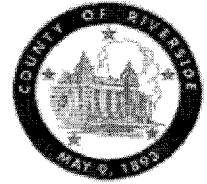


Departmental Concurrence

**SUBMITTAL TO THE BOARD OF SUPERVISORS  
 COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

223 A



**FROM:** TLMA - Transportation Department

**SUBMITTAL DATE:**  
 June 10, 2010

**SUBJECT:** Amendment No.1 to the Engineering Services Agreement for Interstate 15 at Clinton Keith Road Interchange.

**RECOMMENDED MOTION:** That the Board of Supervisors:

1. Ratify Amendment No.1 to the Engineering Services Agreement between the County of Riverside Transportation Department and URS Corporation for Interstate 15 at Clinton Keith Road Interchange, and;
2. Authorize the Chairman of the Board to execute the same.

**BACKGROUND:** The Clinton Keith Road Interchange at Interstate 15 experiences significant congestion during peak hour traffic. The Interchange capacity is exceeded. Several smaller

Patricia Romo  
 Deputy Director of Transportation

*Patricia Romo*  
 Juan C. Perez  
 Director of Transportation

(Continued On Attached Pages)

<b>FINANCIAL DATA</b>	Current F.Y. Total Cost:	\$ 589,771	In Current Year Budget:	Yes
	Current F.Y. Net County Cost:	\$ 0	Budget Adjustment:	No
	Annual Net County Cost:	\$ 0	For Fiscal Year:	2009/10
<b>SOURCE OF FUNDS:</b> W.O. No. A2-0264 - SW Area RBBD Settlement Agreement Funds (City of Murrieta) (50%), SW Area RBBD (50%)				Positions To Be Deleted Per A-30 <input type="checkbox"/>
				Requires 4/5 Vote <input type="checkbox"/>

**C.E.O. RECOMMENDATION:**

APPROVE  
 BY: *Tina Grande*  
 Tina Grande

County Executive Office Signature

Dept't Recomm.:  Consent  Policy

Per Exec. Ofc.:  Consent  Policy

Prev. Agn. Ref. 5/4/04 (3.33) | District: 1 | Agenda Number:

ATTACHMENTS FILED  
 WITH THE CLERK OF THE BOARD

3.41

The Honorable Board of Supervisors

RE: Amendment No.1 to the Engineering Services Agreement for Interstate 15 at Clinton Keith Road Interchange.

June 10, 2010

Page 2

projects were implemented between 2000 and 2005 to improve the traffic operations in the interchange and the vicinity until the much needed interchange improvements are constructed. Signals were constructed and the ramps were widened. Roadway widening improvements were constructed on Clinton Keith Road leading up to the interchange. A dedicated right turn lane into the northbound on ramp has been completed. On May 4, 2004, the Board of Supervisors executed an agreement with URS Corporation to provide engineering and environmental services for improving the existing interchange. Since then, the County staff and the Design Consultant have been working rigorously for the expeditious delivery of the interchange improvement project through the ever-evolving landscape of changing Federal and State requirements. Environmental and design work are now nearing completion and we expect to advertise for construction in Spring 2011.

Amendment No. 1 addresses the increased scope of work that became necessary to complete the engineering and environmental documents for this project. Primary factors include:

- Additional detailed plans for stage construction were required by Caltrans as well as plans for a traffic monitoring station and ramp metering.
- Water quality requirements for treating run-off have increased since the project was initiated, including the provision of permanent filtration measures.
- Consultant performed additional survey work that was originally contemplated would be done by County crews which were unavailable due to other projects.
- Caltrans is reverting to English Unit System. This required some project documents to be prepared in dual units, while converting others from Metric to English Unit System.
- Since the total project cost is estimated to exceed \$20,000,000, a Value Analysis to validate the interchange design approach is added as required by FHWA guidelines.
- Caltrans introduced new guidelines and requirements for the preparation of plans and reports in the areas of bridge design, pavement design, storm water pollution control, right of way documentation, and geotechnical design.
- Several plan sheets were added for bridge design details, electrical design, replacement planting, and storm water pollution and erosion control.

Consultant's cost proposal to address these scope changes has been negotiated down by \$52,316 to \$589,771.

#### **Recommended Contract Budget**

Current Contract Amount:	\$1,587,736
<b>Recommended Amendment No.1:</b>	<b><u>\$ 589,771</u></b>
Total Contract Amount:	\$2,177,507

The details of the modified scope and the relevant fee proposal are provided in the Attachment A to the Amendment No.1. It should be noted that the overall cost of engineering and environmental services, as a percentage of the estimated cost of construction, is still well within industry standards.

AMENDMENT 1

AMENDMENT TO AGREEMENT BETWEEN

THE COUNTY OF RIVERSIDE AND URS CORPORATION

FOR ENGINEERING SERVICES ON INTERSTATE 15 AT CLINTON KEITH ROAD INTERCHANGE

THIS AMENDMENT (hereinafter the "Amendment") to an agreement is made and entered into as of this \_\_\_\_\_ day of \_\_\_\_\_, 2010, by and between the County of Riverside, a political subdivision of the State of California (hereinafter the "COUNTY"), and URS CORPORATION (hereinafter "ENGINEER").

RECITALS

- A. COUNTY and ENGINEER have entered in an agreement entitled "Engineering Services Agreement for Interstate 15 at Clinton Keith Road Interchange between County of Riverside • Transportation Department and URS Corporation" that is dated May 4, 2004 (hereinafter the "Agreement"). The Agreement provides the terms and conditions, scope of work, schedule and budget for the performance of professional and technical services necessary to prepare an environmental document, plans, specifications and estimates to provide improvements to the existing interchange at Clinton Keith Road and Interstate 15.
B. The parties desire to amend the original Agreement dated May 4, 2004 to extend the expiration date, modify the scope of services to be provided by the ENGINEER and increase the contract budget.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants hereinafter contained, the parties agree as follows, effective as of December 31, 2008:

- 1. Appendix C • Article CV of the original Agreement is amended for increasing the current contract budget of \$1,587,736 by \$589,771 to \$2,177,507 as provided below:
• Increase the Phase II budget by the amount of \$222,627 to \$475,894 for the preparation of a Project Report (PR) and an Environmental Document (ED).
• Increase the Phase III budget by the amount of \$367,144 to \$1,213,729 for the preparation of Plans, Specifications, and Estimates (PS&E).
• The existing budget in the amount of \$19,499 for Construction Bid Support and the existing budget in the amount of \$87,515 for Construction Support shall be moved to contingency reserve. These funds shall be spent only upon written authorization by the COUNTY's Project Manager.

The scope of work and the fee proposal for this project were originally developed in 1999 and subsequently

**Interstate 15 at Clinton Keith Road Interchange**

1 updated in 2003. Since then, several Federal Highway Administration (FHWA) and Caltrans initiated changes  
2 were implemented to the environmental clearance procedures and project design guidelines resulting in  
3 significant modifications to the scope, budget and schedule of the Clinton Keith Road/I-15 Interchange  
4 Improvements project. Detailed descriptions of the extra work and the summaries of the requested and  
5 recommended budget adjustments are provided in attachment "A" of this Amendment.

6 2. Appendix B • Article BI of the original Agreement is amended for extending the terms of the existing  
7 agreement to June 30, 2013. All covenants set forth in the original Agreement and as modified in this  
8 Amendment shall be completed by June 30, 2013.


9 3. Except to the extent specifically modified or amended hereunder, all of the terms, covenants and conditions of  
10 the original Agreement shall remain in full force and effect between the parties hereto.

11 IN WITNESS HEREOF, the parties hereto have caused this Amendment to the Agreement to be duly executed  
12 this day and year first written above.

1 APPROVALS

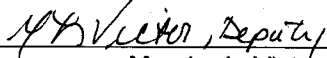
2 COUNTY Approvals

3 RECOMMENDED FOR APPROVAL:

4  
5  Dated: 5/25/10

7 JUAN C. PEREZ  
8 Director of Transportation

10 APPROVED AS TO FORM:

11  
12  
13  Dated: 6/8/10  
14 Marsha L. Victor

14 PAMELA J. WALLS  
15 County Counsel

17 APPROVAL BY THE BOARD OF SUPERVISORS

20 \_\_\_\_\_ Dated: \_\_\_\_\_

21 \_\_\_\_\_  
22 PRINTED NAME  
23 Chairman, Riverside County Board of Supervisors


24 ATTEST:

27 \_\_\_\_\_ Dated: \_\_\_\_\_

28 KECIA HARPER-IHEM  
29 Clerk of the Board of Supervisors (SEAL)

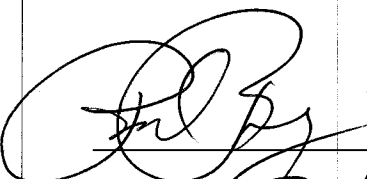
ENGINEER Approvals

ENGINEER:

 Dated: 5/5/10

JEFF CHYNOWETH  
PRINTED NAME  
Vice President  
TITLE

ENGINEER:

 Dated: 5/5/10

PAUL R. [unclear]  
PRINTED NAME  
Vice President  
TITLE

**ATTACHMENT A**

**I-15/CLINTON KEITH ROAD INTERCHANGE**

**AMENDMENT NO. 1**

**SUMMARY, SCOPE OF SERVICES AND FEE**

**I-15/CLINTON KEITH ROAD INTERCHANGE  
 AMENDMENT NO. 1 SUMMARY**

Extra Work Item	Reason for Extra Work	URS Hours	Costs Including Subs*
<b>Phase 2 - PR &amp; ED</b>			
2.1 Value Analysis	The County requested URS to add Value Management Strategies to the team and perform Value Analysis per Caltrans guidelines for large projects.	108 (VMS hours not included)	\$57,016
2.2 Conversion from Metric Units to English Units	The project was originally prepared in metric units per Caltrans standards. Caltrans revised its requirements and dictated that any project in which the PS&E would be approved after March 2007 would be in English units.	128	\$16,201
2.3 Life Cycle Cost Analysis	Caltrans currently requires the preparation of a Life Cycle Cost Analysis for all projects of this nature. The analysis will compare pavement types (flexible versus rigid) and pavement design lives (20 years versus 40 years) for the mainline, ramps and Clinton Keith Road.	134	\$19,349
2.4 Positive Location (Potholing)	URS will use non-destructive equipment to positively identify the location of underground utilities at twelve locations.	18 (Sub hours not included)	\$21,116
2.5 Additional NEPA Environmental Document Preparation and Coordination	URS originally prepared a NEPA Programmatic Categorical Exclusion per the current guidelines at the time. After SAFETEA-LU and NEPA delegation came into effect, URS prepared a Section 6005 CE and other supporting documents per Caltrans direction.	56	\$10,160
2.6 Initial Site Assessment Report	Caltrans required the preparation of an updated Initial Site Assessment Report.	70	\$9,434
2.7.1 Coordination with SCAG's TCWG	Caltrans required that the project be considered before SCAG's Transportation Conformity Working Group to determine if the project is a Project of Air Quality Concern as it relates to PM2.5 and PM10.	33	\$6,078
2.7.2 Preparation of Air Quality Conformity Analysis Report	Caltrans and FHWA require the preparation of an Air Quality Conformity Analysis Report for projects with a Section 6005 NEPA CE.	72	\$10,298
2.7.3 Preparation of Additional Air Quality Analysis	The required analysis of PM2.5, PM10, diesel toxics and mobile source air toxins was not considered in the original scope of work.	51	\$7,530
2.8 Biological Resource Technical Studies and Permitting	A Natural Environment Study (Minimal Impacts) and MSHCP Consistency report have been prepared per Caltrans/County requirements. These reports were outside the original scope of work. In addition, the "Rapanos" court decision increases the issues associated with permitting the project.	186	\$25,346
2.9 Noise	After extensive coordination between URS, the County and Caltrans, URS prepared a memorandum describing why the new requirement of a Noise Abatement Decision Report was not required for this project. The memorandum was approved by Caltrans.	30	\$5,658
2.10 Additional IS/MND (Aesthetics) Processing	The County requested that URS prepare a letter, for the County's use, that noted the County's good-faith and thorough efforts to address the Caltrans aesthetic-related	44	\$8,053

	comments on the project. In addition, the County requested that URS obtain copies of previously approved CEQA and NEPA documents through the District Public Affairs Office.		
2.11.1 Air Quality Study Update	Caltrans required the previously approved Air Quality Study be updated to reflect the new existing traffic data, more recent air quality background information, a qualitative Climate Change (Greenhouse Gas Emissions) analysis and other data.	54	\$7,614
2.11.2 Supplemental Air Quality Study Memorandum	Caltrans required the preparation of a Supplemental Air Quality Study Memorandum that addresses the updated existing traffic data (2009) that was generated for the project.	29	\$4,710
2.11.3 Supplemental Noise Study Report Memorandum	Caltrans required the preparation of a Supplemental Noise Study Report Memorandum that addresses the updated existing traffic data (2009) that was generated for the project.	21	\$3,884
2.11.4 IS/MND Update to Account for Updated Existing Traffic and Air Quality Study	Caltrans required the previously approved IS/MND be updated to include the updated existing traffic data, updated accident data and updated air quality data including a qualitative climate change analysis.	50	\$8,187
2.12 Department of Fish and Game Filing Fee	To expedite processing the approved environmental document with the State Clearinghouse, County directed the consultant to pay the environmental filing fee of \$1,993 to the State Department of Fish and Game at the time of filing the Notice of Determination.	0	\$1,993
<b>Phase III PS&amp;E</b>			
3.1 Mapping and Survey	The URS team provided updated topographic mapping in English units for use in the PS&E per Caltrans requirements. In addition, detailed survey was performed by the URS team (County originally planned to perform detailed survey).	16 (Psomas hours not included)	\$72,397
3.2 Transportation Management Plan (TMP)	Caltrans now requires the preparation of a TMP for this project, which was not included in the original scope of work. The TMP outlines the cost, scope, strategies and schedule of activities required to mitigate construction and traffic related impacts for each stage of the project construction.	276	\$36,496
3.3 Electrical and Stage Construction Plans	<p>The original fee proposal for Electrical design was based on an assumption of 12 electrical sheets. The current plan set has a total of 23 electrical sheets. Therefore, 11 new sheets have been developed. The increase in sheets is related to additional signal sheets, additional ramp metering sheets, an additional Traffic Monitoring Station modification sheet and an additional Ramp Metering detail sheet.</p> <p>The original fee proposal for Stage Construction was based on 6 stage construction sheets. The current plan set has 24 stage construction sheets. Therefore, 18 new sheets have been developed. At the time of the original fee proposal, the Caltrans expectation was that stage construction concepts were provided in the plans, but not the detailed stage construction/traffic handling plans that are now required.</p>	412	\$54,359



3.4 Bridge Design	The bridge design costs have increased due to the introduction of Load and Resistance Factor (LRFD) design, a non-symmetrical widening, seismic retrofit requirements, very tight vertical clearance constraints, the conversion from metric to English units, the new requirement for bridge site data submittals and the addition of a structurally designed headwall to the project.	696	\$99,323
3.5 Permanent Treatment BMP Design	The San Diego Regional Water Quality Control Board has recently demanded that 100% of the runoff be treated instead of the typical "maximum extent practicable". This will complicate the drainage design and the use of extensive permanent water quality BMPs, potentially including Austin Sand Filters, is required. In addition, a new Caltrans Construction General Permit takes effect on July 1, 2010, which will affect the temporary construction site BMPs noted on our PS&E package.	144	\$20,494
3.6 Erosion Control Plans	Caltrans requires the preparation of Erosion Control Plans as part of the PS&E package. These were not included in the original scope of work. The 180 additional hours in our Amendment is based on 8 sheets (7 Erosion Control Plans and 1 Erosion Control Details) at 22.5 hours/sheet.	180	\$23,832
3.7 Replacement Planting and Irrigation Plans	Caltrans Landscape Architecture unit is requiring the preparation of Replacement Planting and Irrigation Plans as part of the PS&E package. These were not included in the original scope of work. The 216 additional hours in our Amendment is based on 8 sheets (4 Planting Plans and 4 Irrigation Plans) at 27 hours/sheet.	216	\$27,747
3.8 Materials Report	Caltrans requires the preparation of a Materials Report as part of the PS&E package. This was not included in the original scope of work.	120	\$17,371
3.9 Infiltration Testing	Caltrans requires infiltration testing to confirm that unsuitable soils exist for infiltration basins. This testing was not included in our original scope of work.	80	\$15,125
	<b>TOTAL</b>	<b>3,224</b>	<b>\$589,771</b>

\* Costs include labor and direct expenses.

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
**AMENDMENT NO. 1**  
**SCOPE OF SERVICES**

Amendment No. 1 involves revisions and/or additions to Phase II (Project Report and Environmental Document) and Phase III (Plans, Specifications and Estimate) of the original scope of work as described below.

**2.1 Value Analysis (VA)**

The VA coordinator will assist with preparing and distribution a VA Study for the project.

The VA Study will comply with NHS VE mandate and follow the Caltrans VA methodology as outlined in the Chapter 19, "Value Analysis" of the Project Development Procedures Manual (PDPM) and detailed in the Caltrans VA Team Guide and Report Guide – Third Editions, April 2003. VA studies identify and evaluate alternative project solutions and provide recommendations to decision-makers.

The VA Study is to follow the activities as defined in the Caltrans VA Activity Chart. The list of VA Study participants will be developed by Caltrans. The study is anticipated to be five days. A pre-study teleconference will be scheduled no later than the week prior to the start of the study. Once the Draft report has been reviewed the project stakeholders, an implementation meeting will be conducted to resolve the disposition of the VA Alternatives presented in the report.

The required services are to lead a VA study of the above-described project. The scope of the work shall include but is not limited to the following:

- Provide a qualified, independent Certified Value Specialist (CVS) team leader to lead a VA study in accordance with Caltrans value methodology.
- Provide VA study documentation in accordance with the Caltrans VA Report Guide and this task order.
- Provide traffic technical team member (URS)
- Conference rooms will be provided by Caltrans or the County of Riverside.
- Ensure that applicable data and correspondence, any other relevant information necessary for the VA study is collected, developed and distributed.
- Facilitate VA Team Meetings.

The VA Team Leaders are responsible for the following:

- Leading pre-study meeting/s. Attendance should include representatives from Caltrans, URS, Riverside County Transportation Department, the Caltrans DVAC, project manager and key project development team staff,

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
**AMENDMENT NO. 1**  
**SCOPE OF SERVICES**

key outside project stakeholders (local transportation agencies, local government, and permitting agencies) and any known VA team members.

- Develop in conjunction with Caltrans the draft VA study charter (Attachments A, B and C per the Caltrans Team Guide).
- Complete the Preliminary VA Report with input/review of VA Team and technical reviewers in accordance with the VA Report Guide – Third Edition and with the following items:
  - A distribution list for the VA reports must be developed with the Caltrans Project Manager.
  - Submit Preliminary VA Report; no more than 2-weeks following Initial VA Presentation, as specified in the report distribution list.
  - The preliminary report should include hardcopy distribution. Copies of the reports should be distributed to the VA team, key technical reviewers and the project stakeholders.
- Coordinate with Riverside County Transportation Department, URS and Caltrans on the project stakeholders responses to the preliminary VA report and prepare for an implementation meeting to resolve the disposition of the VA alternatives, finalize the VA study reportables (costs, performance and value indices).
- Submit Final VA Report as specified in Caltrans VA Report Guide – Third Edition. Report should be submitted no more than 3 weeks following VA Final Presentation. Final VA report should also include an electronic copy in PDF format of the entire report and a separate file in excel format of the VA study summary report.
- Submit electronic copies of the updated VA study summary reports and updated Executive Summary as needed to document the resolution of conditionally approved alternatives as specified in the Final VA Report to the Caltrans PM, DVAC and the HQ VA Branch.

The VA coordinator shall submit progress reports, and meet with Riverside County Transportation Department, as needed, to discuss progress on the study. The VA coordinator shall schedule and facilitate an implementation meeting at a date and time to be determined by the Riverside County Transportation Department, URS and Caltrans Project Manager.

URS staff will participate in the appropriate VA Study meetings, provide relevant information to the team and evaluate recommendations of the VA Study, as necessary. A URS traffic engineer was a member of the VA team for the week, the URS PM attended one day and the URS project engineer attended three days.

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
**AMENDMENT NO. 1**  
**SCOPE OF SERVICES**

**2.2 Conversion From Metric Units to English Units**

The project was originally developed using metric units per Caltrans' requirements. During the PA/ED phase of the project, Caltrans revised its requirements and dictated that any project in which the PS&E will be approved after March 2007 would need to be in English units. It was determined that the PS&E for this project would be in English units. It was also determined that the following documents would have dual units: Geometric Approval Drawings (Layouts, Typical Cross Sections and Profiles) and Environmental Document.

