worldskills

Technical Description

Landscape Gardening

WorldSkills International, by a resolution of the Competitions Committee and in accordance with the Constitution, the Standing Orders, and the Competition Rules, has adopted the following minimum requirements for this skill for the WorldSkills Competition.

The Technical Description consists of the following:

1 Introduction

1.1 Name and description of the skill competition

1.1.1 The name of the skill competition is

Landscape Gardening

1.1.2 Description of the associated work role(s) or occupation(s)

The key role for a landscape gardener is to design, install, and maintain gardens and landscaped areas. The landscape gardener will need to meet with clients to discuss their proposed projects, provide advice and guidance on the practicalities of the project, and carefully interpret the client's wishes.

Projects can be varied and incorporate private and public gardens, parks, public open spaces, sports, and recreation venues, playgrounds, and other landscaped areas. The landscape gardener must be able to develop innovative schemes that meet the needs of clients and comply with planning regulations, while retaining a vision of how the finished project will fit into the overall area and how garden spaces interact with urban environments.

The landscape gardener may be involved at all stages of a project from the initial consultation and design, throughout the installation process, project managing and supervising the installation team, to providing advice and guidance on on-going maintenance and development as the garden grows and matures.

A detailed knowledge of both hard and soft landscaping is required, including knowledge of plants and trees in order to produce and implement a balanced plan that takes account of the area's advantages and limitations relating to soil type and structure, geography, climatic conditions, and planned use. Knowledge and skills relating to hard landscaping and construction are also essential. Related skills such as electrical installation, plumbing, and irrigation systems are also needed to produce an overall project that is sustainable and has longevity.

A wide range of plants, natural recourses, and other materials are used by the landscape gardener. They must therefore be aware of the impact of such materials on the environment, both in terms of sustainability of manufacture, logistics, and also the impact of landscaping a natural environment and its wildlife.

Gardens and landscaped areas enhance the quality of life for millions of people across the world by providing beautiful areas for recreation and relaxation, open spaces in dense urban environments, appropriate spaces for people of all ages and abilities, and facilities that support community activity and cohesion.

For the landscape gardener there are global opportunities to be involved solving environmental problems and in revitalizing existing established habitations.

1.1.3 Number of Competitors per team

Landscape Gardening is a team skill competition with two Competitors per team.

1.1.4 Age limit of Competitors

The Competitors must not be older than 22 years in the year of the Competition.

1.2 The relevance and significance of this document

This document contains information about the standards required to compete in this skill competition, and the assessment principles, methods, and procedures that govern the competition.

Every Expert and Competitor must know and understand this Technical Description.

In the event of any conflict within the different languages of the Technical Descriptions, the English version takes precedence.

1.3 Associated documents

Since this Technical Description contains only skill-specific information it must be used in association with the following:

- WSI – Code of Ethics and Conduct
- WSI – Competition Rules
- WSI – WorldSkills Occupational Standards framework
- WSI – WorldSkills Assessment Strategy
- WSI online resources as indicated in this document
- WorldSkills Health, Safety, and Environment Policy and Regulations
- WorldSkills Standards and Assessment Guide (skill-specific)

2 The WorldSkills Occupational Standards (WSOS)

2.1 General notes on the WSOS

The WSOS specifies the knowledge, understanding, skills, and capabilities that underpin international best practice in technical and vocational performance. These are both specific to an occupational role and also transversal. Together they should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business (www.worldskills.org/WSOS).

The skill competition is intended to reflect international best practice as described by the WSOS, to the extent that it can. The Standard is therefore a guide to the required training and preparation for the skill competition.

In the skill competition the assessment of knowledge and understanding will take place through the assessment of performance. There will only be separate tests of knowledge and understanding where there is an overwhelming reason for these.

The Standard is divided into distinct sections with headings and reference numbers added.

Each section is assigned a percentage of the total marks to indicate its relative importance within the Standards. This is often referred to as the “weighting”. The sum of all the percentage marks is 100. The weightings determine the distribution of marks within the Marking Scheme.

Through the Test Project, the Marking Scheme will assess only those skills and capabilities that are set out in the WorldSkills Occupational Standards. They will reflect the Standards as comprehensively as possible within the constraints of the skill competition.

The Marking Scheme will follow the allocation of marks within the Standards to the extent practically possible. A variation of up to five percent is allowed, if this does not distort the weightings assigned by the Standards.

