



U.S. Department of Transportation  
**Federal Highway Administration**

# **Stormwater Program Organizational Structure**

**CEE by AASHTO Stormwater Community of Practice**

**Thursday, March 17, 2016**

# AASHTO and FHWA



- **GABRIEL WEIL**, American Association of State Highway and Transportation Officials



- **SUSAN JONES**, PE, Federal Highway Administration



- **MARCEL TCHAOU**, PE, Federal Highway Administration

# Community of Practice Presenters



- **WENDY TERLIZZI, CMS4S**  
Environmental Programs Manager  
Arizona Department of Transportation



- **DAVID GASKIN, P.E.**  
Deputy Director  
Nevada Department of Transportation



- **NICK TIEDEKEN**  
Hydrologist  
Minnesota Department of Transportation



- **FRED NOBLE, P.E.**  
State NPDES Administrator  
Office of Maintenance  
Florida Department of Transportation



- **ANNA LANTIN, P.E.**  
Facilitator, AASHTO Stormwater Community of Practice  
Michael Baker International

# Community of Practice Forum Overview

- **Stormwater Program Organization – Background**

- Wendy Terlizzi, Arizona DOT

- **Program Organization - Process Improvements**

- Dave Gaskin, Nevada DOT

- **Stormwater Program Challenges and Innovation**

- Nick Tiedeken, Minnesota DOT

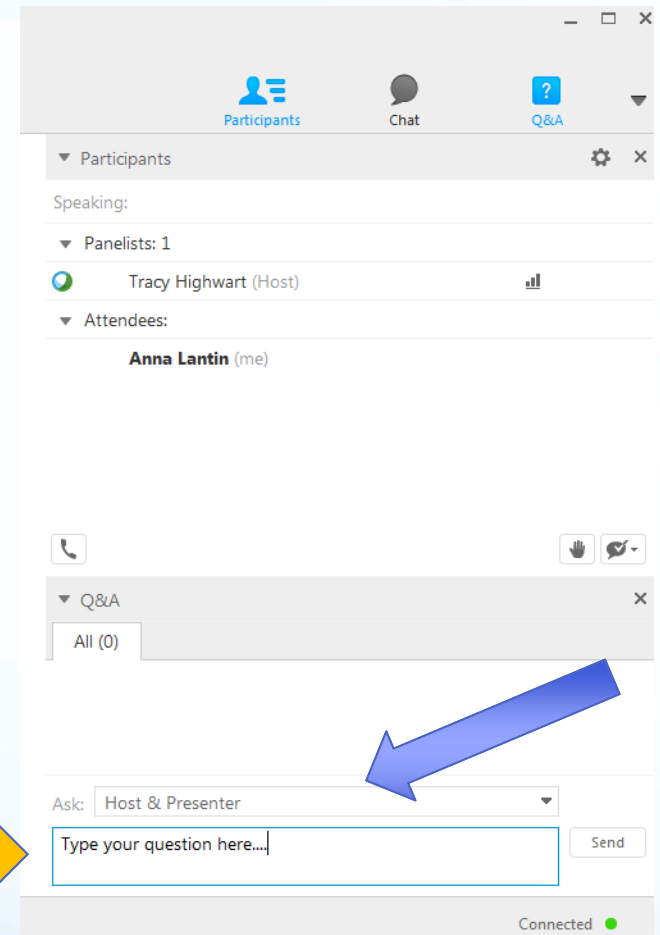
- **Stormwater Collaboration with Maintenance**

- Fred Noble, Florida DOT

- **Community of Practice Forum**

- Anna Lantin, Michael Baker International

- **Closing**



# DOT Stormwater Program Organization

## Background



Wendy Terlizzi, CMS4S  
Environmental Programs Manager  
Arizona Department of Transportation

# Effective Stormwater Programs

- Integrate stormwater and permit responsibilities into the organization (ownership)
- Support from the highest level of the organization
- Exceptional communication throughout the chain of command
- DOT funded positions at the regulatory agency
- Permit structure and whether the DOT operates in a delegated or non-delegated state

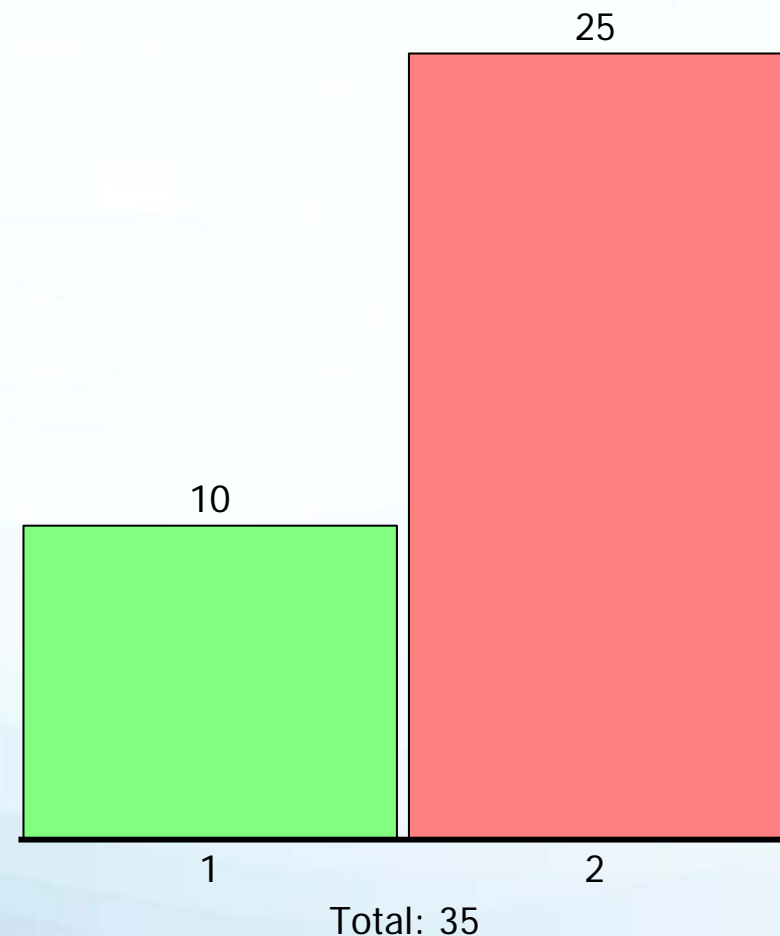
# Ideal Structure

- Not a one size fits all solution
  - Needs to be customized to each DOT
  - Structure should be guided by permit requirements
- Establish early
- May be dependent on funding source (state vs. federal)
- Primary program staff/responsibility resides in HQ
  - Staff in the districts/regions
  - Cross-discipline



