



## *Local Programs Procedures*

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**LPP 07-01**      **Manual Update**  
**Subject:**      **Technical Changes**

Reference:      *Local Assistance Procedures Manual (LAPM)*, Chapter 3-Project Authorization, Chapter 5 - Accounting/Invoices, Chapter 10-Consultant Selection, Chapter 12 -Plans, Specifications & Estimate, Chapter 15-Advertise and Award Project, Chapter 17-Project Completion, and *Local Assistance Program Guidelines (LAPG)* Chapter 10-High Risk Rural Roads (HR3) Program

Effective Date: May 4, 2007

Approved: \_\_\_\_\_

**Original Signed By**

TERRY L. ABBOTT, Chief  
Division of Local Assistance

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### **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 first LPP issued in 2007; hence, it is LPP 07-01

### **PURPOSE**

The purpose of this LPP is to make technical changes to various pages in the *Local Assistance Procedures Manual (LAPM)* and in the *Local Assistance Program Guidelines (LAPG)*.



### 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.
- To receive an electronic notification when new information is posted on the DLA website, 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:

Department of Transportation  
Division of Local Assistance, MS 1  
Attention: Cathy Felkins  
P.O. Box 942874  
Sacramento, CA 94274-0001  
FAX (916) 654-2409  
[Cathy\\_Felkins@dot.ca.gov](mailto:Cathy_Felkins@dot.ca.gov)

**SUMMARY OF CHANGES**

The pages in this LPP are to replace the pages in some chapters affected by the revisions.

<b>LAPM Item</b>	<b>Change</b>
<p><b>Chapter 3</b>  <b>Exhibit 3-A, 3-B,</b>  <b>3-C, 3-D</b>  <b>pages 3-21 thru 30</b></p>	<p>Under phase of work for “<i>Environmental Document</i>” the following changes were made:</p> <ul style="list-style-type: none"> <li>- Deleted “Approved Environmental Document” for consistency with the rest of exhibits under the same phase of work.</li> <li>- Programmatic Categorical Exclusions (PCE) and Categorical Exclusion (CE) were listed as two distinct type of approval for easy accounting.</li> </ul> <p>Under phase of work for “<i>Disadvantaged Business Enterprise (DBE)</i>” deleted references to Contract DBE Goals and DBE Availability Advisory requirements and related language.</p>
<p><b>Chapter 5</b>  <b>(Section 5.14</b>  <b>Obtaining Approval</b>  <b>for Indirect Costs)</b>  <b>page 5-23</b></p>	<p>Under “<i>Documentation of Proposal</i>” corrected “Exhibit 5-J” to “Exhibit 5-I.”</p>
<p><b>Chapter 10</b>  <b>Pages 10-17, 19, 21,</b>  <b>23, 25</b></p>	<p>Corrected the headers.</p> <p>Under “<i>Performance Evaluation</i>” corrected “Exhibit 10-T” to “Exhibit 10-S.”</p>
<p><b>Section 10.9</b>  <b>(References) page 26</b></p>	<p>Corrected the reference listed from “<i>Caltrans Environmental Handbook</i>” to “<i>Standard Environmental Reference (SER)</i>.”</p>
<p><b>Chapter 12</b>  <b>Table of Contents</b></p>	<p>Updated “<i>Table of Contents</i>” to reflect the changes made.</p>
<p><b>Section 12.8</b>  <b>(Standard</b>  <b>Specifications) page</b>  <b>12-13</b></p>	<p>Under “<i>Sample Boiler Plate Contract Documents on the Internet</i>” corrected the reference that was cited, from ... “July 1999”... to .... “or May 2006”...</p>
<p><b>Section 12.9</b>  <b>(Required Federal</b>  <b>Contract Provisions)</b>  <b>page 12-14</b></p>	<p>Under “<i>Form FHWA 1273</i>,” added the word .... “<b>physically</b>”.... in the paragraph.</p>
<p><b>Page 12-21</b></p>	<p>Corrected footer to “LPP 04-09... ..September 30, 2004.”</p>

<b>Chapter 15 Exhibit 15-L page 15-41</b>	Reference to “Exhibit 12-F” was corrected to “Exhibit 12-E, Attachment D.” An (*) <b>asterisk</b> was added to “ <i>Date DLA’s Federal Wage Rate website was checked for updates,</i> ” as well as an explanation for the <i>asterisk</i> .
<b>Chapter 17 (Section 17.7 References) page 17-8</b>	Under “ <i>Reference,</i> ” corrected the following listed references: <ul style="list-style-type: none"> <li>- “Caltrans <i>Construction Manual</i>, Chapter III, Section 3-00, “Project Records and Reports” to “Caltrans <i>Construction Manual</i>, Chapter 5, Section 5-1, “Project Records and Reports”</li> <li>- “Caltrans <i>Construction Manual</i>, Chapter VIII, Section 8-01, 8-02, and 8-03, “Sampling and Testing” to “Caltrans <i>Construction Manual</i>, Chapter 6, Section 6-01, 8-02, and 8-03, “Sampling and Testing”</li> </ul>
<b>Exhibit 17-D page 17-17</b>	Corrected errors on the figures in the “ <i>Sample Federal-aid Final Invoice Exhibit.</i> ”
<b>LAPG Item</b>	<b>Change</b>
<b>Chapter 10 Exhibit 10-C page 10-18</b>	Under “ <i>Step 4: Safety Index Calculations</i> ” table, corrected the formula on “Item 8: (4)x(1.0-(7))” to “(3) x(1.0-(7)).”

**AUTHORITIES AND REFERENCES**

- 23 U.S.C. 630.301 et.Seq.
- 49 CFR, Part 26
- Section 106 (a) United States Code revised under TEA-21
- Published Memos: Weaver/Kiff, 2/20/93, Everitt 5/28/93 & 1/5/95(Exchange & Match procedures)
- Caltrans *Local Assistance Program Guidelines* (LAPG)

**EXHIBIT 3-A REQUEST FOR AUTHORIZATION TO PROCEED WITH PRELIMINARY ENGINEERING**

*(Local Agency Letterhead)*

To: (DLAE Name) District Local Assistance Engineer Caltrans, Office of Local Assistance (District Address)	Date: _____ FTIP/FSTIP ID: _____ Federal Project No: _____ EA: _____ PPNO (For STIP Projects): _____ Major ITS (Phase 1 or 2): _____ Project Description: _____
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Dear (DLAE Name):

In order to begin federally reimbursable preliminary engineering work for the above-referenced project, we request that you secure Federal Authorization to Proceed and obligation of funds. The federal funds requested do not exceed those provided to this agency in the federally approved Federal Transportation Improvement Program (FTIP)/Federal Statewide Transportation Improvement Program (FSTIP).

Attached are the following documents required to authorize this phase of work:

Request for Authorization Package

- Completed Request for PE Authorization Data Sheet (Exhibit 3-E)
- Copy of FTIP/FSTIP Reference
- Completed Finance Letter (Exhibit 3-O)
- For Major ITS Projects – Phase 2 Only: FHWA approved Systems Engineering Management Plan (SEMP) (Note that federal approval of the SEMP is contingent on prior federal approval of the Systems Engineering Review Form [SERF])
- Copy of Executed Cooperative Agreement (only for projects on State Highway System)
- Request for Capital Subvention Reimbursement Allocation (Exhibit 3-H) (only for projects on State Highway System)

Field Review Form (Exhibit 7-B)

- Completed Field Review Form (Exhibit 7-B), or
- A Field Review Form will be submitted within four (4) months of the Federal Authorization date, otherwise, it is understood the authorization to proceed will be canceled automatically. It is further understood that a Program Supplement Agreement will NOT be prepared until after the Field Review Form is submitted.**

Environmental Document

- Type of NEPA Document. Approval Date: \_\_\_\_\_.
- Programmatic Categorical Exclusion (PCE) Form
- Categorical Exclusion (CE) Form
- Findings of No Significant Impact (FONSI)
- Record of Decision (ROD)
- Re-evaluation
  
- This agency has not completed the environmental process. The NEPA Document will be submitted at a later date, prior to beginning of final design (PS&E).

Disadvantaged Business Enterprise (DBE)

- The Annual Anticipated DBE Participation Level (AADPL) for FFY \_\_\_\_\_ was approved by Caltrans on \_\_\_\_\_.
- All work for this phase of the project will be performed by local agency staff.
- For consultant contracts the Local Agency Proposer/Bidder-DBE (Consultant Contract) Information (Exhibit 10-O) will be provided immediately upon execution of the consultant contract.

Pre-Award Audit

- Completed Audit Disposition (Exhibit 10-K), or
- Audit Disposition was not completed because neither federal-aid nor state funds will be used to fund a consultant contract, or
- Pre-award audit was not performed because the consultant contract is for \$250,000 or less and does not meet the criteria outlined in Exhibit 10-K, requiring pre-award audit, or
- Audit Disposition is not being submitted at this time. It will be submitted to the DLAE prior to entering a contract with the consultant(s).

California Transportation Commission (CTC) Allocation

- A CTC allocation is not required, or
- A CTC allocation of \$ \_\_\_\_\_ (federal/state) funds for the PA/ED and/or PS&E component(s) of work was made at the \_\_\_\_\_ meeting of the CTC, or
- A CTC allocation of funds has been scheduled for the \_\_\_\_\_ meeting of the CTC. It is understood that the authorization/obligation of any federal STIP funds will not be made until after the CTC allocation.

