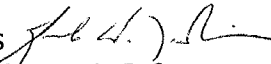


MICHIGAN STATE UNIVERSITY

June 11, 2014

MEMORANDUM

To: Trustee Finance Committee

From: Kemel W. Dawkins 
Vice President for Strategic Infrastructure Planning and Facilities

Subject: **Project Approval - Authorization to Proceed**
T. B. Simon Power Plant - Sorbent Injection for Boiler 4

RECOMMENDATION

BE IT RESOLVED that the Trustee Finance Committee recommends that the Board of Trustees authorize the Administration to proceed with the project entitled T. B. Simon Power Plant - Sorbent Injection for Boiler 4, and that it approve a budget of \$4,500,000.



Office of the
Vice President
for Strategic
Infrastructure
Planning and
Facilities

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ipf.msu.edu

BACKGROUND

Program Need:

Michigan State University continues to pursue cleaner energy options and reduction of emissions from the T.B. Simon Power Plant. New studies indicate that sorbent injection can be an effective and relatively low cost means to lower emissions from solid fuel combustion. Regulatory requirements have evolved sufficiently that implementation of such a system is warranted, and if the university desires to continue burning solid fuels, this project must be installed and tested for compliance by January 2017.

Shortly after this project was authorized for planning in December 2011, the Board authorized the University's Energy Transition Plan. As this plan has evolved, IPF and the Administration have identified an approach which will allow boilers 1 and 2 to primarily use natural gas, and boiler 3 to exclusively use natural gas. Boiler 4 was designed to burn solid fuels, and is the most appropriate unit for biofuels and coal. By implementing the sorbent injection system, the power plant will be positioned to use coal if necessary, and continue to use alternative fuels as they come available.

Description of the Project:

The T.B. Simon Power Plant is located on Service Road in the service district. This project involves installation of a sorbent injection system to remove unwanted emissions in boiler 4. Sorbent injection uses a receiving and pneumatic piping system to inject a

dry alkaline (calcium) reagent into the ash collection system of the boilers (baghouse). This process reduces emissions created by solid fuel combustion. This emission reduction system will satisfy the EPA requirement for industrial boiler MACT.

The Architect/Engineer is Black and Veatch. MSU Engineering and Architectural Services will act as Construction Manager for this project.

Communication Feedback:

The campus community was given opportunities to provide feedback during the planning phase and any concerns have been addressed in the project design.

The Office of Campus Planning and Administration has reviewed this project and found it to be consistent with the Campus Master Plan. The Campus Infrastructure Planning Work Group also supports the recommendation to proceed with the project.

As construction proceeds, the schedule will be reviewed with the campus community.

Project Cost and Timetable:

The budget for this Construction Manager project is \$4,500,000, which is being funded by Infrastructure Planning and Facilitates reserves.

