



USUAL & CUSTOMARY JOB ANALYSIS/DESCRIPTION

JOB TITLE:	Maintenance Mechanic I
DEPARTMENT:	Maintenance
EMPLOYER:	Vallejo Sanitation and Flood Control District 450 Ryder Street, Vallejo, California 94590
DATE PREPARED:	2/24/04
WORK SCHEDULE/HOURS:	9/80 work schedule; includes working 8 to 9 hours per shift, 4 to 5 days per week
EMPLOYEE:	
D/I:	
CLAIM NUMBER:	

Employer's Business: The employer, Vallejo Sanitation and Flood Control District, is a government agency responsible for the collection and treatment of wastewater from the sanitary sewer system and the protection from storm water.

Job Functions

Overview:

Under direct supervision of the Maintenance Mechanic Supervisor, performs any mechanical and electrical repair, maintenance and installation of sewage treatment plant, pumping station and storm water pumping station equipment; performs other related work as required. Work in this class involves performing, preventative maintenance as well as the repair and adjustment of sewage plant and pumping station equipment. The work involves the disassembly of equipment, replacement of parts, reassembly, alignment and adjustment of such equipment. All duties are considered essential functions. There are no marginal functions for this position.

The employee maintains the sewage plant pumps and other equipment at peak operating efficiency.

The employee assists in maintaining a complete mechanical equipment history with a computerized maintenance program.

The employee investigates interruptions of service and diagnoses operation difficulties.

The employee performs the servicing and lubricating of sewage plant and pumping station equipment.

The employee uses micrometers, dial indicators, gauges and some electrical testing equipment in the setting, aligning, repairing of mechanical and minor electrical equipment.

The employee may be required to operate treatment plant equipment.

The employee performs preventative maintenance on all equipment and maintains all necessary records.

The employee is responsible for maintaining a supply of replacement parts, which are required for the maintenance and repair of sewage plant and pumping station equipment.

The employee performs and may direct others in mechanical and some electrical work involving disassembly and replacement of worn or broken parts, removal of operating units for shop repair, reinstallation and realignment of equipment.

The employee welds and cuts materials using either gas or electric arc welding equipment.

The employee reviews operating records on all equipment and provides Facilities Maintenance Supervisor with input to assist in the scheduling of repairs and replacements.

The employee may maintain vehicles, grounds and buildings.

The employee spends approximately 80% of the time at the wastewater plant. The remainder of the time is spent in the field maintaining and servicing pump stations located within the district.

The employee operates a pickup truck equipped with an automatic transmission and an electric crane mounted to the truck bed. The employee travels to and from field sites or within the plant. This includes ascending one step, maneuvering a steering wheel, pressing 2 foot pedals in conjunction with using a cushioned seat.

The employee accesses valve pits to access valves positioned underground. This includes opening the lid, utilizing an extension ladder or stationary steps to descend into the pit. The employee performs a variety of tasks including inspecting the wastewater collection lines, pump stations and other equipment and as needed, servicing. The employee "exercises" valves including turning the valve with or without a wrench to assure that it turns. The employee utilizes a rope and a bucket to lower needed tools, parts and equipment. Heavier objects are lowered or elevated with a boom truck. The employee utilizes a variety of tools including wrenches, pliers, screwdrivers, pneumatic and specialty tools, testing equipment to replace parts including motors, pumps, valves and other related equipment.

The employee utilizes a grease gun to lube equipment. This includes pumping a grease gun handle to expel the grease.

The employee, as needed, performs shop tasks to clean or repair equipment, including valves. This includes utilizing vices, electric grinders, a torch or welding gun to weld or repair equipment, a band saw, a drill press, utilizes brushes to wash and clean parts.

The employee utilizes a computer keyboard, pointing device in conjunction with viewing a monitor to enter or retrieve data including work activities.

The employee exercises valves. This includes turning circular valve handles or chains to loosen or assure that a valve turns. The employee may or may not use a wrench, depending on the valve's condition. This task is performed at a pump station and at the plant.

