Local Programs Procedures

LPP 01-12 Manual Update
Subject: The Highway Bridge Rehabilitation and Replacement Program

Reference: *Local Assistance Program Guidelines*, Chapter 6, "Highway Bridge Rehabilitation and Replacement Program"

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User-Friendly Features:

- This Chapter includes a new section numbering scheme to allow faster referencing of information.
- The electronic (Acrobat) version of this Chapter includes hyperlinked table of contents, bookmarks, and cross links throughout for rapid navigation.
- A glossary including acronyms is included in the first section of the Chapter.
- An index is provided to assist readers in locating information within this Chapter.
- This LPP replaces all previous releases of Chapter 6 of the *Local Assistance Program Guidelines* (LAPG).

Chapter 6 of the LAPG is incorporated in the electronic version of the LAPG. The LAPG can be found on the Division of Local Assistance Home Page on the Internet at www.dot.ca.gov/hq/LocalPrograms/. Once there, click on "publications" and then click on "Local Assistance Manuals."

These guidelines were developed and reviewed in a cooperative effort by the HBRR Advisory Committee.

PURPOSE

The purpose this LPP is to revise the LAPG, Chapter 6, "Highway Bridge Rehabilitation and Replacement Program," (HBRRP). This Chapter explains what work is eligible for HBRRP funds, how to apply for HBRRP funds, and roles and responsibilities under the HBRRP.

BACKGROUND

The previous HBRRP Guidelines were published in 1997 under the previous six year federal Intermodal Surface Transportation Act (ISTEA). The current act, the Transportation Equity Act of the 21st Century (TEA-21) substantially increased available HBRRP funds to the State of California. These new guidelines seek to increase local agency use of HBRRP funds while ensuring that the State of California is properly administering this program as required by Federal-State Stewardship Agreements.

SUMMARY OF CHANGES

The previous guidelines (LPP 97-02) were developed under ISTEA funding levels. TEA-21 increased the program by about 20%. In May of 2000, it became apparent that the existing guidelines, primarily the "four bridge limit per agency" rule, was causing the HBRRP to be under utilized. This rule has been relaxed to improve the performance of the program. See Section 6.6.

2) The "Priority Index Number" and local legislative resolution of need for Low Water Crossing Replacement projects has been relaxed. Instead, local agencies are required to demonstrate how low water crossing replacement projects are in fact safety projects needed in the public's interest. See Section 6.2.7.

3) The ADT resolution of need for rehabilitating or replacing deficient bridges has been relaxed to allow local agencies more flexibility to prioritize their projects.

4) The previous guidelines (LPP 97-02) did not provide enough guidance to deal with sensitive HBRRP eligibility rules. The new guidelines provide the basis for making proper funding decisions on local agency projects. While programming decisions are made by Caltrans, Office of Program Management, the new guidelines establish a foundation to allow future delegation of program management activities to each of the District Local Assistance Engineers. See Sections 6.2, 6.4, 6.5, and 6.13.

5) Prior to this LPP, there was no HBRRP application form. With this LPP, an application form has been developed to help guide local agencies through the requirements of the HBRRP to help ensure that projects are properly scoped so that Caltrans can rapidly program HBRRP funds on local assistance projects. See Exhibit 6-A, "HBRRP Application/Scope Definition Form."

6) Over the last few years, it has become apparent that some agencies have a difficulty in understanding how to use the bridge inspection reports to help scope their rehabilitation projects. The new guidelines strengthen the principles behind the HBRRP to utilize the data provided by the Bridge Inspection Program to scope bridge projects. See Exhibit 6-A, "HBRRP Application/Scope Definition Form."

7) Exhibit 7-D, "Major Structure Data," from Chapter 7, "Field Review," of the *Local*

Assistance Procedures Manual is no longer required for HBRRP funds. This information has been incorporated into Exhibit 6-A, "HBRRP Application/Scope Definition Form." For detailed instructions see Exhibit 6-A.

8) Caltrans is required to administer the HBRRP under the Caltrans/FHWA Stewardship Agreements. The new guidelines clarify when Caltrans needs to review certain aspects of local agency projects without mandating full oversight. Caltrans is also establishing a program review that will provide constant feedback to improve the guidelines and ensure that local agencies are developing projects in compliance with the program guidelines. See Section 6.10.

9) New policies are established to bring attention to inactive projects programmed in the HBRRP and the "Mandatory" Seismic Safety Retrofit Program. See Section 6.5.1.

10) The scope of the bridge barrier railing replacement program has been increased based on many contacts with local agencies. It includes bridge widening that may include substantial bridge work. In the previous guidelines, applications for this program were accepted by June 1st of every year. Due to STP funding constraints, applications for this program will only be accepted after Caltrans solicits projects from local agencies. See Section 6.2.4.

11) The eligibility requirements of the painting program have changed using the improved Element Level Inspection (ELI) system. The new rating system should provide better criteria for selecting bridges most in need of painting. See Section 6.2.3.

12) The maximum amount of Local Assistance HBRRP funds has increased from $8 million to $10 million per project, including Low Water Crossing Replacement, Painting, and Bridge Barrier Railing Replacement projects. This increase is based on inflation, the quantity of projects needing more than $8 million, and the fact that TEA-21 has provided increased funding to the HBRRP. See Section 6.4.1.

Three new scopes of work were added to the HBRRP Program Guidelines: 1) scour countermeasure, 2) bridge replacement due to flood control projects, and 3) new bridges to replace ferry boat services. See Sections 6.2.5, 6.2.8, and 6.2.9.

14) Prior to these guidelines, local agencies could not easily receive over $8 million in federal-aid. Projects needing more than $10 million now have a process for receiving additional funds through the "High Cost" bridge program. See Section 6.2.11.

15) Federal laws regarding historic bridge work involving HBRRP funds have been explained in more depth. The previous guidelines did not address these sensitive issues. See Section 6.2.10.

16) The guidelines have been expanded to provide an explanation of the bridge inspection program and how bridge ratings affect HBRRP eligibility and drive appropriate rehabilitation

strategies. See Sections 6.12 and 6.13.2.

17) The relationship between local design standards and HBRRP minimum design standards has been clarified from the previous guidelines. See Section 6.3.

TRANSITION TO IMPLEMENTING NEW GUIDELINES

The new guidelines are effective immediately. Local agencies that have currently programmed HBRRP projects should ensure that their projects are in compliance with these guidelines. Local agencies that have any questions should contact the District Local Assistance Engineer.

Since local agencies are financially responsible for their projects and are required to certify compliance with all rules and regulations in their PS&Es, Caltrans will not initiate eligibility reviews unless requested by a local agency.

However, if a local agency initiates a scope change request or requests a major cost increase in a project programmed under the previous guidelines, Caltrans will request information to ensure compliance with these new program guidelines. See Section 6.7.1.

Any questions or recommendations to improve these guidelines should be directed to the District Local Assistance Engineer.

REFERENCES

- LPP 97-02, Chapter 6, "Highway Bridge Rehabilitation and Replacement Program," *Local Assistance Program Guidelines*

CHAPTER 6 HIGHWAY BRIDGE REPLACEMENT AND REHABILITATION PROGRAM (HBRRP)

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CHAPTER 6 HIGHWAY BRIDGE REPLACEMENT AND REHABILITATION PROGRAM (HBRRP)

6.1 INTRODUCTION

The HBRRP is a safety program that provides federal-aid to local agencies to replace and rehabilitate deficient locally owned public highway bridges. This Chapter explains the reimbursable scopes of work, eligibility requirements, how to apply for HBRRP funding, and the general programming process.

This program is funded by Federal Highway Administration (FHWA) authorized by United State Code (USC) Title 23, Section 144. The total California apportionment is split 45% for federally identified deficient on State Highway System bridges and 55% for deficient off State Highway System bridges. The average annual apportionment available to local agencies (off State Highway System bridges) is about $160 million. This program is subject to Obligational Authority (OA) limits. See Chapter 2, "Financing the Federal-Aid Highway Program," Section 2.2, of the *Local Assistance Program Guidelines* (LAPG) for information regarding OA.

The allocation of HBRRP funds to local agency projects is managed through a 10-year programming plan. This multi-year plan is available for download from the HBRRP website. The multi-year plan provides the HBRRP lump sum dollar amounts in the Federal Statewide Transportation Improvement Program (FSTIP). See Chapter 2, "Financing the Federal-Aid Highway Program," Section 2.3 of the LAPG for information regarding what type of HBRRP projects may use the HBRRP lump sum item in the FSTIP.

The HBRRP has many statutory, regulatory, and policy limitations on how HBRRP funds can be spent on bridge projects. The purpose of these rules is to ensure that federal bridge funds are dedicated to solving bridge safety problems. Since local agencies are financially accountable for meeting these requirements, it is essential that local agency decision-makers thoroughly understand these guidelines.

Local agencies assume full liability for the safety of their bridges and eligibility of participating costs of their projects.

6.1.1 GLOSSARY

The purpose of this Section is to provide an easy reference for common terms used in implementing the HBRRP.

AASHTO: American Association of State Highway and Transportation Officials

ADT: Average Daily Traffic.

CFR: Code of Federal Regulations. The CFR are not legislated statutes but do have the force of law.

DLAE: District Local Assistance Engineer. See Section 6.9.2 on page 6-32.

E76: The federal document that provides federal authorization to allow reimbursable work to begin for a specific phase.

FHWA: Federal Highway Administration

FO: Functionally Obsolete. See Section 6.12.1 on page 6-35.

FSTIP: Federal Statewide Transportation Improvement Plan. Once approved by FHWA, projects in the FSTIP may be authorized. The FSTIP includes each regional FTIP.

HBRRP: The Highway Bridge Replacement and Rehabilitation Program

LAPG: *Local Assistance Program Guidelines*. This manual explains the eligibility and funding requirements of all the local assistance programs. The HBRRP is Chapter 6 of the LAPG.

LAPM: *Local Assistance Procedures Manual*. This manual describes the procedures that Caltrans and local agencies must follow so that local agencies may be reimbursed by various State and Federal Programs.

National Register of Historic Places (NRHP):

A listing of historically or archaeologically significant sites maintained by each state. The NRHP does not contain all significant sites. It only lists those currently identified and that the owner has allowed to be listed. There are many eligible sites that have not been registered, either because they have not been found or they have not yet been nominated.

NBI: National Bridge Inventory. This is a database of all public highway bridges in the United States. Some of the bridges in this database are considered "deficient" and are eligible candidate HBRRP projects.

NBIS: National Bridge Inspection Standards.

NCHRP: National Cooperative Highway Research Program. Administered by the Transportation Research Board (TRB) and sponsored by the member departments (i.e., individual state departments of transportation) of AASHTO and FHWA. The NCHRP was created in 1962 to conduct research in acute problem areas that affect highway planning, design, construction, operation, and maintenance nationwide.

NEPA: National Environmental Protection Act. The federal law that establishes the authority to protect the environment from abuse due to human activities.

NHS: National Highway System. Highways that are of national importance are included in the NHS.

PCI: Paint Condition Index. See Section 6.2.3 on page 6-7.

PE: Preliminary Engineering. Project development phase of work. See Section 6.4.3 on page 6-18.

SD: Structurally Deficient. See Section 6.12.1 on page 6-35.

SLA: Caltrans Structures Local Assistance. See Section 6.9.3 on page 6-33.

SR: Sufficiency Rating. See Section 6.12.1 on page 6-35.

STIP: State Transportation Improvement Program. The California Transportation Commission (CTC), a state-level panel appointed by the governor, is required to biennially adopt, and submit to the Legislature and the governor, a STIP. The STIP is a comprehensive listing of all major projects to be funded from specified State funding programs, including certain federal funds that flow directly to the State. As a result, many of the projects that are included in the STIP must eventually be included in the regional TIPs and the FSTIP as well.

STP: Surface Transportation Program. A category of federal-aid for general purpose transportation uses. See 23USC133.

USC: United State Code. The USC contains Title 23, which incorporates TEA-21. The HBRRP is defined in Section 144.

6.1.2 HBRRP WEBSITE

For listings of eligible candidate bridges, the HBRRP Multi-Year Plan, and other reports, see the HBRRP website:

www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm.

6.1.3 HOW TO APPLY FOR HBRRP FUNDS

Agencies that have executed or that have the authority to execute State/Local Federal-Aid Master Agreements with Caltrans may apply for HBRRP funds. Federal funds provided under these guidelines may only be spent on bridges carrying public highways (including local streets and roads) not included in the State Highway System and not owned by Caltrans. Eligibility requirements for specific scopes of work are listed in Section 6.2 starting on page 6-5.

Qualifying bridges (and culverts meeting the definition of a bridge) must have a minimum span of 20 feet. See Section 6.5.14 on page 6-23 for more information.

For the application (programming) process see Section 6.6 on page 6-25.

6.1.4 HOW TO GET HELP

The Caltrans District Local Assistance Engineer (DLAE) is the primary contact for official correspondence and help with Local Assistance Programs. A list of the DLAEs, their phone numbers and email addresses is available from the Local Assistance website:

www.dot.ca.gov/hq/LocalPrograms/

For more information on roles and responsibilities see Section 6.9 on page 6-32. Caltrans can provide help in the following areas:

- Explaining these guidelines
- Explaining the federal-aid process
- Filling out forms
- Helping with project scoping and field reviews
- Explaining environmental documentation and Right of Way acquisition rules
- Participating in consultant selection panels and providing advice in consultant negotiations
- Reviewing (cursory) PS&Es
- Providing advice in dealing with difficult construction change orders

6.1.5 PARTICIPATING COSTS

The term "participating cost" is used throughout this Chapter and also applies to all other reimbursement programs. A participating cost is an actual project cost paid for by the sponsoring local agency that is eligible for reimbursement on a pro rata basis in compliance with laws, regulations, and policies.

For bridge replacement projects, Caltrans publishes the "Comparative Bridge Costs" sheet that can be used to develop preliminary "participating" project costs and can help with bridge type selection. This information can be downloaded from the Local Assistance website under "References."

6.1.6 FEDERAL REIMBURSEMENT RATE

The general federal reimbursement is 80% of the participating project costs. The local 20% match may be either State or local funds. Exceptions to the 80% reimbursement rate are projects that were initiated prior to ISTEA using STP funds where Caltrans committed to a different reimbursement rate.

The federal reimbursement for bridge barrier replacement projects is 88.53% of the participating project costs.

The following sections detail the requirements for each category of HBRRP funding.

6.2 REIMBURSABLE PROJECT SCOPES UNDER THE HBRRP

Local agencies that develop HBRRP projects are required to ensure their projects are cost-effective and that the project scopes meet their needs. The two general all-inclusive project scopes participating under the HBRRP are bridge rehabilitation and replacement. However, the HBRRP does allow some limited stand-alone project scopes as shown below:

- Painting
- Barrier Railing Replacement
- Scour Countermeasure
- Local "Mandatory" Seismic Retrofit Program

The HBRRP may also fund other types of bridge projects as shown below:

- Low Water Crossing Replacement with New Bridge
- Bridge Replacement Due to Flood Control Project
- New Bridge to Replace Ferry Service
- Special Historic Bridge Work
- High Cost Bridge Projects

6.2.1 BRIDGE REHABILITATION

Bridges must be rated Structurally Deficient (SD) or Functionally Obsolete (FO) with the Sufficiency Rating (SR) ≤ 80 to be eligible candidates for rehabilitation. These ratings cause a bridge to be on the Eligible Bridge List (EBL). See the HBRRP website for the EBL and instructions on determining SD/FO and SR. See Section 6.12 on page 6-34, regarding how the ratings are derived from the biennial bridge inspection data.

