



Draft Guidance on Trenchless Technology

Environmental Considerations for the Construction and Operation of Trenchless Technology

Presentation
to the
Water Resources Advisory Committee

May 2020
Harrisburg, PA

Trenchless Technology Technical Guidance Document

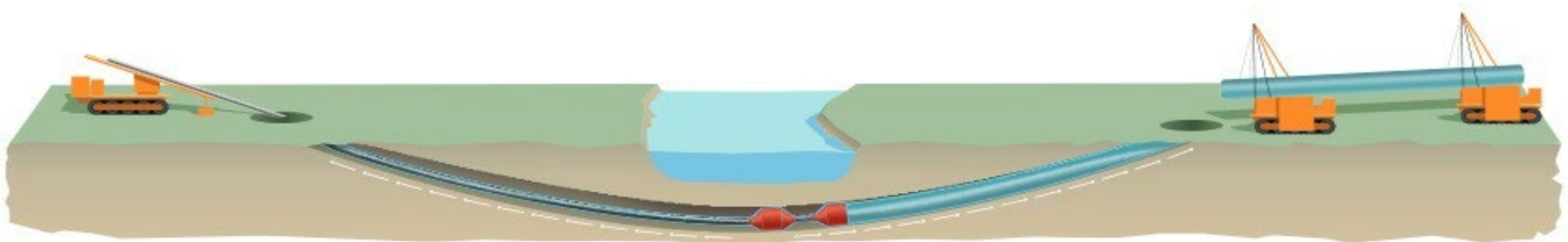
Advisory Committees and Boards we are presenting to include:

- Water Resources Advisory Committee (WRAC) – *October 2019 and May 2020*
- Agricultural Advisory Board (AAB) – *November 2019 and May 2020*
- Oil and Gas Technical Advisory Board – *January 2020*
- Small Water Technical Advisory Committee – *February 2020*
- Environmental Justice Advisory Board (EJAB) – *February 2020*
- Citizens Advisory Council (CAC) – *~~March 2020~~ Postponed due to COVID-19*
- Bureau of Safe Drinking Water – *Provided Comments on Draft*

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Charge of the Stakeholder workgroup:

- *Develop guidance for the “Construction and Operation during Horizontal Directional Drilling (HDD)”*
- *Enhanced Best Practices ("EBP") in the design and execution of HDDs and HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plans*



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Section 1. Preamble

- A. Foreword/Executive Summary
- B. Disclaimer
- C. Authority
- D. Purpose
- E. Scope
- F. Definitions



Changes to Applicability and Disclaimer

Language added to the beginning of the document

- **Applicability** section we state: “...level of analysis needed for a project should be commensurate with the level of environmental risk (see Appendix A).”
- **Disclaimer** section we state:
 - “...guidance does not require new permits.”
 - “...issuance of this guidance is not meant to indicate that Trenchless Technology (e.g., HDD) is always the least environmentally impactful.”
 - “...all projects do not pose the same level of risk.”
 - “...guidance may not be necessary for small projects that pose little to no risk to resources nor have any potential impacts to the environment.”

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Section 2. Suitability, Feasibility, and Environmental Considerations

A. Proposed Alternative

B. Site Suitability Analysis – constraints of the project.

1. Existing Surface Conditions
2. Subsurface Conditions
3. Field Exploration

C. Feasibility Analysis

D. Environmental Considerations

E. Conclusion



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Section 3. Design and Permitting