The employee, as needed, performs confined space entries to inspect or perform manhole repairs. The employee works with a crew of 2 to 3 employees. Includes setting a tripod over an opening, wearing safety equipment, being lowered with an automatic winch. The employee utilizes specialized testing equipment including gas detectors, lowering tools, parts and equipment to inspect, service and repair equipment. The employee may be lowered up to 30 feet. Includes wearing a self-contained breathing apparatus.

The employee operates a forklift to retrieve and relocate equipment. Includes ascending 2 steps, maneuvering a steering wheel, levers positioned on the right side to control the forks, presses 2 foot pedals in conjunction with using a cushioned seat.

The employee utilizes a 2-wheeled dolly or 4-wheeled cart to transport parts or equipment.

The employee utilizes a variety of tools includes wrenches, screwdrivers, hammers, pry bars, ratchets, power drills, band saws, grinders, etc. to perform preventative maintenance to a variety of equipment including blowers, generation systems, chemical valves, digesters, filters, conveyors, pumps, compressors, dewatering equipment and other related equipment. This includes removing and replacing bolts, faceplates, parts, motors, gears, and other related items.

The employee ascends/descends single or multiple stair flights to access equipment and multiple floors. Alternatively, the employee ascends/descends fixed vertical ladders and stepladders.

The employee utilizes a writing utensil to complete notes, messages, paperwork.

The employee utilizes a telephone handset to make calls and order parts. This includes utilizing the handset and when making calls pressing 7 to 10 buttons to make a call.

Minimum Qualifications

EDUCATION & EXPERIENCE

Graduation from high school or equivalent
Achievement of skills as an industrial machinery maintenance mechanic and its methods for at least three years with at least one of those years at a wastewater or water treatment plant or large industrial processing facility. **OR** successful completion of a recognized apprenticeship or military training in the area of industrial equipment repair as it applies to wastewater or water treatment facilities.

KNOWLEDGE, SKILLS & ABILITIES

Knowledge of methods, materials, tools and equipment used in the overhaul of engines and pumps.
Skills in mechanical repair and overhauling work.
Working knowledge of the principles of electrical installation, maintenance, operation and testing.
General knowledge of machinist's tools, shop equipment and operations; and of the working properties of various metals.
Ability to do combination welding.
Ability to assist in difficult repairs to electrical and mechanical equipment.
Ability to maintain proper records.
Ability to make sketches from broken parts for replacements.
Ability to read Operations and Maintenance manuals and prints.
Must be able to work both inside and outside.
May be exposed to weather, fumes, odors, and dust.
May be required to work various shifts, weekends and overtime.
Must be able to ascend and descend ladders.
Must be responsive to call-out or emergencies at all times.
Must be able to walk on uneven surfaces.
Must be able to wear a respirator.
Must be able to enter and perform work in a confined space.
Must be able to work in inclement weather.
Must be able to accept constructive criticism from supervisors, coworkers and subordinate employees.

LICENSE(S)

Mechanical Technologist Certificate – Grade I, or higher, issued by the California Water Environment Association within twelve months of hire date.

Must possess a California Class C Driver's License at the time of employment. The ability to drive District vehicles is a specific requirement for this position. For that reason it is the employee's responsibility to maintain a driving record that is acceptable to the District's insurance carrier or be subject to dismissal.

WEIGHED ITEMS	2.5 gallon oil bucket – 25 to 30 pounds Tool pouch or bucket – 27 pounds Aluminum grating – up to 30 pounds Sump lid – 24 pounds Sludge conveyor cover – 30 pounds 8' fiberglass ladder – 32 pounds
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Physical Demands

For the purpose of determining frequency of activity, this job analyst refers to an eight-hour workday.