1. Rehabilitation funding is for major reconstruction of a bridge to meet current standards anticipating the transportation needs for a minimum of 10 years into the future, but not to exceed the lessor of 20 years or the remaining design life of the rehabilitated bridge. The development of a rehabilitation project shall correct major deficiencies including structural problems, load capacity improvement, deficient deck geometry, deficient approach roadway alignment, underclearance problems, waterway adequacy, seismic deficiencies, scour problems, painting, and bridge railing/approach guardrail replacement. Major reconstruction not triggered by the above deficiencies is not participating. (23CFR650.405(b)(2))

2. Constructing additional lanes (including turn lanes) on an existing bridge or including more lanes on a new bridge than what currently exists requires specific approval by the Office of Program Management. Local agencies shall raise this issue for Caltrans review through the DLAE whenever local agencies determine that an increase in lane capacity is required. Local agencies shall provide supporting documentation demonstrating the need for widening. Supporting documentation <u>may</u> include discussion of specific AASHTO standards, planning studies in accordance with the *Highway Capacity Manual*, and master plans developed by Metropolitan Planning Organizations

or Regional Planning Agencies. Discussion of proposed widening (including construction schedule) of the transportation corridor shall also be included if the corridor has not yet been widened to current standards. See the additional discussion on bridge widening in the Commentary, Sections 6.13.1 and 6.13.2 on page 6-37.

Capacity increasing projects may not use the HBRRP lump sum FSTIP item. Local agencies must work with their regional planning agency to establish the project line item in the FSTIP. See Chapter 2, "Financing the Federal-Aid Highway Program," Section 2.3 of the LAPG for information regarding what type of federal-aid projects may use lump sum FSTIP items.

3. All aspects of the bridge (including environmental) should be reviewed to determine the project scope. The cost of determining the project scope is participating under the HBRRP. See Chapter 7, "Field Review" of the *Local Assistance Procedure Manual* (LAPM) for requirements of the field review process. As available Caltrans staffing levels permit, the DLAE is available to coordinate the field review to include Structures Local Assistance (SLA), District Right of Way, and District Environmental staff.

4. Stand-alone bridge deck replacement is considered major reconstruction. (Major reconstruction is defined in Section 6.5.3 on page 6-19.) However, stand-alone application of High Molecular Weight Methacrylate (HMWM) to mitigate deck cracking (which may trigger structural deficiency) and doing no major reconstruction is considered maintenance and is <u>not</u> HBRRP participating. On the other hand, if HMWM is proposed in a project along with a widening of the bridge to accommodate the installation of new bridge railing, then the entire project is HBRRP participating. The trigger for HBRRP eligibility in this case is the proposed change in geometry (major reconstruction) of the deck to meet current standards when the new bridge railing is installed. (The local agency is still responsible for reviewing and correcting all deficiencies identified in item (1) above).

5. Bridge replacement may be an appropriate "rehabilitation" option if a detailed cost analysis (HBRRP participating) shows that replacement is the most cost-effective solution. Cost-effectiveness studies may include life cycle cost analysis. SLA written concurrence is required for bridge replacement projects where the SR>50. Concurrence must be obtained prior to approving the environmental documents and proceeding with final design and Right of Way. The local agency shall discuss the level of detail in the cost analysis with SLA prior to the development of the study. The level of detail will vary on a case-by-case basis. In cases where rehabilitation is not constructable or where the cost-effectiveness is self evident, the detailed cost analysis may not be required, but SLA concurrence will still be required.

6. The cost comparison between rehabilitation and replacement shall not be the sole factor in deciding the best solution. All reasonable, constructable alternatives should be environmentally assessed. In special situations where the best solution is not the most cost-effective solution, HBRRP funding approval shall be elevated to the Office of Program Management through the DLAE.

6.2.2 BRIDGE REPLACEMENT

1. Bridges must be rated SD or FO with the SR ≤ 50 to be eligible candidates for replacement.

2. The Code of Federal Regulations (CFR) defines the replacement scope of work as follows:

   "23CFR650.403(1) Replacement. Total replacement of a structurally deficient or functionally obsolete bridge with a new facility constructed in the same general traffic corridor. A nominal amount of approach work, sufficient to connect the new facility to the existing roadway or to return the gradeline to an attainable touchdown point in accordance with good design practice is also eligible. The replacement structure must meet the current geometric, construction and structural standards required for the types and volume of projected traffic on the facility over its design life."

   Per AASHTO's "A Policy on the Geometric Design of Highways and Streets," 1994 edition, projected needs beyond 20 years are not practical. Therefore, even though the design life of a new bridge may be 25 to 100 years, the HBRRP will only participate in the geometrics of bridge based on 20 year projected traffic needs.

3. Increases in lane capacity on bridge replacement projects require Caltrans funding approval. See Section 6.2.1 on page 6-5, item (2) for approval requirements.

4. Even though a bridge may be eligible for replacement (SR ≤ 50), rehabilitation shall still be considered to ensure the most cost-effective solution is selected. When appropriate (determined by the local agency), a cost analysis should be included in the local agency's project file. The SR, by itself, shall not be the sole justification for bridge replacement.

6.2.3 BRIDGE PAINTING

The purpose of this program is to help local agencies fund eligible bridge painting projects as a stand-alone scope of work when the local agency does not wish to rehabilitate or replace a subject bridge.

1. Bridges may be on the EBL, rated SD or FO with SR ≤ 80. If State Surface Transportation Program (STP) funds are available, bridges off the EBL may be programmed. Contact the DLAE to see if STP funds are available. For more discussion about STP funded bridge projects see Section 6.5.16 on page 6-24.

2. The Paint Condition Index (PCI) for a bridge must be 65 or less or SLA must provide concurrence for a bridge painting project to participate in the HBRRP. The PCI is available from the bridge inventory listing from the HBRRP website:

   www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm#ebl

3. Minor rehabilitation of corroded structural members is an eligible participating cost. The cost of the rehabilitation effort should not exceed 10 to 15 percent of the cost of the

painting project (paint contract items only). In some cases the Ten Year Rule #1 may apply if the load carrying capacity of the bridge is improved by the minor rehabilitation. See Section 6.5.3 on page 6-19 for discussion of Ten Year Rule issues.

4. The costs of resolving major deficiencies causing the bridge to be on the EBL are not participating in a painting project. See Section 6.12.1 on page 6-35 for descriptions of major deficiencies. If the bridge is on the EBL, rehabilitation should be considered prior to the development of a painting project. Background information supporting this consideration should be documented in the local agency's project file.

5. HBRRP funded bridge painting is for major scopes of work. Minor spot painting is considered maintenance and is not participating work under the HBRRP.

6.2.4 BRIDGE BARRIER RAILING REPLACEMENT

The purpose of this program is to help local agencies upgrade the safety of bridge barrier systems and to widen bridges to provide AASHTO standard lane and shoulder widths. The funds set aside for this program are for bridges, that except for bridge barrier systems, are in otherwise structurally sound condition.

This program is funded using HBRRP funds transferred to STP. For general discussion regarding these special STP funds, see Section 6.5.16 on page 6-24.

1. Bridges that have received a rating of National Bridge Inventory (NBI) item 36A = 0 are eligible candidates for this program. For definitions of the NBI data items, see the National Bridge Inventory Coding Guide, which is available on the HBRRP website. The HBRRP website has an "on-line" Local Bridge Inventory Database for reviewing candidate bridges by local agency.

2. Bridges that are eligible for HBRRP rehabilitation funds (SD or FO, with SR ≤ 80) are not eligible for STP funded bridge barrier railing replacement. The safety improvements would be participating under a HBRRP funded rehabilitation project and are therefore excluded from this STP fund source. (Projects that are currently programmed that are SD or FO, SR ≤ 80, will continue to be funded. However, if a local agency changes the scope to include bridge widening, the project will be reprogrammed using HBRRP funds with a 80% federal reimbursement rate. The requirements of full bridge rehabilitation will apply. See Section 6.2.1 on page 6-5.)

3. The replacement of bridge railing, approach guardrail and end-sections is participating as a stand-alone project under this Section.

4. The cost of bridge widening to bring lane and shoulder widths to current standards anticipating future needs consistent with the requirements of "rehabilitation" (see Section 6.2.1 on page 6-5) is also participating under this Section. However, bridge widening to meet current standards is not mandated to receive Bridge Barrier Railing Replacement funds. Design exceptions per Section 11.2 of Chapter 11, "Design Standards," LAPM shall be required if the bridge width is not brought to current standards.

5. Adding additional lanes to a bridge is not participating.

6. Other improvements, such as addition of bicycle facilities or sidewalks may also be participating on a case-by-case basis to ensure the bridge railing and approach barrier is meeting the needs of the public. The local agency shall identify these specific improvements in their application for funding approval by the Office of Program Management (contact the DLAE for help).

7. Bridge replacement or partial funding of a bridge replacement project is not participating.

8. Right of way acquisition and approach roadwork minimally needed to accommodate the bridge barrier railing replacement project are participating. Approach work is limited by Section 6.4.2 on page 6-17.

9. The intent of this program is not to correct damaged bridge barrier systems. Correcting damaged bridge rail/approach guardrail that would otherwise meet current standards is considered maintenance work and is not participating under this program.

10. Caltrans encourages local agencies to choose a barrier railing system that meets National Cooperative Highway Research Program (NCHRP) Report 350 standards. For bridges off the National Highway System (NHS), local agencies are delegated the authority to decide whether the replacement barrier railing should meet NCHRP 350 crash testing standards. See Chapter 11, "Design Standards," of the LAPM for further instructions. See Exhibit 6-F, "Modifications to Crash Tested Bridge Railing" page 6-69, for information regarding the modification of crash tested bridge railing.

11. Barrier railing systems on bridges on the NHS shall meet NCHRP 350 crash testing standards.

12. For bridges off the NHS, where proposed new bridge barrier railing systems do not meet NCHRP 350 crash testing standards, the application for funds must identify the safety improvements that justify the funding of the project.

13. Where only approach roadwork and approach guardrail work is proposed with no bridge railing work, the application for funds must justify the funding of the project for approval by the Office of Program Management (contact the DLAE for help). If there is no safety issue being addressed relating to the bridge or approaches, the project will not qualify for STP funds under this Section.

14. For road-work projects only, the route must be included in the Federal-Aid Highway System. Therefore, this Section cannot fund roadwork-only projects on public roads that are functionally classified as rural minor collectors or urban or rural local streets.

15. Local agencies may only receive bridge barrier railing replacement funds once in the life of the bridge unless bridge railing standards change or the design speed of the bridge is increased beyond the tested rating of the bridge railing.

16. Local agencies should be aware that if bridge geometry is significantly improved by the bridge railing replacement project, future HBRRP funding may be impacted by Ten Year Rule #1. See Section 6.5.3 on page 6-19 for discussion of ten year rule issues.

17. Culverts (meeting the definition of a bridge, see Section 6.5.14 on page 6-23) are eligible for guardrail construction if none exists or if the guardrail is substandard. The requirement of item 1 above must be met to receive bridge railing replacement funds.

18. New sidewalk construction is participating if it is part of the bridge railing system and can be justified by the local agency. New electroliers are also participating if a local agency can demonstrate the lighting to be appropriate. These justifications shall appear in the project applications or when requesting scope changes for approval by the Office of Program Management (contact the DLAE for help).

19. The federal reimbursement is 88.53% of the participating project costs. The local match may be either State or local funds.

20. Caltrans will solicit candidate projects from local agencies when funding levels have been determined each year for a new cycle. Local agencies will have 6 months to submit applications after being notified by Caltrans (DLAE) that new candidates will be accepted.

21. Applications must be complete and be postmarked by the specified deadline in the Caltrans solicitation letter or the applications will be automatically rejected. The applications will be rejected to avoid causing delays in establishing the statewide list of approved candidates. This will ensure that all local agencies, statewide, that follow the instructions can initiate their projects without delays. Local agencies are strongly advised to take advantage of Caltrans' services (if Caltrans staff is available) to provide advice in assembling strong, successful project applications. Contact the DLAE for help.

22. Due to limited funds, candidate projects will be prioritized based on the Priority Index Number (PIN) described in Exhibit 6-C, "PIN for Barrier Rail Replacement Projects," page 6-55. Local agencies may submit up to five applications for a given cycle.

23. Each local agency will be allowed up to two successful candidate projects if sufficient funding is available. More projects will be approved on a priority basis if funding is available in a given cycle.

24. Because funds are available on a competitive basis statewide, increases in federal funds on a project may not be possible after a cycle is established. It is critical that local agencies properly scope their projects prior to submitting applications for funds and use up to a 25% contingency in their application.

25. Local agencies may not substitute approved projects for projects with lower priority PINs after the statewide list is approved. Funds released from projects that are cancelled by local agencies go back to the statewide balance of federal funds to be used in the next cycle of candidate projects.

6.2.5 SCOUR COUNTERMEASURE

The purpose of this program is to help local agencies implement scour countermeasure as a stand-alone scope of work when the local agency does not wish to implement a bridge rehabilitation or replacement project.

1. To receive funds the bridge must have a rating of NBI Item 113 ≤ 4 or SLA must provide a recommendation that scour countermeasure is necessary.

2. Funds will be available if the bridge is rated SD or FO, and SR ≤ 80 (on the EBL) or if State STP funds are available. For more discussion about STP funded bridge projects see Section 6.5.16 on page 6-24.

3. The participating cost of a scour countermeasure project is limited to installation of monitoring devices and/or modifying the bridge to resist (and correct, if needed) scour damage and/or development of operational plans. The repair of damage caused by scour (without mitigating the scour problem) is considered maintenance work and is not participating.

4. Correcting major deficiencies causing a bridge to be on the EBL is not required of a scour countermeasure project. If the bridge is on the EBL, rehabilitation or replacement should be considered prior to the development of a scour countermeasure project.

5. If a bridge is <u>not</u> on the EBL and bridge replacement or rehabilitation is the most cost-effective scour countermeasure strategy, the bridge replacement or rehabilitation cannot be funded using the HBRRP. This restriction is based on how HBRRP funds are authorized under 23USC144. STP funds may be used in this situation, if funds are available. However, if the bridge is on the EBL, Caltrans recommends that the local agency consider a full rehabilitation or replacement project, which would be HBRRP participating.

6.2.6 LOCAL MANDATORY SAFETY SEISMIC PROGRAM

This is considered a separate program from the HBRRP due to State funding requirements and State legislation. See Chapter 7, "Seismic Safety Retrofit," of the LAPG for programming instructions and participating scopes of work. Also see Section 6.5.1 on page 6-19 for policy on inactive Mandatory Seismic Retrofit Projects.

