Local Programs Procedures

LPP 97-02
Highway Bridge Replacement and Rehabilitation (HBRR) Revision and Interim Deadlines

Replace: *Local Assistance Program Guidelines*, Chapter 6, "Highway Bridge Replacement and Rehabilitation (HBRR)"

Reference: LPP 95-07, Reengineering; LPP 96-02, Design Standards for Non-NHS Projects; and LPP 96-03, Local Quality Assurance Program

Effective Date: June 13, 1997 Approved: _____
Assistant Program Manager
Design and Local Programs

The purpose of this Local Program Procedure (LPP) is to revise the *Local Assistance Program Guidelines*, Chapter 6, "Highway Bridge Replacement and Rehabilitation (HBRR), and to set interim deadlines for the 1997/98 HBRR Program.

EXISTING PROCEDURES

The *Local Assistance Program Guidelines* was issued July 1, 1996. This manual included existing operating procedures and guidelines for the HBRR Program.

NEW PROCEDURES

Local Assistance Program Guidelines

Please refer to the attached revised HBRR Program, Chapter 6 of the *Local Assistance Program Guidelines*. The revisions are necessary in order to accomplish the following objectives.

1. Establish a multi-year program, that is updated annually, on a schedule that meets the needs of the regional agencies and Metropolitan Planning Organizations (MPOs) in building their Regional and Federal Statewide Transportation Improvement Programs (RTIP and FSTIP).

2. Ensure that the most cost effective projects are being selected and that the objectives of the HBRR Program, as defined in federal law, are being met.

3. Implement a structured process to approve or disapprove cost changes and changes in the scheduling of projects to encourage timely use of funds.

These guidelines incorporate comments from the HBRR Advisory Committee consisting of representatives from Caltrans, cities, counties and the Federal Highway Administration. The California Transportation Commission adopted general procedures and guidelines to provide overall guidance for these detailed procedures.

The attached revised Chapter 6 makes reference to various Local Program Procedures (LPPs). When the new *Local Assistance Procedures Manual* is issued, please refer to the appropriate chapter of that manual.

Interim Deadlines

This year while local agencies transition into the multi-year plan, interim deadlines are provided and discussed below. Next year local agencies will need to meet the operating procedures and guidelines for the HBRR Program without special transition deadlines.

In order to be eligible for the program this year, candidate low water crossing projects and candidate barrier rail projects must be submitted to Caltrans Headquarters, Office of Local Programs, by August 1, 1997. A priority list will be established within 30 days of this deadline and these projects will be incorporated into the multi-year program on September 1, 1997. Beginning next year, candidate low water crossing projects and candidate barrier rail projects must be submitted by June 1, 1998, and approved projects will be incorporated into the multi-year program on July 1, 1998, as stated in the final guidelines.

Candidate replacement and rehabilitation projects (except low water crossing projects) must be submitted through the District Local Assistance Engineer (DLAE) to Caltrans Headquarters, Office of Local Programs (OLP) by September 1, 1997, (for this year only) to be included in the annual update of the multi-year program.

The final HBRR operating procedures and guidelines state the following:

> "Local agencies are required to provide an update of project schedules and costs for each of their projects included in the multi-year plan on January 1 and July 1 of each year. Local agencies that fail to provide the semi-annual updates on schedules and costs will have their projects dropped from the program. The updates will include the following information, as necessary (see Exhibit 6-G):
>
> - An update on the cost, if the cost has been changed;
> - An update of the expected award dates.
> - Identification of projects that can be advanced.
>
> If projects are delayed, and other projects can be delivered early, preference will be given to advancing projects in the same local agency, regional agency or Metropolitan Planning Organization (MPO) where the project delay occurred. To ensure timely use of funds, OLP will work with local agencies to accelerate schedules when possible after review of funds available and project schedules statewide. Local agencies will also submit status reports as listed in Exhibit 6-G on each submitted candidtate project when submitting requests for new projects to be included in the multi-year plan."

This year's updates of project schedules and costs for each of their projects included in the multi-year plan will be required by September 1, 1997, and January 1, 1998. Since the intent of the multi-year program is to move to a project delivery programming system, flexibility will be given this year to program projects in the year that project will be delivered without penalty of time deadline requirements established in previous HBRR operating procedures and guidelines. However, in proposing a construction year for each of their existing and new projects, local agencies will have to meet the requirement of having only four bridge replacement, rehabilitation, painting or low water crossing projects scheduled for construction in the same year.

Beginning with the schedules to be established on September 1, 1997, all projects in the multi-year program should be scheduled to have environmental clearance, right of way certified, construction funds obligated and construction contracts awarded by September 30 of the year programmed in the multi-year plan, unless a specific extension is requested by the local agency and approved by OLP. If a construction contract is not

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awarded by September 30 of the year programmed, and an extension is not requested and approved, the project will be dropped from the program and the local agency must reimburse Caltrans for any federal or state funds received. Dropped projects may be submitted for reconsideration in subsequent years.

For new and replaced bridges, the requirement for providing data listed in Exhibit 6-F will begin as soon as these procedures are issued.

