

New Berlin Plan Commission:
Comment Responses from Minooka Park Rezoning Public Hearing

On June 27, 2019, the City of New Berlin held a public hearing regarding amending the Future Land Use Map within the City's Comprehensive Plan (Chapter 12 - Neighborhood "B" and Chapter 10 - Land Use) from Park to Institutional to realign the boundaries to correctly reflect what will be identified as institutional lands for the new Waukesha Water Utility Building and rezoning 3675 S. Racine Avenue from P-1 to I-1. In order to provide information to the public regarding the need for the rezoning and the purpose of the proposed infrastructure located there and to provide transparency regarding the decision process, the Mayor of the City of Waukesha, the Waukesha Water Utility General Manager and their consultants presented information regarding the site selection and addressed topics that had been brought to the City of New Berlin Mayor and staff's attention. At this public hearing, more information was requested by the residents in attendance. Outlined below is a compilation of the questions that were raised and the responses to those questions.

Question: What is the site lighting plan and what impact will it have on the surrounding area?

Response:

- Exterior lighting on the building perimeter is provided for operator safety and emergency egress from the station building to the public way in case of emergency. Emergency lighting is designed to meet International Building Code, which is adopted by the state and New Berlin. Exterior lighting at the generator will be switched off, except during required operations.
 - A photometric plan was completed for the site and is shown as **Figure 1**.
- All exterior lighting at the Booster Pumping Station site will be provided by LED fixtures and will not be positioned to face neighbors or up to the sky.
- Lighting at the site entrance is provided to allow for safe site access by utility staff, emergency vehicles, and to allow for imaging of approaching vehicles and people at the entry gate by the security cameras. The single pole mounted light at the site entrance is mounted less than 25-feet above grade.
- With the exception of the entry gate pole mounted light, illuminance from exterior lighting at property lines will be less than 0.01 foot-candles at the ground as shown on **Figure 1** The maximum of 0.01 foot-candles at the property line is fifty times less than the zoning required maximum of 0.5 foot-candles per New Berlin Municipal Code.
 - For reference, a library has a recommended lighting level of 30-50 foot-candles (per United States General Services Administration).
- At the property line near the entry gate, illuminance will exceed 0.5 foot-candles into the public right-of-way, as allowed under New Berlin Municipal Code 276-60I(1) for public safety.
- To maintain the rural character of the area, the New Berlin zoning minimum illuminance requirements are not being met by the proposed design to limit light pollution, as the site is not generally manned and has no public access. Additional lighting in the parking lot would be required to meet the minimum requirements per the New Berlin Municipal Code.

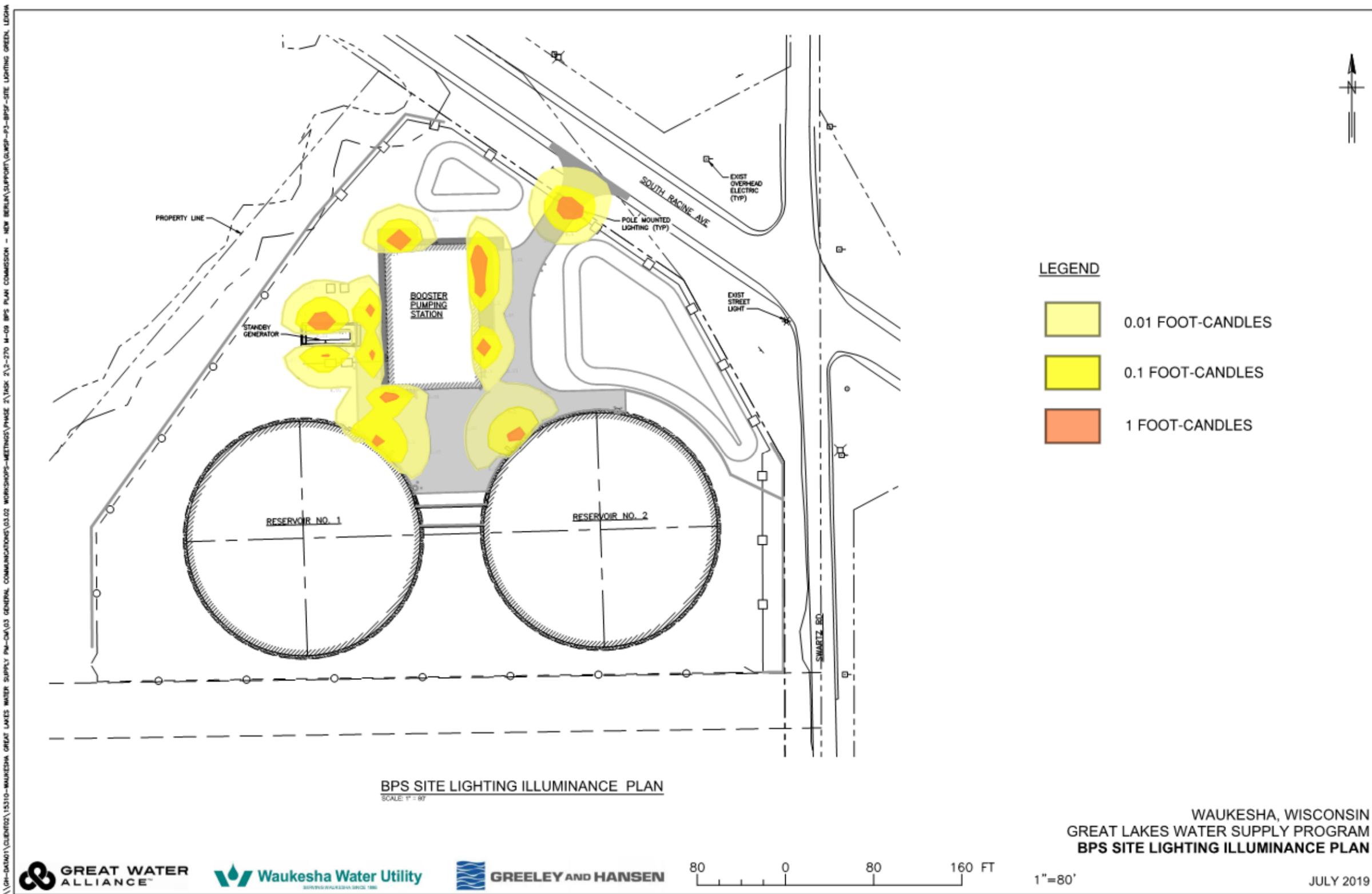


Figure 1 - Booster Pumping Station Lighting Illuminance Plan

Question: Will the new equipment at the Booster Pumping Station site produce noise that will impact the surrounding area?

