COUNTY STORM WATER MANAGEMENT ORDINANCES
COUNTY STORM WATER ORDINANCES

WHAT ARE THEY FOR?
WHAT SHOULD THEY INCLUDE?

DON’T START FROM SCRATCH!
TYPICAL ORDINANCE

- Purpose and Policy (scope)
- Definitions
- Guidelines – Applications/Plans/Permits/Fees
- Review Process
- Approval Standards - Conditions
- Enforcement/Penalties
THREE TIERED APPROACH

- METHODOLOGIES, DESIGN CRITERIA, TECHNICAL REQUIREMENTS
- HYDROLOGIC & HYDRAULIC ANALYSIS, INFRASTRUCTURE, BMP’S

They are different!
ORDINANCE AND POLICY

➤ Planning and Zoning Ordinances
✓ Storm Water Conveyance and Design Requirements
  • Guidelines and Exemptions / Waivers (agriculture)
  • Review and Approval Process
  • Applications and Fees
✓ Flood Protection and Damage Prevention
✓ Erosion Control

➤ Policy – Unwritten and Written

CONTROL WHAT YOU WANT OR NEED TO...

THIS MAY DUPLICATE OTHER FEDERAL AND STATE REGULATIONS
GUIDELINES AND STANDARDS

- **Storm Water Management Plan**
  - ✔ Document Outline – Minimum Requirements
  - ✔ Application Forms / Fees
  - ✔ Design and Review Standards

- **Storm Water Permit**
  - ✔ Erosion / Sediment Control
  - ✔ Best Management Practices (BMP’s)
  - ✔ Design and Review Standards
DESIGN STANDARDS

Storm Water Management Plan

Document Outline – Minimum Requirements
Application Forms / Fees
Design and Review Standards
RURAL RESIDENTIAL
STANDARDS AND REVIEW PROCESS

- APPLICATION REQUIREMENTS – CONTENT
  - Design Events and Peak Flow Criteria

- HYDROLOGY
  - Simple  \( Q = C_i A \), HydroCAD, Regression Equations
  - Complex  SSA-Civil 3D, HEC-HMS, SWMM
    - Tools - LIDAR topography/soils mapping/GIS
    - What to use?

- APPROVAL - WITH CONDITIONS!

Do not include methods in your ordinance use policy to define [*]
Is this a “DESIGN EVENT”?  
– Do not over analyze
But I installed the erosion control?
Seeding vs. Hydro-Seeding

Seeding v. Matting (type)
URBAN UNINTENDED CONSEQUENCES

Urban Impacts

Erosion Depth > 10 ft
~ 30 to 50 feet wide

Storm Water
Detention/Retention

Tom O’Leary Golf Course
Avoidable Impacts – YES
Cost $1+ Million

City to County Transfer
ENFORCEMENT

- STATE - NDDH NDPDES / MS4 PERMITS
  - NON-COMPLIANCE PENALTIES
  - FEDERAL – EPA SITE VISITS

- COUNTY PLAN / PERMIT COMPLIANCE
  - MISDEMEANOR
  - PERMIT SUSPENSION/REVOCATION
  - CEASE AND DESIST ORDER
  - FINES OR CITATIONS

- ORDINANCE
  - CAN BE ENFORCED – BUT LIMITED FLEXIBILITY

- POLICY
  - FLEXIBLE, BUT HARDER TO ENFORCE

IF YOU CAN’T ENFORCE IT WHAT IS ITS VALUE?
COUNTY / CITY CONFLICTS

• JURISDICTIONAL AUTHORITY - COUNTY VS. CITY
  ✓ URBAN VS. RURAL INTERFACE (ETA)
  ✓ CAN AND WILL YOU AGREE?
  ✓ JOINT POWERS

• WATER RESOURCE DISTRICT
  ✓ A RESOURCE WITH STATUTORY AUTHORITIES

• ENFORCEMENT
  ✓ WHO HAS OVERSIGHT?
TYPICAL ORDINANCE

- Purpose and Policy (scope)
- Definitions
- Guidelines – Applications/Plans/Permits/Fees
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OTHER AUTHORITIES

- FLOODPLAIN MANAGEMENT – FEMA
- ND STREAM CROSSING DESIGN STANDARDS
  - Article 89-14 ND Administrative Code
  - Roadway Liability
- OTHER STANDARDS – LOCAL
  - Existing flows = Developed Flows

Reference other criteria / sources where practical
FLOODPLAIN DELINEATION

Urban and Rural Interface

Flood Insurance Rate Map (FIRM)
EROSION CONTROL

- ND STATE DEPARTMENT OF HEALTH
  - SWPPP – PHASE II PERMITS (CONTRACTORS)
  - BEST MANAGEMENT PRACTICES – SWPPP
  - MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) DESIGNATION

- NDDOT EROSION CONTROL STANDARDS
  - REFERENCES - SPECIFICATIONS
STATE DESIGNATED COMMUNITIES AND COUNTIES

SIX MINIMUM CONTROL MEASURES STATE (MS4 PERMIT REQUIRED)
1. PUBLIC EDUCATION AND OUTREACH
2. PUBLIC PARTICIPATION/INVOLVEMENT
3. ILLICIT DISCHARGE DETECTION AND ELIMINATION
4. CONSTRUCTION RUNOFF CONTROL
5. POST CONSTRUCTION RUNOFF CONTROL
6. POLLUTION PREVENTION/GOOD HOUSEKEEPING

ANNUAL COST
- GENERAL TAX REVENUES (MILL LEVEE)
- STORM WATER UTILITY FUND
- STORM WATER MAINTENANCE AND PERMIT FEES
COLLABORATIVE PROCESS

COUNTY AND CITY

Developers and Landowners

ENGINEERING & ENVIRONMENTAL CONSULTANT

WATER RESOURCE DISTRICT

Parks & Recreation Green Space

The Public
RELATED ORDINANCE ISSUES

- NATURAL WATERCOURSE
- STORM WATER EASEMENTS – DEFINITIONS
- GROUNDWATER – UNKNOWNS
- ENGINEERING CONSULTANT SELECTION
  - QUALIFICATION BASED SELECTION (QBS) – RECOMMENDED
# ND Stream Crossing Standards

<table>
<thead>
<tr>
<th>Type of Crossing</th>
<th>Urban System</th>
<th>State Highway System</th>
<th>County Rural System</th>
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<tbody>
<tr>
<td></td>
<td>Regional</td>
<td>Urban Roads</td>
<td>Principal Arterial</td>
</tr>
<tr>
<td>Bridges &amp; Reinforced Concrete Boxes</td>
<td>25 year²</td>
<td>25 year²</td>
<td>50 year²</td>
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<tr>
<td>Roadway Culverts</td>
<td>25 year²</td>
<td>25 year²</td>
<td>50 year²</td>
</tr>
<tr>
<td>Storm Drains</td>
<td>10 year¹</td>
<td>5 year¹</td>
<td>10 year²</td>
</tr>
<tr>
<td>Underpass Storm Drains</td>
<td>25 year¹</td>
<td>25 year¹</td>
<td>50 year²</td>
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