Attachment

CHAPTER 6 HIGHWAY BRIDGE REPLACEMENT AND REHABILITATION (HBRR)

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CHAPTER 6 HIGHWAY BRIDGE REPLACEMENT AND REHABILITATION (HBRR)

6.1 INTRODUCTION

FEDERAL AND STATE STATUTES

Excerpt from: Publication No. FHWA-PD-92-018:
The **Intermodal Surface Transportation Efficiency Act of 1991** (1991 ISTEA, Public Law 102-240) continues the Highway Bridge Replacement and Rehabilitation Program. Section 1003 of the 1991 ISTEA authorizes $16.1 billion to be appropriated nationwide out of the Highway Trust Fund over a six-year period for the Highway Bridge Replacement and Rehabilitation Program ($2.3 billion for FY 1992 and almost $2.8 billion for each of FY's 1993-1997).

ISTEA contains the following provisions:

- Not less than 15 percent of a State's apportionment, nor more than 35 percent, is to be spent on bridges off of Federal-aid highways (i.e., bridges on local roads and rural minor collectors). The remaining 65 percent, up to a maximum of 85 percent, of the apportionment is to be spent for bridges on Federal-aid highways.
- Title 23 is revised to allow Federal participation in bridge painting, seismic retrofitting, and calcium magnesium acetate applications (Section 1028(b)).
- The Discretionary Bridge program is continued at a substantially lower funding level, and includes a new timber bridge component (Sections 1028(d) & 1039). For information on the Discretionary Bridge Program refer to Chapter 12 "Other Federal Programs" in this manual.
- Up to 50 percent of a State's Highway Bridge Replacement and Rehabilitation Program apportionment (i.e., mandatory 65 percent and optional 20 percent funds) may be transferred to the National Highway System (NHS) or the Surface Transportation Program (STP). Transferred amounts are not subject to the STP set-asides and sub-state distribution requirements (Section 1028(g)).
- Each fiscal year, not less than one percent of the amount apportioned to each State which has an Indian Reservation within its boundaries must be transferred to the Secretary of the Interior. These funds are to be expended to replace, rehabilitate, paint, or apply calcium magnesium acetate to deficient highway bridges located on Indian Reservation roads (Section 1028(f)).

California *Streets and Highways Code*, Sections 2400-2414, cited as the Bridge Reconstruction and Replacement Act, implements California's participation in the federal HBRR Program.

OBJECTIVES OF HBRR PROCEDURES

These operating procedures and guidelines for the HBRR program have been reviewed by the HBRR Advisory Committee consisting of representatives from Caltrans, Cities, Counties and the Federal Highway Administration. The California Transportation Commission adopted general procedures and guidelines to provide overall guidance for these detailed procedures.

These procedures were revised in 1997 to meet the following objectives:

1. Establish a multi-year program, that is updated annually, on a schedule that meets the needs of the regional agencies and Metropolitan Planning Organizations (MPOs) in building their Regional and Federal Statewide Transportation Improvement Program (RTIP and FSTIP).

2. Ensure that the most cost effective projects are being selected and that the objectives of the HBRR program, as defined in federal law, are being met.

3. Implement a structured process to approve or disapprove cost changes and changes in the scheduling of projects to encourage timely use of funds.

6.2 PROJECT ELIGIBILITY

The categories of projects eligible for the HBRR Program are Bridge Replacement, Rehabilitation, Painting, Low Water Crossing, Barrier Rail, and Seismic Retrofit.

BRIDGE REPLACEMENT, REHABILITATION, PAINTING AND LOW WATER CROSSING PROJECTS

Bridge Replacement project candidates selected for the HBRR program shall be Structurally Deficient or Functionally Obsolete (SD/FO), have a Sufficiency Rating (SR) below 50, and shall be selected from bridges shown on the Federal Eligible Bridge List (EBL). The EBL is available from the District Local Assistance Engineer (DLAE) and is also available through the Internet at http://www.dot.ca.gov/hq/LocalPrograms/index1.htm.

Bridge Rehabilitation project candidates selected shall be Structurally Deficient or Functionally Obsolete, have a Sufficiency Rating less than or equal to 80, and shall be selected from bridges shown on the EBL.

Painting project candidates may be any local agency steel bridge with a paint code of four, five or equivalent, as described in the section regarding Paint Condition Codes from the Area Bridge Maintenance Engineer Structure Maintenance Procedures (See Exhibit 6-B).

Low Water Crossings are defined as 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. They provide passage to traffic most of the year during periods of ordinary stream flow but are impassable to traffic during periods of high water.

BARRIER RAIL REPLACEMENT PROJECTS

Barrier Rail Replacement candidate projects are eligible if the bridge is on the listing of Barrier Rail Sufficiency Ratings for Local bridges, Non-standard Bridge and/or Approach Rails. This information is available from the DLAE and can also be found through the Internet at http://www.dot.ca.gov/hq/LocalPrograms/index1.htm.

SEISMIC RETROFIT PROJECTS

Eligibility of Seismic retrofit projects will be based on the mandatory seismic retrofit lists established by Caltrans. Criteria for seismic retrofit projects are being developed separately from the remaining HBRR projects and will be addressed in a separate document.

GENERAL

Bridges with an Average Daily Traffic less than 200 will not be eligible for HBRR funding unless the local agency obtains a legislative "Resolution of Need" as required by the California Transportation Commission (CTC) Resolution #G-97-05. The "Resolution of Need" must state that the bridge is:

1. "Very significant to the local economy and/or,
2. Critically needed for emergency access and/or,
3. Required for school bus transportation and/or,
4. Required for some other stated specific significant local need.