Response:

- Due to the sound-attenuating properties of the masonry walls of the Booster Pumping Station, sound from equipment operating within the building will be below zoning regulation limits at all points outside the building at all frequency bands regulated by New Berlin Municipal Code 275-60E.
- The natural gas generator will be located outside of the Booster Pumping Station. The natural gas generator will typically be run once per week for approximately 30 minutes to exercise the equipment.
 - The day and time of the test will be coordinated with the City of New Berlin to minimize any potential impact to nearby residents.
 - The only other time the natural gas generator will be run is during emergency situations when there is no electrical power to the site.
 - The natural gas generator is being specified to an acoustical performance that is better than the zoning requirements at the property line, including overall limits and the frequency band limits. Air exhaust opening from the generator set is directed upward to minimize sound reflected off of the building and reservoirs.
 - The approximate overall sound pressure level due to the natural gas generator will not be more than 62 decibels (dB) at the nearest property line (west side) and not more than 54 dB at the Racine Avenue frontage property line.
 - At 1,000 feet from the property, the noise level would be undetectable.
 - For reference, below are typical sound pressure levels.
 - A passenger car traveling at 65 mph, 25 feet away has a sound pressure level of approximately 77 dB.
 - A vacuum cleaner typically has a sound pressure level of approximately 70 dB
 - A conversation in restaurant typically has a sound pressure level of 60 dB.
 - A quiet suburb or a conversation at home typically has a sound pressure level of 50 dB.

Question: How is the site landscaping and tree placement going to be used to preserve the rural character of the area and provide screening of the new facilities?

Response:

- The site landscaping plan has been revised per the feedback received from the Architectural Review Subcommittee and at the public hearing on June 27.
- Additional landscaping will be provided to screen the reservoirs and Booster Pumping Station further along Racine Avenue and Swartz Road.
 - See the revised landscape plan shown in **Figure 2**. The areas in green were added as landscaped areas to provide additional screening.
 - When the trees are fully mature, tree heights will range from 30 to 60 feet and the landscaping would screen the majority of the views of the reservoirs from Swartz Road and Racine Avenue.
 - An updated rendering will be provided to the city of New Berlin the week of July 22nd to July 26th.

