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
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 744.

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
MSK Engineers
2458 Alumnae 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:

<table>
<thead>
<tr>
<th>Item</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Services</td>
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</tr>
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</tr>
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</tr>
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<td>Task 4 - WPIC Levee Extension Preliminary</td>
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</tr>
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<td>Task 5 - Study, Specifications &amp; Estimates</td>
<td>$265,982</td>
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<tr>
<td>Task 6 - Right-of-Way, Easement Requirements, and Utility Coordination</td>
<td>$27,719</td>
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<td>Task 7 - Environmental Documents and Permits</td>
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<td>Optional Services</td>
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<td>$1,207,146</td>
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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 $1,669,490. 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) 817-4800. We are excited about the opportunity to work with you on this project.

Sincerely,

[Signature]
Patrick Toney, P.E.
Vice President
Attachments

[Signature]
Kenneth R. Myers, P.E.
Water Resources Program Manager

KRMC/CGdtn 04/01/94

[Address]
Scope of Work

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

Three Rivers Levee Improvement Authority
Marysville, California

HDR
2365 Iron Point Road, Suite 300
Folsom, CA. 95630
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>TASK</th>
<th>OVERVIEW</th>
<th>PAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Project Management</td>
<td>3</td>
</tr>
<tr>
<td>1.1</td>
<td>Project Management</td>
<td>5</td>
</tr>
<tr>
<td>1.2</td>
<td>Project Guide</td>
<td>5</td>
</tr>
<tr>
<td>1.3</td>
<td>Project Kick-Off Meeting</td>
<td>5</td>
</tr>
<tr>
<td>1.4</td>
<td>Monthly Status Meetings</td>
<td>6</td>
</tr>
<tr>
<td>1.5</td>
<td>Monthly Progress Reports</td>
<td>8</td>
</tr>
<tr>
<td>1.6</td>
<td>Quality Control</td>
<td>9</td>
</tr>
<tr>
<td>1.7</td>
<td>Agency Coordination</td>
<td>9</td>
</tr>
<tr>
<td>2.0</td>
<td>Bear River and WPIC Levees Pre-design</td>
<td>8</td>
</tr>
<tr>
<td>2.1</td>
<td>Revisit Previous Analyses and Basis of Design</td>
<td>8</td>
</tr>
<tr>
<td>2.2</td>
<td>Pre-design of New Pump Station #6</td>
<td>8</td>
</tr>
<tr>
<td>2.3</td>
<td>Check Point Meeting</td>
<td>9</td>
</tr>
<tr>
<td>2.4</td>
