

City of Dallas Groundwater Management & Municipal Setting Designation (MSD) Program

STEP Meeting
August 11, 2009



Summary

- Groundwater management in Dallas
- Municipal Setting Designation Program
- Groundwater discharges to stormwater
- Discharge requirements
- Programmatic Changes within City

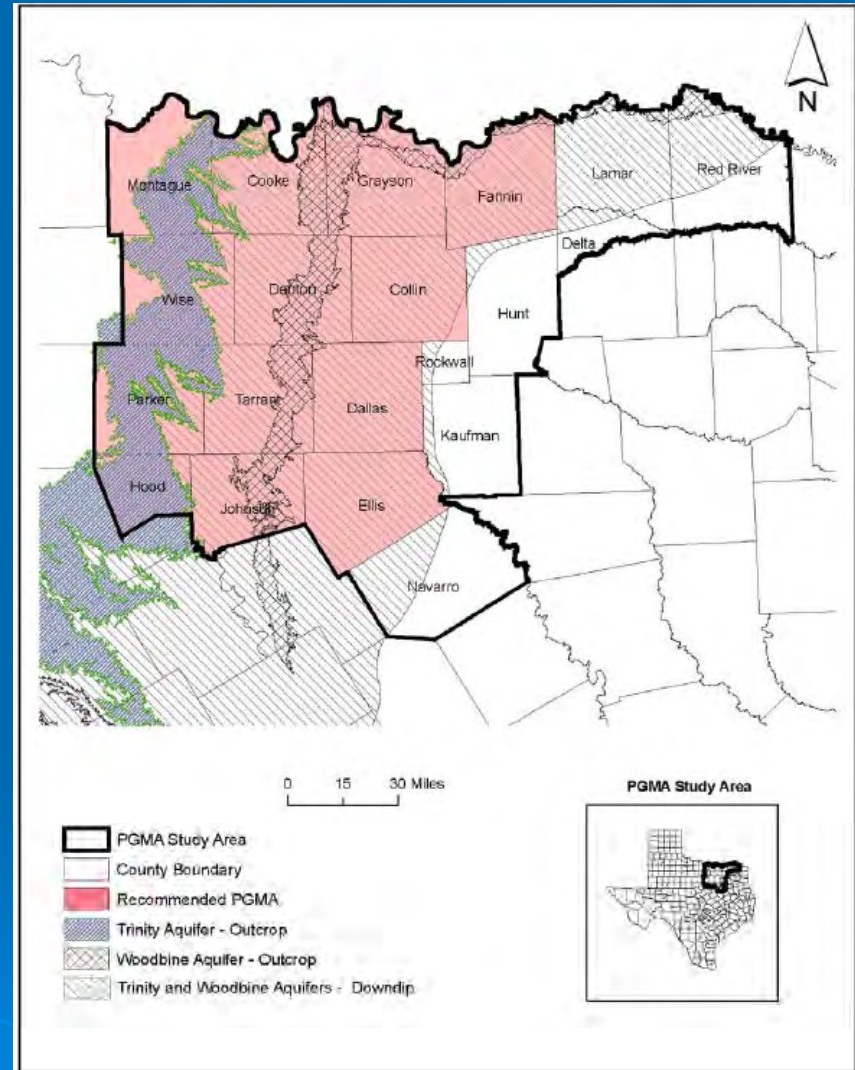
Office of Environmental Quality

- Internal Resource to City Departments on Environmental Issues
- Manage
 - Environmental Management System
 - Training/Outreach
 - Phase I/Phase II ESAs
 - Spill Response
 - Municipal Setting Designation



