



Metropolitan Water Reclamation District of Greater Chicago

100 East Erie Street
Chicago, IL 60611

Legislation Text

File #: 11-1483, Version: 1

TRANSMITTAL LETTER FOR BOARD MEETING OF DECEMBER 1, 2011

COMMITTEE ON ENGINEERING

Mr. David St. Pierre, Executive Director

Authority to interpret Article 6.4 of the Manual of Procedures for the Administration of the Sewer Permit Ordinance to allow for the use of green infrastructure to reduce surface runoff from parcels of land that are subject to the Sewer Permit Ordinance

Dear Sir:

The Engineering Department's Local Sewer Systems Section (LSSS) administers the Sewer Permit Ordinance which by its companion ordinance, the Manual of Procedures for the Administration of the Sewer Permit Ordinance (MOP), regulates sewer construction within the corporate limits of the MWRD. Under Article 6.4 of the MOP, which took effect on January 1, 1972, a commercial, industrial or multi-family residential development of 5 acres in size and a single family residential development of 10 acres located in a separate sewer area must provide stormwater detention as part of the Sewerage System Permit that serves the development. The intent of Article 6.4 is to maintain the stormwater runoff from the developed site to the amount of stormwater runoff from the site in its natural, undeveloped condition. To date, compliance with Article 6.4 has been achieved by constructing detention ponds, underground storage in pipes or vaults or by ponding water on the surface of parking areas that detain or impound stormwater and then restricting the release rate from the impoundment to a receiving stream or storm sewer.

In the last few years the LSSS has received requests from developers and consulting engineers to comply with Article 6.4 of the MOP by utilizing construction techniques such as permeable pavement, permeable pavers, infiltration basins, rain gardens and void storage in underground stone basins. These techniques are commonly referred to as "green infrastructure" because they are intended to reduce surface runoff from a developed site. Currently Article 6.4 does not recognize these construction techniques.

The Engineering Department believes it is in the best interests of the MWRD and its tributary communities to begin allowing the use of green infrastructure for sites that require stormwater detention. Allowing the use of green infrastructure such as permeable pavements, rain gardens, and void storage in stone would be a way to offer an alternative means of complying with Article 6.4 of the MOP and gain practical experience with the use of green infrastructure. The requirement of Article 6.4 that the release rate of stormwater runoff after development or redevelopment not exceed the release rate of the site in its natural, undeveloped condition would continue. By storing the runoff in voids under the ground surface and allowing infiltration into soil and the groundwater table the release rate of stormwater runoff will be diminished.

The Engineering Department believes that there are still questions about how best to apply green infrastructure to satisfy stormwater detention requirements as well as concerns about the effectiveness of green infrastructure over an extended period of time. The standards and construction techniques used are evolving and there have been failures due to poor design and construction methods. Green infrastructure requires maintenance on a periodic basis and there is a concern as to how effective a permeable pavement will be after several years of service if it is not properly maintained. Underground storage in stone voids is

subject to settlement and clogging of the voids which cannot be observed from the surface. Much of the corporate area of the MWRD has a geological subsurface of thick clay deposits that retard the rate of infiltration into the soil. During very wet years with large amounts of precipitation the effectiveness of green infrastructure will be diminished. Finally, there is a concern about the likelihood of green infrastructure to remain in place as property owners/managers change. To address these concerns the Engineering Department will develop technical guidelines for the use of green infrastructure to meet the requirements of Article 6.4 of the MOP.

Should the Board of Commissioners grant this interpretation of Article 6.4 of the MOP the policy will go into effect on January 1, 2012. Sewerage System Permits that are pending but not yet issued would be eligible to utilize green infrastructure. In light of the concerns described above, the Engineering Department will monitor the application of this policy and if changes are needed, will report back to the Board of Commissioners.

Should this policy be approved, the Engineering Department's technical guidelines for the use of green infrastructure will be posted on the MWRD website and distributed via mass mailing to municipalities and consulting engineering firms we have worked with in the past.

If further clarification is required, please advise the undersigned.

Requested, Kenneth A. Kits, Director of Engineering, WSS:MD

Recommended, David St. Pierre, Executive Director

Respectfully Submitted, Frank Avila, Chairman Committee on Engineering

Disposition of this agenda item will be documented in the official Regular Board meeting Minutes of the Board of Commissioners for December 1, 2011