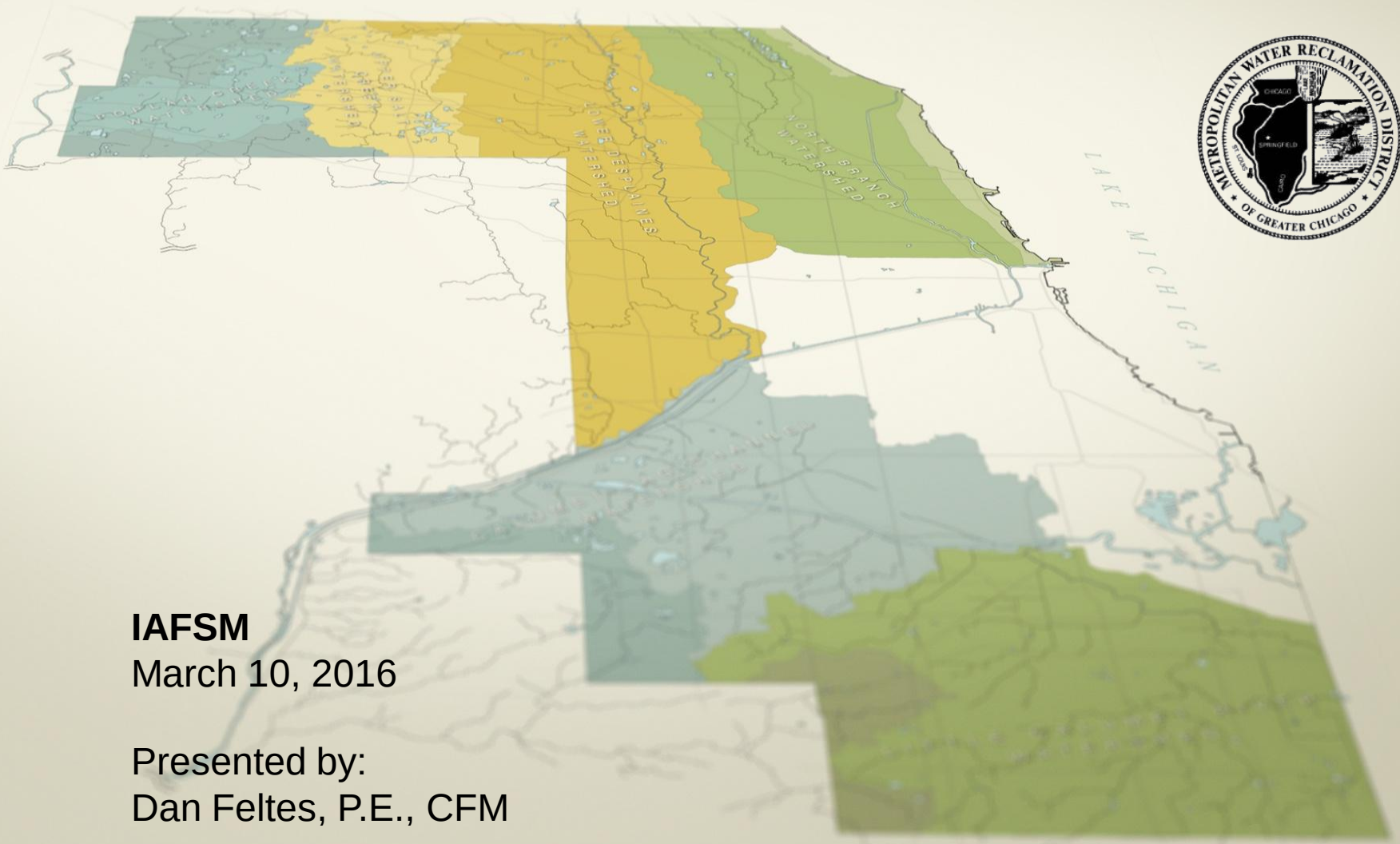
Watershed Management Ordinance (WMO)



IAFSM
March 10, 2016

Presented by:
Dan Feltes, P.E., CFM

WMO Update Agenda

- Brief WMO Development Background
- Permit Applicability
- Permit Compliance Resources and Website
- Permit Time
- How to Calculate Volume Control
- Flood Protection Elevation
- WMO Stormwater Volume Results from 2015
- WMO Forthcoming Developments

Summary of MWRD Facilities:

7 Water Reclamation Plants
(including one of the worlds largest)
~ 554 Miles of Interceptors
~ 109 Miles of Tunnels
~ 10.6 Billion Gallons of CSO Storage

Thornton Composite Reservoir

District Responsibilities

Wastewater Treatment

- 7 Wastewater Treatment Plants
- Stickney 1.2 billion gallons per day

Stormwater Management

- Public Act 093-1049
- Public Act 098-0625

WMO Objective

Establish uniform, minimum, and comprehensive countywide stormwater management regulations

Enabling Legislation

Watershed Management Ordinance

"Stormwater management in Cook County shall be under the general supervision of the Metropolitan Water Reclamation District of Greater Chicago."

"The District may prescribe by ordinance reasonable rules and regulations for floodplain and stormwater management . . . in Cook County."

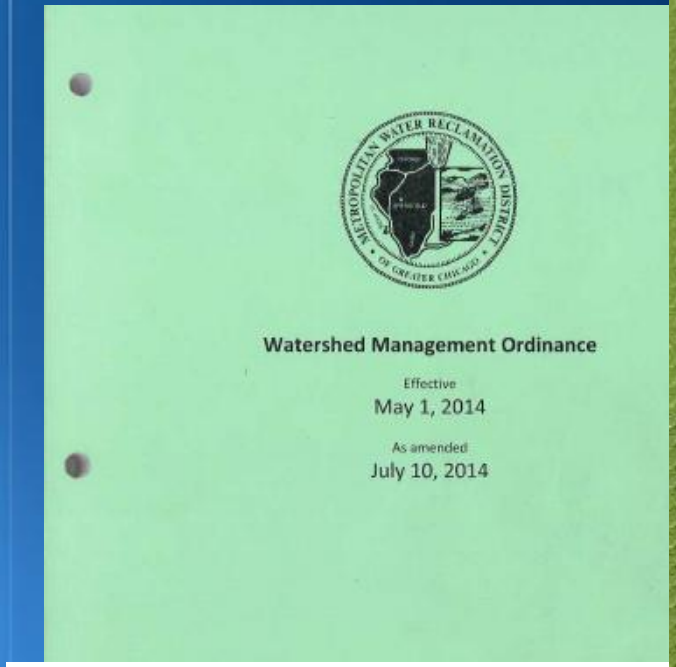
Public Act 093-1049

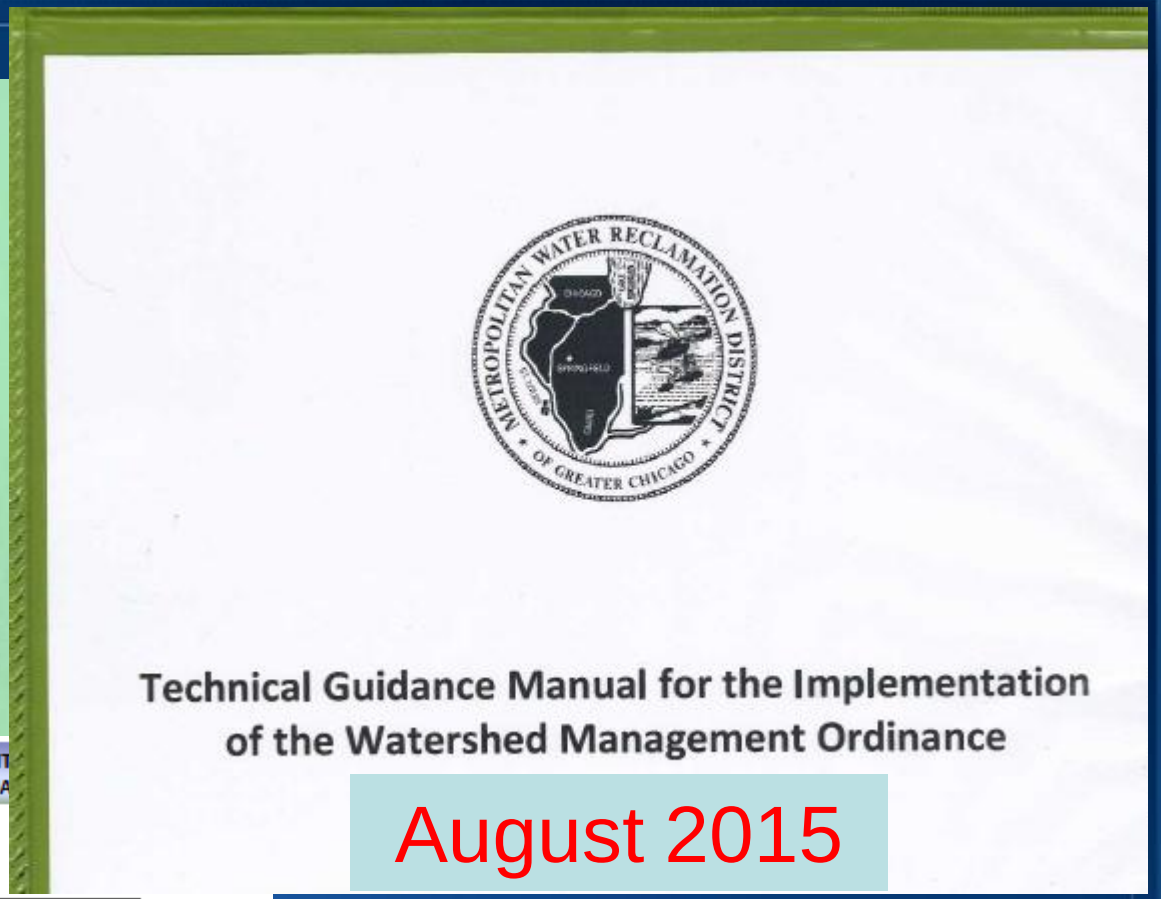
Sewer Permit Ordinance

- Sanitary Sewers
- Stormwater Detention
  - TP-40 Rainfall Data
  - Modified Rational Method

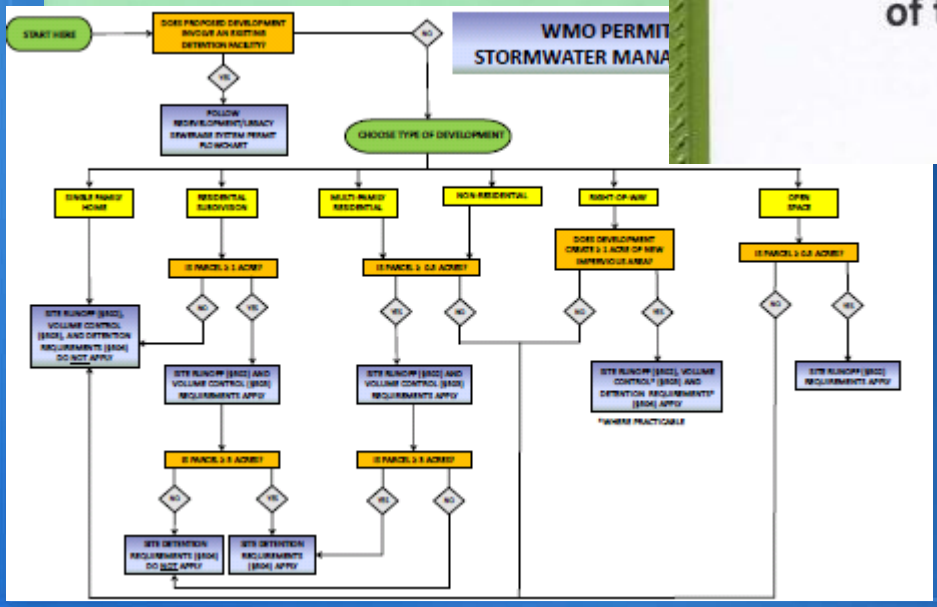
Watershed Management Ordinance

- Sanitary Sewers
- Stormwater Detention
  - Bulletin-70 Rainfall Data
  - Flat Release Rate
  - Hydrograph Method
- Volume Control
- Erosion & Sediment
- Flood Protection Areas
  - Floodplain
  - Floodway
  - Isolated Wetlands
  - Riparian Areas



