

NASSCO'S

Inspector Training Certification Program For Manhole Rehabilitation

COURSE CONTENT



Introduction

Over the past several years, municipalities and engineers have asked for additional training, particularly applicable to pipeline and manhole renewal technologies.

In response, NASSCO is proud to present the Inspector Training and Certification Program (ITCP) for Manhole Rehabilitation. The second of a number of Inspector Training programs being developed by NASSCO.

This training is intended for consulting engineers who provide inspection services, municipal engineers who perform inspection on their projects, inspectors who are on site inspecting the project, and all who need a comprehensive understanding of the manhole rehabilitation technologies.

The ITCP course will cover specific areas of expertise that are needed to ensure that a manhole rehabilitation project is constructed correctly and meets the requirements of the contract documents.

The training course includes two days of technology and specification information that the inspector needs to know. The course includes sample forms that can be used by the attendee as the basis for recording information on the project site. The forms will have specific Quality Assurance/Quality Control requirements for each type of manhole technology, the inspection procedures required, and the information which needs to be documented for a complete inspection record.

Each attendee will be required to pass an open book exam which will demonstrate their basic knowledge of the application of manhole technologies. Upon completion of the training program, the attendee will receive a certificate and an inspector identification card, confirming that he/she has successfully completed the Inspector Training and Certification Program for manhole rehabilitation.

Course Content

Chapter 1: Manhole Defects – Rehabilitation Requirements

In this chapter the instructor will review each component typically associated with manholes. The instructor will review the materials used in the original construction of each component, the most common defects by structure component and the causes of issues and failures. Defect terminology will reflect the latest NASSCO PACP definitions. The general cause of and significance of each type of defect will be evaluated as part of the total manhole structure.

Chapter 2: Manhole Preparation, Quality Assurance and Testing

In this chapter, the instructor reviews typical preparation requirements, quality assurance and testing requirements. A variety of inspection and testing criteria are discussed and each testing procedure is outlined in detail. Inspection and testing requirements are divided into those typically used before material application, those used during application and those used after application.

Chapter 3: Manhole Replacement and Rehabilitation Technologies

In this chapter the instructor will review a number of replacement materials and rehabilitation technologies including, Frame and Cover Replacement, Cover Inserts, Chimney and Joint Seals, Chemical Grout, Poured-in-Place Concrete and the typical sequence of events that occur with structure preparation: product installation, curing and final inspection. The inspector's responsibilities during this process will be discussed. Illustrations of installed products appearance and quality will be included. It will also be explained the type of issues that can occur with a coating or lining during installation, during the warrantee period, as well as the necessary inspector actions during the application process.

Chapter 4: Manhole Rehabilitation Technologies

This chapter is a continuation of Chapter 3 with additional technologies including, Precast Inserts, Trowel and Spray-on Liner, Modified Polymer Liner, Cementitious Liner, Cured-In-Place Liner, Composite Liner and Panel Liner as outlined and discussed including quality assurance, testing requirements and inspector action requirements.

Chapter 5: Specifications – The Inspector's Project Instructions

The student will learn the key aspects of performance specifications to ensure that the customer receives a quality product at the price paid. The specifications are one of the most important sections of the contract documents. They instruct the contractor on how the project should be built and what level of quality is to be achieved. A badly written or vague specification will discourage quality contractors and encourage extra work orders from the low bid contractor that may result in a low quality installed product. Students will gain an understanding of a well written performance based specification, that spells out the work required, specifies the quality assurance during construction to be enforced, defines the required quality controls, and spells out what testing will be required and enforced.

Certification Examination

Upon completion of the program the student will be required to take a certification examination. The examination will be open book. A passing grade of 85% will be required to be certified by NASSCO.

Course Fee

The cost for the two-day program and certification is \$995 for NASSCO Members and \$1095 for Non-Members. Note that if you are not currently a NASSCO member, but join within one year of taking the course, your membership will be discounted by \$100 (one per organization).

The course includes the following:

- ✓ A technology-experienced instructor
- ✓ 1.5 days of intensive class instruction
- ✓ A comprehensive course reference manual for each student
- ✓ The TAG-R software decision tree program for trenchless technology applications
- ✓ Certificate of completion and ID card (available online to those students who successfully complete the course)
- ✓ Technical support from NASSCO on future manhole rehabilitation project issues
- ✓ 1.35 CEU credits for each student
- ✓ Meals (continental breakfast each day and lunch on the first day) provided
- ✓ Administration of a certification examination to all students

For more information, please visit www.nassco.org