

EMPLOYEE:

CLAIM #



KING COUNTY ON SITE JOB ANALYSIS

JOB TITLE Industrial Maintenance Mechanic Master

JOB CLASSIFICATION Industrial Maintenance Mechanic Master

DOT TITLE Water and Sewer Systems Supervisor

DOT NUMBER 862.137-018

DEPARTMENT Natural Resources and Parks

DIVISION Wastewater

OF POSITIONS IN THE DEPARTMENT WITH THIS JOB TITLE 25

JOB STATUS

Full Time, Career Service.

ADDRESS OF WORKSITE

1400 Utah street West
Seattle Washington, 98199

CONTACT'S NAME Alvertis Brooks Sr. / Lester Van Gelder

CONTACT'S PHONE 206-263-3902 / 206 684-2420

EMPLOYER JOB TITLE Wastewater Maintenance Supervisor

DATE COMPLETED 03/05/02

VRC NAME Jeff Casem

DATE REVISED 7/14/09

WORK HOURS

10 hours a day, 4 days a week or 8 hours a day five days a week with 2 fifteen-minute breaks and one 30-minute lunch per shift.

OVERTIME

Required on a rare emergency basis.
Fair Labor Standards Act Non-Exempt (hourly)

JOB DESCRIPTION

The responsibilities of this classification include conducting complex maintenance, overhaul, and installation of mechanical equipment and providing leadership and direction to mechanical and other skilled craft personnel. This is a single level classification that is distinguished from other classifications in that the incumbent is required to have successfully completed the Maintenance Mechanic skills and knowledge test or interview, and to demonstrate a superior level of knowledge of equipment and processes. Incumbents provide leadership, direction and advanced knowledge and experience to journey-level mechanics.

ESSENTIAL ABILITIES FOR ALL KING COUNTY JOB CLASSIFICATIONS

1. Ability to demonstrate predictable, reliable, and timely attendance.
2. Ability to follow written and verbal directions and to complete assigned tasks on schedule.
3. Ability to read, write & communicate in English and understand basic math.
4. Ability to learn from directions, observations, and mistakes, and apply procedures using good judgment.
5. Ability to work independently or part of a team; ability to interact appropriately with others.
6. Ability to work with supervision, receiving instructions/feedback, coaching/counseling and/or action/discipline.

JOB SPECIFIC REQUIREMENTS

Must possess a journey-level knowledge of industrial maintenance practices. Must have advanced knowledge of troubleshooting, welding methods, plumbing, pipefitting, pump and motor overhaul, machine shop practices, hazardous chemicals in the workplace, and mechanical repair technology. Must have skill in group presentation and oral and written communications, as well as equipment operation and installation, rigging, and hydraulics. Must also have skill in using a welder, solder, braze, MIG, TIG, and metallurgy. Must possess skills in leadership, teaching/coaching, negotiation/mediation, planning, and scheduling. The incumbent must possess a Washington State Driver's License and a basic first aid and medic card. Must be able to lift 50 pounds.

ESSENTIAL FUNCTIONS Listed in order of importance

1. Provides direction, trains other staff and performs major repairs to pumps, motors, gearboxes, hydraulic and pneumatic systems and equipment, compressors and large aeration blowers; replace bearings, volutes, shafts, impellers oxygen generation and distribution equipment. Salvage equipment for re-use.
2. Evaluates, tests and performs difficult troubleshooting of malfunctions in pumps, gearboxes, compressors, gravity belt thickeners, belt presses, complex centrifuges and other related equipment in a large industrial environment.
3. Uses state-of-the-art-technology to perform precision maintenance on equipment to extend life and reduce costs. This includes laser alignment

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vibration analysis. Applies root cause failure analysis to techniques to equipment. Calculates dollar savings on an annualized basis for estimate of returns on precision maintenance, using current draw measurements and historical data both inside and outside the Department of Metropolitan Services.

