



Standards Oversight Council (SOC)

Developing effective technical standards that protect Wisconsin's natural resources

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DNR 1072 Horizontal Directional Drilling Standard Team

MEETING NOTES

Thursday, June 10, 2021 ▲ 9:00am – 12:00pm ▲

Virtual Meeting (online)

9:00 Welcome & Introduction (Kate, Amy)

Goal: Welcome, and review today's meeting objective.

Attendance: Kate, Amy, Sue, Lance, Dana, Abby, Matt, Brad, Geri, Elliott, John

Absent: Ann, Mike

Guests: None

Objective: Come to a decision about the categories for wetland and waterway resource risk and the associated practices. Work through language clarity and consistency issues.

Some reminders for the team:

- This is our first meeting with Amy Minser leading!
- Encourage team to throw out their ideas, even if they seem outlandish.
- The standard doesn't have to be perfect but we should look for "good enough". Standards are meant to be updated and reviewed. Before it's published, we'll also have an expert Initial Review and public Broad Review. Even after it's published, if DNR sees a recurring issue or gets feedback that something isn't working, the standard can be updated.

Notes Review (Kate, Team)

Goal: Review and approve 5/6/2021 draft meeting notes.

- Review open action item – Geri, Ann and Amy did some detail work and will present on that later today.
- We had previously asked for input on a few items from the last meeting. No comments were received.
- Hearing no questions or comments on the notes, they are presumed approved. Kate will post online as final.

Refining Environmental Resources and Resulting Practices (Geri, with Ann and Amy)

Goal: Review further details on key water resource definition and the practices the resources trigger. Discuss with full team input.

- There was a breakout group that continued to refine the water resource terms and what practices would apply.
- The desktop analysis is conservative approach in lieu of a wetland delineation. The desktop resources are free, publicly available and relatively simple tools for a non-technical audience. The user *could* do a professional wetland delineation to better clarify the wetland areas beyond what's on SWDV or the soil survey.
- How would the user would identify key waterways and key wetlands?
 - Surface Water Data Viewer has the surface water features to identify both **waterway resources** and **key waterway resources**.
 - **Key wetland resources** – list is similar to what the group presented last month but added the forested or wooded wetland (due to clean-up difficulties). There's no good "one-stop-shop" for wetland resources-- some of the info is on SWDV, and user would also need NRCS Soil Survey and aerial photos. If aerial photo shows land is actively farmed, then it wouldn't be presumed to be a key wetland resource.
- What to do if a Key Waterway Resource or Key Wetland Resource are identified?
 - This group also took a closer look at resulting practices. The team reviews practices for these categories together on-screen.
 - The main theme for key waterway or wetland resource is to ensure the user has thought more about how to prevent a frac out, conduct more frequent monitoring, and if one does happen, how to respond
 - Added a consideration for Geotech investigation to evaluate IR potential if working in an area of a Key Waterway Resource during spawning period. Consideration could also include going deeper (for greater cover) during spawning period. The standard already has a Geotech requirement for medium and large size projects so this would only be new for small size projects.
- Minimum depth – group had requested input at the last meeting, but heard nothing.

Purpose Statement

Goal: Clarify types of HDD drilling methods to include in the standard.

- At the last meeting we briefly discussed drill type – with mud (water with additives), air or water. Are practices similar and is there still an erosion control and resource protection issue for different HDD types?

- Team discusses and makes some decisions:
 - Should we include air only HDD? NO! Air doesn't have frac out like with fluid. Team discusses and votes that this standard should EXCLUDE air/pneumatic HDD.
 - Should we include water only HDD? YES! Water only is really not advisable (not a good practice) but a contractor may do it, like clayey soil for a short run. Team votes that purpose will be worded as "drilling fluid" which could be water or water plus additives. Water only drilling won't be excluded. "Drilling fluid" is also added in the Glossary.
 - Reminder: Our conversations on this standard should focus on the practices that fulfill the purpose.

Language Clarification (Amy)

Goal: Review some language inconsistencies and decide on final language.

