



Local Programs Procedures

LPP 07-05 Manual Update
Subject: Requirements for Major Projects Under SAFETEA-LU and Other Technical Changes

Reference: *Local Assistance Procedures Manual (LAPM)*, Chapter 2-Roles and Responsibilities, Chapter 3-Project Authorization, Chapter 6-Environmental Procedures, Chapter 7-Field Review, Chapter 10-Consultant Selection, Chapter 12-Plans, Specifications & Estimate

Effective Date: October 11, 2007

Approved: Original Signed By
TERRY L. ABBOTT, Chief
Division of Local Assistance

WHAT IS AN LPP

LPPs are Local Programs Procedures. These documents are used for the rapid deployment of new procedures and policies between updates of the Local Assistance manuals, guidelines and programs. They are numbered according to calendar year and order in which released. This is the fifth LPP issued in 2007; hence, it is LPP 07-05.

PURPOSE

The purpose of this LPP is to make various changes to various chapters in the *Local Assistance Procedures Manual (LAPM)*, primarily, to fully implement the applicable provisions contained in the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) for major federal-aid projects of \$100 million to \$500 million or more. Other minor administrative changes have also been made.



USER FRIENDLY FEATURES

- These new procedures are incorporated in the electronic version of the LAPM and LAPG that are available at the Division of Local Assistance (DLA) Home Page on the Internet at: <http://www.dot.ca.gov/hq/LocalPrograms/>. Under “Publications” select *Local Assistance Procedures Manual* or *Local Assistance Program Guidelines*.
- You may also purchase the Publications for Local Assistance DVD or CD, which acts as a one-stop shop for information and promotes flexible access to helpful information for local project delivery at: <http://www.dot.ca.gov/hq/LocalPrograms/lam/LApubsCD.htm>
- Additional user-friendly features were developed to make the manual easier to edit and to access on the DLA website. **Sidebar**s are used to indicate where revisions were made to the affected pages. **The revised pages in this LPP are to replace the pages affected in hard copy of the LAPM.**
- To receive an electronic notification when new information is posted on the DLA web site, please subscribe to the DLA list server at:
<http://www.dot.ca.gov/hq/LocalPrograms/sub.htm>
- Comments and suggestions for improvement to the manual or the processes and procedures are welcome. They may be submitted to:

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SUMMARY OF CHANGES

LAPM Item	Change
Chapter 2 Table of Contents	Updated the Table of Contents to reflect the changes made.
Section 2.6 (Reengineering of Local Assistance Procedures) pages 2- 6, 6a, 6b,7, 8	<p>In compliance with the SAFETEA-LU, new sections were added to explain the requirements for “major” federal-aid projects of \$100 million to \$500 million or more.</p> <p>Included the pages whose text were shifted to another page.</p>
Exhibit 2-C page 2-21	Added “Major Federal-aid Projects Flowchart” for Financial Plan and Project Management Plan for major federal-aid projects.
Chapter 3 Section 3.3 (Request for Authorization), pages 3-10	Under “Construction and Construction Engineering,” added requirements for “major” federal-aid projects of \$100 million to \$500 million or more.
Chapter 7 (Section 7.1 Introduction) page 7-3a	Revised the twelfth bullet on “value engineering analysis,” requirements for federal-aid projects exceeding \$25 million on the NHS and bridge projects exceeding \$20 million.
Exhibit 7-B pages 7-14, 14a	<p>Added Item 7a. to include “Value Engineering Analysis” requirements for federal-aid projects exceeding \$25 million on the Federal-aid System and for bridge projects exceeding \$20 million.</p> <p>Included the page whose text were shifted to another page.</p>
Exhibit 7-D page 7-18	Added the item “Value Engineering Analysis” requirements for total costs bridge projects \$20 million or more.
Chapter 10 Section 10.2 (Identifying & Defining a Need for Consultants), page 10-6	Revised the “Value Engineering Analysis” requirements for federal-aid projects on the Federal-aid System with total project costs of \$25 million or more and for bridge projects with total project costs of \$20 million or more.
Chapter 12 (Table of Contents)	Updated the Table of Contents to reflect the changes made.

LPP 07-05

Requirements for Major Projects Under SAFETEA-LU and Other Technical Changes

Page 4

Chapter 12 (Section 12.1 Introduction) pages 12-1	Added 4 th paragraph to explain when a “Financial Plan” and “Project Management Plan” are required for major federal-aid projects.
Section 12.4 Method of Construction pages 12-4	Under section “Contracting Method,” added”(generally by the use of a Public Interest Finding),”....
Chapter 12 (Section 12.5 Value Analysis) pages 12-6, 7	<p>Under 12.5 “Value Engineering Analysis” revised the section from “Introduction” to “SAFETEA-LU” to explain the federal requirements included in SAFETEA-LU, Section 1904.</p> <p>Under section “Definitions,” the word “Value Engineering” was changed to “Value Engineering Analysis.”</p> <p>Revised the contents of the section “Procedures” and included websites for assistance when undertaking a value engineering analysis of projects.</p> <p>Deleted the page “This page intentionally left blank.”</p>
Section 12.11 (Optional Contract Provision), page 12-29 thru 31a	<p>Added a new section “Additive or Deductive Bid Items” for use by local agencies when bidding federal-aid projects.</p> <p>Included the pages whose text was shifted to another page.</p>
Section 12.12 (Materials and Equipment), page 12- 32, 33	<p>Second paragraph under “Warranty Clause,” deleted “<i>exempt</i> “..... .</p> <p>Under “Proprietary Items’ the following changes were made:</p> <ul style="list-style-type: none">- Revise end sentence of the first paragraph to read ...”<i>for a federal-aid project unless:</i>”- Revised second bulleted item to read...”certifies either in a public interest finding that the”.....- Revised second paragraph to read... “<i>This FHWA policy is applicable to local agency projects both on and off the NHS.</i>”
Exhibit 12-D, pages 12-48, 55, 56	<p>Revised the check boxes under item number “VI. Value Engineering (VE) Analysis.”</p> <p>Item number “XVI. Major Projects with Total Costs of \$100 Million or \$500 Million or more” was added and renumbered the succeeding items to XVII and XVIII in the PS&E Checklist.</p>

Exhibit 12-E, pages 12-58	Revised the instructions under “ <i>VI. Value Engineering (VE) Analysis.</i> ” Added the instructions for item number “ <i>XVI. Major Projects with Total Costs of \$100 Million or \$500 Million or more</i> ” and renumbered the succeeding items to XVII and XVIII to be consistent with the changes made to PS&E Checklist.
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AUTHORITIES AND REFERENCES

- **SAFETEA-LU ACT**
- **23 CFR 635.411**
- **23 U.S.C. 112**

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INTELLIGENT TRANSPORTATION SYSTEMS

For Intelligent Transportation Systems (ITS) projects, PE includes Systems Engineering, equipment, software development, and use of a Systems Manager or Systems Integrator (see Section 12.6, “Intelligent Transportation Systems Program,” of the LAPG for details on Systems Engineering and use of a Systems Manager or Systems Integrator).

The Systems Engineering analysis of major ITS projects, as defined in Section 12.6 of the LAPG, must be approved by the FHWA prior to advancing to detailed component design. Therefore, major ITS projects require two separate PE phase authorizations. The Systems Engineering Review Form (SERF) of major ITS projects must be approved by FHWA prior to, or shortly after (if prepared by a consultant) the first PE authorization. Development of the Systems Engineering Management Plan (SEMP) is contingent upon federal approval of the SERF. FHWA approval of the SEMP is required prior to the second PE authorization and proceeding to final detailed design.

Minor ITS projects can undergo the traditional one PE phase authorization and will not require FHWA approval of the SERF and SEMP. However, the local agency still must complete the SERF, as part of the Field Review Form.

RIGHT OF WAY

Eligible Right of Way (R/W) work includes the preparation of R/W plans, making economic studies, other R/W related-preliminary work, appraisal for parcel acquisition, review of appraisals, payments for real property acquired, preparation for and trial of condemnation cases, management of properties acquired, furnishing of relocation assistance, and other related labor expenses (see 23 CFR 710 for details). This work is covered in the local agency’s “Request for Authorization to Proceed with Right of Way,” (Exhibit 3-B of this chapter).

Only eligible work performed after federal “Authorization to Proceed” with R/W may receive federal reimbursement.

As noted above, some R/W activities necessary for the completion of the NEPA process may be authorized as part of PE. However, an approved NEPA document is required prior to the majority of R/W activities (e.g., negotiating with property owners, acquisition and relocation assistance, see Chapter 13, “Right of Way,” of the LAPM). The request for R/W authorization must include an approved NEPA document and completed Field Review Form if not submitted previously.

