

## **PSC Case No. PU-17-48**

### **Arrow Field Services LLC**

### **10" Residue Gas and 8" Natural Gas Liquid Pipelines - McKenzie County**

### **As-built Inspection Field Notes - 09/29/2017**

Bartlett & West (BW) inspector Dan Christenson conducted an as-built inspection of the Arrow Field Services 10" Residue Gas and 8" Natural Gas Liquid Pipelines (Case No. PU-17-48) on September 29, 2017. Sub-grade backfill has begun and topsoil is ready to be replaced once the remaining tie-in construction is complete. Permit regulations and construction progress was reviewed along the length of the right of way. One potential compliance issue was encountered where backfill and topsoil are not being kept separated.


Construction work commenced on Friday August 25<sup>th</sup>, 2017. The type of work completed thus far includes survey staking, topsoil removal, construction matting, tree removal, utility locates, potholing, sub-grade excavation, pipe stringing/welding/lowering, erosion control measures, horizontal direction drilling, tie-in work, and sub-grade backfilling. The pipeline right of way still has survey stakes in place for the remaining subgrade and topsoil replacement operations. Top soil remains stockpiled within the pipeline right of way limits for the entire length of the project and has remained unaffected from construction operations. Large boulders encountered during the earthwork operations remain along the right of way and can be disposed of before top soil replacement begins. Aside from remaining tie-in locations, sub-grade has been backfilled along the length of the pipeline route. The sub-grade excavated thus far is being kept segregated from the topsoil per the PSC Order except for the area near Figure 6. The pipeline route runs through an area of steep terrain near Figure 6 which limits construction abilities in the 100' wide right of way. The stockpiles are being kept segregated but have no separation. Additional erosion control measures have been constructed since the previous construction inspection. Erosion control work includes silt fencing, straw blanketing, and stock pile drainage swales. The stripped top soil is generally being piled near the edge of the high elevation side of the right of way which helps minimize the effects of water erosion on the stockpiles. Per the Public Service Commission Order for the project, the topsoil is not being stockpiled in natural drainages and is protected from compaction by heavy machinery. Arrow Field Services is taking the appropriate

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steps to protect wetlands by limiting access and installing temporary construction mats. Per the PSC order, excess subsoil is being blended back into the existing topography.

Aside from the potential compliance issue near Figure 6 it appears that the rest of the project is being constructed in compliance with the siting laws and rules, and the PSC Order for the project. The pages following include photographs taken during the As-built inspection and a location map.



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James Landenberger, Project Manager



Figure 1. View of right of way progress from County Road 37, looking south.



Figure 2. View of subgrade blended back into original contours looking south.



Figure 3. View of subgrade blended back into original contours looking west.



Figure 4. Boulders encountered during earthwork operations.



Figure 5. Drainage swale cut out of topsoil stock pile.

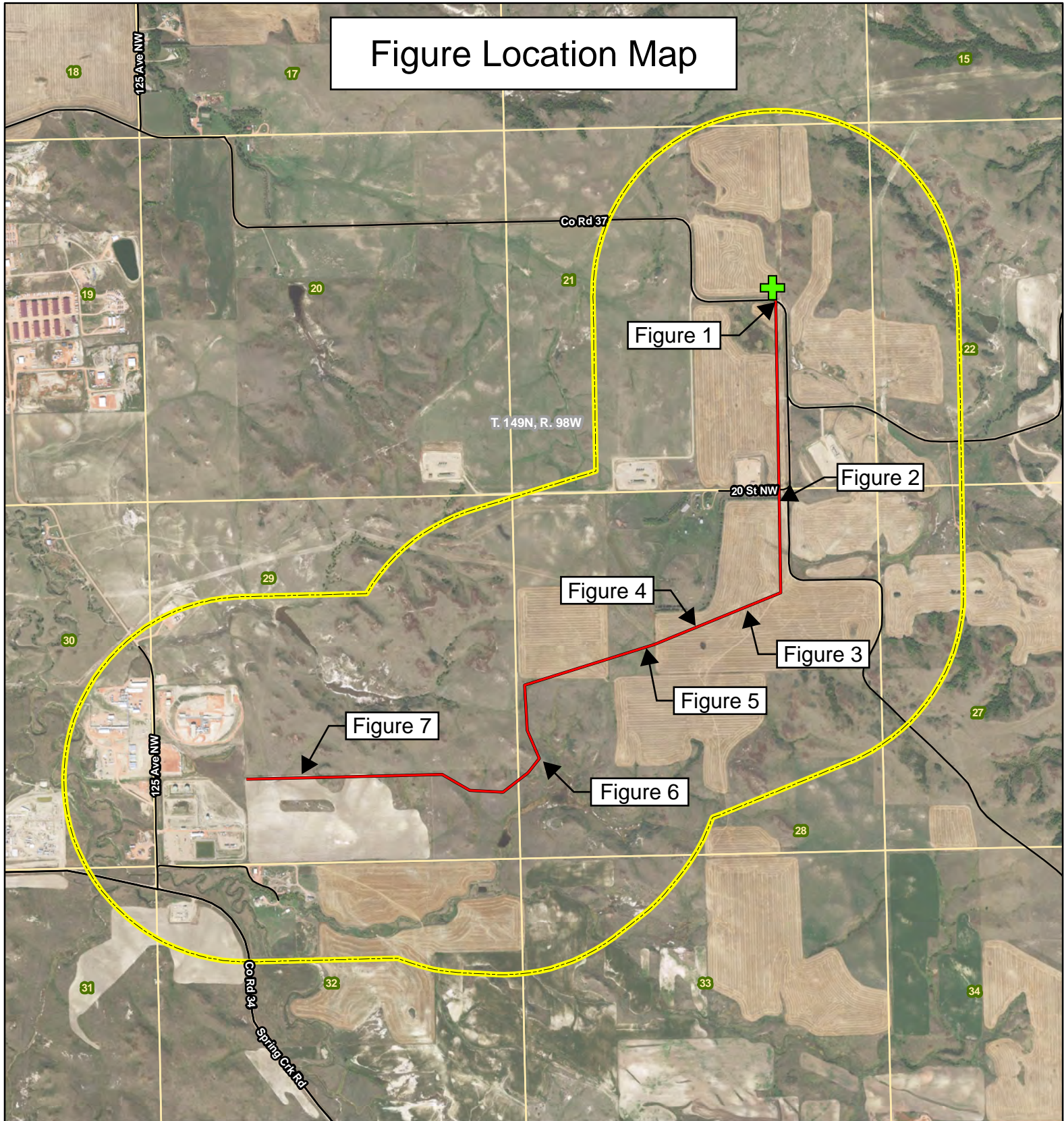


Figure 6. View of tie-in location where subgrade and topsoil spoil piles are being stored without separation.








Figure 7. View of subgrade blended back into original contours looking east.

# Figure Location Map



## Legend

-  Proposed Gas Plant Location
-  Existing Road
-  Proposed Transmission Pipeline
-  1-Mile Wide Analysis Area
-  Section Boundary



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Base Map: 2015 Aerial Imagery  
Source: USDA/FSA -  
Aerial Photography Field Office  
Quadrangle: Teepee Buttes (1995),  
Lone Butte NW (1995)  
T. 149N, R. 98W  
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

