

# Progressive Stormwater Programs Across the Nation

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# Introduction

- Part of process for DuPage County Stormwater Ordinance Update
- Review of twelve ordinances for innovative practices and policies
- Interviews conducted and ordinances and manuals reviewed.

# Subject Areas of Interest

- Stormwater Management
- Restoration and Sensitive Area Protection
- Development and Re-Development
- Erosion and Sediment Control
- Floodplain Management
- Illicit Connection Detection and Discharge Elimination Programs (IDDE)
- Roadway
- Wetlands

# Stormwater Management: Quantity

- Onsite Detention
- Regional Detention





# Stormwater Management: Quantity – Onsite Detention

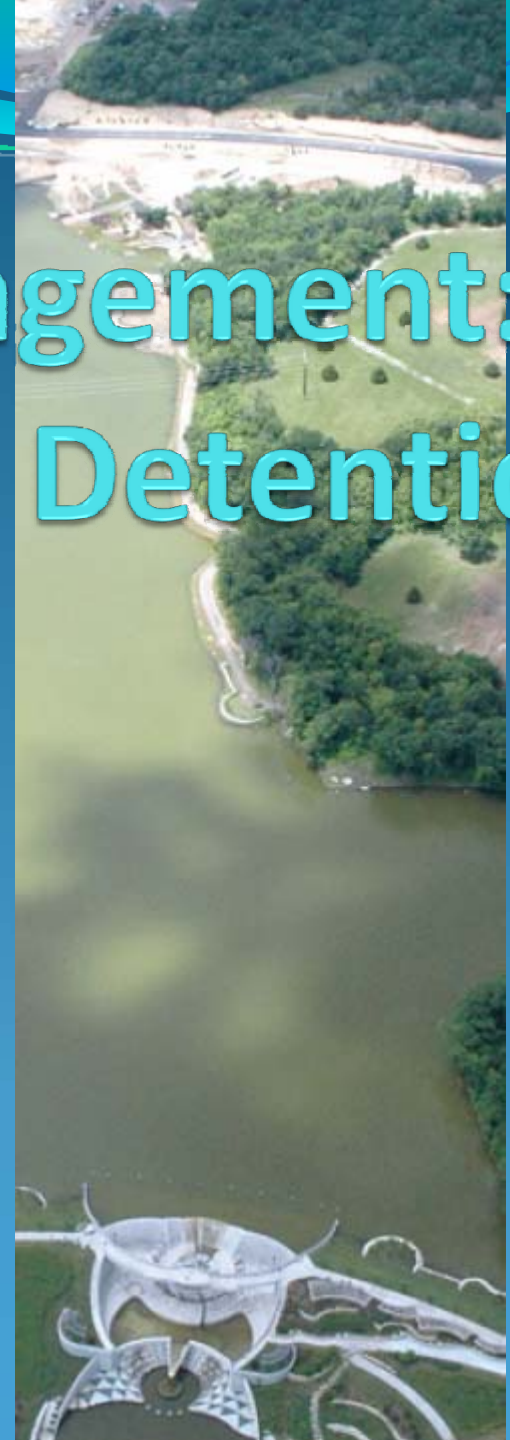
- Allow BMPs to count towards detention requirements
- Implement LID to the Maximum Extent Practicable
- Different requirements based on outfall type





