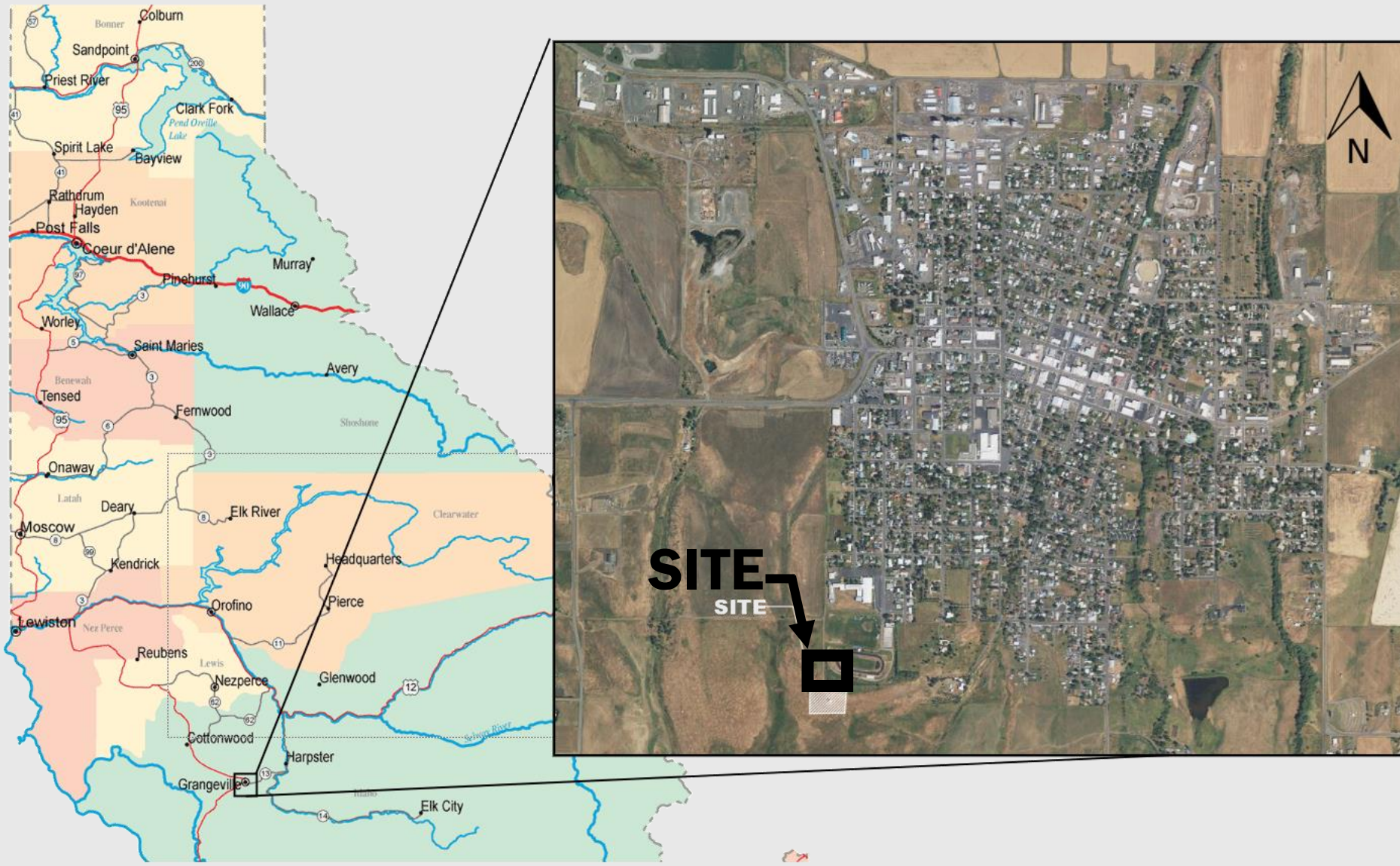


GRANGEVILLE HIGH ZONE

WATER TANK No. 2

