GENERAL SUBJECT: Bridge Safety Inspection QC/QA Program

SPECIFIC SUBJECT: Establishing Quality Control and Quality Assurance Procedures to Maintain a High Degree of Accuracy and Consistency in the Inspection Program

SUPERSEDES: IIM-S&B-78

DIVISION ADMINISTRATOR APPROVAL:
/original signed/
Kendal R. Walus, P.E.
State Structure and Bridge Engineer
Approved: September 20, 2017

EFFECTIVE DATE:
This memorandum is on effective September 20, 2017.

PURPOSE:
The National Bridge Inspection Standards (NBIS) in Title 23 (Highways) of the Code of Federal Regulations Part 650.313(g) requires each State to “Assure systematic quality control and quality assurance procedures are used to maintain a high degree of accuracy and consistency in the inspection program. Include periodic field review of inspection teams, periodic bridge inspection refresher training for Program Managers and Team Leaders, and independent review of inspection reports and computations.” The Federal Highway Administration (FHWA) performs annual Quality Assurance (QA) reviews of the VDOT bridge inspection program based on the requirements set forth in the “Metrics for the Oversight of the National Bridge Inspection Program” (23 Metrics). The VDOT QA review process incorporates measures of those metrics, which aid in forecasting compliance levels.

The procedures set forth herein apply to employees of VDOT and employees of any consultant firm providing inspection services directly to VDOT. Entities responsible for providing safety inspection services for structures that they maintain, and consultants providing inspection services to those entities must meet the minimum requirements for QC/QA set forth in the NBIS, but are encouraged to follow the standards set forth in this memorandum. VDOT consultant firms are required to submit their QA/QC plan to the District Program Manager for review and approval prior to the start of work.
INTRODUCTION:
Bridge safety inspection is required by the Federal Highway Administration (FHWA) and State policy. Inspection procedures and requirements are detailed in the NBIS in Title 23 (Highways) of the Code of Federal Regulations Part 650, Subpart C and in the latest Virginia Department of Transportation (VDOT) Informational & Instructional Memorandum dealing with bridge safety inspections. Accuracy, thoroughness and completeness of bridge safety inspections are essential for the evaluation of a structure’s safety and for decisions on planning, budgeting, and performing maintenance, repair, rehabilitation and replacement of our bridges. The following outlines the minimum acceptable standards for VDOT’s quality control (QC) and quality assurance (QA) program for the Bridge Safety Inspection Program.

The term ‘bridge’ in this document refers to both bridge and large culvert structures that meet the requirements of the current IIM-S&B-27.

DEFINITIONS AND QUALIFICATIONS:
The following terminology, positions and position qualifications are as defined by the NBIS, with the addition of the notes below:

Quality Assurance (QA)
QA is an independent evaluation of program adherence to State and Federal regulations, and the effectiveness of the program in ensuring the safety of the travelling public.

Quality Control (QC)
QC encompasses the policies and procedures that ensure accurate data is collected by qualified individuals, and deficiencies are identified for the purposes of continuous program improvement.

Program Manager
Each District shall have one individual with the qualifications of a Program Manager who is responsible for the bridge safety inspection program within the District. The Assistant District Structure & Bridge Engineer – Inspection (Program Manager) is directly responsible for the District review processes described in this document. In addition, the Central Office shall have one individual with the qualifications of a Program Manager who is responsible for the bridge safety inspection program statewide.

Team Leader
The Team Leader is responsible for the overall management/supervision of an inspection team. The Team Leader assures that bridge safety inspections are performed at the required frequency and in accordance with the NBIS and VDOT’s latest policies and procedures. In addition to the Team Leader requirements listed in the NBIS, VDOT requires that all Professional Engineers have a minimum of 6 months of experience performing NBIS bridge inspections. This experience requirement is subject to review and approval by the Statewide Structure and Bridge Safety Inspection Program Manager (Statewide Program Manager) or designee.

