



# **VDOT MS4 PROGRAM UPDATE FOR HRPDC**

March 03, 2016

# OVERVIEW OF AGENDA

**PERMIT STATUS UPDATE**

**VDOT MS4 PROGRAM ORGANIZATION UPDATE**

**MS4 COORDINATOR**

**CHESAPEAKE BAY TMDL ACTION PLAN**

# PERMIT STATUS

**CURRENTLY OPERATING UNDER GENERAL PERMIT**

**FOLLOWING UNDER TABLE 1 SCHEDULE**

**HAVE APPLIED FOR INDIVIDUAL PERMIT**

**ANTICIPATING IP EFFORTS LATER THIS SUMMER**

# MS4 PROGRAM ORGANIZATION

**Chris Swanson – State MS4/SWM Engineer**

**Andrew Scott – District Hydraulics Engineer (Hampton Roads)**

**Jennifer Dail – MS4 Coordinator (Hampton Roads)**

**Jeff Hancock – MS4 Section Manager – District Implementation**

**John Olenik – MS4 Section Manager – Policy Development**

**Tal Wingate – VPDES Permit Coordinator**

**Roy Mills – Statewide Stormwater Specialist**

# ROLE OF MS4 COORDINATOR

## Facilitate implementation for several elements of the MS4 Program

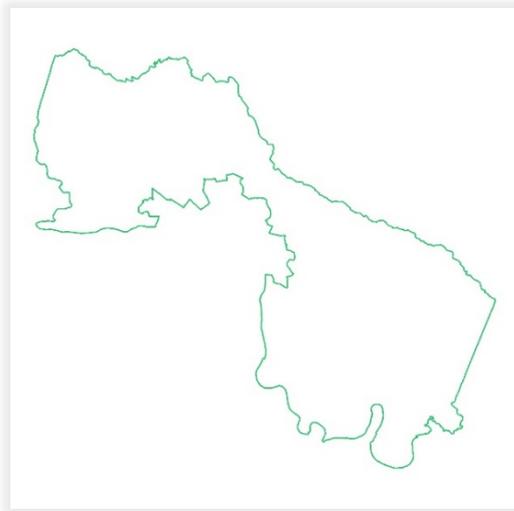
- **Outfall mapping and illicit discharge program**
- **Construction site runoff control**
- **Long-term care and maintenance of post-construction BMPs**
- **Pollution Prevention in R/W and at maintenance facilities**

# ROLE OF DHE AND MS4 COORDINATOR

## COORDINATION EFFORTS

- **Point of Contact**
- **Infrastructure Coordination with other MS4s**
- **Follow-up investigations for reported illicit discharges**
- **TMDL Coordination through Tracey Harmon**