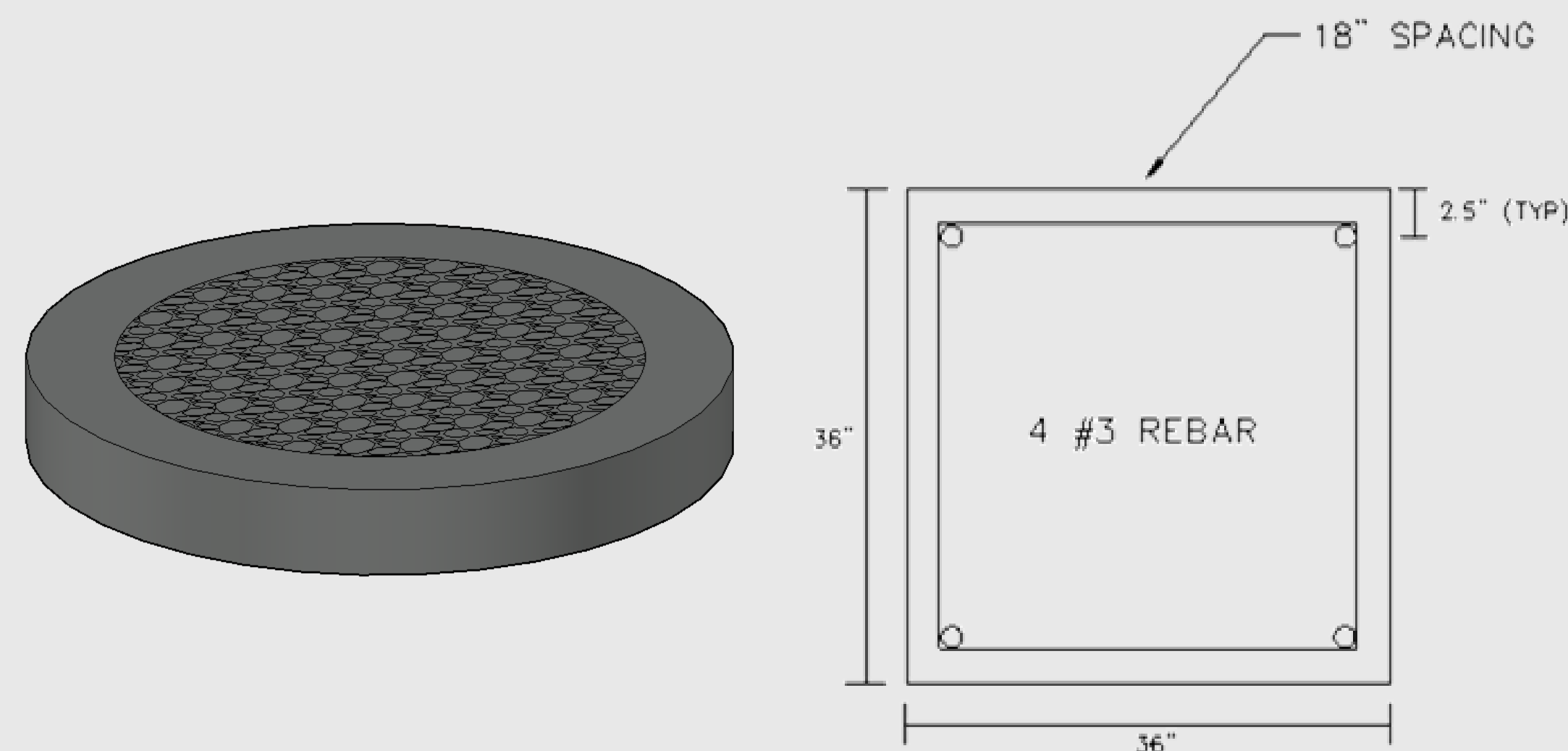
Design Team: Nick Caracciolo, Cali Shipman and Awson Wheeler

