

Element 4:

OPERATION AND MAINTENANCE PROGRAM

This section of the SSMP discusses the District's pro-active sanitary sewer system operation and maintenance activities. This section fulfills the Operation and Maintenance Program SSMP requirement for the WDR (Element 4).

4.1 Regulatory Requirements for Operations and Maintenance Program

The requirements for the Operations and Maintenance Program element of the SSMP are summarized below. Since requirements for this SSMP element contain several categories, this summary is organized by category, with WDR requirements described for each category as applicable.

Collection System Map

As appropriate and applicable for each sanitary sewer system the district must maintain up-to-date map of the sanitary sewer system, showing all gravity line segments, manholes, diversion structures, pumping facilities, force mains, pressure pipes, vaults, airvac, valves, appurtenances and applicable stormwater conveyance pipelines and facilities.

Prioritized Preventive Maintenance

As appropriate and applicable for the sanitary sewer system, the District will describe routine preventive operation and maintenance activities conducted by staff and contractors; including a work order (WO) system for scheduling regular maintenance and cleaning of the sanitary sewer system with an emphasis on frequent cleaning and maintenance targeting hot spot areas. The preventive maintenance program utilizes a WO system to document scheduled and unscheduled activities.

Scheduled Inspections and Condition Assessment

As appropriate and applicable to the sanitary sewer system, the District has developed rehabilitation and replacement plans to identify and prioritize system deficiencies and implement short-term and long term rehabilitation actions to address each deficiency. The program includes regular visual and Closed Circuit Televised Video (CCTV) inspections of sewer manholes, cleanouts, diversion structures, vaults, sewer pipes, force mains and other infrastructure. The CCTV work utilizes a system (CUES Base Code) for ranking the condition of sewer pipes and structures, and assisting in the prioritizing and subsequent scheduling for the rehabilitation of at risk infrastructure. Infrastructure rehabilitation and replacement focuses on sewer infrastructures that are damaged, at risk of collapse, capacity concerns, creating excessive O&M costs, prone to more frequent blockages due to defects. The rehabilitation and replacement plan includes a Capital Improvement Plan (CIP) that addresses proper management and protection of the infrastructure assets. The plan includes a time schedule for implementing the short and long term plans plus a schedule for developing the funds needed for addressing the CIP.

Contingency Equipment and Replacement Inventories

As appropriate and applicable to the sanitary sewer system, the District provides emergency response equipment and replacement part inventories, including identification of critical replacement parts and specialty parts that require long procurement lead time.

Training

As appropriate and applicable to the sanitary sewer system, the District provides training on a regular basis for staff in sanitary sewer system operations, maintenance, and requires contractors and sub-contractors to be appropriately trained.

4.2 Element 4 Attachments

Supporting information for Element 4 is included in Attachment E4. This attachment includes the following documents:

- Attachment E4-A: Sewer GIS Update Procedures
- Attachment E4-B: CCTV defect coding system (CUES Base Code)
- Attachment E4-C: Hotspot cleaning schedules
- Attachment E4-D: Equipment Inventory Replacement Inventories (spare parts)
- Attachment E4-E: Sewer Maintenance Organizational Chart
- Attachment E4-F: Sewer Department Work Order / Inspection Form

4.3 Collection System Map Discussion

The District maintains an in-house GIS System that is integrated with the Cues Granite XP Sewer Cleaning and Inspection Software. The GIS System is also available for viewing by District staff on the District's Network, Collector App on Mobile Devices and City Works CMMS System (currently in development). The GIS System also provides the basis for the District's Atlas Maps that are provided to staff electronically and in Atlas Books. Maps are printed into a map book for use by maintenance and engineering staff. Atlas pages are continuously updated as the sanitary sewer system grows and is available online from the District's GIS Division. Updates to the atlas pages are currently completed according to the GIS Update Procedure found in Attachment E4-A and will be tracked in the future through City Works CMMS. Each manhole and sewer main section has an assigned ID based on the atlas grid. The atlas maps show manhole ID, pipe length, size, material slope, as well as street names, and parcels. The District also maintains an electronic file database for lateral maps for each home and business on the back of the issued sewer permit. The District's Record Drawings are also stored electronically in OnBase and in hard copy format to provide timely staff access to District sewer assets.

4.4 Prioritized Preventive Maintenance Discussion

The District does prioritize its preventive maintenance activities. The preventive maintenance program includes scheduled hotspot, cyclic cleaning, root control, and regular inspection of sewer Lift stations, as well as investigation of customer complaints. The following subsections

summarize the District's preventive maintenance activities. For additional information, refer to the District's Operations and Maintenance Program. The portion of the Operations and Maintenance Program specific to the Sewer Division is included in Attachment E4-C.

Sewer Cleaning

Cleaning of the sanitary sewer system(s) is one of the District's primary sewer maintenance activities. The District owns two (2) Vactor combination cleaning machines and one (1) Vactor Hydro jetter sewer cleaning machine. The District has both frequent, hotspot cleaning as well as cyclic cleaning for pipes not on the hotspot cleaning schedule. These two cleaning programs are discussed below.

a) Hotspot Cleaning.

Approximately 19,096 lf of sewers are included in the hotspot cleaning program, with cleaning on a 30 or 90 day schedule, plus a 6 month schedule. The 30/90 Day Cleaning List and Semi-Annual Cleaning List are included in Attachment E4-C. The Etiwanda Trunk Sewer is also cleaned semi-annually. Cleaning frequencies are based on many factors identified in each line segment's historical data, history of past partial blockages, SSO's, root, grease, debris and other causes.

The District's Sewer Department maintains historical cleaning records (Cues Granite XP Cleaning System) on each line segment reach. Maintenance staff note the date and time of cleaning, as well as the type of debris, amount of debris, and severity.

b) Cyclic Cleaning.

Sewer line segments 6" to 12" inches in diameter that are not included in the Hotspot cleaning program are cleaned on a 2-year cycle (50 percent per year). This 2-year cycle exceeds industry standards and is achievable with current staffing and equipment levels. Not all of the sewer line segments are cleaned with the same frequency. Some sewer lines that have a higher probability of an SSO are cleaned annually, such as in older neighborhoods with mature trees (Glen Avon and Pedley) or industrial zones that may have more debris. (Etiwanda trunk sewer). Some sewer line segments are cleaned bi-annually, such as moderately aged areas with zero trees (i.e. newer parts of Glen Avon). Sewer line segments 12" to 42" inches in diameter are cleaned on an approximate 5 year cycle.

Hydro-Jetting (high velocity cleaning) is used to clean all diameters of sewer pipe in the district. The cleaning method and tool selection for a particular line segment is based on many factors; diameter of pipe, pipe material, distance of run, slope of pipe and age of pipe. Also, the expected type of material (debris, rags etc.) expected to be encountered through the historical data for that line segment. Then the appropriate cleaning nozzle is selected for those parameters. The water pressure and gallons per minute (GPM) is adjusted during the cleaning process to ensure adequate cleaning results. Nozzle selection is critical, for each size of pipe there are nozzles designed specifically for cleaning and for penetrating and removing stoppages. The District utilizes many designs of nozzles and attachments; each nozzle serves a different purpose.

