# GREAT LAKES WATER AUTHORITY





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Plan View of Existing Ypsilanti Pump Station

# **Proposed Improvements**

GLWA identified and evaluated alternatives that best suited replacing the existing Ypsilanti Pumping Station (YPS). The recommended alternative builds a new pump station in new location with the ability to be expanded at some future time. The major components of the project are:

- Construction of a new pumping station
- Construction of new connections to the existing transmission system
- Demolition of existing YPS facilities
- Provisions for future expansion and reservoirs

#### **YPS Systems**

The YPS system consists of:

- Transmission lines
- Booster Pumps
- Control Systems
- Pump Buildings
- Yard Piping and associated Vaults

# **Summary of Project Need**

Currently, much of the major equipment in the YPS is near or beyond its useful life and needs to be replaced/refurbished. Additionally, separate planning and needs assessment investigations conducted in the last five years have identified major elements requiring correction, including stand-by generator replacement, pumping unit replacement, and major electrical equipment replacement. In addition, the site septic system needs to be replaced with a connection to a local sewer system which is about ½ mile away. The purpose of the project is to provide improvements that enhance the reliability, maintainability, and operability of the facility for the long-term

#### **Potential Alternatives**

Three Alternatives were evaluated:

Alternative 1 – "No Action": This alternative would not rehabilitate or improve the existing YPS or associated ancillary systems. This alternative is not carried forward.

Alternative 2 – Replace Existing YPS on current Site: This alternative would replace the existing YPS within the existing property. This alternative is not carried forward since the new PS would impact wetland and is not be expandable at a future time.

Alternative 3 – Replace YPS near Wick Road PS: This alternative would replace both the YPS and WICK PS with a new pump station. This alternative is not carried forward because it limits GLWA's ability to provide water for future customers and it limits the flow pressures to current customers.

Alternative 4 – Replace Existing YPS on a new site: This alternative would replace the YPS on a portion of Willow Run airport which is in process of being acquired. A new PS will be built with the ability for expandability and future reservoirs. This is the selected alternative

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# **Estimate Project Costs**

Based on the ability to meet the functional requirements for the project GLWA identified Alternative 4 as the selected alternative. A summary of the costs is presented below:

Table 1-1 Summary of Cost	
Cost Item	Alternative 4:
	Construct New YPS at D Street and Beck Road
Construction Cost*	\$35 Million
Estimate Range*	\$17.5 - \$70 Million
Design/Planning Cost	\$3,000,000
Construction Administration	\$700,000

<sup>\*</sup>Based on a AACE Class 5 estimate with an accuracy range of -50% to +100%.

# User Cost Impact for the YPS Improvements Project

Table 1-2. User Cost Impact for the Ypsilanti Pumping Station Improvements Project	
Item	Improvements (\$)
Total Cost of Project	\$38,700,000.00
Annualized Cost of Project (Assuming DWRF Interest Rate of 2% Over 20 Years)	\$2,338,311.00
Service Area Households (Customers Serviced by GLWA as of the 2010 Census without including Genesee County)*	1,538,000
Estimated Household User Cost (per Year)	\$1.52

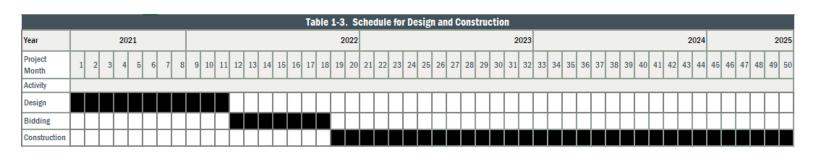
<sup>\*</sup>Service Area Households is determined by the population serviced by GLWA (3.8M) divided by the average number of persons per household which is 2.47 per the US Census.

## **Environmental Evaluation**

- Construction of the proposed project is not expected to have an adverse effect on historical, archaeological, geographic, or cultural areas.
- It is not anticipated that GLWA's proposed improvements to the Ypsilanti Pumping Station alter the ongoing
  pattern of growth and development in the study area.
- The improvements resulting in the improved reliability and efficiency, both in the present and in the long-term future, of the YPS as it relates to the GLWA water supply system are the primary cumulative beneficial impacts anticipated from the implementation of the proposed project.

## **Implementation Schedule**

The following schedule is anticipated for the YPS Improvements Project:









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