

Technical Memo



To: Patrick Fahn, North Dakota Public Service Commission
From: Samantha Swanberg, Wenck Associates, Inc.
Copy: Kevin Magstadt, P.E., Wenck Associates, Inc.
Date: May 10, 2017
Subject: PU-16-420 Caliber Bear Den Pipeline Project - Construction Inspection Report

Construction Inspection Report

Site Visit: April 25, 2017

Caliber Bear Den Pipeline Project – 12.75-inch Crude Oil Pipeline – PSC Case No. PU-16-420

In attendance:

- Jeff Skaare – Operations & ROW Manager – Caliber Midstream
- Samantha Swanberg – Environmental Scientist – Wenck Associates, Inc.

On April 25, 2017, the construction inspection for Caliber Bear Den Pipeline was completed with Jeff Skaare. During this inspection, it was stated that approximately 15-25 percent of the restoration/reclamation work had been completed, which included: repair and restoration to the pads and right-of-way (ROW), ripping and re-contouring areas of soil subsidence, along with topsoil replacement. Caliber Midstream (Caliber) also stated (through email correspondence) that the entire working side of the ROW has been de-compacted to a depth of 8-inches as well as the remainder of the ROW except for areas of sunken ditch (trenches and bell holes), areas that are too wet, and where it was not feasible to get the de-compaction equipment in to perform the work. The areas that were missed by the de-compactor will be loosened with the blade or dozer as necessary during reclamation.

The seed mix (recommended by the US Dept. of Agriculture-Natural Resources Conservation Service (NRCS)) used for grassland areas included western wheatgrass (*Pascopyrum smithii*), slender wheatgrass (*Elymus trachycaulus*), green needlegrass (*Nassella viridula*), big bluestem (*Andropogon gerardii*), side-oats grama (*Bouteloua curtipendula*), blue grama (*Bouteloua gracilis*), prairie sandreed (*Calamovilfa longifolia*) and oats (*Avena sativa*). There was also alfalfa (*Medicago sativa*) added to the seed mix for one landowner per request. No erosion control devices were installed over winter during construction. Caliber is currently working on restoring the ROW and will be installing erosion control devices soon.

Some of the points of interest from the inspection include (see attached pictures and map):

- This area along the ROW had a small amount of soil subsidence, it was bladed and re-contoured. Topsoil pile to the left of the photo. The ROW connects to the South Loadout Facility (Photo #1, Point 508).

- Topsoil pile has been pushed into the center of the ROW and is no longer along the edge. This gives the dozer access to spread out the topsoil pile (Photo #2, Point #508).
- Equipment shown pulling back topsoil, notice the claws on the bucket are not being used. Topsoil is pulled to center of ROW so dozer can easily spread it over the ROW (Photo #3, Point #509).
- Flags shown to mark overhead lines. Topsoil has been replaced on the ROW. (Photo #4, Point #509).
- There is soil subsidence along the trench and some erosion forming near it. This is leading to a wetland area that was double ditched (Photo #5, Point #510).
- This is a wetland area that was double ditched (same area as photo #6). Caliber stated at this wetland location they will be installing wattles, Curlex erosion control blanket, and silt fences as needed and will make additions as needed (Photo #6, Point #510).
- This area along the ROW has been ripped with the exception of the centerline where the trench was (Photo #7, Point #510).
- Sunken bell hole and trench, due to extensive snow in the area and the backfill material. This will be rectified during reclamation work (Photo #8, Point #512).
- Area shows rocks that have been picked from the ROW they will be piled up, per landowner request. Topsoil (to the right of photo) has not been replaced along the ROW. Dakota Access Pipeline (DAPL) ROW is to the left of photo (Photo #9, Point #514).
- This is a rockpile that was moved when Caliber shifted their pipeline ROW. It was not culturally significant (Photo #10, Point #514).
- Topsoil pile along edge of ROW, with untouched rock pile on adjacent land, one of a few in the area (Photo #11, Point #515).
- Gate and fence installed by Caliber, it currently has two gates on it but will be re-done to only have one gate when construction is finished (Photo #12, Point #514).
- View shows northern portion of the pipeline where it connects to DAPL (Photo #13, Point #513).
- Open space along piled topsoil. Space was left open for drainage (Photo #14, Point #515).
- The stream crossing along the ROW was bored. There were mats along this area which were used by vehicles to cross the stream, but they have since been removed (Photo #15, Point #517).
- Bore location for stream crossing (on south side of stream). Area in the lower portion of the photo was used as a travel lane, topsoil was removed for temporary road. The area in upper portion of the photo is the bore location with the extended ROW (for the bore) (Photo #16, Point #517).
- Bore location for stream crossing (on north side of stream). There is soil subsidence along the trench and bell hole area. Area will be re-contoured and likely ripped before topsoil is replaced (Photo #17, Point #516).
- View of North Load-In Facility. Area will be fenced and gated (Photo #18, Point #518).