Load Rater
This role is responsible for determining the safe load-carrying capacity of a structure in accordance with the NBIS and VDOT’s current load rating guidelines. The individual(s) assigned to this role will either perform or verify all load ratings. VDOT prefers that the individual also have a background in bridge design, bridge inspection, bridge maintenance and/or bridge construction.
**Underwater Bridge Inspection Diver**

Underwater bridge inspection divers shall meet the qualifications set forth in the NBIS, as well as the qualifications for diving as set forth in OSHA 29CFR 1910 Subpart T. In addition, all underwater bridge inspectors shall meet one of the following requirements:

- Successful completion of a training program that conforms to the American National Standards Institute (ANSI) Minimum Standard for Commercial Diver Training
- Certification as a commercial entry level tender/diver through one of the following:
  - Association of Diving Contractors International (ADCI)
  - Diver Certification Board of Canada (DCBC)
  - International Marine Contractors Association (IMCA)
- Other training, experience or certification approved by the Statewide Program Manager or designee

All training, certification and experience is subject to review and approval by the Statewide Program Manager or designee.

**Underwater Bridge Inspection Team Leader**

All underwater bridge inspection team leaders shall meet the requirements for both Underwater Bridge Inspection Diver and Team Leader, as set forth in this memorandum.

**Underwater Bridge Inspection Dive Supervisor**

All underwater bridge inspection teams shall include at least one team member designated as the Underwater Bridge Inspection Dive Supervisor who meets the aforementioned requirements for an Underwater Bridge Inspection Diver and has a minimum of five years of commercial diving experience. This experience is subject to review and approval by the Statewide Program Manager or designee. A qualified Underwater Bridge Inspection Dive Supervisor must be present during all diving operations.

The following positions and position qualifications, which are not defined by the NBIS, are defined below:

**Inspector Senior**

VDOT defines this position as the individual who may be in charge of an inspection team and is responsible for the planning and preparation required before performing a field inspection of a bridge.

This position requires the same qualifications as a Team Leader. This position differs from a Team Leader in that the Inspector Senior is not responsible for the overall management of a team, does not have supervisory responsibilities of other inspectors and does not lead a team on a daily basis.

**Inspector**

VDOT defines this position as the individual who assists a Team Leader or Inspector Senior in the safety inspection of a bridge.

This is considered an entry-level position and there are no specific qualification requirements. However, it is preferred that the individual have a background in bridge maintenance, design or construction. Inspectors working in Virginia are required to meet the requirements in the Training and Certification section below.

Individuals performing load ratings, Program Managers, Team Leaders and Inspector Seniors performing or supervising inspections in Virginia shall submit the ‘Qualification of Personnel’ form in Appendix A for approval by the Structure and Bridge Safety Inspection Program Area in the Central
Office Structure and Bridge Division prior to the individual performing inspections or rating bridges. The form shall be resubmitted when data other than years of experience changes.

**TRAINING AND CERTIFICATION:**
The NBIS requires Program Managers and Team Leaders to successfully complete an FHWA approved comprehensive bridge inspection training course. All bridge safety inspectors shall successfully complete the National Highway Institute (NHI) course ‘Safety Inspection of In-Service Bridges’ (FHWA-NHI-130055) within the first five years of employment in bridge safety inspection in Virginia. In addition, the NBIS requires periodic bridge inspection refresher training for Program Managers and Team Leaders. All safety inspection personnel performing work on behalf of VDOT shall successfully complete the NHI course ‘Bridge Inspection Refresher Training’ (FHWA-NHI-130053) every five years. Successful completion of either course shall mean obtaining a cumulative score of 70% or better on course assessments.

VDOT’s Safety, Security and Emergency Management Division requires additional training and/or certification for bridge safety inspectors which includes, but is not limited to the following: First Aid, CPR, Fall Protection, Confined Space, etc. It’s the responsibility of the Program Managers in the Districts and Central Office to ensure full compliance with all required training and certification.

Other recommended training is:
- ‘Engineering Concepts for Bridge Inspectors’ (FHWA-NHI-130054)
- ‘Fracture Critical Inspection Techniques for Steel Bridges’ (FHWA-NHI-130078)
- ‘Stream Stability and Scour at Highway Bridges’ (FHWA-NHI-135046)
- ‘Bridge Coatings Inspections’ (FHWA-NHI-130079)
- ‘Inspection and Maintenance of Ancillary Highway Structures’ (FHWA-NHI-130087)
- ‘Hazardous Bridge Coatings: Design and Management of Maintenance and Removal Operations’ (FHWA-NHI-130069)
- College level courses in statics, steel design, concrete design and strength of materials.