The text was assembled over multiple meetings and multiple break-out groups so there are some language inconsistencies. Team discusses and agrees to some terms:

- Frac out vs Inadvertent Return vs Inadvertent Release – Industry has evolved a bit where "Inadvertent Return" seems to be used more and is on some permits and official documents. Frac out is fracturing the formation so not complete for type of issue in HDD. "Returns" are expected and normal so as not to confuse things, **Inadvertent Release** is selected by the team since it's clearer that it's a spill. We will define at first usage that Inadvertent Release can also be known as Inadvertent Return and Frac Out.
- Regarding variations of "HDDs", HDD bore path, HDD project, HDD path segment, etc. – This terminology should be clear since a misunderstanding could have a big impact. The more expansive practices may only be appropriate in small areas of the overall project, not the entire length. Contractors may use just "bore" but that's not clear it's HDD or other bore types. The team agrees to the terms **drill path** for the segment from entrance pit to exit pit, and **HDD project** for the larger conglomerate of multiple drill paths.
- Bore pit vs entry pit and exit pit vs excavation – Excavation is too generic and has different implications in the scope of a utility project where there could be open cut. The team selects **entry pit** and **exit pit**, which are both types of bore pits. Clarification is added in the Glossary section.
- **Wetland Field Review** is preferred term over Field Water ID Survey.
- Utility vs Product vs Facility – Team discusses the variety of uses (like under dimensions where we previously had used "product diameter"). Utility is initially preferred but it doesn't work equally for bundling or diameter contexts. **Product** is more broad and is the term selected by the team though context should be reviewed.

- With the team decisions on the language, **Kate** can then make necessary edits to text and table after the meeting. Kate will consult with Amy on usages that context may require an adjustment.

Applicability Table (Amy)

Goal: Confirm practices for each risk category and identify table improvements.

- Geology approach: Are there certain soil conditions that would drive specific actions? The only recurring geological issue that team has discussed is **karst bedrock** areas and the team does not identify other geologic risks that should result in a specific practice.
 - Desktop Site Assessment is required for all projects. Beyond the wetland/waterway information, what information does this provide that would inform the contractor?
 - Geotech is already required for medium and large size HDD bore paths. Is there a small size project where a type of geology should still be detailed by Geotech borings? We're only talking about adding this for small size projects but it would be related to the resource, not the geology alone.
 - Soil survey not as useful for urban projects so it shouldn't be required for all projects. Team agrees to using soil survey or more detailed information for crossings under key water resources.
 - Geologic risk factors would result in practices as a consideration, open ended as to which practices apply. This approach was started by the group evaluating "complex projects" and the definition they provided at our last meeting. The "complex" definition included a lot of geologic issues (e.g., loose or soft soils, exposed bedrock, presence of springs or flowing water), and the practices would not be specified nor required—the user would need to determine what's appropriate based on site specifics. Consideration should be to plan HDD depth to avoid poor soil conditions identified during Desktop Site Assessment.
 - HDD work in area of karst bedrock has a consideration of a geophysical survey, but no other practice requirements, as the practice descriptions are currently written.
- This table is looking more like a tool the public can use. Team hasn't yet come to a decision on how to make this more user-friendly and that will evolve. One option the Team discusses is to simplify presentation of the applicability table by breaking it into 3 parts: Initial Design, Planning, and Construction. This would be less overwhelming to the user.
- Depth to bedrock included in desktop site assessment – Kate will confirm that WGNHS bedrock map is included in the Resources.

Plan of Action (Kate, Amy)

Goal: Review action items and agenda items for next meeting (July 15, 2021).

One more meeting scheduled, on July 15, 2021. We may need more but won't schedule any now—team will strive to get standard ready for the Initial Review at our July team meeting and we'll take August off while the document is under review, then team would meet in Sept. to address the Initial Review comments. **Team** should email Kate suggestions for Initial Reviewers; the team will then confirm the final list at our July meeting. These reviewers should be a range of stakeholders, both private and public sector, and not necessarily limited to WI.