Mr. Patrick Fahn
ND Public Service
Commission
May 10, 2017



Lead Project Manager, Kevin Magstadt, and Environmental Scientist, Samantha Swanberg, prepared the report.

Kevin Magstadt, P.E., Principal/Regional Manager

Date

Samantha Swanberg, Environmental Scientist

Date

Enclosed

- Attachment 1: Figure 1 – Overview Map/Inspection GPS Waypoints
- Attachment 2: Photo Log with Notes

Attachment 1

Figure 1

Overview Map/Inspection GPS Waypoints

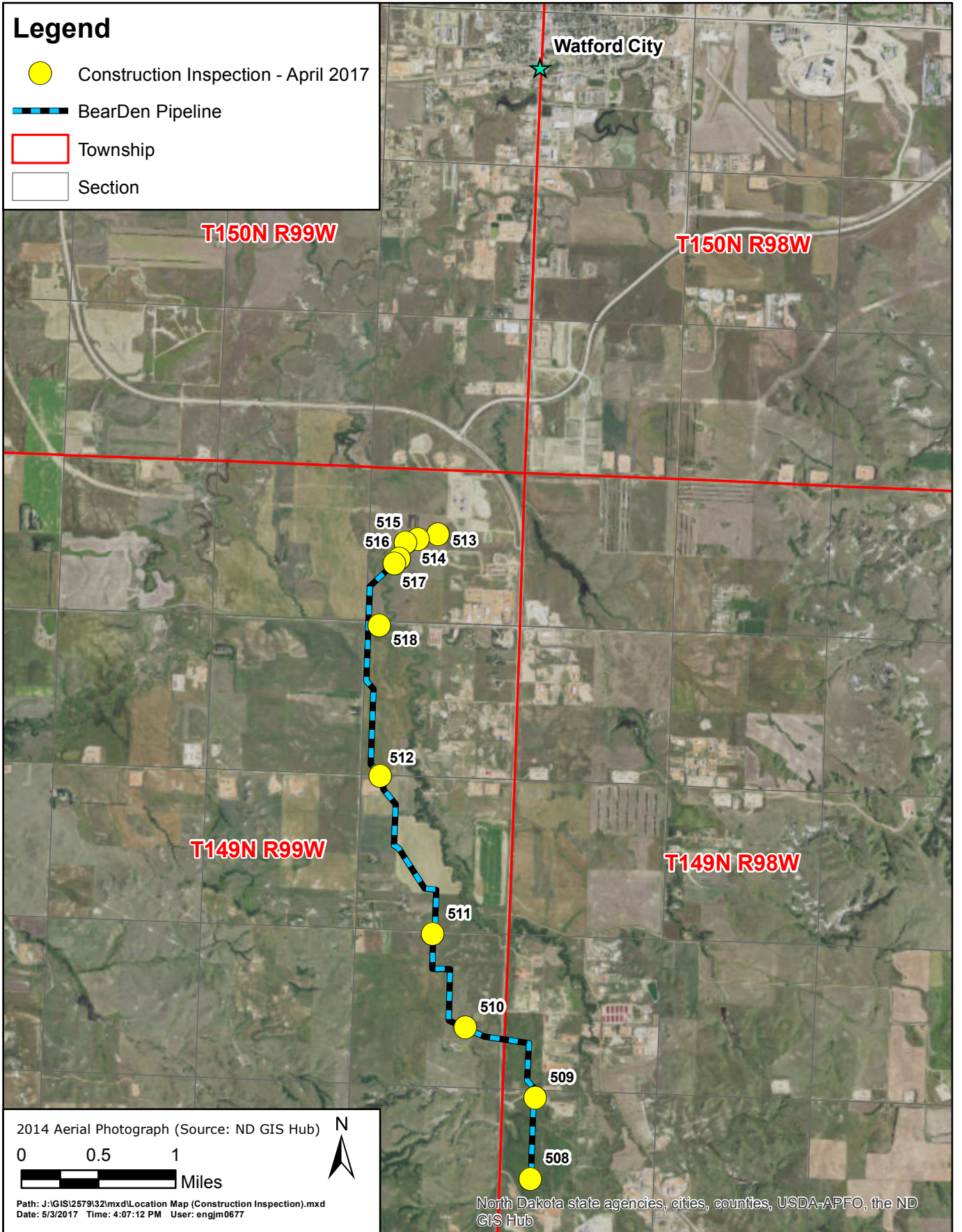
Legend

● Construction Inspection - April 2017

▬ BearDen Pipeline

▭ Township

▭ Section



Attachment 2

Photo Log with Notes



Photo 1. (GPS Point #508) – This area along the ROW had a small amount of soil subsidence, it was bladed and re-contoured. Topsoil pile to the left of the photo. The ROW connects to the South Loadout Facility. Direction: South.



Photo 2. (GPS Point #508) – Topsoil pile has been pushed into the center of the ROW and is no longer along the edge. This gives the dozer access to spread out the topsoil pile. Direction: North.



Photo 3. (GPS Point #509) – Equipment shown pulling back topsoil, notice the claws on the bucket are not being used. Topsoil is pulled to center of ROW so dozer can easily spread it over the ROW. Direction: South.



Photo 4. (GPS Point #509) – Flags shown to mark overhead lines. Topsoil has been replaced on the ROW. Direction: West.



Photo 5. (Near GPS Point #510) – There is soil subsidence along the trench and some erosion forming near it. This is leading to a wetland area that was double ditched. Direction: East.



Photo 6. (GPS Point #510) – This is a wetland area that was double ditched (same area as photo #6). Caliber stated at this wetland location they will be installing wattles, Curlex erosion control blanket, and silt fences as needed and will make additions as needed. Direction: East.



Photo 7. (GPS Point #510) – This area along the ROW has been ripped with the exception of the centerline where the trench was. Direction: West.