# Is your DOT Organizational Structure Effective for Managing the Stormwater Program?

1. Yes, and no change is necessary
2. No, changes need to be made

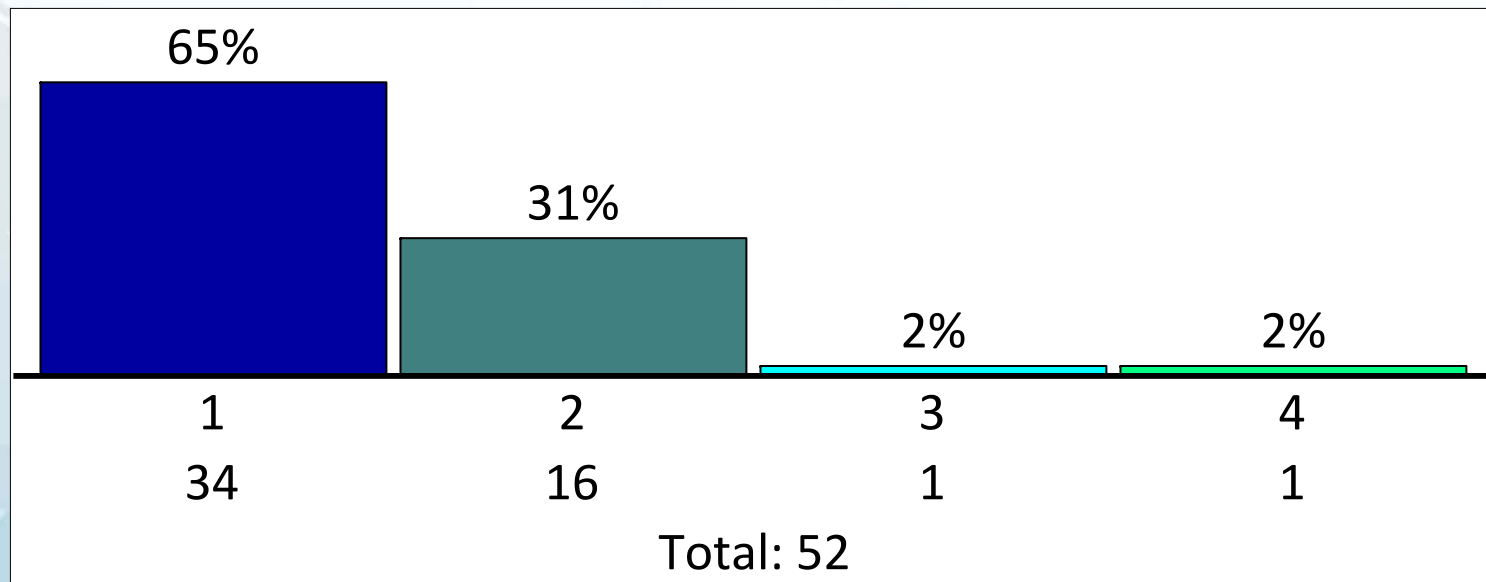


2014 AASHTO Stormwater Practitioner's Meeting  
poll question

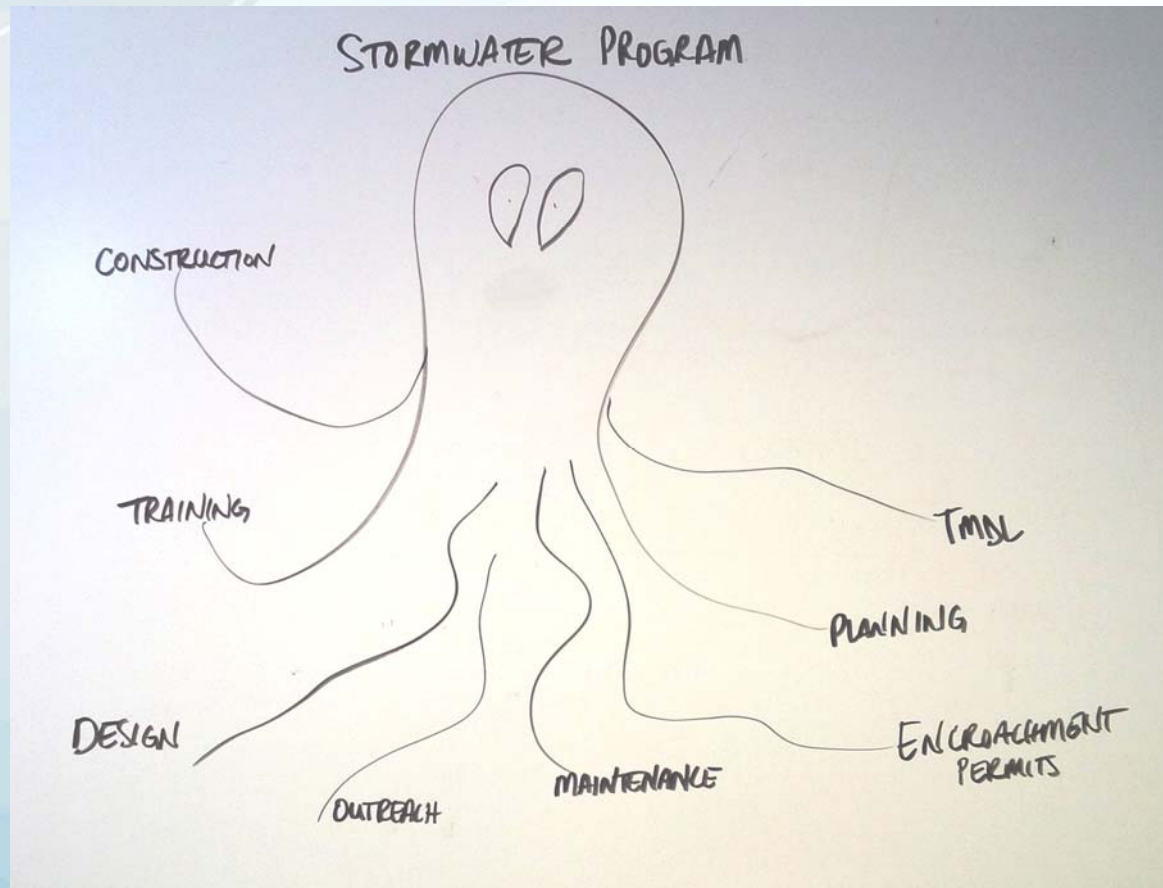


## How many people make up your stormwater program staff?

1. 0-5
2. 6-20
3. 21-50
4. 50-100



# Stormwater Impacts Program and Day to Day Practices



- **Construction:** Construction General Permit, SWPPPs, construction BMPs
- **Maintenance:** facilities management, vegetation management, BMP maintenance, IDDE or ICID, trash management, etc.
- **Planning & Design:** New Development/ Redevelopment, post-construction treatment BMP requirements
- **Training**
- **TMDL:** Water quality
- **Outreach**
- **Encroachment Permits**

# Drawbacks

- Change in upper management or people in critical positions
- Change in support
- May lead to reevaluation of the program and then reorganization of the program
- Reorganization of the program too often can affect effectiveness

# Nevada Department of Transportation Stormwater Program



David Gaskin, P.E.  
Deputy Director

# Nevada DOT Stormwater Program

- Statewide Phase I Large MS4 permit from Nevada DEP
- EPA audit 2011
- In the spring of 2015, the Nevada Legislature took action to give NDOT the resources and authority necessary to build a fully compliant stormwater program

# Stormwater Program Authority

- Budget Amendment:

- 59 new positions
- \$13 million for new stormwater equipment



- Statutory Authority:

- Enforcement authority to address unauthorized discharges
- Injunctive relief, civil penalties, criminal prosecution
- New Deputy Director position

# Stormwater Program Personnel

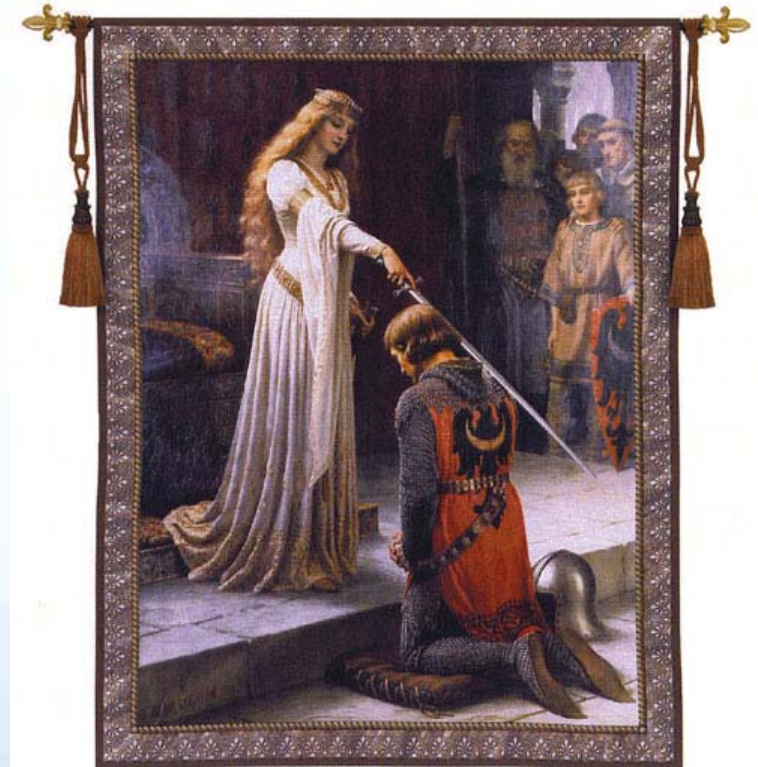
- Headquarters (Carson City):
  - Executive Management – 3
  - Information Technology – 6
  - Design and Plan Review – 10
  - Program Management – 9
  - Compliance and Enforcement – 10
  
- District Offices (Las Vegas, Reno and Elko)
  - Compliance Inspectors – 9
  - Maintenance personnel – 21





# Challenges

- Culture Change
  - More than just Enlightenment and Awareness
- Transformations needed:
  1. Engineering Feudal System to Balanced Engineer/Scientist program
  2. Regulatee to Regulator
  3. MS4 to TS4



# Stormwater Program Integration

- Nearly half of program staff in the field
- Stormwater personnel embedded in various divisions: IT, Design, Communications, Training, Maintenance
- Resources to back up requirements
- Deputy Director: internal horsepower plus connection to NDEP and EPA



# Stormwater Program Progress

- Nearly half the new positions have been filled
- All major equipment for this year is on order
- Developing databases and asset management systems
- Training and Public Information programs expanding
- Stormwater component mapping nearly complete
- Finalizing program manuals and guidance
- Developing compliance and enforcement policies and procedures

# Above and Beyond

- Fully integrated GIS and Database functions
- Electronic inspection records and eReporting
- Enterprise Asset Management System
- Intergovernmental cooperation
- National participation and communication



# Minnesota DOT Stormwater Organization Challenges and Innovations

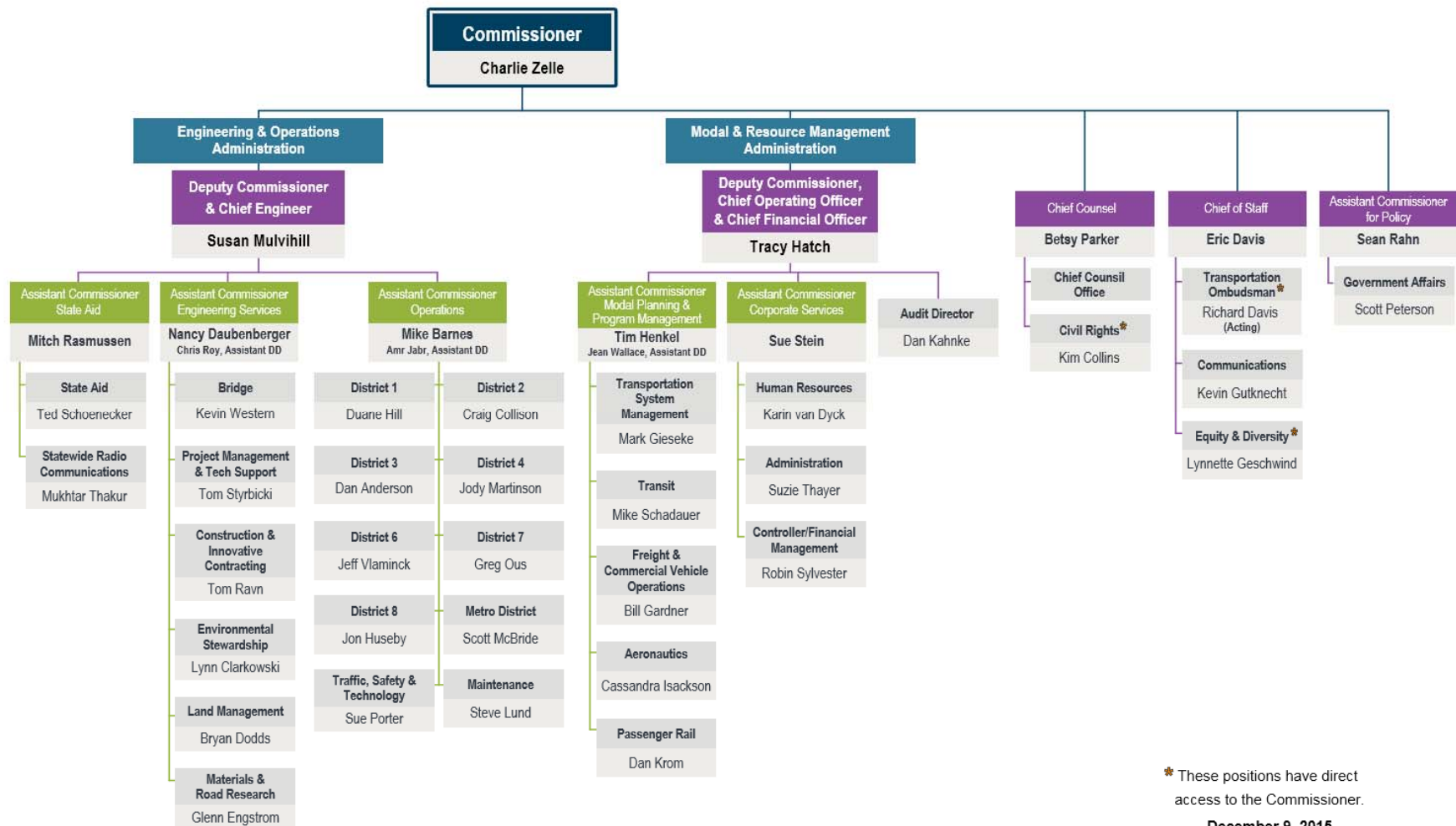
Nick Tiedeken

Minnesota Department of Transportation

March 17, 2016



# MnDOT Structure



\* These positions have direct access to the Commissioner.

