



Metropolitan Water Reclamation District of Greater Chicago

# WMO Summary

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## Watershed Management Ordinance: Summary

The Metropolitan Water Reclamation District (MWRD) began developing the Watershed Management Ordinance (WMO) in 2007 pursuant to its stormwater management authority granted by the Illinois General Assembly. The regulatory scope of the ordinance includes all of Cook County excluding the City of Chicago. The purpose of the WMO is to abate the negative impacts of stormwater runoff (e.g. flooding, erosion, water quality impairments, etc.) from new upstream developments or redevelopments.

### Erosion and Sediment Control

#### *Watershed Management Ordinance Article 4*

Erosion is the process of soil particle detachment from a land surface by the force of wind, water, or gravity. When the soil particles have been detached, i.e., eroded, the suspended soil particles are in transport and are then referred to as sediment. Sedimentation occurs when the velocity of wind or water is slowed sufficiently enough to allow suspended sediment to settle. Larger particles, such as gravel and sand, settle more rapidly than finer silt and clay particles.

The accumulation of sediment reduces the stormwater conveyance and storage functions of streams, wetlands, storm sewers, detention basins, highway drainage ditches, floodplains, and navigable water channels. These impacts can result in more frequent and/or severe flooding. Also, sedimentation can impact the storage capacity of municipal and industrial water supply reservoirs and in-

crease costs due to the need to filter muddy water in preparation for domestic or industrial use. Excessive sediment in water bodies can be detrimental to aquatic life since it interferes with respiration, growth, reproduction, oxygen exchange and photosynthesis in plants.

All developments must meet the WMO erosion and sediment control requirements. Erosion control includes measures to prevent soil from being removed from the earth's surface – planting vegetation, mulching, hydro-mulching, and installing geotextile fabrics. Sediment control measures – silt fences, fiber rolls, sediment traps, and wattles – prevent the transport of soil once it has been removed. The WMO requires that erosion and sediment control practices be included in the initial site plan of a development. Design guidelines are expected to be taken from the Illinois Urban Manual or the WMO Technical Guidance Manual (the Technical Guidance Manual will be released following the passage of the WMO).

### Stormwater Management Requirements

#### *Watershed Management Ordinance Article 5*

Stormwater runoff is rainwater or melting snow that flows off a property. Stormwater runoff can be controlled by managing that water on site. Controlling stormwater runoff from development sites minimizes the potential for negative impacts on adjacent and downstream properties.

## **The WMO restricts developments from:**

1. **Increasing flood elevations or decreasing flood conveyance capacity upstream or downstream**
2. **Causing any increase in flood velocity or impairment of the hydrologic and hydraulic functions of streams**
3. **Degrading surface or ground water quality**

The WMO includes several site development and stormwater management standards to meet the above requirements. These include runoff control, volume control, and storage requirements. The runoff requirements contain design standards and other restrictions on where runoff is allowed to flow. For example, structures that drain water (e.g. channels, ditches, wetlands) cannot increase flood and erosion damages downstream.

Volume control requirements compel developments to capture the first inch of runoff from an impervious surface area. The first inch of runoff contains the most pollutants (e.g. oils, dust, particulates, fertilizer, organic matter). Capturing the “first flush” of contaminants helps protect the health of local waterways.

Storage requirements determine how fast the water can be discharged from a development site, called the allowable release rate. Site runoff storage facilities – such as a detention pond – control the rate at which water is released from the site under developed conditions.

The release rates will be phased in over a five year period. For the first five years after the WMO effective date, developments will be allowed a release rate of 0.30 cubic feet per second per acre (cfs/acre) for the 100-year storm event (a storm that has a one percent chance of occurring every year). That means for a site of one acre in size, the release rate would be 0.30 cfs (about 8,000 gallons in an hour). For a site 15 acres in size, the release

rate would be 15 times that number or 4.5 cfs (about 121,000 gallons in an hour). The allowable release rate will become 0.15 cfs/acre five years after the effective date of the WMO.

The release rates determine the size of the detention needed on each site. The more impervious surface on the site, the more detention is required to meet the prescribed release rates. Where onsite detention is not practical, the WMO does permit offsite detention within the same subwatershed. The storage requirement provision of the WMO helps prevent flooding and erosion in downstream communities.

Runoff, volume control, and storage requirements are only applicable to properties of certain sizes and types. These are summarized in the table at the end of this document.