For each finding, the resolution shall state that there is no reasonable alternative route." The "Resolution of Need" must be submitted at the time the candidate project is requested.

6.3 PROJECT SELECTION

Projects selected for the HBRR Program must meet the eligibility criteria described in the previous section and the following requirements:

BRIDGE REPLACEMENT, REHABILITATION, PAINTING, AND LOW WATER CROSSING PROJECTS

Each local agency will be allowed four (4) projects per year from this category. Only one of these projects may be a low water crossing project.

BRIDGE REPLACEMENT AND REHABILITATION PROJECTS

Cost comparisons will be required to demonstrate that the decision for bridge rehabilitation is more cost effective than replacement, or vice versa.

Candidate replacement (except low water crossing projects) and rehabilitation projects must be submitted through the DLAE to Caltrans Headquarters Office of Local Programs (OLP) by July 1 to be included in the annual update of the multi-year program.

BRIDGE PAINTING PROJECTS

Selected bridges must be reviewed by Caltrans Structures Local Assistance for their

concurrence with the need for the painting prior to submittal for placement on the list. A copy of the most recent bridge inspection report along with Structures Local Assistance concurrence in writing should be included with the request for the candidate bridge painting project.

Steel sections which are seriously corroded must be repaired or replaced before cleaning and painting. Required repairs will be included in the participating items for project funding. The bridge must have enough useful service life remaining to justify the cost of the project.

The maximum amount of HBRR funds that may be used for a single paint project shall be four million dollars.

BRIDGES TO REPLACE LOW-WATER CROSSINGS

The program to replace these crossings with bridges will be limited to two million dollars per year. A maximum of one million dollars may be expended at any one site. Only one low-water crossing project per agency may be submitted for each year of the multi-year program. A "Low-water Crossing Replacement Project," if selected, will constitute one of the agency's four allowable HBRR projects for the year.

A Low Water Crossing Candidate will require the legislative body of the local agency to adopt a resolution which finds the specific low-water crossing replacement project is more critical to the local economy and traffic service than the replacement or rehabilitation of any other bridge on the EBL. This resolution is required when the Candidate project is submitted to Caltrans for the Low Water Crossing program.

To be eligible for the program, candidate low water crossing projects must be submitted through the DLAE to Caltrans Headquarters OLP by June 1. A priority list will be established within 30 days of this deadline and these projects will be incorporated into the multi-year program on July 1. The application for funding must include all data necessary to complete the low water crossing projects priority formula. Eligible bridge projects will be prioritized based on the formula contained in Exhibit 6-E.

BARRIER RAIL REPLACEMENT PROJECTS

The HBRR Barrier Rail Replacement Program will continue with a total of five million dollars per year set aside for the program.

Top priority is replacement of obsolete barrier rail on eligible bridges which may be expected to remain in use for several years. If the bridge is structurally deficient or functionally obsolete, it should be upgraded under the present rehabilitation program when SR < 80, or replaced, in its entirety, if conditions and costs warrant.

The Barrier Rail Replacement work should require very little, if any, environmental or right-of-way work.

The standard design length for bridge approach guard rails is 19 meters. Any barrier rail candidate must be identified on the Maintenance Structure Inventory and Appraisal Report, Item 36A, as Code 0, "Inspected feature does not meet currently acceptable standards." (See Exhibit 6- C for a description of Item 36.)

Barrier rail replacement candidates will be prioritized based on the formula included in Exhibit 6-D. Each local agency shall be entitled up to two (2) barrier rail projects per

year for the five year program. Additional barrier rail projects may also be submitted and may be funded on a statewide priority basis as funds allow (up to the five million dollar limitation per year for this program).

Candidate barrier rail projects must be submitted through the DLAE to Caltrans Headquarters OLP by June 1 to be eligible for the program. A priority list will be established within 30 days of this deadline and incorporated into the multi-year plan on July 1. The application for funding must include all data necessary to complete the barrier rail projects priority formula.

SEISMIC RETROFIT PROJECTS

Seismic Retrofit projects will be selected from bridges on the mandatory seismic retrofit lists established by Caltrans. Criteria for seismic retrofit projects are being developed separately from the remaining HBRR projects and will be addressed in a separate document.

Any seismic upgrading work that is needed on a rehabilitation project will be incorporated into the rehabilitation and will not be performed as a separate or concurrent seismic retrofit project. If the Rehabilitation project is on the mandatory seismic retrofit list, that portion of work related to seismic retrofit will be funded with HBRR funds matched by State funds (no local match). Seismic Retrofit projects which are approved for Replacement rather than Retrofit in Strategy sessions will not be counted as one of the Replacement projects.

GENERAL

Local agencies are required to provide an update of project schedules and costs for each of their projects included in the multi-year plan on January 1 and July 1 of each year. Local agencies that fail to provide the semi-annual updates on schedules and costs will have their projects dropped from the program. The updates will include the following information, as necessary (See Exhibit 6-G):

- An update on the cost, if the cost has been changed;
- An update of the expected award dates.
- Identification of projects that can be advanced.

If projects are delayed, and other projects can be delivered early, preference will be given to advancing projects in the same local agency, regional agency or Metropolitan Planning Organization (MPO) where the project delay occurred. To ensure timely use of funds, OLP will work with local agencies to accelerate schedules, when possible, after review of funds available and project schedules statewide. Local agencies will also submit status reports as listed in Exhibit 6-G on each submitted candidate project when submitting requests for new projects to be included in the multi-year plan.

