Green Streets Projects to Meet MS4 Permit Requirements
Regulatory Requirements

- Federal Clean Water Act permit program
- **MS4** = **M**unicipal **S**eparate **S**torm **S**ewer **S**ystem
  - Provide SWM for 20% of Impervious Surfaces
    (approximately 5.9 square miles)
ESD & LID Projects

- Forest Estates – 33 acres
- Franklin Knolls (4 Phases) – 147 acres
- Wheaton Woods – 270 acres
Neighborhood Demographics

- Neighborhoods built in the late 1950’s & early 1960’s
- Single family detached residential housing
- Curb & gutter with sidewalks
- Mature trees
- Utilities
- No existing SWM facilities
Preliminary Watershed Assessment

- GIS Desktop Analysis
- Field Walk
- Summary Tables and Mapping
- Assessment of Opportunities
  - Feasibility
  - Aesthetics
  - Constructability
  - Maintenance

Roadway LID Field Data Sheet

Data Collector: VS, WC
Opportunity ID:
Proposed Site Location (Address or street): 10300 Tuxedo Ave (along Woodman N.)

Photographs:
☐ Site Photo Documented? Photo #: 62
Note where photo was taken and direction on map.

Verify Mapped Data is Accurate (if not, note any inconsistencies on map):
☐ Storm Drain System
☐ Contours (Drainage Area)
☐ Utilities
☐ Paving/impervious areas
☐ Other:

SWM Practice Proposed:
☐ Bivestation/Rain Garden
☐ Bio-swale
☐ Curb Extension
☒ Tree Box Filter
☐ Other:

Feasible Conflicts:
☒ Utilities (list type): Water
☒ Vegetation/Trees tree removed
☐ Other:

Notes:
possibly remove walkway between curb & sidewalk for
locate tree box ups of what a bit to avoid conflicts
Over 600 sites initially identified as part of the Preliminary Assessments
Supporting Information

• Topographic Survey
• Utility Designation and SUE
• Geotechnical Analysis - Soil Borings and Infiltration Tests
• Environmental Features
Roadway Design Constraints

- Width of County ROW (curb to sidewalk)
- DOT setbacks/clear space requirements
- Driveway/Leadwalk Locations
- On-street parking
- Slope of roadway
Additional Design Constraints

• Existing Trees/Roadside Tree Permit
• Underground and Overhead Utilities
• Existing Soils/Infiltration Rates
• Property Owner Complaints and Preferences
Final Designs

- Forest Estates - 24 facilities constructed
- Franklin Knolls (4 Phases) – 31 facilities constructed and 89 under construction
- Wheaton Woods – 200+ facilities under design
Types of ESD/LID Facilities
Rain Garden
Bioretention
Curb Extension
Tree Box Filter

Filterra®
Permeable Sidewalk
Project Specific Design Modifications

- Modified Inlets
- Scarify existing subsoil & till in mulch
- Widened filter media & stone
Project Specific Design Modifications

- Reverse underdrains
Project Specific Design Modifications

- Bridge over existing utility house connections
- Concrete edging along front side of facility
Project Specific Design Modifications

- Filtterra draining into stone reservoir
Community Outreach

• Public Meetings
• Community Walks

• One-on-one meetings with property owners
• Educational Opportunities
Construction

- MCDOT Coordination
- Utility Improvement Coordination
- Community Involvement
- Design/Field Modifications
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