MnDOT Bridge Safety Inspection Certification Information

(Revised August 22, 2018)

Certification in Bridge Safety Inspection (the inspection of in-service bridges and culverts) is coordinated by the MnDOT Bridge Office, and is separate from other MnDOT technical certifications. The requirements listed below have been developed by the MnDOT Bridge Office to comply with Section 650.309 of the National Bridge Inspection Standards (NBIS), as outlined in the Federal Code of Regulations.

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MnDOT Bridge Safety Inspector Definitions and Qualifications

Assistant Bridge Inspector: The FHWA and MnDOT have no minimum training requirements for who can assist in a bridge inspection. *MnDOT does not issue certification cards for Assistant Bridge Inspectors.*

Bridge Inspection Team Leader: A Bridge Inspection Team Leader can conduct inspections of in-service bridges & culverts on the state, county, and local highway system throughout the state of Minnesota. *A MnDOT certified Bridge Inspection Team Leader must be present at the bridge site at all times during a bridge inspection*.

The NBIS outlines five methods to qualify as a Bridge Inspection Team Leader, all of them require the successful completion of a FHWA approved comprehensive bridge inspection training course (see below). MnDOT recognizes all five certification options, but requires an additional field proficiency test for all Bridge Inspection Team Leaders.

1. Be a registered professional engineer in the state of Minnesota, successfully complete a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).

2. Have five years of bridge inspection experience, successfully complete a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).

3. Be certified by NICET as a Level III or IV Bridge Safety Inspector, successfully complete an FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).

4. Have a bachelor's degree in engineering from an accredited college or university, successfully pass the Fundamentals of Engineering (FE or EIT) Examination, have two years of bridge inspection experience, successfully complete an FHWA approved comprehensive bridge inspection training course, and **pass a field proficiency test** (administered by the MnDOT Bridge Office).

5. Have an associate's degree in engineering or engineering technology from an accredited college or university, have four years of bridge inspection experience, successfully complete an FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).

NHI Bridge Safety Inspection Training

To qualify as a Bridge Inspection Team leader, the National Bridge Inspection Standards require the completion of an FHWA approved comprehensive bridge inspection training course. Two such courses are offered by the National Highway Institute (NHI). For certification in the state of Minnesota, either of these two courses (taken in any state) is acceptable, as long as the course was officially sanctioned by the NHI/FWHA. A completion certificate must be presented to the MnDOT Bridge Office.

- **NHI 130055 - Safety Inspection of In-Service Bridges**
- **NHI 130056 - Safety Inspection of In-Service Bridges for Professional Engineers**

MnDOT offers the NHI Training Course 130055 - Safety Inspection of In-Service Bridges once a year (typically in February or March) at the Shoreview Training and Conference Center. This 10-day course was developed by the National Highway Institute (NHI), and provides detailed instruction on the inspection, evaluation, and condition rating of in-service bridges. This course is based upon the FHWA Bridge Inspectors Reference Manual (BIRM) and the AASHTO Manual for Bridge Element Inspection. 2019 cost is $2,150 per participant. Please keep in mind that there is high demand for this course, and it usually fills up shortly after registration opens.

- MnDOT employees should register through their Employee Development Specialist (EDS) Training Representative.
- Non-MnDOT employees must register directly through the National Highway Institute web site.

NHI Prerequisite Training Requirements

In 2012, the FHWA and NHI added new prerequisite requirements for course 130055 “Safety Inspection of In-Service Bridges”. Two free online prerequisite course options are available through the National Highway Institute web site. You will need to register on the NHI site and get a password. To find these training courses, click on “Register for a Course”, then click on “Find Training Courses”, enter the course number and click “Search”. ***Note: these prerequisite courses are only considered valid for two years. You must bring a copy of your completion certificate to the first day of the 10-day course.***

1. **NHI Course 130101A** (Prerequisite Assessment for Safety Inspection of In-Service Bridges)**:** This is an online assessment consisting of three quizzes of 15 questions each. You need to pass each quiz with a score of 70% or higher. This assessment should take about 1 hour. *Note: you should only take this 1 hour assessment quiz if you feel confident in your knowledge of the topics listed in the “outcomes for NHI Course 13101” (see course description on the NHI web site). If you do not pass this course, you will need to take the NHI Course 130101.*
2. **NHI Course 130101** (Introduction to Safety Inspection of In-Service Bridges)**:** This is an online tutorial and assessment that takes about 14 hours to complete. It includes the same quiz format as NHI Course 130101A (three quizzes of 15 questions each), but you have the option of taking the quizzes as you go or taking them all at the end. You need to pass each quiz with a score of 70% or higher.