Project Agreement and Liquidation of Funds

Upon FHWA issuance of the "Authorization to Proceed" and Agency submittal of the "Field Review" form (Exhibit 7-B) a "Program Supplement Agreement" will be prepared to encumber the federal and/or state funds for the project. This Agency understands that any federal and/or state funds encumbered for the project are typically available for disbursement for a period of seven (7) and five (5) years respectively, from the beginning of the fiscal year(s) that those funds are appropriated in the State Budget Act, unless an extension is granted by the Department of Finance. It is anticipated that this phase of work will be completed by \_\_\_\_\_ (month, year).

Invoice Submittal

This Agency understands that only relocation work performed after federal "Authorization to Proceed" (E-76) is eligible for reimbursement. Invoices for reimbursement will not be submitted until after the federal and state (if applicable) funds are encumbered via an executed "Program Supplement Agreement" and/or State approval Finance Letter. In addition, it is also understood that an invoice must be submitted at least once every six (6) months for each project phase until all funds are expended. If there are no eligible expenses, then a written explanation will be provided for that six (6) month period along with the target amount and date for the next invoice submittal.

CERTIFICATION

I certify that the facts and statements in this Request for Authorization Package are accurate and correct. This Agency agrees to comply with the applicable terms and conditions set forth in Title 23, U.S. Code, Highways, and the policies and procedures promulgated by the Federal Highway Administration and California Department of Transportation relative to the above-designated project.

I understand that this Agency is responsible for all costs in excess of the federal and/or state funds obligated / encumbered as well as for all costs it incurred prior to receiving the FHWA issued "Authorization to Proceed." I further understand that all subsequent phases of the project will require a separate "Federal Authorization to Proceed."

For all ITS projects, I understand that our project shall be consistent with the Regional ITS Architecture, adhere to ITS Standards, and undergo Systems Engineering analysis. For Major ITS projects, I understand that this Agency shall not proceed with component detailed design until after FHWA approval of the SEMP and receipt of "Authorization to Proceed."

Please advise us as soon as the "Federal Authorization to Proceed" has been issued. You may direct any questions to:

\_\_\_\_\_  
(Name of Local Agency Contact) at \_\_\_\_\_ (phone number and e-mail address) .

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Agency

**Distribution:** DLAE

**EXHIBIT 3-B REQUEST FOR AUTHORIZATION  
TO PROCEED WITH RIGHT OF WAY**  
*(Local Agency Letterhead)*

To: (DLAE Name) District Local Assistance Engineer Caltrans, Office of Local Assistance (District Address)	Date: _____ FTIP/FSTIP ID: _____ Federal Project No: _____ EA: _____ PPNO (For STIP Projects): _____ Project Description: _____ _____
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Dear (DLAE Name):

In order to proceed with right of way phase of work for the above-referenced project, we request that you secure Federal Authorization to Proceed and obligation of funds. The federal funds requested do not exceed those provided to this agency in the federally approved Federal Transportation Improvement Program (FTIP)/Federal Statewide Transportation Improvement Program (FSTIP).

Attached are the following documents required to authorize this phase of work:

Request for Authorization Package

- Completed Request for R/W Authorization Data Sheet (Exhibit 3-E)
- Copy of FTIP/FSTIP Reference Sheet
- Completed Finance Letter (Exhibit 3-O)
- Copy of Executed Cooperative Agreement, if not previously submitted (only for projects on State Highway System)
- Request for Capital Subvention Reimbursement Authority (Exhibit 3-H) (only for projects on State Highway System)

Field Review Form (Exhibit 7-B)

- Completed Field Review Form (Exhibit 7-B), or
- The Field Review Form was submitted previously on \_\_\_\_\_.

Environmental Document

- Type of NEPA Document. Approval Date: \_\_\_\_\_.
- Programmatic Categorical Exclusion (PCE) Form
- Categorical Exclusion (CE) Form
- Findings of No Significant Impact (FONSI)
- Record of Decision (ROD))
- Re-evaluation

Disadvantaged Business Enterprise (DBE)

- The Annual Anticipated DBE Participation Level (AADPL) for FFY \_\_\_\_\_ was approved by Caltrans on \_\_\_\_\_.
- All work for this phase of the project will be performed by local agency staff.
- For consultant contracts the Local Agency Proposer/Bidder-DBE (Consultant Contract) Information (Exhibit 10-O) will be provided immediately upon execution of the consultant contract.

California Transportation Commission (CTC) Allocation

Check which of the following applies:

- A CTC allocation is not required, or
- A CTC allocation of funds for the right of way component of work was made at the \_\_\_\_\_ meeting of the CTC, or
- A CTC allocation of funds has been scheduled for the \_\_\_\_\_ meeting of the CTC. It is understood that the authorization/obligation of any federal STIP funds will not be made until after the CTC allocation.

Project Agreement and Liquidation of Funds

Upon FHWA issuance of the "Authorization to Proceed" (and agency submittal of the "Field Review" form [Exhibit 7-B] if not previously submitted), a "Program Supplement Agreement" and/or state approved "Finance Letter" will be prepared to encumber the federal and/or state funds for the project. This Agency understands that any federal and/or state funds encumbered for the project are typically available for disbursement for a period of seven (7) and five (5) years respectively, from the beginning of the fiscal year(s) that those funds are appropriated in the State Budget Act, unless, an extension is granted by the Department of Finance. It is anticipated that this phase of work will be completed by \_\_\_\_\_ (month, year).

Invoice Submittal

This Agency understands that only work performed after federal "Authorization to Proceed" (E-76) is eligible for reimbursement. Invoices for reimbursement will not be submitted until after the federal and state (if applicable) funds are encumbered via an executed "Program Supplement Agreement" and/or state approval Finance Letter. In addition, it is also understood that an invoice must be submitted at least once every six (6) months for each project phase until all funds are expended. If there are no eligible expenses, then a written explanation will be provided for that six (6) month period along with the target amount and date for the next invoice submittal.

CERTIFICATION

I certify that the facts and statements in this Request for Authorization Package are accurate and correct. This Agency agrees to comply with the applicable terms and conditions set forth in Title 23, U.S. Code, Highways, and the policies and procedures promulgated by the Federal Highway Administration and California Department of Transportation relative to the above-designated project.

I understand that this Agency is responsible for all costs in excess of the federal and/or state funds obligated / encumbered as well as for all costs it incurred prior to receiving the Federal Highway Administration issued "Authorization to Proceed."

Please advise us as soon as the Authorization to Proceed has been issued. You may direct any questions to:

\_\_\_\_\_ (Name of Local Agency Contact) at \_\_\_\_\_ (phone number and e-mail address) .

\_\_\_\_\_  
*Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Agency*

**Distribution:** DLAE

EXHIBIT 3-C REQUEST FOR AUTHORIZATION TO PROCEED WITH UTILITY RELOCATION (Local Agency Letterhead)

To: (DLAE Name) District Local Assistance Engineer Caltrans, Office of Local Assistance (District Address)

Date: FTIP/FSTIP ID: Federal Project No: EA: PPNO (For STIP Projects): Project Description:

Dear (DLAE Name):

In order to proceed with Utility Relocation phase of work for the above-referenced project, we request that you secure Federal Authorization to Proceed and obligation of funds. The federal funds requested do not exceed those provided to this agency in the federally approved Federal Transportation Improvement Program (FTIP)/Federal Statewide Transportation Improvement Program (FSTIP).

Attached are the following documents required to authorize this phase of work:

Request for Authorization Package

- [ ] Completed Request for R/W Authorization Form (Exhibit 3-B)
[ ] Request for Authorization Data Sheet (Exhibit 3-E)
[ ] Copy of FTIP/FSTIP Reference Sheet
[ ] Completed Finance Letter (Exhibit 3-O)
[ ] Copy of Executed Cooperative Agreement, if not previously submitted (only for projects on State Highway System)
[ ] Request for Capitol Subvention Reimbursement Authority (Exhibit 3-H) (only for projects on State Highway System)

Field Review Form (Exhibit 7-B)

- [ ] Completed Field Review Form (Exhibit 7-B), or
[ ] The Field Review Form was submitted previously on

Environmental Document

- [ ] Type of NEPA Document. Approval Date:
[ ] Programmatic Categorical Exclusion (PCE) Form
[ ] Categorical Exclusion (CE) Form
[ ] Findings of No Significant Impact (FONSI)
[ ] Record of Decision (ROD)
[ ] Re-evaluation

Disadvantaged Business Enterprise (DBE)

- [ ] The Annual Anticipated DBE Participation Level (AADPL) for FFY was approved by Caltrans on
[ ] All work for this phase of the project will be performed by local agency staff.
[ ] For consultant contracts the Local Agency Proposer/Bidder-DBE (Consultant Contract) Information (Exhibit 10-O) will be provided immediately upon execution of the consultant contract.

Utility Relocation

- This Agency agrees to comply with 23 CFR 645.119 “Alternate Procedure”(as explained in Chapter 13, “Right of Way,” and Chapter 14, “Utility Facilities,” of this manual). This alternate procedure is provided to simplify the processing of utility relocations or adjustments under the provisions of 23 CFR 645. Under this procedure, the FHWA authorized the Department of Transportation (Caltrans) to act in relative position of the FHWA for review and approval of the arrangements, fees, estimates, plans, utility agreements, and other related matters required by such regulation as prerequisites for authorizing the utility owner to proceed with and complete the work.