RIGHT OF WAY UTILITY RELOCATIONS

If federal reimbursement is sought for utility relocations (adjustments), all work must be performed in accordance with the FHWA’s “Alternate Procedure” 23 CFR 645.119 (e)(2). Refer to Chapter 14, “Utility Relocations,” of the LAPM for detailed information and procedures related to eligible costs, required federal actions (Authorization to Proceed [E-76], FHWA Specific Authorization to Relocate Utilities and FHWA Approval of Utility Agreement[s]), sequence of activities, notifications, support documentation and federal reimbursement.

The DLAE must identify the name of the utility owner, type of facility, and estimated cost to relocate/adjust each utility in the “State Comments” section of the E-76.

IMPORTANT: If federal funds are used to finance any phase of work on a project, all project R/W activities, including utility relocation must conform to requirements of 23 CFR, Part 645. Failure to comply will jeopardize federal funding.

CONSTRUCTION AND CONSTRUCTION ENGINEERING

Eligible construction costs include, the actual cost to construct the highway itself including its appurtenant facilities and any removal, adjustment or demolition of buildings or major obstruction, utility or railroad work that is a part of the physical construction of the project construction engineering, and administrative settlement of cost for contract claims.

Federal “Authorization to Proceed” with construction must be received prior to advertising the construction contract. **Projects advertised prior to federal authorization are NOT eligible for federal reimbursement.**

The request package for “Authorization to Proceed” with construction must include a Field Review Form, a copy of the approved environmental document (either a signed Categorical Exclusion [CE], Finding Of No Significant Impact [FONSI], or Record of Decision [ROD]), if not previously submitted, approved right of way certification, project finance letter, engineer’s estimate, PS&E Certification (Exhibit 12-C), PS&E Checklist (Exhibit 12-D) and PS&E package.

For SAFETEA-LU major projects of \$100 million or more, an annual Financial Plan must be prepared prior to Construction Authorization, and submitted to the DLAE with the request for construction authorization. Major projects of \$500 million or more, the preparation and submittal of a draft Project Management Plan is required prior to environmental approval. Both the Financial Plan and Project Management Plan are to be submitted to the DLAE. The requirements for both of these plans are discussed in Chapter 2 “Roles and Responsibilities,” of the LAPM.

Construction Engineering (CE) includes, the supervision and inspection of construction activities, additional staking functions considered necessary for effective control of the construction operations, testing materials incorporated into the construction, checking shop drawings, and measurements needed for establishing pay quantities. CE costs must be specifically included in the “Authorization to Proceed with Construction” and authorized to be eligible for federal reimbursement. CE costs must also be included on the project finance letter. If CE is authorized after construction begins, only those CE costs incurred after the date of the CE authorization are eligible for federal reimbursement.

Typically, the federal reimbursement of CE costs is limited to 15% of the total federal funds obligated for construction. Construction costs exclude costs of PE, right of way and CE. For implementation purposes, CE costs in excess of 15% on “State-Authorized” projects must be reviewed for reasonableness and approved by the Caltrans DLAE.

If Caltrans source inspection services will be requested, the local agency must submit/justify their request (refer to Exhibit 16-V “Source Inspection Request From Local Agency To Caltrans District Local Assistance Engineer,” of the LAPM) at least 30 days prior to local agency submittal of their “Request for Authorization to Proceed with Construction.” Caltrans may perform the requested source inspection services, subject to the availability of their inspectors (see “Source Inspection,” Section 16.14, “Quality Assurance Program,” of the LAPM).

Some ITS projects may be fully deployed without ever advancing to construction. There are other ITS projects with nonconstruction activities, which might be handled as consultant, low-bid, or service contracts (see the PE and/or procurement discussion of Section 12.6, “Intelligent Transportation Systems” of the LAPG).

CHAPTER 7 FIELD REVIEW

7.1 INTRODUCTION

In conjunction with the preliminary environmental investigation, an important early action in developing a local transportation project financed with federal-aid funds is the methodical and systematic collection of initial engineering and related project data and information. For this manual, this data gathering project-scoping step is called the “Field Review.”

Each agency should establish a process for clearly defining the location, scope, cost, and the other parameters considered when developing a project. This step is very important in guiding the project development team to the successful production of the Plans, Specifications and Estimate (PS&E).

The field review for local agency transportation projects off the State Highway System (SHS) serves the same purpose as the Project Study Report serves for state highway projects. It is intended to bring together all interested parties and come to an agreement on the project requirements necessary to comply with federal and state laws and regulations. For local agency projects on the SHS, consult the Caltrans *Project Development Procedures Manual* (<http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm>), the District Local Assistance Engineer (DLAE), and the project manager to coordinate development responsibilities.

The field review process considers and documents the following actions:

- Assigns a local agency project manager to oversee the project studies, PS&E development and/or construction.
- Brings together representatives from various involved or interested agencies, including, but not limited to, the agency, Caltrans, other regional and local agencies, transit districts, other state or federal permitting agencies, public utilities, and railroads. FHWA may also be represented.
- Affords an opportunity for discussions of alternative proposals.
- Secures agreement on general design features and exceptions to American Association of State Highway and Transportation Officials (AASHTO) standards, or 3R, or local standards selected for the project.
- Identifies pedestrian facilities within the project area that will or may need to be brought up to current federal, state and/or local standards to be Americans with Disabilities Act (ADA) compliant.
- Determines if the project is a federal-aid Intelligent Transportation Systems (ITS) project. If so, determines if it is a major, or minor ITS project.
- Determines timing and costs associated with preparing and processing required technical studies and the NEPA document (see “Environmental Procedures” included in Chapter 6, “Environmental Procedures,” of the *Local Assistance Procedures Manual* (LAPM) and Caltrans *Standard Environmental Reference* [SER] at this web site: <http://www.dot.ca.gov/ser/voll/voll.htm>).

- Determines right of way and relocation assistance requirements.
- Discusses and evaluates proposed funding, eligibility requirements, and federal or state participation.
- Determines who advertises, awards, administers (AAA), and maintains the proposed project.
- Defines the project schedule and target advertising date.
- Discusses value engineering analysis, for each federal-aid project on the federal-aid system with an estimated total cost of \$25 million or more and bridge projects with an estimated total cost of \$20 million or more. For more information on this subject, please see Chapter 12 “Plans, Specifications & Estimate,” Section 12.5 “Value Engineering Analysis,” of the LAPM.

7.2 TYPE AND REQUIREMENT FOR FIELD REVIEW

The type of field review chosen for a project depends on many factors including: highway system, project type (State-Authorized or FHWA Full Oversight on Interstate projects), project complexity, total cost, and type of funds. The two types of field reviews are formal and informal.

FIELD REVIEW FORM

Local Agency _____ Field Review Date _____
 Project Number _____ Locator _____
 _____ (Dst/Co/Rte/PM/Agncy) _____
 Project Name _____ Bridge No.(s) _____

1. PROJECT LIMITS (see attached list for various locations) _____

 _____ Net Length _____ (mile)

2. WORK DESCRIPTION _____

ITS project or element: Yes ___ No ___ If yes, is it a Major ITS ___ or a Minor ITS ___
 3. PROGRAMMING DATA FTIP (MPO/RTPA) _____ FY _____ Page _____
 Amendment No. _____ FTIP PPNO _____ FHWA/FTA Approval Date _____
 Federal Funds \$ _____ Phases PE _____ R/W _____ Const _____
 Air Basin: _____ (CMAQ only)

4. FUNCTIONAL CLASSIFICATION:
 URBAN _____ RURAL _____
 Principal Arterial: _____ Principal Arterial: _____
 Minor Arterial: _____ Minor Arterial: _____
 Collector: _____ Major Collector: _____
 Local: _____ Minor Collector: _____
 Rural Local: _____

5. STEWARDSHIP CATEGORY
 FHWA Full Oversight (Stewardship): Yes ___ No ___
 State-Authorized (Stewardship): Yes ___ No ___ (a) DLAE oversight: Yes ___ No ___
 (b) District Construction oversight: Yes ___ No ___
 ITS project or element requiring FHWA oversight per stewardship: Yes ___ No ___

6. CALTRANS ENCROACHMENT PERMIT Is it required? Yes ___ No ___

7. COST ESTIMATE BREAKDOWN		\$1,000's	Fed. Participation	
(Including Structures)				
PE	Environmental Process	_____	Yes ___	No ___
	Design	_____	Yes ___	No ___
	System Manager/Integrator	_____	Yes ___	No ___
CONST	Const. Contract	_____	Yes ___	No ___
	Const. Engineer.	_____	Yes ___	No ___
R/W	Preliminary R/W Work	_____	Yes ___	No ___
	Acquisition:	_____	Yes ___	No ___
	(No. of Parcels _____)	_____	Yes ___	No ___
	(Easements _____)	_____	Yes ___	No ___
	(Right of Entry _____)	_____	Yes ___	No ___
	RAP (No. Families _____)	_____	Yes ___	No ___
	RAP (No. Bus. _____)	_____	Yes ___	No ___
	Utilities (Exclude if included in contract items)	_____	Yes ___	No ___

