

Date: May 30, 2008

Project Name: Sustainable Water Infrastructure Task Force
Subject: Comments

From: Tom Bartnik
Contact Information: T. 412.894.8369 F. 412.456.0906 E. T.Bartnik@perkinseastman.com

To: Sustainable Water Infrastructure Task Force
VIA **Email:** RA-sitaskforce@state.pa.us

Filename: p:\29080.00\29080.00 docs\marketing\053008_tw_b_sust water inf task force comments.doc

Perkins Eastman offers the follow comments for the Sustainable Water Infrastructure Task Force:

**SUSTAINABLE WATER INFRASTRUCTURE:
SOLUTIONS WITH ADDED IMPACT OF PLANNING AT THE NEIGHBORHOOD LEVEL**

The level of investment required for water infrastructure and wastewater treatment deserves a broader planning approach, one with the ability to make significant impacts at local neighborhood levels in addition to system-wide improvements. An example of this kind of initiative is the Green Vision for the community of East Liberty.

The Green Vision for East Liberty represents a neighborhood planning effort initiated by the East Liberty Development, Inc. (ELDI), a non-profit community-based development organization in Pittsburgh, led by the consultant team of Perkins Eastman, Cahill Associates, Viridian Landscape Studio and ETM, Inc., and funded by the Heinz Endowments, Pennsylvania's Department of Conservation and Natural Resources, and the Hunt Foundation. Developed as a model for a sustainable, healthy urban neighborhood in conjunction with the update of East Liberty's Strategic Neighborhood Plan, the project proceeded with the assistance of a Technical Advisory Committee consisting of local experts from organizations dedicated to environmental, educational, and sustainable planning efforts. More than a planning document, the Green Vision offers tools for ELDI and the community to help guide development and provide a foundation for integrating green practices into neighborhood investments – both public and private.

Presenting an opportunity to bring community sustainability and relevance to local infrastructure and investment considerations, the plan addresses sustainable infrastructure from three perspectives:

- Neighborhood and Community Planning: The project strives to make East Liberty a healthy and thriving community through three inter-related goals: make the neighborhood greener, healthier, and economically sustainable. Being strategic in recognizing that revitalization always occurs within a dynamic and changing context – requiring catalytic initiatives by groups and individuals – the process included the participation of local residents and stakeholders through a series of task force meetings and the involvement of “technical” expertise from the project's Advisory Committee. Requiring both physical and non-physical transformations, a number of related strategies were integrated into a coordinated effort that included parks and open space planning, infrastructure planning, pedestrian-friendly amenities, neighborhood education and organization, social services, financing programs, business and job opportunities, and promoting improved public health.

Date: May 30, 2008

Page 2 of 3

Project Name: Sustainable Water Infrastructure Task Force

Subject: Comments

- Green Infrastructure and Development: In addition to providing a framework for neighborhood park development and open space linkages within the neighborhood and surrounding area, the plan incorporates a series of low-impact development strategies for local implementation. Urban forestry initiatives include the planting and maintenance of street trees. Landscaping and gardening recommendations not only include the promotion of native plants, but tree trenches, bio-swales, infiltration beds, and the incorporation of rain gardens at both residential and commercial scales. Infrastructure improvements which include pervious pavements are recommended for both public right-of-ways and on-site private development. Transit Oriented Development, a neighborhood bike network, mixed-uses and a series of pedestrian-friendly initiatives promote alternatives to auto-only means of travel.
- Ecological Engineering and Economic Impacts: In creating a Green Vision, we realized that resources were limited. Especially in the case of public investment, the plan needed to make the best use of those resources. With the Pittsburgh region under a consent decree from the U.S. EPA to confront the growing problems of stormwater management and combined sewer overflow events, this project demonstrates an alternative way of dealing with these problems, beginning at the local level. This plan promotes a shift in public infrastructure investment from one which relies on expensive piping and contaminated water treatment to one which incorporates the green infrastructure strategies above; thereby providing benefits for local streets, streetscape and neighborhood investment, recharged aquifers, and reduced combined sewage overflow events.

With respect to alternative stormwater treatment solutions, the plan considers the following pilot project prototypes to achieve the goal of zero-runoff while also providing added value for community revitalization:

- Commercial Block: With the incorporation of new tree trenches, street trees, and pervious parking lanes, this strategy captures stormwater runoff from commercial buildings, sidewalks, and the street while providing landscaping amenities associated with high-end commercial/retail streets.
- Long Block with Planted Median: Transforming an excessive amount of impervious pavement (nearly 100 feet wide) includes replacing a concrete median with a planted bio-swale; an unnecessary travel lane with infiltration beds and pervious parking lanes; and oversized sidewalks with bio-retention areas and "groves" of street trees. Because of its location and role as one of the gateways to the neighborhood, the visual transformation is expected to promote a positive image and help to leverage private development with this public infrastructure investment.
- Residential Block with New Houses: Disconnecting downspouts from the system in new construction on a residential block is achieved with the combination of rain gardens and rain barrels. These tools perform double duty by not only reducing runoff, but also reducing the amount of water needed to maintain the residential landscaping.
- Large Parking Lot and Green Roof: The two-tiered approach of infiltration beds and bio-swales in a large surface parking lot, and a green roof on a large flat roof, combine to achieve a zero-runoff site. The added value for the site and the community comes from energy efficiency savings for the building, and a reduction in the heat-island effect for the surrounding neighbors.

Date: May 30, 2008

Page 3 of 3

Project Name: Sustainable Water Infrastructure Task Force

Subject: Comments

- Block-Club Level Intervention: Providing technical assistance, supplies and materials, this sweat-equity strategy is an education tool for what can be done at a household level. As a whole, it is also an effective community organizing effort to enhance the physical conditions of a neighborhood at the block level using local residents and volunteers who will perform downspout disconnections, install rain gardens, and replace concrete bump-outs with landscaped bio-retention beds.
- Green Space/Playing Field Infiltration Beds: Improving the surface condition and performance of a playing field for recreational purposes is an added benefit of installing an infiltration bed to capture stormwater runoff from the surrounding properties.

The planning process of creating neighborhood-based alternatives to “big-pipe” plans not only provides viable system-wide stormwater solutions, but also offers the opportunity to assure that these public infrastructure investments pay both immediate and long-term dividends by enhancing neighborhood development efforts.