

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*