Metropolitan
State University

SAINT PAUL CAMPUS

700 EAST SEVENTH STREET
SAINT PAUL, MINNESOTA
55106-5000

March 30, 2012

The Honorable Kathy Lantry
320-C City Hall
15 Kellogg Blvd, West
Saint Paul, MN 55102

Dear Council Member Lantry:

The purpose of this letter is to provide you with additional information to consider regarding the City Council's hearing on the appeal of the conditional use permit for a wind turbine on a free-standing pole, 104 feet high, at 645 E 7th Street. The University strongly recommends that you deny the appeal and support the Planning Commission's approval of the conditional use permit.

Several attachments are included with this letter to assist you in your review of the conditional use permit request. The attachments are:

- A set of eight graphics showing the wind turbine, its placement on the University's property, and photos showing the wind turbine from three different locations (Attachment 1)
- A map showing the Dayton's Bluff Historic District, annotated to show the campus property boundaries and the wind turbine location. (Attachment 2)
- A Sound Study for 20 KW wind Turbine (Attachment 3)
- A study of the Potential Effects of a Small Wind Turbine on Bird and Bat Mortality at Tom Ridge Environmental Center, Erie, Pennsylvania (Attachment 4)
- A letter from the Director of Bird Conservation, Audubon Minnesota, stating that the turbine should pose no hazard to migratory birds. (Attachment 5)
- A letter from the Director, High Wind Fund, Macalester College, supporting the Metropolitan State wind turbine based upon their nine years of experience with a wind turbine on their campus. (Attachment 6)

Siting

As can be seen in Attachment 1, the turbine is set 140 feet from East 7th Street and 134 feet from the nearest property line. The distance from East 7th Street was developed early on with the City's planners. The distance from the bluff and from our western most property line was determined by the Minnesota Department of Transportation's Office of Aeronautics. The Minnesota State Colleges and Universities System office reviewed the distance of the wind turbine from our Library and Learning Center (76.3 feet) and approved it.

Dayton's Bluff Historic District

As shown in Attachment 2, the University campus and the wind turbine are not part of the Dayton's Bluff Historic District. The wind turbine is at least 500 feet from the Historic District boundary. Attachment 1 shows that the visual impact of the wind turbine is minimal when viewed from the

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nearest residence in the Historic District, even before neighborhood trees put out foliage in the spring.

Zoning

The University's property is zoned as B2 and does not require a side yard.

Health and Safety

Residents have noted that large, rural turbines have been known to accumulate ice on the blades, and to then throw the ice when in operation. This has not been a documented problem with small, urban wind turbines. Macalester College staff have confirmed that the comparable turbine there has never been known to throw ice in its nine years of operation.

Noise

Attachment 4 is a copy of the sound study for the turbine being installed. That study indicated that the noise level is about five decibels above normal background noise at a distance of 100 feet or more. Furthermore, the study noted that vegetation, such as trees, would increase background noise and dampen any noise from the wind turbine. Please note that the wind turbine will only operate when there is wind, which means there will be increased background noise due to vegetation.

Other sources of background noise already present are: traffic along East 7th Street and Mound Boulevard, low-flying aircraft overhead, traffic from I-94, nearby locomotives, and noise from the First Lutheran Church and Burger King operations. As indicated in Attachment 6, noise was a potential concern with the wind turbine at Macalester, but in nine years of operation it has not been an issue for neighbors.

Birds and Bats

In the course of seeking the conditional use permit, questions were raised about the wind turbine's potential impact on birds and bats. Internet searches reveal cases of very large industrial wind turbines, built into wind farms, causing impacts on some wildlife. This is not the case with small turbines like the one the University intends to install. Early in the process, our vendor contacted Audubon Minnesota to seek their assessment of a wind turbine's potential impact on migratory birds. In their letter, Attachment 5, the Director of Bird Conservation saw "no reason why this structure should pose a hazard to migratory birds." The Tom Ridge Environmental Center in Erie, Pennsylvania, conducted a study on the impact of a small wind turbine on bird and bat mortality. That study is provided in Attachment 4. It noted that small wind turbines result in relatively few deaths, as compared to turbines on towers above 65 meters (213 feet) in height. Only one bird death was recorded in the 18-month Pennsylvania study, but it was inconclusive that it was caused by the wind turbine.

Sustainability

The wind turbine is expected to generate approximately 10,000 kilowatts per year. Since the University will use this power within its Library and Learning Center, this will create a savings of $840 per year. Additionally, the wind turbine will save five tons of carbon dioxide, fifteen pounds of sulfur dioxide and thirty pounds of nitrous oxide from entering our atmosphere, benefitting the Dayton's Bluff neighborhood most immediately.

Education

The Department of Natural Sciences at Metropolitan State offers courses that satisfy MnSCU general education science requirements for students pursuing baccalaureate degrees. This thematic area, "People and the Environment," includes popular courses on "Nature Study," "Environmental Science," and "Air, Weather and Climate." All three of these courses would make use of a wind turbine to teach students about energy generation options, costs, production, volume, and other topics.

Metropolitan State also holds "College for Kids" sessions on a regular basis, bringing classes from area grade schools to campus so that they can begin to envision that they can go to college. Students sign up for activity-based learning sessions, of which "wind turbines" has been one of the favorite themes offered. It will be an exceptional program addition to have an actual wind turbine on campus for students to inspect before they begin to build their own.

Partnerships could be developed with local public schools, like Dayton's Bluff Elementary and John A. Johnson Elementary, to allow students to learn about wind energy and visit the turbine. Along with the turbine, other basic wind measurement tools would be used to teach students about how wind and turbines interact. Topics include the effects of wind direction, temperature, wind turbulence, and other impacts on the operation of the turbine. Students could scientifically track performance over time in the generation of electricity.

Furthermore, the community as a whole could learn more about the need for renewable energy sources as alternatives to burning fossil fuels, with their adverse environmental effects on residents.

In summary, the University believes the Planning Commission made the proper decision, based on data, past experience, and social benefits, when it approved the conditional use permit for the wind turbine. We hope that you will support their decision, as well.

Please know that a similar letter is being sent to your colleagues on the City Council.

Thank you for your consideration and support.

Sincerely yours,

Jesse Bethke Gomez, M.M.A.
Vice President for Advancement and Executive Director, Metropolitan State University Foundation

cc: Ellen Biales, Legislative Aide