Photo 8. (GPS Point #512) – Sunken bell hole and trench, due to extensive snow in the area and the backfill material. This will be rectified during reclamation work. Direction: South.



Photo 9. (GPS Point #514) – Area shows rocks that have been picked from the ROW they will be piled up, per landowner request. Topsoil (to the right of photo) has not been replaced along the ROW. Dakota Access Pipeline (DAPL) ROW is to the left of photo.
Direction: East.



Photo 10. (GPS Point #514) – This is a rockpile that was moved when Caliber shifted their pipeline ROW. It was not culturally significant.



Photo 11. (GPS Point #515) – Topsoil pile along edge of ROW, with untouched rock pile on adjacent land, one of a few in the area. Direction: North.



Photo 12. (GPS Point #514) – Gate and fence installed by Caliber, it currently has two gates on it but will be re-done to only have one gate when construction is finished. Direction: South.



Photo 13. (GPS Point #513) – View shows northern portion of the pipeline where it connects to DAPL. Direction: Northwest.



Photo 14. (GPS Point #515) – Open space along piled topsoil. Space was left open for drainage.



Photo 15. (GPS Point #517) – The stream crossing along the ROW was bored. There were mats along this area which were used by vehicles to cross the stream, but they have since been removed. Direction: Southwest.



Photo 16. (GPS Point #517) – Bore location for stream crossing (on south side of stream). Area in the lower portion of the photo was used as a travel lane, topsoil was removed for temporary road. The area in upper portion of the photo is the bore location with the extended ROW (for the bore). Direction: Southwest.



Photo 17. (GPS Point #516) – Bore location for stream crossing (on north side of stream). There is soil subsidence along the trench and bell hole area. Area will be re-contoured and likely ripped before topsoil is replaced. Direction: Northwest.



Photo 18. (GPS Point #518) – View of North Load-In Facility. Area will be fenced and gated. Direction: West.