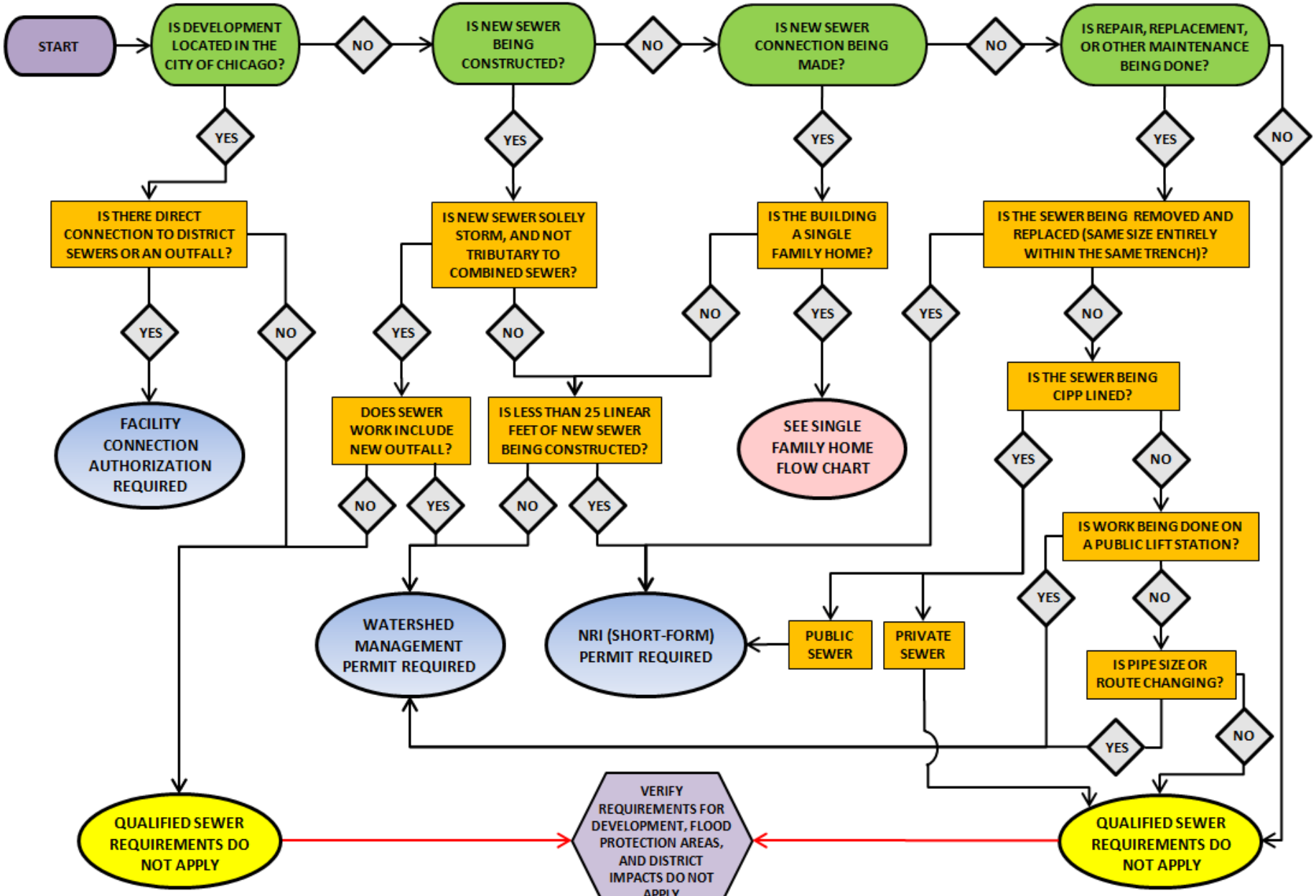


August 2015



- Ordinance
- Technical Guidance Manual
- Permit Forms
- Flow Charts
- Checklists

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
QUALIFIED SEWER CONTRUCTION* FLOW CHART



*See definition of qualified sewer construction in Appendix A of the WMO.

Permit Applicability

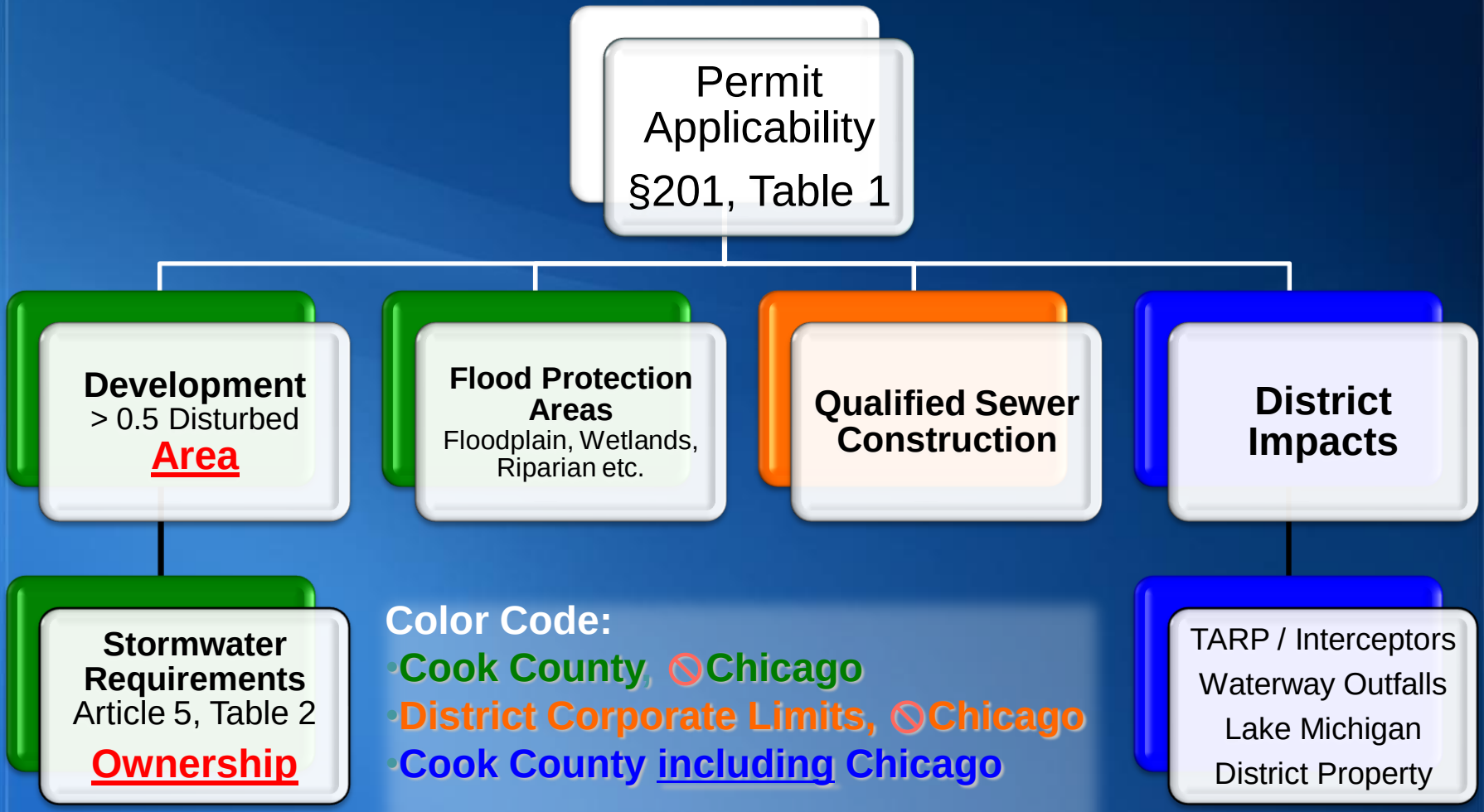


Table 2.
Summary of Site Stormwater Management Requirements[1]

Development Type (See Appendix A for definitions)	§502 Runoff Requirements	§503 Volume Control Requirements[2]	§504 Detention Requirements[2]
Single-Family Home	Exempt	Exempt	Exempt
Residential Subdivision	**Parcels** ≥ 1 acre	**Parcels** ≥ 1 acre	**Parcels** ≥ 5 acres
Multi-Family Residential	**Parcels** ≥ 0.5 acre	**Parcels** ≥ 0.5 acre	**Parcels** ≥ 3 acres ‡
Non-Residential	**Parcels** ≥ 0.5 acre	**Parcels** ≥ 0.5 acre	**Parcels** ≥ 3 acres ‡
Right-of-Way	**New Impervious Area** ≥ 1 acre	**New Impervious Area** ≥ 1 acre †	**New Impervious Area** ≥ 1 acre †
Open Space	**Parcels** ≥ 0.5 acre	Not Applicable	Not Applicable

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

2 Requirements are applicable when a **Watershed Management Permit** is required under §201 of this **Ordinance.**

† 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.

Webmaster |

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Search

Home | Commissioners | Departments | Services & Facilities | Public Affairs | Media Center | Business with Us | Reports | Employment

- Overview
- Cook County Stormwater Management Plan (CCSMP)
- **Watershed Management Ordinance (WMO)**
- Inundation Maps & Hydraulic Profiles
- Stormwater Annual Reports and Publications
- Stormwater Master Plan Pilot Studies
- Watershed Planning Council
- WPC Meetings
- Combined Sewer Communities

Services & Facilities >> Stormwater Management >> Watershed Management Ordinance (WMO)

Watershed Management Ordinance

The Watershed Management Ordinance (WMO) establishes uniform, minimum, countywide stormwater management regulations throughout Cook County. Components which are regulated under the WMO includ control, floodplain management, isolated wetland protection, riparian environment protection, and soil erosion and sediment control. The WMO went into effect on May 1, 2014 and the District's Board of Comm WMO on July 10, 2014. The WMO is accessible through the link below.

WMO (As amended on July 10, 2014 meeting) (7.2 MB)

WMO Comparison Documents (Compares changes from May 1, 2014 WMO to July 10, 2014 latest amendments) (6.08 MB)

Article 8: Infiltration / Inflow Control Program (Incorporated into WMO on July 10, 2014) (68.3 KB)

The District developed a Technical Guidance Manual (TGM), which will serve as a technical reference to the WMO. The TGM documents are accessible through the link below.

» Technical Guidance Manual (TGM) (Updated September 2015)

» Appendix C. Standard Details & Notes (Updated July 2015)

The District will conduct training for stakeholders to ease the transition from the Sewer Permit Ordinance to the WMO.

» Training Schedule

Permit Resources:

» Information Pamphlets for Developers and Homeowners

» Watershed Management Permit Flow Charts, Checklist and Forms

Minimum Permit Submittal Checklist (184 KB)

» WMO Design Calculators

» WMO Model Templates

» Authorized Municipalities and Multi-County Municipalities

Other Resources:

» Watershed Management Ordinance: Short Summary

» Permit Inquiries (Request Copies of Past Issued Permits)

» Permit Revision Information

» Existing Development Plans List

» Frequently Asked Questions (FAQs)

wmo.mwrd.org

Managing Stormwater

The WMO aims to protect public health, safety, and welfare, and Cook County homes and businesses from flood damage by managing and mitigating the effects of development and redevelopment on stormwater drainage. It provides uniform minimum stormwater management regulations for Cook County that are consistent with the region.

The WMO replaces the MWRD's repealed Sewer Permit Ordinance (SPO). WMO permit requirements are more comprehensive than those of the SPO.

How it Works

The WMO establishes rules and guidelines for development to ensure that flooding problems are not exacerbated. Permits are required prior to start of construction for new projects as described inside.

Single Family Homes

The WMO was not intended to regulate most single family homes. When a new development is located in or near a Flood Protection Area, a permit may be required. See "WMO: A Quick Guide for Homeowners" and the WMO.

For More Information
please visit wmo.mwrd.org
or contact the MWRD at 312.751.3255
or WMOInbox@mwrd.org

WMO: A Quick Guide for Developers

This pamphlet is an introduction for developers to the requirements and permit compliance process of the Metropolitan Water Reclamation District of Greater Chicago's Watershed Management Ordinance.

Metropolitan Water Reclamation District of Greater Chicago

A Quick Guide for Developers

Watershed Management Ordinance

WMO Informational Brochure

Managing Stormwater

The WMO aims to protect public health, safety, and welfare, and Cook County homes and businesses from flood damage by managing and mitigating the effects of development and redevelopment on stormwater drainage. It provides uniform minimum stormwater management regulations for Cook County that are consistent with the region.

The WMO replaces the MWRD's repealed Sewer Permit Ordinance (SPO). WMO permit requirements are more comprehensive than those of the SPO.

Single Family Homes

The WMO is not intended to regulate most single family homes. A permit is generally only required for single family home development that involves a Flood Protection Area or requires an extension of a public sewer to serve the parcel. These types of development are regulated under the WMO because they can have a significant potential for loss of property from flood drainage. Unlike residential subdivisions, single family home developments are exempt from the stormwater provisions of the WMO.

The WMO defines a "single family home" as a residential parcel containing less than 3 dwelling units. This does not include single family home parcels subdivided after May 1, 2014.

For More Information
please visit wmo.mwrd.org
or contact the MWRD at 312.751.3255
or WMOInbox@mwrd.org

WMO: A Quick Guide for Homeowners

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Metropolitan Water Reclamation District of Greater Chicago

mwrd.org

Metropolitan Water Reclamation District of Greater Chicago

A Quick Guide for Homeowners

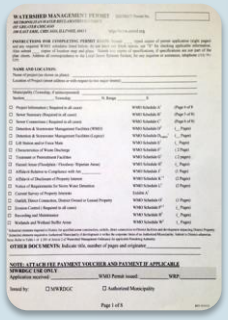
Watershed Management Ordinance

WMO Informational Brochure

When to Apply

Past contractor expectations:



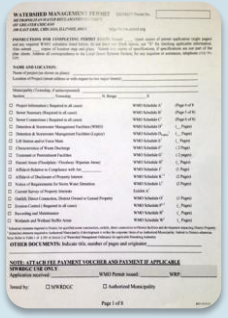



Design Project	Mobilize	Substantial Completion	Apply for MWRD Permit	MWRD Inspect	Obtain Permit	Occupancy

$$

When to Apply

Early coordination needed with new regulations



Design Project

Apply for MWRD Permit

Obtain Permit

Mobilize
- MWRD Erosion Inspection

Sewer Work
- MWRD Inspect

Substantial Completion
- MWRD Inspect

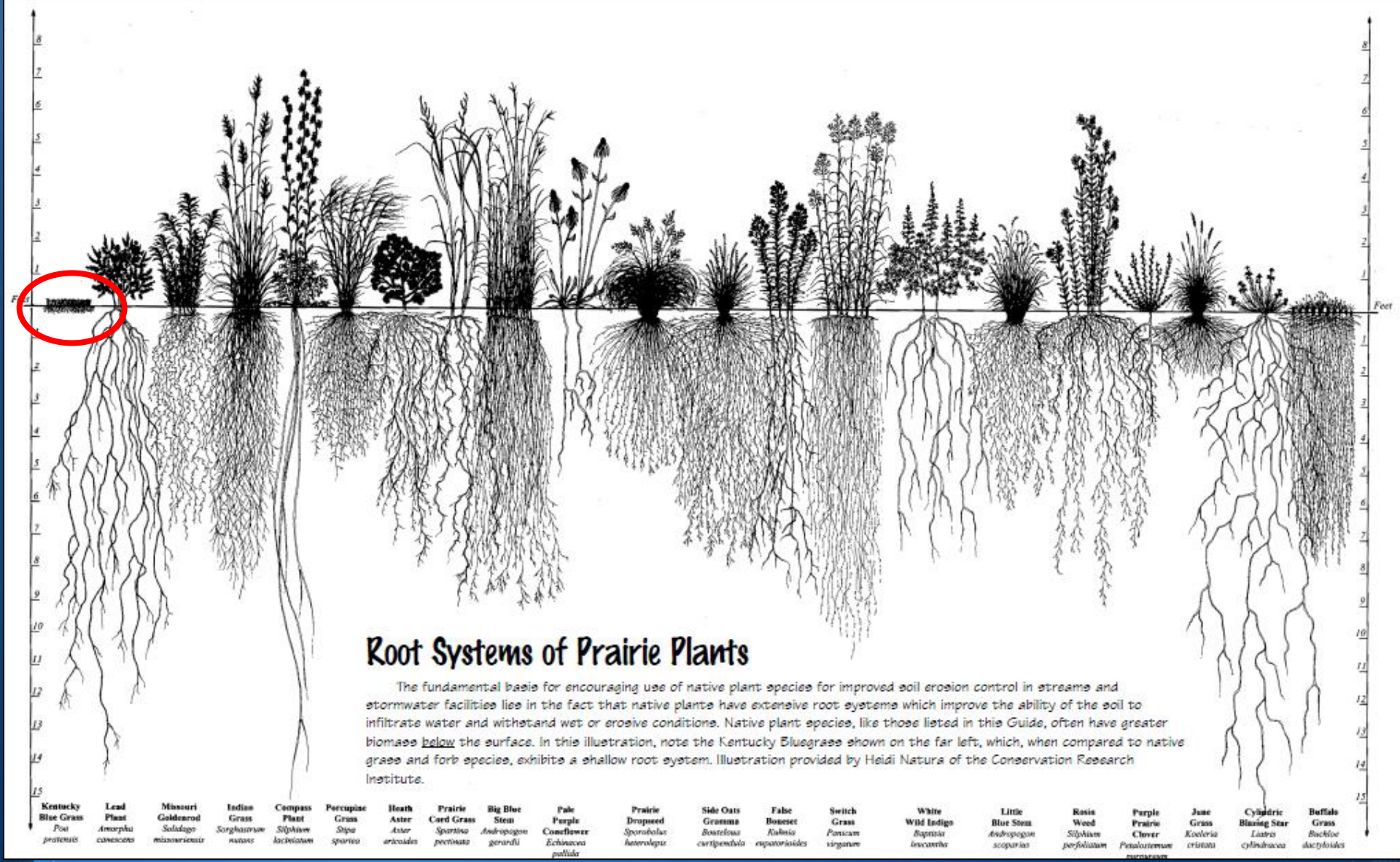
Occupancy

$$

Permit Review Time

- **Per Ordinance** § 1401:2
  - **15 working days outside FPA**
  - **30 working days inside FPA**
  - **10 working days for resubmittal**
- **3 year approved permit life**
  - **1 year to start construction**
  - **Extensions to construction start may be granted upon request**
  - **3 years total to finish**
- **Stagnant permits now canceled quarterly**
  - **Applications cannot remain open indefinitely**
  - **90 days no resubmittal = 30 day deadline to respond with schedule**
  - **MWRD is reasonable, but be certain to respond in a letter**

Green Infrastructure (GI) = Volume Control (VC) (in WMO)



Root Systems:
Turf Grass to Native Plants

wmo.mwrd.org

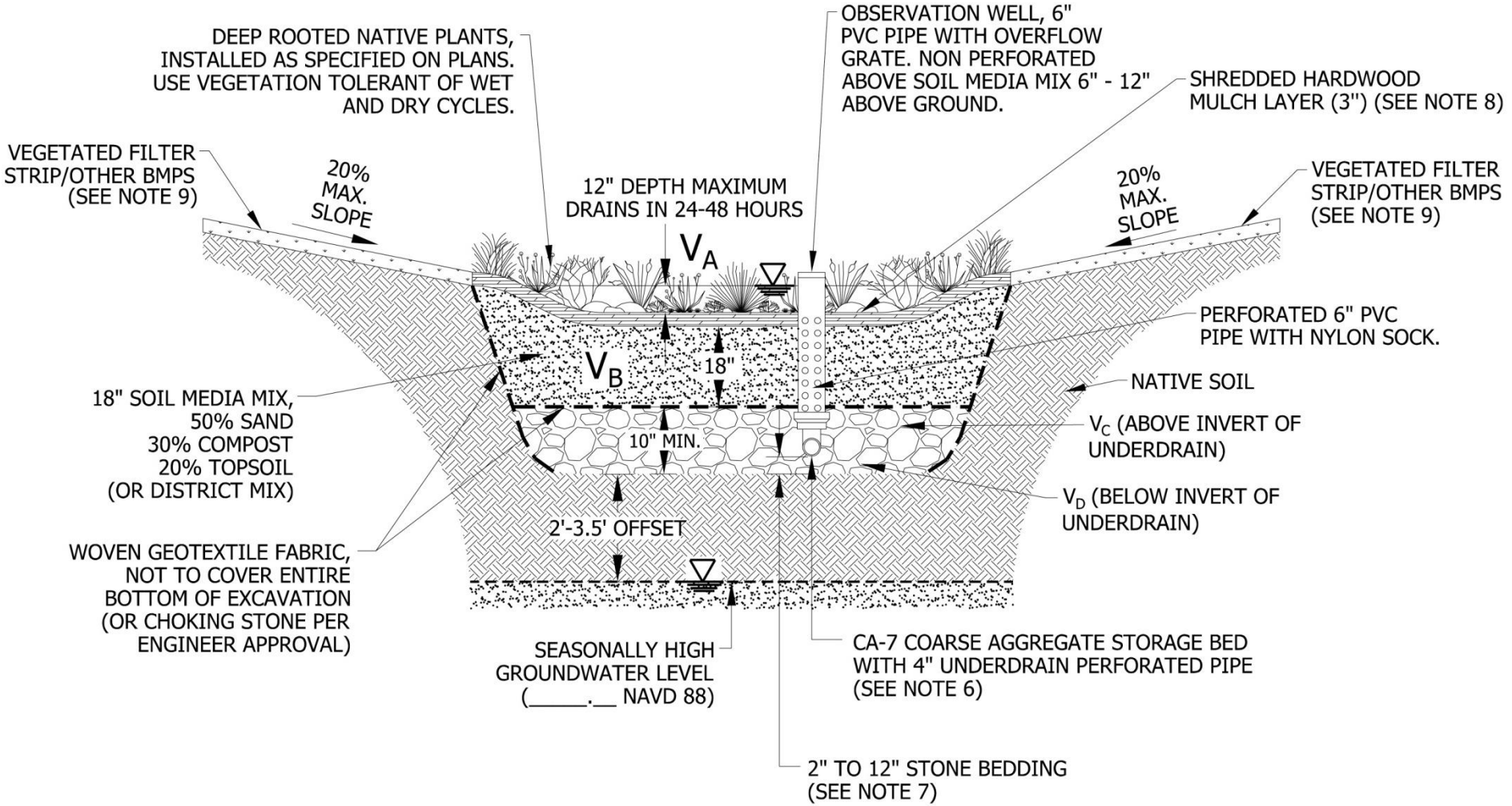
Appendix C. Standard Details & Notes (29 MB) (Updated July 2015)

Volume Control Details		
Bioretention Facility	PDF	DWG
Bioswale (Must be used with Check Dam)	PDF	DWG
Bioswale Check Dam	PDF	DWG
Constructed Wetlands	PDF	DWG
Drywell	PDF	DWG
Green Roof	PDF	DWG
Infiltration Trench	PDF	DWG
Lake Michigan Outfall Water Quality Device	PDF	DWG
Observation Well	PDF	DWG
Permeable Pavers	PDF	DWG
Rain Cistern/Water Reuse System	PDF	DWG
Removable Hood for Catch Basin and Water Quality Structures	PDF	DWG
Sediment Forebay/Pretreatment Basin	PDF	DWG
Signage for Permeable Pavement	PDF	
Storage Below Outlet of Detention Basin	PDF	DWG
Vegetated Filter Strip (Flow-Through)	PDF	DWG
Volume Control Pretreatment Measures	PDF	DWG
Volume Control Storage Matrix	PDF	DWG

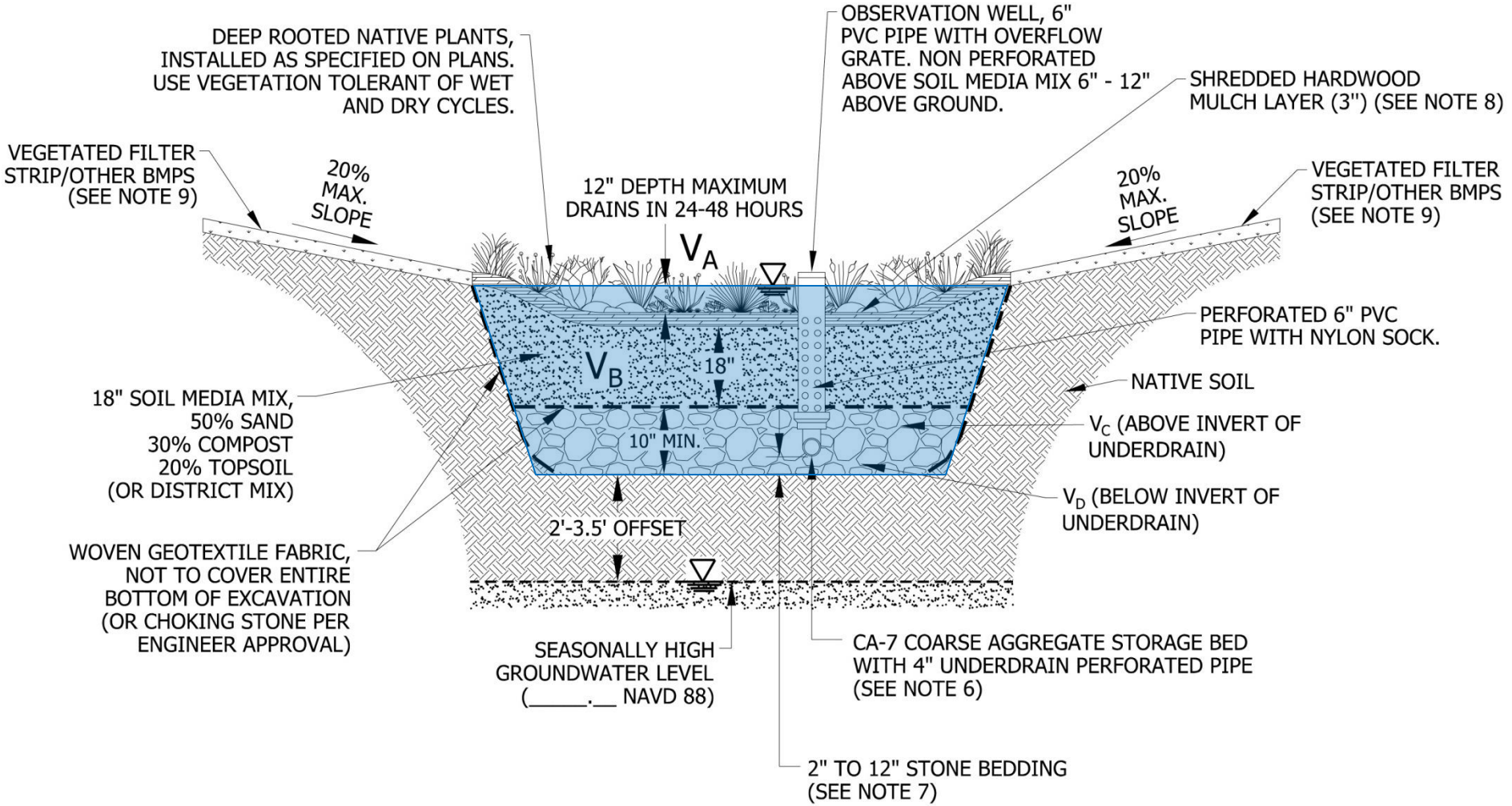
General Notes and Exhibits		
MWRD General Notes	PDF	DWG
Example Drainage Exhibit	PDF	DWG
Example Exhibit R	PDF	DWG
Example Routing Exhibit	PDF	DWG

Stormwater and Floodplain Details		
Emergency Overflow Weir	PDF	DWG
Floodplain Garage	PDF	DWG
Outlet Control Structure (Plate)	PDF	DWG
Outlet Control Structure (Wall)	PDF	DWG
Parking Lot Detention	PDF	DWG
Signage for Parking Lot Detention	PDF	
Vortex Restrictor	PDF	DWG
Window Well	PDF	DWG

Sanitary Sewer Details		
Concrete Cradle	PDF	DWG
Concrete Encasement	PDF	DWG
Dog House Manhole	PDF	DWG
Drop Manhole Connection	PDF	DWG
Rigid And Flexible Pipe Installation	PDF	DWG
Forcemain Discharge to Gravity Manhole	PDF	DWG
Large Grease Basin	PDF	DWG
Methods for Connecting to MWRD Manholes	PDF	DWG
Riser for Sanitary Service Lateral	PDF	DWG
Sanitary Manhole Type A and B	PDF	DWG
Small Grease Basin	PDF	DWG
Water Separation Requirements	PDF	DWG



VOLUME TYPE	POROSITY	MEDIA VOLUME	STORAGE VOLUME	VOLUME PROVIDED
SURFACE STORAGE	1.00	V_A	1.00 x V_A	
SOIL MEDIA MIX	0.25	V_B	0.5 x 0.25 x V_B	
COARSE AGG. (ABOVE INVERT)	0.36	V_C	0.5 x 0.36 x V_C	
COARSE AGG. (BELOW INVERT)	0.36	V_D	0.36 x V_D	
			TOTAL	



