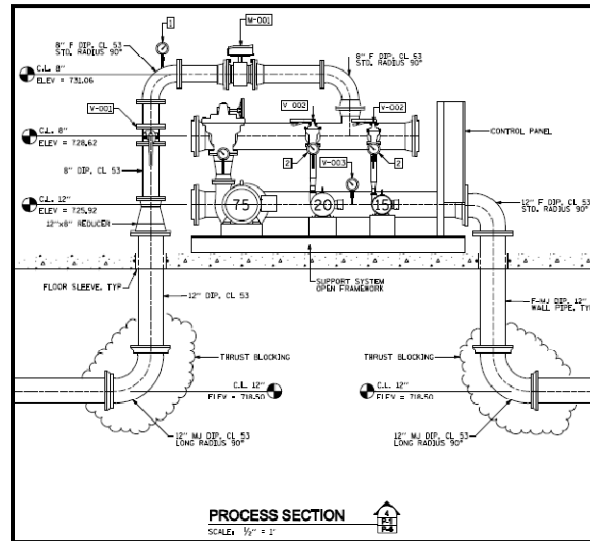


WATER SYSTEM IMPROVEMENTS FOR HISTORIC DOWNTOWN LONG GROVE, ILLINOIS



This project included the establishment of a public water utility for the Village of Long Grove, Illinois. The Village's residents and businesses have utilized private shallow wells for water since its inception and have been experiencing inconsistent water quality. The water use required for development along the I-83 corridor will further draw down the shallow aquifer and will compromise the local shallow wells. Understanding this, the Village charged ESI Consultants, Ltd. with the

design of a public water supply, treatment, storage, and distribution system.

This project includes the design of two deep Galesville wells, a 2,000 square foot water treatment plant, and an at-grade cast-in-place concrete water storage reservoir. The water treatment plant includes ion exchange equipment, a pumping system that can produce 1,900 gpm, and a hydropneumatic tank. The building is constructed with precast concrete tilt-up walls and a gable truss roof system. The exterior surface of the concrete walls was formed with an architectural liner for the appearance of brick and stone construction. The building footprint was required to be very small and the booster pump system also had to be designed with an extremely small footprint. This pumping system includes a PLC with HMI in its control panel that receives signals from pressure sensors located in the hydropneumatic tank and will ultimately be connected into the water treatment plant's SCADA System.

Services Provided:

- Topographic Survey (Sub)
- Boundary Survey (Sub)
- Plat of Survey (Sub)
- Data Collection
- Hydraulic Analysis for Sizing and Locating Water Mains
- Geotechnical (Sub)
- Wetland Determination/Delineation (Sub)
- Well Design
- Water Treatment Plant Design
- Watermain Systems Design

This project reflects Firm
and Staff experience.