COMBINED HBRRP AND "MANDATORY" SEISMIC RETROFIT PROJECTS

The funds identified in the approved seismic retrofit strategy under the "Mandatory" Seismic Retrofit Program may be combined into an eligible rehabilitation, replacement, painting, or bridge railing replacement project. See Chapter 7, "Seismic Safety Retrofit" of the LAPG for additional information.

Requesting HBRRP funds for rehabilitation or replacement in excess of funds provided by the "Mandatory" Seismic Retrofit Program requires a formal application for funds as described in this Chapter.

6.2.7 LOW WATER CROSSING REPLACEMENT (NEW BRIDGE)

The purpose of this program is to replace low water crossings with bridges so that the public will not be subject to hazardous situations and emergency vehicles can serve the public in a timely manner.

Low water crossing replacement is also appropriate when permits to operate the low water crossing are subject to termination causing the permanent closure of a public highway.

Low Water Crossings eligible for replacement must meet the following definition based on FHWA policy:

"Low water crossings are public road waterway crossings other than bridges where construction improvements have been made in the stream, river or lake bed to provide a firm surface for vehicles to travel across the water course. The crossings are designed and constructed to be passable to traffic most of the year during periods of ordinary stream flow but are impassable to traffic during periods of high water."

Other requirements:

1. The application for funds (see Section 6.6 on page 6-25) must describe how a proposed Low Water Crossing Replacement project meets the program purpose.

2. The participating costs are the same as bridge replacement discussed above in Section 6.2.2 on page 6-7, as applicable.

3. New bridges (or culverts) must have a minimum 20 foot span to meet the definition a bridge in Section 6.5.14 on page 6-23 or the work is not considered major construction. Only major construction will be considered eligible for HBRRP participation. Local agencies are required to size the span to meet appropriate design criteria, not size the span to meet HBRRP eligibility criteria. Over designing the span of a bridge to meet HBRRP eligibility requirements will result in the loss of all federal funds for the project.

6.2.8 BRIDGE REPLACEMENT DUE TO FLOOD CONTROL PROJECT

23USC144(m)(1)(D) authorizes the use of HBRRP funds to replace any public highway bridge rendered obsolete as a result of United States Corps of Engineers flood control or channelization projects where there are insufficient funds from the United States Corps of Engineers to replace the impacted bridges. The bridges do not need to be rated SD or FO with SR ≤ 80 (On EBL).

1. For bridges on the EBL, Preliminary Engineering (PE) may be authorized once the bridge project is included in the HBRRP multi-year plan. The bridge geometrics should be based on the functional requirements triggered by the flood control project. However, federal construction authorization for the bridge may not be approved until the federal government appropriates AND authorizes funds for the final design (final PS&E development) of the flood control project. This ensures that the bridge geometrics will

be consistent with the flood control project. It also ensures that bridge will not be built with expensive geometric requirements for a flood control project that is never authorized by the federal government.

If a local agency chooses to proceed with the replacement project prior to the federal government appropriating and authorizing funds for final design of the flood control project, the HBRRP participating costs will be based on the geometrics assuming no flood control project. In this situation, if the bridge isn't eligible for replacement, the participating HBRRP costs could be limited to just rehabilitation costs.

2. If the bridge is not on the EBL, PE shall only be authorized after the federal government has appropriated AND authorized funds for the final design for the flood control project. Construction may not be authorized until the federal government appropriates AND authorizes construction for the flood control project.

3. The local agency shall document in their application for funds that there are insufficient federal flood protection funds to pay for the cost of the bridge replacement.

4. Federal flood control funds cannot be used as matching funds for HBRRP (or vice versa) unless provisional language is established by federal law.

6.2.9 NEW BRIDGE TO REPLACE FERRY SERVICE

23USC144(m)(1)(C) authorizes the use of HBRRP funds to replace any ferry that was in service on January 1, 1984. The application for funds must document how this requirement has been met. The guidelines associated with bridge replacement apply. See Section 6.2.2 on page 6-7.

6.2.10 SPECIAL HISTORIC BRIDGE WORK

It is the intent of the HBRRP to place value on maintaining the historic integrity of qualifying historic bridges.

1. The requirements associated with bridge rehabilitation and replacement apply to this Section, except where discussed below.

2. A "historic bridge" is a bridge that is listed on, or eligible for listing on, the National Register of Historic Places. This data may be downloaded from the HBRRP website. For qualifying bridges, NBI data item 37, Historical Significance, is rated 1 or 2.

   The National Register of Historic Places (NRHP) is a federally mandated listing of historically or archaeologically significant sites maintained by each state. The NRHP does not contain all significant sites. It only lists those currently identified and that the owner has allowed to be listed. There are many eligible sites that have not been registered, either because they have not been found or they have not yet been nominated.

3. 23USC144(o)(3) authorizes the use of HBRRP funds for the reasonable costs associated with actions to preserve, or reduce the impact of a HBRRP project on the historical integrity of a designated bridge.

4. Where a proposed rehabilitation project will not remove the bridge from the EBL, the local agency shall notify the DLAE to ensure that the proposed work is participating under the HBRRP. The DLAE, in consultation with SLA will forward recommendations for project funding to the Office of Program Management for approval. The DLAE will consult with SLA to ensure all reasonable rehabilitation strategies have been considered. Local agencies will be required to process the appropriate design exceptions per Chapter 11, "Design Standards," of the LAPM.

5. For a historic bridge replacement project, where a new bridge will be on a new alignment, the historic bridge may be rehabilitated using HBRRP funds. The participating costs of the rehabilitation shall not exceed the estimated cost of demolition.

6. A local agency that proposes to demolish a historic bridge for a replacement project with HBRRP funds shall first make the bridge available for donation to the State, another local agency, or to a private entity. This can be accomplished by notifying the State Historic Preservation Officer, Caltrans, or other cities or counties in the State.

   The costs incurred by the local agency to preserve the historic bridge, including funds made available to the receiving entity to enable it to accept the bridge, shall be HBRRP participating up to an amount not to exceed the cost of demolition. <u>The bridge will no longer be eligible for any federal-aid under Title 23.</u> (Local agencies should consider using other federal programs before using HBRRP for this purpose.)

   If HBRRP funds are involved in the preservation of the historic bridge, the donation may only take place if the receiving entity enters into an agreement with the local agency to:

   (A) maintain the bridge and the features that give it its historic significance; and;

   (B) assume all future legal and financial responsibility for the bridge, which may include an agreement to hold the local agency harmless in any liability action.

6.2.11 HIGH COST BRIDGE PROJECTS

The purpose of this Section is to provide local agencies needing more than $10 million of HBRRP funds for locally owned bridge projects a way to receive the funds in a fair and equitable process statewide. (This Section does not apply to STP funded bridge projects programmed under this Chapter.) HBRRP funds programmed under this Section will be known as "High Cost" funds.

1. PE and Right of Way phases may be funded under other sections of this Chapter as long as the total federal HBRRP commitment is less than $10 million.

2. A project report shall be developed by the local agency that addresses the following issues:

   - The project objectives must be clearly defined and all reasonable options for meeting the project objectives must be explored to demonstrate that the project is cost-effective.

- The report must address pros and cons of each option with supporting technical and cost information attached.

- A recommendation shall be developed with explanation.

3. Local agencies considering applying for high cost funds should work with the DLAE and SLA to ensure that all appropriate options have been considered and cost estimates are within industry standards. SLA is available to advise local agencies in developing appropriate options related to the bridge work. Bridge type selection options, painting preparation options, and seismic retrofit options are examples where SLA may be consulted.

4. Some high cost projects may be subject to the requirements of "Value Engineering" as defined in 23USC106(e) and Chapter 12, "Plans, Specifications, and Estimate," Section 12.5 of the LAPM. Local agencies must contact the DLAE to discuss how this requirement may impact a specific project.

5. Caltrans will make HBRRP funds available beyond the $10 million limit (see Section 6.4.1 on page 6-17) if there will be no adverse impacts to the funding of other local agency projects. HBRRP funds programmed under this Section may be in addition to funds previously programmed under this Chapter.

6. Local agencies may apply for "High Cost" funds when Caltrans solicits candidate projects from local agencies - statewide. Local agencies will respond by submitting the following materials making up the "application package" for their candidate "High Cost" project:

   - A "Request for Authorization to Proceed with (Right of Way or) Construction" package in accordance with Chapter 3, "Project Authorization," of the LAPM.

   - The project report shall be submitted to the DLAE for Caltrans review. The DLAE will work with SLA and other units in Caltrans to develop and forward recommendations on the project to the Office of Program Management for funding approval.

   - An Exhibit 6-A, "HBRRP Application/Scope Definition Form," page 6-43, shall also be submitted to the DLAE.

   - An expenditure plan of when the funds will actually be expended during the construction of the project.

7. In the case where a local agency is not interested in pursuing Advance Construction (see item 9 below), the DLAE shall not process the E76 until all funds have been identified for the project phase needing federal authorization. If there are not enough "High Cost" funds to completely fund the requested project phase, the funds will be redistributed to other "High Cost" projects whose project sponsors are willing to advance local funds to proceed with their projects.

8. The "High Cost" funds will be available for Right of Way or Construction phases only.

9. The "High Cost" funds will be allocated to a project based on a percentage of the unfunded project needs divided by the sum of all unmet "High Cost" local assistance HBRRP project needs statewide.

10. "High Cost" funds will only be available in the Federal Fiscal Year (FFY) for which they are allocated. If funds are not obligated within that time period, the "High Cost" funds shall revert back to the local assistance statewide HBRRP balance.

11. On an annual basis beginning in February 2002, Caltrans (through the DLAE) will solicit candidate "High Cost" projects from local agencies that need funding in the next FFY beginning in October 2002. The Office of Program Management will notify the DLAEs which projects and how much "High Cost" funds have been allocated. Caltrans may allow "High Cost" funds to be obligated prior to the new FFY if sufficient OA exists in the current FFY. Detailed instructions will be provided when the distribution of "High Cost" HBRRP funds are made available to local agencies.

12. If a local agency does not wish to delay their project needing "High Cost" funds, the local agency must use Advance Construction (AC) in order to preserve the HBRRP 80% reimbursement rate. See Sections 1 and 2 of Chapter 3, "Project Authorization," of the LAPM for AC and underfunding policy. Local agencies using advance construction shall understand that neither Caltrans nor FHWA can guarantee that future federal funds will be made available to convert AC into HBRRP federal funds. For additional discussion on AC, see Chapter 2, "Financing the Federal-Aid Highway Program," of the LAPG.

13. Local agencies may apply for "High Cost" funds each year for the same projects to allow the conversion of all AC to HBRRP funds. The federal-aid project closure or "final voucher" does not occur until all AC has been converted to federal funds.

6.3 STANDARDS

Standards for local assistance projects are available in Chapter 11, "Design Standards," of the LAPM. Note that the bridge inspection ratings must never be used as design criteria for meeting AASHTO standards. See Section 6.12 on page 6-34. The minimum ratings triggering HBRRP eligibility do not necessarily reflect good design practice established by AASHTO in the *"A Policy on Geometric Design of Highways and Streets."*

The primary intent of the HBRRP is to remove bridges from the EBL through rehabilitation or replacement. On rare occasions local standards or design exceptions appear to compromise the intent of the HBRRP. For this reason, local agencies as a condition for HBRRP funding on all rehabilitation and replacement projects (see Sections 6.2.1 and 6.2.2, page 6-5), shall ensure the scope of work will result in a bridge that will not be rated FO or SD and that the SR will be greater than 80. Local standards or design exceptions processed under Chapter 11, "Design Standards," of the LAPM do not provide exemption to this requirement. Exceptions based on cost-effectiveness or in the public interest of historic structures must be approved by the Office of Program Management (contact the DLAE for help).

SLA is available to estimate revised bridge ratings based on proposed rehabilitation strategies upon request by local agencies.

See Chapter 12, "Plans, Specifications and Estimate," Section 12.6, of the LAPM regarding the appropriate use of Metric/English Caltrans Standard Plans.

6.3.1 DESIGN EXCEPTIONS

See Chapter 11, "Design Standards," of the LAPM for design standards and design exception process. Local agencies take full responsibility and liability for meeting design standards and approving design exceptions.

6.4 PARTICIPATING COST LIMITS

To ensure the purpose of the HBRRP is being fulfilled by local agency projects, certain costs and types of work have limits. These limits apply to all projects funded under this Chapter. See Exhibit 6-B, "HBRRP Special Cost Approval Checklist," page 6-53 for a summary of participating costs that require specific Office of Program Management approval (contact the DLAE for help).

6.4.1 MAXIMUM HBRRP FUNDS ON ONE PROJECT

Up to $10 million of Federal (HBRRP or STP) funds may be programmed (reserved) on any one project under this Chapter. Local agencies requiring more than $10 million (HBRRP only) may apply for special funding under "High Cost Bridge Projects," Section 6.2.11 on page 6-14.

6.4.2 APPROACH ROADWAY WORK

The following quote from the CFR identifies work that is not eligible for participation under the HBRRP:

"23CFR650.405(2)(c) Ineligible work. Except as otherwise prescribed by the Administrator, the costs of long approach fills, causeways, connecting roadways, interchanges, ramps, and other extensive earth structures, when constructed beyond the attainable touchdown point, are not eligible under the bridge program."

Federal participation for approach roadway shall be limited to the minimum necessary to make the facility operable consistent with current design standards. The approach roadway length is measured from the bridge abutment to the touchdown on the existing roadway alignment. The approach length from each abutment in excess of 60M (200ft) (on federal-aid system) and 120M (400ft) (off federal-aid system) requires advance approval by the Office of Program Management (contact the DLAE for help). See additional discussion for exceptions to these rules in Section 6.13.8 on page 6-40. This Section applies to all funds (STP and HBRRP) programmed for projects under this Chapter.

6.4.3 PRELIMINARY ENGINEERING (PE) COSTS

See Section 3.1, Chapter 3, "Project Authorization," of the LAPM for eligible participating work. HBRRP funds may not be used for general feasibility or general transportation corridor planning studies even if federally deficient bridges are on a corridor being studied for improvement. HBRRP participation in PE is for the development of specific HBRRP projects where the local agency is required to deliver a construction project.

Federal participation of PE costs is limited to actual costs up to $75,000 or 25% of the estimated participating construction cost (excluding construction engineering and contingency), whichever is greater. Additional participation must be approved by the Office of Program Management (contact through the DLAE). Justification for exceeding PE cost limits includes difficult environmental, seismic, hydraulic/scour issues, or other bridge technical problems. Complex project management issues may also be a justification.

HBRRP participation in consultant contract management and quality assurance costs shall not exceed 15% of a consultant's total charges.

For exceptions to the above rules, local agencies must submit a justification in writing to the DLAE. The DLAE will review the request, provide recommendations and forward to the Office of Program Management for approval.

The DLAE will work with the various technical units within the Caltrans to form a recommendation. Technical bridge design issues shall be submitted to SLA for comment. Environmental issues shall be forwarded to the District environmental reviewer for comment. Final funding approval will come from the Office of Program Management.

6.4.4 CONTINGENCY INCLUDING SUPPLEMENTARY WORK COSTS

HBRRP participation in Contingency and Supplementary Work in the planning phase of a project should not exceed 25% of the participating construction contract item costs. Contingency and Supplementary Work in the final engineer's estimate should not be less than $5,000 nor exceed 10% of the participating construction contract item costs, unless approved by the Office of Program Management (contact the DLAE for help).