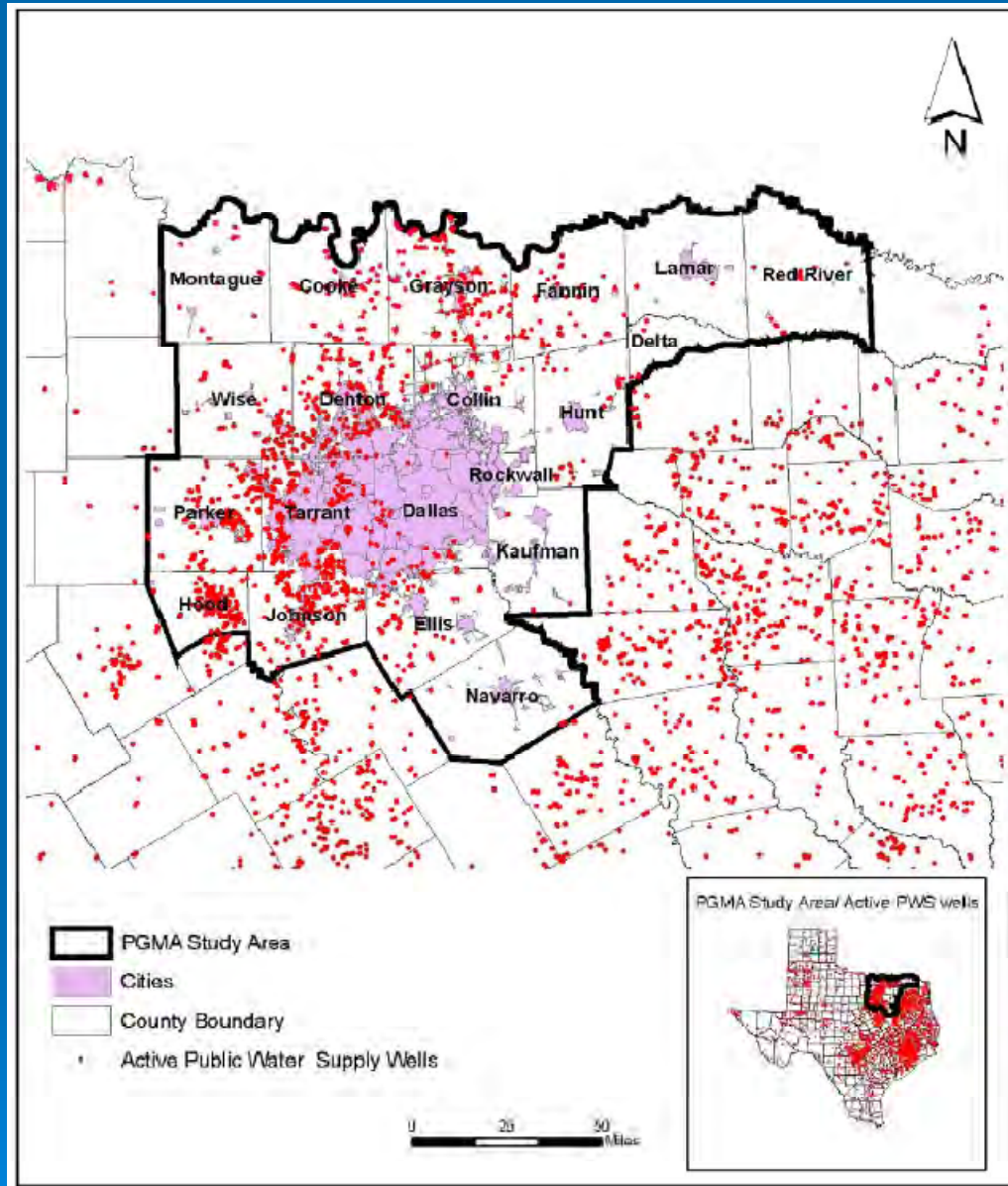
Groundwater in Dallas

- Trinity Aquifer - Major
- Woodbine Aquifer – Minor
- Associated with Austin Chalk formation

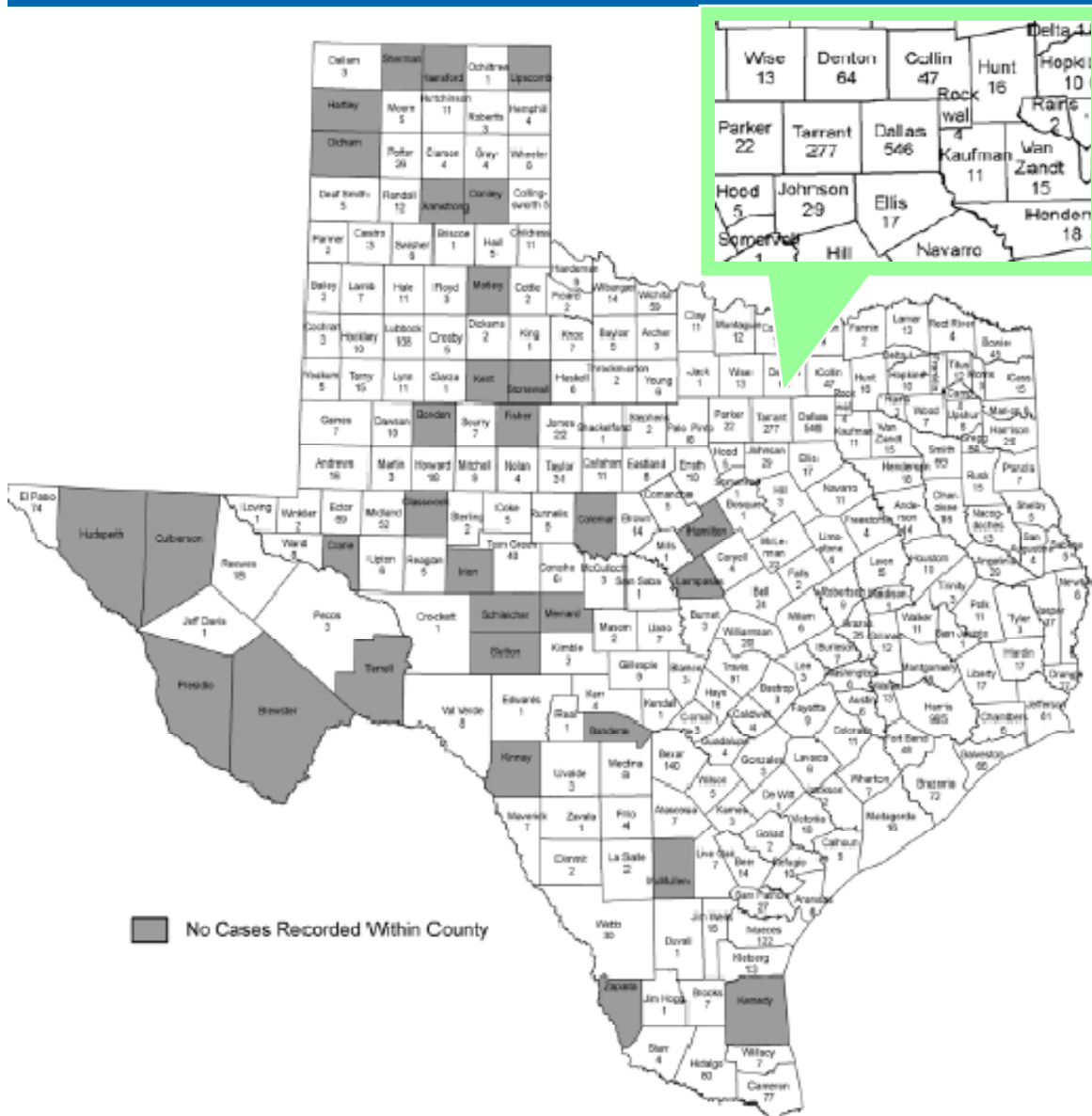


Data Source: TCEQ. 2007. Updated Evaluation for the North-Central Texas Trinity and Woodbine Aquifers, Priority Groundwater Management Study Area

Active Public Supply Wells



Data Source: TCEQ. 2007. Updated Evaluation for the North-Central Texas Trinity and Woodbine Aquifers, Priority Groundwater Management Study Area



Identified Groundwater Issues by County:

- Dallas: 546 cases
- Tarrant: 227 cases
- Collin: 47 cases
- Denton: 64 cases
- Contaminants: VOCs, chlorinated solvents, petroleum, metals, brines

Contaminated Groundwater Management

- Texas Risk Reduction Program:
 - Voluntary Clean Up Program
 - Leaking Petroleum Storage Tanks
 - Dry Cleaner Remediation Program
- Railroad Commission Clean Up Fund
- Municipal Setting Designation



What is a MSD?

Municipal Setting Designation:

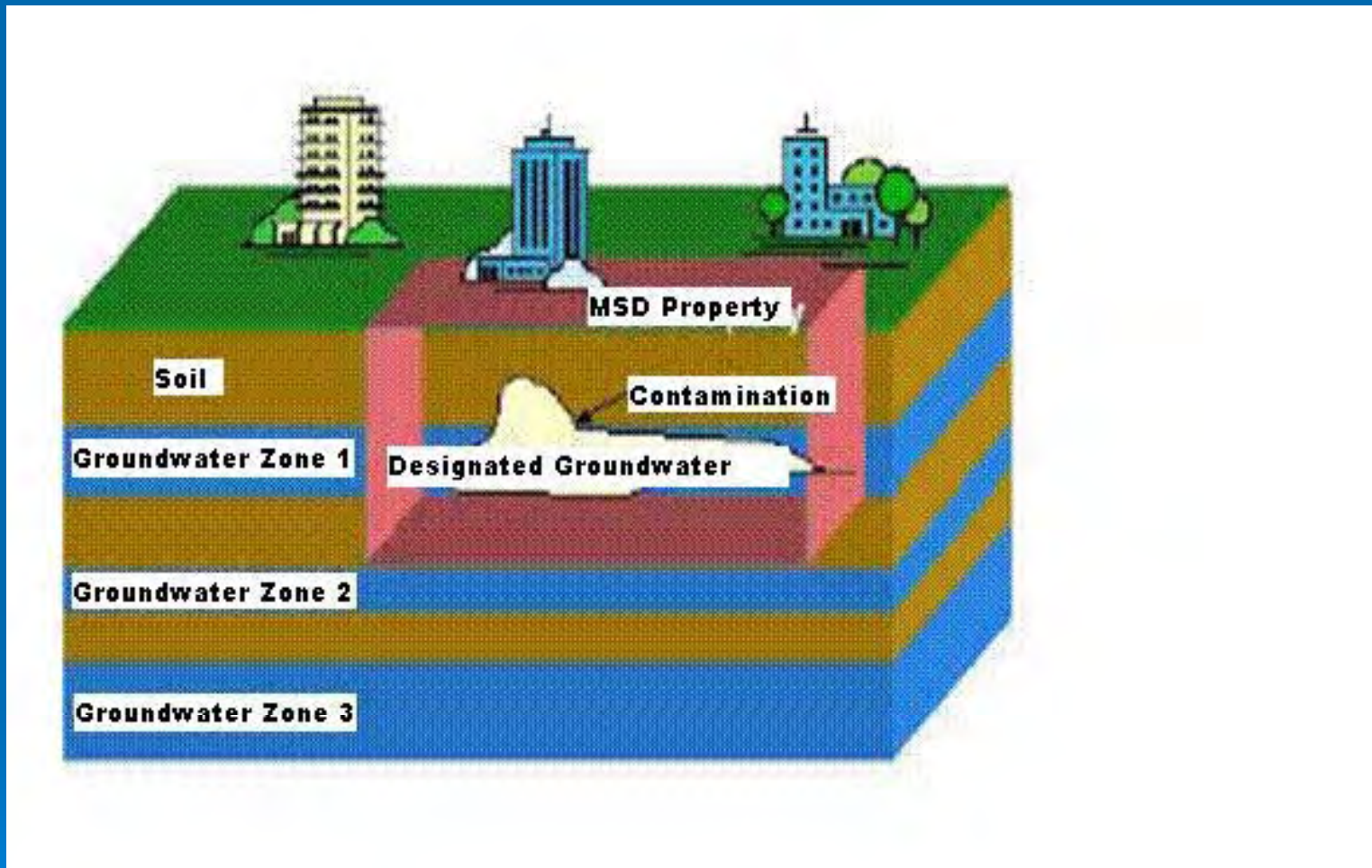
- Ordinance to restrict the use of shallow groundwater under a property if the property has access to a public drinking water source;
- MSD eliminates the groundwater ingestion pathway
- In 2003, Texas Legislature voted to amend the Texas Health and Safety Code and authorize MSDs.
- In May 2005, the Dallas City Council approved the MSD ordinance (Ordinance # 26001)



MSD

- The primary purpose of a MSD is to encourage redevelopment of contaminated properties while protecting human health and the environment:
 - Returns properties to productive use that may have been vacant for years due to ground water contamination; the groundwater will never be used for human consumption.
 - MSD may significantly reduce the cost of redevelopment/ clean-up of a property.
 - MSD allows for a public process and consideration of the views of neighboring property owners.

MSD Schematic



Benefits of MSD

- Removes consideration of ingestion of contaminated ground water
 - Delineation of ground water plume, for purposes of ingestion, is not required
 - Remediation, for purposes of ingestion, is not required
 - Closure of the property with TCEQ may be expedited
 - *All other pathways related to ground water and soil still must be addressed*



City MSD Eligibility

- Ground water contamination is present onsite exceeding ingestion PCLs
- Groundwater in question is not used for ingestion and public water supply is available to properties within ½ mile radius
- Applicant is the owner of the property or has the owner's authorization (i.e. developer or previous owner with continued obligations)
- Must be in a TCEQ regulatory program (such as VCP) before submittal of the application
- Submitted application meets requirements of ordinance (i.e. requested site information is submitted)

MSD Process

- Informal pre-application meeting
- Submittal of application (and 10 copies) with \$2500 application fee
- Application reviewed by OEQ, DWU, City Attorney's Office, and Real Estate
- Application deemed complete or deficiency letter submitted to applicant
- Public notices are prepared and mailed by the City & Ad placed in newspaper

MSD Process

- Public meeting - within 45 days of complete application
- Discussions with OEQ, if appropriate
- Public Hearing by City Council after receipt of \$5000 processing fee
 - Staff recommendation
 - Council approves or denies application
- Applicant prepares application for MSD certification with TCEQ; \$1000 fee
- TCEQ reviews and approves MSD



Advice to Applicant

- Schedule Pre-Application Meeting
 - Attendees – MSD Program Manager in OEQ, applicant's consultant; attorney (if there is one); applicant (if available and interested)
 - Applicant provides information about the MSD property
 - Discuss preferred application format
 - Share common problems to avoid; provide recommendations

Advice to Applicant

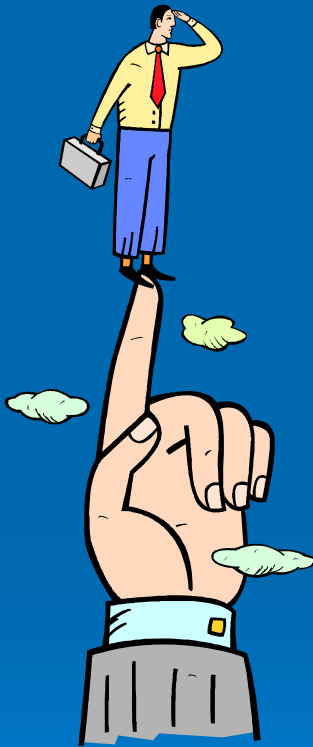
➤ Trouble Areas in Application

- Table format – ensure PCL exceedances are clear; (Add color !)
- If maps or tables are in color, make color copies;
- Show adjoining properties and identify landuse –residential, commercial, industrial
- Include adjoining City right-of-way on Survey
- Confirm Designated Property boundaries



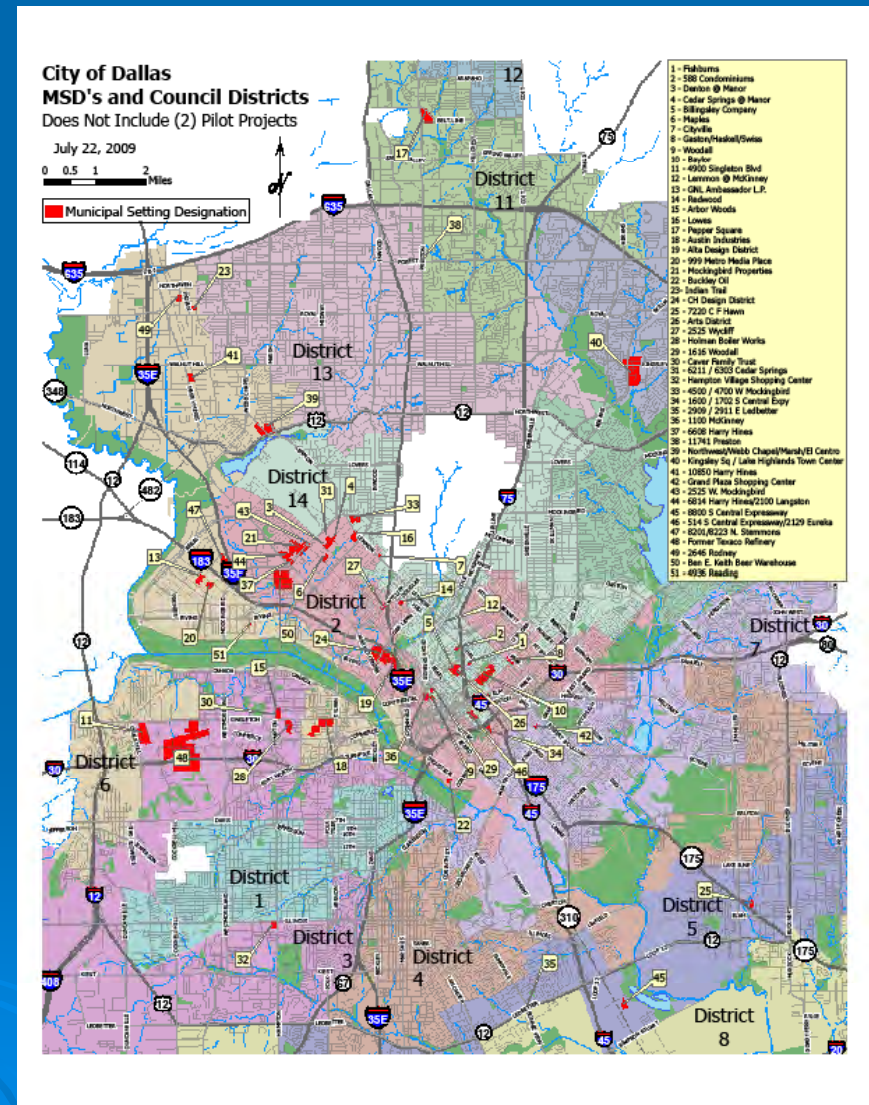
Advice to Applicant

- If this is your first application, come into OEQ and review applications that have been approved
- Contact Lori Frauli with any questions before submittal (e-mail is best)



City MSD Approvals To Date:

- Two Pilot Projects
- 54 MSDs approved by City Council
- 21 MSD applications currently in the review process



Public Works and Transportation

- Responsible for City compliance with TCEQ Municipal Separate Storm Sewer System (MS4) Permit under Clean Water Act
- Coordinates activities with 13 City Departments, Dallas County, NCTCOG, DART and TxDOT



Minimum Stormwater Management Program Requirements:

- Structural Controls
- New Development / Redevelopment
- Roadways
- Flood Control Projects
- Pesticide, Herbicide, and Fertilizers
- *Illicit Discharges and Improper Disposal*
- Spill Prevention and Response
- Industrial and High Risk Runoff
- Construction Site Runoff
- Public Education Program
- Monitoring and Screening Programs



Groundwater-to-Surface Water

- Section 19-118.2 Prohibited Discharges, indicates:
- (a) A person commits an offense if he discharges or causes to be discharged *any water that does not consist entirely of stormwater* into the storm water drainage system, waters of the United State, or state water.
- (b) It is a defenseto prosecution under Subsection (a) that a discharge of water not composed entirely of storm water resulted or occurred exclusively from one or more of the following sources, activities, or events:
 - (7) Uncontaminated groundwater or rising groundwater .
 - (8) Uncontaminated groundwater infiltration, as that term is defined in 40 CFR Section 35.22005 (20), into the storm water drainage system.

