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DNR 1072 Horizontal Directional Drilling Standard Team
MEETING NOTES
Thursday, May 6, 2021 ▲ 9:00am – 12:00pm ▲
Virtual Meeting (online)

9:00   Welcome & Introduction (Kate)
Goal: Welcome, and review today's meeting objective.

Attendance: Kate, Kim, John, Mike, Sue, Elliott, Ann, Abby, Geri, Amy, Dana, Matt
    Absent: Brad, Lance
    Guest: Samantha Whitens (DNR)

Overall meeting objective: Decide on some details for the approach for the approach or the on two risk categories--"complex" and "environmental resources." If time allows, review and revise appropriate practices that result from complex or sensitive resources.

Kim announces this is her last meeting participating on this team. Her plans are taking her elsewhere and she is no longer able to volunteer her time. Kim has been a great leader and she will be missed! Amy Minser will be the new team leader moving forward.

Notes Review (Kate, Team)
Goal: Review and approve 4/8/2021 draft meeting notes.

Draft notes from the 4/8 meeting were emailed to the team. No questions or comments were brought up by the team; Kate will finalize and post to website.

Checklists (Elliott and Mike, with Ann)
Goal: Update on the 4 checklists drafted by this breakout group.

- This group pulled out information from the practice descriptions to prepare 4 checklists: Initial Design Site Walk-Through, Planning Site Walk-Through, HDD Pre-Construction Meeting, and HDD Path Walk-Through. Kate emailed the team these 4 draft checklists last week.

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- The standard will be consistent with details in the checklists, not new requirements in a checklist. As the standard changes, edits may be needed.
- The ==team== will review the draft checklists and provide input including any proposed changes to the associated practice descriptions before the June team meeting. If anyone has a current project, try out the checklists and see if they work in practice.
- ==Kate== will email the files again for team to review.

Defining Environmental Resources and Resulting Practices (Geri, with Ann and Amy)
      Goal: Review environmental resource terminology and the practices the resources would trigger. Discuss with full team input.

- Geri leads an overview of this breakout group's working documents for input from the rest of the team —both text edits and corresponding changes to the table.
- This group clarified the wording around "environmental resources" and sources of data. They also reached out to colleagues, including 2 DNR wetlands staff and a fisheries biologist to get input.
- The terminology selected is:
  - "water resources" (all waterways and wetlands) and
  - "key water resources" (specific waterways and wetlands that need extra attention). Team agrees to be cautious and limiting this list so the requirements don't escalate to be protective for TOO many projects.
  - This group is still defining details of WHAT each of these are and how to better define the terms and ways users can ID resources.
- ALL projects would have to complete a Desktop Site Assessment to identify water resources in the project area and the key water resources.
- Other things this group is still working on: How to define if they are within the project area? (or nearby?) When would additional field work be needed?
- At the next meeting, this group will better articulate what "water resources" and "key water resources" are and how to identify them. There **is** an effort at DNR to create different/better tool for identifying wetlands and waterways—not available until about 2 years from now.
- ==Full Team== should provide input to this breakout group on:
  - Waterway types and wetland types to include as "key water resources".
  - Publicly available resources like GIS or database that IDs wetlands and waterways (esp. for wetlands).
  - Let **Geri, Amy and Ann** know your thoughts.

- Applicability Table – Currently Columns N and O (and they may split Column O into two: Key Waterway and Key Wetland columns). This group propose to add some requirements for "Key Water Resources" and team discusses:
  - Field Water ID Survey – team notes to confirm this is distinct (and useful to be separate) from Planning Field Site Walk Through
  - Site specific plans (frac out, HDD, & spill)
  - Profile Details
  - Team conceptually agrees to these additions, but would want to be sure the corresponding definition of Key Water Resources is limited.
- The trigger points for Key water resources requirements should balance protecting the resource and making this easy to use. Team discusses that the standard should be easy to implement and not "over-include" things in key water resources—they don't want to require **too** many practices. The practice should match the resource/risk. We also want to make sure smaller HDD companies could use the standard with user-friendly wetland and waterway information referenced.
- Propose to add: Minimum Cover as a General Criteria
  - Team likes the idea for minimum cover criteria in the standard and discusses the details.
  - This breakout group proposed 3' cover between product and soil and 6' from the bed or bank to the product. These dimensions were selected based on Michigan program and ACOE. 5' cover is used in other states. There are already minimum depths for utility requirements (from ground surface); this is different and greater cover.
  - Some on team indicate they like even more cover, for example below some waterways, scour is a concern. The way it's written, this would be **minimum**. The team could add as Consideration that more cover may be appropriate depending on site conditions.
  - Some issues raised with minimum cover: this cover could/should change depending on product type (HDPE vs steel) or bedrock presence or waterway scour.
  - Intent of cover could vary—Is it to reduce likelihood of frac out? Or to make sure pipe continues to be covered as water resources change over time? Or so first 3 feet in wetland isn't disturbed during construction? Recall that Purpose statement for the standard is to minimize potential for IR (not related to exposing pipe or impact to wetland?).
  - Related issue for Parking lot (also proposed to be clarified in the Purpose): smaller diameter facilities may not use bentonite or water.
  - Others on the ==Team== should let this group (Geri, Ann, Amy) know of any suggestions for other numbers for cover depth/thickness and rationale or reference for the number (for example, requirements for utility, federal, other states, etc.)