It is understood that the scope of the Department’s approval authority under the Alternate Procedure includes all actions necessary to advance and complete all types of utility work under the provisions of such regulation, except Section 645.119 (B)(1) and 645.119 (b)(2). Two of such documents that need the Department’s approval are FHWA Specific Authorization and FHWA Approval of the Utility Agreement(s). See Chapter 14, “Utility Facilities,” of the LAPM for more information on the activities necessary for federal participation in utility relocations. The approval authority has been delegated to the Right of Way District Utility Coordinators

California Transportation Commission (CTC) Allocation

Check which of the following applies:

- A CTC allocation is not required, or  
 A CTC allocation of funds for the right of way component of work was made at the \_\_\_\_\_ meeting of the CTC, or  
 A CTC allocation of funds has been scheduled for the \_\_\_\_\_ meeting of the CTC. It is understood that the authorization/obligation of any federal STIP funds will not be made until after the CTC allocation.

Project Agreement and Liquidation of Funds

Upon FHWA issuance of the “Authorization to Proceed” (and agency submittal of the “Field Review” form [Exhibit7-B]), if not previously submitted), a “Program Supplement Agreement” and/or state approved “Finance Letter” will be prepared to encumber the federal and/or state funds for the project. This Agency understands that any federal and/or state funds encumbered for the project are typically available for disbursement for a period of seven (7) and five (5) years respectively, from the beginning of the fiscal year(s) that those funds are appropriated in the State Budget Act, unless an extension is granted by the Department of Finance. It is anticipated that this phase of work will be completed by \_\_\_\_\_ (month, year).

Invoice Submittal

This Agency understands that only relocation work performed after federal “Authorization to Proceed” (E-76), approval of the Specific Authorization, and appropriate Utility Agreement is eligible for reimbursement. Invoices for reimbursement will not be submitted until after the federal and state (if applicable) funds are encumbered via an executed “Program Supplement Agreement” and/or state approval Finance Letter. In addition, it is also understood that an invoice must be submitted at least once every six (6) months for each project phase until all funds are expended. If there are no eligible expenses, then a written explanation will be provided for that six (6) month period along with the target amount and date for the next invoice submittal.

CERTIFICATION

I certify that the facts and statements in this Request for Authorization Package are accurate and correct. This Agency agrees to comply with the applicable terms and conditions set forth in Title 23, U.S. Code, Highways, and policies and procedures promulgated by the Federal Highway Administration and California Department of Transportation relative to the above-designated project.

I understand that this Agency is responsible for all costs in excess of the federal and/or state funds obligated / encumbered, as well as, for all costs it incurred prior to receiving the FHWA issued Authorization to Proceed.

**EXHIBIT 3-D REQUEST FOR AUTHORIZATION TO PROCEED WITH CONSTRUCTION**

*(Local Agency Letterhead)*

To: (DLAE Name)  
 District Local Assistance Engineer  
 Caltrans, Office of Local Assistance  
 (District Address)

Date: \_\_\_\_\_  
 FTIP/FSTIP ID: \_\_\_\_\_  
 Federal Project No: \_\_\_\_\_  
 EA: \_\_\_\_\_  
 PPNO (For STIP Projects only): \_\_\_\_\_  
 Project Description: \_\_\_\_\_

Dear (DLAE Name):

In order to advertise, award and administer the construction contract for the above-referenced project, we request that you secure Federal Authorization to Proceed and obligation of funds. The federal funds requested do not exceed those provided to this agency in the federally approved Federal Transportation Improvement Program (FTIP)/Federal Statewide Transportation Improvement Program (FSTIP).

Attached are the following documents required to authorize this phase of work:

Request for Authorization Package

- Completed Request for Construction Authorization Data Sheet (Exhibit 3-E)
- Copy of FTIP/FSTIP Reference Sheet
- Completed Finance Letter (Exhibit 3-O)
- Copy of Executed Cooperative Agreement (only for projects on State Highway System)
- Request for capital Subvention Reimbursement Authority (Exhibit 3-H) (only for projects on State Highway System)

Field Review Form (Exhibit 7-B)

- Completed Field Review Form (Exhibit 7-B), or
- The Field Review form previously was submitted on \_\_\_\_\_.

Environmental Document

- Type of NEPA Document. Approval Date: \_\_\_\_\_.
- Programmatic Categorical Exclusion (PCE) Form
- Categorical Exclusion (CE) Forms
- Findings of No Significant Impact (FONSI)
- Record of Decision (ROD)
- Re-evaluation

Disadvantaged Business Enterprises

- The Annual Anticipated DBE Participation Level (AADPL) for FFY \_\_\_\_\_ was approved by Caltrans on \_\_\_\_\_.
- All work for this phase of the project will be performed by local agency staff.
- For construction contracts the Local Agency Proposer/Bidder-DBE (Construction Contract) Information (Exhibit 15-G) will be provided immediately upon Execution of the consultant contract.

Right of Way Certification (Exhibits 13-A or 13-B)

- Right of Way Certification # \_\_\_ which was approved on \_\_\_\_\_.
- Right of Way Certification # \_\_\_ was approved on \_\_\_\_\_ and previously submitted.

PS&E Package and PS&E Certification

- Completed PS&E package, PS&E Certification (Exhibit 12-C), and PS&E Checklist (Exhibit 12-D), or
- The PS&E package, PS&E Certification, and PS&E Checklist were submitted and accepted on \_\_\_\_\_.

Local Agency Construction Contract Administration Checklist

- Local Agency Construction Contract Administration Checklist (Exhibit 15-A), or
- The Local Agency Construction Administration Checklist was submitted previously and our procedures have not changed.

California Transportation Commission (CTC) Allocation

Check which of the following applies:

- A CTC allocation is not required, or
- A CTC allocation of funds for the construction component of work was made at the \_\_\_\_\_ meeting of the CTC, or
- A CTC allocation of funds has been scheduled for the \_\_\_\_\_ meeting of the CTC. It is understood that the authorization/obligation of any federal STIP funds will not be made until after the CTC allocation.

Project Agreement and Liquidation of Funds

Upon FHWA issuance of the "Authorization to Proceed" (and agency submittal of the "Field Review" form [Exhibit 7-B], if not previously submitted), a "Program Supplement Agreement" and/or state approved "Finance Letter" will be prepared to encumber the federal and/or state funds for the project. This Agency understands that any federal and/or state funds encumbered for the project are typically available for disbursement for a period of seven (7) and five (5) years respectively, from the beginning of the fiscal year(s) that those funds are appropriated in the State Budget Act, unless an extension is granted by the Department of Finance. It is anticipated that this phase of work will be completed by  (month, year)

Invoice Submittal

This Agency understands that project construction contracts advertised prior to federal authorization are NOT eligible for reimbursement. It is also understood that construction-engineering cost must be specifically included and authorized in the federal Authorization to Proceed with Construction to be eligible for reimbursement. If construction engineering (CE) is authorized after construction begins, only those construction-engineering costs incurred after the date the CE is authorized are eligible for reimbursement.

Invoices for reimbursement will not be submitted until after the federal and state (if applicable) funds are encumbered via an executed "Program Supplement Agreement" and /or state approved Finance Letter. It is understood that an invoice must be submitted at least once every six (6) months for each project phase until all funds are expended. If there are no eligible expenses then a written explanation will be provided for that six (6) month period along with the target amount and date for the next invoice submittal.

CERTIFICATION

I certify that the facts and statements in this "Request for Authorization Package" are accurate and correct. This Agency agrees to comply with the applicable terms and conditions set forth in Title 23, U.S. Code, Highways, and the policies and procedures promulgated by the Federal Highway Administration and California Department of Transportation relative to the above-designated project.

I understand that upon submittal of this request and a completed "Field Review" form, the federal and/or state funds will be encumbered via a Program Supplement Agreement and /or state approved Finance Letter. This Agency will comply with the liquidation deadlines as explained in Government Code 16304.

I understand that this Agency is responsible for all costs in excess of the federal and/or state funds obligated/encumbered and all costs it incurred prior to receiving the FHWA issued "Authorization to Proceed" for this phase of the project.

## DOCUMENTATION OF PROPOSAL

All local agencies desiring to claim their indirect cost for federal-aid and/or state funded projects must prepare an Indirect Cost Rate Proposal and Central Service Cost Allocation Plan and related documentation to support those costs. All documents related to the Indirect Cost Rate Proposal and Central Service Cost Allocation Plan must be retained for audit in accordance with the records retention requirements in the “Common rule,” Title 49, CFR, part 18. The following shall be included with each proposal as prescribed by OMB Circular A-87:

### 1. INDIRECT COST RATE PROPOSAL

- a. Schedule showing calculation of rates proposed including subsidiary worksheets and other relevant data, cross-referenced and reconciled to the financial data noted below. Unless a cognizant federal agency requires otherwise, the type of rate to be used is the “fixed rate” addressed in OMB Circular A-87, Attachment E, Section B, No.6.
- b. Subsidiary worksheets should include the following:
  - Schedule of actual direct / indirect costs incurred by cost category type (i.e., rent, utilities, etc...) as well as by department unit.
  - Schedule of budgeted direct costs and indirect costs by cost category type and department unit.
  - Schedule showing calculation of the over/under carry forward provision when “fixed rate” is used.
- c. A copy of the financial data (financial statements, comprehensive annual financial report, etc) on which the rate is based.
- d. The approximate amount of direct base costs to be incurred under federal-aid reimbursement. These costs should be broken out between salaries and wages and other direct costs.
- e. A chart showing the organization structure of the agency during the period for which the proposal applies along with a functional statement noting the duties and/or responsibilities of all units that comprises the agency.
- f. Certification that the Indirect Cost Rate Proposal was prepared in a manner consistent with the cost principles of OMB Circular A-87.

