



Request for City Council Committee Action From the Department of Public Works

Date: April 16, 2012

To: Honorable Elizabeth Glidden, Chair Regulatory, Energy, and Environment Committee

Referral: Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee

Subject: **LEED Silver Waiver for Fridley Filter Plant Ammonia System Replacement Project**

Recommendation:

Direct appropriate City staff to proceed with the design and construction of the Fridley Filter Plant Ammonia System Replacement Project based on current design that achieves 27 points in the LEED 2009 rating system.

Previous Directives:

July 21, 2006 – Resolution 2006R-381 adopted by the City Council included provisions

That the City will utilize the Leadership in Energy and Environmental Design (LEED) standards in the planning, design, construction, and commissioning of municipal facilities financed by the City of Minneapolis and utilized by the City's Charter Departments; and

that all new or significantly renovated municipal facilities (financed by the City of Minneapolis and utilized by the City's Charter Departments) of 5,000 square feet or greater, should be built to a LEED Silver level of quality with emphasis in LEED points related to "Energy and Atmosphere", unless otherwise directed by the City Council.

Prepared by: Annika M. Bankston, Senior Professional Engineer 661-4975

Approved by:

Jayne Khalifa, Interim City Coordinator

Steven A. Kotke, P.E., City Engineer, Director of Public Works

Presenters: Annika M. Bankston, Sr. Professional Engineer, Division of Water Treatment & Distribution Services, Department of Public Works,
Greg Goeke, Director, Property Services Division, Department of Finance & Property Services

Financial Impact

Action is within current department budget

Background/Supporting Information

The planned Fridley Ammonia System Replacement Project, referred to as the “Fridley Ammonia Building” will be an approximately 2300 sq. ft. building consisting of an ammonia tank storage room, ammonia feed room, and small electrical/mechanical room. The building will be unoccupied and the ammonia system will be remotely operated and monitored by Division of Water Treatment and Distribution staff.

A LEED review was conducted by City staff and the design consultant team at the 50% and 90% design stages. A summary of LEED analysis by Topic Area are included in the attached table. The applicable *LEED 2009 for New Construction and Major Renovation* rating system (LEED 2009) has 100 base points with an additional 10 bonus points possible via the *Innovation and Design Process* and *Regional Priority* topics. LEED Silver level is 50 – 59 points.

As the Fridley Ammonia Building is an unoccupied, industrial chemical storage and feed facility which is by necessity located adjacent to the existing Fridley Filtration Plant, many of the LEED credits are not applicable to the project. Of the 110 total points available, the analyses concluded 61 of them are not applicable or feasible – leaving 49 available points. The current project design achieves 27 of the available 49 points.

A thorough review of the remaining 22 “Possible” points evaluated attainment paths and possible design enhancements which would meet the intent of the Council resolution. The review concluded that it is not an effective use of City funds to be spent on services to construct, monitor or document the possible criteria given the building

- Will be unoccupied;
- Is a relatively small space that will not be air conditioned and will be kept at low, unoccupied indoor air temperatures (55 °F) in the winter;
- Will have interior and exterior lighting kept at low levels; and
- Does not have significant “process” energy to optimize (all gas flow is driven by pressure).

The current project design attains 27 of the 49 possible points (55%). This percentage compares favorably to the LEED Silver level’s range of 50 to 59 of the system’s baseline 100 points for new commercial office buildings for which the rating system is primarily designed.

Attachment: LEED Project Checklist for Fridley Filter Plant Ammonia System Replacement Project.