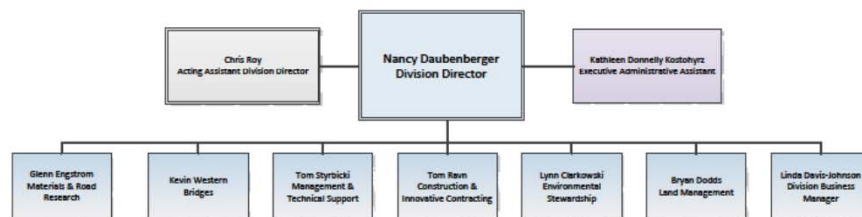
December 9, 2015



# Engineering Services, Operations Divisions

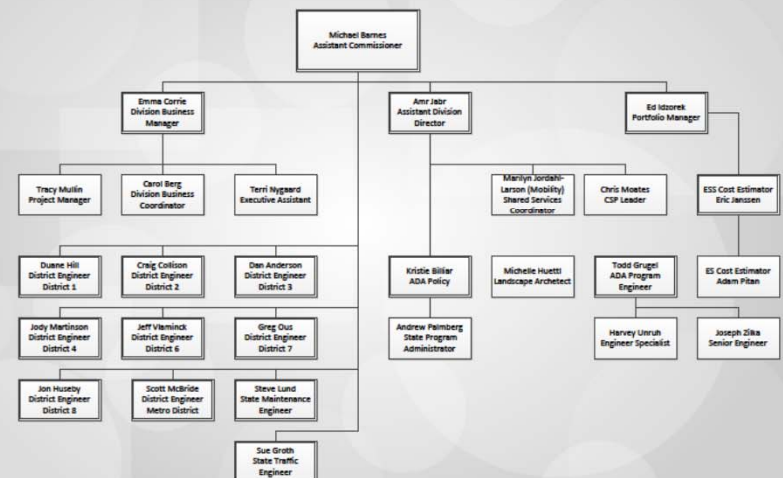
- Operations – Districts, CO Maintenance
- Engineering Services – Environmental Stewardship, Bridge, Office of Construction and Innovative Contracting (OCIC), Project Mgmt and Tech Support

Engineering Services Division  
(ESD)  
February 2016



Operations Division

Organization Chart



Updated 10/07/2015



# Stormwater Regulatory Drivers

- NPDES Construction Stormwater (CSW)
- NPDES MS4
- Watershed Districts(WSD) / Watershed Management Organizations (WMO)

# NPDES Construction Stormwater (CSW) Permit

- Development of Stormwater Pollution Prevention Plan (SWPPP)
- SWPPP Approval Required (>50 acres, 303(d), special waters)
- Certification Training Required

# MnDOT NPDES CSW

- Districts responsible for permit compliance
- Co-permittee with contractor
- Office of Environmental Stewardship (OES)
  - Technical Support –Guidance, BMP Selection, Design, Inspections, Policy
  - Provide Certification Training in conjunction with University of Minnesota, Minnesota Pollution Control Agency (MPCA)
- OCIC-Contract Administration
- Bridge-Hydraulics, HYDINFRA

# MPCA Liaison Position

- MPCA staff paid by MnDOT
- (MnDOT also supports COE, DNR liaisons)
- Located in MnDOT Office of Environmental Stewardship
- Technical Support
- Review and Approve SWPPPP
- Site Inspections and Recommendations
- Benefit to MnDOT and Regulators (MPCA)
- Currently Evaluating

# NPDES MS4 Permit

- Statewide General Permit for MS4s
- Same conditions for all MS4s
- Requires Development of Stormwater Pollution Prevention Program (SWPPP)
- Application and SWPPP document sent to MPCA for review and Public Comment
- Permit Applies to MnDOT in Urbanized Areas (UAs)
- 8 UAs in 7 Districts, one District – no UA

