

Maldives National Skills Development Authority



National Competency Standard for Gardening

Standard Code: FNA04S15V1

Qualification Name: National Certificate III in Gardening Qualification Code: FNA04SQ1L315

PREFACE

Technical and Vocational Education and Training (TVET) Authority was established with the vision to develop a TVET system in the Maldives that is demand driven, accessible, beneficiary financed and quality assured, to meet the needs of society for stability and economic growth, the needs of Enterprise for a skilled and reliable workforce, the need of young people for decent jobs and the needs of workers for continuous mastery of new technology.

TVET system in the Maldives flourished with the Employment Skills Training Project (ESTP) funded by ADB with the objective of increasing the number of Maldivians, actively participating in the labor force, employed and self-employed. The Project supported expansion of demand driven employment-oriented skills training in priority occupations and to improve the capacity to develop and deliver Competency Based Skill Training (CBST). The project supported delivery of CBST programs to satisfy employer demand-driven needs. The National Competency Standards (NCS) provide the base for this training. Currently CBST is offered for five key sectors in the Maldives: Tourism, Fisheries and Agriculture, Transport, Construction and the Social sectors. These sectors are included as priority sectors that play a vital role in the continued economic growth of the country.

The NCS are developed in consultation with Employment Sector Councils representing employers. They are designed using a consensus format endorsed by the Maldives Qualifications Authority (MQA) to maintain uniformity of approach and the consistency of content amongst occupations. This single format also simplifies benchmarking the NCS against relevant regional and international standards. NCS specify the standards of performance of a competent worker and the various contexts in which the work may take place. NCS also describes the knowledge, skills and attitudes required in a particular occupation. They provide explicit advice to assessors and employers regarding the knowledge, skills and attitudes to be demonstrated by the candidates seeking formal recognition for the competency acquired following training or through work experience. By sharing this information, all participants in the training process have the same understanding of the training required and the standard to be reached for certification. Certification also becomes portable and can be recognized by other employers and in other countries with similar standards. NCS are the foundation for the implementation of the TVET system in Maldives. They ensure that all skills, regardless of where or how they were developed can be assessed and recognized. They also form the foundation for certifying skills in the Maldives National Qualification Framework (MNQF).

Technical Panel members			
Name	Designation	Company	
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KEY FOR CODING

Coding Competency Standards and Related Materials

DESCRIPTION	REPRESENTED BY
Industry Sector as per ESC	Construction Sector (CON)
(Three letters)	Fisheries and Agriculture Sector (FNA)
	Transport sector (TRN)
	Tourism Sector (TOU)
	Social Sector (SOC)
	Foundation (FOU)
Competency Standard	S
Occupation with in a industry	Two digits 01-99
Sector	
Unit	U
Common Competency	1
Core Competency	2
Optional/ Elective Competency	3
Assessment Resources Materials	Α
Learning Resources Materials	L
Curricula	С
Qualification	Q1, Q2 etc
MNQF level of Qualification	L1, L2 etc
Version Number	V1, V2 etc
Year of endorsement of standard, qualification	By two digits Example- 07

1.Endorsement Application for Qualification 01			
2. NAT	'IONAL CERTIFI	CATE 3 in Gardening	
3. Qual	ification code:	Total Number of Credits :50	
FNA03	SQ2L315		
4. Purpose of the qualification The holders of the level three qualifications will provides wide range of practical skills and supporting knowledge to manage and maintain public and private parks, reserves and gardens, natural bushland areas and community recreation area. Also, will have practical skills and supporting knowledge of design and implementation of special plant displays			
5. Regu qualific	llations for the cation	National Certificate III in Gardening wil who are competent in unit 1+2+3+4+5+6+7+8+9+1+11+12+13+14	1 be awarded to those +15+16+17+18+19
6. Sche	dule of Units		
Unit Title	Unit Title		Code
1	Meet workplace health and safety requirements FNA03S1U01V1		FNA03S1U01V1
2	Use hazardous substances safely FNA03S1U02		FNA03S1U02V1
3	Cooperate in the workplace		FNA03S1U03V1
4	Act in an emergency FNA03S1U04V		FNA03S1U04V1
5	Soil – The foundation of a healthy garden FNA03S1U05V1		FNA03S1U05V1
6	Cultivate turf		FNA03S1U06V1
7	Basic gardening n	nanagement	FNA03S1U07V1
8	Implement a land	scape maintenance program	FNA03S1U08V1
9	Establish planted	areas	FNA03S1U09V1
10	Operate irrigation	systems	FNA03S1U10V1
11	Control weeds		FNA03S1U11V1
12	Control pests and diseases FNA03S1U12V1		FNA03S1U12V1
13	Propagate plants		FNA03S1U13V1
14	Provide information on plants, products and treatments FNA03S1U14V1		FNA03S1U14V1
15	Maintain an office FNA03S1U15V1		FNA03S1U15V1
16	Conduct operational inspection of park facilities FNA03S1U16V1		FNA03S1U16V1
17	Install and maintain interior plant displays FNA03S1U17V1		FNA03S1U17V1
18	Select chemicals a	and biological agents	FNA03S1U18V1
19	19 Implement occupational health & safety policies and FNA03S1U19V1 guidelines (OHS Policies and guidelines)		FNA03S1U19V1
7. Accreditation The training provider should have Horticultural workplace or			

requirements	similar training facility to provide the trainees the hands-on
	experience related to this qualification
8. Recommended sequencing of units	As appearing under the section 06

1. Endorsement Application for Qualification 2			
2. NATIONAL CERTIFICATE IV in Gardening and Landscaping			
3. Qualifica	tion code: FNA03SQ2L315	Total Number o	of Credits:170
4. Purpose	of the qualification		
The holders	of the level three qualifications will pre-	ovide wide range o	of practical skills and
supporting k	nowledge to manage and maintain pub	olic and private par	ks, reserves and gardens,
natural bush	land areas and community recreation a	rea. Also, will hav	e practical skills and
supporting k	nowledge of design and implementation	on of special plant	displays.
5. Regulation	ons for the qualification	National Certific	ate IV in Gardening and
		Landscaping will	l be awarded to those who
		are competent in	unit
		1+2+3+4+5+6+7	7+8+9+10+11+12+13+14
		+15+16+17+18+	-19+20+21+22+23+24+25
		+26+27+28+29+	-30
6. Schedule	of Units		~ .
Unit No	Unit Title		Code
1	Meet workplace health and safety requirements FNA03S1U01V1		FNA03S1U01V1
2	Use hazardous substances safely		FNA03S1U02V1
3	Cooperate in the workplace FNA03S1U0		FNA03S1U03V1
4	Act in an emergency FNA		FNA03S1U04V1
5	Soil – The foundation of a healthy garden FNA		FNA03S1U05V1
6	Cultivate turf FNA03S1U06V1		
7	Basic gardening management FNA03S1U07V1		
8	Implement a landscape maintenance programFNA03S1U08V1		
9	Establish planted areas FNA03S1U09V1		
10	Operate irrigation systems FNA03S1U10V1		FNA03S1U10V1
11	Control weeds		FNA03S1U11V1
12	Control pests and diseases FNA03S1U12V1		FNA03S1U12V1
13	Propagate plants		FNA03S1U13V1
14	14Provide information on plants, products andFNA03S1U14V1		FNA03S1U14V1
treatments			
15	Maintain an office FNA03S1U15V1		
16	Conduct operational inspection of park facilities FNA03S1U16V1		
17	Install and maintain interior plant displays FNA03S1U17V1		
18	Select chemicals and biological agents FNA03S1U18V1		
19	19 Implement occupational health & safety policies and FNA03S1U19V1		
	guidelines (OHS Policies and guideling	nes)	
20	Implement a plant nutrition program		FNA03S2U20V1
21	Install irrigation systems FNA03S2U21V1		FNA03S2U21V1
22	Set out landscape works FNA03S2U22V1		

23	Supervise work site activities		FNA03S2U23V1
24	Undertake a site assessment		FNA03S2U24V1
25	Install concrete structures and feature	es	FNA03S2U25V1
26	Install timber structures and features		FNA03S2U26V1
27	Install brick structures and features FNA03S		FNA03S2U27V1
28	Install masonry structures and features		FNA03S2U28V1
29	Install metal structures and features		FNA03S2U29V1
30	Install water features F		FNA03S2U30V1
7. Accreditation requirements Select chemicals and biological ag		and biological agents	
8. Recommended sequencing of units Imp		Implement occupational health & safety	
		policies and guid	elines (OHS Policies and
		guidelines)	

UNIT DETAILS

Unit	Unit Title	Code	Level	No of
				Credits
1	Meet workplace health and safety	FNA03S1U01V1	3	2
	requirements			
2	Use hazardous substances safely	FNA03S1U02V1	3	2
3	Cooperate in the workplace	FNA03S1U03V1	3	2
4	Act in an emergency	FNA03S1U04V1	3	2
5	Soil – The foundation of a healthy garden	FNA03S1U05V1	3	2
6	Cultivate turf	FNA03S1U06V1	3	3
7	Basic gardening management	FNA03S1U07V1	3	2
8	Implement a landscape maintenance	FNA03S1U08V1	3	3
	program			
9	Establish planted areas	FNA03S1U09V1	3	3
10	Operate irrigation systems	FNA03S1U10V1	3	3
11	Control weeds	FNA03S1U11V1	3	3
12	Control pests and diseases	FNA03S1U12V1	3	3
13	Propagate plants	FNA03S1U13V1	3	3
14	Provide information on plants, products and	FNA03S1U14V1	3	3
	treatments			
15	Maintain an office	FNA03S1U15V1	3	2
16	Conduct operational inspection of park	FNA03S1U16V1	3	3
	facilities			
17	Install and maintain interior plant displays	FNA03S1U17V1	3	3
18	Select chemicals and biological agents	FNA03S1U18V1	3	3
19	Implement occupational health & safety	FNA03S1U19V1	3	3
	policies and guidelines (OHS Policies and			
	guidelines)			
20	Implement a plant nutrition program	FNA03S2U20V1	4	9
21	Install irrigation systems	FNA03S2U21V1	4	9
22	Set out landscape works	FNA03S2U22V1	4	9
23	Supervise work site activities	FNA03S2U23V1	4	9
24	Undertake a site assessment	FNA03S2U24V1	4	12
25	Install concrete structures and features	FNA03S2U25V1	4	12
26	Install timber structures and features	FNA03S2U26V1	4	12
27	Install brick structures and features	FNA03S2U27V1	4	12
28	Install masonry structures and features	FNA03S2U28V1	4	12
29	Install metal structures and features	FNA03S2U29V1	4	12
30	Install water features	FNA03S2U30V1	4	12

Packaging of National Qualifications:

National Certificate in III Gardening will be awarded to those who are competent in units

 $1\!+\!2\!+\!3\!+\!4\!+\!5\!+\!6\!+\!7\!+\!8\!+\!9\!+\!10\!+\!11\!+\!12\!+\!13\!+\!14\!+\!15\!+\!16\!+\!17\!+\!18\!+\!19$

Qualification Code: FNA03SQ1L315

National Certificate in IV Gardening and landscaping will be awarded to those who are competent in units 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19+20+21+22+23+24+25+26+27+28+29+30

Qualification Code: FNA04SQ1L315

Description of a Gardner's

Garden Industry is a horticulture industry found in all across the Maldives. There is a wide diversity of enterprises across the tourism sector.

Likely functions within the Horticulture industry for those who achieve this level of competency include:

- Manage and maintenance of gardens and parks
- Manage and maintenance of natural bushland and community recreation areas
- Design and implementation of Special plant display

Competency Standard Development Process

The competencies were determined based on the analysis of the tasks expected to be performed by the Horticulture professional in the Maldives. The task analysis was based on the existing documents prepared among the experts in the industry and on the advice of the experts in the field of Horticulture training in Maldives. Competency standards used for similar type of training in other countries were also examined

UNIT-01

111-01			
UNIT TITLE	Meet workplace health and safety requirements		
DESCRIPTOR	This unit addresses the ability of workers to meet we occupational health and safety requirements.	orkplace	
CODE	FNA03S1U01V1 LEVEL 3 CRED	T 2	

ELEMENTS OF	PERFORMA	NCE CRITERIA	
COMPETENCIES			
1. Follow workplace	1.1.	Workplace procedures and work	
procedure for hazard		instructions for controlling risks are	
identification and risk		followed accurately.	
control	1.2.	Basic safety checks are undertaken before	
		operation of all machinery and vehicles	
		and hazards are reported to the appropriate	
		supervisor.	
	1.3.	Work for which protective clothing or	
		equipment is required is identified and the	
		appropriate protective clothing or	
		equipment is used in performing these	
		duties in accordance with workplace policy.	
	1.4.	Prior to performing manual handling jobs,	
		risk is assessed and work is carried out	
		according to currently recommended safe	
		practice.	
	1.5.	Risks to bystanders are recognized and	
		action is taken to reduce risk associated	
		with jobs in the workplace.	
	1.6.	All procedures and work instructions for	
		controlling risk are followed closely.	
2. Render appropriate	2.1.	Individuals maintain the necessary	
emergency procedures		knowledge of and ability to follow	

		procedures for dealing with accidents, fires
		and emergencies, including
		communicating location and directions to
		emergency personnel.
	2.2.	Emergency procedures are followed to
		company standards and workplace
		requirements.
	2.3.	Emergency equipment is used in
		accordance with manufacturers'
		specifications and workplace requirements.
	2.4.	Appropriate authorities are notified
		according to company policy.
3. Participate in	3.1.	Contributions are made to the on-going
arrangements for		monitoring and reporting of all aspects of
maintaining health and		Occupational Health &Safety (OHS).
safety of all people in the	3.2.	Assistance is provided in developing
workplace		effective solutions to control the level of
		risk associated with tasks.

Procedures included

- Application of relevant occupational health and safety principles and conformity with legislation and codes of practice in the country.
- Hazards in the workplace
- Hazards in workplace which require protective clothing and equipment's
- Hazardous manual such as handling
- Risk to bystanders include run-over and injury associated with vehicles and machinery
- Appropriate health and fitness
- Workplace procedures
- Occupational health and safety(OHS) emergencies

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

• Assessment for the unit needs to be holistic and must be observed through real or simulated

workplace activities.