Clarifying Complex Projects (John, Matt, Susan, Brad)
    Goal: Review adjusted definition and usage of "complex projects", and what practices this category would trigger. Discuss with full team input.

- This group has taken in the team comments from last meeting and their personal experience to refine what practices should be required or considered based on complexity.
- This breakout group has some suggested edits in the text to remove requirements for "complex projects" but instead add them for large size projects (in Desktop Site Assessment field survey, Field Water ID Survey, Site Specific HDD Plan and Profile Details). Team votes to approve these additions for large projects (and remove them as requirements for "complex projects").
- This group reviews suggested edits and other ideas on how to approach the use of the term "complex" in the standard. This group proposes to continue to use the word "complex" in some situations, but as a CONSIDERATION, with the definition of complex related to the variety of factors to consider on a case-by-case basis for each project. The Team votes with consensus to have complex projects as a Consideration. The descriptions that have criteria for complexity will need to be reviewed to confirm if language related to other risk factors (like Key Water Resources or karst geology) may be better to replace the word "complex".
- This group presents two approaches they could apply to the standard text and Team reviews options on-screen together. Changes to the table (that would eventually make it back to the text).
    - Option 1 – focus on items with an eye more toward construction related issues/approach and what are the trigger points structured similar to the Applicability Table.
    - Option 2 – more simplified definition.
    - In both situations they left some subjective terms like "prevalence" or "shallow" as these factors may change depending on the project specifics and combination of other factors (e.g. "prevalence" of gravel is a different density for a small diameter HDD vs a large diameter).
    - In both options, applicability of practices changes based on the project-specific analysis. A complex HDD project requires consideration of appropriate practices—it can be a degree of multiple factors (for example, it could be many small things or a few larger items or a few items but one if very close proximity).
    - Option 1 appears preferred since it's comparable to the table, which is a good visual tool. The idea for option 1 is to be a combination of factors. We could eliminate #2 (Environmental Resources) since that's considered in another category (and another column on the table)—this #2 language could change as the language for "water resources" and "key water resources" evolves.

- o "Complex" pops up a lot in the text in criteria—we would pull out the word complex from any criteria (while making sure the practice is adequately applied, like this group has already done for large) and only use the word complex in Considerations.
- With complexity moved to a consideration, team still should identify to what extent will the standard steer users to SPECIFIC practices? Trigger points vary along with the practices. This breakout group would like more input and direction. This is a big question and Amy will help focus the language in the standard. No specific follow-up for this breakout group right now.

Team discussed some broader issues parallel to the conversation about defining complexity:

- The applicability table was originally for organizing thoughts and ideas pulled from the longer narrative. This table, or something like it, will likely go into the standard for public use—Team will discuss options for modifications and decide later.
- A contractor does have to make changes to the plan in the field based on conditions that aren't always known ahead of time. It's common to have modifications.
    - o The practices may change, but the contractor or utility won't always go back and re-write the plan (though they **may** if there's a lot of project left to drill and the issue is expected to continue elsewhere on the HDD path).
    - o We had in parking lot to allow flexibility due to field modifications and will continue to monitor the language used in the text to maintain this as the standard evolves.
    - o The field changes are documented in some way (for example, related to contractor cost overages, and change in alignment documented for utility mapping and future maintenance).
- Examples may be put in the standard to illustrate how to navigate. Typically, examples are used in standards for smaller concepts; big picture (like project approach) examples would be more appropriate for training materials.

Preview Team Comments to Standard (Kate, Amy)
  Goal: Overview of team comments received.