**2.3 Life Cycle Cost Analysis**

Beginning July 1, 2007, Caltrans requires a Life Cycle Cost Analysis (LCCA) for all projects involving pavements that are done on the State Highway System. The LCCA is an analytical technique that uses economic principles in order to evaluate long-term alternative pavement options. Relevant costs included in the LCCA are initial construction (including project support), future maintenance and rehabilitation, total agency costs and user costs (time and vehicle costs). Caltrans requires the use of *RealCost*, a program developed by the Federal Highway Administration, in the development of the LCCA. *RealCost* requires a significant amount of input values. It is anticipated that the following alternatives will be compared to determine the most appropriate alternative for the ramps and Clinton Keith Road:

- Pavement types (flexible versus rigid)
- Pavement design lives (20 years versus 40 years)

It was agreed at our PDT meeting held on September 23, 2009 that an LCCA would not be performed for the mainline auxiliary lanes since the local agency is already proposing to build concrete auxiliary lanes and shoulders to match the existing concrete mainline. Subsequently, it was agreed that limited mainline analysis would be performed.

Additional information on the LCCA procedures can be found at the following website: [www.dot.ca.gov/hq/esc/Translab/ope/LCCA.html](http://www.dot.ca.gov/hq/esc/Translab/ope/LCCA.html).

It is anticipated that there will be two rounds of Caltrans reviews.

**2.4 Positive Location (Potholing)**

Expose the top of underground utility facilities using non-destructive digging equipment at twelve (12) locations. The existing surface condition for this assignment includes asphalt concrete and native soil.

In the event that additional underground utilities are marked by Underground Service Alert and if so directed by the County's representative, additional potholing will be performed at those locations, as directed by the County, and payment will be made on a per location basis at the unit price bid.

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
**AMENDMENT NO. 1**  
**SCOPE OF SERVICES**

Extraction of soil to expose the facilities shall be performed in a damage-prevention manner to fully protect the utility facilities. For potholing at locations that have existing AC surface treatment, the surface shall be neatly core-drilled or saw-cut prior to excavation. For potholing within sidewalk or curb ramp, the contractor shall remove and properly dispose of the PCC panel, as delineated by weakened plane joints, at the location of the potholing. Disposal of excess materials shall comply with Section 7-1.13 of the State of California Standard Specifications.

Traffic control shall be furnished, installed and maintained in accordance with the WATCH manual, and as directed by the County's inspector.

The County will provide a survey crew to identify the precise location and elevation of the utility. At the County's discretion, the County may perform field measurements rather than survey. Contractor shall give County's representative a minimum of 72 hours notice of the intended time and date of potholing. Another option is for URS to provide a survey crew.

The contractor shall delineate the work area and shall notify Underground Service Alert (USA) at (800) 227-2600 in accordance with State law at least 48 hours prior to the start of work.

Excavations shall be properly backfilled and compacted to 90% relative compaction (within the pipe zone, up to 1 foot above utility), and 95% relative compaction for the remainder of the backfill, as directed by the County's inspector. An acceptable backfill option is compacted suitable material in the pipe zone, and 2-sack cement slurry to the bottom of the surface treatment. Surface treatment shall be replaced in-kind as directed by the County's inspector and as specified herein. Pavement shall be restored with compacted hot-mix asphalt concrete at least 2 inches greater than the existing pavement thickness. Portland Cement Concrete surfaces shall be restored with Class 3 PCC, at least 4 inches in thickness and no less than the thickness of the existing PCC, or as approved by the County's inspector.

The contractor shall pay its employees prevailing wages, as published by the State of California Department of Industrial Relations, for all work under the contract for which a prevailing wage decision has been issued. The contractor shall provide the County representative with certified payroll upon request.

The contract price shall include full compensation for all labor, equipment, materials and incidentals to expose the utility, including but not limited to coordination with County and utility company forces, traffic control as required and as directed by the County's representative, preparation of traffic control plans if and as required by County, backfill, compaction, and pavement restoration as required.

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
**AMENDMENT NO. 1**  
**SCOPE OF SERVICES**

**2.5 Additional NEPA Environmental Document Preparation and Coordination**

URS prepared and submitted to Caltrans for review a NEPA Programmatic Categorical Exclusion Form and Consistency Memorandum (MOU) in February 2007. Subsequently, the SAFETEA-LU NEPA Pilot Program Memorandum of Understanding became effective on July 1, 2007. Pursuant to the MOU and Section 6005 of SAFETEA-LU codified at 23 U.S.C. 327(a)(2)(A), effective July 1, 2007 FHWA has assigned, and the Department has assumed, all the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. The assignment applies to all projects on the State Highway System (SHS) and all Local Assistance Projects off the SHS within the State of California, with the exception of the responsibilities concerning certain categorical exclusions, which were assigned to the Department under the June 7, 2007 MOU, projects excluded by definition, and specific project exclusions.

Implementation of the above-reference MOU and Section 6005 of SAFETEA-LU resulted in the need for additional consultation and coordination with Caltrans regarding the type of NEPA CE applicable to this project. In addition to adding further coordination efforts, URS also had to prepare the necessary documentation pertinent to a Section 6005 NEPA CE. This includes the NEPA CE/CE Determination Form and associated NEPA CE Checklist and Air Quality Conformity CE Checklist. Additional products of NEPA delegation include the External Quality Certification Form and the Environmental Document Checklist.

**2.6 Initial Site Assessment (ISA) Report**

Preparation of an updated ISA Report per Rosanna Roa's/Caltrans e-mail direction dated November 30, 2007. Moreover, this includes the following tasks per Caltrans' direction:

- Project area site visit;
- Ordering and review of new database search (i.e., Environmental Data Resources, Inc.); and
- Updating of ISA report prepared in August 2004 to meet Caltrans reporting requirements and applicable requirements set forth in ASTM Standard Practice 1527-00 and the Caltrans Project Development Manual.

**2.7 Air Quality**

**2.7.1 Coordination with SCAG's Transportation Conformity Working Group**

The project was considered before SCAG's Transportation Conformity Working Group (TCWG) on July 25, 2006 to determine if the project is a Project of Air Quality Concern (POAQC) as it relates to PM2.5 and PM10. Effort associated with this task included coordination and preparation of SCAG's required PM10/PM2.5 Hot Spot Analysis Form

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
**AMENDMENT NO. 1**  
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(including diesel truck traffic volume development), and preparation for and attendance by one Consultant staff member at said meeting.

**2.7.2 Preparation of Air Quality Conformity Analysis Report**

Preparation of a separate/stand-alone Air Quality Conformity Analysis Report to obtain project-level conformity pursuant to Section 6005 Pilot Program under SAFETEA-LU for submittal to Caltrans and FHWA. The Air Quality Study will serve as the basis for the conformity document. It is assumed that the project-level conformity determination report will be submitted to Caltrans subsequent to approval of the Air Quality Study, and prior to approval of the final Environmental Document. It is assumed that a separate public meeting/hearing will not be held on the project-level conformity determination document.

Key components of this task include the following:

- Preparation of Air Quality Conformity Analysis Report per Caltrans template available on the Standard Environmental Reference;
- Preparation of supporting Transportation Air Quality Conformity Checklist;
- Response to comments from one (1) round of review by County; and
- Response to comments from one (1) round of review by Caltrans.

**2.7.3 Preparation of Additional Analyses for Inclusion in Air Quality Study**

Per Section H.4 of Article AIII (Planning and Project Development) of URS' originally approved scope or work/contract, it was assumed that the Air Quality Study would address Carbon Monoxide (CO) emissions only. However, proposed project improvements ultimately required Project Level PM<sub>10</sub> and PM<sub>2.5</sub> Hot Spot Analyses and analyses to address diesel toxics and mobile source air toxics (MSAT) per Caltrans direction.

**2.8 Biological Resource Technical Studies and Permitting**

Per Section H.1 of Article AIII (Planning and Project Development) of URS' originally approved scope or work/contract, it was assumed that a "Biological Review" (i.e., site visit, records search, and technical write-up included in the Environmental Document) would be conducted as part of the Preliminary Environmental Evaluation (CEQA Environmental Checklist) for this project. The results of the Biological Review was to be excerpted into the Environmental Document. This is indicative of the 26 hours that URS allotted/budgeted for the Biological Studies task for this project. To date, URS has prepared a Natural Environment Study (Minimal Impacts) [NES(MI)] and Multiple Species Habitat Conservation Plan (MSHCP) Consistency report; these reports have been

**I-15/CLINTON KEITH ROAD INTERCHANGE (04-04-010)**  
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approved by Caltrans. The MSHCP Consistency report is a new requirement that did not exist at the time the original scope of work and fee proposal were prepared. An NES(MI) was not anticipated in the original scope of work and fee proposal.

URS' is contracted to obtain all pertinent permits from the U.S. Army Corps of Engineers (USACE) (Section 404), California Regional Water Quality Control Board (Section 401), and California Department of Fish and Game (Section 1602 Streambed Alteration Agreement). Importantly, the permit applications will need to take into account the new (i.e., June 2007) USACE and Environmental Protection Agency issued Clean Water Act guidance resulting from the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*. Specifically, the requirements detailed in the June 2007 publication impact the project's permitting analysis because project proponents are now required to evaluate the larger watershed context (e.g., upstream and downstream size, in-stream flow volumes, etc.) of any potential jurisdictional feature. Further, under the *Rapanos* court decision project proponents are also obligated to conduct a "significant nexus test" to determine a project's potential effect on the chemical, physical, and biological integrity of downstream navigable waters. Accordingly, several additional dynamic physical issues must now be examined (e.g., average rainfall, ecological functions, etc.) to assess the applicability of the Corps' jurisdiction over potential waters of the U.S. in the project area.

## **2.9 Noise**

### **2.9.1 Coordination with Caltrans to Research and Address Resident Inquiry**

URS was required to coordinate with Caltrans to address an inquiry received from a potentially concerned resident who is assumed to live near the proposed project improvements. Primary efforts included meeting with Caltrans representatives, and responding to correspondence received from Caltrans and other members of the PDT regarding the results of the project-specific Noise Study Report and research regarding conditions of approval issued by Riverside County for residential developments in the project area to determine level of County-imposed noise abatement in relation to proposed interchange improvements.