All projects in the multi-year program should be scheduled to have environmental clearance, right-of-way certified, construction funds obligated and construction contracts awarded by September 30 of the year programmed in the multi-year plan, unless a specific extension is requested by the local agency and approved by OLP. If a construction contract is not awarded by September 30 of the year programmed and an extension is not requested and approved, the project will be dropped from the program and the local agency must reimburse Caltrans for any federal or state funds received.

Dropped projects may be submitted for reconsideration in subsequent years.

Caltrans, using guidelines developed in consultation with the HBRR Advisory Committee, will approve or disapprove cost changes and changes in the scheduling of projects to encourage timely use of funds. The OLP will consult with the HBRR Advisory Committee for input to time extensions or cost increases as needed. A sufficient number of projects will be programmed for funding to use all available funds each year.

A Local agency may have only four bridge replacement, rehabilitation, painting or low water crossing projects scheduled for construction in the same year. Projects receiving time extensions will reduce the agency's existing or future programming capacity.

Federal participation for bridge approach roadway shall be limited to the minimum necessary to make the facility operable. Bridge approach roadway lengths in excess of 60 meters and 120 meters at each abutment for on- and off-system projects respectively, must be approved in advance by Office of Local Programs (OLP) to receive Federal funding.

The local agency must provide adequate staffing to administer the construction contract on all HBRR projects. Federal regulations in Section 635.105 of Title 23 Code of Federal Regulations require the State Highway Agency to ensure that local-agency administered projects receive adequate supervision and inspection. Where the local agency elects to use consultants for construction engineering services, the local agency shall provide a full-time employee to be the engineer in responsible charge of the project. The engineer in charge may be a retired annuitant or other experienced engineer on a full-time or limited-term appointment as a employee of the local agency. The engineer in charge may be working on more than one project during the course of his/her employment. A consulting engineer with a long-term retainer contract, to act as city engineer, may be considered as an employee of the city. A city, county or other public agency is allowed to perform engineering services for other cities, counties, or other public agencies.

6. 4 FUNDING

Federal funds are considered "allocated" to each project phase when the OLP Area Engineer authorizes work through the FHWA delegated authorization process (See Chapter 3 "Authorization" in the Local Assistance Procedures Manual). The OLP Area Engineer, upon receiving the contract award data (bid summary, finance letter) and subject to an executed supplemental agreement, processes the documentation (expenditure authorization and commitment of HBRR funds) to allow the reimbursement of local agency invoices.

APPROPRIATION CODES

Federal funds which are used for the HBRR program are Highway Bridge Replacement and Rehabilitation funds and Surface Transportation Program funds transferred from HBRR. Following is a listing of HBRR and STP apportionment codes used with this program:

Bridge Federal -Aid-- HBRR

· 114	Bridge, On or off system
· 117*	Bridge, Off system
· 118*	Bridge, On system

Bridge Federal -Aid-- STP

· BMS*	Bridge Seismic Retrofit (Mandatory)
· BMP*	Bridge Rail Replacement

*use these codes unless otherwise instructed by OLP Area Engineer.

FUNDING REIMBURSEMENT RATES

Replacement, Rehabilitation, and Low Water Crossing Projects will be funded with a match rate of 20 percent local funding and 80 percent Federal funding.

Bridge painting projects for bridges on the EBL will be funded with HBRR funds. Projects for bridges not on the EBL will be funded with HBRR funds transferred to STP at a match rate of 20 percent local funding and 80 percent Federal funding.

Barrier Rail Replacement Projects will be funded by HBRR funds transferred to the Federal Surface Transportation Program (STP) with a match rate of 11.47 percent local funding and 88.53 percent Federal funding.

Seismic Retrofit Projects will be funded by HBRR funds transferred to STP with a match rate of 11.47 percent state funding and 88.53 percent Federal funding.

6.5 ELIGIBLE COSTS

Federal HBRR Program funds may be applied to eligible items for project development and construction of HBRR projects and for FHWA mandatory biennial inspections for existing bridges. Funds for the HBRR program can be either for projects on the Federal aid system or for projects located on public roads and off the Federal-aid system.

Federal participation for PE costs on HBRR projects shall be limited to actual costs up to $75,000 (with supporting justification) or 25 percent of the estimated construction cost, whichever is greater. Exceptions may be granted with prior written approval from OLP due to clearly identified environmental, seismic and/or hydraulic problems.

Use of HBRR funds in excess of eight million dollars ($8,000,000) on a single project must be reviewed and approved by the OLP prior to authorizing project funds. The OLP may consult with the HBRR Advisory Committee for input prior to approval. The contingency provisions for HBRR projects shall be set at five percent of the approved engineer's estimate with a minimum of five thousand dollars.

The amount of eligible work will be determined on a project-by-project basis. All major deficiencies of a bridge, including scour and any mandatory seismic upgrading, must be corrected in any rehabilitation project. However, design exceptions may be approved by local agencies for some deficiencies when adequately justified. Any major

structural deficiency and or functional obsolescence which causes a bridge to be on the Eligible Bridge List must be corrected on any project.

Bridge Projects (except seismic retrofit) that are authorized for federal funds will not be eligible for the next ten years.