Dallas County Municipal Settings Designations



Legend

Texas MSD Locations STATUS

- CERTIFIED
- DENIED
- PENDING
- PRE-CERTIFIED
- WITHDRAWN

TCEQ

Counties with MSDs Applications

Legend

Counties w/MSDs

- Dallas
- Harris
- Jefferson
- Lubbock
- Tarrant

Contaminated Groundwater to Stormwater Issues

➤ Discharge during site construction

- Trench de-watering
- Foundation drainage
- Worker safety



➤ Discharges following development

- Stormwater from site
- Groundwater sump drainage
- Wastewater discharges



Two Primary Concerns:

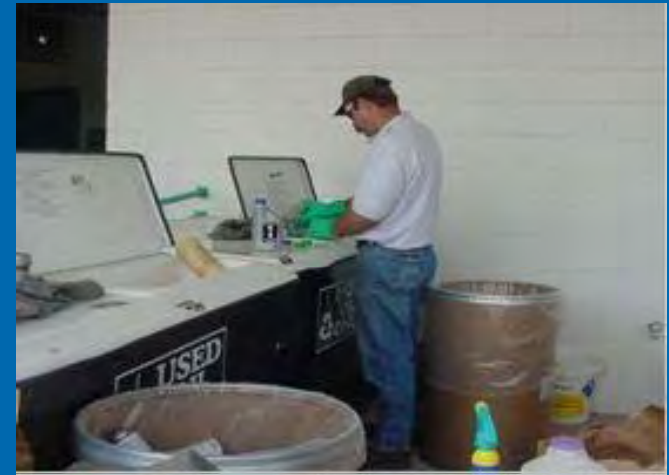
- Discharges that do not meet applicable water quality standards