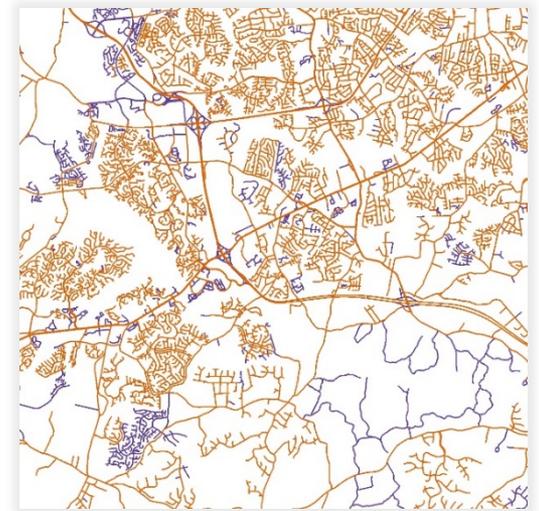
# DETERMINE MS4 SERVICE AREA



Study Area



Parcel  
Data



Roads  
Dataset

# DETERMINE MS4 SERVICE AREA



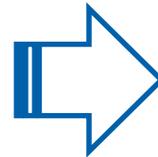
LRS Roads



VGIN Roads

# DETERMINE MS4 SERVICE AREA

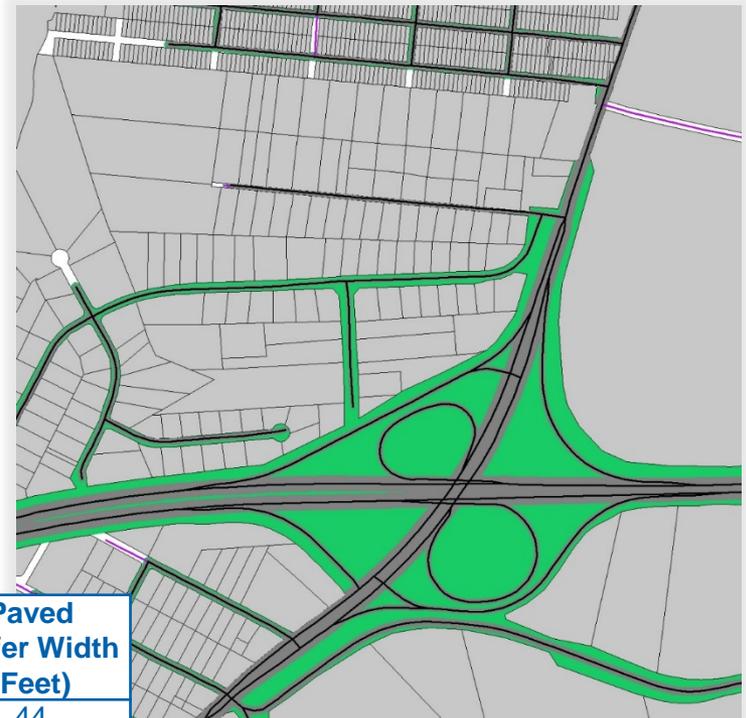
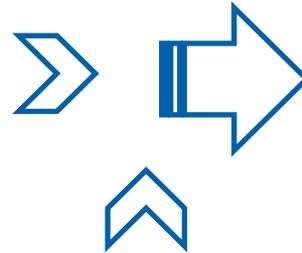
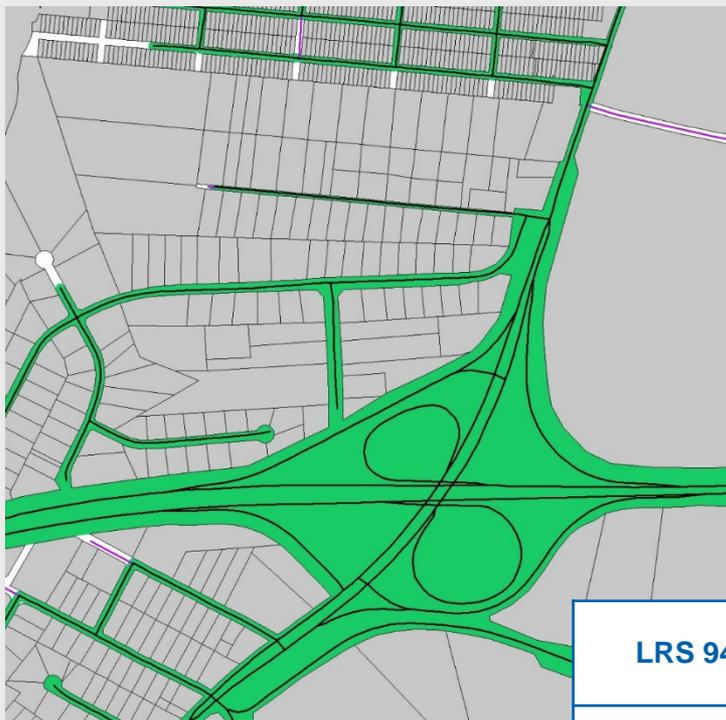
## Final Product



Convert Empty Space in Parcel Data to Right of Way along VDOT Centerlines

# DETERMINE MS4 SERVICE AREA

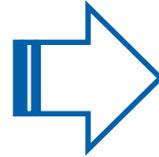
## Identifying Pavement



| LRS 94 Route Categories      | Paved Buffer Width (Feet) |
|------------------------------|---------------------------|
| Interstate                   | 44                        |
| Interstate Ramp              | 15.5                      |
| Non-Interstate Frontage Road | 11.5                      |
| Secondary                    | 16.5                      |
| State Highway Primary        | 24                        |
| Urban                        | 14.5                      |
| US Highway Primary           | 37.5                      |

