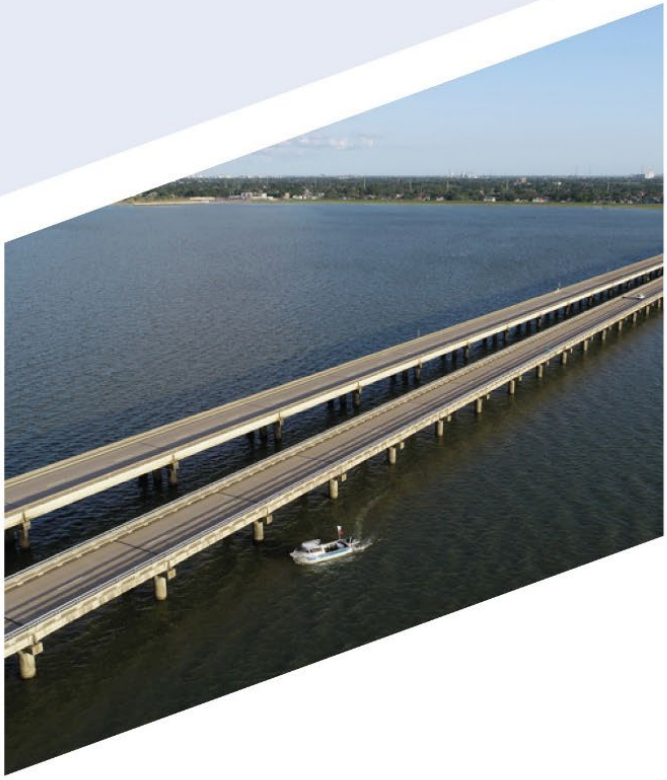
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

OFF-SYSTEM BRIDGE INSPECTION MANUAL

2024 Edition



LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

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1 Policies

1.1 INTRODUCTION

This manual describes the DOTD's organization, administration, and operational procedures of the State of Louisiana Off-System Bridge Inspection Program.

A bridge is defined as a structure including supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; including multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

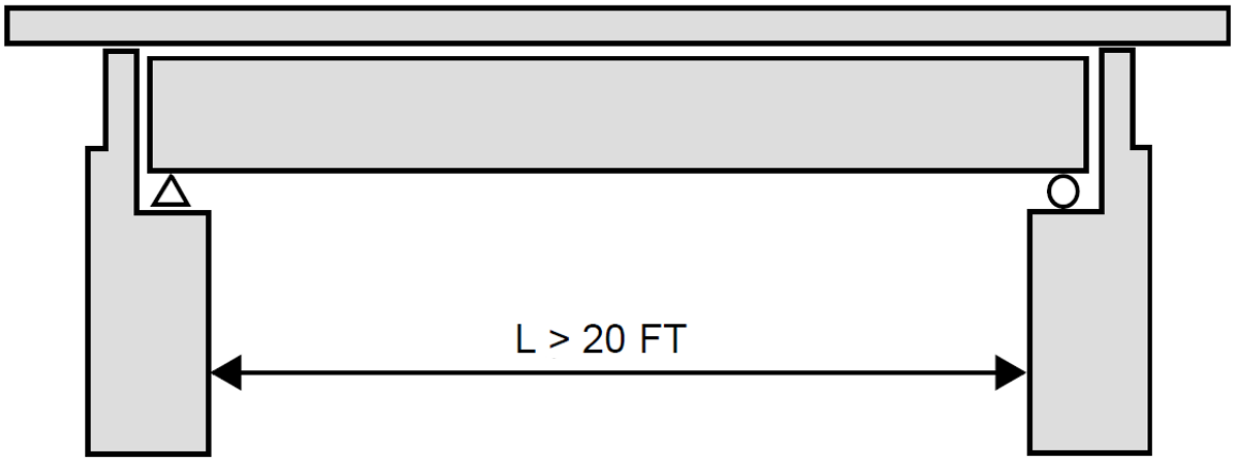


Figure 1-1: Measuring bridge span. Source: FHWA SNBI Manual

Culverts that qualify as "bridges" must be inventoried and inspected. Culverts are usually covered with embankment and the embankment depth must be measured.

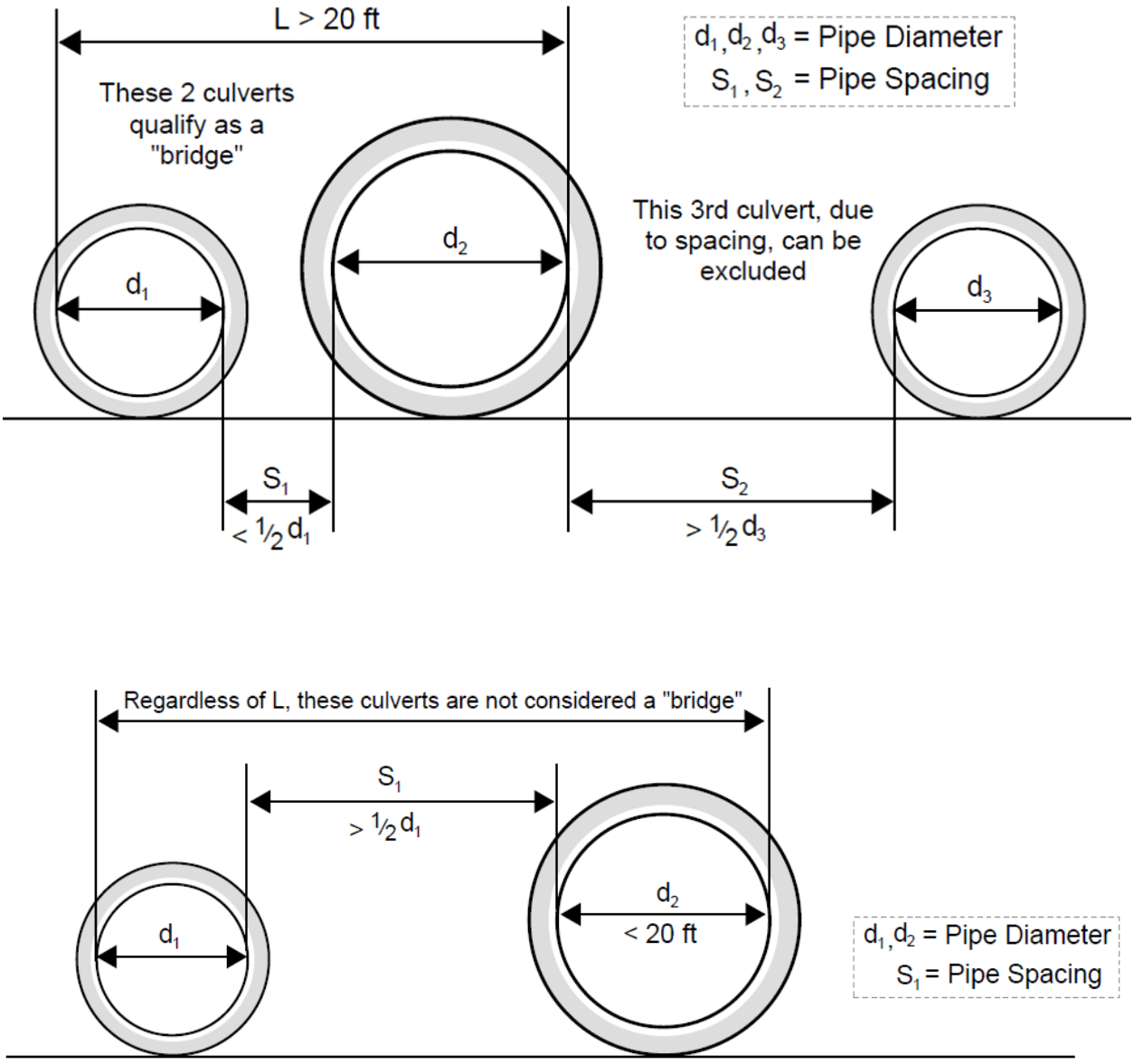


Figure 1-2: Measuring culvert span

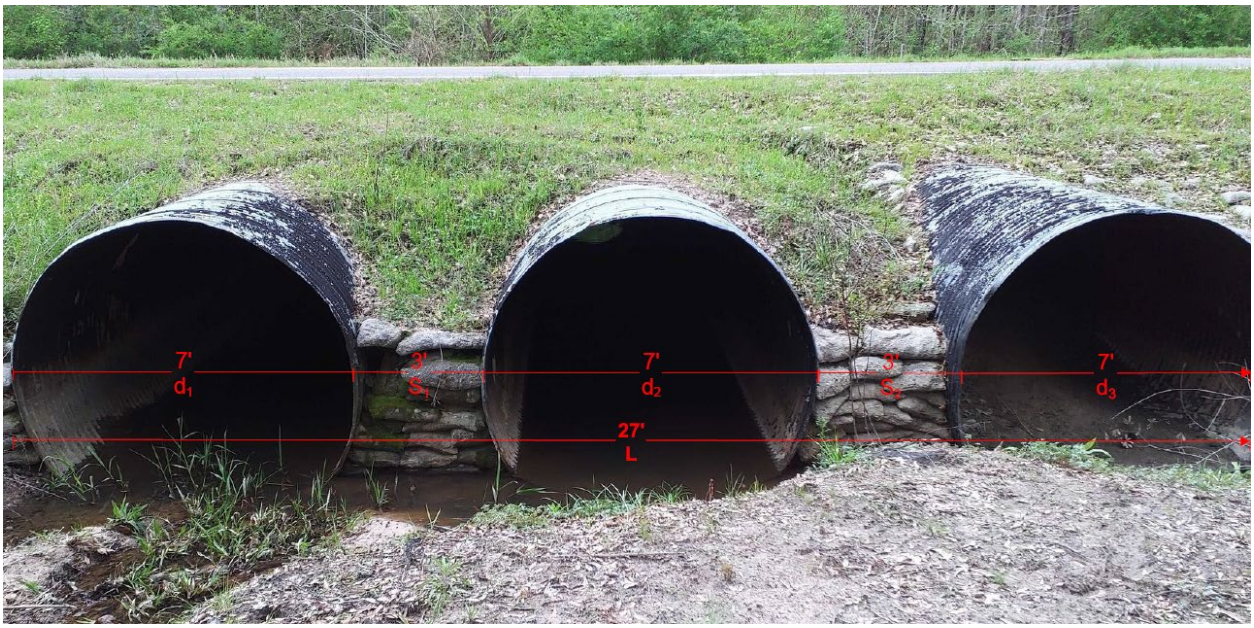


Figure 1-2: Measuring culvert span (cont.)

