CHAPTER 4 – HIGHWAY BRIDGE PROGRAM AND LIGHTING PROGRAM

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4.1— HIGHWAY BRIDGE PROGRAM

4.1.1— Introduction

The Highway Bridge Program is an important part of DOTD regular program under category of Preservation. The Highway Bridge Program is composed of three bridge programs, the Preservation Bridge (On System), Preservation Bridge Preventive Maintenance, and Preservation Parish (Off System) Bridges. All three programs provide an essential management of federal funds for the repair (including scour repair), rehabilitation, preventive maintenance and replacement of deficient bridges.

In addition to the Highway Bridge Program, repair, rehabilitation, preventive maintenance, and replacement of bridges may also be funded by DOTD regular program under the categories of Capacity, Safety, Operations, Miscellaneous or Reimbursable. For reimbursable projects, federal funds may be required and should be set up when directed by the Program Managers.

Other bridge maintenance activities are performed by in house forces through Bridge Maintenance Section and districts. Such activities include structural repairs and smaller bridge rehabilitation and replacement projects.

4.1.2— Definitions and Acronyms

Bridge Preservation (On System) Program Manager: Program Manager in Bridge Design Section for the Highway Bridge Program overseeing the Preservation Bridge (On System) programming structures for repair, rehabilitation and replacement. Structures under this program must be on the state system or on the National Highway System.

Bridge Preservation Preventive Maintenance Program Manager: Program Manager in Bridge Design Section for the Preservation Bridge Preventive Maintenance Program overseeing the selection and programming of structures for a defined set of preventive maintenance activities such as cleaning and painting, joint replacement, bearing replacement, concrete patching, deck treatments, etc. Structures under this program must be on the state system or on the National Highway System.

Bridge Preservation (Off System) Program Manager: Program Manager in Bridge Design Section for the Preservation Parish (Off System) Bridge Program overseeing the selection and programming of structures for rehabilitation and replacement. Structures under this program must be off the state system.

Bridge Scour Program Manager: Program Manager in Bridge Design Section for the Bridge Scour Program overseeing the selection and programming of structures to be included in Phase III Scour Structural Stability Analysis and providing recommendations of Phase IV Scour Remediation Projects to Program Managers for Bridge Preservation (On-System) Program and Bridge Preservation and Preventive Maintenance Program.

CFR: Code of Federal Regulation.

Functionally Obsolete (FO): A bridge that was built to standards that do not meet the minimum federal clearance requirements for a new bridge. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe.

HBP: Highway Bridge Program initiated by Federal Highway Act in 1970.

HBRRP: Highway Bridge Replacement and Rehabilitation Program established by the Surface Transportation Assistance Act in 1978.

Highway Program: A LADOTD program provided to the Louisiana Legislature identifying construction to be commenced in the ensuing fiscal year, which is based upon anticipated revenues to be appropriated by the Legislature. The program also identifies projects in the current fiscal year to be let and projects which are in various stages of planning and preparation.

Historic Bridge: Any bridge that is listed on, or eligible for listing on, the National Register of Historic Places. For specific information on Louisiana Historic Bridge Inventory, visit LADOTD website under MyDOTD/All DOTD Projects.

ISTEA: Intermodal Surface Transportation and Equity Act of 1991.

MAP-21: Moving Ahead for Progress in the 21st Century Act signed by President Obama on July 6, 2012.

NBI: A database, compiled by the Federal Highway Administration, with information on all bridges and tunnels in the United States that have roads passing above or below.

NBI Sufficiency Rating: An overall rating of a bridge's fitness for the duty that it performs based on factors derived from over 20 NBI data fields, including fields that describe its Structural Evaluation, Functional Obsolescence, and its essentiality to the public. A low Sufficiency Rating may be due to structural defects, narrow lanes, low vertical clearance, or any of many possible issues.

NBIS: National Bridge Inspection Standards.

NHS: National Highway System.

Road Show: A series of public hearings conducted by LADOTD to discuss the upcoming Highway Program for next state fiscal year.

SAFETEA-LU: The Safe, Accountable, Flexible, Efficient, Transportation Equity Act of 1987.

Structurally Deficient (SD): Bridges are classified as "structurally deficient" if they have a general NBI conditional rating for the deck, superstructure, substructure or culvert as 4 or less or if the road approaches regularly overtop due to flooding. The fact that a bridge is structurally deficient does not imply that it is unsafe.

4.1.3— Program History (Pre MAP-21)

The Highway Bridge Program provides funding to enable states to improve the condition of their highway bridges through replacement, rehabilitation, and systematic preventive maintenance. Funding is through the collection of fuel taxes by the Federal Government under the Highway Trust Fund and return funding to the states through programs with federal oversight.

The Highway Bridge Program was initiated after the collapse of the Silver Bridge between West Virginia and Ohio over the Ohio River during rush hour, resulting in the tragic death of 46 people. The Federal Highway Act of 1970 initiated the Highway Bridge Program and established the NBIS and funds were set aside for the replacement of deficient bridges on the Federal Aid Highway System.

The Surface Transportation Assistance Act of 1978 established the HBRRP and included Off-System Bridge eligibility. It mandated between 15% - 35% of the funding be for Off-System Bridges. It also allowed for eligibility of rehabilitation work.

The Highway Improvement Act of 1982, the Surface Transportation and Uniform Relocation Assistance Act of 1987, Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and the Transportation Equity Act for the 21st Century (TEA-21) of 1998 followed the efforts of the HBRRP.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (SAFETEA-LU) renamed the HBRRP to the Highway Bridge Program (HBP), and removed the 35% limit for Off System projects.

Prior to MAP-21, in order for structures to qualify for funding, bridges had to be classified as Structurally Deficient or Functionally Obsolete and have an NBI Sufficiency Rating of 50 or less for replacement or 80 or less for rehabilitation. For total replacement, a nominal amount of approach work sufficient to connect the new facility to existing roadway or to attainable touchdown points, in accordance with good design practices, was also eligible for funding. For rehabilitation, the costs to restore the structural integrity of the bridge, as well as to correct major safety defects were eligible.

Whether a bridge was replaced or rehabilitated, the structural and functional deficiencies should have been addressed. Once a structure was worked on, it became ineligible for HBP funds for a 10 year period.

Before MAP-21 came into effect, the controlling legislation was 23 USC Section 144 and 23 CFR Part 650 D.

4.1.4— Current Legislation (MAP-21)

MAP-21 Legislation of 2012 creates a performance-based and multi-modal program to strengthen the U.S. transportation system. By focusing on national goals, increasing accountability, and improving transparency, these changes will improve decision-making through better informed planning and programming.

For specific detail of the legislation refer to the web site at http://www.fhwa.dot.gov/map21/.

4.1.4.1— Highlights of MAP-21

MAP-21 restructures core highway formula programs. Activities carried out under some existing formula programs – the National Highway System Program, the Interstate Maintenance Program, the Highway Bridge Program, and the Appalachian Development Highway System Program – are incorporated into the following new core formula program structure:

MAP-21	Previous Law
National Highway Performance Program (NHPP)	NHS, IM, & Bridge (portion)
Surface Transportation Program (STP)	STP & Bridge (portion)
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	CMAQ
Highway Safety Improvement Program (HSIP)	HSIP (incl. High Risk Rural Roads)
Railway-Highway Crossings (set-aside from HSIP)	Railway Highway Grade Crossing
Metropolitan Planning	Metropolitan Planning
Transportation Alternatives (set aside from NHPP, STP, HSIP, CMAQ, and Metro Planning)	TE, Recreational Trails, and Safe Routes to School

4.1.4.2— Performance Management

The cornerstone of MAP-21's highway program transformation is the transition to a performance and outcome-based program. States will invest resources in projects to achieve individual targets that collectively will make progress toward national goals. MAP-21 establishes national performance goals for Federal highway programs:

- **Safety**—to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure condition**—to maintain the highway infrastructure asset system in a state of good repair.
- **Congestion reduction**—to achieve a significant reduction in congestion on the NHS.

- **System reliability**—to improve the efficiency of the surface transportation system.
- **Freight movement and economic vitality**—to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental sustainability**—to enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduced project delivery delays**—to reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, reducing regulatory burdens, and improving agencies' work practices.

4.1.4.3— Accelerating Project Delivery

MAP-21 provides an array of provisions designed to increase innovation and improve efficiency, effectiveness, and accountability in the planning, design, engineering, construction, and financing of transportation projects. Building on FHWA's "Every Day Counts" initiative, MAP-21 changes will speed up the project delivery process, saving time and money for individuals and businesses, and yielding broad benefits nationwide.

Some MAP-21 provisions are designed to improve efficiency in project delivery, broadening the ability for states to acquire or preserve right-of-way for a transportation facility prior to completion of the review process required under the National Environmental Policy Act of 1969 (NEPA), providing for a demonstration program to streamline the relocation process by permitting a lump sum payment for the acquisition and relocation if elected by the displaced person, enhancing contracting efficiencies, and encouraging the use of innovative technologies and practices. Other changes target the environmental review process, providing for earlier coordination, greater linkage between the planning and environmental review processes, using a programmatic approach where possible, and consolidating environmental documents. MAP-21 establishes a framework for setting deadlines for decision making in the environmental review process, with a process for issue resolution and referral, and penalties for agencies that fail to make a decision. Projects stalled in the environmental review process can get technical assistance to speed completion within four years.

One area in particular that MAP-21 focuses on to speed up project delivery is expanded authority for use of categorical exclusions (CEs). "Categorical exclusion" describes a category of actions that do not typically result in individual or cumulative significant environmental impacts. CEs, when appropriate, allow federal agencies to expedite the environmental review process for proposals that typically do not require more resource-intensive Environmental Assessments (EAs) or Environmental Impact Statements (EISs). In addition to those currently allowed, MAP-21 expands the usage of CEs to a variety of other types of projects, including multi-modal projects, projects to repair roads damaged in a declared disaster, projects within existing operational right-of-way, and projects receiving limited federal assistance. To assess the impact of the above changes, the Secretary of U.S. Department of Transportation (The Secretary) will compare completion times of CEs, EAs and EISs before and after implementation.

4.1.4.4— Primary Bridge Programs

4.1.4.4.1— National Highway Performance Program (NHPP)

Under MAP-21, the enhanced National Highway System (NHS) is composed of approximately 220,000 miles of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations. It includes the Interstate System, all principal arterials (including some not previously designated as part of the NHS) and border crossings on

those routes, highways that provide motor vehicle access between the NHS and major intermodal transportation facilities, and the network of highways important to U.S. strategic defense (STRAHNET) and its connectors to major military installations.

The NHPP program is authorized to support the condition and performance of the NHS, for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in an asset management plan of a state for the NHS.

MAP-21 establishes a performance basis for maintaining and improving the NHS.

- States are required to develop a risk and performance-based asset management plan for the NHS to improve or preserve asset condition and system performance; plan development process must be reviewed and recertified at least every four years. The penalty for failure to implement this requirement is a reduced federal share for NHPP projects in that year (65 percent instead of the usual 80 percent).
- The Secretary will establish performance measures for Interstate and NHS pavements, NHS bridge conditions, and Interstate and NHS system performance. States will establish targets for these measures, to be periodically updated.
- MAP-21 also requires minimum standards for conditions of Interstate pavements and NHS bridges by requiring states to devote resources to improve the conditions until the established minimum is exceeded. The Secretary will establish the minimum standard for Interstate pavement conditions, which may vary by geographic region. If Interstate conditions in a state fall below the minimum set by the Secretary, the state must devote resources (a specified portion of NHPP and STP funds) to improve conditions. MAP-21 establishes the minimum standard for NHS bridge conditions – if more than 10 percent of the total deck area of NHS bridges in a state is on structurally deficient bridges, the State must devote a portion of NHPP funds to improve conditions.

