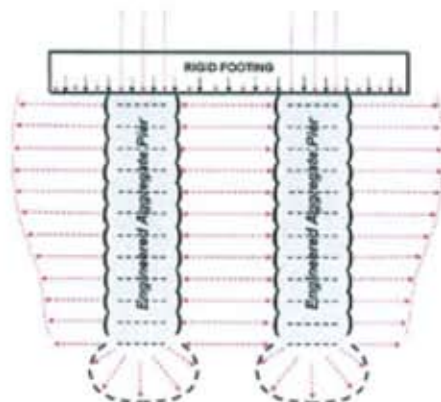


PROJECT DESCRIPTION

PROJECT:	Water Reservoir	
LOCATION:	Mapleton, Oregon	
DESIGN TEAM:	<i>Design Engineering:</i>	Systems West Engineering
	<i>Tank Supplier:</i>	Northwest Permastore Systems, Inc.
	<i>Geotechnical Engineer:</i>	GEM Consulting, Inc.
	<i>Owner:</i>	The City of Mapleton
CONTRACTOR:	Dunmire Associates, Inc.	



DESCRIPTION:

- 300,000 gallon water reservoir, 42' diameter, 28' high, 2100 psf design pressure
- 5" thick concrete bottom slab with reinforced concrete ringwall footing
- 30" diameter Geopier elements spaced 5'-9" on-centers in 4 concentric rings

The geotechnical investigation revealed low strength silty soils to a depth of about 5' below the proposed reservoir bottom. This mantle of compressible soils was underlain by silty and sandy soils that graded denser until sandstone bedrock occurred at about 20' below the planned reservoir bottom.

The geotechnical recommendation was to either overexcavate to a depth of 20' beneath the reservoir or to use pile foundations. The Geopier® System was selected during the design stage as the most economical means of providing foundation support.

A total of 60, 30" diameter Rammed Aggregate Pier® (RAP) elements were installed beneath the reservoir --- 22 piers spaced 6' on-centers beneath the ringwall footing, and 38 piers beneath the reservoir bottom. Pier shaft lengths averaged 11'.

The Geopier system was installed in only 2 working days on-site.

REFERENCES: Alice Pender Northwest Permastore Systems, Inc. (503) 623-4625	Jerry Elliott, P.E. Systems West Engineers, Inc. (541) 342-7210
Dr. Gunnar Schieder, CEG GEM Consulting, Inc. (541) 686-1227	Ernie Dunmire Dunmire Associates, Inc. (503) 623-4180