### **2.9.2 Noise Abatement Decision Report**

In August 2008, Caltrans informed the County that a Noise Abatement Decision Report (NADR) was required for the project. URS and the County expended considerable effort coordinating with District 8 and Headquarters to determine if a full NADR was applicable for our project. After extensive coordination with the County and Caltrans, it was determined that the requirement for the project was a memorandum describing why a full NADR was not required (i.e. no noise abatement required for the project). URS prepared this memorandum, which was approved by Caltrans.



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**2.10 Additional IS/MND (Aesthetics) Processing**

On June 23, 2008, Caltrans District 08 Division of Environmental Planning Oversight issued comments on the third version (submitted to Caltrans on April 9, 2008) of the Administrative Draft Initial Study/Mitigated Negative Declaration (IS/MND) regarding the Interstate 15 (I-15)/Clinton Keith Road Interchange Improvement Project; all but one of the 28 comments provided were issued by the District's Landscape Architecture unit. It is important to note that all of the 27 Landscape Architecture comments issued by the District in its memorandum dated June 23, 2008 are new comments above and beyond those issued on the previous submittals of the IS/MND. Furthermore, the majority of the comments provided by the District's Landscape Architecture were substantive in nature.

At the direction of the County, URS drafted, for the County's use, a letter addressed to Caltrans to demonstrate the County's good-faith and thorough efforts to address Caltrans' aesthetic and visual resources related comments on previous versions of the Administrative Draft IS/MND. The URS-drafted letter for the County's use was e-mailed to Ms. Marcia Rose on July 23, 2008.

As part of URS' efforts to address and resolve Caltrans' above-referenced comments on the aesthetics/visual resources section of the Administrative Draft IS/MND submitted to Caltrans on April 9, 2008, the County also directed URS to coordinate with Caltrans District 08 Public Affairs Office to obtain copies of previously prepared CEQA and NEPA documents to assess levels of aesthetic / visual resources analysis required for other Caltrans-related projects. On July 23, 2008, URS submitted a request to Caltrans District 08 Public Affairs Office to obtain copies of the CEQA and NEPA documents prepared for the I-15 Northbound Truck Descending Lane and I-15/Magnolia Avenue Interchange Project. On August 5, 2008, the Caltrans District 08 Public Affairs Office responded in writing stating that it needed up to an additional 14 days to research URS' subject request. On August 11, 2008, URS placed another inquiry with Caltrans District 08 Public Affairs Office regarding the status of its request. Caltrans responded the same date wanting further clarification regarding URS' request (specifically what documents URS was requesting); such clarification was provided by URS that same date.

On August 26, 2008, URS submitted another inquiry to Caltrans District 08 Public Affairs Office to determine the status of its request for records. On September 2, 2008, URS received a copy of the IS/MND for the I-15 Northbound Truck Descending Lane Project. However, Caltrans District 08 Public Affairs Office directed URS to contact Marie Petry at Caltrans D08 Environmental to discuss its request for CEQA/NEPA documentation for the I-15/Magnolia Avenue Interchange Project. On September 3, 2008, URS placed a call to Marie Petry describing its request to obtain the CEQA and NEPA documentation for the subject project. On September 10, 2008, URS spoke with Marie Petry regarding the I-15/Magnolia Avenue Interchange Project to learn that the project had been cleared utilizing a CEQA Categorical Exemption and NEPA Categorical Exclusion. During that conversation with Marie Petry, it was understood that

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environmental technical studies, including a Visual Impact Assessment (VIA), had been prepared for the project. Per Marie Perty's direction, URS contacted Caltrans District 08 Public Affairs Office on September 11, 2008 to request a copy of the VIA for the I-15/Magnolia Avenue Interchange Project. However, on the same date Caltrans District 08 Public Affairs Office responded stating that because there were no visual impact issues on the project a VIA was not required and, therefore, not available. URS copied the County (Marcia Rose) on its reply to Caltrans District 08 Public Affairs Office acknowledging that it was understood that a VIA had not been prepared for the I-15/Magnolia Avenue Interchange Project.

In addition to the coordination provided above, URS obtained, reviewed and summarized the visual components of the following documents as part of this task:

- I-15 NB Truck Descending Lane MND (Obtained by URS)
- I-10/Ramon Drive EA/MND (Provided by County)
- I-15/Indian Truck Trail MND (Provided by County)
- I-215 (MHSR to Scott Rd) MND (Obtained by URS)
- I-215/CKR VIA Excerpts (Provided by County)

**2.11 Environmental Document and Technical Studies Update to Account for Updated Existing Traffic and Air Quality Study**

**2.11.1 Air Quality Study Update**

Per Caltrans District 8's direction, URS updated the Air Quality Study previously approved by Caltrans on September 12, 2006 to include the following:

- Updated existing (2009) traffic data;
- Updated air quality background information (i.e., air quality monitoring data);
- Updated pertinent federal and state ambient air quality standards;
- Preparation of a qualitative Climate Change analysis utilizing Caltrans' IS/EA Annotated Outline regarding preparation of such analyses;
- Revisitation and updating of the regional and local emissions analyses for Ozone, PM<sub>2.5</sub> and PM<sub>10</sub>, and also Carbon Monoxide in accordance with the *Transportation Project-Level Carbon Monoxide Protocol*; and
- Revisitation and updating of the project-level PM<sub>2.5</sub> and PM<sub>10</sub> hot spot analyses pursuant to Transportation Conformity Rule (40 CFR Parts 51 and 93) and 40 CFR 93.123(B)(1).

The updated Air Quality Study was reviewed by the County twice, and subsequently revised by URS accordingly. To date the updated Air Quality Study has been submitted to Caltrans twice, including the dates of April 29, 2009 and May 27, 2009.

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**2.11.2 Supplemental Air Quality Study Memorandum**

Per Caltrans District 8's direction, URS prepared a Supplemental Air Quality Study Memorandum (Air Memo) to address the updated existing (2009) traffic data that was generated for the project. The Air Memo was prepared to document that the results of the regional and local emissions analyses did not change since the time Caltrans approved the Air Quality Study for this project (i.e., September 12, 2006). In addition to analyzing the updated existing traffic data to confirm that such data does not affect the regional or local emissions analyses for the project, URS also documented in the Air Memo that the updated existing traffic data does not qualify the project as a Project of Air Quality Concern (POAQC) per the referenced criteria are codified at 40 CFR 93.123(B)(1)]. URS generated a total of three versions of the Air Memo, including the originally prepared memo, a second version in response to County comments, and the final (third) version taking into account comments provided by Caltrans District 8 (i.e., Olufemi Odufalo, Office Chief, Environmental Engineering). With regards to at 40 CFR 93.123(B)(1)], the Air Memo confirms that the project is not a POAQC and, therefore, does not need to be reconsidered before SCAG's Transportation Conformity Working Group.

**2.11.3 Supplemental Noise Study Report Memorandum**

Per Caltrans District 8's direction, URS prepared a Supplemental Noise Study Report Memorandum (Noise Memo) to address the updated existing (2009) traffic data that was generated for the project. The Noise Memo was prepared to document that the results of the construction and operational noise analyses included in the Noise Study Report previously approved by Caltrans on November 13, 2006 are not affected as a result of the direction by Caltrans to generate and consider the updated existing traffic data as part of the noise analysis. As documented in the Noise Memo, and subsequently concurred by Caltrans District 8 (i.e., Olufemi Odufalo, Office Chief, Environmental Engineering) via e-mail dated May 12, 2009, the updated existing traffic data does not affect the noise analysis as it relates to operation and construction of the proposed project. URS generated a total of three versions of the Air Memo, including the originally prepared memo, a second version in response to County comments, and the final (third) version taking into account comments provided by Caltrans District 8 (i.e., Olufemi Odufalo, Office Chief, Environmental Engineering).

**2.11.4 IS/MND Update to Account for Updated Existing Traffic and Air Quality Study**

Per Caltrans District 8's direction, URS updated the Initial Study/Mitigated Negative Declaration (IS/MND) previously approved by Caltrans on January 7, 2009 to include the following:

- Updated existing (2009) traffic data;
- Updated traffic accident data;

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- Updated air quality background information (i.e., air quality monitoring data);
- Updated pertinent federal and state ambient air quality standards;
- Qualitative Climate Change analysis utilizing Caltrans' IS/EA Annotated Outline regarding preparation of such analyses;
- Updated regional and local emissions analyses for Ozone, PM<sub>2.5</sub> and PM<sub>10</sub>, and also Carbon Monoxide in accordance with the *Transportation Project-Level Carbon Monoxide Protocol*.
- Updated project-level PM<sub>2.5</sub> and PM<sub>10</sub> hot spot analyses pursuant to Transportation Conformity Rule (40 CFR Parts 51 and 93) and 40 CFR 93.123(B)(1).

The updated IS/MND was reviewed by the County twice, and subsequently revised by URS accordingly. To date, the updated IS/MND has been submitted to Caltrans twice, including the dates of April 15, 2009 and May 28, 2009.

**2.12 California Department of Fish and Game Filing Fee**

To expedite processing the approved environmental document with the State Clearinghouse, County directed the consultant to pay the environmental filing fee of \$1,993 to the State Department of Fish and Game at the time of filing the Notice of Determination.

**Phase III – Plans, Specifications and Estimates**

**3.1 Mapping and Survey**

**3.1.1 Topographic Mapping**

Psomas has provided updated aerial mapping in English units within the project area. The original topographic mapping was prepared in metric units based on the standards at that time. We established survey control and locate 12 (H&V) aerial targets and 14 profile targets (V only) using a combination of both GPS and conventional survey methods.

Survey control and aerial targets were based on Riverside County Surveyor "Clinton Keith I-15 Control 19404" project dated 7/12/2004 R370 (M.R. 3-70). The datum for said project is NAD 83, Zone 6 (Horizontal), and NGVD 29 (Vertical). This will maintain consistency with the work we performed for the previous mapping efforts and for the Clinton Keith widening project easterly of the subject interchange.

The project area was targeted, flown, and mapped at a scale of 1"=50', with 2-foot contours and spot elevations on a 50-foot grid. Mapping was prepared to Caltrans standards, using traditional stereo compilation methods and was flown at the appropriate flight height to ensure that mapping will meet and/or exceed National Mapping Accuracy

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Standards. The effort included the work necessary to follow Caltrans ABC Procedures and Guidelines.

**3.1.2 Detailed Survey**

Psomas provided the following services related to capture necessary detailed survey information:

*Cross Sections:* Survey cross sections along Clinton Keith Road between Hidden Springs Road and Aria Drive (approx. 1600') at 25-foot intervals were provided.

