

## Memo- Existing Conditions at Site #7

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**Project Name:** Madison Water Works  
Eastside Water Master Plan

**BDC Project Number:** 50646

**Date of Memo:** February 27, 2011

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### DRAFT

This memo is regarding the existing conditions at Well Site #7 of the Madison Water Works.

#### Requirements:

The existing Water Utility owned property measures approximately 136'-6"x 80'-0" and is located just north of the Shabazz High School (Figure 1) along Sherman Avenue. Residential lots abut the property to the north and west.

According to the current Madison Zoning Code, the site is zoned R3 WP-07.

Setbacks according to the current Madison Zoning Code are as follows:

- Front: 25'-0".
- Rear: 35'-0".
- Sides: 6'-0" typical; plus 1½" for each foot of wall within 18'-0" of the property line beyond 40' (11'-9" at North property line).

The Water Utility desires to build a new 410,000+ gallon above grade reservoir on site to store finished water. The reservoir is sized for fire protection requirements and daily peak demands. Typical Water depth for a Unit Well reservoir is 20 feet. The reservoir would need approximately 2,740 square feet gross for this capacity. The reservoir would have an approximate size of 40 feet by 70 feet to meet these requirements.

Current water quality necessitates a facility of approximately 2,500 net square feet to house the necessary pumping, treatment, and filtration technologies.

#### Constraints:

The buildable area of the existing property, not including the side drive, is 3,480 square feet. Devoting 2,275 gross square feet for pumping, treatment and filtration equipment, which is very constraining for maintenance, leaves 1,200 gross square feet in the buildable area for the above grade reservoir. The reservoir at 1,200 gross square feet and 32' water height can hold approximately 220,000 gallons, or half of what is

needed. Additionally, there is no room for future expansion on site if water quality needs would change during the 80-year life cycle of the building (see Figure 2).

Access to the well for maintenance purposes is also a key site requirement. A crane is used to remove the pump from the well through a roof hatch. Access would be from Sherman Avenue and would be configured to minimize the lifting reach of the crane. Considering the existing location of the well, the front of the building at the well location would be well back from the street reducing the amount of useable lot area.

The site is located on a main thoroughfare leading into a residential neighborhood made up predominantly of post-war single- or two-story single-family homes. Keeping with the size of the surrounding neighborhood homes, a new Pump house at the front of the property should be kept under 20'-0" tall and the new reservoir should be kept under 28'-0" tall.

The site contains 3 large trees at the south of the property. These trees add beauty and assist in cleaning the air of the neighborhood and should remain. Excess land on the property for additional landscaping to better assist in assimilating the industrial building into the residential property is minimal.

The building uses all legally available space leaving no maneuvering room for the design team to better work with the building form to assist in integrating the building into the neighborhood. Without free space on the lot, large mechanical apparatus will have minimal opportunities to be screened.

The existing curb cut and driveway access is currently in a location that works for maintenance and operations staff. It also provides a barrier for security in terms of individuals climbing the trees to gain access to the roof of the structures. The curb cut location is not planned on being relocated at this time.