LEED 2009 for New Construction and Major Renovations

Project Checklist

City of Minneapolis: Fridley Ammonia System Replacement Project

3/23/2012

Yes	?	No							
8	9	9	Sustainable Sites Possible Points: 26		Materials and Resources (Continued)				
Y			Prereq 1	Construction Activity Pollution Prevention	Required	Yes	?	No	
1	0	0	Credit 1	Site Selection	1	0	0	2	Credit 4 Recycled Content 1 to 2
0	0	5	Credit 2	Development Density & Community Connectivity	1	2	0	0	Credit 5 Regional Materials 1 to 2
0	0	1	Credit 3	Brownfield Redevelopment	1	0	0	1	Credit 6 Rapidly Renewable Materials 1
0	6	0	Credit 4.1	Alternative Transportation, Public Transportation Access	1	1	0	0	Credit 7 Certified Wood 1
0	1	0	Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1				
0	0	3	Credit 4.3	Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles	1	Yes	?	No	
2	0	0	Credit 4.4	Alternative Transportation, Parking Capacity	1	7	1	7	Indoor Environmental Quality Possible Points: 15
1	0	0	Credit 5.1	Site Development, Protect or Restore Habitat	1	Y			Prereq 1 Minimum Indoor Air Quality Performance Required
1	0	0	Credit 5.2	Site Development, Maximize Open Space	1	Y			Prereq 2 Environmental Tobacco Smoke (ETS) Control Required
1	0	0	Credit 6.1	Stormwater Design, Quantity Control	1	0	0	1	Credit 1 Outdoor Air Delivery Monitoring 1
0	1	0	Credit 6.2	Stormwater Design, Quality Control	1	1	0	0	Credit 2 Increased Ventilation 1
0	1	0	Credit 7.1	Heat Island Effect, Non-Roof	1	0	0	1	Credit 3.1 Construction IAQ Management Plan - During Construction 1
1	0	0	Credit 7.2	Heat Island Effect, Roof	1	0	0	1	Credit 3.2 Construction IAQ Management Plan - Before Occupancy 1
1	0	0	Credit 8	Light Pollution Reduction	1	1	0	0	Credit 4.1 Low Emitting Materials - Adhesives and Sealants 1
						1	0	0	Credit 4.2 Low Emitting Materials - Paints and Coatings 1
Yes	?	No							
4	0	6	Water Efficiency Possible Points: 10						
Y			Prereq 1	Water Use Reduction, 20% Reduction	Required	0	0	1	Credit 4.3 Low Emitting Materials - Flooring Systems 1
4	0	0	Credit 1.2	Water Efficient Landscaping	2 to 4	1	0	0	Credit 4.4 Low Emitting Materials - Composite Wood and Agrifiber Products 1
0	0	2	Credit 2	Innovative Wastewater Technologies	2	1	0	0	Credit 5 Indoor Chemical and Pollutant Source Control 1
0	0	4	Credit 3	Water Use Reduction, 20% Reduction	2 to 4	0	1	0	Credit 6.1 Controllability of Systems - Lighting 1
						0	0	1	Credit 6.2 Controllability of Systems - Thermal Comfort 1
						0	0	1	Credit 7.1 Thermal Comfort - Design 1
						0	0	1	Credit 7.2 Thermal Comfort - Verification 1
Yes	?	No							
2	12	21	Energy and Atmosphere Possible Points: 35						
Y	?		Prereq 1	Fundamental Commissioning of Building Energy System	Required	1	0	0	Credit 8.1 Daylight and Views - Daylight 1
Y			Prereq 2	Minimum Energy Performance	Required	0	0	1	Credit 8.2 Daylight and Views - Views 1
Y			Prereq 3	Fundamental Refrigerant Management	Required				
0	5	14	Credit 1	Optimize Energy Performance	1 to 19	Yes	?	No	Innovation and Design Process Possible Points: 6
0	0	7	Credit 2	On-Site Renewable Energy	1 to 7	1	0	5	Credit 1.1 Innovation in Design: Specific Title 1
0	2	0	Credit 3	Enhanced Commissioning	2	0	0	1	Credit 1.2 Innovation in Design: Specific Title 1
2	0	0	Credit 4	Enhanced Refrigerant Management	2	0	0	1	Credit 1.3 Innovation in Design: Specific Title 1
0	3	0	Credit 5	Measurement and Verification	3	0	0	1	Credit 1.4 Innovation in Design: Specific Title 1
0	2	0	Credit 6	Green Power	2	0	0	1	Credit 1.5 Innovation in Design: Specific Title 1
						1	0	0	Credit 2 LEED Accredited Professional 1
Yes	?	No							
5	0	9	Materials and Resources Possible Points: 14		Regional Priority Credits Possible Points: 4				
Y			Prereq 1	Storage and Collection of Recyclables	Required	0	0	1	Credit 1.1 Regional Priority: Specific Credit 1
0	0	3	Credit 1.1	Building Reuse - Maintain Existing Walls, Floors, and roof	1 to 3	0	0	1	Credit 1.2 Regional Priority: Specific Credit 1
0	0	1	Credit 1.2	Building Reuse - Maintain 50% of Interior Non-Structural Elements	1	0	0	1	Credit 1.3 Regional Priority: Specific Credit 1
2	0	0	Credit 2	Construction Waste Management	1 to 2	0	0	1	Credit 1.4 Regional Priority: Specific Credit 1
0	0	2	Credit 3	Materials Re-Use	1 to 2				
						27	22	61	Total Possible Points: 110