# MnDOT Permit Approach

- One Application and SWPPP for All MnDOT MS4 areas

OR

D2

# Every District for Themselves

D1

D3

D4

Metro

CO

D8

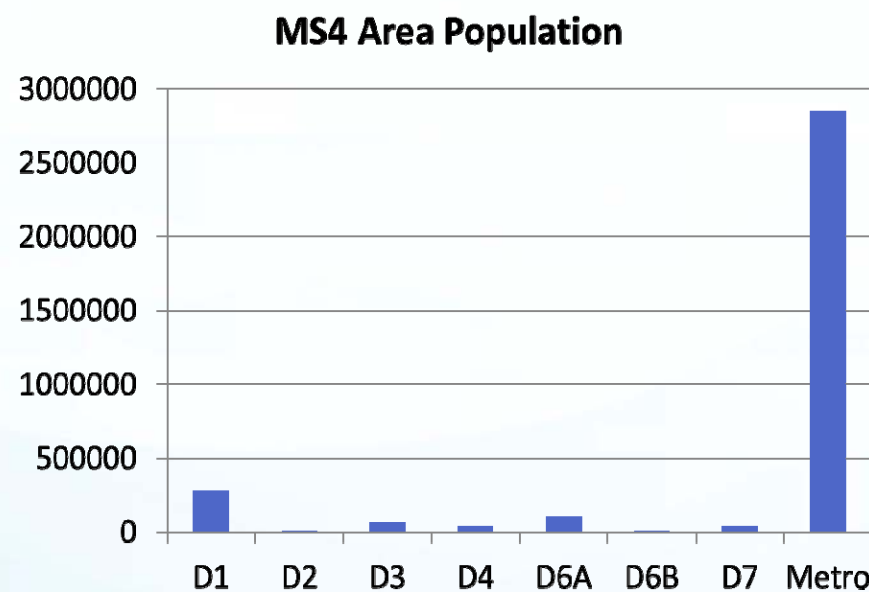
D6A

D6B

D7



# Urbanized Areas



# MS4 Permit

D2



D4

D3

D1

Metro

CO

D8

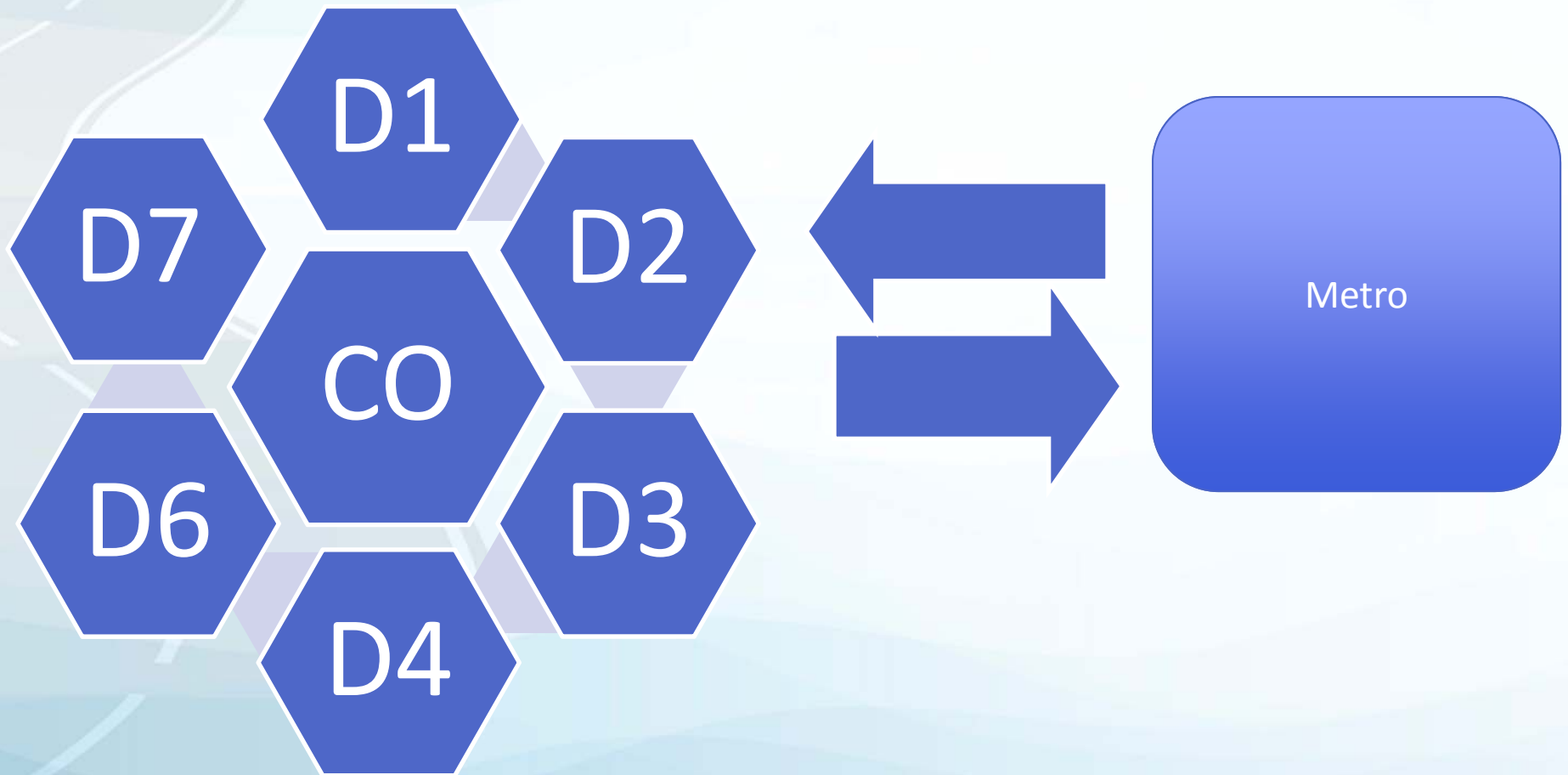
D6A

D6B

D7

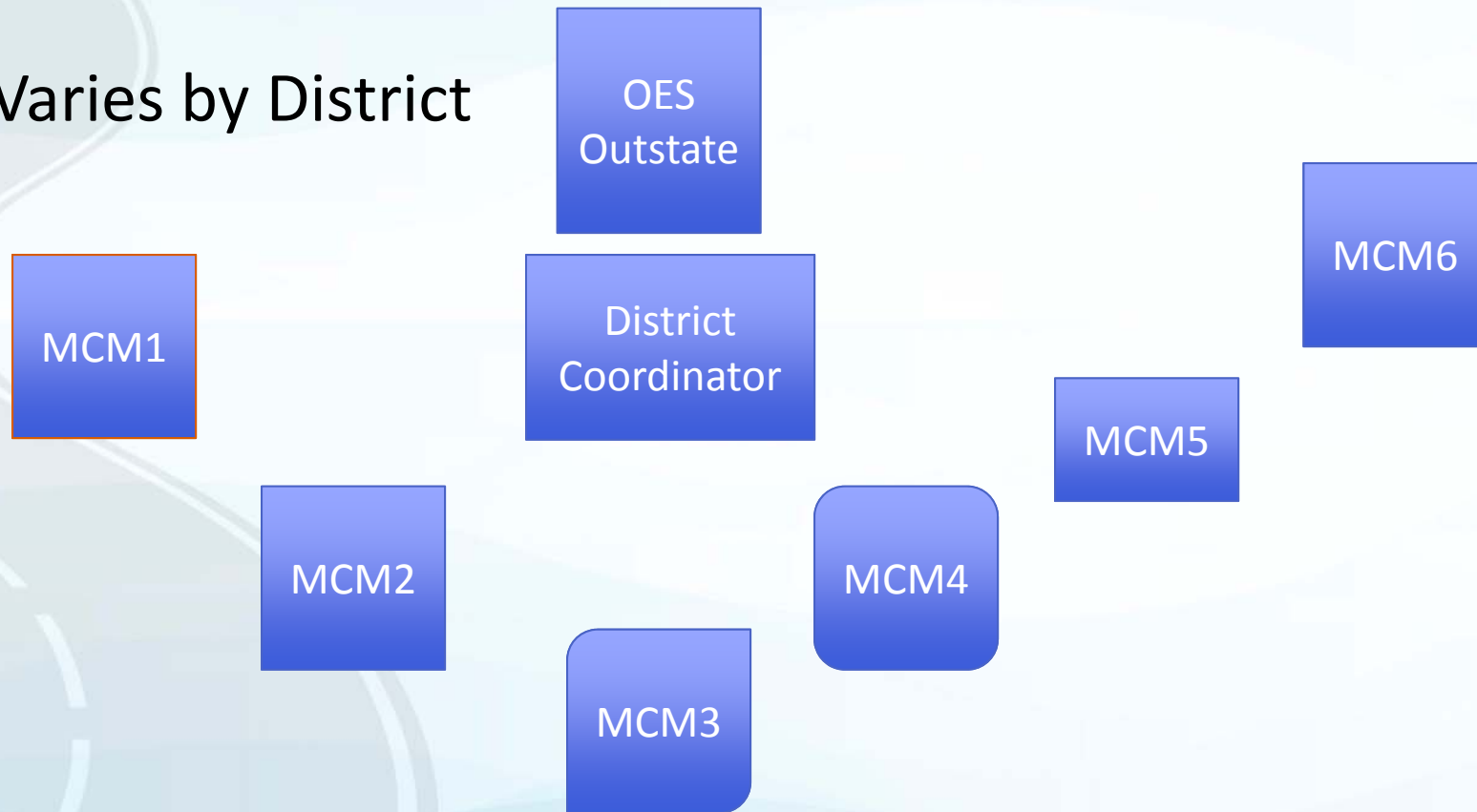
# MnDOT MS4 Permit Structure

## 2 Programs

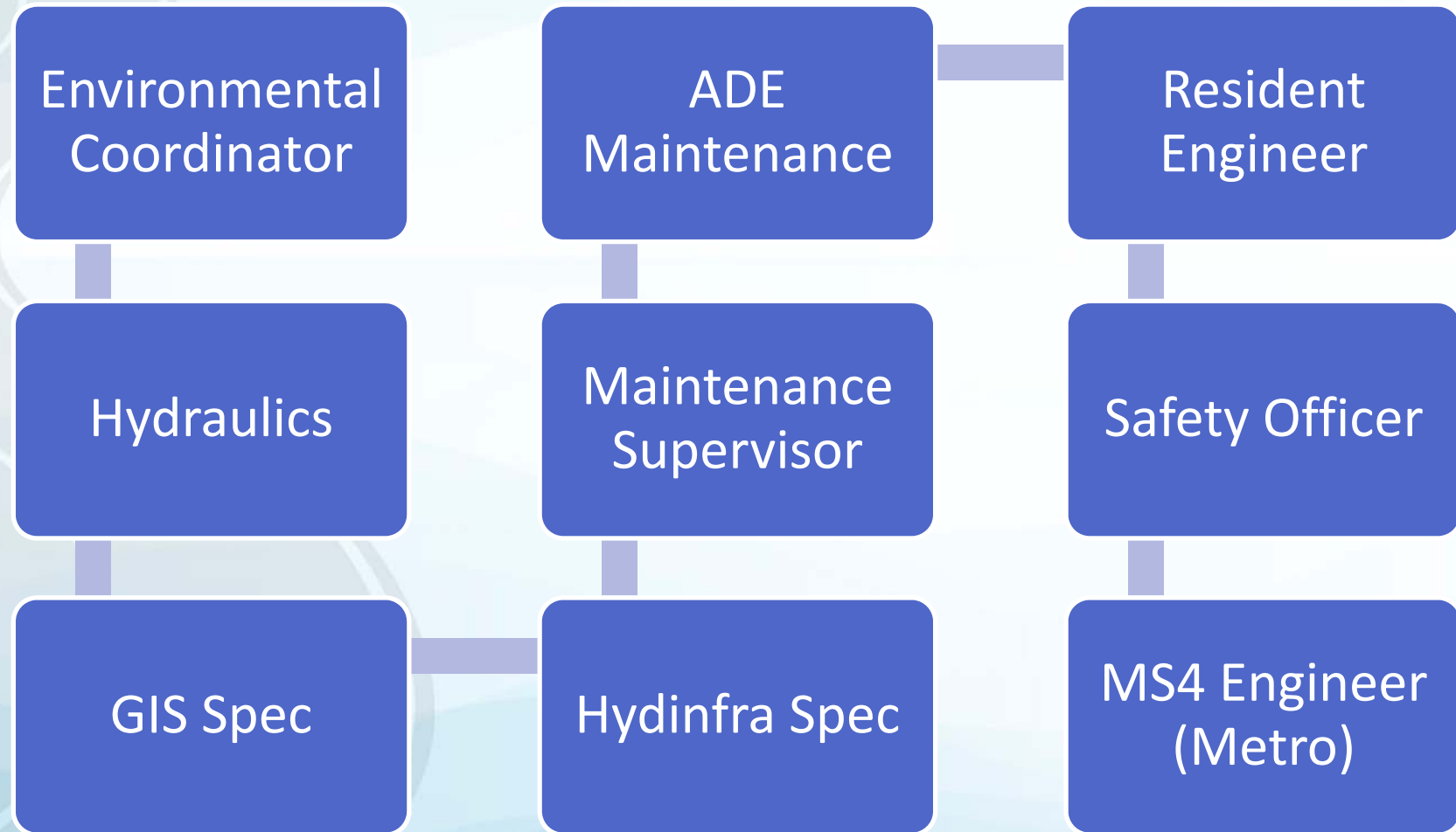


# MS4 Responsibilities

- Varies by District



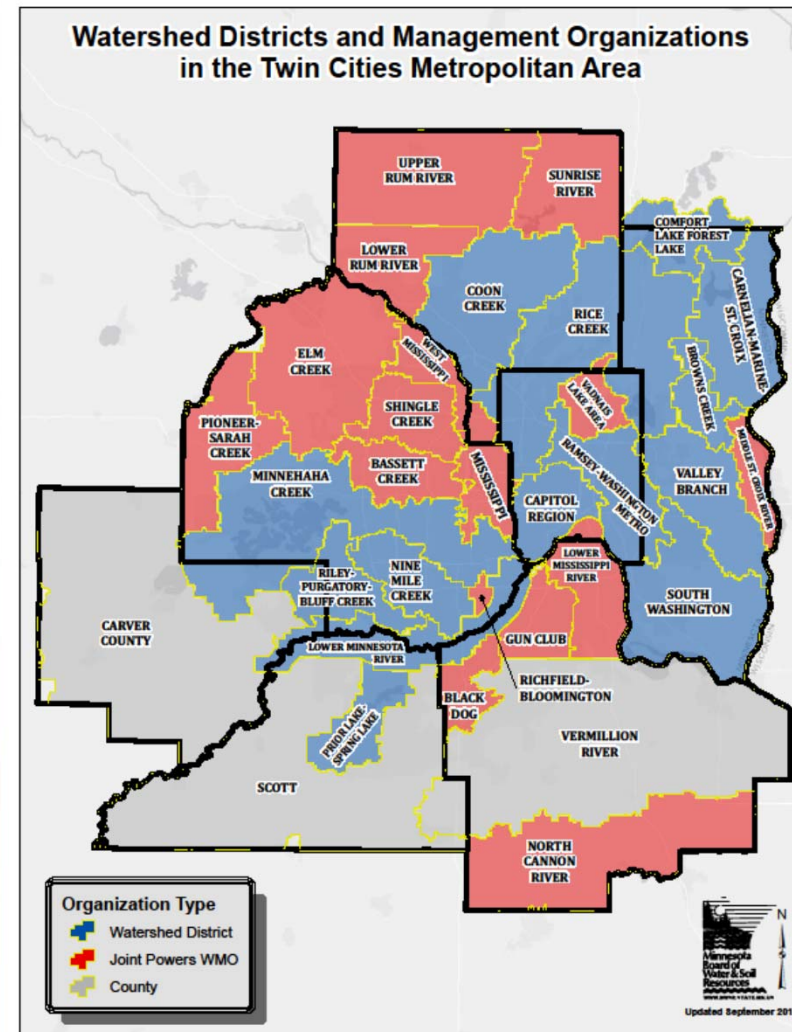
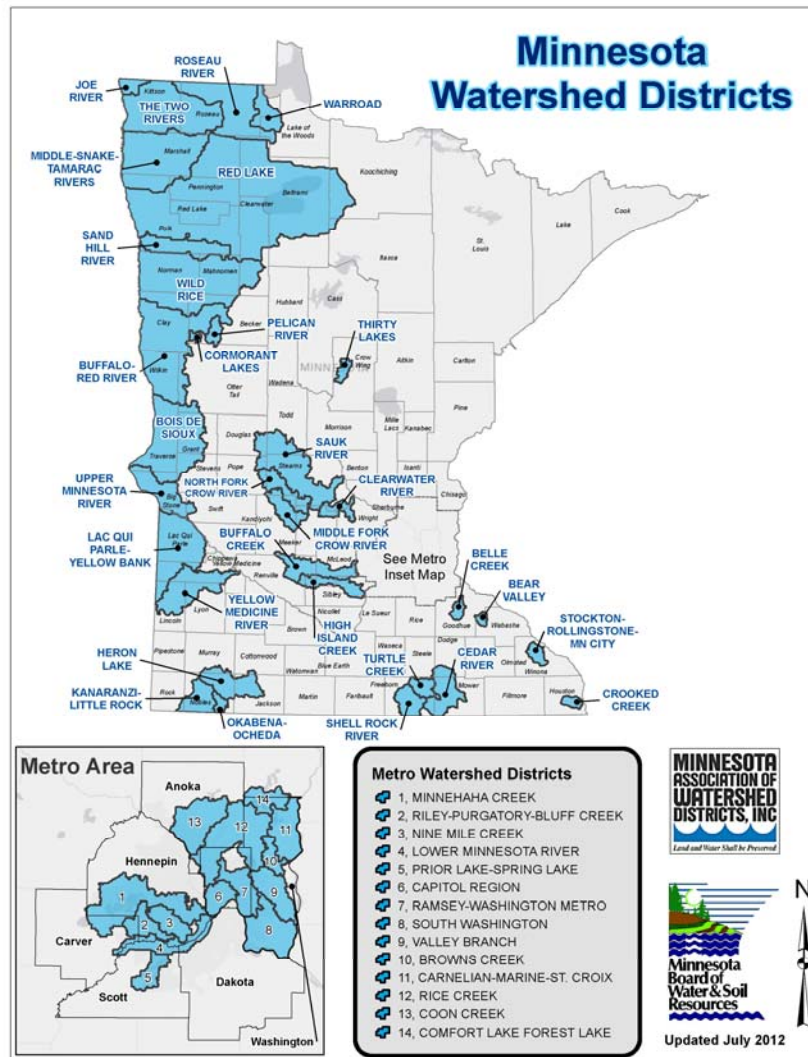
# MS4 District Responsibilities



# Watershed Organizations

- Watershed Districts
  - 32 statewide, 14 in Metro
  - Outstate – flood control, projects, drainage, WQ
- Watershed Management Organizations
  - 33 in Metro, 14 are WSDs
  - WQ goals and standards

# WSDs Statewide, WMOs/WSDs Metro





# WSD/WMO

- Build Relationships
- Review and comment on proposed rules (WRE, OES)
- Area Specific Metro Water Resource Engineering Squads

# Research

- Research Services and Library
- Materials and Road Research
- Maintenance
- Traffic Safety and Technology

## Stormwater Related Projects

- SAFL Baffle
- Swales Infiltration Performance and Calculator
- Toxicity of Deicing Materials – Clear Roads (multi DOTs)

