Florida Department of Transportation

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Guidance for Highway Tunnel Inspection

Inspection – Inspections shall be performed in compliance with the National Tunnel Inspection Standards (NTIS), and the Tunnel Operations, Inspection, and Evaluation (TOMIE) Manual. Element Inspections shall be inspected following the National Tunnel Inventory Specifications. Inventory data shall be collected following the Inventory Specifications. Inspection and Inventory data shall be stored in the Department's AASHTOware Bridge Management System (BrM).

Inspection Types

- Interim Inspection – An interim inspection may be required if the District Structures Maintenance Engineer (DSME) determines that conditions exist that require inspections in between the routine inspections. These inspections will be documented in the Tunnel module of the Bridge Management System.
- Damage Inspection – After an accident or other event that may have caused damage to the structure, the DSME will determine if a damage inspection is required and what portions of the tunnel require inspections. These inspections will be documented in the Tunnel module of the Bridge Management System.
- In-depth inspection – An in-depth inspection may be required to determine the cause and extent of a specific deficiency or required for a repair or rehabilitation project. The DSME will determine if an in-depth inspection is required, the requirements for the in-depth inspection, and how the inspection will be documented.

Inspection Reports – Currently the FDOT BrM custom applications cannot create tunnel inspection reports. This is under development. Until this is developed inspection reports shall be in a format approved by the appropriate DSME.

Critical Deficiencies – Critical Deficiencies are defined in the NTIS. When a critical deficiency is discovered notify the Federal Highway Administration (FHWA) Florida Division Office and the Structures Section of the Office of Maintenance within 24 hours. An action plan to address the critical deficiency shall be developed as soon as possible and a copy sent to FHWA Florida Division Office and the Structures Section of the Office of Maintenance. Safety is always Priority Number 1.

Annual Critical Tunnel Deficiency Report to the FHWA – The following procedure shall be used to report critical findings to the FHWA:

- At the start of each calendar year, the district will email the FHWA division Bridge Engineer and the Tunnel Inspection Program Manager a summary report of the current status and resolutions of all critical findings. For each tunnel, the district will include a brief description of the critical finding, the corrective action accepted by the DSME, and the current status of the finding.
- If there were no critical findings identified during the previous year and there are no critical findings being monitored, then the district will email the FHWA Division Bridge Engineer and the Tunnel Inspection Program Manager that there are currently no critical findings in their tunnel.

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Certified Tunnel Inspectors – An active Certified Tunnel Inspector (CTI) is required to lead the tunnel inspection. A CTI must be present during all the inspection activities. Since tunnel inspections require different disciplines not all tunnel inspections may occur at the same time, therefore using different CTIs during a tunnel inspection is allowed. The overall team leader (CTI) shall review all parts of the inspection report. All CTIs shall be approved by FDOT before they serve as a tunnel inspection team leader in Florida. A CTI is active if the CTI has successfully completed an FHWA approved Tunnel Inspection Course. In addition, the CTI must successfully complete an FHWA approved Tunnel Inspection Refresher course every 5 years after completing the Tunnel Inspection Course.

FDOT Approval of CTIs – A prospective CTI must complete an Application for Tunnel Inspection Certification (850-010-35) and submit it to the Office of Maintenance, FDOT. The application will be reviewed by a panel of at least 3 people. This panel shall include at least the FDOT Tunnel Inspection Manager and at least one District Structures Maintenance Engineer whose District includes a highway tunnel. This panel will determine if the applicant meets the requirements of the NTIS. If it is determined that the applicant meets the requirements, then a certificate and CTI number will be issued. Guidance will be provided to unsuccessful applicants concerning what the applicant needs to do to meet the requirements of the NTIS.

Complex Tunnels – A complex tunnel means a tunnel characterized by advanced or unique elements or functional systems. Complex tunnels will have a specific tunnel inspection procedure. Additionally, CTIs for complex tunnels require additional experience and will be approved by the appropriate DSME.

- The Port of Miami Tunnel is the only complex tunnel in the state of Florida.

References – The National Tunnel Inspection Standards; the Tunnel Operations, Maintenance, Inspection and Evaluation (TOMIE); and the National Tunnel Inventory Specifications are available from the FHWA and may be found at:

https://www.fhwa.dot.gov/bridge/inspection/tunnel/

The Application for Tunnel Inspection Certification form may be found at FDOT's Forms and Procedure website:

https://www.fhwa.dot.gov/bridge/inspection/tunnel/