# Stormwater Management: Quantity – Regional Detention

- Fee in lieu of onsite detention pays for regional detention



# Stormwater Management: Quality

- Water Quality Storm
- BMP/LID requirements
- Infiltration
- O&M





# Stormwater Management: Quality – WaterQuality Storm

- Usually defined as 90% of the annual rainfall volume





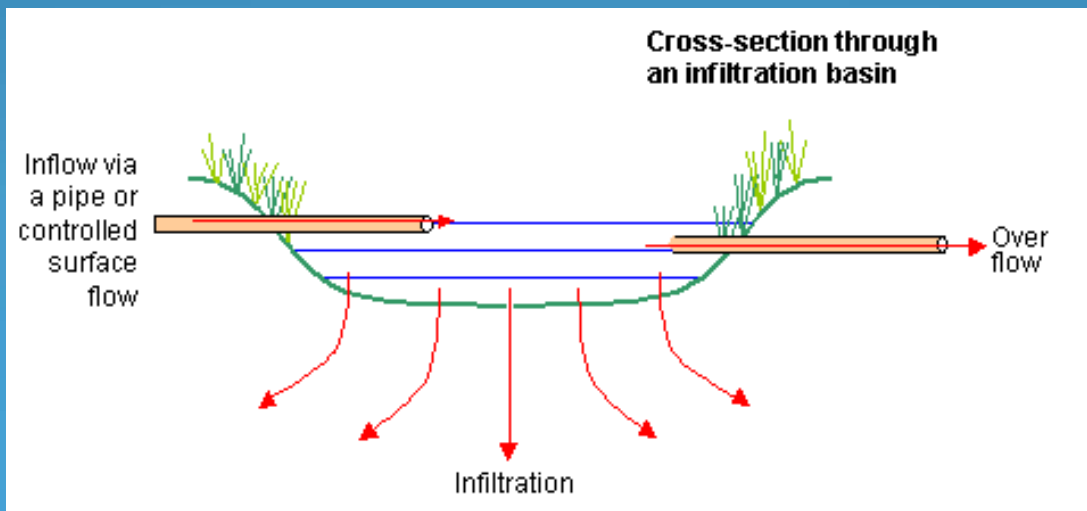
# Stormwater Management: Quality – BMPs/LID

- Seattle: Requires use of BMPs to MEP = green roofs at a minimum
- Stafford County & Prince George's County: Require LID to MEP
- Pay fee in lieu of BMPs



# Stormwater Management: Quality - Infiltration

- Infiltration generally preferred, but not always required
- Portland: 2 in/hr infiltration, or pay fee
- Philadelphia: Infiltrate 1"
- Maryland: Recharge volume required



# Stormwater Management: Quality – O&M

- Facilities are usually privately owned
- In some cases, if in public ROW, the community will take them over
- Lenexa: Employs full time water quality specialist and BMP inspector
- Portland: BMPs and maintenance plans are recorded with the deed. Inspection program: visits once per year



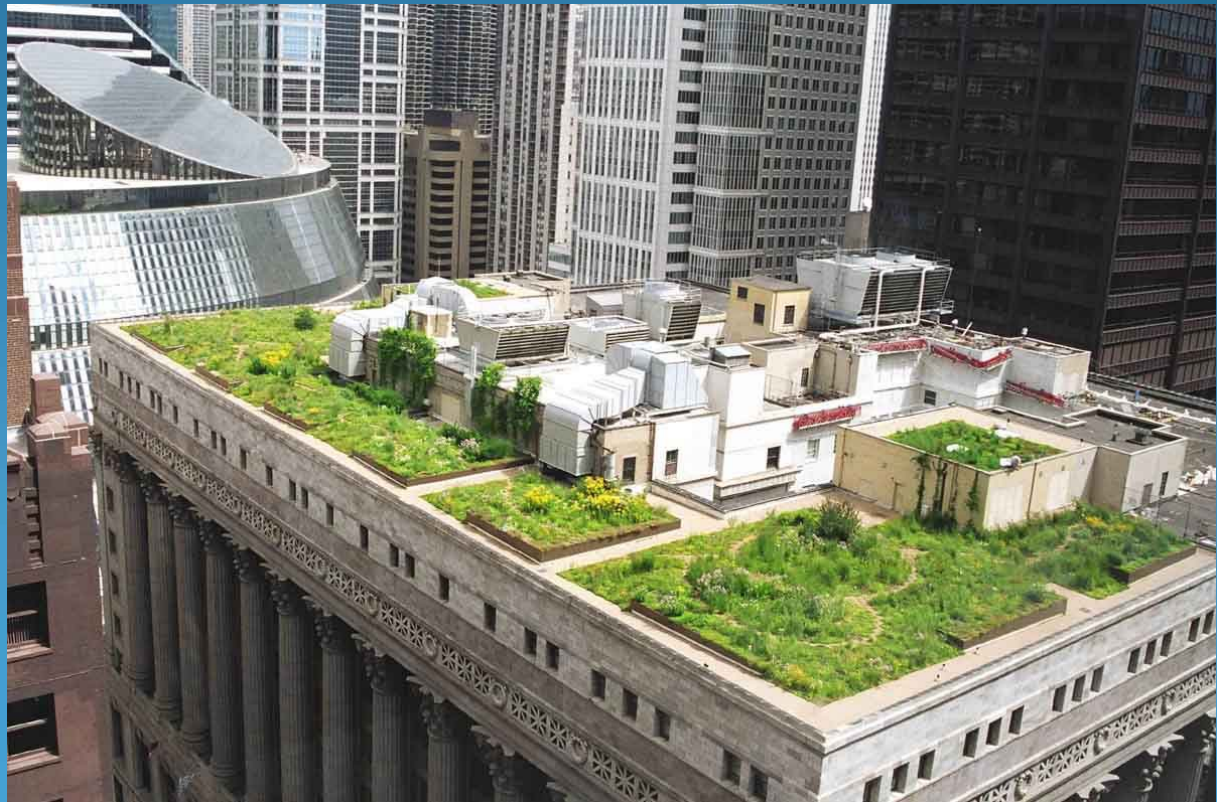
# Restoration and Sensitive Area Protection