The background of the slide features a stylized, low-poly illustration of a winding road on a hillside. The road is depicted with a dashed white line and a solid white line, curving through the landscape. The hills are rendered in various shades of blue and green, creating a sense of depth and movement. The overall style is modern and clean.

# Thank You!

Nick Tiedeken  
Hydrologist

Minnesota Department of Transportation  
[nick.tiedeken@state.mn.us](mailto:nick.tiedeken@state.mn.us)



**Fred Noble, P.E.**  
State NPDES Administrator  
Florida Department of Transportation

## **Stormwater Program Collaboration with Maintenance**

# Florida Facts

- Now 3<sup>rd</sup> Most Populous State: > 20 Million
- Over 100 Million Tourist in 2015
- 22<sup>nd</sup> in Total Land Area
- Abundant Water Resources
  - > 11,000 miles of rivers, streams and waterways
  - > 1,200 miles of coastline
  - > 7,700 10+ acre lakes
  - > 700 springs, over 30 first-magnitude
- Annual Average Rainfall: 47-64 inches
- FDOT operates 122,392 highway miles

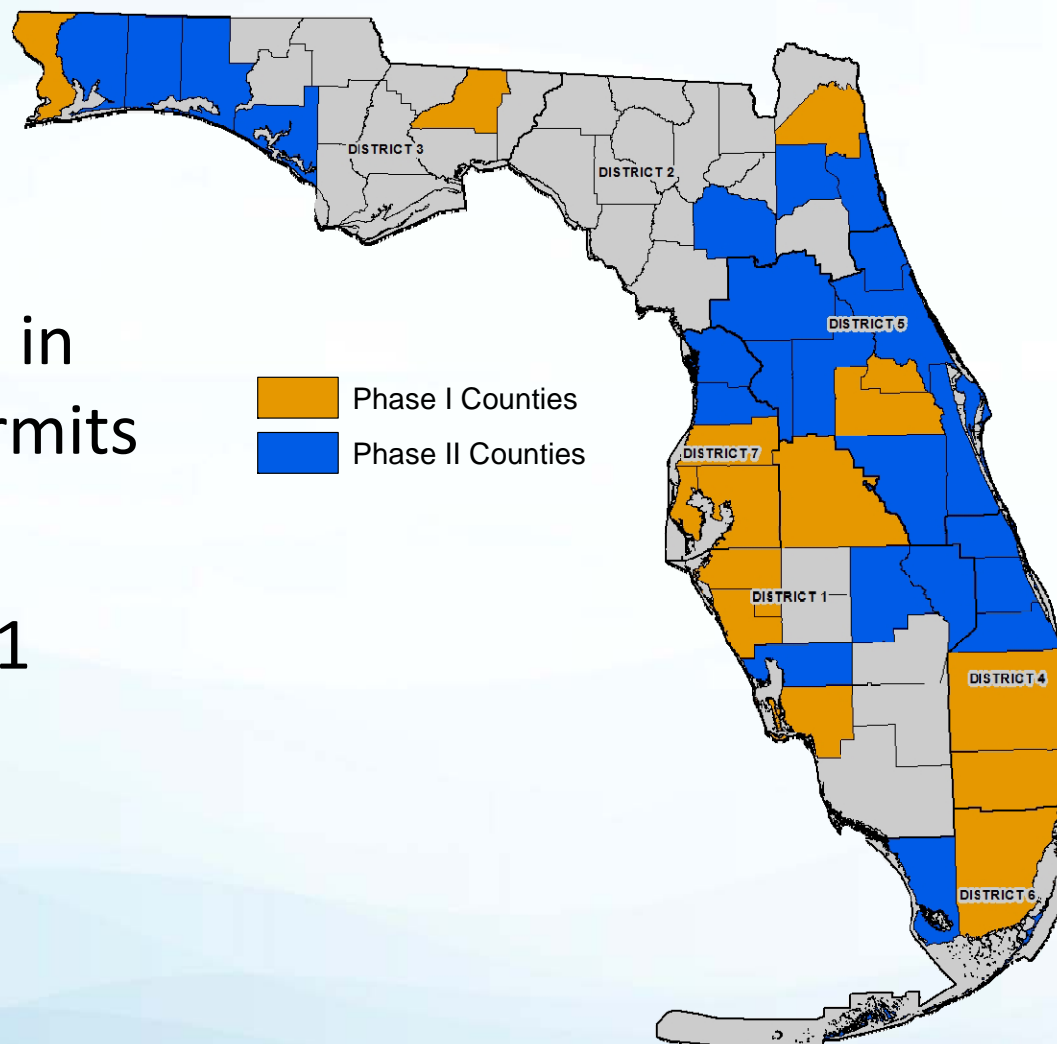


# Regulatory Framework

- Environmental Resource Permitting (ERP)
  - FDEP and State's 5 Water Management Districts
  - Design and Performance Standard Program
  - Addresses construction and operation phases
  - Addresses both water quality and quantity
- NPDES
  - FDEP is Permitting Authority in Florida
  - Construction GP – construction phase
  - MS4 – operation and maintenance phase
  - Water quality driven program