Sewer staff is trained by the manufacture/vendor on each nozzle and attachment purchased by the District. Staff performs “Monthly” nozzle inspections by utilizing the Districts “Nozzle Bench Tester”. The Nozzle Bench Tester is a mobile devise that tests nozzles under full load conditions. Nozzle’s are put through their designed pressure range and GPM as well as for thrust. Staff can safely visually inspect the nozzle, and determine if it is working as designed. Staff then makes adjustments and repairs to the nozzles and re-tests to ensure functionality. The monthly inspections are documented and filed.

Fats Oils and Grease (FOG) Control Program Discussion

The District has determined that a FOG control program is necessary per SSMP requirements. Also see SSMP Element 7 for additional FOG Program Information. Over 100 food service facilities are located within District limits and discharge to District sewers. Operations and maintenance staff have also noted the tendency for grease accumulation buildup in specific sewer lines. This section discusses all the exhaustive measures that the District takes to control FOG within the sanitary sewer system.

The District’s FOG control program consists of hotspot cleaning, inspection and maintenance as well as source control measures. The following subsections discuss hot spot identification and the cleaning of grease-prone areas. The, legal authority of the District to prohibit grease discharge and/or require a grease removal device, conduct extensive facility inspection, and perform public outreach.

Identification and Sewer Cleaning

The core means of FOG control methods utilized by the District is in the identification of Hotspots, which are sewer line segments that are prone to grease accumulation. These hotspots are targeted for cleaning on either a 30 or 90 day (hotspot) schedules. Chemical and mechanical root control measures are implemented to inhibit (retard) the growth of roots where grease may accumulate.

- a. Identification of Grease Problem Areas. The District identifies potential grease problem areas by tracking the locations and causes of dry weather partial blockages and SSOs. Additionally, types of debris, amount of debris and severity are noted by maintenance staff during routine hotspot cleaning. Areas where restaurants and/or grease-producing facilities are located are considered potential grease problem areas.

Hotspot Cleaning. Approximately 19,096 feet of sewers are included in the hotspot cleaning program, with cleaning on a 30 or 90 day schedule, plus a 6 month schedule. The 30/90 Day Cleaning List and Semi-Annual Cleaning List are included in Attachment E4-C. Cleaning frequencies are based on many factors identified in each line segment. Such as but not limited too; historical data, history of past partial blockages, SSO’s, root, grease, debris and other causes. Observations during routine maintenance and Inspection, as well as areas expected to be prone to grease or root accumulation.

The District’s Sewer Department maintains historical cleaning records in Granite Net Database on each line segment reach that is scheduled for hotspot cleaning. Maintenance staff record the

date and time of cleaning, as well as the type of debris, amount of debris and severity. The 30/90 Day Cleaning List and Bi-Annual Cleaning List are included in Appendix D?

The focused cleaning program also includes additional lines that are cleaned and inspected for reasons other than FOG or roots control, such as customer complaints, line sags, siphons or industrial discharges. Additional information on this program, including a figure showing all lines within the program, are included in Element 4: Measures & Activities.

- a. **Root Foaming Program.** The District has a cyclic root foaming program and covers approximately one-fourth of the sanitary sewer system impacted by roots per year. Certain portions of the District are older and have mature trees that line the streets, and these areas tend to cause the most root control problems. Consequently, the District's root foaming program focuses on these areas. Since grease tends to accumulate on roots, this program helps prevent grease-related blockages in areas that are not included in the hotspot cleaning program.
- b. **Blockage Investigation.** When District staff clears a blockage, the cause of the blockage is recorded on the work order. The cause of the blockage is identified by the type of debris and amount of debris and/or objects that are removed from the downstream M/H when the blockage has been cleared. The District also utilizes Closed Circuit Televised Video (CCTV) inspection on each sewer line segment following a blockage. If the source of the blockage is grease related, and the sewer lateral can be identified, the District will make immediate contact with that food service establishment and/or resident and initiate and enforce source control measures.

Root Control

The District has a cyclic root foaming program and covers approximately one-fourth of the sanitary sewer system impacted by roots per year. Certain portions of the District are older and have mature trees that line the streets and these areas tend to cause the most root problems. Consequently, the District's root foaming program focuses on these areas. Since grease tends to accumulate on roots, this program helps to prevent grease-related stoppages in areas that are not included in the hotspot cleaning program. The effectiveness of the root foaming program is evaluated using CCTV inspection. The line segments targeted for root control are identified initially through CCTV work. Those line segments are then treated with a chemical called Razorooter® II, it is the only diquat-based herbicide registered by the U.S. Environmental Protection Agency (EPA) for controlling nuisance tree roots in sanitary sewer line collection systems. Follow-up CCTV work is performed two (2) months after the chemical treatment was conducted. This is done to ensure that the chemical treatment was successful and the roots are decaying properly. Root decay depends on many factors, including type of tree, mass of roots, and flow conditions. Roots are killed on contact inside and outside pipe walls, and the chemical foam penetrates through wye connections to kill roots inside lateral lines. Trees and other above ground vegetation are not harmed. Any line segments observed with live roots will be re-treated per the applicators guarantee. The guarantee period begins on the date of treatment, and ends two years after the date of treatment.

The District also addresses root problems during the hotspot and cyclic cleaning program by utilizing a hydraulic root cutting tool attached to the jet rodder hose when roots are encountered.

Lift Station Maintenance

District staff performs comprehensive operation and maintenance (O&M) activities and through inspections at each of the eleven (11) sewer lift station. All lift station O&M activities, inspections, repairs, deliveries, etc. are documented into each lift station's logbook. All Lift station work orders are completed by staff and submitted to the Sanitary Sewer Supervisor for review and retention.

Of the eleven sewer lift stations there are two (2) sewer lift stations that are critical in nature due to flow, size and scope of the facilities. The two sewer lift stations are physically monitored and inspected on a daily basis. The remaining nine (9) lift stations are physically monitored and inspected at a minimum of twice per week.

Daily inspections include visual check and adjustments of the equipment, manual cycling of pumps, checking level control systems, recording hour and flow meter readings, and cleaning barscreens.

Each of the lift stations have site specific maintenance checklists that target safety, O&M, SCADA, regulatory compliance, District policy's. The checklists are conducted on a routine scheduled bases weekly, monthly, quarterly and annually.

All sewer lift station wet wells are cleaned by staff on a scheduled basis specific to each station.

Odor Control

The District rarely receives odor complaints. However, the District does add Bioxide to the Regional Lift Station's force main for corrosion and odor control. A JCSD commercial customer, WGE Company, adds Bioxide to their private sewer system that is connected to the Etiwanda trunk sewer. This assists in controlling odor problems associated with their garlic powder production process. The District has no official odor control program in place. When there are complaints, District staff clean the sewer lines and attempt to identify and eliminate the source of the odors.

Corrosion Control

The District's collection system is made up of various materials such as but not limited to; vitrified clay pipe (VCP), polyvinyl chloride (PVC), asbestos cement (AC) pipe, also known as "transite," truss pipe (ABS), high-density polyethylene (HDPE) and cement mortar lined and coated (CML&C) steel pipe and ductile iron pipe. The majority of these materials are constructed of corrosion resistant materials and generally do not need corrosion control. However, all line segments that are televised (CCTV), are inspected for pipe line integrity (corrosion). All CCTV inspection reports are reviewed and evaluated. Pipe line segments and sewer manholes that are observed to exhibit corrosion properties, are referred to the Engineering Department and recommended for rehabilitation. All manholes are inspected during the cyclic cleaning program and during all CCTV inspections. Granite Net is utilized to document each M/H inspection.