**REVIEW AND VALIDATION PROCEDURES:**
Both the Central Office and the Districts have a responsibility to review and validate bridge safety inspection reports and inventory data. Discrepancies found during field and office reviews performed by both District and Central Office personnel shall be appropriately documented in a written report and shared with all parties involved. An action plan shall be developed to address all discrepancies found. At a minimum, the action plan shall include the discrepancy found, the corrective action required, an estimated compliance date and the responsible person (see Appendix B).

All NBIS compliance review reports shall be retained in accordance with VDOT’s ‘Records Retention and Disposition Schedule’.

**DISTRICT:**

**General**

The District Program Manager is responsible for assuring that all QA/QC reviews at the District level, including reviews by VDOT consultants, are performed at the frequency and level required and for maintaining all QA/QC documentation.

**Office Review**

An office review of every inspection report shall be made with the reviewer initialing and dating the inspection report. If this review process is conducted by a designated individual other than the District Program Manager, the designee, at a minimum shall have the same qualifications as
a Team Leader and be approved by both the District Structure and Bridge Engineer and the District Program Manager to review reports.

While not considered a comprehensive list, the reports should be reviewed for their:

- Organization
- Quantification
- General condition ratings within 1(+/−) of the reviewer’s estimate
- Element data
- Maintenance and repair recommendations
- Fracture critical documentation and sketches
- Fatigue prone documentation and sketches
- Timely completion of the report
- Timely completion of load rating analysis when necessary
- Other required supporting documentation, load rating summary, including photographs, sketches, inventory data, etc.

Additionally, the office review shall include a review of the load rating analysis by a person familiar with the load rating process. This review is to assure that the analysis has been performed, checked, and accurately reflects the conditions reported in the latest inspection report. Any problems found during the review should be corrected within 90 days of the review. This review should be documented in the ‘Structural Analysis’ section of the report.

Field Review

Field reviews shall be performed by the District Program Manager, or a designated reviewer. The designee, at a minimum shall have the same qualifications as a Team Leader and be approved by both the District Structure and Bridge Engineer and the District Program Manager to review safety inspections. Each inspection team shall receive field reviews at a minimum frequency of two structures per year in which the inspection team performed inspections. At a minimum, one field review per year shall be performed while a safety inspection is being performed for each VDOT inspection team. These reviews may be performed concurrently with the Central Office review, when possible.

All selected structures for review shall have received an inspection within six months of the field review. It is recommended that the inspections reviewed be selected from those structures that have:

- Condition ratings that appear questionable
- A significant change in the condition rating(s) since the last inspection
- A designation of structurally deficient
- The possibility of a change in posting due to inspection results
- Critical findings
- Field posted structures
- Special inspection requirements (fracture critical, fatigue prone, pin & hanger, etc)

A standard form/checklist shall be used during the field reviews to assist in assuring all items to be reviewed have been considered. An example checklist is provided in Appendix C, but any comprehensive checklist approved by the District Program Manager may be used for District reviews. Items to be examined in the inspection reports shall be similar to those items included in the ‘Central Office – Field Review’ section of this document. Additional items to be reviewed during reviews that are performed while a safety inspection is being performed include, but are not limited to, assuring that proper equipment is used to inspect the structure (safety, access, etc.) and that the proper maintenance of traffic is used and maintained during the inspection.
Reviews should include verification of high priority information on the structure inventory sheets including but not limited to:

- Latitude and Longitude
- Clearances (Federal & State Items)
- Condition Ratings
- Scour Appraisal Rating
- Posting Status (Federal & State Items)
- Posted Capacities

VDOT Consultant Review

Office Reviews shall follow the District Office Review requirements.

Field reviews shall be conducted for each of the District’s respective consultant(s). This review shall be at the same level as the field reviews performed on VDOT inspectors. The minimum frequency of these reviews will be six structures per consultant contract team per year. A consultant contract team shall be defined as the prime contractor and any sub-consultants listed on a professional services contract for bridge safety inspection (not to be confused with a field inspection team). Two of these reviews may be satisfied through office review of documentation for field QA inspections performed internally by the consultant. Sub-consultants should be reviewed at a rate proportionate to their level of inspection involvement, or at the discretion of the District Program Manager.