# Regulatory Framework – MS4s

- FDOT co-permittee in 15 Phase I MS4 permits
- FDOT covered by 11 Phase II GPs in 27 counties

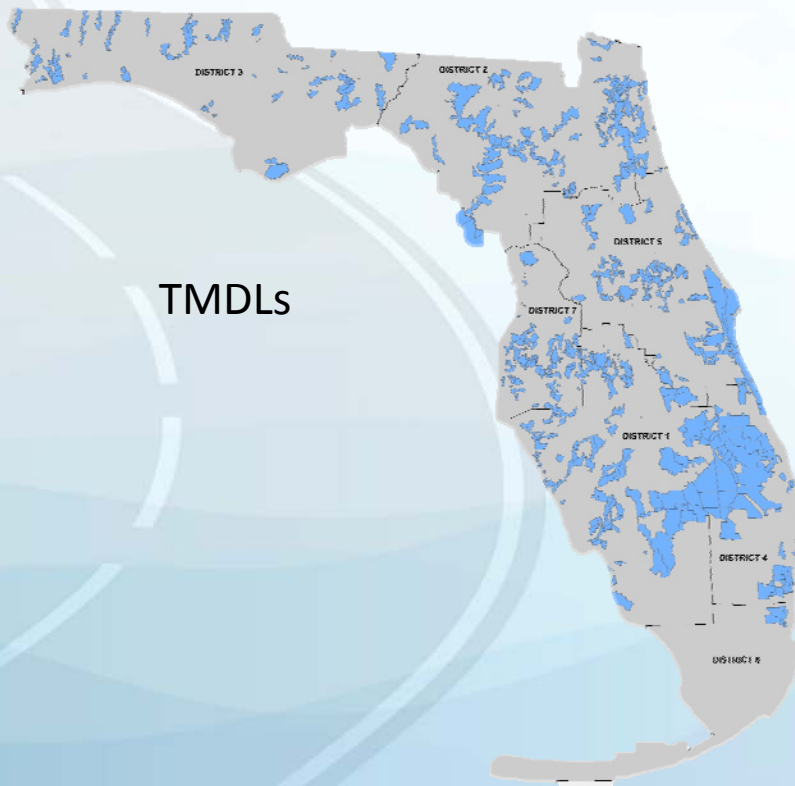




# Regulatory Framework - TMDLs

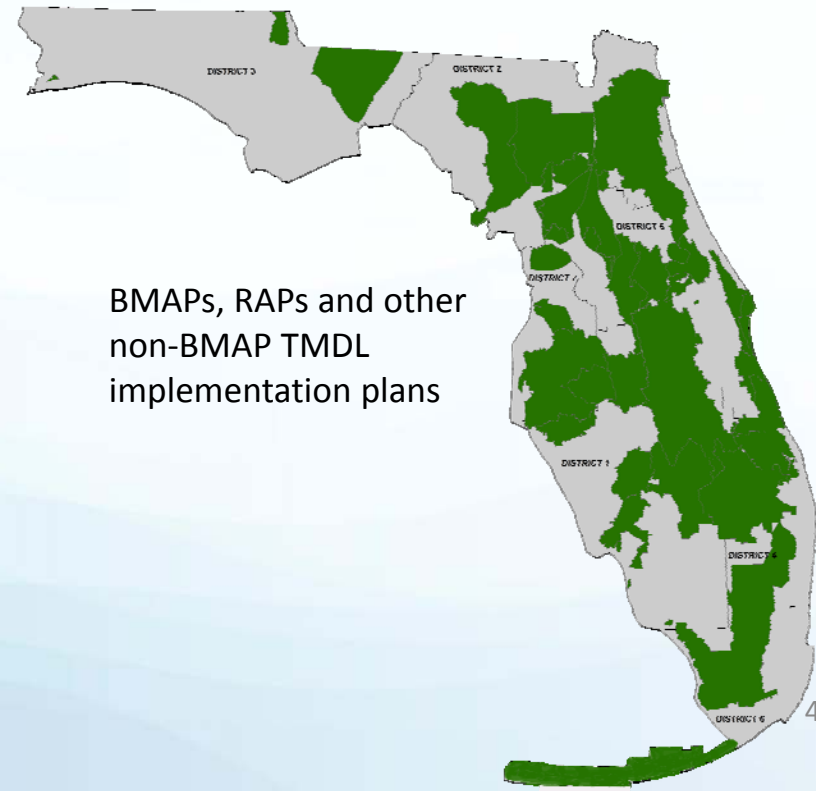
- Florida Watershed Restoration Act
  - Impaired Waters Rule
  - Total Maximum Daily Loads (TMDLs)
  - Implementation
    - *Basin Management Action Plans (BMAPs)*
    - *Reasonable Assurance Plans (RAPs)*

FDOT in 937 TMDLs  
(Mostly for nutrients and bacteria)



TMDLs

FDOT stakeholder in 29 BMAPs  
and 4 RAPs



BMAPs, RAPs and other  
non-BMAP TMDL  
implementation plans

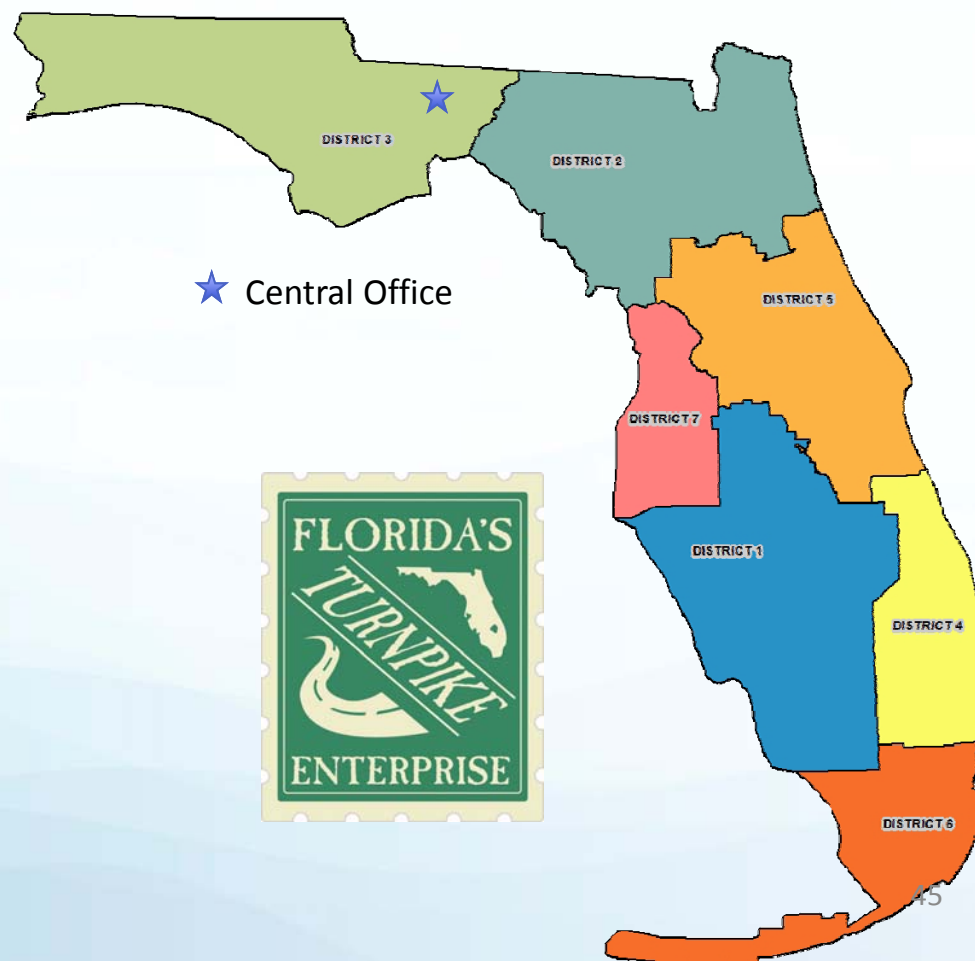


# FDOT Structure

- Decentralized Agency

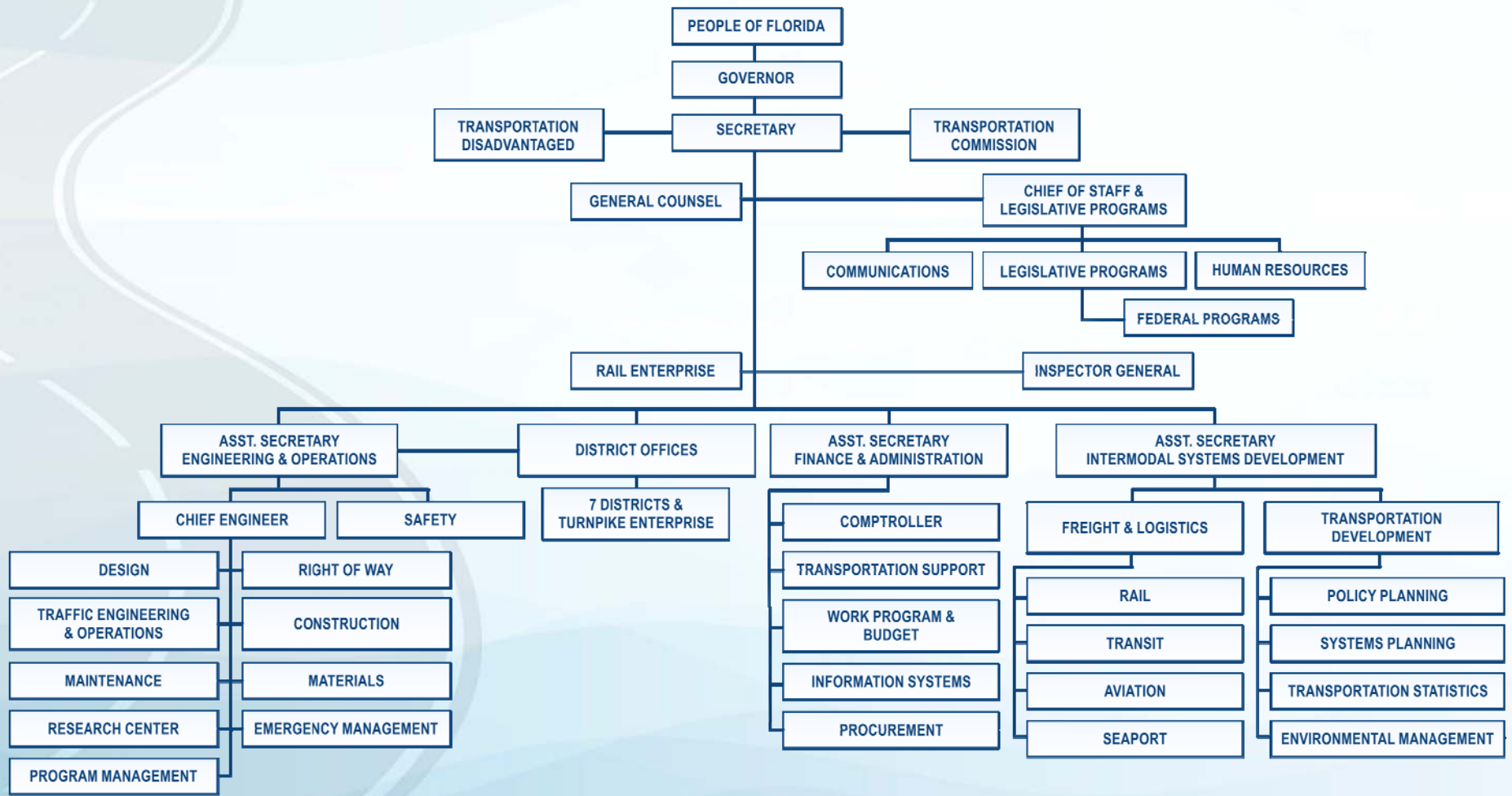
- Central Office
  - *Leadership, policy, guidance and support*
- 7 Districts and Florida Turnpike Enterprise (FTE)
  - *Program implementation*