4.1.4.4.2— Surface Transportation Program (STP)

MAP-21 continues the STP, providing flexible funding that may be used by States and localities for projects to preserve or improve conditions and performance on any federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects, and public bus terminals and facilities.

Most current STP eligibilities are continued, with some additions and clarifications. Activities of some programs that are no longer separately funded are incorporated, including transportation enhancements (replaced by “transportation alternatives”, which encompasses many transportation enhancement activities and some new activities), recreational trails, ferry boats, truck parking facilities, and Appalachian Development Highway System projects (including local access roads). Explicit eligibilities are added for electric vehicle charging infrastructure added to existing or included within new fringe and corridor parking facilities, and projects and strategies that support congestion pricing, including electronic toll collection and travel demand management strategies and programs.

Fifty percent of a State’s STP funds are to be distributed to areas based on population (sub-allocated), with the remainder to be used in any area of the State. Consultation with rural planning organizations, if any, is required. Also, a portion of its STP funds (equal to 15 percent of the State’s FY 2009 Highway Bridge Program apportionment) is to be set aside for bridges not on Federal-aid highways (off-system bridges), unless the Secretary determines the State has insufficient needs to justify this amount. A special rule is provided to allow a portion of funds reserved for rural areas to be spent on rural minor collectors, unless the Secretary determines this authority is being used excessively.

4.1.5—Project Selection Process

The following is a series of steps used by program managers in Bridge Design Section in the selection of bridge projects for inclusion in the Highway Program.

4.1.5.1—Bridge Preservation (On System) & Bridge Preventive Maintenance Programs

CE or PCE, Categorical Exclusion or Programmatic Categorical Exclusion

1. Work with the Planning Section to identify projected funding for the eight (8) year Bridge Program. Determine the appropriate program investment to fulfill program needs.
2. Network Analysis (based on core elements for various projected outcomes)
    a. Work with the Bridge Management System, removing previously programmed structures, to perform a network analysis in order to determine a potential candidate list for repair, preventive maintenance, and rehabilitation and replacement projects. The analysis will be based on a specified element list and criteria for each type of project, set by the Program Manager.
3. Candidate Selection will focus on the following:
    a. Removing Structurally Deficient Bridges from Enhanced NHS routes to meet MAP-21 performance goals.
    b. Repair, Preventive Maintenance and Rehabilitation projects that will improve or extend the service life of the structures.
    c. Return structurally deficient structures to a non-deficient condition.
    d. Remove posted bridges from established truck routes.
    e. Remove deficient timber bridges.
4. Distribute potential candidate list to the Districts and Bridge Maintenance Section, requesting the following:
    a. Prepare a District priority list of candidate structures based on potential candidate list provided, Legislative and MPO input, and other needs not identified within the potential candidate list.
    b. Prepare Stage 0 Structural Site Survey forms for candidate structures to be considered for action.
    c. Prioritize recommended candidate structures.
5. District submits a prioritized list of structures for consideration and a Stage 0 Structural Site Survey form for each structure.
6. The Program Manager prepares a list of projects composed of structures recommended by the Districts and then prepares a Stage 0 Parametric Cost Estimate for each project. Additional work and structures may be added to projects to complete a section of roadway or complete a scope of work.
7. The Program Manager prepares a short list of proposed projects based on available funding. The short list is re-evaluated by the Bridge Management Section to validate the recommendations by the Program Manager.
8. A meeting is held with the Bridge Preservation Selection Committee to discuss and select the final list of projects for the Bridge Preservation On System Program and the Bridge Preventive Maintenance Program (includes Historic Bridges).

9. Once the final selections are made, a transmittal of the final selections is sent back to the Districts to inform them which projects are being proposed for inclusion in the Highway Bridge Program.
10. The Program Manager orders project numbers and estimates funding requirements for the various phases of work to be performed on the project and submits the information to the Planning Section for inclusion in the Preliminary Highway Program. The Preliminary Highway Program for the upcoming fiscal year is submitted to the Joint Transportation Committee. The Preliminary Highway Program is used to present the program to the public during the October Road Show.
11. During the Legislative Session, the Highway Program is submitted to the Joint Transportation Committee for review and approval with changes from the Preliminary Highway Program noted. Approval of this document solidifies our program commitments to the Legislature.
12. Once projects are selected by the Bridge Preservation Selection Committee, the Project Manager assigned to the project may refine the alignment or concept and then completes the other documentation. The Stage 0 Feasibility Study is submitted to the Program Manager for review and approval to move to Stage 3 Design.

EA or EIS, Environmental Assessment or Environmental Impact Statement

Projects with environmental clearances of EA or EIS, Environmental Assessment or Environmental Impact Statement are usually selected after a more detailed Stage 0 Feasibility Study is conducted. Often these projects will continue through Stage 1 Environmental before they are added to the Highway Program.

4.1.5.2—Bridge Preservation (Off-System) Program

The Off System Program is primarily a bridge replacement program. Rehabilitation and preventive maintenance are eligible activities under this program, but seldom performed. Refer to *Federal Aid Off-System Highway Bridge Program Guidelines* posted on LADOTD Bridge Design Section website for additional information.

The matching funds for this program are provided by the Parish Transportation Fund, which is a designated fund provided by the State Legislature and can vary on a yearly basis.

Deficient structures on off system routes which are part of the National Highway System are funded through the National Highway Performance Program and tracked under the Bridge Preservation (On-System) and Bridge Preventive Maintenance Programs.

CE or PCE, Categorical Exclusion or Programmatic Categorical Exclusion

1. Work with the Planning Section to identify projected funding for the two (2) year Off-System Bridge Program. Determine the appropriate program investment to fulfill program needs. Since the 20% match funds are provided by designated funding from the Legislature, the Program Manager must request concurrence in writing for the distribution of these funds from the Project Development Division Chief or as required. This part of the process is usually initiated in September of the year prior to the program submittal cycle.
2. Upon approval of funding, we request a list of qualifying parishes from our Bridge Maintenance Section. In the future Bridge Management may provide additional information on qualifying structures.
3. A construction cost ($/ft^2) is established based on current bid history and this unit cost is used to determine parish allocations of funding.
4. The funding allocation to each parish is the respective pro rata share of deficient off-system bridges based on deck area. A parish's percentage allocation of funding is determined by estimating the cost of replacement of qualifying structures for the parish divided by the total cost

of replacement of the sum of all qualifying structures for parishes statewide. The percentage is then multiplied by the available funding to determine the parish allocation. A qualifying structure is a structure that is classified as Structurally Deficient or Functionally Obsolete and has an NBI Sufficiency Rating of 50 or less for replacement or 80 or less for rehabilitation.

5. Each parish's projected funding balance is calculated based on current balance plus newly allocated funds. Current balances may contain deficits from previous projects construction, engineering and C, E &I cost, or positive balance or credit from deferred spending.
6. A letter soliciting candidate projects is sent to each parish with an explanation of the proposed parish balance, Off-System Highway Bridge Program requirements, a Stage 0 Environmental Checklist Form and a list of qualifying structures in the parish. Parishes eligible to participate will receive the solicitation by certified return mail. Eligible parishes are allowed to select replacement structures within the limits of the proposed funding balance or defer spending and allow their balance to accumulate for future projects. This part of the process is usually completed by the end of March of the program submittal year.
7. Some of the program requirements are as follows:
   a. The parish has requested the addition of the structure to the program by parish council resolution.
   b. Structures must qualify for the proposed action.
   c. The estimate of the proposed action is within the limits of the available funding balance.
   d. Parish agrees to provide right of way, utility relocation and construction permits. Usually the right of way is donated by the adjacent land owners or a Right of Entry is granted to construct the project.
   e. Each project submitted must have a unique name and have the structures properly located on a location map.
8. The selected projects are submitted to the ADA of Operations for the respective District for review and approval.
9. Once the final selections are made, a transmittal of the final selections is sent back to the Districts to inform them which projects are being proposed for inclusion in the Off-System Highway Bridge Program.
10. The Program Manager orders project numbers and estimates funding requirements for the various phases of work to be performed on the project and submits the information to the Planning Section for inclusion in the Preliminary Highway Program. The Preliminary Highway Program for the upcoming fiscal year is submitted to the Joint Transportation Committee. The Preliminary Highway Program is used to present the program to the public during the October Road Show.
11. During the Legislative Session, the Highway Program is submitted to the Joint Transportation Committee for review and approval with changes from the Preliminary Highway Program noted. Approval of this document solidifies our program commitments to the Legislature.
12. At this point, the Stage 0 Feasibility Study is complete and the project is approved to move to Stage 3 Design.

EA or EIS, Environmental Assessment or Environmental Impact Statement

Projects with environmental clearances of EA or EIS, Environmental Assessment or Environmental Impact Statement are usually selected after a more detailed Stage 0 Feasibility Study is conducted. Often these projects will continue through Stage 1 Environmental before they are added to the Highway Program.

4.1.5.3—Louisiana Local Public Agency (LPA)

There are many different programs under LPA by which bridges may enter the Highway Program, and each has an individual selection process. For individual programs under LPA and selection processes, refer to the Louisiana Public Agency Manual in LADOTD LPA website.

4.1.6—Highway Program Development Timeline

During the Legislative Session, the Highway Program for construction projects in the upcoming fiscal year and other projects in various planning stages are submitted for Legislative approval. After the approval of the Highway Program, the Planning Section will begin to develop the next Highway Program.

Steps to the development of the Highway Bridge Program are as follows:

January—Prepare and distribute a list of prospective candidate bridges to the Districts for consideration for prospective new projects. See Project Selection Process for details. In addition to this request for projects, the Bridge Design Section is continuously receiving Stage 0 Structural Site Surveys from Districts identifying urgent needs. Urgent needs are addressed with a high priority, as required.

May—Receive proposed candidate project list from Districts along with a Stage 0 Structural Site Survey form. This site survey identifies information about the project site conditions, proposed maintenance of traffic, constructability issues, potential environmental and permit issues, utility and right of way conflicts, and any other issues that could affect the cost, alignment, project timeline, or selection of the project.

June—Prepare Stage 0 reports for proposed candidate projects based on a parametric estimations and information contained in the Stage 0 Structural Site Survey forms. The Stage 0 will contain a Scope and Budget Worksheet, a parametric estimation, a Stage 0 Structural Site Survey Form, and any other pertinent information necessary to consider the project during the Bridge Preservation Selection Committee meeting.

July—Bridge Preservation Selection Committee meets to select candidate projects. Once projects are selected, order project numbers.

August—Submit proposed Highway Bridge Program to Planning for inclusion in the Highway Program.

September—Draft Highway Program is disseminated for review and comment by program managers. This is our opportunity to make sure the Draft Highway Program is accurate and complete.

October—The Preliminary Highway Program for the upcoming fiscal year is submitted to the Joint Transportation Committee. The Preliminary Highway Program is used to present the program to the public during the October Road Show.