Composite Manhole Cover and Frame Sets have been used in recent years (starting in 2013) to assist in corrosion control measures and to assist in Inflow & Infiltration reduction.

There are newer parts of the sanitary sewer system that have manholes structures built with T-Lock for corrosion resistance.

However, the District's Regional force main experienced significant failures in 1994, 1996, 2012 and 2015 due to corrosion issues with the CML/CMC pipe. Most of the pipe has been replaced with PVC and coated Ductile Iron and the final segment South of the Santa Ana River is planned for construction in FYE 2020. A chemical known as "BIOXIDE" is routinely added to prevent corrosion. The addition of BIOXIDE® solution acts to introduce nitrate oxygen into a waste stream and creates an environment in which certain naturally occurring bacteria thrive. These bacteria utilize the dissolved hydrogen sulfide which is present as a part of their metabolism, thereby cost effectively removing any dissolved hydrogen sulfide from the wastewater. This process eliminates the odor, corrosion and safety problems associated with atmospheric hydrogen sulfide. The District is also planning to supplement the addition of Bioxide with the installation of a EcO2 System at the Regional Lift Station to inject pure oxygen into the force main to prevent odor and corrosion in FYE 2020.

Investigation of Customer Complaints

The District responds to all customer complaints regarding sewer service. Complaints are generally related to sewer trouble, leaks, noisy M/H covers, lateral locates blockages, odors, and SSO's. All complaints (regardless of the nature of the complaint) are input into the District's Customer Service Department's electronic work order system (currently New World but transitioning to City Works CMMS). Each complaint received generates a numbered work order, the responding sewer staff for that complaint then completes the work order. Staff then submits the work order and any additional data to the Sewer System Supervisor. The Sewer System Supervisor reviews the work order and all relevant data. After reviewing, the work order is submitted to the Sewer Departments Administrative Secretary I, to record and filed for retention.

Customer complaint response is performed by the collection system staff during work hours and the sewer duty On-Call operator after hours. Staff response time during work hours (7:30 am to 5:00 pm M-F) is generally less than 15-30 minute for a customer complaint regarding a sewer emergency. Many non-emergency customer complaints can be scheduled within the work day. It is dependent on the nature of the complaint. During after hours, weekends and on holidays the On-Call operator response time is approximately 30-45 minute for a sewer emergency.

Customer complaint response includes assessing the complaint, investigating, resolving and mitigating any and all district obligations, documenting actual problem(s) observed and informing the customer of the outcome of the investigation. If responding during work hours, a sewer cleaning crew is dispatched to the location provided in a customer complaint. The responding staff evaluates the location, determines what course of action is necessary to address the complaint. Staff will then contact the complainant if that customer is on the scene. Staff will then perform all necessary corrective actions to the JCSD sanitary sewer system as warranted. If additional staff and equipment are needed, those resources will be dispatched to the location. During the investigation, if it is determined that the problem is located within a private lateral the

customer is informed of their responsibilities and what steps are needed to address that problem according to the Element 6: OERP.

Although staff responds to all complaints, they are not responsible for clearing stoppages or making repairs in a private lateral. During non-work hours the sewer duty On-Call operator is on standby duty and not at District facilities. When contacted to respond to a customer complaint it is handled in much the same fashion as during working hours, with the exception on the response time, it is generally a little longer due to logistics.

Maintenance Management and Work Orders

The Sewer Department currently uses a maintenance system based upon checklists and log books for lift station maintenance and historical data retention. An enterprise software program called “New World” was brought online in 2014/2015 that allowed for an electronic work order system to track all maintenance activities. In 2019, the District also began to implement the use of a Computerized Maintenance Management System (CMMS) called City Works that integrates with GIS and will be used to track all work performed by the District. Sewer line cleaning maintenance is tracked using the Cues Granite Net Database and is in the process of being integrated with City Works. Sewer line cleaning is also logged into the District’s Granite Net line cleaning database, which provides a line cleaning and comment history for each line segment. Granite Net is a comprehensive data collection and management software offering unmatched flexibility, customization, and ease-of-use to meet the growing needs of the pipeline inspection industry. Built using contemporary Microsoft Visual Studio™ technologies and designed with an asset-based architecture, you can navigate to a particular asset (e.g., pipe segment or manhole) and view all inspections. Because this is the database structure on which asset management and Geographic Information Systems (GIS) are built, data integration is seamless.

4.5 Scheduled Inspections and Condition Assessment Discussion

The District systematically inspects its sewer system to detect operational problems. The District regularly inspects its manholes, pipelines, lift stations, force mains, air vacuum release valves and equipment. When problems are discovered during the inspection process, the problem is noted, evaluated and repaired.

Manhole Inspection

As part of the focused and cyclic cleaning and CCTV programs, District maintenance staff visually inspects manholes for corrosion, debris or damage around the base, cracks or holes, and condition of manhole steps. Manhole inspection problems are recorded in Granite Net and a work order is generated for any necessary repairs.

Pipeline Inspection

The District utilizes several methods to inspect its pipelines and other infrastructure. Pipelines and structures are evaluated during the Hotspot and cyclic cleaning programs as well as during all investigation on customer complaints.

If a problem is observed during an inspection, it is documented in the Granite Net line cleaning data base, and on an open work order in the comments section. For instance, the presence and quantity of roots, grease and/or debris may be noted.

Closed Circuit Televised Video (CCTV) inspection is utilized under a variety of circumstances. All newly installed sewer mainlines, force mains are inspected by CCTV. This is to ensure the construction methods applied comply with District standards prior to the sewer lines being placed into service. Starting in 2019 newly installed sewer laterals from the properly line connection to the JCSD mainline sewer are inspected by CCTV.

CCTV is also utilized to evaluate known problem areas (Hotspot cleaning) and for all sewer system repairs that have been completed. CCTV inspections are performed when following-up on a line segment blockage and/or an SSO. Staff will determine the exact location (footage) and the root cause of the blockage.

The District's original goal is to systematically evaluate the entire sanitary sewer system over a five-year period, beginning in 2012 with the older areas targeted first. Actual CCTV inspection is projected to take eight years to complete and should be finished in 2020. Development of prioritized rehabilitation projects (CIP) to address identified deficiencies are being implemented following the CCTV inspections.

The District utilizes contractor CCTV inspection services mainly on CIP and Development projects, though the FYE 2020 budget includes the purchase of a second CCTV Truck to complete those tasks in addition to regularly scheduled inspections. Staff are present during each inspection, documenting the conditions observed and to ensure that the contractor is following set District policy on CCTV work.

CCTV Inspections utilize a defect coding system (CUES base code). Each defect is characterized by the type of defect (roots, grease, sag, offset joint, cracked pipe, obstruction) and by the severity of the problem on a scale of 1-10, with 10 being the worst. The overall condition of the line segment is also evaluated on the same scale of 1-10. The defect coding system will allow the District to continue to consistently analyze CCTV inspection results as part of the Sewer Master Plan and Sewer CIP. Attachment E4-B includes a table of this coding system.

Pipeline Condition Assessment and Rehabilitation

In order to effectively identify and prioritize sewer rehabilitation and repair needs, the District plans to apply the defect rating system to future CCTV inspection results. The District will use the system to facilitate the development of the scope for the annual sewer repair CIP projects. The District is currently in the midst of a Sewer Rate Study that includes funding of CIP Projects that will be identified in the Pipeline Condition Assessment as well as those that have already been identified. The proposed sewer rates will support operation, maintenance and the CIP in accordance with the WDR.

