McCarrons Water Treatment Plant Improvements Project

CUP Application Written Statement
CDRB Application Written Narrative

Introduction

Saint Paul Regional Water Services (SPRWS) provides potable water to customers in Saint Paul, Minnesota, and the surrounding communities. Almost half a million people depend upon SPRWS for water each day.

The McCarrons Water Treatment Plant (WTP) has been the sole producer of water for SPRWS since 1920. On average the plant produces 40 to 45 million gallons per day (MGD) but demands peak in the summer at approximately 70 MGD. That's enough water to cover a football field with 200 feet of water!

As this facility approaches 100 years in age, SPRWS and the Board of Water Commissioners believe that proactively investing in this critical infrastructure is an important step to preserving public health in the St. Paul metro area.

Ultimately, the McCarron's Water Treatment Plant Project (described herein) will benefit SPRWS customers tremendously. Among the foremost benefits for customers are:

- Improving the reliability of the facility to ensure that we remain capable of delivering high quality water to taps without interruption.
- Improving SPRWS's ability to meet future water quality challenges through the addition of new technologies that improve treatment capabilities.
- Taking advantage of low interest rates to ensure that our customers get the best value for their money. We will continue to deliver water to our customers for less than a penny per gallon.

SPRWS is excited to deliver this project and provide a secure water future for each of our customers. We look forward to partnering with the city of Maplewood to make this project possible and to answering any questions that the city may have.

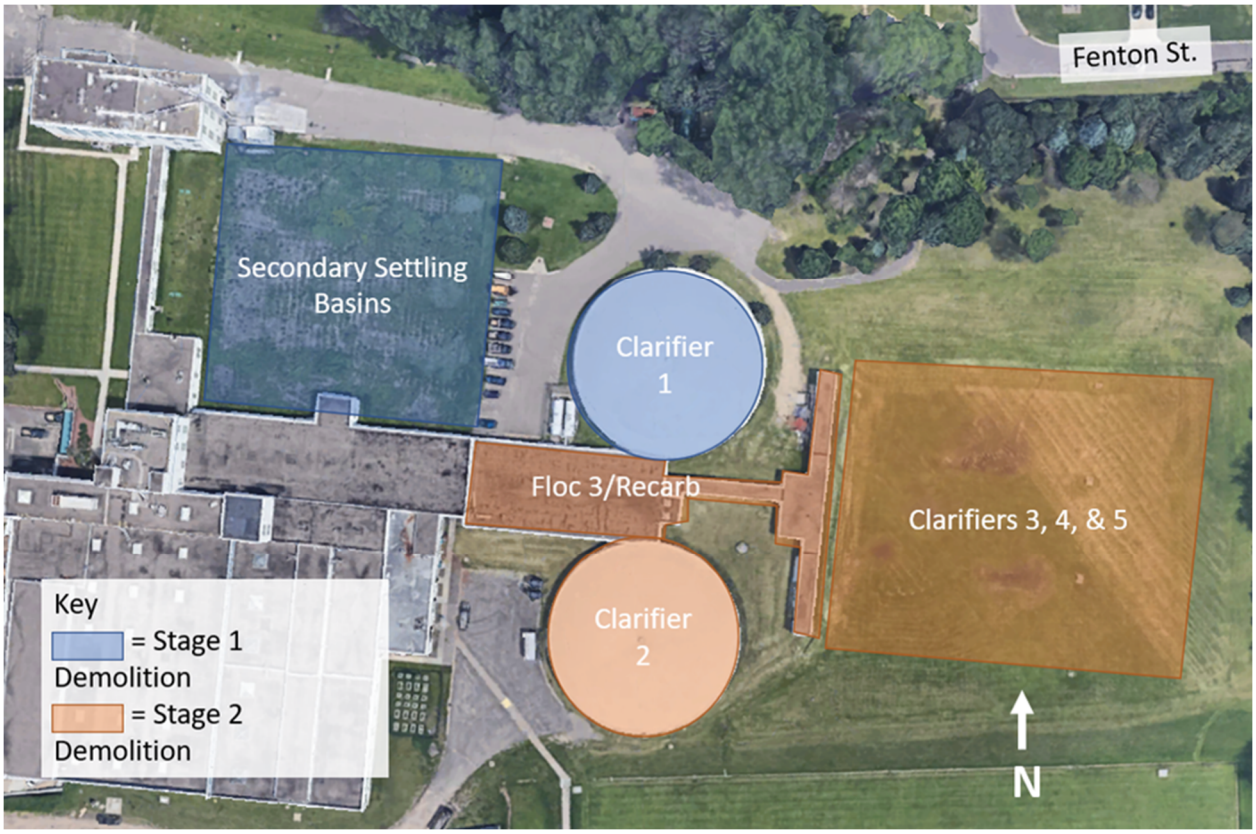
Project Scope

To ensure the utility continues to provide reliable and sustainable water service and to address future water quality challenges, SPRWS has initiated the design and construction of improvements to the WTP. Major project components include:

- New source water conduits from the terminal chambers to the water plant.
- New lime softening solids contact clarifiers. These will replace existing rapid mix, flocculation, and settling basins.
- New recarbonation basins to replace the single existing recarbonation basin.
- New ozonation treatment process for enhanced taste and odor control, oxidation, and disinfection.
- New chemical systems and new lime storage and handling building.
- New laboratory, office spaces, and control room.
- Demolition of existing flocculation basin 3, recarbonation basin, and Clarifiers 1 through 5.

Demolition of Facilities

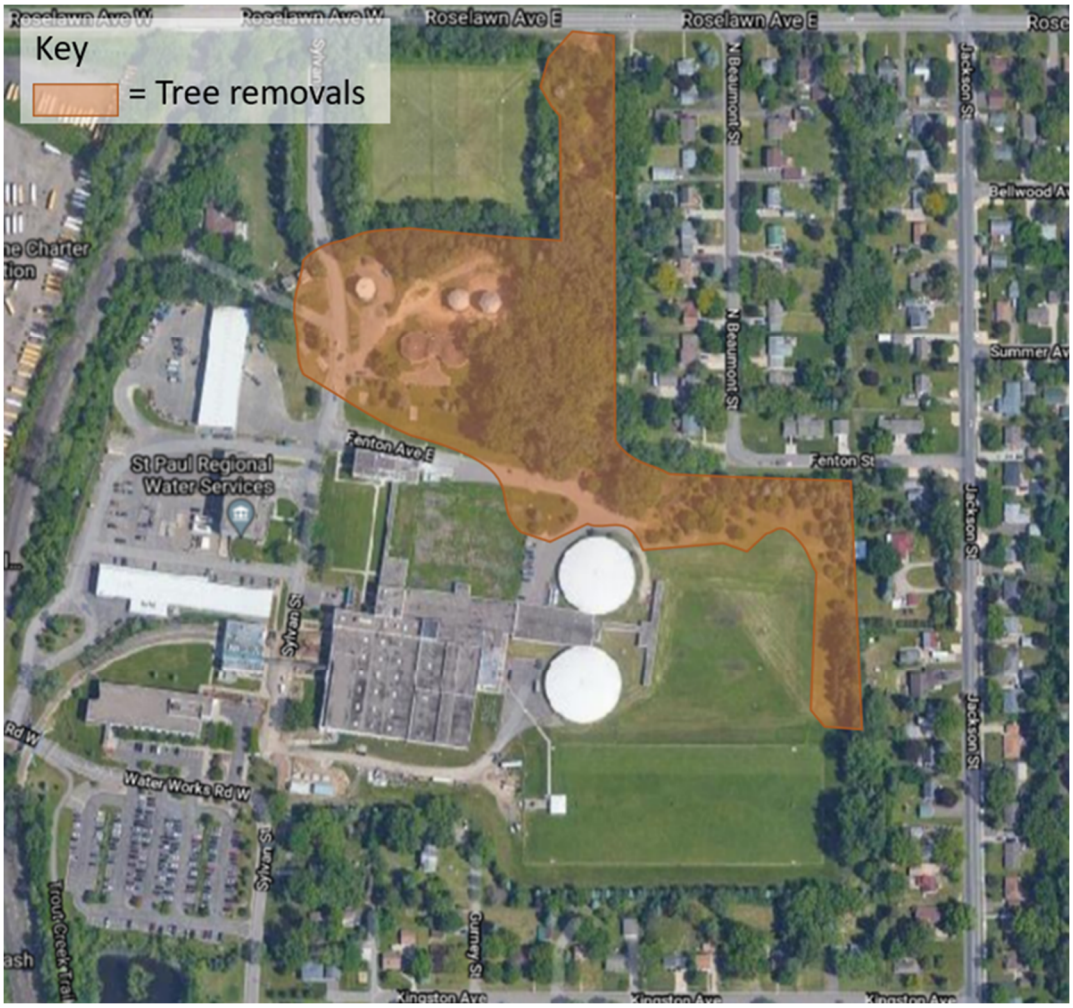
Many existing facilities will be demolished as part of this project. Demolition work will occur in two stages as shown in the graphic below. In general, demolition work will be the noisiest part of the project. Most of the structures that will be demolished are large, below-ground facilities.



