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Agenda

- Overview of Regional Storm Water Monitoring Program
- Regional Monitoring Protocol
- Schedule
- Equipment and Constituents
- Water Chemistry Results
- Decisions from Results
- Future Monitoring
- Summary

Participants

- Dallas
- Arlington
- Irving
- Mesquite
- TxDOT – Dallas District (FW District is co-permittee)
- Fort Worth
- Garland
- Plano
- North Texas Tollway Authority (NTTA)

Background

- Coordinated through the North Central Texas Council of Governments (NCTCOG) to assess with storm water quality monitoring
- Regional plan approved by TCEQ
- Sampling of various watersheds per year for 3 years

Establish baseline data on receiving streams in the DFW Metroplex to later...
- Determine long-term water quality trends;
- Assess the impact of storm water discharge on receiving stream quality; and
- Define MS4 BMP design criteria, and possibly evaluate BMP effectiveness.
Storm Water Monitoring

Regional Monitoring Protocol

- 9 watersheds per year
- 3 sampling stations in 7 watersheds; 2 sampling stations in the 2 transportation watersheds
- 1 sample per quarter/per site

Monitoring Schedule

- Monitoring periods will be quarterly for each of the three years:
  - January 1 – March 31, 2007
  - April 1 – June 30, 2007
  - July 1 – September 30, 2007
  - October 1 – December 31, 2007
- 3 chemical monitoring years per permit term
- 27 watersheds evaluated over the permit term

Qualifying Rain Events

- Minimum antecedent dry period of 72-hours;
- Rain event greater than 0.1 inches; and
- Stream level must have a 1-inch rise within one hour

Modifications to Regional Plan

- City of Dallas
  - Elected to monitor two additional sites in 2007 due to the complexity of their watershed
- City of Fort Worth
  - Two bio-assessment samples per year at all nine sites
  - Four years of bio-assessment samples
  - One chemical sample per site per year
Monitoring Software and Equipment

- Shelters - Prefabricated
- Automatic Samplers (Portable 6712)
- Cell Phones (ISCO Digital Cellular System)
- Bubbler (ISCO 730 Bubbler Flow Module)
- Rain Gauge (ISCO 674 Rain Gauge)
- Computer Software (ISCO Flowlink 5)
Flowlink – Data Storage

FLOWLINK software
- MS Access Based
- Proprietary software by ISCO, Inc
- Reports rainfall, water level, and sample collection

ISCO Flowlink

Constituents Monitored
- E. coli
- Total Coliform
- Oil and Grease
- pH
- COD
- TDS
- TSS
- BOD
- COD
- TSST
- TDS
- Copper
- Lead
- Zinc
- Dissolved Phosphorus
- Total Phosphorus
- Total Nitrogen
- Chromium
- Arsenic
- Diazinon

Initial Results
- 2 quarters of monitoring completed
- 8 watersheds sampled
- Rain events varied in intensity, however the majority of rain events have been moderate to heavy (greater than 0.5 inches)

Bacteria – E. coli and Total Coliform

Oil and Grease
Summary of Results

- Overall bacteria levels not as high as other Phase I communities (Pitt, 2005)
  - Total coliform less than 12,000 MPN/100mL
  - E. coli less than 1,750 MPN/100mL

- COD/BOD levels varied by watershed, not enough data to statistically compare yet

- TSS/TDS values were greater than other Phase I communities

- Total and dissolved phosphorus in line with other Phase I communities

- Total nitrogen slightly higher than other Phase I communities

- Rain events monitored ranged from 0.12 in/hr to 0.95 in/hr in intensity

Future Monitoring

- Continued monitoring of remaining quarters in 2007
- Redeploy equipment in late 2007 or early 2008, commence monitoring for 4 quarters in 2008
- Redeploy and monitor in 2009
- Evaluate results and develop report
Decisions From Results

- Limited dataset
- Long term evaluate constituent levels and watershed
- Decision to implement and target public education efforts

Final Summary and Future Goals

- Initial and limited data set;
- Continue monitoring for 2.5 years;
- Establish baseline data on receiving streams in the DFW Metroplex
- Make data available on-line with interactive map for public access
- Likely resume outfall monitoring in the next permit term

Questions?

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