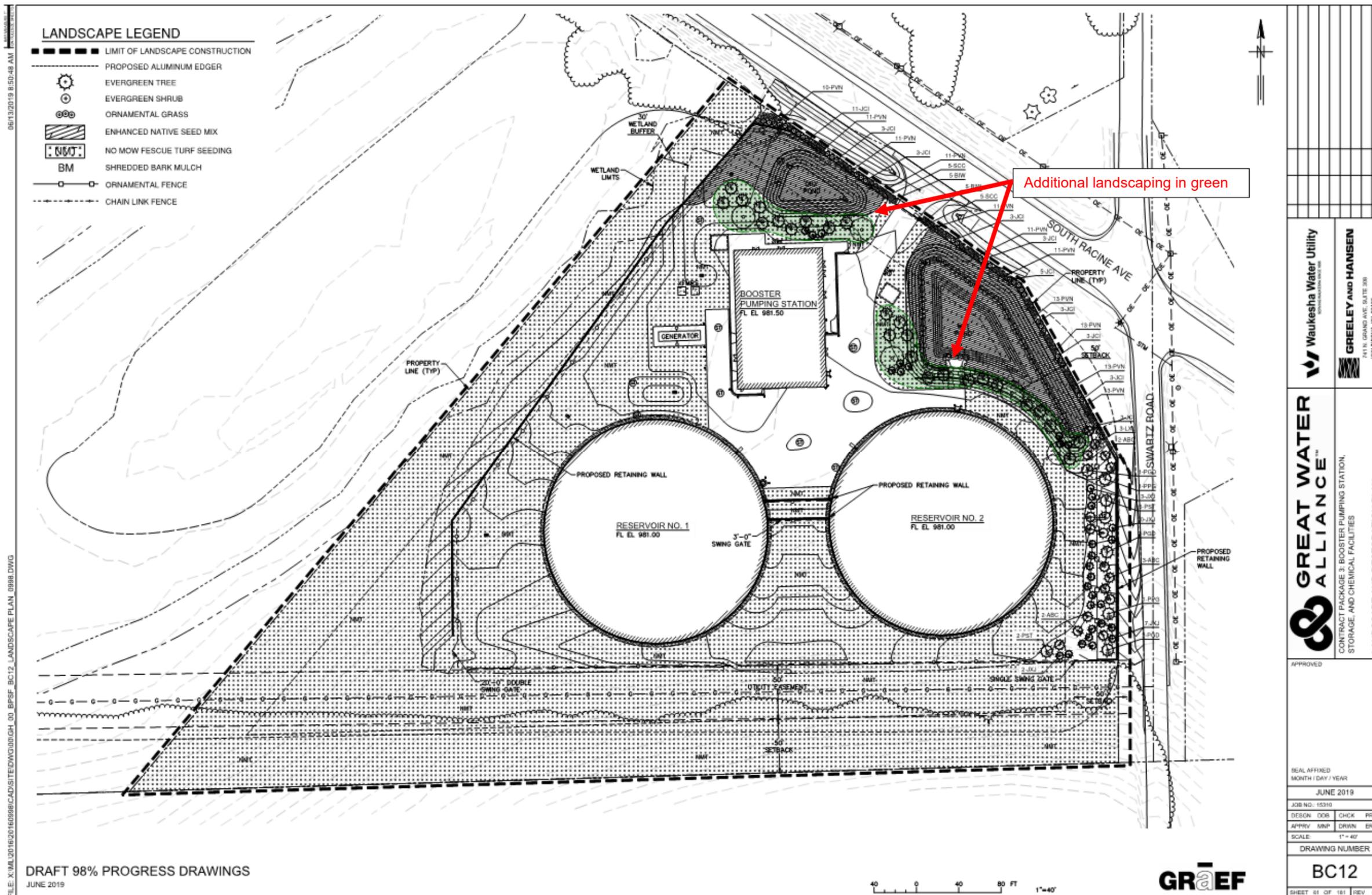


Figure 2 - Booster Pumping Station Landscape and Restoration Plan

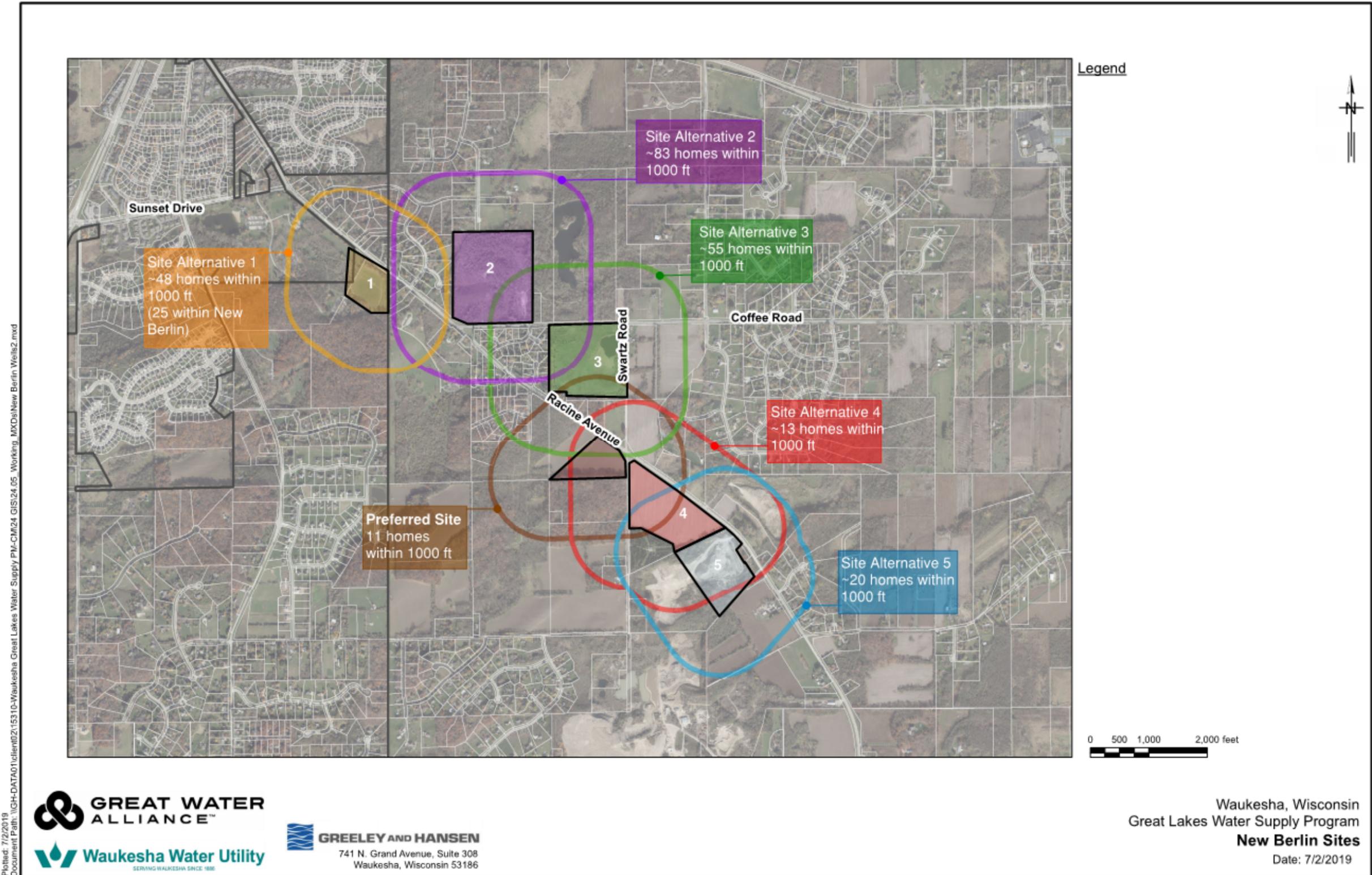
Question: What other sites were evaluated?

Response:

As presented at the public hearing and Plan Commission Meeting on June 27, 2019, a site evaluation was previously completed to determine the preferred location for Waukesha's Booster Pumping Station and Storage Facilities required to receive and provide radium limit compliant water to their residents. Multiple sites were proposed by the public at the Plan Commission Meeting. One site previously investigated, the abandoned Prospect Hill Elementary School, was not reevaluated because it is approximately 2.5 miles from the preferred route of the Water Supply Pipeline and the property was recently sold to new owners. Several other sites were re-evaluated based on the public input.

Several site alternatives are shown in **Figure 3**.

- Preferred Site – Swartz Road and Racine Avenue:
 - Advantages:
 - The fewest number of New Berlin residents affected with 11 residences within 1000 feet of the property line.
 - Closest neighbor is approximately 700 feet from the property line.
 - The property is publically owned through Waukesha County Department of Parks and Land Use.
 - No adverse effects to current or planned Minooka Park amenities.
 - The site provides screening and sound attenuation from existing trees and topography.
 - Over 8 acres of contiguous property above the 100-year flood plain.
 - No permanent impacts to wetlands, waterways, or endangered species habitat.
 - No known contaminated soils.
 - No known cultural resource impacts.
 - Provides space for landscaping to help screen storage facilities.
 - Disadvantages:
 - Increase in traffic during construction.
 - Reduction in agricultural fields in the area.
- Site Alternative 1 – Minooka Park Multi-Sport field near Coffee Road and Racine Avenue:
 - Advantages:
 - The property is publically owned through Waukesha County Department of Parks and Land Use.
 - Land is in the Town of Waukesha.
 - Over 8 acres of contiguous property above the 100-year flood plain.
 - The site provides screening and sound attenuation from existing trees.
 - Disadvantages:
 - More residents affected with approximately 48 residences within 1,000 feet of the property line. 25 of those residences are within the City of New Berlin.
 - Would require eliminating a current multi-sport field within Minooka Park.
 - Closest neighbor is approximately 100 feet from the property line.
 - The use of the site would require the removal of existing mature trees.



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Figure 3 – Booster Pumping Station Alternative Sites

- Site Alternative 2 – Private Property near Coffee Road and Racine Avenue:
 - Advantages:
 - Over 8 acres of contiguous property.
 - Disadvantages:
 - More residents affected with approximately 83 New Berlin residences within 1,000 feet of the property line.
 - Would require acquiring private property, possibly through condemnation.
 - Closest neighbor is approximately 150 feet from the property line.
 - The use of the site would require the removal of mature trees.
 - Portions of the property are below the regional flood plain elevation. Wisconsin Administrative Codes NR 811 and NR116 prohibit building municipal water supply facilities less than two feet above the regional flood plain elevation.
- Site Alternative 3 – Landfill at Swartz Road and Coffee Road:
 - Advantages:
 - 8 acres of contiguous property available above the 100-year flood plain.
 - Disadvantages:
 - More residents affected with approximately 55 New Berlin residences within 1,000 feet of the property line.
 - Closest neighbor is approximately 110 feet from the property line.
 - Contamination concerns for the potable water facilities from both contaminated soils and leachate.
 - The site is unlikely to be permitted by Wisconsin Department of Natural Resources (WDNR) because the existing contamination would be a significant concern for a potable water installation.
 - Constructability challenges due to the soil quality would require piles for construction of the new facilities as the refuse beneath the surface settles more and at a faster rate than native soil.
- Site Alternative 4 – Private agricultural field at Swartz and Racine
 - Advantages:
 - Over 8 acres of contiguous property above the 100-year flood plain.
 - There are approximately 13 residences within 1,000 feet of the property line.
 - Disadvantages:
 - Increase in traffic at the Swartz Road and Racine Avenue during construction.
 - Reduction in agricultural fields in the area.
 - The site would require acquiring private property, possibly through condemnation.
 - Less screening and sound attenuation from existing trees and topography.
 - Closest neighbor is approximately 300 feet from property line.
- Site Alternative 5 – Quarry on Racine Avenue
 - Advantages:
 - Over 8 acres of contiguous property available.
 - 20 New Berlin residences within 1,000 feet of the property line.
 - Disadvantages:
 - Construction may require blasting rock to install buildings, storage tanks and yard piping.
 - Closest neighbor is approximately 120 feet from property line.

