APPENDIX  IP 01-G

General Scope of Work -
Safety Inspection of State and Local Bridges
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Description: Safety Inspection of State and Local Bridges

Purpose: Inspect, load rate, appraise and inventory all types of structures and perform follow-up work as directed

Guidance:
The requirements of the latest versions of the following Department accepted AASHTO and FHWA manuals and the latest versions of Department Publications and Policy, including any updates, shall be followed in the performance of the Scope of Work:
1. National Bridge Inspection Standards (NBIS).
2. NHi Publication 02-037: Fracture Critical Inspection Techniques for Steel Bridges
2. AASHTO Publications
   a. AASHTO Manual for Condition Evaluation of Bridges
   b. AASHTO Standard Specifications for Highway Bridges
3. FHWA Publications:
   c. Inspection of Fracture Critical Bridge Members, Report No. FHWA-IP-86-26
   d. Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation’s Bridges, Report No. FHWA-PD-96-001
   e. Bridge Inspector’s Manual for Moveable Bridges, FHWA-IP-77-10
4. Department Publications and Policy:
   a. Bridge Management System 2 (BMS2) Coding Manual, Department Publication 100A
   b. Design Manual, Part 4, Structures
   d. Bureau of Design Standards for Bridge Construction, BC-700M Series
   e. Bureau of Design Standards for Bridge Design, BD-600M Series
   f. Bureau of Design Standards for Roadway Construction, RC 1M to 100M Series
   g. Temporary Traffic Control Guidelines, Publication 213
   h. PA CoRe Element Coding Guide, Department Publication 590
   i. Active Department Strike-off Letters
5. Department Inspection and BMS2 Forms:
   a. BMS2 iForms forms (D-450s) and their updates

Scope:
The scope of work will include the following activities:

I. TYPES OF SAFETY INSPECTION WORK

A. Initial Inventory and Inspection - Insufficient or no data is available in BMS2. An inspection fulfilling NBIS requirements has never been performed. For bridges carrying highway traffic, a separate Bridge Load Rating work item must also be done and its results incorporated into this initial inspection report (see Scope Section II.E., “Bridge Load Rating”).

State-Owned Bridges - A PA CoRe element inventory and assessment for bridges has never been performed. Identify elements and smart flags, calculate element quantities and scale factors. Identify and record the condition states of the defined elements and smart flags.

B. Routine NBIS Inspection - An NBIS Inspection has been previously completed within the last two (2) years and that inspection report and/or documentation is available.

State-owned Bridges - The PA CoRe element inventory has been previously completed and documentation is available. Identify and record the condition states of the defined elements and smart flags.
C. **Interim Inspection** - An NBIS Inspection has been previously completed. The structure is included in the BMS2 and the previous inspection report is available. Perform an inspection that is usually limited to portion(s) of the structure which require increased frequency of inspections. Interim inspections fall under the general category of Special Inspections as outlined in Publication 238, § IP 2.3.5. The scope of work for an Interim Inspection must be approved by the District Bridge Engineer prior to initiating work.

State-owned Bridges - The PA CoRe element inventory has been previously completed and documentation is available. Identify and record the condition states of the defined elements and smart flags.

D. **Supplemental Inspection** - Perform in-depth work beyond the scope of Routine inspections, focusing on the entire structure (as in In-Depth Inspections, see Pub 238 § IP 2.3.4) or specific components (as in Special Inspections, see Pub 238 § IP 2.3.5). In-depth tasks may include the following:
- Non-Destructive Testing (except dye penetrant),
- Laboratory Analysis,
- Geotechnical sampling and testing,
- structure instrumentation, and
- underwater inspection.

The scope of work authorizing a Supplemental Inspection should have provisions for these tasks identified in the LIST OF SPECIAL REQUIREMENTS. The scope of work for an In-Depth or Special type of inspection must be approved by the District Bridge Engineer prior to initiating work.

E. **Bridge Load Rating** - Perform a structural analysis and load rating of the structure to determine its ability to carry PA’s legal loads.

F. **Critical Deficiency Meetings** - Coordinate and conduct a meeting with local bridge owners to discuss critical structure deficiencies found during the recent inspections.

II. **INSPECTION REQUIREMENTS**

A. **Initial Inventory and Inspection**
   1. Conduct a complete inventory and field inspection utilizing iForms.
   2. Complete BMS2 Inventory data items via BMS2 web and Inspection iForms.
   3. If structure carries highway traffic, incorporate the Bridge Load Rating performed under separate work item into the initial inspection report. Evaluate bridge for posting needs.