6.6 PROJECT IMPLEMENTATION

LPP 96-02 Design Standards for Non-NHS Projects, describes statewide design standards, specifications, procedures, guides and references that are acceptable for application in the geometric, drainage and structural design of local assistance projects. The LPP also describes design exception approval procedures. These standards and procedures shall be used in the design of HBRR projects off the National Highway System (NHS). Following are some of the requirements regarding the design of HBRR projects.

- All bridges shall be designed in accordance with the current edition of the Caltrans *Bridge Design Specifications Manual*. Various other Caltrans publications, listed in the LPP, are also available to assist local agencies with designing bridges.

- Deviations from the standards for bridge structural capacity will not be allowed.

- Deviations from other bridge standards and procedures are allowed and should be justified and documented in a form at the discretion of the local agency. However, the locally approved design exception approval procedures described in LPP 96-02 are only required for deviations from the geometric controlling criteria. (i.e., design speed, lane and shoulder width, stopping sight distance, etc.)

Projects are processed in accordance with project implementation procedures outlined in the Local Program Procedure (LPP) 95-07, Reengineering; LPP 96-02, Design Standards for Non-NHS projects; LPP 96-03, Local Quality Assurance Program and subsequent LPPs. (Note: When the new *Local Assistance Procedures Manual* is issued, it will replace these project implementation procedures.) The local agency will certify that they have complied with all state and federal procedures consistent with the project implementation procedures, including these HBRR Program Guidelines.

The OLP Area Engineer typically authorizes the project phases and processes the request for fund obligation to the FHWA. The District Local Assistance Engineers should provide the local agency with the written authorization to proceed with each phase.

The following procedures will be followed in initiating and implementing all projects in the HBRR Program:

1. Local agency, per HBRR guidelines, identifies their desired bridge projects and, through the District Local Assistance Engineer (DLAE), informs the Headquarters OLP Area Engineer of their project selection.

2. Local agency submittals must include a “preliminary” field review form for each bridge. Each submittal must have sufficient detail to the extent necessary to determine program compliance (scope, cost data, type selection, etc.). OLP Area Engineer, through DLAE, notifies local agency of approval/ disapproval of the project selection. For Bridge painting projects, the local agency will also submit a copy of the most recent field inspection report, with a written Structures Local Assistance (SLA) concurrence with the need for painting.

3. At this time, or after the field review, local agency may submit “Request for Authorization” for preliminary engineering through DLAE to OLP for processing. Authorization to Proceed must be obtained prior to beginning any reimbursable work. OLP Area Engineer, through DLAE, notifies local agency in writing of "Authorization to Proceed" with Preliminary Engineering (PE) and funds reserved for subsequent phases (right of way and construction). Local agency proceeds with PE at any time after project has been authorized for federal funds.

4. As soon as is practicable, local agency notifies OLP through DLAE , and OLP notifies SLA, whether Local agency wants SLA to participate in field review or PS&E review. SLA will participate in the field review and/or PS&E review if requested to do so by the local agency and then only if staff resources are available. PS&E reviews will consist of a one-time cursory review with comments and/or recommendations provided. Local agencies are responsible for the PS&E and SLA will not approve their submittals. If participation by SLA is involved, local agency coordinates schedules with OLP, DLAE, and SLA for the reviews.

5. Copies of all information submitted by the local agency are forwarded as received by OLP Area Engineer to SLA for information. If SLA has concerns/questions regarding the proposal (e.g., cost, type selection), SLA contacts the local agency directly in an attempt to resolve these questions/concerns. The results of that review, along with any recommendations, are submitted to OLP. If SLA does not provide comments or contact OLP within ten working days, OLP will assume SLA has no comment regarding the agency's request. Issues that cannot be resolved by the OLP Area Engineer will be referred to OLP Management, who reviews the issue with SLA and makes the final decision for the project.

6. After the field review, local agency submits a "Request for Authorization" form for PE through the DLAE to the OLP Area Engineer if the request has not yet been made in a previous step.

7. Local agency is responsible for submitting "Request for Authorization" through DLAE to OLP Area Engineers for subsequent phases of work (right of way and construction).

8. DLAE notifies local agency of "Authorization to Proceed" for PE and subsequent phases (R/W, construction).

9. Where subsequent "Requests for Authorization" or revised funding documents exceed funds previously programmed for project and/or limits established in the HBRR Guidelines, the OLP Area Engineers may send a copy to SLA for their comments and assistance in determining the appropriateness of the additional costs. This normally occurs only on complex projects. Issues that cannot be resolved by the OLP Area Engineer are referred to OLP Management, who reviews the issues and makes the final decision for the project.

10. The local agency will provide through the DLAE to Structures Local Assistance, the "As Advertised" PS&E within 60 calendar days after the project is advertised.

11. The request for the PR-2 and program supplement will be submitted by the DLAE to OLP area engineers in a timely manner soon after the project is awarded.

12. For new or replacement bridges, within 60 calendar days after the project is awarded, the local agency will provide through the DLAE, and the DLAE will report to OLP HBRR Program Coordinator, construction costs of the bridge as awarded. Specific information needed is listed in Exhibit 6- F.

13. The local agencies will also provide through the DLAE to Structures Local Assistance, Cover Letter and Report of Completion of Structures on Local Streets and Roads as described in LPP 95-07 (including "As Built Plans" (Record drawings)). In addition, the DLAE will provide a copy of the Cover Letter of the project completion to OLP.