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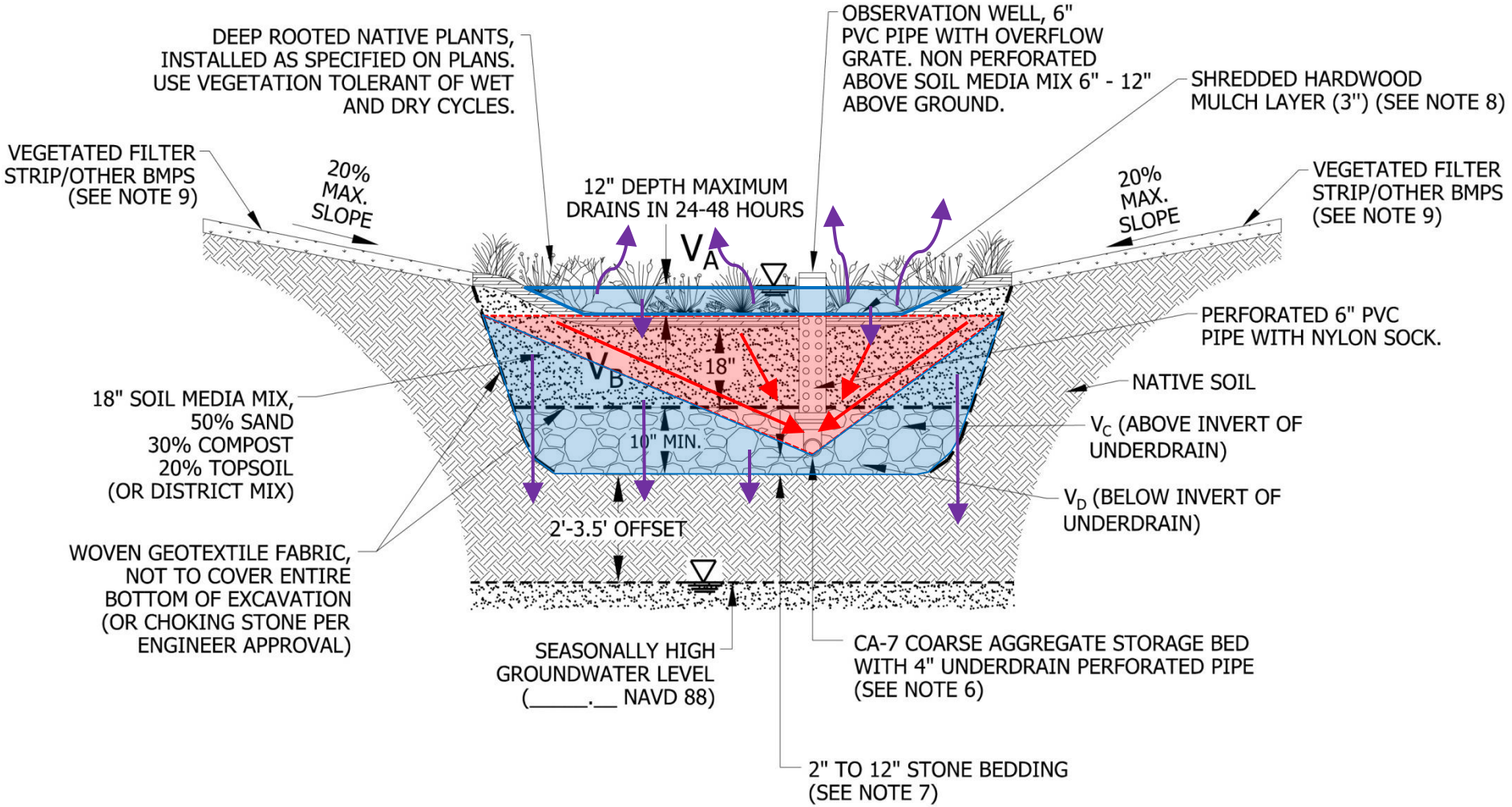

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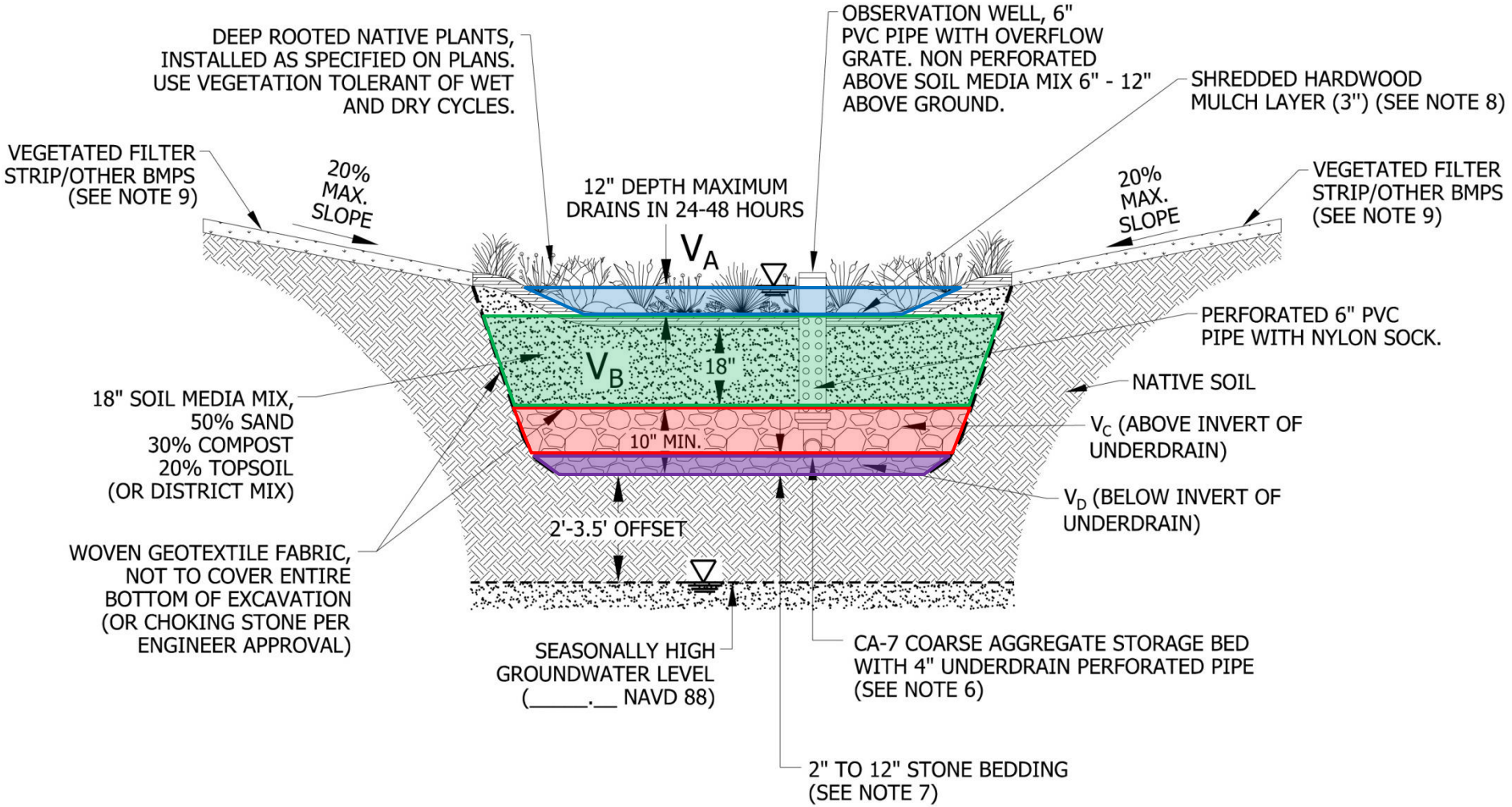

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COARSE AGG. (BELOW INVERT)	0.36	V_D	0.36 x V_D	
			TOTAL	

Does an existing conventional wet pond satisfy Volume Control for new Development?

Short answer: No

- **Is there a new stormwater benefit created?**
- **Existing systems can be planned for retrofit, permitted, and improved to serve new areas**

Volume Control Detention Retrofit

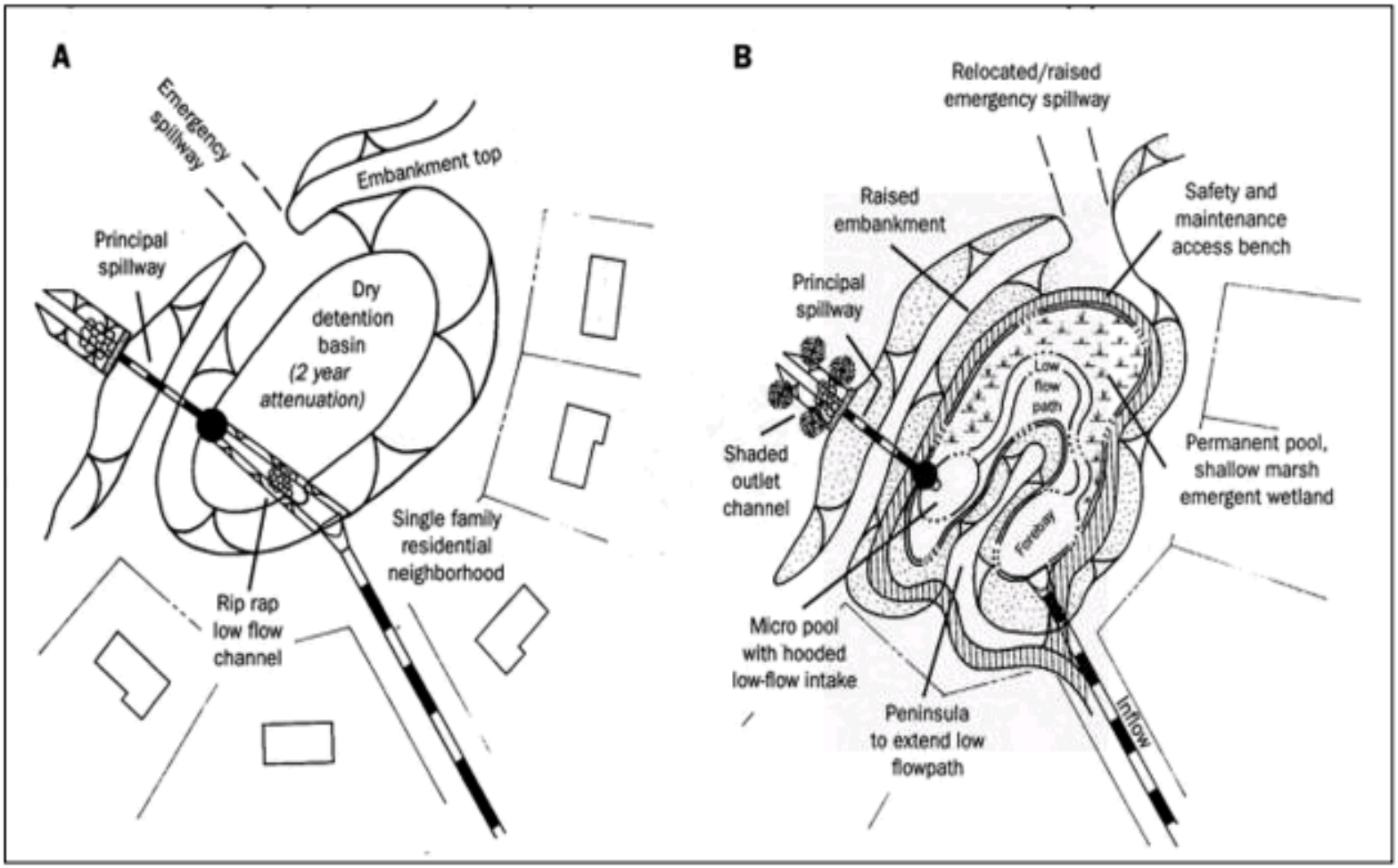
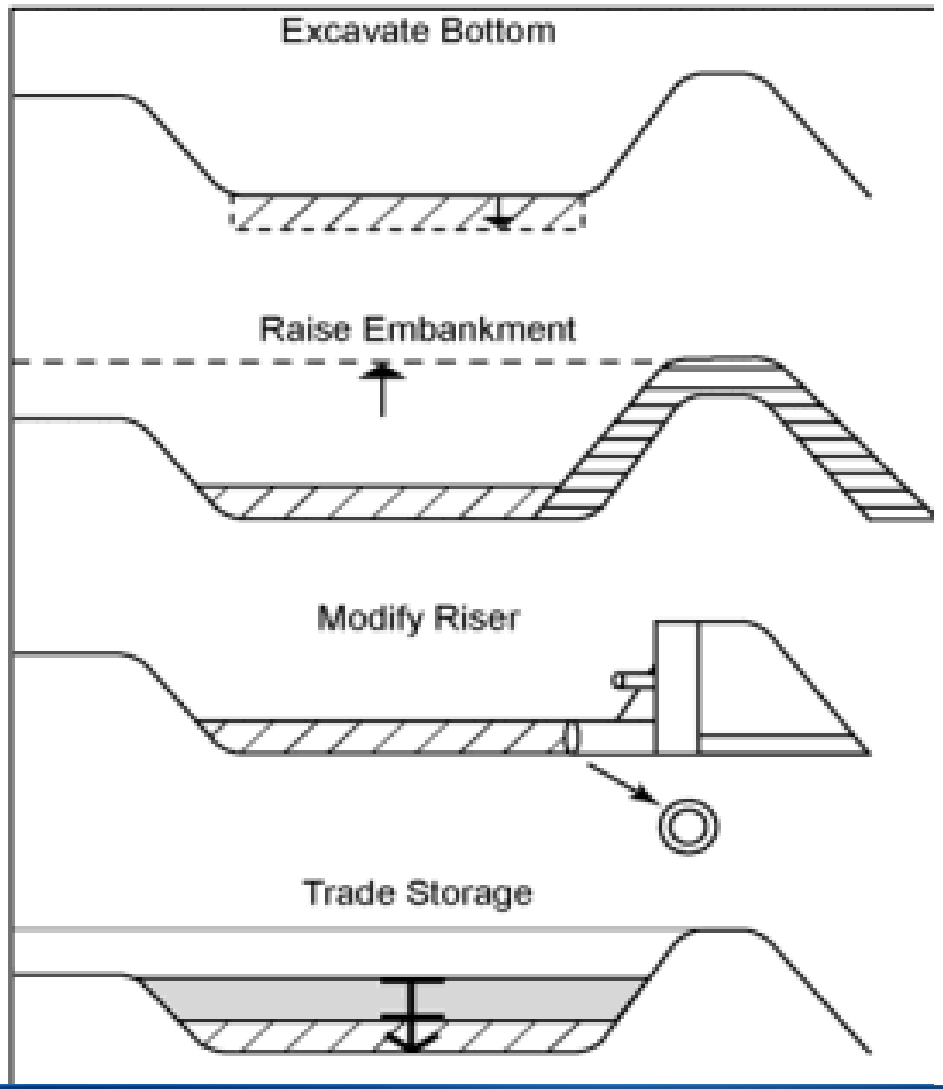


