

Request for City Council Committee Action from the Department of Community Planning and Economic Development

Date: March 2, 2010

To: Lisa Goodman, Chair, Community Development Committee
Referral to: Betsy Hodges, Chair, Ways & Means/Budget Committee
Gary Schiff, Chair, Zoning and Planning Committee (Receive and File)

Subject: Accept and Appropriate a \$7,000 Minnesota Historical and Cultural Heritage Grant Awarded by Minnesota Historical Society for East Bank Energy Center

Recommendation:

- a) Accept a \$7,000 Historical and Cultural Heritage Grant from the Minnesota Historical Society for the East Bank Energy Center;
- b) amend the 2010 General Appropriation Resolution by increasing the Community Planning and Economic Development agency Fund 01600-Other Grants-State and Local (01600-8900320) appropriation by \$7,000;
- c) increase the 2010 Revenue Budget for the Community Planning and Economic Development agency Fund 01600-Other Grants-State and Local (01600-8900900-321513) by \$7,000; and
- d) authorize the appropriate City staff to execute a grant agreement with the Minnesota Historical Society, subrecipient agreement with East Bank Energy, LLC , and/or disbursement and related agreements for this grant.

Previous Directives: On October 2, 2009, the City Council approved a loan for an engineering study for the East Bank Energy Center. On June 26, 2009, the City Council accepted a redevelopment grant from Minnesota DEED for the East Bank Mills project. On October 24, 2008, the City Council approved a resolution in support of a fall 2008 brownfield grant application to the Hennepin County Environmental Response Fund for the East Bank Mills project. On September 22, 2006, the City Council approved re-zoning of the East Bank Mills site from I1 to C3A and approved the removal of the ILOD on a portion of the site. On February 24, 2006, the City Council granted the developer's appeal of the HPC's determinations regarding the height and design on the new tower buildings proposed for the east end of the site.

Department Information

Prepared by: Ann Calvert, Principal Project Coordinator, 612-673-5023
Approved by: Charles T. Lutz, Deputy CPED Director _____
Catherine A. Polasky, Director, Economic Policy & Development _____
Presenters in Committee: Ann Calvert, Principal Project Coordinator

Financial Impact

- Action requires an appropriation increase to the Operating Budget
- Action provides increased revenue for appropriation increase
- Action is within the Business Plan

Community Impact

- **Neighborhood Notification:** The Marcy-Holmes Neighborhood Association has been supportive of the East Bank Mills project proposal. The East Bank Mills Task Force met on August 20, 2009, to review the updated project plans, including the Energy Center concept, and seemed supportive of the hydrothermal concept.
- **City Goals: An Enriched Environment --** Implementation of the hydrothermal concept would help the City achieve its goals of increasing renewable/alternative energy sources and implementing its sustainability work plan and also would preserve and possibly interpret part of the nationally-significant historic underground infrastructure.
- **Comprehensive Plan:** Implementation of the hydrothermal concept would address several policies and strategies in the Environment and Heritage Preservation chapters.
- **Zoning Code:** The proposed East Bank Mills project will comply with the zoning code. A conditional use permit may be required for the Energy Center if it provides heating/cooling outside of the East Bank Mills project.
- **Sustainability Targets:** If the hydrothermal concept is successfully implemented, the project would use renewable energy (the Mississippi River) to generate heating and cooling while generating significantly fewer emissions.
- **Living Wage/Business Subsidy Agreement:** Not applicable
- **Job Linkage:** Not applicable

Supporting Information

The overall vision for the East Bank Mills project for the former Pillsbury A Mill property along Main Street SE includes an innovative concept that would use the existing historical tunnel and drop shaft/tail race infrastructure to generate hydrothermal heating and cooling (see Exhibit A). A number of topical questions need to be researched to determine if this concept is feasible. A \$30,000 City loan to the project developer will explore the engineering viability of the concept. Another area that needs research is the physical condition of these historical resources, how this potential new use would impact them and what would be needed to preserve and possibly interpret them.

