

**SEVENTH AMENDMENT
TO
AGREEMENT FOR PROFESSIONAL SERVICES
BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
AND
HDR ENGINEERING, INC.**

THIS SEVENTH AMENDATORY AGREEMENT is made and entered into this 12th day of May 2009, by and between the Three Rivers Levee Improvement Authority, (“TRLIA”), a California Joint Powers Authority, and HDR Engineering, Inc. (“CONSULTANT”).

WHEREAS, TRLIA and CONSULTANT entered into an agreement on December 13, 2005 to provide professional services for Engineering Design and Environmental Studies for Phase 4 Levee Repairs - Upper Yuba River, Continuation of Phase 2 Construction Management (2006), and FEMA Certification of Contract Work (“Agreement”);

WHEREAS, a FIRST AMENDATORY AGREEMENT, executed February 14, 2006, increased the maximum not to exceed contract fee from \$2,580,038 by \$118,955 to \$2,698,993; and

WHEREAS, a SECOND AMENDATORY AGREEMENT, executed March 7, 2006, increased the maximum not to exceed contract fee from \$2,698,993 by \$117,649 to \$2,876,642; and

WHEREAS, a THIRD AMENDATORY AGREEMENT, executed August 8, 2006, increased the maximum not to exceed contract fee from \$2,876,642 by \$661,193 to \$3,537,835; and

WHEREAS, a FOURTH AMENDATORY AGREEMENT, executed October 16, 2007, increased the maximum not to exceed contract fee from \$3,537,835 by \$280,000 to \$3,817,835; and

WHEREAS, a FIFTH AMENDATORY AGREEMENT, executed August 5, 2008, increased the maximum not to exceed contract fee from \$3,817,835 by \$954,524 to \$4,772,359; and

WHEREAS, a SIXTH AMENDATORY AGREEMENT, executed September 9, 2008, extended the time of services rendered to December 31, 2009; and

WHEREAS, TRLIA and CONSULTANT desire to amend Agreement;

NOW, THEREFORE, TRLIA and CONSULTANT agree as follows:

- 1. Exhibit A of AGREEMENT shall be amended to perform those additional services as described in Exhibit A to this SEVENTH AMENDMENT.**
- 2. Article 2 of AGREEMENT shall be amended to extend the Termination Date of the Agreement to December 31, 2010.**
- 3. ATTACHMENT A, Provision A.2 of the Agreement shall be revised to increase the time of services rendered to December 31, 2010.**

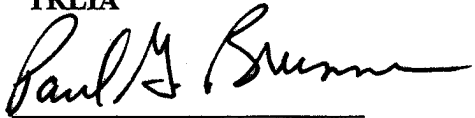
4. Attachment B, Provision B.1 of the Agreement shall be revised to increase the maximum not to exceed contract fee by \$2,416,874 from \$4,772,359 to

\$7,189,233

All other terms and conditions contained in AGREEMENT shall remain in full force and effect.

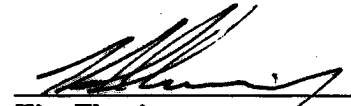
This Amended agreement is hereby executed on this 12th day of May, 2009.

“TRLIA”



Paul G. Brunner
Executive Director

“CONSULTANT”



Tim Fleming
Senior Vice President

ATTEST:
DONNA STOTTLEMEYER
CLERK OF THE BOARD



APPROVED AS TO FORM:



ANDREA CLARK
GENERAL COUNSEL

EXHIBIT A-1

Scope of Work

February 23, 2009

**Phase 4 Levee Improvements – Yuba River South Levee
Slope Flattening Project (HWY 70 to UPRR)**

**Three Rivers Levee Improvement Authority (TRLIA)
Marysville, California**



HDR

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

PROJECT OVERVIEW

1.0 Project Background

Subsequent to the 1997 flood, it was determined that the Yuba River South Levee in the reach between Highway 70 and the Union Pacific Railroad (PLM 0.3 to 0.9) required remediation to enhance levee stability and reduce through and under seepage. During construction of the remediation project (primarily slurry walls and seepage berms), it was noted that the waterside slope of the levee was steeper than 3 on 1 in several locations while other sections were flatter than 3 on 1.

Current DWR criteria requires levees providing protection to urban areas to have 3 on 1 waterside slopes. To comply with this standard, the sections of waterside levee slope that are currently steeper than 3 on 1 in this reach need to be modified.

2.0 Project Services

The services to be provided to the TRLIA under this Task Order include: topographic data acquisition, preliminary engineering and analysis; preparation of Technical Memo; development of final construction documents (plans, specifications, and construction cost estimate); preparation of Basis of Design documents; and support during bidding.