• Any written or oral examinations may include questions related to personal hygiene, maintaining health & safety requirements

Assessment context

Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices.

Critical aspects

It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations in the critical aspects of:

- Maintain personal hygiene and fitness requirements
- Identifying and assessing hazardous situations and rectifying, or reporting to the relevant persons.
- Safely handling and storage of dangerous and/or hazardous goods and substances.
- Applying safe manual handling practices.
- Safely and effectively operating equipment and utilizing materials over the full range of functions and processes for work undertaken on worksite.
- This unit may be assessed in conjunction with all and units which form part of the normal job role

Assessment conditions

- Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- Assessment of hygienic work practices must be constantly evaluated.
- Assessment must reflects and events processes that occur over a period of time

Underpinning Knowledge	Underpinning Skills	
• General knowledge of Significant	t • Ability to follow workplace procedure	
hazards in the working place	for hazard identification and risk	
• Basic knowledge of Local emergency	control	
services	• Ability to act in an emergency	
Common knowledge of Personal	• Ability to maintain health and fitness	
Hygiene and fitness requirements	• Ability to render first aid	

UNIT-02

UNIT TITLE	Use hazardous substances safely		
	This unit addresses the handling of hazardous substances in the		
	workplace.		
	Handling of hazardous substances is likely to be under direct		
DESCRIPTOR	supervision with regular checking. Competency involves the		
	application of knowledge and skills to a limited range of tasks and		
	roles. Recording and reporting is undertaken within established		
	routines using methods and procedures that are predictable.		
CODE	FNA03S1U02V1 LEVEL 3 CREDIT 2		

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA		
1. Handle hazardous	1.1.	Specific hazardous substance is identified from the	
substances		label and applicable manufacturers' safety data	
		sheet.	
	1.2.	Selected hazardous substance is handled in safe	
		containers or packages under instruction from the	
		supervisor or manager.	
2. Store hazardous	2.1.	Storage for hazardous substances is checked for	
substances		compliance with industry standards in line with	
		instructions.	
	2.2.	Regular participation in the conduct of safety	
		audits maximizes the individual's awareness of	
		safety issues	
	2.3.	Required hazardous substances are estimated and	
		industry standard storage conditions established	
		according to instructions	
3. Transport hazardous	3.1.	Transport mode and procedures are established in	
substances		consultation with the manager or supervisor as	
		instructed.	

	3.2.	Hazardous substances are loaded or decanted into
		secure containers or packaging in line with work
		programs.
	3.3.	Load is secured or sealed to ensure safety and
		eliminate spillage according to enterprise policy.
	3.4.	Transport of hazardous substances is completed in
		line with established procedures and movements
		recorded according to enterprise policy.
4. Use hazardous	4.1.	Personal protective equipment suited to the task is
substances		selected and fitted or worn.
	4.2.	Selected hazardous substance is removed from
		storage and utilized in accordance with the label
		instructions or workplace requirements.
	4.3.	Containers and unused hazardous substances are
		disposed of in accordance with established
		workplace procedures.
5. Act in emergency	5.1.	Emergency incidence is notified to appropriate
situations with		authorities in the workplace.
hazardous substances	5.2.	Clear identification of the nature of the emergency
		is established in consultation with the workplace
		supervisor.
	5.3.	Direction is sought from the supervisor or
		workplace notices to establish the role of the
		individual in the emergency.
1		

- Identifying Hazardous substances in the workshop
- Handling and using hazardous substances, use of application equipment, decanting liquids, refueling, transport and cartage, use of industrial gases.

- Meeting industrial standard or Suitable storage conditions may include security systems, elevated storage, fans and ventilation, drainage systems, separation of incompatible materials, warning signage as required and workplace notices.
- Enterprise policy may include protocols for record keeping, provision of personal protective equipment, instructions to personnel, record of governing legislation.
- Disposal of containers or quantities of left over hazardous substances will be carried out in line with workplace procedures developed from State or local government regulation relating to hazardous substances, Manufacturers label directions, Farm care recommendations.
- Emergency situations may include spilt fuels or other substances, use of incorrect substances, fire, contact with skin or eyes, leaking or damaged containers, explosion, mixing of incompatible materials, contamination of water supplies and container disposal problem

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations must include questions related to Handling hazardous substances in work place.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Critical aspects

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- All safety procedures are followed
- Apply required workplace procedures to dispose and handling hazardous substances
- Apply required skills in emergency situations.

Underpinning Knowledge	Underpinning Skills		
	The ability to:		
	- read and interpret written instructions		
A basic working knowledge of:	and hazardous substance labelling		
- hazardous substances that occur in	- communicate with other workplace		
the rural workplace relevant to the	personnel		
industry sector	- understand and act on verbal		
- the drills and protocols with dealing	instructions		
with hazardous substance issues	manually or electronically record details of		
- who to contact and who to report to in	hazardous substance usage or emergency		
the individual workplace about	incidence		
hazardous substance matters	- critically observe and accurately report		
- horticultural mathematics and the	on safety hazards in the workplace		
basis of horticultural calculations	- adopt safe work strategies as an		
	integral part of workplace routines		

NIT- 03					
UNIT TITLE	Cooperate in the workplace				
DESCRIPTOR	This unit describes is expected of wor Work is likely to b Competency invol limited range of ta undertaken within that are predictable	s the basic lev kers. be under direct ves the applic sks and roles established r e.	vel of workp et supervisio cation of kno . Recording outines usin	lace commun n with regula owledge and s and reporting g methods an	ication that r checking. skills to a g is d procedures
CODE	FNA03S1U03V1 LEVEL 3 CREDIT 2				

ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1. Observe and record in the	1.1 Issues and events occurring in the workplace on a daily	
workplace	basis and which may require attention are identified.	
	1.2 Information is recorded accurately and in the required	
	format.	
	1.3 Communication technology relevant to the enterprise	
	is used under supervision.	
2. Interact with others in the	2.1.Issues or events requiring action or attention are	
workplace	reported to supervisor with the level of detail laid	
	down in workplace instructions.	
	2.2. Telephone messages are taken accurately, information	
	recorded appropriately and calls redirected to other	
	staff efficiently.	
	2.3. Work instructions are clarified where necessary and	
	concerns are raised promptly with the supervisor.	
	2.4. A positive attitude is maintained in interacting with	
	others.	
3. Work in a team	3.1. Allocated tasks are identified and completed within	
	defined time-lines.	
	3.2. Assistance is actively sought by approaching other	
	team members when difficulties arise.	
	3.3. Feedback provided by others in the working groups is	

	acknowledged.
	3.4. Appropriate lines of communication with supervisors
	and peers are demonstrated according to enterprise
	policy.
	3.5. Support and tolerance are offered and provided to
	colleagues.
	3.6. Participation in team problem solving activities is
	demonstrated.
4. Meet, greet and direct	4.1.Client is greeted in line with enterprise policy.
clients	4.2. Questioning and active listening is used to elicit client
and customers	needs.
	4.3. Clients with special needs are referred or redirected as
	required.
	4.4. A positive attitude is maintained in interacting with
	clients and customers.
	4.5. Personal and cultural differences are taken into
	account when dealing with clients.
	4.6. Telephone is answered promptly, calls re-directed to
	appropriate person or messages recorded according to
	enterprise policy.
5. Maintain personal	5.1. Personal dress is maintained in line with enterprise
presentation	policy.
	5.2. Personal grooming and hygiene reflect enterprise
	policy.

• Workplace issues may include personal work duties and roles, personal occupational health and safety, information from other workers and/or customers and clients.

- Workplace events may include reporting any daily information concerning the immediate work routines such as materials, stock, equipment, tools, plant, watering or irrigation systems.
- Recording may be in writing or verbal.
- Enterprise policy may be in regard to assisting with clients, interacting with supervisors and colleagues, codes of personal hygiene and dress, enterprise position description (delegated responsibilities), organizational development of enterprise.
- Communication technology may include faxes, answering machines, telephone networks, electronic mail (e-mail), simple/basic interaction with computers.
- Customers include those with special needs.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to required and expected level of workplace communication

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
	An ability toobserve and record in the workplace

 A basic knowledge of; enterprise policy in relation to greeting and assisting clients and customers location of enterprise layout and resources communication technology and systems used by the enterprise questioning and listening techniques effective interpersonal skills 	 interact with others in the workplace work in a team meet, greet and direct clients and customers maintain personal presentation
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UNIT-04

UNIT TITLE	Act in an emergency				
DESCRIPTOR	This unit is concern workplace emerger and render first aid and coordination w involves the applic and roles. Compete methods and proce	ned with the ncies such as in the work /ithin a team ation of know encies are use dures.	ability of we fire and oth place. Respo may be requ wledge and s ually within	orkers to resp er dangerous nsibility for s nired. Compe skills to a ran established re	ond to situations some roles tency ge of tasks putines,
CODE	FNA03S1U04V1	LEVEL	3	CREDIT	2

ELEMENTS OF		PERFORMANCE CRITERIA
COMP	ETENCIES	
1.	Minimize	1.1. Appropriate actions are taken to maximize safety
	emergency	and minimize health hazards in the workshop and
	situations	on site.
		1.2. Machinery handling and actions minimize risks to
		all personnel.
		1.3. Regular checks of the environs are carried out to
		minimize potential hazards.
2.	Plan for	2.1. Contingency plans are understood and activated
	emergencies	for emergencies in compliance with Codes of
		Welfare and relevant legislation.
		2.2. Personal responsibilities are carried out in
		emergency situations and practice drills.
		2.3. Evaluation procedures are implemented to
		company standards.
3.	Act as instructed in	3.1. Contingency plans are activated for emergencies
	emergencies	in compliance with the relevant legislation.
		3.2. Emergency procedures are carried out as required
		by established workplace policy.

4.	Implement	fire	4.1. Fire hazards are minimized as specified in
	prevention and		workshop and fuelling procedures.
	control		4.2. Appropriate fire extinguishers and firefighting
			plant are used in fire situations and the appropriate
			authority is notified according to specified
			procedures.
			4.3. Evacuation procedures are implemented as
			instructed according to workplace policy.
5.	Render first aid		5.1. First aid appropriate to the incident is applied.
			5.2. The patient is monitored whilst awaiting
			professional or para-medical support.

- Unless otherwise stated directions, specifications and prescriptions come from management or other advisers and may include health, welfare and safety policies, emergency contingency plans, maintenance routines for safeguards and emergency equipment.
- Occupational Health & Safety (OHS) Acts and Regulations apply in all States and Territories.
- Emergency situations may include power failure, quarantine breakdown, fire, flood, storms, heart failure, breathing stopped and serious personal injury.
- Emergency equipment may include first aid kits, fire extinguishers, emergency power generators, chemical spillage kits.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of:	An ability to:
• sources of human injury	 minimize emergency situations
• basic concept of duty of care	plan for emergencies
• specific Acts and Regulations relating	 act as instructed in emergencies
to emergency situations	• implement fire prevention and control
• senior First Aid Certificate	• render first aid as required

U	UNIT- 05					
	UNIT TITLE	Soil – The foundation of a healthy garden				
	DESCRIPTOR	This Unit of Competency is concerned with the process of knowing whether the soil type is clay, sand, silt, loam, peat or chalk will hel to choose the right plants for your garden and maintain them in good health.				of knowing lk will help nem in good
	CODE	FNA03S1U05V1	LEVEL	3	CREDIT	2

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Different soil types	1.1.Soils vary enormously in characteristics, but the size of the particles that make up a soil defines its gardening
	characteristics:
	 Clay: less than 0.002Silt: 0.002-0.05mm Sand: 0.05-2mm Stones: biggen then 2mm in size
	 Stones: bigger than 21111 in size Chalky soils also contain calcium carbonate or lime
	1.2.Identify different soil types and their characteristics
2. Soil structure	2.1. Good soil structure
	 Has small crumbs, well bound together that do not break up when wet or when dug Has lots of spaces and channels between crumbs so that water and plant roots can penetrate Allows air into the root spaces Allows roots to grow easily Allows water to be made available to roots but also
	to drain away. 2.2. Bad soil structure
	 Lacks small crumbs or aggregates Is hard and compacted or consists of large lumps Cannot be easily dug, but may be eroded by rain water or wind

	2.3. Means plant roots, air and water cannot easily penetrate.
3. Organic matter and content	 2.4. Soil which has adequate levels of organic matter is extremely desirable for the growth of healthy plants. Organic matter consists of : Living organisms Earthworms, arthropods, bacteria and fungi. Most of these play a very important part in the decomposition of dead organic matter, which explains the high population of earthworms usually found under manure and compost heaps. Dead but identifiable matter Humus Humus is the slowly decomposing residues of organic matter after it has initially been worked upon by the living organisms. It is recognized as a black colloidal material which coats the soil
4. Nutrient levels and soil pH	 a black cohordar material which coats the solid particles giving topsoil its dark color. Humus eventually disappears at is further broken down by bacteria. 4.1. Plants require twelve essential minerals in order to grow normally, if one of these is not available then the
	 health of the plant will suffer. The major minerals (macro nutrients) which are needed in large quantities are Nitrogen Phosphorus Potassium Magnesium Calcium Sulphur.
	 4.2. The remaining minerals (micro nutrients or trace elements) which are needed in very small quantities are Iron Boron Manganese Copper Zinc Molybdenum

	 4.3. Soil pH needs to be considered in conjunction with the nutrient levels present because soil pH greatly influences life in the soil, either directly or indirectly. 4.3. The optimum pH for most soils is 6.5 at which all the essential nutrients are available and ideal growing conditions are provided for most plants. 4.4. As soils become more acidic or alkaline certain nutrients become unavailable respectively leading to unhealthy plants.
5. Improving soil	 5.1. Improving sandy soil. Sandy soils are improved by the regular application of decayed organic matter, which can be: farmyard manure garden compost leaf mould Improving sandy soil by mulching. (proving water retention, and involves the application of organic material to the surface of the soil around plants. This is usually well-rotted manure, compost, leaf mould or bark) 5.3.Improve clay soil by regular application of decayed organic matter which raises the humus level 5.4.Improve clay soils: improve drainage and help them resist compaction. Adding lime to a clay soil can also make clay easier to work but this should only be done if your soil is acid. 5.5.Improve chalky and other lime rich soils by maintain adequate fertility levels by the regular addition of organic matter. If the soil is thin and stony then it is worthwhile to remove the larger stones and add more topsoil which is of good quality and from a local source. Do not be dig these soils to deeply as subsoil and bedrock can easily dilute the topsoil and make it less fertile. The subsoil is a lighter colour than the topsoil so it is easy to see when you are going too deep and you can adjust the cultivation depth accordingly.