Local agencies, which are required to submit their “Indirect Cost Rate Proposal” to Caltrans for approval, shall submit it in the sample format of Exhibit 5-I of this chapter, which includes documentation outlined in paragraph a, b and f above. In addition, submit the other required documentation (paragraph c, d and e above). Send it to Caltrans Audits and Investigation at the address specified above.

### 2. CENTRAL SERVICE COST ALLOCATION PLAN

Local agencies that are required to submit their Central Service Cost Allocation Plan to Caltrans for approval should submit a Certificate of Cost Allocation Plan, document their plan, and include supporting documentation in accordance with OMB Circular A-87, Attachment C. See ASMB C-10 for a Sample Central Service Cost Allocation Plan and supporting documentation.

### 3. APPROVAL AND USE

If the cognizant federal agency has approved the local agency's Indirect Cost Rate Proposal and Central Service Cost Allocation Plan for a time period/fiscal year, the local agency must send a copy to Caltrans Audits and Investigations and include a copy of the federal approval letter. After Audits and Investigations have notified the local agency that it has accepted the federal approval letter, the local agency may include indirect costs on its invoices.

If a local agency's Indirect Cost Rate Proposal and Central Service Cost Allocation Plan have not been approved by the cognizant federal agency, then Caltrans Audits and Investigations will perform the review and approval. If Audits and Investigations approves the Indirect Cost Rate and Central Service Cost Allocation Plan, they will issue an approval letter. The local agency may bill for indirect costs once they receive the approval letter.

The approval letter, either from the cognizant federal agency (if accepted by Caltrans Audits and Investigations) or from Audits and Investigations, will serve as the documentation needed to justify estimates and reimbursement invoices. Audits and Investigations will forward a copy of their approval letter or the cognizant federal agency approval letter to LPA, as LPA's authority to reimburse the local agency for their indirect costs.

Invoices claiming indirect cost prior to receipt of a written approval letter from Caltrans Audits and Investigations will either be reduced or returned to the local agency unpaid.

If federal-aid highway funds or state funds participate in indirect cost reimbursement, all invoices must include a line item for indirect cost, showing the calculation (Direct Cost Base Expense multiplied by the approved indirect cost rate for the FY involved). The most common Direct Cost Base is direct salaries and wages plus fringe benefits. If this Direct Cost Base is used, indirect cost reimbursement will not apply to other direct costs, i.e., payment of construction contracts and right of way purchases, not included in the Direct Cost Base.

Local agencies' indirect costs rates are calculated on an annual basis, so there may be several rates on a project. If the fluctuation causes a depletion of project funding, the local agency will be responsible for making up the difference.

Detailed information regarding allowable costs, Cost Allocation Plans and Indirect Cost Rate Proposals are available in OMB Circular A-87 and ASMB C-10. Both documents are available through the Internet: the OMB Circular A-87 is at:

<http://www.whitehouse.gov/omb/circulars/a087/a087-all.html>

the ASMB C-10 is at: <http://www.hhs.gov/grantsnet/state/asmbc10.pdf>

Additionally, OMB Circular A-133 provides single audit information and may be accessed on the Internet at: <http://www.whitehouse.gov/omb/circulars/a133/a133.html>

A pre-award audit of the consultant may be required (see Section 10.1, “General”, in this chapter). If so, cost negotiations cannot be completed until after the audit report is received. Discussions on other aspects of the contract may occur concurrently with the preparation of the audit.

Items typically negotiated include:

- Work plan
- Schedule and deadlines
- Products to be delivered
- Classification, wage rates, and experience level of personnel to be assigned
- Cost items, payments, and fees

For federal-aid consultant contracts, see Chapter 9, “Civil Rights and Disadvantaged Business Enterprises,” of the LAPM and Exhibit 10-I, “Notice to Bidders/Proposers Disadvantaged Business Enterprise Information” in this chapter.

Before executing the consultant contract, the local agency must make a review to ensure that all federal and /or state requirements have been met (see Exhibit 10-C, “Consultant Agreement Reviewers Checklist,” in this chapter). The completed checklist is to be signed by the Contract Administrator and the original retained in the project file, one copy is to be sent to the DLAE for review within 30 days after award of the contract.

## 10.5 CONSULTANT SELECTION USING THE ONE-STEP RFQ METHOD

### APPOINT CONSULTANT SELECTION COMMITTEE

A consultant selection committee with a minimum of three members is appointed at the beginning of the consultant selection process. The committee reviews and scores the materials submitted by consultants in response to the RFQ, develops a shortlist of qualified consultants, interviews those consultants, and develops a final ranking of the most qualified consultants. Representation on the committee includes the Contract Administrator and a representative from the project’s functional area. The members should be familiar with the project/segment to be contracted out and with the local agency standards that will be used in the contract. Participation by a Caltrans district representative is at the option of the local agency and subject to the availability of the DLAE staff.

### DEVELOP SCHEDULE FOR CONSULTANT SELECTION

Before a contract is advertised, the Contract Administrator completes a contract schedule including key dates for consultant selection activities. The Contract Administrator should confirm target dates with all selection committee members before completing the schedule.

### PREPARE REQUEST FOR QUALIFICATIONS (RFQ)

As a minimum, the RFQ generally includes the following:

- General description of the project(s)
- Scope of work
- Schedule of work
- Request for Statement of Qualifications (SOQ)
- Proposal format to be submitted
- Method and criteria for selection

The RFQ should state that the following items are required in the SOQ:

- Qualifications of key personnel proposed for the contract
- Related projects that key personnel have worked on
- Qualifications/experience of the firm
- Organization chart
- References

### **ADVERTISE FOR CONSULTANTS**

Advertisements may take one of two approaches. The most common is advertisement or publication of the RFQ in a major newspaper of general circulation, or technical publication of widespread circulation. The RFQ shall contain sufficient project work information, so that interested consultants can submit an appropriate "SOQ."

In the second approach, the local agency advertises the availability of the RFQ in a major newspaper of general circulation or technical publication of widespread circulation, and request interested consultants to send for the RFQ. The RFQs shall be sent to professional societies, if a federal-aid project, to recognized DBE organizations. In some cases, it may be desirable to advertise nationwide for a particular project or service.

The RFQ also specifies the content of a proposal, number of copies required, due date, mailing address, and physical address where the submittals may be hand delivered, if different from the mailing address. A minimum of two weeks is usually allowed between the time the RFQ is mailed, and time that proposals must be submitted. More time may be required for complex contracts or projects.

### **RECEIVE/EVALUATE STATEMENTS OF QUALIFICATIONS AND DEVELOP SHORTLIST**

The first step in the evaluation process is to determine that each proposal contains all forms and other information required by the RFQ. Otherwise, the submittals may be considered nonresponsive and rejected without evaluation. Late submittals, submittals to the wrong location, and submittals with inadequate copies are considered nonresponsive and shall be rejected. Submittal of additional information after the due date shall not be allowed.

The Consultant Selection Committee reviews the submitted "SOQ" according to the published evaluation criteria and weighting factors. The committee makes an independent random check of one or more of the consultant's references. This check applies to major subcontractors also. The committee establishes a shortlist of consultants who are considered to be best qualified to perform the contract work. The shortlist includes enough qualified consultants to ensure that at least three consultants are interviewed.

### **NOTIFY CONSULTANTS OF SHORTLIST**

All consultants that submitted an "SOQ" must be notified of the results of the review. The notification also identifies those consultants that are to be requested to attend interviews.

Most consultants will request information as to why they were not placed on the shortlist. Therefore, the selection committee should keep notes why a particular consultant was not selected for the shortlist. When a consultant requests a debriefing, the reasons given for not being selected should be objective reasons. Consultants should not be compared with

each other during the debriefing. Normally, the Contract Administrator does the debriefing; however, any member of the selection committee may be designated to do the debriefing.

### **INTERVIEW TOP-RANKED CONSULTANTS**

Each consultant to be interviewed is given a copy of the draft of the proposed contract, defining the detailed project requirements and others. This should be sent with the initial notification of the interview.

Between the time of the notification of the shortlist and interviews, the local agency may answer any questions concerning the project segment to be contracted out, if not done earlier during the solicitation. In addition, the local agency may conduct additional reference checks for each consultant to be interviewed. Consultants should submit their questions and receive their answers in writing. It is important that all consultants on the shortlist receive the questions and answers and are given the same information.

The committee should evaluate reference checks and other information that is gathered independently. Reference checks shall be completed and other information gathered before the interviews are conducted. If necessary, the results of the reference checks and other information may be discussed with the consultant at the interview.

Interviews are to be structured and conducted in a formal manner. Each consultant shall be allowed the opportunity to make a presentation if desired; however, a time limit should be specified. Interview questions are prepared in advance.

Two types of questions may be asked:

- Questions that are to be asked of all competing consultants.
- Questions relating to each specific consultant, based upon the reference checks, and the strengths and weaknesses identified during evaluation of the "SOQ."

The agency can request competing consultants to bring additional information or examples of their work to the interviews; if the additional information facilitates the interview or evaluation process.

Additional information requested should be kept at a minimum, that is only information required to select the most qualified consultant for the contract. The selection committee or local agency shall not gather additional information concerning the consultants after the interviews are completed.

### **DEVELOP FINAL RANKING AND NOTIFY CONSULTANTS OF RESULTS**

The selection committee discusses and documents the strengths and weaknesses of each proposal and develops a final ranking of the most qualified consultants. All consultants interviewed must be informed about the final ranking of consultants. It is important that all competing consultants receive the same information.