Each section will include:

- Centerline
- Lane Lines
- Lip of Gutter
- Flowline

The two join locations at each end included the above points, together with top of curb and back of walk shots.

Surface indications of utilities were also located, including valves, vaults, paint marks, manholes, hydrants, power poles, manholes, etc. Storm drain manholes and catch basins were dipped for measurement of invert elevations.

*Bridge Clearance Survey:* Soffit elevations above each edge of traveled way (ETW) were located on the existing bridge structure. Each ETW and the inside edge of shoulder (ES) along I-15 at 25-foot intervals, 125 feet beyond the north and south side of the existing bridge were surveyed.

*Ramp Join Conditions:* Outside ETW and nearest lane line at 50-foot intervals along the I-15 mainline were surveyed. Limits will extend from the gore point of the 4 on/off ramps, to the end of the project as outlined on the map provided by URS in our March 8<sup>th</sup> meeting. The total length of the 4 segments is estimated at 8,500 feet.

*Drainage Structures:* An estimated 30 drainage structure locations along the I-15 mainline were surveyed. This includes culverts, headwalls and drop inlet structures. Top of grate and invert elevations will be measured, where accessible.

*Clinton Keith Road Centerline Establishment:* Necessary survey research was performed and a sufficient number of monuments necessary to establish the centerline of Clinton Keith Road were located. Limits extended easterly to connect to the centerline established by Psomas on the Clinton Keith widening project. The westerly limit extended 500-feet westerly of Hidden Springs Road.

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*Utility Potholing:* Psomas will provide survey services in support of the potholing done by the utility companies and/or the County. It has been assumed that this will include two separate days of potholing.

**3.2 Transportation Management Plan (TMP)**

A TMP for the proposed reconstruction of the Clinton Keith interchange with I-15 will be prepared per Caltrans requirements. The TMP will outline cost, scope, strategies and schedule of activities required to mitigate construction and traffic related impacts for each phase of the project. URS shall develop the TMP utilizing data and staging plans that have been developed as part of the design efforts. URS will use the TMP Data Sheet prepared in June 2008 as a guide in the preparation of the Final TMP.

A description of the scope related to the required work to be used for this task includes the following:

1. Prepare Draft Transportation Management Plan (TMP) – URS will prepare a Draft TMP for the project as defined above that will cover the following areas and strategies:
  - Analysis of existing conditions and construction impacts including the development of a focused traffic analysis for the interchange. The analysis will evaluate affected intersections near the vicinity of the interchange and mitigation plans for any significant impacts that are identified.
  - Traffic Analysis of staging plans
  - Identification of anticipated Traffic Delays
  - Identification of TMP Elements to mitigate impacts of construction including Public Awareness Campaign, Motorist Information, Incident Management, Construction Strategies and Alternate Routes. These elements will address use of traffic control and applicable ITS elements to manage traffic and will provide a contingency plan for construction activities.
  - Development of detailed lane closure charts.
  - Development of detailed traffic control and detour plans for alternate routes and detours if needed.
  - TMP Coordination with Caltrans and the County of Riverside.
  - TMP Budget and cost estimates
2. Revise the Draft TMP during the design Phase – URS will revise the Draft TMP based on input from the design team, Caltrans and County of Riverside. URS will review potential design changes and incorporate appropriate TMP strategies.

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3. Prepare Final Transportation Management Plan – Once URS receives agreement on the final set of edits to the plan, we will produce a final TMP for approval by County of Riverside and Caltrans.

It is assumed that Caltrans is to provide the following documents:

- Approved Lane Closure Charts
- Latest approved/recommended unit costs for TMP Elements
- Latest Caltrans TMP Preparation Guideline and District 8 supplements

It is assumed that traffic data and information from approved Traffic Impact Analysis Report will be used as basis for the TMP analysis. The effort for a TMP was not included in the original fee proposal for this project.

### **3.3 Electrical and Stage Construction Plans**

Based on recent PS&E experience with District 8, the originally proposed hours for electrical and stage construction are not sufficient to adequately prepare the PS&E package for these disciplines.

For stage construction, the level of detail and number of sheets has increased significantly versus when the original fee estimate was prepared. The original fee proposal for Stage Construction was based on 6 stage construction sheets. The current plan set has 24 stage construction sheets. Therefore, 18 new sheets have been developed. At the time of the original fee proposal, the Caltrans expectation was that stage construction concepts were provided in the plans, but not the detailed stage construction/traffic handling plans that are now required.

For electrical, the amount of detail on the electrical sheets has increased significantly versus when the original fee estimate was prepared. The original fee proposal for Electrical design was based on an assumption of 12 electrical sheets. The current plan set has a total of 23 electrical sheets. Therefore, 11 new sheets have been developed. The increase in sheets is related to additional signal sheets, additional ramp metering sheets, an additional Traffic Monitoring Station modification sheet and an additional Ramp Metering detail sheet. In addition, certain state-furnished materials requirements and processes, such as signs, LEDs and battery back-up systems have become more dependent on the Contractor and therefore the plans and special provisions preparations are more intensive.

### **3.4 Bridge Design**

#### **3.4.1 Structure Type Selection and Bridge General Plans**

The number of hours originally proposed for the Type Selection Process was inadequate for the task at hand today for several reasons:

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- **Vertical Clearance** - The available vertical clearance underneath the bridge has become more definitive after survey was done and it is now clear that the clearance is more restrictive, especially since the widening has increased by about 6 feet toward the low side (north) and providing clearance over the future lanes has become necessary. This has caused us go beyond routine assumptions regarding construction clearances and to study alternative construction means and bridge types to meet these constraints. We researched and verified the feasibility of using shallow, non-conventional falsework to meet temporary clearances over traffic during construction.
- **Non-Symmetrical Widening** - The bulk of the increase in effort for Type Selection is due to the change from what was originally considered to be essentially a symmetrical widening to the design of virtually two separate widenings. Changes in roadway geometry and more accurate survey have resulted in the two sides being not only of different width and number of girders, but more importantly, different structure depths due to minimum clearance constraints over I-15. Rather than essentially designing one structural section and using it for both sides, we now have two relatively different structures with different constraints requiring essentially separate designs.
- **Load and Resistance Factor Design** – The introduction of this design criteria and the special “Blue Sheet” requirements that California has adopted has changed what was once routine analysis into something significantly more time consuming. Efficiency has suffered and new software from Caltrans and private vendors has proven to be less than adequately supported and documented. For this reason we have been forced as of late to significantly increase our anticipated effort for bridge design and independent check.
- **Seismic Retrofit** - The original estimate of hours for Type Selection did not include adequate hours for seismic analysis under today’s guidelines. The Type Selection process should now include effort to seismically analyze the existing structure and the final widened structure. Hours for this were not estimated in the original scope. It is now typical to plan for up to 120 hours of effort for seismic analysis especially for a structure that is now comprised of three different elements; an original structure and two different flanking structures. The seismic analysis done to date did reveal an unexpected deficiency in the existing columns. The significant reinforcement in the columns results in a high plastic moment capacity with corresponding large plastic shear. The capacity to resist this plastic shear is inadequate, and retrofit of the columns appears necessary and recommended in the Type Selection and Strategy Report.
- **Bridge Site Data Submittal** – An extensive Bridge Site Data Submittal is now required prior to the submittal of the Type Selection Report.



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- **Units Conversion** – Due to Caltrans requirements, the units for this project were changed from metric to english.
- **Headwall Design** – The cross culvert outlet in the southwest quadrant was required to be a structurally designed headwall in order to minimize impact to an environmentally sensitive area.

**3.4.2 Structural Design and Calculations**

The introduction of essentially two separate structures to be designed and checked rather than one will significantly increase the effort for designing, drafting, checking and quantifying the design.

As mentioned above, and has become abundantly clear in the last several months, the introduction of Load and Resistance Factor Design adds a considerable increase in design effort, not only for our designer and checker, but we anticipate additional effort in the review and approval process we encounter with Caltrans.

Lastly, the unanticipated seismic retrofit design requirement was not included in the original scope of work.

**3.4.3 Structural Specs and Estimate**

There is a minor increase in quantity takeoff effort as mentioned above.

**3.4.4 Independent Check**

The added effort outlined above in Section 3.5.2 (Structural Design and Calculations) also applies to the independent check of the design.

**3.4.5 Draft Structures PS&E**

The overall sheet count will increase due to the retrofit design and details and will also increase due to the variation of details between the two sides of the widening. Effort will be made to duplicate details for each side of the widening.

**3.4.6 Final Structures PS&E**

The added effort outlined above in Section 3.5.5 (Draft PS&E) also applies to the Final PS&E.

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**3.5 Permanent Treatment BMP Design**

It is anticipated that the design of Austin Sand Filters may be necessary as part of the PS&E package. These are complex structures that require more effort than anticipated as part of our original fee proposal. In addition, the San Diego Regional Water Quality Control Board has recently demanded that projects like this one treat 100% of the water, which would require a more complex drainage design to accomplish.

In addition, a new Caltrans Construction General Permit takes effect on July 1, 2010, which will affect the temporary construction site BMPs noted on our PS&E package.

**3.6 Erosion Control Plans**

Erosion Control Plans were not included in our original scope of work/fee proposal. Caltrans District 8 has required that these plans will be required as part of the PS&E. The 180 additional hours in our Amendment is based on 8 sheets (7 Erosion Control Plans and 1 Erosion Control Detail sheet) at 22.5 hours/sheet.

**3.7 Replacement Planting and Irrigation Plans**

Caltrans Landscape Architecture unit is requiring that Replacement Planting and Irrigation Plans be prepared as part of the PS&E package. Plan sheets, applicable special provisions and line items in the cost estimate will be included in the PS&E. The 216 additional hours in our Amendment is based on 8 sheets (4 Planting Plans and 4 Irrigation Plans) at 27 hours/sheet.

**3.8 Materials Report**

A final Materials Report based on data collected (borings, etc) in the field is now a required component of PS&E. This report was not included in our original fee proposal.

**3.9 Infiltration Testing**

Caltrans requires infiltration testing during the PS&E phase to rule out the use of infiltration basins as a treatment BMP. We propose to perform four infiltration tests (one in each of the four infield areas of the interchange) during our other geotechnical investigation activities. We will perform the testing using the falling head method in a boring. We will drill to approximately 10 feet depth, install a perforated casing and gravel pack. We will use the drill rig to initially fill the casing with water, then come back the next day and the day after to fill the casings again with a water tank and take falling head readings. We will then calculate the infiltration rate in inches/hour and prepare a brief memo report. We propose to log the test holes and perform a gradation test on a sample from each test location. The purpose of these tests is to evaluate the potential for infiltration basins.