FDOT Districts



# FDOT Organization

December 2015



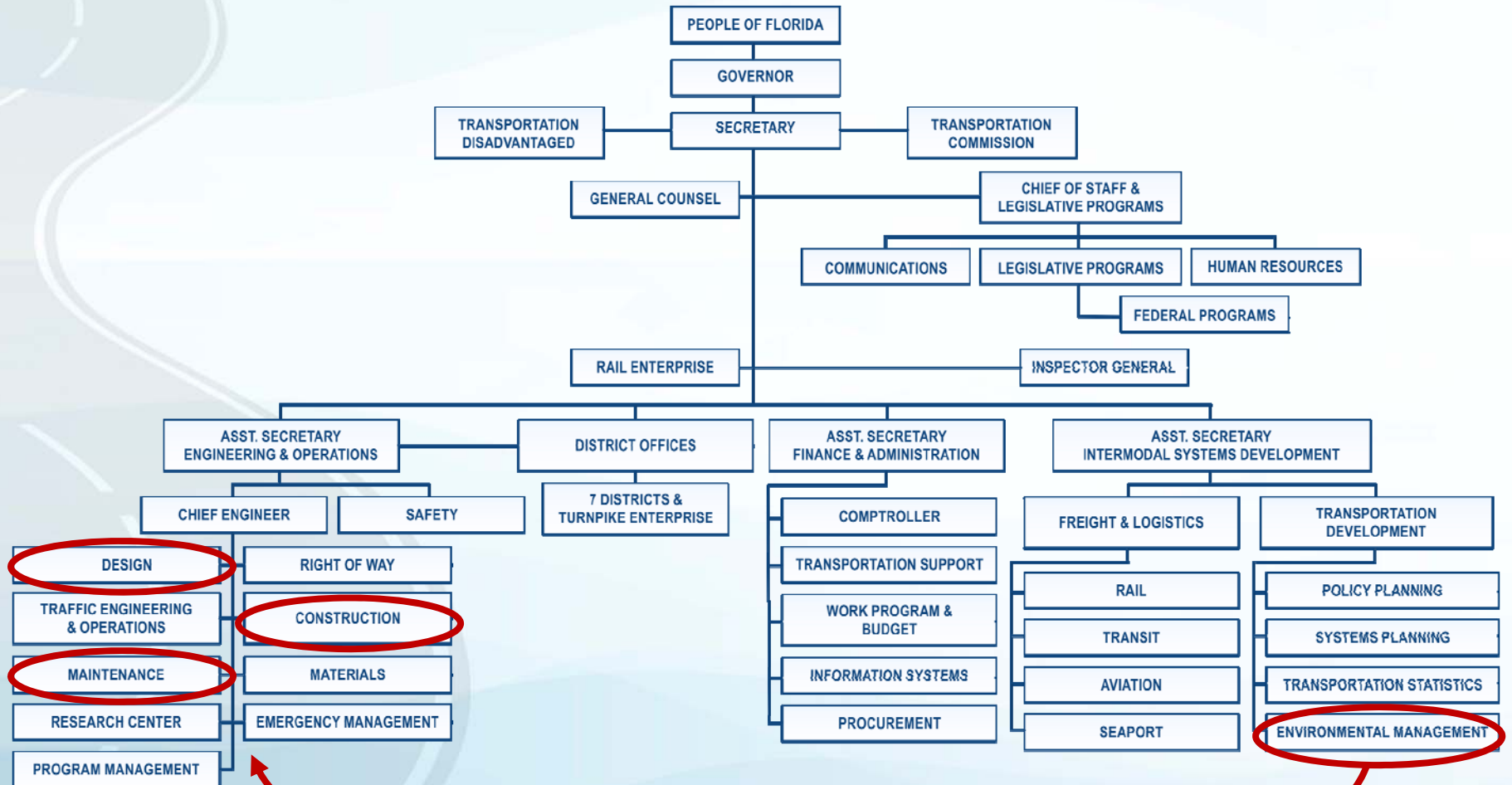
# Statewide TMDL Task Team

- Formed 2009 to address significant impending TMDL issues
- Later combined to include NPDES
- Cross-functional team includes:
  - Central Office and District Offices
  - Design, Construction, Maintenance, Environmental Management and Legal

# Central Office Realignment

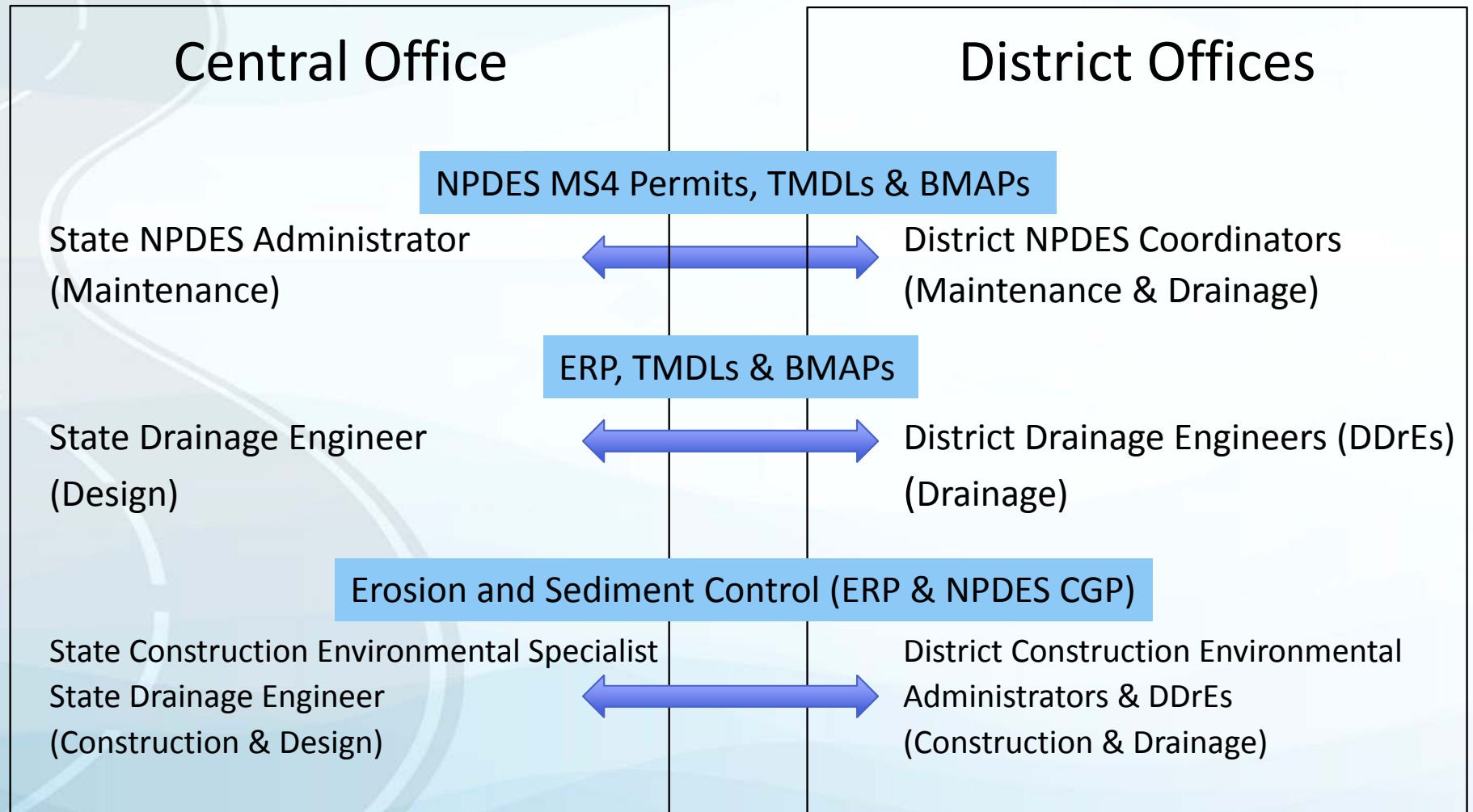
- Stormwater Strategy Approved by Executive Management in 2014
- Moves NPDES MS4, TMDL and BMAP coordination from Environmental Management to Maintenance
- Recognizes MS4 functions significantly maintenance driven
- Better aligns Central Office and District Office Structures
- Consolidates all Stormwater Management Functions within Engineering and Operations branch of Agency

