Transportation *integrated* Stormwater Management (TriSWM) Guide
TriSWM Background

- Originally released as an appendix of the 2006 iSWM™ Design Manual for Site Development
- Updated and added as Appendix A of the iSWM Criteria Manual for Site Development and Construction
- Replaces certain sections of the iSWM™ Criteria Manual for planning and design of stormwater controls for streets and roadways
- Developed in partnership with NCTCOG’s Transportation Department
TriSWM Purpose

- Apply iSWM principles to the planning and design of stormwater management facilities for streets and roadways in DFW
- Provide guidance to local governments and transportation agencies
- Includes planning tools and criteria to manage the quality and quantity of runoff
Why TriSWM?

• Runoff from streets and roadways contain pollutants including oil, grease, metals, nutrients, and particulates
• State and federal regulations require local governments and transportation agencies to control pollution in stormwater runoff
• Development of transportation infrastructure increases runoff quantity potentially causing flooding and streambank erosion
TriSWM Benefits

- **Water Quality Protection:**
  - Establishes treatment requirements based on projected traffic volume and environmental factors

- **Streambank Protection:**
  - Determines potential impacts and establishes criteria for protection

- **Flood Control:**
  - Determines potential impacts and provides flood impact reduction measures
Compatibility with iSWM

- Significant part of iSWM Criteria Manual applicable to development of streets and roadways
- TriSWM replaces Chapters 1 and 2 (Overview and integrated Development Process)
- TriSWM modifies Water Quality Protection section in Chapter 3 (integrated Design Criteria)
# Water Quality Treatment Levels

## Receiving Water / Riparian Area Susceptibility

<table>
<thead>
<tr>
<th>Traffic Volume</th>
<th>Minimal</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (&lt;30,000 VPD)</td>
<td>Level I</td>
<td>Level I</td>
<td>Level II</td>
</tr>
<tr>
<td>High (&gt;30,000 VPD)</td>
<td>Level I</td>
<td>Level II</td>
<td>Level III</td>
</tr>
</tbody>
</table>

- **High**
  - Exceptional Quality Aquatic Habitat (TCEQ) or Endangered/Protected Species Habitat (TPW)
  - Proximity to drinking water supply

- **Moderate**
  - Three or more designated uses on the Texas Surface Water Quality Standards, or any perennial stream not classified
  - Wetlands receiving more than 10% of total flow from project

- **Minimal**
  - All receiving waters not categorized above
Level I Treatment

- Program of scheduled P2 practices (street sweeping, storm drain inlet cleaning, etc.)
- Off-site practices (regional detention, Dallas CBD sumps, etc.)
- Grass channels
- Filter strips
- Gravity (oil-grit) separator
- Porous concrete / Porous paver systems
Level II Treatment

- Enhanced swales
- Bioretention areas
- Dry detention
- Extended detention dry basins
- Supplement with any Level I BMPs
Level III Treatment

- Organic filter
- Sand filter, Underground sand filter
- Infiltration trenches
- Stormwater (wet) ponds
- Stormwater wetlands
- Alum treatment systems (used as pretreatment in conjunction with wet pond)
- Supplement with any Level I and II BMPs
Outreach

• Updated iSWM website:
  – Revised iSWM Criteria page
  – TriSWM Guide page
  – TriSWM brochure
  – Water Quality for Street Design Workshop training archive (to be posted when available)
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