

# ANOTHER GTFC-West AGGREGATE PIER PROJECT



**PROJECT:** Hayden Electrical Substation  
**LOCATION:** 35 miles northwest of Gillette, Wyoming  
**DESIGN TEAM:** Structural Engineer: *HDR Engineering, Inc. : Billings, MT*  
Geotechnical Engineer: *Strata/CE & MT, Inc. : Gillette, WY*  
**CONTRACTOR:** HD Supply Utilities : *Gillette, WY*  
**OWNER:** Anadarko Petroleum Corporation



## DESCRIPTION:

- Foundations for transformers, switchgear and breakers
- Up to 30' of silty soil with significant hydro-collapse potential (up to 5%)
- Potentially 7" to 12" of settlement could result from hydro-collapse

Aggregate piers were designed and installed to support the structural loads as well as potential downdrag forces that could result from hydro-collapse of the native soil between piers. Piers were designed to carry total loads up to almost 100 kips each, and to mitigate hydro collapse. The work was completed in only 2 full working days on-site.

Aggregate used for pier construction was broken down by the ramming energy applied to each lift, so that the permeability of the piers themselves was low.

**REFERENCES:**

Rod McRae, P.E. HD Supply Utilities (406-925-0072)	Katie Hickok, P.E. HDR Engineering, Inc. (406) 656-8100
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