

Implementing a MS4 Program – a Local Perspective

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2020 National Stormwater Roundtable

San Antonio, Texas

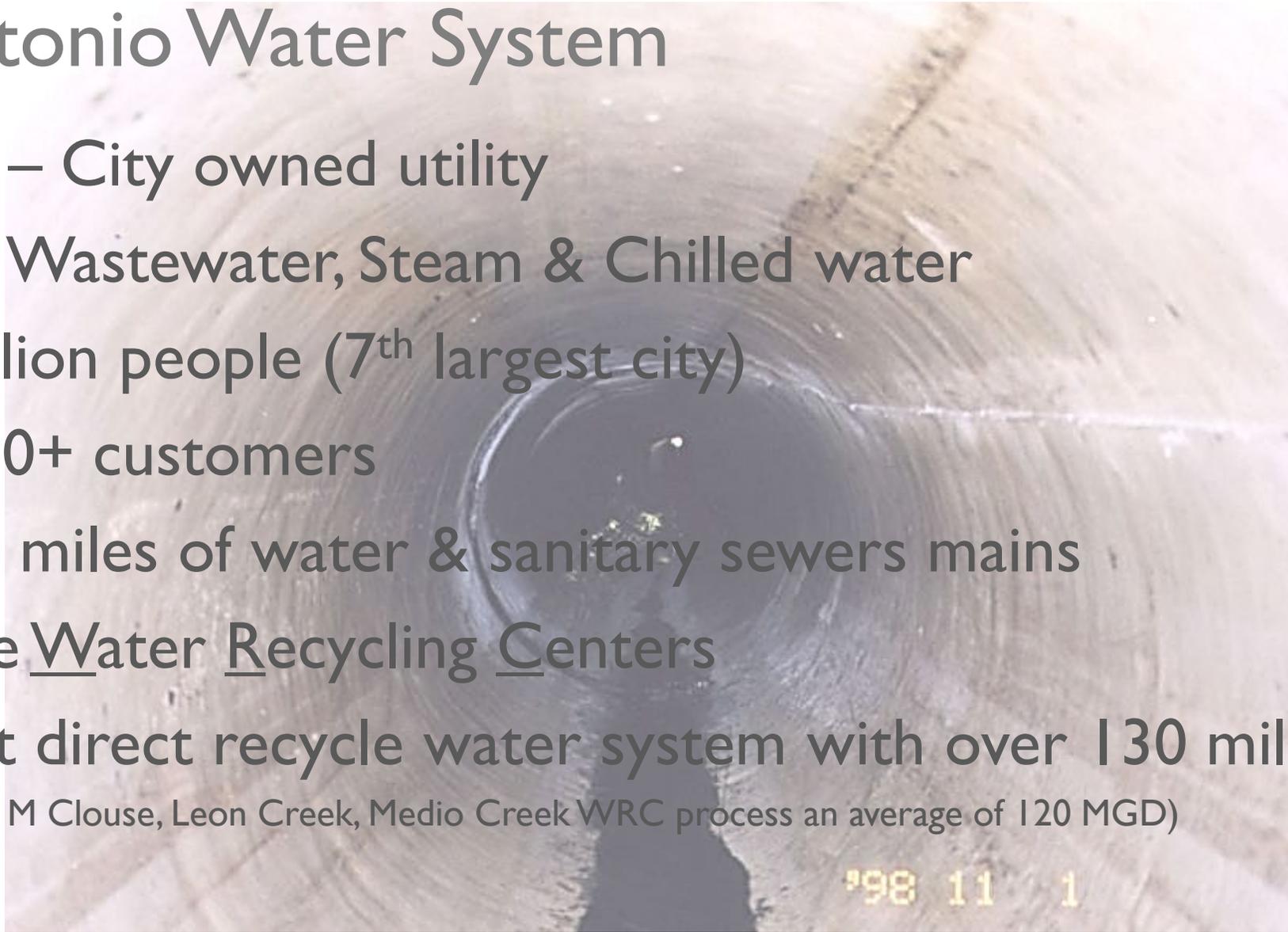
February 4, 2020



MAKING SAN ANTONIO
WATERFUL 

San Antonio Water System

- SAWS – City owned utility
- Water, Wastewater, Steam & Chilled water
- 1.8 million people (7th largest city)
- 460,000+ customers
- 12,000 miles of water & sanitary sewers mains
- 3 Large Water Recycling Centers
- Largest direct recycle water system with over 130 miles of lines
 - (Steven M Clouse, Leon Creek, Medio Creek WRC process an average of 120 MGD)



