



# Lake Conroe Watershed Protection Plan Stakeholder Group Meeting

SJRA Boardroom  
8/19/2014

# Agenda

- 1) Introduction
  - a. Water plant tour discussion- Phil Smith
  - b. Discuss OSSF survey results
  - c. Present SJRA's proposed OSSF Order modifications
  - d. Historical letter of "no objection" for new development
- 2) Montgomery MS4 permit- Guest Speaker Rick Masters, Carroll & Blackman, Inc. (representing The City of Conroe, Montgomery County and The Woodlands JPA)
  - a. Overview of current Montgomery County and The City of Conroe MS4 program
  - b. Discussion on the future of storm water regulations in Montgomery County and the COC.
- 3) Stakeholder Discussion
  - a. Stormwater best management practices

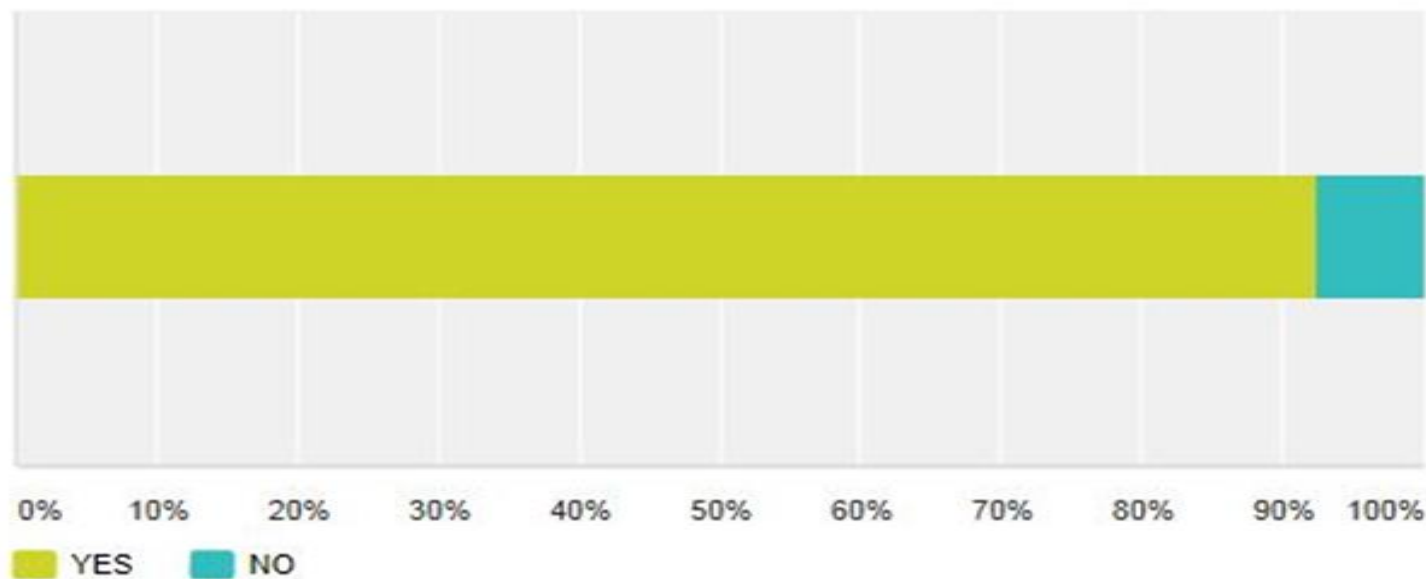
# Water Plant Tour



# OSSF Survey Results

## Should SJRA amend its regulations to require ongoing maintenance (inspections) of OSSFs within its jurisdiction?

Answered: 13 Skipped: 0

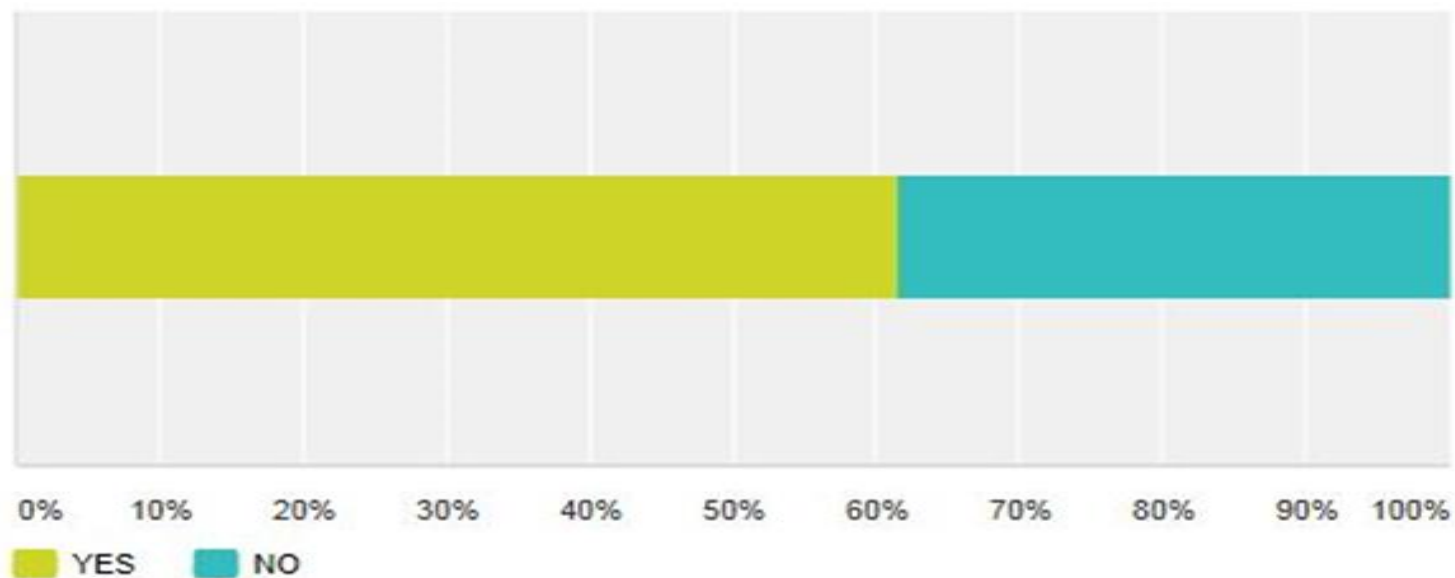


| Answer Choices | Responses |
|----------------|-----------|
| YES            | 92.31% 12 |
| NO             | 7.69% 1   |
| Total          | 13        |