3.0 Project Requirements (HWY 70 to UPRR - Flatten Waterside Levee Slope)

3.1. Research and Acquire Existing Levee Topographic Data - CONSULTANT to research availability of and acquire existing levee topographic data for subject levee reach (potential sources: USACE Comprehensive Study and project O&M files; DWR / CVFPB project files; RD 784 files; County files). **COMPLETED**

3.2. Identify Levee Sub Reaches with WS Slopes steeper than 3 on 1 - CONSULTANT to review topographic data acquired to determine sub reaches that have water side levee slopes steeper than 3 on 1. **COMPLETED**

3.3. Develop Technical Memo Addressing Findings and Recommendations - CONSULTANT to develop a TM citing topographic data found, specifically identify areas that require slope flattening in narrative format and on a plan view of the levee reach, recommended approach to flatten levee slope, parametric cost estimate to accomplish the flattening, and any follow on actions required to support development of PS&E for a levee flattening contract. **COMPLETED**

3.4 Acquire Detailed Surveys of Levee Sub Reaches Identified in 3.2. - CONSULTANT to acquire detailed surveys of the areas in which levee water side slope flattening is required. **TO BE ACCOMPLISHED**

3.5 Develop PS&E to Provide 3 on 1 WS Levee Slopes - CONSULTANT to develop PS&E for a construction contract to accomplish required waterside levee slope flattening.

TO BE ACCOMPLISHED

The levee slope flattening project will stretch over approximately 3,050 feet (exact reshaping limits to be determined by consultant based on the detailed survey information to be acquired). The areas of levee slope to be reshaped shall be cleared and grubbed of all vegetation. These surfaces shall then be appropriately prepared (over excavated, to allow sufficient width for efficient construction placement, and disked, to allow for integration of existing levee material with new fill material) to ensure effective placement of fill material to allow for a fully integrated composite levee section when construction is complete. Material similar to that comprising the existing levee section will be used to reshape the slopes requiring modification. Completed areas of slope reshaping will be hydroseeded. Following the levee reshaping effort, the levee crown access road will be resurfaced with a minimum of 4 inches of AB material.

Deliverables:

- 30% PS&E Documents (6 copies)
- 90% PS&E Documents (6 copies)
- 100% PS&E (RTA) Documents (6 copies)

4.0 Project Schedule

30% Design Submittal - April 24, 2009

90% Design Submittal - June 26, 2009

100% Design Submittal (RTA Documents) - July 31, 2009

EXHIBIT A-2

Scope of Work

April 16, 2009

**Phase 4 Levee Improvements – Yuba River South Levee
Levee Improvement Project
(Simpson Lane to the Yuba Goldfields)**

**Three Rivers Levee Improvement Authority (TRLIA)
Marysville, California**



LEVEE IMPROVEMENT AUTHORITY

HDR

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

PROJECT OVERVIEW

1.0 Project Background and Purpose

Subsequent to the 1997 flood, it was determined that the Yuba River South Levee in the reach between Highway 70 and Simpson Lane (PLM 0.3 to 2.2) required immediate remediation to enhance levee stability and reduce through and under seepage in order to preclude a future levee breach similar to the one that occurred in 1986 in this area. The needed levee remediation in this reach was completed in 2006. From Hwy 70 to the Union Pacific Railroad, shallow slurry walls and extensive seepage berms were placed. From the Union Pacific Railroad to Simpson lane, a 75 foot deep slurry wall was constructed. Considering the type of material used to construct the entire Yuba River South Levee, it is generally considered likely that the remainder of the levee that has not been remediated will require similar upgrades in some reaches. Insufficient analyses have been accomplished to date along the remainder of the levee (Simpson Lane to the Yuba Goldfields; PLM 2.2 to 6.1, approximately 20, 159 feet) to specifically identify remediation reaches, support development of the necessary decision documents and subsequent construction documents required to move forward with any required repairs. The purpose of this tasking is to accomplish the necessary geotechnical explorations and analyses and the follow on plans and specifications to support construction of a levee remediation / improvement project in this reach.