Storm Water Permit Requirements

Texas Commission on Environmental Quality – WQ0004284000

- Originally Issued to City of San Antonio, San Antonio Water System and Texas Department of Transportation



Resource Protection & Compliance Department

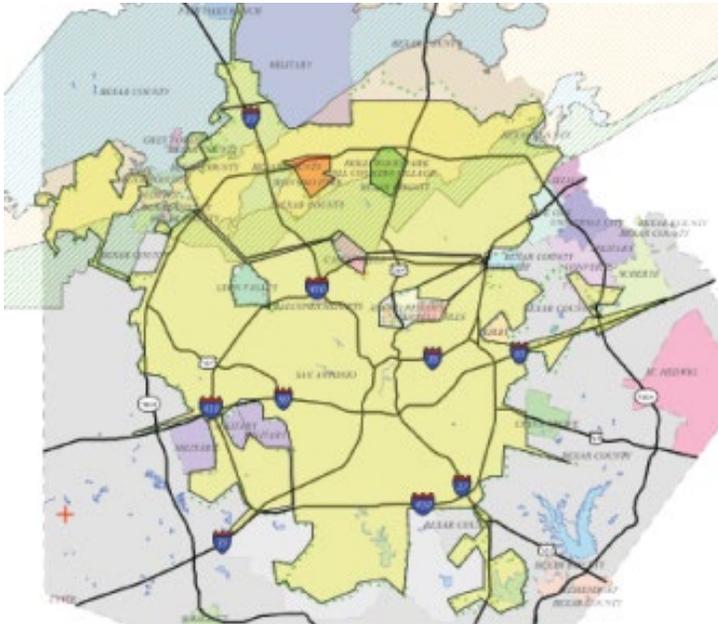


Municipal Separate Storm Sewer System Programs (MS4)

MS4 Permit WQ000428400

Requirements of the copermitees
9/28/2011

- City of San Antonio
- San Antonio Water System
- TxDOT Region 16



1. Structural Controls
2. Areas of New development & significant redevelopment
3. Roadways
4. Flood Control Projects
5. Pesticide, Herbicide, and Fertilizer Application
6. Illicit Discharges and Improper Disposal
7. Spill prevention and Response
8. Industrial & High Risk Runoff
9. Construction Site Runoff
10. Public Education
11. Monitoring and Screening Programs

SAWS MS4 Compliance Programs

- Illicit Discharge Detection Program
- Industrial & High Risk Runoff Program
- Sampling & Monitoring Programs
- Construction Site Runoff Program
- Spill Response Technical Assistance
- Youth Public Education Program
- Overflows and Infiltration Program



**40**Parts 136 to 149
Revised as of July 1, 2005

Protection of Environment

Storm Water Management Plan

Minimum Control Measures

- Post Construction Storm Water Control Measures
- Detection & Elimination of Illicit Discharges
- Pollution Prevention & Good Housekeeping for Municipal Operations
- Limiting Industrial & High Risk Runoff
- Limiting Storm Water Runoff from Construction Sites
- Public Educations, Outreach, Involvement & Participation
- Monitoring, Evaluation & Reporting



Post Construction Storm Water Controls

Water Quality Basin Inspections over the EARZ

- TCEQ approved Storm Water BMPs
- Located over the Edwards Aquifer Recharge Zone
- Annual inspections of 1114 structures
- 215 additional Basins are proposed

Detection of Illicit Discharges



Inspection, field testing and lab analysis of storm drain outfalls

- Field parameters
- Physical and Chemical analysis

CCTV equipment to locate discharge.



Field Screen Point Inspections

- 500 + Storm Drain outfalls inspected biannually.
- 435 miles of open MS4 channel.



