



Penfield & Smith

210 E. Enos Drive, Suite A
Santa Maria, CA 93454

tel 805-925-2345
fax 805-925-1539

www.penfieldsmith.com

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Structural Engineering

W.O. 19587.02

December 19, 2012

County of Santa Barbara
Public Works Department
Attn: Walter Rubalcava
620 West Foster Road
Santa Maria, CA 93455

Subject: **U.S. Highway 101/Clark Avenue PS&E's
Engineering Services Proposal**

Dear Mr. Rubalcava:

As requested, Penfield & Smith is pleased to submit this proposal for engineering services in support of the Plans, Specifications, and Estimates (PS&E's) for the U.S. Highway 101/Clark Avenue interchange improvements. Our involvement in the development of the PSR-PDS document with Caltrans has given us a detailed understanding of the project requirements. In addition to our fundamental understanding of the project details, we have the tools readily available to begin work immediately on the PS&E package. Further, with the County's support, we have developed a strong team relationship with the Caltrans project team, which we will utilize during the project approval process.

UNDERSTANDING OF PROJECT REQUIREMENTS

The need for improvements at the U.S. Highway 101 (U.S. 101)/Clark Avenue interchange was identified in 1995, and incorporated into the Orcutt Community Plan (OCP). As discussed in the PSR document, the Orcutt Transportation Improvement Program (OTIP) developed a project to realign and signalize both the northbound and southbound ramps of this interchange. Immediate OCP growth include Key Sites 1, 2, and 3. Each of these projects trigger the need for interchange improvements. Through the development of the PSR, the conceptual design was analyzed with the primary goals of addressing project-specific impacts, regional growing travel demand and congestion, and recurrence of broadside collisions. Through this effort, a series of alternatives were presented and discussed in detail with both County and Caltrans staff. The recommended alternative generally consists of re-alignment and signalization of the Northbound Ramps, described in the PSR document as "Build Alternative 1." Based on our current understanding of the project and recent discussions with Caltrans, we have developed a Scope of Work for the preparation of PS&E's for this alternative, presented below. The following elements will be incorporated into the design documents:

- Widening of the NB on-ramp
- Realignment and widening of the NB off-ramp.
- Signalization of NB Ramp intersection.
- Minor widening of Clark Avenue and the SB off-ramp intersection
- Drainage analysis and basin/system modifications (Areas A2, A3, E and F)
- Restriping of the interchange and approaches
- Modification of north side bridge railing to make bike safe
- Fact Sheet for Mandatory Design Exception (lane widths)
- Widening of Clark Avenue to the north, east of NB ramps (OPTIONAL)

In order to adequately address the above project elements, we estimate a total of 30 plan sheets as follows:

- Title Sheet (1 sheet)
- Key Map (1 sheet)
- Project Control (1 sheet)
- General Notes (1 sheet)
- Typical Cross Sections (2 sheets)
- Layout (2 sheets)
- Road Profiles (4 sheets)
- Drainage Plan (2 sheets)
- Traffic Signal Plan (2 sheets)
- Pavement Delineation and Sign Plans (2 sheets)
- Erosion Control (1 sheet)
- Transportation Management Plans (incl. Temp. Traffic Control) (12 sheets)

All plans will be prepared in accordance with the Caltrans Plan Preparation Manual and Caltrans Standards, where applicable. The above list is based on our estimation at this time. Additional sheets will be added as necessary, and are included within the scope presented in this proposal.

A Fact Sheet will be also required for all the non-standard features in the project area. In addition to the plan preparation, Penfield & Smith will provide utility coordination, coordination with Caltrans, and overall project management. Project Specifications will be prepared in accordance with the 2010 Caltrans Standard Specifications, and cost estimates will be provided with each submittal. We understand that there are federal funds being obtained for this work, and we will include all necessary requirements associated with this federal funding in our contract documents per Chapter 12 LAPM.

SCOPE OF WORK

Task 1: Supplemental Survey and Right of Way Mapping

Supplemental Mapping

- Existing topographic (aerial and supplemental) mapping is referenced to the California Coordinate System NAD83, Zone 5 (Epoch 2007.0) horizontal datum and to the NAVD88 vertical datum. We will review the survey control used for previous work to ensure that we match the datums for this survey.



- Perform field survey for supplemental mapping purposes. Specific items to be included in the survey are drainage pipe structures and inverts on the east side of the 101 freeway, street light and power pole locations, overside drains on the northbound and south bound ramps, and the shoulder and embankment slope in the northwest corner of the southbound off ramp.
- Download and compute survey data. Compile mapping in AutoCad to be included in the existing mapping drawing file. We will also review and update surveyor's notes and control point list so that they may be included in PS&E construction documents.