   For State-owned Bridges only:
   5. Identify PA CoRe elements of the bridge.
   6. Calculate quantities and scale factors.
   7. Prepare PA CoRe element summary table for all elements and provide supporting calculation for each element.
   8. Identify and record condition states for all elements. Identify smart flags as needed.

B. **Routine Inspection**

   1. **All bridges, except closed bridges.**
      a. Conduct a complete field inspection utilizing iForms.
      b. Update/supplement the evaluation for posting needs for the structure’s current condition. Determine if re-rating is warranted by comparing new vs. existing section loss measurements. If structure is to be re-rated, use the new load rating summary.
      c. Update/amend the Inspection File providing new photographic documentation and/or sketches.
as needed.

d. Update and/or complete the required minimum BMS2 inventory and inspection items via BMS2 web. See Scope Section III.C., “Minimum Required Inventory and Inspection Data,” for minimum BMS2 items required.

e. Incorporate the results of previous or new load ratings into the report.

f. Prepare an Inspection Report to document all work and findings with repair costs.

For State-owned Bridges only:

g. Identify and record condition states for all elements. Identify smart flags as needed.

h. Update elements and/or quantities based on changed field conditions.

2. Closed Bridges

a. Inspect bridges closed to highway traffic to assure that the physical barriers are maintained and that the public safety is not jeopardized. Assess the physical integrity of the structure and any potential hazards to the public on or beneath the structure, especially if pedestrian use is to be allowed.

b. Use PennDOT Inspection iForms for field notes. Include a minimum of 2 photos showing bridge with in-place barriers.

c. Prepare an Inspection Report to document all findings.

3. Partially Closed Bridges

A. Inspect the open portions of bridges partially closed for staged construction as outlined in Scope Section II.B.1.

B. Prepare an Inspection Report to document all findings.

C. Interim Inspection

  1. Inspect the specified portion(s) of the structure as authorized by the District Bridge Engineer. Use PennDOT inspection iForms.
  2. Update/supplement the posting evaluation of the portion inspected.
  3. Update/amend the portion of the Inspection Report dealing with the portion inspected.
  4. Update and/or complete the required minimum BMS2 inventory and inspection items via BMS2 web relevant to the portion inspected.
  5. Prepare an Inspection Report to document all work and findings.

D. Supplemental Inspection

  1. Conduct inspection of structure as directed by the Department. Use PennDOT Inspection iForms.
  2. Perform follow-up sampling and testing as specified.
  3. Update/amend the portion of the Inspection Report dealing with the portion inspected.
  4. Update and/or complete the required minimum BMS2 inventory and inspection items via BMS2 web dealing with the Supplemental Inspection.
  5. Prepare an Inspection Report to document all work and findings.

E. Bridge Load Rating

  1. Perform or update the structural analysis and load ratings for all PA legal loads using the latest specification and programs.
  2. Identify the structural components or members that govern the ratings.
  4. When appropriate update ratings directly in BMS2 web.

F. Critical Deficiency Meetings

  1. Arrange and conduct a meeting with local bridge owners to discuss critical deficiencies found during the inspection.
  2. Prepare informal meeting minutes and supply copy of the minutes to the District and municipality.
III. BMS2 INVENTORY AND INSPECTION DATA

A. Department Structures - Complete and/or update all applicable data items of the BMS2 D-491 Forms printout unless otherwise instructed. Complete new forms for new bridges.

B. Local Government Bridges and Others - Provide complete data as in the Scope Section III.A., unless otherwise directed to provide only minimum data.

C. Minimum Required Inventory and Inspection Data - Minimum inventory and inspection data includes all BMS2 Items identified with an asterisk in BMS2 Coding Manual, Publication 100A, and the following BMS2 Items:

- 5C12 Future ADT
- 5C13 Future ADT Year
- 5C30 School Bus Route
- 5C32 Transit Bus Route
- 6A04 Co Municipality Boundary Code
- 6A38 Bridge Deck Type
- 6A43 Approach Pavement Width
- 6A44 Fracture Critical Group #
- 6A45-6A48 FCM Critical Rating Factor
- 6A53 Cum Truck Traffic for Fatigue Damage
- 6B24 Agency Hiring Consultant
- 6B26 Inspection Manhours
- 6B27 Crane Hours
- 6B32-6B34 Inspection Cost
- 6B36 6B37 Paint Condition
- 6B38 Approach Slab Condition
- 6B39 Approach Roadway Condition
- 6B40 Deck Wearing Surface Condition
- 6C10 Highway System
- 6C11 State Network
- 6C24 Vertical Clearance Sign
- 7A03 Type of Inspection
- 7A05 Consultant Name
- 7A05 Inspection By
- 7A09 Inspection Frequency
- 7A14 Next Inspection By
- VP01 Status Date
- VP03 Special Restrictive Posting
- VP04 Posted Weight Limits
- VP06 Reason for Posting or Closing
- VD14 Abutment Type
- VD15 Abutment Foundation Type
- VD16 Pier Type
- VD17 Pier Foundation Type
- VD19 Length of Culvert
- IR06 Rating Method
- IR07 IR Controlling Member
- IR08 Fatigue Category Controlling Member
- IR09 Fatigue Controlling Load Type
- IR14 AASHTO Manual Year
- IR15 AASHTO Spec Year
- IR18 Fatigue Stress Range
- IF Items for FCMs IF01 – IF06
- IN, IU All IN and IU Items except IN22 and IN23
- IM Items IM01 – IM15
Note: Only applicable items need to be coded. All submitted data will be stored in BMS2. Owners are encouraged to collect and submit all inventory and inspection information available.