Locality, Other Agency or Entity Review

The District Program Manager shall assure that all localities, other agencies or entities, in the District are reviewed at least once every six years. In Districts with 6 or more such entities, a minimum of one shall be selected each year for review and validation of inspection reports, inventory data and their overall program. Between 2 and 6 structures should be reviewed during each QA, with the intent of reviewing approximately 10% of the total number of structures owned by the entity, when possible. An effort should be made to assure that all Localities, other Agencies or entities receive QA/QC reviews prior to revisiting ones that have already been reviewed; however, follow-up reviews may be necessary to assure compliance with the NBIS. This review shall be at the same level as the review performed on the Districts by the Central Office, except that the focus should be placed on compliance with the NBIS and the FHWA 23-Metrics.

See District – Office Review for additional requirements.

CENTRAL OFFICE:

General

The following covers reviews performed by the Central Office.

The Statewide Program Manager and/or Statewide QA Engineer are responsible for reviewing the inspection programs in all nine Districts. The review will focus on the following five review groups; Program Administration, Inspection & Reporting, Remediation & Response, Quality Assurance, and Load Rating, but may include other areas, as necessary. In each District an office review and field review shall be performed. All reviews shall be made by the Statewide Program Manager and/or Statewide QA Engineer.
Each District inspection program will receive a QA review each year unless exemptions are approved by the State Structure and Bridge Engineer. These QA reviews will include an executive summary of the findings, a “green light, yellow light, red light” indicator for each of the review groups listed above, and a detailed appendix of specific structure comments and any actions to be taken. The performance measure for each review group will be in accordance with the NBIS, FHWA’s 23 Metrics, current IIM-S&B-27, and this document. A separate QA review, administered by the Statewide Load Rating Program Manager, shall be performed to evaluate adherence to current IIM-S&B-86.

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<th>Rating</th>
<th>Description</th>
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<td>Green</td>
<td>Compliant</td>
<td>No notable findings.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Caution</td>
<td>Notable findings which are not considered actionable, but may require further review.</td>
</tr>
<tr>
<td>Red</td>
<td>Non-Compliant</td>
<td>Actionable findings as described in the “In-Depth Review” portion of this document, which do not adhere to Federal or State guidelines.</td>
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Typically, between 8 and 12 structures will be selected for review by the Statewide QA Engineer, based on criteria approved by the Statewide Program Manager.

In addition to the overall review of the Districts inspection programs, the Statewide Program Manager and/or Statewide QA Engineer will select reports and/or Inventory data sets from each District for review each month. It is recommended that 3-5% of the completed reports in each District are selected for review, but this may be adjusted according to the priorities of the Department and the workload of the Statewide QA Engineer. In cases where the most recent inspection report is unavailable for the structures selected for review, a minimum of 2 reports in each District shall be reviewed. Data set review should evaluate inventory data for compliance with current program priorities regarding adherence to state and federal requirements. The review and all discrepancies will be documented by the reviewer and brought to the attention of the responsible District Program Manager.

Office Review

During the annual office review, items to be examined for adherence to Federal and State policy and guidelines shall include, but are not limited to, the following:

- Inspection schedule
- Critical Findings and Recommendations
  - Distributed as required
  - Response documented on the Teamsite within the time limit set forth in the current IIM-S&B-27.
  - Follow-up inspections are performed on the completed work in a timely manner
- Load Rating performed for all structures
  - Posting is appropriate
  - Field posting reported accurately
- Quality Assurance documentation
- Inspection program staff training and qualifications
- Inspection reports
  - Proper quantification
  - Condition ratings are appropriate and supported by narrative, photographs, etc.
  - Maintenance and repair recommendations
  - Team Leader and independent review completed
  - Timely completion of inspection reports
  - Previous, Current, and Next inspection dates accurate in BrM and inspection report
Inspections with special considerations are properly identified, inspected & reported

Additionally, the latest District locality, other agency or entity QA/QC report will be reviewed for completeness and adherence to the policies and procedures set forth in this document. If significant problems are found during the review performed by the District, the Central Office review team may perform an independent review of the entity which will focus on issues identified in the District review and the action plan that was developed to provide assistance in working towards compliance with the NBIS.