TOTAL COST \$ _____

7a. Value Engineering Analysis Required? Yes _____ No _____
 (Yes, if total project costs are \$25M or more on the Federal-aid System, or \$20M or more for bridges)

8. PROPOSED FUNDING

		Total Cost		Cost Share	
Grand Total		\$ _____			
Federal Program #1 _____		\$ _____	Fed.	\$ _____	Reimb. Ratio _____
(Name/App. Code) #2 _____		\$ _____	Fed.	\$ _____	Reimb. Ratio _____
Matching Funds Breakdown	Local:			\$ _____	_____ %
	State:			\$ _____	_____ %
	Other:			\$ _____	_____ %
State Highway Funds?	Yes _____	Source		No _____	
State CMAQ/RSTP Match Eligible		Yes _____	No _____	Partial _____	
Is the Project Underfunded? (Fed \$ < Allowed Reimb.)				Yes _____	No _____

9. PROJECT ADMINISTRATION

		Agency	Consultant	State
PE	Environ Process	_____	_____	_____
	Design	_____	_____	_____
	System Man./Integ.	_____	_____	_____
R/W	All Work	_____	_____	_____
CONST ENGR	Contract	_____	_____	_____
CONSTRUCTION	Contract	_____	_____	_____
MAINTENANCE		_____	_____	_____

Will Caltrans be requested to review PS&E? Yes _____ No _____

10. SCHEDULES: PROPOSED ADVERTISEMENT DATE _____
 Other critical dates: _____

11. PROJECT MANAGER'S CONCURRENCE

Local Entity _____ Date: _____

Signature & Title _____ Phone No. _____

Is field review required? Yes _____ No _____

Caltrans (District): _____ Date: _____

Signature & Title: _____

12. LIST OF ATTACHMENTS (Include all appropriate attachments if field review is required. See the "[]" notation for minimum required attachments for non-NHS projects)

- _____ Field Review Attendance Roster or Contacts Roster
- _____ Vicinity Map (Required for Construction Type Projects)

IF APPLICABLE (Complete as required depending on type of work involved)

- _____ Roadway Data Sheets [Req'd for Roadway projects]
- _____ Typical Roadway Geometric Section(s) [Req'd for Roadway projects]
- _____ Major Structure Data Sheet [Req'd for HBRR] _____ Signal Warrants
- _____ Railroad Grade Crossing Data Sheet _____ Collision Diagram

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MAJOR STRUCTURE DATA
(Attach a separate sheet for each structure)

Project Number _____
 Bridge Name (facility crossed) _____
 State Br. No. _____ Date Constructed _____ Historical Bridge Inv. Category _____
 Road Name _____ Location _____

STRUCTURE DATA

	Existing		Proposed		Minimum AASHTO Standards	
Structure Type	_____		_____		_____	
Structure Length	_____		_____		_____	
Spans (No. & Length)	_____		_____		_____	
Clear Width (curb to curb)	_____		_____		_____	
Shoulder Width	_____ Lt	_____ Rt	_____ Lt	_____ Rt	_____ Lt	_____ Rt
Sidewalks or bikeway width	_____ Lt	_____ Rt	_____ Lt	_____ Rt	_____ Lt	_____ Rt
Total Br. Width	_____		_____		_____	
Total Appr. Rdwy. Width	_____		_____		_____	
1. Preliminary Engineering by	_____		_____		_____	
2. Design by	_____		_____		_____	
3. Foundation Investigation by	_____		_____		_____	
4. Hydrology Study by	_____		_____		_____	
Detour, Stage construction, or Close Road	_____		_____		_____	
Length of Detour	_____		_____		_____	

Resident Engineer for Bridge Work: _____ Agency _____ Consultant (On Retainer as City/County Engineer)

Responsible Local Official _____

Discuss any special conditions; for example, federal ADA, state or local accessibility requirements, or proposed design exceptions.

ESTIMATED STRUCTURE AND RELATED COSTS:

Bridge Cost	Federally Participating	
	Yes	No
Construct Bridge	_____	_____
Bridge Removal	_____	_____
Slope Protection	_____	_____
Channel Work	_____	_____
Detour - Stage Construction	_____	_____

Approach Roadway	_____	_____	_____
Preliminary Engineering	_____	_____	_____
Construction Engineering	_____	_____	_____
Right of Way Costs	_____	_____	_____
Utility Relocation	_____	_____	_____
Mobilization	_____	_____	_____
Total	_____	_____	_____

Type of HBRR funds: Check one (Major type if more than one)

<input type="checkbox"/> Seismic/Voluntary (88.53% Fed. Share)	<input type="checkbox"/> Painting (88.53%)
<input type="checkbox"/> Rehabilitation (80%)	<input type="checkbox"/> Painting (80%)
<input type="checkbox"/> Replacement (80%)	<input type="checkbox"/> Special (80%)
<input type="checkbox"/> Railing (88.53%)	<input type="checkbox"/> Low Water Xing (80%)

Summarize HBRR funded costs of above estimate: (HBRR Federal-aid + local match for HBRR only)

Prelim. Eng. \$ _____
 Right of Way \$ _____
 Construction. \$ _____
 Total \$ _____

Indicate the estimated date for Federal-aid Authorization & Obligation or Check the box:
Date:

_____ Not needed for this project
 _____ Not needed for this project
 _____ Not needed for this project

VALUE ENGINEERING ANALYSIS

Required (Yes, if total project costs for bridge are \$20M or more) Yes No

Remarks _____

******* The following must be attached if the project is funded by the HBRR Program:**

1. Plan view of proposed improvements.
2. Typical Section.

******* The following is recommended:**

1. Right of way map to determine whether right of way acquisition or construction easements are necessary.

(Attachment to Field Review Form)

10.2 IDENTIFYING & DEFINING A NEED FOR CONSULTANTS

The need for a consultant is identified by comparing the project's schedule and objectives with the local agency's capabilities, its staff availability of the required expertise, and its funding resources. If the local agency does not have sufficient staff capabilities, it may choose to solicit assistance from another agency, or use a qualified private consultant to perform the required work.

If the local agency determines that there is a need to solicit assistance from another local agency, or to use a consultant, the DLAE should be notified if federal-aid or state funds are to be requested for the project segment to be contracted out.

APPOINTING THE CONTRACT ADMINISTRATOR

The Contract Administrator is responsible for ensuring the quality of consultant contract products or services. The Contract Administrator is appointed as soon as the need for consultant services is identified. The Contract Administrator is involved throughout the development of the selection process and the contract provisions and in the administration of the consultant's work. The Contract Administrator must be a qualified local agency employee, or have staff that is qualified to ensure the consultant's work is complete, accurate, and consistent with the terms and conditions of the consultant contract. The Contract Administrator or staff members must be thoroughly familiar with the work to be contracted out and the standards to be used.

The Contract Administrator's duties include the following:

- Provides direction to ensure the proposed work is advertised properly.
- The Request for Qualifications (RFQ); description of work, and Request for Proposals (RFP), if used, are prepared and distributed.
- Prepares the draft contract.
- Arranges for preparation in advance of an independent estimate of the value of the work to be contracted out.
- Ensures that the selection procedures are followed.
- Analyzes the selected/best-qualified consultant's cost proposal.
- Serves as the local agency's primary contact person for the successful consultant.
- Monitors the consultant's progress and providing direction.
- Reviews billings and makes a determination whether costs billed are reasonable in relation to the work performed during billing period.
- Approves the consultant's progress payments.
- Identifies other local agency persons for the consultant to contact, if needed.

The use of a consultant for a "management" role should be limited to unique or very unusual situations. These situations require a thorough justification as to why the local agency cannot perform the management. Consultants used in management roles must be selected; using the same procedures as those for other consultants specified in this chapter.

DETERMINING THE PROJECT SCHEDULE

The local agency develops a schedule for performance of work and completion of the project. The schedule must include sufficient time to allow for:

- Selecting the consultant.
- Developing the consultant contract.

- Completing the pre-award audit.
- Conducting meetings and project reviews.

SEGMENTING CONSULTANT WORK

Consultant services are most effective when consultant work is segmented appropriately. The extent of segmenting depends upon the type and complexity of the work. Combining preliminary engineering tasks with the preparation of the required environmental analysis is normally desirable. Preparing an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is more than simply writing a report. Assessment and impact reports include preliminary engineering needed to analyze project alternatives and produce an engineering and planning assessment. Initial project studies include only as much traffic and engineering analysis of alternatives, as is needed to produce a sound EA or EIS (see Chapter 6, “Environmental Procedures,” of the LAPM). Final detailed design must be delayed until environmental clearance has been received if federal reimbursement is desired.