### **Opportunities:**

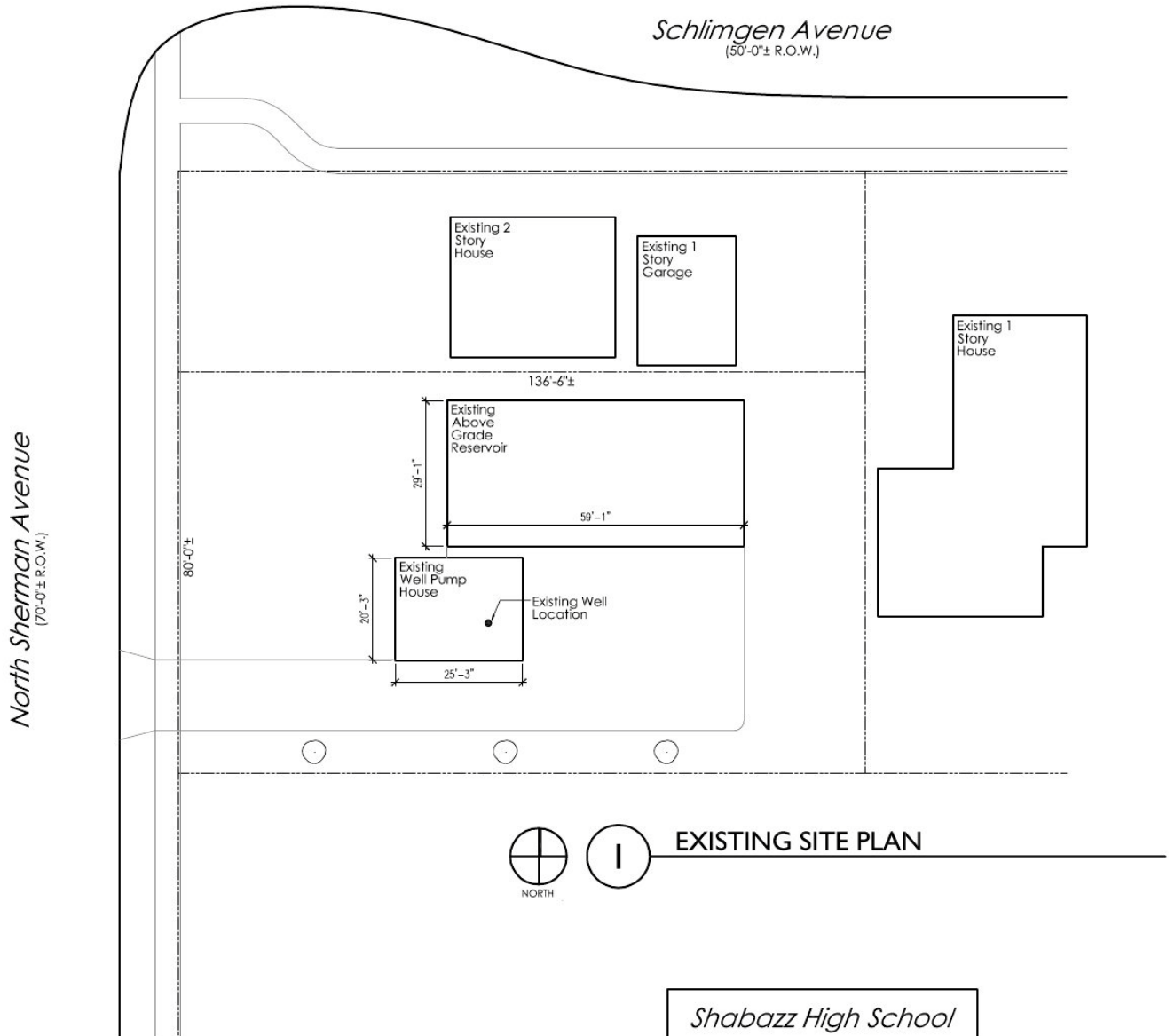
To meet the needs of the Utility, additional property will be required. The existing home to the north of the existing Water Utility owned property could be purchased by the Water Utility adding approximately 5,460 square feet to the available area for the Water Utility . Using both lots would create more room for screening opportunities and allow for more options in regards to the form of the building blending in with the neighborhood (Figure 3).