Field Review

A standard form/checklist shall be used during the field reviews to assist in assuring all items to be reviewed have been considered. An example checklist is provided in Appendix C, but any comprehensive checklist approved by the Statewide Program Manager and/or Statewide QA Engineer may be used. Items to be examined in the inspection reports for adherence to federal and state policy and guidelines shall include, but are not limited to, the following:

- Accurate representation of field conditions
- Proper quantification
- Adherence to NBI and coding guidelines
- Appropriate use of photos
- Appropriate use of sketches and tables
- Channel profile documentation and sketches
- Proper weight restriction and advance warning signs, including placement

Field reviews should include verification of high priority information on the structure inventory sheets including but not limited to:

- Latitude and Longitude
- Clearances (Federal & State Items)
- Condition Ratings
- Scour Appraisal Rating
- Posting Status (Federal & State Items)
- Posted Capacities

VDOT CONSULTANT:

The following applies to any consultant performing bridge safety inspection work on behalf of VDOT:

All inspection reports shall be reviewed by the Team Leader and an independent reviewer. Team Leaders for all prime and sub-consultants shall receive field and office reviews at the same level and frequency as VDOT inspection personnel.

See District – Office Review and Field Review sections for requirements.
IN-DEPTH REVIEW:

General

The in-depth review is intended to provide further detail whenever discrepancies are identified during the Quality Assurance process. In most cases, the in-depth review shall be initiated and administered by the District Program Manager, but the assistance of the Statewide QA Engineer shall be made available, whenever possible. In cases where discrepancies may impact the statewide Structure and Bridge Safety Inspection Program, the Statewide Program Manager or a qualified designee may initiate and/or administer the review.

The in-depth review procedure shall be initiated whenever the findings of any QA Review discover any condition that qualifies as non-compliant according to the 23-Metrics, fails to meet the minimum standards of the NBIS, or if there are unreported findings that may represent safety or structural integrity concerns. Additionally, an in-depth review may be performed at the discretion of the District Program Manager whenever a pattern of significant discrepancies is identified in connection to an individual inspector, team or consultant.

The in-depth review procedure shall consist of a field and/or office review of a minimum of 3 inspections performed by the inspector, team or consultant in question. Whenever possible, structures shall be selected based on the potential for the presence of the type of discrepancies that triggered the in-depth review.

In cases where the in-depth review indicates that the discrepancy or error is an isolated incident, the reviewing authority shall determine the appropriate response.

In cases where the in-depth review identifies a pattern of deficiencies in inspection and reporting, remedial or administrative action should be administered. If applicable, a follow up review should be performed within 6 months. The follow up review shall be at the same level as the initial in-depth review. Remedial or administrative action may include:

- Further education and training
- Mentoring
- Temporary revocation of Bridge Safety Inspection Team Leader authority
- Corrective action in accordance with the Department of Human Resource Management (DHRM) policy, including DHRM Policy 1.40 – Performance Planning and Evaluation, DHRM Policy 1.45– Probationary Period and DHRM Policy 1.60– Standards of Conduct, as applicable

In addition, when subsequent in-depth reviews identify a continued record of substandard performance, the District will address these issues in a manner consistent with DHRM Policy. These resources are available for review on the DHRM and website.

When in-depth reviews identify a pattern of significant discrepancies in inspection or reporting conducted by a consultant inspector, Program Managers may temporarily revoke the VDOT Bridge Safety Inspection Team Leader authority of the responsible consultant inspector, within the limits of their jurisdiction. Any continued record of substandard consultant performance should be addressed in a manner consistent with the Consultant Procurement Manual, which is available on the VDOT Consultant Procurement website.

