

# Overview of the iSWM Program

The iSWM Program for Construction & Development is a cooperative initiative that assists cities and counties to achieve their goals of water quality protection, streambank protection, and flood mitigation, while also helping communities meet their construction and post-construction obligations under state stormwater permits.

Development and redevelopment by their nature increase the amount of imperviousness in our surrounding environment. This increased imperviousness translates into loss of natural areas, more sources for pollution in runoff, and heightened flooding risks. To help mitigate these impacts, more than 60 local governments are cooperating to proactively create sound stormwater management guidance for the region through the *integrated* Stormwater Management (iSWM) program.

The iSWM program will be comprised of four types of documentation and tools as shown in Figure 1. These are used to complement each other and to support the development process.



The four parts of iSWM are:

- **iSWM Criteria Manual for Site Development and Construction** – This document provides a description of the development process, the iSWM focus areas and locally adopted design criteria allowing cities a flexible approach to apply at a local level.
- **iSWM Technical Manual** – This document provides technical guidance including equations, descriptions of methods, fact sheets, Tri-SWM, etc. necessary for design.
- **iSWM Program Guidance** – This document provides reference documents that guide programmatic planning rather than technical design.
- **iSWM Tools** – This includes web-served training guides, examples, design tools, etc. that could be useful during design.

### **iSWM Criteria Manual for Site Development and Construction :**

The iSWM Criteria Manual is the actual Manual that cities and counties can adopt and enforce. It contains planning, design and construction requirements for development and re-development. Specific Design criteria will include technical requirements for water quality, streambank protection, storm water conveyance and flood control. Local provision boxes placed strategically throughout the Manual provide places to input community specific information and criteria.

A separate Implementation Guide will be developed as a guidance document to step communities through the initial process of editing, adopting, and implementing the iSWM Criteria Manual to meet their individual needs. A model ordinance will be created as part of the Implementation Guide to ensure that the iSWM Criteria Manual is enforceable. This guide will also provide basic information on how the iSWM Program compares to and can be integrated into other community regulations, permits, programs and departments.

**iSWM Technical Manual:**

iSWM Online Technical Manual contains iSWM technical guidance documents that will be maintained by NCTCOG on the web. This module will be referenced by the iSWM Criteria Manual and provides the technical details to meet the requirements established by each community in their iSWM manual.

Planning	Water Quality	Hydrology	Hydraulics	Landscape
<u>Site Design Practices</u>	<u>Water Quality Volume</u> <u>integrated Storm Water Controls</u> <u>Erosion, Sediment, &amp; Waste Controls</u> <u>SWP3 Guidance</u> <u>Post Construction Housekeeping</u>	<u>Hydrological Analysis</u> <u>Rainfall Tables</u> <u>Hydrologic Soils Data</u>	<u>Structural Controls</u> <u>Streets and Closed Conduits</u> <u>Open Channels, Culverts and Bridges</u> <u>Detention</u> <u>Outlets</u> <u>Downstream Assessment</u>	<u>Landscape and Aesthetics Guide</u>

- Site Design Practices
    - Integrated Site Design Practices (Current Section 1.3.1-1.3.3)
  - Water Quality
    - Water Quality Volume Calculations (Section 1.2.3.1)/Water Quality Design for Linear Projects
    - Water Quality protection Volume and Peak Flow (Section 2.1.10)
    - Best Management Practices for Erosion and Sediment Control (Chapter 4)
    - SWPPP Design and Implementation (Portions of Chapter 3 and App B)
    - Good Housekeeping Practices
  - Hydrology
    - Hydrologic Analysis (Chapter 2, Sections 1.3 - 1.9 and 1.11 - 1.12)
    - Rainfall Tables (App A)
    - Hydrologic Soils Data (App B)
  - Hydraulics
    - Hydraulic Design of Streets and Closed Conduits (Chapter 3) – incorporate TriSWM
    - Hydraulic Design of Open Channels, Culverts, Bridges and Detention Structures (Chapter 4)
    - Storm Water Controls (Section 1.4 & Chapter 5)
    - Downstream Assessment Procedures
  - Landscape
    - Landscape and Aesthetics Guidance (Appendices)
- DMSD, Construction, TriSWM, Reference Guides, TBD

**iSWM Program Guidance:**

iSWM Program Guidance contains documents that guide program design rather than technical, project based, design. It incorporates programmatic guidance from existing manuals as well as iSWM Resource Guides.