**Key Points:**

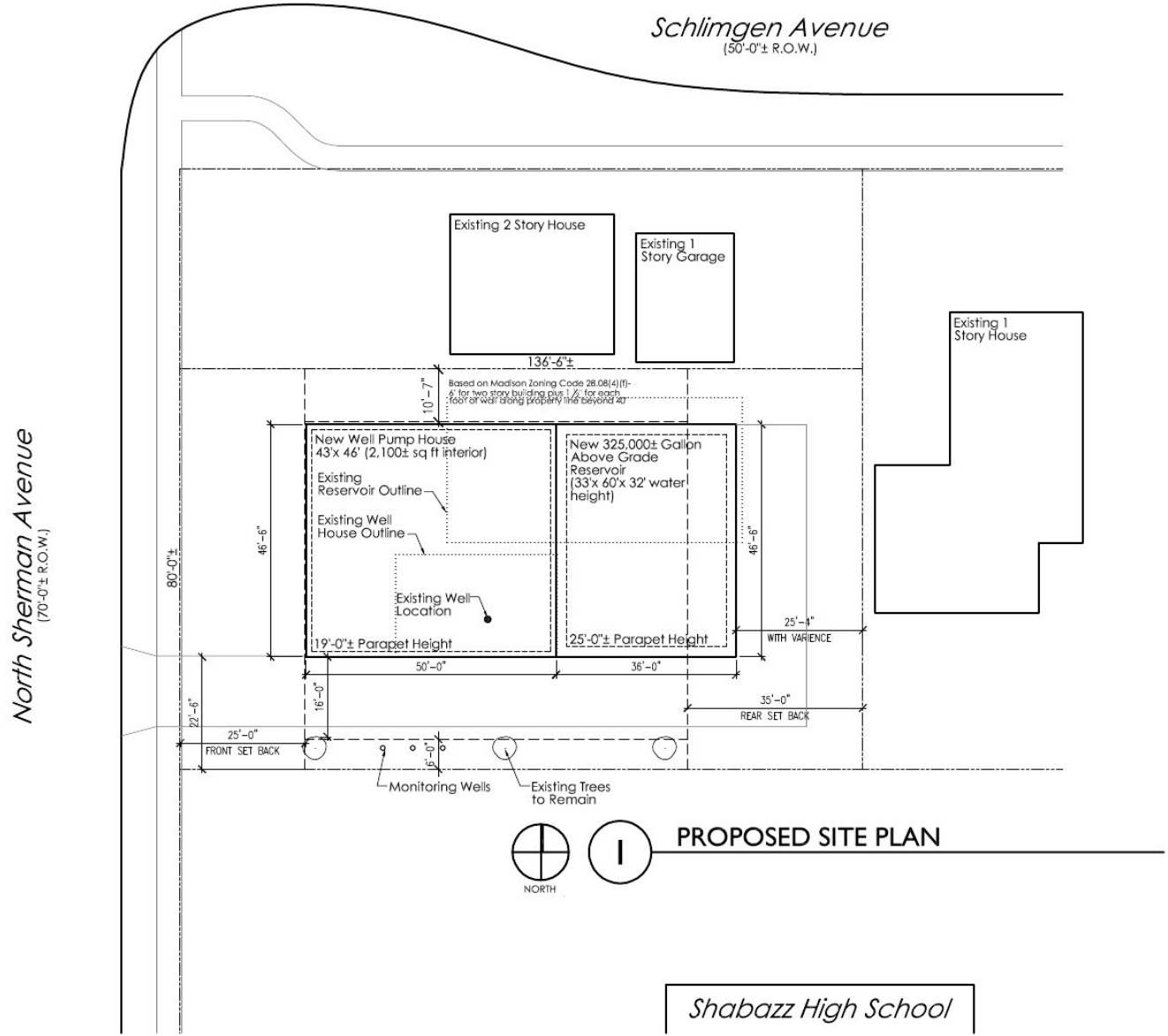
The existing site needs to be expanded to accommodate the needs of the Water Utility. If additional property is not obtained, the Utility's use of the facility would be compromised as follows:

- Leave no room for any potential future expansion.
- Result in a facility that looks disproportionately large for the area.
- Provides very little space for maintenance on the facilities.