Exceptions to this rule will be handled similar to PE cost exceptions as discussed in the previous Section.

6.4.5 CONSTRUCTION ENGINEERING COSTS

HBRRP participation in Construction Engineering may not exceed 15% of the participating construction contract item costs, unless approved by the Office of Program Management Local agencies must contact the DLAE for assistance.

Exceptions to this rule will be handled similar to PE cost exceptions as discussed in Section 6.4.3 on page 6-18.

6.5 GENERAL RULES AND POLICIES

The following rules and policies apply to all projects funded under this Chapter.

6.5.1 INACTIVE PROJECTS - 3 YEAR RULE

The purpose of this section is to ensure that all programmed projects are delivered in a timely manner. Inactive projects tie up limited resources that can be used by other local agencies that are in need of funds. The following rules shall be followed:

1. Caltrans will not accept new project applications from any local agency that has any programmed HBRRP or "Mandatory" Seismic Safety projects with no financial (invoice or federal fund authorization) activity in 3 years. Exceptions will be on a case-by-case basis approved by the Office of Program Management (contact the DLAE for help). A list of inactive projects can be downloaded from the HBRRP website:

   www.dot.ca.gov/hq/LocalPrograms/

2. Construction authorization for current active projects will be withheld until the local agency either develops a workplan acceptable to Caltrans to deliver their inactive projects or cancels the inactive projects in compliance with Section 6.7.6 on page 6-30.

3. A grace period of six months from the date these guidelines are published will be allowed prior to implementation of this Section.

6.5.2 BIENNIAL REPORTING REQUIREMENT

Caltrans, on a minimum two-year interval, will ask local agencies for updated cost/schedule information for all projects in the HBRRP multi-year plan. Local agencies that fail to respond to Caltrans requests for project status may have their projects canceled at Caltrans' discretion.

Local agencies that become aware of schedule, cost, and scope changes should notify the DLAE immediately upon discovery to ensure that that the new scope is participating and that adequate funding will be available when the local agency requests the funding. Use Exhibit 6-D, "HBRRP Scope/Cost/Schedule Change Request," page 6-56 to request scope/cost/schedule changes.

6.5.3 TEN YEAR RULE #1 (YEAR OF CONSTRUCTION/RECONSTRUCTION)

Bridges in the NBI with a date of construction or date of major reconstruction (NBI Data Items 27 & 106) within the past 10 years will not be considered deficient bridges and will not be eligible to receive any funds under this Chapter. For example, if a geometrically deficient bridge was built in 1996, the bridge will not be considered deficient until the end of 2005. This rule applies regardless of the funding source (State, federal or local) of the project triggering the date of construction or date of major reconstruction.

Major reconstruction is work that improves either the structural load carrying capacity of the bridge or substantially alters the roadway geometry of the bridge.

Unforeseen phenomena may be grounds for exemption from Ten Year Rule #1. The Office of Program Management is responsible for approving exemptions. Local agencies must contact the DLAE for assistance. The intent of the policy is to encourage local agencies to properly scope their projects to anticipate future geometric needs and to properly design bridges to carry standard design loads.

6.5.4 TEN YEAR RULE #2 (YEAR OF PE AUTHORIZATION)

Federal law establishes a ten year rule to help ensure the timely use of funds:

"23USC102(c) ENGINEERING COST REIMBURSEMENT. If on-site construction of, or acquisition of right-of-way for, a highway project is not commenced within 10 years (or such longer period as the State requests and the Secretary determines to be reasonable) after the date on which Federal funds are first made available, out of the Highway Trust Fund (other than Mass Transit Account), for preliminary engineering of such project, the State shall pay an amount equal to the amount of Federal funds made available for such engineering."

This means construction or Right of Way (R/W) acquisition must commence within ten years of PE authorization or funds may be taken from the local agency and returned to the State and FHWA. This applies to all federal projects, including HBRRP funded projects.

Time extensions are usually granted based on difficult environmental or R/W issues or where local agencies are forced to redirect staff to other projects in time of emergencies. The Office of Program Management (contact the DLAE for help) will only approve time extensions if the local agency can provide a plan to deliver the project.

Local agencies are responsible for notifying the DLAE that their project requires a time extension to ensure that federal funding will be available when a local agency requests funding.

6.5.5 UTILITY RELOCATION REIMBURSEMENT

Chapter 14, "Utility Facilities," of the LAPM shall be followed.

1. Costs are only participating when the relocation is made necessary by the proposed construction and the local agency is legally obligated to pay for the work.

2. The estimated credits for salvage and depreciation shall be deducted from the participating project cost.

3. The estimated costs of utility "betterments" shall be deducted from the participating project cost. A "betterment" is the incremental improvement from what is currently installed.

6.5.6 EXCEEDING AASHTO STANDARDS

Where proposed design solutions exceed AASHTO guidelines or standards, the associated extra costs are generally not participating unless justified. Minimum standards may be exceeded based on intermodal transportation considerations, serviceability issues, and good geometric design practice. The decisions and background information driving the design requirements in these cases must be documented in the local agency's project file for future Caltrans review. See Section 6.13.1 and Section 6.13.2 beginning on page 6-36 regarding the establishment of bridge geometrics.

6.5.7 UNUSUAL ARCHITECTURAL TREATMENTS

Unusual architectural treatments (decorative fascia, tile work, architectural lighting, exotic bridge railing, belvederes etc.,) are generally not participating. Location, public input, availability of funds, and cost-effectiveness play a role in the determination of HBRRP participation.

Local agencies shall notify the DLAE to request HBRRP participation of unusual architectural treatments. (The DLAE will work with the Office of Program Management to determine HBRRP participation.)

Generally, special treatments should not exceed 5% of the total construction contract item cost. Local agencies are required to justify unusual architectural treatments in their project files for future Caltrans program review.

See Section 6.13.7 on page 6-40 for information related to non bridge items.

6.5.8 ENVIRONMENTAL MITIGATION

Federal funds (including HBRRP funds) cannot be used to reimburse local agencies for costs associated with excessive, non-practical mitigation. The Caltrans District environmental reviewer is responsible for advising local agencies and the DLAE when proposed mitigation is excessive and/or if any of their mitigation will not be reimbursed by FHWA.

Federal funds (including HBRRP funds) may be used for:

1. Mitigation that is accomplished within the scope of the project;

2. Plant establishment and monitoring up to two years and possibly longer to allow for the permanent establishment of plants. The funding of plant establishment may be accomplished using an escrow account. Plant establishment and monitoring longer than two years must be approved by the District environmental reviewer.

3. Other participating mitigation may be required and must be documented in the NEPA documents and be approved by FHWA.

Federal funds (including HBRRP funds) may <u>not</u> be used for:

1. Endowment funds for biological monitoring or maintenance activities in perpetuity;

2. Maintenance work. Maintenance is the fiscal obligation of the local agency.

Local agencies should contact the DLAE for detailed discussion and field review to scope appropriate mitigation strategies. (The DLAE will work with the District environmental reviewer, FHWA, and the Office of Program Management to resolve difficult issues.)

6.5.9 PURCHASE OF EQUIPMENT

Equipment costing less than $5,000 is reimbursable under the indirect cost rate, not as a line item under PE or CE direct costs. See Chapter 5, "Accounting/Invoices," of the LAPM for indirect cost rate approval.

Equipment costing more than $5,000 must be prorated over the time the equipment is actually used on a federal-aid project. See the FHWA *Contract Administration Core Curriculum Manual*, Section IIC4(b) at the following website for more information:

www.fhwa.dot.gov/programadmin/contracts/cor_IIC.htm - IIC4b

Under no circumstances may a local agency profit by using its own equipment on a project. The cost of using publicly owned equipment shall not exceed industry standard rental rates. Further requirements are under Chapter 12, "Plans, Specifications & Estimate," Section 12.12 of the LAPM regarding special contract provisions. Also see Chapter 16, "Administer Construction Contracts," of the LAPM regarding equipment rental rates.

6.5.10 WORK BY LOCAL AGENCY STAFF (FORCE ACCOUNT)

Local agency staff in special circumstances may perform reimbursable construction activities. See Chapter 12, "Plans, Specifications & Estimate," Section 12.4 of the LAPM for specific requirements.

6.5.11 "REPLACED" BRIDGES TO REMAIN IN PLACE

Sometimes when a bridge is "replaced" with a new bridge on a new alignment but on the same corridor, the old bridge does not need to be demolished. The old bridge can remain in place to carry pedestrian and bicycle traffic. The old bridge may not be rehabilitated with HBRRP funds unless it is of historical significance. See Section 6.2.10 on page 6-13.

The CFR provides the legal background and an additional example:

23CFR650.411(c)(2) Whenever a deficient bridge is replaced or its deficiency alleviated by a new bridge under the bridge program, the deficient bridge shall either be dismantled or demolished or its use limited to the type and volume of traffic the structure can safely service over its remaining life. For example, if the only deficiency of the existing structure is inadequate roadway width and the combination of the new and existing structure can be made to meet current standards for the volume of traffic the facility will carry over its design life, the existing bridge may remain in place and be incorporated into the system.

Proposed work outside these examples requires Office of Program Management funding approval (contact the DLAE for help). The local agency is responsible for requesting Caltrans approval.

6.5.12 FIELD REVIEW POLICY

See Chapter 7, "Field Review," of the LAPM for Field Review requirements and policies relating to optional and mandatory field reviews.

For most projects off the NHS, field reviews are optional. However, field reviews that include Caltrans participants are strongly recommended. Field reviews help ensure that cost-effective solutions are considered, that proposed work is federally reimbursable, and that environmental concerns are raised early in the project development process.

Federal PE funds may be authorized prior to the field review to facilitate the proper scoping of projects by consultants. Caltrans (The Office of Program Management) may limit federal funds authorized for PE until the scope of work is reasonably defined.

Local agencies requesting optional cursory PS&E reviews are encouraged to have field reviews with Caltrans (including SLA) involvement. See Section 6.7.2 on page 6-27 regarding PS&E reviews.

6.5.13 CONSTRUCTION QUALITY ASSURANCE

See Chapter 2, "Roles and Responsibilities," Section 2.6 of the LAPM for information.

Local agencies may ask the DLAE for construction quality assurance assistance. The DLAE may decline the request for assistance or provide limited assistance depending on available staff resources.

Local agencies that are contracting for construction engineering services may request Caltrans involvement in the consultant selection process. Caltrans engineers are available to help ensure that qualified consultants are selected at reasonable costs.

In cases where the DLAE becomes aware that a project under construction is not being adequately administered by a local agency, increased Caltrans involvement will be required.

The decision for "required" oversight by Caltrans will be on a case-by-case basis. The decision for construction oversight will be made by the Office of Program Management and the Office of Project Implementation based on recommendations from the DLAE.

6.5.14 MINIMUM BRIDGE LENGTH

Bridges must have a span of at least 6.1 M (20 ft) to be considered for inspection and inclusion in the NBI. If a bridge is <u>not</u> in the NBI, the bridge cannot be rated SD, FO, or have a SR making the bridge eligible for HBRRP funds. Following is a more precise definition of a bridge from the CFR which includes dealing with multi box or pipe culverts:

"23CFR§ 650.403(a) Bridge. A structure, including supports, erected over a depression or an obstruction, such as water, a highway, or a railway, having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of the openings for multiple boxes; it may include multiple pipes where the clear distance between openings is less than half of the smaller contiguous opening." (See the NBIS Coding Guide for a diagram that clarifies this issue. This can be downloaded from the HBRRP website.)

6.5.15 RAILROAD CAR BRIDGES

Permanent railroad car bridges will not be HBRRP participating. Temporary railroad car bridges required for construction will be participating.

The basis for not allowing HBRRP participation in the permanent installation of railroad car bridges is the following:

- It is very difficult for an engineer to certify that the structural members can meet Caltrans/AASHTO structural design standards.
- It is expensive to inspect railroad car bridges due to the number of structural elements and welds.
- It is difficult to establish material properties.
- There are potential problems associated with meeting AASHTO minimum geometrics.

Caltrans encourages local agencies to consider slab deck bridges as an appropriate cost-effective alternative.

6.5.16 STP FUNDED BRIDGE PROJECTS - INFORMATION FOR DLAEs

The information in this Section is for the DLAE's use. Local agencies may skip over this Section. As noted in the discussions for painting, scour countermeasure, bridge railing and approach barrier replacement, projects may be funded using State STP funds as opposed to HBRRP funds.

These STP funds are managed by the State and must not be confused with the Regional STP funds. State STP funds were originally HBRRP funds that have been transferred to STP to fund local bridge projects that would not normally be participating under the HBRRP.

Even though these funds are STP, the obligation of these funds should refer to the appropriate regional HBRRP lump sum item in the FSTIP. This is appropriate because these projects are considered bridge rehabilitation projects and use OA that came with the original HBRRP funds.

Please note that special prefixes and apportionment (pseudo) coding must be used to avoid having these projects charged to MPO/RTPA Regional STP funds. See the HBRRP website for the latest listings of project prefixes and apportionment/pseudo codes. The selection of project prefixes and apportionment codes should be left to the DLAE and the Office of Project Implementation when State STP funds are programmed on bridge projects funded under this Chapter.

6.6 PROJECT PROGRAMMING (INITIATION)

Before submitting an application for a HBRRP project, local agencies are encouraged to meet with the DLAE and SLA to discuss their candidate projects. This step allows the local agency project manager to become more familiar with the program and with services that can be provided by Caltrans to assist the local agency. A "pre-field review" may be held to discuss issues regarding the candidate project.

The first "official" step to initiate HBRRP participation in a local bridge project is for the local agency to prepare and submit an application to the DLAE.

When Caltrans receives the application package, the DLAE and Office of Program Management will review the proposed work in very general terms to ensure that HBRR Program intent and basic rules are met. Compliance with eligibility requirements is the responsibility of the local agency. This is especially the case where the project evolves during Preliminary Engineering (PE) phase. Local agencies needing further assistance in eligibility review should ask the DLAE for a field review.

When Caltrans determines that the project is eligible for HBRRP funds, Caltrans includes (programs) the project in the HBRRP Multi-Year Plan. Once the project is programmed, the local agency may request federal authorization to proceed with PE. PE includes the development of project studies (if needed) prior to NEPA document approval. See Chapter 3, "Project Authorization," of the LAPM for instructions.

Note: Federal authorization for any phase of work must be in place BEFORE reimbursable work is performed. Do not confuse the programming process with the federal authorization process.

6.6.1 APPLICATION PERIOD

For all scopes of work other than bridge barrier railing replacement and High Cost Bridge Project funds, applications will be accepted on a continuing basis.

6.6.2 MINIMUM APPLICATION REQUIREMENTS

The following minimum information must be included in a HBRRP application package:

1. A cover letter from the local agency requesting that Caltrans program the project.

2. The HBRRP Application Form and attachments (Exhibit 6-A, "HBRRP Application/Scope Definition Form," page 6-43) must be complete, except as

specifically allowed in the application. Local agencies needing help with the application should contact the DLAE.