ACTION ITEMS

- 1) **Kate:** finalize 5/6/21 notes and post online.
- 2) **Kate:** prepare 6/9/21 draft meeting notes, Amy reviews, then full Team reviews.
- 3) **Kim, Amy, Kate** will develop details for team assignments before the next meeting, and will email the breakout groups further instructions in the next week.
- 4) **Environmental Resources Group** [Ann, Geri and Amy] - **Amy** will take the work from this breakout group and the full team discussion and prepare changes to the technical standard.
- 5) **Full Team** should identify possible Initial Reviewers; send Kate any names for us to consider as a team at our July meeting.

12:00 **End**

Parking lot for later discussion (includes topics from previous meetings):

1. Develop a communication tool for determining which practices apply for a specific project (decision tree, matrix, flow chart, scorecard, etc.), including a combination of different risks. [*UNDERWAY. Improving the Applicability Table as we move along.*]
2. Consider use of figures as examples in the standard – a cross-section and plan showing overall HDD plan with select areas with sensitive resources where additional practices would apply. Might be more appropriate for training materials, but still important.
3. Standard should also allow some flexibility for field modification. Site conditions sometimes discovered while in the field may result in a length change or discovery of geological conditions. Formal plans probably wouldn't be modified but the practice/implementation might. Plans may be re-written if there are more HDDs planned along a longer profile with similar expected conditions. Document unexpected

conditions for future maintenance and future HDDs in the area. *[UNDERWAY; NOTE, REPORTING SECTION ALSO INDICATES INFORMING DNR OF CHANGES]*

4. Clarify, reword, or and define subjective language – words such as low or high risk, complex, sensitive, large, small, qualified etc. *[UNDERWAY]*
5. A smaller pilot hole is often used to start HDD, then reaming tools used to increase diameter. Pilot and reaming tend to be when frac out occurs—suggestion to add this as a consideration.
6. Should we add language (under inspections?) about detecting IR during winter operations?
7. Should we add language related to adjusting placement of the exit and entry pit to minimize risk? Should this be criteria or consideration? [Confirm this is beyond what’s in Initial Design Site Walk-Through—we could also add clarification in this practice to address this issue.]
8. “Complex” projects – work the definition presented by this breakout group into the standard as a consideration. Confirm team agreement with definition and wording for practices (but not a prescriptive list of which practices apply in which situation)
 - a. Option #1 - For purposes of this technical standard, HDDs may be classified as complex and require further consideration and implementation of additional practices. Items that could define complexity are listed below in three categories.
 - i. GEOLOGY and GROUND CONDITIONS: based on either review of publicly available desktop data OR based on historic knowledge of area/previous HDD work, the underlying geology or ground conditions contains karst, prevalence of gravel/boulders/cobbles, highly fractured bedrock, shallow or exposed bedrock, presence of flowing water conditions or springs, loose/soft soils, or other site-specific criteria that may increase risk of inadvertent return.
 - ii. ENVIRONMENTAL RESOURCES: based on completion of desktop/field constraints survey OR previous work in the area, environmental resources (sensitive areas like trout streams, cultural sites, endangered species habitat, protected wetlands) exist within the HDD.
 - iii. SITE-SPECIFIC CONDITIONS: Include urban area with multiple underground utilities, large elevation change between entry and exit pits, or other site-specific criteria that may increase risk of inadvertent return.
 - b. Option #2 - For purposes of this technical standard, HDDs are classified as complex under the following conditions: the presence of sensitive resources (trout streams, endangered species habitat, protected wetlands), karst geology or highly fractured bedrock, loose or soft soils, urban areas with multiple underground utilities, exposed bedrock, presence of springs or flowing water,

large elevation change from entry to exit, or any other site-specific parameters that may pose a high-risk to cause an inadvertent release.

A complex HDD may require further consideration and associated practices implemented during design and construction. Please refer to the HDD applicability table to determine what associated practices need to be incorporated for a complex HDD. Every HDD requires its own analysis, so each HDD is an individual “project”.