSISTANCE AND CONSTRUCTION SERVICES																					
8.1	Bidding Support (Address and Clarifications)	8					24				36						18,122	1,969			19,091
8.2	Pre-Construction Meeting	8					8				8						3,332	367			3,699
8.3	Pre-Construction Meeting	8					8				8						3,332	367			3,699
8.4	Construction Phase Services	30					80				60						58,282	6,409			64,691
	Subtotal Bid Assistance and Construction Support	52	0	0	0	0	150	6	84	0	102	622	0	0	0	0	84,240	9,226			93,466
	TOTAL ENGINEERING EFFORT (TASKS 1-7)	576	40	96	206	60	892	750	912	48	204	4,343	0	0	0	0	555,412	62,193			617,605
9. OPTIONAL SERVICES																					
9.1	OPTION 1 - LEVEE EXTENSION ADD'L PREDESIGN	4					4				24						3,560	392			3,952
9.1.1	Check Point Meeting	8					12				8						4,386	484			4,870
9.1.2	Check Point Meeting - Preferred Alternative(s)	8					40				16						18,192	2,001			20,193
9.1.3	Basis of Design Revisions	20					56				8						26,148	2,816			28,964
	Subtotal WPIC Extension Pre-design	40	0	0	0	0	112	48	64	16	8	212	0	0	0	0	67,306	7,409			74,715
9.2	OPTION 2 - PSAE FOR WPIC LEVEE EXTENSION	4					4				4						10,933	1,203			12,136
9.2.1	30 Percent PSAE	4					12				20						17,584	1,981			19,565
9.2.2	90 Percent PSAE	4					4				4						17,584	1,981			19,565
9.2.3	Final PSAE	12					12				8						20,329	2,238			22,567
	Subtotal PSAE	12	0	0	0	0	36	0	12	36	0	6	0	0	0	0	58,500	6,409			64,909
9.4	OPTION 3 - ENVIRONMENTAL DOCUMENT AND PERMITS FOR WPIC EXTENSION	40					120				120						577,844	37,125			614,969
9.5	OPTION 4 - CONSTRUCTION MANAGEMENT	24					120				240						37,534	784			38,318
	OPTION 5 - FEMA CERTIFICATION FOR CONTRACT WORK	72					210				1,442						730,025	53,933			783,958
	TOTAL OPTIONAL SERVICES	120	0	0	0	0	360	48	158	0	1,264	7,227	0	0	0	0	1,295,437	116,146			1,411,583
	TOTALS	648	64	156	626	72	1,102	2192	4,124	48	1,488	11,570	0	0	0	0	2,899,849	288,663			3,188,512

*Subconsultants marked up by 10%

Three Rivers Levee Improvement Authority

PHASE 2 LEVEE REPAIR - BEAR RIVER, WPIC AND YUBA RIVER