<td>Basis of Design Revisions</td>
<td>9</td>
</tr>
<tr>
<td>2.5</td>
<td>Submit Basis of Design Technical Memorandum</td>
<td>9</td>
</tr>
<tr>
<td>2.6</td>
<td>TRIA and Agency Review</td>
<td>9</td>
</tr>
<tr>
<td>3.0</td>
<td>Yuba River Levee Pre-design</td>
<td>10</td>
</tr>
<tr>
<td>3.1</td>
<td>Revisit Previous Analyses and Basis of Design</td>
<td>10</td>
</tr>
<tr>
<td>3.2</td>
<td>Check Point Meeting</td>
<td>10</td>
</tr>
<tr>
<td>3.3</td>
<td>Basis of Design Revisions</td>
<td>10</td>
</tr>
<tr>
<td>3.4</td>
<td>Submit Basis of Design Technical Memorandum</td>
<td>10</td>
</tr>
<tr>
<td>3.5</td>
<td>TRIA and Agency Review</td>
<td>11</td>
</tr>
<tr>
<td>4.0</td>
<td>WPIC Levee Extension Pre-design</td>
<td>12</td>
</tr>
<tr>
<td>4.1</td>
<td>Review of Existing Data</td>
<td>12</td>
</tr>
<tr>
<td>4.2</td>
<td>Evaluation of WPIC Termination Alternatives</td>
<td>12</td>
</tr>
<tr>
<td>5.0</td>
<td>Plans, Specifications and Estimates (PS&amp;E)</td>
<td>13</td>
</tr>
<tr>
<td>5.1</td>
<td>30 Percent PS&amp;E</td>
<td>13</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Drawings</td>
<td>13</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Technical Specifications</td>
<td>13</td>
</tr>
<tr>
<td>5.1.3</td>
<td>Engineering Report</td>
<td>13</td>
</tr>
<tr>
<td>5.1.4</td>
<td>Cost Estimate</td>
<td>13</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Quality Control</td>
<td>14</td>
</tr>
<tr>
<td>5.1.6</td>
<td>Submit 30 Percent PS&amp;E</td>
<td>14</td>
</tr>
<tr>
<td>5.1.7</td>
<td>30 Percent TRIA and Agency Review</td>
<td>14</td>
</tr>
<tr>
<td>5.2</td>
<td>90 Percent PS&amp;E</td>
<td>14</td>
</tr>
<tr>
<td>5.2.1</td>
<td>Drawings</td>
<td>14</td>
</tr>
<tr>
<td>5.2.2</td>
<td>Specifications</td>
<td>14</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Engineering Report</td>
<td>14</td>
</tr>
<tr>
<td>5.2.4</td>
<td>Estimate of Probable Construction Costs</td>
<td>15</td>
</tr>
<tr>
<td>5.2.5</td>
<td>Quality Control</td>
<td>16</td>
</tr>
<tr>
<td>5.2.6</td>
<td>Submit 90 Percent PS&amp;E</td>
<td>17</td>
</tr>
<tr>
<td>5.2.7</td>
<td>90 Percent TRIA and Agency Review</td>
<td>17</td>
</tr>
<tr>
<td>5.3</td>
<td>Final PS&amp;E</td>
<td>17</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Final Drawings</td>
<td>17</td>
</tr>
<tr>
<td>5.3.2</td>
<td>Final Specifications</td>
<td>17</td>
</tr>
<tr>
<td>5.3.3</td>
<td>Engineering Report</td>
<td>17</td>
</tr>
<tr>
<td>5.3.4</td>
<td>Estimate of Probable Construction Costs</td>
<td>17</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Quality Control</td>
<td>18</td>
</tr>
<tr>
<td>6.0</td>
<td>Rights-Of-Way (ROW), Easement Requirements and Utilities Coordination</td>
<td>18</td>
</tr>
<tr>
<td>6.1</td>
<td>Real Estate Requirements</td>
<td>19</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