- Different soil types and their structure
- Organic matter and its content
- Essential nutrients and minerals for the normal growth of plants
- Methods of improving different soil

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills			
	Anility to			
	• Identify different soil types and the structure of soil types			
A basic working knowledge of:	• Apply appropriate methods in			
• Different soil types	improving soils			
• Structure of different soil types	• Plant flowers, vegetables and fruits in			
	accordance to soil type.			
• Organic matter and its contents				
• Plants that will grow in different soil				

UNIT- 06

UNIT TITLE	Cultivate turf				
DESCRIPTOR	This Unit of Comp establishing turf in Turf establishment others and with ch establishment invo with depth in some work is normally of where some discree machinery and equ achieving outcome	betency is con commercial t is likely to b ecking only r plyes the appl e areas and a lone within ro tion and judg hipment, worl es within time	cerned with and domestive under limitelated to over ication of hor broad range outines, methement is required corganization and budget	the process of c recreationa ted supervision erall progress prticultural kno of horticultura nods and proce uired in the son, services, a constraints.	of l situations. on from . Turf owledge cal skills. The cedures election of actions and
CODE	FNA03S1U06V1	LEVEL	3	CREDIT	3

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Plant turf	1.1. Soil is watered according to enterprise guidelines.
	1.2. Placement and planting method of the plant
	material is consistent with the plant species.
	1.3. Newly planted turf is watered and top-dressing is
	applied according to plan and supervisors
	instructions.
	1.4. Tools and equipment chosen are appropriate to the
	task being undertaken, used according to guidelines
	and safe working practices are employed.
2. Manage juvenile turf	2.1. Juvenile turf is irrigated and fertilized according to
	variety and method of planting.
	2.2. Turf is rolled with a lightweight roller prior to first
	mowing and mowed according to a specified
	pattern and height according to the requirements of
	the enterprise.
	2.3. Juvenile turf is monitored relative to published data
	on variety, problems identified and any changes are

	reported to supervisor according to enterprise
	policy.
	2.4. Top dressing is applied according to the
	establishment plan and where plant health
	characteristics dictate.
	2.5. Tools and equipment chosen are appropriate to the
	task being undertaken, used according to
	guidelines, and safe working practices are
	employed.
3.Collect samples for a soil	3.1. Samples are taken from a representative area and
analysis	accurately labelled according to enterprise
	guidelines and consultant requirements.
	3.2. Tools and equipment are chosen appropriate to the
	task being undertaken, used according to guidelines
	and safe working practices are employed according
	to enterprise Occupational Health & Safety (OHS)
	guidelines.
4.Identify damaged turf	4.1. Plants are observed for health properties according
	to published data, supplier specifications and
	historical data.
	4.2. Turf structure is observed for quality according to
	published data, industry practice and enterprise
	guidelines.
	4.3. Reports and recommendations are made to
	supervisor according to enterprise guidelines.
	4.4. Tools and equipment chosen are appropriate to the
	task being undertaken, used according to
	guidelines, and safe working practices are
	employed.
	r J

• This unit applies to all turf areas such as parks, gardens and sports fields.

• Site conditions may include soil types, moisture content, pH levels, salinity, texture, compaction, aspect, pollutants, toxicity, climate, buildings, road works, shade.

• Elements that will affect the water requirements may include evaporation, wind, transpiration, rain, season, daylight, use of turf, situation.

• Environmental conditions may include wind, rain, sun, shade, humidity.

• Health properties may include strength, wear tolerance, growth rate, colour, recovery rate.

• Irrigation system types may include mains pressure, low pressure, below ground, above ground, spray systems, dripper-systems.

• Observations for turf quality may include upright, stress, growing pattern, variation.

• Plant material may include sprigs, sod, seed, hydro-seed, stolons.

• Plant material is selected according to required characters, soil type, climate and use.

• Planting methods may include sowing, laying, rolling, chaffing, sprigging.

• Requirements for supplementary watering may include volume delivered was not appropriate, dry patches in places.

• Requirements to be monitored may include irrigation, fertiliser, mowing, weeds, pests and diseases.

• Situations where top dressing is appropriate may include joins in sods, to level an area that is "puddling", to promote lateral growth on after planting practices.

• Soil testing methods may include core sample, penetration test.

• Variables in taking a sample penetration reading may include speed with which readings are taken, time of day, turf use.

• Water distribution variables may include, dry spots, pooling, representative samples, consistency, visually checking sprinklers.

• Enterprise standards may include spacing of core holes, even scarification, no damage to remaining turf.

• Renovation tasks may include fertilising, seeding, top dressing, watering, levelling, installation of barriers and protective measures, scarifying, de-thatching.

• Renovation equipment may include scarifiers, de-thatchers.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills		
 A basic working knowledge of: appropriate agricultural chemicals and concentrations turf identification and growth characteristics soils and turf nutrition fertilizer use and application watering practices common weeds, pests and diseases 	An ability to: • plant turf • manage juvenile turf • collect samples for a soil analysis • interpret the results of a soil analysis • identify damaged turf		
 fertilizer use and application watering practices common weeds, pests and diseases 			

UI	NIT- 07					
	UNIT TITLE	Basic gardening management				
	DESCRIPTOR	A well-planned garden is easier to care for. It saves time in the garde and is more productive than an unplanned garden. This unit will describe things to be considered at the very initial stage of gardening				in the garden nit will of gardening.
	CODE	FNA03S1U07V1	LEVEL	3	CREDIT	2

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ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1. Planning a garden	 1.1. Choose a spot: success of your garden depends greatly on the location. Good soil: a loose, level, fertile, well drained soil is best. Sunlight: sunlight is necessary to produce healthy high-quality vegetables Avoid Trees or Shrubs: trees and shrubs compete with garden crops for sunlight, plant food and moisture Water supply: have a supply of water near your garden site. 1.2. Garden size: the size of the garden plot depends on how much land is available, how much time you intend to spend in the garden, and how much garden produce can be used. 	
2. Type of garden	 2.1. Choose which type of garden and appropriate conditions for the desired type of garden 2.2. Indoor garden: form of indoor gardening is to grow plants in front of windows that receive a decent amount of sunlight. Windows that face south and west are best, and they usually receive enough light to grow leaf and root 	

	 vegetables (beets, carrots, lettuce, onions, and radishes) and herbs. Monitor the light available through the window to determine whether there is a sufficient level for an indoor garden. 2.4. Outdoor Gardens 2.5. Decide what type of plant to grow according to the type of garden chosen 	
3. Site Analysis	 3.2. Investigate and evaluate the growing and environmental conditions of potential garden areas such as Size and existing features Soil Sunlight Water sources Water drainage Accessibility Security and safety 	
4. Inventory	 3.1. Paths. Paths reduce the risk that plants will get trampled, and they organize traffic flow. Make main pathways 4 to 6 feet wide to accommodate wheelchairs and wheelbarrows. 3.2. Irrigation. Although watering by hand using watering cans and/or hoses is an option, drip irrigation and water-conserving sprinkler systems installed before planting will save time and often result in a healthier garden. 3.3. Toolshed or Storage Area. A toolshed or storage area is a good central location for cleaning, organizing, and protecting tools and equipment 	

Plan the garden. Spot and the size of the garden

Type of garden. Indoor /outdoor garden

Type of plants which will grow best in the type of garden chosen

Investigate and evaluate the size and existing features, soil, sunlight, water sources, water drainage, accessibility, security and safety
Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: Planning and designing Types of garden (indoor/outdoor garden) and its requirements Types of plants to grow in different types of garden Evaluating the growing and environmental conditions of potential garden areas such as size and existing features, soil, sunlight, water sources, water drainage, accessibility ad security and safety 	 Ability to Plan and design a garden based on the location and soil Choose right plants for the right type of garden Investigate and evaluate the available garden area To locate good central location for cleaning, organizing, and protecting tools and equipment

UNIT TITLE	Implement a landscape maintenance program				
DESCRIPTOR	This unit describes the implementation Maintenance is lik with checking only application of hort broad range of hor normally done wit discretion and judg work organization time constraints.	s the work un n of landscap ely to be und y related to ov icultural know ticultural skil hin routines, gement is req , services, act	dertaken by e maintenan er limited su verall progre wledge with lls. Landscap methods and uired in the ions and ach	landscapers a ce programs. apervision fro ess. The work depth in som be maintenand procedures selection of e hieving outco	m others in m others involves the le areas and a ce is where some quipment, mes within
CODE	FNA03S1U08V1	LEVEL	3	CREDIT	3

ELEMI	ENTS OF		PERFORMANCE CRITERIA		
COMP	ETENCIES				
1.	Maintain	plant	1.1. Protection devices are checked for their		
	protection dev	vices	effectiveness according to protection plan requirements.		
			1.2. Broken, damaged, or ineffective components		
			are reported and/or repaired according to terms		
			and conditions of contract.		
			1.3. Protection devices are dismantled and removed		
			according to protection plan requirements.		
2. Repla	ce diseased or		2.1 Diseased or damaged plants are identified and		
damage	d plants		recorded according to enterprise guidelines.		
			2.2 Plants which are to be replaced are removed		
			and new pecimens installed in their place		
			according to maintenance program		
			specifications.		

	2.3	Diseased and damaged plants which are beyond
		the scope of the maintenance program are
		reported to the nominated person.
	2.4	Aftercare is provided to established plants to
		ensure their health and vigour is maintained
		according to enterprise guidelines.
3. Maintain landscape areas	3.1	Standard and scope of maintenance is
		established according to maintenance
		program.
	3.2	Site is regularly inspected for remedial action
		and repairs according to maintenance contract
		conditions.
	3.3	Remedial action and repairs are implemented
		to restore site to full effectiveness according to
		maintenance contract conditions.
	3.4	Results of operations are assessed to ensure
		repairs or renovation objectives and standards
		have been achieved according to maintenance
		program details.
	3.5	Surroundings are returned to a tidy and
		undamaged condition following operations
		according to enterprise guidelines.
	3.6	Work performances of others are monitored
		and remedial action undertaken to ensure terms
		and conditions of the contract are maintained.

• Equipment used includes spraying equipment, safety equipment, mowers, cutting, digging and chipping equipment and machinery, hand tools.

 Maintenance programs can incorporate mowing, pruning, weeding, plant replacement, minor structural repairs, spraying, fertilising, re-mulching, pest control, cleaning, adjustment and programming irrigation systems, top soiling, rubbish removal, chipping.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 Underpinning Knowledge A basic working knowledge of: application of specifications to individual areas of work appropriate horticultural practices for heritage and cultural areas 	Underpinning Skills An ability to: an ability to: an ability to: by the second
 principles and applications of an integrated pest management program actions permitted in the event of variations to maintenance contracts sources of hazards encountered in landscape maintenance and measures for their reduction 	

	-				
UNIT TITLE	Establish planted areas				
DESCRIPTOR	This Unit of Comp implement a large- Planting is likely t checking only rela application of arbo a broad range of an within routines, m judgement is requi organization, servi constraints.	betency is con- scale plantin o be under lin ted to overall pricultural known rboricultural sector ethods and pri- red in the sel ces, actions a	ncerned with g program. nited superv progress. T owledge with skills. Planti cocedures wh ection of equ	the work und ision from ot he work invo h depth in son ng is normall here some dis uipment, wor g outcomes w	dertaken to hers with lves the me areas and y done cretion and k within time
CODE	FNA03S1U01V1 LEVEL 3 CREDIT 3				

ELEMENTS OF	PERFORMANCE CRITERIA		
COMPETENCIES			
1.Undertake a soil test	 1.1 Soil samples collected are representative of area being tested as specified for the test being undertaken and according to enterprise specifications. 1.2 On-site testing procedures are performed according to manufacturers guidelines and industry practice. 1.3 Off-site testing samples are packaged, documented, labelled and dispatched according to enterprise specifications and testers requirements. 1.4 Sampling records are maintained according to enterprise 		
	guidelines.		
2. Prepare a planting site	 2.1 Tools chosen are appropriate to the task being undertaken, used according to manufacturer's guidelines and Occupational Health & Safety (OHS) regulations. 2.2 Earthworks are undertaken according to planting plan and/or supervisors' instructions. 2.3 Soil ameliorants are used as required according to job specifications. 2.4 Positions of plants are marked out on site according to supervisors' directions and/or plans. 2.5 All competing plants, debris and pollutants are treated according to enterprise guidelines. 2.6 Treatments are selected and applied according to enterprise guidelines. 		

4 Plant trees and shrubs	3.1 All plants are inspected prior to being planted out and
according to	all
prepared plan	plants with major defects discarded.
	3.2 Broken or damaged plants are trimmed to maintain
	health
	and vigour according to enterprise guidelines.
	3.3 Plants are planted at spacing sufficient to enable them
	to
	develop their full potential and according to planting
	program.
	.3.4 Individual species are planted with due regard to the
	specific growing requirements of the species.
4. Nurture newly installed	4.1 Newly planted plants are provided with immediate
plants	aftercare according to the planting program.
	4.2 Formative pruning is undertaken according to the
	needs of
	the species to ensure trees develop a sound framework for
	the natural growth and habit of the species.
	4.3 Tools and equipment are cleaned, maintained and
	stored
	consistent with manufacturers specifications and enterprise
	guidelines.
5. Oversee planting	5.1 Planting program is monitored according to enterprise
	guidelines.
	5.2 Plants incorrectly planted or situations which will
	prevent
	trees from reaching their full potential are identified and
	reported according to enterprise guidelines.
	5.3 Remedial action is undertaken to ensure all of the
	planting
	program requirements have been implemented.

• Site conditions may include soil types, moisture content, pH levels, salinity, texture, compaction, aspect, pollutants, toxicity, climate, buildings, road works, shade.

• Species selected may include exotic, evergreen, native, endemic, deciduous, conifer, palm, shape, habit.

• Establishment methods may include hand planting, mechanical planting, direct seeding, mechanical sowing.

• Earthworks may include irrigation, drainage, ripping, cultivating.

• Major defects may include any condition which will prevent the tree from reaching its full potential.

• Growing requirements may include time of planting, pruning, depth, drainage.

• Nurturing program may include watering, mulching, fertilising, protection, staking, weeding.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • factors affecting the timing and method of planting • identification of pests and diseases of trees • principles and methods relating to the prevention and control of pests and diseases • safety requirements when handling and using hazardous goods • nutrient requirements of a range of plant species and cultivars • physiology of plant growth • techniques for securing/anchoring trees and shrubs • plant selection and culture • soils and nutrients • calculations for materials	An ability to: • prepare a planting site • plant shrubs and trees according to prepared plan • nurture newly planted trees • oversee tree planting

UNIT TITLE	Operate irrigation systems				
DESCRIPTOR	This Unit of Comp systems. Work is likely to b to overall progress involved and team involves the applic broad range of ski routines, methods judgement is requi organisation, servi constraints.	betency is con be under limit a. Responsibi- coordination cation of kno lls. Competen and procedur and procedur red in the sel ces, actions a	ted supervisi lity for the w n may be req wledge with ncies are nor res where so lection of eq and achievin	on with chec ork of others uired. Compo depth in som mally used w me discretion uipment, wor g outcomes v	n of irrigation king related may be etency he areas and a vithin h and k vithin time
CODE	FNA03S1U10V1	LEVEL	3	CREDIT	3

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1.Perform pre-start checks	 1.1. Checks of water, power, fuel and lubricants ensure that all are available and the control system is operational. 1.2. Pump is primed if necessary and valves, gates and controls are open or closed as directed. 1.3. Water management devices are in position according to design specifications. 1.4. Pressure and flow testing equipment is calibrated and available.
2.Prepare injection or fertigation equipment	 2.1 Injection or fertigation equipment is connected as directed and calibrated according to manufacturers specifications. 2.2 Fertiliser concentration is calculated and the solution thoroughly mixed according to enterprise standards. 2.3 Injection equipment is flushed out until equipment is clean or for approximately ten minutes prior to shut down.
3.Start up and inspect system	 3.1 Start up sequence is implemented in accordance with operations manual and water levels and pressure built up slowly as directed. 3.2 All malfunctions, leakages and blockages are corrected or repaired immediately and reported to the supervisor. 3.3 Control system is set to ensure time of application for amount of water required is in accordance with irrigation schedule.

	3.4 Pressure at the headworks and control valves is within
	design specifications indicating efficient filter
	operation and water is distributed evenly to the
	targeted areas with minimal wastage and run-off.
4.Shut down system based	4.1 4.1 Area is irrigated to the required soil moisture levels
upon	and time lag between shut down and end of watering is
irrigation indicators	determined to minimize run-off and deep percolation.
	4.2 System components are shut down and drained in
	sequence according the operations manual and
	irrigation activity is recorded as required according to
	enterprise guidelines.

- Irrigation systems may include mains pressure, low pressure, below ground, above ground, spray systems, dripper systems, capillary, ebb and flow and flood systems.
- Water sources may include underground water supply, mains or surface storage.
- Irrigation equipment may include pumps, motors, tensiometers, probe tubes, solenoid valves, sprinklers, delivery equipment, sprays, system controllers, disinfestation equipment and filters or other water treatment equipment.
- Testing equipment may include pressure gauges, flow meters.
- Injection/fertigation equipment may include pumps, tanks, strainers and injectors.
- Irrigation systems may range from manual operation and monitoring to fully automated with computer control and monitoring.
- Maintenance may include efficiency testing, run off awareness, filter maintenance, legislative requirements.
- Checks may include flow rates, operating pressures, tail waters.
- Inspections may include solenoid adjustments, priming all laterals to prevent water hammer, sprinkler pressure and output, head ditch, tail water, reuse system, flow rate.
- Fertigation may involve leaf, water and soil analyses.
- Treatment systems for both head and tail water.
- Re-use systems including disinfestation and filtering equipment.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

• Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not

disadvantage the candidate.

• Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • methods and techniques of irrigation • components of an irrigation system • characteristics and operation of joints, valves and sprinkler components • operation of pumps and water flow rates • emergency shut down procedures • behaviour of water on varying terrain and soil types • soil water retention testing techniques • principle and practice in irrigation design • water quality and water filtration techniques	An ability to: • perform pre-start checks • prepare injection or fertigation equipment • start up and inspect system • shut down system based upon irrigation indicators

UNIT TITLE	Control weeds						
DESCRIPTOR	This Unit of Comp pest plants in horti Weed control is lik with checking only application of hort broad range of hor within routines, my judgement is requi organization, servi constraints.	betency is cor cultural situa cely to be und y related to ov icultural know ticultural skill ethods and pr red in the sel ces, actions a	icerned with tions. ler limited so verall progre wledge with ls. Weed co vocedures wh ection of equind achieving	the control of upervision from ess. The work depth in some nere some dis uipment, work g outcomes w	of weeds and om others involves the le areas and a ally done cretion and k vithin time		
CODE	FNA03S1U11V1 LEVEL 3 CREDIT 3						

ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1. Diagnose weed infestation	1.1. Observations support a systematic and demanding	
	analysis of available symptoms.	
	1.2. Conclusions drawn from relevant information are	
	based on reasoned argument and appropriate evidence.	
	1.3. Professional advice is obtained where the complexity	
	of the problem or the severity of infestation dictate.	
2. Select control measures	2.1. Control measures suited to the infestation are	
for the	identified from integrated pest management strategy.	
treatment of weeds	2.2. Treatment suited to crop conditions, severity of	
	infestation, marketing	
3. Apply treatments to weeds	3.1 Treatments are applied having regard to Occupational	
	Health & Safety (OHS) principles, business	
	requirements and sound horticultural practice.	
	3.2 Records are maintained as required by legislation and	
	enterprise guidelines.	
4. Review weed control	4.3 Infestations are monitored and progress compared to	
programs	manufacturers specifications and enterprise records.	
	4.4 Treatment programs are modified where necessary	
	and when dictated by progress.	
	4.5 316.4.3 Supervisor is notified promptly of significant	
	changes to treatments and/or when business	
	implications dictate.	

Landscape

- Weeds may include declared noxious weeds of the region and state.
- Control measures may include chemical and cultural.

Gardens

• Weeds may include commonly occurring varieties of the enterprise and region, easily controlled and which may impact on the quality of the garden.

• Control measures may include chemical, cultural, biological, and environmental.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of:	
• the characteristics, signs and symptoms of	An ability to:
weed infestations of crops	 diagnose weed infestations
• treatment methodologies, behaviour	• select control measures for the treatment of
characteristics, withholding periods of	weeds
various common treatment	• apply treatments to weeds
programs	 review weed control programs
• alternate combinations of treatment	
methodologies	

• local, regional and state based priorities for
the use of chemicals in the control of
infestations
• chemical and non-chemical control
measures for use and application in the
Gardens industry
• commercial control principles for weeds
• labelling conventions for the safe use and
storage of a variety of chemicals
• plant biology
 specialist plant identification

UNIT TITLE	Control pests and diseases							
DESCRIPTOR	 This Unit of Competency is concerned with the control of plant pests and diseases in a horticultural situation. Pest and disease control are likely to be under limited supervision from others with checking only related to overall progress. The work involves the application of horticultural knowledge with depth in some areas and a broad range of horticultural skills. Pest and disease control are normally done within routines, methods and procedures where some discretion and judgement is required in the selection of equipment, work organisation, services, actions and achieving outcomes within time constraints. 							
CODE	FNA03S1U12V1 LEVEL 3 CREDIT 3							

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Diagnose pest and disease	1.1. Observations support a systematic and demanding
infestations	analysis of available symptoms.
	1.2. Samples are collected for laboratory diagnosis where
	1.3 Conclusions drawn from relevant information are
	based on reasoned argument and appropriate evidence
	1 4 Professional advice is obtained where the complexity
	of the problem or the severity of infestation dictate
2 Select control measures	2.1 Control measures suited to infestation are identified
for the	from integrated pest management strategy
treatment of pests and	2.2 Treatment suited to crop conditions, severity of
disaases	infectation marketing requirements and business
uiseases	circumstances is chosen
3 Apply treatments to pests	3.1 Treatments are applied having regard to Occupational
3. Apply ireaments to pests	Health & Safaty (OHS) principles business
disassas	requirements and sound horticultural practice
uiseases	2.2 Records are maintained as required by logislation and
	enterprise guidelines.
4. Review pest and disease	4.1. Infestations are monitored and progress compared to
control	manufacturers specifications and enterprise records.
programs	4.2. Treatment programs are modified where necessary and
	when dictated by progress.
	4.3. Supervisor is notified promptly of significant changes
	to treatments and/or when business implications
	dictate.

Landscape

• Pests may include proclaimed pests of the region, commonly occurring pests of the region, high risk occasionally occurring pests of the region.

• Diseases may include commonly occurring diseases of the region, high risk occasional diseases of the region.

• Control measures may include chemical, cultural.

Gardens

• Pests may include proclaimed pests of the region, commonly occurring pests of the region, high risk occasionally occurring pests of the region.

• Control measures may include chemical, cultural, biological and environmental.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • the characteristics, signs and symptoms of pest and disease infestations of crops • life cycles and physiology of families of pests • characteristics of pathogenic and non- pathogenic diseases in crops • treatment methodologies, behaviour characteristics, withholding periods of various common treatment programs • alternate combinations of treatment methodologies • local, regional and state based priorities for the use of chemicals in the control of infestations • chemical and non-chemical control measures for use and application in the Parks & Gardens industry • labelling conventions for the safe use and storage of a variety of chemicals	An ability to: • diagnose pest and disease infestations • select control measures for the treatment of pests and diseases • apply treatments to pests and diseases • review pest and disease control programs

UNIT-13Propagate plantsUNIT TITLEPropagate plantsThis Unit of Competency is concerned with propagation of plants by sexual and asexual methods.
The propagation of plants is likely to be under limited supervision
from others with checking only related to overall progress. The
propagation of plants is normally done within routines, methods and
procedures where some discretion and judgement is required in the
selection of equipment, work organisation, services, actions and
achieving outcomes within time constraints.

FNA03S1U13V1 LEVEL

CODE

CREDIT

3

3

ELEMENTS OF PERFORMANCE CRITERIA	
COMPETENCIES	
1. Select propagation material	 1.1 Parent plant is prepared and collection method employed suitable to species and according to enterprise guidelines. 1.2 Maximum viability of propagated material is maintained by conditioning and storage according to the requirements of the species. 1.3 Tools are chosen appropriate to the task being undertaken, used according to enterprise guidelines and safe working practices are employed.
2. Prepare growing media	 2.1.Components are prepared according to manufacturer' directions, enterprise guidelines, propagation method and plant needs. 2.2.Storage procedures are performed and hygiene practices followed according to enterprise guidelines.
3. Prepare growing site	 3.1.Benches are maintained free from contamination and hygiene practices are followed according to enterprise guidelines. 3.2.Growing environment is prepared to suit species and propagation method, weed retardants are prepared and applied as specified in planting program. 3.3.Tools are chosen appropriate to the task being undertaken, used according to guidelines and safe working practices are employed.
4. Implement propagation method	 4.1.Pre-planting treatment is applied and/or carried out appropriate to the propagation method and species, according to enterprise policy. 4.2.Placement and depth are according to planting method and species.

i i		
	4	4.3.Plants are handled in a way that minimises damage.
	4	4.4.Water and nutrients are applied to suit the media
		conditions, plant requirements and propagation
		techniques employed, according to supervisors
		instructions.
	4	4.5.Labels and identification are ratified and applied
		according to enterprise guidelines.
	4	4.6.Remedial action is taken as specified in planting
		program, to control pests and diseases.
	4	4.7.Records are completed accurately and at the required
		time according to enterprise guidelines.
	4	4.8.Tools are chosen appropriate to the task being
		undertaken, used according to guidelines and safe
		working practices are employed.
	4	4.9. Tools and equipment cleaning and storage are
		performed, and hygiene practices are followed in
		accordance with enterprise guidelines

• Plants to be propagated may include ornamentals, fruit, nuts, vegetables, herbs, bulbs, fungi.

• Propagation material may include seeds, cuttings, spores, grafted plants, buds, separations/divisions,

tissue cultures, rhizomes, plantlets.

• Growing media may include sand, potting mix, gravel, scoria, rock wool, gro-wool, sawdust, pine bark,

water (hydroponics).

• Growing environment may include temperature, light, humidity, wind, sun, moisture, topography,

rainfall.

• Nutrients may include chemicals, fertilisers, organic material.

• Remedial action may include removal of infected material, treatment with chemicals.