3. Preliminary (possibly incomplete) Field Review Form and Roadway Data Sheet (Exhibit 7-B and Exhibit 7-C from Chapter 7, "Field Review," of the LAPM.) The local agency should fill out only known data.

4. Identify PE funds needed to scope project and estimates of cost and schedule of the project.

5. Applications for High Cost Bridge funds and Bridge Barrier Railing Replacement funds will only be accepted by the DLAE after a solicitation for candidates has been transmitted from the DLAE's to local agencies. See Section 6.2.4 on page 6-8 for information on Bridge Barrier Railing Replacement and Section 6.2.11 on page 6-14 for information on High Cost Bridges.

The DLAE is responsible for ensuring the application package meets the above minimum requirements prior to forwarding copies of the package to the Office of Program Management and SLA. The DLAE should identify any potential difficulties and provide recommendations.

6.6.3 OPTIONAL SLA REVIEW OF APPLICATION

The DLAE or the Office of Program Management may request SLA review of a project, if justified. This level of oversight is consistent with Chapter 7, "Field Review," of the LAPM that places the responsibility of project scoping on the local agency. Local agencies requesting optional technical support for project scoping may work with the DLAE/SLA prior to submitting the application package and/or may request an optional field review in the application. The level of service provided by Caltrans will be dependent on available Caltrans staffing.

When the DLAE or the Office of Program Management requests SLA to review an application <u>or scope change</u>, a request for construction authorization <u>shall not</u> be processed by the DLAE until SLA's review is complete and issues raised by SLA are addressed by the local agency. At the discretion of the DLAE or the Office of Program Management, PE authorization may be withheld pending the results of the SLA review.

SLA shall notify (email is acceptable) the DLAE and the Office of Program Management of any findings as a result of the application review. The Office of Program Management will also notify the DLAE and SLA of the status of the application package by email. Any issues raised need to be resolved by the local agency, SLA, the DLAE, District Right of Way or the District Environmental Reviewer. The DLAE is responsible for the coordination of the resolution of issues raised.

After the project is programmed, the DLAE will initiate the field review <u>if required by Chapter 7, "Field Review," of the LAPM</u>, if the field review has not yet taken place. Field reviews should be scheduled appropriately to include the local agency's consultants. Local agencies are encouraged to request optional field reviews to help identify project scope, environmental and R/W issues.

6.7 PROJECT IMPLEMENTATION

Once the project is programmed, local agencies may request PE authorization (Chapter 3, "Project Authorization," of the LAPM) for preparation of any project studies, preliminary R/W plans and environmental documentation.

The DLAE shall ensure that funds authorized do not exceed what is programmed as shown in the HBRRP multi-year plan.

6.7.1 COST/SCOPE/SCHEDULE CHANGES

If a cost/scope/schedule change occurs, the local agency shall notify the DLAE immediately of the changes. A cover transmittal letter shall be sent to the DLAE with the following attachments:

- An updated application with attachments, if there is a major scope change. Local agencies should contact the DLAE for advice on whether an updated application is needed.

- A cost/scope/schedule change form (Exhibit 6-D, "HBRRP Scope/Cost/Schedule Change Request," page 6-59)

If a local agency is requesting immediate reimbursement, a revised request for authorization and finance letter must be included as required by Chapter 3, "Project Authorization," of the LAPM.

The DLAE will forward copies of the scope change request package to the Office of Program Management and SLA. The Office of Program Management and SLA will process the package the same way a new project application is handled per Section 6.6 on page 6-25.

6.7.2 OPTIONAL CURSORY PS&E REVIEW

Optional PS&E reviews are cursory in nature involving the scope (plans), specifications, and engineer's estimate. This review can help identify issues regarding roadway safety, constructability, obsolete or expensive standard specifications, and HBRRP eligibility that might have been overlooked

Cursory PS&E reviews are not design checks and findings are usually advisory in nature. Findings that are significant to the cost-effectiveness or safety of the project must be addressed by the local agency or federal authorization/reimbursement will be withheld. Tort liabilities resulting from design exceptions, mistakes and omissions in the design are solely the responsibility of the local agency.

Local agencies may request a cursory PS&E review by contacting the DLAE.

1. The DLAE is responsible for coordinating the cursory PS&E review with the local agency, SLA, and other units within Caltrans. SLA is the point of contact for technical services provided by the Caltrans Division of Engineering Services.

2. See Chapter 12, "Plans, Specifications & Estimates," Sections 12.2 and 12.14, of the LAPM for procedures relating to cursory PS&E review. These reviews should occur when the PS&E is about 65% complete (not 90% complete per the LAPM). At this stage of completion, all the design calculations and plans have been completed but are unchecked. (PS&E reviews at 90% completion will still be accepted, however, this may cause delays in advertising the projects.)

3. Local agencies requesting optional cursory PS&E reviews are strongly encouraged to have field reviews with Caltrans involvement.

4. Because these reviews are optional, incomplete PS&E packages may be submitted. Only what is submitted by the local agency will be reviewed.

5. Local agencies may withdraw the request for PS&E review, at any time if Caltrans staff is not available to meet local agency deadlines. If it appears that a PS&E review cannot be completed within the timeframe required by the local agency, the local agency shall be the decision maker as to whether the PS&E review should be completed with the possible delay in advertising their project.

6. Prior to processing any work authorizations, the DLAE shall coordinate with SLA and the local agency to ensure that the needs of the local agency are appropriately met. Under no circumstances is a DLAE to withhold prompt action on a request for authorization due to optional PS&E review.

7. Change orders or cost increases due to amending the PS&E after the project has been advertised may not necessarily be HBRRP participating. If there are significant changes to an advertised project due to a cursory PS&E review, Caltrans may require the local agency to re-advertise the project. To avoid project delays, it is important that local agencies requesting help with their projects do so early in the project development cycle.

8. The PS&E packages submitted for review should include:

Documents needed for PS&E Review	Number of Copies	Level of Completion by Local Agency or Consultant
Plans (no smaller than full 11x17)	4	Completed but unchecked
Special Provisions (for bridge portion)	4	Completed but unchecked
Hydraulic Report	2	Completed but unchecked
Foundation Report	2	Completed but unchecked
Engineers Estimate	4	Completed but unchecked

Project Report (Formal bridge type selection studies, if performed or other engineering related studies)	2	Completed prior to final design

NOTES:

Partial PS&Es may be submitted. Full "detail" cursory PS&E reviews generally take four to six weeks. Local agencies should consult with the DLAE for proper scheduling of the cursory PS&E review to avoid conflicts with requesting authorization for construction (federal authority to advertise the project).

(The DLAE is to retain one copy of the plans, special provisions, engineer's estimate, and project report. The DLAE should forward the remainder of copies to SLA.)

6.7.3 PROCEEDING TO FINAL DESIGN

Proceeding to final design to complete the PS&E may not commence until the DLAE has notified the local agency that the environmental documents have been approved and eligibility issues (if any) have been resolved. See Chapter 12, "Plans, Specifications & Estimate," of the LAPM for detailed discussion of procedures.

6.7.4 SCOPE CHANGES DURING FINAL DESIGN

Minor scope changes may be resolved with a letter from the local agency to the DLAE. The local agency must contact the DLAE for decision on whether the scope change is minor.

Major scope changes may invalidate the environmental documents and cause the project to be ineligible for federal funding. Caltrans decides how to proceed in major scope changes during final design. The DLAE should consult with SLA, Caltrans District Environmental and the Office of Program Management.

Where a major scope change is required, Caltrans may require the project application be revised and resubmitted to the DLAE. If needed, the environmental documents may need to be reevaluated. See Chapter 12, "Plans, Specifications & Estimate," Section 12.3 of the LAPM. If there are changes to the environmental documents, the DLAE must provide direction to the local agency if PS&E work may continue. The DLAE will need to work with FHWA to resolve complex environmental issues.

6.7.5 CONSTRUCTION CHANGE ORDERS (CCO)

Chapter 16, "Administer Construction Contracts," Section 16.13 of the LAPM delegates federal funding eligibility decision making regarding change orders to local agencies. Local agencies are encouraged to contact the DLAE for assistance if needed. Please see Chapter 16 of the LAPM for general instruction.

Local agencies assume full liability for the safety of their bridges and eligibility of participating costs of their projects.

Where the change orders exceed contingency, the local agency must contact the DLAE explaining the need for additional funds. The following instructions must be followed:

If the project is programmed with the lump sum item in the FSTIP, only the Office of Program Management needs to be consulted (contact through the DLAE) to ensure sufficient funds are available for the CCO.

If the project is identified as a line item in the FSTIP, the local agency must obtain concurrence from the RTPA/MPO and the Office of Program Management.

Local agencies will work through the DLAE to obtain approval from the Office of Program Management. If the FSTIP needs to be amended for a project line item, the local agency must work with their appropriate regional planning agency for proper processing.

6.7.6 PROJECT CLOSURE DURING PE

If, during project development, it is determined that no work is needed (choosing the "no build" option), the local agency may close out the project in the PE phase. Sometimes during the project development phase, environmental, R/W, or legal issues arise that make the project not feasible or cost-effective. In these situations, the local agency will be reimbursed for the work performed under the E76 authorizing PE. When the local agency submits the final invoice, a final report must be included documenting the conclusion with supporting information. See Chapter 17, "Project Completion," of the LAPM for detailed instructions.

A project may also be closed with PE reimbursement to the local agency if the costs of the project are beyond the local agency's estimated budget as documented in the original application for HBRRP funds. When the local agency submits the final invoice, a final report must be included providing specific information supporting the conclusion. The Office of Program Management (contact the DLAE for help) will make the determination if PE funds should be reimbursed.

If a local agency develops a final PS&E and the project is never advertised due to local match funding constraints, the HBRRP participation will be limited to the costs of scoping the project and developing the federal environmental documents. The engineering work to develop the final PS&E will be non-participating. Federal law does not authorize federal funds to be used to develop shelf projects.

Any other reasons for canceling a project may not be grounds for reimbursement of PE costs. If a local agency cancels (as opposed to choosing the "no build" option) a project, all PE funds must be returned to the State. The State will then return the funds to FHWA.

6.7.7 PROJECT CLOSURE AFTER CONSTRUCTION COMPLETION

The DLAE shall not approve/process a local agency's final invoice until all the requirements of Chapter 17, "Project Completion," of the LAPM have been met by the local agency. (This applies to all bridge projects regardless of the funding program.)

If a final invoice is received by the DLAE, but the requirements of Chapter 17, "Project Completion," of the LAPM have not been met, the DLAE shall reject the invoice and return it the local agency advising them of the requirements for closing out a federal-aid project.

6.8 SUMMARY OF PROJECT INITIATION/IMPLEMENTATION

Following are the basic steps to initiate and develop a HBRRP funded project:

1. The local agency should contact the DLAE to review the program requirements and to schedule an optional pre-field review meeting. The DLAE should coordinate with SLA as a minimum.

2. The local agency sends an application (Section 6.6 on page 6-25) for HBRRP funds to the DLAE.

3. The DLAE reviews the application package for minimum requirements and forwards copies of the application to Office of Program Management and to SLA.

4. The Office of Program Management "programs" the project and notifies the DLAE the candidate project has been accepted. Caltrans may now authorize PE funds, at the request of the local agency. See Section 6.7 on page 6-27. (At this stage the detail procedures in the LAPM should be reviewed.)

5. The DLAE coordinates a field review with the local agency, if required. It may be scheduled after consultants have been retained by the local agency. (see Chapter 7, "Field Review," of the LAPM for field review process.) The scheduling of optional cursory PS&E reviews should be discussed.

6. The local agency submits the final environmental documents and requests R/W authorization if needed.

7. The DLAE processes the environmental documents. Once the environmental documents are approved, the local agency may commence with final design. The DLAE may now process R/W authorization and notifies the local agency with the E76.

8. When the PS&E is 65% complete, the local agency may request that Caltrans perform an optional cursory review of the PS&E. If this service is needed, the PS&E should be sent to the DLAE. The local agency must be clear regarding review deadlines to ensure the project meets the schedule of the local agency.

9. The local agency submits the request for authorization for construction and other required forms to the DLAE.

10. The DLAE processes the request for authorization and notifies the local agency with the E76.

11. The local agency may now advertise the project. See the LAPM for further instructions or contact the DLAE for assistance.

12. When construction is complete, the requirements of Chapter 17, "Project Completion," of the LAPM must be met to receive final reimbursement.

6.9 ROLES AND RESPONSIBILITIES

6.9.1 LOCAL AGENCY

The local agency is the project manager and is responsible for all aspects of the project.

The local agency is accountable for how it spends federal funds on eligible projects. The local agency is responsible for following these program guidelines and the procedures in the LAPM.

The local agency is responsible for requesting Caltrans funding approval for certain participating costs identified in Exhibit 6-B, "HBRRP Special Cost Approval Checklist," page 6-51.

6.9.2 CALTRANS, DISTRICT LOCAL ASSISTANCE ENGINEER (DLAE)

The DLAE is the point of contact for all local assistance projects. Written communication (including email) from Caltrans to the local agency that provides official policy direction (including eligibility, scope, or funding decisions) to the local agency will be from the DLAE. Copies of all written correspondence and appropriate email will be kept in the DLAE project files.

The DLAE is responsible for providing expertise in understanding these program guidelines and the federal process as documented in the LAPM and the LAPG.

The DLAE is also responsible for ensuring that all "official" written (including e-mail) controversial correspondence to local agencies is "cc'd" to the Office of Program Management and the Office of Project Implementation. Controversial correspondence includes any denial of funds to a local agency or an action on the part of Caltrans that delays the construction authorization of a local HBRRP project.

The DLAE is to coordinate all Caltrans internal activities for local assistance projects. The DLAE is pro-active in ensuring that local agencies are aware of HBRRP scoping issues and offering help to local agency to resolve those issues. The DLAE is to utilize the Office of Program Management, Office of Project Implementation, SLA, District geometricians, District Right of Way and environmental experts, and be familiar with the standards and AASHTO references identified in Chapter 11, "Design Standards," of the LAPM.

The DLAE is also responsible ensuring that local agencies are aware of all Caltrans services available to local agencies that can improve the quality and timely delivery of HBRRP projects.

For current names, addresses, and email addresses, see the DLAE website:

www.dot.ca.gov/hq/LocalPrograms/dlae.htm

6.9.3 CALTRANS, STRUCTURES LOCAL ASSISTANCE (SLA)

SLA provides and coordinates technical services related to bridge projects in the areas of field reviews, cost estimation, inspection, design, analysis, construction, consultant selection and contracting, including expertise in explaining these program guidelines. SLA works directly with local agency staff and management in coordination with the DLAE. However, all Caltrans official correspondence to local agencies is transmitted through the DLAE.

SLA, at the request of the DLAEs, is responsible for working with local agencies in promoting the HBRRP and helping local agencies identify deficient bridges on the EBL. SLA, in this function, should also promote the above mentioned services to improve the quality and timely delivery of local HBRRP projects.

Note: When SLA receives questions regarding bridge inspections, SLA may forward the questions to appropriate bridge inspection engineering staff (either Caltrans staff or local agency staff authorized to inspect bridges).