IV. FIELD INSPECTION AND ASSESSMENTS

A. Completely inspect all bridge elements including the foundations that support the substructure elements. Clean members as needed to assess condition. For an Interim Inspection, inspect only the specified areas/members. However, report any public safety threatening deficiencies that are observed elsewhere on the bridge. Include inspection of any sign structures attached to the bridge, which includes the completion of a separate iForms record for the sign.

B. Clearly record all inspection field notes in iForms. Provide sufficient written comments within iForms to outline the bridge’s condition and to justify all condition and appraisal ratings.

Precisely locate and describe deterioration and all areas of section loss. Perform dye penetrant testing if cracking is suspected or found. Determine if current conditions warrant a re-rating for load capacity. Determine if current load posting status is appropriate. Prepare sketches and obtain photographic documentation.

C. Inspect all substructure units and culverts (e.g. abutments, piers, footings, etc.) visually or by feel (e.g. probing) for condition, scour, integrity, safe load capacity, etc. Use iForms Inspection forms to record findings.

Conduct evaluation of the site and structure to determine the risk from scour. Investigate the scour potential and determine structure stability. Determine channel condition and waterway adequacy. Update scour assessment as warranted. Propose countermeasures appropriate for conditions. Determine the need for an underwater inspection by a professional diver and record reasons in the Recommendation section of the report.

Provide/update plan view sketch of bridge and stream to denote channel changes, scour deposition, etc. Provide/update waterway opening sketch (cross section) to denote bottom of stream, superstructure and substructure units. Measurements from permanent marker should be in table form to compare with previous inspections.

D. Identify locations and provide description of Fracture Critical Members (FCM) and fatigue prone details. Use iForms, Form F Inspection Form to record findings. Discuss future inspection frequency and procedures for these FC members.

E. Identify and record all maintenance and major improvement needs utilizing iForms Inspection Forms.

F. For state-owned bridges conduct a complete field PA CoRe element assessment utilizing iForms Inspection Forms. Identify and record condition states for all elements and smart flags. Provide sufficient comments within iForms to describe the element’s condition and corresponding location to justify all condition states. Update elements and/or element quantities based on changed field conditions.
G. Provide emergency retrofit schemes, as directed, to any critical conditions uncovered.

H. Arrange for rigging, inspection cranes, platform lift trucks, ladders, boats, etc. The use of safety boats or skiffs should be considered when working over water and the risk of falling is high. Arrange for any needed Traffic Control. Ensure the safety of inspectors and public at all times.

I. For highway bridges over railroads, coordinate with the railroad to arrange access for inspection of portions of bridges affected by railroad electrification and for railroad protective services while working in the track area and as required by the railroad. Obtain necessary permits and insurance.

V. STRUCTURAL ANALYSIS, LOAD RATING, and POSTING EVALUATION

A. Acquire authorization from the District Bridge Engineer prior to updating or performing a structural analysis or load rating.

B. Perform or update the structural analysis and load ratings using Load Factor methodology where applicable. Where Load Factor is not applicable, rate the bridge using a method acceptable to AASHTO and the Department. Load rate all bridges at Inventory and Operating levels for AASHTO H, AASHTO HS, PA’s ML-80, and PA’s TK527 vehicle configurations. In addition, rate bridges on State highways for P82 Permit vehicle at Operating Rating only.

C. Use conventional methods of analysis unless more complex and refined methods are specified, or warranted and specifically authorized by the Department. (Refer Publication 238, chapter 3).

D. Identify the structural components or members that govern the ratings. Define any section losses and/or other deficiencies on these members. Provide or reference typical cross-sections and/or framing plans. Include a table of stresses and a rating summary in the report. Reference calculation page number for values in rating summary.

E. Calculate the load ratings using data available from inspection files and reports, supplemental field information and testing data. When no data or drawings (or sketches) are available, field measure members and calculate load ratings.