To remediate the levee from Simpson Lane to the Yuba Goldfields, a target project is proposed that would provide for a minimum of 200 year level of protection (level of protection currently required by the California Department of Water Resources [DWR] for levees protecting urban areas). The project will include construction of a 75 foot deep slurry wall through the levee and the underlying sand and gravel layers in the foundation to preclude levee through and under seepage. The crown of the levee will be replaced with a clay cap covering the slurry wall; it will be topped with a trafficking layer of aggregate base rock. Additionally, where existing waterside and landside levee slopes are encountered that are steeper than 3 on 1 and/or with crests narrower than 20 feet, these sections will be reshaped to 3 on 1 with a minimum crest width of 20 feet (current DWR criteria requires levees providing protection to urban areas to have a crown width of 20 and a minimum of 3 on 1 side slopes). An erosion resistant mulch with grass seed will be sprayed over the reshaped levee slopes. An erosion protection system will also be placed along the toe of the waterside slope for approximately 1,500 feet at the upstream end of the levee (this reach experienced erosion damage from flows escaping the Yuba Goldfields during the 1997 flood). The Levee Improvement Project will extend over approximately a 20,159 foot reach (3.8 miles).

2.0 Project Criteria / Standards

The analyses, studies and designs to be performed under this tasking shall be accomplished in accordance with the standards and practices of the following agencies and laws:

- a. USACE
- b. California Department of Water Resources (DWR)
- c. California Central Valley Flood Protection Board (CVFPB)
- d. USFWS
- e. California Department of Fish and Game (DFG)
- f. NEPA and CEQA guidelines

3.0 Project Services

The services to be provided to TRLIA under this Task Order include: topographic data acquisition (as required); geotechnical explorations and lab testing; geotechnical analyses and recommendations; Geotechnical Problem Identification Report (PIR); Geotechnical Alternatives Analysis (AA) Report; Geotechnical Basis of Design Report (GBODR); preliminary engineering studies and analyses; development of preliminary and final construction documents (plans, specifications, and construction cost estimate); development of the Basis of Design Report (BODR); support during bidding; and development of all environmental evaluations, consultations, documents, and permits to satisfy project NEPA and CEQA requirements and State and Federal permitting requirements. All deliverables to undergo internal Quality Control (QC) and Independent Technical Review (ITR) procedures performed by the consultant prior to submission to TRLIA and other agencies for their external review. The QC and ITR procedures are to be similar to those followed by the USACE.

4.0 Project Requirements (Simpson Lane to Yuba Goldfields - Levee Improvements)

4.1. Research and Acquire Existing Levee Topographic Data - Consultant to research availability of and acquire existing levee topographic data for subject levee reach as required (potential sources: USACE Comprehensive Study and project O&M files; DWR / CVFPB project files; RD 784 files; County files). **COMPLETED, prior tasking**

4.2 Geotechnical Explorations, Lab Testing and Problem Identification Report (PIR) - CONSULTANT to drill and log exploration holes every 1,000 feet along the levee alignment (at centerline and landside toe), perform required labs testing, analyze data, and prepare a PIR citing levee and foundation problems identified and defining alternative corrective methods. **IN PROGRESS, prior tasking**

4.3 Geotechnical Alternatives Analysis (AA) - Consultant to perform additional geotechnical explorations and lab testing identified as needed in the PIR. Perform detailed analyses of potential alternative levee remediation methods. Propose best alternatives to be further analyzed and defined in follow on GBODR. **REQUIRED**

4.4 Geotechnical Basis of Design Report (GBODR) - Consultant to perform final detailed geotechnical analyses on recommended levee remediation measures and provide the detailed geotechnical documentation and criteria to be followed during preparation of the construction Plans and Specifications. **REQUIRED**

4.5 Prepare Plans, Specifications and Cost Estimates (PS&E) - Consultant to prepare 30%, 90% and 100% (RTA) PS&E documents for the project. This effort to include identifying impacted utilities and encroachments and incorporating required relocation plans in the construction documents. This effort is also to include identification of Real Estate take requirements necessary to allow the project to be constructed (Real Estate appraisal and acquisition efforts to be accomplished by others). **REQUIRED**

4.6 Environmental Studies, Documents and Permits - Consultant to accomplish the complete range of environmental evaluations, consultations, document preparation, and permit development to satisfy project NEPA and CEQA requirements and State and Federal permitting requirements. **REQUIRED**

Deliverables:

- Geotechnical AA (6 copies)
- Geotechnical GBODR (6copies)
- 30% PS&E Documents (6 copies)
- 90% PS&E Documents (6 copies)
- 100% PS&E (RTA) Documents (6 copies)
- Environmental Documents (Copies as required)
 - EIS/EIR
 - Section 404 Permit
 - Section 408 Permit
 - Section 401 Permit
 - Streambed Alteration Agreement

5.0 Project Schedule

- Geotechnical AA - July 24, 2009
- Geotechnical GBODR - August 28, 2009
- 30% PS&E Submittal - October 10, 2009
- 90% PS&E Submittal - March 26, 2010
- 100% PS&E Submittal (RTA Documents) - June 4, 2010
- Final Environmental Documents and Permits - June 2, 2010