6.9.4 CALTRANS, OFFICE OF PROGRAM MANAGEMENT

This office is responsible for:

- Programming funds for local agency projects.
- Approving special costs identified in Exhibit 6-B, "HBRRP Special Cost Approval Checklist," page 6-51.
- Managing the statewide Local HBRRP apportionment fund balance.
- Establishing program policy and procedures to maximize the use of federal funds and comply with federal requirements.
- Working with the DLAE and SLA to resolve difficult project related policy issues.
- Conducting program reviews to determine local agency compliance with federal and State laws, regulations, and policy.

6.9.5 CALTRANS, OFFICE OF PROJECT IMPLEMENTATION

This office is responsible for the actual authorization of federal funds and the development of program supplemental agreements on projects processed by the DLAE staff.

It is the responsibility of this office to ensure that federal funds are authorized on projects in compliance with the LAPM. The OPI relies on information provided by the OPM and the DLAE regarding the amount of participating HBRRP funds on a project. Funds authorized on a project shall not exceed amounts programmed in the HBRRP multi-year plan.

6.10 PROGRAM REVIEW

A program review shall be implemented with a frequency and scope at the discretion of the Chief, Office of Program Management.

The purpose of the program review is to:

- Ensure that quality bridge projects are being developed meeting current standards
- Ensure that these program guidelines and the LAPM are being followed
- Identify areas of improvement to these guidelines, the LAPM, laws, regulations, and policies.

If needed, the Chief, Office of Program Management may also request formal audits of project scope and expenditures that may trigger the loss of funds to non-compliant local agencies.

6.11 DISPUTE RESOLUTION

Disputes between Caltrans and local agencies regarding local assistance funded projects that cannot be resolved by the DLAE shall be elevated to Office of Program Management for final Caltrans decision.

Local agencies are encouraged to raise issues through the DLAE that can help improve the usefulness of the HBRRP to solve transportation problems. Where a local agency believes a law, rule, guideline, or a project eligibility decision is contrary to the public's interest, local agencies have a responsibility to elevate issues for Caltrans management review.

6.12 THE BRIDGE INSPECTION PROGRAM

The Bridge Inspection Program is a federally mandated program established under 23USC144(b), (c) and 23USC151.

The intent of the program is to:

- Establish an inventory of bridges carrying public highways,
- Help local agencies manage their bridge maintenance programs,
- Identify safety problems related to bridges.

Each bridge in the State carrying a public highway that has a minimum span of 6.1 M (20 ft) (see Section 6.5.14 on page 6-23) is inspected every two years. Caltrans maintains the master bridge inventory for the State. The statewide inventory of bridges is available from the HBRRP website. Whenever a bridge is inspected, the owner of the bridge is mailed a bridge inspection report that discusses the health of the bridge including needed

maintenance work. The report also includes a Structure Inventory and Appraisal (SI&A) sheet. The SI&A sheet provides all the detailed ratings required by federal law.

Local agencies may request copies of the bridge inspection reports from the DLAE or SLA. Agencies that inspect their own bridges should work with their own inspection departments to acquire the reports.

The inventory of "deficient" rated bridges drives the amount of the annual HBRRP apportionment (based on relative deck area and unit cost nationally) that California receives.

A "deficient" bridge is defined as having a Sufficiency Rating (SR) ≤ 80 and is Structurally Deficient (SD) and/or Functionally Obsolete (FO).

When developing a rehabilitation or replacement strategy for a bridge it is necessary to understand the current problems with the bridge to develop an appropriate scope of work that resolves the major deficiencies of the bridge.

6.12.1 MAJOR DEFICIENCIES (FROM SI&A SHEET)

SCOUR POTENTIAL

National Bridge Inventory (NBI) item 113 is the scour criticality rating. This is a calculated rating based on a potential major hydraulic event. Scour potential should always be reviewed when developing a rehabilitation project. For detailed information regarding the NBI data "items" see the *National Bridge Inventory Coding Guide*. This guide can be downloaded from the HBRRP website.

SD, FO, AND SR DEFINED

For a bridge to be considered either structurally deficient or functionally obsolete a highway bridge must meet have the ratings described below.

For Structural Deficiency (SD):

1. A condition rating of 4 or less for:

   Item 58 - Deck or
   Item 59 - Superstructures or
   Item 60 - Substructures or
   Item 62 - Culvert and Retaining Walls.
   [Item 62 applies only if the last digits of Item 43 are coded 19.]

OR

2. An appraisal rating of 2 or less for:

   Item 67 - Structural Condition or
   Item 71 - Waterway Adequacy.
   [Item 71 applies only if the last digits of Item 42 are coded 0, 5, 6, 7, 8, or 9.]

For Functional Obsolescence (FO):

1. An appraisal rating of 3 or less for:

   Item 68 - Deck Geometry or
   Item 69 - Underclearances or
   Item 72 - Approach Roadway Alignment.
   [Item 69 applies only if the last digit of Item 42 is coded 0, 1, 2, 4, 6, 7 or 8.]

OR

2. An appraisal rating of 3 for:

   Item 67 - Structural Condition or
   Item 71 - Waterway Adequacy.
   [Item 71 applies only if the last digit of Item 42 is coded 0, 5, 6, 7, 8, or 9.]

The **Sufficiency Rating (SR)** is an overall "health" indicator for the bridge and is calculated by a complex formula defined in Appendix B in the *National Bridge Inventory Coding Guide*. Local agencies requesting help with the SR calculations should contact SLA or the DLAE for assistance.

6.13 COMMENTARY

The intent of this Section is to help explain some common situations that have been encountered in the implementation of the HBRRP. The guidance provided below shall be considered policy that must be followed for all HBRRP funded projects. **Questions on these issues shall always be directed to the DLAE for funding approval by the Office of Program Management.**

6.13.1 ESTABLISHING BRIDGE GEOMETRICS

Many areas of California are experiencing population growth and are demanding more diverse modes of transportation than in recent years. Major capital projects such as bridge rehabilitation and replacement projects can involve difficult environmental problems and expensive construction. For this reason it is important that local agencies properly plan their bridge projects from a transportation facility point of view rather than just a "replace in kind" approach or simply rehabilitate a bridge using current ADTs. Failure to properly plan a bridge project may result in premature obsolescence and the waste of public funds.

Local agencies need to work closely with their regional planning agencies and consult AASHTO's "A Policy on Geometric Design of Highways and Streets" to ensure that their bridge rehabilitation and replacement projects will meet their needs.

Bridge geometrics should be established based on future ADTs, but may also be based on other appropriate transportation planning studies involving Design Hourly Volume analysis or other rational analysis. Please refer to the *Highway Capacity Manual* for an expanded discussion of determining lane capacity. In many cases regional planning agencies have

adopted transportation models that should be input to the geometric design of new or rehabilitation bridge projects.

Information on the *Highway Capacity Manual* can be found at the following web address:

trb.org/trb/

For roads functionally classified as local streets and roads with ADTs less than 2,000, AASHTO permits lane widths less than 3.6 m (12 ft) and shoulders less than 1.5 m (5 ft). However, it is acceptable for local agencies to adopt 3.6 M (12 ft) lanes with 1.5 m (5ft) shoulders as minimums. Please refer to AASHTO's "A Policy on Geometric Design of Highways and Streets" for in depth discussion of appropriate geometric design.

6.13.2 PARTICIPATING BRIDGE WIDENING COSTS (Q&A)

1. *If a bridge is functionally obsolete due to underclearances, can the bridge be widened for additional lane and shoulder widths and participate in the HBRRP?* No. Since the major deficiency is not being addressed, HBRRP funds may not participate in the widening.

   However, if the only constructable solution to the underclearance problem is bridge replacement, then 23CFR650.403(1) applies and widening may be appropriate and participating.

2. *If a bridge is structurally deficient due to scour damage on one footing can the bridge be widened if the bridge is on the EBL?* No. If the scour damage can be repaired and the scour condition mitigated the bridge widening would not be HBRRP participating.

   However, if the bridge must be replaced, then 23CFR650.403(1) applies and widening may be appropriate and participating.

   If the scour damage can be repaired which involves major reconstruction triggering the Ten Year Rule #1 (Section 6.5.3 on page 6-19) and the scour condition mitigated, and the local agency can demonstrate that the bridge will again be on the EBL within 10 years using future ADT's, then widening and possibly replacement would then be appropriate.

3. *If a bridge is functionally obsolete due to deck geometry and underclearances, can the bridge be widened only?* Maybe. It depends on the economics of solving the underclearance problem versus limited rehabilitation and the consequences of the underclearance problems. A project study would be required (HBRRP participating) to develop the appropriate options and recommendations.

4. *If a bridge is functionally obsolete due to underclearances, can HBRRP funds be used to lower the grade of a road under the bridge?* Yes, if that is all it takes to remove the bridge from the EBL.

5. *A bridge is functionally obsolete due to deck geometry. Can additional bridge width be HBRRP participating for adding lanes if the transportation corridor is <u>not</u> planned for*

additional lane capacity within 10 years? No. However, the bridge may be widened to meet AASHTO standards for the current geometry of the corridor and future ADTs. Additionally, the bridge may be structurally designed to accommodate future widening. Refer to the AASHTO's "*A Policy on Geometric Design of Highways and Streets*," as referenced in Chapter 11, "Standards," of the LAPM.

6. *A bridge is functionally obsolete due to deck geometry. Can additional bridge width be HBRRP participating for adding lanes if a transportation corridor is being planned for widening within 5 years?* It would not make sense to spend public funds on a bridge widening project that could result in a bridge being functionally obsolete within 10 years. In this situation, if the local agency can demonstrate that it is moving forward on the corridor widening project, the HBRRP may fully participate in adding additional deck width to accommodate the future widening of the transportation corridor.

7. *A bridge is functionally obsolete due to deck geometry but not due to approach roadway alignment. The corridor is currently a four lane arterial that narrows down to a two lane bridge. The current and future ADT does not support the widening of the two lane bridge to four lanes. Can the bridge still be widened?* Yes. AASHTO's "A policy on Geometric Design of Highways and Streets" (1994) recommends for roads functionally classified as arterial streets, that the minimum bridge clear width "should be the same as the curb to curb width of the street." Therefore, based on AASHTO standards, the HBRRP may participate in adding lanes to the bridge to be consistent with the current corridor geometry.

6.13.3 HBRRP FUNDING OF BICYCLE FACILITIES

The HBRRP may participate in funding bridge widening to accommodate bicycle facilities. In general, the roadway widths should be consistent with the roadway of the corridor. See AASHTO's "Guide for the Development of Bicycle Facilities" for appropriate design concepts.

For rehabilitation projects, HBRRP may participate in the widening when other major deck reconstruction or lane/shoulder widening is needed. (Costs for bridge widening for bicycle facilities only are not participating.)

New bicycle facilities must be identified as "betterments" in the HBRRP application (Exhibit 6-A, "HBRRP Application/Scope Definition Form," page 6-43) and must be justified. The justification must show that the betterments are needed by the community and are appropriate for the location.

6.13.4 HBRRP FUNDING OF TEMPORARY REPAIRS OF BRIDGES

If a bridge is in need of temporary repairs to allow time to develop a bridge replacement project, can HBRRP funds be used to fund the temporary repairs? No. This work is considered maintenance and is not HBRRP participating.

6.13.5 HBRRP FUNDING OF TEMPORARY BRIDGES

If a bridge collapses the HBRRP may participate in the installation and rent of a temporary bridge until the final bridge replacement is completed. However, if the construction contract for the final bridge replacement is not awarded within three years of the installation of the temporary bridge, all federal funds used to construct and pay rent on the bridge must be returned to Caltrans and FHWA. Special covenants shall be included in the E76 and program supplemental agreement to this effect.

All NEPA documents must be approved according to the standard process (Chapter 6, "Environmental Procedures," of the LAPM). Additionally, the installation of the temporary bridge shall not preclude other more cost-effective bridge replacement options. In essence, the scope of the final project shall be determined prior to the installation of the temporary bridge.

The basis of this eligibility determination is that the work to install the temporary bridge is simply an advance of the detour work needed for the final bridge replacement construction. These participating costs would have occurred anyway; therefore, the costs are participating.

6.13.6 EMERGENCY WORK FUNDED BY HBRRP AND COMPETITIVE BIDDING

Under specific circumstances local agencies may decide not to competitively bid emergency work funded by the HBRRP (not Emergency Relief Program related). For specific requirements see Chapter 12, "Plans, Specifications & Estimate," Section 12.4 of the LAPM. See 23CFR 635.104 for regulatory basis. (This strategy also applies to RSTP funded projects.)

Following is an example application:

A local agency has a bridge programmed for replacement using HBRR funds and has begun preliminary engineering on the bridge replacement project. The bridge is off the NHS. 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.

There is no federally declared emergency so no emergency relief funds are involved.

The local agency can complete the standard environmental process and then proceed to final the PS&E within a relatively short time frame.

The local agency could contact their DLAE to request "Authorization for Construction" so as to begin negotiations with contractor(s) to replace the bridge, using HBRR funds <u>without advertising the PS&E.</u>

It should be noted that this waiver to competitive bidding only applies to emergency repairs as defined in Chapter 12, "Plans, Specification & Estimate," Section 12.4 of the LAPM. Reconstruction work and permanent repairs that can be separated from emergency repairs are to be performed using the competitive bidding process.

For bridges off the NHS, the decision to waive competitive bidding is made by the local agency. For bridges on the NHS, the decision to waive competitive bidding is with the DLAE. In all cases, the local agency must retain decision documentation in their project files.

6.13.7 REIMBURSEMENT OF "NON-BRIDGE" CONSTRUCTION ITEMS

A bridge is being widened and the touchdown of the one of the approaches ends at an intersection. The widening is causing one of the signals to be relocated or replaced. The signal is located well before the touchdown of the approaches to the existing roadway.

Can HBRRP funds be used to relocate the signal? Yes, since the widening is triggering the relocation.

If the signal is obsolete, can HBRR funds be used to replace it with one that meets current standards? Yes. Once the HBRRP significantly impacted the signal, it should be brought up to current standards.

However, if the upgrade of one signal triggers the upgrade of other signals, the local agency will be responsible for funding the other signal replacements. This is because the other signals are beyond the touchdown of the approach. See Section 6.4.2 on page 6-17 for information on HBRRP road work participation limits.

For information on unusual architectural treatments see Section 6.5.7 on page 6-21.

6.13.8 SPECIAL CASE APPROACH ROADWORK

Section 6.4.2 on page 6-17 specifies limits on approach roadwork. Sometimes these limits must be relaxed to accommodate good design practice. Following are two examples:

1. A bridge is eligible for replacement. The new bridge must be raised to account for design flows. Raising the bridge causes sight distance problems which requires roadwork beyond the limits in Section 6.4.2. This roadwork is HBRRP participating because the work is needed for good design practice.

2. A bridge is eligible for replacement. The existing bridge and approaches are a classical "S" shaped geometry over a waterway that minimizes the span of the bridge. However, the current functional classification and design speeds of the transportation corridor justify the "straightening" of the alignment. This requires roadwork beyond the limits of Section 6.4.2. This roadwork is HBRRP participating because the work is needed for good design practice.

For both situations, the Office of Program Management would request comment from the DLAE and SLA in considering funding approval. The point of contact for local agencies is the DLAE.