F. Ensure that all computations are in accordance with current Department and AASHTO Specifications. Update existing computations accordingly.

When computer analysis is used, provide program input and output, calculations to prepare input, documentation of all assumptions, and any other post-processing calculations. Index computations so key data is readily available.

G. Use the Department’s latest version of the appropriate bridge software for analysis and rating, if applicable.

H. Perform a structural analysis of the substructure only if its structural adequacy is at risk due to scour or section loss as a result of the field inspection findings or its unusual component makeup.

I. Evaluate each bridge to determine its capacity in its current condition relative to the four vehicle configurations (H, HS, ML-80, TK527) used to represent PA’s legal loads and the need for a weight restriction and the level of posting.

For those situations where the Load Factor method results in lower ratings, a second rating utilizing an accepted method may be used to establish the posting levels.
VI. DRAWINGS

A. Update existing drawings or sketches whenever possible, rather than preparing new drawings. Use the Department’s design drawing revision procedure to note changes since original drawing preparation.

B. If no plans are available, prepare sufficient drawings to document the makeup of the structure. Include data and view as follows:
   1. General plan and elevation.
   2. Cross sections.
   3. Framing plan.
   4. Sketches of structural members (including dimensions).
   5. Stress sheets.
   6. Results of field inspection, analysis, and historical data, when appropriate.
   7. Streambed cross sections, profile and soundings including areas of bed and bank scour.
   8. Structural details, including all fracture critical members unless adequately documented by photographs.

C. For small and/or simple structures, sketches of 8½” X 11” format are acceptable. Prepare sketches using straight edges etc.

D. When retrofit schemes are requested, provide full size plan sheets (22” x 34”).

VII. PHOTOGRAPHS

Provide digital photographs in the inspection report to supplement field inspection notes and drawings and to document conditions. Provide photographs sufficiently clear, properly identified, dated, and indexed. Include views of the overall bridge plus its side elevation, the approach roadway and its alignment, any defects and structural details.

All photographs must be in full color. Xerographic/laser copies of photographs and scanned prints may be used as substitutes for report photographs if resolution and quality is acceptable to the District.

VIII. MEETINGS TO DISCUSS CRITICAL DEFICIENCIES WITH LOCAL OWNERS

Discuss all critical structural and safety-related deficiencies, including posting/repair/maintenance recommendations and alternatives contained in the current inspection report with the bridge Owner at a formal meeting. A meeting is not required for critical deficiencies that involve only missing/damaged weight limit, vertical clearance, or any other regulatory signs. For County bridges, a Commissioners’ meeting is appropriate. For Municipalities, arrange for appropriate officials to be present. The contracting agency (such as the County, if applicable) may also attend.

Place emphasis of discussion on uncorrected critical and other deficiencies brought forward from the previous inspection report. Ensure these deficiencies are highlighted in the current inspection report. Prepare informal minutes of the meeting that include attendance, issues discussed, proposed solutions, and needed follow-up items for the deficiencies.

This meeting may also be held to discuss inspection findings, general bridge condition and maintenance needs if requested by bridge owner and authorized by the District Bridge Engineer.

A. Convene the meeting within three days after identifying a critical structural deficiency(ies) and present a Plan of Action (POA) addressing the deficiency(ies) to the Owner. Refer to IP 2.13.2. and IP 2.14 for information regarding the general requirements for the POA. During the meeting, ensure the Owner has a thorough understanding of the critical nature of the defect(s) and the need for timely action as
identified in the POA. Attendance by the engineering services consultant for the Local Owner is limited to the role of advising, communicating and facilitating the Owner’s understanding of the deficiency’s effects on safety and development of the POA.

B. Provide liaison between the District and the Owner when it is necessary to take immediate actions, permanent or temporary in nature, to safeguard public safety (e.g. temporary shoring, bridge closing) before the POA is fully developed.

C. If more time is needed to develop the POA because of the complexity of the problem, request a POA documentation time extension via e-mail to the District Bridge Engineer, copy to the Local Bridge Coordinator and Chief Bridge Engineer; before the end of day 3. Include a description of actions taken to date to ensure public safety.