- Several team members provided feedback on the draft standard. On screen with team we briefly review some topics of these comments/additions:
    - o In Purpose: Not all HDDs use liquid so proposed language added that this standard doesn't apply where water or air are used (only with drilling fluid/mud). There can be impact from sediment itself, but that's a different erosion control and resource protection issue.

- Would you treat these projects the same whether water or additives used? The frac outs with air are different from with drilling mud because there's a lot of pressure.
- Resource protection depends on the resource.
- No team decision made; to be discussed further at another meeting.
  o Proposed changes to Planning Site Walk Through and Reporting practices – some degree of these practices are Criteria, with additional level of work as Consideration.
    - Rather than list a practice twice in both Criteria and Consideration, the proposed addition was to add "Consider……" language to the Criteria section.
    - The complexity language may result in similar statements where there's consideration-style language in the Criteria.
    - This is a formatting issue the Team can work out later in the standard review.

Plan of Action (Kate, Kim)

Goal: Review action items and agenda items for next meetings (June 10, 2021 and July 15, 2021).

ACTION ITEMS

1) **Kate**: finalize 4/8/21 notes and post online.
2) **Kate**: prepare 5/6/21 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) **Checklists - Full Team** should review and comment on checklists as homework by June 1.
5) **Environmental Resources Group** [**Ann**, **Geri** and **Amy**]
   a) "Water Resources" and "Key Water Resources"
      i) Proposed "Water Resources" list is in the standard text (under Desktop Site Assessment). **Full Team** should review Water Resources list and propose any additions/deletions.
      ii) **Full Team** should propose which Waterway and Wetland Types to include as a subset for "key water resources", which will have additional practices required.
      iii) **Full Team** should identify publicly available resources like GIS or database that IDs wetlands and waterways (esp. for wetlands).
      iv) The breakout group should refine the 2 definitions with team input, and confirm practices match the risk for the two categories. Update table and standard text if needed [for now, **Kate** will update the text to match the table from the 5/6 meeting].

   b) Minimum Cover
      i) Proposed language: "HDD path segments under wetlands shall maintain at least 3 feet between the product and the soil surface within a wetland. HDD path segments under navigable waterways shall maintain at least 6 feet from the bed or bank of the waterway to the product"
      ii) **Full Team** should identify other numbers for cover depth/thickness and rationale or reference for the number (for example, requirements for utility, federal, other states, etc.).
   c) Any suggested edits or sources of information should be sent to this group (Geri, Ann, Amy) via email before May 25.

6) **Complexity Group** [**Brad**, **John**, **Matt** and **Susan**]
   a) Breakout group on hold. [Kate updated the text to match the table from the 5/6 meeting, but if there are further suggestions or corrections to make, please send them to Kate.]

12:00 *End*

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

1. Revisit standard Purpose - smaller diameter facilities may not use bentonite; some HDDs are just water or air. Project approach and frac outs are different for HDD with drilling fluid and resource protection needed may be different for drilling mud vs HDD with just air or water. Should Purpose exclude HDD with air or water?

2. 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? Should we use the Applicability Table as this tool to attach to the standard? Get suggestions for improvements as we move along.*]

3. What resources to use for clarifying/defining environmental sensitivity and where to find them (like DNR's SWDV and NRCS soil survey)? Be clear what "environmental sensitivity" is of concern (e.g. wetlands and waterways, rare species, cultural resources, etc.?) [*UNDERWAY*]

4. Use checklists for the 3 walk-throughs (design phase, planning and pre-construction), as be an attachment to the standard or prepared for DNR to use as an example for the users. *[UNDERWAY]*

5. 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.

6. Review language consistency related to frac out (Frac out vs inadvertent return vs inadvertent release). Can we have just one term for all usages? Which one?

7. Review language consistency related to "HDD" (HDDs, HDD bore, HDD drill, HDD project, etc.).

    a. Clarify requirements for projects that have multiple stream crossings or different quality resources. Similarly, clarify requirements with multiple HDD runs separated by pits. Define the HDD "project."

    b. Can we have just one term or is more than one needed depending on context? Make sure language is clear to be HDD drill where more specificity is needed. Suggestion made to change "bore" to "drill" or "drill path".

    c. Is there detail to work out in a team meeting? Or alternately get a volunteer to review text with an eye to this language and suggest edits?

8. A smaller (12.75") 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.

9. 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]*

10. Clarify, reword, or and define subjective language – words such as low or high risk, complex, sensitive, large, small, qualified etc. *[UNDERWAY]*