6.13.9 LIMITED HBRRP PARTICIPATION IN REPLACEMENT PROJECTS

Following is an example of limited HBRRP participation on a bridge replacement project:

A bridge is on the EBL but is only eligible for rehabilitation. Cost analysis shows that a rehabilitation solution is more cost-effective than replacement solution.

The local agency wants to replace the bridge regardless of the economic analysis.

The HBRRP may participate in the project up to the costs of a rehabilitation project (support and capital costs) with the local agency using other funds for the remainder. Other funds could be (but not limited to) RSTP, STIP, or local funds. Note that federal funds cannot match federal funds.

6.13.10 24 HOUR CONSTRUCTION DAY

The costs associated with a 24-hour construction day may be HBRRP participating if required detours are causing a community extreme hardship related to bridge closure during construction.

HBRRP participation in the extra costs associated with the 24-hour construction day may be participating if a "Community Impact Assessment" is objectively performed.

The Caltrans Community Impact Assessment Handbook contains a Road Closure Report that may be adapted for this purpose. See Exhibit 6-E, "Road Closure Study," page 6-65 for this modified report. It should be used to document the need for a 24-hour construction day and summarized in the environmental documents to be approved by the DLAE and FHWA.

6.14 REFERENCES

All references are available from the Local Assistance website:

www.dot.ca.gov/hq/LocalPrograms/.

Local Assistance Program Guidelines

Local Assistance Procedures Manual

California Transportation Commission Resolution G97-05

California Streets and Highways Code Sections 2411 and 2413

United States Code Title 23, Section 144

Code of Federal Regulations

National Bridge Inventory Coding Guide

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EXHIBIT 6-A HBRRP APPLICATION/SCOPE DEFINITION FORM

See Section 6.6, Chapter 6 of the LAPG for information about this form.

This form shall replace Exhibit 7-D, "Major Structure Data", from Chapter 7, "Field Review," of the LAPM. Wherever the LAPM requires Exhibit 7-D for other programs, Exhibit 6-A may be substituted. Bridge projects funded entirely through other programs should continue to use Exhibit 7-D.

(One bridge per application, separate applications are required for multiple bridges at same location. Multiple bridges may be combined into one federal aid project later.)

State Bridge No. _____ Local Bridge No. _____

Project Number _____ (Caltrans to provide project number for new projects)

Responsible Agency _____

Caltrans District _____

County _____

Project Manager _____

Title _____

Phone _____ Fax _____

E Mail _____

Project Location

Project Limits

Type of Work

Work Description

HBRRP Category:

☐ Rehabilitation	☐ Scour Countermeasure
☐ Replacement	☐ Replacement Due to Flood Control Project
☐ Painting	☐ New Bridge to Replace Ferry Service
☐ Bridge Railing/Approach Barrier Replacement	☐ Historic Bridge
☐ Low Water Crossing Replacement	☐ High Cost Bridge

☐ **Minimal Application:** Only questions 1, 2, 3, 4, cost data and signoff will be completed. Other information will be submitted at a later time after PE has been federally authorized to scope the project. See Section 6.6.2 "Minimum Application Requirements" for additional information.

The field review process enables the proper scoping of projects. Some field reviews are mandatory, most are optional. Field reviews are critically important to identify difficult environmental, Right of Way, and bridge type selection issues early in the project development phase. Please see Chapter 7 of the LAPM further discussion.

1. Do you request that Caltrans initiate a field review? ☐ Yes ☐ No
2. Do you need help with consultant selection/oversight? ☐ Yes ☐ No
3. Do you need help with the federal process? ☐ Yes ☐ No
4. Caltrans engineers are available to provide an optional cursory review of the PS&E. The review looks at constructability, standard details and specifications, foundation/hydraulic design, and HBRRP funding eligibility. Do you request Caltrans perform a cursory PS&E review for this project? (If yes, please also request a field review.) ☐ Yes ☐ No

Federal Congressional District(s) _____

State Senate District(s) _____

State Assembly District(s) _____

Preliminary Engineering by: ☐ Local Agency Staff ☐ Consultant ☐ Other... _____

Design by: ☐ Local Agency Staff ☐ Consultant ☐ Other... _____

Foundation Investigation by: ☐ Local Agency Staff ☐ Consultant ☐ Other... _____

Hydrology Study by: ☐ Local Agency Staff ☐ Consultant ☐ Other... _____

Detour, stage construction, or close road? _____

Length of detour: _____

Resident Engineer for Bridge Work: ☐ Local Agency Staff ☐ Consultant ☐ Other... _____

For painting & scour scopes of work, skip this page.

NBI data is from the Bridge Inspection Report (SI&A sheet)
Contact the DLAE/SLA for assistance, if needed.

Date Constructed (NBI Item 27): _____ Historical Bridge Category (NBI Item 37) _____

Structure Data	Existing	Proposed	Minimum AASHTO Standards
Structure type			
Structure length (specify units)			
Spans (No. and length)			
Curb to Curb width (See NBI Item 51 definition)			
Number of lanes			
Lane widths			
Shoulder widths	____ Lt ____ Rt	____ Lt ____ Rt	
Bike lanes (identify only if not included in the shoulder dimensions)	____ Lt ____ Rt	____ Lt ____ Rt	
Sidewalks/separated bikeways	____ Lt ____ Rt	____ Lt ____ Rt	
Approach roadway width (traveled way + paved shoulders, tapered approaches should be measured at the touchdown points not the abutments)			
Approach road length (from each abutment)	____ abt1 ____ abt2	____ abt1 ____ abt2	
Total bridge deck width			

Summary of Major Deficiencies of Existing Bridge (See Section 6.12 for information)

(Contact the DLAE/SLA for assistance, if needed)

Data is from SI&A Sheet (Last page of Bridge Inspection Report)

SD = Structurally Deficient
FO = Functionally Obsolete
Blank = Not SD or FO
NG = Not Good (Deficiency)

Sufficiency Rating (SR) = _____ Status = ☐ SD ☐ FO ☐ Blank

Description of Data Item	NBI Data Item	Deficient Criteria	Results	What are the Deficiencies?
Deck	Item 58= _____	≤ 4 is problem	☐ OK ☐ NG-SD	
Superstructure	Item 59= _____	≤ 4 is problem	☐ OK ☐ NG-SD	
Substructures	Item 60= _____	≤ 4 is problem	☐ OK ☐ NG-SD	
[Item 62 applies only if the last digits of Item 43 are coded 19.]				
Culvert and Retaining Walls	Item 62= _____	≤ 4 is problem	☐ OK ☐ NG-SD	
Structural Condition	Item 67= _____	≤ 3 is problem	☐ OK ☐ NG	
[Item 71 applies only if the last digit of Item 42 is coded 0, 5, 6, 7, 8, or 9.]				
Waterway Adequacy	Item 71= _____	≤ 3 is problem	☐ OK ☐ NG	
Deck Geometry	Item 68= _____	≤ 3 is problem	☐ OK ☐ NG-FO	

Description of Data Item	NBI Data Item	Deficient Criteria	Results	What are the Deficiencies?
[Item 69 applies only if the last digit of Item 42 is coded 0, 1, 2, 4, 6, 7 or 8.]				
Under-clearances	Item 69= _____	≤ 3 is problem	☐ OK ☐ NG-FO	
Approach Roadway Alignment	Item 72= _____	≤ 3 is problem	☐ OK ☐ NG-FO	
Scour Criticality	Item 113= _____	≤ 3 is problem	☐ OK ☐ NG	
Bridge Railing	Item 36A= __	= 0 Review	☐ OK ☐ NG	
Guardrail Transition, Approaches, Guardrail Ends	Item 36B= __ Item 36C= __ Item 36D= __	= 0 Review	☐ OK ☐ NG	
Other deficiencies not identified in Bridge Inspection Report	Discuss in detail, attach additional pages and photographs as needed to justify HBRRP funds to correct problem:			

5. If this application is for rehabilitation or replacement scope, will all deficiencies be resolved by the project? If no, please discuss below or attach discussion on separate pages to application.

☐ Yes ☐ No ☐ Not Applicable

6. Discuss any special conditions or proposed design exceptions:

7. Identify and justify "betterments" that are HBRRP participating but are not related to the major deficiencies. Attach additional pages as needed.

8. Refer to Exhibit 6-B. Identify and justify specific items requiring Caltrans funding approval. Attach additional pages as needed.

9. Other comments: (identify non-HBRRP participating work)

Estimated Construction Costs:

Exclude Contingencies, Supplementary Work, and Construction Engineering

	HBRRP Participating	NOT HBRRP Participating*
Construct Bridge		
Bridge Removal		
Slope Protection		
Channel Work		
Detour - Stage Construction		
Approach Roadway		
Utility Relocation		
Mobilization		
Total		

Total Cost _____

*Items that are not HBRRP participating could be participating through other federal programs. See the LAPG for other eligibility requirements of other programs. Local agencies that are unsure which project costs are HBRRP participating should contact the DLAE/SLA for resolution.

Note that the total of the HBRRP participating costs should carry over into the construction line (direct costs) on the next page.

Summary of HBRRP Participating Costs

Please indicate the HBRRP total participating (eligible for reimbursement) costs for this project. Based on the amounts below and the federal reimbursement rate, Caltrans will program (reserve) the HBRRP funds needed for this project. Other federal funds (RSTP, TEA, etc.) needed for this project should be shown in the Field Review form Exhibit 7-B from Chapter 7 of the LAPM.

Target dates represent a commitment by the local agency when the project will need HBRRP funding. Failure to meet target dates may cause funds to be reprogrammed to other projects by other local agencies. The reprogramming of HBRRP funds is at the discretion of Caltrans.

PE = Preliminary Engineering (Total not to exceed the greater of $75 K or 25% of CON and consultant contract management and quality assurance not to exceed 15% of consultant costs).
R/W = Right of Way.
CE = Construction Engineering (Not to exceed 15% of CON)
CON = Construction
Cont = Contingency (including supplemental work) not to exceed 25% (preliminary estimate) nor 10% of CON for final design. $5 K min.

Enter CE Rate: [ ]
Enter Contingency Rate: [ ]

	Direct Costs		Indirect Costs*		HBRRP Participating $**	Target Dates
PE		+		=		
R/W						
CON						
CE						
Cont						
Subtotal		+		=		

Total Participating Cost [ ]

Enter Fed. Match Rate: [ ] HBRRP Requested [ ]

*See Chapter 5, "Accounting/Invoices," of the LAPM for approval of indirect costs.

**Participating costs exclude ineligible work items. Please review the HBRR Program Guidelines for reimbursable scopes of work and program cost limits. Other federal funds will be shown in the Field Review form, Exhibit 7-B, Chapter 7, "Field Review," of the LAPM.

Caltrans, please notify this agency to confirm this project has been programmed in the HBRRP Multi-Year Plan. I understand that reimbursable work shall not commence until a request for authorization (E76) has been processed by Caltrans and a notice to proceed has been received by this agency.

I certify that this project is in compliance with Chapter 6 (HBRRP) of the *Local Assistance Program Guidelines*. I understand that changes to the project scope/cost/schedule impacting the information in Exhibit 6-A and Exhibit 6-B require the processing of Exhibit 6-D (HBRRP Scope/Cost/Schedule Change Request).

Two (2) copies plus one original of this application (with attachments) will be included in the transmittal package to the DLAE.

_____ _____
Local Agency Project Manager Date

Attachments:

1) Exhibit 6-B, LAPG, HBRRP Special Cost Approval Checklist
2) Bridge Inspection Report with SI&A Sheet
3) Sketch of General Plan or marked up as-built
4) Sketch of typical section
5) Photographs: 4 corners looking at the bridge & 2 elevation views, & views of each approach, for a total of 8 photographs (minimum).
6) Exhibit 7-B, Field Review Form, Chapter 7, LAPM
7) Exhibit 7-C, Roadway Data Sheet, Chapter 7, LAPM
8) ☐ Exhibit 6-C, PIN for Barrier Rail Replacement Projects (include only if applying for Bridge Railing Replacement funds.)
9) ☐ Other: _____
10) Request for Authorization is included in this application package for expedited processing? ☐ Yes ☐ No

Thank you for assembling the application package. Please send this package to your District Local Assistance Engineer to start the programming process. Please email your suggestions to improve this form to eric.bost@dot.ca.gov or shannon.mlcoch@dot.ca.gov.

For Caltrans use only:

I have reviewed this application for completeness and have forwarded copies to the Office of Program Management and SLA.

☐ I recommend approval. (Attach comments as needed.)
☐ I do not recommend approval for the following reasons: See attached memo/email to the Office of Program Management.
☐ I request SLA review of this application for the following reasons: (Attach memo/email justifying increased Caltrans oversight.)

_____ _____
DLAE or authorized staff Date

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EXHIBIT 6-B HBRRP SPECIAL COST APPROVAL CHECKLIST

The purpose of this form is to help local agencies identify project costs that require Caltrans funding approval. Local agencies are responsible for contacting the DLAE to resolve any items requiring Caltrans review. This form is not a substitute for reading Chapter 6, of the LAPG or the LAPM. Local agencies are still still financially accountable for meeting all the requirements of the LAPG and the LAPM.

Project Number _____

State Bridge No. _____ (One bridge per application) Local Bridge No. _____

Project Location

Chapter 6 LAPG Section #'s	Topic	Status
6.2.1 - Rehab 6.2.2 - Replace	Adding Additional Lanes (including turn lanes)	☐ Requires Caltrans/MPO Approval ☐ Caltrans has Approved Costs ☐ MPO has Approved Scope in FSTIP ☐ Not Applicable
6.2.1 - Rehab	Scope is Bridge Replacement, but SR>50	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.2.4 - Rail	No bridge railing work to be done, but other safety work related to bridge is needed.	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.2.4 - Rail (applies to all scopes of work)	New sidewalks to be installed where none existed before. Please identify as "betterment" in Exhibit 6-A.	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.2.4 - Rail (applies to all scopes of work)	New electroliers to be installed where none existed before. Please identify as "betterment" in Exhibit 6-A.	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.2.1 - Rehab 6.2.2 - Replace 6.2.10- Historic 6.3 - Standards	Rehabilitation/Replacement will not address all major bridge deficiencies	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.5.11 - Replace	"Replaced" bridges to remain in place. Applies to work beyond specified examples in Section 6.5.12	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable

Chapter 6 LAPG Section #'s	Topic	Status
6.4.2	Approach roadwork exceeding guidelines	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.4.3	PE costs exceeding guidelines	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.4.4	Contingency exceeding guidelines	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.4.5	CE costs exceeding guidelines	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.5.3	10 Year Rule - Major (Re)Construction	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.5.4	10 Year Rule - PE Authorization	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.5.7	Unusual Architectural Treatments	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.7.1 6.7.4	Scope/Cost/Schedule Changes	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable
6.7.5	Construction Change Orders (CCOs) that Exceed Contingency	☐ Requires Caltrans Approval ☐ Caltrans has Approved Costs ☐ Not Applicable

I certify that I have reviewed this project against the requirements of Chapter 6 of the LAPG and have filled out this checklist accordingly.