Refer to Figure 10-1 “Segmenting Consultant Work” in this chapter, which illustrates several satisfactory ways to segment consultant activities.

VALUE ENGINEERING ANALYSIS

For projects on the federal-aid system with a total project cost of \$25 million or more and a bridge project with a total project cost of \$20 million or more, federal requirements included in “SAFETEA-LU” Section 1904 “Stewardship and Oversight” mandate that a “value engineering analysis” be performed on these projects. For more information on this subject, please see Chapter 12 “Plans, Specifications & Estimate,” Section 12.5 “Value Engineering Analysis” of this manual.

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CHAPTER 12 PLANS, SPECIFICATIONS, & ESTIMATE

12.1 INTRODUCTION

For locally sponsored projects on the State Highway System (SHS), the local agency must enter into a cooperative agreement with Caltrans to establish the responsibility for project PS&E (see Caltrans *Cooperative Agreement Manual*).

The preparation of the plans, specifications, and estimate (PS&E) for local federal-aid projects off the SHS is the responsibility of the local agency.

Except for major NHS projects, local agencies will certify that their project PS&E complies with all applicable federal and state regulations and procedures. A “PS&E Checklist” form is included as Exhibit 12-D in this chapter and summarizes the items requiring local agency compliance. The local agency’s project PS&E certification checklist must be submitted to the Caltrans District Local Assistance Engineer (DLAE) along with their “Request for Authorization” to proceed with construction. Local agency PS&Es are reviewed on a periodic basis as part of Caltrans’ process review program.

Major federal-aid projects in which the total project costs are expected to be \$100 million or more require an annual Financial Plan be prepared when all elements of the plan are fully known, but not later than the request for authorization of federal financial assistance for construction. Caltrans/FHWA may request submittal of the Financial Plan for projects of \$100 million or more on a project-by-project basis. **FHWA has now requested that Financial Plans for projects of \$100 million or more be submitted to the Caltrans DLAE.** Submittal of the Financial Plan and Project Management Plan are required for projects of \$500 million or more. Major federal-aid projects of \$500 million or more require a draft Project Management Plan be prepared and submitted to Caltrans/FHWA prior to the environmental determination, and final Project Management Plan be submitted within 90 days after the environmental determination. See Chapter 2 “Roles and Responsibilities,” of the *Local Assistance Procedures Manual* (LAPM) for more information.

The policies and procedures contained in this chapter reflect current federal requirements for the PS&E phase of local federal-aid projects. These instructions do not necessarily address the relevant state laws and local regulations with which a local agency must also comply.

DEFINITIONS

Design Standards - The standards, specifications, procedures, guides and references listed herein that are acceptable for application in the geometric and structural design of federal-aid projects (see Chapter 11, “Design Standards” of the LAPM).

Controlling Criteria - The specific minimum criteria and controls contained in the design standards for highway projects that are considered of primary importance for safety. Deviations from these controlling criteria require design exception approval (see Chapter 11, “Design Standards” of the LAPM).

Cost-Effectiveness/Public Interest Finding – A written document outlining the basis for a proposed deviation from a standard procedure as required in Title 23 of the Code of Federal Regulations. The finding contains supporting documentation such as cost /benefit analysis, product compatibility, etc., and it includes reasons that the proposed deviation is considered to be cost-effective or for the public’s best interest. Exhibit 12-F, “Request for Approval of Cost-Effectiveness/Public Interest Finding” of this chapter, is a preprinted blank form that should be used by local agencies to prepare a “Cost-Effectiveness/Public Interest Finding”. FHWA approval is required for local agency projects that are “FHWA Full Oversight,” and Caltrans’ approval is required for local agency projects that are “State-Authorized” on the SHS. The City or County Public Works Director’s approval is required for local agency projects that are “State-Authorized” off the SHS or National Highway System (NHS).

Design Exception Approval - A process to justify, approve and document allowable deviations from controlling criteria.

Specifications - The directions, provisions and requirements contained in the contract documents for a specific construction project. Included are various proposal conditions, contract administration provisions, required construction methods, and technical requirements for materials.

Standard Specifications - A published document that contains commonly used specifications developed for use as a reference for construction contract documents.

Standard Plans - A collection of plan details developed for use as a reference for construction contract documents. Included are standard abbreviations, symbols, design notes, design conditions and data, construction details, specifications, layouts, and measurement and payment details.

PRELIMINARY DESIGN

Local agencies may complete all necessary design work needed to complete the environmental document or to comply with other environmental laws during the NEPA process. This should not be construed as an authorization to proceed with final design for the entire project, but only for those aspects of the project necessary to consider specific environmental concerns. An example of this is where such work is necessary to permit the full evaluation of environmental impacts and to permit the consideration of appropriate mitigation measures, e.g., impacts to wetlands, Section 4(f) areas and resources covered by Section 106 of the National Historic Preservation Act.

FINAL DESIGN

Local agencies may not proceed with final design activities until FHWA has approved the final environmental document and signed the CE, Finding of No Significant Impact (FONSI) or Record of Decision (ROD); or Caltrans has approved the Programmatic CE. Granting approval to proceed with final design prior to final environmental approval would be a premature commitment to one alternative at a time when other alternatives, including the alternative of taking no action, are still being actively considered in the environmental process. Upon final environmental approval, it is incumbent upon the DLAE to immediately provide notification to the local agency and a copy of the approved environmental documents.

A summary of required mitigation measures can be found in the FONSI for projects processed with an Environmental Assessment, or in the ROD for projects processed with an Environmental Impact Statement, but detailed descriptions must be gleaned from the Final EA and EIS documents or from mitigation and/or monitoring plans (as appropriate).

Unique environmental commitments including but not limited to, excavation of historic sites, protection of public-owned public parklands, removal and disposal of hazardous materials, and the establishment of sensitive plant communities or wetland mitigation sites, are often complex and require technical expertise in the translation and transfer into final design. Projects cleared with a CE may have environmental mitigation measures, mitigation monitoring, reporting record [MMRR] associated with resources and impacts that must also be incorporated into project planning. In some cases, a plant establishment period or monitoring period is necessary and must be addressed during final design.

For complex projects, Caltrans staff is available to assist in the translation and proper transfer of environmental commitments into the final design.

Caltrans assures that mitigation measures and any required ongoing maintenance of mitigation are implemented by conducting periodic process reviews.

PERMITS

The local agency is also responsible for translating permit conditions and restrictions into the final design. Permits include, but are not limited to, Army Corps of Engineers, Section 404 (discharge of Fill) Nationwide or Individual, Section 10 Waterways and Navigable Waters, Water Quality Certification, California Department of Fish and Game Section 1601/03 Stream Encroachment, Pollution Discharge Elimination System, or U.S. Coast Guard. Typical mitigation includes hay bales, silt fencing, dust control, riprap, soil stabilization matting, slope drain, turbidity barrier, etc.

Local agencies should work closely with the permitting agency to ensure accurate translation and proper transfer of permit conditions and restrictions (as appropriate) into final design. Conversations with regulatory agencies regarding translation of permit conditions and restrictions should be well documented.

DOCUMENTATION

Well documented records, referencing the page numbers and/or plan sheets on which commitments are illustrated, should be maintained by the local agency, as this information will be necessary when certifying PS&E. This information will also be useful during process reviews.

12.4 METHOD OF CONSTRUCTION

CONTRACTING METHOD

Except as noted below, all federal-aid construction projects must be completed by contracts awarded to the lowest responsible bidder of a competitive bid process (23 CFR 635.104). In addition, local agencies may not, under any circumstances, negotiate with a bidder prior to award to reduce the price of a construction contract.

Occasionally, situations arise which may support the use of a contracting method other than competitive bidding. Noncompetitive construction contracting may be approved under the following conditions:

- When an emergency exists of such magnitude that work cannot be delayed
- There is only one organization qualified to do the work
- Competition is deemed inadequate after soliciting bids
- When it is more cost effective to do the project by “force account” (defined below)

The use of a non-competitive contracting method must be thoroughly justified in writing (generally by the use of a Public Interest Finding), submitted to the Caltrans DLAE for review, documented in the project files, and retained for future reference. For local federal-aid projects that are subject to FHWA Full Oversight (see Chapter 2, *Roles and Responsibilities*), justification must be submitted to the DLAE for FHWA’s review and approval.

FORCE ACCOUNT (DAY LABOR)

Federal regulations (23 CFR 635.203) defines “force account” as the direct performance of construction work by a local agency, railroad, or public utility using labor, equipment, materials and supplies furnished by them and under their direct control. Payment under force account is based on the actual cost of labor, equipment, and materials furnished, with consideration for overhead and profit.