Legislative Session—During the Legislative Session, March through June, the Highway Program is submitted to the Joint Transportation Committee for review and approval with changes from the Preliminary Highway Program noted. Approval of this document solidifies our program's commitments to the Legislature.

4.1.7—Preliminary Stage 0 Feasibility Studies for Bridge Projects

Preliminary Stage 0 Feasibility Studies are prepared by the Bridge Program Managers. When the preliminary candidate list is received from the District, the Program Managers will analyze the structures and the priorities, and develop feasibility studies for more than enough candidates to populate the program for the available funding. Preliminary Stage 0 Feasibility Studies are composed of the following documents:

- **Preliminary Scope and Budget Checklist**

This document is usually filled out by the Project Manager assigned to the project. This checklist is posted on DOTD Project Management Section web site.

- **Stage 0 Structural Site Survey**

The Stage 0 Structural Site Survey is a form that is filled out by the District to communicate preliminary site information about the candidate structure. This form will describe the proposed action, general information about the existing site conditions, proposed maintenance of traffic, constructability issues, existing hydraulic conditions, and existing utility and right of way potential impacts. The District will also submit pictures to communicate additional site information to the Program Manager. See Attachment A and B for Stage 0 Structural Site Survey Forms for Bridge Preservation (On System) and Bridge Preventive Maintenance projects. Electronic file of the forms can be downloaded from Bridge Design Section web site under downloads.

- **Parametric Cost Estimate**

The Program Manager will prepare a parametric cost estimate based on the information provided through the Stage 0 Structural Site Survey and the proposed action. See Attachment C for the Parametric Cost Estimate Form and Section 4.1.8 for parametric cost estimate guidelines. Electronic file of the Parametric Cost Estimate Form can be downloaded from Bridge Design Section web site under downloads.

- **Environmental Checklist**

This document is usually filled out by the Project Manager assigned to the project. This checklist is posted on DOTD Project Management Section web site.

The Stage 0 Structural Site Survey and the Parametric Cost Estimate will be used to determine the feasibility of the project. These projects will be the type of project with environmental clearance of CE or PCE, Categorical Exclusion or Programmatic Categorical Exclusion.

Once projects are selected by the Bridge Preservation Selection Committee, the Project Manager assigned to the project may refine the alignment or concept and complete the other documentation. The Stage 0 Feasibility Study is then submitted to the Program Manager for review and approval to move to Stage 3 Design. Upon approval the Stage 0 Studies are submitted to the Planning Section for filing and documentation.

Projects with environmental clearances of EA or EIS, Environmental Assessment or Environmental Impact Statement, are usually selected after a more detailed Stage 0 Feasibility Study is conducted.

4.1.8—Parametric Cost Estimation Guidelines

Parametric cost estimation is an estimate prepared by taking known parameters (identifiable portions of the work) and applying rational judgment to the cost based on preliminary information. For this process to work, one must account for the majority of the major work items in the estimate and then apply a contingency factor to account for unknowns.

The Department reports the bare bridge cost to the FHWA for most bridge projects, therefore we build off of that information and utilize that collection of cost information to develop bridge cost based on structure type. This cost data is referred to as Main Bridge Items (FHWA), as shown below in Appendix C.

When sizing a structure to be replaced and limited information is available, we utilize the existing structure information to project a bridge size based on historical information of similar crossings.

The parametric cost estimation guidelines are summarized in a table format, as depicted in Appendix D. These guidelines should be applied along with engineering judgment when preparing the Parametric Cost Estimate Form.

4.2—HISTORIC BRIDGES

The Louisiana Department of Transportation and Development (LADOTD) in cooperation with the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation (ACHP), and the Louisiana State Historic Preservation Officer (LASHPO) have established a Programmatic Agreement (PA) regarding the management of historic bridges in Louisiana. The following publications and other information related to Historic Bridges can be found at the Department's website for Historic Bridge Inventory (http://wwwapps.dotd.la.gov/administration/public_info/projects/home.aspx?key=48).

- The Programmatic Agreement (PA)
- Crossing the Bayou: Louisiana's Historic Bridges
- Historic Context for Louisiana Bridges
- Management Plan for Historic Bridges Statewide
- Management Plan for individual historic bridges

The FHWA determined, and the LASHPO concurred, that there are currently 150 historic bridges in Louisiana. As the bridge inventory ages, there are opportunities outlined in the PA to update the historic bridge inventory to include new eligible structures. The LADOTD owns 75 percent of the state's historic bridges, while local agencies and others (including cities, parishes, and other state and local agencies) own the remaining 25 percent. Of the 150 historic bridges, 121 are subject to the PA (see Attachment 1 of the PA). Another 29 historic bridges (See Attachment 3 of the PA) are not addressed by the PA, but are instead subject to separate review under Section 106 of the National Historic Preservation Act ("Section 106").

4.2.1—LADOTD Points of Contact

The points of contact with the LADOTD will be as follows:

Bridge Design Section - Bridge Design Engineer Administrator

Bridge Maintenance Section - Bridge Maintenance Engineer Administrator

Environmental Section – Environmental Engineer Administrator

4.2.2—LADOTD Structured Training

LADOTD Engineering Staff and Consultant personnel either designing or overseeing the design of projects involving historic bridges are required to complete a training course provided by the Department. This training course will be made available by the department on a two-year cycle. The course provides information on the approaches to preventative maintenance, preservation and rehabilitation of historic bridges and related processes outlined in the PA. This training is mandatory and is required as a minimum personnel requirement for consultant contracts as they relate to historic bridges.

4.2.3—Application of the PA

The PA specifies measures intended to identify, avoid, minimize, and/or mitigate effects on historic bridges only and is specifically applicable or not applicable to projects as follows:

1. Applies to historic bridge as identified in Attachment 1 of the PA, which lists bridges and outlines their type, treatment category, and ownership.
2. Applies to historic bridge projects using the State's apportioned federal funds.
3. Does not apply when projects are proposed for non-historic bridges unless a bridge is later determined eligible for the National Register based on new or additional information (following the procedure outlined in Stipulation V.B. of the PA).

4. Does not apply to historic bridges that are federally or privately owned, without a responsible agency owner, share a border with another state, or already in the process of Section 106 consultation (see Attachment 3 of the PA).
5. Does not apply to historic bridges when projects are conducted solely with local funds.
6. Does not apply to projects that have completed Section 106 compliance with 36 CFR 800 prior to execution of this PA.
7. Does not satisfy the requirements of Section 4(f) of the Department of Transportation (DOT) Act of 1966 (Section 4(f)), as amended.

For additional information, refer to Stipulation II. Applicability of the PA.

Border bridges between states will be subject to separate Section 106 processes. Each border bridge has an agreement between states identifying responsibilities. However, Section 106 consultation is carried out by both states.

The PA outlines the process by which the FHWA, with the assistance of the LADOTD, will ensure that the measures set forth in the PA will be carried out on bridge projects involving historic bridges in Louisiana. It was executed September 21, 2015 and will expire June 30, 2035.

4.2.4—Historic Bridge Treatment Categories

Eligible pre-1971 historic bridges in the Louisiana bridge inventory have been identified (See Attachment 1 of the PA for a list) and three historic bridge treatment categories, Preservation Priority Bridges, Preservation Candidate Bridges, and Non-Priority Bridges as defined below, have been assigned based on an accepted methodology. Refer to PA for procedures to be carried out for each bridge treatment category. The Environmental Section can provide guidance on procedures for each treatment category. Refer to Attachment 1 of the PA for treatment categories of each historic structure.

Preservation Priority Bridges: Historic bridges that will be retained in long-term use and will be subject to preventative maintenance, preservation, and rehabilitation, as needed.

Preservation Candidate Bridges: Historic Bridges designated for preventative maintenance, preservation, and rehabilitation, when prudent and feasible.

Non-Priority Bridges: Historic bridges that are not ideal candidates for long-term use are eligible for replacement when needed.

Ineligible pre-1971 historic bridges are eligible for replacement when needed.

4.2.5—Management Plans

Guidance is provided in the Statewide Management Plan for Historic Bridges and is applicable to any of the 150 historic bridges where an owner is seeking to preserve the bridge. Also, all Preservation Priority bridges have an individual management plan that provides information on the construction and maintenance activities recommended to keep each historic bridge in a state of good repair. Project Managers should refer to these documents, along with the PA, when scoping rehabilitation and preservation activities.

When substantial work is performed on a structure, individual management plans should be updated by Environmental Section to reflect the required work effort to keep the structure in a state of good repair in the future.

Historic Bridge Projects will be listed in the STIP as individual projects under the project number.

4.2.6—Project Management

When possible, Program and Project Managers should take the Historic Bridge Structured Training class as outlined in Section 4.2.2. The training provides guidance to managers on the proper steps to take during project development, construction, and oversight.

The Department requires the design or the supervision of the design be performed by an engineer that has completed the Historic Bridge Training in Louisiana. Quality assurance and guidance will be provided by a qualified professional from our Environmental Staff or designated consultant meeting the relevant standards outlined in the Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines link: https://www.nps.gov/history/local-law/arch_stnds_9.htm.

When developing and executing historic bridge projects LADOTD shall provide expertise following the guidance of the PA Stipulation VI B1 & 2. In-house engineering staff or experienced consultants will be responsible for executing historic bridge projects for LADOTD-owned bridges and providing guidance to non-LADOTD owners.

4.2.6.1—Classification and Labeling Historic Bridge Projects

Project Managers and Program Managers will label all projects in Project Systems that involve historic bridges covered by the PA in two ways:

1. The Project Name will include "(HBI)" at the end to indicate the project involves a Historic Bridge.
2. The "Remarks 2 Field in Project Systems" will be populated with "Historic Bridge Improvement (HBI)". This indicates that the project contains a historic bridge. If a project contains multiple structures, the historic bridges will also be identified by the recall numbers. This field must be input consistently and will be utilized for developing annual reporting documents.
3. The "Type of Improvement Field" will be populated with a brief description of the proposed construction activities. For projects that have known activities that will sustain or improve the condition of the bridge such as Cleaning, Painting, and Structural repair, or Bridge Rehabilitation, the type of improvement may be populated with these activities and then consultation will be performed to make sure that the construction activities conform to the PA. For projects where the activity needs to be determined such as Feasibility, Replacement/Rehabilitation, Bridge Preventive Maintenance, etc., populate the field with the general activity or range of activities. Upon completion of the NEPA Process, determination of the preferred alternative, and the requirements of the PA have been satisfied, the "Type of Improvement Field" can be more specifically defined.

Additional fields for historic bridge structures have been added to BrM AASHTOWare and are copied into the DB2 DOTD.STRM_MASTER table. The fields maintained in BrM relative to historic bridges are the existing "Historic Bridge Field Item 37" which identifies the eligibility of the bridge, the new "Historic Bridge Treatment Category Field" which identifies the treatment category for each structure contained in the PA, and the new "SHPO Number Field" which is a tracking number used by the State Historic Preservation Office. This information is imported to Project Systems and will be visible to the user when viewing the detail project reports.

4.2.6.2—Treatment of Historic Bridges

Stipulation VII of the PA outlines the commitments that LADOTD and FHWA have made through the PA and how each Historic Bridge Treatment Category in Stipulation III will be treated. Flowchart 4-1 and Flowchart 4-2 depict the procedures to be implemented when a project involves a Preservation Priority and Preservation Candidate Bridge, respectively.

