

HDD Large Diameter Pipeline Crossings of Highways

Protecting Everyone's Assets



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GEOENGINEERS 

General Stakeholders on HDD Highway Crossings

- Owners (DOTs & pipeline companies)
- Traveling public
- Engineer
- Various agencies
- Contractor

HDD Stakeholder Needs

- Pipeline companies
 - Transfer product from point “A” to point “B”
- DOTs
 - Keep highways operating safely for traveling public
- Engineers
 - Identify risks of installing HDD at proposed location
 - Design HDD to be feasible, reduce risk
 - Make recommendations on how to mitigate identified risks
- HDD Contractor
 - Follow best industry practices to complete HDD installation while mitigating risks



**POINT "A" OR
PIPESIDE**

**POINT "B" OR
RIGSIDE**

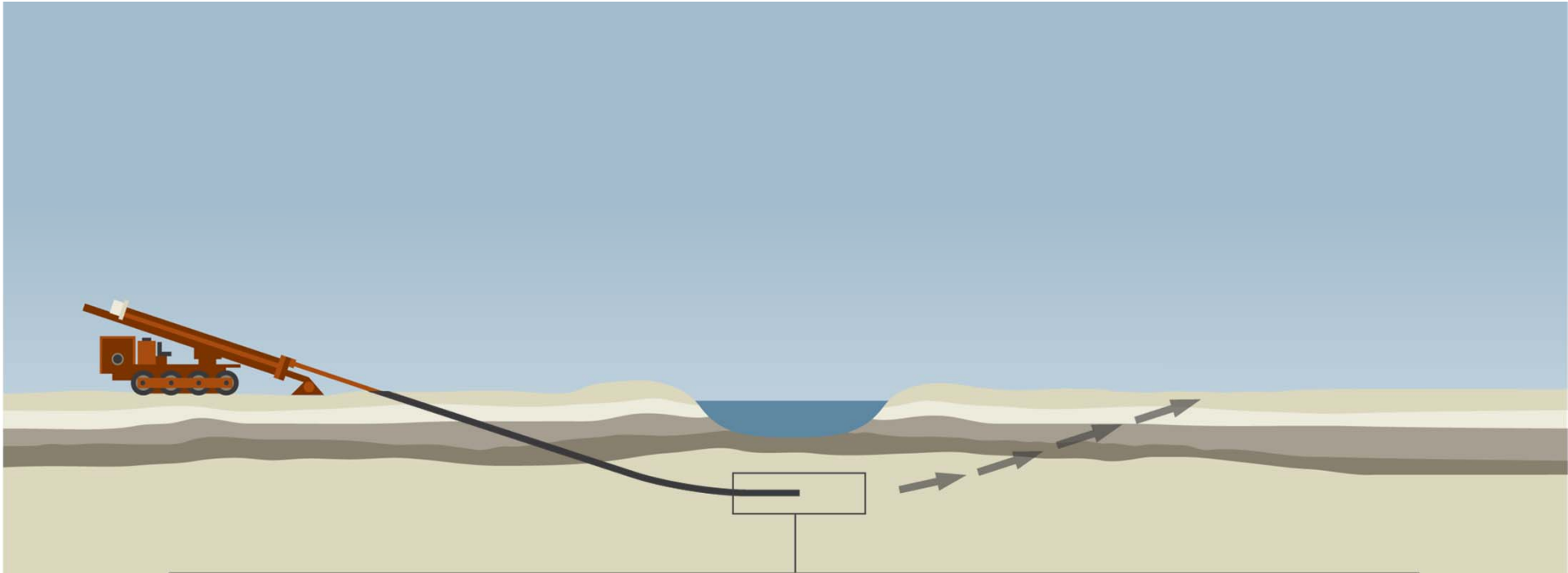




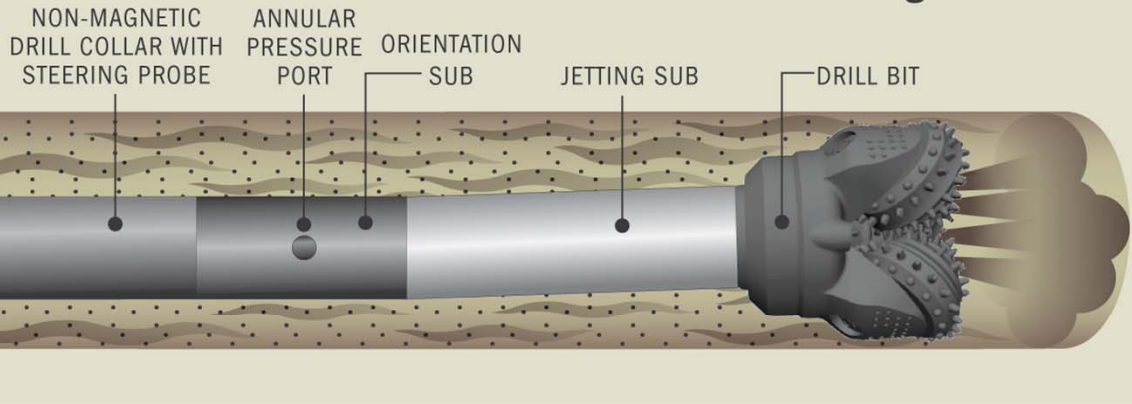








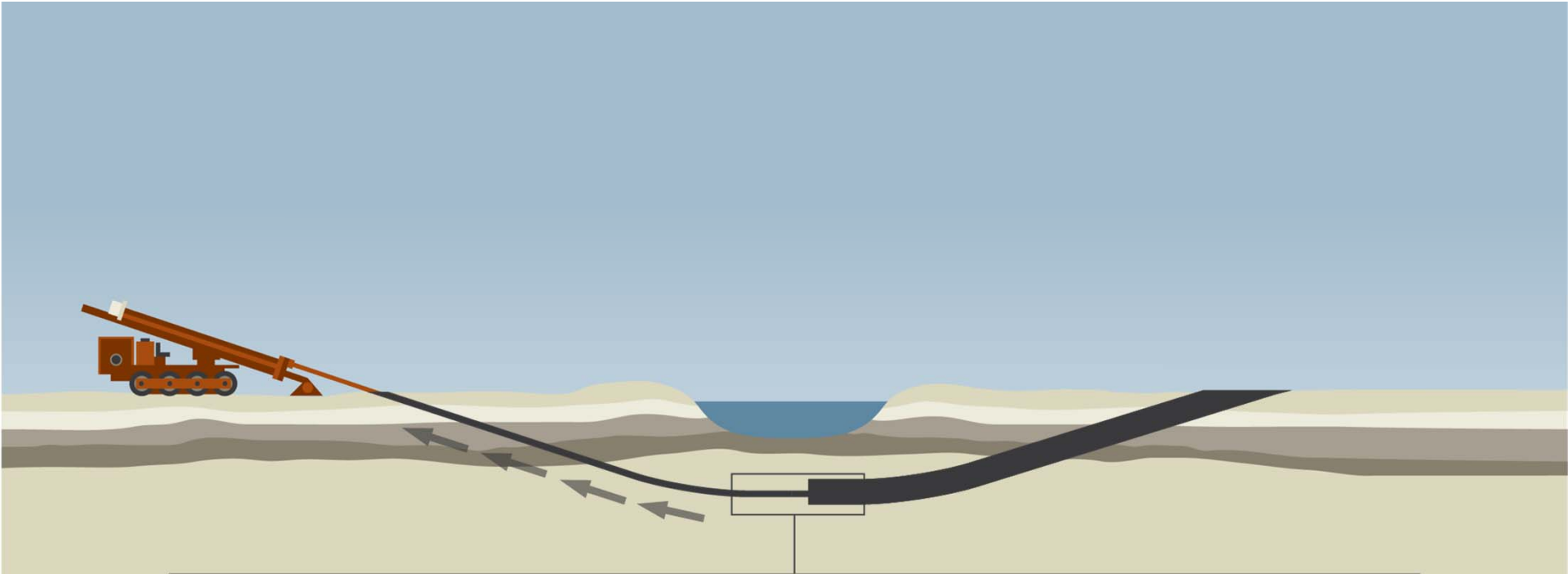
Pilot Hole Drilling



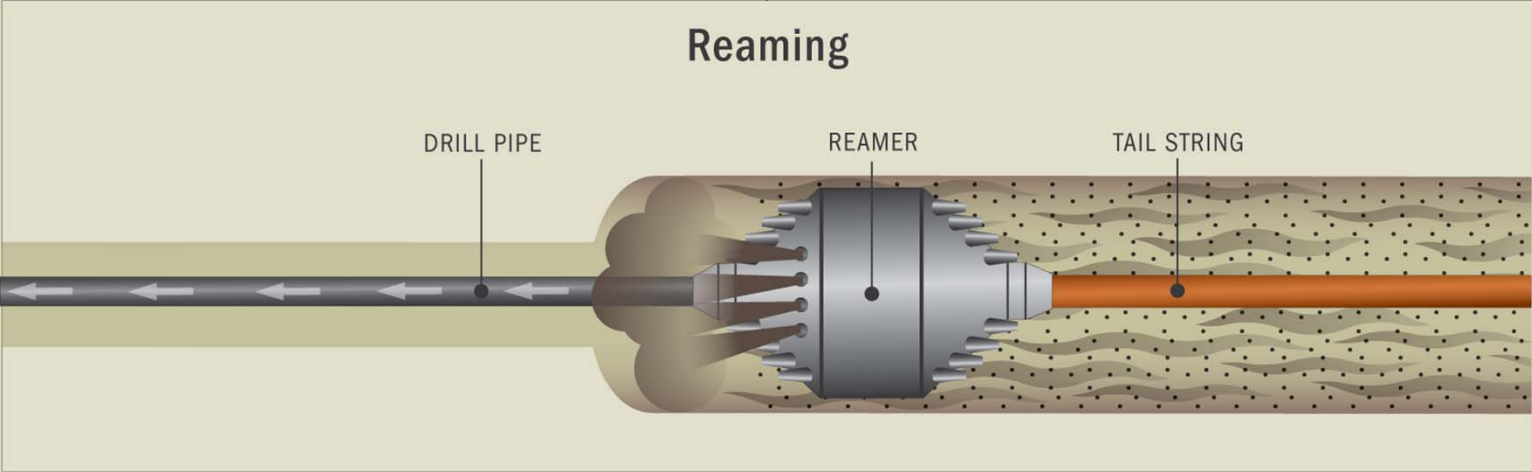






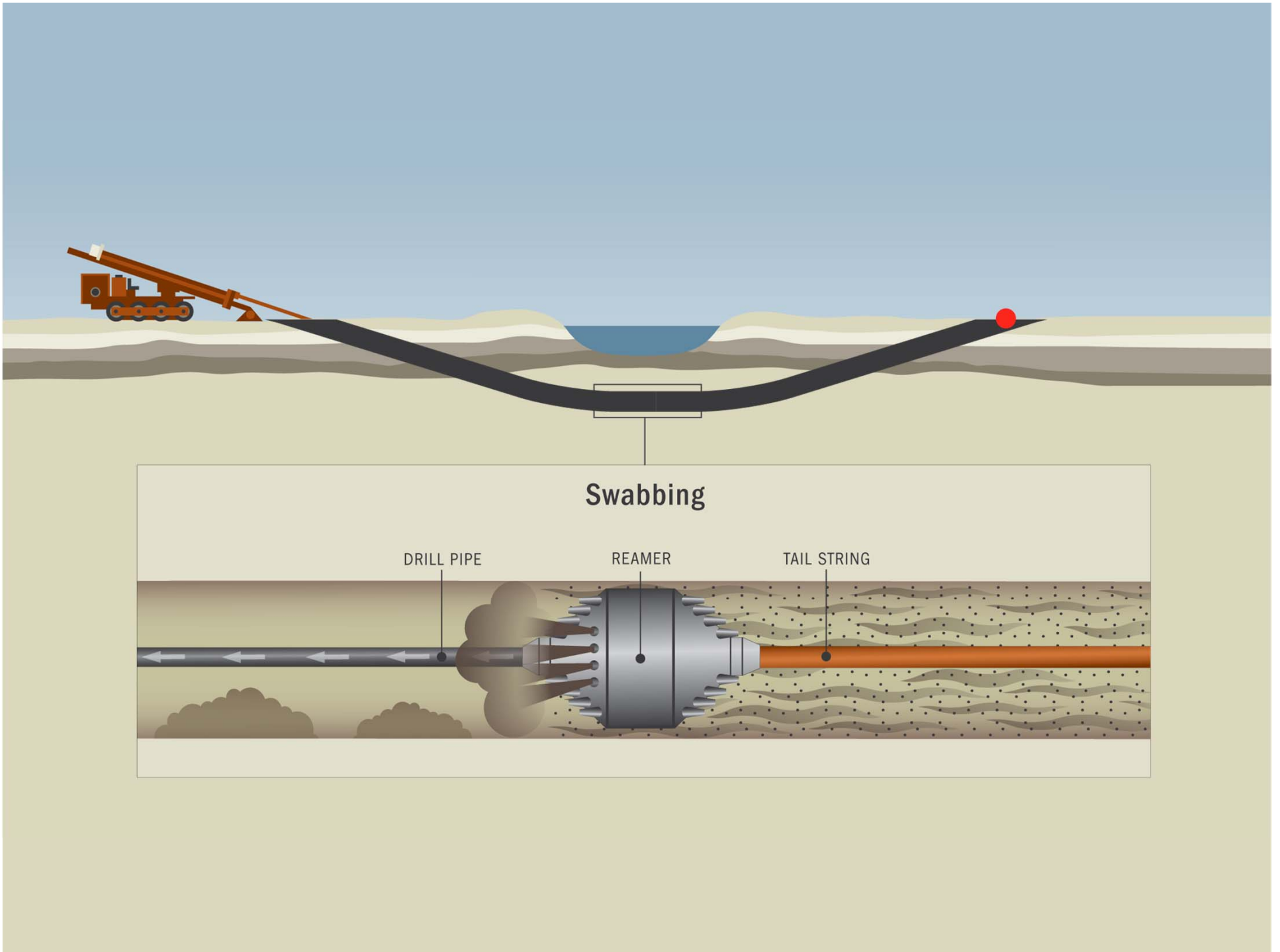


Reaming