Lift Station Inspections and Assessment

Each of the lift stations are continuously monitored by the District's two separate stand-alone SCADA systems, alarms are sent via pagers to the Sewer System Supervisor, Sewer Foreman and On-Call Duty Operator instantaneously for alarms and corrected conditions. The SCADA systems allows for remote monitoring and operation of the eleven (11) Sewer lift stations from the District headquarters or via a remote location from a secure internet connection (Laptop).

Daily inspections include visual check and adjustments of the equipment, manual cycling of pumps, checking level control systems, and recording hour and flow meter readings. District staff drive the lengths of the force mains during the sewer lift station inspections to verify that no problems or leaks exist.

4.6 Contingency Equipment and Replacement Inventories

The District maintains an equipment inventory. All sewer maintenance equipment and replacement parts are stored at either the District's Headquarters or at Plant 1 Facility. Equipment and replacement parts are periodically replaced based on the estimated use and remaining life expediency (shelf life) of each item. The District's vehicle and equipment inventory list is included in Appendix F.

The District keeps spare/replacement parts in inventory for preventive and predictive maintenance as well as to minimize pipeline and/or facility downtime in the event of an unplanned failure. Spare parts include but not limited to: manhole and C/O covers and frames, various sized pipes, repair couplings, motors, pumps, valves, electronic and mechanical parts, site specific parts and other appurtenances necessary to complete the required work.

Emergency response equipment, such as, but not limited to; Sewer By-Pass equipment, spill containment equipment and devices

District Sewer Lift Stations include redundant systems to reduce impacts of a failure. Spare pumps, impellers and motors are kept on hand for the higher flow stations. Sewer Lift stations along with the District's trunk sewers and force mains are considered a "critical" part of the sanitary sewer system.

Overflow Emergency Response equipment is stored by the District to support an effective and timely response to all sewer emergencies. The District owns multiple Sewer By-Pass pumps and a Powered Hose Reel Trailer with various diameters of Lay Flat Hoses in adequate lengths to affect a complete Sewer By-Pass. Multiple Portable and stationary emergency backup generators, Light Towers, Air Compressors, Arrow boards and, two (2) combination Vactor trucks and one (1) Vactor Jet Truck as well as multiple backhoes and dump trucks. The District has an adequate inventory of specialty equipment for responding to sewer emergencies. The District is a member of the Inland Empire Utility Agency (IEUA) Mutual Aid Group and the ERNIE Mutual Aid Group that gives the District access to the resources of most of the agencies in the Inland Empire.

Training Discussion

The District annually budgets for regulatory required training and District specific required training for the sewer maintenance staff. The Maintenance Department has an extensive training program, and will continue to review and evaluate the program to ensure it is meeting the demands of effectively and efficiently maintaining the sanitary sewer system(s).

The District requires that all sewer staff become California Water Environment Association (CWEA) certified in their required discipline (note; some job descriptions require multiple certifications) as outlined in each staff members specific job description. The District provides training opportunities to enable all sewer maintenance staff to become and remain certified. The District assists with certification by paying for the preparation course, certification exams, and required continuing education units/hours. The District also provides incentive pay for certification above the job description and requirements. The District provides training/study manuals for employees for use at work and for home study. The District's sewer maintenance staff is CWEA certified based on required disciplines, the ongoing focus is on continuing education hours/units to maintain their certification(s). As new hires come on board the District monitors all required certification(s) as a condition of employment.

The District uses numerous outside programs, as well as providing in-house and on-the-job training for sewer maintenance staff. Listed below are the Training programs that the District uses:

- California Water Environment Association (CWEA)
- Santa Ana River Basin (SARBS) local section of CWEA
- Water Environment Federation (WEF) WEFTEC – Workshops
- DKF Solutions Group
- Vendor sponsored training
- Manufacture specific training
- Proprietary specific training.
- OSTS and American Heart Association safety training
- On the job training by Supervisor, foreman and/or lead workers
- Safety tailgate meetings by JSCD Safety Coordinator, experienced staff and/or vendors

For in-house training the District utilizes several sources:

1 Operation and Maintenance of Wastewater Collection Systems Volume 1 & 2 California State University, Sacramento, College of Continuing Education, Office of Water Programs.

2 Operation and Maintenance Manuals (Specific to specialty equipment purchased by the District, CIP Projects, Rehabilitation work, etc. such as but not limited to; Sewer Lift Stations, Sewer Pumping Stations, MCC, PLC, motors, pumps, gearboxes, aerators, airvac's, valves, gates and appurtenances) All field training is supervised by an experienced certified operator. New employees and operators work with an experienced lead operator until they can demonstrate competency in each skill set. Their work performance, quality and quantity of work performed is monitored and critiqued by the lead operator and the supervisor. The training and subsequent monitoring is a part of each employee's annual work performance evaluation.

Table 4 2. Sewer Staff Annual Required Training

Title of Training

- 1] Confined Space Entry
- 2] Confined Space Rescue
- 3] Fall Protection
- 4] Traffic Control
- 5] Heat Protection

- 7] Vactor Training
- 8] Crane Training
- 9] Hot Work Training
- 10] IIPP Training

WDR Requirement: To ensure that all contractors and their subcontractors performing work for the District have appropriate training, the District incorporates language in its standard specifications and within each Capital Improvement Program Project. The District requires contractors working on District facilities to be adequately trained and informed in the operations and maintenance of the sanitary sewer systems that they will be working on. They must be adequately trained and informed in responding to any sanitary sewer system emergency, specifically an OERP. . All contractors and subcontractors working on any sanitary sewer system including Sewer Lift Stations, Sewer Pumping Station, gravity conveyance systems and pressurized systems including force mains are trained on the fundamentals of operations and maintenance. Training requirements are addressed in Preconstruction meetings, onsite tailgate meetings and during project meetings throughout the duration of each project. All training activities are documented with the following information:

1. Title of training
2. Date of training
3. Time frame, total amount of time required for the training
4. Instructor and name of instructor's employer, phone number
5. Employees name and name of employer
6. Location of the training
7. If Certification required or not required

Attachment E4-A: Sewer GIS Update Procedures

JURUPA COMMUNITY SERVICES DISTRICT RECORD DRAWING AND GIS UPDATING PROCEDURES FOR NEW DEVELOPMENT PROJECTS






1. Original design drawings (Mylar's) are signed by the District and other appropriate agencies.
2. District's Development Representative transmits the Approved Mylar Drawings to Records Retention for scanning and for placement in the Record Drawing Library.
3. Developer's Engineer submits (2) original design drawings disk in CAD and in PDF to District's Development Representative in conformance with District's requirements.
4. District's Development Representative transmits both disks in CAD and in PDF to District's IT Department who at that time updates the atlas maps with line work to red indicating facilities are "as designed" and "under construction."
5. During construction the District will begin approving occupancies for individual lots with in a tract project. Approval of occupancy will activate the water and sewer facilities serving those lots to operational status. At which time, the District's Representative will prepare a "Water and Sewer System Active Service Form for New Development" (attached) and will deliver the form to Operations (water/sewer) and the District's IT Department.
6. District's IT Department will then update the atlas maps line work to orange indicating facilities are now "operational" but have not been accepted by the Board of Directors.
7. During construction it will be the responsibility of the Inspector to immediately notify the District's Development Representative of substantial Red-Line Revisions (as determined by the District) that need to be made to the original Mylar's. The District's Development Representative will notify the Design engineer who at that time will make the Delta revisions to the original Mylar's at the District office.
8. District's Development Representative has the Webb inspector verify accurate transfer of revisions from approved Delta drawings to the Mylar's. The Development Supervisor then verifies the Delta revisions and approves the Delta revisions.
9. District's Development Representative transmits the Delta Revisions to Records Retention for scanning and for replacement of the previous scanned copy of the Mylar's. Records Retention will forward/email the Delta Revisions to District's IT Department.
10. Project construction complete.
11. Developer submits the Final "Red-Lined As-Built Drawings" to District's Development Representative.
12. District's Development Representative has Webb project inspector confirm Contractor's "red-lined as-built drawings" plans are accurate and inspector signs cover sheet indicating such.
13. District's Development Representative has duplicate copy made of "Red-Lined As-Built Drawings" that they retain until entire process is complete.

