

Geothermal District Energy System Rochester

PROJECT OVERVIEW

District Energy System Rochester will create a district energy system that will heat and cool public buildings with the potential to add private buildings onto the system in the future. It will utilize geothermal renewable energy sources and be able to add additional renewable components in the future.

SYSTEM BENEFITS

- Decreased operational cost for public building operations (other systems have seen 25-45% savings from going from steam to hot water)
- Reliability and safety for core community services (currently no back up system)
- Advantage for private developers given the proximate opportunities around the City's core facilities



SUSTAINABLE & RENEWABLE ENERGY FUTURE

- **Urgent**
 - The Olmsted County steam line is at end of useful life. It will be decommissioned in October 2023. We need to implement new strategy to heat and cool city buildings.
- **Equity and Economic Development**
 - Future private development of vacant nearby land parcels could connect into system
 - Vacant parcels could be low-income and workforce housing
 - Lower energy costs promote affordable living with development of housing.
 - Potential green job training opportunities with renewable technologies and in building / district energy operations.
- **Foundational Opportunity** & transformational project to position City for renewable energy
 - Low temp hot water heating in buildings
 - Low temp hot water district piping connecting buildings (50 year life)



REQUEST:

\$15.8 million state contribution requested* + \$15.8 million local match

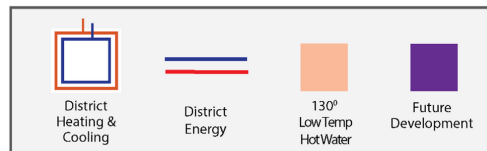
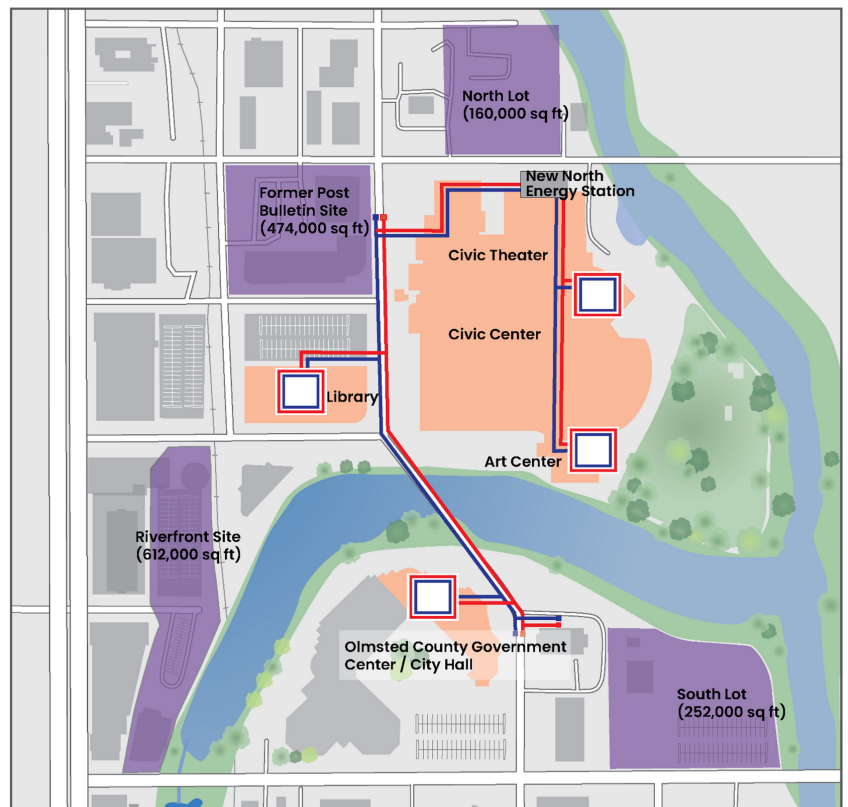
\$31.6M (total)

*project not eligible for general obligation bonds in order to maintain future private connections.

Renewable Energy Future

- **Scalable and Adaptable** to implement advanced renewable energy technologies (could include solar thermal, solar PV on the library or civic center, and others) and connect other public and private development further improving system efficiency
- **Pathway to Net Zero Buildings Future** focused to allow for electrification, decarbonization, and clean energy. Best practice & proven technology.
- **Resiliency** Multiple energy sources and equipment redundancies (a best practice for building management (in current practice, there is no heating/cooling energy source back up for city hall))
- **Future Growth** – This initial public investment and sizing the pipes will allow for private connection to the system.
- **Catalyst / Demonstration Project** – For other local governments and entities to consider renewable energy options in development. Project team is very committed to sharing the learning, research, and on-the-ground knowledge of the project with any other interested stakeholders that may be looking to implement district energy with renewable sources.

District Energy System Rochester (DESR)



Path to Decarbonization

- **Maximize Energy Efficiency**
- Convert buildings to modern **low temperature hot water** heating systems
- **District energy piping to buildings**
- Electrify heating and cooling through phased implementation of **geothermal heat pump system**
- Purchase electricity from renewable sources



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