Figure 8: Schematic showing conversion of a dry pond to a shallow marsh

http://www.dupagerivers.org/documents/CWPStormwaterRetrofitManual_000.pdf



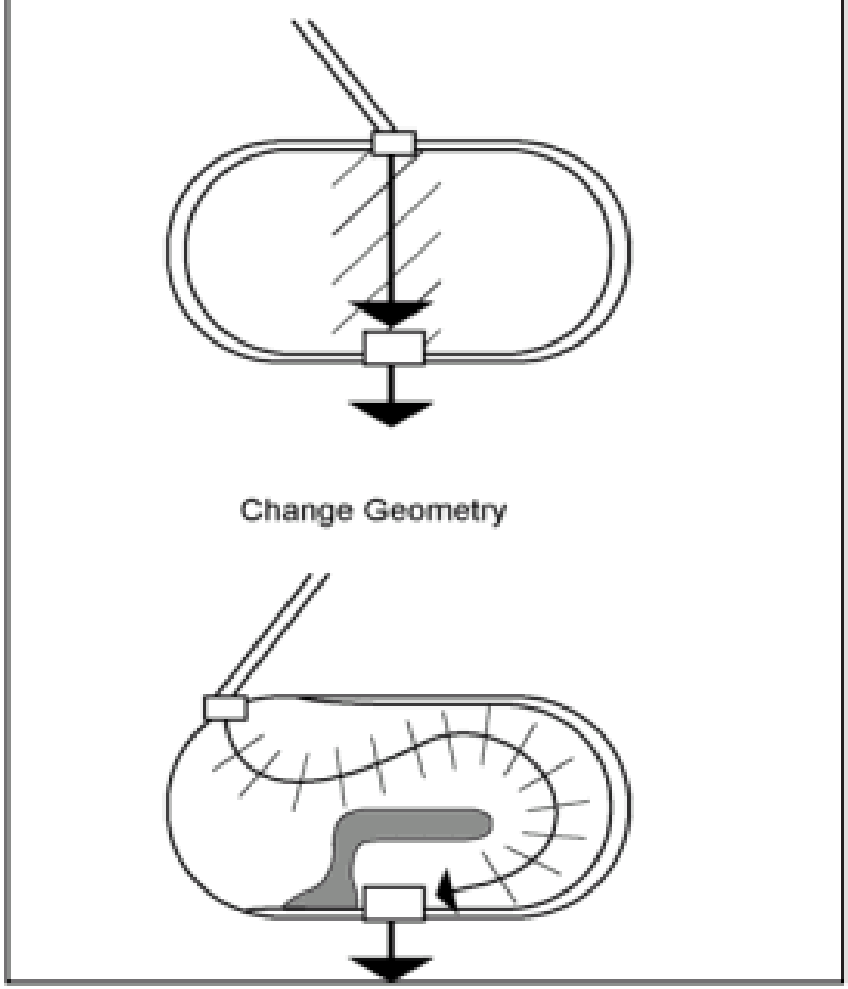
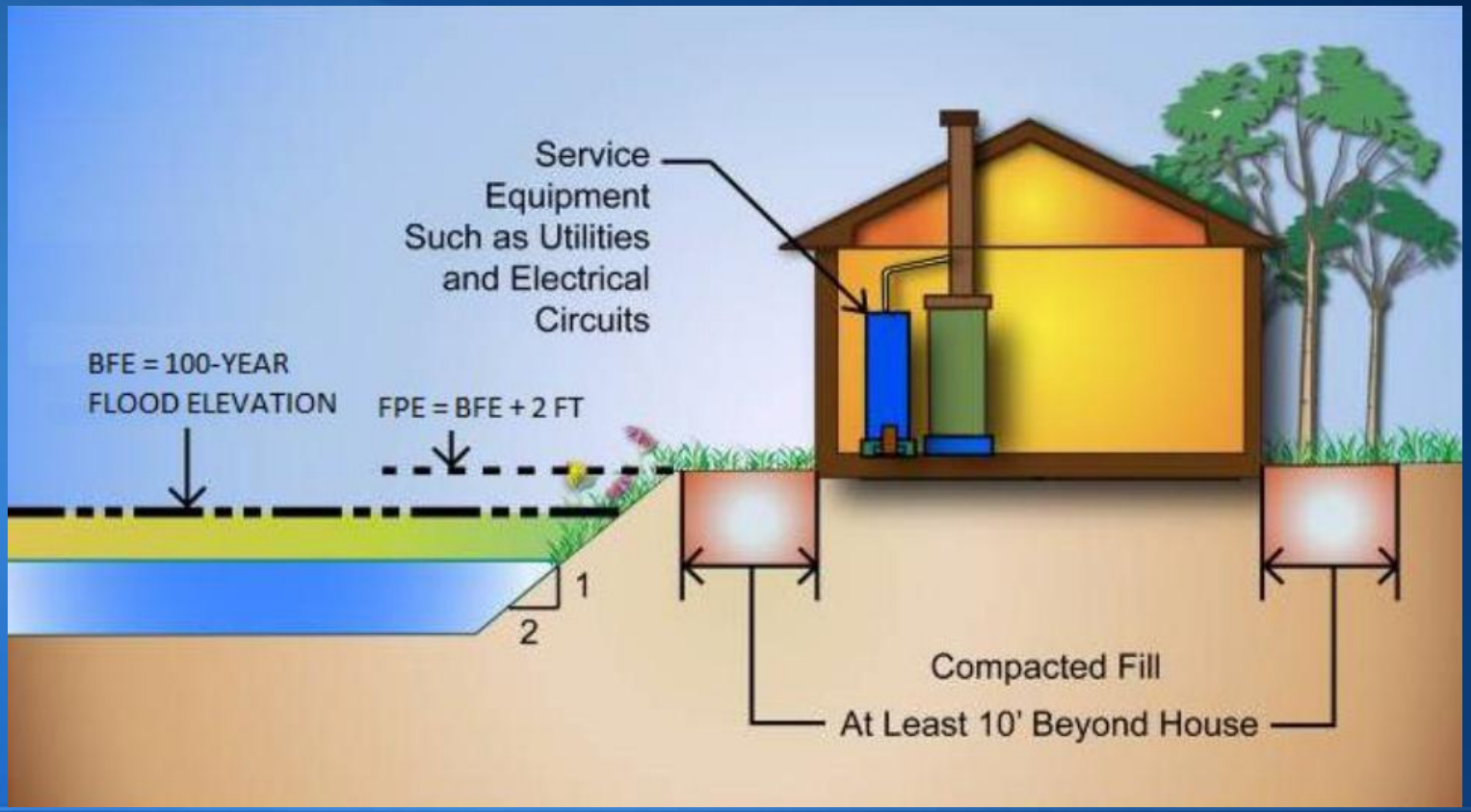


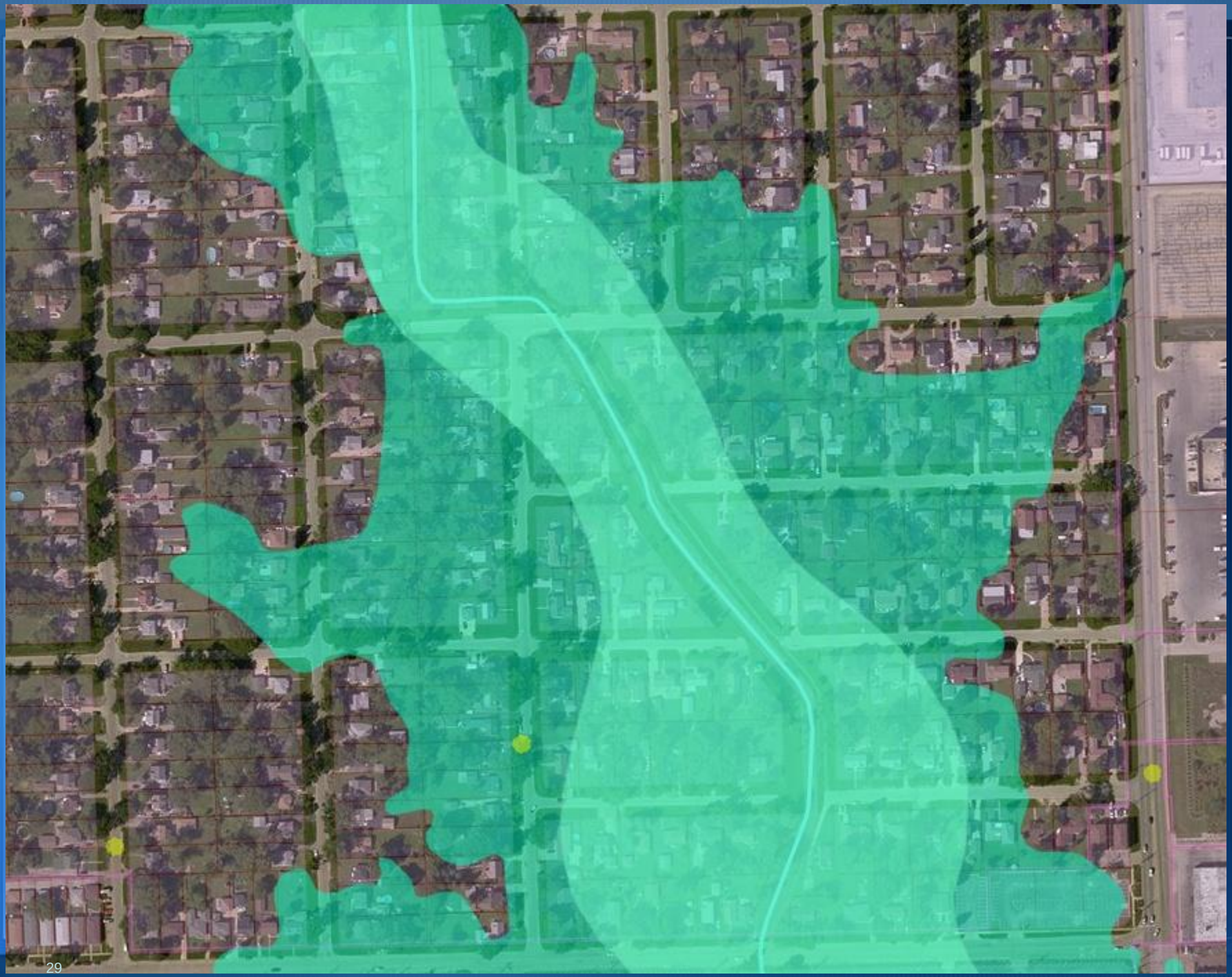
Figure 1: Five strategies to retrofit a pond

http://www.dupagerivers.org/documents/CWPStormwaterRetrofitManual_000.pdf

Floodplain

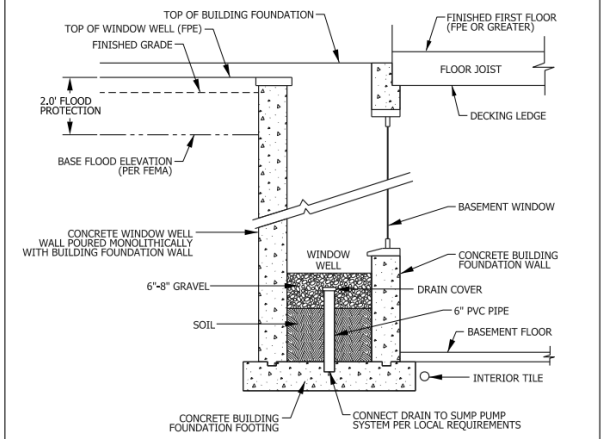
- **Flood Protection Elevation**
  - FPE = BFE + 2 feet





Single Family Home SFHA Short Permit Form (Jan 2015)

New Window Well Detail



NOTE:
1. FINISHED FIRST FLOOR AND LOW-ENTRY ELEVATIONS MUST BE ELEVATED AT LEAST TWO FEET ABOVE BASE FLOOD ELEVATION (BFE) PER FEMA.
2. LOWEST ADJACENT GRADE TO FOUNDATION MUST BE ELEVATED TO AT LEAST THE BFE AND EXTEND A MINIMUM OF 20 FEET BEYOND OUTSIDE FACE OF BUILDING.
3. CHECK BUILDING/FIRE CODE FOR EGRESS WINDOW REQUIREMENTS.