For more information on Parts of a Bridge, see Appendix A-8 for a schematic.

1.2 BRIDGE OWNER RESPONSIBILITIES

Collaboration with interagency partnerships is critical to ensuring a safe bridge structure is available for public use. Each bridge owner is responsible for performing a safety inspection and evaluation and filing that information promptly to comply with federal legislation. 23 CFR 650.315 requires individual bridge data contained in the National Bridge Inventory (NBI) (See Section 2.1) to accurately reflect the bridge's status. Following a change in status, each off-system bridge file must be updated within 90 days.

Examples of status changes are:

- Newly constructed bridges before opening to traffic
- Any load restriction or bridge closure (30 day maximum)
- Modifications to the existing inventory (SNBI) data

Municipalities, parishes, and private bridge owners will collaborate with their respective regional DOTD District Bridge Engineer. The Port of New Orleans, Greater New Orleans Expressway Commission, bordering states, toll authorities, and railroad companies will collaborate with the DOTD Headquarters Bridge Inspection Office.

All local agencies and bridge owners will report any bridge repair, rehabilitation, and/or replacements with drawings (including as-builts and revised load ratings) to the respective local DOTD District Bridge Engineer or Headquarters Bridge Inspection Office.

Contact information for bridge inspection, bridge maintenance, district offices, and load ratings can be found at http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Operations/BridgeMaintenance/Pages/default.aspx.

1.3 PERSONNEL QUALIFICATIONS AND TRAINING

All Off-System bridge inspectors must meet the minimum qualifications for employment in Louisiana. It is recommended that bridge inspectors take the Roads Scholar #13: Inspection of Local Bridges course offered by LTAP.

All load rating reports must be stamped by a licensed professional civil or structural engineer registered in the State of Louisiana. For qualifications of LADOTD personnel, see LADOTD On-System Bridge Inspection Manual.

1.4 COMPLIANCE

Each fall, DOTD District Bridge Engineers and Bridge Inspectors will schedule a meeting with each off system bridge owner to discuss their bridge file (in the Inspection software link) and new policies. This typically occurs in October and will be scheduled by the District bridge inspection staff. InspectX reviews are conducted to determine compliance with interim inspection and load posting requirements. All bridge inspection reports will be reviewed. In addition, District bridge inspection staff will field check bridges which require load posting and closure to determine compliance with these requirements.

Each local bridge owner will submit to LADOTD by November 15 of each year a resolution by the local governing body that they have and will continue to comply with all NBIS/FHWA/DOTD requirements regarding calculating the load carrying capacity, and load posting/closure of deficient bridges under their jurisdiction. (See Appendix A-9 for required format)

In addition, the local bridge owner must submit contact information for all individuals or consulting firms that perform inspection and maintenance of their bridges, as well as the individuals responsible for maintaining the bridge files and the location of the bridge files. Contact information must include name, physical and mailing address, phone number, and email.

If ownership or maintenance responsibility of a bridge changes, the District Bridge Inspection staff should be notified immediately.

1.4.1 Important Compliance Due Dates

Table 1-1: Important compliance dates

January 31	Bi-annual reports are sent out for corrections
	Final compliance determination and notification to owners
March 1	Submittal of January bi-annual report corrections
	Deadline to submit plan of corrective action for conditional compliance
July 31	Bi-annual reports are sent out for corrections
September 1	Submittal of July bi-annual report corrections
November 15	Annual resolution
	Contact information for bridge files, inspection, and maintenance

1.4.2 Compliance Levels

There are four levels of compliance assessment: Compliance, Substantial Compliance, Conditional Compliance, and Non-Compliance.

- Compliance – All conditions met.
- Substantial Compliance – Most conditions met. Improvement should be made within the next compliance review year or risk being dropped to Conditional Compliance.
- Conditional Compliance – Improvement must be made within the next review year or non-compliance will be enforced. A plan of corrective action must be submitted to address the issues resulting in Conditional Compliance.
- Non-Compliance – Critical conditions not addressed or public safety has been impacted by failure to comply. Owner has not improved from Conditional Compliance from the previous review cycle.

Table 1-2 summarizes the compliance conditions measured and the different levels that can be achieved. These levels and conditions are subject to change each year based on federal updates and the statewide compliance assessment. The LADOTD Headquarters Bridge Inspection office can be contacted for assistance with composing plans of corrective action and will review all plans of corrective action. LADOTD Headquarters Bridge Inspection office is responsible for final determinations of compliance for local bridge owners. The final compliance determination and notification to local bridge owners will be completed by January 31 of each year. If required, a plan of corrective action should be submitted by March 1 in the following year.

Table 1-2: Compliance conditions and levels

Condition	Level
1. Closed Bridges	
All bridges properly closed	Compliance
Any bridge open that should be closed within the owner's jurisdiction	Non-Compliance
2. Posted Bridges	
All bridges requiring posting are properly posted	Compliance
Not all bridges requiring posting properly posted	Conditional Compliance
3. Parish Inspection	
All inspections performed on time	Compliance
All inspections performed, majority on time	Substantial Compliance
All inspections performed, majority late	Conditional Compliance
Inspections not performed	Non-Compliance
4. Load Ratings	
All bridges load rated within required timeline	Compliance
All bridges load rated, majority on time	Substantial Compliance
All bridge load rated, majority late	Conditional Compliance
Load Ratings not performed	Non-Compliance
5. Bridge Data Corrections	
Corrections performed by deadlines	Compliance

Condition	Level
Corrections submitted late	Substantial Compliance
No corrections submitted for one period	Conditional Compliance
No corrections submitted for both periods	Non-Compliance
6. Annual Resolution and Contact Information	
Submitted	Compliance
Not submitted	Conditional Compliance
7. New Bridge Documentation	
Submitted on time	Compliance
Bridge opened to traffic without notification and/or proper documents	Non-Compliance
8. Failure to Make Bridge Accessible During Inspections	
All requested debris/vegetation removal has been completed in a timely manner	Compliance
Failed to remove debris or vegetation in a timely manner, hindering inspectors	Conditional Compliance
9. Failure to Respond to Critical Findings	
Acceptable Response	Compliance
No Response upon any critical finding	Non-Compliance
10. Falsification of Inspection Reports or Bridge Data	
Non-falsified records	Compliance
Falsified records	Non-Compliance
11. Failure to Submit or Follow Plan of Corrective Action	
Plan Not Submitted or No Improvement in Year 2	Non-Compliance

1.4.3 Loss of Bridge Replacement Funding

If the local bridge owner is found in non-compliance, the Off-System Bridge Program Manager and the FHWA will be officially notified with the recommendation that the federal funding for the parish be revoked for a period of one year. Evaluation for re-entry into the Off System Bridge Replacement Program will be completed at the subsequent annual compliance review.

2 Bridge Records

Bridge records for all state-owned, locally owned, and any other inventoried bridge structure are maintained by the Headquarters Bridge Inspection Office in InspectX. Bridge records are kept in accordance with Section 2 of the AASHTO MBE (per 23 CFR 650.315(a)) and monitored in accordance with FHWA Metric #15. All bridges on public roads and private bridges that are connected to a public road on both ends of the highway (see 605.303) must have a bridge file stored in the bridge inspection collector software.

2.1 BRIDGE FILE

The bridge file will contain the following items as applicable:

- Inspection reports
- Waterway information
- Special inspection procedures or requirements
- Load rating documentation, including load testing results
- Posting documentation
- Critical findings and actions taken
- Scour appraisal
- Scour plan of action (POA) for scour critical bridges and those with unknown foundations
- Documentation of post-event inspections
- SNBI inventory and evaluation data with collection/verification forms
- Significant correspondence
- Bridge maintenance records
- Construction or as-built drawings, including technical specifications
- Photographs
- Flood data
- Inspection requirements
- Traffic data/Average Daily Traffic
- Accident records
- Load test data
- Coating history
- Additional applicable data useful for maintaining the structure and ensuring the safety of the traveling public

DOTD identifies bridge structures by a six-digit numerical recall number. Recall numbers are generated by the DOTD Headquarters Bridge Inspection Office.

2.2 UPDATING BRIDGE DATA

2.2.1 Adding/Deleting a Bridge to the Inventory

Once a new bridge, culvert or pipe as described in Figure 1-2, is constructed, the owner must provide all related documents via the "Add a Bridge" Request form on the Bridge Maintenance Website prior to opening the bridge to traffic.

Under no circumstances will a bridge be added to the inventory without a valid load rating, scour analysis, and plans. For any project managed by DOTD (Off-System Bridge Replacement Program), HQ has this documentation, and it is not required to be submitted. If a local bridge owner opens a bridge to traffic without previously notifying and providing the required documentation to the DOTD, the parish will be placed in non-compliance.

Documents Required to Add a Bridge to the Inventory are as follows:

- **Plan Sheets (or if plans are unavailable, Sketches stamped by a Professional Engineer) showing:**
    - Geometric layout of the area showing the approach roadway, bridge deck, number of traffic lanes on and under the structure, and alignment of the feature crossed, and
    - Cross-section of the bridge (through the deck) with measurements indicating roadway width, rail-to-rail clearance, curb-to-curb width, out-to-out width, layout of the bent(s) and/or piers, and vertical clearance over the bridge deck, and
    - Profile of the bridge showing total length of the structure, length and type of each span, under-passing roadway(s) vertical and horizontal clearances
    - All movable and fixed bridges over navigable waterways will have their navigation vertical and horizontal clearance field-checked and sketched. Measurements for movable bridges will be taken in both the fully open and fully closed positions.
- **Timber Rating Form**
    - For all timber bridges or bridges with timber spans, a Timber Rating Form will be completed by the Owner. Sketches including and identifying the specific location of all deficiencies or other sub-standard conditions shall also be provided.
- **Load Rating documentation**
    - The stamped load rating report, including a summary sheet and calculations (for all Non-DOTD projects)

Scour Analysis documentation

- Pile length information, pile driving records, and hydraulic information when not available on the plans. Must be submitted using the Phase 1 Scour Form and stamped by a Professional Engineer (See Appendix A-3: Phase 1 Scour Assessment Form). New bridges with unknown foundations will not be accepted.

2.2.2 Updating Off-System Bridge Inventory Data

Off-System bridge owners will receive, from the DOTD District Bridge Inspection Office, a copy of the data currently entered in the inventory for their bridges each January and July. Each Off-System bridge owner must review and correct this data and submit updates/corrections to the District Bridge Inspection Office by the due dates provided in Table 1-1.