## Should homeowners have the option to receive training to maintain their own OSSFs?

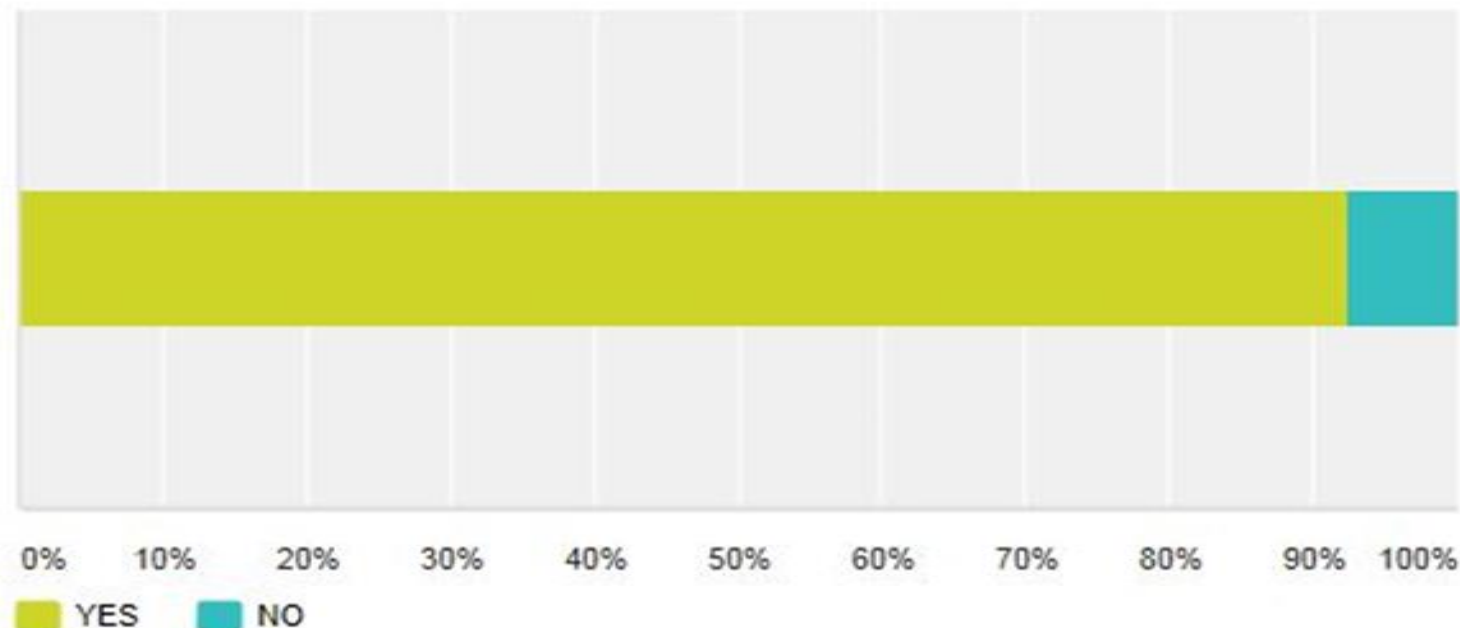
Answered: 13 Skipped: 0



| Answer Choices | Responses |
|----------------|-----------|
| ▼ YES          | 61.54% 8  |
| ▼ NO           | 38.46% 5  |
| Total          | 13        |

## Should SJRA require new development to use centralized systems when available?

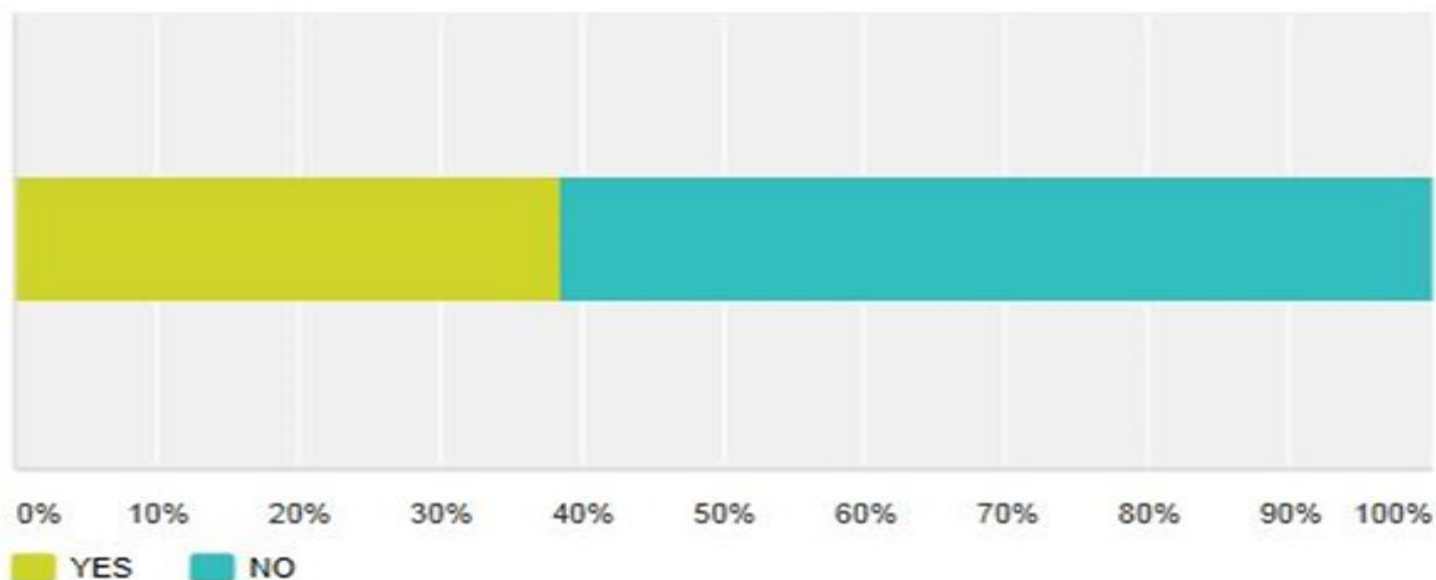
Answered: 13 Skipped: 0



| Answer Choices | Responses |
|----------------|-----------|
| YES            | 92.31% 12 |
| NO             | 7.69% 1   |
| Total          | 13        |

