

City of Tehachapi Sewer System Management Plan (SSMP)



10/10/2012

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Section I

City of Tehachapi Sewer System Management Plan (SSMP) Goals

- Properly manage, operate, and maintain all portions of the City of Tehachapi's wastewater collection system.
- Provide adequate capacity to carry peak capacity flows.
- Protection of surface and ground water supplies.
- Protection of public health by minimizing the frequency of Sewer System Overflows (SSO's).
- Mitigate the impacts that are associated with all SSO's that may occur.
- Comply with all applicable regulatory notification and reporting requirements.
- Public education and awareness of proper sewer practices.

SSMP

Section II Organization

City of Tehachapi SSMP Organizational Chart

Tehachapi City Council

Phil Smith	Susan Wiggins	Ed Grimes	Kim Nixon	Mary Lou Vachon
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City Manager

Greg Garrett

Assistant City Manager

Chris Kirk

Utility Manager

Jon Curry

Collections Supervisor

Jason Parks

CCTV Crew

Jason Parks
Wyatt Misiura
PW crew

Maintenance Crew

Jason Parks
Wyatt Misiura
PW crew

Vector Crew

Jason Parks
Wyatt Misiura
PW crew

Tehachapi City Council: Funding & Approval of Final SSMP

City Manager: Oversight of all City affairs

Assistant City Mngr: Oversight of City Departments

Utility Manager: Utility Oversight, Goals, Organization, Legally Responsible, Budgeting, Program Audits, City Safety Officer

Collections Supervisor: Day to day operations of collection system, Overflow
Emergency Response Plan, scheduled maintenance

CCTV Crew: Perform all necessary filming of lines

Maintenance Crew: Perform all necessary maintenance and repairs on lines as needed

Vector Crew: Perform any vac work needed while maintenance is underway

Names of Responsibility:

Utility Manager: Jon Curry office (661)822-4078 ext. 201
cell (661)750-1161

Administration: Jay Schlosser office (661)822-2200 ext. 115
cell (661)619-0121

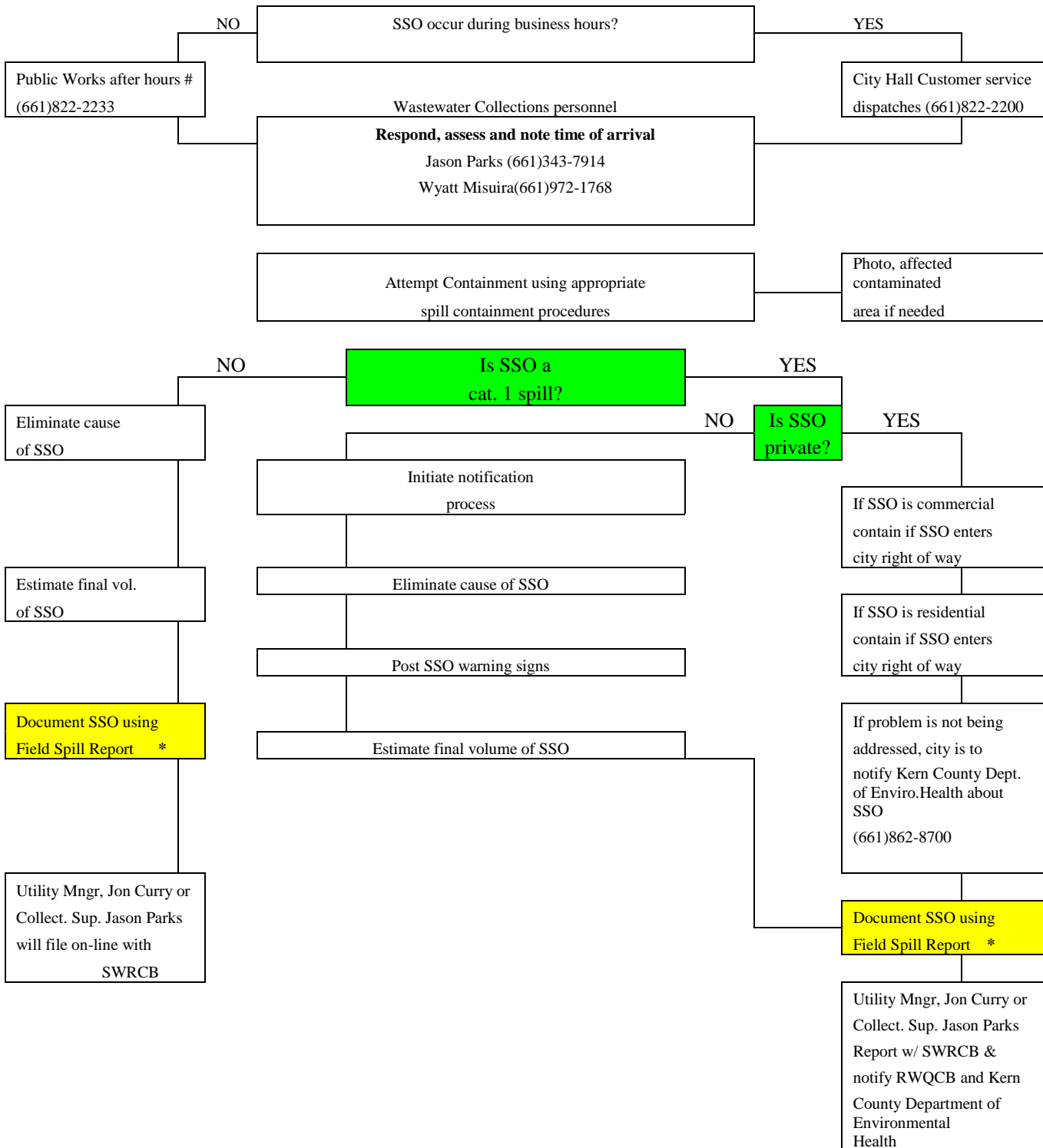
Maintaining SSMP: Jason Parks office (661)822-4078 ext. 200
cell (661)343-7914