Most consultants will request information as to why they were not selected as the most qualified. Therefore, the selection committee should keep notes why a particular consultant was not selected. When a consultant requests debriefing, the reasons for not being selected should be objective. Consultants should not be compared with each other or provided with information about other consultants during the debriefing.

Normally, the Contract Administrator does the debriefing; however, any member of the selection committee may be designated to do the debriefing.

### **CONDUCT SCOPING MEETING**

The Contract Administrator meets with the first-ranked consultant's project manager to review the project, and to ensure that the consultant has a complete understanding of the work that is required. The consultant is shown as much material as is available regarding the project. Any technical questions regarding the project are answered for the consultant.

### **REQUEST COST PROPOSAL**

The first-ranked consultant is asked to provide a cost proposal to perform the work described in the draft contract and discussed at the scoping meeting. The work is to be performed according to the conditions described in the draft contract using the payment method described therein. Alternatively, if time is of the essence and it can be justified, cost proposals may be requested from all of the consultants on the shortlist.

If the contract involves more than one project, the consultant must provide a separate cost proposal for each project in addition to a summary cost proposal for the total contract. If the contract involves milestones, the consultant must furnish a separate cost proposal for each milestone with a summary cost proposal for the total costs. If the contract involves subcontractors, the prime consultant must include a separate cost proposal for each subcontractor. Each subcontractor's cost proposal must follow the same format as the prime consultant's cost proposal.

### **NEGOTIATE CONTRACT WITH TOP-RANKED CONSULTANT**

After the top-ranked consultant submits a cost proposal, the local agency reviews the cost proposal and enters into negotiations. The goal of negotiation is to agree on a final contract that delivers to the local agency the services or products required at a fair and reasonable cost. The independent cost estimate developed in advance by the local agency, is an important basis and tool for negotiations.

Negotiations should commence with the most qualified consultant. If agreement on a fair and reasonable price cannot be reached, negotiations should then be formally terminated. Negotiations then proceed to the next most qualified consultant, etc. Each consultant's cost proposal must remain sealed until negotiations commence with that particular consultant. A pre-award audit of the consultant's operations may be required (see Section 10.1 "General," in this chapter). If so, cost negotiations may not conclude until after the audit report is received. Discussions on other aspects of the contract may occur concurrently with the preparation of the audit. The items typically negotiated include:

- Work plan
- Schedule
- Products to be delivered
- Classification, wage rates, and experience level of personnel to be assigned
- Cost items, payments and fee

Lists of qualified consultants (prequalified lists) established through the RFQ process must be reestablished at least once every 12 months, to give new consultants the opportunity to qualify.

## 10.6 CONSULTANT SELECTION USING THE TWO-STEP RFQ/RFP METHOD

### COMBINED RFQ AND RFP

Selecting consultants using the Two-Step RFQ/RFP method requires combining certain steps from each of the other two methods previously described. The consultants are rated based upon both their qualifications and their technical proposals.

The initial steps in this method (up to the development and notification of the shortlist) are the same as the steps followed when using the One-Step RFQ method. At this point, the consultants from the shortlist are issued an RFP. The remaining steps are the same as the later steps followed in the One-Step RFP method. The combination of these steps are indicated on the Flow Chart 10-1 “Selecting Consultants” in this chapter.

Because it is a combination of the One-Step RFQ and One-Step RFP methods, this method of consultant selection requires more work and time than the other two methods. Consequently, the combined RFQ/RFP method is recommended for use only when the scope of work is very complex or unusual.

Since the technical proposal normally contains information about the method(s) and potential problems and solutions for a specific project or segment, this method of consultant selection should not be used to establish pre-qualified lists.

## 10.7 COMPLETING THE PROJECT

### DEVELOP THE FINAL CONTRACT

The Contract Administrator requests a revised cost proposal from the consultant after: (1) negotiations have been completed, (2) the local agency and consultant have agreed to a fair and reasonable price, and (3) any pre-award audit problems have been resolved. The Contract Administrator should review the revised cost proposal to ensure that all the items and changes discussed during negotiation were included. This revised cost proposal then becomes the final cost proposal, is attached to and made a part of the consultant contract. For informational purposes, sample contract language and format have been included as Exhibit 10-S, “A&E Sample Contract Language.”

The contract administrator has responsibility to ensure that the final negotiated contract is complete and has verified that all required backup documents have been provided. Copies of the contract are sent to the consultant for signature first.

### REVIEW AND APPROVAL OF AGREEMENTS

Proposed contracts for consultant services including those for subcontracted work exceeding \$100,000, must be reviewed by the local agency to verify that:

- Appropriate conditions are included and objectionable features are deleted.
- Compensation is fair and reasonable and includes prevailing wage (state) wages, if applicable.
- Work activities and schedules are consistent with the nature and scope of the project.
- A pre-award audit has been conducted and implemented when appropriate (see Section 10.1 “General” in this chapter).

The “Consultant Agreement Reviewers Checklist” (Exhibit 10-C) and “Consultant Agreement Outline” (Exhibit 10-D) in this chapter shall be used to ensure that required documentation has been provided. A “Cost Proposal” (Exhibit 10-H in this chapter), must include the costs of materials, direct salaries, payroll additions, other direct costs, indirect costs, fees, and backup calculations.

Before approving a contract for consulting services, the Contract Administrator must be satisfied that the consultant’s organization: Qualified to perform the services required.

- Is in a position, considering other work commitments, to provide competent and experienced personnel; to perform the services in the time allowed.
- Is fully aware of all applicable federal and state laws including implementing regulations, design standards, specifications, previous commitments that must be incorporated into the design of the project, and administrative controls including those of Caltrans and FHWA.

The contract must provide for a defined level of acceptability and a statement to the effect that the consultant may be required to modify its work as necessary; to meet that level of acceptability as defined in the contract. The contract shall provide for local agency reviews at appropriate stages during performance of the work, to determine if any changes or other actions are warranted.

The contract shall also provide that the consultant establish a working office at a place acceptable to the local agency. The contract shall provide that the consultant and subcontractors shall maintain all books, documents, papers, accounting records, and other information pertaining to costs incurred. Such materials must be available for inspection and audit by federal, state, and local agency authorized representatives; and copies thereof shall be furnished, if requested.

Following final settlement of the contract accounts with the FHWA and/or state, such records and documents may be microfilmed at the option of the local agency, but in any event shall be retained for a three-year period after processing of the final voucher by the FHWA and/or state.

Contracts with consultants covered by this manual must not be approved by the local agency until the certifications shown in Exhibits 10-F, “Certification of Consultant,” and 10-G, “Certification of Local Agency” in this chapter are executed and incorporated into the agreement. The certifications shall be executed by a principal or authorized corporate official of the consultant, and by a principal administrative officer of the governmental agency responsible for the selection of the consultant. It is essential that these certifications be preserved in the project files.

## **RETENTION CLAUSES**

At the option of the local agency, a retention clause may be included in the consultant contract. The usual retained amount is five percent; appropriate securities on deposit may be substituted for the retention. A retention clause in the consultant contract is recommended.

## **REVIEW OF LOCAL AGENCY ACTIONS**

Contracts between local agencies and consultants are not subject to Caltrans’ approval to qualify for federal and/or state reimbursement, but they still must meet all federal and/or state requirements. Also, any questions raised during the pre-award audit shall be resolved before the local agency executes the contract.

Federal-aid and/or state reimbursement is contingent on meeting the federal and/or state requirements and can be withdrawn, if these procedures are not followed and documented. The local agency files are to be maintained in a manner to facilitate future FHWA and/or Caltrans process reviews and audits.

As specified in Section 10.4, “Consultant Selection,” the Contract Administrator before execution must review the proposed consultant contract. The “Consultant Agreement Reviewer’s Checklist” (Exhibit 10-C in this chapter) is to be completed and signed. A copy shall be sent to the DLAE within 30 days after contract award. This signed document must be retained in the local agency project files.

## EXECUTE CONTRACT AND ISSUE NOTICE TO PROCEED TO CONSULTANT

The Contract Administrator sends the consultant a fully executed copy of the contract with an original signature and issues a notice to proceed. Funds may not be used to reimburse the agency for costs incurred before the “Caltrans Authorization to Proceed” is issued, or for consultant costs incurred prior to the execution of the consultant contract. Local agency consultant selection and contract execution costs are reimbursable.

## ADMINISTER THE CONTRACT

Project work begins as specified in the contract after the notice to proceed is issued to the consultant. Thereafter, the local agency manages and administers the contract to ensure that a complete and acceptable product is received on time, within standards, and within budget.

Contract Administration activities help to ensure that contractual obligations are completed satisfactorily. Generally, these activities include:

- Monitoring project progress and compliance with contract requirements.
- Receiving, reviewing and assessing reports, plans and other required products.
- Receiving and reviewing state prevailing wages. See Caltrans “*Consultant Guidelines for Prevailing Wage and Labor Compliance on Architectural and Engineering (A&E) Contracts*” at:  
[http://www.dot.ca.gov/hq/construc/A&E\\_Guidelines/A&EGuidelines.pdf](http://www.dot.ca.gov/hq/construc/A&E_Guidelines/A&EGuidelines.pdf)
- Reviewing invoices and approving payments.
- Record keeping and reporting.
- Controlling costs.
- Identifying changes to the scope of work and preparation of amendments.
- Completing performance evaluations.