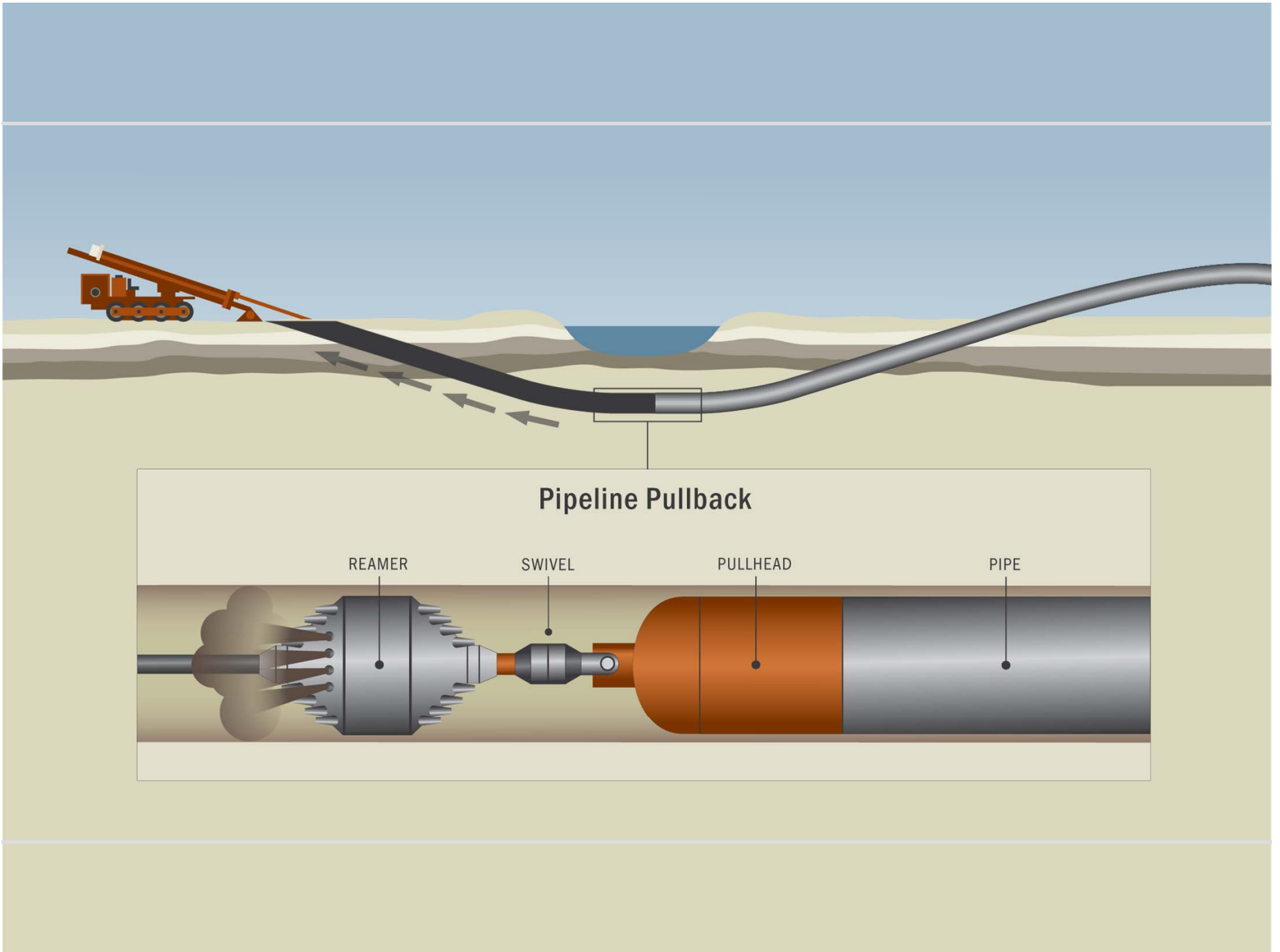










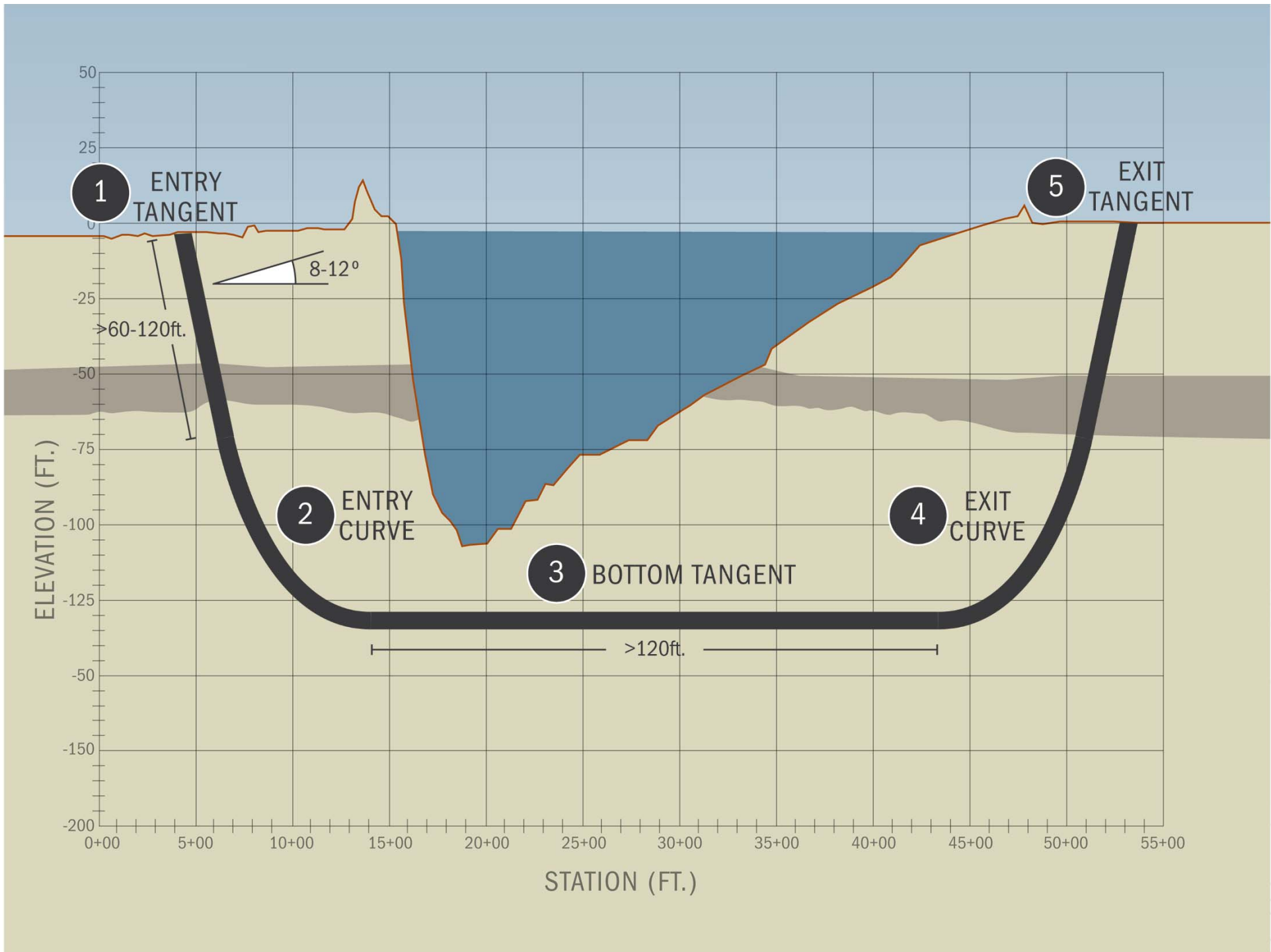






Engineering Considerations

- Is proposed HDD alignment feasible?
- What type subsurfaces will be encountered during drill?
 - Complete geotechnical exploration with soil borings and laboratory testing
- Does site location allow for proper layout of workspaces and are they accessible?



MINIMUM CROSSING			10°/8°		12°/10°	
OD	RADIUS	MIN W.T.	HML	MD	HML	MD
8"	800	0.173"	507 ft	23 ft	558 ft	30 ft
12"	1200	0.240"	647 ft	30 ft	726 ft	39 ft
16"	1600	0.320"	790 ft	35 ft	893 ft	48 ft
20"	2000	0.400"	930 ft	41 ft	1061 ft	57 ft
24"	2400	0.480"	1070 ft	47 ft	1229 ft	65 ft
30"	3000	0.600"	1280 ft	56 ft	1480 ft	78 ft
36"	3600	0.720"	1491 ft	65 ft	1732 ft	91 ft
42"	4200	0.840"	1702 ft	74 ft	1984 ft	105 ft
48"	4800	0.960"	1913 ft	84 ft	2235 ft	118 ft

Engineering

- Identify risks and design HDD to reduce risks
- Inadvertent drilling fluid returns surfacing
- “Dry hole” from entry and exit point elevation differential and cause hole stability issues







