



## Highspire Waste Water Treatment Plant

Highspire, Pennsylvania

**The Geopier Impact® was recommended by the geotechnical engineer as the foundation support solution in lieu of overexcavation and replacement**

**Description:** This project provided major upgrades to the existing Highspire treatment facility. Upgrades included the installation of a 30 foot by 50 foot, one-story CMU building, an oxidation ditch tank, and a 48-foot diameter, 14-foot, stand-alone final clarifier tank. The oxidation ditch tank was the primary focus for soil improvements and consisted of two tanks having dimensions of 130 feet by 140 feet.

**Subsurface Conditions:** Soil conditions were 6.5 to 14 feet of very soft to very stiff silt fill with varying amounts of clay and sand. Underlain by very stiff to very hard silty clay and silt, underlain by five feet of dense to very dense sand underlain by rock near a depth of 25 feet. Groundwater was encountered five feet below grade. Due to operations from a previous owner, soils on the site were slightly contaminated with arsenic requiring encapsulation of exposed surfaces during construction.

**Geopier Solution:** The Geopier Impact® system was recommended by the geotechnical engineer as the Intermediate Foundation® support solution in lieu of overexcavation and replacement. Due to the soft soils



and equipment loads on top of the oxidation tank, grouted Impact® piers provided a more economical design. A total of 423, 20-inch diameter grouted Impact piers were installed to depths of 20 feet below the tank base.

### PROJECT TEAM

**Owner:**

Highspire Borough

**Geotechnical Engineer:**

Rettew/Stegman Engineering

**Structural Engineer:**

Rettew Associates, Inc.

**General Contractor:**

Howard Robson, Inc.

**Geopier Installer:**

GeoConstructors, Inc.

**Geopier Designer:**

GeoStructures, Inc.