	PHASE I	PHASE II	PHASE III	PHASE IV	PHASE V	TOTALS
URS Corporation		\$166,706	\$300,194			\$466,901
Psomas		\$4,000	\$66,950			\$70,950
Value Management Strategies		\$38,420				\$38,420
Safeprobe		\$13,500				\$13,500
<b>TOTALS</b>		\$222,626	\$367,144			\$589,771

- Phase I:** Initial Studies & Project Study Report
- Phase II:** Project Report & Environmental Document
- Phase III:** Plans, Specifications & Estimate
- Phase IV:** Construction Bid Support
- Phase V:** Construction Support

<b>COMPANY:</b> URS Corporation	<b>SCOPE OF WORK</b> Project Summary	<b>DATE:</b> 4/16/2010	<b>REV:</b> 2
<b>PROJECT:</b> Interstate 15 at Clinton Keith Road Interchange		<b>MILESTONE/PHASE/PROJECT SUMMARY:</b> All Phases	

**DIRECT LABOR**

	FUNCTION	HOURS		RATE	AMOUNT
	Project Principal			\$85.00	
J. Chapman	Project Manager	166	@	\$76.50	\$12,699.00
J. Mills	Senior Engineer/Scientist	1046	@	\$62.00	\$64,852.00
S. Hillebrand	Project Engineer/Scientist	448	@	\$53.00	\$23,744.00
	Engineer/Scientist	934	@	\$35.00	\$32,690.00
	Technician/CADD	590	@	\$25.00	\$14,750.00
	Project Administrator	16	@	\$25.00	\$400.00
	Clerical	24	@	\$20.00	\$480.00

TOTAL HOURS 3224 TOTAL DIRECT LABOR \$149,615

**MULTIPLIERS**

ESCALATION @	(Rate)	\$3,809.44
OVERHEAD @	44.29% (of Total Direct Labor + Escalation)	\$67,957.97
PAYROLL ADDITIVES @	123.85% (of Total Direct Labor + Escalation)	\$190,021.23
<b>TOTAL MULTIPLIERS</b>		<b>\$261,789</b>

**OTHER DIRECT EXPENSES**

\*\*\* Billed at Actual Cost \*\*\*

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Mileage	400	Mile	@	\$0.550	\$220.00
Air Fare		Roundtrip			
Reproduction	1	Lump Sum	@	\$1,300.00	\$1,300.00
CADD Equipment/Software		Lump Sum			
Misc Comp/Software		Lump Sum			
Exhibits, Overnight Mail, Communication, Etc.		Lump Sum			
Testing (Geotechnical)	1	Lump Sum	@	\$2,200.00	\$2,200.00
Drilling (Geotechnical)	1	Lump Sum	@	\$2,500.00	\$2,500.00
Data Analysis (Geotechnical)		Lump Sum			
Field Supplies (Geotechnical)		Lump Sum			
Traffic Control (Geotechnical)		Lump Sum			
Traffic Counts and Expenses		Lump Sum		\$1,500.00	
Environmental Expenses	1	Lump Sum	@	\$1,993.00	\$1,993.00

TOTAL OTHER DIRECT EXPENSES \$8,213

**OUTSIDE SERVICES (w/o fee)**

COMPANY	LABOR	MULTIPLIER	EXPENSES	TOTAL
Psomas			\$70,950.00	\$70,950.00
Value Management Strategies			\$38,420.00	\$38,420.00
Safeprobe			\$13,500.00	\$13,500.00

TOTAL OUTSIDE SERVICES \$122,870

**FEES**

OUTSIDE SERVICES ADMIN FEE @	005.00% (of Total Outside Services & Outside Services Fees)	\$6,143.50
URS CORPORATION @	010.00% (of Total Direct Labor + Total Multipliers)	\$41,140.36
OUTSIDE SERVICES @	010.00% (of Total Labor + Total Multiplier for Outside Services)	
<b>TOTAL FEES</b>		<b>\$47,284</b>

**TOTAL COST \$589,771**

<b>COMPANY:</b> URS Corporation		<b>SCOPE OF WORK</b> Project Report & Environmental Document		<b>DATE:</b> 4/16/2010	<b>REV:</b> 2
<b>PROJECT:</b> Interstate 15 at Clinton Keith Road Interchange				<b>MILESTONE/PHASE/PROJECT SUMMARY:</b> Phase II	
<b>DIRECT LABOR</b>					
<b>PERSONNEL</b>	<b>FUNCTION</b>	<b>HOURS</b>	<b>RATE</b>	<b>AMOUNT</b>	
	Project Principal		\$85.00		
J. Chapman	Project Manager	74	@ \$76.50	\$5,661.00	
J. Mills	Senior Engineer/Scientist	440	@ \$62.00	\$27,280.00	
S. Hillebrand	Project Engineer/Scientist	156	@ \$53.00	\$8,268.00	
	Engineer/Scientist	294	@ \$35.00	\$10,290.00	
	Technician/CADD	88	@ \$25.00	\$2,200.00	
	Project Administrator	8	@ \$25.00	\$200.00	
	Clerical	24	@ \$20.00	\$480.00	
		<b>TOTAL HOURS</b>	1084	<b>TOTAL DIRECT LABOR</b>	\$54,379
<b>MULTIPLIERS</b>					
<b>ESCALATION @ (Rate)</b>					
<b>OVERHEAD @ 44.29% (of Total Direct Labor + Escalation) \$24,086.69</b>					
<b>PAYROLL ADDITIVES @ 123.85% (of Total Direct Labor + Escalation) \$67,350.19</b>					
<b>TOTAL MULTIPLIERS</b>					\$91,437
<b>OTHER DIRECT EXPENSES *** Billed at Actual Cost ***</b>					
<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>AMOUNT</b>	
Mileage	400	Mile @	\$0.560	\$220.00	
Air Fare		Roundtrip			
Reproduction	1	Lump Sum @	\$1,300.00	\$1,300.00	
CADD Equipment/Software		Lump Sum			
Misc Comp/Software		Lump Sum			
Exhibits, Overnight Mail, Communication, Etc.		Lump Sum			
Testing (Geotechnical)		Lump Sum	\$2,200.00		
Drilling (Geotechnical)		Lump Sum	\$2,500.00		
Data Analysis (Geotechnical)		Lump Sum			
Field Supplies (Geotechnical)		Lump Sum			
Traffic Control (Geotechnical)		Lump Sum			
Traffic Counts and Expenses		Lump Sum	\$1,500.00		
Environmental Expenses	1	Lump Sum @	\$1,993.00	\$1,993.00	
<b>TOTAL OTHER DIRECT EXPENSES</b>					\$3,513
<b>OUTSIDE SERVICES (w/o fee)</b>					
<b>COMPANY</b>	<b>LABOR</b>	<b>MULTIPLIER</b>	<b>EXPENSES</b>	<b>TOTAL</b>	
Psomas			\$4,000.00	\$4,000.00	
Value Management Strategies			\$38,420.00	\$38,420.00	
Safeprobe			\$13,500.00	\$13,500.00	
<b>TOTAL OUTSIDE SERVICES</b>					\$55,920
<b>FEES</b>					
<b>OUTSIDE SERVICES ADMIN FEE @ 5.00% (of Total Outside Services &amp; Outside Services Fees) \$2,796.00</b>					
<b>URS CORPORATION @ 10.00% (of Total Direct Labor + Total Multipliers) \$14,581.59</b>					
<b>OUTSIDE SERVICES @ 10.00% (of Total Labor + Total Multiplier for Outside Services)</b>					
<b>TOTAL FEES</b>					\$17,378
<b>TOTAL COST</b>					\$222,626

<b>COMPANY:</b> URS Corporation	<b>SCOPE OF WORK</b> Plans, Specifications & Estimate	<b>DATE:</b> 4/16/2010	<b>REV:</b> 2
<b>PROJECT:</b> Interstate 15 at Clinton Keith Road Interchange		<b>MILESTONE/PHASE/PROJECT SUMMARY:</b> Phase III	

**DIRECT LABOR**

PERSONNEL	FUNCTION	HOURS		RATE	AMOUNT
	Project Principal			\$85.00	
J. Chapman	Project Manager	92	@	\$76.50	\$7,038.00
J. Mills	Senior Engineer/Scientist	606	@	\$62.00	\$37,572.00
S. Hillebrand	Project Engineer/Scientist	292	@	\$53.00	\$15,476.00
	Engineer/Scientist	640	@	\$35.00	\$22,400.00
	Technician/CADD	502	@	\$25.00	\$12,550.00
	Project Administrator	8	@	\$25.00	\$200.00
	Clerical			\$20.00	

TOTAL HOURS	2140	TOTAL DIRECT LABOR	\$95,236
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**MULTIPLIERS**

ESCALATION @	4.00% (Rate)	\$3,809.44
OVERHEAD @	44.29% (of Total Direct Labor + Escalation)	\$43,871.29
PAYROLL ADDITIVES @	123.85% (of Total Direct Labor + Escalation)	\$122,671.05
<b>TOTAL MULTIPLIERS</b>		<b>\$170,352</b>

**OTHER DIRECT EXPENSES**

\*\*\* Billed at Actual Cost \*\*\*

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Mileage		Mile	\$0.550	
Air Fare		Roundtrip		
Reproduction		Lump Sum		
CADD Equipment/Software		Lump Sum		
Misc Comp/Software		Lump Sum		
Exhibits, Overnight Mail, Communication, Etc.		Lump Sum		
Testing (Geotechnical)	1	Lump Sum @	\$2,200.00	\$2,200.00
Drilling (Geotechnical)	1	Lump Sum @	\$2,500.00	\$2,500.00
Data Analysis (Geotechnical)		Lump Sum		
Field Supplies (Geotechnical)		Lump Sum		
Traffic Control (Geotechnical)		Lump Sum		
Traffic Counts and Expenses		Lump Sum		
Environmental Expenses		Lump Sum		

TOTAL OTHER DIRECT EXPENSES	\$4,700
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**OUTSIDE SERVICES (w/o fee)**

COMPANY	LABOR	MULTIPLIER	EXPENSES	TOTAL
Psomas			\$66,950.00	\$66,950.00
Value Management Strategies				
Safeprobe				

TOTAL OUTSIDE SERVICES	\$66,950
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**FEES**

