



Australian Government

ICTTEN502 Design a telecommunications project

Release: 1

ICTTEN502 Design a telecommunications project

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge to scope requirements, assess land site suitability, arrange site acquisition, and produce building design plans for a telecommunications building project.

It applies to individuals working for private and public organisations who combine technical design and organisational skills to apply planning principles for provisioning of the various building projects and technologies within a telecommunications network to meet future customer demands.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications – Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Scope design options	1.1 Determine the nature, purpose and type of new facilities in the proposed project from project specifications obtained from planners 1.2 Analyse project brief to scope requirements of the project and consider design options with consideration to legislation governing carriers in Australia 1.3 Evaluate design requirements to determine optimal site selection for the project to house facilities 1.4 Arrange an environmental impact study (EIS) to be conducted on the selected site with project requirements to assess suitability of the

ELEMENT	PERFORMANCE CRITERIA
	site
2. Evaluate and arrange land acquisition	2.1 Evaluate findings of the EIS to determine suitability of the land for the project 2.2 Prepare a justification report on a favourable EIS and consult affected property owners to establish a base for negotiation 2.3 Determine potential for land acquisition or purchase from analysis of previously gathered data and EIS findings and ensure compliance with regulations and legislation
3. Analyse area and select design option	3.1 Analyse physical attributes of the area, possible environmental impacts and previously collected data to prepare design options 3.2 Prepare field sketch according to enterprise requirements and develop solutions to any obvious physical impediment to construction 3.3 Produce design options for the area that are viable for the enterprise and recommend a preferred option with justifications 3.4 Evaluate selection of preferred option to ensure enterprise business strategy outcomes and policies are satisfied
4. Notify interested parties	4.1 Assess resources available for project implementation to ensure works are within the enterprise's schedule 4.2 Notify interested parties of the type, extent and duration of proposed works according to enterprise policy 4.3 Obtain all required written permission from interested parties and forward to those who will carry out the job
5. Produce design plan and documentation	5.1 Prepare design plan to enterprise requirements including relevant geographical and topological information 5.2 Indicate location and specification of works and network equipment accurately and clearly 5.3 Specify resources needed to undertake the project 5.4 Update enterprise information systems according to enterprise guidelines and industry practice 5.5 Produce a complete design report and present to management for approval

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1-1.3, 2.1, 2.3, 3.2, 3.4, 4.2, 5.4	Identifies, analyses and evaluates complex text to determine legislative and business requirements to assist with project planning
Writing	2.2, 3.2, 3.3, 4.2, 5.1-5.5	Prepares written reports and workplace documentation that communicate complex information clearly and effectively
Oral Communication	2.2, 4.2, 5.2, 5.3	- Clearly articulates requirements to internal and external personnel on technical and operational matters using language appropriate to audience and environment - Employs listening and questioning techniques to confirm understanding
Navigate the world of work	1.2, 2.3	Keeps up-to-date with legislation and regulations affecting work and considers implications of these when negotiating and planning work
Get the work done	1.1, 1.4, 3.1, 3.4, 4.1, 4.3	- Understands key principles and concepts underpinning design and operation of digital systems and tools, and applies these as required - Applies formal processes when planning tasks, producing plans with logically sequenced steps, reflecting the needs of others - Implements actions according to a predetermined plan, making adjustments if necessary - Makes decisions quickly and intuitively in familiar situations requiring immediate attention, drawing on past experience to identify key variables and determine the best course of action - Uses analytical processes to decide on a course of action, establishing criteria for deciding between options and seeking input and advice from others before taking action when necessary

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN502 Design a telecommunication s project	ICTTEN5037A Design a telecommunication s project	Updated to meet Standards for Training Packages.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTTEN502 Design a telecommunications project

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Performance Evidence

Evidence of ability to:

- scope design options
- recommend acquisition of land
- prepare justification report including evaluation of environmental impact study (EIS) findings
- produce design options
- prepare completed building design plan for a telecommunications project.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain access networks
- describe building codes and regulations relating to telecommunications installations
- appraise computer aided design (CAD) software packages used for telecommunications designs
- define core networks and specify the foundation design principles
- describe the Environmental Protection Act and its impact on designing a telecommunications project
- explain implications of heritage listings on a site
- summarise information found in EISs
- explain network performance and capacity
- outline networks planning and procedures
- explain site surveys
- describe acts and regulations attributed to telecommunications.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the telecommunications networks engineering field of work and include access to:

- sites on which projects may be designed
- CAD drawing facilities
- relevant databases, legislative requirements and other site and project related documentation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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