Bridge Inspection personnel should adhere to the latest edition of the *DOTD Coding and Field Guide* to ensure all bridge inventory information is correctly coded into the inspection software.

2.2.3 Deleting an Off-System Bridge

Off-System bridges may be deleted under the following circumstances:

- The old bridge was removed and replaced with a bridge that does not meet NBIS Federal Bridge Definition criteria (i.e. less than 20 feet opening) and the bridge is not programmed to be replaced with Federal funds.
- The old bridge was removed and a new bridge (replaced, phased construction (split slab), or temporary) has been inventoried (See Section 2.2.1)
- The route has been abandoned.
    - Routes will be considered abandoned when the bridge has been closed for over 5 years and the bridge is not programmed to be replaced with Federal funds.

When a bridge is deleted from the inventory, the following tasks must be done:

- Two photographs of each location will be submitted with the Delete Form, one showing the roadway in the direction of travel and one showing the profile (end view) of the pipe(s), arch, box culvert, or bridge.
- Upon request from DOTD, the Owner will provide a Plan of Action to repair or replace a closed bridge or confirmation of abandoned route.

3 Bridge Inspection Procedures

3.1 GENERAL INFORMATION

3.1.1 Documentation

DOTD maintains a complete, current, and historical record of each bridge. Proper documentation is imperative. The inspection report is a record of the bridge's observed condition and must be clear, concise, accurate, and thorough. Sufficient information should be gathered in the field to allow for a comprehensive and complete report supported by photos, notes, sketches, etc.

3.1.2 Inspection Reporting Timeline

For all inspections, the following timeline must be followed in order to ensure compliance with 23 CFR 650.315.

- Owner's Reports must be sent for final approval within 60 days of inspection.
- Final approval is required for both On- and Off-System bridges within 90 days of inspection.

3.1.3 Element Level Data Collection and Labeling

Labeling

Bridge elements will be labeled in the direction of inventory and from left to right.

Figure 3-1: Element labeling example

Condition States and Associated Defects

DOTD inspectors will assign condition state ratings for the owner's review based on the following guidance:

Once the NBEs and Agency Defined Elements have been identified and an overall quantity for each has been established by means of reviewing as-built drawings and field verification, defect types and associated condition states can be assigned to these elements. The condition state is defined by four categories: good (CS1), fair (CS2), poor (CS3), and severe (CS4). The four condition states correlate to the severity of inherent, minor, moderate, and major damage. The AASHTO Manual for Bridge Element Inspection identifies (in detail) the defect associated with each NBE and provides guidelines to the inspector for determining the defect severity.

With the incorporation of the SNBI coding, FHWA has adopted general guidelines to help inspectors correlate element-level condition states to bridge condition ratings. The following provides a basic guide for correlating defect severity to condition ratings.

Table 3-1: Codes and descriptions for component condition ratings

Code	Condition	Description
N	Not Applicable	Component does not exist.
9	Excellent	Isolated inherent defects.
8	Very Good	Some inherent defects.
7	Good	Some minor defects.
6	Satisfactory	Widespread minor or isolated moderate defects.
5	Fair	Some moderate defects; strength and performance of the component are not affected.
4	Poor	Widespread moderate or isolated major defects; strength and/or performance of the component is affected.
3	Serious	Major defects; strength and/or performance of the component is seriously affected. Condition typically necessitates more frequent monitoring, load restrictions, and/or corrective actions.
2	Critical	Major defects; component is severely compromised. Condition typically necessitates frequent monitoring, significant load restrictions, and/or corrective actions in order to keep the bridge open.
1	Imminent Failure	Bridge is closed to traffic due to component condition. Repair or rehabilitation may return the bridge to service.
0	Failed	Bridge is closed due to component condition, and is beyond corrective action. Replacement is required to restore service.

Condition Ratings		Defect Severity					
		Inherent (CS1)	Minor (CS2)	Moderate (CS3)	Major (CS4)	Affects Strength and/or performance	Bridge Closed
Good	9 - Excellent	Isolated					
	8 - Very Good	Some					
	7 - Good		Some				
Fair	6 - Satisfactory		Widespread or	Isolated			
	5 - Fair			Some			
Poor	4 - Poor			Widespread or	Isolated and	Yes	
	3 - Serious				Some and	Yes	
	2 - Critical				Some and	Yes	
	1 - Imminent Failure				Some and	Yes and	Yes
	0 - Failed				Some and	Yes and	Yes

Notes:
1. Isolated defects affect approximately 10% or less of the bridge component
2. Some defects affect approximately 10% to 40% of the bridge component
3. Widespread defects affect approximately 40% or more of the bridge component

Figure 3-2: SNBI Component Rating Guidance

3.1.4 Critical Findings

All critical findings will require a 6-month interim inspection to inspect and document the status of the critical finding until fully resolved. HQ must be alerted within 24 hours for critical findings on the NHS.

Definition

FHWA Defines A critical finding is a structural or safety-related deficiency that requires immediate follow-up action when any of the following in Table 3-2 are true.

Table 3-2: Critical finding criteria

SNBI Item	Name	Value
B.C.01, B.C.02, B.C.03, B.C.04, B.C.15	Deck, Superstructure, Substructure, Culvert, or Underwater Condition Rating	2 or less
B.C.14	NSTM Condition Rating	3 or less
B.C.09, B.C.11	Channel, or Scour Condition Rating	2 or less
-	Bridge status	Fully or partially closed
-	"Critical deficiency"	Immediate load restriction or load posting, or immediate repair work to a bridge, including shoring, in order to remain open
-	Observed hazardous or flammable material stored under or adjacent to the bridge	

Per FHWA memorandum "ACTION: Documentation and Treatment of Materials Stored Under a Highway Bridge" dated 11/15/2023, bridge owners should direct inspectors, during their routine inspections, to be observant of materials, including flammable, explosive, or hazardous materials, stored under bridges, document any such materials stored in the ROW in the inspection report, and, if concerns exist, to communicate those concerns appropriately to the bridge inspection program manager. The discovery of such materials stored underneath a highway bridge should be treated as a critical finding requiring immediate follow-up action in accordance with our regulations and guidance (NBIS Regulations and Guidance) to ensure public safety and must be reported to the FHWA (23 CFR 650.313(q)).

Failure to respond to LADOTD notification of critical findings and provide an acceptable response within 24 hours will result in non-compliance status for the parish in question.

Refer to Appendix A-7 for a flow chart on critical finding and bridge closure procedures.

3.1.5 Bridge Closure Procedures

It is the responsibility of each local bridge owner to close any bridge under their jurisdiction which has been recommended for closure by DOTD or rated for a load carrying capacity of less than three (3) tons. These bridges must be physically closed with positive barriers sufficient to restrict all traffic until removed, repaired or replaced.

If a situation is discovered during a DOTD routine inspection that requires the immediate closure of a bridge because of imminent danger to the public, the bridge owner must be notified. It may be necessary for the bridge inspectors to physically block traffic. The owner should immediately evaluate the situation and take whatever steps necessary to safeguard the traveling public, i.e. physically barricade the bridge, repair the bridge, etc. See Flowchart in Appendix A-7 (described below)

Upon notification from DOTD the owner must respond within 24 hours with one of the following responses:

- The bridge will be closed immediately
- The bridge will be repaired immediately
- The owner disagrees with the closure finding and will provide a new load rating stamped by a professional engineer (Greater than or equal to 3 tons)

Within 48 hours of notification from DOTD the owner must complete one of the following follow-up actions:

- Close the Bridge
- Complete Repairs
- Provide the new load rating stamped by a professional engineer (Greater than or equal to 3 tons)

Failure to complete one of the follow-up actions within 48 hours will result in non-compliance and DOTD will close the bridge and pass any associated costs to the owner.

For compliance, all bridges requiring closure will be field reviewed. Any bridges that are not properly closed will result in a non-compliance status for the parish, without exception. Closure will include locked gates, deep beam barriers, and other similar devices capable of preventing traffic from using the bridge. Closure does not include piles of dirt, sawhorse barricades, timbers across the roadway, or signs alone. It must be a physical positive barrier.

Below are examples of correct and incorrect bridge closures.

Figure 3-3: Correct closure with Type 3 barricade and concrete barrier

Figure 3-4: Correct closure with a locked gate

Figure 3-5: Correct closure using guardrail. NOTE: Proper signage should be used

Figure 3-6: Incorrect closure with only Type 3 barricade. NOTE: Signage should not be mixed

Figure 3-7: Incorrect closure using dirt pile

3.1.6 Load Ratings

All bridges on public roads shall have a current load rating on file. Off-System bridge owners are responsible for re-rating/reviewing their bridges and complying with all LADOTD policies. The frequency of re-rating/reviewing due to condition change is as follows:

Table 3-3: Load rating frequencies

Structural Condition		Re-Rating/Review Frequency
Lowest SNBI Structural Condition Rating	Rating 0-1 (Closed)	Before opening to traffic and upon notification from the Bridge Maintenance Section or District Bridge Engineer.
	Rating 2-4	Within 90 days of notification of structural condition rating drop.
Other Conditions	Overlay	As part of the design project and upon request from the project manager or district bridge engineer.
	Structural Repair	As part of the design project and upon request by the Project task manager or District Bridge Engineer.
	Timber Structure	Upon finding significant changes during the inspection or every four (4) years.
	Primary Load Carrying Element in Condition State 4	Within 0 days of notification of structural condition rating drop.

Re-rating shall consist of an engineer review of the existing bridge rating analysis and bridge inspection report. If the rating report and analysis do not match the present conditions, a new analysis shall be performed.

For non-timber structures, when it is determined that no significant structural load carrying capacity changes have occurred due to the condition changes of the bridge or to new repairs, a re-rating analysis is not required; however, documentation of rating review must be provided. DOTD will provide the review of the condition changes and notify the parish if a new load rating analysis is required.

All Off-System load rating reports must be stamped by a professional engineer and entered in InspectX using the “Parish Load Rating” report type by the owner or owner’s consultant and submitted to DOTD load rating Engineer within 60 days of request.

3.1.7 Repair and Rehabilitation Documentation

After repairs or rehabilitation projects are complete, the owner shall submit plans and updated load rating information prior to re-opening the bridge. The project plans will be used by DOTD inspectors to revise the element-level quantities and SNBI item documentation. For more information see ON-SYS manual.