• Weed retardants may include weed-mat, slatted benches, chemical solutions, granular preemergent.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: media mixing and storage procedures selection of media components for plant	An ability to:
species' requirements. growing environments and weed retardants	• select propagation material
that are suited to propagated material pre-planting treatments, water and	• prepare growing media
nutrients suited to propagated material remedial action for weeds, pests and	• prepare growing site
diseases all forms and techniques of propagation	• implement propagation method

UNIT TITLE	Provide information on plants, products and treatments						
DESCRIPTOR	This Unit of Comp clients and others a The provision of in from others with c provision of inforr knowledge with de horticultural skills within routines, m judgement is requi	betency is cor about plants, nformation is hecking only nation involv epth in some . The provision ethods and provision ired.	horticultural likely to be related to ov res the applic areas and a bon of inform rocedures wh	providing in products and under limited verall progress eation of horti- proad range o ation is norm here some dis	formation to d treatments. d supervision ss. The icultural f ally done cretion and		
CODE	FNA03S1U14V1 LEVEL 3 CREDIT 3						

ELEMENTS OF	PERFORMANCE CRITERIA			
COMPETENCIES				
1. Identify the issue	 1.1.Contact is initiated when appropriate according to enterprise client service guidelines. 1.2.Customer is assisted in explaining the issue by the use of active listening and questioning techniques according to enterprise client service guidelines. 1.3.Nature of issue is clarified by gathering all relevant information from client, according to enterprise client service guidelines. 			
2. Decide on preferred solution	 2.1.Options and/or strategies identified and devised are examined and evaluated according to enterprise guidelines and sound problem-solving techniques. 2.2.Optimal solution is determined based on reasoned argument, appropriate evidence, sound horticultural principles and enterprise policy. 			
3. Provide the preferred solution	 2.3.Recommended solution, method of application and probable outcomes are clearly provided to the customer according to enterprise client service guidelines. 2.4.The original supplier of the product is referred to where necessary. 2.5.Customer requests for clarification or expansion are responded to by the use of active listening and questioning techniques according to enterprise client service guidelines. 			

• Horticultural issues may include weeds, pests and diseases control measures, basic garden design, products and services, selection and use of plant materials, local geographical variables.

• Information relevant to a horticultural issue may include soil types, proximity to buildings, environment, positioning, material types.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • effective questioning techniques combined with a friendly and helpful manner • a broad range of horticultural and basic garden design issues • legal issues, environmental conditions, regulations, indigenous plants, cultural sensitivities • problem-solving techniques • plant identification and selection • soil characteristics • pest and disease treatments • weed treatments • local horticultural services, products and contractors • duty of care in provision of advice and recommendations	An ability to: • identify the issue • decide on preferred solution • provide the preferred solution

UN	NIT- 15					
	UNIT TITLE	Maintain an offic	e			
	DESCRIPTOR	This Unit of Comp office for a horticu The maintenance of from others with c maintenance of an and procedures wh the selection of eq achieving outcome	betency is con- iltural enterproof an office is hecking only office is normative nere some dis- uipment, wor es within time	icerned with ise. likely to be related to ov nally done v cretion and j k organisation constraints.	the maintena under limited verall progres vithin routine udgement is on, services, a	nce of an d supervision s. The s, methods required in actions and
	CODE	FNA03S1U15V1 LEVEL 3 CREDIT 2				

ELEMENTS OF	PERFORMANCE CRITERIA		
COMPETENCIES			
1. Maintain records	1.1. A recording system is implemented to meet enterprise requirements.		
	1.2. Records are kept updated according to company policy.		
	1.3. Records are stored and retrieved according to		
	company policy.		
2. Collate field data	2.1. Data is compiled from a range of sources in an		
	accurate and cientifically valid manner.		
	2.2. Collected data is sorted and presented in an easily		
	recognisable format.		
	2.3.Data is analysed in a scientifically valid manner in		
	conjunction with the supervisor.		
3. Monitor stocks	1.1.A monitoring system is implemented according to		
	enterprise requirements.		
	1.2. Stocks on hand are recorded following company		
	policy.		
	1.3. Inventory balances are kept up to date as		
	prescribed by enterprise requirements.		
	1.4.Usage is recorded according to company policy.		
4. Arrange purchase of	4.1.Quotes are obtained from alternative suppliers.		
materials	4.2. Suppliers are selected according to company		
	policy.		
	4.3.Orders are placed in line with enterprise		
	requirements.		
	4.4. Delivery is arranged according to company		
	policy.		
	4.5. Dispatch is recorded according to company		
	policy.		

 5. Implement office security	5.1. Assets are secured according to company
	guidelines.

- Scientifically valid manner means data is reliable, repeatable and unbiased.
- Presentation of data may include graphs, tables, reports, computer spreadsheets.
- Company policy may include type of monitoring system to use, how often to be monitored,
- notification of low stock, budget restraints, types of stock to re-order, recording system.
 - Stocks may include any material used in the workplace.
- Data may include weather data, irrigation, pest incidence, beneficial insects, soil information.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: different recording systems - advantages and disadvantages of each different monitoring systems - advantages and disadvantages of each different presentation styles of field data numeracy and literacy 	An ability to: • maintain records • collate field data • monitor stocks • arrange purchase of materials • implement office security

UNIT TITLE	Conduct operation	onal inspection	on of park f	acilities	
DESCRIPTOR	This unit describes identify hazards, e with Australian St Work is likely to b checking only rela within routines, m judgement is requi organisation, servi constraints	s the operatio xisting and/o andards and (o be under limit ted to overall ethods and pured in the sel ces, actions a	nal inspection r potential ri Occupationa ted supervisi l progress. T cocedures wh ection of equind achieving	on of park fac sks and non l Health & Sa on from othe he work is no here some dis uipment, wor g outcomes w	ilities to conformities afety issues. rs and with ormally done cretion and k vithin time
CODE	FNA03S1U16V1	LEVEL	3	CREDIT	3

ELEMENTS OF	PERFORMANCE CRITERIA		
COMPETENCIES			
1. Prepare for operational inspection	 1.1. Specific facilities and equipment for inspection are determined according to operational request. 1.2. Equipment test and check procedures are carried out in line with enterprise policy. 1.3. Appropriate checklists and reporting formats are prepared to suit the application. 1.4. Different types of facilities are identified from checklist descriptions. 1.5. Specific terminology used in checklists are alarified with the supervisor. 		
2. Undertake operational inspection	1.Modes of non-conformity with Australian Standards, Occupational Health and Safety		
	guidelines and enterprise standards are recorded. Visible hazards, indications and signs of hidden		
	faults are		
	1.6.detected and recorded		
	1.7.335.2.3 Checklist entries are concise and accurate		
	1.8.335.2.4 Inspections undertaken in efficient and		
	safe manner		
	1.9. according to enterprise policy.		
	1.10. 335.2.5 The organisation's 'Playground		
	Safety		
	1.11. Management System' is implemented in		
	line with industry		
	1.12. standards.		
	1.13. 335.2.6 Specific terminology used in		
	checklists are clarified.		

	1.14.	Tools and equipment used for testing are	
	identified.		
3. Recommend effective	1.15.	335.3.1 Situations requiring urgent action	
rectification	are	reported immediately	
action	1.16.	to supervisors.	
	1.17.	335.3.2 Recommendations required to	
	rectify non-conformities are		
	1.18.	noted and actioned as required.	
	1.19.	335.3.3 An inspection report is submitted to	
	sup	ervisor according to	
	1.20.	enterprise policy.	

• Facilities and equipment may include playgrounds, playground softfall and pathways, play equipment, parks and street furniture and structures, fences, barbeques, steps and stairs, bollards and tree/grass protection devices, and paved, turf and/or grassed recreational areas.

• Visible hazards may include damaged parts, broken glass, loss of soft surfacing, protruding nails, bolts and splinters, sudden changes in surface levels such as holes and trip points, and worn, rusted and weathered components.

• Non-conformities may include obvious or hidden hazards, worn or damaged components such as bearings and moving joints, and structural instability, and defective operation of equipment.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of • range of park facilities and equipment • terminology used to describe different components of facilities • different modes of non-conformity • reporting requirements • facility use and safety parameters • practical elements of test and check procedures • material construction and maintenance principles.	An ability to • prepare for operational inspection • undertake operational inspection • submit inspection report

UNIT TITLE	Install and maintain interior plant displays				
DESCRIPTOR	This Unit of Comp maintenance work and offices. The installation an to be under limited related to overall p application of hort broad range of hor and maintenance is procedures where 0 judgement is req	betency is cor associated w d maintenand l supervision orogress. Insta icultural kno ticultural skil s normally do some discreti uired	icerned with ith interior p ce of a interior from others allation and p wledge with lls. Interior p one within ro on and	the installati blant displays or plant displ with checkin maintenance depth in som blant display i butines, metho	on and in buildings ays is likely g only involves the le areas and a nstallation ods and
CODE	FNA03S1U17V1	LEVEL	3	CREDIT	3

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Assess interior spaces	1.1 Access factors are assessed and recorded prior to
prior to	installation.
plant scaping	1.2 Environmental factors are assessed and recorded prior
	to
	installation.
	1.3 Growing conditions and constraints are analysed and
	recorded.
	1.4 Light sources in regard to both plant growth and client
	requirements are noted.
2. Install containerised	2.1 Pre-installation materials, equipment, machinery and
and direct planted	personnel required for the job are listed and scheduled
specimens	according to a given plan or specifications.
	2.2 Direct planted and containerised material are installed
	according to the given plan or specifications.
	2.3 Plants are installed securely so that they are well
	presented,
	accessible for routine maintenance and conform to the
	plan
	or specifications.
	2.4 Damaged or unnecessary material is pruned to enhance
	the
	presentation.
	2.5 Plants are watered and fertilised as required according
	to
	enterprise policy.

	2.6 The site is left in a clean and tidy state following
	installation of plants.
3. Maintain indoor plants	3.1 The symptoms of under and over-watering in indoor
	plants
	are detected by hand and with the aid of a water meter.
	3.2 Corrective action for under and over watering is
	actioned
	according to enterprise standards.
	3.3 The symptoms of low and high light intensity are
	detected
	using a light meter.
	3.4 Corrective action to rectify the direction, quality and
	intensity of light is actioned according to plant locations.
	3.5 The symptoms of low and high fertiliser concentration
	are
	detected and the pH of the growing medium is measured.
	3.6 Insects, pests and diseases associated with indoor
	plants are
	detected and controlled. as required.
	3.7 Indoor plants are regularly cleaned, trained, trimmed
	and
	pruned as part of maintenance routines.
	3.8 Cleaning agents are selected and decorative containers
	are
	cleaned as required.
4.Prepare, maintain and	4.1 The cost benefit of reviving plants is determined in
revive indoor	line
plants	with site requirements.
	4.2 A range of pruning techniques are used which will
	give
	plants (in baskets, on totems, as standards or braids and
	bonsai) the desired shape and size for a plantscape.

• Access factors include time constraints, parking restrictions, stairs and level changes, watering facilities, room surface finishes, work areas, colours, lift size, equipment needed, loading bay (walls,

floor, furnishings), spatial volume and room use.

• Environmental factors include room temperature range, light intensity, air circulation and ventilation, humidity and drainage.

• Light sources include natural, incandescent, fluorescent and metal halide lights.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • physical and perceptual characters of plants • attributes of plants commonly used in interior plant scaping • indoor plant growth • light and moisture tolerance/intolerance for common indoor plant species • photosynthesis, respiration, nutrient uptake and growth rate • acclimatisation techniques for indoor plants	An ability to: • assess interior spaces prior to plant scaping • install containerised and direct planted specimens • maintain indoor plants in-situ • prepare, maintain and revive indoor plants

UNIT-18 Select chemicals and biological agents **UNIT TITLE Unit Descriptor** This unit covers the responsibility workers have for the selection and preparation of chemicals and biological agents for others who may apply them. The selection of chemicals and biological agents is likely to be under limited supervision from others with checking only related to overall DESCRIPTOR progress. The work involves the application of horticultural knowledge with depth in some areas and a broad range of horticultural skills. Selection is normally done within routines, methods and procedures where some discretion and judgement is required in the selection of equipment, work organisation, services, actions and achieving outcomes within time constraints. FNA03S1U18V1 LEVEL 3 CODE 3 CREDIT

ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1. Select appropriate	1.1 Chemical and biological agents selected are as	
chemical	determined	
	or prescribed and are consistent with user requirements.	
2. Select application	2.1 Application equipment appropriate to the chemicals	
equipment	and	
	biological agendas and situations are selected, adjusted	
	and	
	calibrated to industry or enterprise standards.	
	2.2 Application methods and equipment are consistent	
	with	
	label specifications and health and safety regulations.	
3. Determine chemicals	3.1 Chemicals determined are consistent with label	
appropriate to the	specifications, with regard to dosage and application	
identified problem	rates	
4. Determine chemicals	4.1 Chemicals determined are cost effective and	
which are consistent	minimise	
with user requirements	environmental and human impact.	
and capabilities	4.2 Phytotoxicity, compatibility and detrimental impacts	
	to end	
	product are also determined.	
	4.3 Most appropriate formulation is selected.	
	4.4 Weather conditions are assessed as suitable for the	
	application of determined chemical.	

	4.5 Regulations and legislation relevant to the situation
	are
	observed
5. Use personal protective	5.1 Tools, equipment and personal protective equipment
equipment	appropriate to the task are selected, and used as
	determined
	by label directions, material safety data sheet or industry
	or
	enterprise standards.
6. Prepare application	6.1 Mixing procedures comply with label directions and
requirements	health
-	and safety regulations are used.
	6.2 Compatibility of products and quantity of water are
	determined.
	6.3 Calculations comply with label directions.

• Types of formulation may include emulsifiable concentrates, gases, baits, pellets, liquid concentrates,

powder, granules, suspension concentrates.

• Types of chemicals may include insecticides, herbicides, fungicides, algaecides, growth regulators,

growth regulators, bio-agents.

• Control methods may include chemical, mechanical, biological, cultural, hygiene.

• Regulations may include industry codes of practice, State and Federal Acts, local government by-laws.

