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Proposed VID Water Reservoir Site

Foundation bearing capacity analysis

PSA Engineering was retained by The Van Anda Improvement District to evaluate the bearing capacity of the soils at the location of the proposed new water reservoir, along with defining the soil types, friction angle, and water table elevations.

Paul Steffens, P. Eng, and Evan Ehgoetz A.S Tech attended on site along with members of the VID and a backhoe to dig the test hole excavations.

A total of 2 test holes were excavated around the footprint of the proposed water reservoir. Bearing capacity was measured by driving a ½" rod into the ground with a sledge hammer and counting blows per foot. The site currently slopes at about 6% from the NE to the SW.

Hole number one was at the South West corner of the reservoir site. The excavation had a depth of 2 ft. and the soils were 4" of organics then dense highly consolidated sand and gravel. Bearing capacity was measured at this level.
The SLS for this location is 3 tons per sq. ft. with a safety factor of 4 at a depth of 2 ft. minimum.

Hole number two was at the North east side of the proposed reservoir at a depth of 3 ft.. The first 4" is organic loam. The soils below were dense highly consolidated sand and gravel. Hammer rod tests indicated a SLS for this location of 3 tons per sq. Ft. with a safety factor of 4.
No water table was witnessed in either location.

The soil friction angle is approximately 45 degrees for the undisturbed base material. If the material is disturbed during construction, compaction will be required to maintain both bearing capacity and friction angle.

The native material observed on this site is considered suitable for backfill material.

This site has adequate bearing capacity for a water reservoir of the size anticipated for this location.

Any question regarding this report can be directed to Paul Steffens.

Regards,

AUG 28/18

Paul Steffens, P. Eng.