Department of Public Works
**City Engineering Division**

608 266 4751

Robert F. Phillips, P.E.
City Engineer

City-County Building, Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703
608 264 9275 FAX
1 866 704 2315 Textnet

**Principal Engineers**
Michael R. Dailey, P.E.
Christina M. Bachmann, P.E.
John S. Fahrney, P.E.
Gregory T. Fries, P.E.

**Facilities & Sustainability**
Jeanne E. Hoffman, Manager
James C. Whitney, A.I.A.

**Operations Manager**
Kathleen M. Cryan

**GIS Manager**
David A. Davis, R.L.S.

**Financial Officer**
Steven B. Danner-Rivers

**Hydrogeologist**
Brynn Bemis

April 1, 2011

TO: Board of Public Works

FROM: Robert F. Phillips, City Engineer

RE: The Madison sustainability Plan / City Engineer Comments

City Engineering has reviewed pertinent sections of the Madison Sustainability Plan for comment to review panels. Specifically, we are commenting on Goal #7 of the "Natural Systems" section and Goal #1 of the "Planning & Design" section.

Goal #7, "Improve Storm Water Management". **Attached are applicable pages with our comments shown in red.**

Goal #1, "Improve Transportation Planning". The last bullet point reads "Identify and create a mapped database of 'pedestrian paths', a network of commuter sidewalks that the City will plow in the winter. Create plan to address gaps in the network." **City Engineering would not support the City taking over responsibility for cleaning sidewalks where currently the adjacent property owner has the responsibility.**

City Engineering staff shall be available to explain our comments or answer questions.

Sincerely,

Robert F. Phillips, City Engineer

RFP:MRD;jap

Attach.

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- Minimize loss of tree cover and green space in public rights of way.
- Promote and replace tree canopy trees whenever possible and encourage landowner collaboration on strengthening tree canopy where appropriate.
- Create a policy to facilitate underground placement of power lines and overhead wires.
- Promote usage of public rights-of-way (public land) as edible landscapes, sculpture gardens, community gardens, etc.

**Timeframe:**
Short to Long-term
**Strategy type:**
Policy, Planning, Operations
**Funding:**
Budget, grants
**Lead Agencies or partners:**
City of Madison Parks Department and Planning Division, City of Madison Engineering Division, Dane County, State, neighboring communities, and community partners
**Related sustainability categories:**
Planning & Design, Carbon & Energy, Health

## GOAL 7: Improve Storm Water Management

**Develop more stringent requirements than those outlined by NR 151 and Dane County Chapter 14 standards.** Our current standards (require 90% infiltration of average annual predevelopment infiltration volume. This is a pretty high standard - additionally 80% TSS reduction is required - without addition of polymers or other chemicals this is a physical limitation of settling basins or bio-retention systems.

**Manage storm water discharge onsite, whenever possible, to increase infiltration and reduce pollution of surface waters, reduce dependence on potable water, and reduce erosion.** Managing stormwater has no impact on potable water – without state code changes the impact on potable water cannot be decreased (ie change code to more easily allow reuse of gray water).

**ACTIONS**

- Assess withdrawals, runoff, water reuse, and water conservation/replenishment of the water table through infiltration and create a plan that promotes sustainable water use. As noted above, this requires changes in state codes.
- Create comprehensive watershed-based ("upstream") storm water management plan. (e.g., "day lighting" streams; diffuse infiltration, proper sediment control, etc.)

- Provide developer incentives (What does this mean specifically?) to increase onsite storm water retention especially innovative watershed-based storm water management practices (i.e. best management practices; diffuse infiltration; etc.)
- Promote projects that increase infiltration and aquifer replenishment, similar to Odana Golf Course project. As is now becoming more clear projects of this nature are not without problems.
- Create plans to increase storm water infiltration and review plans annually.
- Tax impervious paving not already taxed by storm water utility. (e.g., surface parking lots). All parking lots are currently "charged" fees in the stormwater utility rate structure
- Coordinate improved infiltration with salt reduction/elimination. This is a good goal but difficult to achieve with current technology or reasonable costs (ie salt replacements are much more expensive)
- Improve plan for increasing and supporting terrace rain gardens.
- Revise curb and gutter engineering specifications to provide for a higher number of locations for terrace rain gardens. This can be discussed as part of the green streets program however it will require wider ROW dedications than are currently provided for and will likely require planting trees in rain gardens.
- Incorporate permeable pavement systems in a variety of locations. (e.g., mid-block areas of residential streets, basketball courts, alley ways, etc.) Permeable pavement is not suitable for park activities (the pavement is not smooth) and use on residential streets in winter areas is limited (salt is not allowed and sand clogs the surface).
- Modify impermeable coverage charge on water bills to encourage residential rain gardens. This is already allowed
- Influence State law changes to remove legal and regulatory barriers to capturing and re-using storm water and grey water in substantial quantities (e.g., cisterns, not simply rain barrels, for domestic uses such as clothes washing, toilet flushing, etc.)
- Allow detention ponds and rain gardens to count against impermeable surface charges and toward open space and green space requirements within development guidelines. These areas are already allowed as green space requirements however a pond is by its nature impermeable (ie all water that hits the surface of the pond runs off and it is charged as impermeable surface).

**Timeframe:**
Short to Long-term

**Strategy type:**
Policy, operations, regulation

**Funding:**
Budget, grants

**Lead Agencies or partners:**
City of Madison Engineering Divisions, Storm Water Utility, Water Utility, Zoning, Wisconsin Department of Natural Resources

**Related sustainability categories:**
Planning & Design, Health, Arts.