• Biological agents may include viruses, bacteria, fungi, nematodes, lures, pheromones.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: the location and significance of information provided on a label of a horticultural chemical container the sources of specific information with regard to chemicals, including the Material Safety Data Sheet, State Department of Primary Industry (DPI) publications and "Peskem" incorporating cultural, chemical, mechanical, biological and quarantine controls the requirements and responsibilities in relation to relevant state legislation relating to correct storage facilities and maintenance procedures. 	An ability to: • determine chemicals appropriate to the identified problem • determine chemicals which are consistent with user requirements and capabilities • select appropriate chemicals and biological agents • use personal protective equipment • fill application equipment

UNIT TITLE	Implement occupational health & safety policies and guidelines (OHS Policies and guidelines)				
DESCRIPTOR	This Unit of Comp Occupational health horticultural workp Work is likely to be to overall progress involved and team Competencies are procedures where selection of equipt achieving outcome	betency is con th and safety place and/or yo be under limit a. Responsibil coordination normally use some discretion nent, work on es within time	ncerned with policies and work site. ed supervisi ity for the w may be req d within rou on and judg rganisation, e constraints	the impleme guidelines ir on with check ork of others uired. tines, method ement is requiservices, activ	entation of a a king related a may be ds and hired in the ons and
CODE	FNA03S1U19V1	LEVEL	3	CREDIT	3

ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1. Provide information to the work group	 1.1 Relevant provisions of Occupational Health & Safety (OHS) legislation, regulations and codes of practice are accurately and clearly explained to the work group. 1.2 Information on the organisation's Occupational Health & Safety (OHS) policies, procedures and programs is provided in a readily accessible manner and is accurately and clearly explained to the work group. 1.3 Information about identified hazards and the outcomes of risk assessment and risk control procedures is regularly. 	
	provided and is accurately and clearly explained to the	
2. Implement and monitor participative arrangements for the management of Occupational Health & Safety (OHS)	 2.1 Organisational procedures for consultation on Occupational Health & Safety (OHS) issues are implemented and monitored to ensure that all members of the work group have the opportunity to contribute. 2.2 Issues raised through consultation are dealt with and resolved promptly or referred to the appropriate personnel for resolution according to workplace procedures for issue resolution. 	

2.3 The outcomes of consultation over Occupation: Health & Safety (OHS) issues are made known promptly to twork group. 3. Implement and monitor the organisation's 3.1 Existing and potential hazards in the work area identified and reported so that risk assessment and control procedures can be applied.	al the are risk
3. Implement and monitor the organisation's 3.1 Existing and potential hazards in the work area identified and reported so that risk assessment and control procedures can be applied.	are risk
3. Implement and monitor the organisation's 3.1 Existing and potential hazards in the work area identified and reported so that risk assessment and control procedures can be applied.	are risk
group. 3. Implement and monitor the organisation's 3.1 Existing and potential hazards in the work area identified and reported so that risk assessment and control procedures can be applied.	are risk
3. Implement and 3.1 Existing and potential hazards in the work area identified and reported so that risk assessment and control procedures can be applied.	risk
organisation's control procedures can be applied.	IISK
organisation's control procedures can be applied.	
procedures for	
identifying hazards	
and assessing risks	
4. Implement and 3.2 Work procedures to control risks are implement	ited and
monitor the adherence to them by the work group is monitored	
organisation's according to workplace procedures.	
procedures for 3.3 Existing risk control measures are monitored and	nd
controlling risks results reported regularly according to workplace	
procedures.	
3.4 Inadequacies in resource allocation for implem	entation
of risk control measures are identified and reported	1 to
5 Implement and 5 1 Occupational Health & Safety (OHS) training t	needs
monitor the are identified accurately specifying gaps between	iccus
organisation's Occupational Health & Safety (OHS) competencie	S
procedures for required and those held by work group members.	
providing 5.2 Arrangements are made for fulfilling identified	l
Occupational Health Occupational Health & Safety (OHS) training need	ls in
& Safety (OHS) both on and off-the-job training programs in consu	ltation
training with relevant parties.	
6. Implement and 6.1 Occupational Health & Safety (OHS) records f	or the
monitor the work area are accurately and legibly completed acc	cording
organisation's to workplace requirements for Occupational Health	1 &
maintaining (OHS) records and legal requirements for the main	tenance
Occupational Health of records of occupational injury and disease	
& Safety (OHS) 6.2 Aggregate information from the area's Occupation	tional
records Health & Safety (OHS) records is used to identify	hazards
and monitor risk control procedures within the wor	k area
according to organisational procedures and within	the
scope of responsibilities and competencies.	

• Occupational Health & Safety (OHS) legislation may include general duty of care; requirements for the

maintenance and confidentiality of records of occupational injury and disease; provision of information

and training; regulations and codes of practice relating to hazards present in work area; health and

safety representatives and occupational health and safety committees; issue resolution.

• Hazardous events may include accidents, fires and emergencies such as chemical spills or bomb scares.

Procedures for dealing with them may include evacuation, chemical containment and first aid procedures.

• Workplace procedures for Occupational Health & Safety (OHS) may include inspection; housekeeping; consultation processes, either general of specific to Occupational Health & Safety (OHS), training and assessment; specific hazard policies and procedures; Occupational Health & Safety (OHS) information; Occupational Health & Safety (OHS) record keeping; maintenance of plant

and equipment; purchasing of supplies and equipment; counselling/disciplinary processes.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of	An ability to
applicable Occupational Health & Safety	• provide information to the work group
(OHS) legislation, regulations and Codes of	• implement and monitor participative
Practice	arrangements for the management of
• the hierarchy of control	Occupational Health &

• risk assessment and control	Safety (OHS)					
• HSK assessment and control	Safety (OIIS)					
• Occupational Health & Safety (OHS)	• implement and monitor the organisation's					
record keeping	procedures for identifying hazards and					
	assessing risks					
	• implement and monitor the organisation's					
	procedures for controlling risks					
	• implement and monitor the organisation's					
	procedures for providing Occupational					
	Health & Safety					
	(OHS) training					
	• implement and monitor the organisation's					
	procedures for maintaining Occupational					
	Health & Safety					
	(OHS) records					
UNIT TITLE	Implement a plant nutrition program					
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DESCRIPTOR	This Unit of Comp nutrition program Implementing a pl supervision from of progress. The implevel involves the in some areas and normally done wit where some discree equipment, work of actions and achiev	betency is cor in the horticu ant nutrition others and with lementation of a broad range hin a program tion and judg organisation, so	icerned with ltural indust program is li ch checking of f a plant nut f horticultura of horticult n, routines, r gement is req services, within time	implementin ry. kely to be un only related to rition program al knowledge ural skills. The nethods and p uired in the s	g a plant der limited o overall m at this with depth he work is procedures election of	
CODE	FNA03S2U20V1 LEVEL 4 CREDIT 9					

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Monitor soil pH.	 1.1 Soil pH in the field or growing media is monitored in relation to plant nutrition and in accordance with enterprise policy. 1.2 Products useful in changing soil pH are identified and sourced according to enterprise policy.
2. Determine nutritional problems in plants.	 2.1 Common nutrient deficiency and toxicity problems in plants are identified using visual methods. 2.2 Supervisor and/or nutritional specialist are consulted as required to determine nutritional or toxicity problems. 2.3 Soils are modified to improve soil fertility according to the enterprise nutrition program.
3. Prepare for fertiliser use.	 3.1 The type of fertiliser for use is selected according to crop requirements, soil types and the enterprise nutrition program. 3.2 Fertiliser applications are timed according to the crop growing cycle and the enterprise fertiliser calendar. 3.3 Fertiliser application methods are compared in the light of types of fertiliser, crop needs and enterprise guidelines. 3.4 Fertilisers are handled and stored safely, in an environmentally friendly manner and according to legislative requirements and industry guidelines.

3. Apply specific fertilisers	4.1 Fertiliser labels are read and interpreted accurately.
and rates of application.	4.2 Fertiliser and nutrient application rates are calculated.
	4.3 Specific fertilisers are selected based on their analysis
	to
	meet enterprise needs.
	4.4 Specific fertilisers are applied at the correct rate,
	timing and
	method according to the fertiliser, crop needs and
	enterprise guidelines.
	4.5 Fertiliser applications are recorded according to
	enterprise
	policy.
	4.6 The effects of the fertiliser program are monitored,
	documented and reported according to enterprise policy.

• Soils may include field sites and specialist growing media.

• Soil surveying equipment may include equipment for pH testing such as CSIRO Innoculo soil test kit

or electronic pH testing device, hand held salinity/EC meter, tape measure, plastic overlays, aerial

photographs, charts and tables of soil characteristics.

- Soil ameliorants to improve fertility may include cover crops, animal manures, gypsum, lime.
- Fertilisers may include solids, liquids, gases, artificial, organic, ground applied, foliar.
- Application methods may include banding, broadcasting, ripping, spraying, fertigation.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

• Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not

disadvantage the candidate.

• Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of • the relationship between soil characteristics and nutrient availability to plants • macro and micro elements • nutrient cycling • sources of plant nutrients • nutrient uptake by plants • nutrient deficiency/toxicity symptoms • types and characteristics of fertilisers • soil ameliorants	An ability to • monitor soil pH • determine nutritional problems in plants • prepare for fertiliser use • apply specific fertilisers and rates of application

UNIT TITLE	Install irrigation	systems			
DESCRIPTOR	This Unit of Comp irrigation systems. Irrigation installati others with checkin involves the applic some areas and a b installation is norm where some discree equipment, work of outcomes within the other tradesperson electricians.	betency is cor on is likely to ng only relate cation of hort proad range o nally done wi tion and judg organisation, s me constrain s such as plus	be under li be under li ed to overall icultural kno f horticultura thin routines gement is req services, acti ts and may i mbers and	the installati mited superv progress. The wledge with al skills. Irrig s, methods an juired in the s ions and achi- nclude the co	on of ision from e work depth in ation d procedures selection of eving ordination of
CODE	FNA03S2U21V1	LEVEL	4	CREDIT	9

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1.Organise resource	1.1 Parts and equipment delivered to site are checked
requirements	according
	to system drawings and specifications.
	1.2 Work team is briefed on installation or modification
	procedures and requirements and jobs and tasks allocated.
	1.3 Equipment and machinery is in good working
	condition
	and safety hazards are identified.
2.Prepare a site in accordance	2.1 Measurement and marking out of irrigation lines is
with plans and specifications	consistent with plan.
	2.2 Trenches where constructed are at the specified depth
	without damage to services, facilities, features and
	established plants.
	2.3 Equipment operation and work practices conform with
	enterprise OHS guidelines.
	2.4 Regulations and legislation relevant to the situation are
	observed.
	2.5 Work practices reflect sustainable horticulture
	principles
	and respond to local community requirements.
3.Install irrigation	3.1 Plan is interpreted and where applicable, contractors
components	are
	supervised and work is monitored to conform to plan.
	3.2 Components are assembled and connected according
	to

	plan, joints are completed and tested according to	
	manufacturers specifications.	
	3.3 Fittings and valves are fitted and adjusted to	
	requirements	
	of the installation plan, and all joints are secured accordin	
	to enterprise guidelines.	
	3.4 Earthworks are finished off to specification.	
	3.5 The system configuration and capacity match the	
	installation plan.	
	3.6 The site is restored to its original condition after works	
	completion.	
	3.7 Tools are chosen appropriate to the task being	
	undertaken,	
	used according to guidelines and safe working practices	
	are	
	employed.	
4.Commission irrigation	4.1 Startup sequence is in accordance with operations	
system	manual.	
	.4.2 System is flushed as required.	
	.4.3 Operating faults are identified and corrective actions	
	taken	
	according to operations manual.	
	4.4 Testing and monitoring equipment is calibrated to	
	manufacturers specifications.	
	4.5 Regular monitoring ensures that the system operates	
	according to design specifications.	

• Irrigation systems may include mains pressure, low pressure, below ground, above ground, spray systems, dripper, capillary, ebb and flow and flood systems.

• Irrigation equipment may include pumps, motors, delivery equipment, sprays, system controllers.

- Testing equipment may include pressure gauges, flow meters.
- Water supply may be underground, mains or surface storage.
- Machinery may include graders, back hoes, front end loaders, ploughs, molding boards.
- Fixtures may include dams, bores, windmills, tanks, channels.

• Equipment may include injectors, pumps, tensiometers, probe tubes, flow meter, cath cans, pressure gauge, computer and/or other scheduling devices, recycling equipment, spray equipment.

• Materials may include gland packing, rubber rings, belts and pulleys, hazardous substances, chemicals.

• Irrigation systems may range from manual operation and monitoring to fully automated with computer control and monitoring.

• Reuse systems include disinfestation and filtering equipment.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

• Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.

•

• Questioning Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • methods and techniques of irrigation • components of an irrigation system • characteristics and operation of joints, valves and sprinkler components • operation of pumps and water flow rates • behavior of water on varying terrain and soil types • soil water retention testing techniques • principle and practice in irrigation design • water quality and water filtration techniques • calculations for installing irrigation systems	An ability to: • prepare a site according to plans and specifications • install irrigation components

UN	UNIT- 22					
	UNIT TITLE	Set out landscape works				
		This Unit of Competency is concerned with the setting out of				
		landscape works from plans and specifications in advance or in conjunction with implementation of planned works. The work is likely to be under routine supervision with intermittent				
	DESCRIPTOR					
		checking. Competency involves the application of knowledge and				
		skills to a range of setting out and installation tasks and roles usually				
		within established enterprise routines.				
	CODE	FNA03S2U22V1	LEVEL	4	CREDIT	9

ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1.Mark out position of works	1.1. Proposed structure is located on site according to site plan dimensions.	
	1.2 Shape of proposed structure is marked out on ground	
	according to plan dimensions.	
	1.3 Datum height is established to ensure all features can	
	be linked by survey equipment according to established	
	survey techniques.	
2. Establish set-out lines	2.1 Profiles are located with close proximity to site set out	
	to ensure they are not damaged during construction	
	according to site plan.	
	2.2 Profiles are installed to ensure they remain stable when	
	setout lines are tightened according to established	
	construction techniques.	
	2.3 Base lines are established according to plan	
	dimensions.	
	2.4 Building lines are established with corners at 90° and	
	diagonals of equal distance according to size and snape as	
	determined by plan.	
3.Establish survey bench	3.1. Equipment is prepared and used according to	
marks	instructions and manufacturers guidelines.	
	3.2. Levelling equipment is set up and checked for	
	accuracy of readings according to manufacturer's	
	guidelines.	
	3.3. Instruments which are out of specification are	
	adjusted or reported to nominated person according to	
	enterprise guidelines.	
	3.4. A temporary bench mark is selected and established	
	on a position/structure according to established surveying	
	techniques.	