14. "Final Walk Inspection" of constructed improvements is performed using the approved red-lined drawings.
15. District's Development Representative contacts District's IT Department to verify existence of electronic copies (i.e. CAD & PDF) of original fully signed Mylar's as noted above in step 3.
16. Design Engineer makes as-built revisions to the original Mylar's at the District office, or dependent upon the magnitude of changes provides a new signed Mylar. All sheets including the face sheet will be stamped "Record Drawing" and signed by the "Engineer of Record" within 15 working days.
17. District's Development Representative has the Webb inspector verify accurate transfer of revisions from Red-Line plans to Record Drawing Mylar's. The Development Supervisor then verifies the As-Built/Delta revisions for accuracy and approves the "Record Drawings".
18. District recommends to the Board of Directors acceptance of the facilities after completion of the inspection punch list.
19. District's Development Representative transmits the Record Drawings to Records Retention for scanning and for replacement of the previous scanned copy of the Mylar's. Records Retention will forward/email the Record Drawings to District's IT Department.
20. District's IT Department updates atlas maps and changes line work from orange to blue (for water) and green (for sewer) to indicate facilities have been accepted by the Board of Directors.

Attachment E4-B: CCTV defect coding
system (CUES Base Code)

CUES Cleaning Code System
Sample configuration

Code	Modifier/Severity	Description
Group - Observations		
Category - Cleaning Observations		
Debris	Light	Light debris problem
	Medium	Medium debris problem
	Heavy	Heavy debris problem
Grease	Light	Light Grease problem
	Medium	Medium Grease problem
	Heavy	Heavy Grease problem
Root	Light	Light root problem
	Medium	Medium root problem
	Heavy	Heavy root problem
Silt	Light	Light silt problem
	Medium	Medium silt problem
	Heavy	Heavy silt problem
Infiltration in manhole	Upstream	Infiltration in upstream manhole
	Downstream	Infiltration in downstream manhole
Manhole not located	Upstream	Upstream manhole not located
	Downstream	Downstream manhole not located
Unknown node		Unknown node discovered
Manhole cover broken/stuck	Upstream	Upstream manhole cover broken/stuck
	Downstream	Downstream manhole cover broken/stuck
Debris in manhole	Upstream	Debris in upstream manhole
	Downstream	Debris in downstream manhole

Grease in manhole	Upstream	Grease in upstream manhole
	Downstream	Grease in downstream manhole
Root in manhole	Upstream	Root in upstream manhole
	Downstream	Root in downstream manhole
Group - Observations		
Category - Cleaning Decisions		
Status - Cleaned		Ready for additional inspection
Status - Not accessible		Additional inspection cannot be performed
Status - Satisfactory		Ready for additional inspection
Status - Incomplete inspection		Inspection was unable to be completed
Group - Observations		
Category - Miscellaneous		
 START WITH FLOW		Start Inspection With the Flow
 START AGAINST FLOW		Start Inspection Against the Flow
 CONT. WITH FLOW		Continue Inspection With the Flow
 CONT. AGAINST FLOW		Continue Inspection Against the Flow
 STOP		Inspection Stopped
Group - Reason		
Pre TV cleaning		
Quick TV cleaning		
Customer requested cleaning		
Preventative maintenance		
Blockage in mainline		
Blockage in lateral		

Group – Condition	
Cleaned	Ready for additional inspection
Not accessible	Additional inspection cannot be performed
Satisfactory	Ready for additional inspection
Incomplete inspection	Inspection was unable to be completed
Group - MainInspType	
Cleaning	Cleaning inspection
Cutting/Clearing	Cutting/Clearing operation
Repair	Repair operation
Group - Observations	
Category – Cutting and Clearing Observations	
Silt fence removal needed	
Line cut and maintained	
Line needs cleared	
Easement gates need repaired	
Fence needs repaired	
Homeowner maintained	
Group - Observations	
Category – Crossing Observations	
Creek crossing needs installed	
Creek crossing needs rock	
Creek crossing needs debris removed	
Creek crossing satisfactory	

Group - Observations

Category – Repair Observations

Mainline repaired

Lateral repaired

Manhole raised/lowered

Upstream

Upstream manhole raised/lowered

Downstream

Downstream manhole raised/lowered

Attachment E4-C: Hotspot cleaning schedules

Jurupa Community Services District Sewer Problem Area Jetting Schedule

90 Day Problem Area List - January, April, July, October (also includes 30 day list)

<u>Atlas Page</u>	<u>Location</u>		<u>Footage in Feet</u>	<u>Line Assignment</u>	<u>Comments</u>
A-4	Inland w/o Etiwanda		511	E-1022/E1023	Del Rio Grease
B-6	A Street, East of Eve Circle	30 Day	346	E-1112	Intersection
B-6	Eve Circle, East of C Street	30 Day	300	N-1138	Intersection
B-6	Eve Circle, E/O "C" Street	30 Day	84	E-1107	Intersection
B-6	Eve Circle, W/O "C" Street	30 Day	230	E1106	Intersection
B-6	"C" Street N/O 60 Fwy	30 Day	200	N-1145	170' sag W/Offset joints
B-7	Easement N/O Ben Nevis under 60 Fwy	30 Day	332	N-1177	Sag in line
C-5	IXP	30 Day	600	E-5613, 5616, N5697, 5699 +	Calcium Build Up
C-16	30th W/O Apple Avenue	30 Day	238	N-1401	Intersection
C-16	30th E/O Apple Avenue	30 Day	270	N-1400	Intersection
C-16	Apple Avenue N/O 33rd Street	30 Day	66	N-4384	Offset/Sag
C-16	Apple Avenue N/O 33rd Street		482	N-1394	Intersection
C-16	33rd Street W/O Apple Avenue		260	E-3281	Intersection
A-17	Armstrong N/O Sierra	30 Day	306	N-1085	Sag/Offset
D-8	Campbell N/O Bellegrave		503	N-1456	Intersection
D-8	Bellegrave W/O Campbell		449	E-1288	Intersection
D-9	Mapleton N/O Strathmore	30 Day	335	N-1465	Large sag in line
E-7	Galena & Rutile (Gus Jr.)		345	E-1467	Grease in line W/minimum flow
E-7	Galena W/O Valley Forge		340	E-3411	Grease in line W/minimum flow
F9	Jurupa RD. (Colima Restraunt)		379	E-6854	Grease in line W/minimum flow
E-10	Filly, N/O Jurupa Road		300	N-1668	Intersection
G-8	Easement E/O Cedar N/O 58th	30 Day	700	E-1820	Sag/heavy grease
G-8	Cedar Street, N/O 56th Street		335	N-2085	Sag
G-12	Greens Drive N/O Lakeside		372	N-2143	Sag
I-10	Kennedy, between Archer & Studio		779	E-2217, 2216, 2215	
I-10	Easement E/O 63rd under Van Buren	30 Day	411	E-2212, 2211	Sag, Grease, oil, roots
I-10	63rd E/O Corey		366	E-2206	Sag
I-10	63rd E/O Corey		500	E-2187	Sag
B-8	Granite Hill W/O Campbell St		354	E-1117	Sag, grease, oil, roots