# Central Office Realignment



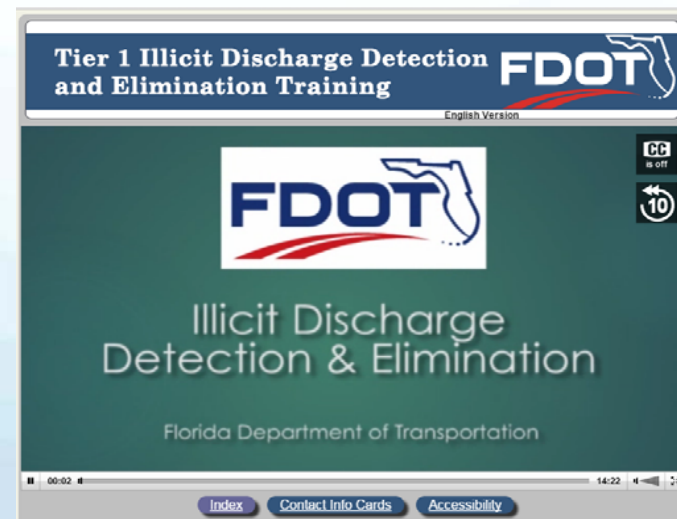
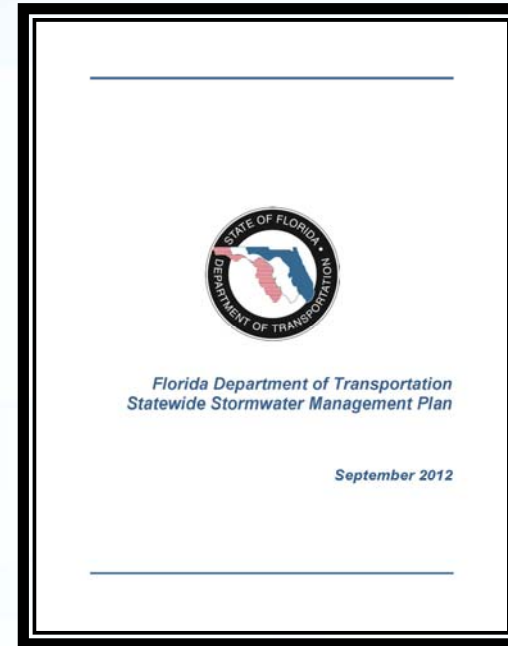
*NPDES MS4, TMDL, and BMAP Coordination*

# Stormwater Program Implementation



# Stormwater Permits and Maintenance

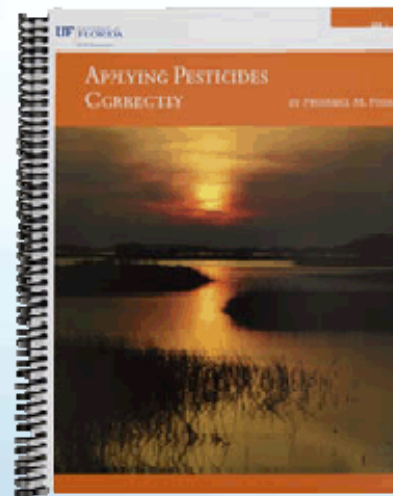
- MS4 and ERP permits have specific schedules for inspection and maintenance of structural BMPs
  - MS4 - Statewide Stormwater Management Plan (SSWMP)
  - ERP – Biennial Recertification
- IDDE Training for all FDOT and Contractor field personnel
  - On-demand Video Training Module
  - In English and Spanish





# Stormwater Permits and Maintenance

- Street sweeping
  - MS4 permit requirement
  - SOPs
  - Quantify materials and TN/TP reduction
- Fertilizer use management
  - Green Industries BMP training and certification
- Herbicide and pesticide use management
  - FDACs certification
  - Herbicide/Pesticide use minimized





# Stormwater Permits and Maintenance

- Operation & Maintenance Centers
  - Stormwater Management and Pollution Prevention
- Litter Control Programs
  - Adopt-a-Highway
  - Litter Campaigns



# TMDLs/BMAPs and Maintenance

- Eliminate routine maintenance fertilization
  - Routine maintenance fertilization practically eliminated
  - Significant nutrient load reduction credit and cost savings!
- Street Sweeping
  - Florida Stormwater Association/UF study and nutrient load reduction calculation methodology
  - BMAP commitment
  - Significant TN and TP reduction! - Very cost effective!







**Thank You!**

Fred Noble, P.E.

State NPDES Administrator

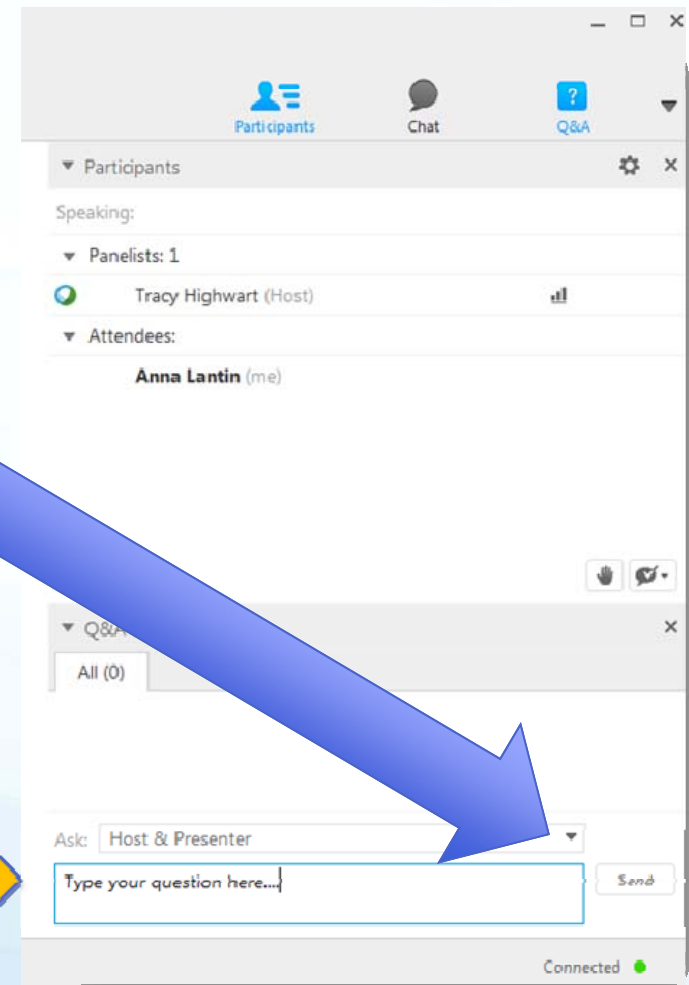
Florida Department of Transportation

[fred.noble@dot.state.fl.us](mailto:fred.noble@dot.state.fl.us)



# Stormwater Community of Practice Forum Collaboration

- Submit your questions
- Type in the Q&A box on the panel on your screen.
  - Select 'Host & Presenter' in the drop down.
  - Click 'Send'



# CoP Questions/Discussions



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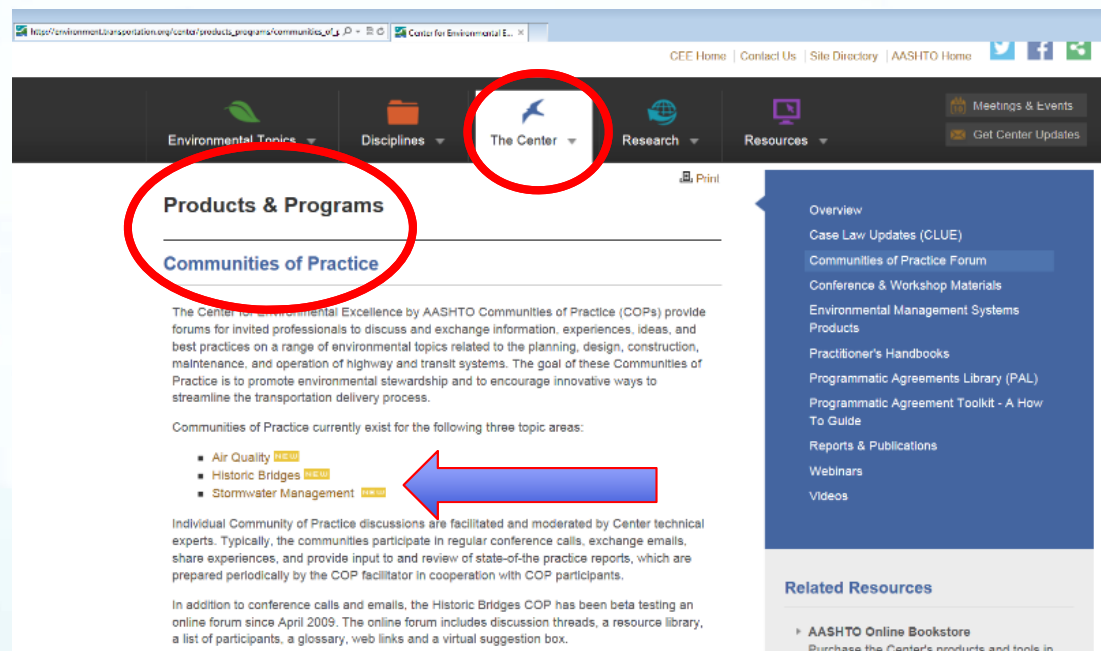


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# CLOSING

- *A recording of this webinar, along with the first two in the series, is available on the Center for Environmental Excellence by AASHTO Website.*



<http://environment.transportation.org>

The Center > Products & Programs >  
Communities of Practice > Stormwater Management





U.S. Department of Transportation  
**Federal Highway Administration**

# **Stormwater Program Organizational Structure**

## **THANK YOU FOR ATTENDING**

**CEE by AASHTO Stormwater Community of Practice**

**Thursday, March 17, 2016**