- On-site stormwater and sanitary treatment constructability challenges due to the impermeable rock.
- The site would require acquiring private property, possibly through condemnation.

Question: What is the construction duration for the Booster Pumping Station Site?

Response:

- The overall duration of construction at the Booster Pumping Station site is approximately 30 months.
- The exact workflow for construction at the Booster Pumping Station site is dependent on many factors, including the contractor, weather, and when construction begins. That said, the construction at the site is anticipated to follow the proposed schedule below:
 - Site preparation – 3 months
 - Initial grading and site work – 3 months
 - Below grade work - 3 months
 - Above grade work and interior Booster Pumping Station work – 15 months
 - Final grading and site work – 3 months
 - Startup and Commissioning - 3 months

Question: Will the construction of the Booster Pumping station, reservoirs, or pipelines effect New Berlin residents' private wells?

Response: As part of the WWU's Great Water Alliance Program (Program), field investigations were conducted to determine the existing field conditions at the facility locations and along the pipelines. These field investigations included site surveys, geotechnical soil analysis, contaminated materials review, wetland and waterway delineations, endangered resources review, cultural resources review, and agricultural resources reviews.

The Program's geotechnical consultants completed soil borings at approximately 1,000 foot intervals along the pipeline alignments and at the locations of new facilities to depths below the anticipated excavation in the area. These borings included 11 soil borings at the Booster Pumping Station site. Soil borings provide insight into soil conditions and groundwater levels at the time of the boring.

Booster Pumping Station:

The borings taken at the Booster Pumping Station site to a depth of 30 feet below ground surface are shown in **Figure 4**. Elevations are from the National Geodetic Vertical Datum of 1929 (NGVD 29). Groundwater was not encountered at the borings BPS-1 and 2 where the BPS will be located. The BPS will include a foundation with a bottom elevation of 964.5 feet, approximately 16.5 feet below grade. Allowing an additional 2.5 feet for potential excavation, the lowest anticipated elevation for potential dewatering on this site is assumed to be 962 feet. At the time of geotechnical investigations no groundwater was observed at this depth in the anticipated area of construction.

Groundwater was encountered at borings BPS-SW2 and SW3, both of which are located in the wetland northwest of the Booster Pumping Station site at depths of approximately 6 and 8 feet below grade, or approximately elevation 964 and 961, respectively. However, construction will not occur in the wetland. Additional borings were completed, but groundwater levels were not evaluated.

Fluctuations in groundwater level should be anticipated throughout the year depending on precipitation. Based on site geotechnical investigations, it is not anticipated that significant dewatering will be necessary at the Booster Pumping Station site. If site conditions necessitate dewatering, the contractor

will be required to work with the WDNR to approve a dewatering plan that would minimize impacts to the adjacent wetlands. If dewatering is required, the design of the BPS is not expected to require dewatering below an elevation of approximately 962 feet.

Water Supply and Return Flow Pipelines:

Typical excavation for the pipelines is anticipated to be approximately 10-feet below grade. There will be some areas where the pipelines will be installed deeper in order to avoid existing utilities or to construct under roadways. Areas in the City of New Berlin in which the deepest pipeline excavations will occur, defined as exceeding 15-feet below grade, are shown in **Figure 6** through **Figure 12**. The borings in the area are shown in the respective figures. The closest borings to these areas did not indicate groundwater at the depth of excavation during the time of the investigation. If site conditions necessitate dewatering, the contractor will be required to work with the WDNR to approve a dewatering plan.

Private Well Impacts:

The potential impact on private wells due to dewatering during excavation during construction in the City of New Berlin was evaluated. The WDNR maintains a public database that was utilized to gather information on private wells (<https://dnr.wi.gov/topic/Groundwater/data.html#wellreports>). The WDNR database contains private well construction information, including construction completion date, pumping water level, well depth, static water level and other information. The WDNR database only includes well information at the time of construction of permitted wells. This information may not accurately represent the current depth of water in every private well, but is considered an acceptable source of data to examine the general water elevations in private wells in the area. Pumping elevations for each private well at the time of well construction in the vicinity of the Booster Pumping Station and the pipeline excavations greater than 15-feet were reviewed. Pumping elevations for each private well in the vicinity of the Booster Pumping Station site are shown on **Figure 4**.

The Oakwood Knoll subdivision is the subdivision with private wells in closest proximity to the Booster Pumping Station site. As shown on **Figure 4**, the highest pumping elevation during well construction observed in a private well in this subdivision was at elevation 926 feet. A cross-sectional diagram of the Booster Pumping Station site excavation and the Oakwood Knoll private wells is shown in **Figure 5**. As shown in **Figure 5**, a minimum of 36 feet of vertical separation between potential dewatering at the Booster Pumping Station site and the maximum elevation of any private well pumping levels would be provided in the Oakwood Knoll Subdivision.

Pumping elevations for private wells in the vicinity of the pipeline excavation below 15-feet are shown in **Figure 6** through **Figure 12**. As shown in the figures, the majority of private well construction logs indicate that well pumping levels at the time of well installation are significantly below the construction elevations of the pipelines.

Several well construction logs on South Martin Road near Interstate 43 indicated that water levels were 0 feet below the surface at the time of installation. This does not likely represent current groundwater conditions. Nearby boring CC-B-82 was drilled to a depth of 20 feet below grade and groundwater was not encountered during the investigation. The Program will work with the City of New Berlin to further investigate this area and measure current well water levels if necessary.

It should also be noted that areas within the City of New Berlin, specifically the eastern half of the city, are currently served by municipal water distribution systems and, therefore, not all private wells shown in **Figure 6** through **Figure 12** are active wells.

