

 Office of Structures <i>Guidelines and Procedures</i> <i>Memorandum</i>	INSPECTION
	Number: OOS-GPM-SI-108
	Date: 08-06-2026
Complex Bridge Inspection Program	Approval: 

Definition: A Complex Bridge Inspection is an inspection of Movable, Suspension, Cable Stayed and other bridges with unusual characteristics. In Maryland, these include all Movable and Suspension Bridges. Inspections of these bridges require specialized training and/or experience and generally include specific inspection procedures.

The inspection of Suspension Bridges owned by MDTA shall be performed in accordance with all MDTA requirements and procedures.

Frequency: All Complex Bridges shall have regularly scheduled inspections with intervals not to exceed 24 months unless deemed to require a more frequent inspection as specified in Increased Inspection Frequency, OOS-GPM-SI-105. Both SIA Item 91 and the appropriate category of Item 92 shall be coded. **When SHA moves over to the SNBI coding guide, these item numbers will be updated.**

Qualifications of Inspection Personnel:

The Inspection Team Leader who will oversee and coordinate the Complex Bridge Inspection shall meet FHWA's qualifications for an individual in charge of a bridge inspection team as outlined in 23 CFR Part 650, Subpart C, NBIS, Section 650.309(b). The Inspection Team Leader shall also be a Professional Engineer registered in the State of Maryland and possess a minimum of five (5) years acceptable experience in this type of inspection. Inspection Team Leaders are subject to approval by the Division Chief, SIRE – Structures Inspection or the Local Area Program Manager.

The Complex Bridge Inspection Team responsible for inspecting the movable span's machinery systems shall include two (2) individuals who are Professional Engineers registered in the State of Maryland with experience in performing condition inspections, evaluations and designs of repairs / rehabilitations to the machinery systems with one (1) who has expertise in mechanical engineering and one (1) who has expertise in electrical engineering. These individuals are subject to approval by the Division Chief, SIRE – Structures Inspection or the Local Area Program Manager.

Inspection Requirements: In addition to the requirements specified in Routine Inspection, OOS-GPM-SI-106, all movable bridges shall have the machinery systems hands-on inspected and properly documented:

Mechanical Inspection

An inspection of the following typical components shall be performed to include a visual inspection, sampling, operational testing and the use of hand tools such as feeler gages, gear tooth calipers, dial calipers, etc., to record measurements including clearances:

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- Trunnion Bearings, Pinion Bearings
- Racks and Pinions, Open Gearing
- Speed Reducers, Differential Reducers
- Live Load Bearings
- Span Lock Assemblies
- Machinery Supports
- Housings, Shafts, Couplings, Seals

Electrical Inspection

An inspection of the following typical components shall be performed to include a visual inspection, operational testing and the use of instrumentation such as data logging multimeters, megohmmeters, current clamps, etc., to record voltage, current and insulation resistance.

- Drive Motors, Lock Motors, Gate Motors
- Motor Brakes, Machinery Brakes, Emergency Brakes
- Control Consoles
- Motor Control Cabinets
- Panel Boards
- Traffic Warning, Control & Gate Assemblies
- Traffic, Navigation & Access Lighting Systems
- Incoming Service, Meters
- Limit Switches, Safety Interlocks
- Conduit, Wire, Cable, Boxes, Switches, Receptacles
- Submarine Cables

Report Requirements: In addition to the requirements of reporting condition and defects, all movable bridge inspection reports shall include any recommendations for repair or maintenance of the structural, mechanical, or electrical systems. These recommendations shall include cost estimates and be categorized by the following priorities: Immediate, Priority, Routine and Monitor. All specialized personnel shall be identified in the report, with the responsible Professional Engineer licensed in the State of Maryland for each specialty area (mechanical, electrical) providing his signature and seal on the report.