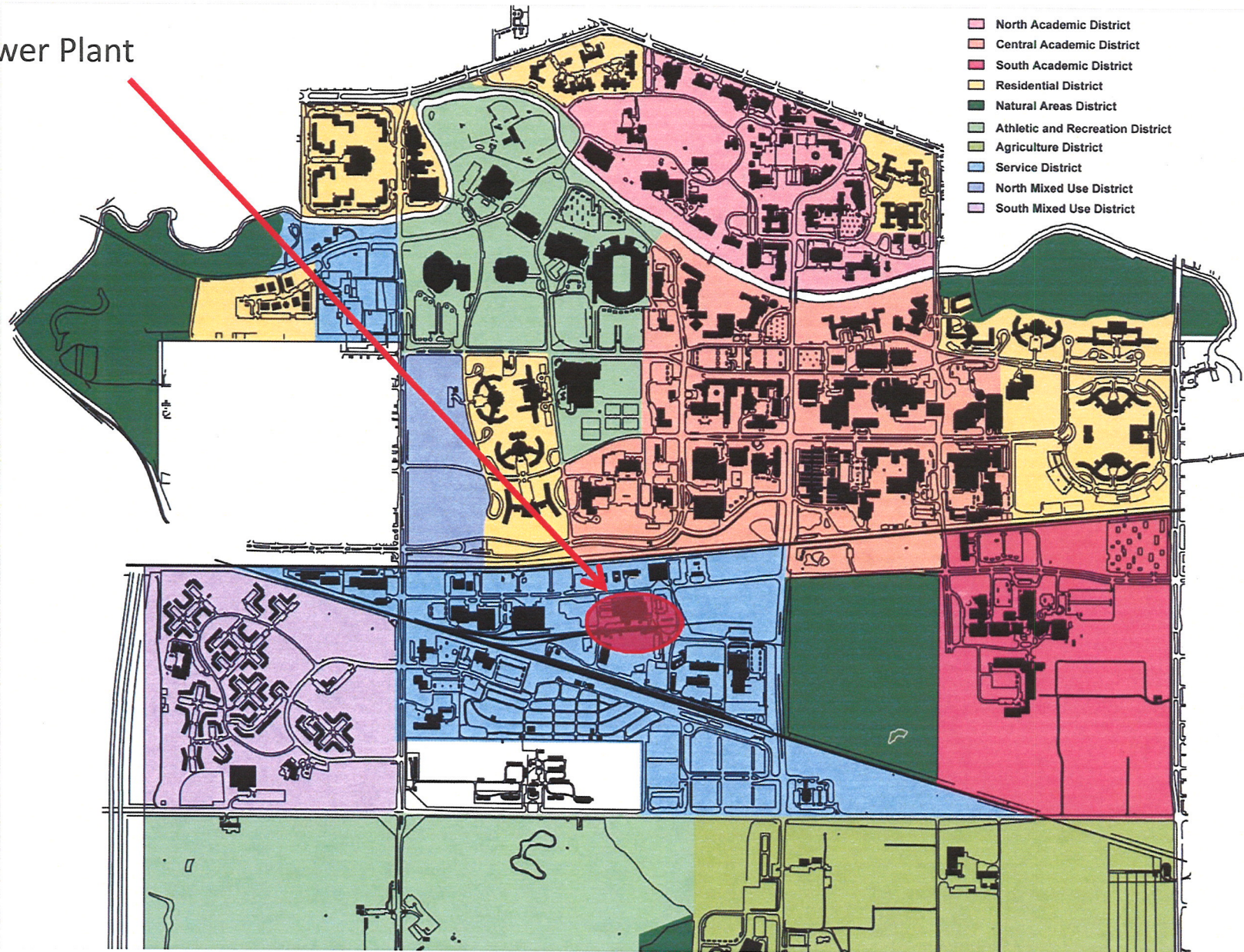
Construction is planned to begin in October 2014, with substantial completion in September 2015 and final completion by September 2016.

cc: L. Simon, J. Youatt, S. Udpa, B. Beekman, B. Noto, K. Dawkins, V. Gore,
M. Haas, J. Kacos, G. Klein, B. Kranz, M. McCabe, J. Mumma, D. Quinney,
R. Ellerhorst

Project Approval – Authorization to Proceed
T. B. Simon Power Plant – Sorbent Injection for Boiler 4