D. The Plan of Action shall provide essential information and be structured to match the BMS 2 field information for IM01-IM15. The narrative format must show all maintenance actions and schedule required for repairs and restoration of safety to an acceptable level. In addition to the coding IM01-IM05 describing and prioritizing the deficiency in BMS2, address the following fields:

- IM06 Date Recommended
- IM07 Status of Work Candidate – Identify if the work will be done by the local owner forces or contractor, and whether work has been completed using appropriate coding. Typical codes include 1,2,5,6. (Note: For local and other owners for codes 1 and 5, “Dept” indicates “owner”).
- IM08 Target Year
- IM09 Location
- IM10 Estimated Cost
- IM11 Work Assign
- IM12 Drawing Indicator
- IM13 Permit Indicator
- IM14b POA Date - Fields IM14a Date Completed and IM14c Mitigated Date must be entered following completion of the work
- IM15a Notes - A brief description of steps taken to address the deficiency which can include closing, posting, restricting, traffic temporary shoring, etc. The actions must restore the structure safety to an acceptable level. Note that additional work may be required at a later time to restore full level of service. A schedule for additional work should be included. Following completion of the immediate work and based on justification included in the plan, record the remaining additional repairs in BMS 2 and note as such in item 15b.

E. The meeting with the Local Owner should not be adjourned until agreement has been reached regarding specific action to be taken and associated schedule. After confirming the finished plan’s acceptability with the District Bridge Engineer, enter the appropriate information for each critical deficiency in the BMS2 IM fields (IM01-IM15). Upload documents related to the critical deficiency into BMS2 EDMS such as narrative version of the plan, sketches, meeting minutes, etc.

F. Immediately notify the District Bridge Engineer if the critical deficiency will not be addressed within seven (7) days.

G. Provide follow-up monitoring of the progress toward completion of the POA and report via BMS2 to confirm completion of the approved maintenance action(s) identified in the POA. Follow-up monitoring is also required for regulatory sign critical deficiencies. Enter the completion date(s), IM14a and IM14c, as appropriate in BMS2. The consultant shall immediately notify the Owner and the District should problems arise with respect to the completion of the work within the required timeframe.
IX. MATERIAL SAMPLING AND TESTING OR BRIDGE INSTRUMENTATION

Structural materials evaluation, Non-Destructive Testing (except dye penetrant tests) and bridge instrumentation are not a routine part of a bridge inspection. They are to be conducted only when required to eliminate unacceptable engineering uncertainties or to more accurately assess the structure’s load carrying capacity.

Justify the use and obtain the District Bridge Engineer authorization before initiating any materials sampling and testing and/or instrumentation program.

X. EXISTING RECORDS AND DATA

The Department will provide BMS2 web access for bridges to be inspected.

The Department and Owner, if requested, will give the Consultant access to any available pertinent information for short term use and copying. This information could include existing bridge drawings, load capacity analysis and design computations, inspection reports and other pertinent information. Files may be made available through the Department’s BMS2 web application. Some data may be available only on microfilm.

XI. QUALIFICATIONS OF PERSONNEL

Personnel assigned to the Inspection Project by consultant shall meet the requirements set forth in the National Bridge Inspection Standards for all work levels.

For State bridges, inspection personnel must hold a valid certification as “Bridge Safety Inspector” issued by the Department.

For PA CoRe Element assessments, inspection personnel must have attended and successfully passed PENNDOT’s PA CoRe Assessment class. (Required for all bridges not having a previous PACoRe Element assessment and for all Initial inspections.)

XII. TRAFFIC CONTROL

Provide any needed traffic control. Comply with the Department’s Publication 213, “Temporary Traffic Control Guidelines.”

XIII. RELEASE OF INFORMATION

Place the stamp appropriate to structure owner per section IP 1.8.3 on the front cover of the inspection report. Do not release or distribute inspection information without the written permission of the District Bridge Engineer for State structures or the structure owner.

For Department structures, attach the following label to each page of the structure inspection report that is released:

This document includes structure safety inspection information that is not public pursuant to 65 P.S. §67.101 et seq. and 23 U.S.C. §409 and may not be published, released or disclosed without the written permission of the PA Department of Transportation.

XIV. AUTHORIZATION OF WORK AND DEADLINES

A. Be prepared to start work immediately upon receiving Notice to Proceed. Complete all work including
the final report submission within agreed time schedule. Perform inspections to maintain the 24 month inspection frequency or other frequency as specified during the Scope of Work meeting.

B. Upon receipt of Notice to Proceed, start work on all Initial Inventory and Inspection safety inspections, and Routine NBIS Inspections, as they come due.

C. The following work items require the prior authorization by the District Bridge Engineer before work can begin:

- Load Rating (or Re-rating) of Bridges
- Interim Inspections
- Supplemental Inspections
- Critical Deficiency Meetings
- Material Sampling and Testing
- Bridge Instrumentation

Request authorization for work involving these items by submitting appropriate justification to the Department. Outline the proposed scope of work for task on each bridge in the justification. Do not proceed with these tasks until either oral or written authorization from the District Bridge Engineer is received.