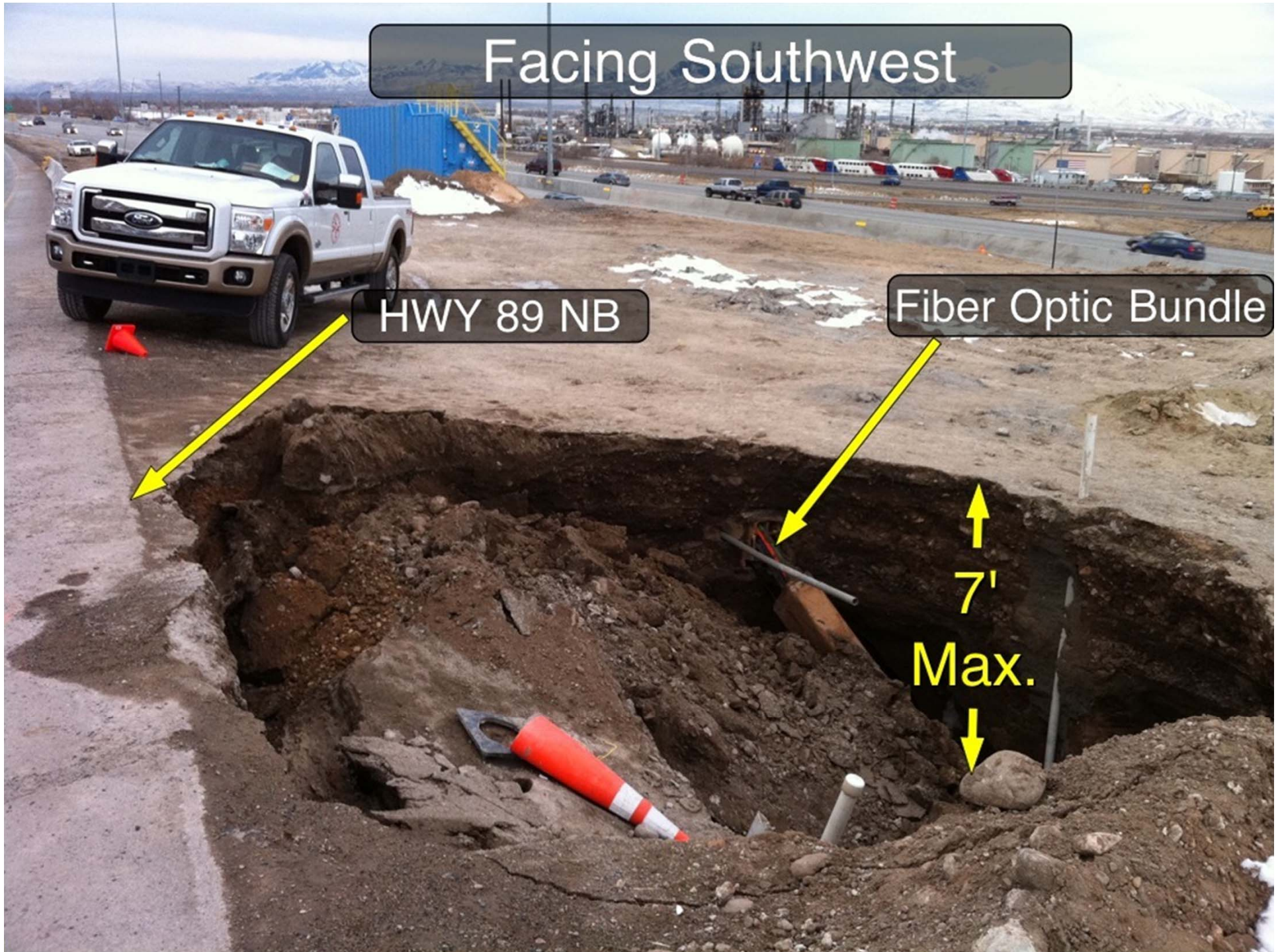
Facing Southwest

HWY 89 NB

Fiber Optic Bundle

7'

Max.







Questions?

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