BACKGROUND

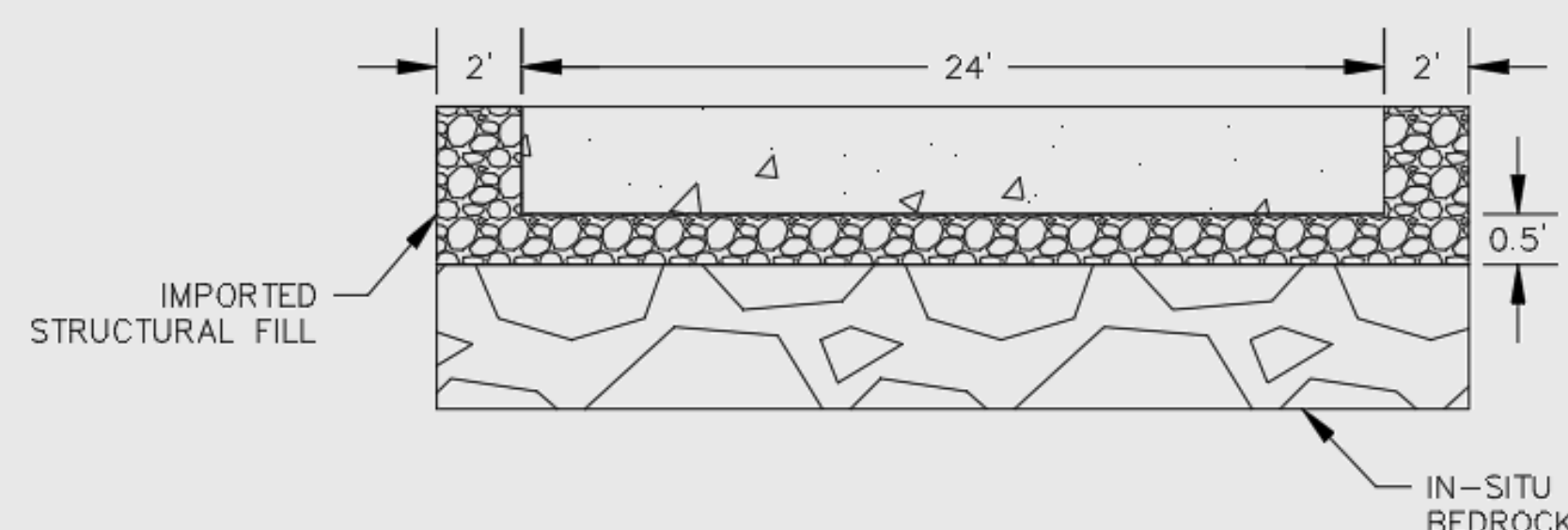


- **Location:** Grangeville, Idaho
- **Existing Conditions:** Fire flow storage capacity deficit
- **Objectives:** Design a 150,000-gallon water tank and integrate into the existing system

