

# NASSCO'S

## *Inspector Training Certification Program For the Inspection of Cured-In-Place Pipe Installation*

### COURSE CONTENT



# Introduction

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

In response, NASSCO is proud to present the Inspector Training and Certification Program (ITCP) for cured-in-place pipe installation, the first of a number of pipeline renewal technology 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 cured-in-place pipeline renewal technology.

The ITCP course will cover specific areas of expertise that are needed to ensure that a trenchless project is built correctly and meets the requirements of the contract documents. The ITCP has been structured to achieve this training.

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 the CIPP 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 cured-in-place pipe technology. 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 cured-in-place pipe.

# Course Content

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## **Chapter 1: Existing Pipe Defects and How They Affect CIPP Installations**

In this chapter, the instructor reviews the different levels of pipeline conditions that are commonly encountered in existing sewer systems. Each pipeline condition level is discussed, as well as how the condition will affect the installation of a cured-in-place pipe.

Understanding pipeline deterioration and condition allows the inspector to make informed recommendations for the installation of a CIPP, based on real data - not speculative assumptions.

## **Chapter 2: Overview of the CIPP Technology**

The student will learn about all aspects of the CIPP technology, a resin saturated fabric liner that is typically installed into a deteriorated pipeline. After insertion, heat or ultra violet light is applied and the liner is cured into a hard CIPP, without excavation. The technology can be applied to municipal sewers, laterals, water mains, drainage pipes, outfall pipes, and force mains. Other applications

include utility pipes such as gas mains and electrical conduits, all manner of industrial, highway and railroad culverts and many other piping systems that can be renewed using the CIPP technology.

### **Chapter 3: The Field Installation of Cure-In-Place Pipe (CIPP)**

In this chapter the instructor will review the typical sequence of events that occur on a CIPP installation project, starting with the contractor's mobilization, project set-up, and liner installation and curing. The process ends with the final inspection. The inspector's responsibilities during this process will be discussed. Illustration of installed product appearance and quality will be shared. Also illustrated will be the type of defects that can occur with a CIPP during installation, as well as which remedies are recommended. Robotic service reconnections will also be reviewed including levels of quality and what may not be acceptable.

### **Chapter 4: Writing and Understanding Performance Specifications for CIPP**

The student will learn about some of the key aspects of performance specifications and what components are important 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 and, more than likely, result in a low quality installed product. A well written performance-based specification which spells out the work required, defines the required quality controls, specifies the quality assurance during construction to be enforced and spells out what testing will be required and enforced will also be covered in this chapter.

The student will learn about how to write performance specifications that will have incentives for projects that exceed expectations. They will also be made aware of penalties for work that does not meet the specification requirements.

### **Chapter 5: Pipeline Renewal Technologies and Their Applications**

Over the last 25-30 years many new, commercial pipeline renewal technologies and materials have been developed. Some are fully integrated systems including quality tested material, specified installation equipment, required curing techniques and fully trained installers. Equipment-only technologies have been developed which are used to install a number of different commercially available pipe materials.

In Chapter five the instructor will review many of these renewal technologies so that the student will understand their different applications and uses.

A Trenchless Assessment Guide for Rehabilitation (TAG-R) has been developed for NASSCO by the Trenchless Technology Center (TTC) at Louisiana Tech and is part of this Inspector Training and Certification Program. The TAG-R is an interactive software program that will allow the engineer and inspector to select applicable technologies for different project conditions.

### **Certification Examination**

At the completion of the five course chapters, each 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

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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
- ✓ Comprehensive Styrene report and its use in the CIPP technology
- ✓ Certificate of completion and ID card (available online to those students who successfully complete the course)
- ✓ Technical support from NASSCO on future CIPP 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