If performing in kind or better repairs on non-timber bridges, a professional engineer may apply a previous rating on file for the bridge in certain situations. Details of the repairs and a letter stating that the prior rating is applicable must be submitted to the District bridge inspection staff.

3.1.8 Bridge Posting

For compliance, all bridges requiring posting shall be field reviewed.

In accordance with the FHWA Memo Timeframe for Installing Load Posting Signs at Bridges, dated April 17, 2019, it is bridge inspection program policy that "bridge load postings are to be made as soon as possible but no later than 30 days after a load rating determines a need for such posting." Photo documentation is required within 30 days. Refer to the *Traffic Engineering Manual, Section 2B.4 "Use of Weight Limit Signs."* Load posting of bridges is considered a deficiency, and proper weight limit signage observation should be documented during every inspection. Photographic proof of posting is required during every inspection, and documentation of the displayed posting versus required posting shall be included in the Parish Inspection Notes.

For Louisiana to be in compliance with federal regulations regarding bridge postings, bridges must be properly posted, and all posting and closing deficiencies should be promptly resolved.

It is the responsibility of each local bridge owner to install and maintain load limit signs at each bridge under their jurisdiction that is not capable of carrying the full legal load allowed by Louisiana Law. Load limit regulations should be established by an official act of the local governmental body to be legally enforceable. Local bridge owners are expected to have a system in place to maintain and replace signs if necessary.

For compliance purposes, a properly posted or restricted bridge is defined as follows:

1. The required weight limit posting, as determined by a load rating analysis, is reflected at the bridge structure.

- If an Off-System Owner desires, a (conditionally posted) lower load limit may be selected and posted. DOTD must be notified, and the bridge inventory data must be updated.
- A bridge will not be posted at a higher load limit than the maximum required weight limit; if this is encountered, the district shall notify the owner of the bridge within seven days of the inspection and follow up with a documented critical finding per Section 3.1.4.
- Load posting signs and advanced warning signs must conform with the Manual for Uniform Traffic Control Devices MUTCD. Only signs which correspond to actual required posting values as shown in Figure 3-8 and Figure 3-9 below should be used.

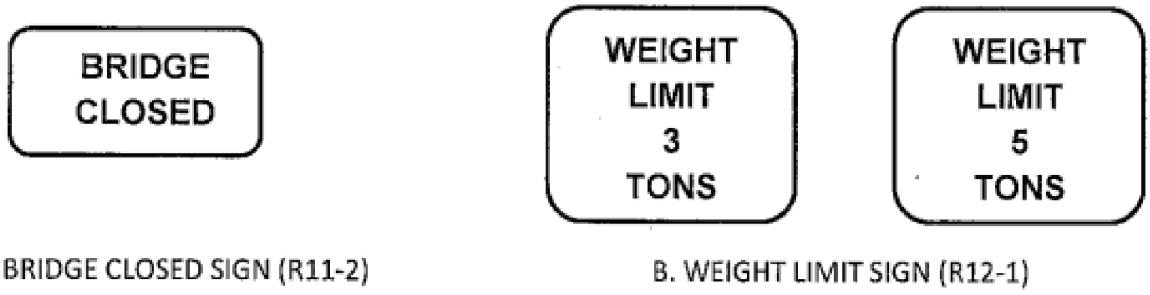


Figure 3-8: Bridge weight limit signs (R11-2 and R12-1)

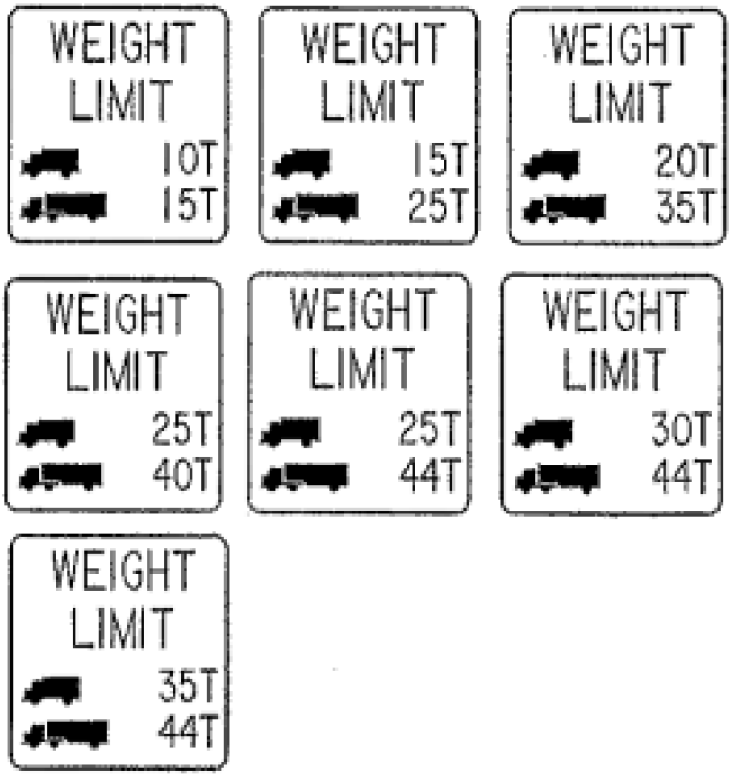


Figure 3-9: Bridge weight limit signs (R12-5)

3.1.9 Weight Limit Sign Inspection Procedures

If a missing, damaged, or illegible weight limit sign is observed during an inspection of an off-system bridge, the district shall notify the owner of the bridge within seven days of the inspection and follow up with a documented critical finding per Section 3.1.4.

Figure 3-10: Correct weight limit sign

Below are examples of weight limit signs that require replacement:

Figure 3-11: Damaged and incorrect weight limit sign

Figure 3-12: Illegible weight limit sign

3.1.10 Streambed Field Documentation

All bridges over waterways [rivers, creeks, drainage areas, floodplains (wet or dry)] require streambed profiles as part of the regular bridge inspection process. A streambed profile will be taken during every routine inspection and compared to High-Water and Underwater inspections.

Always note the reference feature that readings were taken from (i.e. top of rail, top of cap, etc.). The locations of profile readings are measured from the beginning of the bridge in the direction of inventory. Elevations of the bottom of the stream will be plotted. *Figures 3-13 & 3-14*show examples of the data required to correctly document the channel bed feature reference.

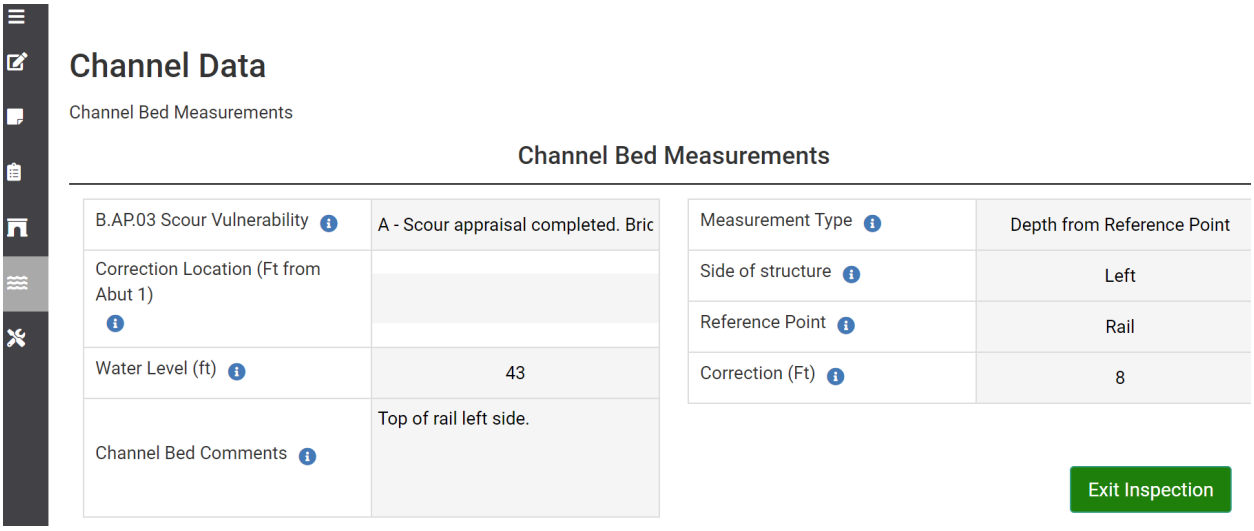


Figure 3-13: InspectX channel bed measurement example

The streambed profile is normally measured manually by dropping a weighted tape from the bridge deck at uniform intervals, beginning at the abutment, each bent, and at the midspan for spans 40 feet or longer. Measurements will be taken along the upstream fascia of the bridge at a minimum as follows (other intervals are allowed as long as their distance is properly referenced):

- At each abutment face
- At each bent
- At each midspan for each span 40 feet or longer