Municipal Program	Planning and Design	Reference
<u><a href="#">Community SWM Planning</a></u>	<u><a href="#">Computer Models and Information</a></u>	<u><a href="#">Federal, State and Regional Initiatives</a></u>
<u><a href="#">Watershed Planning</a></u>	<u><a href="#">Construction</a></u>	<u><a href="#">Dams and Reservoirs</a></u>
<u><a href="#">Floodplain Management</a></u>	<u><a href="#">Planning Principals</a></u>	<u><a href="#">Common Specifications (TXDOT and NCT OG)</a></u>
<u><a href="#">Retrofitting</a></u>	<u><a href="#">Planning and Design Submittals</a></u>	
<u><a href="#">Construction</a></u>		
<u><a href="#">Operation and Maintenance</a></u>		

- Program Overview
  - [Case for Storm Water Management \(updated\)](#) – also linked on front web page
- Municipal Program
  - [Comprehensive Community SWM Program](#)
  - [Watershed Based Storm Water Planning \(include Integrated Watershed Planning \(Section 1.2.6\)\)](#)
  - [Floodplain Management](#)
  - [Storm Water Retrofitting](#)
  - [Construction Introduction](#)
  - [Storm Water System Operation and Maintenance w/ Sample Maintenance Agreements](#)
- Planning and Design
  - [Storm Water Management Site Planning Principles \(Section 1.1.1\)\(include section I of TriSWM\)](#)
  - [Storm Water Computer Models and Information \(App G\)](#)
  - [Construction Storm Water Control \(ch. 1\)](#)
  - [Local Community responsibilities \(Sections 1.1.4 and 1.1.5\)](#)
- Regulatory and Other Reference
  - [Federal, State and Regional Initiatives \(App C expanded to include more information on 404, TPDES permit, and MS4 permits\)](#)
  - [Dams and Reservoirs in Texas \(App H\)](#)
  - [Construction Regulatory Requirements \(ch. 2\)](#)
  - [Material Specifications for Compost \(App E\)](#)
  - [NCTCOG and other Standard Specs](#)
  - [TriSWM Research Report \(?\)](#)

DMSD, [Construction](#) , [TriSWM](#), [Reference Guides](#)

## iSWM Tools

This module contains iSWM training guides, examples, and design tools to assist designers and communities in ongoing understanding and use of the iSWM Process and Criteria Manual and the iSWM Online Technical Guidance Module.

iSWM Benefits	Public Involvement Tools	Training	Design Tools
<a href="#"><u>Overview</u></a>	<a href="#"><u>Brochures</u></a>	<a href="#"><u>Presentations</u></a>	<a href="#"><u>Examples</u></a>
<a href="#"><u>General Information</u></a>	<a href="#"><u>Sample Exercises</u></a>	<a href="#"><u>Class Exerts</u></a>	<a href="#"><u>Checklists</u></a>
<a href="#"><u>Presentations</u></a>			

- iSWM Benefits
  - various presentations
- Public Involvement Tools
  - current brochure on website
  - information on existing training tools and exercises for general public
- Training
  - Presentations and examples from training
  - Eventually add video exerts
- Design Tools
  - Integrated site design examples (Section 1.3.3)
  - Water Quality, Hydrology and Hydraulics Design Examples from Chapters 2, 3 and 4
  - Stormwater Control Design Examples from App. D
  - Samples plans from construction manual and other
  - Sediment Basin Design Guidance (App D)
  - Site Rating calculation (App E)
  - iSWM Worksheets and Checklists (App E)

[DMSD, Construction](#) , [TriSWM](#), [Reference Guides](#)