CLEARWELLS

VILLAGE OF DELTA
Design of a new 500,000 gallon elevated storage tank, as well as stand-by power and telemetering improvements for the Village. Additional design projects for the Village include pump and process improvements and baffle addition to the existing clearwell.

HURON WATER IMPROVEMENTS
Design a new 500,000 gallon elevated storage tank in addition to rehabilitation of an existing 400,000 gallon elevated tank. PDG had designed the previous clearwell improvements for the City of Huron which included adding baffles to the existing clearwells. These baffles, in conjunction with piping modifications, allowed the City to comply with the Safe Drinking Water Act's contact time requirements.

VILLAGE OF LEIPSIC
Provided design services for a new 300,000 gallon steel, above-ground, treated water clearwell and controls. Glass-lined steel tank construction with the expansion of the existing plant from 0.8 mgd to 1.4 mgd capacity. The rehabilitation of the existing 500,000 gallon steel above-ground clearwell was also part of this project.

CONTACT TIME IMPROVEMENTS
- City of Delphos
- Village of Put-in-Bay
- City of Willard
- City of Bowling Green
- Village of Marblehead
- Village of Swanton

NEW CLEARWELLS/REHABILITATIONS
- City of Defiance – 500,000 gallon–new
- Ottawa County – 1,250,000 gallon–new
- Village of Wellington – 300,000 gallon–new
- Village of McComb – 300,000 gallon–new
- Village of Gibsonburg – 500,000 gallon–new
- City of Bellevue – 1,000,000 gallon–new
- Village of New Lexington – 500,000 gallon–new
- Village of Bluffton – 100,000 gallon–new
- Cinnamon Lake – 100,000 gallon–new
- Adams County – 1,000,000 gallon–new
- Village of West Lafayette – 300,000 gallon–new
- Village of Lexington – 80,000 gallon–new
- Village of Green Springs – rehabilitation
- Village of Oak Harbor – rehabilitation
- Northwestern Water & Sewer District – 1,500,000 gallon–new

BAFFLING PROJECTS
- City of Delphos
- Village of Willard
- City of Bowling Green
- Village of Delta
- Village of Marblehead
- Village of Wellington
- Village of Swanton
- City of Huron
The Village of Leipsic selected PDG as the prime consultant for the design and construction of a multi-phased water system improvement project. Improvements were made over a seven-year development period and cost more than $2.75 million.

- Phase 1 included an expansion and upgrades to the water treatment plant. The lime soda softening plant was expanded from 0.88 million gallons per day (MGD) to 1.4 MGD capacity.
- The project involved the conversion of a reaction basin, transfer well basin and flocculation basin. A forced draft aerator was installed adjacent to the reaction basin and a rapid mixer and rapid mix chamber were installed as part of the new bulk lime storage bin with gravimetric feeder and slurry tank feed system. Two mechanical flocculators and new rectangular settling basins were also installed, and all three settling basins were fitted with new conveyor-type sludge collection equipment. A six-ton carbon dioxide storage and feed system was designed to work with the existing recarbonation tank.
- Two new gravity rapid sand filters were housed along with the four existing filters in a building addition. Two 1,000 gallons-per-minute (GPM) clearwell transfer pumps were added and one new 300,000-gallon ground level glass-lined steel clearwell was installed to supplement the two existing clearwells. A ferric chloride bulk storage and chemical feed system including two 1,500-gallon tanks was also incorporated into the system.
- Phase 2 included three new wells with an additional 1.08 MGD capacity, to bring the total well capacity to 1.71 MGD.
- Phase 3 involved a new 300,000-gallon elevated water storage tank to assist with control of water treatment operations.