For specific guidance see PA Attachment 4 – Treatment of Historic Bridges, Attachment 4A– Procedures for Rehabilitation Projects Affecting Preservation Priority Bridges and Attachment 4B – Procedures for Projects Affecting Preservation Candidate Bridges.

Non-Priority Bridges will be maintained in accordance with standard LADOTD practices. The Management Plan for Historic Bridges Statewide provides guidance on appropriate preventative maintenance and preservation activities for historic bridges. Demolition and replacement are options for Non-Priority Bridge when maintenance is no longer feasible and/or cost effective.

Activities not requiring review for historic bridges are outlined in PA Attachment 5 – Accepted Preventative Maintenance and Preservation Activities.

During emergency situations affecting historic bridges, it is acknowledged that the Department may not be able to contact the LASHPO prior to stabilizing the bridge or taking measures necessary based on the emergency circumstances. In emergency situations, the Department will contact LASHPO as soon as possible, generally within 72 hours of the event. Also, the Department will notify the ACHP as soon as possible, generally within 7 working days after the event. For more detailed information on how to handle emergency situations refer to Stipulation X of the PA.

Historic Bridge Treatment Flowchart

Procedures for Projects Affecting Preservation Priority Bridges*

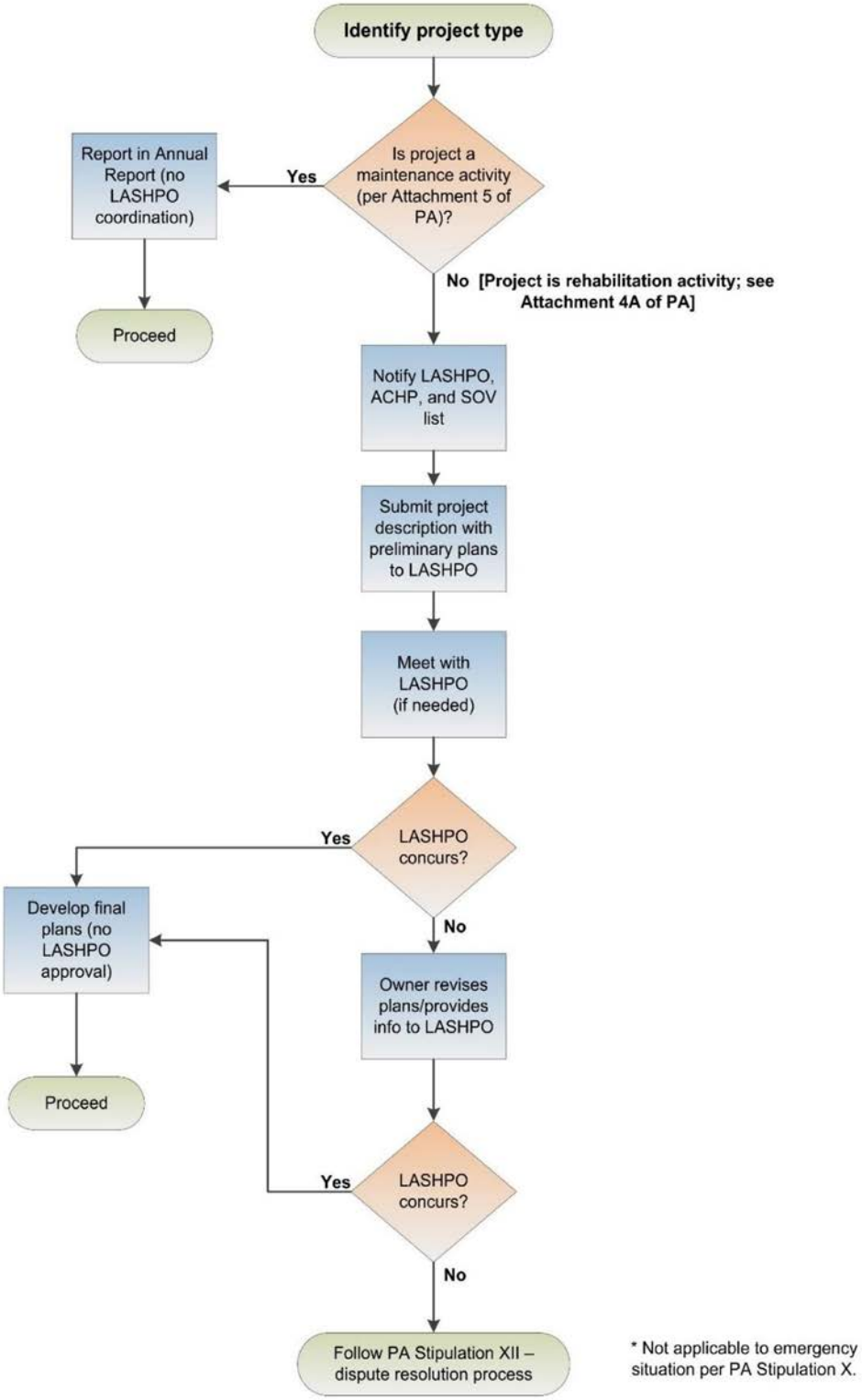

Figure 4.2-1: Procedures for Projects Affecting Preservation Priority Bridge

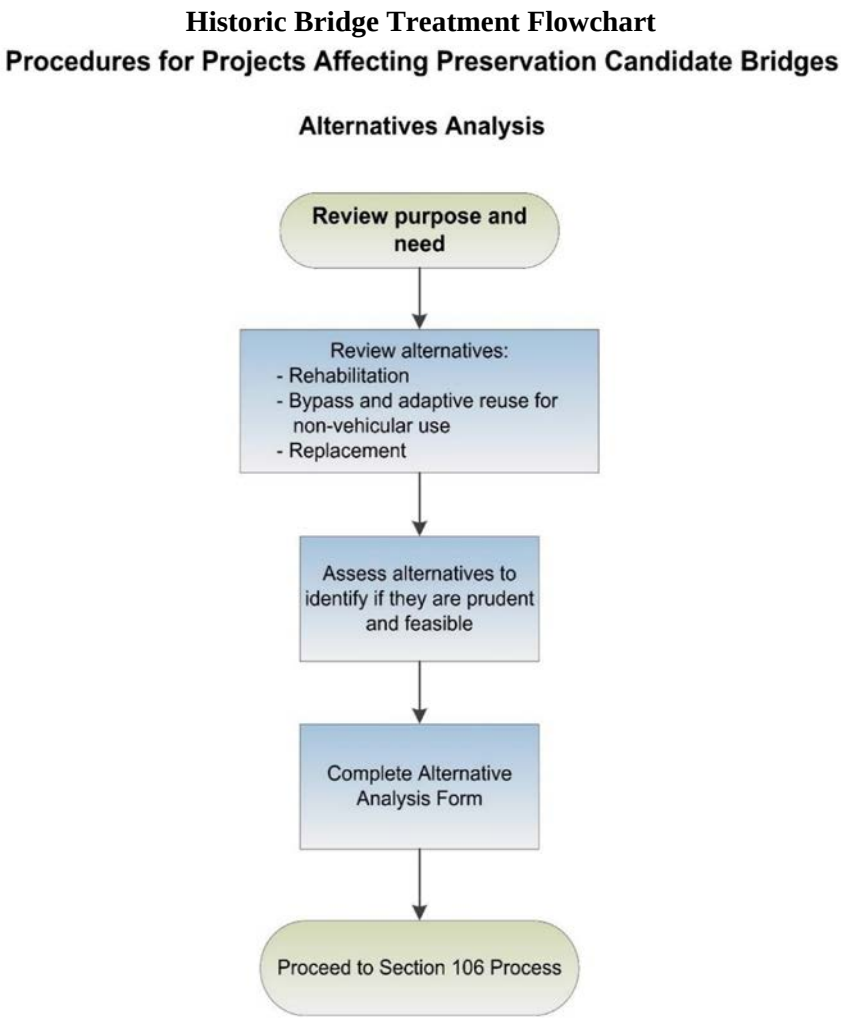

Figure 4.2-2: Procedures for Projects Affecting Preservation Candidate Bridge

4.2.6.3—Alternative Analysis

When an alternative analysis is required, provide the results of the analysis in a form similar to the form shown in the PA under Attachment 4B on Page 7. As a minimum, the alternative analysis should explore the following alternatives:

1. **Rehabilitation on Site**

   Recondition the structure to meet the purpose and need. This could involve widening the structure to improve safety or to meet some functional deficiency. A design exception by the Chief Engineer may be required if design guidelines cannot be fully obtained by the reconditioning of the structure. Recondition the structure to improve load posting. When load posting cannot be improved, a decision must be made on the amount of investment that will be made versus the benefits that may be obtained.

2. **Rehabilitation for one-way pair** (rehabilitate historic bridge and construct new bridge)

   This involves the same type of rehabilitation in alternative 1 above, along with this construction of a new structure. Each structure would carry a direction of travel creating a couplet at the site. This is likely to be one of the most expensive alternatives, since it involves full rehabilitation and

the construction of a new structure. This could be an acceptable alternative if the purpose and need involves added capacity and the existing structure can be rehabilitated.

3. Bypass and Adaptive reuse for non-vehicular use on site

This alternative involves the construction of a new structure and potentially some rehabilitation of the old structure. Just like when the historic structure is transferred to another entity, the funding that would have been used to remove the structure may be used to recondition and repurpose the historic structure. If federal funds are to be used to continue to maintain the historic bridge under its new use, other federal funds such as Transportation Alternative (TA) funds should be used to repurpose the structure, in lieu of the removal funds. When the historic bridge is repurposed, just like when another entity accepts the structure, the state will have to enter into a memorandum of agreement with the SHPO's Office establishing the agreement to maintain the structure. It is unusual for the state to accept responsibility for these structures, however under the Complete Streets Program, there may be some opportunities in the future for investing in these types of structures.

4. Replacement and/or Relocation

Replacement is the last option when it is not prudent and feasible to maintain the structure for use and the structure does not meet the purpose and need for the project.

As part of the mitigation of the removal of the structure, the Department will market the bridge to the public. Under the marketing plan, an entity, organization, or private owner may accept the structure and enter into a memorandum of agreement with the Department and the SHPO's Office accepting responsibility for the preservation and long term maintenance of the historic structure. The estimated bridge removal cost for the whole bridge may potentially be used for the preservation of the historic structure and is reimbursed to the owner as expenditures occur. Typically, the portion of the structure to be relocated is carefully removed by the contractor and relocated to a near shore location or as previously arranged by the owner. Marketing should be complete prior to advertisement for the project, so any specific information relative to the removal of the structure can be communicated to the contractor.

4.3—INTERSTATE LIGHTING PROGRAM AND LIGHTING PERMITS ON STATE HIGHWAYS

Electrical Engineer Manager in Bridge Design Section is the Program Manager overseeing the Interstate Lighting program and lighting permits on state highways. For Interstate highways, LADOTD administers a program to fund a portion of the initial installation costs. Local governments must enter into an agreement to maintain and operate the lighting. If lighting is installed along state highways, it must be paid for, owned, maintained, and operated by the local government (city, town, or parish). A permit must be obtained from LADOTD prior to any installation work so that we can ensure that the lighting meets all safety requirements.

Refer to LADOTD bridge design website for program details.