Right of Way Mapping

Penfield & Smith has performed boundary surveys in the last few years for the properties in the northwest and southwest quadrants of the Clark/101 interchange. Some field conditions trigger the requirement to file a Record of Survey (RS) map as enumerated in the Professional Land Surveyors Act of the State of California. Based on our prior surveys around the interchange, we are aware of numerous conditions that will trigger the requirement for a RS map, and we have included preparation of a map in our scope and fee. We fully anticipate finding the following triggers:

- Significant material discrepancies between this survey and record documents
- Material evidence or physical change not shown on a map
- Evidence of alternate positions from what is shown on record maps
- Establishment of lines, points or corners not shown on a record map

Besides the statutory requirements, our experience gives us reason to believe that existing right of way mapping of both Clark Avenue and the 101 freeway may be incorrect or inaccurate. Evidence and land records must be carefully examined because they affect the title interests of other property owners and public rights-of-way.

Right of Way Survey

- Confirm extent and location of the existing right of way through District 5 maps and survey records. Research recorded maps and documents.
- Perform field survey to search for and recover monuments and other boundary evidence.
- Perform analysis of data and evidence and establish right of way lines of the 101 freeway and Clark Avenue. Right of way information will be included in topographic mapping drawing file.
- Pursuant to PLS Act, set monuments in a sufficient number to enable retracement of the survey.

Record of Survey Map

- Prepare Record of Survey map and package of information required by Santa Barbara County, including copies of deeds and closure calculations. Coordinate with county surveyor during review process and make corrections as required. Processing and recording fees required by the County are included as part of our cost.
- Provide client with a draft copy of the Record of Survey Map, and a copy of the recorded Record of Survey Map.
- Please be aware that Santa Barbara County processing time for RS maps can extend to several months, however this will not affect completion of the right of way mapping in a timely manner.



Task 2: Plan Development and Design

Using the preliminary plans prepared for the PSR document, P&S will finalize the basemapping to address proper lane widths, striping, horizontal curves and geometry, cross sections, drainage, and pedestrian safety. Profiles will be detailed to properly design vertical curves and approach grades. All design will be verified against current Caltrans Standards by our internal QC Manager at this stage to maximize project efficiency and avoid any schedule delays. While this step is primarily an internal design phase, we will discuss the design details with the County during a design coordination meeting. This meeting will give the County the opportunity to provide comments and suggestions at an early stage in the design process, allowing P&S to incorporate them directly into the 50% plan set.

Task 3: 60% Plan, Specification, and Estimate Submittal

Once the framework of the design is complete, P&S will proceed with the 60% submittal package. This submittal will include a full plan set at the 60% level of completion. We anticipate that the 60% plans will include all basic design elements, including geometric layout, profiles and cross sections. Some details may be included, and standard details will be referenced at this stage, however, the remainder of the project specific details will be added in the following phases.

The Technical Specifications will be consistent with the 2010 Caltrans format. At the 60% stage, an outline of the sections to be included will be provided. A Cost Estimate will be provided in sufficient detail to provide the County confidence in obtaining adequate funding for the project. At this stage a 20% contingency will be added. The Cost Estimate will also form the initial framework for the Bid Sheet.

P&S will submit the entire package to the County for their review. We feel that open communication at all stages of the project is critical. As such, we are more than happy to take the time to review the project plans with any interested parties at the County to facilitate their review. We anticipate a two week review period for each submittal.

Task 4: 90% Plan, Specification, and Estimate Submittal

Once the County has completed their review of the 60% PS&E's, P&S will review their comments and incorporate all comments into the 90% PS&E package. As questions arise, we will be sure to communicate these immediately with the County to avoid any schedule delays.

In addition to incorporation of the comments, further detailing will be added to the plans. This includes, but is not limited to, project specific details such as traffic signal pole foundations, drainage structures, and bridge railing details if necessary. Additional labeling of vertical and horizontal curves, profile details, dimensioning, and lane striping details will be added at this stage. All technical specifications and special provisions will be prepared and submitted at this stage. The 90% submittal is intended to be a complete design, with only minor drafting or detailing changes to be made. For purposes of this proposal, we assume that the County will be preparing the General Conditions for the project and including our Special Provisions within the larger document. We will coordinate with the County during the preparation of the overall document to ensure consistency and accuracy. We recommend that the entire document be reviewed together during this stage, and have included this as part of our QA/QC process for this project.



Task 5: Final Plan, Specification, and Estimate Submittal

Upon receipt of comments from the County, P&S will quickly incorporate any changes into the PS&E package to create the 100% submittal. At this time, P&S will sign the plans and special provisions.