# DETERMINE MS4 SERVICE AREA

## Building Shoulders



# DETERMINE MS4 SERVICE AREA



Virginia Information Technologies Agency

## Project Data Needs

- VBMP 4-band Imagery 2011-2014
  - Primary source for feature extraction
- Additional supporting data, especially “impervious – ness” indicators
  - Road Centerlines
  - Building Footprints

| Classification Categories | Land Cover  |  | Minimum Mapping Unit             | Resolution       | Accuracy |
|---------------------------|-------------|--|----------------------------------|------------------|----------|
|                           |             | Pervious                                 | Turf Grass                       | Less than 1 acre | 1 Meter  |
|                           | Impervious  | Buildings, drive-ways, parking lots, etc | Match resolution                 | 1 Meter          | 95%      |
|                           |             | Roads                                    | Road centerline dependent        | 1 Meter          | 95%      |
|                           | Forest      | Forest                                   | 1 acre w/ min width restrictions | 1 Meter          | 95%      |
|                           |             | Tree                                     | Less than 1 acre                 | 1 Meter          | 95%      |
|                           |             | Harvested/Disturbed Forest               | 1 acre w/ min width restrictions | 1 Meter          | 85%      |
|                           | Scrub/Shrub | Scrub/Shrub                              | 1 acre w/ min width restrictions | 1 Meter          | 85%      |
|                           | Agriculture | Cropland                                 | 1 acre w/ min width restrictions | 1 Meter          | 85%      |
|                           |             | Pastureland                              | 1 acre w/ min width restrictions | 1 Meter          | 85%      |
|                           | Wetlands    | Emergent Wetlands                        | As defined by NWI and TMI        | 1 Meter          | 85%      |
|                           |             | Woody Wetlands                           | As defined by NWI and TMI        | 1 Meter          | 85%      |
|                           |             | Mudflats                                 | As defined by NWI and TMI        | 1 Meter          | 85%      |
|                           | Barren      | Barren                                   | Higher than the resolution       | 1 Meter          | 85%      |
|                           | Water       | Water                                    | Higher than the resolution       | 1 Meter          | 95%      |

# DETERMINE MS4 SERVICE AREA

| Urban Area      | Total CUA Acreage | VDOT Acreage | % of CUA |
|-----------------|-------------------|--------------|----------|
| Charlottesville | 24,919            | 1,290        | 5.18%    |
| Fredericksburg  | 43,191            | 3,943        | 9.13%    |
| Harrisonburg    | 18,813            | 948          | 5.04%    |
| Lynchburg       | 39,844            | 1,164        | 2.92%    |
| Richmond        | 283,716           | 19,078       | 6.72%    |
| Roanoke         | 78                | 11           | 14.10%   |
| Virginia Beach  | 306,515           | 9,811        | 3.20%    |
| Washington D.C. | 407,491           | 37,876       | 9.29%    |
| Winchester      | 24,827            | 2,191        | 8.83%    |

# ESTIMATED REDUCTIONS

## COMPUTATIONS FROM THE TABLES IN THE MS4 PERMIT

| POC        | River Basin  | Estimated Total POC Load Based on 2009 Progress Run (lbs/yr) | Total Reduction Required First Permit Cycle (lbs/yr) |
|------------|--------------|--|--|
| Nitrogen   | James        | 221,917  | 896  |
|            | Potomac      | 578,518  | 2,395  |
|            | Rappahannock | 28,141   | 116  |
|            | York         | 30,134   | 120  |
| Phosphorus | James        | 33,700   | 249  |
|            | Potomac      | 47,876   | 359  |
|            | Rappahannock | 3,674  | 27   |
|            | York         | 4,790  | 35   |
| Sediment   | James        | 12,072,625   | 115,185  |
|            | Potomac      | 32,948,533   | 315,811  |
|            | Rappahannock | 1,028,377  | 9,870  |
|            | York         | 1,339,695  | 12,849   |

# VDOT BMP TOOLBOX

| BMP                           | BMP Status                                    |
|-------------------------------|---|
| Historical BMPs               | Already Implemented                           |
| Redevelopment                 |   |
| Nutrient Credits              |   |
| Stream Restoration            | Estimated to be used during this permit cycle |
| Land Cover Conversion         |   |
| Channel/Outfall Stabilization |   |
| Street Sweeping               |   |
| Catch Basin Clean-out         |   |
| Nutrient Credits              |   |
| Incidental Retrofit           | In the toolbox for future use                 |
| Structural Retrofits          |   |

# QUESTIONS?

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**(757)925-2543**

**TRACEY HARMON (STATE TMDL PLANNER)**  
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