Since work by force account is an exception to the normal contract method, which is based on competitive bidding, each local agency must also look to its own charter and applicable state code(s) when considering work by force account.

The performance of work by force account on a federal-aid project may be appropriate when:

- It is determined that the rights or responsibilities of the community are so affected as to require a special course of action, including a lack of competition or unreasonable bids (must be documented).
- By the inherent nature of the operation, it is deemed cost-effective to perform minor adjustments of railroad and utility facilities while the major work is still accomplished by competitive bidding (the use of force account work under this circumstance has been predetermined to always be cost-effective without further documentation or authorization).
- It is deemed cost-effective to perform some work (incidental to the main purpose of the project and other than minor adjustments of railroad and utility facilities), while the major work is still accomplished by competitive bidding.

A public interest finding fully justifying the use of force account work on a local federal-aid project must be prepared by the local agency. The documentation should include:

- An identification and description of the project and the kinds of work to be performed
- A comparison of the detailed cost estimates for work by force account versus a competitive bid contract
- An estimate of federal funds to be provided based on the reimbursement ratio of the qualifying costs
- The reason(s) the use of work by force account is considered to be cost-effective or an emergency
- An authorization by the City or County Public Works Director authorizing local agency forces to perform the work and certifying that the documentation reflects the true and current estimates of costs to perform the work.

The cost estimates for competitive bidding may be based on unit prices, including any engineering and administrative costs necessary to prepare, monitor, and close-out the project. Unit prices must be based on the estimated actual cost of performing the work but shall not exceed unit prices currently being obtained by competitive bidding on comparable construction work in the same general locality.

Incidental force account work must be carefully incorporated into a project's PS&E package. The local agency must keep precise project records documenting: the date(s) of authorization, actual work performed, date of performance, and costs for personnel, materials and equipment. Documentation of costs should include:

- Personnel
 - Time sheets
 - Salaries and payrolls
 - Foreman's reports
- Materials
 - Invoices for materials and supplies, and for any special services
 - Cost of producing materials supplied by the local agency
- Equipment

- Time and cost for using equipment owned by the local agency
- Time and rates for using rented equipment

Project records must be kept at least three years after the federal government completes a final voucher of the project.

EMERGENCY WORK

In an emergency situation competitive bidding may be waived on any of the federal-aid programs, and the work may be performed by either force account or negotiated contract. For projects that are not exempt from FHWA oversight, the waiver shall be approved by the DLAE. An emergency is a situation that requires emergency repair work, as provided under Emergency Relief (ER) Program (see Chapter 11 “Disaster Assistance” in the *Local Assistance Program Guidelines*) or when a major element or segment of a highway system has failed and the situation is such that competitive bidding is not possible or is impractical. Competitive bidding under such circumstance may not be possible or may be impractical because immediate action is necessary to:

- Minimize the extent of the damage
- Protect remaining facilities, or
- Restore essential travel

As an example: A local agency has a bridge programmed for replacement, using HBRR funds and has begun preliminary engineering on the bridge replacement project. Before the local agency completes the design of the bridge, a major storm does such damage to the bridge, that to repair the bridge is not practical. At this point, for projects that are exempt from FHWA oversight, the local agency could contact their DLAE to be granted a waiver (“Authorization to Proceed”) so as to begin negotiations with contractor(s) to replace the bridge, using HBRR funds, and using the plans that have been completed to date.

It should be noted that this waiver to competitive bidding only applies to emergency repairs as defined above, reconstruction work and permanent repairs, that can be separated from emergency repairs, are to be performed using the competitive bidding process.

12.5 VALUE ENGINEERING ANALYSIS

SAFETEA-LU

Federal requirements included in “SAFETEA-LU” Section 1904 “Stewardship and Oversight,” mandate that a “value engineering analysis” be performed on federal-aid projects on the federal-aid system with a total project cost of \$25 million or more, and for bridge projects with a total project cost of \$20 million or more, The “value engineering (VE) analysis” consists of a systematic process of review and analysis of the project during the concept and design phases, by a multi-disciplined team of persons, not involved in the project.

The local agency administering the project has been delegated the responsibility to insure that VE analysis is performed under Caltrans delegation authority. For each project, the local agency shall indicate in the appropriate checkbox on the PS&E Checklist whether VE analysis was performed.

DEFINITIONS

Project - A portion of a highway that a local agency proposes to construct, reconstruct, or improve as described in the preliminary design report or applicable environmental document. A project may consist of several contracts or phases over several years.

Value Engineering Analysis - The systematic application of recognized techniques by a multi-disciplined team to identify the function of a product or service; establish a worth for that function; generate alternatives through the use of creative thinking; and provide the needed functions to accomplish the original purpose of the project, reliably, and at the lowest life-cycle cost without sacrificing safety, necessary quality, and environmental attributes of the project.

PROCEDURES

The multi-disciplined team can be qualified local agency staff, qualified personnel from the current design consultant contract, or qualified personnel from a certified “value engineering analysis” consultant contractor. The most important factor is for the multi-disciplined team be qualified and not involved in the project in which they are performing the “value engineering analysis” The following websites may be of assistance when undertaking a “value engineering analysis”:

<http://www.value-eng.org/>

<http://www.fhwa.dot.gov/ve/>

<http://www.dot.ca.gov/hq/oppd/pdpm/pdomn.htm>

The multi-disciplined team performing “value engineering analysis” shall provide recommendations:

- To improve the value and quality of the project
- To provide the needed functions safely, reliably, and at the lowest overall cost
- To reduce the time to complete the project
- To combine or eliminate otherwise inefficient use of costly parts of the original proposed design for the project
- To completely redesign the project using different techniques, materials, or methods so as to accomplish the original purpose of the project

For bridge projects, the multi-disciplined team shall also include bridge substructure requirements based on construction material and be evaluated as follows:

- On engineering and economic bases, taking into consideration acceptable designs for bridges.
- Using an analysis of life-cycle and duration of project construction. For VE Studies of projects on the State Highway System, it is advisable to have Caltrans’ participation on the VE team.

This process concludes with a value analysis report that contains the approved recommendations. A copy of this report shall be submitted by the local agency to the DLAE who forwards it to the District Value Analysis Coordinator (DVAC) that is responsible for the project. The DVAC will submit this report to the Value Analysis Branch in headquarters, who will then include it in their annual report to FHWA. As a guide, Chapter 19 “Value Analysis” of the *Project Development Procedures Manual* may be used. The DVAC may be consulted for applicable sections.

12.6 HISTORY OF METRICATION

TRANSITION FROM METRIC UNITS TO U.S. CUSTOMARY UNITS

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) mandated that all PS&Es for federal-aid construction projects use metric units after September 30, 1996. In 1993, Caltrans adopted the International System of Units (SI: aka the Metric System) as our preferred system of weights and measures to comply with federal law. The law has subsequently been changed making the use of the Metric System optional. A decision document was approved on August 20, 2004, committing Caltrans to re adopt the U.S. Customary (English) system of units and measures as its preferred system. Caltrans began its transition from metric units to U.S. Customary system in March 2005. Caltrans Standard Plans, Standard Specifications and Standard Special Provisions have been converted to U.S. Customary units.

Beginning April 1, 2006, PS&E for all projects on and off the SHS (including those administered by local agencies) must be in U.S. Customary (English) units. During the transition from metric units to U.S. Customary units, either English or metric units may be used when the local agency, or their consultant, prepares the final PS&E package for bridge retrofit projects. On the other hand, English units must be used when Caltrans' consultants prepare the final PS&E package for seismic retrofit design. Regardless of the units used, both the bridge and roadway units must be the same (see Chapter 7, "Seismic Safety Retrofit Program," of the *Local Assistance Program Guidelines* [LAPG]).

CONVERSION TO U.S. CUSTOMARY (ENGLISH) UNITS

There are two ways to convert from metric units to U.S. Customary units:

- "Soft" conversion - a direct mathematical conversion to an exact or nearly exact English equivalent, for example: a 3.6 meters lane can be "soft converted" to 11.811 feet.
- "Hard" conversion - a rounded, rationalized, English number that is convenient to work with and easy to remember, for example: the old metric standard lane width of 3.6 meters (see Chapter 300 of the Caltrans *Highway Design Manual*, 5th edition) is 12 feet.

The Institute of Transportation Studies - University of California Berkeley (ITS), through the Cooperative Training Assistance Program (CTAP) and the Local Technical Assistance Program (LTAP), offers training courses in understanding metric conversion for local agencies. Also available through ITS are *AASHTO's Guide to Metric Conversion*, Caltrans' booklet entitled *Getting into Metrics*, and CD-ROM metric training packages.