APPENDIX A—PRESERVATION BRIDGE (ON SYSTEM) STAGE 0 STRUCTURAL SITE SURVEY

STRUCTURE NO. _____ RECALL NO. _____
(14 digit number)

STRUCTURE NAME / FEATURE CROSSED

_____

(Attach the Structure Inventory and Appraisal Form)

ATTACHMENTS:

1. Project Site Map:
   Provide a map with the structure number and location shown along with any state route detour information.
2. General Plan Sheet:
   Provide a copy of the general plan sheet of the existing structure if available.
3. Photographs:
   Provide photographs showing the following:
   a. Structure number.
   b. Upstream, downstream (railroad or feature crossed), or both; toward the structure and looking away. Include features that may affect hydraulic design and constructability.
   c. Up station and down station along bridge centerline (project geometry).
   d. Bridge embankment / abutment, visible utility lines or markers.
   e. For repair or rehabilitation projects, individual areas of the structure to be addressed in the project along with the deficiencies described.
   f. Significant features, buildings, residences, businesses, environmental impacts, constructability issues, etc.

PROPOSED ACTION:

Provide a detailed project scope with additional photographs as needed:

_____

GENERAL

(Circle the appropriate response and explain as indicated)

Is there any unusual frequency and / or types of accidents or other safety concerns at this site?

Is there a vertical or horizontal clearance problem at this site? (Vehicular/Boat/Train)

Are there any bridge structures within 1000 feet of this structure that may be affected by the work being proposed on this structure?

Have any significant repairs been done to the structure that will improve the NBI condition rating of the structure?

What is the existing roadway pavement type?

Are the existing shoulders along the route paved or aggregate? What are the width of the shoulders?

Are there any future plans for overlaying or widening the route, paving the shoulders, or any other improvements around the existing structure? List the types of improvements.

Has the bridge been overlaid? Describe overlay material and thickness.

Are there any existing pedestrian or bicycle facilities in the vicinity of this bridge site?

Are there any existing maintenance problems at this site that need to be addressed under the new project?

Are there any significant uses of this route for industrial or agriculture purposes that would result in high truck volumes?

MAINTENANCE OF TRAFFIC

Can the District support closing the road during construction? Is there an alternate state route available?

(Y or N) If so, please provide a map, an explanation of the alternate state route, and the required detour mileage around the bridge site on the state route. This is very important to estimating the cost of the project. Please provide as much information as possible.

If an on-site diversion is provided, what side of the existing bridge would best facilitate the detour construction, what type of detour structure do you recommend, and what obstructions are present? Could the on-site detour be low speed (5 mph) with a stop condition?

If phased construction is considered at this site, could the District support a one lane roadway with signals during construction?

Are there any navigational requirements at this bridge site? If so, what type of vessels use the waterway?

Are there any railroad requirements that will need to be addressed at this bridge site?

(Overpass, underpass, at grade crossing, parallel track, etc.)

CONSTRUCTABILITY

Are there any obvious access issues that may affect the contractor's construction of the bridge?

Is the water depth at the site sufficient to float barges? Will barges obstruct navigation?

Are there any obvious overhead obstructions that may impede pile driving operations?

Are there any residences, businesses, or facilities in the area that may be affected by the noise and vibration from pile driving operations?

Are there any driveways or property entrances that will have to be maintained during construction, relocated, and / or reconstructed?

Are there any other issues that could affect constructability that need to be accounted for in the construction estimate?

HYDRAULIC

Are there any water control structures that may be affected by the work being proposed on this structure?

Does the roadway have a history of overtopping along the floodplain in the vicinity of this project? If so, what is the frequency?

Is there any evidence or history of debris build up at this site?

Is there any evidence or history of abutment scour, degradation of the channel or channel migration at this bridge site?

UTILITIES

Are there any utilities located within 100 feet from the roadway centerline and within 1000 feet of the bridge ends?

List all apparent utilities at the site. Are there any utilities supported by the structure?

RIGHT OF WAY

Are there any obvious right of way impacts, relocations or business displacements required because of the proposed construction?

Are there any building structures or improvements that may be affected by the work being proposed on this structure?

REHABILITATION

STRUCTURAL:

GENERAL

Are there any structural components of the bridge that exhibit deterioration or are in need of repair or replacement?

Is the structure clean enough to make a good assessment of the scope of work for the project?

Is the bridge deck in need of repair, preventive maintenance, or replacement?

Do the approach slabs require repair or replacement?

For concrete roadways, is the pavement relief joint between the concrete roadway and approach slab in place and functional? Does it need to be re-cut and sealed?

Is the bridge abutment experiencing erosion, loss of material under approach slab, or failure of the revetment?

Is the bridge experiencing bent settlement? (Provide location and pictures)

Is there excessive spalling of concrete on the structure? Are there any areas with exposed reinforcing steel?

Is the deck or any other area of the structure exhibiting delaminating concrete?

Does the fender system require repair or replacement?

STRUCTURAL STEEL

Is the protective coating on the steel structure in satisfactory condition? Are there areas of excessive corrosion? (Provide location and pictures)

Are there any fatigue cracks or details that need repair?

MOVABLE BRIDGE:

MECHANICAL SYSTEMS

Has a significant mechanical rehabilitation of this structure been performed in the last 20 years?

Is there significant corrosion of mechanical shafts, anchor bolts, brackets, couplings, or any other mechanical equipment?

Is there unexpected or excessive lubricant leaking from shaft couplings, bearings, gearboxes, or motors?

Is there unexpected noise or vibrations coming from shaft couplings, bearings, gear boxes, pumps, or motors during operation of the span?

Is there radial or axial movement of shafts in couplings, bearings gear boxes, pumps, or motors during operation of the span?

Is there excessive wear on open gear teeth?

Are the brakes worn, slipping, or unreliable?

Are the span locks operating? Are they reliable?

Is the span showing signs of being imbalanced? (Is a balance wheel riding the track? Are the motors drawing excessive current? Is the span seating too hard/too soft?)

Are the movable barriers functioning reliably? Do they get impacted regularly by vehicular traffic? Are the counterweight ropes for the barriers rusted, frayed, or flattened?

(Hydraulic Systems) Are there frequent leaks in the hard piping or failures of the flexible hydraulic hoses?

(Vertical Lift Bridges) When was the last time the counterweight ropes were changed? Are the outer strands rusted, frayed, or flattened?

(Swing Span Bridges) Does the center pivot bearing leak lubricant or is there any noise or vibration coming from the center pivot bearing during operation of the span?

(Swing Span Bridges) Do the wedges get stuck periodically?

(Pontoon Span Bridges) Is the ballast system operating reliably?

(Pontoon Span Bridges) Are the apron spans operating reliably?

ELECTRICAL SYSTEMS

Are any components of electrical equipment in need of repair or replacement? List all components.

Are any by-pass switches required to operate the bridge? Explain.

Have any electrical systems or equipment been replaced or rehabilitated? Explain and indicate when.

Have any conductors required splicing? Explain.

Have any modifications to the electrical system or controls been added that were not in the original design? Explain.

Are there any reoccurring electrical maintenance issues? Explain.

Does the bridge operate correctly on generator?

Do any circuit breakers trip? Which ones and under what conditions?

Are any portions of the electrical or control systems not in use or not operational? Explain.

Does the control sequence ever contain abnormal or unwanted events? Explain.

Has any electrical equipment been effected by flood waters? Explain and provide pictures.

Prepared by: Date:

Phone Number:

Approved By: ADA – Operations

APPENDIX B—BRIDGE PREVENTIVE MAINTENANCE PROGRAM (ON-SYSTEM) STAGE 0 STRUCTURAL SITE SURVEY

NOTE: If many structures are involved with the same type of work (ex. joint sealing, deck spall repair, etc.), separate survey sheets are not required, however; answer any applicable questions that pertain to the structures and provide a table listing all of the structure numbers (14 digit) and Proposed Actions.

STRUCTURE NO. [ ] RECALL NO. [ ]
(14 digit number)

STRUCTURE NAME / FEATURE CROSSED

[ ]

(Attach the Structure Inventory and Appraisal Form)

ATTACHMENTS:

1. Project Site Map:
   Provide a map with the structure number and location shown along with any state route detour information.
2. General Plan Sheet:
   Provide a copy of the general plan sheet of the existing structure if available.
3. Photographs:
   Provide photographs showing the following:
   a. Structure number
   b. Upstream, downstream, (railroad or feature crossed) both toward the structure and looking away. Include features that may affect hydraulic design and constructability.
   c. Up station and down station along bridge centerline (project geometry).
   d. Bridge embankment / abutment, visible utility lines, or markers.
   e. For repair or rehabilitation projects, individual areas of the structure to be addressed in the project along with the deficiency described.
   f. Significant features, buildings, residences, businesses, environmental impacts, constructability issues, etc.

PROPOSED ACTION:

Provide a detailed project scope with additional photographs as needed:

[ ]

GENERAL

(Please explain details when applicable or place an NA if not)

Are there any unusual frequency and/or types of accidents or other safety concerns at this site?

Are there any bridge structures within 1000’ of this structure that may be affected by the work being proposed on this structure?

Have any significant repairs been done to the structure that will improve the NBI condition rating of the structure?

Any there any future plans for overlaying or widening the route, paving the shoulders or any other improvements around the existing structure?

Is the bridge supported on skewed bents?

Has the bridge been overlaid with asphalt or other materials?

Are there any existing maintenance problems at this site that need to be addressed under the new project?

Is there any significant use of this route for industrial or agriculture purposes that result in high truck volumes?

MAINTENANCE OF TRAFFIC

Can the District support closing the road during construction? Is there an alternate state route available?

If phased construction is considered at this site, could the District support a one-lane roadway with signals during construction?

Are there any navigational requirements at this bridge site? If so, what type of vessels use the waterway?

Are there any railroad requirements that will need to be addressed at this bridge site?
(Overpass, underpass, at grade crossing, parallel track, etc.)

CONSTRUCTABILITY

Are there any obvious access issues that may affect the contractors' construction of the bridge?

Are there any driveways or property entrances that will have to be maintained during construction, relocated and / or reconstructed?

Are there any other construction related issues that will affect the constructability of the project that need to be accounted for in the construction estimate?

UTILITIES

Are there any utilities supported by the structure?

RIGHT OF WAY

Are there any building structures or improvements that may be affected by the work being proposed on this structure?

PREVENTIVE MAINTENANCE ACTIVITIES

GENERAL

Are there any structural components of the bridge that exhibit deterioration or in need of repair?

Is the bridge experiencing bent settlement? (Provide location and pictures)

Is there excessive spalling of concrete on the structure? Is there any indication of an underlying problem with delamination?

CLEANING & PAINTING

Is the protective coating on the steel structure in satisfactory condition? Are there areas of excessive corrosion? (Provide location and pictures)

BRIDGE DECK & APPROACHES

Is the bridge deck in need of repair, patching, rehabilitation, or replacement?

Are the bridge joints deteriorated or in need of repair and/or re-sealing?

Do the approach slabs require repair or replacement?

Is the pavement relief joint on concrete roadways at bridge ends in place and functional? Does it need to be re-cut and sealed?

Is the bridge deck drainage system in place and functioning? Does it require repair or rehabilitation?

BRIDGE BEARINGS

Are the bridge bearings deteriorated and in need of repair or replacement?

Is there any evidence or history of debris build up at this site?

BRIDGE & ABUTMENT SCOUR

Is there any evidence or history of abutment scour, degradation of the channel, or channel migration at this bridge site?

Is there any need for foundation repair due to bridge or abutment scour?

Are there any navigational requirements at this bridge site? If so, what type of vessels use the waterway?