NOT TO SCALE

	TECHNICAL GUIDANCE MANUAL	7/1/15
	TYPICAL WINDOW WELL DETAIL	STD. DWG. NO.29
		PAGE NO. 30

Watershed Management Permit No. _____

SINGLE FAMILY HOME - SPECIAL FLOOD HAZARD AREA (SFHA) PERMIT FORM
WATERSHED MANAGEMENT ORDINANCE §602

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
111 EAST ERIE STREET, CHICAGO, ILLINOIS 60611
312-751-3260

1. PROJECT INFORMATION ☐ **New Construction** ☐ **Foundation Expansion**

Project Name: _____
Description of Project: _____
Street Address of Project: _____
Municipality (Township, if unincorporated): _____
Parcel Area: _____acres Related MWRD Sewer Permit and/or Watershed Management Permit Number, if known: _____

2. SPECIAL FLOOD HAZARD AREA (SFHA) INFORMATION

Provide the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel number(s) and Map Revised date(s) for the single family home parcel: _____

Based on the most current FEMA FIRM, check all conditions that apply:
☐ Parcel is within 100 feet of Zone A (unstudied) floodplain
☐ Parcel is within 100 feet of Zone AE (defined) floodplain
☐ Parcel contains regulatory floodway
Provide a copy of the FEMA FIRM showing the boundary of the single family home parcel.

3. BASE FLOOD ELEVATION (BFE)

BFE (rounded to nearest tenth of a foot): _____ ft, NAVD88 Waterway: _____

List the source of the BFE for the subject parcel:
☐ Cook County Flood Insurance Study (FIS)
☐ MWRD Detailed Watershed Plan study
☐ Project-Specific Floodplain Study
Provide the profile for the BFE source listed above.

4. SINGLE FAMILY HOME ELEVATION (MUST BE 2 FEET ABOVE BFE)

Provide the lowest floor elevation for the proposed single family home (rounded to nearest tenth of a foot): _____ ft, NAVD88
Provide the lowest entry elevation for the proposed single family home (rounded to nearest tenth of a foot): _____ ft, NAVD88

Provide an exhibit showing the BFE clearly delineated on site-specific topography for the subject parcel, along with the lowest floor and lowest entry elevation shown for the proposed single family home. If applicable, show limits of regulatory floodway on the subject parcel.

5. COMPENSATORY STORAGE (EQUAL TO AT LEAST 1.1 TIMES VOLUME LOST BELOW BFE)

Floodplain Fill (cubic feet)		Compensatory Storage Provided (cubic feet)	
_____	0 -10 Year	_____	0 -10 Year*
_____	10 - 100-Year	_____	10 - 100-Year*
0	Total	0	Total**

*Must be at least 1.0 times the floodplain fill ** Must be at least 1.1 times the floodplain fill

6. CERTIFICATION BY PROFESSIONAL ENGINEER OR PROFESSIONAL LAND SURVEYOR

This application and the drawings, together with other data in this application, have been examined by me and are found to be in compliance with all applicable regulations contained within the Watershed Management Ordinance.

Certified by: ☐ Municipality ☐ Design Engineer

Name: _____ Title: _____
Municipality or Engineering Firm: _____
Address: _____ Zip: _____
Signature: _____ Date: _____ Phone: _____

PE SEAL

7. PERMITTEE (MUNICIPALITY)

☐ This project is considered a substantial improvement.

Address: _____
_____ Zip _____
Name: _____
Title: _____
Signature: _____
Date: _____ Phone: _____

8. CO-PERMITTEE (PROPERTY OWNER)

Address: _____
_____ Zip _____
Name: _____
Title: _____
Signature: _____
Date: _____ Phone: _____

1/15

7.9 MG of Required Volume Control =
90 Miles of Rain Barrels
Chicago to Milwaukee

30.5 MG of Required Compensatory Storage =
350 Miles of Rain Barrels
Chicago to Cleveland

102 MG of Required Detention =
1,200 Miles of Rain Barrels
Chicago to Disney World

2015 WMO Volume Results

How Large is the Thornton Composite Reservoir?

The TCR will be able to store 7.9 billion gallons of CSO or the equivalent to 144 million rain barrels… enough to circle the earth 3.64 times when laid end to end!

WMO Prospective Schedule 2016

- Ongoing Advisory Committee Meetings
  Discuss further permitting improvements

- Watershed Specific Release Rate Study
  - Contracted with Illinois State Water Survey
  - Ongoing QA/QC of DWP Models
  - Phase 1 Results, end of 2016
    Pilot Areas: Uppers Salt and Stony Creek

- Improve and shorten permit forms and paperwork
  - 2 copies of permits

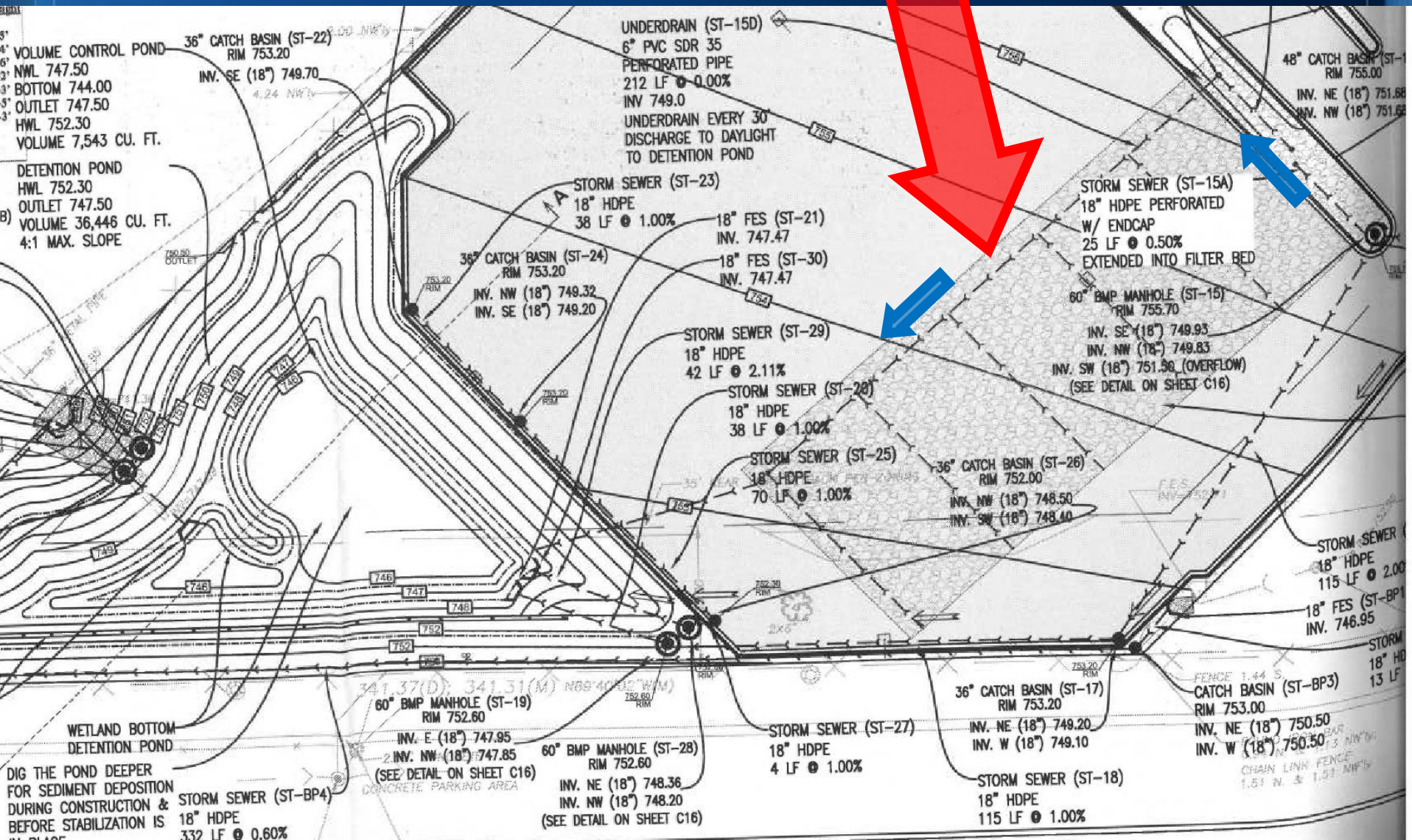
Thank you
Questions

Dan Feltes, P.E., CFM

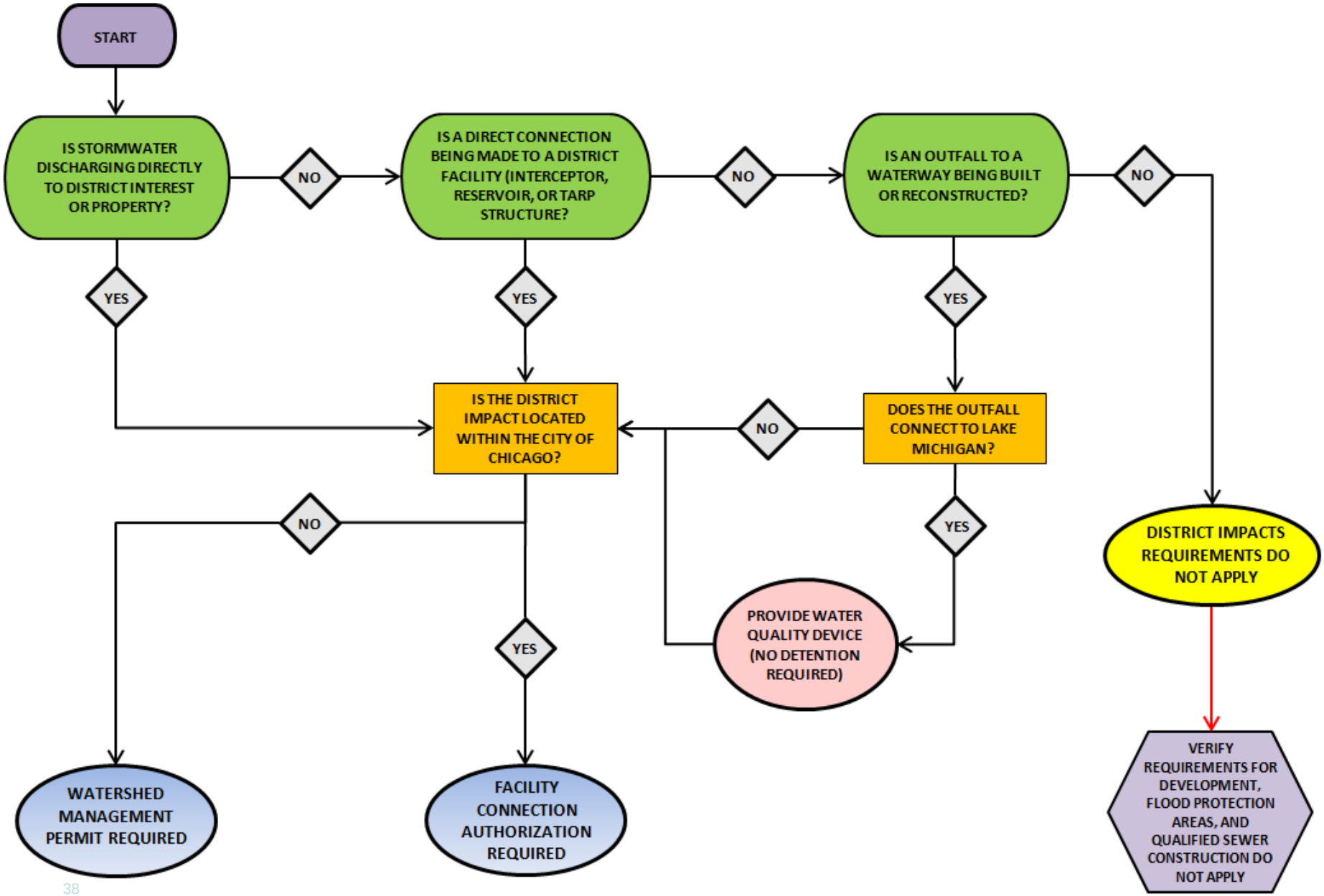
Daniel.Feltes@mwrd.org

Metropolitan Water Reclamation District of Greater Chicago
100 E. Erie Street
Chicago, Illinois