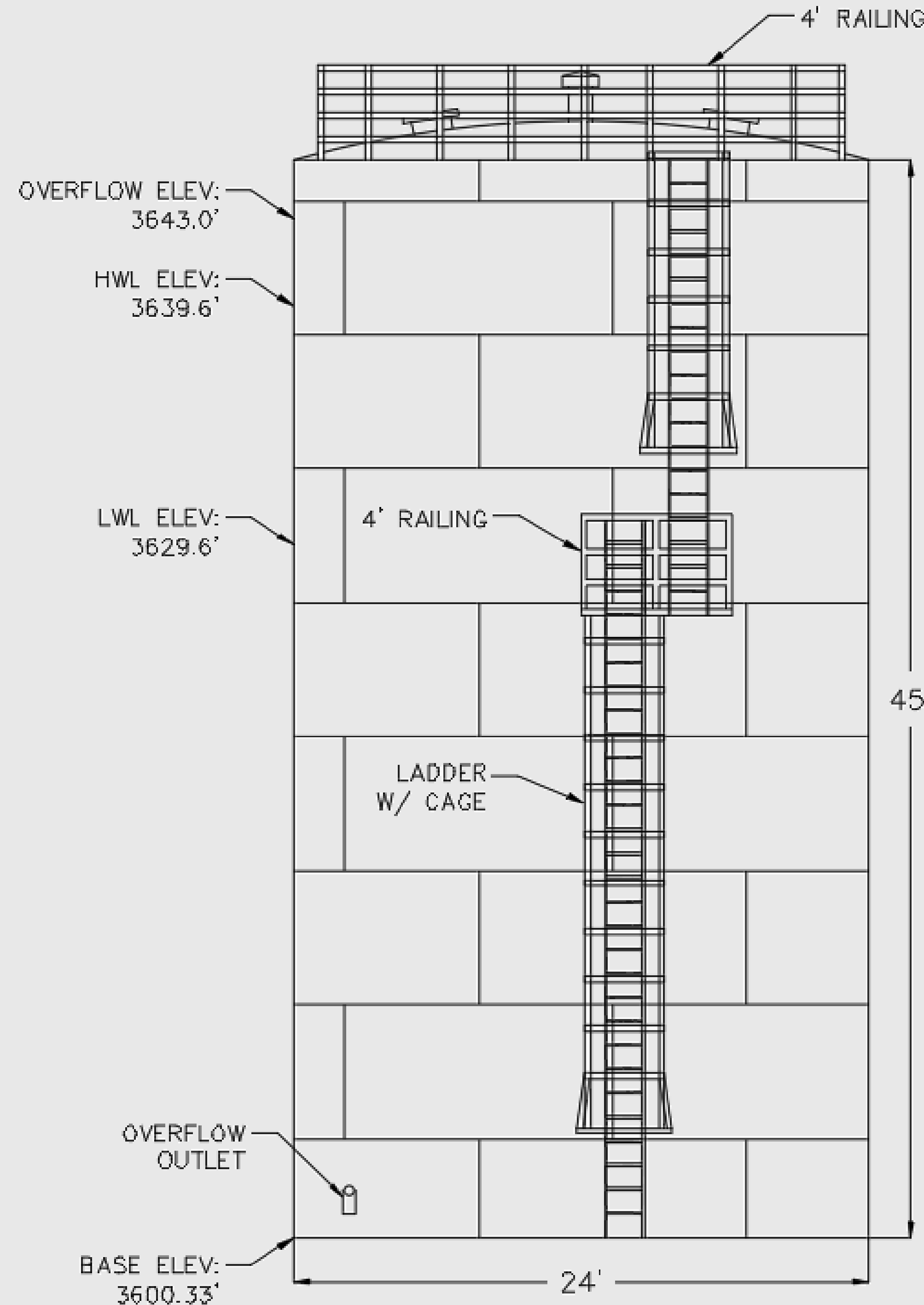
FOUNDATION DESIGN



- **Bedrock – 4000 PSF**
- **Normal Weight Concrete**
- **Granular Fill**

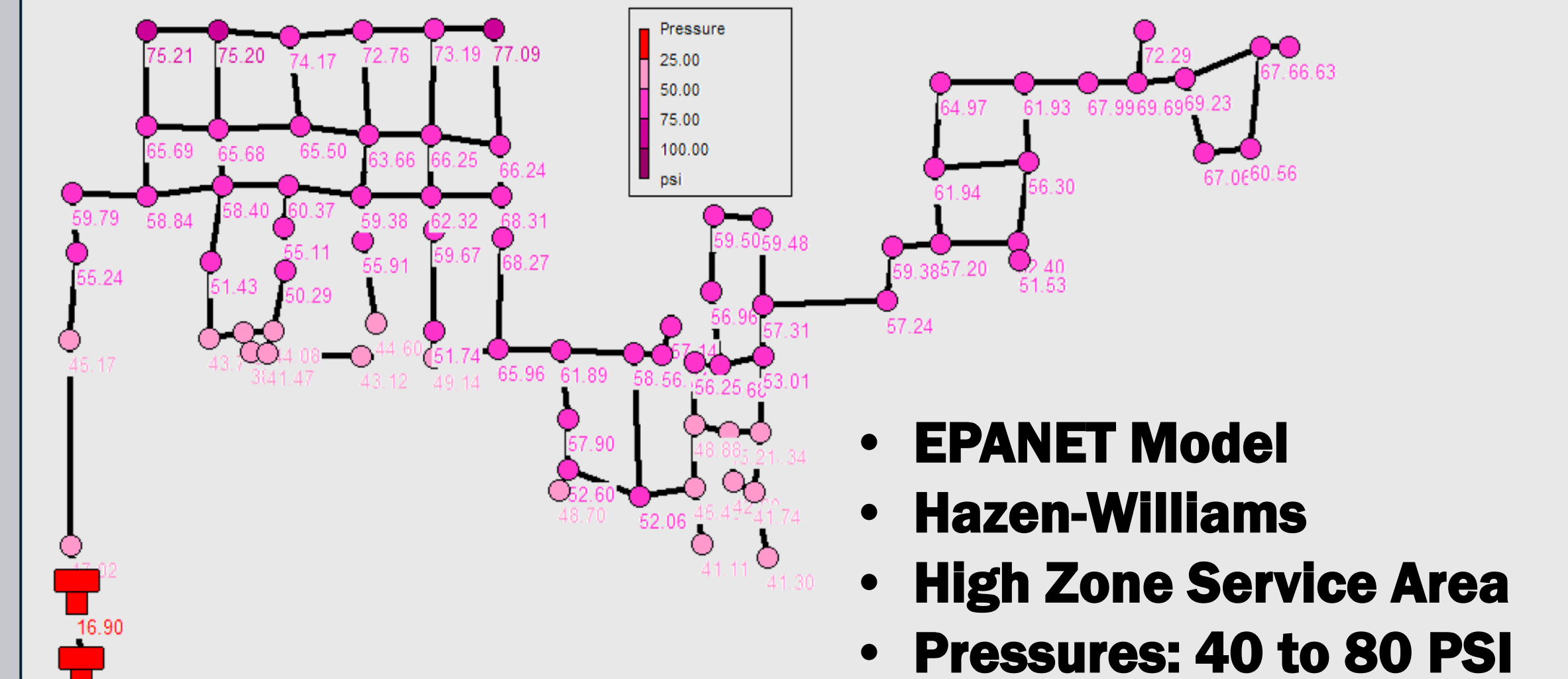


TANK DESIGN

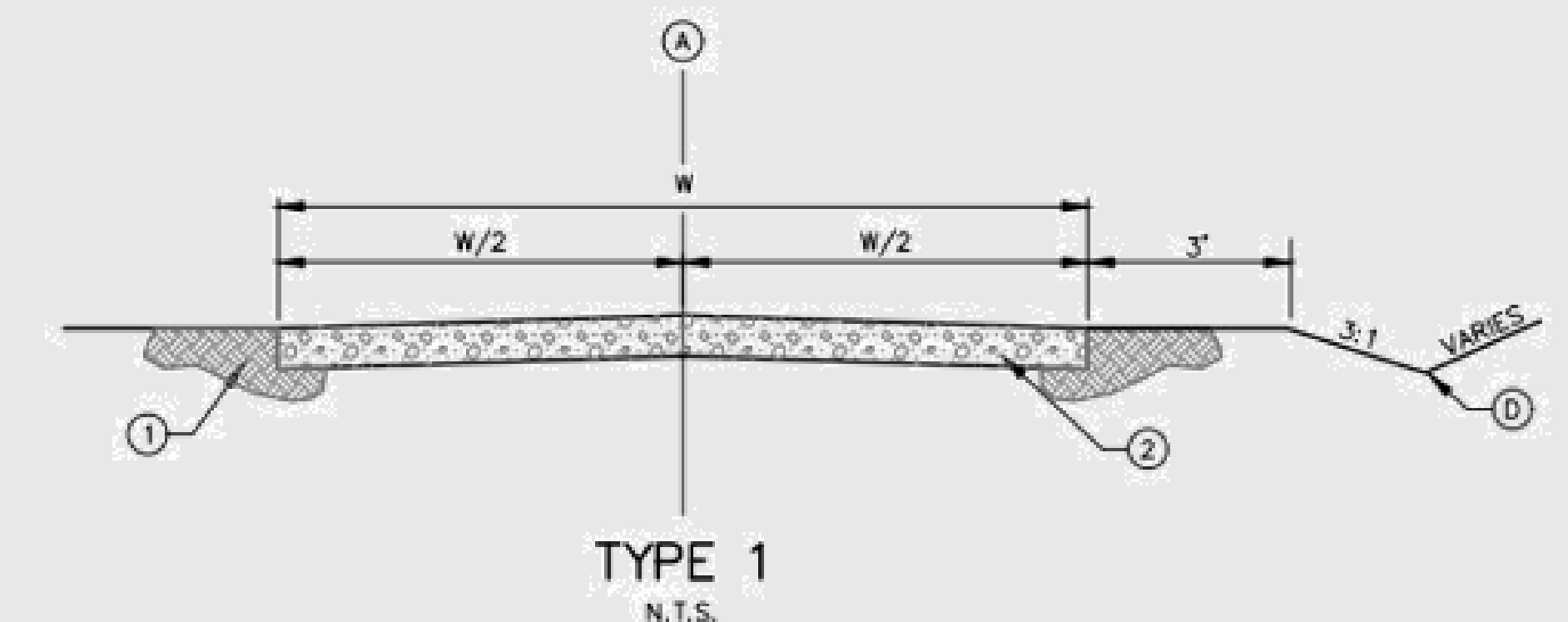


- **24-ft In diameter by 45-ft tall**
- **Ladder access**
- **Overflow design**

HYDRAULICS



ACCESS ROAD



- **ISPWC Access Road Type 1**
- **50.64 C.Y. Cumulative Cut**
- **37.41 C.Y. Cumulative Fill**

COST ANALYSIS

Item	Total Item Cost
Excavation and Earthwork	\$ 34,000
Foundation	\$ 42,000
Tank	\$ 600,000
Tank Access	\$ 17,000
Pipes	\$ 5,000
Pipe Appertanances	\$ 110,000
Site Access	\$ 35,000
Sum	\$ 843,000
Construction Costs (30%)	\$ 253,000
Total Project Cost	\$ 1,096,000

ACKNOWLEDGEMENTS

Project Sponsor: Braxton Klas, P.E.

Faculty Advisors: Fritz Fiedler, P.E., Ph.D. and Erik Arnson, P.E.