NASTT’s HDD Good Practices Course Agenda

8:00 AM  Opening Remarks & Introductions

8:15 AM  Course Overview & Background

8:30 AM  HDD Applications & Processes
- Cable and pipe installations for electric, fiber optic, CTV, gas, water, sewer (including gravity)
- Diameters from 2 to 65 in. (steel, HDPE, PVC, DIP)
- Lengths over 10,000 ft. +, but less than 1,000 ft. more common
- Installation beneath streets, rivers, bays, other obstacles, through soft soils to hard rock
- Pilot bore, including bore tracking
- Reaming
- Pullback of product
- Connections, demobilization and cleanup/site restoration

9:30 AM  HDD Equipment and Materials
- Types of rigs (small, medium, large)
- Thrust/Pullback and rotational torque characteristics
- Introduction to various models of rigs

10:15 AM  Break

10:30 AM  HDD Tooling
- Machine Performance, Capabilities, and Application Guidelines
- Drill Pipe
- Drill Bits and Downhole Tools
- Product Pipe
- Cable/Pipe Pulling Devices/Swivels
- Drilling Fluid Delivery, Recovery, and Containment Systems
- Drilling Fluids and Additives

11:15 AM  Bore Tracking & Equipment

11:45 AM  Lunch

1:00 PM  HDD Design
- Develop Project Performance and Design Criteria (Project Functional Requirements)
- Surface Investigation
- Utility Survey
- Geotechnical Site Investigations
- Permits and Requirements
- Construction Method Selection
- Impacts to Residents, Business, and Traffic
• Constrained Work Areas – Rig Relocation
• Design Analysis and Calculations
• Contact Grouting
• Conductor Casings
• Plans and Specifications
• Safety Plan

2:45 PM  Break

3:00 PM  Overview of Drilling Fluids
• Mixing Systems
• Holding Tanks
• Cleaning Systems
• Equipment for Containment, Collection, and Disposal
• General Drilling Fluid Functions and Properties
• Circulation
• Annular Volume
• Lost Circulation
• Drilling Fluid Pump Efficiency
• Drilling and Reaming Penetration Rates
• Field Tests for Drilling Fluid & Slurry Analysis

4:00 PM  Bore Planning
• Locates
• Site Walkover & Calibration of Transmitter/Receiver
• Bore Planning Tools
• Selection of Appropriate Equipment and Tooling
• Site Geometry, Topography, and Constraints
• Schedule Constraints (Project Completion, Work Hr)
• Drilling Fluid Support System

4:30 PM  In-class Exercises

5:00 PM  Course Adjourns