



City of Blaine Anoka County, Minnesota

Blaine City Hall
10801 Town Sq Dr NE
Blaine MN 55449

Legislation Details (With Text)

File #:	WS 22-089	Version:	1	Name:	Solar Options for WTP4
Type:	Workshop Item	Status:		Status:	Agenda Ready
File created:	8/1/2022	In control:		In control:	City Council Workshop
On agenda:	8/1/2022	Final action:		Final action:	8/1/2022
Title:	Review Options for Rooftop Solar at Water Treatment Plant 4				
Sponsors:	Jon Haukaas				
Indexes:					
Code sections:					
Attachments:	1. WS 2018-10-18 WTP4 Rooftop Solar PV, 2. CC WS Minutes 10-18-2018 WTP4 Solar, 3. Solar Developer Breakeven Cost Analysis				

Date	Ver.	Action By	Action	Result
8/1/2022	1	City Council Workshop	Informational: no action required	

Workshop Item *Jon Haukaas, Director of Public Works*

Title

Review Options for Rooftop Solar at Water Treatment Plant 4

Background

During the initial design and scoping of Water Treatment Plant 4, the City Council was supportive of exploring the inclusion of solar energy generation at the new facility. Those early discussions recognized the ever-changing landscape of solar energy equipment, costs, and partnership options. It was decided to wait until the plant was fully operational before exploring further the addition of solar to maximize return on investment and take advantage of the latest technology. The presentation and minutes from a City Council Workshop in 2018 are attached. While it was generally recognized that the solar installation may not result in significant cost savings, some Councilmembers were interested in more sustainable infrastructure.

Now that WTP4 is fully operational, staff worked with a consultant team from Barr Engineering to request proposals for solar energy generation at WTP4. Three companies that provide this type of installation were invited to submit proposals. Only two of those companies responded, however each provided more than one option. These proposals were received on April 28, 2022 and were shared with City staff for discussion and selection. Solar projects are not straightforward to award in the same way that other projects are bid. They are dependent on several factors beyond initial cost due to the current and future cost of traditional energy supply.

Financial Analysis and Recommendation

Included with the attachments is a spreadsheet of a 'Solar Developer Breakeven Cost Analysis' which provides details on projected up-front and longer-term costs of the project. This includes initial costs, purchased power agreement (PPA) costs, buyout costs, and O&M costs. Barr Engineering's most recent communication, which states "it takes a long time to break even and start making money off of the system, installing solar on WTP-4 can be looked at as a pilot project instead of a financial endeavor."

Further, the most optimistic payback period scenario, Cedar Creek option three, still carries considerable risk for a low to no return-on-investment. This scenario requires a \$367,000 investment upfront and is projected to break even after 19 years of owning and operating the solar assets. Barr's analysis does not account for any re-investment cost required to maintain the program at the conclusion of the initial expected lifecycle (25-30 years) of the panels.

Currently, there are no funds allocated to this project in the Water Utility budget in the current or future years. Budget proposals submitted by Public Works indicate that the funding needs of existing infrastructure exceed revenues under the current fee structure and this project would take funding from much needed asset replacement and preservation activities. Projections show that the enterprise fund's rates and fund balance will require substantial adjustments over the next few years to support existing capital asset replacement needs due to considerable deferred maintenance and rising costs for labor and materials. As such, the Water Fund is currently not in position to fund the proposed solar improvements.

Staff Recommendation

If Council desires to move forward with sustainable energy projects, installation of solar energy panels on WTP4 provides an opportunity for a pilot program. A pilot program would be a step for the city toward more sustainable energy.

Given the financial projections, it is not recommended to finance this project through the Water Utility Fund. If Council is interested in proceeding with this project, staff will provide some options for funding sources.

Another option would be to hold off installation of solar panels for now and work with Connexus and city lobbyists to identify additional potential funding sources. The current market for grants and credits is less robust than it was in previous years.

Question for Council

The decision to install solar energy panels on Water Treatment Plant 4 is not necessarily a financial decision made to save energy cost, as it is projected to take approximately 19 years to break even on the investment. Rather, this would be an investment in renewable energy and sustainability of assets. It is a project that was anticipated at the time the WTP4 was planned.

Is the Council in favor of identifying an alternative funding source and moving forward with a solar power generation project at Water Treatment Plant 4?