Wyatt Misiura office (661)822-4078 general
cell (661)972-1768

After Hours (661)822-2233

Section II Organization

City of Tehachapi SSO Chain of Communications



* Field spill reporting #'s are as follows:
 #1 Contact Office of Emergency Services (OES) for control # - 1(800)852-7550
 #2 Notify Kern Co. Environmental Health - (661)862-8700 or EH@CO.KERN.CA.US
 #3 Notify Regional Water Board Office (Region 5 Fresno) 1(559)445-5130 Jill Walsh
 (#'s 1-3 must be done within 2 hours of Sewer spill)
 #4 Certification: Certify to the State Regional Water Board through SSO web-site

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Section III Legal Authority

1. General Discharge Prohibitions

A. City Municipal code 8.36.030

1. Non-discharge of pollutants and wastewater which interfere w/ WWTP

- Subtitle B
-sections 1-15
- Subtitle C
-medical waste
- Subtitle D
-storm drainage
-groundwater
- Subtitle E
-prohibition on unpolluted water

2. Industrial Discharges

A. City Municipal code 8.36.060

1. Specific limitations of wastes into waste water sewers

B. City Municipal code 8.36.190

1. Harmful contributors

- Subtitles A-C

C. City Municipal code 8.36.210

1. Notification of violation

- written notice
-30 day corrected action plan

3. Domestic Discharges

A. City Municipal code 8.40.090

1. Harmful contributors

- Subtitles A-D

B. City Municipal code 8.40.100

1. Notification of violation

- written notice
-30 day corrective action plan

4. Subdivision & Development Standards City of Tehachapi

A. Division 3 – Standards for Sanitary Sewer

1. 3.2 - Design Standards

- 3.2.1 General
 - 3.2.1.1 sewer system improvements
 - 3.2.1.2 developer cost for improvements
 - 3.2.1.3 developer connection and capacity fees

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Section IV Operations and Maintenance Program (O&M)

Collection system mapping: A master map is posted in the Wastewater/Collections control room. All vehicles assigned to the collections department have a map onboard for easy access while in the field. Additional maps are available if damage happens to occur. A secondary master map is designated for updates and corrections that need to be made to the collection system mapping. This will be reviewed and sent to the city engineer annually. Additional maps are tagged and labeled with manhole identification numbers and sectioned off to better identify collection lines throughout town.

Collections O&M: Collection system “hot spots” are easily identified by red pins on the master map in the control room as referenced above. All “hot spots” are visually inspected on a monthly basis. General maintenance is performed on all “hot spots” quarterly. Some areas may be cleaned more frequently if a downtown special event is scheduled. The remaining portions of the city collection system will be cleaned and inspected according to different sections of town as referenced above in mapping. The City of Tehachapi currently has one lift station in the collection system. All equipment at the lift station is inspected on a weekly basis. Checks include: inspection of the emergency generator, lift station PLC, and hoisting crane. The lift station is programmed to energize automatically during normal operation. Manual pump downs of the lift station are also conducted weekly to help control the build up of grease and settleable solids. Additionally, a citrus based degreaser is introduced to the lift station on a bi-weekly basis. A call box is in place to notify of any after hour emergencies. Any other collection system service calls or after hour calls follow the City of Tehachapi SSO chain of communications chart.