VDOT reserves the right to revoke the Bridge Safety Inspection Team Leader authorization of personnel immediately and indefinitely if gross negligence, misconduct, and/or major omissions are found which may adversely affect the safety of the public and/or the structural integrity of the bridge. The in-depth review and remediation procedures set forth in this section are applicable to both VDOT and consultant inspection personnel.
CC: Chief Engineer
   Deputy Chief Engineer
   Division Administrators under the Deputy Chief Engineer
   Local Assistance Division Director
   District Administrators
   District Maintenance Engineers
   District Construction Engineers
   Assistant State Structure and Bridge Engineers
   District Structure and Bridge Engineers
   Structure and Bridge Program Managers
   District Bridge Safety Inspection Engineers (Program Managers)
   District Bridge Maintenance Managers
   Residency Administrators
   Regional Traffic Operations Centers
   Federal Highway Administration
APPENDIX A: NBIS BRIDGE/ANCILLARY SAFETY INSPECTION QUALIFICATION OF PERSONNEL

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<th>NAME:</th>
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<td>FIRM:</td>
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* LOCATION: Click here to enter text.
* The District/Office (only if a VDOT employee), municipality or other entity for which inspections are performed.

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<tr>
<th>TITLE (within your organization):</th>
<th>Click here to enter text.</th>
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<th>DATE FORM COMPLETED:</th>
<th>Click here to enter a date.</th>
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</table>

1. Within your organization, does the individual listed above have the duties of:
   - [ ] **Program Manager** - The individual in charge of the program, which has been assigned or delegated the duties and responsibilities for bridge/ancillary inspection, reporting, or inventory. The program manager provides overall leadership and is available to inspection team leaders to provide guidance.
   - [ ] **Team leader** - Individual in charge of an inspection team responsible for scheduling and/or planning, preparing, and performing field inspections of all assigned bridge/ancillary structures.
   - [ ] **Inspector Senior** - Individual who may be in charge of an inspection team and is responsible for the planning and preparation required before performing a field inspection of a bridge/ancillary structure.

2. Is the individual listed above a registered professional engineer? [ ] Yes [ ] No
   If yes, in what state(s)? Click here to enter text.

3. Has the individual listed above successfully completed a Federal Highway Administration (FHWA) approved comprehensive **bridge inspection training** course? [ ] Yes [ ] No
   If yes, note the date of the latest course completed. Click here to enter text.

4. Has the individual listed above successfully completed a Federal Highway Administration (FHWA) approved comprehensive **bridge inspection refresher training** course? [ ] Yes [ ] No
   If yes, note the date of the latest course completed. Click here to enter text.

5. Has the individual listed above successfully completed a Federal Highway Administration (FHWA) approved comprehensive **ancillary inspection training** course? [ ] Yes [ ] No
   If yes, note the date of the latest course completed. Click here to enter text.

6. Is the individual listed above certified as a Level III or IV Bridge Safety Inspector under the National Society of Professional Engineer's program for National Institute for Certification in Engineering Technologies (NICET)? [ ] Yes [ ] No
   If yes, note the level and certification number. Click here to enter text.

7. Does the individual listed above possess a bachelor's degree in engineering from a college or university accredited by or determined as substantially equivalent by the Accreditation Board for Engineering and Technology? [ ] Yes [ ] No

8. Does the individual listed above possess an associate's degree in engineering or engineering technology from a college or university accredited by or determined as substantially equivalent by the Accreditation Board for Engineering and Technology? [ ] Yes [ ] No

9. Has the individual listed above successfully passed the National Council of Examiners for Engineering and Surveying Fundamentals of Engineering examination? [ ] Yes [ ] No

10. List the number of years the individual listed above has actively participated in bridge/ancillary inspections in accordance with federal and state regulatory requirements in either a field inspection, supervisory or management role. A combination of bridge/ancillary design, maintenance, construction and inspection experience, with the predominant amount (more than fifty percent) in bridge/ancillary inspection, is acceptable. [ ] Years Click here to enter text.
# APPENDIX B:

## ACTION PLAN

<table>
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<th>CORRECTIVE ACTION</th>
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### APPENDIX C:

#### STRUCTURE & BRIDGE QA INSPECTION

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<td>Facility Carried:</td>
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<td>Feature Intersected:</td>
<td>Name of Team Leader:</td>
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<th>GENERAL CONDITION RATING</th>
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#### Key for Checklist Results