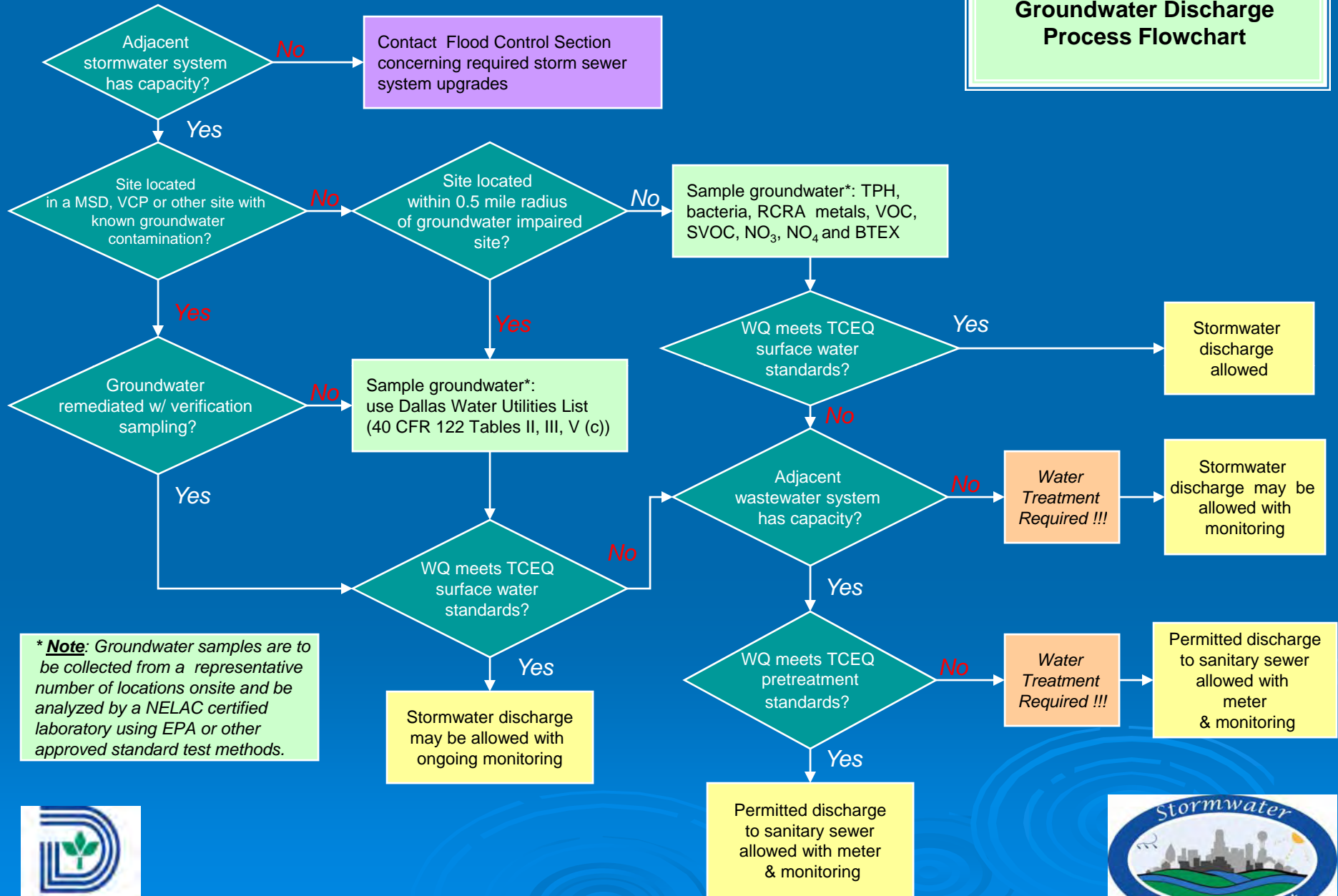
- Capacity of receiving system

Discharge Requirements

- System Capacity Analyses
 - Stormwater Sewer Capacity
 - Sanitary Sewer Capacity
- Water Quality Analyses
 - “Basic”: TCEQ Surface Water Quality Criteria
 - “Enhanced”: Wastewater Pre-Treatment Water Quality Criteria (40 CFR 122, Tables II-V)



Groundwater Discharge Process Flowchart



August 10, 2009

Applicable City Codes

- Section 19-118 Stormwater Management
- Chapter 49 Water and Wastewater (Pre-treatment)
- Chapter 51, Development Code : Includes Municipal Setting Designations & Environmental Management System

More Program Information

- TCEQ Coordination re: VCP, LPST, and DCRP Sites (<http://www.tceq.state.tx.us/nav/cec/cleanups.html>)
- GIS coverages of known water quality impairment: (<http://www.dallascityhall.com>)
- Flowchart & process: (<http://www.wheredoesitgo.com>)
- Dallas Water Utilities Pretreatment requirements: (http://www.dallascityhall.com/dwu/Pretreatment/discharge_groundwater.html)
- MSD information on OEQ Website (<http://www.dallascityhall.com/oeq/msd.html>)



Questions??

- **Stormwater Quality: Susan Alvarez, P.E.**
 - Susan.Alvarez@DallasCityHall.com
 - (214) 948-4450
- **Stormwater Capacity: David Garcia, P.E.**
 - David.Garcia@DallasCityhall.com
 - (214) 671-3921
- **Groundwater/ MSD Program: Lori Frauli Trulson, P.G., REM**
 - Lori.Trulson@DallasCityhall.com
 - (214) 670-1200
- **Dallas Water Utilities/PreTreatment Program: Maurice Akech**
 - Maurice.Akech@DallasCityHall.com
 - (214) 243-2354