## SUBSTITUTION OF CONSULTANT PERSONNEL AND SUBCONTRACTORS

The consultant should not substitute key personnel (Project Manager and others listed by name in the cost proposal) or subcontractors without prior written approval from the local agency. The consultant must request and justify the need for the substitution and obtain approval from the local agency prior to use of a different subcontractor on the contract. The proposed substituted person must be as qualified as the original, and at the same or lower cost.

For engineering types of consultant contracts, the consultant’s Project Manager must be a registered Engineer in the State of California.

## **INVOICING (OR PROGRESS PAYMENTS)**

The frequency and format of the invoices/progress payments are to be determined by the contract. Program Supplement Agreements need to have been prepared prior to any payments being requested. Payments to the consultant are to be in arrears. In other words, the consultant must have actually incurred and paid the costs before invoicing the local agency.

Invoices should include the following:

- Prepared on the consultant's letterhead.
- Signed by the consultant's Project Manager.
- Have a unique invoice number.
- Appropriate documentation attached.
- If the contract involved milestones, each milestone should be invoiced separately.
- If the contract involved subcontractors, a separate invoice for each subcontractor should be attached in the same format as the prime consultant's invoice and should be included in the summary of the prime consultant's invoice.

The following are requirements associated with each invoice that the local agency should include:

- A summary of the reimbursements to-date and a summary of the funds remaining in the contract. This should be compared to the local agency's own record of reimbursements to-date and a summary of the funds remaining in the contract.
- A summary of all payments to-date and funds remaining in the contract for each subcontractor.

The local agency is to follow the procedures given in Chapter 5, "Accounting/Invoices," of the LAPM to obtain reimbursement of federal and/or state funds.

## **CONTRACT AMENDMENTS (SUPPLEMENTAL AGREEMENTS)**

Contract amendments, sometimes called Supplemental Agreements, are required to modify the terms of the original agreement for changes such as extra time, added work, or increased costs. There is no prescribed format. They may take the form of letter-type agreements meeting the legal requirements of the local agency, clearly outlining the changes and containing a mutually agreed upon method of compensation. Such agreements must conform to the requirements of this manual with regard to payment.

A consultant contract may be amended at any time. The most common amendment is to extend the ending date of the contract. All contract amendments must be fully executed before the ending date of the contract.

All contract amendments must be in writing and fully executed by the consultant and local agency before reimbursable work begins on the amendment. If an emergency exists of such magnitude that a delay cannot be tolerated, the local agency and the consultant may agree on an amendment initiating the work, so that reimbursable work may begin. The initiating amendment is then followed by a final amendment once the full scope of the emergency work is known and agreed to by both parties. In both cases, sufficient funding should be included in the amendments to pay for all work to be performed by the consultant. The final amendment must be executed as quickly as possible. Failure to fully comply with this section may result in the loss of local agency funding.

## CLOSEOUT PROJECTS

Local agencies are encouraged to close out consultant contracts quickly. If the contract was for preparation of PS&E, environmental, preliminary material testing and/or material reports, or preliminary surveys, such closeouts should be delayed within the requirements of the “Timely Use of Fund” policy until after physical construction of the project is completed, and all construction claims are settled. Delaying the closeout until project completion ensures the consultant’s availability, if problems arise, or if the need for a change occurs relative to the consultant’s work.

After making final payment of consultant invoices, the local agency is to follow the requirements in this chapter and in Chapter 5, “Accounting/Invoices,” of the LAPM to request final reimbursement.

## PERFORMANCE EVALUATION

The Contract Administrator evaluates the consultant’s performance after the consultant’s final report has been submitted, and the Contract Administrator has conducted a detailed evaluation with the consultant’s project manager. See Exhibit 10-S, “Consultant Performance Evaluation” form of a suggested format for use by the local agency.

## PROJECT RECORDS

For audit purposes, project records and documentation shall be kept for three (3) years after payment of the final federal and/or state voucher. Among the records to be retained as follows:

- Copies of RFPs and RFQs
- Documentation of DBE participation, when applicable
- Solicitation/advertisement records
- Identification of selection committee members
- Evaluation and ranking records
- Independent cost estimate
- Record of negotiations
- Pre-award audit when applicable
- Executed consultant contracts and amendments
- Construction oversight/progress meetings
- Progress and final payments
- Performance evaluation
- Consultant contract checklists
- Accounting records documenting compliance with state and federal administrative requirements

## 10.8 MISCELLANEOUS CONSIDERATIONS

### RETAINING A CONSULTANT AS AN AGENCY ENGINEER

A local agency may retain a qualified consultant as an Agency Engineer. The retained consultant can be an individual or firm providing professional services. Eligibility for federal and/or state reimbursement for these services requires the following:

- Compliance with the selection procedures specified in this chapter.

- Existence of a contract between the local agency and the consultant specifying the services to be performed.
- Written designation as Agency Engineer.
- Selection on an open and competitive basis within the last three (3) years.

If engineering services for a project are within the scope of the services described in the retained consultant's agreement, they may be performed by the person or firm designated as an Agency Engineer. If the services are not within the scope, a new consultant agreement must be developed using the selection procedures in this chapter. Retained consultants involved in the preparation of the request for proposals qualifications may not compete for the resulting work.

## CONSTRUCTION ENGINEERING SERVICES

Under federal-aid regulations and state policy, the primary responsibility for general supervision of construction must remain with the local agency. The local agency must also ensure that the work is performed in accordance with the approved plans and specifications by employing or retaining as a consultant, a registered engineer for construction engineering services on the project.

All activities performed by a consultant must be under the overall supervision of a full-time employee of the agency who is responsible in-charge. These activities may include construction surveys, foundation investigations, measurement and computation of quantities, testing of construction materials, checking of shop drawings, preparation of estimates, reports, and other inspection activities necessary to ensure that the construction is being performed in accordance with the plans and specifications. The construction engineering consultant's agreement defines the relative authorities and responsibilities of the full-time employee of the local agency in charge of the project and the consultant's construction engineering staff.

If a technical inspection consultant is to provide professional assistance to the local agency, a formal consultant contract must be executed which follows this chapter's requirements. The agreement shall provide for reviews at appropriate stages during performance of the work to determine if any changes or other actions are warranted. These reviews are to be made by the local agency.

## 10.9 REFERENCES

- 23 CFR 172.5
- 49 CFR 18.36
- 49 CFR 18.12
- 41 USC 403(11)
- 48 CFR 31
- 23 CFR, Section 172
- 41 CFR 1-9.1
- 49 CFR 26, Appendix A
- OMB Circular A-110
- *Standard Environmental Reference (SER)*
- *Government Code* Sections 4525 through 4529.5
- *California Labor Code*, Section 1775
- 49 CFR 26, Appendix A
- *Caltrans Service Contracts Manual*

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## CALTRANS SPECIFICATIONS ON THE INTERNET

Electronic files containing Caltrans' standard specifications, standard special provisions, and federal contract "boilerplate" (Form FHWA 1273 and other Required Federal Contract Provisions) are available from the Caltrans Office Engineer. Caltrans operates a World Wide Web (WWW) site accessible via the Internet.

- First access the Caltrans Home Page at [www.dot.ca.gov](http://www.dot.ca.gov)
- Call up the Office Engineer Home Page. Then go to "Construction Standards".
- Then select under " Standard Specifications, Standard Special Provisions (SSPs)" the year (2006, 1999, etc.) of the Standard Specifications and SSPs desired.

For further assistance in connecting with the Internet, local agencies should contact their Internet service provider.

Caltrans also provides a sample set of highway contract provisions for local assistance projects as explained in "Sample 'Boiler Plate' Contract Documents on the Internet" below.

For local agency projects to be advertised, awarded and administered by Caltrans, Caltrans boilerplate specifications are inserted by Caltrans.

### SAMPLE "BOILER PLATE" CONTRACT DOCUMENTS ON THE INTERNET

Microsoft Word versions of a complete sample set of "Boiler Plate" construction contract documents are available on the Internet on the Caltrans Local Assistance home page at: <http://www.dot.ca.gov/hq/LocalPrograms/public.htm> Follow the directions in the home page to "Sample Boiler Plate Contract Documents."

The file can be downloaded and edited. This file includes a Sample Notice to Contractors & Special Provisions as well as a Sample Proposal and Contract. These documents are in accordance with the *July 1999 or May 2006 Caltrans Standard Specifications and Standard Plans*. They are edited versions of the *Caltrans Office Engineers Standard Special Provisions* and other contract documents, which are used for Caltrans highway construction contracts.

## Contents

The Notice to Contractors & Special Provisions are combined into one document. The Notice to Contractors provides prospective bidders with the bid opening date, time and location where bids will be received and opened; a brief description of the project; time and location of any pre-bid meetings and notice that the project is subject to Buy America provisions. The Engineer's Estimate and location for the purchase of plans and specifications as well as reference to federal wage and rate information are also included.

The Special Provisions (along with the Caltrans Standard Specifications) specifies to the contractor the terms of the contract including, but not limited to, when the contractor is to start, number of working days, liquidated damages, payment, work operations and items of work.

The Proposal and Contract are also combined into one document. The Proposal is for the bidder to complete. In addition to the name, address, etc., it contains the Engineer's Estimate, list of subcontractors, EEO certification, Public Contract Code requirements, Noncollusion Affidavit, Debarment and Suspension Certification, Nonlobbying Certification, and Bidders Bond. The Contract includes an agreement, Engineer's Estimate, payment bond, performance bond, local agency DBE information, federal wage rates, and Disclosure of Lobbying Activities.