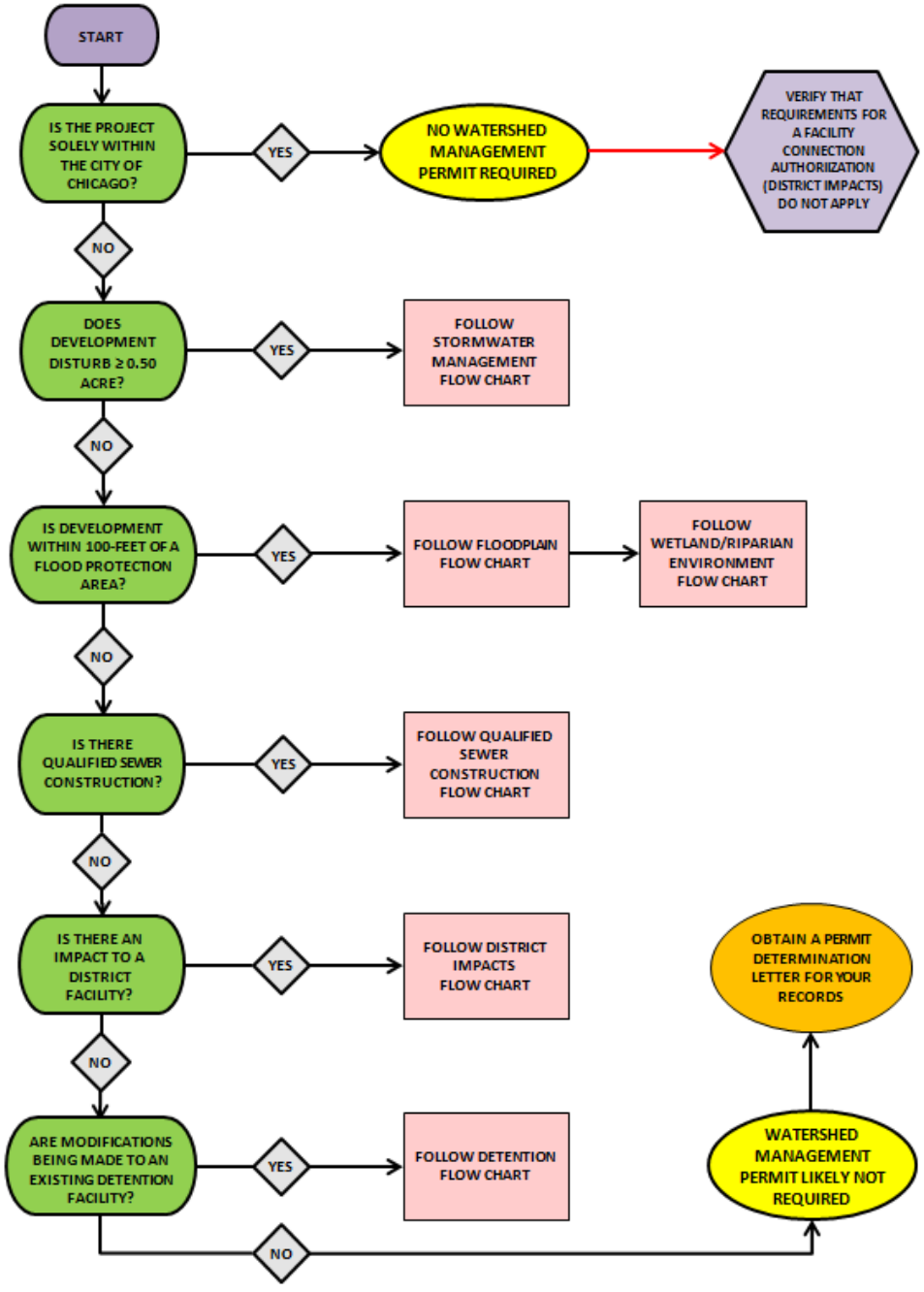
Reference Slides Follow


VOLUME CONTROL POND
NWL 747.50
BOTTOM 744.00
OUTLET 747.50
HWL 752.30
VOLUME 7,543 CU. FT.
36" CATCH BASIN (ST-22)
RIM 753.20
INV. SE (18") 749.70
DETENTION POND
HWL 752.30
OUTLET 747.50
VOLUME 36,446 CU. FT.
4:1 MAX. SLOPE
UNDERDRAIN (ST-15D)
6" PVC SDR 35
PERFORATED PIPE
212 LF @ 0.00%
INV 749.0
UNDERDRAIN EVERY 30'
DISCHARGE TO DAYLIGHT
TO DETENTION POND
STORM SEWER (ST-23)
18" HDPE
38 LF @ 1.00%
18" FES (ST-21)
INV. 747.47
18" FES (ST-30)
INV. 747.47
36" CATCH BASIN (ST-24)
RIM 753.20
INV. NW (18") 749.32
INV. SE (18") 749.20
STORM SEWER (ST-15A)
18" HDPE PERFORATED
W/ ENDCAP
25 LF @ 0.50%
EXTENDED INTO FILTER BED
60" BMP MANHOLE (ST-15)
RIM 755.70
INV. SE (18") 749.93
INV. NW (18") 749.83
INV. SW (18") 751.50 (OVERFLOW)
(SEE DETAIL ON SHEET C16)
48" CATCH BASIN (ST-1
RIM 755.00
INV. NE (18") 751.68
INV. NW (18") 751.68
STORM SEWER (ST-29)
18" HDPE
42 LF @ 2.11%
STORM SEWER (ST-28)
18" HDPE
38 LF @ 1.00%
STORM SEWER (ST-25)
18" HDPE
70 LF @ 1.00%
36" CATCH BASIN (ST-26)
RIM 752.00
INV. NW (18") 748.50
INV. SW (18") 748.40
STORM SEWER
18" HDPE
115 LF @ 2.00
18" FES (ST-BP1
INV. 746.95
WETLAND BOTTOM
DETENTION POND
DIG THE POND DEEPER
FOR SEDIMENT DEPOSITION
DURING CONSTRUCTION &
BEFORE STABILIZATION IS
STORM SEWER (ST-BP4)
18" HDPE
332 LF @ 0.60%
60" BMP MANHOLE (ST-19)
RIM 752.60
INV. E (18") 747.95
INV. NW (18") 747.85
(SEE DETAIL ON SHEET C16)
60" BMP MANHOLE (ST-28)
RIM 752.60
INV. NE (18") 748.36
INV. NW (18") 748.20
(SEE DETAIL ON SHEET C16)
STORM SEWER (ST-27)
18" HDPE
4 LF @ 1.00%
36" CATCH BASIN (ST-17)
RIM 753.20
INV. NE (18") 749.20
INV. W (18") 749.10
STORM SEWER (ST-18)
18" HDPE
115 LF @ 1.00%
CATCH BASIN (ST-BP3)
RIM 753.00
INV. NE (18") 750.50
INV. W (18") 750.50
18" HD
13 LF
CONCRETE PARKING AREA
CHAIN LINK FENCE

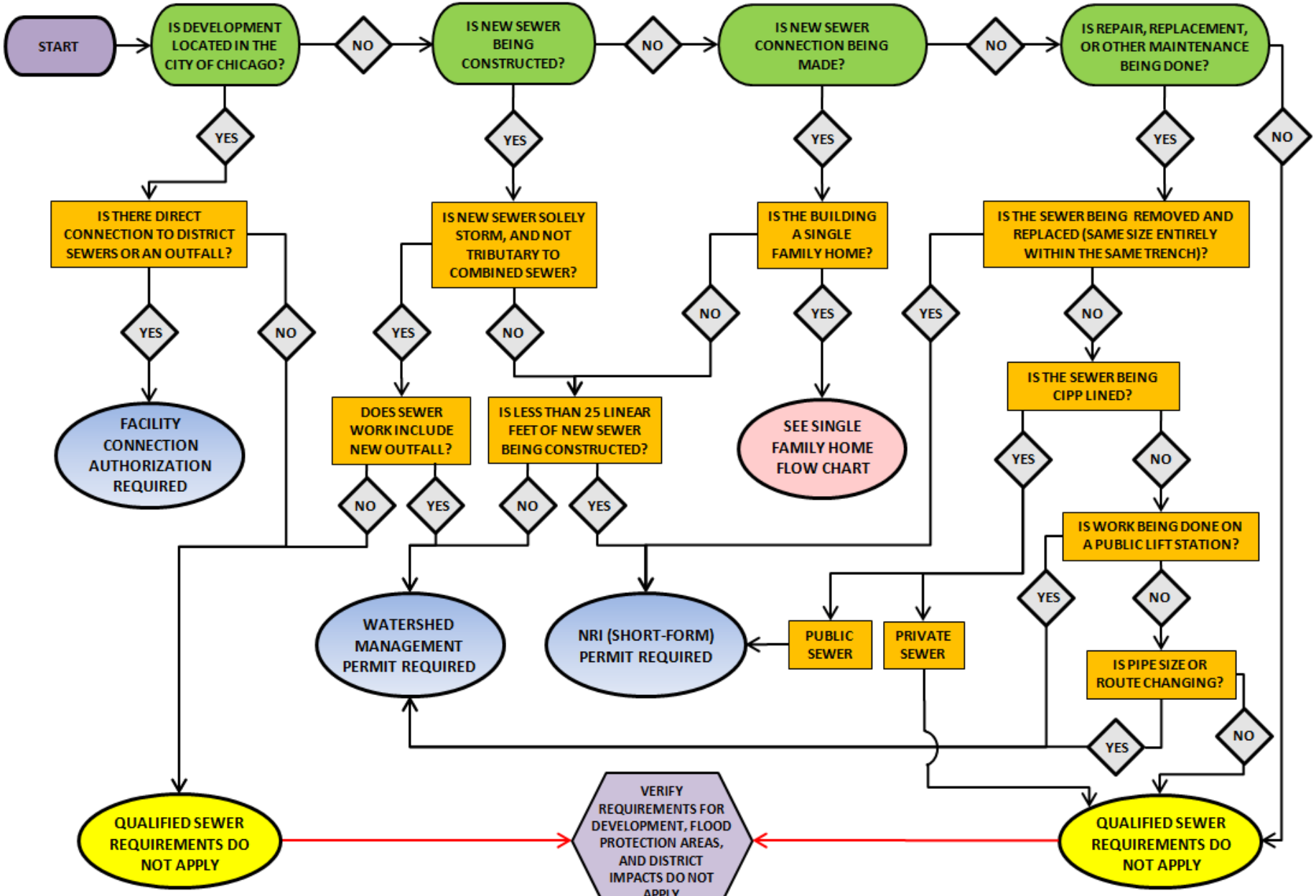
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
DISTRICT IMPACTS FLOW CHART



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
WMO PERMIT APPLICABILITY FLOW CHART

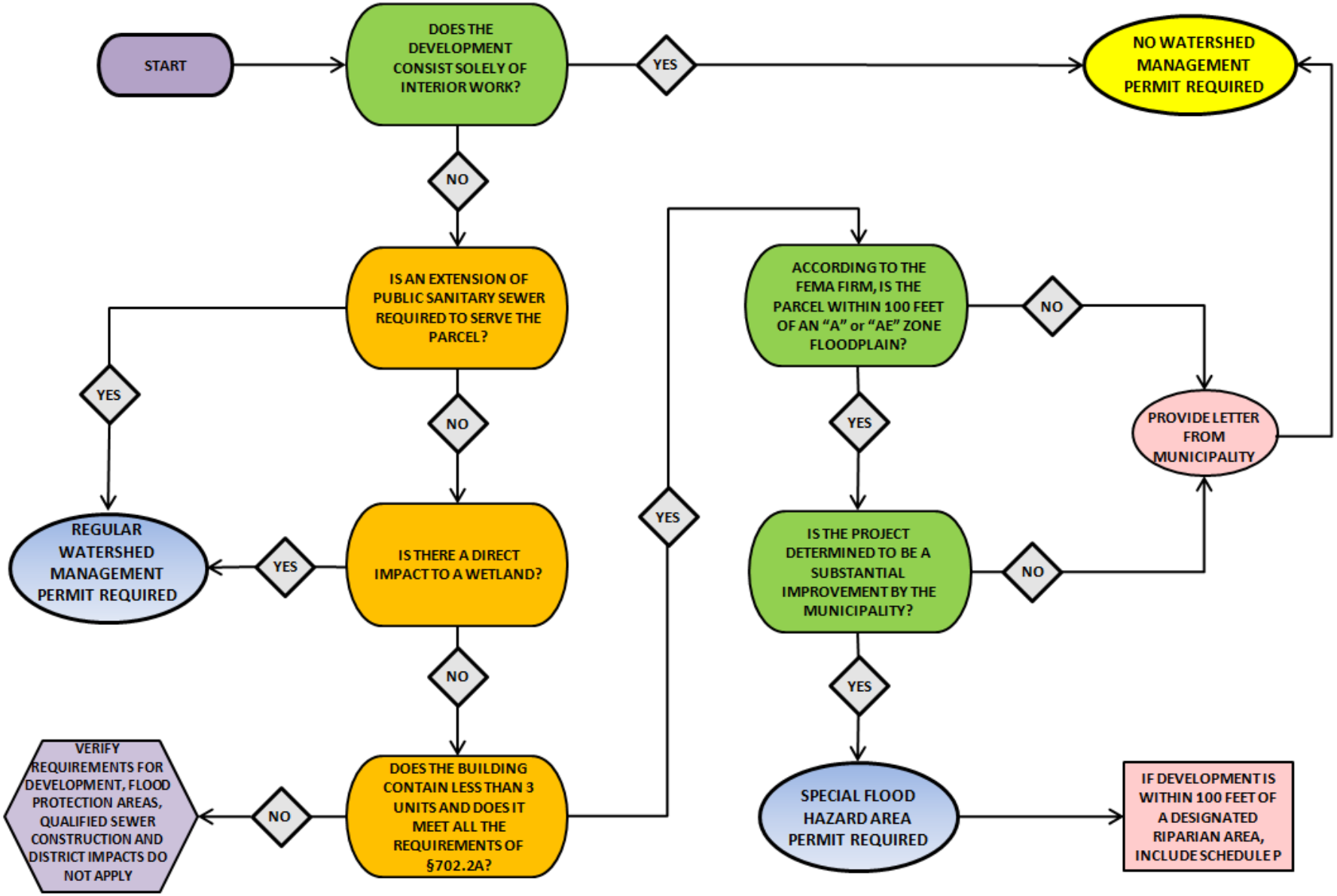


METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
QUALIFIED SEWER CONTRUCTION* FLOW CHART



*See definition of qualified sewer construction in Appendix A of the WMO.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
SINGLE FAMILY HOME PERMITTING FLOW CHART[1]



[1]Does not apply to single family lots subdivided after May 1, 2014 (residential subdivision), see Appendix A of the WMO for a list of defined terms

WMO Volume Control Summary

- One inch of volume over total new impervious area
- Can be provided in several ways:
  - Infiltration Trenches
  - Infiltration Basins
  - Porous Pavement (storage in the voids below the pavement)
  - Bio-Retention Systems
  - Dry Wells
  - Cisterns
  - Open Channel Practices Fitted With Check Dams
  - Storage Below the Outlet of a Site Detention Facility
- Credit toward required detention volume (CN reduction)

WMO Volume Control Summary

- When providing storage in void space of aggregate, stone must be angular cut and cleaned/washed free of fines. Different aggregate sizes are acceptable
- Underdrains are required, and must be offset at least 2” above bottom of volume control storage
- Bottom of storage must be above groundwater level
  - 2 feet in separate sewer areas
  - 3.5 ft in combined sewer areas
  - Highest seasonal groundwater level established through soil borings
- One monitoring well per 40,000 ft^2 of area

WMO Checklist

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO
WATERSHED MANAGEMENT (WMO) PERMIT APPLICATION MINIMUM SUBMITTAL REQUIREMENTS CHECKLIST

Before the MWRD can accept a Watershed Management Permit application submittal, assign it a permit application number, and initiate engineering review; the submittal must include all the items listed below. Incomplete applications will be returned, unreviewed, to the applicant.

