

Agenda Item: 10.

Memo

To: Programs, Projects, & Operations Subcommittee

From: John Winkler, Marlin Petermann, Amanda Grint, and Lori Laster

Date: March 4, 2013

RE: Proposed Max LID Control Structure Program

Low impact development (LID) strategies are approaches to land development (or redevelopment) that manage stormwater as close to its source as possible to reduce the impact of built areas and promotes natural movement of water within a watershed. LID is defined as a land development and management approach whereby stormwater runoff is managed using design techniques that promote infiltration, filtration, storage, evaporation and temporary detention close to its source. In 2009 the Papillion Creek Watershed Partnership (PCWP) adopted a Watershed Management Plan that incorporated two types of LID practices. The PCWP members adopted Water Quality LID to control the first one-half inch of runoff and to maintain peak discharge rates from a 2-year storm event from new development or significant redevelopment.

Based on the stormwater policies for new development adopted by Douglas County and Washington County, the areas in the Papillion Creek Watershed outside of the PCWP members' boundaries would be controlled by Maximum LID. Maximum LID is defined as the use of LID strategies and on-site detention to reduce peak flows by approximately 90% for new development and significant redevelopment.

The proposed Max LID Control Structure Assistance Program is not LID and not consistent with the adopted policies of Douglas and Washington Counties or the PCWP Watershed Management Plan that has been adopted by the District. It appears that the proposed program would be implemented on lands currently used for agricultural purposes with no impending plans for development. LID is a strategy for developed land.

The proposed program appears to be a modification of the District's Small Flood Control Structure Program. The proposed program calls for construction of small detention facilities to control the 100-year storm event. However, there are numerous concerns with the program as presented.

- As previously discussed, both LID and Max LID are implemented with development. This proposal is for undeveloped land. The District currently has two programs in place for stormwater management on undeveloped agricultural lands. The Conservation Assistance Program (CAP) provides cost share for water quality practices (erosion control) for small storm events (2-10 year). The Small Flood Control Structure Program provides cost share for structures that provide peak flow reduction (flood control) from larger storm events (100-year).

Participation from landowners in CAP has historically been great, but there has been very little interest and/or participation in the Small Flood Control Structure Program.

- Douglas and Washington Counties have already adopted policies to require 90% stormwater peak flow reduction practices for new development and significant redevelopment. The District does not normally cost share on items that are required by regulation or ordinance.
- The proposed program would require that a 100-year storm be detained for 24 hours. Each structure would need to have hydrology and hydraulic analyses of the watershed upstream of the structure to determine the design criteria of the structure.
- The proposed program limits the eligibility of applicants to those in the Papio Watershed but outside of the boundaries of PCWP communities. The only eligible applicants would be landowners in a portion of western Douglas County, a portion of Washington County, and Bennington. As stated above, Douglas and Washington Counties have adopted stricter stormwater management policies for development than the PCWP communities. The Small Flood Control Structures Program states that watersheds should be at least 500 acres. The proposed program states that it should be for watersheds above structures less than 500 acres in size. The District does not want to encourage or promote small 5-acre watershed structures. To do so, the District would end up with thousands of structures to track and maintain. Any flood control measures that others count on must be significant and control significant areas. Staff does not recommend revising the watershed size for eligible small flood control structures.
- Requiring that all property owned by the applicant in the Papio Watershed be adequately treated is unnecessary and a major detriment to the program and the landowners. For example, some applicants may own 10,000 acres throughout the Papio Watershed. Only acres in the structure's watershed need to be treated. The Small Structures Flood Control Program requires a level of treatment of 5 tons/acre for the structure's watershed.
- Limiting review time of the District is not good policy. Policies and programs are written to protect the District, not limit it. The proposed program doesn't provide for submittal of additional information if needed. Staff recommends that the submittal process for the Small Structures Flood Control Program remain unchanged.
- The District has always cost shared on actual project costs, not by a set volume or quantity of water. For example, two structures may detain or store the same amount of water but due to site conditions may vary greatly in cost. Payment for flood control by acre-feet of water stored is not customary and not appropriate.
- There are a plethora of concerns with landowners building the structures and then being reimbursed by the District. The District cost shares with landowners on conservation practices, but the NRCS designs and inspects the projects. All elements of a project would need to be certified by a professional engineer at a bare minimum. There are concerns about the ability of landowners to cash-flow these projects.
- An application form can't contain all the necessary engineering plans and reports. There are many reports (soils analyses, geotechnical reports, hydrology and hydraulic studies) that must be completed by a Professional Engineer and submitted for review by the District. All necessary permits (404, NDNR, NDEQ, etc.) must be submitted also.

- Land rights must be provided in favor of the District. At a minimum the District must be granted a permanent easement not only for construction but also for operation and maintenance. If the landowner defaults on O&M, the District or other governmental entity would have to step in to ensure these facilities are operated properly in perpetuity.
- The proposed program states that the landowner agreement and land rights may terminate after 50 years and that the landowner must reimburse a prorated cost if the project is removed within 5 years. All of these provisions are incomprehensible and unfathomable. There is no conceivable way that these flood control structures can ever be terminated or removed. These structures must remain in perpetuity as they would form a role in flood control to downstream residents. To remove them would jeopardize life and property and may cause a liability issue.
- Without an administrative framework and formal policies in place there is no definition to key general elements such as ownership, approvals, O&M requirements and responsibilities, and enforcement. There are also no enforcement and administrative actions defined to ensure long term function of the structures. Any new program developed or changes made to an existing program would need to be reviewed by District legal counsel to ensure all aspects of a program are properly addressed to reduce liability risk for the District.

In addition to the specific concerns with the proposed program listed above, in February 2009 the District received a letter from the Washington County Board of Supervisors which stated that Washington County currently has stormwater management policies in place for controlling runoff for development. The letter also states that the policies require the practices to be 100% developer funded.

Staff does not recommend adoption of a new program or changes to any current District programs at this time.