



**JULY 2012**  
**FLSA: NON-EXEMPT**

## **MECHANIC/SENIOR MECHANIC**

*This class specification indicates, in general terms, the type and level of work performed as well as the responsibilities of employees in this classification. The job functions described are not to be interpreted as being all-inclusive to any specific employee.*

### **DEFINITION**

Under direct or general supervision, performs technical duties and responsibilities in the maintenance, repair, service, and troubleshooting of equipment and machinery in wastewater treatment plants, pumping stations, and related facilities; performs collection facilities duties including cleaning sewer lines, manholes and wet wells; performs preventive and corrective maintenance on assigned equipment, vehicles, and machinery; and operates and maintains a variety of hand and power tools and equipment.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives direct or general supervision from the Maintenance Supervisor. Exercises no direct supervision of staff.

### **CLASS CHARACTERISTICS**

**Mechanic** – This is the entry-level class in the mechanical maintenance series. Initially under close supervision, incumbents with basic maintenance experience learn District infrastructure, equipment, and facilities, use of tools and equipment, and a wide variety of practices and procedures. As experience is gained, assignments become more varied and are performed with greater independence. Positions at this level usually perform most of the duties required of the positions at the Senior level, but are not expected to function at the same skill level and usually exercise less independent judgment and initiative in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

**Senior Mechanic** – This is the full journey-level class in the mechanical maintenance series that performs the full range of duties required to ensure that District infrastructure, equipment, and facilities to which assigned are maintained in a safe and effective working condition and provide the highest level of safety for public use. Responsibilities include inspecting and attending to assigned areas in a timely manner, and performing a wide variety of tasks in the maintenance and repair of assigned facilities and systems. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. Work is normally reviewed at critical points of assigned project to determine if desired overall objectives have been achieved. Positions in this class series are flexibly staffed and positions at the Senior Mechanic level are normally filled by advancement from the Mechanic level. This class is distinguished from Lead Mechanic in that the latter is responsible for functional direction over and provides training of lower-level staff and is capable of performing the most complex duties assigned to the division.

## **EXAMPLES OF ESSENTIAL JOB FUNCTIONS**

The following essential job functions are typical for this classification. Incumbents may not perform all of the listed job functions and/or may be required to perform additional or different job functions from those set forth below to address business needs and changing business practices.

### **When performing all assignments:**

- Complete and log written and or electronic daily work sheets and service sheets; review equipment service logs for previous comments or repairs on equipment; complete work orders for malfunctions identified during routine maintenance inspections; maintain all records.
- Operate and maintain a variety of hand tools, power tools, pneumatic tools, and other equipment in the performance of assigned duties.
- Order replacement parts to perform maintenance and repairs as necessary.
- Respond to public inquiries in a courteous manner; provide information within the area of assignment; address complaints in an efficient and timely manner.
- May be assigned to respond to a variety of wastewater emergencies on an assigned standby shift.
- Perform related duties as required.

### **When assigned to Field Maintenance:**

- Perform work on process equipment in the plant, including boilers, pumps, mobile and stationary engines, air and gas compressors, evaporators, scrubbers, blowers, belt filter presses, centrifuges, bar screens, augers, hydraulic systems, and conveyor belts.
- Perform complex preventive mechanical maintenance on process equipment in the plant by inspecting and cleaning equipment, including but not limited to replacing oil, adjusting and/or replacing belts, gear boxes, pistons, rollers, filters, valves, gaskets and other related parts.
- Perform complex corrective mechanical maintenance on process equipment in the plant by troubleshooting cause of malfunction using visual inspection and precision measuring and testing instruments and replacing or repairing broken parts such as gauges, gaskets, plugs, coils, wires, bearings, drive lines, valves, pistons, rings, crankshafts and pumps.
- Rebuild equipment by disassembling, cleaning, and repairing mechanical malfunctions; reassemble, install and test equipment to ensure that it is in proper working condition.
- As a Senior Mechanic, initiate and complete documentation for confined space entry procedures; may oversee and direct work of staff during a confined space entry or special project requiring a team to complete the task; read schematic drawings to determine location and layout of equipment; isolate and tag equipment to be worked on before performing mechanical maintenance.
- Complete and log daily written and electronic work sheets and service sheets; review equipment service logs for previous comments on equipment; complete work orders detailing work completed during maintenance and repair tasks; maintain all records.
- Read schematic drawings to determine location and layout of equipment; isolate and tag equipment to be worked on before performing mechanical maintenance.