## **Requirements for Resource Protection Areas**

### *Watershed Management Ordinance Article 6*

Resource protection areas include floodplains, wetlands, wetland buffers, and riparian environments. The WMO requires that development in the floodplain cannot increase flood elevations or decrease conveyance capacity on other property. Developments also cannot increase flood velocity, impair hydrologic function, or degrade water quality.

All new buildings, manufactured homes, and substantial improvements in the floodplain must be elevated two feet above the 100-year flood (i.e. a flood that has a one percent chance of occurring a year). Compensatory storage is required for any fill, structure, or other material above the regulatory flood plain. Compensatory storage offsets any flood storage capacity lost when fill or structures are placed in the floodplain.

The WMO has a variety of requirements that protect wetland and riparian areas, both of which attenuate the impacts of flooding and erosion. The WMO requires that developers must provide the MWRD with the boundaries, extent, function, value, and quality of all wetlands on site. Development that impacts wetlands is discouraged by the WMO, but mitigation is allowed in some cases. The MWRD's preferred method for wetland mitigation, as written in the WMO, is payment to a wetland mitigation bank. The WMO encourages existing riparian functions to be protected. Mitigation practices such as streambank stabilization and native vegetation planting are required.

## **Other Provisions of the Ordinance**

Watershed Management Permits are required for developments in resource protection areas or for any disturbance above 0.5 acres (a complete list of developments that require a permit can be found WMO Article 2). To receive a permit, developments must submit a variety of design and engineering documents indicating compliance with the provisions of the WMO (see WMO Article 3).

Regular maintenance ensures runoff storage facilities and other stormwater facilities function as designed in perpetuity. The WMO requires all developments have a maintenance plan (part of the Watershed Management Permit). The local government authority has the ultimate responsibility for maintenance (see WMO Article 9).

The WMO will replace the MWRD's Sewer Permit Ordinance and Manual of Procedures. Those ordinances currently regulate, permit, and enforce sewer construction (see WMO Article 7).

The WMO gives the MWRD the authority to inspect developments to ensure compliance with the WMO (see Article 10). Authorized municipalities may issue Watershed Management Permits if the municipality agrees to conform with the requirements of the WMO (see Article 14). The MWRD can enact enforcement measures if an inspection reveals a violation or if a development otherwise does not comply with other provisions of the ordinance. The MWRD can assess fines, place a stop-work order, or revoke a Watershed Management Permit of any development in violation of the ordinance (see Article 12).

The MWRD Board of Commissioners can grant variances to the requirements of the WMO; however, the variance must honor the general purpose and intent of the ordinance. The WMO will require that notice is given to all neighbors of a certain distance from the development (see Article 11).

Developments subject to the WMO can appeal a Watershed Management Permit, a denial of a variance, or a stop work order. The appellant must first appear before the Director of Engineering. If the Director of Engineering denies the first appeal, the appellant can then appeal to the Board of Commissioners (see Article 13).

## **Conclusion**

A strong Watershed Management Ordinance will help prevent future developments and redevelopments from adding to flooding problems for downstream communities and from degrading water quality. In its current form, the WMO brings Cook County in step with all surrounding counties – Lake, DuPage, Will, McHenry, and Kane.

# Summary of Site Stormwater Management Requirements

Development Type	Runoff Requirements	Volume Control Requirements	Storage Requirements
Single-Family Home	Exempt	Exempt	Exempt
Residential Subdivision	Parcels $\geq$ 1 acre	Parcels $\geq$ 1 acre	Parcels $\geq$ 5 acres
Multi-Family Residential	Parcels $\geq$ 0.5 acre	Parcels $\geq$ 0.5 acre	Parcels $\geq$ 3 acres ‡
Non-Residential	Parcels $\geq$ 0.5 acre	Parcels $\geq$ 0.5 acre	Parcels $\geq$ 3 acres ‡
Right-of-Way	New Impervious Area $\geq$ 1 acre	New Impervious Area $\geq$ 1 acre †	New Impervious Area $\geq$ 1 acre †
Open Space	Parcels $\geq$ 0.5 acre	Not applicable	Not applicable

\* Site stormwater management requirements are not required for maintenance activities as defined in Appendix A.

† Where practicable.

‡ Starting the effective date of this Ordinance, any new development on the parcel that totals either individually or in the aggregate to more than one-half (0.5) of an acre.



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*Established in 1889, the MWRD ([www.mwrdd.org](http://www.mwrdd.org)) is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois. **Our water environment, take it personally.***

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