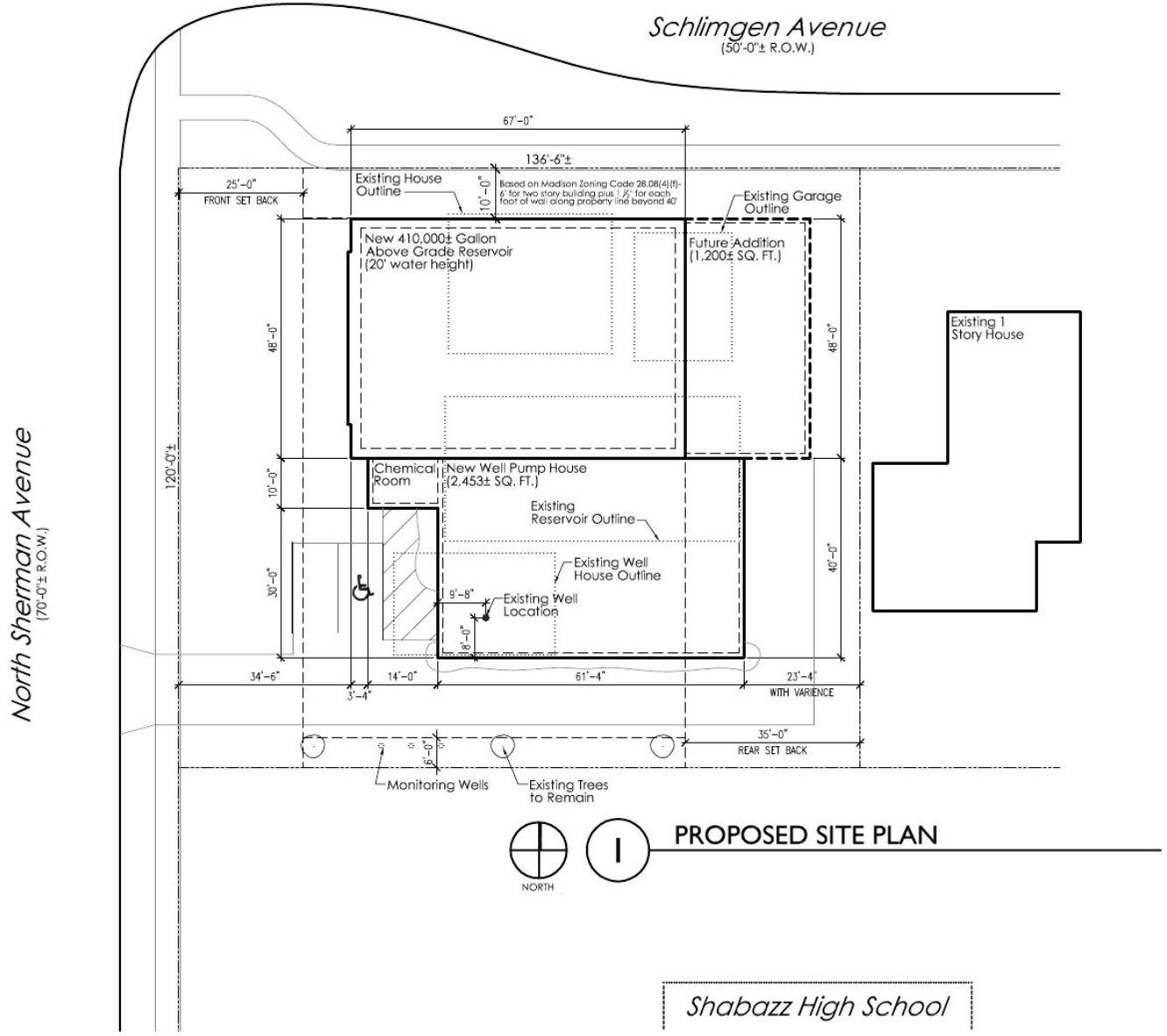
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**Figure 1.**



**Figure 2.**



**Figure 3.**