Stage 1 Demolition will take place from summer through winter of 2022. The demolition of these facilities will free up space to build the new facilities. Overall, this demolition work is expected to take 7 months.

Stage 2 Demolition will take place after the new facilities are fully constructed and operational. This work is likely to occur in the fall of 2025. Overall, this demolition work is expected to take 10 months.

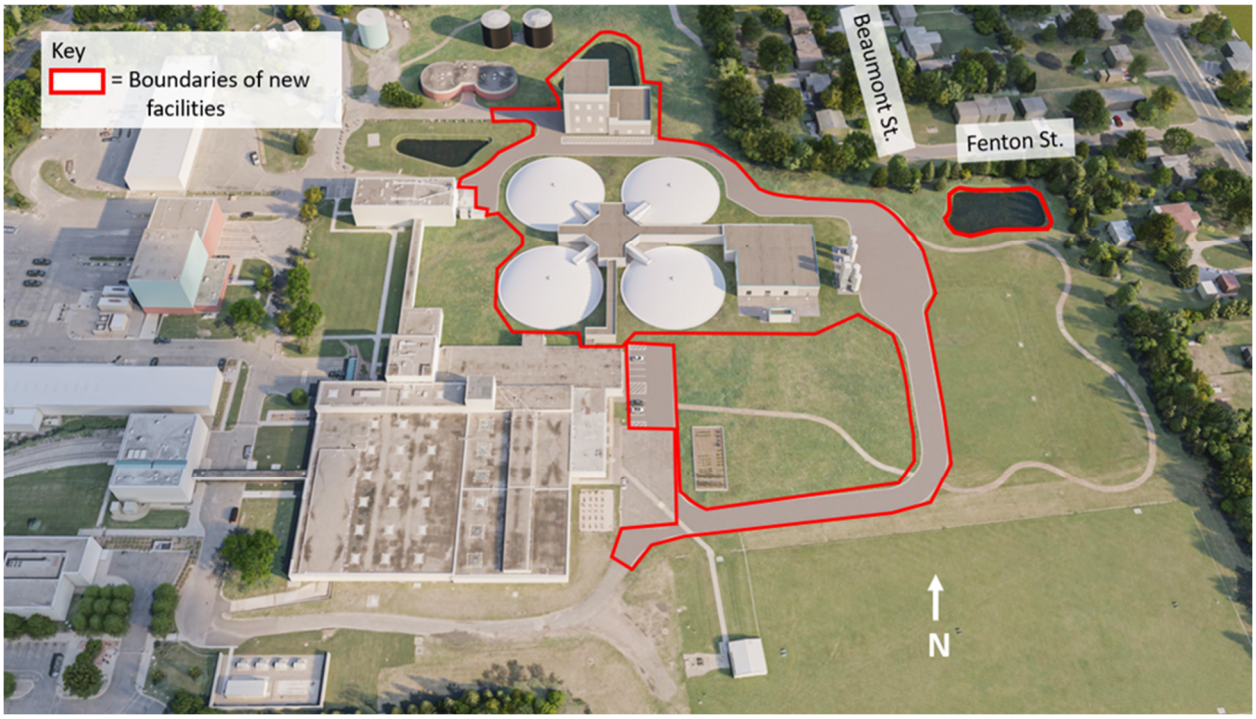
As part of the Stage 1 Demolition, SPRWS plans to remove approximately 375 trees from the site. The graphic below shows where tree removals will occur. Removing these trees is required to provide space for the new facilities and for associated construction activities.



SPRWS intends to remove these trees in March of 2022. Approximately three weeks of heavy cutting and an additional four weeks of site preparation and cleanup will be required to remove all trees.

Construction of New Facilities

New facilities will be constructed on the northeast portion of the site. Ultimately, much of the construction will be below-ground and will not be visible once the project is completed. There will, however, be numerous above-ground facilities constructed. The graphic below illustrates the location and scale of the facilities to be constructed.