Chapter 34 Waters and Sewers, Article VI. Water Quality Control, Division 5, Prohibited Discharges to the MS4, Subdivision A

- Allowable Discharges to the Municipal Separate Storm Sewer System:
- Power Washing Registration
- Flood plain permit requirements
- Conservation program



Spill Response



- Assist with containment
- Sampling
- Cleanup & disposal
- Enforcement

Work with all response organizations to ensure that cleanups from discharges are accomplished by responsible parties and waste is not discharged improperly.



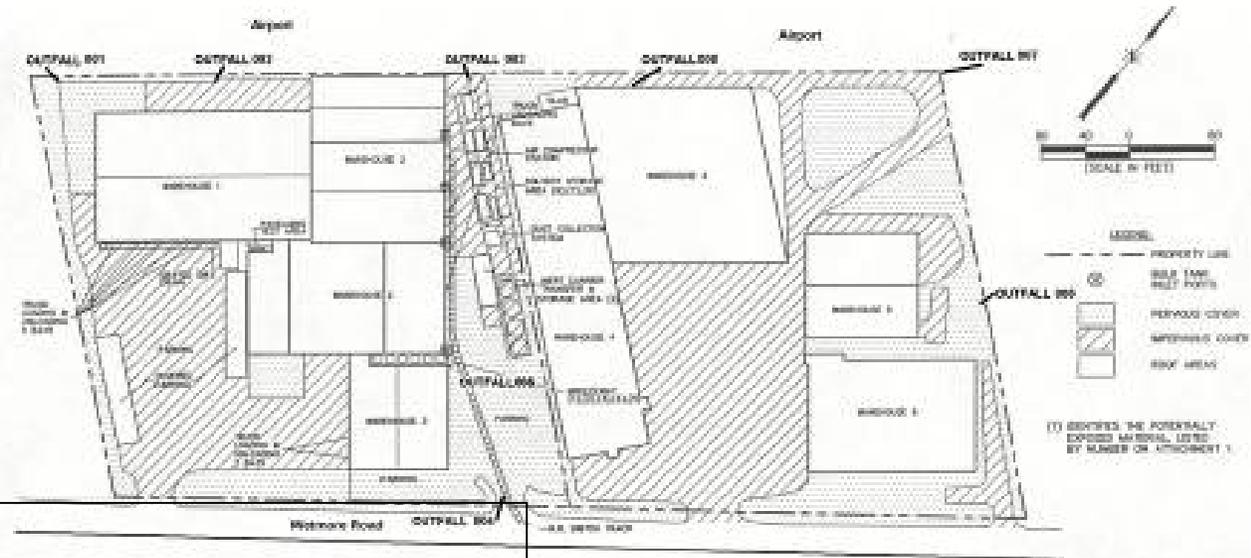
Industrial Storm Water Inspections



- **Regulated by 40CFR 122.26(b)(14) (i-xi)**
- **TPDES Multi-sector Industrial General Permit No. TXR050000**
- **City Code Chapter 34 Article VI, Division 5 C Storm Water Compliance for Industrial & Commercial activities**



Storm Water Pollution Prevention Plan (SWP3) & Site Assessment



- Minimum requirements
- Pollution Prevention Team
- Non-Stormwater discharges
- Inventory of exposed significant materials
- Site map
- Spills & leaks
- Outside Processing areas

Annual Comprehensive Site Evaluation

Narrative summary of changes made to the BMPs if the benchmark levels were exceeded.



- **Site evaluation**
- **Annual Numeric effluent limitations testing for Hazardous Metals**
- **Benchmark testing**
- **Quarterly Visual Monitoring**
- **Sampling DMRs**
- **Summary of benchmark testing and BMP changes**



Business License renewals for Salvage yards and Recycling facilities



- COSA Business License requirements into the MSGP requirements in Chapter 34.
- Have to have an approved compliance inspection from SAWS within 12 months of license renewal.
- No TCEQ MSGP permit or a failed inspection can cause no license to be issued.
- Facility that has its license revoked must go before City Council for reinstatement.

