BACKGROUND AND TIMELINES
Statewide General WDR - SSS

- Defines Sanitary Sewer Overflows (SSOs).
- Requires agencies to apply for coverage under the WDR - SSS.
- **Prohibits SSOs of any type.**
- Requires to meet provisions such as:
  - Electronic and timely reporting of SSOs.
  - SSO containment and mitigation.
  - Appropriate design capacity at peak flows.
  - **Allocation of adequate resources for the operation, maintenance and repair of the collection system by establishing a proper rate structure.**
  - **Development of a written Sewer System Management Plan (SSMP).**
- Specifies monetary remedies for violations of the WDR.
Sanitary Sewer Overflows (SSOs), are defined as the spill, release, discharge of untreated or partially treated wastewater that could enter waters of the United States and/or create a public nuisance and/or health hazard.
Common Causes of SSOs

- Main line blockages could be caused by:
  - Grease
  - Roots
  - Debris
  - Structural and/or mechanical failures of the collection system
  - Insufficient sewer line capacity
  - Lack of proper operation and maintenance
  - Vandalism
Sewer System Management Plan

The Sewer System Management Plan (SSMP) provides a mechanism to properly manage, operate and maintain all parts of the collection system with the ultimate goal to reduce and prevent SSOs.

The City Council approved the City’s first SSMP on April 7, 2009.
City of Fresno SSMP Timeline

- In November 2006, the City submitted a Notice of Intent for permit coverage under the General WDR - SSS
- In July 2007, the City Council approved a proposed SSMP Development Plan and Schedule, listing proposed deadlines for each of the 11 mandatory elements of the SSMP
- On April 7, 2009, the City Council approved the City’s SSMP
- On September 9, 2013, the State Board made effective the new Monitoring and Reporting Program for the WDR-SSS and included revisions on how SSOs are classified
- The SSMP requires revision and re-certification every five (5) years
- In May 2014, the City’s 2014 SSMP revision was posted on the California Integrated Water Quality System. The Board recommends the revised document be approved by Council.
REVISIONS
Revision Highlights

- Updated the list of representatives responsible to implement the SSMP
- Revised the Collection System Maintenance Operation and Maintenance (O&M) Manual
- Revised of Standard Operating Procedures (SOPs) for emergency response addressing SSOs as specified by the Board
- Updated the 2006 Wastewater Collection System System Master
- Updated the Sewer Capital Improvement, 5-year Plan
- Updated various internal performance measures
- Updated required public information programs
WMD ROLE ON THE IMPLEMENTATION OF SSMP GOALS
The City of Fresno owns the collection system infrastructure:
- 1,516.7 miles of gravity sewers
- 12.21 miles of force mains
- 23,586 manholes/lampholes
- 55 junction structures
- 15 sewer lift stations
WMD-Collection System Maintenance (CSM) is responsible for the preventive maintenance of the City’s sanitary sewer system. Operators utilize the various vehicles and equipment necessary to perform the day-to-day preventive maintenance of the collection system and related infrastructures and respond to emergency calls 24/7 to address collection system issues.

- Combination Unit (4)
- Hydro-Flusher (4)
- Mech Rodder (2)
- CCTV Van (3)
- Construction (1)
- Dump Truck (1)
- Drag Truck (2)
- First Responder (2)
CSM Operators access to databases remotely using ruggedized laptops, increasing efficiency with a paperless process

- **I-View** is a web enable mapping and data viewer that links various databases into a mapping system providing information accessible in one application.

- By using ruggedized laptops, CSM Operators can access collection system information on the field, using the I-View program and can remotely use applications such as opening and closing service requests and work orders, checking maintenance logs, or finding the latest video inspection of a job site.
Specialty vehicles, equipment and tools have increased the ability of servicing and viewing the condition of sewer lines.
Use of specialty tools improve the accuracy and efficiency of the maintenance program

- CSM uses CCTV to assess the condition of sewer lines providing important information on structure damage, grease blockage or other physical obstructions.

- Staff uses the Pathfinder portable camera to help guide the rodder truck to clean roots and debris that otherwise had to be cleaned blindly. It is also useful in follow up assessment of main line stoppages without calling out the video trucks.

