GeoTech Foundation Company - West®
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PROJECT DESCRIPTION

PROJECT: Almota Grain Elevator

LOCATION: Almota, Washington

DESIGN TEAM:
Design-Build Contractor: The Haskins Company: Spokane, WA
Structural Engineer: SCAFCO: Spokane, WA
Geotechnical Engineer: Budinger & Associates: Spokane, WA

OWNER: The Almota Elevator Company

DESCRIPTION:

- 875,615 bushels of grain storage
- Two metal bins (105' diameter by 61'peak height and 75'diameter by 75' peak height)
- Maximum mat loading = 2867 psf
- Ringwall loading = 21 kips/foot

The geotechnical investigation revealed a soil profile consisting of hydraulic, dredged fill to a depth of about 15'. Below the fill the soils are approximately 35' of Lacustrine sand with silt. Below approximately 50' lies Basalt. Ground water occurs between approximately 3' and 8' below existing grade depending on the river level. It was recommended that a driven pile foundation be utilized with the piles driven to refusal within the Basalt bedrock.

The Geopier® design consisted of 30" diameter Geopier Rammed Aggregate Pier® (RAP) elements on about 5' centers and extending to 15' below the bin floor. Beneath the bin floor, RAP elements were spaced about 5' on-centers and extending 12' below the slab.

After installing about half the designed RAP's under the larger of the two silos, it became apparent that the existing soil conditions varied so much from those anticipated from the soils report, due to rubble and large boulders, that boring and installation of Geopiers was prevented. Because RAP's could not be utilized for the remainder of the project, Geopier Foundation Company – West stayed on-site to assist the General Contractor, modified its equipment and excavated the foundations so engineered fill could be utilized. The larger grain silo is supported on approximately half RAP's and half engineered fill; and the smaller silo is supported completely on engineered fill.

REFERENCES:

Sterling Haskins, Principal
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