Construction Site Monitoring



- **Purpose:** Chapter 34 includes requirements to comply with TPDES Permit:
- Directing the use of BMPs on all construction sites to reduce pollutants into the MS4, requiring a TPDES permit and having a SWP3.
- Makes it unlawful for construction activities to discharge a “**measurable volume**” of sediment, soils or pollutants into the MS4.
- www.municode.com

Construction Pollution Prohibited

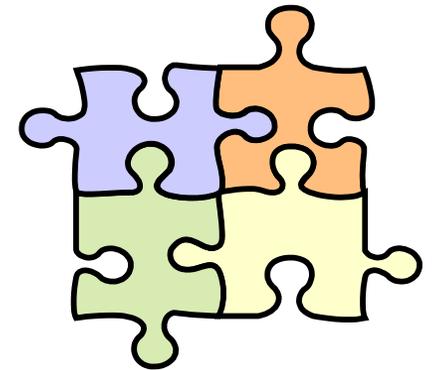
Section 34-804: General prohibition against Construction Pollution of MS4



Enforcement Tools

Field Corrective Notices & Stop Work Orders

- A violation may result in a **Field Corrective Notice** which affords 2 each 24 hour periods to correct a violation.
- If the site is deemed non-complaint at the time of re-inspection, a **Stop Work Order** may be issued at the discretion of the staff.
- **Stop Work Orders** halt all work at the site until the non complaint issues are addressed.
- Additional or cumulative enforcement action may be taken upon the seriousness of the alleged pollutant's encroachment.

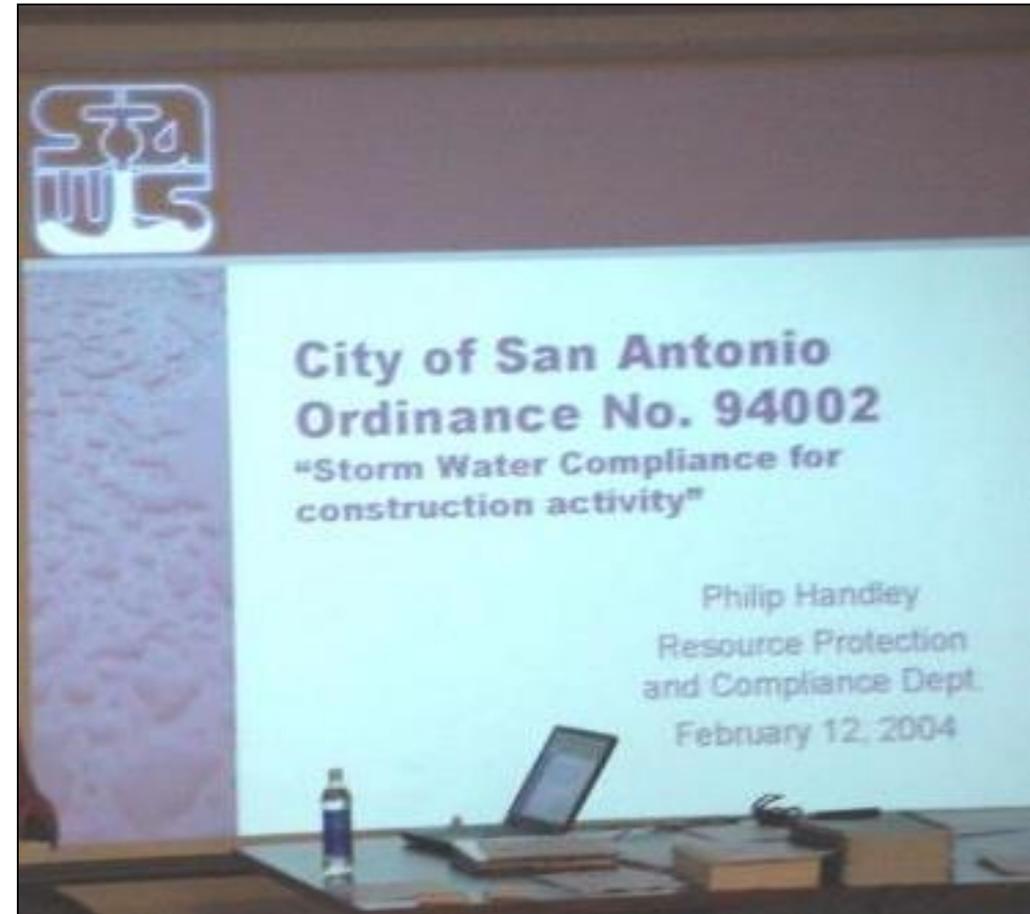


Construction Inspector Training Workshop

Low cost educational tool and a compliance mechanism.