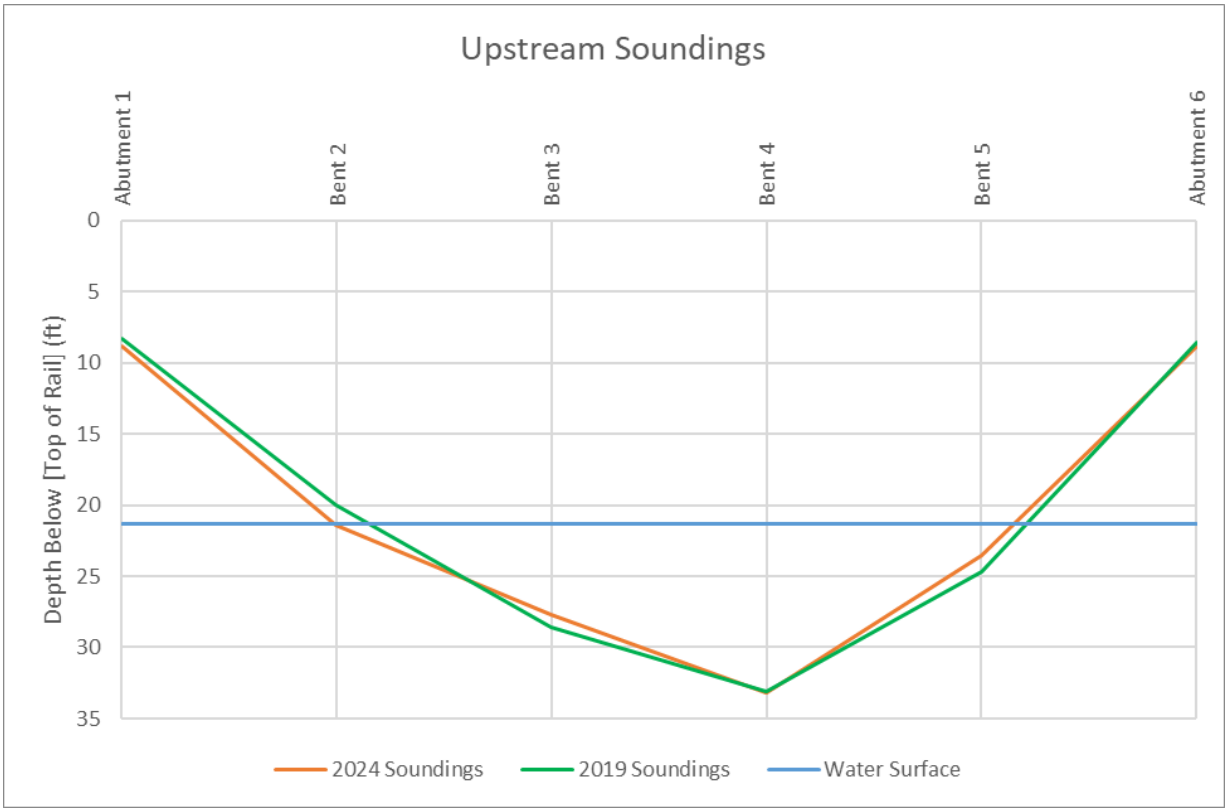


Figure 3-14: Example soundings

Scour critical bridges and bridges with unknown foundations (bridges meeting any of the criteria in Table 3-4) will have the POA reviewed, and a streambed profile performed during each High-Water inspection. The stream cross-section will be recorded and compared with the previous profile, as well as any critical elevations noted in the POA. The results of the comparison will be documented in the inspection notes. If the channel bottom at a bridge falls below a critical elevation noted in the POA, HQ is to be notified immediately per the critical finding protocol.

Table 3-4: Criteria for scour critical bridge

SNBI Item	Name	Value
B.AP.03	Scour Vulnerability	C, D, or U
B.C.11	Scour Condition Rating	3 or less

3.2 INSPECTION TYPES AND FREQUENCIES

Each bridge in Louisiana will be inspected at the maximum interval established by the NBIS and the DOTD.

DOTD will perform a 24-month routine inspection of each Off System Bridge in Louisiana. 23 CFR 650, 650.311: Inspection interval, published 6/6/2022 to become effective by 6/6/2024, requires 12-month routine inspection for bridges where the deck, superstructure, substructure, culvert, or scour condition rating is coded 3 or less or NSTM condition coded 4 or less. These inspections will be performed by LADOTD Certified Bridge Inspectors. The inspections must conform to the requirements of the National Bridge Inspection Standards and the *AASHTO Manual for Bridge Evaluation and Interim Revisions*. Local bridge owners are invited and encouraged to accompany the DOTD Bridge Inspectors during these routine inspections. For more information on Inspection Intervals, see the DOTD On-System Bridge Manual. LADOTD bridge inspectors shall notify the local bridge owners 30 days prior to conducting the routine inspections in their jurisdictions.

It is the owner's responsibility to make their bridges accessible for DOTD Inspectors. Failure to remove debris and vegetation in a timely manner may result in Non-Compliance.

Figure 3-15: Example of In-accessible structure

LADOTD Reduced Interval policy for 6 month interim inspections will be updated to match Critical Finding criteria defined by the 23 CFR 650.313: Inspection procedures as meeting any of the following criteria:

- Full or partial closure of any bridge
- An NSTM condition coded three (3) or less;
- A Deck, Superstructure, Substructure, or Culvert Condition coded two (2) or less;
- The channel condition or scour condition coded (2) or less; or
- Immediate load restriction or posting, or immediate repair work to a bridge, including shoring, in order to remain open.

It is the responsibility of the local bridge owner to perform and document the findings of these 6-month inspections on structures with known deficiencies that meet the critical finding criteria as defined above. **Because LADOTD is also performing 12-month routine inspections for these structures, the Parish 6-month inspection is actually only required annually on the opposite schedule of LADOTD**. (Example. Routine is due 1/31/2024, Parish 6 month is due 7/31/2024, DOTD 12 month is due 1/31/2025, and Parish 6 month is due 7/31/2025 to complete the 24-month cycle.)

The actual date the inspection was performed shall be recorded in the report and shall not be back dated or otherwise modified.

Table 3-5 below list all inspection types in Inspect X. The parish owners are required to perform the bolded inspection types as decribed in this chapter. For more information on other inspection types, Chapter 4 of the On-System Bridge Inspection Manual outlines each inspection type, when they are required, who is responsible to perform them, and what must be recorded.

Table 3-5: Inspection types

Inspection Type	Responsible Party	Requires NHI Certified Team Leader?	Approval Levels/Timelines (Days from Inspection Date)			
			Report Creation	TL	Prelim	Final/ Admin
Initial	District	Yes	7	30	60	90
Routine	District	Yes	7	30	60	90
NSTM	District	Yes	7	30	60	90
Interim	District	No	7	30	60	90
Special (non-Recuring)	District	No	7	30	60	90
Damage	District	No	7	30	60	90
Highwater Event	**District or Local Owner**	**No**		**60***	**-**	**90**
District QC	District	Yes		60*	-	90
Posting Change Update	District	NA**	7	14*	-	30
District Inventory Update	District	NA**	-	30*	-	90
Railroad Pedestrian	District	No	-	30*	-	90
HQ QA	HQ	Yes		60*	-	90
Scour Analysis	HQ	NA**	-	30*	-	90
Load Rating	HQ	NA	-	60*	-	90
Inventory Update	HQ	NA	-	30*	-	90
Routine (Consultant)	Consultants	Yes	-	60*	-	90
Underwater	Consultants	Yes	-	60*	-	90
In-Depth	Consultants	Yes	-	60*	-	90
NDE Consultant Inspection	Consultants	No	-	60*	-	90

Inspection Type	Responsible Party	Requires NHI Certified Team Leader?	Approval Levels/Timelines (Days from Inspection Date)			
			Report Creation	TL	Prelim	Final/ Admin
Parish Inspection	**Local Owner**	**No**	**7**	**60***	**-**	**90**
Parish Special (non-Recuring)	**Local Owner**	**No**	**-**	**60***	**-**	**90**
Parish Load Rating	**Local Owner**	**NA**	**-**	**60***	**-**	**90**

**Submitted for Final Approval*
***NA TL due to not being a field report*

3.2.1 Parish Inspection

A Parish Inspection is an Off-System Owner's interim inspection scheduled at regular intervals to inspect certain conditions on a bridge such as verifying closures and other critical finding follow up inspections. For all Parish Inspections, only the following fields should be updated:

- Inspection Comment with the purpose of the inspection as shown in Figure 3-16.
- Parish Inspection Notes to include any inspection or bridge notes (such as inspection team members, temperature, a summary of element(s) being closely monitored, etc.).

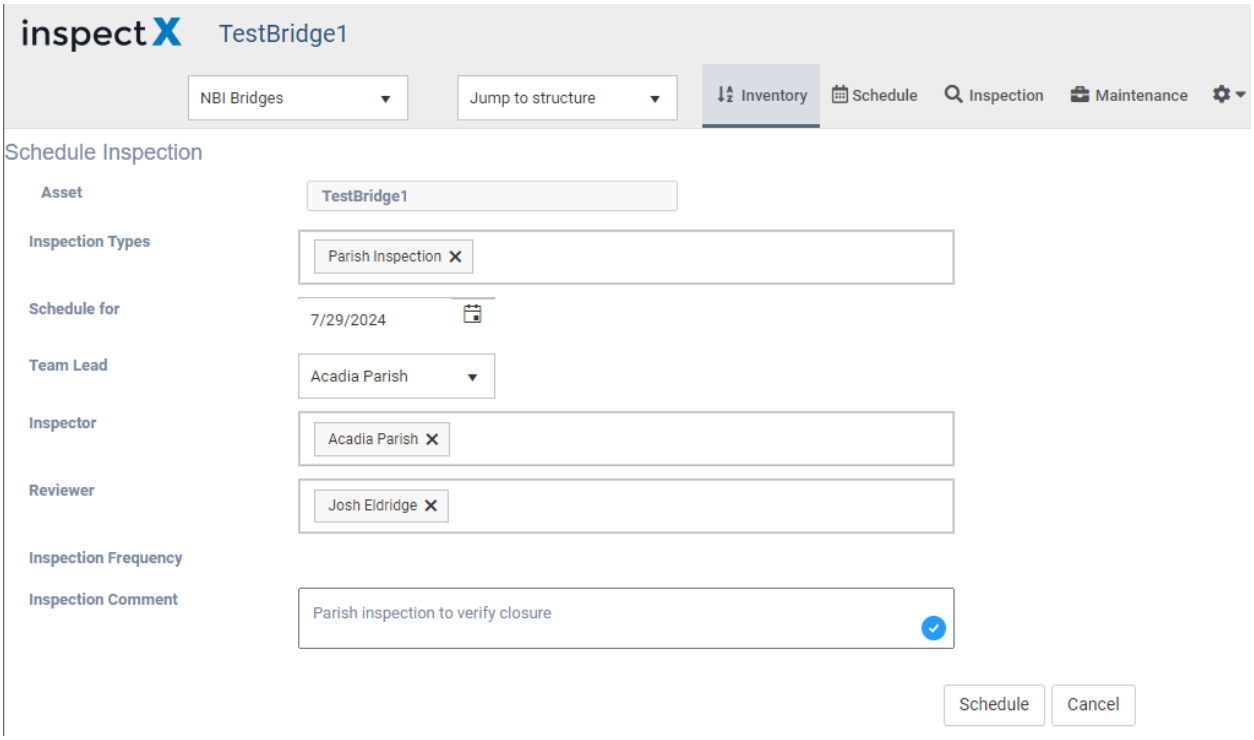


Figure 3-16: InspectX Parish Inspection Scheduling Example

3.2.2 Parish Special (Non-Recurring)

All repair documentation must include the date of repair or date that the repair was first documented. Provide month/year when possible.

Parish Special (non-recurring) inspections are unique, and one-time inspections conducted for a specific purpose, typically to evaluate something in detail. Reasons for special inspections include:

- Callouts for public safety concerns
- Document repairs
- Critical finding follow-up
- Damage

Special inspections of Off-System bridges will be the responsibility of, and performed by, local jurisdiction bridge owners and/or their engineering staff. For all Parish Special Inspections, the inspector should only update the Parish Inspection Notes in the inspection software. The inspector is to include or update any inspection or bridge notes (such as inspection team members, temperature, a summary of element(s) inspected, any vehicle or vessel impact information, etc.).