Eastvale					
G-1	Highbury N/O Harmony		406	N-5262, N-5263	Grease

Total 30 Day Footage = 4,418

Total 90 Day Footage = 11,099

Jurupa Community Services District Sewer Problem Area Jetting Schedule

<u>Atlas Page</u>	<u>Location</u>		<u>Footage in Feet</u>	<u>Line Assignment</u>	<u>Comments</u>
6 Month Problem Area List - January -June					
F-13	Jayhawk W/O RedOak Dr.	6 - month	347	N1957	Roots
E-13	Kirby CT	6 - month	502	N1748	Roots
G-8	Cedar S/O 54th St	6 - month	399	N2088	Roots
G-8	Rutile St.	6 - month	300	N2067	Roots
D-8	Mission W/O Campbell	6 - month	659	E1280	Roots
H-9	59th & Felspar	6 - month	1372	E2040, E2043, N2342	Odor
			Total Footage = 3,579		

Garlic Line Modified Adjacent System: See Garlic line map

Employee Names: _____ - _____ - _____

Date Completed _____

Revised 11/15/17 by Chris J.

Attachment E4-D: Equipment Inventory
Replacement Inventories (spare parts)

Equipment Listing Report

\\Jurupa Community Services District\Equipment\ATS (8)

Equipment	Year, Make, Model	(No Meter)	Unit #	Serial #	Type	Tag #	Operator
ATS Chandler - GE Zenith	GE Zenith ZTS2L40EX-7	0	ATS Chandler	1324344	Automatic Tran	,	
ATS Clay/Van - Eaton	Kohler KCP-AMTC-0225S	0	ATS Clay/Van	SGM32DHD7	Automatic Tran	,	
ATS Florine - Eaton	Eaton ATC3C2X30225XKV	0	ATS Florine	065237	Automatic Tran	,	
ATS Hamner - ASCO	ASCO C7ATS3150N5	0	ATS Hamner	177899	Automatic Tran	,	
ATS Linares	GE Zenith ZTG000A00020E	0	ATS Linares	1673606-1	Automatic Tran	,	
ATS Regional 1 - GE Zenith	GE Zenith ZS5DB10041-07E	0	ATS Regional 1	1615877-1	Automatic Tran	Inside buildir	,
ATS Regional 2 - GE Zenith	GE Zenith ZTG000A0004E	0	ATS Regional 2	1662054-1	Automatic Tran	,	
ATS River Rd. - GE Zenith	GE Zenith ZG5SR1003P-070	0	ATS River Rd.	1472840	Automatic Tran	,	

\\Jurupa Community Services District\Equipment\Arrow/Message Boards (2)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E166 - 2016 Wanco WVMBM-3LP	2016 Wanco WVMBM-3LP	0	E166	181818-01-02	Message Board Truck	092	,
E167 - 2016 Wanco WVMBM-3LP	2016 Wanco WVMBM-3LP	0	E167	181818-01-01	Message Board Truck	131	,

\\Jurupa Community Services District\Equipment\Compressors (2)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1811 - 2018 Ingersoll-Rand 7100E15-V	2018 Ingersoll-Rand 7100E15-	0	E1811	CBV597136	120 gallon stati	Regional	,
E932 - 1993 CompAir 68-PUAS-I-SS	1993 CompAir 68-PUAS-I-SS	0	E932	068-000008	Compressor	,	

\\Jurupa Community Services District\Equipment\Cranes (3)

Equipment	Year, Make, Model	Hours	Unit #	Serial #	Type	Tag #	Operator
E1412 - 2014 Gorbet FS300-18-W16C12	2014 Harrington/Gorbet ER2A	0	E1412	00159165/515279	3 Ton Free star	River RD.	,
E792 - 1979 Yale PC21331 20/7	1979 Yale PC21331 20/7	0	E792	AX22332	4,000LB Crane	Regional	,
E873 - 1987 Auto Crane 3203-prx	1987 Auto Crane 3203-prx	0	E873	320304-034-AT-12-87	3200lb Auto Cr	Truck 022	,

\\Jurupa Community Services District\Equipment\Generators (12)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E002 - 2000 Cummins DGEA-4477650	2000 Cummins DGEA-447765	157	E002	C000078509	Generator	Chandler lift	,
E024 - 2002 Cummins DGDA-5005773	2002 Cummins DGDA-500577	123.8	E024	L010310999	Generator	Hamner lift	,
E053 - 2005 Caterpillar SR4B	2005 Caterpillar SR4B	318	E053	AFH00365	Generator	River Rd.	,

Jurupa Community Services District\Equipment\Generators (12)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1024 - 2010 Caterpillar D100-6	2010 Caterpillar D100-6	120.2	E1024	N3R00911	Stationary Gen	Florine	,
E1332 - 2013 Caterpillar D100-6	2013 Caterpillar D100-6	46.2	E1332	N3R03423	generator	157H Linares	,
E135 - 2013 Honda EU2000I	2013 Honda EU2000I	0	E135	EAAJ-2610414	Generator	200C Regional	,
E153 - 2015 Honda EU2000I	2015 Honda EU2000I	0	E153	EACT-1220837	Generator	200C Regional	,
E1530 - 2015 Kohler 30REOZIC	2015 Kohler 30REOZIC	37.2	E1530	5GM32DJJ	Generator	49HF Clay LS	,
E157 - 2015 Cummins Onan 7HGJAE-21	2015 Cummins Onan 7HGJAE	3,576	E157	D150810978	Generator	Truck#105	,
E163 - 2016 Honda EU3000is	2016 Honda EU3000is	0	E163	EZGF-1645158	Genrator	3000 ' Confined sp	,
E781 - 1978 Katolight D400FPZH	1978 Katolight D400FPZH	739.5	E781	78869 S-29107	Generator	Regional	,
E982 - 1998 Caterpillar 3306B	1998 Caterpillar 3306B	293	E982	09NR02746	Generator	Regional	,

Jurupa Community Services District\Equipment\Ice machine (2)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1221 - 2012 Ice-O-Matic ICE0400HA4	2012 Ice-O-Matic ICE0400HA4	0	E1221	12111280010229	ice maker (Reg	Regional	,
E1816 - 2018 Best Choice Products SKY	2018 Best Choice Products SKY	0	E1816	1712000140	Ice maker	Warehouse	,

Jurupa Community Services District\Equipment\Misc Equipment (4)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1210 - 2012 Plimbers Depot, INC.	2012 Plimbers Depot, INC.	0	E1210		Jetting nozzle	Warehouse	,
E1334 - 2013 Labconco 4420421	2013 Labconco 4420421	0	E1334	130272048	Dishwasher	Regional	,
E1533 - 2015 Hammerhead 26022	2015 Hammerhead 26022	0	E1533	139911	Pneumatic Pier	Regional	,
E159 - 2015 McBratney Company AB-24	2015 McBratney Company AB	36.9	E159	AB1915000N10615	Blower confin	Riv.Rd.SE61	,