The City was recently informed by the Minnesota Historical Society that the City (as partner to East Bank Energy, LLC) has been awarded a \$7,000 "Fast Track" Historical and Cultural Heritage Grant to do the first phase of this historic condition assessment work. These grants are funded through the Clean Water, Land and Legacy Amendment approved in 2008. This particular grant will fund a consultant study to identify the full scope of work and technical expertise that will be needed to evaluate the condition of the historic resources. The grant will be passed through to East Bank Energy, LLC, via a subrecipient grant and they will then contract for the study. The resulting scope report (along with the results of the engineering study) will inform the next steps in exploration of the Energy Center concept (as well as consideration of possible preservation and interpretation of the historic resources even if the Energy Center is not built).

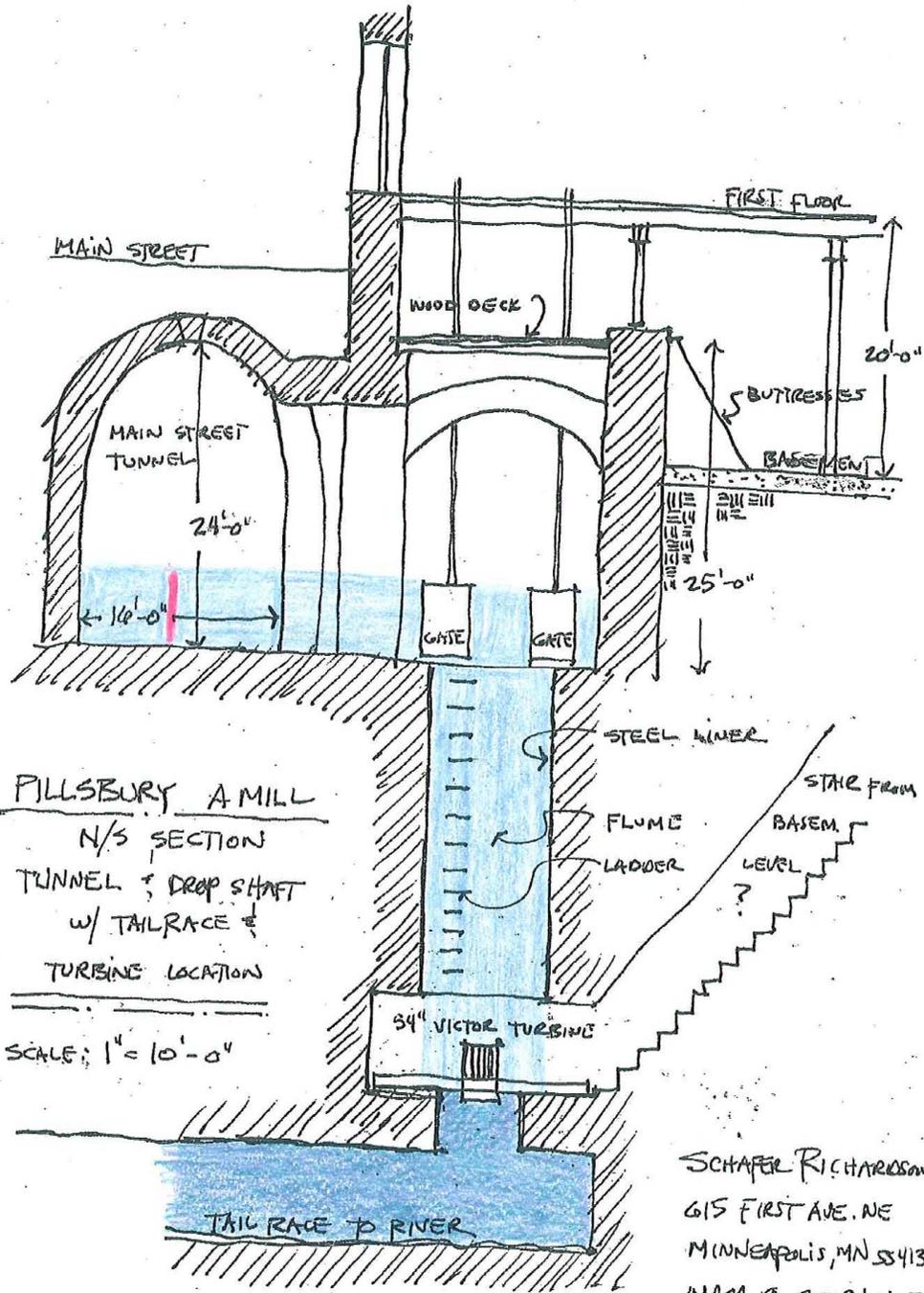
Exhibit A – East Bank Energy Center Concept