- The Pathfinder can video main lines that the regular video truck cannot go through due to offsets, broken or partially collapsed lines.
WMD ensures proper connections to the City’s main sewer lines

- New development is required to follow the City’s Standard Specifications and Standard Sewer Drawings.

- The City minimizes occurrences of SSOs due to hydraulic loading by ensuring current and future sewer flows do not exceed design capacity of sewer lines at peak flow.

- CSM Supervisors have the final approval for new development connecting to the City’s mains, ensuring proper connection to minimize future conveyance and maintenance issues.
Emergency response is a critical component of an SSMP. Operators respond to all calls or referrals and visually assess the areas of potential main line issues, 24/7.
MEETING SSMP GOALS
Pro-Active Actions to Meet SSMP Goals

- Established an aggressive Preventive Maintenance Program with increased maintenance for areas characterized as “Hot Spots”
- Responded and visually assessed all customer calls related to potential mainline blockages, 24/7
- Installed SmartCovers® manholes on key areas and effectively prevented SSOs
- Increased in-house spot repair, customer service and response programs
- Established a “Zero SSO” and a “Mile-Per-Day of Mainline Serviced” performance measures.
- Developed in-house SSO estimation, a required State reporting parameter
- Transferred lift station remote monitoring (SCADA) to Wastewater Management Division
- Developed public information for FOG and “Unflushables”
In-house spot repairs take care of line or infrastructure issues promptly, reducing the number of potential SSOs
Achieved an overall decrease of blockages caused by fats, oils and grease (FOG) thanks to the FOG Pretreatment Program and “Hot Spots” maintenance priorities (61% reduction)
Achieved an overall decrease in lift station alarms after moving remote monitoring to the Wastewater Management Division (52% reduction).

Lift Station Telemetry Alarms is a performance measure showing how many unplanned field responses were made to all lift stations in a quarter.

<table>
<thead>
<tr>
<th>Year</th>
<th>1st Qtr</th>
<th>2nd Qtr</th>
<th>3rd Qtr</th>
<th>4th Qtr</th>
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<tr>
<td>2011</td>
<td>75</td>
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<td>2013</td>
<td>30</td>
<td>27</td>
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<td>45</td>
</tr>
<tr>
<td>2014</td>
<td>93</td>
<td>92</td>
<td>37</td>
<td>106</td>
</tr>
</tbody>
</table>
The City of Fresno’s spill rate is very low comparing to the State and Region average.

<table>
<thead>
<tr>
<th>CIWQS- City of Fresno Spill Summary 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spill Rate Index (# spills / 100 mi/yr)</strong></td>
</tr>
<tr>
<td>Category 1</td>
</tr>
<tr>
<td>City of Fresno</td>
</tr>
<tr>
<td>State Municipal Average</td>
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<tr>
<td>Region Municipal Average</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Net Volume Spills Index (Net Vol in gallons / 1,000 Capita/yr)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
</tr>
<tr>
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<td>Region Municipal Average</td>
</tr>
</tbody>
</table>

The City also has achieved “zero” SSOs during the months of April, June, July, September and November of 2014.
Public information and outreach are components of the SSMP.

- Public information is necessary to educate the public of the impact of materials commonly put down the drain that could cause an unhealthy SSOs.
- Best Management Practices posters are provided to food services establishments at the time of their permit inspection.
- PSAs during specific holidays remind the community to keep fats, oils and greases away from the drains.
- “Get to know the Unflushables” is the latest campaign to raise awareness of the issues caused by “disposable” materials down the sewer.
CONCLUSION

- The Statewide General WDR for Sanitary Sewer Systems establishes system-wide operation, maintenance and management plans to reduce SSOs and requires the development of a Sewer System Management Plan (SSMP).

- The 2009 SSMP was approved by City Council April 7, 2009. All the mandatory elements of the City’s SSMP have been met with programs, policies and/or ordinances already in place.

- Continuous evaluation of the SSMP will result in improvement plans to meet future growth demands and proper allocation of resources for the operation, maintenance and timely repair of the City’s collection system. The 2014 revision of the SSMP reflects those evaluations and plans.

- Any fiscal impact as a result of the SSMP will be addressed through adequate rate structure to support the Sewer Enterprise Operating and Capital Improvement budgets.
QUESTIONS?