Prepared by: Date:

Phone Number:

Approved By: ADA – Operations

APPENDIX C—STAGE 0 PARAMETRIC COST ESTIMATE WORKSHEET

State Project Number:	
Project Name:	
Routes:	
Route Classification:	
Structure Numbers:	
Recall Numbers:	
Control Sections:	
Total Project Cost:	
Project Scope:	

SP No.:

Structure No.:

Main Bridge Items (FHWA)		Approaches	Approaches	Main Spans	Approaches	Approaches
Bridge Structure	Type					
	Length					
	Width					
	ft^2					
	Cost / ft^2					
	Total					

Other Bridge Items	Number of Units	Length	Width	ft^2 or Unit	Cost / ft^2 or Unit	Total
Approach Slabs						
Abutment Protection						
Movable Bridge Mechanical & Electrical						
Pier Protection						
Bridge Removal						
Construction Access						
Guardrail						

Site Preparation Items		
Roadway Items		
Maintenance of Traffic Items		

Temporary Detour Roads & Bridges	Number of Units	Length	Width	ft^2 or Unit	Cost / ft^2 or Unit	Total
Detour Roadway						
Detour Bridge						

SP No.:

Structure No.:

Additional Items	Number of Units	Length	Width	ft^2 or Unit	Cost / ft^2 or Unit	Total

Subtotal:	
Mobilization (10% of Subtotal)	
Total:	
Miscellaneous & Contingencies (10% - 20% of Total)	
Construction Cost of Structure Total	

Construction Comments:

Total Construction Cost	
Real Estate	
Utilities	
Environmental	
Special Considerations	
Total Cost:	

APPENDIX D—PARAMETRIC COST ESTIMATION GUIDELINES

D.1—Bridge Sizing Information:

Table D.1-1: Proposed Bridge Length

(x = existing bridge length)

	Existing	New
Slab Span	40' < x < 80'	80'
	80' < x < 100'	100'
	x > 100'	1.10x
Prestressed Girder Bridge:	x > 100'	1.15x
Railroad Overpass (Fill Section, max 2000')	x	2.5x
Railroad Overpass (Cut Section)	x	1.15x
Movable Bridge Replaced with Fixed Bridge	x	2.0x – 4.0x
Long Bridges	x > 1000'	1.05x

Table D.1-2: Prestressed Girder Span Sizing Lengths

Quad Beams	40'
Type II	50'
Type III	65' – 85’
Type IV	90’ - 105'
Type BT72	120' – 135’
Type BT78	130’ – 145’
LG-25	30' – 53'
LG-36	50' – 98'
LG-45	70' – 119'
LG-54	90' – 133'
LG-63	110' – 154'
LG-72	130' – 171'
LG-78	150' – 183'

Table D.1-3: Proposed Bridge Width

	Current ADT	Typical Bridge Width
Rural Collector	<2000	30'
	>2000	40' - 44'
Other Structures, use standards		

D.2—Bridge Cost Groups:

Main Bridge Items (FHWA)

Main Bridge Items (FHWA) are the bridge pay items that each DOT is required to submit to FHWA on a yearly basis for all bridge projects let within the year. These items include structural excavation, sheet piles, piles, test pile related items, drilled shafts, concrete, girders, railings, structural metalwork, reinforcing steel, joints, cofferdams, etc.

There are many variables that may affect the cost of the main bridge items for bridges such as depth of crossing, foundation requirements, construction access, environmental conditions, hydraulics, geometric requirements, etc. Consideration should be given to the appropriate cost used within the given range based on the anticipated construction method, the proposed structure, and the site conditions.

Table D.2-1: Bridge Cost Estimate (Includes Super and Sub Structures) Based On Main Bridge Items (FHWA)

Precast Concrete Slab Span Bridges on Pile Bents	\$100 - \$150 / ft^2
Cast in Place Slab Span Bridges on Pile Bents	\$65 - \$85 / ft^2
Prestressed Concrete Girder Bridges on Pile Bents	
Quad Beam Girders	\$85 - \$105 / ft^2
Type II Girders	\$70 - \$85 / ft^2
Type III Girders	\$75 - \$90 / ft^2
Type IV Girders	\$90 - \$135 / ft^2
Type BT72	\$150 - \$190 / ft^2
Type BT78	\$180 - \$220 / ft^2
Type BT78 (HPC) (Coastal Structures)	\$200 - \$250 / ft^2
Prestressed Concrete LG Girders (Girder Only) [1]	
LG 25	\$120 - \$130 / ft
LG 36	\$130 - \$140 / ft
LG 45	\$140 - \$150 / ft
LG 54	\$160 - \$170 / ft
LG 63	\$165 - \$175 / ft
LG 72	\$170 - \$180 / ft
LG 78	\$190 - \$210 / ft
Prestressed Concrete Girder Bridges on Column Bents	Add \$5 - \$10 / ft^2
Major River Crossing[2]	\$300 - \$325 / ft^2
Railroad Overpass (Steel Span Structure)[3]	\$150 - \$180 / ft^2
Accelerated Bridge Span Replacement[4]	\$275 / ft^2
Bridge Re-decking Steel Girders (No Widening)	\$100 / ft^2

Notes:

1. The price per square foot for the deck area is not available. The girder price per linear foot is provided for estimation purpose only.

(Notes for Table D.2-1 continued)

2. Based on steel spans on river piers designed for vessel collision loads.
3. Based on typical 1200 feet fill section, main steel span configuration of 110'-130'-110'.
4. Based on Well Road project cost.
5. All numbers shown in this table is the cost per square foot of the deck area, except for the LG girders. The deck area should be calculated using the bridge length (without approach slabs) times the bridge clear road way width (from gutter line to gutter line).

Bridge Widening

Estimate bridge widening at 2/3 the cost of bridge construction of a similar structure. The limit of the deck area should be based on the widened portion of the bridge deck area up to the removal line. Also include the removal of the portion of the bridge as a separate item.

Main Span Structural Units of Movable Bridges

The cost will vary depending on the span size and clearance provided. Cost shown represent medium to large structures.

Table D.2-2: Main Span Structural Units of Movable Bridges

Swing Span	\$950 / ft^2
Vertical Lift Span	\$1,100 / ft^2
Bascule Span (Mid-Level)	\$1,200 / ft^2

Table D.2-3: Other Bridge Items

Approach Slabs	\$30 / ft^2
Abutment Scour Protection	
Heavy Rip Rap	\$700,000 - \$800,000 / bridge
Medium Protection	\$200,000 - \$300,000 / bridge
Normal Stream Crossings	\$25,000 - \$100,000 / bridge
Abutment Protection	
Flexible Revetment	\$10 / ft^2
Movable Bridge Mechanical & Electrical	
Swing Span	
Electrical System	\$800,000 -\$1,000,000 / bridge
Mechanical System	\$500,000 / bridge
Vertical Lift	
Electrical System	\$1,000,000 / bridge
Mechanical System	\$750,000 / bridge
Counterweight Ropes	
(Small Bridge)	\$200,000 - \$400,000
(Large Bridge)	\$800,000
Movable Bridge General Items	
Grid Floor	\$100 / ft^2
Operator's House	
(Replace)	\$500,000
(Rehabilitate)	\$250,000
Movable Bridge Pier Protection	
Timber Fender	\$450,000 - \$500,000 / bridge
Steel Fender with Plastic Walers (Swing Span)	\$4,500,000 / bridge
Pier Ring (Elastic Design vessel loads)	\$2,500,000 / Pier ring
Bridge Guardrail (average installation) / bridge	\$10,000 -\$15,000

Bridge Removal Cost

Things to consider when estimating the cost of removal of an existing structure:

- Estimate the structure removal in sections separated into structure type.
- Point in time when the structure will be removed during construction. If the structure is removed early the cost will be high, and if removed late it will likely be low. This is because the contractor will try to control the cash flow for the project using early items.
- Time available for removal.
- Access for removal of the structure.
- Type of structure.
- Whether the existing structure contains hazardous materials.
- Total volume of removal.
- Circumstances for disposal, recycling material, environmental commitments, etc…
- Depth of water and removal limits.
- Type of demolition required.

Table D.2-4: Estimated Cost of Removal

Precast Slab Span Bridge with Pile Bents	\$10 - \$15 / ft^2
Slab Span Bridge with Pile Bents	\$20 - \$30 / ft^2
Concrete Deck Girder Bridge with Pile Bents	\$20 - \$30 / ft^2
Steel Girder Spans on Pile Bents	\$20 - \$30 / ft^2
Concrete Deck Girder or Prestressed Girder Bridges on Column Bents	\$25 - \$35 / ft^2
Steel Girder Spans on Column Bents	\$25 - \$35 / ft^2
Steel High Truss Superstructure with Large Piers / Caissons	\$30 - \$40 / ft^2

Construction Access

Construction Haul Road and Bridge

When it is anticipated that a haul road will be constructed by the contractor and it may be a significant cost, it should be included in the plans as a bid item. Poor soil conditions or environmental commitments may warrant construction of a haul road.

Table D.2-5: Construction Haul Road and Bridge

Haul Road	$200 / LF
Haul Bridge	$600 - $800 / LF

Site Preparation Items

This item is usually between 5% - 10% of the main bridge item cost, depending on the complexity of the new bridge. It pertains to clearing and grubbing, miscellaneous removal of structures and obstructions, other than bridges, site laboratory, utility adjustment, and construction layout.

Road Items

Road construction items are generally divided into two sections: road bed construction and roadway typical section. These items are broken up since there could be a considerable amount of difference in the support structure and fill height as compared to the roadway typical section. Items to consider in selection of the cost for roadway construction is the roadway foundation fill height, ADT, Truck Traffic, terrain and site conditions. For the purpose of early parametric estimation we will use the following guidelines for roadway construction.

Table D.2-6: Road Items

New Roadway Construction	
Rural (2 – 3 Lanes)	$2,500,000 - $3,500,000 / mile
For Bridge Replacement Projects (1400’ of Roadway)	$300,000 - $400,000
Rural (4- Lanes)	$5,000,000 / mile
Urban (2 – 3 Lanes)	$4,000,000 / mile
Urban (4 - 5 Lanes)	$7,000,000 / mile
Interstate Rural	$2,000,000 / lane mile
Interstate Urban	$2,500,000 / lane mile
Roadway Rehabilitation for Bridge Construction	
Minor Overlay (2”)	$125,000 - $150,000 / lane mile
Minor Overlay with Cement Treated Base	$180,000 / lane mile
Medium Overlay (3.5”)	$225,000 / lane mile
Medium Overlay with Cement Treated Base	$250,000 / lane mile

Maintenance of Traffic Items

Items to be considered when estimating the cost for maintenance of traffic is how traffic will be managed, length of construction, complexity of the traffic management plan, and the length of detour. Generally the cost of maintenance of traffic falls between 2% - 10% of the FHWA bridge cost, and larger projects require lower percentage of the bridge cost.