6.2. Utility Identification Coordination ................................................................. 19
6.2.1 Conflict Identification .............................................................................. 19
6.2.2. Utility Relocation Coordination ............................................................. 19

## Task 7.0 Environmental Documents and Permits ............................................. 20
7.1. WPIC-Bear River Levee Improvements and Bear River Levee setback ............. 20
7.2. Yuba River Levee Repair Project Endangered Species Compliance .............. 20
7.3. Reclamation Board Encroachment Permit for Bear River, WPIC and setback
    Leves ......................................................... 22
7.4. Other Permits ......................................................................................... 22

## Task 9.0 Pre-Bid Assistance and Construction Support ................................. 23
8.1. Briefing Support (Addenda and Clarifications) ........................................... 23
8.2. Pre-Bid Meetings ..................................................................................... 23
8.3. Pre-Construction Meeting ....................................................................... 23
8.4. Construction-Phase Services .................................................................... 23
8.4.1. Request for Information Support ............................................................ 24
8.4.2. Shop Drawings and Submittal Clarification ........................................... 24
8.4.3. Change Order Support ....................................................................... 24
8.4.4. Field Visits and Site Meetings ............................................................... 25
8.4.5. Record Documents ............................................................................ 25

## Task 9.0 Optional Items ................................................................................ 26
9.1. OPTION 1 - WPIC Levee Extension Pre-design – Additional Services .......... 26
9.1.1. Geotechnical Investigation and Analysis ................................................ 26
9.1.2. Check Point Meeting ......................................................................... 26
9.1.3. Basis of Design .................................................................................. 27
9.1.4. Submit Basis of Design Technical Memorandum .................................... 27
9.1.5. TRIL and Agency Review .................................................................. 27
9.2. OPTION 2 - PS&E for WPIC Levee Extension ......................................... 27
9.2.1. 30 Percent PS&E .............................................................................. 28
9.2.2. 90 Percent PS&E .............................................................................. 29
9.2.3. Final PS&E ...................................................................................... 30
9.3. OPTION 3 - Environmental Documentation, Permits for WPIC Levee Extension 31
9.3.1. WPIC Extension Levee CEQA Initial Study and Mitigated Negative
       Declaration ......................................................................................... 31
9.3.2. Expand Bear/WPIC Permit Packages to Include WPIC Extension .......... 33
9.4. OPTION 4 - Construction Management .................................................... 33
9.4.1. Develop CM Plan/Project Setup ............................................................ 33
9.4.2. Communications and Correspondence ................................................ 34
9.4.3. Contract Administration ..................................................................... 34
9.4.4. Quality Assurance Inspection and Testing .......................................... 35
9.4.5. Other Geotechnical Quality Assurance Testing and Inspection ............... 35
9.4.6. Final Completion/Project Closeout ...................................................... 36
9.5. OPTION 3 - FEMA Certification for Contract Work .................................... 37
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 schedule at the preliminary and final design stages.
- Develop contract technical specifications.
- Prepare permit application 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 requests 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 P&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.
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.
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.
SCOPE OF SERVICES

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 TRILIA and USACE that approach outlined in previously prepared Basis of Design is appropriate for project requirements.

Deliverables:
- None.

Comments/Assumptions:
- TRILIA 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, 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.
- TRILIA 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.
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 36 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.
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 11+00 and 332+50, design of a replacement for Pump Station #4 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 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.
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 LRRA and Agency Review
A one-week review of 30 Percent PS&E will be conducted by LRRA and other agencies. At the end of the review period, a design review meeting will be held with LRRA and USACE to discuss comments.

Deliverables:

- Meeting Notes.

Comments/Assumptions:

- An expedited review process will require one week.
- A 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

<table>
<thead>
<tr>
<th>Type of Drawings</th>
<th>Number of Sheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td></td>
</tr>
<tr>
<td>Title Sheet, Index, Abbreviation and Notes</td>
<td>3 Sheets</td>
</tr>
<tr>
<td>Location Maps</td>
<td>1 Sheet</td>
</tr>
<tr>
<td>Civil Plans, Cross Sections and Details</td>
<td></td>
</tr>
<tr>
<td>Cul-de-Sac Details</td>
<td>1 Sheet</td>
</tr>
<tr>
<td>Earthwork and Other Details</td>
<td>1 Sheet</td>
</tr>
<tr>
<td>Site Restoration Details</td>
<td>1 Sheet</td>
</tr>
<tr>
<td>USACE standard details</td>
<td>1 Sheet</td>
</tr>
<tr>
<td>General Notes and Points of Contact</td>
<td>1 Sheet</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>9 Sheets</strong></td>
</tr>
</tbody>
</table>

### Table 2. Bear River/ WIPIC Preliminary Drawing List

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

Phase 2 Levee Repair - Bear River, WIPIC, and Yuba River
04103b
Page 15 of 40
10/31/2004
### Table 3. Yuba River South Levee Preliminary Drawing List

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

#### 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 Specdatact.

#### 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.
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.
S C O P E O F S E R V I C E S

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 will consist of various levee improvements to Stations 131+00 through 332+50 of the Bear River / WPCI 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 California 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 Alteration 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,
including work proposed for berms, relief wells, or vegetation removal on the landside of the levee. ESA compliance is 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 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 (NDDB), 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 repair 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 TRILIA 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 Supplemented 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 TRILIA'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.
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:
SCOPE OF SERVICES

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.

Phase 2 levee repair - Bear River, WRC, and Yuba River
041230
Page 24 of 40
Page: 10/21/2004
8.4.4. Field Visits and Site Meetings

CONSULTANT shall conduct periodic field visits to observe progress and as requested by TRILIA. CONSULTANT shall also attend bi-weekly site meetings between TRILIA 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 sub 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 TRILIA.

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 TRILIA, a set of Record Documents containing 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 field sheets, standard details, demolition/slogging, traffic control plans, boring logs, and the horizontal control plan.

Deliverables:
- Record Drawings.

Assumptions:
- As-built information including changes will be provided by TRILIA and/or Contractor.
- 31 hours of CAD operator time will be required to incorporate all changes.
SCOPE OF SERVICES

Task 9.0 Optional Items

9.1. OPTI0N 1 - WPIC Levee Extension - Redesign - Additional Services

9.1.1. Geotechnical Investigation and Analysis

9.1.1.1. Field Exploration

Subsurface exploration will be performed for approximately one mile of new levee west of Highway 78, 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. Kleinfield 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 Atterberg 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 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 Analysis Technical Memorandum, (10 copies).

9.1.2. Check Point Meeting

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

Deliverables:

- Meeting Minutes.

Comments/Assumptions:

- One 4-hour meeting will be required.
SCOPE OF SERVICES

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 HMR 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. TRJIA and Agency Review
TRJIA 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 190 percent). PS&E shall be reviewed by TRJIA 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.

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/EC 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.
SCOPE OF SERVICES

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 3 are listed below:

<table>
<thead>
<tr>
<th>Type of Drawings</th>
<th>Number of Sheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Control Points</td>
<td>1 Sheet</td>
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</tr>
<tr>
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<td>Utility Location Reference Table</td>
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<td>Misc Utilities and Notes</td>
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<td>Soil Borings and Profiles</td>
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<tr>
<td>Logs of Explorations</td>
<td>3 Sheets</td>
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<tr>
<td><strong>TOTAL</strong></td>
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</table>

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 SpecIntact.

Phase 2 Levee Repair - Bear River, WPIC, and Yuba River
04103b
Page 29 of 40
10/21/2004
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.
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...
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. TRIA 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. TRIA 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.
SCOPE OF SERVICES

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's standard procedures for construction management that are contained in the CONSULTANT Construction Management Reference.
**SCOPE OF SERVICES**

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,
SCOPE OF SERVICES

- 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:

Phase 2 Levee Repair - Bear River, WPIC, and Yuba River
04103b

Page 35 of 40
10/21/2004
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 punch list; 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>
<thead>
<tr>
<th>Task Description</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>Task 1 - Project Management</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Task 2 – Bear River and WPIC Pre design</td>
<td>82 days after NTP</td>
</tr>
<tr>
<td>Task 3 – Yuba River Pre design</td>
<td>82 days after NTP</td>
</tr>
<tr>
<td>Task 4 – WPIC Levee Extension Pre design</td>
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<tr>
<td>Task 5 – Plans, Specifications &amp; Estimates</td>
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<td>Task 6 – Rights-of-Way, Easement Requirements, and Utility Coordination</td>
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<td>Task 7 – Environmental Documents and Permits</td>
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</tr>
<tr>
<td>Task 8 – Pre-Bid Assistance and Construction Support</td>
<td>Per bid and construction sched</td>
</tr>
</tbody>
</table>

**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.

<table>
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<th>Item</th>
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<td>Task 1 - Project Management</td>
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<td><strong>Total - Basic Services (Phase II Work)</strong></td>
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<td><strong>Amended Contract Amount (Additional Funding Required = $419,257)</strong></td>
<td>$2,087,747</td>
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<td><strong>Optional Services</strong></td>
<td>$1,207,146</td>
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Phase 2 Levee Repair - Bear River, WPIC, and Yuba River

04103b

04/10/2004
HDR, INC.
STANDARD RATE SCHEDULE
December 2003 - December 2004

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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)**

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**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.
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