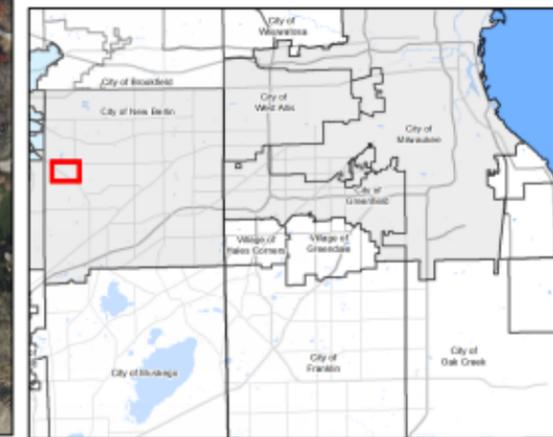
The WDNR private well construction logs show the private wells are pumping from elevations significantly deeper than any anticipated dewatering at the Booster Pumping Station site or pipeline trench excavations. Geotechnical borings indicated that no dewatering or limited dewatering will be needed at the Booster Pumping Station site or areas where the pipeline excavation is below 15-feet. If field conditions necessitate dewatering in shallower trench conditions, there would be negligible effects to adjacent private wells. Therefore, no significant impacts to the private wells of the residents of the City of New Berlin are anticipated due to potential dewatering during construction at the Booster Pumping Station site or pipelines.



- Legend**
-  Private Well Pumping Elevation at Time of Well Construction
 -  Soil Boring (20ft Below Grade) No Groundwater Encountered
 -  Soil Boring Number and Elevation of Encountered Groundwater
 -  Water Supply Pipeline
 -  Return Flow Pipeline
 -  Booster Pumping Station and Reservoirs Footprint
 -  Booster Pumping Station Parcel



Key Map



Waukesha, Wisconsin
Great Lakes Water Supply Program

- Notes:**
1. Locations of private wells are approximate and based on information from Wisconsin Department of Natural Resources Private Well Database.
 2. All elevations are based on the National Geodetic Vertical Datum of 1929

Figure 4 - Private Well Pumping Elevations and Booster Pumping Station Site Excavation

CROSS SECTION - OAKWOOD KNOLL SUBDIVISION AND BPS SITE EXCAVATION

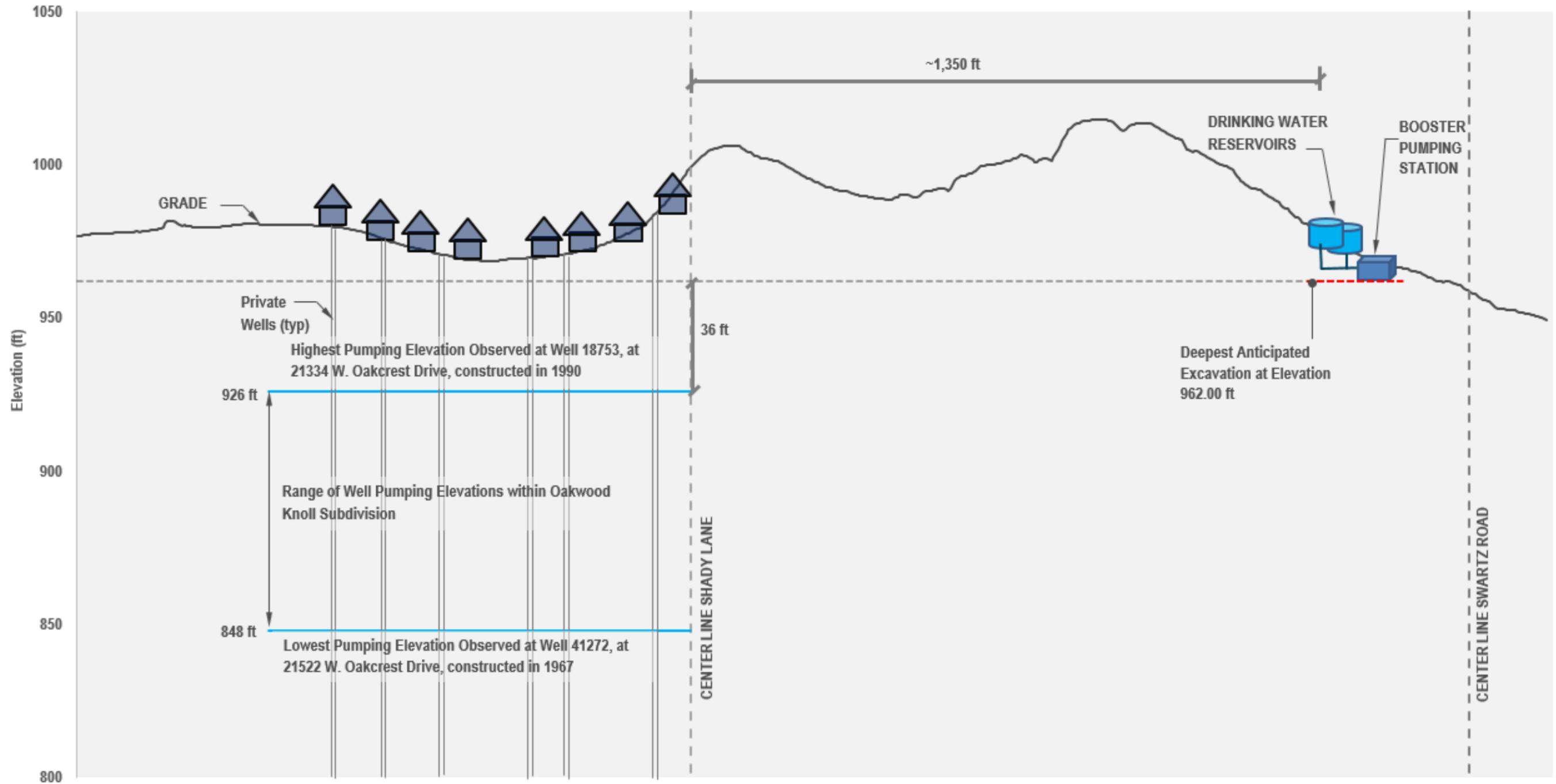
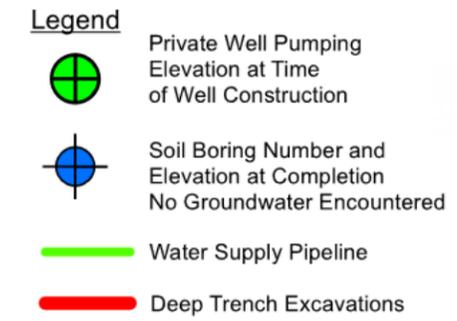
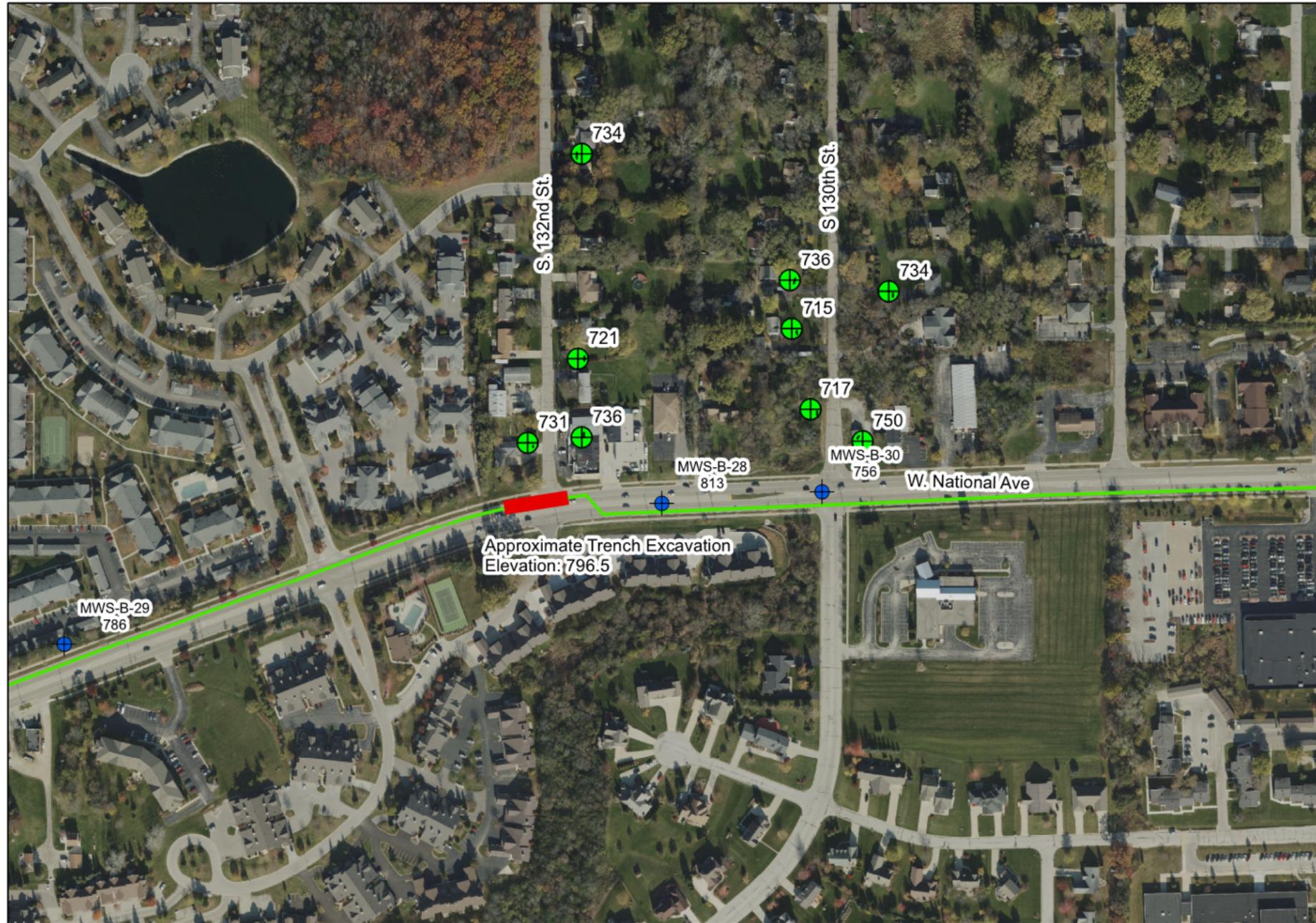
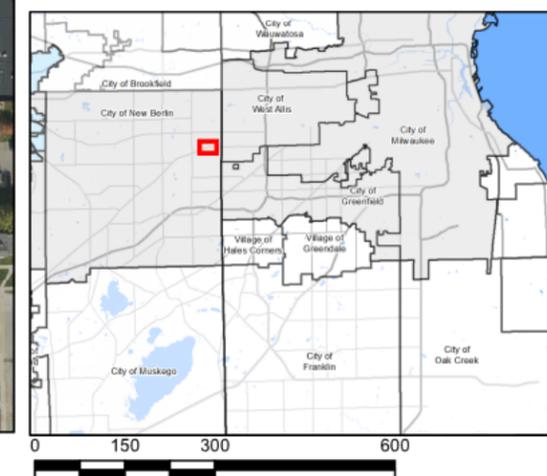