12.7 PLANS

Project plans shall describe the location, design features, and construction requirements in sufficient detail to facilitate the construction, contract control and estimation of construction costs for the project.

A local agency may use the Caltrans *Drafting and Plans Manual* as a guide for preparing

Some concepts for developing price adjustment clauses include:

- Price adjustment does not need to be a standard specification unless shown in the bid-proposal
- There should be upper and lower limits on adjusted compensation
- Both upward and downward adjustments should be calculated
- Only by a significant change in the index should trigger a price adjustment
- Basis of payment should clearly indicate coverage of the price adjustment clause
- Contractor should not have an option to accept or reject price adjustment compensation and the compensation should be automatically incorporated in the progress and partial payment computations.
- Compensation should not be based on actual invoiced receipts
- Upward price adjustments should not be allowed after the contract time has expired

When local conditions warrant the use of price adjustment clauses, the following should be considered:

- Use for projects which will exceed nine months duration from bid opening to completion
- On single season contracts; provide price adjustment clauses for all price volatile materials which affect the unit costs of the major items of work
- On multiple season contracts: provide price adjustment clauses for all price volatile materials and supplies

When fuel prices are volatile, a price adjustment clause may be needed. This may occur on projects that are fuel intensive such as excavation, embankment, aggregate hauling and paving.

PROJECT LABOR AGREEMENTS

A Project Labor Agreement (PLA), also called a union agreement, is a contract between labor unions, contractors, and governmental agencies. Presidential Executive Order 13202 (signed February 17, 2001) was issued to limit executive branch agencies from using PLAs. Essentially, executive agencies may not require or prohibit contractors to enter into PLAs. Agencies also may not discriminate against contractors based on PLAs. In addition, despite the limits on executive agencies, contractors are not barred from freely agreeing to PLAs.

Executive Order 13202 was amended to settle concerns about existing PLAs on projects with multiple contracts. Amendments in Executive Order 13208 allow an agency to request an exemption to the use of PLAs only if the PLA was in effect before February 17, 2001.

Executive Order 13202 was amended to settle concerns about existing PLAs on projects with multiple contracts. Amendments in Executive Order 13208 allow an agency to request an exemption to the use of PLAs only if the PLA was in effect before February 17, 2001.

Requests for exemption must be written and must include the PLA, specific bid information, and the reason why the agency believes the exemption should be granted. PLAs are allowed only if the FHWA Administrator exempts a project. Requests for exemption should be referred to the DLAE.

Executive Orders 13202 and 13208 are available online at the following Webster:
www.whitehouse.gov/news/releases/2001/02/20010221.html
www.whitehouse.gov/news/releases/2001/04/20010406-1.html

12.11 OPTIONAL CONTRACT PROVISIONS

ADDITIVE OR DEDUCTIVE BID ITEMS

Local agencies may use “additive or deductive bid items” on federal-aid projects provided they use one of the following methods, with one exception, specified in California Public Contract Code, Section 20103.8. That one exception is the method described in subparagraph 20103.8(d) which cannot be used on federal-aid projects because it does not provide for a public opening of bids with full disclosure nor a predetermined method of identifying the lowest bidder.

“**20103.8.** A local agency may require a bid for a public works **contract** to include prices for items that may be added to, or deducted from, the scope of work in the **contract** for which the bid is being submitted. Whenever additive or deductive items are included in a bid, the bid solicitation shall specify which one of the following methods will be used to determine the lowest bid. In the absence of a specification, only the method provided by **subdivision (a)** will be used:

- (a) The lowest bid shall be the lowest bid price on the base **contract** without consideration of the prices on the additive or deductive items.
- (b) The lowest bid shall be the lowest total of the bid prices on the base **contract** and those additive or deductive items that were specifically identified in the bid solicitation as being used for the purpose of determining the lowest bid price.
- (c) The lowest bid shall be the lowest total of the bid prices on the base **contract** and those additive or deductive items that when taken in order from a specifically identified list of those items in the solicitation, and added to, or subtracted from, the base **contract**, are less than, or equal to, a funding amount publicly disclosed by the local agency before the first bid is opened.
- (d) Deleted as it is not to be used.

A responsible bidder who submitted the lowest bid before the first bid is opened as determined by this section shall be awarded the **contract**, if it is awarded. This section does not preclude the local agency from adding to or deducting from the **contract** any of the additive or deductive items after the lowest responsible bidder has been determined.

- e) Nothing in this section shall preclude the prequalification of subcontractors.”

ALTERNATE BIDS

Alternate bidding is a method used to minimize the overall cost of any federal-aid projects through increased competition. By considering alternate design schemes and construction methods, it is possible to attract the greatest number of bidders and realize the lowest possible bid prices.

Alternate bidding procedures should be used when more than one alternate is judged equal over the design period and there is a reasonable possibility that the least costly design approach will depend on the competitive circumstances. The potential for using alternates will normally be developed through design studies and value engineering analysis during project development. Moreover, there may be standard plan alternates developed for repetitive design items (i.e., drainage items, bridge structures, sound walls and pavement details, etc.).

The bidding documents and contract plans should clearly indicate the design criteria and the type of alternate designs or contractor options that will be acceptable. The contractor should be permitted to bid any designated alternate that is consistent with its expertise and equipment.

INCENTIVE/DISINCENTIVE (I/D) PROVISIONS

FHWA's long-standing policy prohibiting bonus payments on federal-aid projects, as formerly stated in 23 CFR 635.118, was rescinded on June 13, 1984. The decision was based on the findings of National Experimental and Evaluation Program (NEEP) 24. The NEEP-24 demonstrated that the use of early completion incentive payments could be used beneficially and without abuses.

A clear distinction should be made between the intent of I/D provisions and the purpose of liquidated damages. Although they have similar mechanisms, the function of each is different. The primary function of liquidated damages is to recover costs associated with the contractor's failure to complete the project on time. On the other hand, an I/D provision is intended to motivate the contractor to complete the work on or ahead of schedule without jeopardizing quality of work. An I/D provision for early completion is defined as a contract provision, which compensates the contractor for each day that identified critical work is completed ahead of schedule and assesses a deduction for each day that completion of the critical work is delayed. The use of I/D provisions is primarily intended for critical projects where it is essential that traffic inconvenience and delays be held to a minimum. It must be emphasized that I/D provisions should not be used routinely.

A discussion of factors to consider when selecting and developing I/D projects is available in FHWA's *Contract Administration Core Curriculum* (2006) at the following website:

www.fhwa.dot.gov/infrastructure/progadmin/contracts/coretoc.htm

Conceptual guidelines have also been developed to be used for project selection criteria and can be found in the Caltrans memorandum "Delegation of Authority for Use of A+B Bidding and Incentive/Disincentive (I/D) Provisions" at the following website:

www.dot.ca.gov/hq/oppd/pdpmb/pdpmbidx.htm

QUALITY - PRICE ADJUSTMENT CLAUSES

Price adjustment clauses and schedules are an important and effective component of quality assurance specifications. "Quality Assurance" specifications generally include statistically based acceptance plans, require contractor process control testing, and have provisions for pay adjustments based on the degree of compliance with specified requirements. Incentives and disincentives should rationally relate to the gain or loss in service life or performance of the product. Quality assurance specifications and programs

may lead to better contractor control of the quality of the product, however, they do not diminish the need for effective construction inspection

The FHWA has traditionally endorsed the use of incentive provisions up to five percent of the unit bid price for improved quality provided they are based on readily measured physical properties that reflect improved performance. Incentives greater than five percent on NHS projects are considered on a case-by-case basis following an analysis of performance data. For non-NHS projects, consideration for incentives greater than 5 percent is delegated to the local agency.

A detailed discussion of the criteria (such as: typical critical physical properties, acceptance plans and pay schedules) to consider when developing price adjustment provisions are provided in FHWA's *Contract Administration Core Curriculum*.

INNOVATIVE CONTRACTING PRACTICES

Neither the FHWA nor Caltrans have any intention of mandating the use of any of the innovative contracting practices cited below on local agencies. However, the FHWA is trying to develop a process nationwide through which states, local agencies and the industry can bring forth innovative contracting practices that they believe could result in worthwhile improvements to our traditional ways of doing business. It is FHWA's intent to try all promising concepts proposed that fall within the flexibility of the federal-aid program requirements

A discussion on the "Cost-Plus-Time Bidding" (A+B method), "Lane Rental" and "Design/Build" innovative contracting techniques is provided in the FHWA's *Contract Administration Core Curriculum*. Conceptual guidelines have also been developed to be used for project selection criteria and can be found in the Caltrans memorandum "Delegation of Authority for Use of A+B Bidding and Incentive/Disincentive (I/D) Provisions" at the following website: www.dot.ca.gov/hq/oppd/pdpmb/pdpmbidx.htm

12.12 MATERIALS AND EQUIPMENT

PUBLICLY OWNED EQUIPMENT

On all federal-aid construction projects, publicly owned equipment should not normally compete with privately owned equipment on a project going out for bid. The local agency may approve the use of publicly owned equipment when justified by a public interest finding. Federal participation is permitted provided:

- The PS&E submittal provides for the proposed use
- The specifications indicate equipment availability, rates and delivery point
- The specifications include the provision that the contractor shall have the option of providing or renting all or part of the equipment

Public agencies shall not benefit from the rental of its own equipment and rental rates must be competitive. The rates for work performed by force account work should be based on an agreed unit price or actual cost. The equipment need not be included in the estimate; however, the estimate should include a schedule of rates charged for use of publicly owned equipment.