Table D.2-7: Maintenance of Traffic Items

General Cost Ranges for Maintenance of Traffic	
Existing Bridge utilized as Diversion	$50,000 - $500,000
Detour Structure near site	$25,000 - $50,000 / site
Close Road (Signed Detour Route)	$25,000
Traffic Management on Interstate (Major project with temporary barriers and signs)	$4,000 / day
Phased Construction Including Signals	$75,000 (Simple Rural) $250,000 (Pace Car Escort)
Temporary Detour Roads & Bridges	
Detour Roadway Cost	
RC-1 or RC-2 (1,400’ / site)	$250,000 / site
RC-3 (1,400’ / site)	$350,000 / site $10 / ft^2 paved area
Roadway Cross Over (4 lane facility) per crossover	$300,000 – $ 500,000
Detour Bridge Cost	
Standard Bridge Replacement	
(24’ wide Precast Panel Bridge)	
existing bridge < 100’	$100,000
existing bridge > 100'	$130,000 / 100’ bridge
Pipe Sites	$200,000 / site
24’ Acrow Detour (DOTD Supplied)	$1500 - $2000 / LF $60 - $80 / ft^2

Mobilization

Mobilization is generally set at 10% of the overall construction cost estimate for bridge projects and should be included in the parametric estimation.

Miscellaneous & Contingencies

Miscellaneous items and contingencies will usually be set at approximately 10% - 20% when utilizing this detailed parametric estimation method. If a large number of items are accounted for in the estimate, usually 10% is appropriate for contingencies.

Table D.2-8: Additional Cost Information

Cofferdams for Deep River Foundations	$1,250,000 / Cofferdam (Reused) $3,000,000 / Cofferdam (New)
Paint Projects (Cleaning and Painting Lead Paint Bridges)	$8-$14/ ft^2
Noise Barrier Walls	See Figures D.2-1 and D.2-2
(SPMT) Span Movement	$90,000 - $100,000 / Span

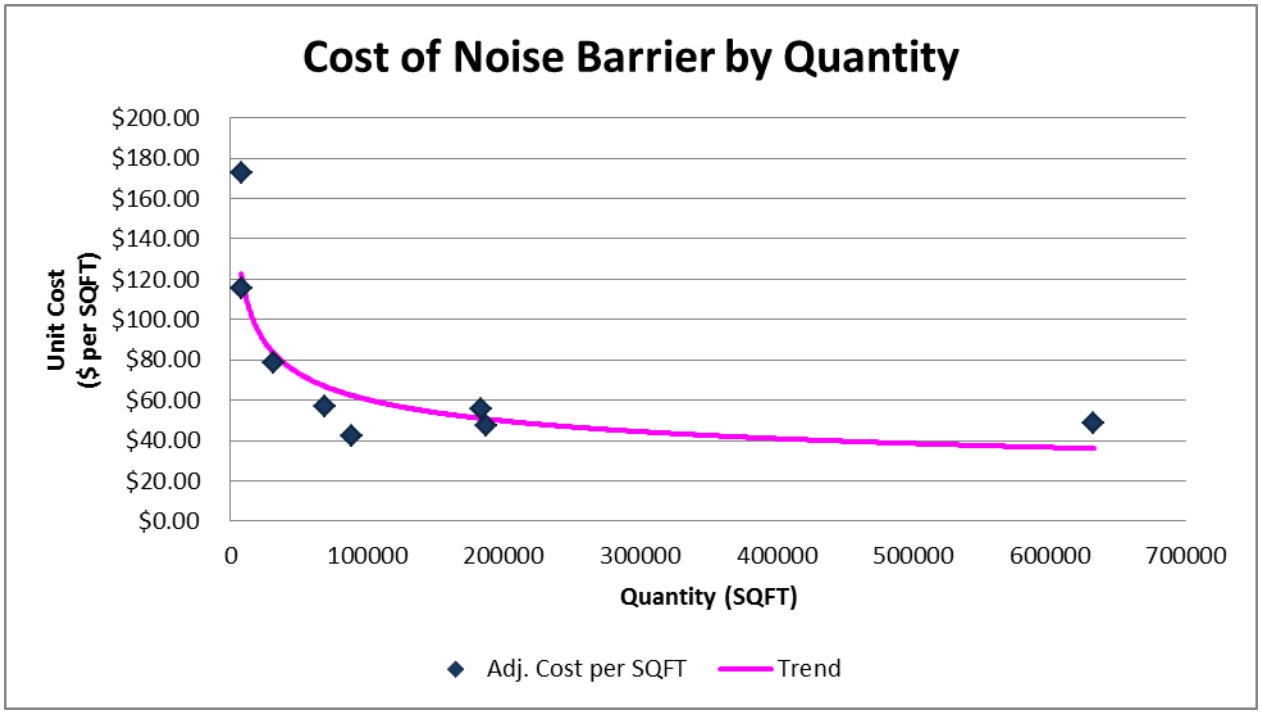

Figure D.2-1: Cost of Noise Barrier by Quantity

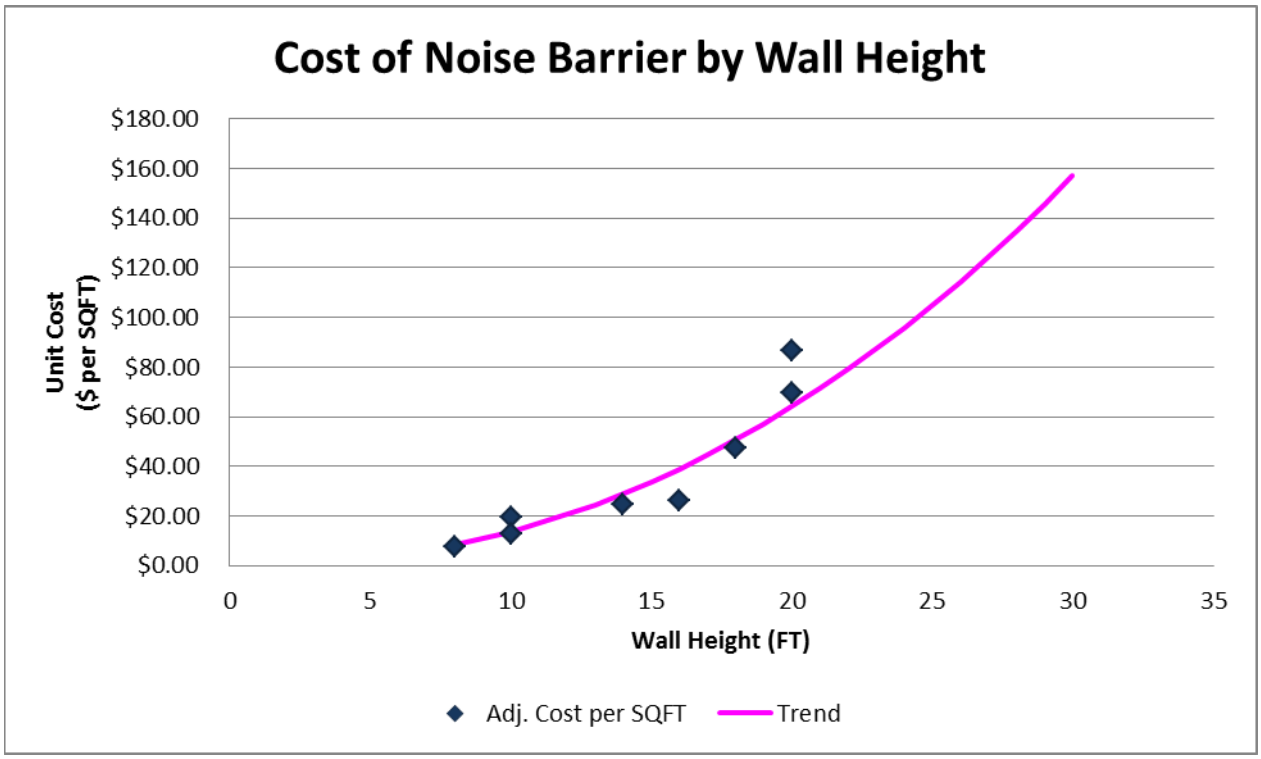

Figure D.2-2: Cost of Noise Barrier by Wall Height

D.3 Preventive Maintenance Cost Information

Table D.3-1: Preventive Maintenance Cost

Hydro-blasting & High Density Concrete Overlay	
Removal of deck / in	\$5/ ft^2-in
Latex modified concrete overlay	\$10/ ft^2-in
Management of Traffic on Interstate for this operation	\$14/ ft^2
Epoxy Deck Overlay System (Depending on allowable application time limits)	\$6-\$9/ ft^2
Joint Replacement Projects	
Removal of Angle Iron End Dams and Anchorages	\$25 / lf
Joint Repair (Polymer Concrete both sides)	\$200-\$230/lf
Joint Sealing System (Preformed Silicone)	\$65 -\$75/lf
Joint Sealing System (Poured System)	\$25-\$35/lf
Finger Joint Trough (Steel Reinforced Elastomeric)	\$600-\$800/lf
Structural Concrete Patching	\$100-200/ ft^2-in
Painting and Protective Coatings	
Cleaning and Painting Lead Based Paint	\$14 - \$17 / ft^2
Cleaning and Overcoating Existing Steel	\$10 - \$12 / ft^2
Concrete Surface Finish	\$2 - \$3.50 / ft^2

APPENDIX F—EXAMPLE STAGE 0 REPORT

STAGE 0
Preliminary Scope and Budget Checklist

A. Project Background

District 05 Monroe Parish 42 Richland

Route LA 132 Control Section 842-13

Begin Log Mile 0.07 End Log Mile 0.28

Project Category (Safety, Capacity, etc.): Safety

Date Study Completed: 11/18/2011

Describe the existing facility: 391' x 19' Steel High Truss

Functional classification: RC-2 Number and width of lanes: 2 – 12' lanes

Shoulder width and type: 4' paved Mode: _____

Access control: _____ ADT: 500 Posted Speed: 55

Describe any existing pedestrian facilities (ADA compliance should be considered for all improvements that include pedestrian facilities): N/A

Describe the adjacent land use: Residential and Trees

Who is the sponsor of the study? _____

List study team members: _____

Will this project be adding miles to the state highway system (new alignment, new facility)? If yes, has a transfer of ownership been initiated with the appropriate entity? N

Are there recent, current or near future planning studies or projects in the vicinity? unknown

If yes, please describe the relationship of this project to those studies/projects. _____

_____

Provide a brief chronology of these planning study activities: _____

_____

B. Purpose and Need

State the Purpose (reason for proposing the project) and Need (problem or issue)/Corridor Vision and a brief scope of the project. Also, identify any additional goals and objectives for the project.

The project is needed due to the condition of the bridge. The substructure is rated as poor condition. The entire structure has a sufficiency rating of 42.2 which is structurally deficient.

C. Agency Coordination

Provide a brief synopsis of coordination with federal, tribal, state and local environmental, regulatory and resource agencies.

_____

_____

_____

What transportation agencies were included in the agency coordination effort?

_____

Describe the level of participation of other agencies and how the coordination effort was implemented.

_____

_____

_____

C. Agency Coordination (Continued)

What steps will need to be taken with each agency during NEPA scoping?

D. Public Coordination

Provide a synopsis of the coordination effort with the public and stakeholders; include specific timelines, meeting details, agendas, sign-in sheets, etc. (if applicable).

E. Range of Alternatives – Evaluation and Screening

Give a description of the project concept for each alternative studied.

What are the major design features of the proposed facility (attach aerial photo with concept layout, if applicable).

Alternative 1: Detour Route

Alternative 2: Phased Construction

Alternative 3: Detour Bridge

Alternative 4: New Alignment

Alternative 5: New Alignment

Will design exceptions be required? Yes

What impact would this project have on freight movements?

