

# PA DEP Small Drinking Water Systems Engineering Services Program (ESP) Case Study

Client Name: Nelson Township Authority  
 Location: Nelson Township, Tioga County  
 Project Name: Conventional Water Treatment Plant Design

## Background:

A Source Yield Study concluded that the Nelson Township Authority (NTA) should consider using the Cowanesque River as their primary source of water. A Feasibility Study concluded a conventional filtration package plant utilizing a river intake structure as the most viable option.

## Design Issues:

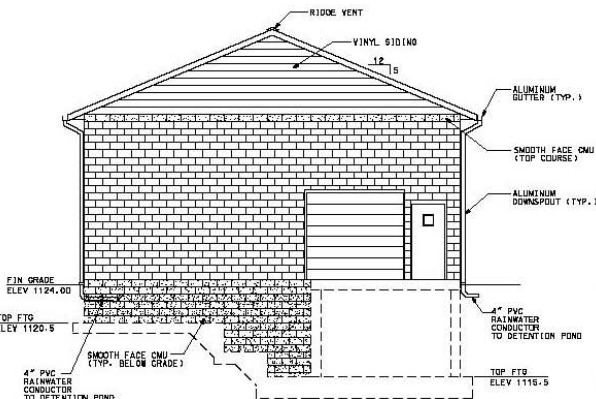
The design of the conventional water treatment plant included a clearwell structure underneath the building for storage of backwash water and for chlorine contact time for disinfection purposes. Other challenging design issues included the engineering of the building and site improvements on a site which was determined to have approximately 19 feet of rip rap. The permitting included a Major Modification to the Public Water Supply Permit, a Chapter 105 Joint Permit for the intake structure, a Highway Occupancy Permit for the bore & jack crossing of S.R. 49, and a Water Allocation Permit. The property was owned by the U.S. Army Corp of Engineers and NTA was required to subdivide the needed land and submit a plan to the Tioga County Planning Commission for review and comment.

## Financial Issues:

The Authority recently completed a major sanitary sewage improvements and extension and was unable to finance the needed improvements to the water system. A PENNVEST Application was completed for NTA and a request for Federal Appropriations was made. In November 2004 the PENNVEST Board awarded NTA a full grant in the amount of \$571,000, NTA also received a \$500,000 Federal Appropriations, and the County allotted NTA \$90,000. These funds allowed NTA to continue with implementation of the design.

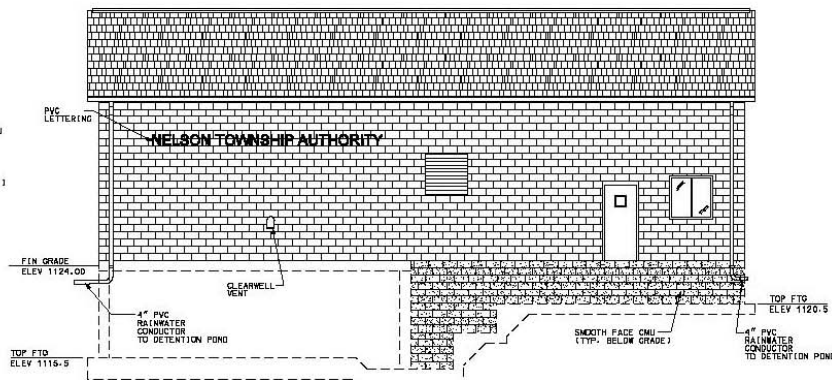
## Outcomes:

The design and permitting was completed and the Authority is currently bidding the project. The anticipated start of construction is in July 2005 with a completion date of May 2006.



LEFT ELEVATION

SCALE: 3/4"=1'-0"



FRONT ELEVATION

SCALE: 3/4"=1'-0"



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