MICHIGAN STATE
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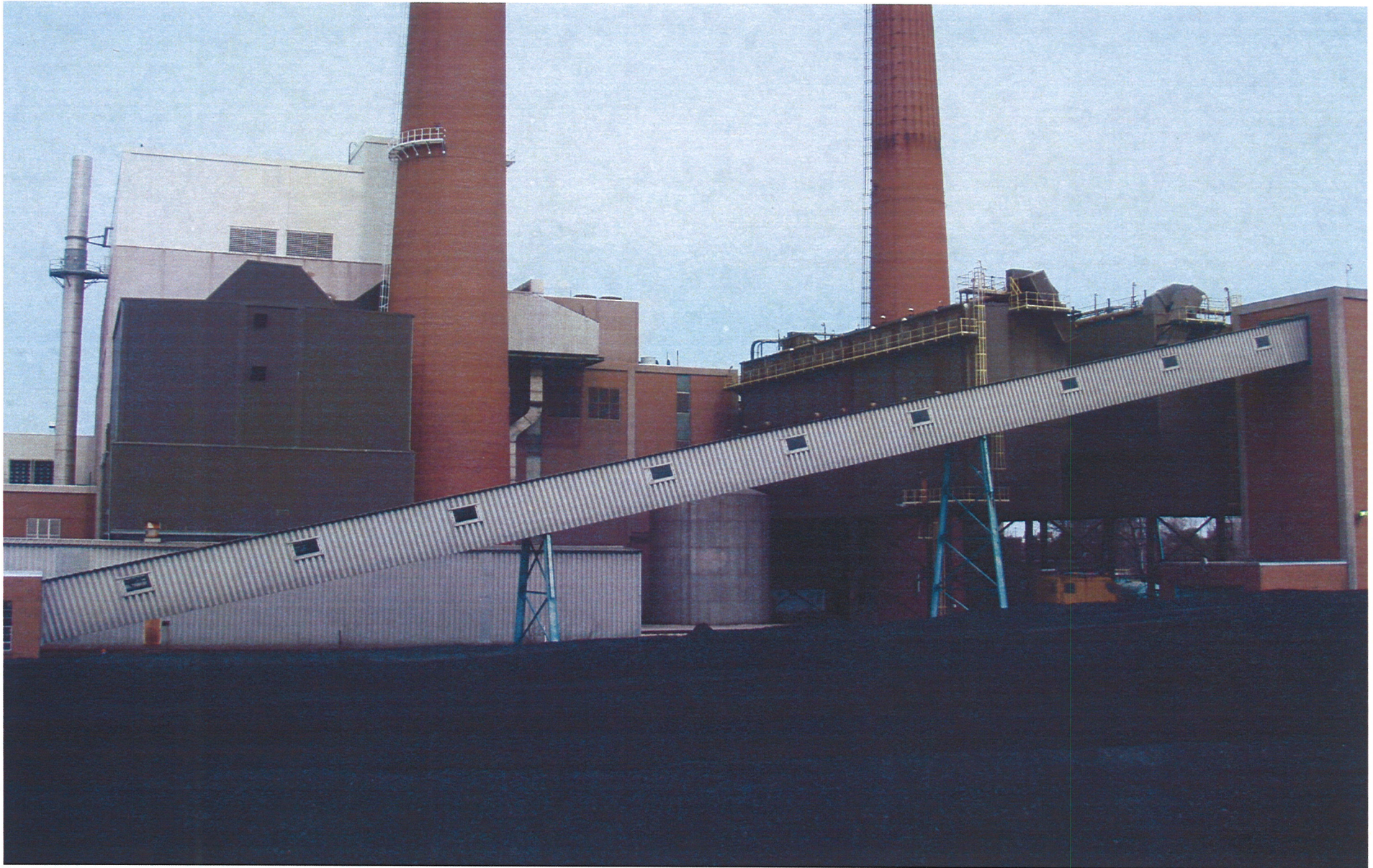
Power Plant



Project Approval – Authorization to Proceed
T. B. Simon Power Plant – Sorbent Injection for Boiler 4

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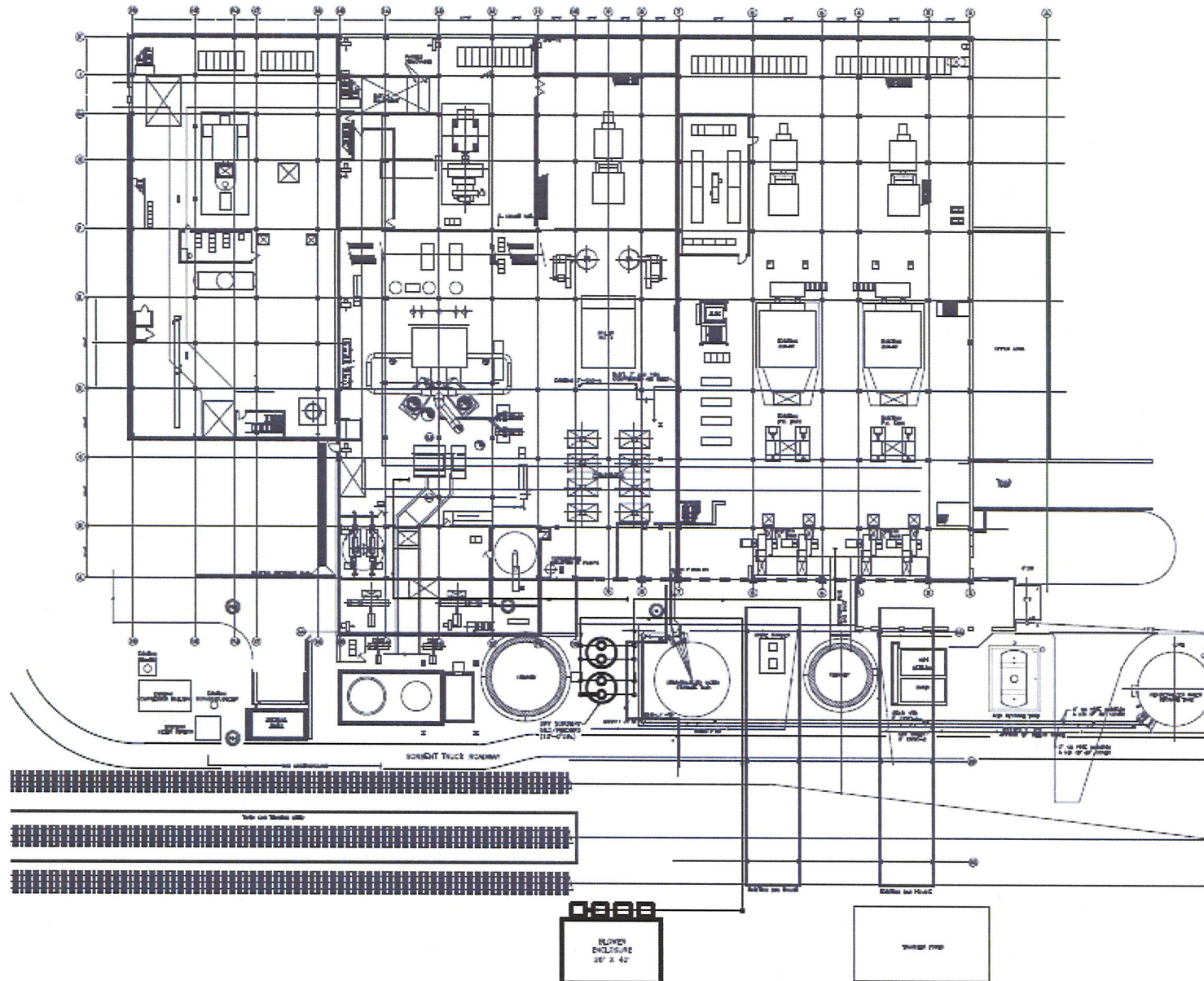
Existing south elevation, looking north