STANDING	Frequency: Duration: Surfaces: Associated Tasks:	4 to 6 hours. Seconds to less than 15 minutes at a time. Concrete, asphalt, dirt, metal grading, all possible. Turning/exercising valves, inspecting, repairing and servicing equipment including pump stations, motors, valves, blowers, generation systems, chemical valves, filters and other related tasks, utilizing a variety of basic or power tools, lubricating equipment, loading/unloading equipment parts on and off the truck bed, installing or removing parts, cleaning, welding or utilizing a torch, performing shop tasks.
WALKING	Frequency: Duration: Surfaces: Associated Tasks:	2 to 3 hours. Seconds to less than 15 minutes at a time. Concrete, asphalt, dirt, metal grading, all possible. Relocating parts, tools, walking within the plant, to and from field sites, utilizing a 2-wheeled dolly or 4-wheeled cart to relocate parts or equipment, inspecting equipment and other related tasks.
SITTING	Frequency: Duration: Surfaces: Associated Tasks:	Less than ½ hour to 2 hours. Less than 15 minutes to ½ hour at a time. Cushioned vehicle or forklift seat. Operating a forklift to relocate supplies, equipment, driving within the plant or to and from field sites, utilizing a computer in conjunction with working at a desk station.
KNEELING/ CROUCHING/ SQUATTING	Frequency: Duration: Surfaces: Associated Tasks:	Less than 15 minutes. Seconds to less than 5 minutes at a time. Concrete, asphalt, metal grading, dirt, all possible. Retrieving or setting items on and off lower shelves or the ground, inspecting, repairing or servicing equipment in conjunction with utilizing basic or power tools.
CRAWLING	Frequency: Duration: Surfaces: Associated Tasks:	Not a job requirement.
LAYING ON BACK/STOMACH	Frequency: Duration: Surfaces: Associated Tasks:	Not a job requirement.

CLIMBING/ BALANCING	Frequency: Duration: Surfaces: Associated Tasks:	Less than 15 minutes Seconds to 2 minutes at a time. Ladder or stair steps. Ascending/descending ladders to access equipment, stairs to access multiple floors/plant rooms/equipment, ascending or descending one step to operate the pickup truck or forklift.
BENDING Waist:	Frequency: Duration: Associated Tasks:	Less than 15 minutes. Seconds to less than 1 minute at a time. Repairing, servicing, maintaining equipment in conjunction with utilizing basic or power tools, inspecting equipment, possibly while turning valves, utilizing a grease gun to lubricate equipment, accessing restricted areas. The motion is in a forward direction between 5 and 65-degrees.
Head/Neck:	Frequency: Duration: Associated Tasks:	4 to 5 hours. Seconds to less than 5 minutes at a time. Aiding visually, during normal body mechanics, maintaining, servicing or repairing equipment, utilizing a variety of basic or power tools, operating a forklift, exercising valves, utilizing a grease gun to lubricate equipment or parts.
Wrists:	Dominant Hand: Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	2 to 4 hours. Less than 1 hour. Less than ½ hour. 2 to 3 hours. Seconds to less than 15 minutes at a time. Driving in conjunction with maneuvering a steering wheel, utilizing a variety of basic or power tools including screwdrivers, wrenches, hammers, pry bars, ratchets, power drills, band saws, grinders, handling, removing or installing parts, exercising valves, lubricating equipment in conjunction with utilizing a grease gun.

TWISTING/ROTATING		
Waist:	Frequency: Duration: Associated Tasks:	Less than 15 minutes. Seconds at a time. Maintaining, servicing, repairing or inspecting equipment, accessing restricted areas, possibly while driving. The motion is center to the right back to center or center to the left back to center up to 20-degrees.
Head/Neck:	Frequency: Duration: Associated Tasks:	2 to 3 hours. Seconds at a time. Aiding visually, driving in conjunction with maneuvering a steering wheel, operating the forklift or pickup truck, servicing, repairing and maintaining equipment. The motion is center to the right back to center or center to the left back to center up to 45-degrees.
Wrists:	Dominant Hand: Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	2 to 4 hours. Less than 1 to 2 hours. Less than 15 minutes. 2 to 3 hours. Seconds to less than 5 minutes at a time. Utilizing a variety of basic tools including screwdrivers, pliers, wire cutters, hand starting nuts, bolts, handling and installing parts, utilizing a grease gun to lubricate equipment, utilizing power tools.