### **When assigned to Rebuild Shop:**

- Perform repair functions and complete rebuilds on various wastewater treatment plant equipment and related components.
- Responsible for miscellaneous types of machines to include, but not limited to gear boxes and gear reducers, vari-drive assemblies both mechanical and hydraulic; grinders assemblies, grit assembly complete repair, regulators and valves, belt filter press rollers and related repair.
- Disassemble all machinery in pump shop to carefully evaluate for required machine work and parts; clean, bead blast, prime and paint prior to reassembly.
- Test run equipment on specially designed test stands to ensure proper operation; test mechanical seals for leaks either hydrostatically or pneumatically.
- May design and fabricate special tools for installation and removal of different components when

- standard tools are not applicable.
- Create blueprints and schematics as required to assist in all facets of repair.

**When assigned to Collection Facilities Maintenance:**

- Clean sewer lines, manholes and wet wells; read line location blueprints; open manhole covers; set-up atmospheric monitors; enter confined spaces in a body harness, attaching a tire or ball to line cleaning rig to remove debris from lines; use a shovel and bucket to remove debris from manholes, remove floating debris; shovel grit at bottom of wet well and scraping all grease that is on wall of wet well.
- Direct wastewater flow by setting pillow plugs or diversion boards.
- Perform moderately complex pump station repair work; troubleshoot pumps and other equipment; identify malfunctions and take corrective action including removing, replacing or repairing parts and pumps; install and monitor flow meters and gas flaps in sewer lines.
- Perform pump station maintenance work; scrub and clean facilities; remove rags and debris; perform routine inspections, and cleaning; communicate with the public regarding activities being performed at pump stations, including odor complaints.
- Perform manhole frame and cover replacement duties; raise manhole covers to street level by operating jackhammer to remove asphalt and concrete; lift manhole ring with appropriate equipment; mix cement, sand and gravel to form concrete; remove broken asphalt and concrete; pour and smooth concrete and reset ring cover.
- Conduct traffic control when working in high traffic areas; control and divert traffic using traffic cones, flag stands, signs, arrow boards and hand paddles; drive District vehicles, including towing small trailers as necessary.
- Perform general maintenance work at treatment plants or in the field including, vegetation control or general cleanup; clear and clean easements as necessary.

**QUALIFICATIONS**

**Knowledge of:**

- Operations, services, and activities of a wastewater treatment maintenance program.
- Methods and techniques for performing preventive and corrective maintenance on assigned equipment.
- Operational characteristics of wastewater treatment plant systems and equipment.
- Confined space entry requiring the use and operation of Self Contained Breathing Apparatus (SCBA).
- Predictive maintenance methods and tools.
- The operation and minor maintenance of a variety of hand and power tools, vehicles and power equipment.
- Precision measuring devices and equipment alignment.
- Traffic control procedures and traffic sign regulations.
- Basic math.
- Safety principles, practices, and procedures of all facilities, equipment, and materials used in wastewater treatment and wastewater collection systems.
- Maintenance and operating characteristics of wastewater treatment facilities.
- Basic principles and practices of cost estimate preparation.
- Principles and procedures of record keeping.
- Applicable Federal, State, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Modern office practices, methods, and computer equipment and applications related to the work, including word processing, database, and spreadsheet applications.
- English usage, grammar, spelling, vocabulary, and punctuation.

- Online maintenance management system used to research history, data, and maintenance records.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.