Does this project cross or is it near a railroad crossing? N

Was the DOTD's "Complete Streets" policy taken into consideration? N

- If so, describe how. Include a brief explanation of why the policy was determined to be feasible or not feasible.

How are Context Sensitive Solutions being incorporated into the project? unknown

Was the DOTD's "Access Management" policy taken into consideration? If so, describe how. Unknown

Were any safety analyses performed? If so describe results. N

Are there any abnormal crash locations or overrepresented crashes within the project limits? No

What future traffic analyses are anticipated?

E. Range of Alternatives – Evaluation and Screening (Continued)

Will fiber optics be required? If so, are there existing lines to tie into? unknown

Are there any future ITS/traffic considerations? N

Is a Transportation Management Plan (TMP) required?

- Is there a significant project in the Transportation Management Area (TMA)? N
- What is the scope? N/A
- What data will need to be collected to address the content and scope of the TMP? N/A

Was Construction Transportation Management/Property Access taken into consideration? Y

Were alternative construction methods considered to mitigate work zone impacts? Y

Describe screening criteria used to compare alternatives and from what agency the criteria were defined.
Safety & Costs

Give an explanation for any alternative that was eliminated based on the screening criteria.
Alternative No. 1 was eliminated due to the heavy traffic on the roadway. A detour route would not have been able to handle the increase in traffic.
Alternative No. 2 called for split slab construction. This was eliminated due to the poor condition of the bridge.
Alternative No. 3 was eliminated due to the excessive cost of such a long detour bridge.
Alternative No. 4 was eliminated because it would require high costs in acquisition of right of way.

Which alternatives should be brought forward into NEPA and why?

Did the public, stakeholders and agencies have an opportunity to comment during the alternative screening process? N

Describe any unresolved issues with the public, stakeholders and/or agencies.
N/A

F. Planning Assumptions and Analytical Methods

What is the forecast year used in the study? 2037

What method was used for forecasting traffic volumes?

Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long range transportation plan?

What future year policy and/or data assumptions were used in the transportation planning process as they are related to land use, economic development, transportation costs and network expansion?

G. Potential Environmental Impacts

See the attached Stage 0 Environmental Checklist

H. Cost Estimate

Provide a cost estimate for each feasible alternative:

- Engineering Design: 300,000
- Additional Traffic Analyses: 0
- Environmental (document, mitigation, etc.): 0
- R/W Acquisition: (C of A if applicable) 100,000
- Utility Relocations: 100,000
- Construction (including const. traffic management): 3,672,260

TOTAL PROJECT COST **4,172,260**

F. Expected Funding Source(s) (Highway Priority Program, CMAQ, Urban Systems, Fed/State earmarks, etc.) _____

ATTACH ANY ADDITIONAL DOCUMENTATION

Disposition (circle one): (1) Advance to Stage 1 (2) Hold for Reconsideration (3) Shelve

STAGE 0
Environmental Checklist

Route LA 132 Parish: Richland

C.S. 842-13 Begin Log mile 0.07 End Log mile 0.28

ADJACENT LAND USE: Rural

Any property owned by a Native American Tribe?
(Y or N or Unknown) If so, which Tribe? Unknown

Any property enrolled into the Wetland Reserve Program?
(Y or N or Unknown) If so, give the location Unknown

Are there any other known wetlands in the area?
(Y or N) If so, give the location N

Community Elements: Is the project impacting or adjacent to any (if the answer is yes, list names and locations):
(Y or N) Cemeteries N
(Y or N) Churches N
(Y or N) Schools N
(Y or N) Public Facilities (i.e., fire station, library, etc.) Unknown
(Y or N) Community water well/supply N

Section 4(f) issue: Is the project impacting or adjacent to any (if the answer is yes, list names and locations):
(Y or N) Public recreation areas N
(Y or N) Public parks N
(Y or N) Wildlife Refuges N
(Y or N) Historic Sites Unknown

Is the project impacting, or adjacent to, a property listed on the National Register of Historic Places? (Y or N) **Is the project within a historic district or a national landmark district?** (Y or N) If the answer is yes to either question, list names and locations below:
unknown

Do you know of any threatened or endangered species in the area? (Y or N)
If so, list species and location. N

Does the project impact or adjacent to a stream protected by the Louisiana Scenic Rivers Act? (Y or N) If yes, name the stream. N

Are there any Significant Trees as defined by EDSM I.1.1.21 within proposed ROW? (Y or N) If so, where? unknown

What year was the existing bridge built? 1966

Are any waterways impacted by the project considered navigable? (Y or N) If unknown, state so, list the waterways: unknown

STAGE 0
Environmental Checklist

Hazardous Material: Have you checked the following DEQ and EPA databases for potential problems? (If the answer is yes, list names and locations.)

(Y or N) Leaking Underground Storage Tanks N

(Y or N) CERCLIS N

(Y or N) ERNS N

(Y or N) Enforcement and Compliance History N

Underground Storage Tanks (UST): Are there any Gasoline Stations or other facilities that may have UST on or adjacent to the project? (Y or N) unknown

If so, give the name and location:

Any chemical plants, refineries or landfills adjacent to the project? (Y or N) **Any large manufacturing facilities adjacent to the project?** (Y or N) **Dry Cleaners?** (Y or N) If yes to any, give names and locations: N

Oil/Gas wells: Have you checked DNR database for registered oil and gas wells? (Y or (N)) List the type and location of wells being impacted by the project. unknown

Are there any possible residential or commercial relocations/displacements? (Y or N)
How many? unknown

Do you know of any sensitive community or cultural issues related to the project? (Y or (N))
If so, explain N

Is the project area population minority or low income? (Y or N) unknown

What type of detour/closures could be used on the job? The existing structure will be used during construction and the new bridge will be built adjacent to it. There are no predicted closures of the road.

Did you notice anything of environmental concern during your site/windshield survey of the area? If so, explain below.
N

Valerie Mautz
Point of Contact

(225) 379-1894
Phone Number

11/18/2011
Date

STAGE 0
Environmental Checklist

General Explanation:

To adequately consider projects in Stage 0, some consideration must be given to the human and natural environment which will be impacted by the project. The Environmental Checklist was designed knowing that some environmental issues may surface later in the process. This checklist was designed to obtain basic information, which is readily accessible by reviewing public databases and by visiting the site. It is recognized that some information may be more accessible than other information. Some items on the checklist may be more important than others depending on the type of project. It is recommended that the individual completing the checklist do their best to answer the questions accurately. Feel free to comment or write any explanatory comments at the end of the checklist.

The Databases:

To assist in gathering public information, the previous sheet includes web addresses for some of the databases that need to be consulted to complete the checklist. As of February 2011, these addresses were accurate.

Note that you will not have access to the location of any threatened or endangered (T&E) species. The web address lists only the threatened or endangered species in Louisiana by Parish. It will generally describe their habitat and other information. If you know of any species in the project area, please state so, but you will not be able to confirm it yourself. If you feel this may be an issue, please contact the Environmental Section. We have biologist on staff who can confirm the presence of a species.

Why is this information important?

Land Use? Indicator of biological issues such as T&E species or wetlands.

Tribal Land Ownership? Tells us whether coordination with tribal nations will be required.

WRP properties? Farmland that is converted back into wetlands. The Federal government has a permanent easement which cannot be expropriated by the State. Program is operated through the Natural Resources Conservation Service (formerly the Soil Conservation Service).

Community Elements? DOTD would like to limit adverse impacts to communities. Also, public facilities may be costly to relocate.

Section 4(f) issues? USDOT agencies are required by law to avoid certain properties, unless a prudent or feasible alternative is not available.

Historic Properties? Tells us if we have a Section 106 issue on the project. (Section 106 of the National Historic Preservation Act) See http://www.achp.gov/work106.html for more details.

Scenic Streams? Scenic streams require a permit and may require restricted construction activities.

Significant Trees? Need coordination and can be important to community.

Age of Bridge? Section 106 may apply. Bridges over 50 years old are evaluated to determine if they are eligible for the National Register of Historic Places.

Navigability? If navigable, will require an assessment of present and future navigation needs and US Coast Guard permit.

Hazardous Material? Don't want to purchase property if contaminated. Also, a safety issue for construction workers if right-of-way is contaminated.

Oil and Gas Wells? Expensive if project hits a well.

Relocations? Important to community. Real Estate costs can be substantial depending on location of project. Can result in organized opposition to a project.

Sensitive Issues? Identification of sensitive issues early greatly assists project team in designing public involvement plan.

Minority/Low Income Populations? Executive Order requires Federal Agencies to identify and address disproportionately high and adverse human health and environmental effects on minority or low income populations. (Often referred to as Environmental Justice)

Detours? The detour route may have as many or more impacts. Should be looked at with project. May be unacceptable to the public.

STAGE 0
Environmental Checklist

Louisiana Governor's Office of Indian Affairs:
http://www.indianaffairs.com/tribes.htm

Louisiana Wetlands Reserve Program:
http://www.nrcs.usda.gov/programs/wrp/states/la.html

Community Water Well/Supply
http://sonris.com/default.htm

Louisiana Department of Wildlife and Fisheries – Wildlife Refuges
http://www.wlf.louisiana.gov/refuges
http://www.fws.gov/refuges/profiles/ByState.cfm?state=LA
http://www.fws.gov/refuges/refugelocatormaps/Louisiana.html

U.S. Fish & Wildlife Service – National Wetlands Inventory:
http://www.fws.gov/wetlands/

Louisiana State Historic Sites:
http://www.crt.state.la.us/parks/ihistoricsiteslisting.aspx

National Register of Historic Places (Louisiana):
http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome
http://www.nationalregisterofhistoricplaces.com/la/state.html

National Historic Landmarks Program:
http://www.nps.gov/history/nhl/

Threatened and Endangered Species Databases:
http://www.wlf.louisiana.gov/wildlife/louisiana-natural-heritage-program

Louisiana Scenic Rivers:
http://www.wlf.louisiana.gov/wildlife/scenic-rivers
http://media.wlf.state.la.us/experience/scenicrivers/louisiananaturalandscenicriversdescriptions/
http://www.legis.state.la.us/lss/lss.asp?doc=104995

Significant Tree Policy (EDSM I.1.1.21)
http://notes1/ppmemos.nsf
(Live Oak, Red Oak, White Oak, Magnolia or Cypress, aesthetically important, 18" or greater in diameter at breast height and has form that separates it from surrounding or that which may be considered historic.)

CERCLIS (Superfund Sites):
http://www.epa.gov/superfund/sites/cursites/
http://www.epa.gov/enviro/html/cerclis/cerclis_query.html

ERNS - Emergency Response Notification System - Database of oil and hazardous substances spill reports: http://www.epa.gov/region4/r4data/erns/index.htm

STAGE 0
Environmental Checklist

Enforcement & Compliance History (ECHO)
http://www.epa-echo.gov/echo/

DEQ – Underground Storage Tank Program Information:
http://www.deq.louisiana.gov/portal/tabid/2674/Default.aspx
Leaking Underground Storage Tanks:
http://www.deq.state.la.us/portal/tabid/79/Default.aspx

SONRIS – Oil and Gas Well Information & Water Well Information
http://sonris.com/default.htm

Environmental Justice (minority & low income)
http://www.fhwa.dot.gov/environment/ej2000.htm

Demographics
http://www.census.gov/

FHWA's Environmental Website
http://www.fhwa.dot.gov/environment/index.htm

Additional Databases Checked

Other Comments: