



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG320A Maintain and repair irrigation drainage systems

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This Unit covers the process of maintaining and repairing irrigation drainage systems and defines the standard required to: plan and prepare for the work; inspect the site to determine access to drainage lines; use mechanical drain clearing equipment; troubleshoot drainage problems and implement repair/replacement strategies; maintain drainage infrastructure and vegetative cover.

Application of the Unit

This Unit applies to skilled workers in irrigation servicing, food and fibre production and amenity horticulture industries, and is likely to be carried out under routine supervision within enterprise guidelines.

Licensing/Regulatory Information

Not applicable.

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 cCompetency.

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.

Elements and Performance Criteria

| ELEMENT | PERFORMANCE CRITERIA |
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| 1 Prepare to carry out irrigation drainage system maintenance | 1.1 Equipment is selected and checked for safe operation 1.2 Appropriate personal protective equipment and tools are selected and used according to Occupational Health and Safety (OHS) requirements 1.3 Site is inspected and drainage is assessed 1.4 Necessity for repair is established and authorities/persons notified of the intention to commence work 1.5 Work requirements are determined from plans, drawings, specifications or instructions 1.6 Appropriate drainage and inflow diversion arrangements are made without damage to environment 1.7 Equipment and excavation methods are selected and checked to meet safety requirements of task and site |
| 2 Determine access to drainage lines | 2.1 Plan of irrigation system is determined and access points located 2.2 Access to drainage lines is obtained to allow blockage to be cleared 2.3 Digging is carried out without unnecessary damage to buildings, site, environment or existing fixtures/fittings |
| 3 Carry out repairs on an irrigation drainage system | 3.1 Routine inspections of designated work areas are conducted according to maintenance schedules 3.2 System faults are identified and corrective actions are taken according to structure type, location, specification and legislative and organisational requirements 3.3 Mechanical equipment is used to open and close drains 3.4 Components and associated fittings are repaired or replaced according to manufacturer specifications and organisational requirements 3.5 Cast in situ components are constructed according to specifications and organisational requirements |
| 4 Clear blockages in an irrigation drainage system | 4.1 Blockages are cleared 4.2 Drainage lines are tested to confirm blockages have been cleared from pipe system 4.3 Drainage lines are repaired/resealed to permit normal use 4.4 Work area is cleaned and aligned, with debris/waste disposed of according to enterprise, environmental and OHS procedures |
| 5 Maintain drainage earthworks and equipment | 5.1 Earthworks and embankments are checked to meet system requirements 5.2 Drainage area vegetation is managed and maintained 5.3 Weeds are controlled on drainage areas 5.4 A maintenance program for drainage equipment is |

implemented and recorded

Required Skills and Knowledge

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

Required skills include:

Ability to:

- isolate appliances/fixtures/fittings and related assemblies
- repair or remove blockages
- use manual and mechanical drain clearing equipment
- level and align site
- implement and follow relevant enterprise OHS and environmental policies and procedures
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record accurately and legible information collected and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge includes:

Knowledge of:

- types and operational parameters of irrigation drains
- components used in irrigation drainage systems
- isolation processes and procedures
- levelling and alignment processes
- regulatory requirements, codes of practice and relevant enterprise service standards relating to blockage removal, disconnection and reconnection activities
- environmental impacts of drainage systems
- application of OHS procedures when locating and clearing line blockages, use of personal protective equipment and materials handling.

Evidence Guide

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| <p>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.</p> | |
| <p>Overview of assessment</p> | |
| <p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p> | <p>The evidence required to demonstrate competency in this Unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • plan and prepare for the work • inspect the site to determine access to drainage lines • isolate appliances/fixtures/fittings and related assemblies • use manual and mechanical drain clearing equipment • troubleshoot drainage problems and implement repair/replacement strategies • maintain drainage infrastructure and vegetative cover. |
| <p>Context of and specific resources for assessment</p> | <p>Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.</p> |

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.

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| Irrigation drainage systems may include: | both surface and sub-surface drainage installed to handle water which is excess to plant requirements in an irrigated area. |
| Drainage earthworks and embankments may include: | <ul style="list-style-type: none"> • surface drains • culverts • mole drains • sand slit • sub-surface traps • pit and trap systems • dune and swale systems • reed beds • water-recycling pumps and baffles. |

Unit Sector(s)

Irrigation