This package is based on the way Caltrans prepares and administers construction contracts. It contains specifications that may not be required on locally administered projects. Therefore, the Home Page will include appropriate disclaimers for the use of this "Boiler Plate."

For local agency projects to be advertised, awarded, and administered by Caltrans, the Caltrans Boiler Plate specifications are inserted by Caltrans.

## 12.9 REQUIRED FEDERAL CONTRACT PROVISIONS

### GENERAL FEDERAL REQUIREMENTS

A general special provision is required to reference FHWA Form 1273, Performance on Previous Contract, Noncollusion Provision, and Participation by Minority Business Enterprises In Subcontracting. Caltrans standard special provision (Section 14) is required or equivalent provision may be used.

### FORM FHWA 1273

Form FHWA 1273 (included in Exhibit 12-E) is a package of federally required contract provisions that must be physically included as special provisions for all federal-aid projects.

#### I. GENERAL

This section sets forth the general provisions of Form FHWA 1273.

**LIQUIDATED DAMAGES TABLE (L%)**

Project Estimate	Project Type					
	Resurfacing* /Rehab	New Highway	Realignment/ Widening	Landscaping	Soundwall	Others
Over \$30 million	10%	10%	13%	15%	15%	15%
\$10 million to \$30 million	10%	12%	15%	15%	15%	15%
\$5 million to \$10 million	10%	15%	15%	15%	15%	15%
\$750k to \$5 million	15%	15%	15%	18%	18%	15%
Less Than \$750k	15%	20%	20%	18%	20%	15%

\* Resurfacing projects include asphalt concrete (AC) surfacing, seal coats, slurry seals, etc.

The calculated liquidated damages should be rounded up in \$100 increments to determine the amount to be specified.

If the local agency uses an alternate method to determine liquidated damages for locally funded projects, this method may be used on federal-aid projects as long as it avoids excessive charges. The local agency should have a liquidated damage calculation in the project files.

**BUY AMERICA**

On all federal-aid construction projects, current regulations require that steel and iron used be made in the United States. All foreign steel and iron materials are covered by the "Buy America" provision regardless of the percentage of steel in the manufactured product. All manufacturing processes involved in steel or iron products must occur within the United States. These processes include rolling, extruding, machining, bending, grinding, drilling, coating, welding and smelting. Domestically produced steel billets or iron ingots shipped overseas for any process and returned to the United States do not conform to this requirement.

Buy America provisions do not apply to:

- Minimal use of all foreign material in which the total delivery cost to the project site is less than \$2500 or 0.1 percent of the contract amount, whichever is greater;
- Raw materials; scrap temporary steel items such as sheet pilings, bridges, steel scaffolding and false work
- Materials that remain in place at the contractor's convenience such as sheet pilings and forms
- Pig iron manufactured outside the United States

A local agency shall not list an ineligible iron or steel product as "nonparticipating" in order to circumvent the Buy America requirements.

A waiver of the Buy America requirements by the FHWA Division Administrator is permitted for specific projects, specific products, specific geographical areas, or combinations if:

- Buy America is inconsistent with the public interest or
- There is not a sufficient supply of domestic materials of satisfactory quality

Approval authority for waiver of Buy America requirements has not been delegated from the FHWA to Caltrans and therefore is not delegated to the local agencies.

## **DISADVANTAGED BUSINESS ENTERPRISE**

In accordance with Title VI of the 1964 Civil Rights Act, all federal-aid projects are subject to the legislative and regulatory DBE requirements. The main objective is to ensure that DBE firms have an opportunity to participate in federally funded projects.

**LOCAL AGENCY CONTRACT AWARD CHECKLIST**

Project Sponsor: \_\_\_\_\_

Federal-aid project #: \_\_\_\_\_

Location: \_\_\_\_\_  
DIST-----CO------(Road/Street or RTE)-----PM-----Agency

Limits: \_\_\_\_\_  
(Physical limits reference postmiles or intersections)

Has Caltrans issued an "Authorization to Proceed" in writing with federal funds included for construction? and is the amount correct? .....	_____	(yes/no)
Copy of engineers estimate: .....	_____	to be attached
Is material testing and sampling arranged? .....	_____	(yes/no)
Copy of low bidder's proposal: .....	_____	to be attached
Low Bid signed in ink? .....	_____	(yes/no)
Local Agency DBE Information Sheet included (Exhibit 15-G) .....	_____	to be attached
Is the Noncollusion Affidavit (Chapter 12, "PS&E," Exhibit 12-E, Attachment D) included in the low bidders proposal? .....	_____	(yes/no)
Is the Bid summary (itemized bids for 3 lowest bidders) complete? .....	_____	(yes/no)
Addendum procedures adhered to? .....	_____	(yes/no)
TIP information, Authorized amount .....	_____	\$ amount
Include TIP page number or amendment number here: .....	_____	
Bid opening procedures were adhered to?: .....	_____	(yes/no)
Date DLA's Federal Wage Rate website was checked for updates * .....	_____	date
Date of bid opening .....	_____	date
Date of award: .....	_____	date
Amount of award: .....	_____	\$ amount
Detail Estimate (Exhibit 15-M): .....	_____	to be attached
Finance Letter (Exhibit 15-N): .....	_____	to be attached
Resident Engineer's Construction Contract Administration Checklist .....	_____	to be attached
Is successful bidder licensed? .....	_____	(yes/no)

Reviewed by: \_\_\_\_\_  
(Signature of local agency Representative)

\_\_\_\_\_  
(Name printed or typed)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**NOTE:** If the answer is no to any of the above questions, a letter of explanation is required. The DLAE shall review the explanation and determine if the local agency is eligible for federal funds.

\* **If the date listed is more than 10 calendar days before bid opening, local agency must provide documentation that website was subsequently checked within the 10 calendar day period or after bid opening, and there were no changes in the applicable federal wage rates.**

Distribution: All NHS Projects: (1) Original + 1 copy-Caltrans District Local Assistance Engineer . (2) Copy-Local Agency Project File

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- Participating Cost Previously Claimed
- Subtotal - Change in Participating Posts
- Reimbursement Ratio
- Amount of this Claim
- Invoice Total

Progress payment invoices shall be mailed directly to the Accounting Service Center in Sacramento at the address given in the example. No district review will be required for progress payments however, final payment invoices shall be submitted directly to the DLAE as part of the Final Report of Expenditures and will be reviewed by the district prior to payment. A final detail estimate is not required for right of way only projects, since the final report of expenditures document provides the information required.

- **Force Account Projects** - Projects with Force Account work also require a Report of Expenditures. These projects are usually emergency relief type and include emergency repair work. Other federal-aid projects may incorporate all, or a part of the project to be built using the force account method. A completed example of a Report of Expenditures for a project including Force Account Work is included as Exhibit 17-L. For more information on force account procedures, see Chapter 12, "PS&E," under "Method of Construction."

The DLAE shall perform a review of these documents for correct format and obvious errors and/or omissions. Upon verification that the Report of Expenditures is complete, the DLAE shall forward it to LPA for processing.

## STATE FUNDED PROJECTS

For state funded projects, in state transportation programs such as the Environmental Enhancement and Mitigation (EEM) Program, the local agency shall complete the "Final Project Expenditure Report" (Exhibit 17-M). The report with the final invoice attached will be submitted to the DLAE.

Note: These programs were intended under the blueprint legislation as state only funded projects. However due to varying circumstances of the state budget each year, and the variations of the State Highway Account, Caltrans at times may require projects in these programs to utilize federal-aid funds. When this occurs the Federal Report of Expenditures shall be completed as described under federal-aid projects above.

The DLAE will verify project completion as described for State-Authorized federal-aid projects, sign the report and, except for EEM projects, forward the original plus two copies to the Headquarters Division of Local Assistance.

For EEM projects, the DLAE will forward the original plus two copies of "Final Project Expenditure Report," to the of Local Programs Accounting, with a copy to the EEM Program Manager in the HQ Division of Local Assistance. Use "Final Report of Right of Way Expenditures" (Exhibit 17-N) for Projects involving the acquisition of real property or rights thereto with funds direct deposited into an escrow account. In this case, the DLAE will not verify project completion until the close of escrow is completed and the recordation of both the grant deed and the Agreement Declaring Restrictive Covenants (ADRC). A copy of the recorded grant deed(s) and the original ADRC will be attached to the final report of right of way expenditures.

## 17.6 CONSEQUENCES FOR NON-COMPLIANCE

Sanctions may be imposed by Caltrans on agencies that are found in noncompliance with the reporting requirements listed above in Section 17.5. The type of sanctions are further discussed in Chapter 19, "Process Reviews."

If there is a discrepancy between the Final Invoice and Final Detail Estimate, the agency is notified by phone that a discrepancy exists and their payment will be delayed until it is resolved. If the problem cannot be resolved within (180) days, LPA shall bill the agency for all expenditures made on this project. If the local agency does not pay the accounts receivable bill within thirty (30) days, LPA shall initiate action with the State Controller to offset funds due the local agency.

If the local agency has previously included in their billing, items not reimbursable by the FHWA or over-billed progress payments that exceed the Final Estimates, the local agency shall be billed for the overpayment. The local agency shall pay the state's accounts receivable bill within thirty days or LPA shall initiate action with the State Controller to offset funds due the local agency. The same policy shall apply to those recommendations from Process Review Reports on applicable findings or the improper utilization of Disadvantaged Business Enterprises.