Project Approval – Authorization to Proceed
T. B. Simon Power Plant – Sorbent Injection for Boiler 4

MICHIGAN STATE
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Power plant site plan with proposed DSI system silo, blower enclosure and driveway



MICHIGAN STATE
UNIVERSITY

November 30, 2011

MEMORANDUM



To: Trustee Finance Committee

From: Fred L. Poston *F.L.P.*

Subject: **Authorization to Plan**
T. B. Simon Power Plant - Sorbent Injection for Boilers 1, 2, and 4

RECOMMENDATION

BE IT RESOLVED that the Trustee Finance Committee recommends that the Board of Trustees authorize the Administration to plan for the project entitled T. B. Simon Power Plant - Sorbent Injection for Boilers 1, 2, and 4.

BACKGROUND

Program Need:

Michigan State University continues to pursue cleaner energy options and reduction of emissions from the T.B. Simon Power Plant. New studies indicate that sorbent injection can be an effective and relatively low cost means to lower emissions from solid fuel combustion.

General Description of the Project:

The planning of this project is anticipated to include further investigation of the installation of sorbent injection systems to remove unwanted emissions from the present boiler system. Sorbent injection uses a receiving and pneumatic piping system to inject a dry alkaline (calcium) reagent into the ash collection system of the Boilers (baghouse). This process reduces emissions created by solid fuel combustion. It is expected that this emission reduction system will satisfy the newest EPA requirements for industrial boilers.

The T.B. Simon Power Plant is located on Service Road in the Service District. The location of this project is consistent with the Campus Master Plan and Planning Principles.

Based on an assessment of the factors stated in the Project Planning and Approval process concerning Project Labor Agreements (PLA), the Vice President for Finance and Operations and Treasurer has determined that a PLA would not be required for this project.



OFFICE OF THE
VICE PRESIDENT FOR
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Communication Plan:

During the planning phase, the campus community will be given opportunities to provide feedback on the project as it is being designed. Input from the project planning team will be solicited during the design phase.

Preliminary Project Cost Information:

Based on cost experience for similar projects and current pricing information, the preliminary project cost estimate is \$7,000,000. This estimate may change as planning progresses and the project scope is further defined.

The source of funds for the project is expected to be the general fund.

cc: R. Flinn, M. Haas, J. Kacos, G. Klein, B. Kranz, B. Latta, K. Lindahl, M. McCabe,
J. Mumma, R. Nestle, D. Quinney, R. Ellerhorst

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