UPPER EXTREMITY USE:	Dominant Hand: [indicate LEFT or RIGHT]
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REACHING		
Primary Reach Zone: (elbows bent at waist level, hands in forward extension)	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than ½ hour. Less than 15 minutes. Alternated with dominant. Less than 15 minutes. Seconds to less 5 minutes at a time. Utilizing a computer keyboard, mouse to enter or retrieve data.
Above Shoulder Level	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	0 to less than 5 minutes. 0 0 0 to less than 5 minutes. Seconds to less than 5 minutes at a time. Repairing, servicing or maintaining equipment in conjunction with utilizing tools.
Between Waist and Shoulder Level	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	5 to 6 hours. Less than 1 hour. Less than ½ hour. 4 ½ to 5 hours. Seconds to less than 15 minutes at a time. Driving in conjunction with maneuvering a steering wheel, exercising/turning valves, utilizing a grease gun to lubricate equipment, utilizing a variety of tools including wrenches, screwdrivers, hammers, pry bars, ratchets, power drills, band saws, grinders, handling and installing parts, utilizing a 2-wheeled dolly or 4-wheeled cart to transport equipment, utilizing a welding gun or torch, a drill press, performing shop tasks.

Below Waist Level	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 15 minutes to ½ hour. Less than 15 minutes. Less than 5 minutes. Less than ½ hour. Seconds to less than 5 minutes at a time. Retrieving or setting items on and off lower shelves or the ground, inspecting, repairing or servicing equipment in conjunction with utilizing basic or power tools.
PUSHING/ PULLING	Frequency Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 15 minutes to ½ hour per week. Less than 15 minutes per week. Less than 5 minutes per week. Less than 15 minutes per week. Seconds to less than 5 minutes at a time. Utilizing wrenches to remove or install bolts, opening or closing doors, exercising/turning valves, utilizing a 4-wheeled cart or 2-wheeled dolly to relocate equipment, installing or removing parts, utilizing a come-a-long jack to relocate parts includes cranking a handle, utilizing pray bar.
LIFTING/CARRYING		
0 to 10 lbs.	Objects: Frequency Dominant: Non-Dominant: Bilateral: Distance: Height: Associated Tasks:	Writing utensil, paperwork, drills, ratchets, wrenches, screwdrivers, miscellaneous parts, components, testing equipment, specialty tools, grease gun, band saws, grinders, pry bars, hammers. 5 to 6 hours. Less than 1 hour. Less than ½ hour. 4 ½ to 5 ½ hours. Less than 100 feet. Ground to shoulder or above. Utilizing a variety of basic or power tools to repair, service and maintain equipment, utilizing a writing utensil to complete paperwork, handling miscellaneous parts, bolts, nuts, wiring.
11 to 25 lbs.	Objects: Frequency Dominant: Non-Dominant: Bilateral: Distance: Height: Associated Tasks:	Aluminum grading, tool pouch or tool bucket, sump lid, partial oil bucket. Less than 10 minutes. Less than 5 minutes. Alternated with dominant. Less than 5 minutes. 0 to less than 100 feet. Ground to chest level. Retrieving or relocating a tool pouch or tool bucket, opening a sump lid, relocating aluminum grading or oil bucket.
26 to 50 lbs.	Objects: Frequency Dominant: Non-Dominant: Bilateral: Distance: Height: Associated Tasks:	Oil bucket, full tool pouch or tool bucket, sludge conveyor cover, 8' fiberglass ladder. Less than 5 to 10 times. 0 0 Less than 5 to 10 times. Less than 100 feet. Ground to waist level. Retrieving and relocating an oil bucket, tool pouch or bucket, opening a sludge conveyor cover, relocating an 8' fiberglass ladder.