2.2 WorldSkills Occupational Standards

Section		Relative importance (%)
1	**Work organization and management**	**10**
	The individual needs to know and understand: • How gardens need to be designed to fit into their environment and may be constrained by size, the built environment, position, weather conditions, and the physical environment • That garden use living materials and are dynamic and changing environments • Local planning and construction regulations and how they relate to and impact landscape gardening • The range of urban and rural environments where gardens and open spaces can be planned and created • Sustainability issues relating to landscape gardening especially relating to sourcing of materials and gardens’ impact on their environments and wildlife	

Section		Relative importance (%)
	• Legal requirements and practices relating to health, safety, and environment • The importance of sustainability and recycling materials • The range of tools used by landscape gardeners and their use and maintenance • The range of materials used by landscape gardeners • The importance of working within prescribed budgets • The importance of working effectively as part of teams • How to interpret complex technical diagrams and design drawings • Mathematical calculations and geometry as they relate to landscape gardening • Dimensions, elevations, and spatial awareness	
	The individual shall be able to: • Safely and properly use appropriate tools such as hammers, chisels, table-mounted stone saws, and hand powered tools • Ensure cleanliness and security of sites • Organize work patterns, sequences, and logistics • Take account of ergonomics, health and safety and personal protection • Apply work processes in order to promote health and wellbeing • Interpret complex technical diagrams and design drawings • Source materials such as stone, trees, plants, and other natural materials • Work effectively as part of teams and with other professions • Deliver landscape gardening projects within agreed timescales and budget	
2	**Customer service and communications**	**5**
	The individual needs to know and understand: • The importance of effective and positive customer relations • The importance of good teamwork and good working relationships with other professions • Formal and informal communication methods, and their applications • The use of ICT to support communications and work processes	
	The individual shall be able to: • Follow clients' briefs • Provide advice and guidance to customers on the design and creation of projects and restrictions such as budgets, planning, and environmental concerns • Provide advice and guidance on ongoing maintenance • Solve problems • Provide excellent customer service • Use a range of ICT for business processes and customer service	

Section		Relative importance (%)
3	**Garden design and garden design interpretation**	**10**
	The individual needs to know and understand: • Principles of good garden design • International and cultural characteristics of garden design • The environmental impact of gardens and open spaces in city and urban areas, and of functional organisms that support city life and improve people's quality of life • Use of gardens as meditative and sensory spaces • Practicalities of hard landscaping, plumbing, electrical installation • Various types of sports surfaces, their uses and installations • The variety of public open spaces that require planning, such as playgrounds, sports areas, country parks, urban parks, and recreation grounds • Types of soil and how they support plants, shrubs, and trees • Environmental factors that impact on garden design such as weather, terrain, facing direction, and location • The planned use and users of gardens or open spaces and how these impacts on the design • Modern trends in garden design • The impact of climate change on the role and scope of landscape gardening	
	The individual shall be able to: • Design gardens to meet clients' briefs • Design gardens that reflect the environmental character and to make best use of terrain, location, expected weather conditions, quality of soil, and natural environment, etc. • Design gardens and open spaces that meet the needs of the planned users • Identify and meet design requirements for environmental considerations and sustainability	
4	**Shape and place stones, slabs and precast units**	**15**
	The individual needs to know and understand: • The various installation methods required for each type of structure and the manner in which the assemblies' pieces are best worked • The range of stones, slabs, granite, and pre-cast units available and their uses • The range and uses for cements, adhesives, and supporting materials • The equipment used to calculate and measure levels, uprights, angles and areas • The importance of accuracy • Mathematics principles that need to be applied to garden design and implementation	

Section		Relative importance (%)
	• Sources of supply for hard landscaping materials	
	The individual shall be able to: • Assess the stability of the ground to ensure structural stability of finished products • Prepare surfaces for hard-core and foundations by using earthmoving and excavation equipment, or by using hand tools • Calculate hard-core requirements and implement onto planned areas • Install aggregate bases of various descriptions for structures, including base materials in various layers and compact as prescribed • Dispose of excavation debris and rubble in a sustainable manner, recycling where possible, and making appropriate consideration for the environment • Read plans and dimensions and measure to scale from plans • Chop, shape, and cut natural or man-made materials to required sizes and/or shapes • Place single items and/or assemble multiple items as prescribed, for example steps, walls, walks, patios, and paths • Construct hard landscaping with both loose or fitted methodologies • Use appropriate cements, adhesives, and supporting materials correctly and in the most appropriate setting • Follow instructions to create desired hard landscaping • Translate measurements to full scale and mark on materials for cutting with appropriate marking instruments, or on site for layout with string-line • Install structural elements, for example paving, steps, decks, turf, and “flat” areas, horizontally level or sloped as prescribed • Install structural elements vertically level (plumb), for example fence posts • Create surface drainage through slopes and related manipulation of grades of finished surfaces • Protect surrounding environments and other living things • Apply appropriate logistical strategies for storage, handling, moving, and security of materials	
5	**Cut materials and assemble vertical and horizontal structures not made of hard landscaping materials**	**18**
	The individual needs to know and understand: • Angles, square-cut, bevel, mitre, and other manners of cutting and joining timber/wood elements as prescribed in drawings/ specifications • The equipment used to calculate and measure levels, uprights, angles, and areas • The importance of accuracy	