Task 6: Fact Sheet Preparation and Approval

A Fact Sheet and Design Exception will be required for approval by Caltrans for the following design elements:

- 11' Travel Lanes
- Maintaining < 6' Existing Sidewalk Width
- Slopes > 4:1 adjacent to ramps
- Frontage Road < 400' spacing from Northbound Ramp

This document will be prepared early in the project and submitted for approval by Caltrans. Based on our initial discussions we feel that this will be approved by Caltrans and will not create any sort of delay or re-design effort.

Task 7: Caltrans Coordination

Throughout the project, P&S will be available for coordination with Caltrans. We assume that the County will remain the primary point of contact with Caltrans; however, we have allocated time in this proposal for the necessary technical support and coordination from P&S. For purposes of this proposal, we have assumed 5 meetings to be attended by Derek Rapp and Brianna Daniels. We have included one hour of preparation time for each meeting, as well as minor support from our Junior Engineering staff for exhibit preparation if necessary.

Task 8: Project Management and Quality Control

Throughout the project, Brianna Daniels will provide project management and will be the County's primary point of contact. She will be responsible for all plan production, scheduling, invoicing, and coordination with utility providers and local agencies. Derek Rapp will be the Quality Control Manager, and will be reviewing the design, plans, and specifications at each stage of the project.

SERVICES NOT INCLUDED

The following services and all other services not specifically listed herein are excluded:

1. Reimbursable expenses, such as photocopies, postage, shipping/delivery, mileage, prints, maps/documents.
2. Governmental and public agency fees, cost of bonds and taxes.
3. Right of way appraisal maps and right of way engineering.
4. Hazardous substance identification and mapping.
5. Subsurface utility research, potholing, and mapping.
6. Construction surveying.
7. Environmental Permitting, Applications, and Reports.



8. Value Analysis per LAPM Chapter 12, Section 12.5. It is assumed that this will be incorporated into our design process, and no formal procedure is anticipated.
9. Coordination with Environmental Consultant during PA/ED phase.
10. Geotechnical Investigation and Soils Report.
11. Electrical Engineering.
12. Services by consultants other than P&S.
13. Services beyond those described in the above Scope of Work.

PROPOSED FEE AND METHOD OF PAYMENT

Our proposed services will be performed on a time and materials, not to exceed basis and shall be billed monthly at the rates then in effect. Charges for "time" include professional, technical and clerical support services provided by Penfield & Smith. "Materials" include all reimbursable expenses, such as photocopies, postage, shipping/delivery, mileage, plots, prints, maps/documents and outside consultant fees.

Task 1: Supplemental Survey and Right of Way Mapping.....	\$17,200
Task 2: Plan Development and Design.....	\$57,690
Task 3: 50% PS&E Submittal.....	\$24,850
Task 4: 90% PS&E Submittal.....	\$32,070
Task 5: Final PS&E Submittal.....	\$11,800
Task 6: Fact Sheet Preparation and Approval.....	\$ 2,360
Task 7: Caltrans Coordination and PS&E Certification.....	\$ 8,740
Task 8: Project Management and Quality Control.....	\$10,730
TOTAL.....	\$165,440

Based on our understanding of your requirements and our experience with similar projects, we estimate that the fee required for our services will be **\$165,440.00**, not including reimbursable expenses. Our charges will not exceed the above fee estimate without your prior authorization. We have estimated the cost of our services based on our understanding at this time of the scope and complexity of the work. During the performance of our services, the need for additional or expanded services may be determined. We will make every reasonable effort to keep you informed of our progress and costs incurred.

ADDITIONAL SERVICES

Services performed outside the scope of this agreement require written approval prior to performance of the work. Design changes by Owner/Client or designee after the start of design shall be considered additional services. Any work requested by Owner/Client that is outside the scope of this agreement will be identified by Penfield & Smith as such, and a fixed fee or not-to-exceed amount will be agreed upon prior to the start of the additional work. Compensation for additional services shall be in accordance with Exhibit "A", Penfield & Smith's Billing Rate Schedule currently in effect.

TIME OF PERFORMANCE



Based on our knowledge of the project, we have resources available immediately to begin the design effort. We understand that the County has funding sources that will expire if they are not authorized for construction by June 2013. Based on this information, we have targeted a 50% completion date of February 8, 2013. We will make every effort to turn around subsequent submittals within a two-week period.

AUTHORIZATION

Should you require additional information or wish to discuss this proposal further, please give me a call. My direct line is (805) 925-2345, extension 111. Upon your approval, we understand that this will be presented to the County Board of Supervisors for final approval and issuance of a County contract.

Thank you for considering Penfield & Smith for this project.

Very truly yours,

PENFIELD & SMITH

A handwritten signature in blue ink, appearing to read 'B. Daniels'.

Brianna M. Daniels, P.E.
Project Manager
Principal Engineer

A handwritten signature in blue ink, appearing to read 'D. Rapp'.

Derek B. Rapp, T.E.
Quality Control Manager
Principal Engineer

Enclosures