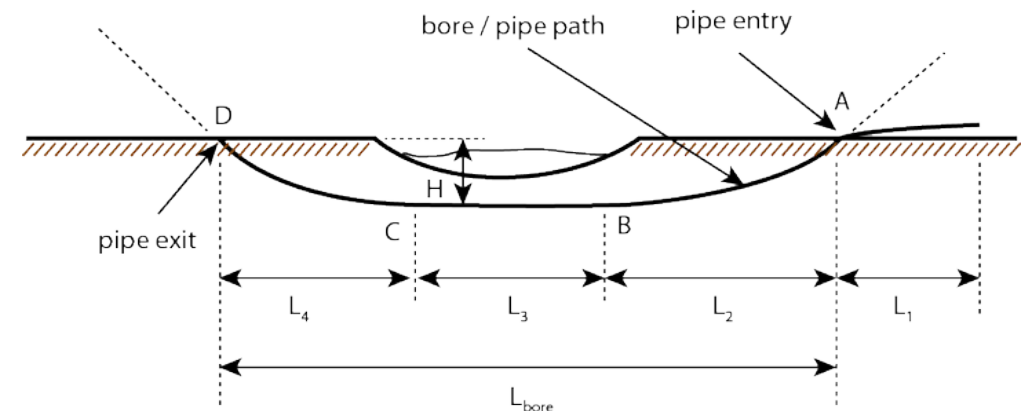
A. Preferred Alternative

B. Design

1. Site Constraints and Topographic Considerations
2. Inadvertent Returns (IRs)
3. Hole Flush
4. Hole Stability
5. Failure Mode Contingency Planning
6. Water Supplies
7. Waters of the Commonwealth

C. Confirmation

D. Permitting



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Section 4. Construction and Compliance

- A. Preparedness, Prevention, and Contingency (PPC) Plan
- B. Personnel, Responsibilities, and Trainings
- C. Preconstruction Activities
- D. Drilling Fluid Management
- E. Inadvertent Return Minimization and Methodologies
- F. Inspection, Compliance, Monitoring, and Emergency Response

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Appendices

- A. Trenchless Technology Risk Evaluation
- B. Data Resource List
- C. Bore & HDD Flowchart
- D. Instructions for Determining Public Water Supply Source Locations using eMapPA
- E. Example Template for a PPC Plan
- F. Example Notification Letter and Well Construction Questionnaire
- G. Example of Standard Boring Log
- H. Example letter conveying water quality results and notification of EPA Maximum Contaminant Level (MCL) exceedances
- I. Technical Guidance Document – Plan Submittal Checklist

Prior Concerns

- **Concern:** Appendix A (Risk Assessment) checklist automatically throws every project into high risk because one box is checked.
 - Action: Redeveloped Appendix A. Went back to the drawing board and discussed with an internal workgroup focusing on ways to reduce burden on small scale projects.
- **Concern:** Coordinate with small operators.
 - Action: Attempted to contact several operators from a list provided by PUC
- **Concern:** Too much “regulatory language”.
 - Action: Reviewed language and changed as appropriate
 - *shall, must, and will* were changed to *should*

Previous Risk Assessment (Appendix A)

Trenchless Technology Risk Evaluation Checklist

Do any of your projects, crossings, or activities employ any Trenchless Technology (TT) methodology utilizing the following (Please check all that apply)?

Check here: Bore HDD Other TT: _____

Y N N/A Is your Bore length \geq 300'

Y N N/A Is your Bore pit depth \geq 20'

Y N N/A Is your HDD Drilling Distance \geq 2000'

Y N Are drilling fluids being used?

Y N Are you crossing an Aquatic Resource?

Y N Is your entry, exit, or ROW within 50 feet of an Aquatic Resource?

Y N Are you within 450 feet (1,000 feet in Karst) of a Water Supply?

Current Risk Assessment (Appendix A)

1. Drilling fluids other than bentonite or plant-based components under pressure?
2. PNDI receipt show any threats to T&E species?
3. Any portion in a wellhead protection area or a potable groundwater source or a drainage area of a potable surface water source?
4. Any evidence of contamination (e.g., USTs, Brownfield, presence of monitoring wells, etc.)?
5. Activity in steep slopes?
6. Activity in questionable geology (e.g., mines, faults, karst, etc.)?
7. Activity occurring with significant elevation difference between entry and exit?

Current Risk Assessment (Appendix A)

- Risk Assessment is a tool to help evaluate risk.
- How does it work?
 - 7 criteria identified as above average risk
- Protects the regional reviewer
- Protects the project proponent – evaluation, and subsequent PPC plan, should be commensurate with the size and scope of the project and level of risk.
- Allows for discretion between a pipeline with several crossings vs. fiber optic in all uplands

Next Steps

- Anticipate public comment period - Fall/Winter of 2020
- Final publication coordinated with the Chapter 105 Regulation Annex release
- Prepare a tutorial video series for the Department's Clean Water Academy?
- Presentations to regional staff and County Conservation Districts?
- Presentation to Industry (e.g., MSC)?
- Merge with other guidance documents to develop a larger guidance manual?

Questions