**Should SJRA increase its minimum lot size requirements for OSSFs? (Currently, 1 acre with public water supply, 1.5 acre with private water supply)**

Answered: 13 Skipped: 0

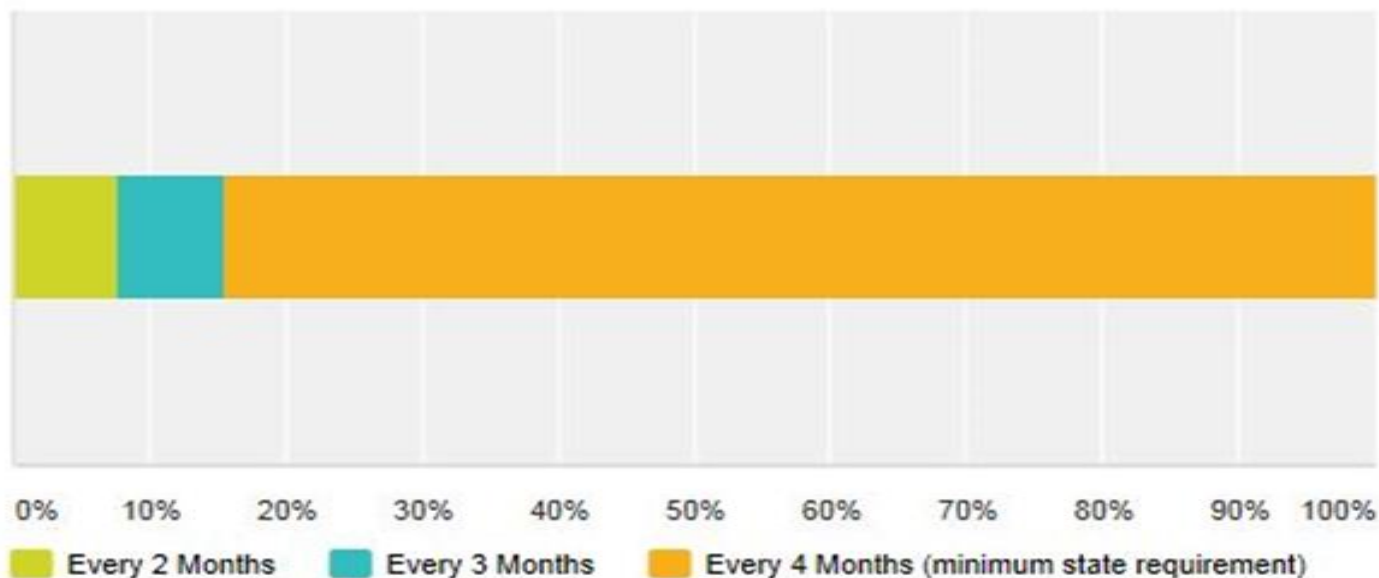


| Answer Choices | Responses |
|----------------|-----------|
| YES            | 38.46% 5  |
| NO             | 61.54% 8  |
| Total          | 13        |



## If SJRA requires ongoing maintenance of OSSFs, what should be the required frequency of inspections?

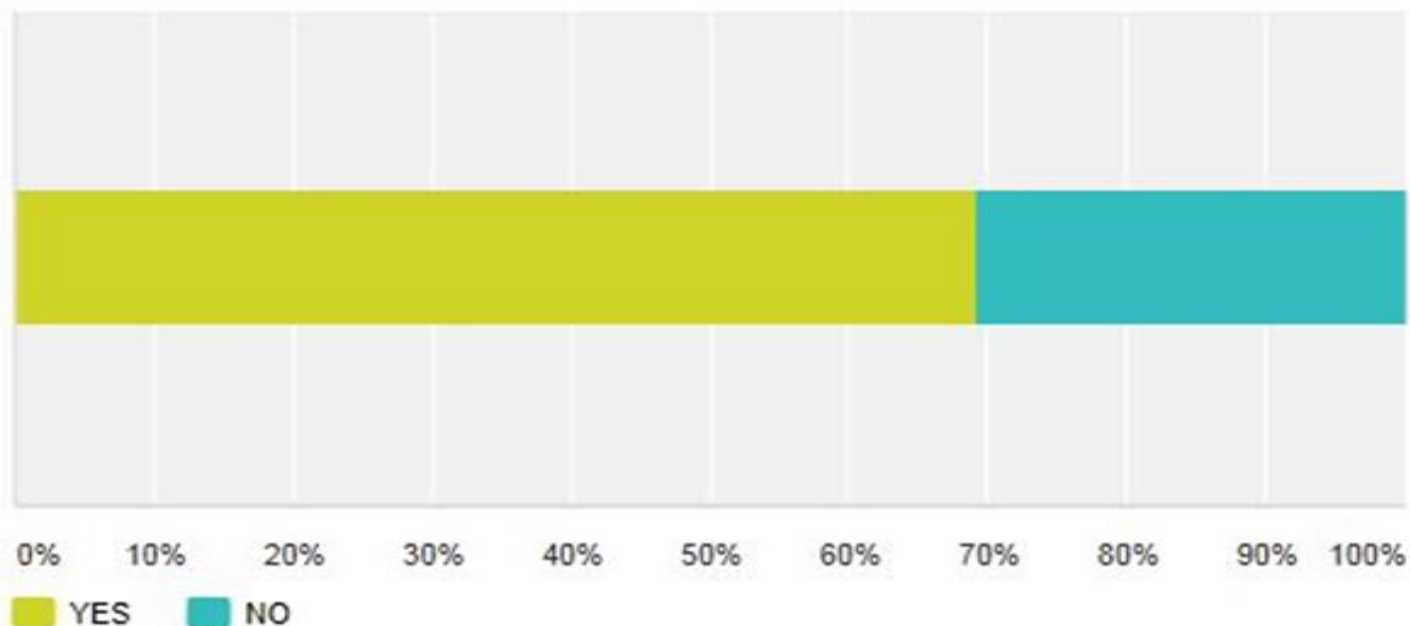
Answered: 13 Skipped: 0



| Answer Choices                               | Responses |
|--|-----------|
| ▼ Every 2 Months                             | 7.69% 1   |
| ▼ Every 3 Months                             | 7.69% 1   |
| ▼ Every 4 Months (minimum state requirement) | 84.62% 11 |
| Total  | 13        |

## Should SJRA Designated Representatives have the ability to write citations?

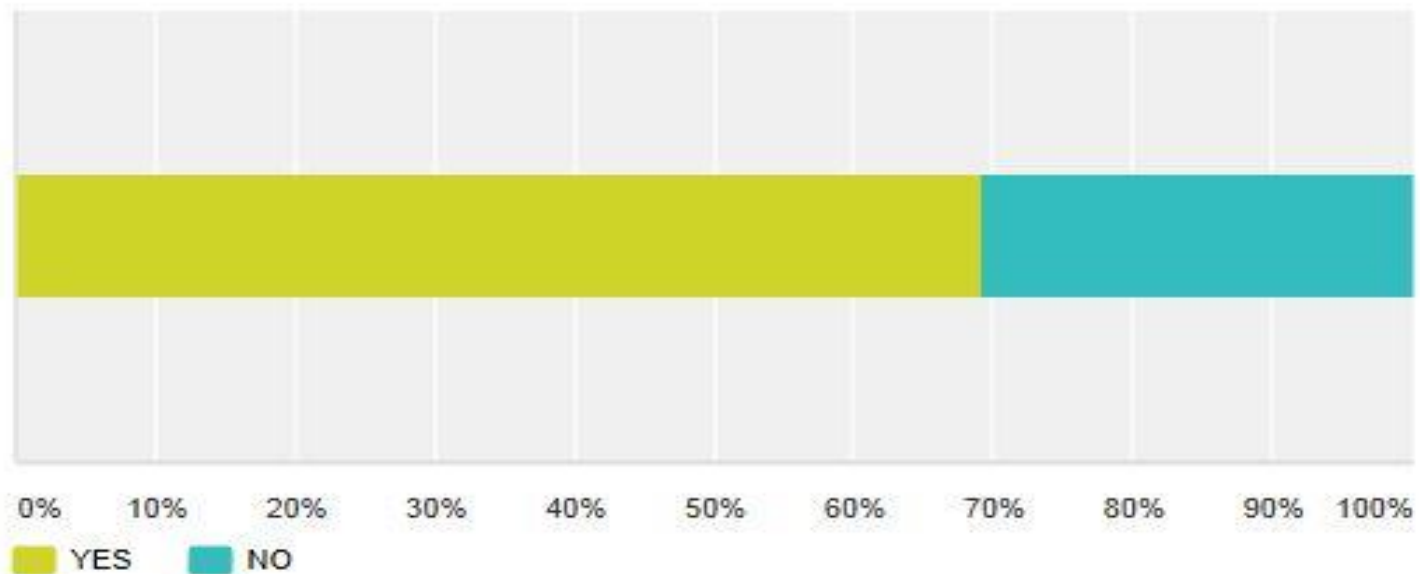
Answered: 13 Skipped: 0



| Answer Choices | Responses |
|----------------|-----------|
| YES            | 69.23% 9  |
| NO             | 30.77% 4  |
| Total          | 13        |

## Other than initial construction inspection, should SJRA routinely inspect conventional OSSF systems?

Answered: 13 Skipped: 0



| Answer Choices | Responses |
|----------------|-----------|
| YES            | 69.23% 9  |
| NO             | 30.77% 4  |
| Total          | 13        |

# Major Changes to the OSSF Rules and Regulations

1. Ongoing maintenance inspections by a certified maintenance provider will be required.
2. Homeowners may inspect their own systems if they attend the proper TCEQ maintenance courses.
3. New lots must connect to a centralized sewage system if within 300ft of that system.
4. Maintenance will be required every 4 months
5. All domestic wastewater is to be properly treated including grey water.
6. Other detailed but minor changes throughout

# Current Procedures for Stormwater Runoff into Lake Conroe

- No formal SJRA rules in place.
- City/ County stormwater rules apply.
- Montgomery Co./City of Conroe require SJRA approval for direct (w/o detention) stormwater discharge.
- SJRA requests new developments to mitigate pollutants from initial first flush (0.5 inches).

# Montgomery MS4 Permit

## **Guest Speaker-**

**Rick Masters, Carroll & Blackman, Inc.**

Representing The City of Conroe, Montgomery County and The Woodlands  
JPA



# Carroll & Blackman, Inc.

Consulting Engineers and Surveyors

## Montgomery County Stormwater Quality Coalition

### *Phase II MS4 Permit*

CITY OF CONROE

THE WOODLANDS JOINT POWERS AGENCY

MONTGOMERY COUNTY

# MONTGOMERY COUNTY

## STORMWATER QUALITY COALITION

The Woodlands Joint Powers Agency: (281) 367-1271

City of Conroe: (936) 522-3100

Montgomery County: (936) 539-7839

Phone: (936) 539-7839

[www.ms4web.com/Montgomery](http://www.ms4web.com/Montgomery)

## Storm Water Discharge Permits:

Three main types of storm water discharge permits are issued by the TCEQ.

- **MS4 Permits (Phase I & II) – Municipal Separate Storm Sewer System**
- **Construction Permits (Phase I & II)**
- **Industrial Permits**

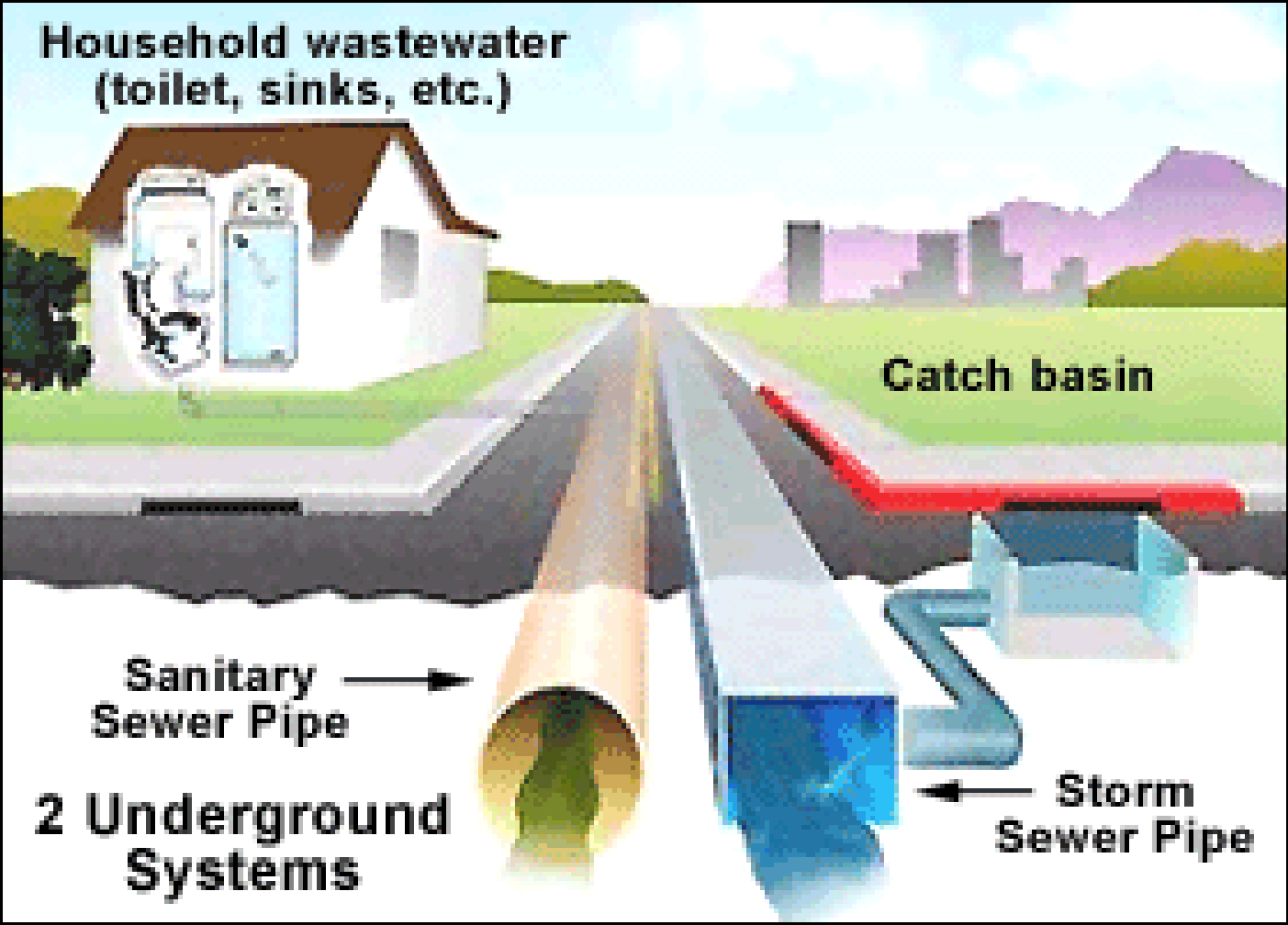
## Municipal Separate Storm Sewer System (MS4):

- TCEQ Definition: Small MS4 (Draft Permit TXR040000)

A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):(i) Owned or operated by the United States, a state, city, town, borough, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water or other wastes including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA; (ii) Designed or used for collecting and conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a publicly owned treatment works (POTW) as defined at 40 CFR Section 122.2; (v) Which was not previously authorized under a NPDES or TPDES individual permit as a medium or large municipal separate storm sewer system; (vi) Which does not include very discrete systems such as those serving individual buildings.

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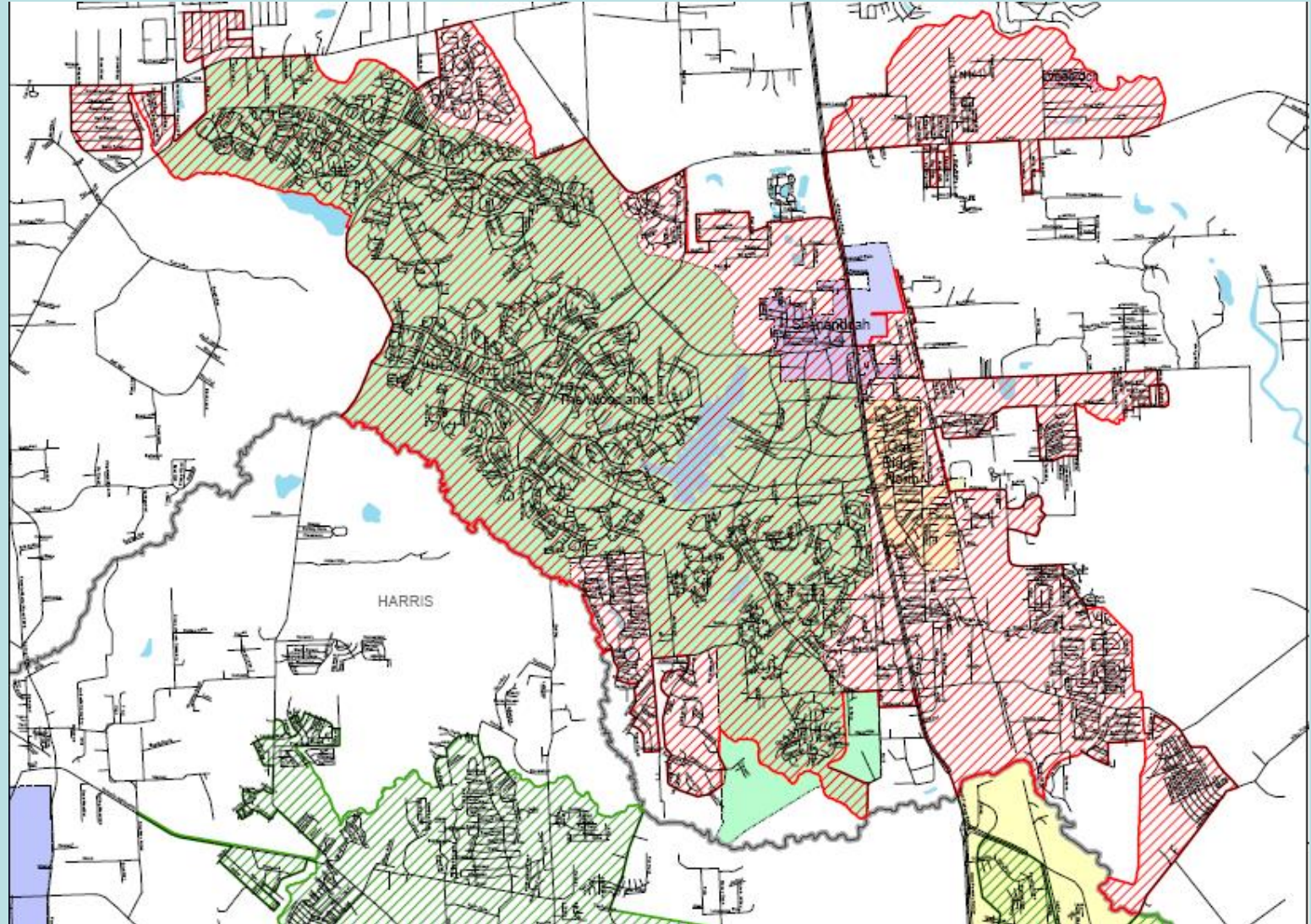
[www.ms4web.com/Montgomery](http://www.ms4web.com/Montgomery)