6.7 CUSTOMER FEEDBACK

Caltrans is always interested in improving the quality of its procedures. Please contact Headquarters Office of Local Programs if you have any suggestions in improving the effectiveness of these operating procedures and guidelines of the HBRR Program.

HISTORICAL SIGNIFICANCE

Item 37, Historical Significance, Federal Highway Administration's *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nations Bridges*, December 1995.

Item 37 - Historical Significance 1 digit

The historical significance of a bridge involves a variety of characteristics: the bridge may be a particularly unique example of the history of engineering; the crossing itself might be significant; the bridge might be associated with a historical property or area; or historical significance could be derived from the fact the bridge was associated with significant events or circumstances. Use one of the following codes:

CODE	Description
1	Bridge is on the National Register of Historic Places.
2	Bridge is eligible for the National Register of Historic Places.
3	Bridge is possibly eligible for the National Register of Historic Places (requires further investigation before determination can be made) or bridge is on a State or local historic register.
4	Historical significance is not determinable at this time.
5	Bridge is not eligible for the National Register of Historic Places.

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PAINT CONDITION CODES

Paint Condition Codes from Caltrans' *ABME Structure Maintenance Procedures*, January 1995.

2.3 Attachment C Paint Condition Codes

The paint condition of coastal bridges is to be closely inspected at every scheduled investigation.

Code 1	The paint is in excellent condition, generally applicable to recently painted structures. A newly painted structure should be looked at fairly close to detect thin coverages or areas that were missed.
Code 2	The paint is in good condition. The only defects may be that the paint is beginning to fade or perhaps dirt is starting to accumulate on the webs and flanges.
Code 3	The paint is in fair condition (no rust). Defects include those of Code 2 , but to a larger degree. The faded areas are becoming chalky, there are larger dirt accumulations, and the finish coat may be turning darker as a result of pollutant attack
Code 4	The paint protection system is breaking down. This is generally indicated by the presence of rust. Rust usually starts along the edge of the upper flange at the juncture of the steel and the concrete deck; surface, on the bearing plates and assemblies, or along the edges of the lower flange. Rain runoff passing through open or failed deck joints attacks all that it touches, especially if the deck; have been salted. The ABME, when using Code 4, is to state where the rust is located and how much of it there is. A structure may have its paint condition coded Code 4 for a number of years.
Code 5	The paint protection system has failed and the ABME believe that the structure should be repainted within the next five years. The rust (corrosion) noted previously is now adversely affecting the structure in some way; loss of section, freezing of moveable joints, loss of support, additional forces, et cetera.

When the ABME rates the paint condition Code 5. the HMO Support Senior:

1. Investigates condition of paint to corroborate the ABME's findings.

2. Determine rate of paint deterioration based on past history.

3. Evaluates other structural needs affecting a potential paint contract

4. Enters bridge into the paint program based on actions 1, 2, and 3 above.

2-3 Inspection Procedures - Attachment C *Page 1 of 1*

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BARRIER RAIL REPLACEMENT PROJECTS

Item 36, Traffic Safety Features, Federal Highway Administration's *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*, December 1995.

Item 36 - Traffic Safety Features 4 digits

Bridge inspection shall include the recording of information on the following traffic safety features so that the evaluation of their adequacy can be made.

(A) Bridge railings: Some factors that affect the proper functioning of bridge railing are height, material, strength, and geometric features. Railings must be capable of smoothly redirecting an impacting vehicle. Bridge railings should be evaluated using the current AASHTO Standard Specifications for Highway Bridges, which calls for railings to meet specific geometric criteria and to resist specified static loads without exceeding the allowable stresses in their elements. Bridge railing should be crash tested per FHWA policy. Railings that meet these criteria and loading conditions are considered acceptable. Other railings that have been successfully crash tested are considered acceptable even though they may not meet the static loading analysis and geometric requirements. Acceptable guidelines for bridge railing design and testing are also found in the AASHTO Guide Specifications for Bridge Railings 1989. Additional guidance for testing is found in National Cooperative Highway Research Program -Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features 1993.

(B) Transitions: The transition from approach guardrail to bridge railing requires that the approach guardrail be firmly attached to the bridge railing. It also requires that the approach guardrail be gradually stiffened as it comes closer to the bridge railing. The ends of curbs and safety walks need to be gradually tapered out or shielded.

(C) Approach guardrail: The structural adequacy and compatibility of approach guardrail with transition designs should be determined. Rarely does the need for a barrier stop at the end of a bridge. Thus, an approach guardrail with adequate length and structural qualities to shield motorists from the hazards at the bridge site needs to be installed. In addition to being capable of safely redirecting an impacting vehicle, the approach guardrail must also facilitate a transition to the bridge railing that will not cause snagging or pocketing of an impacting vehicle. Acceptable guardrail design suggestions are contained in the AASHTO Roadside Design Guide and subsequent FHWA or AASHTO guidelines.

(D) Approach guardrail ends: As with guardrail ends in general, the ends of approach guardrails to bridges should be flared, buried, made breakaway, or shielded. Design treatment of guardrail ends is given in the AASHTO Roadside Design Guide.

The data collected shall apply only to the route on the bridge. Collision damage or deterioration of the elements are not considered when coding this item. Traffic safety features is a 4-digit code composed of 4 segments.