Section		Relative importance (%)
	• Mathematics principles that need to be applied to garden design and implementation • Types of wood and their uses in garden structures • Long term maintenance of wood used in gardens • The range of materials used in garden structures including metal frames, glass, and safety surfaces	
	The individual shall be able to: • Read plans and dimensions and measure to scale from plans • Translate measurements to full scale and mark on materials for cutting with appropriate marking instruments, or on site for layout with string-line • Measure and accurately cut timber/wood pieces as prescribed • Assemble timber/wood members using fasteners such as nails, screws, bolts, lags, brackets, and fittings • Finish timber/wood assemblies through sanding and/or smoothing, staining, or other special treatments • Install structural elements horizontally level or sloped as prescribed, for example paving, steps, decks, turf, and “flat” areas • Install structural elements vertically level (plumb), for example, fence posts • Create surface drainage through slopes and related manipulation of grades of finished surfaces • Advise on, source and install outside and garden equipment such as playground equipment, barbeques, garden furniture, sheds, summer houses, etc. • Install fencing, boundary units, and gates • Utilize the best materials in the most appropriate environments, considering the end use, environmental conditions, and sustainability	
6	**Substrate, soil, and mulch**	**5**
	The individual needs to know and understand: • Various types and structures of soil and growing media • How to assess and test soils to determine characteristics and uses • The impact of various types of soil and growing mediums on planting • The range of soil additives and their uses • Environmental impacts from the use of natural products such a peat • Habitat quality considering soil as a living organisms • The functions of various soil additives, growing media, mulches, and composts	
	The individual shall be able to: • Install soil and/or soil improvers for planting as prescribed	

Section		Relative importance (%)
	• Install organic and/or inorganic mulch materials for planting or other purposes • Apply recommended uses for soil types and additives • Correctly use soil additives, growing mediums, mulches, and composts • Correctly prepare the ground for planting a full range of plants and trees • Prepare the soil area, turfing, firming it and levelling it as prescribed • Prepare soil area for seeding a lawn • Test soil to determine and evaluate best use	
7	**Planting and care of plants and trees**	**25**
	The individual needs to know and understand: • The classifications and botanical names of plants, shrubs, vegetables, herbs, fruits, and trees and how and when they are best used • Plant growth and development and the impact on garden design and in a dynamic living environment • Conditions that suit various plants, shrubs, and trees • Different types of grass and lawn materials and their best uses • Maintenance regimes for various plants, shrubs, and trees • Diseases and pests that harm plants, shrubs, and trees • Treatments for pests and diseases • Sustainable, natural treatments for pests and diseases • Safe handling, use and storage of chemicals used in landscape gardening • Environmental and sustainable factors related to the use of chemicals	
	The individual shall be able to: • Prepare plants and trees for planting by removing packaging and protective coverings and ensuring the plants are in good condition • Prepare soil and planting areas • Handle and plant trees and/or shrubs • Handle and plant perennials, annuals and/or ground cover in prepared planning beds • Plant selected plants appropriately spaced to account for growth patterns and visual impact • Design and plant areas that will look mature and natural on completion • Handle and plant vegetables and herbs for both crop and decoration • Maintain ongoing care of plants • Install sods/turfs or slabs with joints as prescribed • Finish turf areas by rolling or flattening for firm contact between root mass and soil, and eliminate bumps or hollows and spaces	

Section		Relative importance (%)
	• Seed lawns • Provide on-going care and maintenance for lawns or turfed areas	
8	**Garden technology (plumbing, electrical, drainage, and irrigation)**	**5**
	The individual needs to know and understand: • Principles of plumbing and drainage in garden settings • Principles of and types of irrigation systems • The collection, storage, and use of rainwater • The use, installation, and maintenance of water butts, water storage solutions, and irrigation systems • Principles of electrical installation in a garden setting • Health and safety requirements for the use, installation and maintenance of electrical and plumbed products and features • Legislation that affects the installation and use of electrical and plumbed products and features	
	The individual shall be able to: • Install, connect, and test low-voltage system wiring, and components as prescribed for lighting, cooling, sound, and heat • Install drainage structures such as drain inlets, catch basins, underground piping, and/or storage basins as prescribed • Install systems for collecting and suing rainwater • Install, connect, test and troubleshoot in-ground irrigation system components as prescribed	
9	**Water features**	**7**
	The individual needs to know and understand: • The variety of ponds, water features, and fountains used in landscape gardening • How to install and maintain water features • The processes for installing swimming pools and hot tubs • Appropriate planting methods for ponds and water features • Ongoing cleaning and maintenance requirements of water features	
	The individual shall be able to: • Install flexible pond-liners and prefabricated ponds • Plant ponds and lakes with water plants • Install all types of water feature • Install swimming pools and hot-tubs • Install and check all related pumps, plumbing, cleaning systems, and electric • Provide ongoing care and maintenance for water features and ponds	

Section		Relative importance (%)
	Total	**100**

3 The Assessment Strategy and Specification

3.1 General guidance

Assessment is governed by the WorldSkills Assessment Strategy. The Strategy establishes the principles and techniques to which WorldSkills assessment and marking must conform.

Expert assessment practice lies at the heart of the WorldSkills Competition. For this reason, it is the subject of continuing professional development and scrutiny. The growth of expertise in assessment will inform the future use and direction of the main assessment instruments used by the WorldSkills Competition: the Marking Scheme, Test Project, and Competition Information System (CIS).

Assessment at the WorldSkills Competition falls into two broad types: Measurement and Judgement. For both types of assessment, the use of explicit benchmarks against which to assess each Aspect is essential to guarantee quality.

The Marking Scheme must follow the weightings within the Standards. The Test Project is the assessment vehicle for the skill competition, and therefore also follows the Standards. The CIS enables the timely and accurate recording of marks; its capacity for scrutiny, support, and feedback is continuously expanding.

The Marking Scheme, in outline, will lead the process of Test Project design. After this, the Marking Scheme and Test Project will be designed, developed, and verified through an iterative process, to ensure that both together optimize their relationship with the Standards and the Assessment Strategy. They will be agreed by the Experts and submitted to WSI for approval together, to demonstrate their quality and conformity with the Standards.

Prior to submission for approval to WSI, the Marking Scheme and Test Project will liaise with the WSI Skill Advisors for quality assurance and to benefit from the capabilities of the CIS.

4 The Marking Scheme

4.1 General guidance

This section describes the role and place of the Marking Scheme, how the Experts will assess Competitors' work as demonstrated through the Test Project, and the procedures and requirements for marking.

The Marking Scheme is the pivotal instrument of the WorldSkills Competition, in that it ties assessment to the standard that represents each skill competition, which itself represents a global occupation. It is designed to allocate marks for each assessed aspect of performance in accordance with the weightings in the Standards.

By reflecting the weightings in the Standards, the Marking Scheme establishes the parameters for the design of the Test Project. Depending on the nature of the skill competition and its assessment needs, it may initially be appropriate to develop the Marking Scheme in more detail as a guide for Test Project design. Alternatively, initial Test Project design can be based on the outline Marking Scheme. From this point onwards the Marking Scheme and Test Project should be developed together.

Section 2.1 above indicates the extent to which the Marking Scheme and Test Project may diverge from the weightings given in the Standards, if there is no practicable alternative.

For integrity and fairness, the Marking Scheme and Test Project are increasingly designed and developed by one or more Independent Test Project Designer(s) with relevant expertise. In these instances, the Marking Scheme and Test Project are unseen by Experts until immediately before the start of the skill competition, or competition module. Where the detailed and final Marking Scheme and Test Project are designed by Experts, they must be approved by the whole Expert group prior to submission for independent validation and quality assurance. Please see the Competition Rules for further details.

Experts and Independent Test Project Designers are required to submit their Marking Schemes and Test Projects for review, verification, and validation well in advance of completion. They are also expected to work with their Skill Advisor, reviewers, and verifiers, throughout the design and development process, for quality assurance and in order to take full advantage of the CIS's features.

In all cases a draft Marking Scheme must be entered into the CIS at least eight weeks prior to the Competition. Skill Advisors actively facilitate this process.

4.2 Assessment Criteria

The main headings of the Marking Scheme are the Assessment Criteria. These headings are derived before, or in conjunction with, the Test Project. In some skill competitions the Assessment Criteria may be similar to the section headings in the Standards; in others they may be different. There will normally be between five and nine Assessment Criteria. Whether or not the headings match, the Marking Scheme as a whole must reflect the weightings in the Standards.

Assessment Criteria are created by the person or people developing the Marking Scheme, who are free to define the Criteria that they consider most suited to the assessment and marking of the Test Project. Each Assessment Criterion is defined by a letter (A-I). **The Assessment Criteria, the allocation of marks, and the assessment methods, should not be set out within this Technical Description. This is because the Criteria, allocation of marks, and assessment**

methods all depend on the nature of the Marking Scheme and Test Project, which is decided after this Technical Description is published.

The Mark Summary Form generated by the CIS will comprise a list of the Assessment Criteria and Sub Criteria.

The marks allocated to each Criterion will be calculated by the CIS. These will be the cumulative sum of marks given to each Aspect within that Assessment Criterion.

4.3 Sub Criteria

Each Assessment Criterion is divided into one or more Sub Criteria. Each Sub Criterion becomes the heading for a WorldSkills marking form. Each marking form (Sub Criterion) contains Aspects to be assessed and marked by Measurement or Judgement, or both Measurement and Judgement.

Each marking form (Sub Criterion) specifies both the day on which it will be marked, and the identity of the marking team.

4.4 Aspects

Each Aspect defines, in detail, a single item to be assessed and marked, together with the marks, and detailed descriptors or instructions as a guide to marking. Each Aspect is assessed either by Measurement or by Judgement.

The marking form lists, in detail, every Aspect to be marked together with the mark allocated to it. The sum of the marks allocated to each Aspect must fall within the range of marks specified for that section of the Standards. This will be displayed in the Mark Allocation Table of the CIS, in the following format, when the Marking Scheme is reviewed from C-8 weeks. (Section 4.1 refers.)

		CRITERIA								TOTAL MARKS PER SECTION	WSSS MARKS PER SECTION	VARIANCE
		A	B	C	D	E	F	G	H			
STANDARDS SPECIFICATION SECTION	1	5.00								5.00	5.00	0.00
	2		2.00					7.50		9.50	10.00	0.50
	3								11.00	11.00	10.00	1.00
	4			5.00						5.00	5.00	0.00
	5				10.00	10.00	10.00			30.00	30.00	0.00
	6		8.00	5.00				2.50	9.00	24.50	25.00	0.50
	7			10.00				5.00		15.00	15.00	0.00
TOTAL MARKS		5.00	10.00	20.00	10.00	10.00	10.00	15.00	20.00	100.00	100.00	2.00

4.5 Assessment and marking

There is to be one marking team for each Sub Criterion, whether it is assessed and marked by Judgement, Measurement, or both. The same marking team must assess and mark all Competitors. Where this is impracticable (for example where an action must be done by every Competitor simultaneously, and must be observed doing so), a second tier of assessment and marking will be put in place, with the approval of the Competitions Committee Management Team. The marking teams must be organized to ensure that there is no compatriot marking in any circumstances. (Section 4.6 refers.)

4.6 Assessment and marking using Judgement

Judgement uses a scale of 0-3. To apply the scale with rigour and consistency, Judgement must be conducted using:

- benchmarks (criteria) for detailed guidance for each Aspect (in words, images, artefacts, or separate guidance notes). This is documented in the Standards and Assessment Guide.
- the 0-3 scale to indicate:
  - 0: performance below industry standard
  - 1: performance meets industry standard
  - 2: performance meets and, in specific respects, exceeds industry standard
  - 3: performance wholly exceeds industry standard and is judged as excellent

Three Experts will judge each Aspect, normally simultaneously, and record their scores. A fourth Expert coordinates and supervises the scoring, and checks their validity. They also act as a judge when required to prevent compatriot marking.

4.7 Assessment and marking using Measurement

Normally three Experts will be used to assess each Aspect, with a fourth Expert supervising. In some circumstances the team may organize itself as two pairs, for dual marking. Unless otherwise stated, only the maximum mark or zero will be awarded. Where they are used, the benchmarks for awarding partial marks will be clearly defined within the Aspect. To avoid errors in calculation or transmission, the CIS provides a large number of automated calculation options, the use of which is mandated.

4.8 The use of Measurement and Judgement

Decisions regarding the choice of criteria and assessment methods will be made during the design of the competition through the Marking Scheme and Test Project.

4.9 Skill assessment strategy and procedures

WorldSkills is committed to continuous improvement including reviewing past limitations and building on good practice. The following skill assessment strategy and procedures for this skill competition take this into account and explain how the marking process will be managed.

The Assessment Criteria are clear concise aspect specifications which explain exactly how and why a particular mark is awarded.

- Each criterion must have a maximum of 10 aspects;
- Measurement and dimension aspects are as measurement aspects in Section B, C, D, E, and F.

Below is a guide to determine the aspects which are assessed in each section of the Test Project.

Aspect A - Work site safety

- Cleanliness of site and security;
- Organization of work patterns and logistics;
- Teamwork;
- Use of tool, equipment, and material;
- Ergonomics, health and safety, personal protection.

Aspect B - Layout of green space

- Placement of a specific tree;
- Dimension of a specific flowerbed;
- Skill of planting;
- Planting to the plan;
- Jointing of turf;

Aspect C - Pavement

- Distance from front to corner of paving;
- Height of stepping stone;
- Paving level even;
- Continuous even rows along length;
- Finish of cuts;

Aspect D - Walls and stairs

- Distance from left side to corner of wall;
- Height of upper stair stone;
- Batter of wall;
- Impression of front face of wall;
- Stones evenly distributed across wall;

Aspect E - Water feature

- Width of front of pond;
- Height of water level;
- Correct installation of pond liner-no leaks;
- Position and stability of pond border stones;
- Correct installation of water stone;

Aspect F - Wood constructions

- Length of front side deck;
- Height of pergola post;
- Stability of construction of deck;
- Precision of cuts of deck;
- Correct use of fixings and screws of pergola;

Aspect G - General Impression

- Aesthetic appearance;
- Creativity;
- Overall cleanliness;
- General appearance;
- Combination of plants

A separate marking team is designated to do specific measurement marking. Descriptors are developed and implemented for judgement marking. An independent professional measuring team will do the measurement markings on the Test Project as described in measuring plan.

- Measurement marking and judgement marking happens in accordance with the Marking Scheme.
- The criteria for each assessment must be practical to be marked at the completion of the Test Project or assessment points can be nominated to be assessed during the Competition provided a clear timeframe is given by the Chief Expert in the familiarization period.

- Tolerances on each criterion must reflect industry standards.
- Marks will vary according to the Marking Scheme as defined for the competition, but overall will align to the WorldSkills Occupational Standards relative importance.
- For each criterion, there are changes made to the Expert marking teams. In each team there must be Experts with different experience, culture, language, and continent.
- A team of Experts marks similar aspects for all Competitors.
- Each Expert marks the same percentage of criteria where possible.

5 The Test Project

5.1 General notes

Sections 3 and 4 govern the development of the Test Project. These notes are supplementary.

Whether it is a single entity, or a series of stand-alone or connected modules, the Test Project will enable the assessment of the applied knowledge, skills, and behaviours set out in each section of the WSOS.

The purpose of the Test Project is to provide full, balanced, and authentic opportunities for assessment and marking across the Standards, in conjunction with the Marking Scheme. The relationship between the Test Project, Marking Scheme, and Standards will be a key indicator of quality, as will be its relationship with actual work performance.

The Test Project will not cover areas outside the Standards or affect the balance of marks within the Standards other than in the circumstances indicated by Section 2. This Technical Description will note any issues that affect the Test Project's capacity to support the full range of assessment relative to the Standards. Section 2.1 refers.

The Test Project will enable knowledge and understanding to be assessed solely through their applications within practical work. The Test Project will not assess knowledge of WorldSkills rules and regulations.

Most Test Projects and Marking Schemes are now designed and developed independently of the Experts. They are designed and developed either by the Skill Competition Manager, or an Independent Test Project Designer, normally from C-12 months. They are subject to independent review, verification, and validation. (Section 4.1 refers.)

The information provided below will be subject to what is known at the time of completing this Technical Description, and the requirement for confidentiality.

Please refer to the current version of the Competition Rules for further details.

5.2 Format/structure of the Test Project

The Test Project is a single Test Project assessed in stages.

5.3 Test Project design requirements

Test Projects should reflect the purposes, structures, processes, and outcomes of the occupational role they are based on. They should aim to be a small-scale version of that role. Before focusing on practicalities, SMTs should show how the Test Project design will provide full, balanced, and authentic opportunities for assessment and marking across the Standards, as set out in Section 5.1.

- The Test Project should fill a space with a minimum of 30 m² and a maximum of 50 m². The Test Project involves the layout of a small garden by preparing and using various materials, such as natural stones, concrete, wood, and/or plastics, soil, lawn, and plants arranged according to an approved plan and specifications;
- The Test Project may have any or all of the following items:
  - Pavement and/or other surfacing;
  - Walls, retaining and/or freestanding;
  - Stairs and/or steps;

- Wooden or similar construction;
- Water feature.

The Independent Test Project Designer is required to use locally available materials. These are to be considered when developing the Assessment Criteria.

The Test Project needs to be able to be built within timeframes, materials, and tools supplied to the Competitors by the Competition Organizer.

5.4 Test Project coordination and development

The Test Project MUST be submitted using the templates provided by WorldSkills International (www.worldskills.org/expertcentre). Use the Word template for text documents and DWG template for drawings.

5.4.1 Test Project coordination (preparation for Competition)

Coordination of the Test Project/modules will be undertaken by the Skill Competition Manager.

5.4.2 Who develops the Test Project/modules

The Test Project/modules are developed by an Independent Test Project Designer (ITPD) in collaboration with the Skill Competition Manager.

5.4.3 When is the Test Project developed

The Test Project/modules are developed according to the following timeline:

Time	Action
Ten (10) months prior to the Competition	The ITPD is identified and a Confidentiality Agreement between WSI and the ITPD is organized.
Three (3) months prior to the Competition	Pre-competition information of the Test Project/modules is circulated on the WorldSkills website. The Workshop Manager gives a suggestion of the hand tools the Competitors need to bring for the Test Project to be completed. Detailed Infrastructure List (type, photo, plant species, …)
At the Competition on C-4	The Test Project/modules, drawings, and specifications are presented to Experts.
At the Competition on C-2	The Test Project/modules, drawings, and specification are presented to Competitors.

5.5 Test Project initial review and verification

The purpose of a Test Project is to create a challenge for Competitors which authentically represents working life for an outstanding practitioner in an identified occupation. By doing this, the Test Project will apply the Marking Scheme and fully represent the WSOS. In this way it is unique in its context, purpose, activities, and expectations.

To support Test Project design and development, a rigorous quality assurance and design process is in place (Competition Rules sections 10.6-10.7 refer.) Once approved by WorldSkills, the Independent Test Project Designer (ITPD) is expected to identify one or more independent

expert(s), and trusted individuals initially to review the Independent Test Project Designer's ideas and plans, and subsequently to verify the Test Project, prior to validation.

A Skill Advisor will ensure and coordinate this arrangement, to guarantee the timeliness and thoroughness of both initial review, and verification, based on the risk analysis that underpins Section 10.7 of the Competition Rules.

5.6 Test Project validation

The Skill Competition Manager coordinates the validation of the Test Project/modules and will ensure that it can be completed within the material, equipment, knowledge, and time constraints of Competitors.

5.7 Test Project circulation

The Test Project/modules are not circulated prior to the Competition. The Test Project/modules are presented to Experts on C-4 and to Competitors on C-2.

Generic Competitor pre-competition information is circulated three (3) months prior to the Competition via the WorldSkills website. No technical or detailed information on the Test Project/modules is shared.

5.8 Test Project change

Due to the Test Project being developed by an Independent Test Project Designer (ITPD), there is no change required to be made to the Test Project/modules at the Competition. Exceptions are amendments to technical errors in the Test Project documents and according to infrastructure limitations.

5.9 Material or manufacturer specifications

Specific material and/or manufacturer specifications required to allow the Competitor to complete the Test Project will be supplied by the Competition Organizer and are available from www.worldskills.org/infrastructure located in the Expert Centre. However, note that in some cases details of specific materials and/or manufacturer specifications may remain secret and will not be released prior to the Competition. These items may include those for fault finding modules or modules not circulated.