Figure 5 - Cross Section of Private Wells and Booster Pumping Station Site Excavation



Key Map

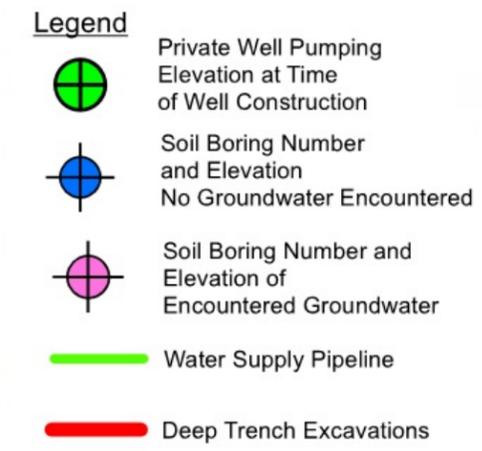
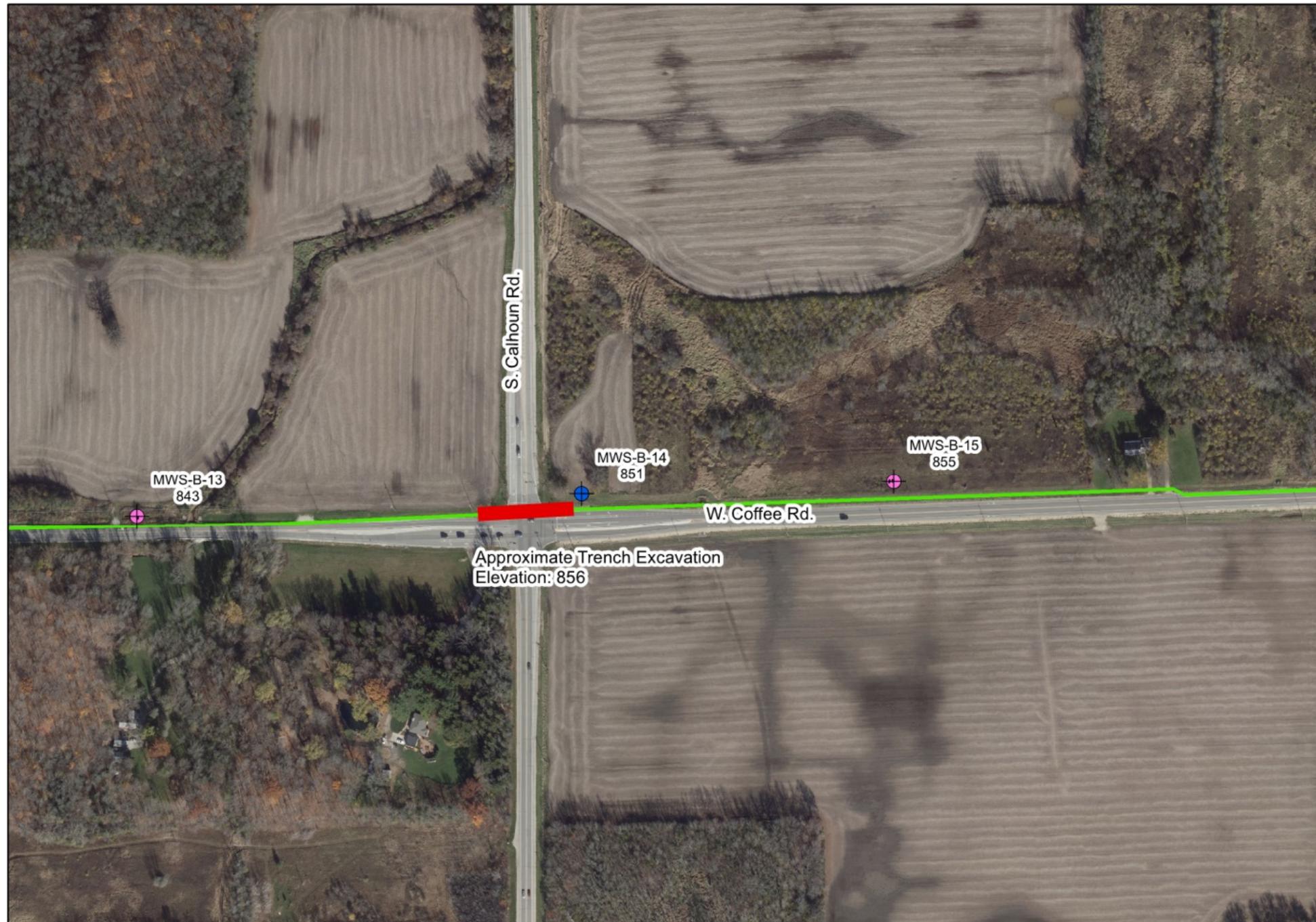


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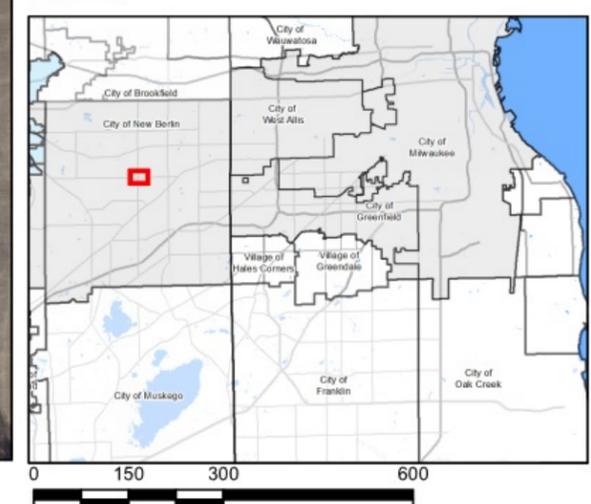
Notes:

1. Locations of private wells are approximate and based on information from Wisconsin Department of Natural Resources Private Well Database.
2. A. are based on the National Geodetic Vertical Datum of 1929

Figure 6 - Private Well Elevations and Soil Boring Elevations at S. 132nd St and W. National Ave.



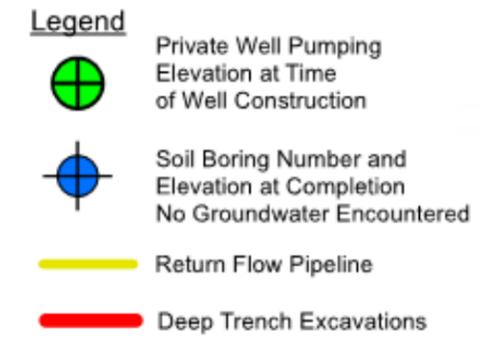
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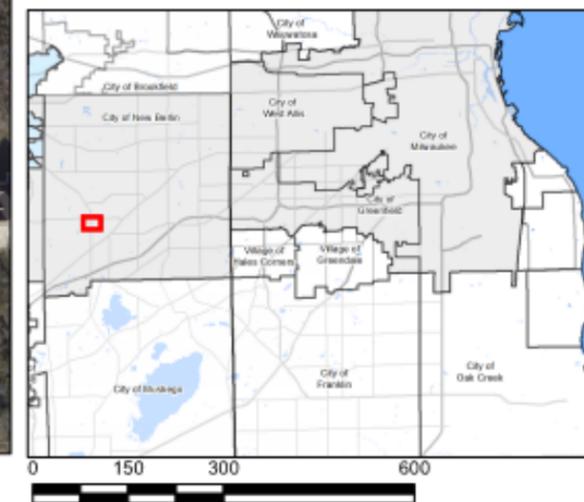
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Figure 8 - Private Well Elevations, Soil Boring Elevations and Deep Trench Excavation Elevation at S. Calhoun Rd and W. Coffee Rd.



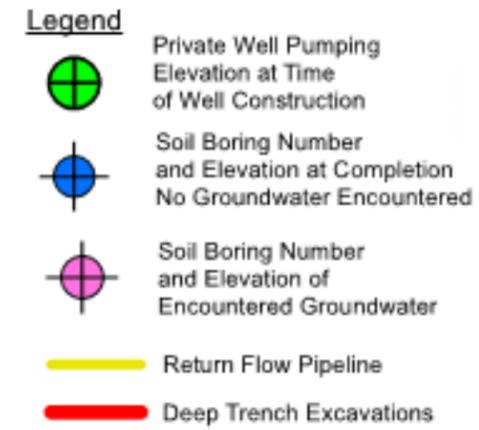
Key Map



Waukesha, Wisconsin
Great Lakes Water Supply Program

Notes:
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 2. All elevations are based on the National Geodetic Vertical Datum of 1929

Figure 9 - Private Well Elevations, Soil Boring Elevations and Deep Trench Excavation Elevation at W. Lawnsdale Rd and S. Racine Ave.



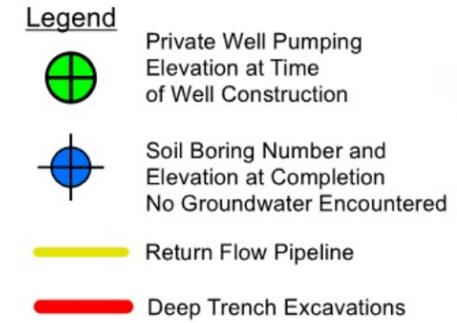
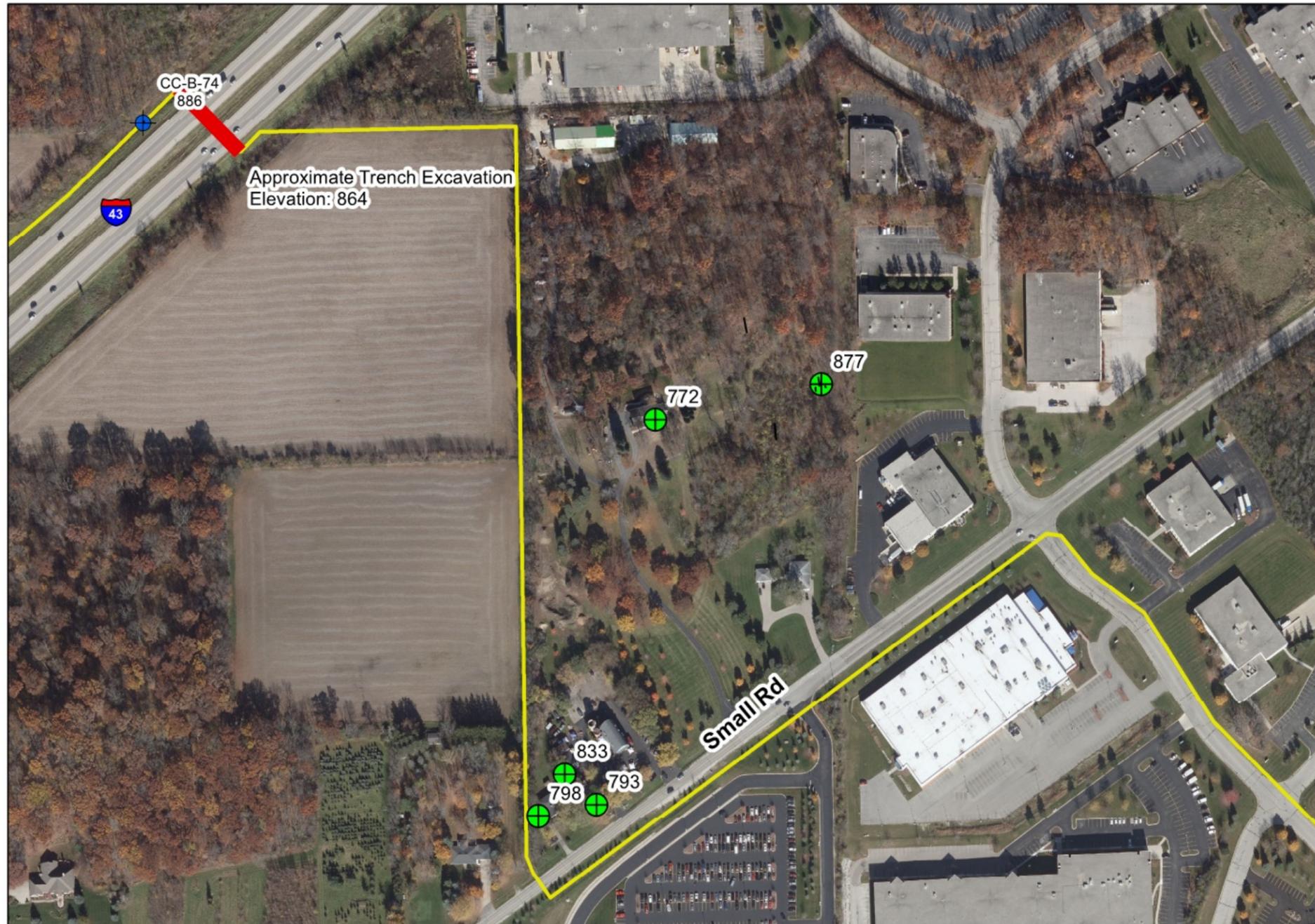
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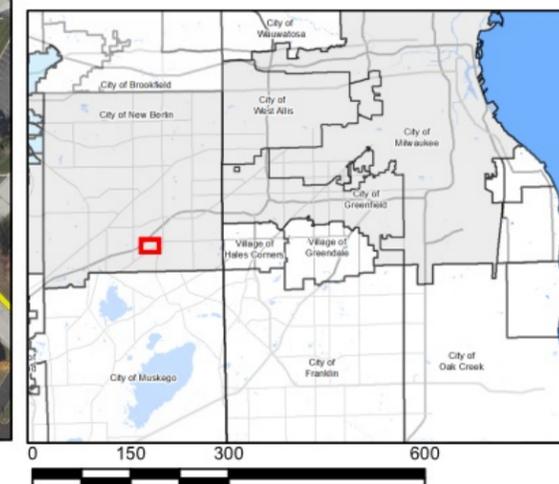
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- Notes:
1. Locations of private wells are approximate and based on information from Wisconsin Department of Natural Resources Private Well Database.
 2. All elevations are based on the National Geodetic Vertical Datum of 1929.
 3. Private well water level to be investigated if needed.

Figure 10 - Private Well Elevations, Soil Boring Elevations and Deep Trench Excavation Elevation at S. Martin Rd and Interstate 43.



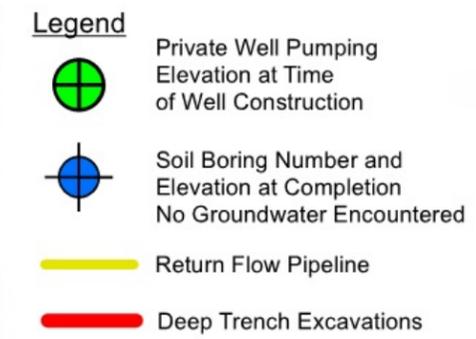
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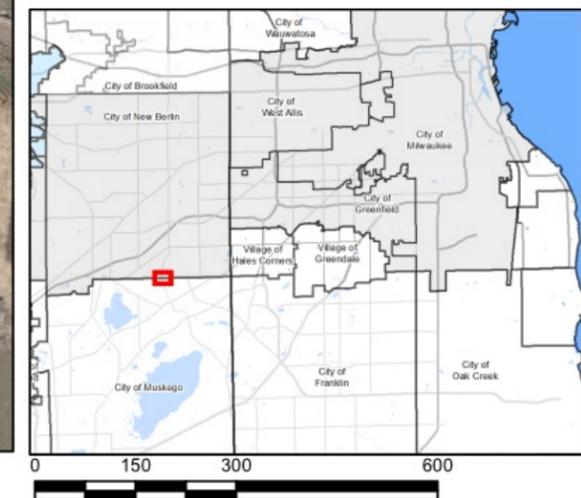
Waukesha, Wisconsin
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Figure 11 - Private Well Elevations, Soil Boring Elevations and Deep Trench Excavation Elevation at Small Rd near Westridge Rd.



Key Map



Notes:
 1. Locations of private wells are approximate and based on information from Wisconsin Department of Natural Resources Private Well Database.
 2. All elevations are based on the National Geodetic Vertical Datum of 1929

Figure 12 - Private Well Elevations, Soil Boring Elevations and Deep Trench Excavation Elevation at W. College Ave and S. Moorland Rd.