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CONTRACTOR-PURCHASES FOR LOCAL OWNERSHIP

On all federal-aid construction projects, equipment purchased by the local agency or by a contractor with ownership transferred to the local agency for construction engineering (CE) is not totally eligible for federal participation. Only that portion of the amortized equipment cost (over its useful life) attributable to the time the equipment is used on a federal-aid project is accounted for as CE and eligible.

Equipment is defined as tangible, nonexpendable, personal property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit.

CONVICT PRODUCED MATERIALS

Materials produced by convict labor after July 1, 1991 may be used on any federal-aid projects if:

- Such materials have been produced by convicts on parole, supervised release, or probation from prison
- Such material has been produced in a qualified prison facility and the amount produced during any 12-month period does not exceed the amount produced during the 12-month period ending July 1, 1987

These materials are not given preferential treatment and are subject to the same requirements as materials from other sources. The contractor furnishes all materials through normal contracting procedures and selects either public or private sources of materials. Prison Industries may not bid directly on projects but may serve as a material supplier to contractors.

LOCAL PREFERENCES

On all federal-aid construction projects, materials produced within the state or local area shall not be favored over comparable materials produced outside of the state or local area. Also, in-state material sources cannot be given preference over foreign materials or actions taken against materials of foreign origin unless permitted by federal law. State or local preference provisions are not allowed on federal-aid project contracts.

WARRANTY CLAUSES

For projects off the NHS, local agencies may include warranty provisions in construction contracts in accordance with procedures they have developed for their nonfederal projects.

For projects on the NHS, local agencies may include warranty provisions in construction contracts in accordance with the following conditions:

- Warranty provisions shall be for a specific construction product or feature. Items of maintenance not eligible for federal participation shall not be covered.

- No warranty requirements shall be approved which may place an undue obligation on the contractor for items over which the contractor has no control.

The local agency shall provide documentation of these conditions in the project files. Local agencies are advised that items of maintenance are not eligible for federal participation. Including maintenance items results in the items being considered non-participating and requiring pay back of the federal funds involved.

PROPRIETARY ITEMS

It is the policy of the FHWA not to participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a federal-aid project unless:

- The item is purchased or obtained through competitive bidding with equally suitable unpatented items.
- The local agency certifies either in a public interest finding that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- The item is used for research or for a special type of construction on relatively short sections of road for experimental purposes.

This FHWA policy is applicable to local agency projects both on and off the NHS.

The primary purpose of this policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits:

- Materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of acceptable materials or products listed.
- The local agency may approve a single source if it can be found that its utilization is in the public interest. The approved public interest finding shall be fully documented and retained in the project files.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are to be used all or at least a reasonable number of these materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

EQUIPMENT RENTAL RATES

Federal policy requires that actual costs be used to determine extra work payments; however, actual equipment costs are not readily available. Therefore, the FHWA permits the local agencies to specify in their construction contract specifications the use of predetermined rate guides as well as equipment rates schedules development by the local agency which are in conformance with the federal cost principles and the FHWA's policy

contained in the *Contract Administration Core Curriculum*, published by the FHWA. Caltrans' Equipment Rental Rates are in conformance with these requirements.

12.13 ESTIMATES

The estimate used to authorize the construction phase of a federal-aid project shall reflect the anticipated cost of the project in sufficient detail to provide an initial prediction of the financial obligations to be incurred by the local agency and FHWA and to permit an effective review and comparison of the bids received.

Initially, a preliminary estimate is prepared by the local agency, which includes the basic items that a contractor will be asked to bid. This is a confidential document, which represents the local agency's best estimate of a fair and reasonable price for the items or work to be performed. As such, the Engineer's Estimate should not be made available to contractors and the general public prior to opening bids. This estimate must be prepared in a format, which describes the item of work, unit amount, quantity, unit price, amount, a subtotal, contingencies and a total. (Exhibit 12-A, *Preliminary Estimate of Cost*, or equivalent.)

Other estimates must also be prepared, if appropriate, for local agency furnished materials, supplemental work, construction engineering, the Federal Trainee program, and force account (day labor) work performed by the local agency. The estimates must be segregated by major construction categories. Furthermore, any items of work, which are ineligible for federal participation in a category, must be segregated from the eligible items of work.

These estimates are used to prepare the Finance Letter and the "Request for Authorization for Construction." After bids are opened and the project has been awarded, a Detail Estimate is prepared by the local agency, which upgrades the preliminary estimate by using actual bid amounts rather than estimates. For more information on detail estimates, refer to Chapter 15. *Advertise and Award*, of this manual.

NONPARTICIPATING WORK

On all federal-aid construction projects, work which is not within the limits of the project must be segregated under a category called "Not Part of Federal Project" for purposes of the preliminary and detail estimates (work funded by others is most generally nonparticipating).

Work within the federal-aid project limits, but ineligible for federal funding, is referred to as "nonparticipating work." Items considered "nonparticipating work" include but are not limited to the following:

- Betterment work such as capital outlay, safety improvements, or operational improvements that goes beyond restoring a site to its original condition or to the current standard (for emergency relief work)
- Right of way obligations when right of way is nonparticipating
- Maintenance related activities
- Spare parts not incorporated in the work

PS&E CHECKLIST

Agency _____

Federal Project No. _____

This form is to be completed by the local agency and attached to the PS&E Certification. See Exhibit 12-E for instructions and the referenced attachments.

I. HIGHWAY SYSTEM

- On the National Highway System (NHS)
 Off the NHS

II. FUNCTIONAL CLASSIFICATION (Check as many as appropriate)On the Federal-aid System

- | | |
|---|---|
| <input type="checkbox"/> Urban Principal Arterial - Fwy or Expwys | <input type="checkbox"/> Rural Principal Arterial |
| <input type="checkbox"/> Urban Principal Arterial - Other | <input type="checkbox"/> Rural Minor Arterial |
| <input type="checkbox"/> Urban Minor Arterial | <input type="checkbox"/> Rural Major Collector |
| <input type="checkbox"/> Urban Collector | |

Off the Federal-aid System

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Urban Local | <input type="checkbox"/> Rural Minor Collector |
| | <input type="checkbox"/> Rural Local |

III. TYPE OF CONSTRUCTION (Check appropriate box)

- New or Reconstruction
 Resurfacing, Restoration and Rehabilitation (3R)
 Preventive Maintenance

IV. METHOD OF CONSTRUCTION**A. Contracting Method** (Check appropriate box)

- Competitive bidding
 Other than competitive bidding

(If the contracting method is other than competitive bidding, check appropriate box below.)

- The project is State-Authorized. A Public Interest Finding has been submitted to the DLAE for review and filed in the contract records justifying the method.
 The project is subject to FHWA Full Oversight. A Public Interest Finding justifying the method has been submitted and approved by Caltrans and FHWA.

B. Force Account (Day Labor) (Check appropriate box)

- The entire work will be constructed by contract as indicated above.
 Some work (incidental to the main purpose of the project) will be constructed by Force Account. A Public Interest Finding is on file in the contract records justifying the work.
 The entire project will be constructed by Force Account (Day Labor).

(If the entire project will be constructed by Force Account (Day Labor)

- The project is State-Authorized and not subject to FHWA oversight. A Public Interest Finding is on file in the contract records justifying the work.
 The project is subject to FHWA Full Oversight. A Public Interest Finding justifying the method has been submitted and approved by Caltrans and FHWA.

V. ENVIRONMENTAL ANALYSIS (Check box if requirement is met)

- The PS&E is fully responsive to the necessary actions called for by the environmental document, permit conditions and other agreements.

VI. VALUE ENGINEERING (VE) ANALYSIS (Check appropriate box)

- VE analysis has been performed on this project and a copy of the analysis has been submitted to the DLAE for forwarding to the Caltrans District Value Analysis Coordinator.
- The project is not a bridge project. VE analysis has not been performed as the estimated total project cost is <\$25 million.
- The project is a bridge project. VE analysis has not been performed as the total project cost is <\$20 million.