Jurupa Community Services District\Equipment\Pressure washer (1)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1425 - 2014 Troy-Bilt 2800	2014 Troy-Bilt 2800	0	E1425	1402205600681	2800 PSI press	Regional	,

Jurupa Community Services District\Equipment\Skid Steer and attachments (6)

Equipment	Year, Make, Model	(No Meter)	Unit #	Serial #	Type	Tag #	Operator
E1117 - 2011 CAT BU118	2011 CAT BU118	140	E1117	LXB01025	Sweeper		,
E1118 - 2011 Caterpillar 351-9371	2011 Caterpillar 351-9371	0	E1118	65SSFP011054	48" Fork lift att	Regional	,
E1212 - 2012 CAT BR172	2012 CAT BR172	0	E1212	TAB02254	Brush cutter	Regional	,
E1213 - 2012 CAT 217-6229	2012 CAT 217-6229	0	E1213	65SSIG001478	78" Grapple bu	Regional	,
E1214 - 2012 CAT 279-5403	2012 CAT 279-5403	0	E1214	65SSMP002115	78" Multipurpos	Regional	,

\\Jurupa Community Services District\Equipment\Skid Steer and attachments (6)

Equipment	Year, Make, Model	Hours	Unit #	Serial #	Type	Tag #	Operator
E131 - 2013 CAT 272DXHP	2013 CAT 272DXHP	422.8	E131	SHY00358	Skid Steer	Regional	,

\\Jurupa Community Services District\Equipment\Stompers (1)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1520 - 2015 Multiquip	2015 Multiquip MVC-88VTHW	5	E1520	T2A7046	Plate Compact	Regional	,

\\Jurupa Community Services District\Equipment\Trailers (3)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E142 - 2014 Hydro Engineering CMT14-2	2014 Hydro Engineering CMT	0	E142	N/A	Trash pump ho	Regional	,
E1521 - 2015 Carson Trailer RC 162	2015 Carson Trailer RC 162	0	E1521	4HXRC1628GC178440	Confined space	Regional	,
E156 - 2015 Zieman 2324E	2015 Zieman 2324E	0	E156	1ZCT31E21FZ344998	Tilt trailer	Yard	,

\\Jurupa Community Services District\Equipment\Trash Pump (4)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E041 - 2004 Multiquip MQ-41TDH	2004 Multiquip MQ-41TDH	0	E041	41TDH-4366	Trash Pump	Regional	,
E046 - 2004 Godwin Pump CD225M	2004 Godwin Pump CD225M	0	E046	0437622703	8" dry prime pu	Regional	,
E143 - 2014 Godwin Pump CD150M	2014 Godwin Pump CD150M	23.7	E143	14620365-01	Towable 6" Dri-	Regional	,
E1532 - 2015 Godwin Pump GTP-100HX	2015 Godwin Pump GTP-100H	0	E1532	140901168	Wet-Prime Tras	Regional	,

\\Jurupa Community Services District\Equipment\Video Truck (8)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E1014 - 2010 Cues Ultra Shorty	2010 Cues Ultra Shorty	0	E1014	10073001	Variable Weigh	Truck 105	,
E1015 - 2010 Cues Steerable pipe range	2010 Cues Steerable pipe ran	0	E1015	10080305	3 Wheeled tran	Truck 105	,
E1016 - 2010 Cues OZII	2010 Cues OZII	0	E1016	10042305	Pan/Tilt zoom c	Truck 105	,
E1017 - 2010 Cues Granite XP	2010 Cues Granite XP	0	E1017	10062202	Wireless GPS r	Truck 105	,
E1018 - 2010 Cues N/A	2010 Cues N/A	0	E1018	10080401	Cable Reel	Truck 105	,
E1019 - 2010 Cues	2010 Cues	0	E1019	10080305	Cable reel conti	Truck 105	,
E1021 - 2010 Western Mule P-5A	2010 Western Mule P-5A	0	E1021	P05260386	Truck mounted	Truck 105	,
E1716 - 2017 Cues OZII	2017 Cues OZII	0	E1716	17091840	Pan/Tilt zoom c	Truck 105	,

\\Jurupa Community Services District\Equipment\Welder (2)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
E137 - 2013 Miller Multimatic 200	2013 Miller Multimatic 200	0	E137	MD101069N	120v welder	Regional	,

Jurupa Community Services District\Equipment\Welder (2)

Equipment	Year, Make, Model	Hours	Unit #	Serial #	Type	Tag #	Operator
E1518 - 2015 Miller Bobcat 250 EFI	2015 Miller Bobcat 250 EFI	0	E1518	MF050147R	Welder	Truck#022	

Jurupa Community Services District\Vehicles\Sewer (15)

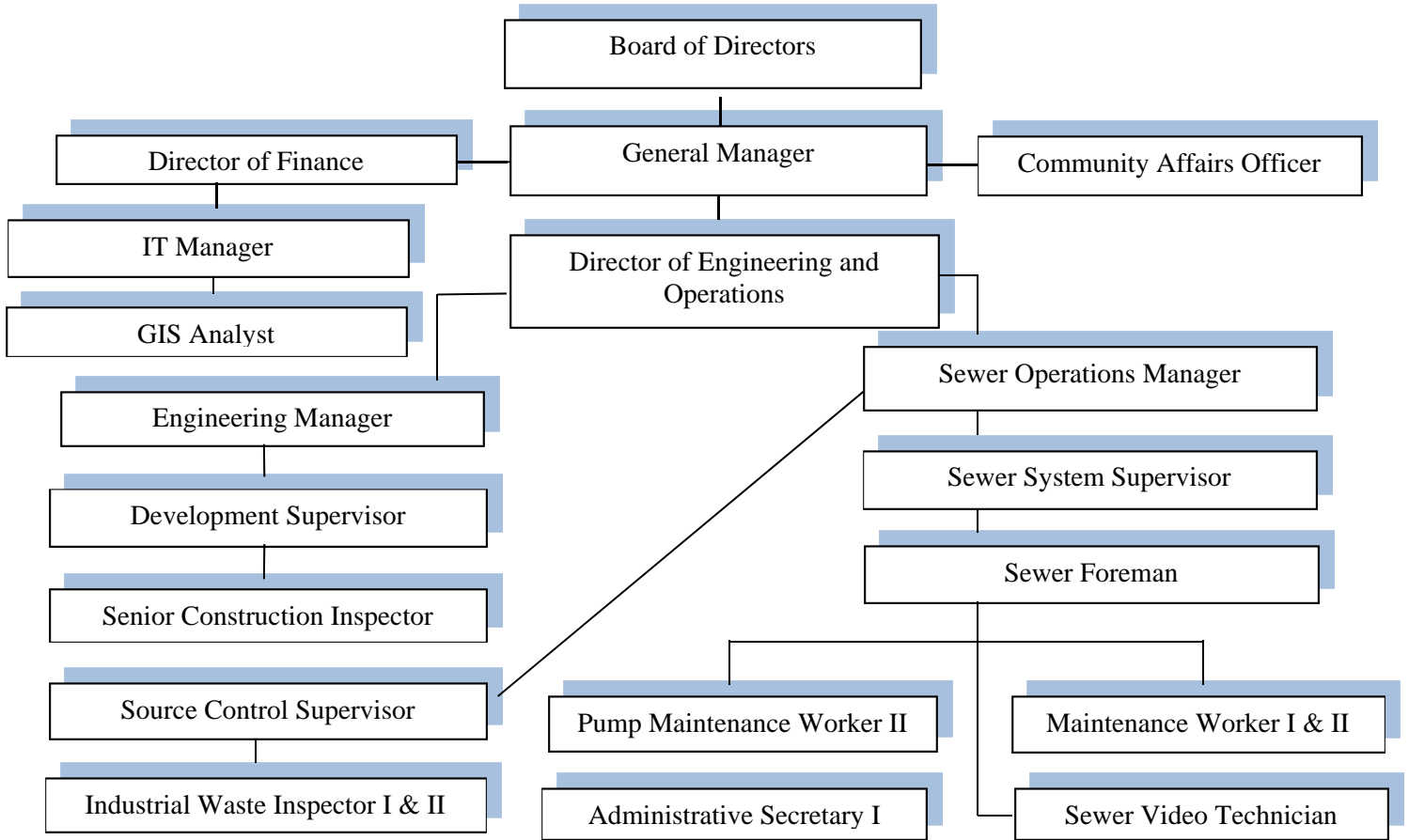
Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
022 - 2002 GMC C-6500	2002 GMC C-6500	70,840	022	1GDK7H1C92J505068	Truck	1120970	Ramirez, Alex
041 - 2004 International DT-530	2004 International DT-530	60,067	041	1HTWHADT44J026231	Truck	1181058	
061 - 2006 Ford f-350 Service body	2006 Ford f-350 Service body	125,352	061	1FDWF36566EB96675	Truck	1241143	
092 - 2009 International 7400	2009 International Work Star 7	37,796	092	1HTWGAZT29J123124	Jet Truck	1298767	Flores, Juan
093 - 2009 Ford F-250 Service Body	2009 Ford F-250 Service Body	85,895	093	1FDSX20509EB09002	Truck	1333863	Tapia, Luis
103 - 2010 Dodge Dakota	2010 Dodge Dakota	47,581	103	1D7RE3BP6AS151909	Truck	1306124	Payfer, Jim
105 - 2010 Ford E-450	2010 Ford E-450	48,252	105	1FDXE4FS9ADA10452	Video box truck	1302309	Soria, Rudy
114 - 2011 Ford F-250 Service Body	2011 Ford F-250 Service Body	112,490	114	1FCBF2A67BEA37442	Truck	1302331	Medina, Fidel
131 - 2013 Mack GU 713	2013 Mack GU 713	26,702	131	1M2AX09C2DM016899	Truck	1402347	Guy, Josh
142 - 2014 Ford F-150	2014 Ford F-150	37,807	142	1FTEX1CM6EKG35371	Truck	1404906	Call truck, Call truck
161 - 2016 Chevy Equinox	2016 Chevy Equinox	29,049	161	3GNFLEEK4G6194968	SUV	1404937	DuCasse, Dan
176 - 2017 Ram 4500	2017 Ram 4500	555	176	3C7WRKFJ1HG711003	Truck dually co		
181 - 2018 Ram 3500	2018 Ram 3500	9	181	3C7WRSBJ7JG236856	Truck dually w/i		
184 - 2018 Chevy Colorado Extra Cab	2018 Chevy Colorado Extra C:	4,914	184	1GCHSBEA7J1215199	Truck	1438725	Hench, Russell
185 - 2018 Ford F-650	2018 Ford F-650	0	185	1FDNX6EE4JDF04159	Truck W/utility t		

Jurupa Community Services District\Vehicles\Water quality/ industrial waste (3)

Equipment	Year, Make, Model	Mileage	Unit #	Serial #	Type	Tag #	Operator
071 - 2007 Ford F-150	2007 Ford F-150	85,441	071	1FTRF12WX7KC19981	Truck	1263477	Johnson, Matt
0813 - 2008 Ford Ranger	2008 Ford Ranger	59,577	0813	1FTYR10U68PA52172	Truck	1302332	Vasquez, Alfredo
115 - 2011 Chevy Express 1500	2011 Chevy Express 1500	71,353	115	1GCSGAF48B1172598	Van	1344124	McCall, Quincy

Total equipment listed = 76

Attachment E4-E: Sewer Maintenance
Organizational Chart



Attachment E4-E Organization Chart of Sewer Related Staff

Attachment E4-F: Sewer Department Work
Order / Inspection Form

Jurupa Community Services District

SEWER DEPARTMENT WORK ORDER, INSPECTION FORM

LOCATION

Address /Street Name: _____ Cross Street: _____

D/S Line segment #: _____ M/H Number: _____ Map Page: _____ Easement: **Y / N (circle)**

Zones: **Riverside /SARI/WRCRWA** Tract: _____ Lot: _____

INSPECTOR

Inspector: _____ Date: _____

STRUCTURE DATA

M/H / Main Line Depth: _____' M/H Type: **Precast /Brick** M/H Ring ID: _____"

M/H Ring Type: **Cast/ Composite** C/O ID _____" C/O Ring Type: **Precast /pipe/ Composite**

Bolt Down: **Y / N (circle)** Drop-Structure: **Y / N (circle)** Locking Cover: **Y / N (circle)**

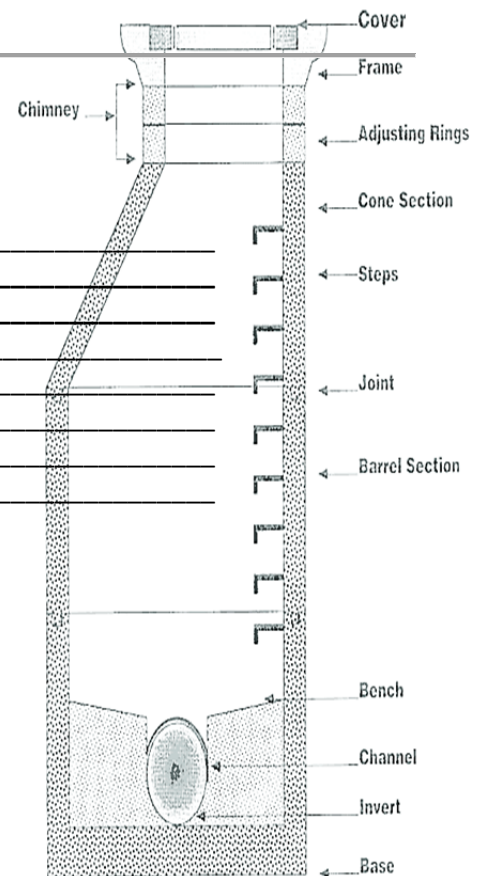
G P S. Coordinates: N _____ **W** _____

KEYWORDS: (Circle)

- 1] Ring & Cover
- 2] Grade Rings
- 3] Cone (eccentric/concentric)
- 4] Shaft (Barrel Sections)
- 5] Bench/Shelf
- 6] Channel
- 7] Pipe/Invert
- 8] Unable to Locate M/H
- 9] Need to install M/H
- 10] Repair needed
- 11] **SSO**

INSPECTION REPORT

"Observations"



Pre-cast Concrete Manhole

- | | |
|---|--------------------------------|
| a] Good Overall Condition | f] Cracks / misaligned section |
| b] Inflow & Infiltration (leaking joints) | g] Corrosion / Coating Failure |
| c] Stoppage /Blockage | h] Objects / Rocks / Trash |
| d] Grease | i] Roots |
| e] Odor | j] Debris |