

E. Engineering Technician

|                          |                        |
|--------------------------|------------------------|
| <b>POSITION TITLE</b>    | Engineering Technician |
| <b>REPORTS TO</b>        | District Engineer      |
| <b>FLSA</b>              | Non-Exempt             |
| <b>SALARY</b>            | Pay Level 13           |
| <b>DATE CREATED</b>      | November 9, 2009       |
| <b>DATE LAST REVISED</b> | February 5, 2020       |

**POSITION SUMMARY**

The purpose of the position and primary responsibilities. Briefly describe the major purpose or objective of the job. Simply stated, what are we attempting to accomplish in this position?

Assist the District Engineer and Assistant District Engineer in the design, construction management, development and right-of way permitting processes.

**SUPERVISION AND ORGANIZATIONAL RELATIONSHIPS**

The chart below lists specific supervisory responsibilities and organizational relationships.

| <b>Duties</b>   | <b>YES OR NO</b> | <b># OF FULL TIME EMPLOYEES</b> |
|---|------------------|---------------------------------|
| Supervise other employees   | No               | n/a                             |
| Instructs other employees in methods or procedures needed to carry out their job (how to carry-out their assigned duties) | No               | n/a                             |
| Makes work assignments for others   | No               | n/a                             |
| Makes hiring and pay decisions  | No               | n/a                             |
| Recommends disciplinary action  | No               | n/a                             |
| Provide information to peers that they must carefully consider before making a decision                                   | Yes              | 3                               |
| Provide information to supervisors/managers that they must carefully consider before making a decision                    | Yes              | 3                               |

**ESSENTIAL DUTIES**

A list of essential duties which are the primary reasons why the position exists.

Essential Duties: Those duties that make up at least 5% of your time. Please provide enough detail so that someone who may not be familiar with the job will have a clear understanding of what it is that the job accomplishes.

Decisions Required: List the decisions the position makes to carry out the essential duties.

Frequency: Indicate how often does the incumbent perform each duty – D = daily, W = weekly, M = monthly, Q = quarterly, A = annually, or O = occasionally.

Percent of Time: Estimate how much of time is spent on each task. The percentages of all duties should equal 100% over a one-year period of time.

Required Response Time: Indicate how quickly the incumbent must respond to the task. This may be the time it takes to complete the task from start to end. This may be listed in minutes, hours, or days.

| List of Essential Duties  | Decisions Required   | Frequency | % of Time Spent | Required Response Time |
|---|--|-----------|-----------------|------------------------|
| 1. Assist in developing engineering designs of road, bridge, and drainage projects, including horizontal and vertical alignments, grading, drainage design, and utility coordination.   | Design elements that consider criteria, cost, safety, and other parameters. Adequacy of information for design.        | D         | 15              | 5 days                 |
| 2. Assist in preparation of plans, specifications, and estimates for District road, bridge, and drainage projects, including CADD drafting.   | Item measure and estimated unit cost. Design drafting and details to convey design information.                        | W         | 15              | 5-10 days              |
| 3. Assist with right-of-way permitting process; review and coordinate permit applications and temporary traffic control plans; determine fees and verify required insurance and bonds, issue permits with conditions; and monitor compliance of permitted work. | Request complies with standards. Temporary traffic control conforms to MUTCD. Work complies with permit and standards. | D         | 20              | 2 days                 |
| 4. Assist with land development processes and review of development applications, administrative land divisions, plats, plans, variances, and setback waivers to identify issues, make recommendations, and draft responses.                                    | Request complies with standards.   | D         | 20              | 5 days                 |

|   |  |   |    |        |
|---|--|---|----|--------|
| 5. Monitor construction in public rights-of-ways, public roads, and on District contracted construction projects for compliance with District Standards, plans, and permit conditions, including construction observation, testing verification, material submittal review, and close-out | Work and materials comply with plans, specifications, and/or standards. Submittals and testing are provided as required. Required construction documentation provided. | W | 15 | 1 day  |
| 6. Research right-of-way and other easements, deeds, titles, and other property related matters.  | Adequacy and interpretation of documents.  | M | 5  | 2 days |
| 7. Assist in inventorying and mapping District assets, topographic surveying and construction staking.  | Determining inputs for asset inventory. Adequacy of survey or staking for purpose.   | Q | 5  | 1 day  |
| 8. Comply with federal, state, local and district policies, procedures, and regulations.  | Designs work and development submittals comply with standards.   | D | 5  | N/A    |