4. Supervises crew in environments containing such hazards as hydrogen sulfide, chlorine, rushing water, low oxygen content atmosphere, explosive methane atmosphere, hydrogen peroxide, caustic soda, bio-hazards, blood born pathogens and liquid nitrogen. Ensure use of proper, legal confined space entry procedures. Makes repairs in extreme weather.
5. Provides direction to other staff and performs skilled machine shop assignments including milling, drilling and using a lathe, radial drill press, band saws, blue prints, engineering drawings, operation s and maintenance manuals, vendor data and input based on prior experience.
6. Provides leadership and training to other staff in state-of-the-art welding including Metal Inert Gas (MIG), Tungsten Inert Gas (TIG) heli-arc, plasma cutter, oxyacetylene, carbon arc and stick welding in the fabrication of piping system, frames, fixtures, special tools, pump bases and repairs to machine housings, volutes, shafts and impellers.
7. Performs lead role in the overhaul and installation of mechanical equipment.
8. Directs the work of assigned maintenance mechanics, maintenance workers and other skilled trades in assigned tasks. Ensures safety procedures and regulations are followed.
9. Fills in and stands by to perform lead mechanic responsibilities including delegation of work based on individual skill levels. Determines priorities, workload and availability of staff, coordinates with operating sections, off site section and construction to plan and organize assigned duties.
10. Serves on interview board to hire new personnel and promote existing employees.
11. Provides input to engineering staff.

TOOLS, MACHINES, EQUIPMENT, PRODUCTS, AND SERVICES USED

Computer, telephone, cellular phone, two-way radio, forklift, crane, hoist (manual and electric), truck crane, wrenches, pry bars, hammer, chisel, screwdrivers, grinders, welding equipment, plasma cutter, sawsall, roto-hammer, 50-ton arbor press, lathes, vertical and horizontal mills, drills, pneumatic and electric impact wrench, truck, hydraulic gear puller, micrometer, carbon arc, cutting torch, dial indicator, and various hand and power tools.

Employees also may use protective equipment that may include the following:

Respiratory Protection: Dust mask, 1/2 face, full face, supplied air, and a Self Contained Breathing Apparatus (SCBA),

Hearing Protection: Ear plugs and earmuffs.

Eye Protection: Safety glasses and goggles.

Foot Protection: Steel toe boots.

Hand protection: Gloves.

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Face/Head Protection: Welding hood and hardhat.

PHYSICAL DEMANDS AS JOB IS TYPICALLY PERFORMED

Continuously = occurs 66-100% of the time

Frequently = occurs 33-66% of the time

Occasionally = occurs 1-33% of the time

Rare = may occur less than 1% of the time

Never = does not ever occur (such demands are not listed)

This job is classified as

Medium

Standing

Frequently on flat cement, dirt, gravel, and uneven surfaces for up to 30 minutes at a time for up to 4 hours total in a work shift. Most commonly occurs while removing or rebuilding a pump.

Walking

Occasionally on flat cement, dirt, gravel, and uneven surfaces for distances of ¼ mile at a time for 5 minutes at a time and up to 1 hour total in a work shift. Most commonly occurs while walking from work truck to pump station.

Sitting

Occasionally on automobile seat or office chair for up to 30 minutes at a time for up to 1.5 hours total in a work shift. Most commonly occurs while driving to and from pump stations as well as performing computer work.

Climbing stairs

Occasionally for 5 minutes at a time while climbing 70 stairs for up to 4 times total in a work shift. Most commonly occurs while entering and exiting pump stations.

Climbing

Occasionally on a ladder to heights of 10 feet for 5 seconds at a time for up to 3 minutes total in a work shift. Most commonly occurs while climbing on a ladder to repair or remove a vertical pump.

Balancing

Occasionally on a ladder at heights of 10 feet for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while repairing or removing a vertical pump.

Bending/Stooping

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or rebuilding a pump as well as performing plumbing duties.

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Kneeling

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or rebuilding a pump as well as performing plumbing duties.

Crouching

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or rebuilding a pump as well as performing plumbing duties.

Operating Controls with Feet

Occasionally for 30 minutes at a time for up to 1.5 hours total in a work shift while driving a work truck.

Reaching above shoulder height

Frequently to continuously for up to 5 minutes at a time for up to 6 hours total in a work shift. Most commonly occurs while removing or repairing a vertical pump as well as performing plumbing duties. Plumbing duties may include installing or repairing pipes on a ceiling.

Reaching at waist to shoulder height

Continuously for up to 3 at a time for up to 10 hours total in a work shift. Most commonly occurs while removing, rebuilding or repairing a pump as well as performing plumbing and computer duties. Pumps are commonly placed on workbenches and saw horses at waist to shoulder height in the workshop during rebuilding. Worker also reaches while driving a work truck.

Reaching at knee to waist height

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or repairing a horizontal pump as well as performing plumbing duties. Plumbing duties may include installing or repairing pipes on or near a floor.

Reaching at floor to knee height

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or repairing a horizontal pump on the floor as well as performing plumbing duties. Plumbing duties may include installing or repairing pipes on or near a floor.

Lifting 1-10 pounds

Frequently for 30 minutes at a time for up to 3 hours total in a work shift. Most commonly occurs with weights of 3-5 pounds while using hand tools such as wrenches, sockets, hammers, and pry bars.

Carrying 1-10- pounds

Occasionally for 5 minutes at a time for distances of up to 100 feet up 1 hour total in a work shift. Most commonly occurs with weights of 3-5 pounds while transporting hand tools from truck to pump station. Hand tools may include wrenches, sockets, hammers, and pry bars.

Lifting 11-20 pounds

Frequently for 30 minutes at a time for up to 3 hours total in a work shift. Most commonly occurs with weights of 15 pounds while using hand tools such as wrenches, impact wrenches, sockets, hammers, grinders, welding equipment, plasma cutter, sawsall, drills and pry bars.

Carrying 11-20 pounds

Occasionally for 5 minutes at a time for distances of up to 100 feet up to 30 minutes total in a work shift. Most commonly occurs with weights of 15 pounds while transporting hand and power tools from truck to pump station. Hand and power tools may include wrenches, impact wrenches, sockets, hammers, grinders, welding equipment, plasma cutter, sawsall, drills and pry bars.

Lifting 21-50 pounds

Occasionally for 5 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs with weights of 35-50 pounds while using power tools such as pneumatic and electric impact wrenches, grinders, welding equipment, roto-hammer, and pry bars.

Carrying 21-50 pounds

Occasionally for 5 minutes at a time for distances of up to 100 feet up to 30 minutes total in a work shift. Most commonly occurs with weights of 35-50 pounds while transporting hand and power tools from truck to pump station. Power tools may include pneumatic and electric impact wrenches, grinders, welding equipment, roto-hammer, and pry bars.

Lifting 51-100 pounds

Occasionally for 5 seconds at a time for up to 5 seconds total in a work shift. Most commonly occurs with weights of 65-70 pounds while moving electric motors or a bucket or toolbox containing multiple hand and power tools. The employer does not require lifting in excess of 50 pounds. Cranes, hoists and lifting assistance is available.

Carrying 51-100 pounds

Occasionally for 5 seconds at a time for distances of up to 10 feet up to 5 seconds total in a work shift. Most commonly occurs with weights of 65-70 pounds while moving electric motors or a bucket or toolbox containing multiple hand and power tools. The employer does not require lifting in excess of 50 pounds. Cranes, hoists and lifting assistance is available.

Pushing and Pulling

Frequently for distances of 10 feet at a time with a force of up to 100 pounds for up to 30 minutes total in a work shift. Pushing and pulling most commonly occurs when tightening or loosening large bolts as well as moving a metal cart with a pump on it. Pumps can weigh anywhere from several hundred pounds to over one thousand pounds.

Handling

Continuously for 3 hours at a time for up to 10 hours total in a work shift while using and holding various hand tools as well as operating an automobile.

Operating Controls with Hands

Frequently for up to 30 minutes at a time for up to 2 hours total in a work shift while operating an automobile, welding equipment, shop machines or a crane. Shop equipment may include drill presses, lathe, mill, and hydraulic gear puller.

Fingering

Frequently for up to 1 hour at a time for up to 4 hours total in a work shift while loosening and tightening screws, nuts and bolts with fingers.

Feeling

Occasionally for up to 5 seconds at a time for up to 30 seconds total in a work shift while touching a pump or piece of machinery to see if it is overheating.

Talking

Occasionally for 5 minutes at a time for up to 20 minutes total in a work shift while conversing with co-workers, receiving and giving instructions, roll call/checking in with station, utilizing a two-way radio and cellular phone.

Hearing

Continuously for 3 hours at a time for up to 10 hours total in a work shift while listening for proper operation of machinery, listening for emergency sirens while driving, listening for danger alarms in wastewater treatment plant, conversing with co-workers, receiving and giving instructions, roll call/checking in with station, utilizing a two-way radio and cellular phone.

Tasting/Smelling

Continuously for 3 hours at a time for up to 10 hours total in a work shift while smelling for malfunctioning machinery. Worker is also continuously exposed to strong odors.

Near acuity—clarity of vision at 20 inches or less

Continuously for 3 hours at a time for up to 10 hours total in a work shift while assembling, disassembling, repairing, rebuilding, and inspecting pumps, motors and machinery.

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Far acuity—clarity of vision at 20 feet or more

Occasionally for 30 minutes at a time for up to 1.5 hours total in a work shift while driving a work truck.

Depth perception—three dimensional vision

Occasionally for 30 minutes at a time for up to 1.5 hours total in a work shift while driving a work truck.

Color vision—ability to identify and distinguish colors

Rare for 5 seconds at a time for up to 30 seconds total in a work shift while identifying danger alarms at wastewater treatment plant.

Field of vision—observing an area that can be seen up and down or right or left while eyes are fixed on a given point

Occasionally for 30 minutes at a time for up to 1.5 hours total in a work shift while driving a work truck.

TEMPERAMENTS

Performing repetitive or short-cycle work: Occasionally

Performing a variety of duties: Continuously

Working alone or apart in physical isolation from others: Continuously

Working effectively under stress: Occasionally

Attaining precise set limits, tolerances, and standards: Occasionally

Working under specific instructions: Occasionally

Working with others: Occasionally

Making judgments and decisions: Occasionally

ENVIRONMENTAL FACTORS

Work is performed in an industrial wastewater setting where the worker is exposed to or in close proximity to heavy operating machinery, high voltage, sewage, adverse weather conditions, uneven surfaces, cat walks/metal grating, noxious or toxic gasses and chemicals, as well as loud noises. The noise level is quiet to very loud. Hearing protection and hard hats are required in some areas. The employee is occasionally exposed hazardous materials including chlorine, sulfur dioxide, sodium hydrochloride, sodium hydroxide, methane, and hydrogen sulfide.

Workers are exposed to

Outside weather: Continuously

Wet: Continuously

Humidity/dampness: Frequently

Fumes: Frequently

Odors: Continuously

Dusts: Occasionally

Gases: Occasionally

Moving mechanical parts: Continuously

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Vibration: Frequently

Toxic or caustic chemicals: Occasionally to Frequently

Other: Noise sufficient to cause marked distractions or possible hearing loss

POTENTIAL MODIFICATIONS TO JOB

Provide assistance to worker when removing or installing a pump as two people manipulating a pump will reduce lifting, pushing, and pulling.

Signature & title of evaluator

Date

Signature & title of contact

Date

Signature & title of employee

Date

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HEALTH CARE PROVIDER SECTION

Check all that apply

The employee is released to perform the described duties without restrictions on performance or work hours.

The employee is released to perform the described duties on a reduced schedule. The recommended schedule is:

Temporary until _____ Permanent as of _____

The employee is released to perform the described job with the following modifications:

Temporary until _____ Permanent as of _____

The employee is not released to perform the described duties due to the following job functions:

Temporary until _____ Permanent effective _____

The employee is unable to work in any capacity.

A release to work is: anticipated by _____ Not expected

The limitations are due to the following objective medical findings:

Printed or typed name and phone number of Health Care Provider

Signature of Health Care Provider

Date