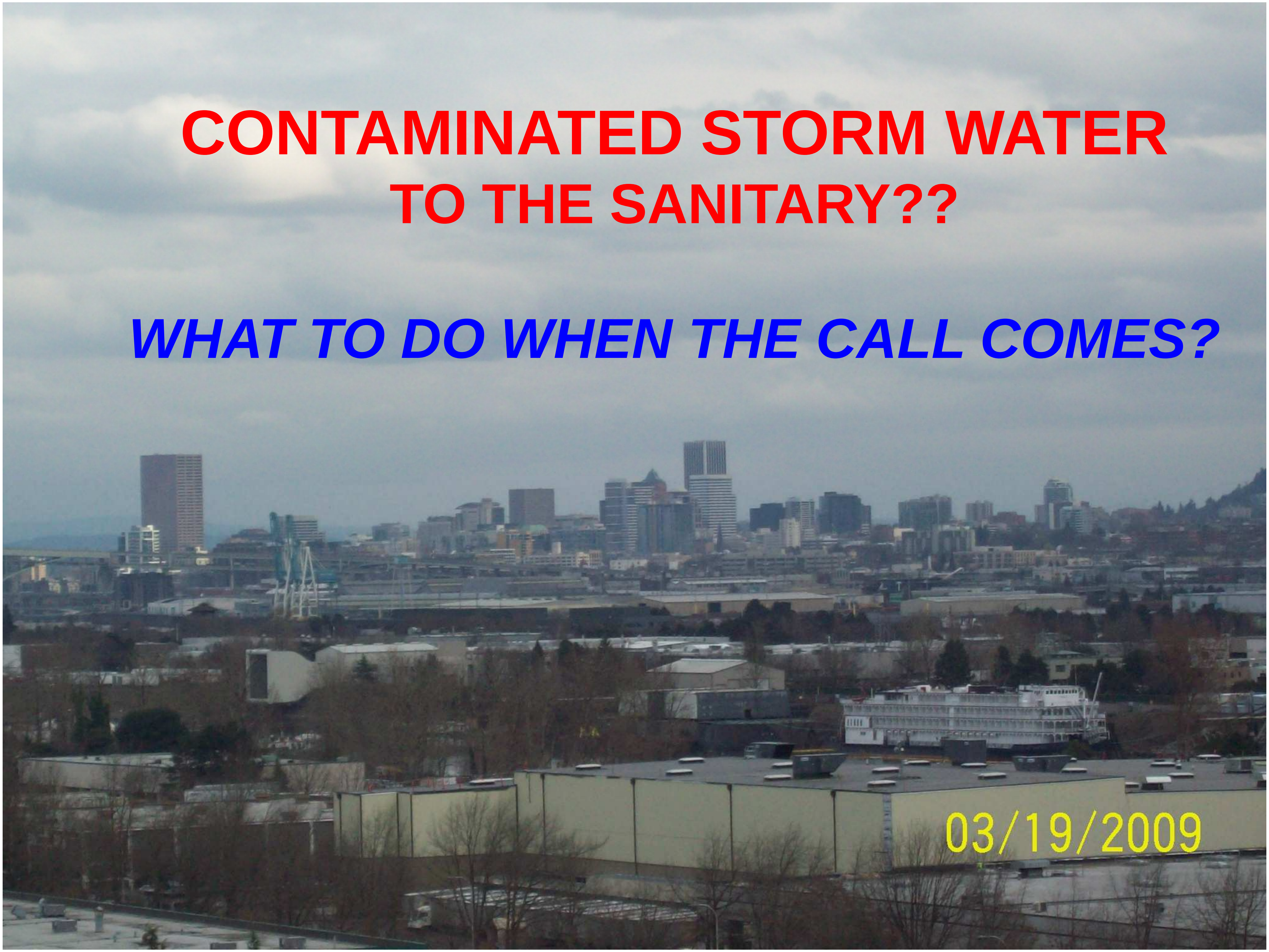
Contaminated Storm Water

Jerry Baumgartner
Bureau Environmental Services
Portland, OR

October Sky

CONTAMINATED STORM WATER
TO THE SANITARY??

WHAT TO DO WHEN THE CALL COMES?



Overview

- Drivers to Eliminate Discharges to Storm Sewers
- Restrictions on Storm Sewer Discharges
- Collection System and Treatment Plant Concerns
- Acceptance Criteria
- Acceptance Requirements
- Case Studies

Storm Sewer Discharge Elimination Drivers

- Brownfield Development/Groundwater Remediation (Long Term)--(Liability)
- Dewatering from Contaminated Construction Sites--(Liability)
- State Environmental Agency (DEQ) Pressure to Discharge to the Sanitary
  - Portland Harbor Clean Up--(Liability)
  - Industrial NPDES Storm Water General Permits— emerging compliance problems
- Third Party Pressure – Environmental Groups

Restrictions on Storm Water Discharges

- Combined Sewer Overflow Control (ASFO-94% reduction by 2012)
  - Structural Improvements and $ Impacted by Storm Water
  - Storm Flow Elimination/Reduction—(Corner Stone Projects)
- Municipal (MS4) Permit—SWMM (New and Re-development) -- Emphasis on Removing Storm Water from Storm and Combined Sewers
- *Double Bind!!!!!!*

Potential Sanitary Collection System Concerns

- Can Reduce Collection System Capacity
- Can Increase Pump Station Capacity Requirements
- Can Create/Exacerbate Back Ups and Overflows (Liability)

Potential Wastewater Treatment Plant Concerns

- **Can Reduce Hydraulic Detention Time and Treatment Efficiency**
- **Can Dilute Influent and Reduce Biological Treatment Efficiency**
- **Can make 85% Removal Efficiency more Difficult to Achieve**
- **Can Increase Flow to Wet Weather Treatment Facilities and Impact Capacity and Efficiency**
- **WWTPs Are Not Designed to Treat Clean Water**

Acceptance Criteria—What to Do

- **Agency Policy-Acceptance Sets Precedence**
- **Degree/Type Contamination**
- **Duration-Long/Short Term**
- **BMPs--Not Effective in Preventing Contamination**
- **Discharge Minimization/Reuse Evaluation**
- **Adequate System Capacity**
- **Batch Discharge Evaluation**
- **Extenuating Circumstances**
- **Engineering Report --Treatment Options and Cost Analysis on Storm/Sanitary Disposal**

Acceptance Requirements

- Flow Equalization/Retention Required -characterize discharge
- Discharge Metering and Sampling Facility
- Compliance with Local or Site-Specific Discharge Standards
- Industrial Wastewater Discharge Permit – Special Conditions
- All Costs Assessed for Services (permit fees, sewer use charges, SDCs)

Case Studies

- Coal Tar Distribution Facility
- Galvanizing Facility


CASE STUDY #1
Pitch and Coal Tar Distribution Facility
Natural Rain Water Distribution System
03/21/2009


5
MPH
Rail Siting
Paved Surface
03/19/2009


Below Grade
Groundwater
03/19/2009


Sump Collection
03/19/2009


West Hills
O/W Separator
03/19/2009


Case Study #2
Galvanizing Facility
Exposure
03/19/2009


Surface Preparation
Hot Caustic, Acid, Rinse, Pre-Flux Dip Tanks
03/19/2009


Galvanizing
Immersion in Molten Zinc Bath
03/19/2009


Tracking out zinc
03/19/2009


OFFICE
2523
Exposure—Do you think??
03/19/2009


O/W Separator
03/21/2009

QUESTIONS

Dancing with the NACWA Stars