- Sensitive Area Plans
- Stream and wetland setbacks
- Extra monitoring and BMP requirements
- Groundwater recharge areas
- Steep slope requirements
- Highly erodible soil area requirements



# Development & Re-Development

- Green Infrastructure Retrofits
- Redevelopment Incentives
- More stringent requirements for sensitive receiving waters







# Erosion & Sediment Control

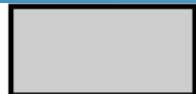
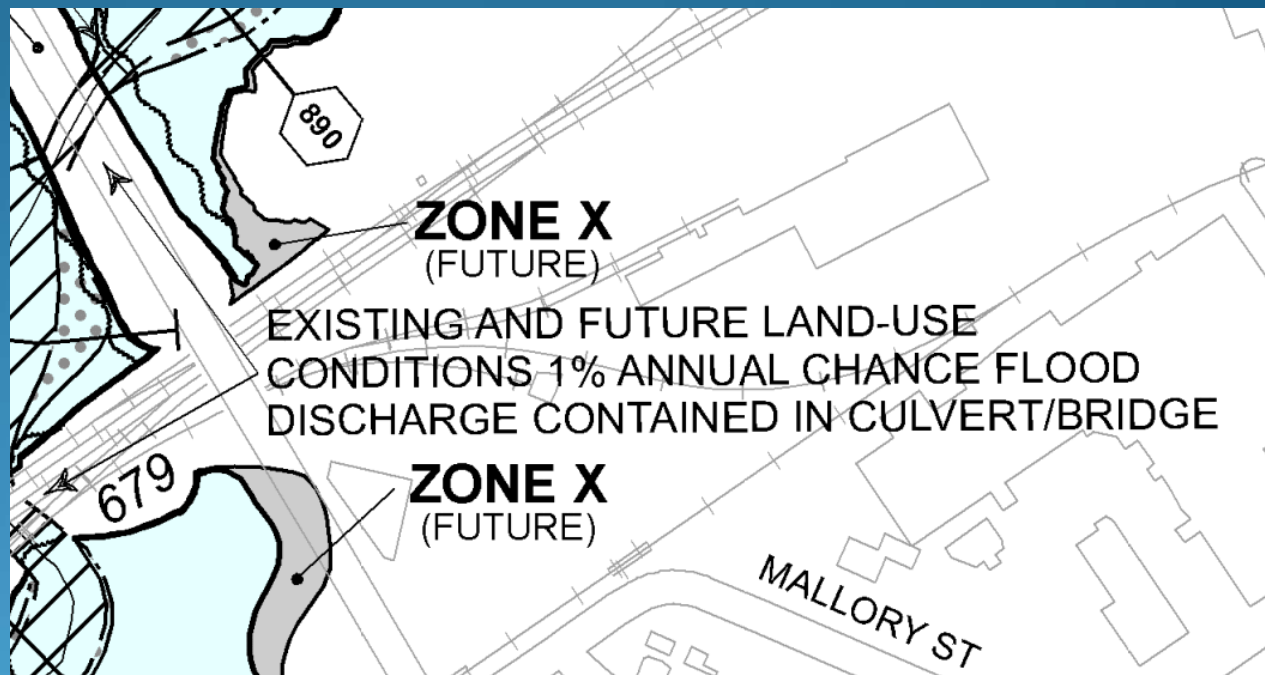
- Construction BMP Requirements
- Stabilization time
- Construction phasing and plan approval
- Re-growth of disturbed areas





# Floodplain Management

- No new development in floodplain
- Maps no older than five years
- Map Ultimate Buildout scenario
- Regional detention for flood control



**ZONE X**

## OTHER FLOOD AREAS (Mecklenburg County)

Areas of future conditions 1% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

# Illicit Connection Detection & Discharge Elimination

- GIS Tracking Program
- Stations in stream to detect discharges
- Fines up to \$5000/day



# Roadways

- Green Infrastructure
- Restrictors on inlets to prevent CSO overflow
- Separation of street and landscape contracts
- Green Streets required





# Wetlands

- Programs typically manage to the State and US Army Corps of Engineers requirements
- Incentives and flexibility to promote wetland conservation
- Buffers





Questions?