What has been dubbed the “East Bank Energy Center” would allow the East Bank Mills project (and perhaps additional development on the east bank) to be heated and cooled in a sustainable manner. The Energy Center would use the existing system of historic below-grade tunnels and shafts that once drove the east bank flour milling operations. Water can be used as a “hydrothermal” heating and cooling source in the same manner that the ground can be used as a geothermal heating and cooling. There are examples of this hydrothermal approach (e.g., the Great River Energy building) that are located in passive water such as a lake or pond. The efficiency of this hydrothermal approach would be even greater if used in flowing water.

The concept is to install flat-plate heat exchangers in water flowing through the headrace tunnel under Main Street that once served the Pillsbury and Phoenix Mills. This tunnel (shown in light blue on the attached drawing) is apparently owned by Schafer-Richardson Real Estate and already has some water flowing through it that enters from the east bank mill pond in front of St. Anthony Main. The flat-plate heat exchangers are illustrated in red (although the exact location and length that would be needed is unknown). After the water is used as a heating/cooling source, it would drop through one of the Pillsbury turbine drop shafts and re-enter the river via an existing tailrace (shown in dark blue). As the water drops down the shaft, it also could generate electricity to support the heat pumps that will be part of the hydrothermal system. A similar system is operating successfully in a water power canal associated with an historic textile mill in New Lanark, Scotland.

The end result would be a heating/cooling system that would have little or no carbon footprint. Preliminary estimates indicate there potentially would be enough capacity to heat and cool not just the 1.5 million square foot East Bank Mills project, but also up to 3 million additional square feet on the east bank (existing buildings and/or new development). In addition, it might be possible to use some of the tunnel system for historic interpretive purposes.

This concept is innovative and has great potential for the East Bank Mills project, the entire east bank and possible replication elsewhere in the city. However, there are many questions that need to be answered to determine if the concept is truly feasible. These include many engineering/technical viability questions, as well as questions about legalities, water diversion and waterfall aesthetics, the impact on the historic resources (e.g., the tunnel, drop shaft and tailrace) and identification of what permits and approvals would be needed for the project to move forward. If further study indicates the concept is, indeed, feasible, then there would appear to be a variety of governmental and private funding sources that might be available for implementation of this type of “green” project.



PILLSBURY A MILL
 N/S SECTION
 TUNNEL & DROP SHAFT
 W/ TAIL RACE &
 TURBINE LOCATION

SCHAFER RICHARDSON
 615 FIRST AVE. NE
 MINNEAPOLIS, MN 55413
 MAY 18, 2008: NCR

Amending the 2010 General Appropriation Resolution

Resolved by The City Council of the City of Minneapolis:

That the above-entitled resolution, as amended, be further amended by:

1. Increasing the appropriation for Community Planning & Economic Development agency Fund 01600-Other Grants-State and Local (01600-8900320) by \$7,000.
2. Increasing the revenue source for Community Planning & Economic Development agency Fund 01600-Other Grants-State and Local (01600-8900900-321513) by \$7,000.