



Australian Government

Department of Education, Employment and Workplace Relations

RIIWMG301A Control construction site water table

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers controlling construction site water table in the civil construction industry. It includes: planning and preparing; installing drainage and dewatering systems; establishing water treatment systems; operating, maintaining and removal of the systems; and cleaning up.

Application of the Unit

This unit is appropriate for those working in a operational roles, at worksites within:

- Civil construction

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply compliance documentation relevant to construction site water table drainage and dewatering systems 1.2. Obtain, confirm and apply work instructions to the allotted task 1.3. Obtain, confirm and apply safety requirements to the allotted task 1.4. Identify, obtain and implement signage requirements from the project traffic management plan 1.5. Select plant, tools and equipment to carry out tasks that are consistent with the requirements of the job, and check them for serviceability and rectify or report any faults 1.6. Identify, confirm and apply environmental protection requirements from the project environmental management plan to the allotted task
2. Install site drainage/ dewatering system	2.1. Identify proposed permanent stormwater outlets from site plans and drawings 2.2. Erect barricades around the excavation/ installation area 2.3. Construct sumps and wells to specified levels and locations 2.4. Install well points, spears or wick drains to specified configuration and required depths 2.5. Place gravel and filter material in spears, sumps and wells to level above that of existing water table 2.6. Install surface or submersible pumps in designed locations to spears, sumps and wells 2.7. Connect suction hoses to sumps, wells, spears and pumps in accordance specifications and site designed drainage 2.8. Fit pipes and hoses to well points, spears and pumps in accordance with specifications and site designed drainage
3. Establish stormwater treatment	3.1. Set out holding pond and support

system	construction operations 3.2. Monitor and respond to water quality and treatment standards 3.3. Release water which meets the approved quality criteria into the main system
4. Operate and maintain drainage and dewatering system	4.1. Activate pumps to lower water table level to designed requirement 4.2. Maintain pumps 4.3. Maintain site drainage and dewatering system to maximise water flow to project requirements
5. Remove and make good	5.1. Disconnect and remove pumping system 5.2. Withdraw and remove well points and spears 5.3. Restore area to environmental management plan
6. Clean up	6.1. Clear work area and dispose of or recycle materials in accordance with project environmental management plan 6.2. Clean, check, maintain and store plant, tools and equipment

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to control construction site water table:

- apply legislative, organisation and site requirements and procedures
- apply procedures for dewatering process
- interpret engineering drawings and sketches
- apply project quality requirements

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to control construction site water table:

- application of principles relating to site dewatering
- terminology, definitions and installation methods
- hazardous materials and hazardous situations
- environmental statements, erosion, sedimentation and waste disposal
- site and equipment safety requirements including appropriate state or territory legislation regulations and codes
- dewatering system equipment characteristics, technical capabilities and limitations
- procedures for dewatering process
- processes for interpreting engineering drawings and sketches
- dewatering system operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheets and materials handling methods
- project quality requirements
- civil construction terminology
- JSA's/Safe work method statement

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for controlling construction site water table • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the control of construction site water table, which is to include: • one involving spearing, and • at least one requiring the establishment and operation of a treatment system • working with others to undertake and complete the control of construction site water table that meets all of the required outcomes • consistent timely completion of the control of construction site water table that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those

	required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes, including: • one involving spearing, and • at least one requiring the establishment and operation of a treatment system • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the control of construction site water table
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and

	equity issues.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant compliance documentation may include:	- legislative, organisation and site requirements and procedures - manufacturer's guidelines and specifications - Australian standards - code of practice - Employment and workplace relations legislation - Equal Employment Opportunity and Disability Discrimination legislation
Drainage and dewatering systems are to include:	spears and may include wick drains, well points, sumps and holding ponds
Temporary drainage systems may include:	slopes on ground surface, formed spoon drains, laid drains and sumps
Work instructions may include:	- plans, specifications, quality requirements and operational details - quality requirements may include: dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction
Safety requirements may come from the site safety plan and organisational policies and procedures and may include:	- protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances - personal protective equipment, including that prescribed under legislation, regulation and workplace policies and practices - safe operating procedures, including: recognising and preventing hazards associated with overhead services, other machines, personnel, restricted access barriers, traffic control, working in proximity to others, worksite visitors and the public - hazards and risks, including: uneven/unstable

	terrain, trees, fires, underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials • emergency procedures related to emergency shutdown and stopping, organisational First Aid requirements and evacuation
Tools and equipment are to include:	• hand tools, pumps and hand operated excavation equipment and may include lighting systems, generators, boats, pipe reels and mechanical excavation plant
Environmental Requirements are to include:	• organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management
Materials may include:	• natural materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil and bituminous mixes • materials may include piping, conduit and consumables associated with dewatering systems

Unit Sector(s)

Water Management

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.