## 17.7 REFERENCES

23 CFR 635 subpart D

23 CFR 637 subpart B

23 CFR 640.113

23 CFR 635.126 and Section VI of FHWA Form-1273

Caltrans *Construction Manual*, Chapter 5, Section 5-1, "Project Records and Reports"

Caltrans *Construction Manual*, Chapter 6, Section 6-01, 6-02, and 6-03, "Sampling and Testing"

United States Code, Title 23 Chapter 1, Section 121, "Payment for States Construction"

FHWA "Construction Administration Group" at:

<http://www.fhwa.dot.gov/programadmin/contracts/index.htm>

FHWA "Construction and Maintenance" at: <http://www.fhwa.dot.gov/construction/>

**SAMPLE FEDERAL-AID FINAL INVOICE**  
**Single-Phase EA**  
**Two Appropriation Codes (33D and 33T)**  
**(Letterhead of Local Agency)**

***Date of Final Invoice***

(For Final Invoice)

**Name**, District Director  
Department of Transportation

**Street or P. O. Box**

**City, CA Zip Code**

Attention:     **Name**    , Local Assistance Engineer

Billing No: **Final**  
Invoice No: **Local Agency's Invoice No.**  
Federal Aid Project No: **Fund Abbr.-Route-(Job #)**  
Tax Identification No: **Agency IRS ID Number**  
Date Accepted by City/County: **Final Date**  
Project Location: **Project Limits**

Reimbursement for Federal Funds are claimed pursuant to Local Agency-State Agreement

No.     **Number**    , Program Supplement No.     **Number**    , executed on     **Date**    .

	<u>Preliminary Engineering</u>	<u>Construction Engineering</u>	<u>Construction Contract</u>	<u>Total 33D</u>
Federal Appropriation Code	33D	33D	33D	
Expenditure Authorization No	969696	969696	969696	
Federal Authorization Date	06/30/94	01/02/95	01/02/95	
Federal participating costs from	07/05/94	01/30/95	02/15/95	
to	12/30/94	04/30/95	04/30/95	
<b>Total Costs</b>	\$3,500.60	\$8,400.30	\$200,000.10	\$211,901.00
Less: Retention	(0.00)	(0.00)	(20,000.00)	(20,000.00)
Non participating Costs	<u>(350.00)</u>	<u>(840.00)</u>	<u>(16,000.00)</u>	<u>(17,190.00)</u>
<b>Subtotal</b>	\$3,150.60	\$7,560.30	\$164,000.10	\$174,711.00
Plus: Payment of Previously Withheld Retention	0.00	0.00	20,000.00	20,000.00
<b>Federal Participating Costs to Date</b>	\$3,150.60	\$7,560.30	\$194,000.10	\$194,711.00
Less: Participating Costs on Previous Invoice	(3,150.60)	0.00	85,345.02	<u>88,495.62</u>
<b>Change in Participating Costs Reimbursement Ratio</b>	0.00	7,560.30	98,655.08	\$106,215.38 <u>88.53%</u>
<b>Amount This Claim</b>				\$94,032.48

	<u>Construction Engineering</u>	<u>Construction Contract</u>	<u>Total 33T</u>
Federal Appropriation Code	33T	33T	
Expenditure Authorization No	969696/30600	969696/30600	
Expenditure Authorization No	969696/30600	969696/30600	
Federal Authorization Date	01/02/95	01/02/95	
Federal participating costs from	01/30/95	02/15/95	
to	04/30/95	04/30/95	
 Total Costs	 \$2,100.10	 \$50,000.00	 \$52,100.10
Less: Retention		(5,000.00)	(5,000.00)
Non participating Costs	<u>(210.00)</u>	<u>(4,000.00)</u>	<u>(4,210.00)</u>
   Subtotal	 \$1,890.10	 \$41,000.10	 \$42,890.10
   Plus: Payment of Previously Withheld Retention		 5,000.00 <u>0.00</u>	 5,000.00 <u>0.00</u>
   Federal Participating   Costs To Date	 \$1,890.10	 \$46,000.00	 \$47,890.10
   Less: Participating Costs on Previous Invoice	 (0.00)	 (21,470.00)	 <u>21,470.00</u>
   Change in Participating Cost   Reimbursement Ratio	 1,890.10	 24,530.00	 \$26,420.10 <u>100.00%</u>
   Amount This Claim			 \$26,420.10 <u><u>=====</u></u>
   <b>INVOICE TOTAL</b>			 <b>\$120,452.58</b>

I certify that the work covered by this invoice has been completed in accordance with approved plans and specifications; the costs shown in this invoice are true and correct; and the amount claimed, including retention as reflected above, is due and payable in accordance with the terms of the agreement.

\_\_\_\_\_  
**Signature, Title and Unit of Local Agency Representative**

\_\_\_\_\_  
**Phone No.**

Questions regarding this invoice please contact:

\_\_\_\_\_  
**Name**

\_\_\_\_\_  
**Phone No.**

Note: When multiplying "Change in Participating Costs" by "Reimbursement Ratio," the result is be rounded to the lowest cent. Federal rules do not allow rounding up.

Distribution: (1) Original-included in Report of Expenditures (2) Copy retained by local agency in project file

**STEP 3: PER COLLISION COST**

If all three Significance Tests result in “No,” which indicates that the actual collision experience is not statistically higher or lower than normal, skip this step. The collision costs used would be the state average collision cost for the identified existing and proposed rate groups.

If Significance Test result is “Yes” for “Fatal,” use Table 3.1 to calculate per collision cost, and then go to Step 4.

If Significance Test result is “No” for “Fatal,” but “Yes” for “Injury” and/or “Fatal + Injury,” use Table 3.2 to calculate per collision cost, and then go to Step 4.

**TABLE 3.1 PER-COLLISION COST CALCULATION TABLE WHEN THE SIGNIFICANCE TEST IS “YES” FOR FATAL**

	<b>Collision Severity</b>	<b>F*</b>	<b>I*</b>	<b>PDO*</b>	<b>All Collisions</b>
A	Collisions Per Year	(A1) (From Application Form)	(A2) (From Application Form)	(A3) (From Application Form)	(A4) = (A1)+(A2)+(A3)
B	Per Collision Cost – before (\$1000s)	\$3,900	\$77.4	\$4	(B4) (From Exhibit 10-D)
C	Total Collision Cost – before (\$1000s)	(C1) =(A1) × \$3,900	(C2) =(A2) × \$77.4	(C3) =(A3) × \$4	(C4) = (C1)+(C2)+(C3)
D	Per Collision Cost – before (all collisions) (\$1000s)				(D4) = (C4)÷(A4)
E	Per Collision Cost – after (all collisions) (\$1000s)**				(B4) or (D4) (See notes **)

\* F: Fatal; I: Injury; F+I: Fatal + Injury; PDO: Property Damage Only.

\*\* Per Collision Cost – After is:

- (B4) if the Significance Test for “Fatal” is Yes (+);
- (D4) (Per Collision Cost – Before) if the Significance Test for “Fatal” is Yes (-).

**TABLE 3.2 PER-COLLISION COST CALCULATION TABLE WHEN SIGNIFICANCE TEST IS “YES” FOR “I” AND/OR “F+I”**

	<b>Collision Severity</b>	<b>F+I*</b>	<b>PDO*</b>	<b>All Collisions</b>
A	Collisions Per Year	(A1) (From Application Form)	(A2) (From Application Form)	(A3) = (A1)+(A2)
B	Per Collision Cost – before (\$1000s)	(B1) (From Exhibit 10-D)	\$4	(B3) (From Exhibit 10-D)
C	Total Collision Cost – Before (\$1000s)	(C1) =(A1) × (B1)	(C2) =(A2) × \$4	(C3) = (C1)+(C2)
D	Per Collision Cost – before (all collisions) (\$1000s)			(D3) = (C3)÷(A3)
E	Per Collision Cost – after (all collisions) (\$1000s)**			(B3) or (D3) (See notes **)

\* F+I: Fatal + Injury; PDO: Property Damage Only.

\*\* Per Collision Cost – After is:

- (B3) if the Significance Test for “Injury” and/or “Fatal + Injury” is Yes (+);
- (D3) (Per Collision Cost – Before) if the Significance Test for “Injury” and/or “Fatal + Injury” is Yes (-).

**STEP 4: SAFETY INDEX CALCULATION**

Use the Table 4 below to calculate the estimated collision costs both before the improvement and after the proposed improvement.

**TABLE 4: COLLISION COSTS BEFORE AND AFTER THE IMPROVEMENT**

<b>Item</b>	<b>Description</b>	<b>Formula/Source</b>	<b>Value</b>
1	No. Of Collisions	(From Application Form)	
2	Time Period (Years)	(From Application Form)	
3	Initial Collisions per Year	$(1) \div (2)$	
4	Per Collision Cost – Before (All collisions)	(From Step 3, if any “yes” in Significance Test, else from Exhibit 10-D)	
5	Per Collision Cost – After (All collisions)	(From Step 3, if any “yes” in Significance Test, else from Exhibit 10-D)	
6	Improvement Life (Years)	(From Exhibit 10-E)	
7	Adjusted RF	(From Step 2)	
8	Expected Collisions per Year after Improvement	$(3) \times (1.0 - (7))$	
9	Total Collision Cost – Before (\$1000)	$(3) \times (4) \times (6)$	
10	Total Collision Cost – After (\$1000)	$(5) \times (6) \times (8)$	

Then, Safety Index (SI) can be obtained by using the below formula:

**Safety Index =  $100 \times ( (9) - (10) ) \div \text{Project Total Cost (in \$1000s)}$**