Scope Deliverables:

I. INSPECTION REPORT

A. Prepare a report to document the inspection, the bridge, its condition, the structural analysis, load rating, posting evaluation, and recommendations. The report must be 8½” x 11” in size and copied on both sides.

B. A general outline of the report is as follows:

1. Title page (Structure ID Number, bridge name, location, inspection dates, inspector names, prepared for and by, and P.E. seal, signature and date). Label bridges with Fracture Critical components as "Fracture Critical" on title page, and also label Posted bridges as "Posted", "New Posting", or "Posting Change".
2. Table of contents.
3. Location map(s). Map(s) must be of sufficient detail to locate structure.
4. General description and sketches and/or photographs of the overall structure. Bridge with Fracture Critical members must include a sketch and/or photographs of Fracture Critical member and fatigue prone details.
5. Field inspection findings (completed iForms Inspection Forms, plus photographs and supplemental narrative to document findings).
6. References, list plans, previous reports, etc. used in the preparation of the report.
7. Load rating summary and posting evaluation.
8. Recommendations
9. Appendices:
   a. Inventory Data: Marked-up copy of BMS2 file printout or completed copy of coding D-491 forms
   b. Inspection Data: Completed iForms Inspection Forms.
   c. Structural analysis and load rating computations and a table of stresses.
   d. Bridge member deficiency sketches where applicable.

C. Include the following in the report Narrative:

- General description of the structure condition.
- Summary of inspection findings and comparison with those of previous inspection.
- Structural adequacy and safety of the structure, the roadway approaches, the bridge railing, the
approach guiderail, waterway, and channel. Discuss findings on Fracture Critical items and scour, where applicable.

- Discuss relevant historical data.

D. Include the following in the Recommendations section:

- Need for Interim Inspection and/or Supplemental Inspections.
- Need for new or revised bridge weight restrictions
- Signing needs: Vertical clearance, narrow bridge, etc.
- A prioritized and time scheduled listing (with costs) of immediate, short and long term improvement needs for:
  - Maintenance: Complete iForms form M
  - Rehabilitation: Complete iForms form M or D491IM
  - Replacement: Complete iForms form M or D491IM

Recommendations in report should be in “plain English” and be consistent with the costs indicated on above forms.

E. Other Report Requirements

1. Routine NBIS Inspections without re-rating - The complete detailed structural analysis and load rating computations (see Scope Deliverables, Section I.B.9.c) from previous inspection/rating need not be included, unless otherwise specified. The load rating summary and date of load rating must still be included with the posting evaluation.

Review/perform the posting evaluation for each bridge to ensure its posting status is appropriate for its just inspected condition.

2. Routine NBIS Inspections for Closed or Partially Closed Bridges - A letter report stating date of inspection, status of closure with photo, iForms Inspection Forms, and other pertinent information will suffice, unless otherwise specified.

3. Partial (Interim) and Supplemental Inspections - The report format and contents are to be agreed upon at the time of authorization for each structure.

II. EMERGENCY REPORTING

After inspecting bridges, notify the bridge owner (if applicable) and the District Bridge Engineer immediately whenever a potentially perilous or hazardous condition is observed. Provide written notification to the owner and the District Bridge Engineer within 24 hours. This task is incidental to inspection work. Examples of such situations could include:

- Distress in primary members to the point where there is doubt that the members can safely carry the loads for which they are subjected and partial or complete failure of the bridge is a possibility.
- Scour at or under the abutments or piers of a stream bridge is such that significant movement is likely which could cause the bridge to collapse.
- Substructure movement or distress which is so excessive that there is a clear possibility that it may not be capable of supporting the superstructure and partial or complete failure is a possibility.
- Suspected cracks in pins or hangers of two girder/truss bridges.
- Missing weight restriction signs or vertical clearance signs.
- Any situation where the structural integrity of the bridge is such that its safety is in question.

III. SUBMISSIONS

A. Work Schedule and Status: Submit a horizontal bar graph type work schedule within two weeks of notice to proceed. Submit monthly schedules and progress updates to the District Bridge Engineer and contracting agency.
B. Personnel Qualifications: Thirty (30) days prior to beginning work, submit the list of names and qualifications of inspection personnel to the District Bridge Engineer.

C. Field Inspection Data: Submit inspection data from iForms to BMS2 web for Department’s approval within ten days of the completion of each field inspection. In addition, submit one (1) copy of BMS2 Printout marked with revisions and/or Form D-491 and/or iForms D-450 within ten days of the completion of each field inspection.

D. Draft Inspection Reports: Submit one (1) copy of the draft report within four weeks of the completion of each field inspection for review. Space submissions at frequent intervals to facilitate reviews.