1		
	3.4	5. A temporary bench mark height is established using
	lin	e levelling techniques according to established
	su	veying practice.
	3.0	5. Tools and equipment are cleaned, maintained and
	sto	red consistent with manufacturer's specifications and
	en	terprise guidelines.

- Marking out procedures include application of lime, paint, chipping, pegging, staking.
- Equipment includes tilting levels, automatic levels, line level, spirit level, water level,
- Cowley level, staffs, boning rods, measuring tapes, claw hammer, sledge hammer.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: interpretation of landscape plans mathematical and geometrical principles used in setting out methods of detecting underground services 	An ability to: • mark out position of structures • establish set-out lines • establish survey bench marks

NIT- 23					
UNIT TITLE	Supervise work s	ite activities			
	This Unit of Competency is concerned with the small-scale supervision of projects and work site activities and not general management of people and processes. Responsibility may be for basic coordination and direction of small groups working on a site remote from the enterprise headquarters, small projects or parts of projects, or small areas within the enterprise.				
DESCRIPTOR	The supervision of work site activities is likely to be under limited supervision from above and with checking only related to overall progress. Work site supervision involves the application of horticultural knowledge with depth in some areas and a broad range of horticultural skills. The work is normally done within routines, methods and procedures where some discretion and judgement is required in the selection of equipment, work organisation, services,				
CODE	FNA03S2U23V1	LEVEL	4	CREDIT	9

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ELEMENTS OF	PERFORMANCE CRITERIA		
COMPETENCIES			
1. Prepare project plan	 Requirements of the job are clarified with author and/or works manager. Staff, equipment and material resource requirements are specified and time is allocated in conjunction with supervisor. The order of activities is specified according to enterprise guidelines. Occupational Health & Safety (OHS) legislation, enterprise procedures and site-specific safety requirements are observed. The plan is documented clearly and presented to supervisor for verification. 		
 Organize resources for project implementation 	 2.1 Materials are purchased and equipment is hired as authorised by supervisor in conjunction with activities undertaken by management. 2.2 External agency permits are gained in the correct order, where required. 2.3 Neighbors and affected parties are notified of works to be undertaken when appropriate. 2.4 Materials are ordered for delivery on site as required. 2.5 Staff are coordinated to be on site when they are required. 		

3. Implement and monitor	3.1 All resources are prepared and timed to suit the project
the project	plan.
plan	3.2 Staff are directed in activities for each period of work.
	3.3 Work is undertaken together with staff following
	documented plan guidelines.
	3.4 Staff, activities and resource usage are supervised and
	are accounted for in the project records.
	3.5 Training on the job is provided as required and as
	appropriate.
	3.6 Contingency situations are recognised and appropriate
	corrective actions are taken to enterprise instructions.
4. Perform site administration	4.1.Management reporting is completed in a timely and
	accurate manner.
	4.2.Decisions are sought from management on important
	and relevant issues.
	4.3. Site administration is monitored to ensure compliance
	with enterprise procedures.
	4.4.A simple project report is written to authorise payment
	for work and materials and to inform management of
	project details, where required by enterprise.

External agency permits may include noise pollution, waste production and removal, environmental protection.

- Operations may be in all weather conditions, and may be modified by poor weather.
- Project may include small/short term job, part of a larger project.

• Reporting includes completion of enterprise procedures and associated manual or computer-based documentation.

• Staff may be obtained from within the enterprise, "borrowed" from another enterprise, hired from a contracting firm, hired for the project from outside the industry.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of: • application of employment-related legislation and awards • application of legislative requirements, especially in the areas of safety, site management and employment • development and maintenance of effective teamwork • enterprise computing systems • enterprise policies especially in areas of quality, personnel and operations, including EEO target groups • enterprise reporting and recording policies • first line supervision • interpreting and communication of operational information, procedures and instructions, and enterprise policies • management of contingencies and emergencies • operational quality control • operational safety • reporting to enterprise requirements	An ability to: • prepare a project plan • organise resources for project implementation • implement and monitor the project plan • perform site administration

UNITITLE	Undertake a site a	Undertake a site assessment			
DESCRIPTOR	This Unit of Comp assessment as part a landscape design Undertaking a site supervision from of progress. Undertak horticultural know of horticultural ski within routines, m judgement is requi	betency is con of prelimina assessment i others with ch king a site ass ledge with de ills. The prov ethods and pr red.	ncerned with ry tasks lead s likely to or necking only sessment inv epth in some ision of info	undertaking ing to the dev ccur under lin related to ov olves the app areas and a b rmation is no here some dis	a site velopment of nited erall lication of proad range rmally done cretion and
CODE	FNA03S2U24V1	LEVEL	4	CREDIT	12

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Survey site features	1.1.Existing on-site features and services impacting upon
and characteristics	the
	design proposal is identified and recorded according to
	enterprise guidelines.
	1.2 Compass bearings are identified and magnetic north
	Recorded.
	1.3 Direction of prevailing weather conditions are
	ascertained
	from historical data.
	1.4 General falls and contours are visually identified and
	recorded according to recognized land surveying
	techniques.
	1.5 Covenants which could affect the design are identified
	and
	recorded according to enterprise guidelines.
	1.6 Features adjacent to the site which could be used to
	enhance the design are identified and recorded.
	1.7 Site boundaries are measured and shape of site
	determined
	and recorded according to recognised land surveying
	techniques.
	1.8 Site inventory report is produced according to
	enterprise guidelines
2. Conduct a soil analysis	2.1 Soil profile examination holes are excavated to the
	prescribed depth and to the designated spacings according
	to enterprise guidelines.

		2.2 Horizon levels within the examination holes are noted
		2.3 Soil samples for testing by others are gathered and
		prepared
		according to test kit instructions.
		2.4 Soil types are identified from soil identification
		reference
		chart guidelines and soil maps.
3. Record su	urvey levels	3.1 The assumed datum is located and height calculated
		and recorded using 'rise and fall' or similar survey
		techniques.
		3.2 Line levelling techniques are applied to plot and record
		levels at corners and random points across site according
		to recognised land surveying techniques.
		3.3 Relationship between site levels and adjacent levels
		are
		calculated and recorded according to enterprise guidelines.
		3.4 Grid layout plan of site is produced from field notes
		with all features relevant to the design noted and recorded
		according to recognised land surveying techniques.

• Site inventory factors include topography, vegetation, hydrology, services and amenities, buildings and

structures, access, soil types, site modifications, fauna, location of boundaries, aspect, streams, paths,

banks, gullies.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

• Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not

disadvantage the candidate.

• Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: types, application and uses of surveying equipment principles of line levelling techniques methods of analysing condition and nutritional status of soil principles and theory of landscape design 	An ability to: • undertake a site assessment • conduct a soil analysis • record survey levels

UNIT TITLE	Install concrete structures and features				
DESCRIPTOR	This Unit of Comp concrete structures works. The installation of under limited supe overall progress. T knowledge with de horticultural skills is normally done v some discretion an equipment, work c outcomes within ti	etency is cor and features concrete stru rvision from he work invo- epth in some . The installat vithin routine id judgement organisation, some constrain	icerned with as a compo- ictures and for others with olves the app areas and a b tion of concris, methods a is required is services, acti- ts.	the installation nent of landso eatures is like checking only lication of ho proad range o rete structures and procedure n the selection ions and achie	on of cape project ely to be y related to orticultural f s and features s where n of eving
CODE	FNA03S2U25V1	LEVEL	4	CREDIT	12

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Set out landscape works	1.1 The position of specified landscape features is marked
	out
	as outlined in plans and specifications.
	1.2 Profiles are established to conform with plan and
	specification details and to the tolerances designated by
	supervisor and/or plan details.
	1.3 Survey bench marks, datums and TBM are established according to plan details.
	1.4 On-site services and utilities are located from data
	provided
	by appropriate authorities
	1.5 Waste and debris is removed and unused materials are
	stacked to provide a safe working area.
2. Prepare a site for concrete	2.1 The subsoil is prepared by removing all debris,
	vegetable
	matter and top soil to provide a solid foundation for
	concrete.
	2.2 Drainage provisions are installed according to plan
	details.
	2.3 Form work is installed to site within nominated
	tolerances
	in a manner which will ensure that it remains rigid during
	concrete placement operations.
	2.4 Sub-base material is installed to site and the area is

	compacted to the specified level and to a consistency which
	will ensure that the material does not consolidate during
	the
	concrete placement.
	2.5 Waterproof membrane is installed to area, when
	required,
	according to manufacturer's guidelines.
	according
	to plan details and industry standards (AS1554.3).
	2.7 Release agent is applied to form work according to
	manufacturers specifications.
3. Mix concrete for a	3.1 Volume of concrete required for project is calculated.
landscape project	3.2 Proportions for concrete mix are determined according to
	the strength requirements of the project.
	3.3 Volume of dry materials necessary to produce final
	concrete mix are determined.
	3.4 All dry ingredients are mixed together to ensure a
	thorough
	blending of all materials is achieved.
	3.5 Sufficient water is introduced to produce a plastic
	concrete
	mix after making allowances for damp aggregates.
	3.6 Equipment is cleaned on completion to ensure
	equipment
	can be immediately used when next required.
4. Place and finish concrete	4.1 Any faults are checked and rectified prior to placing
	concrete including: form work stability, reinforcement
	A 2 Balance agent is applied to form work to facilitate agen
	4.2 Release agent is applied to form work to facilitate ease of removal when concrete has hardened
	4.3 The appropriate method of transporting concrete to
	4.5 The appropriate method of transporting concrete to minimise segregation of materials is identified and used
	4.4 Δ concrete slump test is undertaken and samples are
	taken
	for tests to check for conformity to specifications where
	required.
	4.5 Concrete is placed to designated levels in a manner to
	avoid
	segregation of materials.
	4.6 Concrete is consolidated using an approved vibration
	method to industry standard (AS3600) to ensure air
	pockets
	are eliminated.

	4.7 Concrete is screeded to a flat surface to maintain the
	desired finished level.
	4.8 Surface is prepared to ensure a non-slip finish.
	4.9 An appropriate curing agent/method is provided to
	ensure
	the concrete attains the desired strength.
	4.10 Equipment is cleaned on completion to ensure
	equipment
	can be immediately used when next required.
5. Remove form work from	5.1 Form work is removed without damaging concrete
concrete	surfaces
	in a manner which will allow for re-use of the form work.
	5.2 Nails are removed from form work without damage to
	components.
	5.3 All debris is cleaned from form work for next usage
	and all
	components are correctly stored and stacked in a safe
	manner.

• Concrete structures and features may include paths, footings, edgings, floors, decking, boardwalks, ornamental

garden elements.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture

workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: setting out landscape works concrete construction techniques legislation regarding footings and foundations concrete properties and characteristics hand tools and equipment use and operation 	An ability to: • set out landscape works • prepare a site for concrete • mix concrete for a landscape project • place and finish concrete • remove form work from concrete

	1					
UNIT TITLE	Install timber structures and features					
DESCRIPTOR	This Unit of Comp structures and feat The installation of limited supervision progress. The work knowledge with de horticultural skills is normally done v some discretion an equipment, work of outcomes within ti	betency is con- ures as a com- timber struct n from others k involves the epth in some . The installar vithin routine d judgement organisation, some me constrain	accerned with aponent of la ures and fea with checki e application areas and a b tion of timbe s, methods a is required i services, acti ts.	the installation ndscape projectures is likely ng only related of horticultu proad range of er structures a and procedure n the selection ions and achiect	on of timber ect works. y to be under ed to overall ral f and features s where n of eving	
CODE	FNA03S2U26V1 LEVEL 4 CREDIT 12					

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Plan and prepare works	1.1 Materials and quantities are determined from job
	drawings
	and specifications.
	1.2 Appropriate personal protective equipment is selected
	and
	fitted according to Occupational Health & Safety (OHS)
	requirements.
	1.3 Tools and equipment are selected and checked for
	serviceability according to enterprise guidelines.1.4
	Materials are checked for quality to ensure they are free of
	defects and conform to the specification details.
2. Set out the works	2.1 All obstructions to the construction programs are
	identified
	and removed to ensure the works can proceed
	uninterrupted.
	2.2 Site access and storage areas are identified to ensure
	works
	can proceed in an orderly manner according to enterprise
	guidelines.
	2.3 The position of structure is marked out according to
	job
	drawing details.
	2.4 The structure is set out to tolerances nominated within
	specifications.
	2.5 Safety signage and barriers are erected to ensure safety
	of

	-
	all persons within the construction area.
	2.6 Footings are excavated and prepared according to job
	drawings and specifications.
	2.7 Components are prepared for assembly to the design
	requirements contained in the job drawings and
	specifications.
	2.8 The length of components and the positions of cuts
	marked
	out if applicable to designated requirement details
	contained in job drawings.
	2.9 Material is cut accurately allowing for overhang where
	applicable.
3. Assemble and erect	3.1 Initial components are located into position and fixed
structure	into
	place according to specification details
	3.2 Temporary bracing is fixed where required to maintain
	stability of components during construction
	3.3 The remaining components are installed and fixed into
	position according to job drawings and specifications
	3.4 All overhangs are cut off and the finished structure
	completed according to job drawing and specifications
A Apply coatings to finished	4.1 Personal protective equipment is selected and fitted
structure	4.11 reisonal protective equipment is selected and fitted
structure	requirements
	4.2 Tools and againment are calcoted and sheeled for
	4.2 Tools and equipment are selected and checked for
	4.2 Sofety signage and harrians are get up to arguing the
	4.5 Safety signage and barriers are set up to ensure the
	safety
	of an persons within the area.
	4.4 Paint cloths are placed to protect the surroundings.
	4.5 Preparation of all components is undertaken according
	to
	specifications and manufacturers guidelines.
	4.6 Paint is applied, as specified by the manufacturer,
	ensuring
	complete coverage and evenness of application.
	4.7 Tools and equipment are cleaned up to ensure that
	immediate use is possible when next required.
	4.8 Waste is disposed of to ensure the environment is not
	adversely affected according to regulatory requirements.
5. Undertake a site	5.1 All mechanical features are checked and adjusted to
commissioning	ensure
	that they operate according to the manufacturers
	specifications.
	5.2 Quality of finished works are inspected to ensure the
	standard of the finished product is according to the plans

	and specifications.
6.Clean up site and store all	6.1 Debris is cleaned from structure and site according to
tools and	specifications details.
equipment	6.2 Waste material is disposed of safely without adversely
	impacting upon the environment.
	6.3 Unused material is stored and stacked for future re-use
	according to job instructions.
	6.4 Tools and equipment are cleaned and stored according
	to
	job instructions.