Rehabilitation and replacement plan: Sections of the collections system shall be inspected via CCTV. Scheduled inspections will be coordinated with routine cleaning and maintenance plans per collections O&M. Any line found to have more than 50% root intrusion shall be placed on the root control list and treated by contact operations. Dukes Root Control annually rotates sections of town rehabbing lines intruded by roots. Other concerns that may arise with the collections system will be dealt with on an as needed basis. Line found to be heavy with grease collected will be treated with a high concentrated citrus based degreaser. Additionally, the city assists private residents in locating private laterals, which allows replacement of old lines. Currently all buried manhole covers are being brought to grade level. This will give the city more access to collection system lines for inspections. Recently, improvements to the city’s lift station have also taken place. The addition of safety ladders and catwalks allow the collection system maintenance staff to have easier access to the lift station for maintenance, pump repair, and replacement.

Training: Currently the city institutes monthly safety training meetings. In addition to monthly safety training the following training exists: hazards associated with the operation of the sewer hydro-jetting unit, hands on operations of the same unit, familiarity of “hot spot” locations and what to identify as normal operations. All employees will know how to properly put on and when to utilize safety harnesses and all equipment associated with entering sewer manholes. (harnesses, tripods, gas detection equipment). All employees wear reflective vest and use cones when dealing with traffic safety. Prior to conducting collection system maintenance or any other tasks defined in the O&M, employees will conduct safety briefs making them alert and aware of daily events associated with the collection system.

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Section IV Operations and Maintenance Program (O&M) cont..

Equipment and Replacement Parts: The following is a list of equipment and spare parts in stock for the City of Tehachapi Collections system. All critical parts and equipment are identified with an asterisk.

- Trailer mounted hydro-jet unit 4000 psi *
- Various nozzles and cutters for unit above *
- Replacement submersible pump for lift station *
- Lift station stand-by generator *
- Sewer lift station *
- Gas detection sensors *
- Safety harnesses and tripod hoist *
- Pressure transducer for level control at lift station *
- Lifting crane
- Manhole lifting tools
- Backhoe
- Lateral inspection camera
- Pipe fitting essentials
- Pipe plugs
- Compressor
- Pedometer
- Marking paint

Methods to ensure adequate equipment and parts are available can be contributed to, long term planning, proper budgeting for replacement parts and equipment, stock replenishment as soon as possible and back up alternatives. The City has established communications with Roto Rooter Sewer Services as an option for emergency cases that may come from situations associated with down equipment.

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Section V Design and Performance Provisions

1. City of Tehachapi Subdivision and Development Standards
 - A. Division 3 – Standards for Sanitary Sewers
 - *3.2 – Design Standards
 - 3.2.4 – Sanitary Sewer Main Design
 - 3.2.5 – Sanitary Sewer Main Location, Alignment, Cover, and min size
 - B. Inspection
 - *Division 3 – Standards for Sanitary Sewers
 - 3.1 – General
 - 3.1.1 – Purpose and Scope
 - 3.1.2 – Enforcement

Section VI Overflow Emergency Response Plan

All aspects are to be followed according to:

1. City of Tehachapi Sanitary Sewer Overflow (SSO) response plan flow chart (Page 4)
2. City of Tehachapi SSO Chain of Communication

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Section VII. F.O.G

1. Legal Authority
 - A. City of Tehachapi municipal code 8.36.060
 1. Subtitle B
 2. Purpose
 - A. Prevention of Sewer System Overflows (SSO's)
 1. Communication with local businesses.
 - a. Education and Awareness
 2. Grease trap inspections
 - a. Selection
 - 1a. Business licenses
 - b. Equipment
 - man hole puller
 - flashlight
 - digital camera
 - safety vests
 - sludge tube
 - inspection sheet
 - gloves
 - c. 25% rule
 - grease and food layer 25% or greater tank depth
 - grease trap must be pumped out
 - d. Scheduling of inspection
 - annually for normal operation
 - quarterly or semi-annually depending on needs
3. Best Management Practices (BMP's)
 - A. Public Awareness
 1. Informative brochures/pamphlets
 - a. good housekeeping
 - b. drain awareness
 - c. quality grease traps
 2. Haulers
 - a. Local
 - Benz Sanitation (661)822-5273
 - b. Out of town
 - Valley Pumping Services (661)588-0258
 - B. Preventative Maintenance
 1. Routine inspections
 - a. businesses
 - b. lift stations
 2. Scheduled pump outs
 - a. businesses
 - b. lift stations
 - auto level controlled pump downs
 - weekly manual pump downs

SSMP

Section VII cont...