## Types of MS4 Operators:

- Cities
- Department of Transportation Districts (TxDOT)
- Municipal Utility Districts and Drainage Districts
- Counties
- State Universities
- Military Bases
- Prisons

# 2000 Urbanized Area

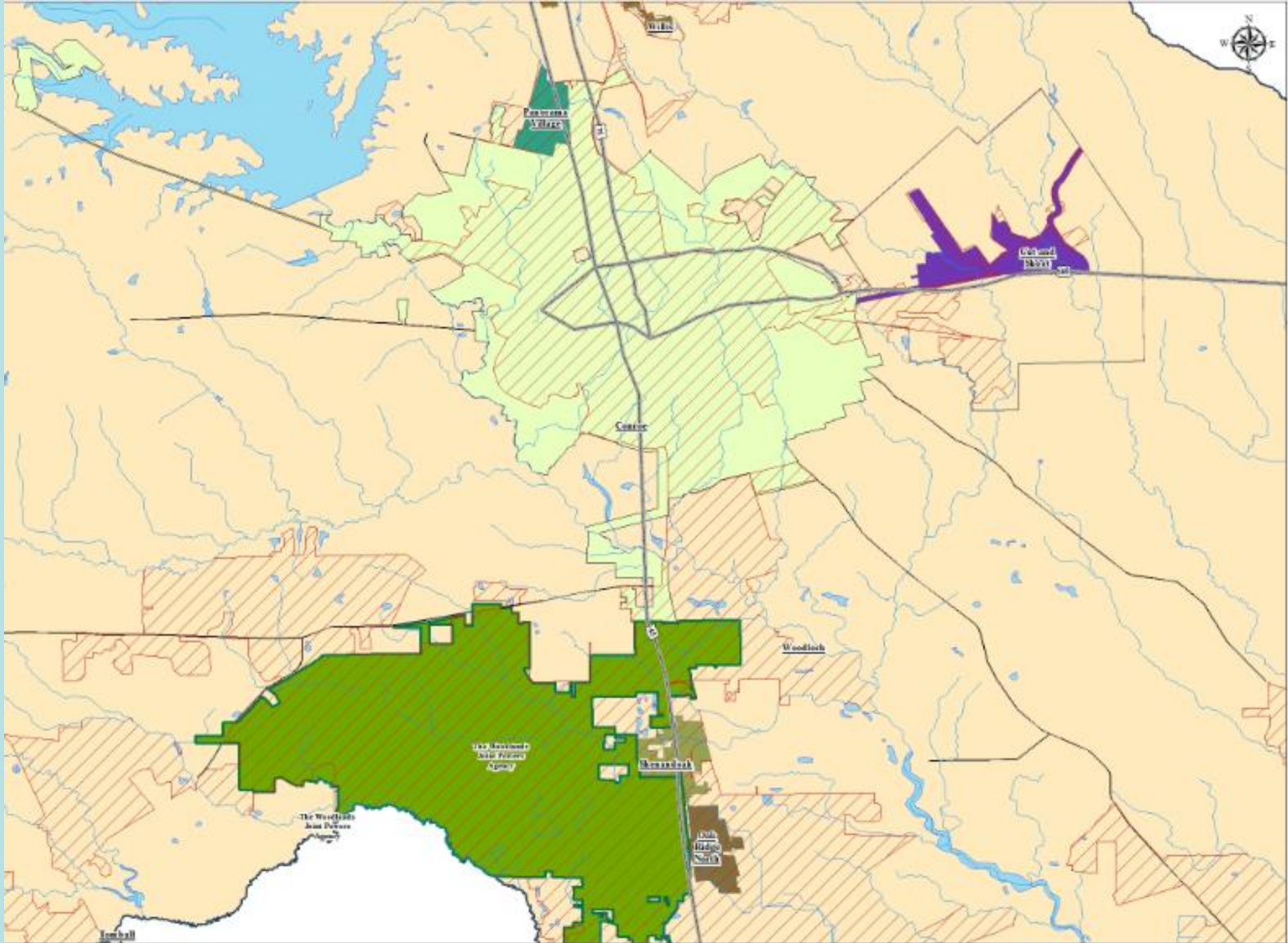


## The Montgomery County Stormwater Quality Coalition

- The Woodlands JPA
- Montgomery County
- City of Conroe (New Member)



# 2010 Urbanized Area



Montgomery County Stormwater Quality Coalition  
Stormwater Management Program

Home Public Education Materials Contractors Documents & Maps TCEQ/EPA Links

## Public Service Announcements

**Auto Care**  
**Chemicals**  
**Lawn Waste**  
**Two Systems**

**Montgomery County Stormwater Quality Coalition News**  
TCEQ renewed TPDES General Permit No. TXR040000 on December 16, 2013. Click [here](#) to view permit.

**Contact Us**  
Help us improve water quality in Montgomery County.  
Report:

**About the Coalition**

Start | Internet Explorer | Firefox | VLC | Skype | PowerPoint | Chrome | 11:29 PM 8/18/2014

## TCEQ Phase II MS4 General Permit Requirements:

- **Complete and file a permit application for regulated MS4's in order to obtain permit coverage under the TCEQ's Phase II MS4 permit. (NOI)**
- **Develop and implemented a comprehensive Storm Water Management Program (SWMP) in order to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practical (MEP).**
- **The SWMP must conform to the "Minimum Control Measures" as outlined in the TPDES General Permit.**
  - Public Education\Public Involvement
  - Illicit Discharge Detection and Elimination
  - Construction Site Runoff
  - Post Construction Runoff
  - Good Housekeeping and System Operations
  - Industrial Facilities Runoff (Level 4 Only – Does not apply in Montgomery County)
  - Impaired Waterbodies



## TCEQ Phase II MS4 General Permit Requirements (continued):

- **Submit an Annual Report summarizing all activities each year of the first 5 year permit term.**
- **Fully document all compliance activities and retain records for three years after each permit term.**

## Public Education and Outreach

### Public Education and Outreach

- a. **Flyers and Brochures:** Distribution or posting of flyers and brochures for the purpose of educating the public on stormwater impacts and ways they can minimize stormwater pollution.
- b. **Develop Materials for Local Schools/Libraries:** Development of educational materials for school age children in order to foster an early age respect for water quality.
- c. **Education of Construction Site Personnel:** Development of guidance materials/brochures/webpage for construction site personnel on the proper installation and maintenance of erosion and sediment controls, and other construction site runoff issues.
- d. **Public Service Announcements:** Develop and make available PSAs on the impacts of stormwater pollution and steps that residents can take to improve water quality.
- e. **Storm Drain Marking:** Paint or epoxy storm drain markers on permanent stormwater inlets in new developments.
- f. **Stormwater Quality Website:** Develop and maintain a stormwater quality website. The website will include stormwater education per the TCEQ general permit guidelines and provide specific information regarding the TPDES Phase II program; including links to other local, state and national stormwater websites. In addition, the website will provide viewers with instructions on how to report stormwater quality concerns in their area.
- g. **Public Notice:** Comply with all state and local public notice requirements regarding permit application/renewal process and public meetings associated with the stormwater quality program.
- h. **SWMP Availability:** Make the SWMP available to the public on the stormwater quality website. Website address will be included on flyers and brochures distributed by the coalition.

## Public Involvement and Participation

### Public Involvement

- i. **SWMP Committee:** Formation/maintenance of a committee on SWMP program development and implementation.
- j. **Public Meetings:** Conduct public meetings to allow citizens to have input in the implementation of the program and provide opportunities for citizens to volunteer to participate in the implementation of the SWMP.
- k. **Stormwater Hotline:** Advertise appropriate phone numbers for citizens to report information regarding illicit discharges, illegal dumping, construction site discharges, etc.
- l. **Cleanup Events:** Conduct cleanup events to encourage proper disposal of waste within the community.

# Illicit Discharge Detection and Elimination

- a. **MS4 Outfall Map:** Develop/Maintain an updated map of the MS4 indicating the location of stormwater outfalls that discharge to waters of the U.S. and the location and name of all surface waters receiving discharge from the MS4.
- b. **MS4 Outfall Inspections:** Utilize reports from MS4 field staff, citizens, and a concentrated dry weather screening program to inspect outfalls for illicit discharges.
- c. **Regulatory Mechanisms:** Enforce local illicit discharge regulations prohibiting illicit non-storm water discharges from being discharged into the Coalition's MS4. Within two years from the permit effective date, the coalition will review and revise, if needed, its existing regulatory mechanisms to comply with the current permit requirements.
- d. **MS4 Field Staff Training:** Conduct training for MS4 field staff to provide information regarding the identification of illicit discharges and proper reporting.
- e. **IDDE Procedures:** Develop procedures for tracing/removing the source of an illicit discharge, responding to illicit discharges/spills, inspections in response to complaints, and to prevent/correct leaking on-site sewage disposal systems.
- f. **Public Reporting:** Develop media to facilitate public reporting of illicit discharges. Options may include stormwater hotlines, websites, and social media pages.

## What is an Illicit Discharge?

- Illicit Discharges are Non-Storm Water Discharges except for the Allowable Discharges
- Common Illicit Discharges
  - Sewer leaks, Failing Septic Tanks or OSS
  - Industrial Discharges, Spills
  - Construction Debris, Sediment
  - ETC.



## What are Allowable Discharge?

### Acceptable Discharges

- a) water line flushing;
- b) runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources;
- c) discharges from potable water sources;
- d) diverted stream flows;
- e) rising ground waters and springs;
- f) uncontaminated ground water infiltration;
- o) discharges or flows from fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities);
- p) other allowable non-storm water discharges listed in 40 CFR § 122.26(d)(2)(iv)(B)(1);
- q) non-storm water discharges that are specifically listed in the TPDES Multi Sector General Permit (MSGP) or the TPDES Construction General permit (CGP); and
- r) other similar occasional incidental non-storm water discharges, unless the TCEQ

## What are Allowable Discharge?

- f) uncontaminated ground water infiltration;
- g) uncontaminated pumped ground water;
- h) foundation and footing drains;
- i) air conditioning condensation;
- j) water from crawl space pumps;
- k) individual residential vehicle washing;
- l) flows from wetlands and riparian habitats;
- m) dechlorinated swimming pool discharges;
- n) street wash water;
- r) other similar occasional incidental non-storm water discharges, unless the TCEQ develops permits or regulations addressing these changes.

**\* All other discharges to the MS4 are potentially Illicit Discharges that we must regulate.**

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## What to Look For



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# Construction Site Runoff

- a. **Construction Site Plan Review:** Implement a construction site plan review program that focuses on compliance with the local construction regulations and water quality impacts and develop associated guidance materials.
- b. **Construction Site Inspection/Enforcement:** Conduct inspections of construction sites/associated control measures and enforce local regulatory mechanisms to the MEP. Notify site operators of their requirement to obtain TPDES permit coverage.
- c. **Regulatory Mechanisms:** Enforce local stormwater runoff control regulations to address stormwater runoff from construction sites which disturb one acre or more or are part of a common plan of development that disturb greater than or equal to one acre. Within two years from the permit effective date, the coalition will review and revise, if needed, its existing regulatory mechanisms to comply with the current permit requirements.
- d. **Construction Site Notice Posting:** Post an appropriate site notice or NOI in a publicly accessible location for each Coalition construction project subject to the TCEQ Construction General Permit.
- e. **Public Reporting:** Develop and implement procedures for receipt and consideration of information submitted by the public regarding construction site stormwater runoff.
- f. **MS4 Staff Training:** Develop and implement procedures for MS4 staff training regarding construction site stormwater runoff control.
- g. **Construction Site Inventory:** Maintain an inventory of all permitted active public and private construction sites that result in a total land disturbance of one or more acres or are part of a common plan of development that disturbs greater than or equal to one acre. Inventory will be limited to sites that have provided appropriate notice to the MS4 in the form of a site notice and/or copy of the NOI.





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# Post - Construction Storm Water Management

- a. Development Project Plan Review:** Review development plans to ensure compliance with Coalition post-construction runoff guidelines and inclusion of appropriate permanent stormwater quality controls. Ensure that operators design, install, implement, and maintain a combination of structural and non-structural BMPs appropriate for the community and that protects water quality.
  