Segment	Description	Length
36A	Bridge railings	1 digit
36B	Transitions	1 digit
36C	Approach guardrail	1 digit
36D	Approach guardrail ends	1 digit

The reporting of these features shall be as follows:

Code	Description
0	Inspected feature does not meet currently acceptable standards or a safety feature is required and none is provided.*
1	Inspected feature meets currently acceptable standards.*
N	Not applicable or a safety feature is not required.*

* For structures on the NHS, national standards are set by regulation. For those not on the NHS, it shall be the responsibility of the highway agency (state, county, local or federal) to set standards.

EXAMPLE:	Code
All features meet currently acceptable standards except transition	1011

PRIORITY RATING FOR BARRIER RAIL REPLACEMENT PROJECTS

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

Description And Evaluation Of Priority Factors

Total Bridge Rail Priority Points = $F_1 + F_2 + F_3 + F_4 + F_5 + F_6 + F_7$

F_1: **Bridge Rail Type** - Among the concurrent types of rails which are coded as 0 in the OSM&I database, 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):

F_1 = 10 points:	no bridge rail, or lightweight timber rails
F_1 = 6 points:	lightweight concrete post or metal baluster, Tuthill, or equal
F_1 = 3 points:	lightweight concrete window (Todd rail), unreinforced masonry metal beam or lattice, or equal
F_1 = 0 points:	all other rail types

F_2: **Consequence of Penetration -**

F_2 = 6 points:	bridges over an area of moderate or heavy public use (i.e., main road, street or railroad, playgrounds, parking lots, etc.).
F_2 = 0 points:	otherwise.

F_3: **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):

F_3 = 1 point:	inadequate approach guardrail transitions
F_3= 3 points:	inadequate approach guardrail
F_3 = 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).

F_4: **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.

F_4 = 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.

F_5: **AADT/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 (equivalent to 4,000 AADT/Lane, (Annual Average Daily Traffic/Lane) on 2-lane, 2-way roads and 8,000 AADT/Lane on multi-lane roads). Points are given as follows

On 2-Lane, 2-Way roads (AADT/Lane):	**On Multi-Lane roads (AADT/Lane):**
F_5= 0 points: AADT/Lane < 800	F_5 = 0 points: AADT/Lane < 1,600
F_5 = 1 point: 800 ≤ AADT/Lane < 1,600	F_5 = 1 point: 1,600 ≤ AADT/Lane < 3,200
F_5 = 2 points: 1,600 ≤ AADT/Lane < 2,400	F_5 = 2 points: 3,200 ≤ AADT/Lane < 4,800
F_5 = 3 points: 2,400 ≤ AADT/Lane < 3,200	F_5 = 3 points: 4800 ≤ AADT/Lane < 6,400
F_5 = 4 points: 3,200 ≤ AADT/Lane < 4,000	F_5 = 4 points: 6,400 ≤ AADT/Lane < 8,000
F_5 = 5 points: AADT/Lane ≥ 4,000	F_5 = 5 points: AADT/Lane ≥ 8,000

F_6: **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 F_6 shall be as follows:

F_6 = 0 points:	site conditions are excellent
F_6 = 1 point:	site conditions are good
F_6 = 2 points:	site conditions are fair
F_6 = 3 points:	site conditions are average
F_6 = 4 points:	site conditions are poor
F_6 = 5 points:	site conditions are critical

The maximum number of points for F_6 on any bridge shall be 5.

F_7: **Potential for future bridge replacement -** Top priority is to replace obsolete barrier rails on bridges with long life expectancy

F_7 = 10 points if Sufficiency Rating (SR) >80
F_7 = 6 points if 70 < SR ≤ 80
F_7 = 5 points if 60 < SR ≤ 70
F_7 = 4 points if 50 < SR ≤ 60
F_7 = 0 points if SR ≤ 50.

PRIORITY RATING FOR BRIDGES TO REPLACE LOW WATER CROSSINGS

Following is the formula to be used to calculate the priority rating for Bridges to Replace Low Water Crossings:

$$\mathbf{PIN = \frac{(ADT) \times (L) \times (C)}{1.61\ (E)}}$$

ADT		Average Daily Traffic (must be documented).
L	=	Length, in kilometers, of most viable alternate routing of traffic when low-level crossing is closed due to flooding
C	=	Arithmetic mean number of days per year a public low-water crossing site has been closed over the last five years.
E	=	Agency's requested amount of HBRR participation in thousands and limited to the maximum amount of $1 million (i.e., E is limited to 1,000). If the project is high enough on the priority list to receive funding, E becomes the amount of funds the agency will receive (i.e., if E = 750, and the project is high enough on the priority list, it will receive $750,000 of HBRR funds).
PIN	=	Priority Index Number Higher Number = Higher Priority

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REPORTING REQUIREMENTS FOR NEW OR REPLACED BRIDGES

For each bridge, provide the following to OLP HBRR Coordinator within 30 calendar days after contract let or awarded:

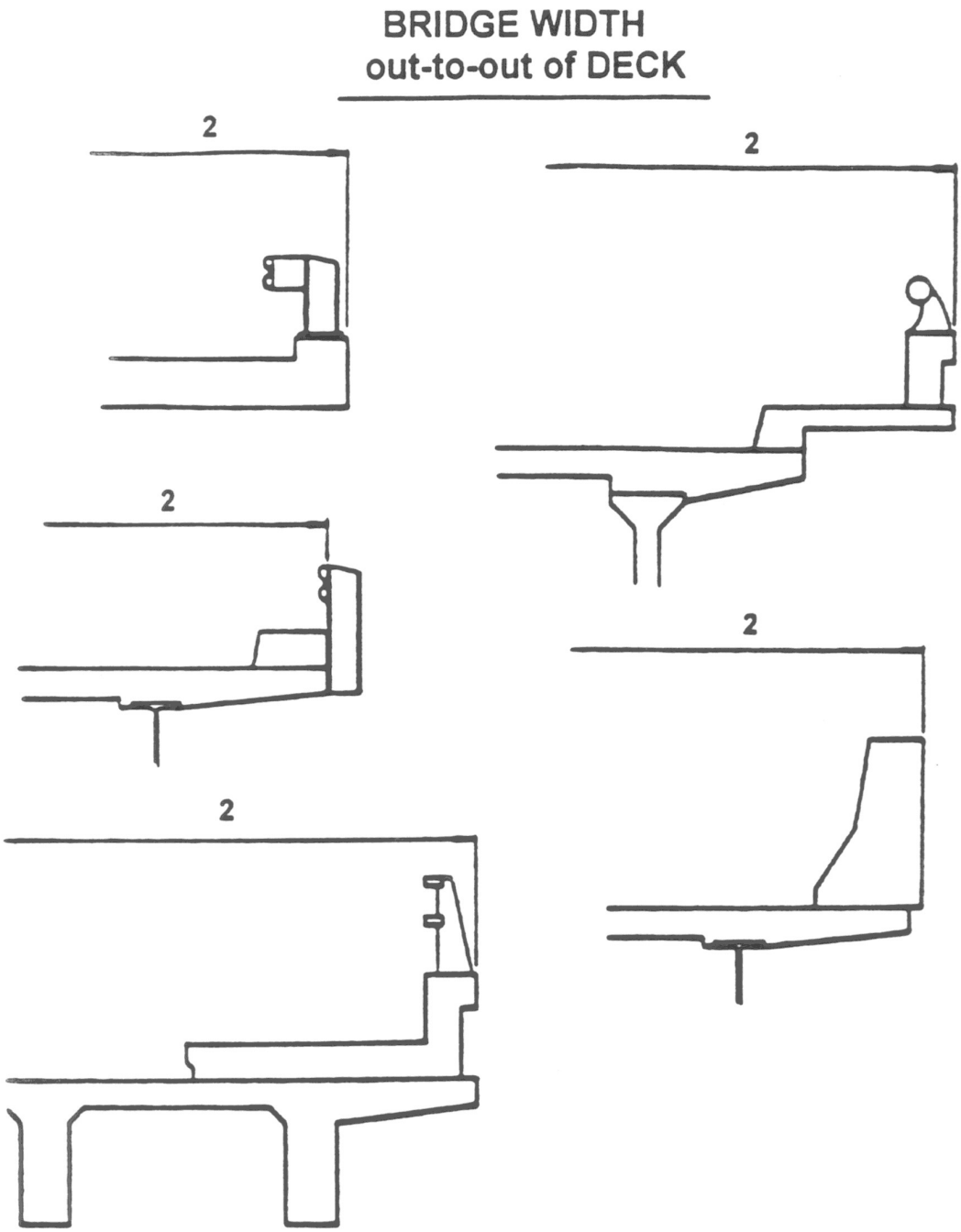
1. **District** _____
2. **Agency** _____
3. **Bridge number** _____
4. **Bridge name and/or location** _____
5. **Type of bridge** _____
6. **Date of Award** _____
7. **Length in feet or meters (indicate units)*** _____
8. **Width in feet or meters (indicate units)**** _____
9. **Cost of the bridge ($)***** _____

* Length of the roadway which is supported on the bridge structure. The length should be measured back-to-back of backwalls of abutments or from paving notch to paving notch.

** Out-to-Out width of the bridge (See examples on the following page).

*** Cost of the bridge based on award, and excluding the following:

Mobilization
Demolition of Existing Bridges
Approach Slabs
Stream Channel Work
Riprap
Slope Paving
Earthwork (exclusive of structural excavation and structural backfill)
Clearing and Grubbing
Retaining Walls not attached to the Abutment
Guardrail Transitions to Bridge
Maintenance and Protection of Traffic
Detour Costs
Signing and Marking
Lighting
Electrical Conduit
Inlet Frames and Grates
Field Office
Construction Engineering Items
Training
Right-of -Way
Utility Relocation
Contingencies



2 - Deck width out-to-out

STATUS FOR CANDIDATE AND EXISTING PROJECTS

1. Date of status: _____

2. District: _____
3. Local Agency: _____

4. Bridge number: _____
5. Bridge name and/or location: _____
6. Type of Bridge: _____

7. Federal Project Number: _____
8. E.A.: _____
9. Single Project Identifier: _____

10. Date of Award (if awarded) or state No Award: _____
    If project has not been awarded, what is anticipated award date: _____

11. Estimated /Actual Dates and Costs for Candidate and Existing Projects

	Authorization Date		Authorized Costs			
Phase	Previous Report	This Report	Previous Report		This Report	
			Total $	Federal $	Total $	Federal $
Prelim.						
Right of Way						
Construction						

Comments (Required for changes in costs or dates):