6 Skill management and communication

6.1 Discussion Forum

Prior to the Competition, all discussion, communication, collaboration, and decision making regarding the skill competition must take place on the WorldSkills skill-specific Discussion Forum. (http://forums.worldskills.org). Skill related decisions and communication are only valid if they take place on the WorldSkills Discussion Forum. The Chief Expert (or an Expert Lead appointed by the Skill Management Team) will be the moderator for this Discussion Forum. Refer to the Competition Rules for the timeline of communication and competition development requirements.

6.2 Competitor information

All information for registered Competitors is available from the Competitor Centre (www.worldskills.org/competitorcentre).

This information includes:

- Competition Rules
- Technical Descriptions
- Mark Summary Form (where applicable)
- Test Projects (where applicable)
- Infrastructure List
- WorldSkills Health, Safety, and Environment Policy and Regulations
- Other Competition-related information

6.3 Test Projects and Marking Schemes

Circulated Test Projects will be available from www.worldskills.org/testprojects and the Competitor Centre (www.worldskills.org/competitorcentre).

6.4 Day-to-day management

The day-to-day management of the skill competition during the Competition is defined in the Skill Management Plan that is created by the Skill Management Team. The Skill Management Team comprises the Skill Competition Manager, Chief Expert, and the Expert Leads. The Skill Management Plan is progressively developed in the six (6) months prior to the Competition and finalized at the Competition. The Skill Management Plan can be viewed in the Expert Centre (www.worldskills.org/expertcentre).

6.5 General best practice procedures

General best practice procedures clearly delineate the difference between what is a best practice procedure and skill-specific rules (section 9). General best practice procedures are those where Experts and Competitors CANNOT be held accountable as a breach to the Competition Rules or skill-specific rules which would have a penalty applied as part of the Issue and Dispute Resolution procedure including the Code of Ethics and Conduct Penalty System. In some cases, general best practice procedures for Competitors may be reflected in the Marking Scheme.

Topic/task	Best practice procedure
Interpreters notes taking	• Interpreters can take notes during the Experts` meetings if necessary, for translation, but after meeting they have to give the notes to the Chief Expert.
Competitors notes taking	• Competitors are allowed to take notes during the explanation of the Test Project by the Skill Competition Manager and Chief Expert, they can take notes if they are working by themselves with Test Project. All notes must stay in workshop until the end of the competition on C4.

7 Skill-specific safety requirements

7.1 Personal Protective Equipment

Refer to WorldSkills Health, Safety, and Environment Policy and Regulations for Host country or region regulations.

Each project must have a safety requirement plan and risk analysis where the hazardous materials, tools, and work processes are assessed according their risk analyst. The PPE requirements must be agreed by the Workshop Manager.

Task	Safety glasses	Sturdy shoes with closed toe and heel	Dust mask	Gloves	Safety shoes with protective cap	Work clothes (long trousers and long or short-sleeved shirt – no bare back or shoulders visible	Hearing protecti
Soil or substrate handling	√	√	√	√	√	√	
Soil compacting	√	√		√	√	√	
Sawing natural stones	√	√	√	√	√	√	√
Sawing wood	√	√	√	√	√	√	√
Drilling wood	√	√	√		√	√	√
Cutting natural stone	√	√	√	chisel hand only hammering hand needn't	√	√	√
Laying steppingstones and natural stones	√	√		√	√	√	

Task	Safety glasses	Sturdy shoes with closed toe and heel	Dust mask	Gloves	Safety shoes with protective cap	Work clothes (long trousers and long or short-sleeved shirt – no bare back or shoulders visible	Hearing protecti
Laying cobble stones	√	√		√	√	√	
Building level surface	√	√		√	√	√	
Planting work	√	√		√	√	√	

8 Materials and equipment

8.1 Infrastructure List

The Infrastructure List details all equipment, materials, and facilities provided by the Competition Organizer.

The Infrastructure List is available at www.worldskills.org/infrastructure.

The Infrastructure List specifies the items and quantities requested by the Skill Management Team for the next Competition. The Competition Organizer will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items. Note that in some cases details of specific materials and/or manufacturer specifications may remain secret and will not be released prior to the Competition. These items may include those for fault finding modules or modules not circulated.

At each Competition, the Skill Management Team must review and update the Infrastructure List in preparation for the next Competition. The Skill Competition Manager must advise the Director of Skills Competitions of any increases in space and/or equipment.

At each Competition, the Technical Observer must audit the Infrastructure List that was used at that Competition for the upcoming WorldSkills Competition.

The Infrastructure List does not include items that Competitors and/or Experts are required to bring and items that Competitors are not allowed to bring – they are specified below.

8.2 Competitors toolbox

Competitors may bring more than one toolbox with the total external volume not exceeding 1 m^3.

(Volume = Length x Height x Width, or V = L x H x W)

Volume measurement does not include a packing crate, other protective packing material, palette for transportation, wheels, etc.