4. City Standards

The City of Tehachapi updates their Subdivision and Development Standards on a periodic basis. The most recent update was produced in February 2008. These standards (which are ordinance) prohibit the discharge of fats, oils, and greases to the sanitary sewer network. A new Standards update is expected within the next 18 months to address numerous desired changes. The City of Tehachapi anticipates adding design standard information to help guide the public relative to the installation of appropriate grease interceptors in that upcoming standards update.

Section VIII System Evaluation and Capacity Assurance

Evaluation:

At the request of the City of Tehachapi, Boyle Engineering Corporation prepared a hydraulic sewer system model and report in 2005. The purpose of the project was to analyze, in detail, the City's sewer collection system in order to identify key existing and potential future system deficiencies. The hydraulic model was formed using the Bentley software known as SewerCAD and was based upon City atlas and as-built mapping. The report identified several existing deficiencies and projected numerous potential future system deficiencies based upon anticipated development within the City limits. The suggested improvements selected to remedy existing deficiencies have since been constructed. Furthermore, several solutions designed to combat projected deficiencies have also since been constructed. These have been selected based upon where actual development has occurred since the report was completed.

Using the SewerCAD model as a foundation, the City has also undertaken several targeted regional studies. These studies were created in order to identify further needed collection system improvements specific to given regions within the City and to generate a connection fee designed to capture the necessary funds to make these future improvements.

Design Criteria:

The City of Tehachapi Subdivision and Development Standards, most recently updated in February 2008 contain detailed design criteria for determining the size, type, location, and alignment of future sewer lines (among other variables). This design criteria (or a very similar one) was used in the creation of the hydraulic model as the basis for identifying existing and projected deficiencies.

Capacity Enhancement Measures:

The model and standards noted in the above section currently serve as an effective CIP employed to identify, prioritize, and schedule system improvements. Furthermore and from time-to-time, the City evaluates potential significant developments in the model prior to permitting in order to check if individual capacity improvements are needed.

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Section VIII cont...

Schedule:

As noted above, the City regularly reviews the schedule of system enhancements based upon actual development. The City also intends to update the SewerCAD model within the next 12 months and every 5-7 years thereafter. Additionally, the City maintains an overall City CIP that is updated annually. The City CIP process is currently being revamped with a revised procedure expected within the next 12 months.

Section IX Monitoring, Measurement and Plan Modifications:

The City of Tehachapi has generated the attached annual SSMP Maintenance Log as part of the preparation of this report. The City will use this log to track the location and cause of the following types of events:

1. General Service Calls – This category will be used for situations involving the response of maintenance personnel to an event based upon a call from the public or some other City department that is not adequately covered by one of the categories noted below.
2. Blockages – In each instance in which maintenance workers respond to a blockage, they will identify the location and cause of the blockage in the log.
3. SSO Events - In each instance in which maintenance workers respond to a sanitary sewer overflow event, they will identify the location and cause of the event in the log.
4. FOG Inspection – This category will be completed as individual sites are inspected under the proposed FOG inspection program.

Furthermore, the City performs regular annual sewer system line cleanings. Using the City sewer atlas maps, maintenance personnel will highlight lines as they are cleaned and indicate the date of the cleaning effort. A new map will be used each year so the City can easily track where cleanings are occurring to ensure that each line within the City is cleaned on a revolving basis.

Section X SSMP Program Audits

The City of Tehachapi Utility Manager shall conduct an internal program audit of the Sewer System Management Plan (SSMP) every two years from the original program implementation date. The audit should include data from the following areas:

- Sewer System Overflows (SSO's)
- SSO remediation and mitigation measures
- Mainline cleaning, inspection and maintenance
- Mainline replacement/improvements
- Lateral cleaning, inspection and maintenance
- Lateral replacement/improvements
- Lift station maintenance/improvements
- Community outreach and education programs

Section XI Communication Program

The City of Tehachapi's SSMP and attachments will be available for viewing at www.liveuptehachapi.com or a copy can be requested at City Hall, 115 S. Robinson St., Tehachapi, CA 93561