_____ _____
Local Agency Project Manager Date

EXHIBIT 6-C PIN FOR BARRIER RAIL REPLACEMENT PROJECTS

Following is the formula to be used to calculate the priority index number for HBRR Barrier Rail Replacement projects:

Description and Evaluation of Priority Factors

Total Bridge Rail Priority Points = F1 + F2 + F3 + F4 + F5 + F6 + F7

F1: **Bridge Rail Type** - Among the types of rails where NBI item 36A is coded 0 in the Bridge Inspection Report, some are considered to be less effective than others. Listed below are the assigned points (ten points maximum per project - if one side is good, project applies to bad side only - if project is for two sides with different points, use average):

F1 = 10 points: no bridge rail, or lightweight timber rails;

F1 = 6 points: lightweight concrete post or metal baluster, Tuthill, or equal;

F1 = 3 points: lightweight concrete window (Todd rail), unreinforced masonry; metal beam or lattice, or equal;

F1 = 0 points: all other rail types

F2: **Consequence of Penetration**

F2 = 6 points: bridges over an area of moderate or heavy public use (i.e., main road, street or railroad, playgrounds, parking lots, etc.);

F2 = 0 points: otherwise.

F3: **Inadequate Approach Rail System** - Points are given for inadequate approach guardrails, inadequate approach guardrail to bridge rail connections, and inadequate approach guardrail terminals (five points maximum per project - if it varies, use average of rails to be replaced):

F3 = 1 point: inadequate approach guardrail transitions;

F3 = 3 points: inadequate approach guardrail;

F3 = 1 point: inadequate approach guardrail terminal;

(Two-way bridges less than 18.3 meters wide should have an adequate approach guardrail system at all four corners).

F4: **Accidents** - All accidents involving the bridge rail, bridge ends and approach guardrails in the last 5 years are counted. One point is given for each Property

Damage Only (PDO) accident while 5 points are given for each fatal or injury accident.

F4 = 5 points: x (# of fatal or injury accidents) + 1 point: x (# of PDO accidents)

If replacing rail on only one side, use accidents involving the rail to be replaced.

F5: **ADT/Lane -** This is a measure of the number of conflicts on the bridge. The most critical case is at a volume/capacity ratio of 0.50, This is equivalent to 4,000 ADT/Lane, (Average Daily Traffic/Lane) on 2-lane, 2-way roads and 8,000 ADT/Lane on multi-lane roads. Points are given as follows (Use the "ADT" information from the Bridge Inspection Report.):

On 2-Lane, 2-Way Roads		**On Multi-Lane Roads**
F5 Points	**(ADT/Lane)=L**	**(ADT/Lane)=L**
0	L<800	L<1,600
1	800 ≤ L ≤ 1,600	1,600 ≤ L ≤ 3,200
2	1,600 ≤ L ≤ 2,400	3,200 ≤ L ≤ 4,800
3	2,400 ≤ L ≤ 3,200	4,800 ≤ L ≤ 6,400
4	3,200 ≤ L ≤ 4,000	6,400 ≤ L ≤ 8,000
5	L ≥ 4,000	L ≥ 8,000

F6: **Site Conditions -** This rating factor is affected by many variables such as vertical alignment, horizontal alignment, bridge width, or access roads being close to the bridge. For each variable that is slightly worse than the design standard, add 1/2 point. For each variable that is significantly worse than the design standard, add 1-1/2 points. The points for F6 shall be as follows:

F6 = 0 points: site conditions are excellent

F6 = 1 point: site conditions are good

F6 = 2 points: site conditions are fair

F6 = 3 points: site conditions are average

F6 = 4 points: site conditions are poor

F6 = 5 points: site conditions are critical

The maximum number of points for F6 on any bridge shall be 5.

F7: **Potential for future bridge replacement -** Top priority is to replace obsolete barrier rails on bridges with long life expectancy.

F7 = 10 points if Sufficiency Rating (SR) >80

F7 = 6 points if 70 < SR ≤80

F7 = 5 points if 60 < SR ≤ 70

F7 = 4 points if 50 < SR ≤ 60

F7 = 0 points if SR ≤ 50.

For each candidate project provide each of the factors above with explanation for why each factor was selected. THIS INFORMATION MUST BE PROVIDED FOR THE APPLICATION TO BE ACCEPTED.

Factor	Value	Justification (Attach additional pages if required)
F1		
F2		
F3		
F4		
F5		
F6		
F7		

PIN= ∑ Values above = _____

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EXHIBIT 6-D HBRRP SCOPE/COST/SCHEDULE CHANGE REQUEST

See Section 6.7.1, Chapter 6 of the LAPG for information about this form.

State Bridge No. _____ Local Bridge No. _____

Project Number _____ (Caltrans to provide project number for new projects)

Responsible Agency _____

Project Location	
Project Limits	
Type of Work	
Work Description	

1. Describe reason for Scope/Cost/Schedule Change (or attach separate pages):

2. If this is a request for scope change (not cost or schedule) please prepare a new or revised Exhibit 6-A "HBRRP Application/Scope Definition Form." Will a revised Exhibit 6-A be submitted?

☐ Yes ☐ No ☐ Not Applicable

3. If the anwer to the above question is "Yes," please skip to the signoff on this form and submit this form with the Exhibit 6-A package.

4. Identify and justify "betterments" that are HBRRP participating but are not related to the major deficiencies of this bridge. Attach additional pages as needed.

5. Refer to Exhibit 6-B. Identify and justify specific items requiring Caltrans funding approval. Attach additional pages as needed.

6. Other comments: (identify non-HBRRP participating work)

Estimated Construction Costs:

Exclude Contingencies, Supplementary Work, and Construction Engineering

	HBRRP Participating	NOT HBRRP Participating*
Construct Bridge		
Bridge Removal		
Slope Protection		
Channel Work		
Detour - Stage Construction		
Approach Roadway		
Utility Relocation		
Mobilization		
Total		

Total Cost _____

*Items that are not HBRRP participating could be participating through other federal programs. See the LAPG for other eligibility requirements of other programs. Local agencies that are unsure which project costs are HBRRP participating should contact the DLAE/SLA for resolution.

Note that the total of the HBRRP participating costs should carry over into the construction line (direct costs) on the next page.

Summary of HBRRP Participating Costs

Please indicate the HBRRP total participating (eligible for reimbursement) costs for this project. Based on the amounts below and the federal reimbursement rate, Caltrans will program (reserve) the HBRRP funds needed for this project. Other federal funds (RSTP, TEA, etc.) needed for this project should be shown in the Field Review form Exhibit 7-B from Chapter 7 of the LAPM.

Target dates represent a commitment by the local agency when the project will need HBRRP funding. Failure to meet target dates may cause funds to be reprogrammed to other projects by other local agencies. The reprogramming of HBRRP funds is at the discretion of Caltrans.

PE = Preliminary Engineering (Total not to exceed the greater of $75 K or 25% of CON and consultant contract management and quality assurance not to exceed 15% of consultant costs).
R/W = Right of Way.
CE = Construction Engineering (Not to exceed 15% of CON)
CON = Construction
Cont = Contingency (including supplemental work) not to exceed 25% (preliminary estimate) nor 10% of CON for final design. $5 K min.

Enter CE Rate: [ ]
Enter Contingency Rate: [ ]

	Direct Costs		Indirect Costs*		HBRRP Participating $**	Target Dates
PE		+		=		
R/W						
CON						
CE						
Cont						
Subtotal		+		=		

Total Participating Cost [ ]

Enter Fed. Match Rate: [ ] HBRRP Reserved [ ]

*See Chapter 5, "Accounting/Invoices," of the LAPM for approval of indirect costs.

**Participating costs exclude ineligible work items. Please review the HBRR Program Guidelines for reimbursable scopes of work and program cost limits. Other federal funds will be shown in the Field Review form, Exhibit 7-B, Chapter 7, "Field Review," of the LAPM.

Caltrans, please notify this agency to confirm the requested scope/cost/schedule changes for this project have been incorporated in the HBRRP Multi-Year Plan. I understand that reimbursable work shall not commence until a request for authorization (E76) has been processed by Caltrans and a notice to proceed has been received by this agency.

I certify that this project is in compliance with Chapter 6 (HBRRP) of the *Local Assistance Program Guidelines*.

Two (2) copies plus one original of this form (with attachments) will be included in the transmittal package to the DLAE.

_____ _____
Local Agency Project Manager Date

Attachments (only if Question 2 is answered "No"):

1) Exhibit 6-B, LAPG, HBRRP Special Cost Approval Checklist
2) ☐ Other: _____
3) Request for Authorization is included in this application package for expedited processing? ☐ Yes ☐ No

Thank you for assembling the form. Please send this package to your District Local Assistance Engineer to process your request for scope/cost/schedule changes. Please email your suggestions to improve this form to eric.bost@dot.ca.gov or shannon.mlcoch@dot.ca.gov.

For Caltrans use only:

I have reviewed this form for completeness and have forwarded copies to the Office of Program Management and SLA.

☐ I recommend approval. (Attach comments as needed.)
☐ I do not recommend approval for the following reasons: See attached memo/email to the Office of Program Management.
☐ I request SLA review of this form for the following reasons: (Attach memo/email justifying increased Caltrans oversight.)

_____ _____
DLAE or authorized staff Date

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EXHIBIT 6-E ROAD CLOSURE STUDY

(EXAMPLE)

See Section 6.13.10, "24 Hour Construction Day," on page 6-41 of Chapter 6 of the LAPG, for information on this study.

This report was prepared to address the impacts of temporarily closing road _____. The closure is necessitated by the proposed project which requires the widening of _____ in the vicinity of _____.

It is not feasible to stage the work allowing the road to remain in operation while the project is being constructed. The project will be constructed on the _____side north of _____ Street, at the site of the _____.

The existing road provides direct access to and from _____, and _____ Streets. Access to and from _____ Street is provided via _____. The road will be closed for a period of 10 months.

A brief description of the project area is as follows: The immediate project vicinity is the commercial area along _____Street to the east and west of _____, roughly between _____ Avenue and _____ Street. _____Avenue and _____Boulevard are north-south arterials paralleling _____ to the east and west, respectively. The portions of these arterials between _____ Streets are also considered part of the immediate project vicinity.

Typical businesses along _____ Street include _____

_____

_____.

Land use along _____ Avenue ranges from a _____ and a _____ to _____ and _____, and is zoned _____.

The most sensitive land use in the project area is the _____ at the _____quadrant of _____ Street and _____ Blvd.

The _____ is a major provider of _____ in the area. It also provides _____ services. Potential impacts on emergency vehicle access to the _____ was one of our communities' major concerns.

All of the businesses and non-profit organizations in the project area, including the _____, have a portion of their respective patrons that arrive and exit by _____Street.

_____ Road also serves the nearby residential areas, as previously noted. Patrons seeking access to the business establishments in the project area will be impacted while _____ Street is closed from _____ to _____.

Because there are no viable alternative routes to and from the commercial area along _____ Street and, potential business patrons would not have adequate access to the project area during the road closure period, businesses would be adversely impacted.

The City of _____ met with _____ staff to discuss the closure and identify any of their concerns. The staff indicated that with advance notification and coordination the emergency drivers will be able to cope with the construction schedules. Project resident engineers will work closely with the medical staff.

On _____ (date), the City of _____ provided an opportunity for business owners and local residents to identify any concerns that they may have regarding access impacts due to temporarily closing the _____ Street.

As mitigation for the long-term closure of _____ Street , particularly with regards to emergency vehicle access, the County of _____will require the contractor to complete the project in less than half the time as possible to insure that_____ Road will be in service as soon as possible. The road would be closed for the duration of the contract.

Because there are no viable alternative routes to the project area it is concluded that the various businesses and non-profit organizations would suffer adverse patronage losses during closure of _____ Street. This conclusion is further reinforced by the results of the meeting with the business owners and local residents as previously discussed.

Because the _____ Street closure would pose an adverse impact on the businesses in the project area, and surrounding residential communities, the following measures are suggested:

- Construct project is less than half the time (5months vs. 10 months).
- Notify the local business and commercial concerns of the temporary closure of _____ Road and alternative routes.
- Notify emergency public services, fire departments, and local ambulance services.
- Inform the California Highway Patrol and other appropriate law enforcement agencies of the proposed action.
- Notify the County Supervisor's Office and the City in which the road is located to discuss the proposal with them.
- If the Supervisor's Office and/or the City deems it worthy, conduct an open house to discuss the proposed closing with the public.
- Keep the County and affected City Traffic Engineer appraised.

- Before closing _____Street mail out informational notices, issue press releases, and make public service radio announcements to inform the public in advance of the closure.

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EXHIBIT 6-F MODIFICATIONS TO CRASH TESTED BRIDGE RAILING

1

Memorandum

U.S. Department
of Transportation
Federal Highway
Administration

Subject: INFORMATION: Bridge Rail Analysis
Date: May 16, 2000

Original signed by
From: Frederick G. Wright, Jr.
Program Manager, Safety
Reply to: HSA-1

To: Resource Center Directors
Division Administrators

Since 1986, the Federal Highway Administration has required all new bridge railings installed on the National Highway System to be crash tested or to be essentially the same as a railing that was tested. Since many States and municipalities in particular often desire not only architectural or aesthetic enhancements to existing acceptable bridge rails but often request acceptance of untested designs, strict compliance with this requirement could result in full scale testing of scores of essentially similar designs, increased project costs, and significant delays in construction. The AASHTO LRFD Bridge Specifications contain a procedure for analyzing certain types of bridge railings for structural adequacy and provide guidelines for desirable post and beam geometry based on the dimensions of railings that have been successfully crash tested in the past. However, a static analysis of **untested** designs has not been acceptable as an alternative to crash test verification of railing performance.

The Colorado Department of Transportation (CDOT) essentially combined both approaches by analyzing the capacity of a fully crash-tested railing and comparing the results to a similar Colorado design. The original Colorado design was then modified and re-analyzed to show that it equaled or exceeded the capacity of the tested rail. The FHWA accepted the modified Colorado design for use on the National Highway System based on the State's analysis, a copy of which has been added, along with this memorandum, to FHWA's Report 350 Hardware web site under "Bridge Railings." Specific questions on the Colorado analysis procedure may be addressed to Mr. Michael McMullen, CDOT, at (303) 757-9587 or via e-mail at michael.mcmullen@dot.state.co.us.

The FHWA bridge engineers may use this type of analysis as a basis for acceptance of bridge railings that are similar to a design that has been tested under the National Cooperative Highway Research Program (NCHRP) Report 350 guidelines. It is critical to note that this is not a "cookbook" approach, but rather one that requires careful analysis of all possible failure modes and assumed behavior of all rail elements and connection details. The failure modes may differ from those identified in the Colorado analysis if the bridge railing designs are significantly different. In addition to the structural analysis, bridge railings must also meet the height

requirements, size of openings between rails for combination traffic/pedestrian rails, and the recommended rail height-to-traffic face ratio and rail-to-post offsets noted in the LRFD Bridge Specifications.

2

Our goal is to give highway agencies a greater choice of railing designs without requiring unnecessary testing and without compromising motorist safety. As more rails are tested to comply with NCHRP Report 350, the choice of tested designs will increase and there should be less need to seek acceptance for any design that has not been tested. Please call Mr. Richard Powers of my staff at (202) 366-1320 if you have any questions.

Enclosure

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