366 trees will be planted on the project site and adjacent SPRWS property on the north side of Roselawn Avenue. Most of the trees will be planted along the treatment plant property line to replace the trees that are being removed for construction and continue to provide visual screening of the plant from the adjacent residential properties. The visual representation of the trees in the submittal documents are at 10 – 15 years of maturity.

Project Timeline

The estimated project timeline is as follows:

- **March-May 2022** – Tree removals and some small-scale activities on site (i.e., moving small equipment, etc.)
- **May 2022** – Stage 1 demolition work begins
- **Fall/Winter 2022** – New Facility Construction work begins
- **Winter of 2025** – Stage 2 demolition work begins
- **Mid-2026** – Project is complete

Criteria for Approval of a Conditional Use Permit

The use would be located, designed, maintained, constructed, and operated to be in conformity with the City's comprehensive plan and Code of Ordinances.

The improvements to the water treatment plant do not change the existing use of the facility of providing treated potable water to St. Paul and surrounding communities. The daily operation of the improved facility will be comparable to the operation of the existing plant. SPRWS will continue to comply with the City's Code of Ordinances as we have in the past.

The use would not change the existing or planned character of the surrounding area.

The operation of the improved facility will result in no meaningful change to staffing levels, hours of operation, and traffic in and out of the SPRWS McCarrons campus. Upon completion of the improvements project, the SPRWS McCarrons campus will appear unchanged from the plant access locations on Rice, Roselawn, and Sylvan. Residents adjacent to the plant property may be able to see new facilities and landscaping, but overall aesthetic of the site will remain largely unchanged since new facilities will be reasonably similar to the existing facilities.

The use would not depreciate property values.

The SPRWS McCarrons campus will appear largely unchanged to the surrounding area at completion of the improvements project. In fact, the SPRWS investment to improve reliability and water treatment capability is an inherent benefit to the customers and property owners that depend on our treated water.

A thoughtful prospective home buyer in recent years may have identified the aging infrastructure on site and wondered if a large project might be forthcoming. After completion of this project, it should be clear to residents and prospective buyers that we've made a once-in-a-century type of investment in our facility and that any future construction efforts on the site are likely to be considerably smaller. The facility will also be more attractive upon completion. By this logic, property values in the area may increase upon project culmination.

The use would not involve any activity, process, materials, equipment, or methods of operation that would be dangerous, hazardous, detrimental, disturbing, or cause a nuisance to any person or property, because of excessive noise, glare, smoke, dust, odor, fumes, water or air pollution, drainage water run-off, vibration, general unsightliness, electrical interference, or other nuisances.

The water treatment improvements project includes new state of the art treatment processes to replace existing treatment processes. Major new treatment processes include a new lime storage and handling building, new chemicals storage and feed systems, and a new ozone and recarbonation treatment process. All new facilities are housed in new buildings and are designed to the latest applicable codes and standards, and with an appearance to blend with the existing plant architecture. New drainage systems will ensure proper water run-off with the

new facilities. Upon completion of the improvements project, the activities and operations at the McCarrons campus will be similar to the existing facilities.

The use would generate only minimal vehicular traffic on local streets and would not create traffic congestion or unsafe access on existing or proposed streets.

Access to the McCarrons campus will be unchanged with the completion of the improvements project. Access will continue to be served via Rice, Roselawn, and Sylvan. Vehicular traffic on local streets be unchanged with the new facilities.

The use would be served by adequate public facilities and services, including streets, police and fire protection, drainage structures, water and sewer systems, schools, and parks.

The water treatment plant improvements project will continue to rely on the same public facilities and services as the existing McCarrons campus. Since the overall nature and use of the site will be very similar to that of the existing facility, we believe this to be appropriate.

The use would not create excessive additional costs for public facilities or services.

There are no additional costs for public facilities or services associated with the water treatment plant improvements project.

The use would maximize the preservation of and incorporate the site's natural and scenic features into the development design.

The water treatment plant improvements project includes the demolition of existing outdated facilities that will result in additional site area available for landscaping. New landscaping features include natural prairie and pollinator plantings, deciduous and evergreen tree plantings for property buffer and screening, stormwater retention areas, and (possibly) a walking trail accessible to SPRWS staff.