Note: while the 5-day NHI Course 130054 “Engineering Concepts for Bridge Inspectors” is also considered to be a valid prerequisite option, this course is no longer offered by MnDOT. Like the other prerequisite options, this course is only considered to be valid for 2 years. ***If you have previously taken this 5-day class, you must still take one of the online training options listed above!***

Bridge Inspection Experience Requirements

The NBIS defines bridge inspection experience as follows. *Active participation in bridge inspections in accordance with the NBIS, in either a field inspection, supervisory, or management role. A combination of bridge design, bridge maintenance, bridge construction and bridge inspection experience, with the predominant amount in bridge inspection, is acceptable.*

When determining if an individual meets the NBIS bridge inspection requirements, the MnDOT Bridge Office will also consider experience in bridge design, bridge maintenance, or bridge construction. Past experience in these areas should be described when filling out the application for the MnDOT Bridge Inspection Field Proficiency Test. Please contact the MnDOT Bridge Office for any questions regarding bridge inspection experience requirements.

MnDOT Bridge Inspection Field Proficiency Test

In addition to the training and experience requirements outlined in the NBIS, MnDOT requires a separate field proficiency test to become certified as a Bridge Inspection Team Leader. The purpose of this test is to ensure compliance with the NBIS standards, to improve the quality of bridge inspections, and to increase the statewide consistency of bridge condition ratings. To schedule a field proficiency test, an application form must be submitted to MnDOT Bridge Office. Field tests are typically scheduled between May and October due to weather issues.

The test consists of a routine inspection of an in-service bridge (based upon the MnDOT Bridge Inspection Manual and Inspection Report Format). The inspector is given 3 hours to examine a bridge, take notes, and determine the NBI & structural element condition ratings.

Grading of the field proficiency test is determined by comparing the candidate's inspection report to a reference inspection report. Emphasis is placed on the overall completeness and accuracy of the report, and on the proper documentation of any critical structural or safety conditions. Scoring is based on a percentage scale of 0-100, with a passing score being **75%** or higher. Applicants who fail the field proficiency test may apply again after 6 months. The score is weighted using the following criteria:

- NBI condition ratings 30%
- Structural element condition ratings 30%
- Defect & Other element ratings 10%
- Inspection Notes 30%

Bridge Inspection Team Leader Expiration & Re-certification

Certification as a Bridge Inspection Team Leader must be renewed every 4 years (re-certification forms will be mailed out prior to the expiration date). To maintain certification, Bridge Inspection Team Leaders must meet the following two criteria;

- The inspector must have attended a minimum of two Bridge Safety Inspection Refresher Training Seminars during the four preceding years.
- The inspector must have been actively engaged in bridge inspection during at least two of the four preceding years (the supervising engineer must verify this activity).

Additional information about the re-certification process for Bridge Inspection Team Leaders is outlined in Section A.4.3.2 of the Minnesota Bridge and Structure Inspection Program Manual.

MnDOT Bridge Inspection Refresher Training Seminars

The National Bridge Inspection Standards (NBIS) requires periodic bridge inspection refresher training for bridge inspection team leaders and program managers. The intent of this training is to improve the quality of bridge inspections, introduce new inspection equipment and techniques, and maintain the consistency and reliability throughout the state-wide network of bridge safety inspection programs.

MnDOT conducts annual one-day bridge safety inspection refresher seminars - these are typically held in February and March in various locations throughout the state. Seminar locations, dates and registration information are available on the MnDOT Bridge Office web site (click on Bridge Training).

MnDOT Certified Bridge Inspection Team Leaders and Bridge Inspection Program Administrators (MnDOT, County, City, Municipal, or Consultant Engineers who are responsible for overseeing bridge inspection programs), are required to attend these refresher seminars.

- To maintain MnDOT certification as a Bridge Inspection Team Leader, attendance is required at a minimum of two bridge inspection seminars during each 4-year re-certification period.
- Engineers who are currently designated as Bridge Inspection Program Administrator are required to attend at least two of these refresher seminars every four years

Seminar topics will vary each year, but will generally cover bridge inspection condition ratings, structure inventory coding, bridge load capacity ratings, bridge hydraulics, and a variety of topics related to bridge inspection. The 2019 seminar fee is $125 - this includes course materials, lunch, and refreshments.