General Submittal Requirements:

1. ☐ One (1) copy of this form, checked as appropriate

2. ☐ Four (4) copies of the Watershed Management Permit application (Cover, Schedule A, Schedule B, Schedule C, General Conditions, and Engineering Certifications, original signatures with seals)

   - ☐ Municipality's (Permittee's) signature on permit form (page 9)
   - ☐ Owner/developer's (Co-permittee's) signature on permit form (page 9)
   - ☐ Design Engineer's signature and seal on permit form (page 8)
   - ☐ Municipal/Systems Engineer's signature and seal on permit form (page 8)
   - ☐ Inspection Engineer's signature and seal on permit form (page 8)

3. ☐ Two (2) copies of plan set (signed and sealed), as required to initiate review
   Note that four (4) copies of the plans will be required as part of final permit approval (2 copies + 2 original)

4. ☐ One (1) copy of Fee Payment Voucher form & a check for appropriate fees (no personal checks accepted)

5. ☐ One (1) copy of all completed detailed submittal checklists (as specific to the site and development type)

6. ☐ One (1) copy of all supporting calculations, exhibits, etc., as required by the applicable submittal checklists

If the application submittal is for a project that is on the existing development plans list, check the box below; and refer to Legacy Sewerage System Permit application information and provide appropriate legacy permit forms and checklist.

☐ Project is on existing development plans list

If you have any questions, please contact MWRD Engineering Department Permit Section at (312) 751-3255.

For reference, a typical permit schedule package might include the following specific permit schedules, in addition to the base permit application. Circle the example package used as a guide and check the applicable schedule boxes for this application:

Development with Stormwater Detention
- ☐ Schedule D WMO (or)
- ☐ Schedule D Legacy
- ☐ Schedule K & Exhibit A
- ☐ Schedule R & Exhibit R
- ☐ Schedule P

Sanitary Sewer Only
- ☐ Schedule K
- ☐ Schedule O (Direct)

or

- ☐ NRI only

Development with Floodplain and Wetlands
- ☐ Schedule D WMO (or)
- ☐ Schedule D Legacy
- ☐ Schedule K & Exhibit A
- ☐ Schedule L (if undetained area)
- ☐ Schedule H
- ☐ Schedule P
- ☐ Schedule R & Exhibit R
- ☐ Schedule W

Storm Sewer Only (ROW, no parcel development)
- ☐ Schedule O (for outfall)
- ☐ Schedule P

RUNOFF CURVE NUMBER ADJUSTMENT CALCULATOR

Site Information:

Total Site Area, A_w (ac) =	10	Total Impervious Area, A_I (ac) =	3
Runoff, R (in) =	5.00		
P = rainfall depth (in) =	7.58		
CN =	78		
S =	2.82		
Runoff Volume Over Watershed, V_w (ac-ft) =	4.17		

Volume of GI Provided:

Control Volume, V_R =	0.25	ac-ft	1" of volume over impervious area
Additional Volume, V_{GI} =	0.00	ac-ft	Additional volume over the required 1"

Adjusted Volume Over Watershed, $V_{ADJ} = V_W - V_R - V_{GI}$

V_{ADJ} (ac-ft) =	3.92

Adjusted Runoff Over Watershed, $R_{ADJ} = \frac{V_{ADJ}}{A_W}$

R_{ADJ} (in) =	4.70
S_{ADJ} =	3.28
Adjusted CN for detention calcs, CN_{ADJ} =	75.32

*Blue values are entered by user

CN Reduction Calculator

Role of an Authorized Municipality

- **Issue permits for development activities in § 201.1**
  - **Development within Flood Protection Areas (FPA)**
  - **Development impacting wetlands**
  - **Substantial improvements to buildings in regulatory floodplain**
  - **Development disturbing more than 0.5 acres (with some exceptions)**
- **Perform inspections to ensure compliance with WMO**
- **Establish fees**

Authorized Municipalities shall not issue permits for

- Development activities listed in § 201.2
  - Areas within CSA, tributary to combined sewer or waterway
  - Qualified sewer construction
  - Direct connection to District infrastructure
  - New outfall to waterways or Lake Michigan
  - Existing detention facility
    - Alters service area
    - Modifications
  - Discharging stormwater directly to District property
  - Non-residential on septic or private system connecting to sanitary sewer

Authorization Procedure

Letter of Intent

- Template Available from WMO website
- Legal opinion
- Verified financial statement
- Implementation plan
- Schedule of permit fees
- Exhibit showing corporate limits and CSA
- Contact information sheet

Month XX, Year

Dr. Catherine A. O'Connor, Ph.D., P.E.
Director of Engineering
Metropolitan Water Reclamation District of Greater Chicago
100 E. Erie Street
Chicago, Illinois 60611

Dear Dr. O'Connor:

Subject: Intent to become an authorized municipality to administer the Watershed Management Ordinance

The Town/City/Village of _____ ("municipality") intends to become authorized to adopt and administer the Watershed Management Ordinance ("WMO") to the extent allowed by Article 14 of that ordinance.

The municipality designates Mr./Ms. _____ as the municipality's enforcement officer. All correspondence should be directed to Mr./Ms. _____'s attention at the following address:

Street Address
City, State ZIP

Please find the following documents enclosed in support of this letter of intent.

1. Legal Opinion indicating the municipality has legal authority to perform all obligations required by the WMO, including:
   a. Regulating erosion and sediment control, stormwater management, floodplains, isolated wetlands, and riparian environments;
   b. Conducting inspections on private property;
   c. Issuing watershed management permits;
   d. Administering the WMO; and
   e. Entering into an intergovernmental agreement with the District.

2. A verified statement of financial capacity to perform and adequately fund the municipality's obligations related to the administration of the WMO as set forth in Article 14 of that ordinance.

3. An implementation plan, with an estimate of permit load and available review staff.

4. Schedule of Permit Fees.

5. An exhibit delineating the corporate limits of the municipality for the purposes of administering the WMO. Note that areas within the limits of the Combined Sewer Area Limits cannot be locally administered.

6. Contact information sheet.

Please contact the municipality's enforcement officer at (XXX) XXX-XXXX if you require further information.

Very truly yours,

Municipal Executive

Annual Reporting

- SSOs and basement backups:
  - Summary of all SSOs and basement backups, not including those caused by collapse/blockage solely on the private service lateral
  - Maintain records of all SSOs and basement backups (example form in TGM)

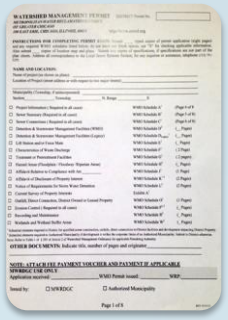
Report Due Date	Reporting Year	Report Form
March 1, 2015	2014	ICAP Annual Summary Report
March 1, 2016	2015	Short Term Requirements Annual Summary Report
March 2017 - 2020	2016 - 2019	Short Term Requirements Annual Summary Report. Once completed use Long Term O&M Annual Summary Report
March 2021	2020	Long Term O&M Annual Summary Report

Multi-County Municipalities

- **May adopt adjacent county stormwater ordinance**
- **Process**
  - Letter of intent
  - Adoption of adjacent county ordinance
  - Intergovernmental Agreement
- **Permits**
  - Municipality issues permits for activities in Section 201.1
  - District issues permits for activities in Section 201.2

Under the Current SPO

MWRD Involvement in Project



Design Project

Apply for MWRD Permit

Mobilize

Obtain Permit

Substantial Completion

MWRD Inspect

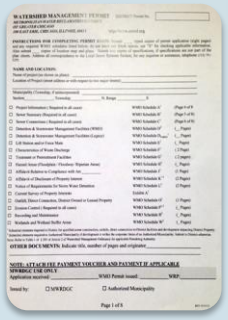
Occupancy

$$

Under the Current SPO

MWRD Involvement in Project (expedited)

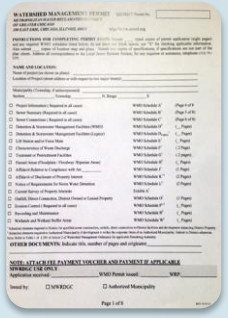



Design Project	Mobilize	Substantial Completion	Apply for MWRD Permit	MWRD Inspect	Obtain Permit	Occupancy

Under the Coming WMO

MWRD Involvement in Project



Design Project

Apply for MWRD Permit

Obtain Permit

Mobilize
- MWRD Erosion Inspection

Sewer Work
- MWRD Inspect

Substantial Completion
- MWRD Inspect

Occupancy

$$

Frequently Asked 'Key' Questions

- Is the WMO really effective May 1, 2014?

  Yes

- How do I get on the existing development plans list, aka the 'grandfather' list? When is it due?

  Contact your municipality or township, List due by 5/1/14

- When will WMO training be provided?

  Third and fourth week of April

- How long will it take to obtain a WMO permit?

  That depends on what is submitted…
  Initial submittal response : 15 working days / 30 for complicated
  10 working days for resubmittal

Frequently Asked 'Key' Questions

- Is there a deadline to submit a letter of intent to become an authorized municipality?

  There is no deadline

- Will the District's inundation maps be used to establish the FPE?

  No, refer to FEMA regulatory floodplain maps (FPE = BFE + 2')

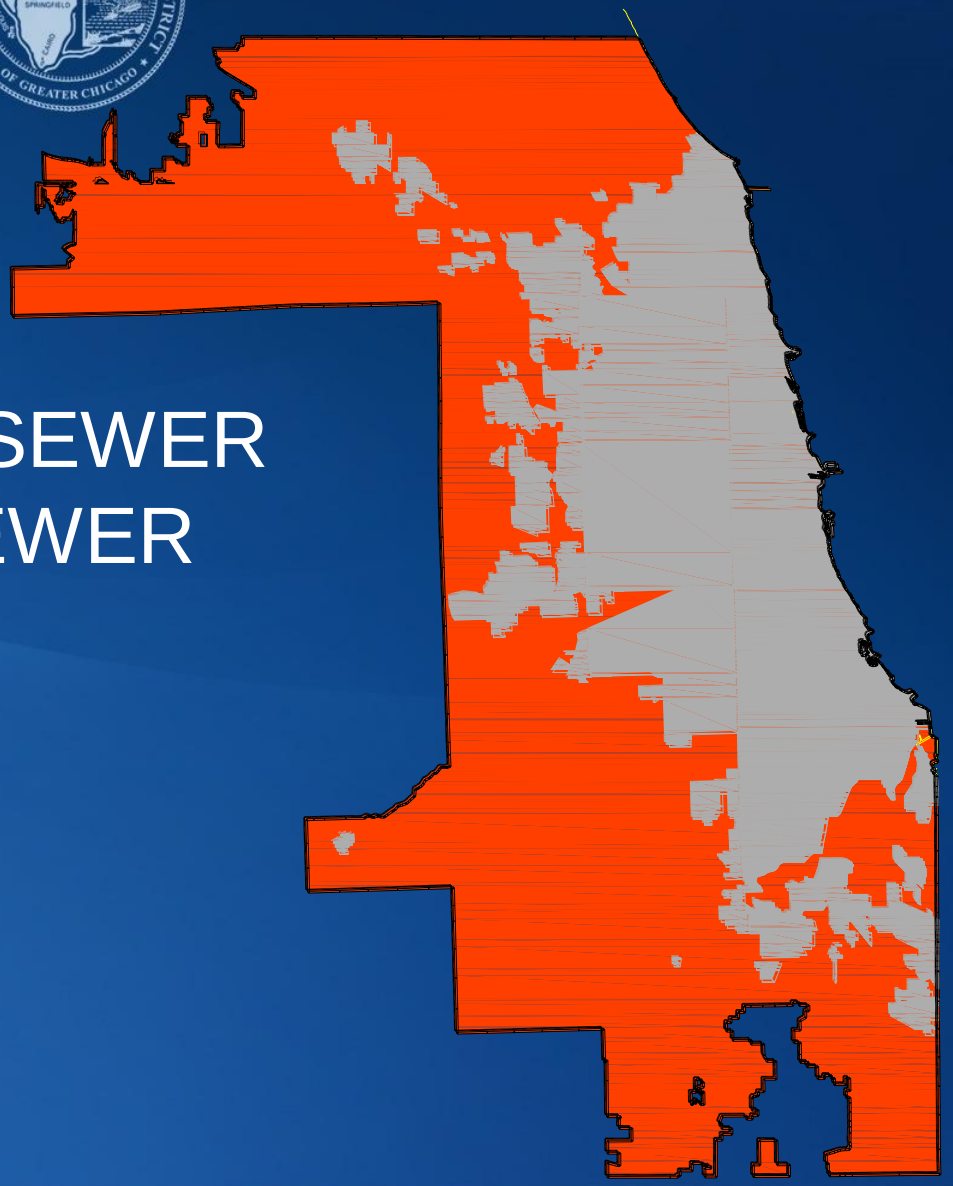
- How do I provide detention according to the new WMO standards in a high density downtown area?

  Detention trading is a final option, but lots of flexibility

- When will the snow melt and this record breaking winter end?

  May 1, 2014

MWRD SEPARATE SEWER AND COMBINED SEWER AREAS



LEGEND:

- Separate/Unsewered area, 508.5 sq. mi.
- Combined Sewer area, 375 sq. mi.