The use would cause minimal adverse environmental effects.

The most significant environmental effect is the removal of approximately 384 trees from the property. Removing these trees is required to provide space for the new facilities and for associated construction activities. SPRWS will comply with the City of Maplewood ordinance for tree removal mitigation. This includes planting new trees on the McCarrons site and paying into the City's tree mitigation fund for tree planting at other City sites.

Notably, removing these trees will allow more project work to occur on site. Without the tree removals, there would be a substantial increase in the amount of heavy trucking required to complete the project. Combining the CO2 emission savings from the reduced trucking load and the plans for tree planting and prairie vegetation upon project completion, we believe that the project will arguably benefit the environment overall despite the initial unattractiveness of the tree removals.

Finally, new facilities are being designed such that they can be outfitted with solar panels in the future. SPRWS has invested, and will continue to invest, in renewable energy as part of our commitment to environmental stewardship.

Compliance with Standard Site Design Requirements

City Criterion	City Standard	Project Value	Comments
Parking Lots			
90 Degree Parking, Employee Only	Stall dimension 9 ft wide by 18 ft long	Stall dimension 10 ft wide by 20 ft long	Meets City Standard
Handicap-accessible Parking	Comply with ADA and adjacent to building	1 out of the 8 total parking spaces is handicap-accessible and located adjacent to building	Meets City Standard
Shopping Centers and Other Large Developments	NA	NA	NA
Sidewalks	Do not put a parking stall in front of a building entrance if there is no sidewalk there	Sidewalk is provided in front of all parking stalls	Meets City Standard
Concrete curb	Provide continuous concrete curb around all parking lots and drives having 13 or more parking spaces	No curb. Parking lot has 8 parking spaces	Meets City Standard
Paving	Pave all parking lots and drives	Parking lots and drives are paved	Meets City Standard
Minimum number of stalls required	NA	NA	Parking is reserved for site deliveries and SPRWS vehicles only.
Minimum Setbacks			
Building Setback from Residential Property for heights less than 25 ft	50 ft for building height less than 25 ft	Solids Contact Clarifier setback = 65'-6" Recarbonation and Ozone Building setback = 117'-7"	Meets City Standard
Building Setback from Residential Property for heights more than 25 ft	Increase 2 ft for each 1 foot the building exceeds 25 ft, or wall area criteria: 0 to 1999 sf = 50 ft 2000 to 2999 sf = 75 ft 3000 or more = 100 ft	Lime Building setback = 125'-10 ½"	Meets City Standard

City Criterion	City Standard	Project Value	Comments
Screening			
Screening of Outdoor Storage	Required if visible from residential areas or roadways	NA	There is no outdoor storage
Roof-top Equipment	Screen when it can be viewed from residential properties or paint to match the building	Rooftop air handling equipment will be screened by the building parapet	Meets City Standard
Parking Lots	Screen where the light from motor vehicle headlights would shine onto residential windows	Parking stalls face the building in opposite direction from any residential property	Meets City Standard
Trash Containers	Provide trash container enclosures for any outdoor trash storage	NA	There are no trash containers
Landscaping			
Plans	Maximize the preservation of existing vegetation and the use of native plants	Landscape plans utilize pollinator/grass mix and deciduous and evergreen tree plantings	Meets City Standard
Minimum Tree Sizes	2-inch B&B for large deciduous; 1½-inch B&B for ornamental deciduous; 6 ft height minimum for evergreen	Tree plan complies with minimum tree size requirements	Meets City Standard
Invasive species	Do not plant	No invasive species in landscape plans	Meets City Standard
Tree Mitigation			
Replacement Trees	Mitigate the loss of significant and specimen trees by planting replacement trees on the property according to caliper inch calculation in the tree ordinance	The tree survey for the property and tree removal plan result in required tree mitigation. 366 new trees at 732 caliper inches are included in the tree plan.	Meets City Standard

City Criterion	**City Standard**	**Project Value**	**Comments**
Payment into the City Tree Fund	Pay a fee for the caliper inches not able to plant on the property	Payment to the fund will be made based on the tree mitigation formula.	Meets City Standard
Lighting			
Exterior Lighting at Property Line	< 0.4 fc at property line	Maximum value at property line is 0.2 fc	Meets City Standard
Freestanding light height	Limited to 25 ft above grade including base	Maximum height is 25 ft above grade including base	Meets City Standard