OUTSIDE SERVICES ADMIN FEE @	5.00% (of Total Outside Services & Outside Services Fees)	\$3,347.50
URS CORPORATION @	10.00% (of Total Direct Labor + Total Multipliers)	\$26,558.78
OUTSIDE SERVICES @	10.00% (of Total Labor + Total Multiplier for Outside Services)	
<b>TOTAL FEES</b>		<b>\$29,906</b>

<b>TOTAL COST</b>	<b>\$367,144</b>
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**COMPANY:** URS Corporation  
**PROJECT:** Interstate 15 at Clinton Keith Road Interchange  
**DATE:** 4/16/2010  
**REVISION:** 2  
**SCOPE OF WORK:** Plans, Specifications & Estimate  
**MILESTONE/PHASE/PROJECT SUMMARY:** Phase III

Task	76.3 Project Manager	62 Senior Engineer/Staff Engineer	30 Project Engineer/Staff Engineer	30 Engineer/Staff Engineer	30 Technical/CA Analyst	20 Project Administration	20 Check	TOTAL
<b>Total Manhours</b>	92	606	292	640	502	8		2,140
3.1 Mapping and Survey (Pcomas)		8			8			16
3.2 Transportation Management Plan	8	40	68	120	32	8		276
3.3 Electrical and Stage Construction Design/Plans	12	80	80	160	80			412
3.4 Bridge Design/Plans	16	270	120	80	210			696
3.5 BMP Design/Plans	16	48		48	32			144
3.6 Erosion Control Plans	16	52		52	60			180
3.7 Replacement Planting and Irrigation Plans	16	60		60	80			216
3.8 Materials Report	4	32	24	60				120
3.9 Infiltration Rate Investigation	4	16		60				80



**I-15/CLINTON KEITH ROAD INTERCHANGE  
AMENDMENT NO. 1**

**DEPARTMENT OF FISH AND GAME  
FILING FEE BACKUP**

STATE OF CALIFORNIA - THE RESOURCES AGENCY  
DEPARTMENT OF FISH AND GAME  
**ENVIRONMENTAL FILING FEE CASH RECEIPT**

Receipt #: 200900906

State Clearinghouse # (if applicable): 2009071020

Lead Agency: CALIFORNIA DEPT OF TRANSPORTATION

Date: 12/15/2009

County Agency of Filing: Riverside

Document No: 200900906

Project Title: INTERSTATE 15/CLINTON KEITH ROAD INTERCHANGE IMPROVEMENT

Project Applicant Name: CALIFORNIA DEPARTMENT OF TRANSPORTATION

Phone Number: 909 388-137

Project Applicant Address: 464 WEST 4TH STREET SAN BERNARDINO, CA 92401

Project Applicant: Local Public Agency

CHECK APPLICABLE FEES:

Environmental Impact Report

Negative Declaration

Application Fee Water Diversion (State Water Resources Control Board Only)

Project Subject to Certified Regulatory Programs

County Administration Fee

Project that is exempt from fees (DFG No Effect Determination (Form Attached))

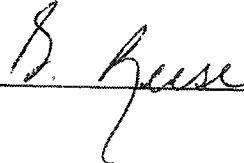
Project that is exempt from fees (Notice of Exemption)

1993.00

\$64.00

Total Received 2057.00

Signature and title of person receiving payment:



Notes: AUTHORIZATION TO BILL

**URS CORPORATION**  
PACIFIC  
2020 E. FIRST STREET, SUITE 400  
SANTA ANA, CA 92705  
(714) 835-8886

**ORANGE COUNTY'S**  
CREDIT UNION  
SANTA ANA, CA 92705-5605

13263

90-8198/3222

12/14/2009

PAY TO THE ORDER OF Department Of Fish And Game

\*\*1,993.00

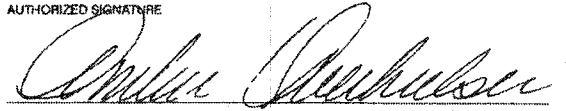
\$

One Thousand Nine Hundred Ninety-Three Only\*\*\*\*\*

DOLLARS

Department of Fish and Game  
1416 9th Street  
Sacramento, CA 95814

AUTHORIZED SIGNATURE



29866275.39999 - A. Roque

⑈0 13263⑈ ⑆322281989⑆00100689879⑈

URS CORPORATION

13263

URS CORPORATION

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**I-15/CLINTON KEITH ROAD INTERCHANGE  
AMENDMENT NO. 1**

**SUBCONSULTANTS  
SCOPE OF SERVICES AND FEE**

## SCOPE OF WORK FOR AERIAL MAPPING

The following scope of work is for preparation of aerial mapping on the I-15/Clinton Keith Road Interchange Project in Riverside, CA.

### Task 1 – Aerial Mapping:

Psomas will provide aerial mapping within the project area as shown on the attached flight map. We will establish survey control and locate 12 (H&V) aerial targets and 14 profile targets (V only) using a combination of both GPS and conventional survey methods.

Survey control and aerial targets will be based on Riverside County Surveyor “Clinton Keith I-15 Control 19404” project dated 7/12/2004 R370 (M.R. 3-70). The datum for said project is NAD 83, Zone 6 (Horizontal), and NGVD 29 (Vertical). This will maintain consistency with the work we performed for the Clinton Keith widening project easterly of the subject interchange.

The project area will be targeted, flown, and mapped at a scale of 1”=50’, with 1-foot contours and spot elevations on a 50-foot grid. Mapping will be prepared to Caltrans standards, using traditional stereo compilation methods and will be flown at the appropriate flight height to ensure that mapping will meet and/or exceed National Mapping Accuracy Standards. This proposal includes the work necessary to follow Caltrans ABC Procedures and Guidelines.

*Budget: \$33,660*

#### Schedule:

*Complete Caltrans Step A (Pre-flight approval): 8 working days – 3 Psomas, 5 Caltrans*

*Complete Caltrans Step B (Post-flight approval): 10-13 working days – 3 Psomas, 7-10 Caltrans*

*Compilation: 4 Weeks from Step B approval*

*Complete Caltrans Step C (Post-compilation approval): 2 weeks – 1 Psomas, 1 Caltrans*

*Overall Completion Schedule: 10-12 weeks from NTP*

**Note: The above estimated Caltrans approval schedule is based on an interview of Caltrans District 8 staff on March 7, 2007.**

#### *Deliverables*

Deliverables include the related CADD and Digital Terrain Model files as follows:

- Digital files containing aerial mapping in Microstation format
- Digital file containing surface data from aerial mapping (.dtm) in Inroads format
- All deliverables in U.S. Survey Foot units, unless otherwise specified

**Budget Subtotal for Aerial mapping: \$33,660**

SURVEYING AND MAPPING SERVICES

URS CORPORATION

Aerial Mapping - I-15/Clinton Keith Interchange

March 2, 2006

PSOMAS

WORK BREAKDOWN STRUCTURE (WBS) DESCRIPTION	PROFESSIONAL & TECHNICAL CLASSIFICATIONS						TOTALS	
	2-PERSON FIELD CREW	MAPPING COMPILER	PHOTO-GRAMMETRIST	PROJECT SURVEYOR	PROJECT MANAGER	QA/QC OVERSIGHT	TOTAL MAN HOURS	TOTAL DOLLARS
1.0 Aerial Mapping - target, fly and compile project area								
1 Prepare and submit pre-flight plan to Caltrans for review/approval			4				4	\$500.00
2 Set and Control 12 Aerial Targets (Horiz. & Vert.)	16			10	2	1	29	\$5,475.00
3 Set and Control 14 Profile Targets (Vert. only)	16			4			20	\$4,160.00
4 Flight and Scanning costs (fixed)								\$2,200.00
5 Aerotriangulation			6				6	\$750.00
6 Reformat and prepare aerotriangulation report and submit to Caltrans for review/approval		8			2		10	\$1,030.00
7 Prepare and submit photo index to Caltrans for review/approval		24			2		26	\$2,470.00
8 Photogrammetric Mapping Production		140	30		2	1	173	\$16,825.00
<b>Sub-Total</b>	<b>32</b>	<b>172</b>	<b>40</b>	<b>14</b>	<b>8</b>	<b>2</b>	<b>268</b>	<b>\$33,410.00</b>
ODC's								
1 Reimbursable expenses for prints, mileage, delivery, etc.								\$250.00
							<b>Total:</b>	<b>\$33,660.00</b>

## SCOPE OF WORK FOR GROUND SURVEY

The following scope of work is for detail surveying services on the I-15/Clinton Keith Road Interchange Project in Murrieta, CA.

### **Task 1 – Cross Sections along Clinton Keith Road:**

Psomas will survey cross sections along Clinton Keith Road between Hidden Springs Road and Aria Drive (approx. 1600') at 25-foot intervals.

Each section will include:

- Centerline
- Lane Lines
- Lip of Gutter
- Flowline

The two join locations at each end will include the above points, together with top of curb and back of walk shots.

Surface indications of utilities will also be located, including valves, vaults, paint marks, manholes, hydrants, power poles, manholes, etc. Storm drain manholes and catch basins will be dipped for measurement of invert elevations.

*Budget: \$8,900*

### **Task 2 – Bridge Clearance Survey**

Soffit elevations above each edge of traveled way (ETW) will be located on the existing bridge structure. We will also survey each ETW and the inside edge of shoulder (ES) along I-15 at 25-foot intervals, 125 feet beyond the north and south side of the existing bridge.

*Budget: \$2,710*

### **Task 3 – Ramp Join Conditions**

We will survey the outside ETW and nearest lane line at 50-foot intervals along the I-15 mainline. Limits will extend from the gore point of the 4 on/off ramps, to the end of the project as outlined on the map provided by URS in our March 8<sup>th</sup> meeting. The total length of the 4 segments is estimated at 8,500 feet.

*Budget: \$12,290*

### **Task 4 (option) – Drainage Structures along I-15**

We will survey an estimated 30 drainage structure locations along the I-15 mainline. This includes culverts, headwalls and drop inlet structures. Top of grate and invert elevations will be measured, where accessible.

*Budget: \$6,160*

### **Task 5 (option) – Centerline Establishment**

We will perform the necessary survey research and locate a sufficient number of monuments necessary to establish the centerline of Clinton Keith Road. Limits will extend easterly to connect to the centerline established by Psomas on the Clinton Keith widening project. The westerly limit will extend 500-feet westerly of Hidden Springs Road.

