

Job Demand Analysis	
Placement/Job Title:	Design Engineer
Division/Branch:	Infrastructure and Operations / Infrastructure Strategy
Date of Assessment:	8 September 2014
Assessment Completed By:	Human Resources Advisor 4 Design Engineer
Standard Hours:	9.00am to 5.00pm, Monday to Friday
Variable Hours:	<input checked="" type="checkbox"/> Overtime <input type="checkbox"/> On Call <input type="checkbox"/> Call Outs
Breaks / Rest Periods:	1 hour lunch

Environmental/Psychosocial Factors

The Design Engineer required to:

- Approximately 70% of work tasks are performed within an office environment.
- Approximately 30% of tasks are performed on site. This may include survey works, inspections of roads infrastructure, sewer drains and stormwater pits.
- Is exposed to all weather conditions and may work in uneven/sloped terrain and slippery/muddy ground surfaces (gum boots are available for use). The work area may be surrounded by water and hazards may be present. Snakes, spiders and other vermin may also be present in the vicinity of the work area.
- May also have to deal with complaints from members of the public and deal with these in an effective and time efficient manner.

Job Descriptions

This position is responsible for the preparation of suitable civil engineering designs to meet the Technical Services Division objectives.
See position description for further information.

Physical Demands	Rarely 1-5%	Occasional 6-33%	Frequent 34-66%	Continuous 67-100%	Comments
Standing		X			Required when performing office based tasks and when attending site inspections.
Walking		X			Required within the office environment and when performing field surveys/site inspections. A variety of terrain is traversed on site, including even, uneven, sloped and inclined surfaces.
Sitting				X	An adjustable ergonomic chair is available for use within the

Physical Demands	Rarely 1-5%	Occasional 6-33%	Frequent 34-66%	Continuous 67-100%	Comments
					office environment. Sitting in the vehicle is also required when driving to/from site.
Climbing		X			May be required to access areas on site, to allow survey and/or inspection tasks to occur. This may include climbing hills and banks on site.
Bending / Stooping		X			May be required to access areas on site such as sewer pits and under bridges, to survey and/or inspection tasks to occur. Also required on an occasional basis when using the dumpy level.
Squatting / Crouching		X			May be required to access areas on site, to allow survey and/or inspection tasks to occur.
Kneeling	X				Rarely required, but may be needed when accessing areas on site, to allow survey and/or inspection tasks to occur.
Reaching overhead	X				May be needed when accessing areas on site, to allow survey and/or inspection tasks to occur. Also required when hammering in pegs at times.
Reaching at waist level or below.			X		Required when driving vehicles, moving equipment to/from site and when performing survey and/or inspection tasks. Also required when performing computer based data entry and drafting tasks.
Crawling	X				Not applicable.
Trunk Rotation	X				Rarely required, but may be needed when lifting/carrying equipment, using equipment and accessing areas on site, to allow survey and/or inspection tasks to occur.
Repetitive Forearm, hand and finger movement				X	Bilateral fine motor actions are required for computer based data entry and drafting tasks, when using survey instruments, with manual writing and when driving. Also required when performing survey and/or inspections on site.

Physical Demands	Rarely 1-5%	Occasional 6-33%	Frequent 34-66%	Continuous 67-100%	Comments
Manual dexterity and handling			X		Carrying of equipment may be required to/from site.

Manual Handling			
	Weight:	Frequency:	Comments:
Lifting	5-15 kg	Occasionally	Lifting of equipment is required to/from the vehicle and on site.
Carrying	5-15 kg	Occasionally	Carrying of equipment is required to/from the vehicle and on site.
Pushing/Pulling	5-20kg	Occasionally	May use a trolley to move equipment.

Tools Used		
Tool:	Weight:	Comments:
Total Station	15 kg	The Total Station is lifted/carried to and from the vehicle and around the site as required.
GNSS/GPS	10kg	GNSS Rover and handheld receiver is lifted/carried to and from the vehicle and around the site as required.
Sign bases	15 kg	May be lifted/carried around the site as required.
Tripod	5 kg	The tripod is lifted/carried to and from the vehicle and around the site as required.
Pegs	5 kg	4-6 pegs (total weight 5 kg) may be carried at any one time.
Crowbar	5 kg	Use to move objects and may be lifted/carried around the site as required.
Signs	5 kg	May be lifted/carried around the site as required.
Dumpy level	5 kg	May be lifted/carried around the site as required.
Hand tools	<1kg	A variety of hand tools may be used such as claw hammers, spirit levels and tape measures as required on site.

Balance		
	Exposure to:	Comments:
Level ground	Yes	Within the office area and when performing site visits.
Uneven ground	Yes	When performing site inspections and survey tasks.
Unprotected heights or high levels	No	Rarely required.

Environmental Conditions		
	Exposure to:	Comments:
Inside work	Yes	When performing office based tasks.
Outside work	Yes	When performing site visits.
Night Work	Yes	When performing the required safety audits, surveys and investigations.
Extreme heat	Yes	Is exposed to a variety of weather conditions.
Extreme cold	Yes	
Humid or wet	Yes	
Noise	Yes	Workers may be exposed to noise of equipment when performing site visits. They may also be exposed to general traffic and plant noise when on site.

Environmental Conditions		
	Exposure to:	Comments:
Vibration	No	Not applicable.
Mechanical hazards	Yes	The worker may be exposed to traffic, plant machinery and equipment/machinery when performing site visits and surveys.
Electrical hazards	Yes	The worker may be exposed to electrical hazards when performing site visits.
Risk of burns	No	Not applicable.
Radiant energy	Yes	When performing site inspections/visits in outside areas. Sun protection is worn.
Poor ventilation	No	Not applicable.
Moving objects	Yes	The worker may be exposed to traffic, plant machinery when performing site visits.
Sharp tools	No	Not applicable.
Cluttered or slippery floors	Yes	The worker may be exposed to muddy and/or slippery work environments when performing site inspections.
Elevated surfaces	Yes	The worker may be exposed to elevated surfaces when performing survey and/or inspection tasks on bridges.
Lighting	No	Not applicable.
Exposure to fumes/odours/ dusts/mists/ gases	Yes	Exposure to dust/odours may occur at site visits.
Exposure to biological hazards	Yes	Exposure may occur at site visits such as the saleyards, landfill and sewerage areas.

Sensory/Communication		
	Required:	Comments:
Vision	Yes	Vision is required when performing computer based and administrative duties. Vision is also required when driving to/from site, when performing survey/site inspections and when taking readings.
Hearing	Yes	General liaison with other workers and members of the public is required and the worker also needs to be aware of surrounding traffic, plant and equipment when on site.
Speech	Yes	General liaison with other workers and members of the public is required.
Reading	Yes	Completion of paperwork as required.
Writing	Yes	Completion of paperwork as required.
Numerical ability	Yes	When calculating readings (a calculator is used) and for reporting purposes.

This Job Demand Analysis has been assessed and approved by the relevant Supervisor and corresponding Manager within Dubbo Regional Council. This Job demand Analysis will be implemented on 8 April 2013.