Presented in conjunction with COSA, Bexar County and TCEQ Staff

- Training for Engineers
- Training for Contractors
- Training for CPS Energy & SAWS
- Training for City Staff

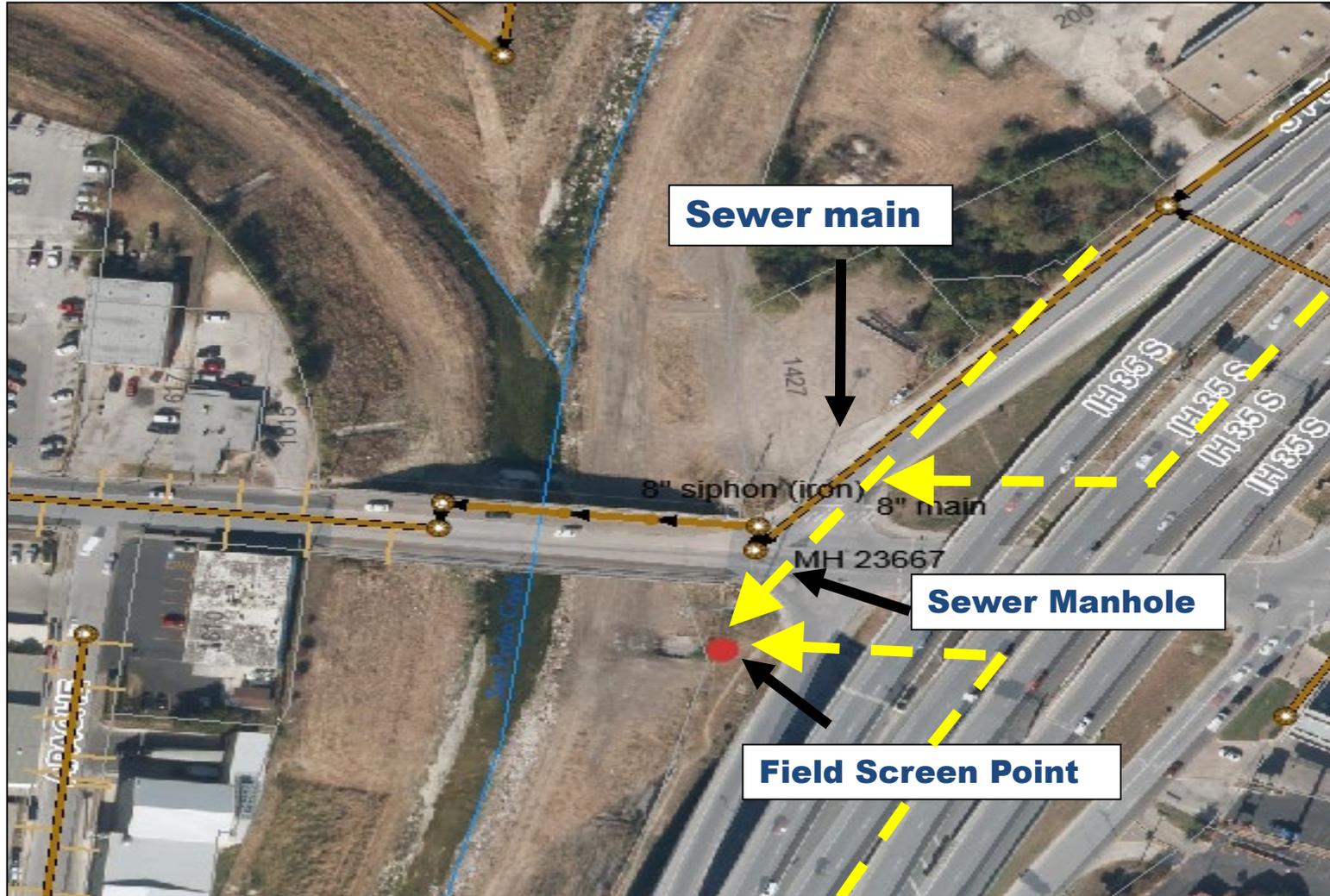


Education of the Public & Contractors

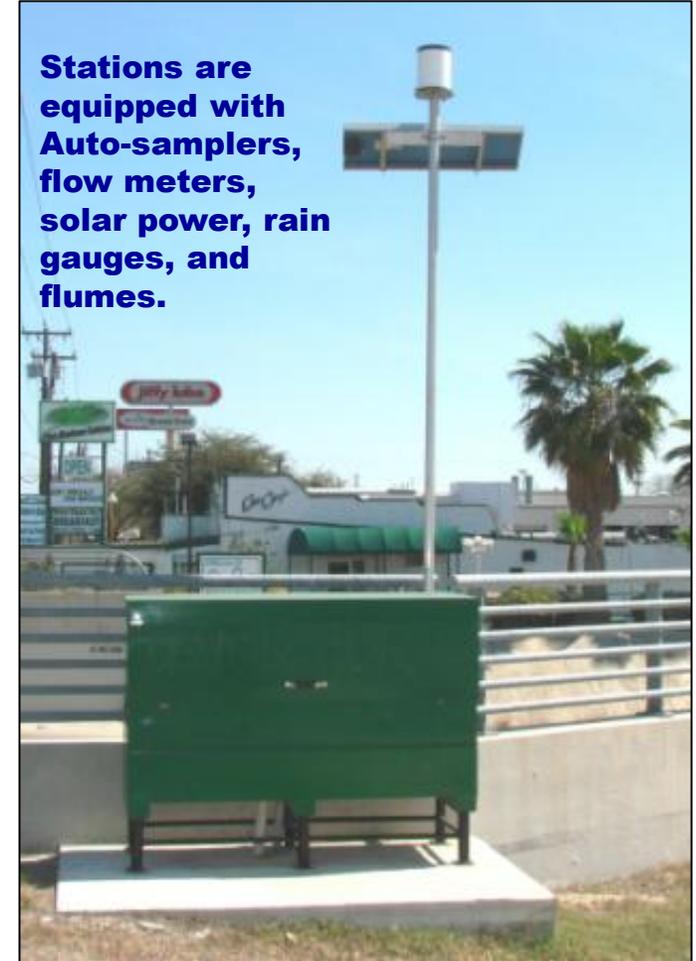
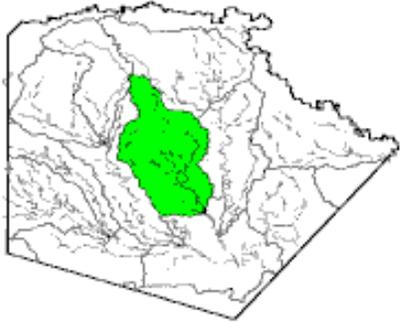


Workshops & field demonstration projects

GIS Mapping



Bandera Rd. Storm Water Monitoring Station



Drainage Area (92.6 Acres)

Land Use Types:

- 80% Impervious Cover
- 71% Commercial
- 13% Residential
- 16% Undeveloped
- Drains to Zarzamora Creek

Sanitary Sewer Overflows & Infiltration



- Emergency Bypass
- Storm events
- Infrastructure failure



Consent Decree - SSO



- Capacity Management Operation Maintenance (CMOM) Program
 - Condition & capacity work performed under CMOM program
 - Sanitary sewer cleaning
- Lift Station Rehab & Elimination
- Root cause analysis for every overflow (including camera insp.).
- Continuous monitoring
- Reporting (training)
- Private lateral program (enforcement)
- FOG Inspection Program

TMDL Implementation Plan Activities

A Total Maximum Daily Load (TMDL) program was initiated by the TCEQ

- River segments are named on the Texas 303(d) list.
- Three impaired waterways locally, with elevated bacteria levels
- Contact recreation criteria has been exceeded (*E. coli* <126 CFU/100 ml).
- SAWS is one of the primary stakeholder in the development of an Implementation Plan (I-Plan) provided to TCEQ in 2015 incorporating SWMP activities.

Can you control the pollution?



San Antonio MS4 Program

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