VII. GEOMETRIC DESIGN STANDARDS (Complete this section if project changes existing geometrics)

A. Geometric Design Standards Used (Check appropriate box)

- Caltrans Design Standards (on State Highway System)
- Current AASHTO Standards
- 3R Projects - Minimum Standards for Geometric Design of Federal-Aid Resurfacing, Restoration, and Rehabilitation Projects on Local Streets and Roads, *Local Assistance Procedures Manual*, State of California Department of Transportation.
- Local Agency Design Standards Date approved _____

B. Deviations from Controlling Criteria (check appropriate box for each controlling criteria)

Criteria Met	Design Criteria Not Met	Design Exception Approval Date	Controlling Criteria
<input type="checkbox"/>	<input type="checkbox"/>	_____	Design Speed
<input type="checkbox"/>	<input type="checkbox"/>	_____	Lane Width
<input type="checkbox"/>	<input type="checkbox"/>	_____	Shoulder Width
<input type="checkbox"/>	<input type="checkbox"/>	_____	Bridge Width
<input type="checkbox"/>	<input type="checkbox"/>	_____	Horizontal Alignment
<input type="checkbox"/>	<input type="checkbox"/>	_____	Vertical Alignment
<input type="checkbox"/>	<input type="checkbox"/>	_____	Grades
<input type="checkbox"/>	<input type="checkbox"/>	_____	Stopping Sight Distance
<input type="checkbox"/>	<input type="checkbox"/>	_____	Cross Slopes
<input type="checkbox"/>	<input type="checkbox"/>	_____	Super elevation
<input type="checkbox"/>	<input type="checkbox"/>	_____	Horizontal Clearance
<input type="checkbox"/>	<input type="checkbox"/>	_____	Vertical Clearance

C. Convict Produced Materials

- Not included
- Included. The conditions placed on the use of these materials by the contractor meet federal requirements and are included in the contract specifications.

D. Local Agency Furnished Materials (Check appropriate box)

- Local Agency Furnished Materials are not included.

(If Local Agency Furnished Materials are included check appropriate box.)

- Local Agency Furnished Materials have been acquired on the basis of competitive bidding.
- A Public Interest Finding is on file in the contract records justifying another method of acquisition.

XV. PRELIMINARY ESTIMATE (Check boxes if requirements met)

- Exhibit 12-A or equivalent has been completed and is attached.
- The estimate is broken down into items sufficient in detail to provide an initial prediction of the financial obligation to be incurred by the local agency, state and FHWA and to permit an effective review and comparison of the bids received.
- Non-participating items of work have been identified and segregated from the estimated cost of work eligible for federal-aid.

(If project is funded with more than one type of federal-aid, check box if requirement met.)

- The estimate has been segregated by fund types for use in preparing the "Request for Authorization for Construction" (Detail Record) and the Finance Letter.

XVI. MAJOR PROJECTS WITH TOTAL COST OF \$100 MILLION TO \$500 MILLION OR MORE (Check boxes if requirements met)

The total cost of this project is:

- Expected to be less than \$100 million.
- Expected to be \$100 million or more, but less than \$500 million:
- A Financial Plan is required and has been prepared and submitted to the DLAE.
Approval Date: _____
- Expected to be \$500 million or more and:
- A Project Management Plan has been prepared and submitted to the DLAE.
Approval Date: _____

An Annual Financial Plan has been prepared and submitted to the DLAE

XVII. LOCAL AGENCY SIGNATURE

This Federal Contract Provisions checklist has been prepared in accordance with Chapter 12 “Plans, Specifications & Estimate,” of the *Local Assistance Procedures Manual*.

Signature: _____ Date: _____

Title: _____

XVIII. CALTRANS ACCEPTANCE

Check appropriate acceptance statement:

- I have not personally inspected the subject project PS&E package but I am aware of the scope of the project. I have reviewed this “PS&E CHECKLIST” and agree it is complete and appears to have been prepared in accordance Chapter 12 “Plans, Specifications & Estimate,” of the *Local Assistance Procedures Manual*.
- I have inspected the specifications portion of the subject project PS&E package and I am aware of the scope of the project. I have reviewed this “PS&E CHECKLIST” and agree it is complete and appears to have been prepared in accordance with Chapter 12 “Plans, Specifications & Estimate,” of the *Local Assistance Procedures Manual*. I have also verified that the indicated Required Federal Contract Provisions are included in the specifications.

Signature: _____ Date: _____

Title: _____

- Distribution:**
- 1) Original with PS&E Certification - DLAE
 - 2) Original “Accepted” copy with PS&E Certification - DLAE file
 - 3) One “Accepted” copy to be returned to Local Agency

PS&E CHECKLIST INSTRUCTIONS

The PS&E Checklist is to be completed by the local agency in accordance with the following instructions and attached to the PS&E Certification.

I. HIGHWAY SYSTEM

Some PS&E requirements depend on whether the project is on or off the National Highway System (NHS). See *Local Assistance Program Guidelines (LAPG) Chapter 3, Federal-Aid Routes and Functional Classifications*, for a listing of the local agency NHS routes.

Check the appropriate box indicating on which system the project is located.

II. FUNCTIONAL CLASSIFICATION

Federal-aid eligibility, design standards as well as some PS&E requirements depend on the functional classification of the route the project is on. See LAPG, Chapter 3, *Federal-Aid Routes and Functional Classifications*, for a discussion of the functional classification system.

Check the appropriate box

III. TYPE OF CONSTRUCTION

Design standards as well as some oversight responsibilities depend on the type of construction. See Chapter 2 of this manual for definitions and check the appropriate box.

IV. METHOD OF CONSTRUCTION

A. CONTRACTING METHOD

Unless justified by a Public Interest Finding (Exhibit 12-F in this chapter), all federal-aid construction contracts must be awarded to the lowest responsible bidder of a competitive bid process. For State-Authorized projects that are not subject to FHWA Full Oversight, the local agency may approve the Public Interest Finding if it meets the conditions described in Chapter 12. Caltrans and FHWA must approve the Public Interest Finding for projects that are subject to FHWA Full Oversight before accepting the local agency's PS&E Certification.

Check the appropriate box.

B. FORCE ACCOUNT (DAY LABOR)

A Public Interest Finding (Exhibit 12-F in this chapter) must justify any force account construction work performed by the local agency. When the entire project will be constructed by the local agency, and the project is subject to Full Oversight by Federal Highway Administration (FHWA), the Public Interest Finding shall be submitted to District Local Assistance Engineer (DLAE) for Caltrans and FHWA approval before accepting the local agency's PS&E Certification. The Public Interest Finding will be approved by the local agency for all other force account (day labor) work.

Check the appropriate boxes and process the Public Interest Finding as required.

V. ENVIRONMENTAL ANALYSIS

The preparation of PS&E must reflect findings of the environmental analysis performed for the project. By checking the box, the agency certifies that the necessary actions called for by the environmental documents have been responded to in the PS&E. Failure to check the box will result in denial of the Request for Authorization.

VI. VALUE ENGINEERING (VE) ANALYSIS

The application of value engineering (VE) is required for: (1) all federal-aid highway projects with a total estimated project cost of \$25 million or more, and (2) all bridge projects with a total estimated project cost of \$20 million or more. Check appropriate box.

VII. GEOMETRIC DESIGN STANDARDS

If the project does not change existing geometrics, Section A and B do not apply and the local agency is not required to check any boxes in these sections.

A. GEOMETRIC DESIGN STANDARDS USED

New and reconstruction projects on the NHS shall be designed in accordance with Standards as defined in the current edition of *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway and Transportation Officials (AASHTO). The minimum standards for geometric design of local federal-aid resurfacing, restoration and rehabilitation (3R) projects on the NHS are shown in Tables 11-1 through 11-10 in Exhibit 11-A. Local geometric design standards that have been developed for use on locally funded new and reconstruction, or 3R projects off the NHS, may be used subject to the conditions listed in Chapter 11, *Design Standards*.

Check appropriate box if this section applies.

B. DEVIATIONS FROM CONTROLLING CRITERIA

The controlling criteria listed are considered to be of primary importance for highway safety, and deviations require design exception approval procedures as described in Chapter 11, *Design Standards*. Check whether the criteria have been met on this project. If a design exception has been approved, indicate the approval date. Documentation shall be retained in the project files.

VIII. BRIDGE DESIGN PROCEDURES

All bridges shall be designed in accordance with the current edition of the *Caltrans Bridge Design Specifications Manual*. Check if requirement met, or if the project does not include any bridge construction indicate requirement does not apply.

IX. STANDARD PLANS

For projects off the State Highway System, the local agency may use *Caltrans Standard Plans*, *Standard Plans for Public Works Construction*, or subject to the conditions described in Chapter 11, *Locally approved Standard Plans*. Check appropriate box.