



Australian Government

Department of Education, Employment and Workplace Relations

TLIS2027A Install and maintain surface track drainage

Release: 1

TLIS2027A Install and maintain surface track drainage

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to install and maintain surface track drainage both manually and mechanically in accordance with safeworking and regulatory requirements and workplace procedures. It includes determining the job requirements, carrying out the maintenance of track drainage in accordance with work orders, and completing all required documentation. Licensing or certification requirements may be applicable to this unit.

Application of the Unit

Application of the Unit

Persons achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines.

Work is performed under some supervision, generally within a team environment. It involves the application of routine operational principles and procedures to install and maintain surface track drainage maintenance as part of workplace activities across a variety of operational contexts within the Australian rail system.

Operators of mechanised equipment must have undertaken training and, where appropriate, hold the relevant licence, permit or certificate and be recognised as competent for the class of machinery being used.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills 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 required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Determine job requirements	<p>1.1 Worksite is identified</p> <p>1.2 Underground services are identified where required and marked to protect services from excavation</p> <p>1.3 Work method and resources are selected to meet job requirements</p>
2 Undertake track drainage work	<p>2.1 Environmental protection requirements are implemented where applicable</p> <p>2.2 Drainage is cleaned, repaired or installed to relevant standard by manual and/or mechanical methods in accordance with workplace standards</p> <p>2.3 Work is completed to meet drainage requirements</p>
3 Complete documentation	<p>3.1 Documentation is completed in line with workplace requirements</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant safety, OH&S and environmental procedures and regulations
- Workplace procedures for the installation and maintenance of surface track drainage
- Problems that may occur during the installation and maintenance of surface track drainage, and action that can be taken to report or resolve the problems
- Hazards that may exist during the installation and maintenance of surface track drainage, and ways of controlling the risks involved
- Drainage requirements of various types of earthworks
- Causes of defects such as erosion and water scouring
- Functions and design principles of drainage
- Understanding the required standards of materials and the methods involved in the installation and maintenance of surface track drainage
- Characteristics of relevant plant and equipment, hardware and components used in work activities
- Impact on work activities of regulatory requirements
- Hazardous situations and related personal protection measures
- Required personal protective equipment

REQUIRED KNOWLEDGE AND SKILLS

- Relevant recording and documentation procedures
- Environmental protection requirements

Required skills:

- Communicate effectively with others when undertaking the installation and maintenance of surface track drainage
- Read and interpret plans relevant to the installation and maintenance of surface track drainage
- Follow operational instructions and work sequences when installing and maintaining surface track drainage
- Complete documentation related to the installation and maintenance of surface track drainage
- Operate communication systems to required protocol
- Work collaboratively with others during the installation and maintenance of surface track drainage
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when installing and maintaining surface track drainage in accordance with regulatory requirements and workplace procedures
- Establish environment protection requirements as required
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to equipment
- Select and use required personal protective equipment
- Select and use relevant equipment and tools

Evidence Guide

EVIDENCE GUIDE

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

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 and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills

EVIDENCE GUIDE

- relevant legislation and workplace procedures
 - other relevant aspects of the range statement
 - Assessment must include exercises which demonstrate competent performance of the following in a range of situations:
 - correctly determining job requirements
 - cleaning, repairing or installing drainage to relevant standard by manual and/or mechanical methods
 - completing all relevant documentation to workplace standards
- Context of and specific resources for assessment**
- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
 - Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work

RANGE STATEMENT

environments and situations that may affect performance.

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| Operations may be conducted: | <ul style="list-style-type: none">• by day or night• in all weather conditions |
| Work may be conducted in: | <ul style="list-style-type: none">• restricted spaces• exposed conditions• controlled or open environments |
| Work may involve: | <ul style="list-style-type: none">• exposure to chemicals, and dangerous or hazardous substances• movements of equipment, goods and vehicles |
| Surface drainage may include: | <ul style="list-style-type: none">• open cess drains• top drains• side drains |
| Equipment may include: | <ul style="list-style-type: none">• front end loaders• back hoes• ditch digger• hand tools and small plant• other mechanical means |
| Materials may include: | <ul style="list-style-type: none">• granular soil• gravel• ballast• earthwork protection materials including fascines, gabion baskets, reno mattresses, revetment mattresses• geotextiles• baffle materials |
| Drainage may differ for: | <ul style="list-style-type: none">• batters• points and crossings• location of track (steep grades)• multiple tracks |
| Drainage cleaning, repair and construction methods may include: | <ul style="list-style-type: none">• manual methods• off-track plant• revegetation• lining |
| Communications systems may include: | <ul style="list-style-type: none">• two way-radios• telephones/mobile phones• agreed audible or hand signals |
| Depending on work context, safety and personal protective equipment may include: | <ul style="list-style-type: none">• high visibility clothing• hearing protection• gloves• sunscreen |

RANGE STATEMENT

- sunglasses
 - safety glasses
 - insect repellent
 - safety headwear
 - safety footwear
 - portable radios/mobile phones
 - hand lamps
 - flags
 - safety devices
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Information/documents may include:
- operational instructions, policies and workplace procedures
 - relevant logs or record books
 - work orders
 - technical instructions
 - manufacturers or workplace equipment instructions and operation manuals
 - emergency procedure manuals
 - two-way radio/mobile phone operation procedures
 - QA plans, data and document control
 - conditions of service, legislation and industrial agreements including workplace agreements and awards
- Information may be provided:
- electronically
 - in writing, via forms/documents/plans
 - orally, via face-to-face communications
 - via trackside signals
- Applicable procedures and codes may include:
- legislated rail safety requirements including acts and regulations from each applicable state and territory together with any nationally approved compliance codes and/or guidelines
 - relevant state/territory regulations, codes of practice and safeworking system requirements
 - relevant Australian Standards and related requirements, including AS 4292
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field S - Construction and Installation