For all Parish Special Inspections, only the following fields should be updated:

- Inspection Comment with the purpose of the inspection as shown in Figure 3-16.
- Parish Inspection Notes to include any inspection or bridge notes (such as inspection team members, temperature, a summary of repairs, etc.).

3.2.3 Parish Load Rating

All bridges in the NBI are required to have a load rating, which is calculated based on the bridge's present condition. If any changes to the structural capacity of a primary member or connection are observed, a Parish load rating report will be submitted in the Inspection software.

Each local bridge owner is responsible for determining the load-carrying capacity of bridges under its jurisdiction in accordance with Section 3.1.6, the AASHTO MBE, Chapter 6 – Load Rating, 23 CFR 650.313 (c) and the DOTD Load Rating Manual.

3.2.4 Highwater Event

As flood events occur, Owners should monitor their scour critical bridges during and after a flood. inspectors should also collect streambed profiles. The monitoring program should be in accordance with the POA (if one is available) and the scour criticality of a bridge. Refer to Appendix A-4: Scour Highwater Inspection for documentation forms.

Other items to visually observe and document:

- Debris accumulation
- Damage to piles*
- Span alignment

- Bridge rail alignment
- Approach slab undermining
- Approach roadway wash-out or undermining
- Approach slope erosion
- Need for traffic restriction

"High Water Event" inspection type shall be selected and completed in InspectX and submitted to the LADOTD Bridge Inspection Office (District Bridge Engineer) for review.

4 References

4.1 PRIMARY STANDARDS, MANUALS, AND TECHNICAL ADVISORIES

- FHWA, *National Bridge Inspection Standard, CFR 23 – Highways Part 650 Subpart C, Subchapter G – Engineering and Traffic Operations*, December 7, 1994
- AASHTO, *Manual for Bridge Evaluation 3rd Edition*, 2017
- AASHTO, Bridge Element Inspection Guide Manual, 1st Edition, 2010
- AASHTO, *LRFD Bridge Design Specification 8th Edition*, September 2017
- AASHTO, *Movable Bridge Inspection, Evaluation & Maintenance Manual 2nd Edition*, 2017
- DOTD, *2024 Coding and Field Guide*
- DOTD, EDSM No. I.1.1.8, *Establishment of Uniform, Regulatory Truck Weight Limits For Structurally Deficient Highway Bridges Located on Public Roads*, January 11, 2018
- DOTD, EDSM No. III.2.5.6, *Movable Bridges – Design, Construction and Maintenance Training Requirements*, March 26, 1978
- DOTD, *Loss Prevention Safety Manual*
- DOTD Temporary Traffic Control
- DOTD Bridge Posting
- FHWA, *Bridge Inspector's Reference Manual*, FHWA NHI 12-049, December 2012
- FHWA, *Metrics for the Oversight of the National Bridge Inspection Program*, May 2017
- FHWA, *Recording and Coding Guide for Structure Inventory and Appraisal of the Nation's Bridges*, FHWA-PD-96-001, December 1995 and all updates
- FHWA, *Underwater Bridge Inspection*, Publication No. FHWA-NHI-10-027, and all updates:
- FHWA, *Fracture Critical Inspection Techniques for Steel Bridges*, Publication No. FHWA-NHI-11-015 and all updates.
- FHWA, *Evaluating Scour at Bridges 5th Edition Hydraulic Engineering Circular 18*, FHWA-HIF-12-003, April 2012
- FHWA, *Inspection of Gusset Plates Using Non-Destructive Evaluation Technologies Technical Advisory*, January 29, 2010
- FHWA, *Manual of Uniform Traffic Control Devices for Streets and Highways (*23 CFR 655)
- USDA, Forest Service, *Timber Bridges; Design, Construction, Inspection and Maintenance*, 1990

4.2 PERIPHERAL STANDARDS, MANUALS, AND TECHNICAL ADVISORIES

- AASHTO, *Policy on Geometric Design of Highways and Streets*, 2001
- FHWA, *Evaluating Scour at Bridges*, Technical Advisory, 1991
- FHWA Hydraulic Engineering Circulars (HEC) No. 18, *Evaluating Scour at Bridges (5th Edition)*, FHWA-HIF-12-003, April 2012
- FHWA, *Culvert Inspection Manual*, Report No. FHWA-IP-86-2, 1986
- FHWA, *The Bridge Inspector's Manual for Movable Bridges,* 1977
- FHWA, *Policy Criteria for Selecting Bridges for Re-Rating*, October 30, 2006
- FHWA, *Development of Phased-Array Ultrasonic Testing Acceptability Criteria (Phase I)*, October 2014
- FHWA, *Development of Phased-Array Ultrasonic Testing Acceptability Criteria (Phase II)*, October 2014
- FHWA, *Inspection of Fracture Critical Bridge Members*, Report No. FHWA-IP-86-026, 1986
- NCHRP, *Guideline for Implementing Quality Control and Quality Assurance for Bridge Inspection*, June 2009
- DOTD, *Test Procedures Manual*
- DOTD, Location and Survey Manual, April 1, 1987
- DOTD, Roadway Design Procedures and Details Manual, March 2009
- DOTD, 2011 Hydraulics Manual
- DOTD, Standard Specifications for Roads and Bridges Manual, 2016 Edition
- DOTD, Traffic Signal Design Manual, Version 2.0
- DOTD, *Mud Sill Use Guidance Memorandum*, October 24, 2013
- DOTD, Materials Sampling Manual, 2016
- DOTD, Bridge Design and Evaluation Manual (BDEM)
- DOTD, *BDTM's*
- NCHRP, *Synthesis 375: Bridge Inspection Practices*
- 29 CFR 1910 Occupational Safety and Health Standards
- 29 CFR 1926 Safety and Health Regulations for Construction
- *Nondestructive Testing and Evaluation of Steel Bridges*, James Bader, 2008

5 Appendix

A-1: Add and Delete Bridges Worksheet

A-2: Bridge Type Codes

A-3: Phase 1 Scour Assessment Form

A-4: Scour Highwater Inspection

A-5: Mud Sill Use Guidance

A-6: Examples of Good/Bad Element Notes

A-7: Flowchart for Critical Finding and Bridge Closure Procedures

A-8: Parts of a Bridge

A-1: Add and Delete Bridges Worksheet

ADD/DELETE

DIST. _____

OFF PARISH _____

ON/OFF _____

ROUTE _____

FEATURE CROSSED _____

NEW LATITUDE _____

NEW LONGITUDE _____

PROJECT # _____

NO

ADD _____ YES/NO

NEW RECALL # _____

BRIDGE TYPE _____

LENGTH _____

NO

DELETE _____ YES/NO

YES

EXISTING RECALL # _____

STRUCTURE # _____

BRIDGE TYPE _____

LENGTH _____

UNDERWATER NEEDED _____

HYDROGRAPHIC NEEDED _____

PROJECT NAME _____

REMARKS :

_____ Date

_____ Completed By

Rev. 11/12/2024

A-2: Bridge Type Codes

Rev. 8/27/2024

LADOTD Bridge Types

	NAME	DESCRIPTION
Timber Spans	TTTRES	Treated Timber Trestles
	TTTCOF	Treated Timber Trestles (w/ Concrete Deck)
	TTTLAM	Treated Timber Trestles (w/ Laminated Deck and/or Stringers)
Timber & Steel Spans	CIBTTF	Timber Trestle w/ I-Beam Stringers (w/ Timber Deck)
	CIBTCF	Timber Trestle w/ I-Beam Stringers (w/ Concrete Deck)
Concrete Girder/Slab Spans	COSLAB	Concrete Slab
	LWSLAB	Lightweight Concrete Slab
	CNTSLB	Concrete Slab - Continuous
	COPCSS	Concrete Precast Slab Units
	LWPCSS	Lightweight Concrete Precast Slab Units
	COCHAN	Concrete Channel Units
	COVSLB	Concrete Voided Slab
	CODEKG	Concrete Deck Girder
	CNTCDG	Concrete Deck Girder - Continuous
	COPSGR	Concrete Prestressed Girders
	CCPSGR	Concrete Prestressed Girders - Continuous
	COBXGR	Concrete Box Girder
	CBXSEG	Concrete Box Girder - Segmental
Movable Spans	TRSWNG	Truss Swing Span
	PGSWNG	Steel Plate Girder Swing Span
	TRBASC	Steel Truss Bascule Span
	PGBASC	Steel Plate Girder Bascule Span
	STVERT	Steel Tower Vertical Lift Span
	COVERT	Concrete Tower Vertical Lift Span
	PONTON	Pontoon Bridge
Culverts (Over 20ft total opening)	BOXCLV	Box Culvert(s)
	FRACLV	Frame Culvert(s)
	ARCCLV	Arch Culvert(s)
	PIPCLV	Pipe Culvert(s)
Steel Girder Spans	STSIBM	Steel I-Beam (Simple Span)
	STCIBM	Steel I-Beam - Continuous
	STPLGR	Steel Girder (w/ Floor Beams or Pin & Hanger)
	STCUGR	Steel Curved Girder
	STBXGR	Steel Box Girder
	STCUBX	Steel Curved Box Girder
	STCAGR	Cable Stayed
Truss Spans	STHITR	Steel Simple Through Truss
	STCANT	Steel Cantilevered Through Truss
	STPONY	Steel Pony Truss
	STDKTR	Steel Deck Truss
Miscellaneous Structures	FERRYT	Ferry - Toll
	RRFLCR	Railroad Flat Car
	PEDXNG	Pedestrian Walkway
	BAILEY	Bailey, ACRO, or other "Portable Army Type" Bridging

A-3: Phase 1 Scour Assessment Form

S.P. No: FAP. No: Date:	**PHASE 1** **SCOUR ASSESSMENT OF BRIDGES OVER WATERWAYS**	DISTRICT: PARISH: RECALL. No.:

Stream Name: **Route:**

SNBI Item B.AP.03 Worksheet

☐ Unknown Foundation, Code (D) Pile Length

☐ Bridge Not Over Water (N) Min, pile penetration %

☐ Scour Stable (A) ☐ Bridge Designed for Scour: See plans, Project #

- ☐ Min. pile penetration of 50%, 20-ft minimum (drainage area < 10-sq mi)
- ☐ Min. pile penetration of 50%, 25-ft minimum (10-sq mi < drainage area < 25-sq mi)
- ☐ Min. pile penetration of 50%, 30-ft min; (25-sq mi < drainage area < 100-sq mi)
- ☐ Engineering Judgment* (See Notes/Report)
  *Not valid for new bridges
  - ☐ Drainage area <= 2-sq mi
  - ☐ No history of scour (from available records)
  - ☐ Bridge service life >= 20-yrs
  - ☐ Not on Interstate/NHS Route
  - ☐ No significant signs of lateral/vertical instability

☐ Scour Susceptible (D), Bridge is or may become Scour Critical

- ☐ Pile penetration less than 50%
- ☐ Pile penetration less than 20-ft (drainage area < 10-sq mi)
- ☐ Pile penetration less than 25-ft (drainage area > 10-sq mi)
- ☐ Pile penetration less than 30-ft (25-sq mi < drainage area < 100-sq mi)
- ☐ Drainage area greater than 100-sq mi

☐ Scour Critical with Temporary (not designed) Countermeasures (C)

Phase I SNBI Item B.AP.03 Rating

Notes:

A-4: Scour Highwater Inspection

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SCOUR/HIGH WATER INSPECTION REPORT

ᵣev. 08/2024

Recall# ______________ **District:** ______________

Parish: ______________________________

Circle **On / Off**

Side of structure LEFT OR RIGHT

Reference Point ______________

Correction (Ft) ______________

Water Level (Ft) ______________

Active Scour : YES or NO
(Including Abutments & Approach Rdwy) (If yes, explain in notes)

Debris : YES or NO
(If yes, explain in notes)

Damage: YES or NO
If yes, Fill out Survey123

Hydrographc Survey Required : YES or NO

Overtopping : YES or NO

Concrete Lined: YES or NO

Bent No.	Distance from beginning of structure	Current Streambed Measurement Upstream

Notes: ______________________________

Photos Taken : YES or NO ________

Further Review Needed : YES or NO ________

Inspected By : ______________________________
(Full Name) ______________________________

Date : ______________________________

A-5: Mud Sill Use Guidance

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

INTRADEPARTMENTAL CORRESPONDENCE

REFERRED TO

_____
_____
_____

_____ REFERRED FOR ACTION
_____ ANSWER FOR MY SIGNATURE
_____ FOR FILE
_____ FOR YOUR INFORMATION
_____ FOR SIGNATURE
_____ RETURN TO ME
_____ PLEASE SEE ME
_____ PLEASE TELEPHONE ME
_____ FOR APPROVAL
_____ PLEASE ADVISE ME
_____ _____

BY _____ DATE _____
BY _____ DATE _____
BY _____ DATE _____

MEMORANDUM

TO: DISTRICT BRIDGE INSPECTION OFFICES

FROM: DAVID MILLER, P.E. David H. Miller

DATE: OCTORBER 24, 2013

SUBJECT: MUD SILLS

As bridges come up for their routine inspection or bridge rating, the use of existing mud sills should be evaluated for consistency with the guidance from this memorandum.

Because of the uncertainty in calculating the capacity of mud sills, their use will be phased out over time and should only be used as a last resort on temporary repairs not to exceed 12 months. There are many repair methods that function better and can be backed up with engineering data to support the repair methodology.

Criteria for use of mud sill are listed below:

- Heights of 5 feet or less
- If inundated do not use
- Should not be used on scour susceptible waterways
- Full bearing between the cap and the ground
- Mud sill usage should be limited to abutments. They should also be limited to portions of the abutment and not the entire abutment.

If there are extenuating circumstances that arise that are not covered in the memorandum, please contact the Section 51 office for further guidance.

cc: Vince Latino

_____ _____
RECOMMENDED FOR APPROVAL DATE

_____ _____
RECOMMENDED FOR APPROVAL DATE

_____ _____
RECOMMENDED FOR APPROVAL DATE

_____ _____
APPROVED DATE

A-6: Examples of Good/Bad Element Notes

Bad Description	Good Description
Bottom of deck has cracks, delaminations, and spalls with exposed corroding rebar along panel joints and throughout deck area. QA Comments: Add Dimensions of spalls and corrosion Defect, Condition state, and quantity to the end of comment	Bottom of deck in Span 1 has cracks and delaminations up to 12” diameter along a spall approximately 3’ L x 6” W x 2” D with exposed rebar having approximately 10% section loss (1090, CS3, 1.5 SF).

Bad Description	Good Description
Panel 6, left side is spalled. (77" x 13" x 4") with 120" of # 8 rebar with 1/8" section loss. QA Comments: Great! Very Descriptive, just add location, Defect, Condition State, and quantity to the end of comment.	Span 3, Panel 6, left side has a spall at midspan, 77" L x 13" W x 4" D with 120" of #8 rebar with 1/8" section loss (1090, CS4, 7 SF).

Bad Description	Good Description
Both spans are longitudinally cracked with efflorescence. QA Comments: Add crack width measurement, approximate spacing (or number), and Defect, Condition State, and quantity to end of comment.	Both spans have 3 full-length, longitudinal cracks less than 0.012” with light efflorescence (1120, CS2, 40 SF).

Bad Description	Good Description
The piles are in fair condition with protective paint system failure in the bottom 10" to 12", with up to 1/16" section loss present. QA Comments: Great job, just add Defect, Condition State, and quantity!	The piles are in fair condition with protective paint system failure in the bottom 10" to 12", with up to 1/16" section loss present (1000, CS3, 20 LF).

Bad Description	Good Description
Helper piles and caps have corrosion. QA Comments: Needs improvement. Add dimensions of corrosion, pile number and location. Add Defect, Condition State, and quantity to the end of the comment.	Helper Piles 1 - 4 at Bent 2 have flaking corrosion with up to 3/16” section loss on the flanges and webs extending 12” down from the cap (1000, CS3, 4 LF). Bent 2 Cap beam has corrosion with up to 3/16” section loss on the flanges and 1/8” section loss on the web, extending 24” at all 4 pile to cap connections (1000, CS3, 8 LF).

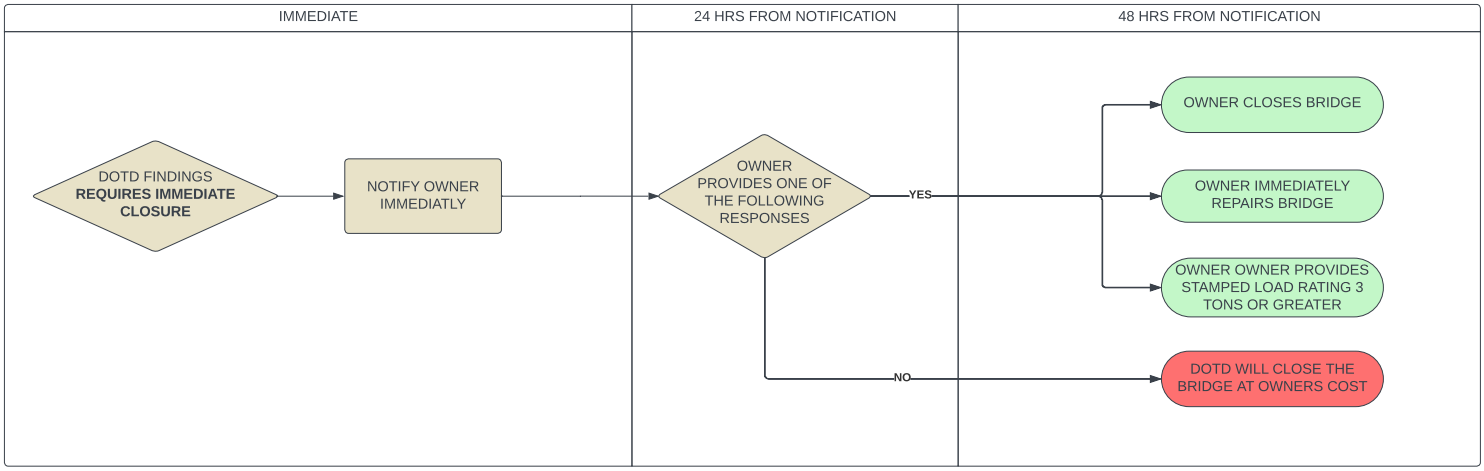
Bad Description	Good Description
Girders 5 and 6, which are the center girders, have heavy corrosion with section loss to the webs and bottom flanges. This is caused by the joints being unsealed at the median. The open joints are allowing debris to accumulate on the caps and around the bearings and girders. QA Comments: Add more dimensions. Add Defect, Condition State, and quantity. Get away from paragraphs, use bulleted list instead	Span 1, Girders 5 and 6 - Heavy corrosion with 100% section loss at the bottom of the web 12” L x 3” H located at Abutment 1 (1000, CS3, 1 LF). - Corrosion appears to be accelerated by open joints at Abutment 1 and Pier 2 above the girders allowing debris and water to accumulate.

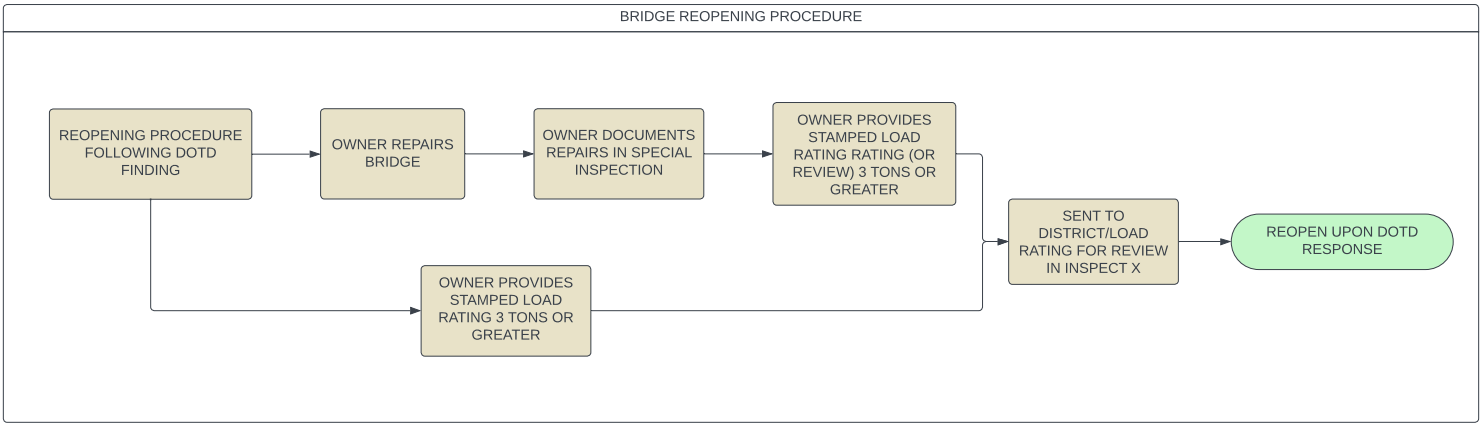
Bad Description	Good Description
Pile 1 (CS 3) - has 4'' outer shell decay (41'' circ.). This needs to be repaired. QA Comments: Nice Comment! Add Dimension of decay area, Defect, and quantity.	Pile 1 at Bent 3 - Decay 8” H x 6” W X 4” D (1140, CS3, 1 EA). - The original circumference of the pile is 41”.

Bad description	Good Description
Span #8 - Timber girder #6 broken mid-span 5' in length. QA comments: Add Defect, Condition State, and quantity	Span 8 - Timber Girder 6 has a 5’ L fracture at mid-span (1160, CS4, 25 LF). - This condition has been referred to Load Ratings for review.

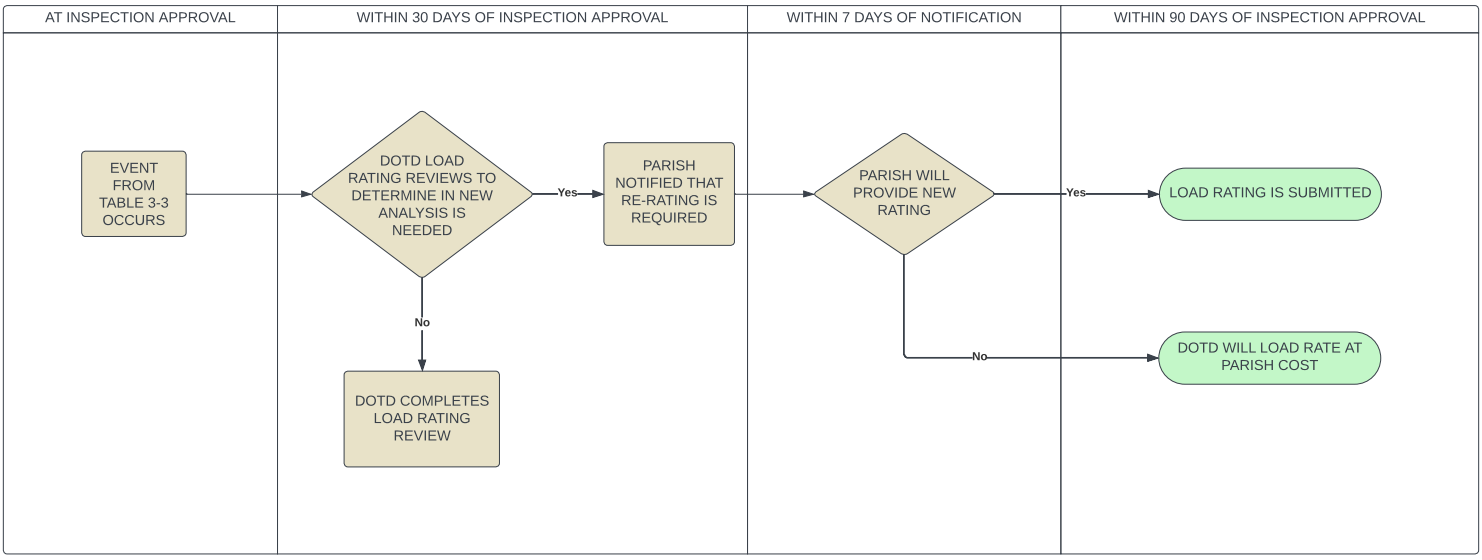
Bad Description	Good Description
Girder 9, Span 1, has a 4'L x 3"W x 3"D loss of section on bottom, also a 3'L x 3"W x 2"D loss of section on bottom. QA Comments: Add locations, Defect, Condition State, and quantity.	Girder 9, Span 1: - 4'L x 3"W x 3"D loss of section on bottom, near bearing w/ cap at Abutment 1 (1140, CS4, 4 LF) - 3'L x 3"W x 2"D loss of section on bottom near midspan (CS3). (1140, CS4, 3 LF) - These conditions have been referred to Load Ratings for review.

A-7: Flowchart for critical finding and bridge closure procedures

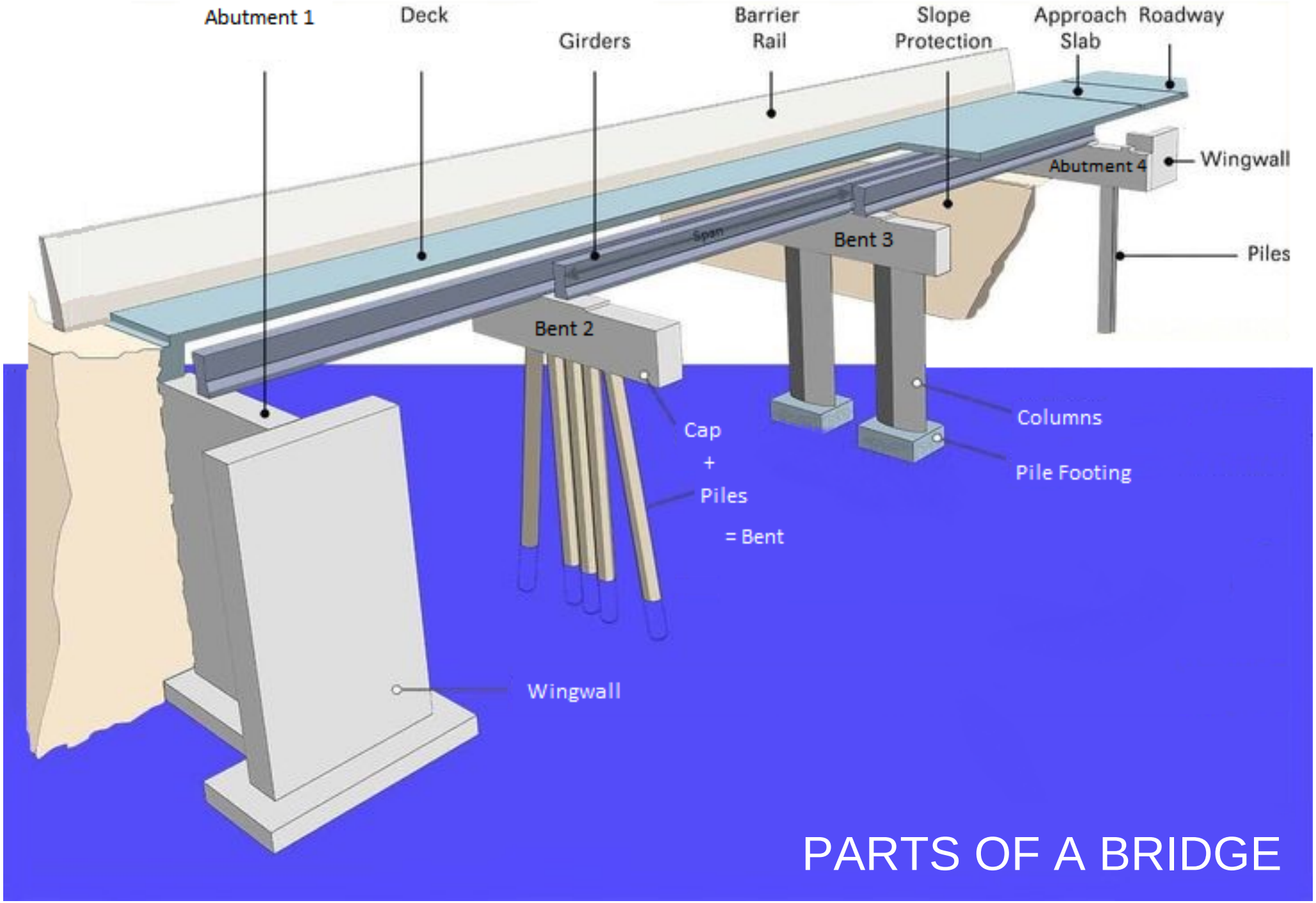

IMMEDIATE
24 HRS FROM NOTIFICATION
48 HRS FROM NOTIFICATION
DOTD FINDINGS **REQUIRES IMMEDIATE CLOSURE**
NOTIFY OWNER IMMEDIATLY
OWNER PROVIDES ONE OF THE FOLLOWING RESPONSES
YES
NO
OWNER CLOSES BRIDGE
OWNER IMMEDIATELY REPAIRS BRIDGE
OWNER OWNER PROVIDES STAMPED LOAD RATING 3 TONS OR GREATER
DOTD WILL CLOSE THE BRIDGE AT OWNERS COST


BRIDGE REOPENING PROCEDURE
REOPENING PROCEDURE FOLLOWING DOTD FINDING
OWNER REPAIRS BRIDGE
OWNER DOCUMENTS REPAIRS IN SPECIAL INSPECTION
OWNER PROVIDES STAMPED LOAD RATING RATING (OR REVIEW) 3 TONS OR GREATER
OWNER PROVIDES STAMPED LOAD RATING 3 TONS OR GREATER
SENT TO DISTRICT/LOAD RATING FOR REVIEW IN INSPECT X
REOPEN UPON DOTD RESPONSE

Load Rating


AT INSPECTION APPROVAL
WITHIN 30 DAYS OF INSPECTION APPROVAL
WITHIN 7 DAYS OF NOTIFICATION
WITHIN 90 DAYS OF INSPECTION APPROVAL
EVENT FROM TABLE 3-3 OCCURS
DOTD LOAD RATING REVIEWS TO DETERMINE IN NEW ANALYSIS IS NEEDED
Yes
No
PARISH NOTIFIED THAT RE-RATING IS REQUIRED
DOTD COMPLETES LOAD RATING REVIEW
PARISH WILL PROVIDE NEW RATING
Yes
No
LOAD RATING IS SUBMITTED
DOTD WILL LOAD RATE AT PARISH COST

A-8: Parts of a Bridge


Abutment 1
Deck
Girders
Barrier Rail
Slope Protection
Approach Slab
Roadway
Abutment 4
Wingwall
Piles
Span
Bent 3
Bent 2
Cap
+
Piles
= Bent
Columns
Pile Footing
Wingwall
PARTS OF A BRIDGE