

EMPLOYEE:

CLAIM #



Job Analysis Form

ALTERNATE FORMAT AVAILABLE

JOB TITLE Laboratory Quality Control Engineer II

JOB CLASSIFICATION Engineer II

DICTIONARY OF OCCUPATIONAL TITLES (DOT) NUMBER 019.061-014

DOT TITLE Materials Engineer

DEPARTMENT Transportation

DIVISION Roads Services

OF POSITIONS IN THE DEPARTMENT WITH THIS JOB TITLE 7

CONTACT'S NAME & TITLE Geralyn Miller-Nucci, Senior Quality Control Engineer.

CONTACT'S PHONE 206-423-0992

ADDRESS OF WORKSITE

155 Monroe Ave NE, Bldg. D
Renton, WA 98055-4199

VRC NAME Kyle Pletz

DATE COMPLETED 6/30/09

DATE REVISED 10/22/09

WORK HOURS

6:00am-2:30pm, Monday through Friday, 40 hours per week.

OVERTIME (Note: Overtime requirements may change at the employer's discretion)

Optional, occasionally, (less than 100 hours per year) in accordance with business demand. Overtime is mainly performed from May-October.

JOB DESCRIPTION

The Engineer II will work as part of a team in the Materials Laboratory, providing construction quality control and maintaining the associated project documentation. Approximately 50% of the duties are performed in the office, 10% in the field and 40% in the lab.

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

- Bachelor of Science degree in Civil Engineering or closely related field, two years progressively responsible experience in construction material sampling, testing and construction recordkeeping.
- Knowledge of WSDOT, ASTM & AASHTO standards related to sampling and testing of materials.
- Demonstrated analytical skill in processing and testing materials in the lab and field.
- Knowledge of the processes involved with soil, aggregate, asphalt and concrete testing.
- Knowledge of construction materials.
- Demonstrated skill in sampling, testing and inspecting construction materials.
- Construction recordkeeping and organizational skills.
- Demonstrated ability to research materials for acceptance to be incorporated on road construction projects.
- Skill in Microsoft Word, Excel, Project and Access.
- Excellent verbal and written communication skills.
- Problem solving and conflict resolution skills.
- Demonstrated ability to work under tight deadlines with a variety of projects and tasks.
- Demonstrated ability to work in a fast paced environment and prioritize job assignments and complete in a timely, efficient manner
- Demonstrated ability to apply engineering principles, methodology and practical experience to resolve materials construction related problems.
- Demonstrated ability to be flexible to the contractor's and projects continuously changing schedules.
- Demonstrated ability to organize the workload so that projects and clients needs are met.
- Must possess a valid Washington State Driver's License.

ESSENTIAL FUNCTIONS

1. Track construction material certification status and maintain project documentation.
2. Update and maintain the Materials Laboratory Quality Manual and Procedures in accordance to AASHTO R18.
3. Inspect, sample, test and report on various construction materials and processes such as soils, aggregate producing plants, asphalt and asphalt producing plants, Portland Cement Concrete and concrete producing plants.
4. Interpret and follow WSDOT, ASTM and AASHTO test methods.
5. Troubleshoot materials related problems.
6. Communicate test results and material issues with suppliers, contractors, inspectors and King County Personnel.
7. Represent King County Materials Laboratory in meetings and AMRL Accreditation Inspection.
8. Provide accurate and concise documentation and test reports to various clients serviced by the King County Materials Lab.
9. Input accurate data into Record of Materials and database maintained by the laboratory.
10. Apply mathematical applications to various calculations associated with materials testing.

PERSONAL PROTECTIVE EQUIPMENT USED

Safety boots, gloves, radiation badge, ear protection, eye protection, hard hat, safety vest, harness/fall protection, lab coat, breathing protection, rain gear and coveralls.

OTHER TOOLS & EQUIPMENT USED

County vehicle, , hammer, wheelbarrow, sieves, scales, unit weight containers, slump cones, cylinders, pen, pencil, computer, measuring wheel, shovel, plans, specifications, calculator, blueprints, various laboratory testing equipment (including sieves, drying ovens, materials shaker, material wash, proctor, max density machine, sand equivalent, unconfined compression, etc.).

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

Rarely = may occur less than 1% of the time

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

Highly Repetitive = Repeating the same motion every few seconds with little or no variation for more than two hours total per day.

This job is classified as

Medium to Heavy

Medium—exerting 20 to 50 pounds of force occasionally, and/or 10-25 pounds of force frequently, and/or up to 10 pounds of force constantly.

Heavy—exerting 50-100 pounds of force occasionally, and/or 25-50 pounds of force frequently, and/or 10-20 pounds of force constantly to move objects.

Standing

Health Care Provider initials if restricted _____

Occasionally on dirt, gravel, cement, hot asphalt, undeveloped land, bridges, concrete, wet, slick, frozen and uneven ground surfaces for up to 2 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while lab testing, field testing, filing and lab work.

Walking

Health Care Provider initials if restricted _____

Occasionally on dirt, gravel, asphalt, cement, concrete, wet, slick, frozen and uneven ground surfaces for up to 5-10 minutes at a time for up to 2 hours total in a work shift while traversing within the lab. Most surfaces the employee traverses are flat carpeted or linoleum surfaces. When working in the field the claimant traverses dirt, gravel, asphalt, cement, concrete, wet, slick, frozen and uneven ground surfaces.

Sitting

Health Care Provider initials if restricted _____

Frequently on an automobile seat or office chair for up to 30 minutes at a time for up to 4 hours total in a work shift. Most commonly occurs while performing data entry, performing, documentation, writing reports and reviewing reference materials.

Climbing stairs

Health Care Provider initials if restricted _____

Rarely while climbing up to 15 steps at a time for up to 2 times total in a work shift. Most commonly occurs while performing archive duties.

Balancing

Health Care Provider initials if restricted _____

Occasionally for up to 10 minutes at a time for up to 10 minutes total in a work shift. Most commonly occurs while traversing uneven ground when out in the field. It is noted that the employee is only in the field approximately 10% of the time.

Bending neck up

Health Care Provider initials if restricted _____

Occasionally for up to 5 minutes at a time for up to 90 minutes total in a work shift. Most commonly occurs while obtaining items on upper shelves. When in the field, the employee bends the neck up while looking up at heavy equipment and operators.

Bending neck down

Health Care Provider initials if restricted _____

Frequently & highly repetitive for up to 10 minutes at a time for up to 4 hours total in a work shift. Most commonly occurs while writing, filing, performing lab tests, performing field tests, reviewing documents, reviewing reference materials and performing computer duties.

Bending/Stooping

Health Care Provider initials if restricted _____

Occasionally for up to 1 minute at a time for up to 1-2 hours total in a work shift. Most commonly occurs while picking up samples, filing, performing sieve analysis, ignition furnace testing, field concrete testing, compression testing on concrete cylinders, density testing for asphalt and soils and loading and unloading equipment from truck. The employee can alternate bending/stooping with squatting, kneeling, etc. in accordance with personal preference.

Kneeling

Health Care Provider initials if restricted _____

Occasionally for up to 1 minute at a time for up to 10-15 minutes total in a work shift. Most commonly occurs while using a Gilson screen, obtaining objects on lower shelves and filing. The employee can alternate with squatting or bending/stooping as preferred.

Squatting

Health Care Provider initials if restricted _____

Occasionally for up to 1 minute at a time for up to 10-15 minutes total in a work shift. Most commonly occurs while using a Gilson screen, obtaining objects on lower shelves and filing. The employee can alternate with kneeling as preferred. This may reduce or increase this particular physical activity.

Operating Controls with Feet

Health Care Provider initials if restricted _____

Occasionally* for up to 2 hours at a time for up to 4 hours total in a work shift while driving a County vehicle to various locations in King County such as Vashon Island and Skykomish.

*It is noted that driving is related to field duties that are performed only 10% of the time.

Reaching above shoulder height

Health Care Provider initials if restricted _____

Rarely for up to 30 seconds at a time for up to 5 minutes total in a work shift while reaching for items on upper shelves (such as laboratory equipment, reference materials).

Reaching at waist to shoulder height

Health Care Provider initials if restricted_____

Frequently for up to 2 hours at a time for up to 5 hours total in a work shift while driving, typing, writing, manipulating documents, placing and removing items from truck bed, performing field and laboratory tests. On a rare occasion the employee may need to reach at waist to shoulder height for up to 2 hours at a time for up to 4 hours total in a shift while driving to Skykomish.

Reaching at knee to waist height

Health Care Provider initials if restricted_____

Rarely for up to 30 seconds at a time for up to 5 minutes total in a work shift while opening and closing drawers, obtaining laboratory equipment and filing.

Reaching at floor to knee height

Health Care Provider initials if restricted_____

Occasionally for up to 1 minute at a time for up to 10-15 minutes total in a work shift. Most commonly occurs while using a Gilson screen, obtaining objects on lower shelves and filing.

Lifting 1-10 pounds

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs with weights of 3-10 pounds while manipulating plans, lifting laboratory & field testing equipment, sieving field samples, picking up 4"x8" concrete cylinders (7.5 pounds), safety equipment and laptop computer.

Carrying 1-10 pounds

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs with weights of 5-9 pounds while transporting soil samples, carrying 4"x8" concrete cylinders (7.5 pounds), testing equipment and safety equipment.

Lifting 11-20 pounds

Health Care Provider initials if restricted_____

Occasionally for up to 2 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs with weights of 11-17 pounds while manipulating asphalt samples, asphalt boxes, wheelbarrow, testing equipment and larger plans.

Carrying 11-20 pounds

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs with weights of 11-17 pounds while transporting asphalt samples, asphalt boxes, wheelbarrow, testing equipment and larger plans.

Lifting 21-50 pounds

Health Care Provider initials if restricted_____

Occasionally and highly repetitive for up to 1 minute at a time for up to 2 hours total in a work shift. Most commonly occurs with weights of 25-50 pounds while manipulating aggregate (35-40 pounds), unit weight buckets (40 pounds), air meter kit (30-35 pounds), 6"x12" concrete cylinders (25 pounds) and general concrete testing equipment.

Carrying 21-50 pounds

Health Care Provider initials if restricted_____

Occasionally for up to 1 minute at a time for up to 2 hours total in a work shift. Most commonly occurs with weights of up to 25-50 pounds while transporting aggregate (35-40 pounds), unit weight buckets (40 pounds), air meter kit (30-35 pounds), 6"x12" concrete cylinders (25 pounds) and general concrete testing equipment. A cart is available to reduce carrying.

Lifting 51-100 pounds

Health Care Provider initials if restricted_____

Rare for up to 20 seconds at a time for up to 5 minutes total in a shift while manipulating a bags of aggregate (60 pounds) and unit weight bucket filled with aggregate (70 pounds).

Carrying 51-100 pounds

Health Care Provider initials if restricted_____

Rare for up to 30 seconds at a time for up to 5 minutes total in a shift while transporting a bags of aggregate (60 pounds) and unit weight bucket filled with aggregate (70 pounds).

Pushing and Pulling

Health Care Provider initials if restricted_____

Occasionally with a force of 1-50 pounds for up to 30 seconds at a time for up to 1 hour total in a work shift while opening and closing drawers and doors as well as when using a cart, Gilson Screen and wheelbarrow. The employee also pushes and pulls when manipulating laboratory equipment.

Handling

Health Care Provider initials if restricted_____

Occasionally for up to 30 seconds at a time for up to 30 minutes total in a work shift while manipulating testing equipment, samples, wheelbarrow, cart, cylinders, Gilson screen, binders, buckets, laboratory equipment. On a rare occasion the employee may need to drive for up to 2 hours at a time for up to 4 hours total when going to Skykomish.

Operating Controls with Hands

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift while using a computer mouse and laboratory equipment as well as performing field and laboratory tests. On a rare occasion the employee may need to drive for up to 2 hours at a time for up to 4 hours total when going to Skykomish.

Fingering

Health Care Provider initials if restricted_____

Frequently & Highly Repetitive for up to 20 minutes at a time for up to 4 hours total in a work shift while typing, writing, manipulating documents, performing laboratory tests, pressing buttons on lab equipment, manipulating samples and performing field tests.

Talking

Health Care Provider initials if restricted_____

Occasionally to frequently for up to 5 minutes at a time for up to 2-3 hours total in a work shift while reporting test results, organizing schedules, conversing with co-workers or supervisor, inspectors, suppliers and contractors.

Hearing

Health Care Provider initials if restricted_____

Continuously for up to 2.5 hours at a time for up to 8 hours total in a work shift while working in safety sensitive environments such as construction sites and laboratory.

Seeing

Health Care Provider initials if restricted

Continuously for up to 2.5 hours at a time for up to 8 hours total in a work shift while working in safety sensitive environments such as construction sites and the testing laboratory. The employee also utilizes vision when driving, reviewing and completing reports and plans as well as inspecting asphalt, concrete and performing laboratory or field tests.

Working with Heightened Awareness

Health Care Provider initials if restricted

Continuously for up to 2.5 hours at a time for up to 8 hours total in a work shift while working in safety sensitive environments with heavy equipment on construction sites and coring equipment as well as using industrial laboratory equipment.

ENVIRONMENTAL FACTORS

Work is performed in an office, laboratory, field, construction, remote and bridge setting. The employee works near or around heavy construction equipment in the field. The employee is exposed to open trenches and uneven surfaces. The employee may needs to be able work on hot/fresh asphalt. The employee is exposed to dust, heat and inclement weather. The employee works in a facility that has a nuclear testing device. It is stored in a lead lined box to reduce exposure.

The noise level is

HCP Initials if Restricted

Approximately 50-130 decibels. The noise is caused by drilling rigs, rollers, core machine, lab equipment, heavy construction equipment, haul trucks.

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Work environment may include the following exposure(s):

HCP Initials if Restricted

Outside weather: Occasionally

Non-weather related temperatures above 75 degrees: Occasionally

Wet: Occasionally

Humidity/dampness: Occasionally

Fumes: Rare

Odors: Occasionally

Dusts: Occasionally

Mists: Rare

Moving mechanical parts: Frequently

Vibration: Rare

Working in high, exposed places: Rare

Radiation: Rare

POTENTIAL MODIFICATIONS TO JOB

Alternate tasks to reduce static positions.

Utilize cart, hand truck or wheelbarrow to reduce carrying.

SIGNATURES

Signatures on this page are obtained before the document becomes available for use and are not required each time the document is reused. Obtained signatures are kept on file at King County Safety & Claims. The Health Care Provider signature section is separate and appears on the following page.

Printed name & title of VRC evaluator

Signature of VRC evaluator

Date

Printed name & title of contact

Signature of contact

Date

Printed name & title of employee

Signature of employee

Date

HEALTH CARE PROVIDER SECTION

Check all that apply

- ☐ The employee is released to perform the described duties without restrictions on performance or work hours as of _____.
- ☐ The employee is released to perform the described duties on a reduced schedule as of _____. 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