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<td>Fully compliant. Meets standards in corresponding &quot;Source&quot;.</td>
</tr>
<tr>
<td>☐</td>
<td>Compliant or Substantially compliant, but inconsistencies noted.</td>
</tr>
<tr>
<td>☐</td>
<td>Non-Compliant. Prompt review and action required.</td>
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<tr>
<td>☐</td>
<td>Not applicable, or not reviewed during this QA.</td>
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#### SCHEDULE

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<td>Program Admin.</td>
<td>IIM-27.#</td>
<td>Inspection frequencies are appropriate (see Table in IIM-27).</td>
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<tr>
<td>Program Admin.</td>
<td>IIM-27.#</td>
<td>Late inspections: documented unusual circumstances.</td>
</tr>
<tr>
<td>Inspection &amp; Report</td>
<td>FHWA</td>
<td>Previous, Current, and Next Inspection Dates accurate in BrM and Report</td>
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#### CRITICAL FINDINGS & RECOMMENDATIONS

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<td>Responsible manager identified on CR form and contacted appropriately.</td>
</tr>
<tr>
<td>Remediation &amp; Response</td>
<td>IIM-27.#</td>
<td>CRs are issued for appropriate/necessary conditions.</td>
</tr>
<tr>
<td>Remediation &amp; Response</td>
<td>IIM-27.#</td>
<td>CRs are addressed and closed out within the appropriate time limits.</td>
</tr>
</tbody>
</table>

#### LOAD RATING & POSTING

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Rating</td>
<td>IIM-86</td>
<td>All structures are load rated, and ratings reflect current conditions.</td>
</tr>
<tr>
<td>Load Rating</td>
<td>IIM-86</td>
<td>Load rating analysis calculations and results have been checked by an independent reviewer.</td>
</tr>
<tr>
<td>Program Admin.</td>
<td>IIM-86</td>
<td>Structures are appropriately field posted.</td>
</tr>
<tr>
<td>Load Rating</td>
<td>IIM-86 / Metric 13</td>
<td>For Assumed/Engineering judgement based load ratings, the assumptions used in the rating are documented in the bridge file, including the history of live load and the presence/absence of signs of distress.</td>
</tr>
</tbody>
</table>
### INSPECTIONS WITH SPECIAL CONSIDERATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue Prone (FP), Fracture Critical (FC), and Pin &amp; Hanger (PH) Structures</td>
<td></td>
<td>☐ Program Admin. IIM-27.# FP, FC &amp; PH structures and details are identified per VDOT guidelines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Required members &amp; details receive a hands-on or close-up inspection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Location and condition noted in the report, regardless of condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Sketch in the inspection folder</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Underwater Inspections</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# A copy of the latest underwater inspection is in the inspection folder, and is referenced in the inspection report.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# General condition ratings coincide with findings in the latest underwater inspection report.</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### QUALITY CONTROL / QUALITY ASSURANCE

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☐ Program Admin. IIM-78 All reports are reviewed and signed by the Team Leader.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Program Admin. IIM-78 All reports are reviewed and signed by an independent reviewer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Program Admin. IIM-78 Field reviews performed (consultant review only)</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TRAINING AND QUALIFICATIONS

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Admin. Metric 3</td>
<td>All personnel meet NBIS/VDOT requirements</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### REPORTS

Also see the following sections Fracture Critical, Fatigue Prone, Scour and Stream Channel Documentation

<table>
<thead>
<tr>
<th>Category</th>
<th>Compliance</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Detailed comments provided for GCRs equal to '6' or less.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Detailed comments and photographs and/or sketches provided for GCRs &lt;= '4'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Program Admin. IIM-27.# Reports submitted within required time-frame.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Program Admin. Metric 15 / IIM-27.# Bridge records are organized and include all appropriate records for each structure (Entity review only).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report Metric 12 All elements accurately identified and quantified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report Metric 12 In general, deterioration is properly documented in reports, including size and location.</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SCOUR AND STREAM CHANNEL DOCUMENTATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Compliance</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report Metric 12 Bridge’s vulnerability to scour, Federal Item 113, is coded appropriately.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Scour and undermining are accurately documented in the report, including measurements and/or sketches.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Inspection &amp; Report IIM-27.# Stream alignment sketches are included in reports for scour critical bridges and on structures where erosion problems are identified that may affect the structural integrity of one or more of the substructure units.</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>