E. Final Inspection Reports: For State bridges, submit 2 paper copies of the Final Report and one (1) electronic copy in PDF format to the District. For Local bridges, submit 3 paper copies and one (1) electronic copy in PDF format to the Districts. All Final Reports are to be bound with non-exposed fasteners.

F. Load Rating/Re-Rating: For State bridges, submit 2 copies and one (1) electronic copy in PDF format of the Load Rating Analysis (including back-up documentation) within 60 days of each field inspection for review. For Local bridges, submit 3 copies and one (1) electronic copy in PDF format to the Districts. Submit BAR7 input file to the District. Update Load Ratings in BMS2.

G. Minutes of Critical Deficiency Meetings with Owners: Submit one copy each to District Bridge Engineer, Owner, and contracting agency within 7 days of meeting.
   • Plan of Action for Critical Deficiencies. Submit electronically and one paper copy each to District Bridge Engineer and Owner within 3 days.

LIST OF BRIDGES AND SPECIAL REQUIREMENTS

A. List of Bridges - See EXHIBIT 1.
   
   (List of bridges and scope of work for each bridge is to be listed on Exhibit 1. Sample Exhibit 1 is attached.)

B. Special Requirements – See EXHIBIT 2
   
   (To be added by the District and/or Contracting Agency)
Sample Exhibit 1 – The following are sample tables, to be created outside of ECMS and attached to the scope of work, as referenced in the Details section of 2.7.5.

### EXHIBIT 1 - LIST OF BRIDGES

#### BRIDGE SAFETY INSPECTION

<table>
<thead>
<tr>
<th>No.</th>
<th>BMS #</th>
<th>Owner</th>
<th>Initial NBIS</th>
<th>Routine Insp</th>
<th>Partial Insp</th>
<th>Closed Br Insp</th>
<th>Suppl Insp</th>
<th>Load Rating</th>
<th>Comments</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>12-7456-7890-1234</td>
<td>Twp</td>
<td>A1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>County</td>
<td>A2</td>
<td>I2 (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 month Interim, sub. only, Req'd 2 times.</td>
</tr>
<tr>
<td>3</td>
<td>34-7678-9012-3456</td>
<td>County</td>
<td>BC</td>
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<td>Closed bridge</td>
</tr>
<tr>
<td>4</td>
<td>45-7789-0123-4567</td>
<td>Boro</td>
<td>C2</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5</td>
<td>56-7890-1234-5678</td>
<td>RR</td>
<td>A1</td>
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<td></td>
<td></td>
<td>RR over hwy. No load rating req'd</td>
</tr>
<tr>
<td>6</td>
<td>67-7901-2345-6789</td>
<td>County</td>
<td>A3</td>
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<td>A3</td>
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<td>NHS, LF rating needed</td>
</tr>
<tr>
<td>7</td>
<td>78-7012-3456-7890</td>
<td>Twp</td>
<td>C1</td>
<td>I4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12 month interim, super only</td>
</tr>
<tr>
<td>8</td>
<td>87-7012-3456-7890</td>
<td>Twp</td>
<td>A1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>New bridge, design rating available.</td>
</tr>
<tr>
<td>9</td>
<td>89-7123-4567-8901</td>
<td>Twp</td>
<td>A2</td>
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</tr>
<tr>
<td>10</td>
<td>23-7567-8901-2345</td>
<td>Twp</td>
<td>B1</td>
<td>I5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12 month, floorbeam only</td>
</tr>
<tr>
<td>11</td>
<td>34-7678-9012-3456</td>
<td>Twp</td>
<td>A1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>45-7789-0123-4567</td>
<td>Twp</td>
<td>A2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>56-7890-1234-5678</td>
<td>Twp</td>
<td>B3</td>
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</tr>
<tr>
<td>14</td>
<td>67-7901-2345-6789</td>
<td>Twp</td>
<td>A1</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td>78-7012-3456-7890</td>
<td>Twp</td>
<td>A1</td>
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</tr>
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<td>16</td>
<td>87-7012-3456-7890</td>
<td>Twp</td>
<td>A1</td>
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<td></td>
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</tr>
<tr>
<td>17</td>
<td>89-7123-4567-8901</td>
<td>Twp</td>
<td>A2</td>
<td>S1</td>
<td></td>
<td></td>
<td></td>
<td>See Special Instructions for Suppl Insp SOW</td>
<td></td>
</tr>
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<td>18</td>
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<tr>
<td>20</td>
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</tbody>
</table>

#### Critical Deficiency Meetings

<table>
<thead>
<tr>
<th>No.</th>
<th>Critical Deficiency Meetings</th>
<th>Category of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>w/Tionesta Township</td>
<td>M1</td>
</tr>
<tr>
<td>2</td>
<td>w/Forest County</td>
<td>M1</td>
</tr>
</tbody>
</table>

NOTES:

1. Unless otherwise noted, only one Interim inspection per bridge allowed.

2. Other Interim inspections will be requested on an as-needed basis.

3. Other Bridge Load Ratings will be requested on as-needed basis.

4. Unless otherwise noted, only one Critical Deficiency Meeting per owner allowed.
Table 1
Cost and Manhours Per Unit of Work
Initial, Routine, and Closed Inspections, Load Rating

<table>
<thead>
<tr>
<th>Structure</th>
<th>Work Category</th>
<th>Type of Safety Inspection Work</th>
<th>COST PER UNIT OF WORK (Manhours per unit of work)</th>
<th>Closed Br. Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Initial NBIS Inspection</td>
<td>Routine Inspection</td>
<td>Bridge Load Rating</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culverts, Slabs, Stringers, Multi-girders, &amp; Arches (Except Open Spandrel Arches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20' to 80'</td>
<td>A1</td>
<td>$ .</td>
<td>$ .</td>
<td>$ .</td>
</tr>
<tr>
<td>81' to 150'</td>
<td>A2</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>151 to 300'</td>
<td>A3</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>301' to 600'</td>
<td>A4</td>
<td>$ .</td>
<td>$ .</td>
<td>$ .</td>
</tr>
<tr>
<td>601' to 1000'</td>
<td>A5</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Greater than 1000'</td>
<td>A6</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>All Lengths</td>
<td>AC</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
</tr>
<tr>
<td>Girder/ Floorbeam Systems and Open Spandral Arches</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20' to 150'</td>
<td>B1</td>
<td>$ .</td>
<td>$ .</td>
<td>$ .</td>
</tr>
<tr>
<td>151 to 300'</td>
<td>B2</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>301' to 600'</td>
<td>B3</td>
<td>$ .</td>
<td>$ .</td>
<td>$ .</td>
</tr>
<tr>
<td>601' to 1000'</td>
<td>B4</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Greater than 1000'</td>
<td>B5</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>All Lengths</td>
<td>BC</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
</tr>
<tr>
<td>Trusses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20' to 150'</td>
<td>C1</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>151 to 300'</td>
<td>C2</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>301' to 600'</td>
<td>C3</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>601' to 1000'</td>
<td>C4</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Greater than 1000'</td>
<td>C5</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>All Lengths</td>
<td>CC</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
</tr>
<tr>
<td>All Others</td>
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</tr>
<tr>
<td>20' to 80'</td>
<td>D1</td>
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<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>81' to 150'</td>
<td>D2</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>151 to 300'</td>
<td>D3</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>301' to 600'</td>
<td>D4</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>601' to 1000'</td>
<td>D5</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Greater than 1000'</td>
<td>D6</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>All Lengths</td>
<td>DC</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
<td>Not Appl.</td>
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Table 2
Cost and Manhours Per Unit of Work
Partial/Interim Inspections Only

<table>
<thead>
<tr>
<th>Structure</th>
<th>Work Category</th>
<th>C.P.U.W (Mh.P.U W.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Types All Lengths</td>
<td>I1</td>
<td>$ . ( 2.0 )</td>
</tr>
<tr>
<td></td>
<td>I2</td>
<td>$ . ( 4.0 )</td>
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<tr>
<td></td>
<td>I3</td>
<td>$ . ( 6.0 )</td>
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<tr>
<td></td>
<td>I4</td>
<td>$ . ( 8.0 )</td>
</tr>
<tr>
<td></td>
<td>I5</td>
<td>$ . ( 10.0 )</td>
</tr>
</tbody>
</table>

Table 3
Cost and Manhours Per Unit of Work
Critical Deficiency Meetings

<table>
<thead>
<tr>
<th>Safety Inspection Work</th>
<th>C.P.U.W (Mh.P.U W.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Deficiency Meetings</td>
<td>M1</td>
</tr>
</tbody>
</table>

Table 4
Cost and Manhours Per Unit of Work
Supplemental Inspections

<table>
<thead>
<tr>
<th>Supplemental Inspections For BMS #</th>
<th>Work Category</th>
<th>C.P.U.W (Mh.P.U W.)</th>
<th>Scope of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>$ . ( )</td>
<td>See Sec. XX.B</td>
<td></td>
</tr>
<tr>
<td>S2</td>
<td>$ . ( )</td>
<td>See Sec. XX.B</td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>$ . ( )</td>
<td>See Sec. XX.B</td>
<td></td>
</tr>
<tr>
<td>S4</td>
<td>$ . ( )</td>
<td>See Sec. XX.B</td>
<td></td>
</tr>
</tbody>
</table>
[This page intentionally left blank]