**ON-CALL REQUIREMENTS**

If the position is required to be on-call or take on-call shifts, please indicate any requirements or additional responsibilities that the incumbent is responsible for during the on-call shift.

| List of On-Call Duties | Decisions Required | Frequency | % of Time Spent | Required Response Time (minutes) |
|------------------------|--------------------|-----------|-----------------|----------------------------------|
| None                   |                    |           |                 |                                  |

**REQUIRED KNOWLEDGE AND SKILLS**

This section identifies the types of knowledge and skill needed to perform the job at the entry level. List those required and not what might necessarily be acquired after being in the position for a number of years.

Knowledge: refers to the possession of concepts and information gained through experience, training and/or education and can be measured through testing.

Skills: refers to the proficiency, which can be demonstrated and are typically manual in nature and/or can be measured through testing.

| Duty #  | Knowledge & Skills   |
|---------|--|
| 1,2,7   | Operate a computer and surveying and engineering software applications including Computer Aided Design and Drafting (CADD) and survey data collector software. |
| 1-7     | Read and interpret construction plans, plats, legal descriptions and site plans.   |
| 7       | Basic knowledge of standard surveying equipment operation including global positioning systems (GPS), level and electronic total station.                      |
| 1,2,4,5 | Considerable knowledge of design and construction of roadways, drainage, and related appurtenances.  |
| 1,2,6   | Mathematical calculations used in engineering work.  |
| 3,5,7,8 | Safety regulations and procedures.   |
| 3,4     | District Standards and County ordinance requirements related to land development.  |

#### EDUCATION REQUIREMENTS

What minimum level of education is needed to satisfactorily perform the job at entry level? Check the level that applies.

| Education Level  | Check if Required |
|--|-------------------|
| Less than High School Diploma or equivalent (G.E.D.) (ability to read, write, and follow directions) |                   |
| High School Diploma or equivalent (G.E.D.)   | X                 |
| Up to one year of specialized or technical training beyond high school                               |                   |
| Associate degree (A.S., A.A.) or two-year technical certificate                                      |                   |
| Bachelor's Degree  |                   |
| Other (explain)  |                   |

#### EXPERIENCE REQUIREMENTS

What minimum level of experience is needed to satisfactorily perform the job at entry level?

| Specific Experience Required  | Number of Years |
|---|-----------------|
| Design and drafting (CADD) of roadway, drainage, and related features and/or construction project management or any equivalent combination of experience and training which provides the required knowledge, skills, and abilities. | Five (5)        |

### SPECIAL REQUIREMENTS

List any registrations, certifications or licenses that are required to hold the position. Be specific and do not abbreviate words or use acronyms.

|                                       |
|---------------------------------------|
| Valid Idaho driver's license          |
| Traffic Control Flagger Certification |

### MACHINES, TOOLS AND EQUIPMENT

List any machines, tools or equipment used in the work and show the frequency and time spent using each. The machines, tools and equipment must refer to the Essential Duties previously listed above.

| Duty # | Machines, Tools & Equipment   | Frequency/Time    |
|--------|---|-------------------|
| 1-7    | Personal computer, including CADD, word processing, and spreadsheet software.                                     | Daily/6 hours     |
| 7      | Resource grade GPS and data collection  | Quarterly/8 hours |
| 7      | Survey equipment including level, Global Positioning System (GPS), data collectors, and electronic total station. | Monthly/8 hours   |

### DECISION MAKING AND JUDGEMENT

Describe three types of important decisions and judgments this positions makes regularly and independently in the performance of duties. Additionally, for what work does the position make the final decision? Provide examples. Lastly, does this position have authority to commit the organization to a course of action? Provide examples.

|  |
|--|
| Selection of individual design components within required criteria that consider safety, cost, and other factors in developing designs that are in the best interest of the public.        |
| Development proposals, access requests, and temporary traffic control comply with the appropriate standards including the District development standards, access standards, and the MUTCD. |
| Construction on development projects and District construction contracts comply with the plans, specifications, or standards.  |

### PHYSICAL ACTIVITIES/REQUIREMENTS

This section defines the physical activities and requirements that are absolutely necessary to be able to do in order to perform the job. Please list the frequency and the importance of each of the physical requirements listed in this section. These physical activities/requirements will help in ensuring the Canyon Highway District No. 4 remains in compliance with the Americans with Disabilities Act.