- b. Inspection of Post Construction Control Measures:** Conduct inspections of post construction control measures owned and operated by the MS4. Document and maintain all associated inspection/maintenance records.
  
- c. Regulatory Mechanisms:** Enforce local post construction stormwater management regulations to address discharges from new development and redevelopment projects which disturb one acre or more or are part of a common plan of development that disturb greater than or equal to one acre. Document and maintain all associated enforcement actions. Within two years from the permit effective date, the coalition will review and revise, if needed, its existing regulatory mechanisms to comply with the current permit requirements.



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# Good Housekeeping / Municipal Operations

- a. **MS4 Facility Inventory:** Develop and maintain an inventory (and map for Level 3 Permittees) of the applicable MS4's facilities and stormwater controls within the regulated area. (**Additional tasks for Level 3 Permittee(s)** – Conduct and document the results of an assessment of the MS4 facilities for their potential to discharge pollutants. Determine which facilities are considered high priority and develop associated stormwater management standard operating procedures.)
- b. **Employee Training Program:** Develop a training program to target all employees responsible for operations subject to the prevention/good housekeeping program.
- c. **Disposal of Waste:** Properly dispose of waste materials that are removed as a result of maintenance activities; such as floatables, dredge spoils, and or accumulated sediments.
- d. **Contractor Oversight Procedures:** Develop procedures that contractually require contractors hired by the permittee to perform maintenance activities on permittee-owned facilities to comply with all stormwater control measures, good housekeeping practices, and facility specific stormwater management operating procedures.
- e. **Operation and Maintenance Activities:** Evaluate O & M activities for their potential to discharge pollutants to stormwater. Develop general pollution prevention plans that identify potential pollutants of concern and implement appropriate measures to reduce the discharge of pollutants from O & M activities. Conduct inspections at MS4 facilities (including high priority facilities for Level 3 Permittees) and maintain associated records.
- f. **MS4 Structural Controls:** Implement and maintain appropriate structural controls at applicable MS4 facilities. (**Additional tasks for Level 3 Permittee(s)** – Include controls that address good housekeeping, deicing/anti-icing storage, fueling operations, vehicle maintenance, and equipment/vehicle washing at high priority facilities.)

# Good Housekeeping / Municipal Operations

- g. Vehicle and Equipment Maintenance:** Conduct routine maintenance of permittee owned vehicles according to manufacturer's specifications.
- h. Litter/Garbage Collection:** Conduct garbage and/or litter collection in order to reduce floatable material discharges to stormwater.
- i. Maintain Municipally Owned Construction Sites:** Conduct maintenance activities necessary to properly maintain erosion and sediment controls at municipally owned construction sites based on needs identified during construction site inspections.
- j. Permittee Parking Lots:** Inspect and maintain municipal parking lots.
- k. Storm Sewer System Maintenance:** Develop and implement to routinely inspect catch basins, ditches, and other surface structures. Develop list of potential problem areas for increased inspection.
- l. Street Sweeping:** Conduct sweeping of city roads to reduce the amount of pollutants being discharged to the MS4 from roadways. Waste collected during street sweeping activities will be properly disposed of at the local landfill.



# Impaired Water Bodies

## Benchmark(s) for Impaired Water Bodies by Stream Segment:

| TCEQ Stream Segments   | 303(d) List/TMDL Status            | Parameter(s)                            | Benchmark(s)/Waste Load Allocation | MS4(s) that Discharge            |
|--|------------------------------------|---|------------------------------------|----------------------------------|
| Spring Creek – 1008<br>Upper Panther Branch – 1008B<br>Lower Panther Branch – 1008C<br>Bear Branch – 1008E | Approved TMDL (I-Plan in progress) | bacteria                                | 401.5 Billion CFU/day              | WJPA,<br>Montgomery Cnty         |
|  | 303(d) list                        | bacteria;<br>depressed dissolved oxygen | N/A                                |                                  |
| West Fork San Jacinto– 1004<br>Crystal Creek – 1004D   | Approved TMDL (I-Plan in progress) | bacteria                                | 42.6 Billion CFU/day               | WJPA, Conroe,<br>Montgomery Cnty |
|  | 303(d) list                        | bacteria                                | N/A                                |                                  |
| Caney Creek – 1010   | Approved TMDL                      | bacteria                                | 43 Billion CFU/day                 | Montgomery Cnty                  |
| Peach Creek – 1011   | Approved TMDL                      | bacteria                                | 764 Billion CFU/day                | Montgomery Cnty                  |
|  | 303(d) list                        | bacteria                                | N/A                                |                                  |

WJPA=The Woodlands Joint Powers Agency; Conroe=City of Conroe; Montgomery Cnty= Montgomery County

# Impaired Water Bodies

**Impaired Water Bodies - BMP Implementation Schedule & Responsible Party**

| BMP  | WJPA | Conroe | Montgomery<br>Cnty | Full Implementation By: |
|--|------|--------|--------------------|-------------------------|
| TMDL I-Plans   | √    | √      | √                  | December 2018           |
| Sanitary Sewer<br>Overflow Plans                             | √    | √      |                    | December 2017           |
| Sanitary Sewer<br>Capital<br>Improvement<br>Projects         | √    | √      |                    | December 2017           |
| Lift Station<br>Assessment                                   |      | √      |                    | December 2017           |
| Public Reporting<br>of Sanitary Sewer<br>Overflows           | √    | √      | √                  | December 2017           |
| Oil and Grease<br>Trap Ordinance                             |      | √      |                    | December 2017           |
| Failing On-Site<br>Sewer Systems                             |      |        | √                  | December 2017           |
| Promote Proper<br>Maintenance of<br>On-Site Sewer<br>Systems | √    | √      | √                  | December 2017           |
| MS4 Outfall<br>Inspections                                   | √    | √      | √                  | December 2018           |
| Public Reporting   | √    | √      | √                  | December 2017           |
| Pet Waste<br>Management                                      | √    | √      | √                  | December 2017           |
| Animal Shelters,<br>Zoos and/or Horse<br>Stables             |      | √      | √                  | December 2017           |
| Residential<br>Education for<br>Bacterial Sources            | √    | √      | √                  | December 2017           |

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Represents targeted BMPs developed for MS4s that discharge to an impaired water body with an approved TMDL.  
 Represents focused BMPs developed for MS4s that discharge to an impaired water body with or without an approved TMDL.

## Key Elements To Remember

- Report suspected illicit discharges
- Report construction sites without control measures