**Ability to:**

- Perform a variety of repair, maintenance, servicing, and cleaning tasks on assigned equipment, vehicles, and/or machinery.
- Troubleshoot, repair, and maintain mechanical equipment, vehicles, and/or machinery in the treatment plant.
- Operate specialized maintenance and repair equipment related to wastewater main cleaning.
- Operate precision alignment tools.
- Set up and operate traffic area zones, including cones, barricades and flagging.
- Locate underground utilities by use of blue prints and electronic locating equipment in accordance with Underground Service Alert (USA) regulations.
- Troubleshoot maintenance problems and determine action required for repair.
- Make accurate arithmetic calculations.
- Read and interpret construction drawings and specifications.
- Enter confined space requiring the use and operation of Self Contained Breathing Apparatus (SCBA).
- Safely and effectively use and operate hand tools, mechanical equipment, power tools, and equipment required for the work.
- Maintain accurate logs, records and basic written records of work performed.
- Understand and follow oral and written instructions.
- Apply and ensure compliance with Federal, State, and local policies, procedures, laws, rules, and regulations.
- Make sound decisions within established policy and procedural guidelines.
- Operate modern office equipment including computer equipment and software programs.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

**Employment Standards:**

Any combination of education and experience that provides the required knowledge, skills, and abilities may be qualifying as determined by OCSD.

**Mechanic**

1. High school diploma or equivalent supplemented by specialized training in the areas of mechanical equipment maintenance and repair; AND
2. Two (2) years of increasingly responsible experience applying preventive and corrective mechanical maintenance skills on mechanical equipment maintenance and repair, as well as analyzing mechanical systems and processes.

**License or Certificate:**

- Possession of a valid California class C driver's license.
- Rebuild Shop or Field Maintenance: Possession of a valid Grade I Mechanical Technology Certificate from the California Water Environment Association is desirable.
- Collection Facilities Maintenance: Possession of a valid Grade I Collection System Maintenance Certificate from the California Water Environment Association. Possession of a valid California class B driver's license with air brakes and tanker certificate.

### **Senior Mechanic**

1. High school diploma or equivalent supplemented by specialized training in the areas of mechanical equipment maintenance and repair; AND
2. Three years of increasingly responsible experience applying preventive and corrective mechanical maintenance skills on related wastewater plant equipment as well as analyzing mechanical systems and processes at a level comparable to a Mechanic with the District.

#### **License or Certificate:**

- Possession of a valid California class C driver's license.
- Rebuild Shop or Field Maintenance: Possession of a valid Grade II Mechanical Technology Certificate from the California Water Environment Association is desirable.
- Collection Facilities Maintenance: Possession of a valid Grade II Collection System Maintenance Certificate from the California Water Environment Association. Possession of a valid California class B driver's license with air brakes and tanker certificate.

#### **Disaster Service Workers:**

All Orange County Sanitation District employees are designated Disaster Service Workers through state law (California Government Code Section 3100-3109). Employment with the Orange County Sanitation District requires the affirmation of a loyalty oath to this effect. Employees are required to complete all related training as assigned, and to return to work as ordered in the event of an emergency.

### **PHYSICAL DEMANDS**

Must possess mobility to work in the field; strength, stamina and mobility to perform medium to heavy physical work, to work in confined spaces, around machines and to climb and descend ladders, and operate varied hand and power tools and construction equipment; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone or radio. The job involves fieldwork requiring frequent walking in operational areas to identify problems or hazards. Finger dexterity is needed to access, enter and retrieve data using a computer keyboard or calculator and to operate above-mentioned tools and equipment. Positions in this classification bend, stoop, kneel, reach and climb to perform work and inspect work sites. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing a minimum of 40 pounds, or heavier weights with the use of proper equipment.

### **ENVIRONMENTAL ELEMENTS**

Employees work in the field and are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives, and contractors in interpreting and enforcing departmental policies and procedures.