|   |  |
|---|--|
| <b>Frequency</b><br>How frequently is the activity performed? | <b>Importance</b><br>How important is the activity in accomplishing the job's purpose? |
|---|--|

|                                     |                         |
|-------------------------------------|-------------------------|
| 0 – Never                           | 0 – Not important       |
| 1 – Annually                        | 1 – Somewhat important  |
| 2 – Quarterly (at least 3 per year) | 2 – Very Important      |
| 3 – Monthly (at least 8 per year)   | 3 – Extremely Important |
| 4 – Weekly (at least 3 per month)   |                         |
| 5 – Daily (at least 3 per week)     |                         |

| Physical Activity   | Frequency | Importance |
|---|-----------|------------|
| <b>Climbing:</b> Ascending or descending ladders, stairs, scaffolding, ramps, poles and the like, using feet and legs and/or hands and arms. Body agility is emphasized. This factor is important if the amount and kind of climbing required exceeds that required for ordinary locomotion.            | 2         | 1          |
| <b>Balancing:</b> Maintaining body equilibrium to prevent falling when walking, standing or crouching on narrow, slippery or erratically moving surfaces. This factor is important if the amount and kind of balancing exceeds that needed for ordinary locomotion and maintenance of body equilibrium. | 4         | 2          |
| <b>Stooping:</b> Bending body downward and forward by bending spine at the waist. This factor is important if it occurs to a considerable degree and requires full use of the lower extremities and back muscles.   | 4         | 2          |
| <b>Kneeling:</b> Bending legs at knee to come to a rest on knee or knees.   | 4         | 2          |
| <b>Crouching:</b> Bending the body downward and forward by bending leg and spine.   | 4         | 2          |
| <b>Crawling:</b> Moving about on hands and knees or hands and feet.   | 1         | 1          |
| <b>Reaching:</b> Extending hand(s) and arm(s) in any direction.   | 4         | 2          |
| <b>Standing:</b> Particularly for sustained periods of time.  | 2         | 1          |
| <b>Walking:</b> Moving about on foot to accomplish tasks, particularly for long distances.  | 2         | 1          |
| <b>Pushing:</b> Using upper extremities to press against something with steady force in order to thrust forward, downward or outward.   | 2         | 1          |
| <b>Pulling:</b> Using upper extremities to exert force in order to draw, drag, haul or tug objects in a sustained motion.   | 2         | 1          |
| <b>Lifting:</b> Raising objects from a lower to a higher position or moving objects horizontally from position-to-position. This factor is important if it occurs to be a considerable degree and requires the substantial use of the upper extremities and back muscles.                               | 3         | 1          |

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|--|---|---|
| <b>Fingering:</b> Picking, pinching, typing or otherwise working, primarily with fingers rather than with the whole hand or arm as in handling.  | 5 | 3 |
| <b>Grasping:</b> Applying pressure to an object with the fingers or palm.  | 4 | 2 |
| <b>Feeling:</b> Perceiving attributes of objects, such as size, shape, temperature or texture by touching the skin, particularly that of fingertips.   | 1 | 1 |
| <b>Talking:</b> Expressing or exchanging ideas by means of the spoken work. Those activities in which they must convey detailed or important spoken instructions to other workers accurately, loudly, or quickly.  | 4 | 2 |
| <b>Hearing:</b> Perceiving the nature of sounds with no less than a 4db loss @ 500 Hz, 1,000 Hz and 2,000 Hz with or without correction. Ability to receive detailed information through oral communication, and to make fine discriminations in sound, such as when making fine adjustments on machined parts.  | 4 | 2 |
| <b>Seeing:</b> The ability to perceive the nature of objects by the eye. Seeing is important for hazardous jobs where defective seeing would result in injury and also jobs where special and minute accuracy, inspecting and sorting exist. A high degree of visual efficiency, placing intense and continuous demands on the eyes by moving machinery and other objects are also considered important. Other important factors of seeing are acuity (near and far), depth perception (three-dimensional vision), accommodation (adjustment of lens of eye to bring an object into sharp focus), field of vision (area that can be seen up and down or to the right or left while eyes are fixed on a given point) and color vision (ability to identify and distinguish colors). | 5 | 3 |
| <b>Repetitive Motions:</b> Substantial repetitive movements (motions) of the wrists, hands, and/or fingers.  | 5 | 3 |

### WORKING CONDITIONS

The working conditions section defines the physical environment this position is subjected to while performing job duties. This section does not apply to conditions like an old office building but only those factors that have to do with the job itself. In this section, please place an X by the condition that applies and one under the frequency that is most appropriate. The condition should be unique to your job and not generally applicable to all employees with the organization. Please note, there is a choice for “Does Not Apply,” if most of your work is in an office setting.

| Condition  | Less than 25% of the time | 25-50% of the time | More than 50% of the time |
|--|---------------------------|--------------------|---------------------------|
| Hazardous physical conditions (mechanical parts, electrical currents, vibration, etc.) | X                         |                    |                           |
| Atmospheric Conditions (fumes, odors, dusts, gases, poor ventilation)                  | X                         |                    |                           |
| Hazardous materials (chemicals, blood and other body fluids, etc.)                     | X                         |                    |                           |
| Extreme temperatures   | X                         |                    |                           |
| Inadequate lighting  | X                         |                    |                           |
| Work space restricts movement  | X                         |                    |                           |
| Intense noise  | X                         |                    |                           |
| Travel   | X                         |                    |                           |
| Environmental (disruptive people, imminent danger, threatening environment)            | X                         |                    |                           |
| High-traffic areas (automobile traffic)  | X                         |                    |                           |

**CAREER PATH**

Defines the Pay Steps within the position classification, and the minimum requirements for movement between steps. The Supervisor will draft a memo to the Director requesting approval to move an employee between steps. The memo will provide specific details describing the employee’s accomplishments meeting the various qualifications for movement.

All new employees will enter at Step 1 until they qualify for movement to a higher step. The time requirement in Step 1 will be waived for prior experience once training and skills levels are satisfactory to advance directly to Steps 2, 3 or 4 based on meeting all qualifications for the advancement.

Existing employees may be placed higher than Step 1 for lateral transfers or promotions provided that they meet all of the qualifications for the higher Step.

The listed requirements of training, skills and time within each Step are the minimum qualifications for that Step. Advancement to the next Step in the career path requires fully completing all of the listed training, skills and time requirements of the previous, current and next Step.

**STEP 1**

|                   |  |
|-------------------|--|
| <b>Training 1</b> | <ul style="list-style-type: none"> <li>• CHD4: First Aid/AED</li> <li>• ICRMP: District Personnel Policy Review</li> <li>• ICRMP: District Vehicle Use Policy Review</li> <li>• ICRMP: District Driver Safety Courses</li> </ul> |
|-------------------|--|



|                 |   |
|-----------------|---|
|                 | <ul style="list-style-type: none"> <li>• Flagger Certification</li> </ul>   |
| <b>Skills 1</b> | <ul style="list-style-type: none"> <li>• Proficiency with mathematical calculations, documentation, and general software applications.</li> <li>• Demonstrated oral and written communications skills.</li> <li>• Treating the public and staff with diplomacy and tact.</li> <li>• Import electronic survey data to Computer Aided Drafting and Design (CADD) system and drafts base and construction drawings to produce road, traffic and drainage plans.</li> <li>• Draft design details, sections, roadway plans, and sheet layouts for construction plans</li> <li>• Determine fees, deposits, and surety amounts for permits and development applications and verifies required insurance coverage.</li> <li>• Review development applications for compliance with District Standards, identify issues, make recommendations, and draft responses as needed.</li> <li>• Research right-of-way and other easements, deeds, titles, and other property related matters.</li> <li>• Assist in topographic surveying and construction staking.</li> <li>• Flag and direct traffic, when required.</li> </ul> |
| <b>Time 1</b>   | Complete all training, acquire all listed skills within 1 year of employment or advancement to this position.   |

## STEP 2

|                   |   |
|-------------------|---|
| <b>Training 2</b> | <p>Maintain all training certifications required in Step 1 plus the following:</p> <ul style="list-style-type: none"> <li>• ICRMP: Harassment courses</li> <li>• ICRMP:</li> <li>• ICRMP: Ethics in Government</li> <li>• ICRMP: Public Records Law</li> </ul>  |
| <b>Skills 2</b>   | <p>All Step 1 requirements plus the following:</p> <ul style="list-style-type: none"> <li>• Develop surface models and preliminary alignments and profiles for design.</li> <li>• Prepare preliminary estimates in spreadsheets including items, quantities, unit costs, and amounts.</li> <li>• Review right-of-way permit applications for compliance with District Standards, Coordinate right-of-way work between District projects and other permits.</li> <li>• Monitor compliance of permitted work.</li> <li>• Review variances, setback waivers, and other land use related applications to Canyon County and makes recommendations for conditions and approval.</li> <li>• Monitor construction in public rights-of-ways and of public roads in developments for compliance with District Standards, accepted plans,</li> </ul> |

|               |   |
|---------------|---|
|               | <p>and permit conditions, including construction observation, testing verification, and material submittal review.</p> <ul style="list-style-type: none"> <li>• Assist in inventorying and mapping District assets.</li> <li>• Assist in topographic surveying and construction staking.</li> <li>• Assist in maintaining and installation of traffic control signage.</li> </ul> |
| <b>Time 2</b> | Complete all training, acquire all listed skills and serve at least 1 year in the prior Step to be eligible to advance to this step.  |

### STEP 3

|                   |   |
|-------------------|---|
| <b>Training 3</b> | <p>Maintain all training certifications required in Step 2 plus the following:</p> <ul style="list-style-type: none"> <li>• Traffic Control Technician Certification</li> <li>• At least 2 courses, seminars, webinars and/or podcasts approved by supervisor</li> </ul>  |
| <b>Skills 3</b>   | <p>All Step 2 requirements plus the following:</p> <ul style="list-style-type: none"> <li>• Model roadway corridors, develop cut/fill limits, and estimate surfacing and earthwork quantities.</li> <li>• Assemble standard specification and contract documents.</li> <li>• Review temporary traffic control plans.</li> <li>• Issue permits with necessary conditions.</li> <li>• Review and provide to the County letter of acknowledgements administrative land divisions.</li> <li>• Assist in inspection of development and construction projects for compliance with Districts standards, specifications, plans, and contracts.</li> </ul> |
| <b>Time 3</b>     | Complete all training, acquire all listed skills and serve at least 1 year in the prior Step to be eligible to advance to this step.  |

### STEP 4

|                   |   |
|-------------------|---|
| <b>Training 4</b> | <p>Maintain all training certifications required in Step 3 plus the following:</p> <ul style="list-style-type: none"> <li>• At least 2 courses, seminars, webinars and/or podcasts approved by supervisor</li> <li>• Traffic Control Supervisor Certification</li> <li>• Road Scholar Certification</li> </ul>  |
| <b>Skills 4</b>   | <p>All Step 3 requirements plus the following:</p> <ul style="list-style-type: none"> <li>• Administer the right-of-way permitting process.</li> <li>• Administer land development processes, including development applications, preliminary plats, improvement plans, final plats, construction, project close-out, agreements, and warranty period.</li> <li>• Assist in developing engineering designs of road, bridge, and drainage construction projects and activities.</li> <li>• Research and draft special provisions for District projects.</li> <li>• Prepare final plans sets for construction projects.</li> <li>• Assist in developing standards, policies, and procedures related to right-of-way permitting and land development.</li> </ul> |

|               |  |
|---------------|--|
|               | <ul style="list-style-type: none"> <li>• Operate autonomously as the Engineering Technician.</li> </ul>                              |
| <b>Time 4</b> | Complete all training, acquire all listed skills and serve at least 1 year in the prior Step to be eligible to advance to this step. |

#### STEP 5

|                   |  |
|-------------------|--|
| <b>Training 5</b> | Maintain all training certifications required in step 4 plus the following: <ul style="list-style-type: none"> <li>• At least 2 courses, seminars, webinars and/or podcasts approved by supervisor</li> <li>• Road Masters Certification</li> <li>• Associates Degree or 2-year program certification in Engineering or Drafting &amp; Design Technology.</li> </ul> |
| <b>Skills 5</b>   | Application of the skills received in the training noted above   |
| <b>Time 5</b>     | Complete all training, acquire all listed skills and serve at least 3 years in Steps 1 through 4 of this position to be eligible to advance to this Step.  |

#### STEP 6 (“acting” appointment in excess of 90 days)

|                   |  |
|-------------------|--|
| <b>Training 6</b> | N/A  |
| <b>Skills 6</b>   | Fulfill all of the obligations of the vacant position being filled |
| <b>Time 6</b>     | N/A  |