• Timber structures and features includes fences, pergolas, trellises, lattices, gazebos, small bridges,

handrails, decking, boardwalks, screens, seats, site furniture, bollards, car barriers.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
A basic working knowledge of:	An ability to:
 setting out landscape works 	 plan and prepare works
 timber construction techniques 	• set out the works
 legislation regarding construction of 	• assemble and erect structure
structures	 apply coatings to finished structure
• timber properties and characteristics	 undertake a site commissioning
 hand tools and equipment use and 	• clean up site and store all tools and
operation	equipment

-					
UNIT TITLE	Install brick structures and features				
DESCRIPTOR	This Unit of Comp structures and feat The installation of limited supervision progress. The work knowledge with de horticultural skills normally done with discretion and judg work organisation, time constraints.	betency is con- ures as a com- brick structur from others k involves the epth in some . The installa hin routines, gement is req , services, act	ncerned with aponent of la res and featu with checki e application areas and a b tion of brick methods and uired in the ions and ach	the installation indscape projections is likely to ing only related of horticultur proad range of structures and procedures we selection of en-	on of brick ect works. to be under ed to overall ral f d features is where some quipment, mes within
CODE	FNA03S2U27V1	LEVEL	4	CREDIT	12

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Set out landscape works	 1.1 The position of specified landscape features is marked out as outlined in plans and specifications. 1.2 Profiles are established to conform with plan and specification details and to the tolerances designated by
	supervisor and/or plan details. 1.3 Survey bench marks, datums and TBM are established according to plan details. 1.4 On-site services and utilities are located from data provided by appropriate authorities 1.5 Waste and debris is removed and unused materials are stacked to provide a safe working area
 Set out brickwork or block work for a small landscape project 	 2.1 The finished level of structure is determined according to plans and specifications. 2.2 Profile is set to required levels to ensure plumb and level finishes are achieved. 2.3 String lines are set to profiles to ensure straight and level courses are achieved.
3. Construct a brickwork or block work structure for a small landscape project	3.1 Mortar is mixed to determined ratio and appropriate admixes and coloring agents are applied to ensure plasticity of mix during laying operations.

	3.2 Damp proofing and base course of brickwork is laid below
	ground level according to specifications.
	3.3 Courses of brickwork laid using designated bond/s in a
	manner which will ensure the viability and stability of the
	structure.
4. Clean up brickwork and	4.1 Brickwork surface are cleaned down using chemicals
site	of
	sufficient strength to remove all debris without damage to
	the mortar and bricks.
	4.2 Site is cleaned up and all tools and equipment are
	stored
	according to enterprise requirements.
	4.3 Debris from structure and site is removed according to
	specifications details.
	4.4 Waste material is disposed of safely without adversely
	impacting upon the environment.
	4.5 Unused material is stored and stacked for future re-use
	according to job instructions.
	4.6 Tools and equipment are cleaned and stored according
	to job instructions.

• Brick and block structures include paving, paths, edging, walls, retaining walls, barriers, ornamental

garden features.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: setting out landscape works brick and block construction techniques legislation regarding construction of brick and block structures properties and characteristics of bricks, blocks and associated materials hand tools and equipment use and operation 	 An ability to: set out landscape works set out brickwork or block work for a small landscape project construct a brickwork or block work structure for a small landscape project clean up brickwork and site setting or other specified setting.

·					
UNIT TITLE	Install masonry s	Install masonry structures and features			
DESCRIPTOR	This Unit of Comp masonry structures works. The installation of under limited supe overall progress. T knowledge with de horticultural skills is normally done w some discretion an equipment, work o outcomes within ti	petency is cor s and features masonry stru rvision from he work invo- epth in some . The installat within routine ad judgement organisation, s me constrain	icerned with as a compo- ictures and f others with olves the app areas and a b tion of maso s, methods a is required i services, act ts.	the installation nent of lands eatures is like checking only lication of he proad range of nry structures and procedure n the selection ions and achie	on of cape project ely to be y related to orticultural f s and features s where n of eving
CODE	FNA03S2U28V1	LEVEL	4	CREDIT	12

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Set out landscape	 1.1 The position of specified landscape features are marked out as outlined in plans and specifications. 1.2 Profiles are established to conform with plan and specification details and to the tolerances designated by supervisor and/or plan details. 1.3 Survey bench marks, datums and TBM are established according to plan details. 1.4 On-site services and utilities are located from data provided by appropriate authorities.
	1.5 Waste and debris is removed and unused materials are stacked to provide a safe working area.
2. Prepare site for masonry construction	 2.1 The site is prepared by removing all debris, vegetable matter and top soil to provide a solid foundation for masonry. 2.2 Drainage provisions are installed according to plan details. 2.3 Sub-base material is installed on site and the area compacted to the specified level and to a consistency which will ensure that the material does not consolidate during the masonry work.

	.2.4 Irrigation and drainage systems are prepared and
	installed
	according to plans and specifications.
3. Install masonry	3.1 Masonry work is installed according to plans and
	specifications.
	3.2 Keystones are installed according to plans and
	specifications.
	3.3 Levels are checked regularly during construction.
	3.4 Site is made good at completion of works according to
	enterprise standards.

• Masonry structures include paving, paths, edging, walls, retaining walls, barriers, ornamental garden

features.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: setting out landscape works masonry construction techniques legislation regarding construction of	An ability to:
masonry structures properties and characteristics of masonry	• set out landscape works
materials hand tools and equipment use and	• prepare site for masonry construction
operation	• install masonry

		4 10	4		
UNITITLE	Install metal structures and features				
DESCRIPTOR	This Unit of Comp structures and feat The installation of limited supervision progress. The work knowledge with de horticultural skills normally done wit discretion and judg work organisation, time constraints.	betency is con- ures as a com- metal structure from others k involves the epth in some . The installa hin routines, gement is req , services, act	ncerned with aponent of la ures and features with checking a application areas and a b tion of metal methods and uired in the s tions and ach	the installation ndscape projection in the projection of the projection of horticultur proad range of structures are procedures of selection of entire the projection is procedure of the projection of the projec	on of metal ect works. to be under ed to overall ral f nd features is where some quipment, mes within
CODE	FNA03S1U20V1	LEVEL	3	CREDIT	

ELEMENTS OF	PERFORMANCE CRITERIA	
COMPETENCIES		
1. Plan and prepare works	1.1 Materials and quantities are determined from job drawings	
	and specifications.	
	and	
	fitted according to Occupational Health & Safety (OHS)	
	1.3 Tools and equipment are selected and checked for serviceability according to enterprise guidelines.	
	1.4 Materials are checked for quality to ensure they are	
	defects and conform to the specification details	
2. Set out the works	2.1 All obstructions to the construction programs are identified	
	and removed to ensure the works can proceed	
	uninterrupted.	
	2.2 Site access and storage areas are identified to ensure works	
	can proceed in an orderly manner according to enterprise	
	2.3 The position of structure is marked out according to	
	job	
	drawing details.	
	2.4 The structure is set out to tolerances nominated within	
	specifications.	

	2.5 Safety signage and barriers are erected to ensure safety
	all persons within the construction area.
	2.6 Footings are excavated and prepared according to job
	drawings and specifications.
	.2.7 Components are prepared for assembly to the design
	requirements contained in the job drawings and
	specifications.
	2.8 The length of components and the positions of cuts
	indiked
	out in applicable to designated requirement details
	2.0 Meterial is out accurately allowing for everhang
	.2.9 Wraterial is cut accurately allowing for overhalig
	applicable
3 Assemble and erect	3.1 Initial components are located into position and fixed
structure	into
structure	place according to specification details
	3.2 Temporary bracing is fixed where required to
	maintain
	stability of components during construction
	3.3 The remaining components are installed and fixed into
	position according to job drawings and specifications
	3.4 All overhangs are cut off and the finished structure
	completed according to job drawing and specifications
4 Apply coatings to finished	4.1 Personal protective equipment is selected and fitted
structure	according to Occupational Health & Safety (OHS)
	requirements.
	4.2 Tools and equipment are selected and checked for
	serviceability.
	4.3 Safety signage and barriers are set up to ensure the
	safety
	of all persons within the area.
	4.4 Paint cloths are placed to protect the surroundings.
	4.5 Preparation to all components is undertaken according
	to
	specifications and manufacturers guidelines.
	4.6 Paint is applied, as specified by the manufacturer,
	ensuring
	complete coverage and evenness of application.
	4.7 Tools and equipment are cleaned up to ensure that
	immediate use is possible when next required.
	4.8 Waste is disposed of to ensure the environment is not
	adversely affected according to regulatory requirements.
5.Undertake a site	5.1 All mechanical features are checked and adjusted to
commissioning	ensure

	that they operate according to the manufacturers
	specifications.
	5.2 Quality of finished works are inspected to ensure the
	standard of the finished product is according to the plans
	and specifications.
6.Clean up site and store all	6.1 Debris is cleaned from structure and site according to
tools and	specifications details.
equipment	6.2 Waste material is disposed of safely without adversely
	impacting upon the environment.
	6.3 Unused material is stored and stacked for future re-use
	according to job instructions.
	6.4 Tools and equipment are cleaned and stored according
	to job instructions.

• Metal structures and features includes fences, pergolas, trellises, handrails, screens, seats, site furniture,

bollards, playground equipment, rubbish bins, sculptures and artworks.

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related Assessment context
- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: setting out landscape works metal assembling and construction techniques legislation regarding construction of structures metal properties and characteristics hand tools and equipment use and operation 	An ability to: • plan and prepare works • set out the works • assemble and erect structure • apply coatings to finished structure • undertake a site commissioning • clean up site and store all tools and equipment

UNIT TITLE	Install water features				
DESCRIPTOR	This Unit of Comp features such as wa The installation of supervision from of progress. Installati knowledge with de horticultural skills within routines, me judgement is requi	betency is con aterfalls, pone water feature others with ch on involves t epth in some . The installat ethods and pr red.	cerned with ds, waterway es is likely to ecking only he application areas and a back tion of water rocedures wh	the installation ys and founta be under lin related to over on of horticultor oroad range o features is n here some dis	on of water ins. hited erall tural f ormally done cretion and
CODE	FNA03S2U30V1	LEVEL	4	CREDIT	12

ELEMENTS OF	PERFORMANCE CRITERIA
COMPETENCIES	
1. Plan and prepare work	1.1 Materials and quantities required are determined from job
	drawings and specifications.
	1.2 Personal protective equipment is selected and fitted according to Occupational Health & Safety (OHS)
	requirements.
	1.3 Tools and equipment are selected and checked to ensure
	they are suitable for the job to be undertaken.
	1.4 Quality of materials is checked to ensure they are free of
	defects and conform to the specifications details.
	1.5 The exact location and depth of excavations is
	determined
	from site plans and drawings.
2. Set out and prepare for	2.1 Components are located into position and fixed into
construction	place
	according to specification details.
	2.2 Temporary bracings are fixed where required, to
	maintain
	stability of components during construction.
3. Excavate and remove soil	3.1 Site is excavated to the shape, depth and dimensions
	according to job drawings and specifications.
	3.2 Sumps are constructed to specified levels and locations
	when required according to job specifications.
	3.3 Drainage systems are constructed according to job
	drawings and specifications.

	-
	3.4 Bedding material is placed and compacted to the
	required
	finished level according to job drawings and
	specifications.
	3.5 Soil and waste material is stockpiled and removed
	from the
	site according to directions.
4. Construct water features	4.1 A waterproof membrane is installed according to job
	drawings, specifications and manufacturers specifications.
	4.2 All accessories to structure are installed according to
	job
	drawings and manufacturers specifications.
	4.3 The structure is filled with water, tested for leaks and
	any
	detected leaks are repaired.
5. Undertake a site	5.1 All mechanical features are checked and adjusted to
commissioning	ensure
e	they operate according to manufacturers specifications.
	5.2 The quality of finished works is inspected to ensure the
	standards of the work is according to the job drawings and
	specifications.
	5.3 All non-conforming items are rectified according to
	job
	drawings and specifications.
6.Clean up site and store all	6.1 Debris is cleaned from structure and site according to
tools and	specification details.
equipment	6.2 Waste material is disposed of safely without adversely
1 1	impacting upon the environment.
	6.3 Unused material is stored and stacked for future re-use
	according to job instructions.
	6.4 All tools and equipment are cleaned and stored
	according
	to job instructions.
	6.5 Water is treated to remove or neutralise contaminants
	resulting from construction works.

• Water features include waterfalls, ponds, waterways and fountains.

• Accessories includes pumps, pipes, ornamental features, plant materials, timber structures, site furniture.

Tools, equipment and materials required may include:

• Relevant procedure manuals

Assessment guide

Form of assessment

The assessor may use the following assessment methods to objectively assess the candidate:

- Observation
- Questioning
- Practical demonstration
- Any written or oral examinations may include questions related to workplace emergencies such as fire and other dangerous situations and render first aid in the workplace.

Assessment context

- Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of safe working practices. The assessment environment should not disadvantage the candidate.
- Competency needs to be holistic and must be demonstrated in a suitable horticulture workplace condition.

Underpinning Knowledge	Underpinning Skills
 A basic working knowledge of: setting out landscape works water feature construction techniques legislation regarding water use, recycling and safety in public places pumping systems and components associated with water features hand tools and equipment use and operation 	An ability to: • plan and prepare work • set out and prepare for construction • excavate and remove soil • construct/install water features • undertake a site commissioning • cleanup site and store all tools and equipment