<p>51 to 75 lbs.</p>	<p>Objects: Frequency Dominant: Non-Dominant: Bilateral: Distance: Height: Associated Tasks:</p>	<p>Equipment part, possibly an electric motor, assistance is available. 1 time per month. 0 0 1 time per month. 0 to less than 10 feet. Ground to waist level. As needed, removes, installs or replaces a motor or an equipment part.</p>
<p>75 to 100 lbs.</p>	<p>Objects: Frequency Dominant: Non-Dominant: Bilateral: Distance: Height: Associated Tasks:</p>	<p>Not a job requirement.</p>
<p>100+ lbs.</p>	<p>Objects: Frequency Dominant: Non-Dominant: Bilateral: Distance: Height: Associated Tasks:</p>	<p>Not a job requirement.</p>

HAND DEMANDS		
Simple Grasping	Frequency: Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	5 to 6 hours. Less than 1 hour. Less than ½ hour. 4 ½ to 5 ½ hours. Seconds to less than 15 minutes at a time. Driving in conjunction with maneuvering a steering wheel, relocating hand tools, handling parts, utilizing a grease gun to lubricate equipment, handling paperwork, opening or closing doors.
Power Grasping	Frequency: Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 15 minutes to ½ hour per week. Less than 15 minutes per week. Less than 5 minutes per week. Less than 15 minutes per week. Seconds to less than 5 minutes at a time. Utilizing wrenches to remove or install bolts, exercising/turning valves, utilizing a 4-wheeled cart or 2-wheeled dolly to relocate equipment, installing or removing parts, utilizing a come-a-long jack to relocate parts includes cranking a handle, utilizing a pry bar, opening or closing aluminum grading, relocating a tool pouch or bucket, opening or closing a sump lid, relocating an oil bucket, ladder, as needed a motor or part.
Fine Manipulation	Frequency: Dominant: Non-Dominant: Bilateral: Duration: Associated Tasks:	Less than 15 minutes to ½ hour. Less than 15 minutes. Less than 5 minutes. Less than 15 minutes. Seconds to less than 5 minutes at a time. Utilizing a computer keyboard, a mouse to enter or retrieve data, writing utensil, handling small parts, nuts, bolts, screws, electrical wiring.

SPECIAL ENVIRONMENT	Outdoors, exposed to all weather conditions Works at unprotected heights Possible exposure to dust, fumes, odors and noise Works indoors Performs work in confined spaces
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MACHINES/TOOLS	Writing utensil Ratchets Screwdrivers Torch Brushes Hammers Telephone handset	Wrenches Pickup truck Grease gun Welding gun Computer keyboard, mouse, monitor Pry bars	Specialty tools Forklift Vices Drill press 2-wheeled dolly Grinders	Dolly Power drills Electric grinders Band saw 4-wheeled cart 8' ladder
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ADDITIONAL REQUIREMENTS:

The employee, as needed and depending on the exposure, is required to wear foot, hand, respiratory, eye, face, hearing, head and fall protection equipment and for confined space entries the employee is required to wear a self contained breathing apparatus, and fall protection equipment.

Note: The following are not physical requirements of this job: crawling, laying on back/stomach.

EMPLOYER COMMENTS:	
This Job Analysis accurately represents the duties of a Maintenance Mechanic I to the best of my knowledge.	
EMPLOYER CONTACT NAME:	
EMPLOYER SIGNATURE:	DATE:

EMPLOYEE COMMENTS:	
This Job Analysis accurately represents the duties of a Maintenance Mechanic I to the best of my knowledge. I understand that I cannot add hours to the physical demands breakdown if the total would then be greater than the number of hours in an average workday.	
EMPLOYEE NAME:	
EMPLOYEE SIGNATURE:	DATE: