



Job Task Analysis

Employer:	Stanislaus County
Occupation:	Road Maintenance Worker
Classification:	I, II, III & Senior
Company Contact:	Risk Management 1010 10 th Street Modesto, California 95354 (209) 525-5770
Date:	February 2010; July 2015
Analysis Provided By:	Lyle Andersen, PT, CWCE Andersen Physical Therapy, Inc. 1917 Coffee Road Modesto, California 95355 (209) 549-4626

INTRODUCTION:

A complete job description is available through Stanislaus County Human Resources. The environmental factors, physical and functional demands for this Job Task Analysis were documented by Andersen Physical Therapy, Inc. The methodology for documentation consisted of on-site visits, using various measuring devices such as dynamometers and scales, as well as observation and interviews with employees and managers. A detailed record was made of the physical and functional demands of the job in terms of force pounds, weight, frequency, height, distance, anthropometric measurements, stamina, and degrees of range of motion. The determination of the frequencies of functional activities is based on standards provided by the National Institute for Occupational Safety and Health (NIOSH) and the Work Practice Guide for Manual Lifting (U.S. Department of Commerce, National Technical Information Service).

The Job Task Analysis is organized as follows: General work description; safety requirements; equipment; environmental factors; and physical/functional demands.

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<http://www.stancounty.com/riskmgmt/risk-dm-jta-class-sub-main.shtm>

GENERAL WORK DESCRIPTION:

The frequency of the following activities may vary according to the physical requirements of the specific job tasks that the employee may be required to perform at random intervals.

Under the general supervision of the department manager, **Road Maintenance Worker I** operates a variety of equipment, including dump trucks, tank trucks, loaders, tractors, paving mixers, rollers, tree-trimming and painting equipment, and a variety of small hand and power tools. The incumbent may be assigned to perform either road or bridge maintenance; traffic device repair and installation; tree-trimming and weed control; and/or other related duties involving labor, such as shoveling, patching, lifting and loading. In addition, the incumbent may supervise special program referrals, or new employees, as required. Road Maintenance Worker I are subject to overtime, standby, and call-back assignments.

Road Maintenance Worker II operates various sized equipment, such as multi-transmission trucks, medium-sized equipment, etc., in the construction and maintenance of County roads, bridges and/or traffic control, to perform various duties as assigned to the tree and paint crew, and to perform related duties as required. Incumbents are subject to overtime, standby, and call-back assignments.

Road Maintenance Worker III operates all job-related equipment, constructs and maintains County roads, roadsides, and bridges, assists in the supervision of departmental employees and performs related duties as required. Road Maintenance Worker III is subject to overtime, standby, and call-back assignments.

Senior Road Maintenance Worker is responsible for supervision and administration of Road Maintenance Work I/II/III. In addition, operates all job-related equipment, constructs and maintains County roads, roadsides, and bridges, assists in the supervision of departmental employees and performs related duties as required. Senior Road Maintenance Worker is subject to overtime, standby, and call-back assignments.

SPECIFIC DUTIES: Available through the Human Resources Department at the County of Stanislaus.

<http://www.stancounty.com/riskmgmt/risk-dm-jta-class-sub-main.shtm>

Safety Requirements: All employees are required to observe company safety procedures and standards to insure individual and collective safety, in addition to avoiding unnecessary risk to oneself, co-workers, customers, and property.

Equipment:

1. ¾ ton pickup.
2. 1 ½, 3, and 4 inch water pump.
3. 1 and 2 ton flatbed pickup truck.
4. 1 ton pickup truck.
5. 10-wheeled 8-yard dump truck.
6. 3 & 12 pound sledgehammer.
7. 4 yard dump truck.
8. 400 gallon bitsy tank.
9. 68-pound jackhammer.
10. 8 yard chip truck.
11. 90-pound jackhammer.
12. Air compressor.
13. Air hammer and drill.
14. All-terrain vehicle.
15. Articulating loader.
16. Asphalt Paver.
17. Backhoe.
18. Belly dump trailer.
19. Brush chipper.
20. Cement mixer.
21. Chainsaw (various sizes).
22. Chip spreader.
23. Circular saw.
24. Concrete finishing tools (tamper, towel, floats, edger)
25. Concrete vibrator.
26. Core driller.
27. Crowbar.
28. Cut off saw.
29. Cutting torch.
30. Dozer.
31. Drain cleaning truck.
32. Excavator.
33. Electric generator.
34. Farm tractor.
35. Flatbed cement truck.
36. Flatbed truck.
37. Foot compactor.
38. Forklift.
39. Frontend loader.
40. Graders - road.
41. Hammer.
42. Hand broom.
43. Hand saw.
44. Iron wheel roller.
45. Ladder.
46. Patch truck.
47. Pavement grinder.
48. Plate compactor.
49. Powder puff compactor (foot).
50. Pry bar.
51. Rake.
52. Road shoulder machine.
53. Rubber tire roller.
54. Sand blaster.
55. Sand spreader.
56. Scaffolding.
57. Scraper.
58. Self-loading claw truck.
59. Self-propelled broom.
60. Sheepsfoot compactor/tamper.
61. Shovel.
62. Skid steer grinder.
63. Slide axle trailer (transport).
64. Stencil truck.
65. Striping truck.
66. Stump grinder.
67. Super dump tractor.
68. Tilt bed trailer.
69. Tow-behind broom.
70. Tractor and lowboy trailer.
71. Tractor mounted mower.
72. Transfer trucks and trailer.
73. Truck - Aerial tower.
74. Truck tractor.
75. Water trucks - 5,000 gl.
76. Weed spray truck.
77. Weed spayer.
78. Welder.
79. Wheelbarrow.
80. Wrecking bar.
81. Wrench - assorted size.

*All employees within the **Road Maintenance Worker I, II, III & Senior** positions are required to provide physical assistance for all weight and frequency requirement needs of all job tasks in order to maintain a safe work environment. Employees must be physically capable of working in any of the job tasks within the **Road Maintenance Worker I, II, III & Senior** positions.*

ENVIRONMENTAL FACTORS



The following percentages are given in terms of an eight-hour workday:

Seldom =	1% - 2%	Frequent =	34% - 66%
Occasional =	3% - 33%	Constant =	67% - 100%

ENVIRONMENTAL FACTORS		MAXIMUM FREQUENCY
1.	Unprotected heights: plank, ledge, scaffolding, ladder, loader, truck, trailer.....	Occasional
2.	Being around moving machinery: Chipper, earth moving equipment, truck, man lift, traffic.....	Constant
3.	Exposure to marked changes in temperature and humidity: outside temperatures may seasonally vary between 28-110 degrees.	Occasional
4.	Exposure to dust, fumes, smoke, gases, or other irritating substances (specify): road dust, concrete dust, exhaust, asphalt dust, pollen, fuel, wood chips, tree dust. <i>Respiratory protection available</i>	Frequent
5.	Driving: earth moving equipment, truck, man lift.....	Constant
6.	Exposure to excessive noise: jackhammer, mower, chipper, generator, air compressor, compactor. <i>Hearing protection is available</i>	Frequent
7.	Exposure to radiant or electrical energy: Lighting	Occasional
8.	Exposure to solvents or chemicals: oil, fuel, paint, thinner, herbicide, weed spray. <i>Body/Respiratory protection available. Refer to MSDS document.</i>	Frequent
9.	Exposure to slippery or uneven walking surfaces: water, ditches, unimproved ground, hillsides.....	Constant
10.	Working below ground: pipes, ditches, footing and/or trench below grade	Occasional
11.	Unusual fatigue factors:	Not Applicable
12.	Working with explosives: fueling equipment	Seldom
13.	Excessive vibration: hand-held auger, post drive-in, powder-puff, chain saw, foot compactor, road compactor, jackhammer, rotary hammer, heavy earth moving equipment.....	Frequent
14.	Working with hands in water or other substance: pipe, ditch, water pump. <i>Hand protection is available</i>	Occasional
15.	Working proximity:.....	Alone: Constant Closely with others: Constant
16.	Working inside: Road Maintenance Worker I/II/III	Seldom
	Senior Road Maintenance Worker.....	Occasional
17.	Working outside:.....	Constant

FUNCTIONAL ACTIVITIES



The frequency of the following activities may vary according to the physical requirements of the specific job tasks the employee may be required to perform at random intervals.

PHYSICAL AND FUNCTIONAL REQUIREMENTS

<u>FREQUENCY DEFINITIONS</u>	<u>SELDOM</u>	<u>OCCASIONAL</u>	<u>FREQUENT</u>	<u>CONSTANT</u>
Percent of the Day	1-2%	3-33%	34-66%	67-100%
Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Non Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Repetitive & Static Work	1-50 Reps	51-250 Reps	251-1,000 Reps	1,001-20,000 Reps

1.) **PUSH**: *Pushing activities may require use of the back in conjunction with leg and arm musculature.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Constant
11-25 pounds:	Frequent
26-35 pounds:	Frequent
36-50 pounds:	Occasional
51-75 pounds:	Seldom
76-100 pounds:	Seldom
Maximum Force: <u>100</u> Pounds	

Assistive Devices: Wheelbarrow, Hand Truck. Additionally, one or more person(s) assistance is available with forces greater than 100 pounds.

Comments: Pushing is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting, equipment, controls, and supplies (e.g. plate compactor, rake, shovels, wheelbarrow, walk-behind roller, foot compactor, blade compactor, curb mule, asphalt lute, trailer tongue, forms, stringers, jackhammer, impact gun, chain saws). The employee exerts up to 100+ pounds of force in a horizontal plane from waist to shoulder height of a distance up to 100+ feet when performing job tasks (e.g. up to 100+ pound required to tip 55 gallon drums of oil/paint/solvents; up to 100+ pounds applying torque to mechanic tools; miscellaneous levers, controls, valves; up to 100+ pounds of force applied to rake, broom, shovel; up to 100+ pounds applied to maintain and control power and manual tools; up to 100+ pounds of force required to push a loaded wheelbarrow).

2.) **PULL**: *Pulling activities may require use of the back in conjunction with leg and arm musculature.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Constant
11-25 pounds:	Frequent
26-35 pounds:	Frequent
36-50 pounds:	Occasional
51-75 pounds:	Seldom
76-100 pounds:	Seldom

Maximum Force: 100 Pounds

Assistive Devices: Wheelbarrow, Hand Truck. Additionally, one or more person(s) assistance is available with forces greater than 100 pounds.

Comments: Pulling is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting, equipment, controls, and supplies (e.g. plate compactor, rake, shovel, wheelbarrow, walk-behind roller, foot compactor, blade compactor, curb mule, asphalt lute, trailer tongue, forms, stringers, jackhammer, impact gun, chain saws). The employee exerts up to 100+ pounds of force in a horizontal plane from waist to shoulder height of a distance up to 100+ feet when performing job tasks (e.g. up to 100+ pound required to tip 55 gallon drums of oil/paint/solvents; up to 100+ pounds applying torque to mechanic tools; miscellaneous levers, controls, valves; up to 100+ pounds of force applied to rakes, brooms, shovels; up to 100+ pounds applied to maintain and control of power and manual tools; up to 100+ pounds of force required to pull a loaded wheelbarrow; operate manual hand pump levers; up to 100+ pound pull and drag tree limbs; 5th wheel safety disconnect lever/pin; chain binder drag manhole cover plate removal; climb in/out of high rise heavy equipment and truck). *Pushing is the preferred method of moving carts.*

3.) **STAND-UP LIFT**: *Lifting weighted objects between floor and waist height.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Frequent
11-25 pounds:	Frequent
26-35 pounds:	Occasional
36-50 pounds:	Occasional
51-75 pounds:	Seldom
76-100 pounds:	Seldom

Maximum Force: 95 Pounds

Assistive Devices: Hydraulic lifting equipment. Additionally, one or more person(s) assistance is available with weights greater than 95 pounds.

Comments: A stand-up lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, transporting, operating, manufacturing and/or utilizing, equipment and supplies (e.g. bucket, hand tools, bags, blade, jackhammer, water hose, shovel, timber, limb, stump, leverage/torque bar, barricade, cones, boxed nails, power tools, guard rail/posts, transfer trailer tongue). The employee lifts items weighting between <1 pound and 95 pounds off the floor when performing job tasks (e.g. 25 to 70-pound barricade, 7-pound cones stacked up to 6-high weighing 40 pounds, 15-pound roman candle cones and stacked cones up to 55 pounds, 60-pound bags of post mix, 190-pound foot compactor, 13-pound skill saw, 45 and 60-pound sack of cement, 140-pound tongue on cement mixer, 35-pound pallet, 80-pound scraper blade, 73-pound 5-gallon bucket of traffic paint, 45-pound post pounder up to 60 inches in height, 48-pound hand-held auger up to 48 inches in height, 15-pound sledgehammer; up to 20-pound saw/pruner, up to 30-pound miscellaneous hand and power tools, up to 15-pound filled shovel, 60 to 90-pound jackhammer; man hole cover plate; sign post ; 25-pound crack seal box, sign; 95+ pound portable power equipment). *Safe lifting is performed by utilizing a posture of partial squatting and a straight back.*

4.) **LEVEL LIFT:** *Lifting weighted objects from between waist and chest height level for a maximum horizontal distance of up to four feet.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Frequent
11-25 pounds:	Frequent
26-35 pounds:	Occasional
36-50 pounds:	Occasional
51-75 pounds:	Occasional
76-100 pounds:	Seldom
Maximum Force: 95 Pounds	

Assistive Devices: Hydraulic lifting equipment. Additionally, one or more person(s) assistance is available with weights greater than 95 pounds.

Comments: A level lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, transporting, operating, manufacturing and/or utilizing, equipment and supplies (e.g. bucket, hand tool, bags, blade, jackhammer, water hose, shovel, timber, limb, stump, leverage/torque bar, barricades, cones, power tools, guard rail/posts, transfer trailer tongue). The employee lifts items weighting between <1 pound and 95 pounds when performing job tasks (e.g. lift 25 to 70-pound barricades, 7-pound cones stacked up to 6-high weighing 40 pounds, 15-pound roman candle cones and stacked cones up to 55 pounds, 60-pound bags of post mix, 13-pound skill saw, 45, 60 and 60-pound sacks of cement, 35-pound pallet, 80-pound scraper blade, 73-pound 5-gallon bucket of traffic paint, 45-pound post pounder up to 60 inches in height, 48-pound hand-held auger up to 48 inches in height, 65-pound bundle of road signs, 15-pound sledgehammer; up to 20-pound saw/pruner, up to 30-pound miscellaneous hand and power tools, up to 15-pound filled shovel, 60 to 90-pound jackhammer; up to 10-pound underground locating device; 95+ pound portable power equipment; super patch bucket; sign post, sign).

5.) **WEIGHT CARRY:** *Carrying weighted objects between waist and chest height beyond a distance of four feet.*

<u>MAXIMUM REQUIREMENT</u>	
0-10 pounds:	Frequent
11-25 pounds:	Frequent
26-35 pounds:	Occasional
36-50 pounds:	Occasional
51-75 pounds:	Seldom
76-100 pounds:	Seldom
Maximum Force: 95 Pounds	

Assistive Devices: Motorized equipment, hydraulic lifting equipment, Hand Truck, Cart. Additionally, one or more person(s) assistance is available with weights greater than 95 pounds.

Comments: Weight is utilized with activities such as retrieving, returning, storing, adjusting, moving, transporting, operating, manufacturing and/or utilizing, equipment and supplies (e.g. bucket, hand tools, bags, blade, jackhammer, water hose, shovel, timber, limb, stump, leverage/torque bar, barricades, cones, power tools, guard rail/posts, transfer trailer tongue). The employee lifts items weighting between <1 pound and 95 pounds when performing job tasks (e.g. 25 to 70-pound barricade, 7-pound cones stacked up to 6-high weighing 40 pounds, 15-pound roman candle cones and stacked cones up to 55 pounds, 60-pound bags of post mix, 13-pound skill saw, 45, 60 and 60-pound sack of cement, 35-pound pallet, 80-pound scraper blade, 73-pound 5-gallon bucket of traffic paint, 45-pound post pounder up to 60 inches in height, 48-pound hand-held auger up to 48 inches in height, 15-pound sledgehammer; up to 20-pound saw/pruner, up to 30-pound miscellaneous hand and power tools, up to 15-pound filled shovel, 60 to 90-pound jackhammer; thermoplastic boom; 50-pound bag of hydrocarbon; up to 10-pound underground locating device; 95+ pound portable power equipment).

6.) **OVERHEAD LIFT/PULL DOWN:** *Lifting weighted object from/to chest and overhead height level.*

MAXIMUM REQUIREMENT	
0-10 pounds:	Occasional
11-25 pounds:	Occasional
26-35 pounds:	Seldom
36-50 pounds:	Seldom
51-75 pounds:	Not Required
76-100 pounds:	Not Required
Maximum Force: 45 Pounds	

Assistive Devices: A vertical ladder, step ladder or step stool is available to bring items to eye or shoulder level. Additionally, one or more person(s) assistance is available with weights greater than 45 pounds.

Comments: Overhead lift/pull down is utilized with activities such as retrieving, returning, storing, adjusting, moving, transporting, operating and/or utilizing, equipment and supplies (e.g. limb, light fixtures/bulb, wires, bridge stringer/timber, barricade, cones, power tool, trash/debris, vector tubes/hose, hand or power tool, bucket, bags). The employee lifts items weighing between <1 pound and 45 pounds to a maximum height of 72 inches when performing job tasks (e.g. 45-pound post pounder up to 72 inches in height, 20-pound 6-foot step ladder up to 72 inches in height, equipment and worksite inspection, up to 20-pound miscellaneous hand and power tool, lift miscellaneous items onto/off truck bed, rack, hook and shelf). *Variables to overhead reaching will be the employee's height and anthropometric reach.*

7.) **OVERHEAD REACH:**

MAXIMUM FREQUENCY:	Occasional
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Comments: Overhead reach is performed to a maximum height of 72 inches when retrieving, returning, storing, adjusting, cleaning, operating, utilizing, pruning, painting, repairing, manufacturing and/or installing equipment (e.g. reach for construction, maintenance, demolition and repair using wires, nuts/bolts, lumber; nailing; prune and trim trees; metal post driver, rack storage of hand tools, ladder; tie-down of miscellaneous equipment; light element replacement; power pruner; water tank lid; miscellaneous storage of items up to 72 inches in height from the ground or standing platform; worksite inspection). *A ladder (appropriate height) or step stool may be utilized to bring items to eye or shoulder level. Variables to overhead reaching will be the employee's height and anthropometric reach.*

8.) **FORWARD REACH:**

MAXIMUM FREQUENCY:	Constant
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Comments: Forward reach is performed to a maximum distance of 18-36 inches when retrieving, returning, storing, adjusting, transporting, operating, utilizing, preparing equipment and supplies (e.g. construction, maintenance, demolition and repair of roads, bridges, trees; rake, feed chipper, sweep, shovel, hammer, saw, patch, paint, spray weeds; operate heavy equipment; operate miscellaneous hand and power tool; drive vehicle; traffic control). *The degree of elbow extension required for reaching will vary according to the employee's anthropometric reach.*

9.) **STOOP:**

**MAXIMUM
FREQUENCY:** Occasional

Comments: Stooping is performed when retrieving, returning, storing, adjusting, moving, transporting, operating, utilizing, preparing equipment and supplies (e.g. construction, maintenance, demolition, repair of roads, bridges, trees; rake, sweep, shovel, hammer, saw, patch, spray weeds, bolt, lift and pull, spray oil, cone job site, build forms, miscellaneous lift of items between knees and ground height; road pavement marking, center-line taping, string lining, marking soft spots, jackhammering; equipment and worksite inspection). *Variable to stooping will be the employee's height. Stooping of the head, trunk and knees can be minimized or avoided by substituting alternate positions of squatting, kneeling or bending when performing job tasks.*

10.) **SQUAT: (Unloaded)**

**MAXIMUM
FREQUENCY:** Seldom

Comments: Squatting is performed when controlling adjusting, operating and/or utilizing equipment (e.g. construction, maintenance, demolition, and repair of roads, bridges, trees; working under heavy equipment). *Squatting may be minimized or avoided by substituting alternate positions of bending or kneeling. Partial squatting is a preferred lifting posture.*

11.) **FORWARD BEND:**

**MAXIMUM
FREQUENCY:** Frequent

Comments: Bending forward at the waist is performed when retrieving, returning, storing, adjusting, moving, transporting, operating, utilizing, preparing equipment and supplies (e.g. construction, maintenance, demolition, repair of roads, bridges, trees; rake, sweep, lift water buckets, shovel, hammer, saw, patch, spray weeds, bolt, lift and pull, spray oil, cone job site, build forms; road pavement marking, center-line taping, string lining, marking soft spots, hose pulling, jackhammering; equipment and worksite inspection). *Maximum forward trunk flexion required is 60 degrees. Employee may minimize or avoid excessive forward bending of the trunk up to 80 degrees by using alternate positions of bending at the hips, kneeling, half kneeling, stooping, sitting or squatting.*

12.) **TWIST:**

**MAXIMUM
FREQUENCY:** Frequent

Comments: Twisting at the waist is performed when retrieving, returning, storing, adjusting, moving, transporting, operating, utilizing, preparing and/or manufacturing product, equipment and supplies (e.g. for riding in truck and coning job site, bucket-barricade lift, feed chipper, barricade installation, foot compactor, blade compactor; construction, demolition, repair of roads, bridges, trees; rake, sweep, shovel, hammer, saw, patch, spray weeds, bolt, lift and pull, spray oil, cone job site, build forms, lift between knees and ground height; road pavement marking, center-line taping, string lining, marking soft spots, hose pulling, jackhammering; equipment and worksite inspection; drive vehicle, equipment). *Twisting at the waist may be minimized by turning the whole body, including the feet and working from a swivel office chair.*

13.) **TURN:**

**MAXIMUM
FREQUENCY:** Frequent

Comments: Turning is performed when retrieving, returning, storing, adjusting, moving, transporting, operating, utilizing, preparing equipment and supplies (e.g. turn for feeding chipper, barricade installation, foot compactor, blade compactor, lift water buckets, construction, demolition, repair of roads, bridges, trees; rake, sweep, shovel, hammer, saw, patch, spray weeds, bolt, lift and pull, spray oil, scrap, cone job site, build forms, road pavement marking, center-line taping, string lining, marking soft spots, hose pulling, jackhammering; equipment and worksite inspection; traffic control).

14.) **KNEEL:**

**MAXIMUM
FREQUENCY:** Occasional

Comments: Kneeling is performed when retrieving, returning, adjusting, operating, utilizing and/or preparing equipment and supplies (e.g. kneel for tightening bolts, bridge post placement, concrete finish, pipe patch, build forms, install grader blade, drill, drive grade stakes, string lining, hook transfer trailer, work at waist height or lower in height, work under heavy equipment; equipment and worksite inspection; pre-trip inspection). *Kneeling may be minimized or avoided by substituting alternate positions of bending, squatting, or half kneeling.*

15.) **CRAWL:**

**MAXIMUM
FREQUENCY:** Seldom

Comments: Crawling is performed when adjusting, operating and/or preparing equipment (e.g. crawl into/out of irrigation pipes and culverts, concrete finishing; equipment and worksite inspection).

16.) **STAIR CLIMB:**

**MAXIMUM
FREQUENCY:** Seldom

Comments: Stair climb is required to perform job tasks (e.g. to/from bridge barn).

17.) **LADDER CLIMB:**

**MAXIMUM
FREQUENCY:** Occasional

Comments: Ladder climbing is performed onto/off of safety ladders or steps to access equipment (e.g. water truck, heavy equipment, paint stripper, bridges, trench ladder) located up to 12 feet above floor level (e.g. climb for bridge repair, trench work, in/out of heavy equipment seat up to 96 inches in height, in/out of man-hole; equipment and worksite inspection). *Variables to overhead climbing will vary according to the employee's height and anthropometric reach.*

18.) **WALK:**

**MAXIMUM
FREQUENCY:** Frequent

Comments: Walking is performed when retrieving, returning, storing, adjusting, moving, transporting, operating, utilizing equipment and supplies (e.g. walk for spraying weeds, striping roads, asphalt repair, crack sealing, inspection, feeding chipper, barricades/cones; string lining, set up/break-down of worksite, temporary taping, asphalt removal, shoveling, sweeping). Walking surfaces includes even, uneven, sloped and undeveloped ground. Walking length varies between 3 feet and 600+ feet depending on job task.

19.) **SIT:**

**MAXIMUM
FREQUENCY:** Constant

Comments: Sitting is performed for a maximum of 120-minute intervals when operating and/or utilizing equipment (e.g. sit for operating heavy earth moving equipment, driving large and small trucks, water truck, asphalt vehicles; all-terrain vehicle; travel to/from worksite). *Specific work tasks may require up to frequent standing and/or walking.*

20.) **STAND:** (Static)

**MAXIMUM
FREQUENCY:** Frequent

Comments: Static standing is performed for a maximum of 120-minute intervals when performing job tasks (e.g. stand for traffic control; high ranger buckets during tree trimming and light bulb changing; paving, rock chipping, stump grinding; job site inspection; demolition, repair and/or maintenance of county owned property and infrastructure).

21.) **BALANCE:**

**MAXIMUM
FREQUENCY:** Constant

Comments: Adequate balance is required for safe walking, standing, climbing, reaching and lifting.

22.) **HAND/FOOT CONTROL:**

<u>MAXIMUM REQUIREMENT</u>	
HAND:	
Right:	Constant
Left:	Constant
Both:	Constant
Either:	Not Required
FOOT:	
Right:	Constant
Left:	Constant
Both:	Constant
Either:	Not Required

Comments: Hand controls are utilized to operate equipment (e.g. graders, scrapers, back-hoe, dozers, loaders, rollers, aerial lift truck, striper, power broom, hot patcher, hand and power tools, rock chipper, movers, skid steer, trucks, sprayer) when adjusting, moving, transporting, preparing and/or utilizing equipment (e.g. drive equipment used for construction, maintenance, demolition and repair of roads, trees, bridges). Foot controls are utilized to operate equipment (e.g. drive vehicles and equipment).

23.) **UPPER AND LOWER EXTREMITY COORDINATION:**

<u>MAXIMUM REQUIREMENT</u>	
Simple Grasp:	Constant
Firm Grasp:	Frequent
Fine Manipulation:	Occasional
Eye/Hand Coordination:	Constant
Hand/Foot Coordination:	Constant

Comments: Grasping and coordination activities are performed when adjusting, preparing, utilizing, operating equipment and machines (e.g. shoveling, spraying, equipment maintenance, power and manual tools, welding; operating hand and power tools).

Simple grasping is utilized to perform job tasks (e.g. lift and manipulate objects weighing less than 5 pounds; lever controls, drive/operate vehicles/heavy equipment; traffic flag).

Firm grasping is utilized to perform job tasks (e.g. lift and handle objects weighing 5 pounds or greater; jackhammer, sprayer, power-puff, saws, fuel pumps, hand pumps; hand and power tools).

Fine manipulation is utilized to perform job tasks (e.g. handwriting; buttons, switches, levers).

Eye/hand coordination is utilized to perform job tasks (e.g. operate hand and power tools, welding; drive/operate vehicle/heavy equipment).

Hand/foot coordination is utilized to perform job tasks (e.g. heavy equipment, vehicle; shovel).

Depending on individual hand dominance, one hand may be used more frequently than the other when performing job tasks. Grader, loader, articulating loader, asphalt roller operation require constant fine manipulation.

24.) CERVICAL (NECK) MOVEMENT:

	<u>MAXIMUM REQUIREMENT</u>
Static Neutral Position:	Constant
Flexing:	Frequent
Rotating:	Frequent
Extending:	Occasional

Comments: Neck movement is required when performing job tasks (e.g. drive vehicles and operate heavy equipment; equipment and worksite inspection; operate manual and power tools, operate control levers and monitoring equipment; operate hand and power tools; desktop work). Full cervical range of motion is required to safely perform the job tasks. *Participation in the observation of the work environment allows for safe working conditions. Full cervical range of motion is required to safely perform the job tasks.*

{End of Report}



Stanislaus County

JOB TASK ANALYSIS SUMMARY

<u>FREQUENCY DEFINITIONS</u>	<u>SELDOM</u>	<u>OCCASIONAL</u>	<u>FREQUENT</u>	<u>CONSTANT</u>
Percent of the Day	1-2%	3-33%	34-66%	67-100%
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Repetitive & Static Work	1-50 Reps	51-250 Reps	251-1,000 Reps	1,001-20,000 Reps

The following is a summary of the physical demands of the Job Task Analysis that were obtained for the position of:

ROAD MAINTENANCE WORKER I, II, III & SENIOR

Functional Activities	Maximum Requirements	Functional Activities	Maximum Requirements
<i>Push (Force)</i> ¹	100 pounds	<i>Stair Climb</i> ¹	Seldom
<i>Pull (Force)</i> ¹	100 pounds	<i>Ladder Climb</i> ¹	Occasional
<i>Stand Up Lift</i> ¹	95 pounds	<i>Walk</i> ¹	Frequent
<i>Level Lift</i> ¹	95 pounds	<i>Sit</i> ¹	Constant
<i>Weight Carry</i> ¹	95 pounds	<i>Stand (Static)</i> ¹	Frequent
<i>Overhead Lift/Pull Down</i>	45 pounds	<i>Balance</i> ¹	Constant
<i>Overhead Reach</i> ¹	Occasional	<i>Hand Control</i> ¹	Constant
<i>Forward Reach</i> ¹	Constant	<i>Foot Control</i> ¹	Constant
<i>Stoop</i> ¹	Occasional	<i>Simple Grasp</i> ¹	Constant
<i>Squat (Unloaded)</i> ¹	Seldom	<i>Firm Grasp</i> ¹	Frequent
<i>Forward Bend</i> ¹	Frequent	<i>Fine Manipulation</i> ¹	Occasional
<i>Twist</i> ¹	Frequent	<i>Eye/Hand Coordination</i> ¹	Constant
<i>Turn</i> ¹	Frequent	<i>Hand/Foot Coordination</i> ¹	Constant
<i>Kneel</i> ¹	Occasional	<i>Cervical (neck) Movement</i> ¹	Frequent
<i>Crawl</i> ¹	Seldom		

¹ The critical demands of the job.

Lyle Andersen, PT

Date: _____	Date: _____
Lyle Andersen, PT, CWCE Preparer Signature	Contact Person Title
<i>Chris Brady</i> Date: <u>9/05/16</u>	Date: _____
Contact Person Title <i>Deputy Director</i>	Contact Person Title

LA/ga