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Madison Water Utility
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Unit Well 12 Existing Site & Proposed Generator
Letter of Intent for Land Use Zoning
February 17, 2021

**Project Description**

Madison Water Utility and Madison Gas & Electric have reached an agreement to install an electrical emergency backup generator on Madison Water Utility's existing Unit Well 12 site. The existing Unit Well 12 facility was constructed in the late 1950's; no Conditional Use permit currently exists for either the existing facility or the proposed generator.

The proposed generator has a standby rating of 600kW and will be programmed to operate upon the following conditions:

- Loss of standard electrical service to the well facility.
- Periods of peak electrical demand to support both the well facility and the greater power grid.
- Routine testing and maintenance.

Similar agreements exist on nine other Madison Water Utility sites and have benefited both agreeing parties and the public by adding resiliency to water and power supply services.

Madison Water Utility currently has plans to reconstruct the existing facility in 2024, and at that time would apply for appropriate alterations to any Conditional Use granted from this request.

**Existing Conditions**

The Unit Well 12 facility is located on the north side of the beltline highway along South Whitney Way. It is located on the land between the exit ramp and the beltline. The original well and pump house was built in 1957 and was designed by Water Utility engineering staff. The rough limestone in an ashlar pattern is seen on many wells throughout Madison that were built during this era and is easily recognizable as a Water Utility facility. On the northern portion of the site, a 150,000-gallon reservoir with the same aesthetic complements the well facility. The site also has mature landscaping with several large trees and shrubs.

The facility pumps water to Pressure Zone 7 at a pumping capacity of 2400 gallons per minute. It operates year-round and delivers water to Madison's near-west neighborhoods including Hill Farms, Sunset Village, Midvale Heights, Westmorland, Nakoma, Summit Woods, Greentree, Prairie Hills, Meadowood, Orchard Ridge, Allied Dunn's Marsh, and Arbor Hills.

**Site Changes**

The generator is proposed to be set onsite as shown in the drawings included. The unit is approximately 8' x 26.5' and 13' tall. A concrete pad will need to be poured so that the generator can be properly set; the pad dimensions will be approximately 10.25' x 26.5'.

The site location overall is already inconspicuous relative to the surrounding area, and the intent will be to set the generator in the southeast portion of the site so that it may be further screened by the beltline highway overpass; the well facility and reservoir structures; existing landscaping; and the sound barrier along the westbound off-ramp (north side of the site).

**Site Address**

801 South Whitney Way

## Land Use Zoning Approval

The project and site is being submitted to be zoned as a conditional use.

## Anticipated Project Schedule

| | |
|---|---|
| February 17, 2021 | Conditional Use Application Submittal |
| April 12, 2021 | Plan Commission Review & Hearing |
| May 2021 | Start of Installation |
| July 2021 | Installation Completed |

## Project Team

Madison Water Utility — Peter Holmgren, PE
119 East Olin Avenue
Madison, WI 53713

Madison Gas & Electric Company — Angie Johnson
623 Railroad Street
Madison, WI 53703

## Building Size

| | |
|---|---|
| Existing Building: | 1,122 SF |
| New Generator Equipment: | 272 SF |
| Total Area: | 1,394 SF |

## Auto and Bike Parking Stalls

There exists room for 2 maintenance vehicles to be parked on site. There are no bike parking stalls; the only visitors to the facility are staff.

## Lot coverage & Useable Open Space

| | | |
|---|---|---|
| Total Lot Area: | ~46,000 SF | |
| Building/Equipment/Paved: | ~11,300 SF | (~25 % Coverage) |
| Total Open Area: | ~34,700 SF | (~75% Open) |

## Hours of Operation

The existing well and pumps run 24 hours a day. The station is visited by Water Utility staff approximately once per day to check on the facility operations and to take readings. Most operations are otherwise monitored remotely.

The proposed generator will be programmed to operate in the event of lost standard electrical service to the well facility, or high demand from the greater power grid. Both are rare circumstances; in the last 3 years, other generators connected to the same substation have been activated a total of 4 times, running between 2 and 3.5 hours in each instance. The generator will also be run once a month for approximately 30 minutes for testing and maintenance purposes.