*Budget: \$2,730*

*Schedule: Three Weeks from ATP*

**Task 999 – Reimbursable Expenses**

Reimbursable expenses for prints, mileage, postage, etc.

*Budget: \$500.00*

***Schedule:***

It is assumed that this work will be a continuation of the aerial targeting and mapping effort defined in our previous proposal for this project. We will complete the above tasks within 3-4 weeks from completion of said aerial targeting work.

***Deliverables:***

Once the fieldwork is complete, we will process the data and prepare a point plot of the survey. Features will be shown and labeled with their respective elevation and description. Deliverables include the related CADD and ASCII point files in digital format as follows:

- Digital files containing survey data in Microstation format
- All deliverables in U.S. Survey Foot units, unless otherwise specified

***Qualifications:***

- All work defined in this scope and the previously provided aerial mapping scope will be authorized and performed at the same time.
- Psomas will obtain a Caltrans encroachment permit for work to be performed within the I-15 right of way.
- Reflectorless technology will be utilized to locate ETW, ES and bridge soffit. It is assumed, therefore, that a traffic control subcontractor will not be necessary and is not included in this scope.

**Budget Subtotal for Detail Surveying Services: \$33,290**



SURVEYING AND MAPPING SERVICES  
**URS CORPORATION**  
 Detail Surveys - I-15/Clinton Keith Road Interchange  
 March 10, 2007

**PSOMAS**

WORK BREAKDOWN STRUCTURE (WBS) DESCRIPTION		PROFESSIONAL & TECHNICAL CLASSIFICATIONS						TOTALS	
		2-PERSON FIELD CREW	CADD DRAFTER	PROJECT SURVEYOR	PROJECT MANAGER	QA/QC OVERSIGHT	TOTAL MAN HOURS	TOTAL DOLLARS	
		\$225.00	\$105.00	\$130.00	\$155.00	\$160.00			
1.0	Cross Sections along Clinton Keith Road								
1	Establish Survey Control	4		4	2	1		\$1,890.00	
2	Survey cross sections at 25-foot intervals - 1,600 feet	12		2				\$2,960.00	
3	Survey surface visible indications of utilities	4		1				\$1,030.00	
4	Dip Storm Drain and Catch Basins for invert measurement	4		1				\$1,030.00	
5	Reduce, adjust & process & deliver survey data		8	4	2	2	16	\$1,990.00	
	<b>Sub-Total</b>	<b>24</b>	<b>8</b>	<b>12</b>	<b>4</b>	<b>3</b>	<b>51</b>	<b>\$8,900.00</b>	
2.0	Bridge Clearance Survey								
1	Establish Survey Control	1		2	1	1	5	\$800.00	
2	Survey bridge soffits	1					1	\$225.00	
3	Survey both ETS's and inside ES at 25' intervals - 125' beyond bridge structure north and south	4					4	\$900.00	
4	Reduce, adjust & process & deliver survey data		2	2	1	1	6	\$785.00	
	<b>Sub-Total</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>16</b>	<b>\$2,710.00</b>	
3.0	Ramp Join Conditions								
1	Establish Survey Control	16		4	2	1	23	\$4,590.00	
2	Survey outside ETW and nearest lane line, 50' intervals, 8,500 feet	24			2		26	\$5,710.00	
3	Reduce, adjust & process & deliver survey data		8	4	2	2	16	\$1,990.00	
	<b>Sub-Total</b>	<b>40</b>	<b>8</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>65</b>	<b>\$12,290.00</b>	
4.0	Drainage Structures along I-15 (Option)								
1	Survey 30 drainage structures (Culverts, headwalls, drop inlets)	16		2	2	1	21	\$4,330.00	
2	Reduce, adjust & process & deliver survey data		8	4	2	1	15	\$1,830.00	
	<b>Sub-Total</b>	<b>16</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>36</b>	<b>\$6,160.00</b>	

**P S O M A S**

SURVEYING AND MAPPING SERVICES  
**URS CORPORATION**  
 Detail Surveys - I-15/Clinton Keith Road Interchange  
 March 10, 2007

	WORK BREAKDOWN STRUCTURE (WBS) DESCRIPTION	PROFESSIONAL & TECHNICAL CLASSIFICATIONS						TOTALS	
		2-PERSON FIELD CREW	CADD DRAFTER	PROJECT SURVEYOR	PROJECT MANAGER	QA/QC OVERSIGHT	TOTAL MAN HOURS	TOTAL DOLLARS	
5.0	C/L Establishment (Option)	\$225.00	\$105.00	\$1,010.00	\$155.00	\$100.00			
1	Perform research at Riverside County Surveyors Office		4	1	1	1	7	\$865.00	
2	Survey existing monuments	4		1			5	\$1,030.00	
3	Establish centerline of Clinton Keith from monuments and survey data			4	1	1	6	\$835.00	
	<b>Sub-Total</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>18</b>	<b>\$2,730.00</b>	
999	ODC's								
1	Reimbursable expenses for prints, mileage, delivery, etc.								\$500.00
	<b>Totals:</b>	<b>90</b>	<b>30</b>	<b>36</b>	<b>18</b>	<b>12</b>	<b>186</b>	<b>\$33,290.00</b>	

**PSOMAS**

SURVEYING AND MAPPING SERVICES  
**URS CORPORATION**  
 Pothole Survey - I-15/Clinton Keith Interchange  
 December 16, 2009

WORK BREAKDOWN STRUCTURE (WBS) DESCRIPTION	PROFESSIONAL & TECHNICAL CLASSIFICATIONS					TOTALS	
	2-PERSON FIELD CREW	CADD TECH.	PROJECT SURVEYOR	PROJECT MANAGER	QA/QC OVERSIGHT	TOTAL MAN HOURS	TOTAL DOLLARS
	\$225.00	\$125.00	\$140.00	\$155.00	\$165.00		
1.0 Pothole Surveys							
1 Establish survey control at pothole locations	4		2			6	\$1,180.00
2 Survey surface markers left by pothole contractor (includes 12 potholes)	8					8	\$1,800.00
3 Reduce, adjust & process survey data			2	0.5		2.5	\$337.50
4 Prepare CADD drawing containing pothole data		2		0.5	1	3.5	\$492.50
<b>Sub-Total</b>	<b>12</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>20</b>	<b>\$3,830.00</b>
ODC's							
1 Reimbursable expenses for prints, mileage, delivery, etc.							\$170.00
						<b>Total:</b>	<b>\$4,000.00</b>

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# Safeprobe, Inc.

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*"The Safest and Most Cost Effective Potholing Method Available."*

June 2, 2009

**Jeff Mills, P.E.**  
URS Corporation  
2020 E 1st St Ste 400  
Santa Ana, CA,  
92705-4032  
(714) 648-2790

Subject: **Potholing**  
Project: **I-15 / Clinton Keith Road**  
City: **Wildomar, CA**

**Dear Mr. Mills,**

As per requested, we are pleased to submit this proposal for the above mentioned project. I have provided an estimate based on 12 numbers of potholes.

**Our Bids as follows:**

1. Cost for per pothole \$850.00 @ 12 potholes .....	<b>\$10,200.00</b>
Based on maximum (6) Feet deep and 10" to 12" diameter of each pothole	
2. Cost per foot beyond (6) feet is .....	<b>\$180.00</b> per foot.
Assuming 5 feet @ \$180.00 per foot .....	<b>\$900.00</b>
3. The above potholes should be done in 2 to 3 days depending on soil and depth of utilities conditions.	
4. Traffic control (if needed) during potholing by using WATCH MANUAL for ... \$ 1,200.00 per day.	
Assuming 2 days of traffic control set – up at \$1,200.00/day .....	<b>\$2,400.00</b>
5. Lead time notice to proceed is one (1) week.	
Estimated total cost .....	<b><u>\$13,500.00</u></b>

**Our cost proposal includes the following scope of work.**

1. Provide equipment, skilled personnel, trained technician and supplies necessary to perform utility location services (potholing), utilizing air/vacuum soil extraction method.
2. Provide electronic sweeping, skilled personnel and trained technician if requested to perform electronic designation.

3. Provide Underground Service Alert (USA) tickets, delineates the areas for USA and coordinate with utility owners alerted by USA.
4. Soil will be air/vacuum extracted from the test holes to expose the utility to be measured, in such manner to insure the safety and integrity of the utility.
5. The disturbed areas will be restored, as neatly as reasonably possible to the condition prior to the soil extraction process. Consultant shall follow compaction requirements set forth by existing APWA Specification Standards. Backfill the test hole with the original soil and will provide restoration of pavement in cold mix-asphalt or in – kind.
6. Provide the following information for each test hole:
  - ❖ Utility will be measured to one tenth of a foot from existing ground to top of utility, identified as to type, location, and size of pipe.
  - ❖ Located by nail placed in asphalt or flags where only soil exists.

**Requirements from the CLIENT:**

1. The client shall supply all necessary plans; record, survey information and data required to perform potholing consisting of 3 sets of ½ sets drawings and circled Thomas Guide Map location.
2. The location of the potholes will be as per drawings and plans from Client indicating the locations of the **proposed potholes**.
3. All **proposed pothole location** for Encroachment permit submittal with in the **City, County or Caltrans Right of Way** shall be stamped and signed by a California registered engineer.
4. If work is performed in **Railroad-Right-of-Way**, the client shall pay all cost for Railroad Insurance, Right of Entry Agreements, Bonding, Fees, and Flagman required to perform.
5. **Encroachment permit fees** if needed for encroachment will be provided by the Client.
6. Permits to perform work and enter Private Right-Of-Way (if needed).
7. The Client shall provide Coordinator (on the site) familiar with the pothole location
8. If work performed in **City or Caltrans Right of Way**, the client shall pay all costs for Right of Way Agreements, Fees Permits, Lane Closure Permits or bonding that may be required to perform potholing.
9. If work is performed in **Flood Control Channels in County or City Areas**, the client shall pay all costs for Bonding and fees required to perform.
10. The Client shall provide a Utility Coordinator familiar with the utilities, to provide direction in case of no utility is located, or instructions how to proceed beyond a pothole depth of six feet.
11. If bonding is required by **Governmental Agencies**, the Client shall pay all costs and fees for Bonding of project.

**If this proposal meets with your approval, please sign and return.**

Thank you for the opportunity to submit this proposal. If you have any questions, please call me at (213) 251-5960 or (213) 272-4618 cell.

Regards,

Confirmation of letter and proposal



**Mauro S. Poyaoan**  
AVP – Safeprobe, Inc.

**Jeff Mills, P.E.**  
URS Corporation