8.3 Materials, equipment, and tools supplied by Competitors

The following items are allowed to be carried in the toolbox:

- Levelling, (marking and measuring) instruments (e.g. auto level, laser level);
- Double metre, tape measure;
- Pencil/greasy chalk;
- Alignment string, (and poles);
- Lump hammer (non-recoil mallet, etc.);
- Trowel;
- Mason’s hammer;
- Square;
- Spirit level;
- Bolster (stone chisel);
- Carpenters saw;
- Wood chisels;
- Mallet;
- Pruning shears/secateurs;
- Pruning saw;

List is not intended to be exhaustive, additional equipment may be included as the teams deem necessary.

Furthermore Competitors are required to supply their own Personal Protective Equipment as specified in section 7 skill-specific safety requirements.

It's not allowed to bring construction wood into the competition area. Sustainable wood for measurement is allowed (like threated, PWC, Durawood).

8.4 Materials, equipment, and tools supplied by Experts

Experts are required to supply their own Personal Protective Equipment as specified in section 7 skill-specific safety requirements.

Experts are responsible that Interpreters bring their PPE.

8.5 Materials and equipment prohibited in the skill area

Competitors and Experts are prohibited to bring any materials or equipment not listed in section 8.3 and section 8.4.

Materials and equipment which do not reach the required safety regulation are prohibited.

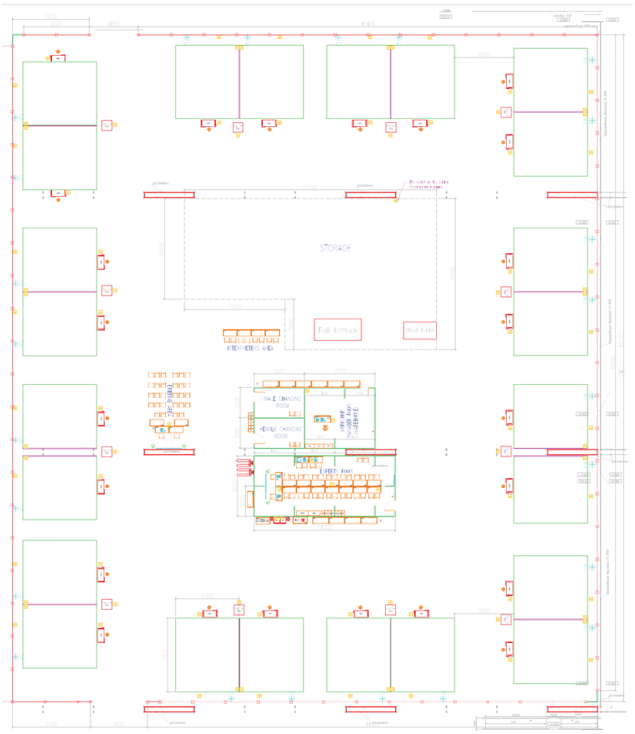
Angle cutters are prohibited.

All power tools are prohibited, they are provided by the Competition Organizer.

8.6 Proposed workshop and workstation layouts

Workshop layouts from previous competitions are available at www.worldskills.org/sitelayout.

Example workshop layout



9 Skill-specific rules

9.1 General notes

Skill-specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from skill competition to skill competition. This includes but is not limited to personal IT equipment, data storage devices, Internet access, procedures and workflow, and documentation management and distribution. Breaches of these rules will be solved according to the Issue and Dispute Resolution procedure including the Code of Ethics and Conduct Penalty System.

9.2 Skill-specific rules

Topic/task	Skill-specific rule
Use of technology – USB, memory sticks	• Competitors are not allowed to bring memory sticks into the workshop. If these items are brought into the workshop they must be locked in the personal locker until the end of each competition day. • Skill Competition Manager, Chief Expert, Experts, and Interpreters are allowed to bring memory sticks into the workshop.
Use of technology – personal laptops, tablets, and mobile phones	• Competitors are not allowed to bring personal laptops, tablets, or mobile phones into the workshop. If these items are brought into the workshop they must be locked in the personal locker until the end of each Competition Day. • Skill Competition Manager, Chief Expert, Experts, and Interpreters are allowed to bring and use personal laptops, tablets, or mobile phones into the workshop.
Use of technology – personal photo and video taking devices	• Skill Competition Manager, Chief Expert, Experts, Competitors, and Interpreters are allowed to use personal photo and video taking devices in the workshop.
Templates, aids, etc.	• Competitors are allowed to bring and use simple templates and aids. These items can also be fabricated during the Competition on C1 to C4. • Any of these items brought in or fabricated are checked by a designated Expert group before being allowed to be used.
Drawings, recording information	• Competitors, Experts, and Interpreters are not permitted to take drawings or recorded information out of the workshop until the conclusion of the Competition on C4. • Skill Competition Manager and Chief Expert are exempt from this rule.

10 Visitor and media engagement

10.1 Engagement methods

Following is a list of possible ways to maximize visitor and media engagement:

- Try-a-Skill;
- Display screens;
- Test Project descriptions, plans, and drawings;
- Enhanced understanding of Competitor activity;
- Competitor profiles;
- Career opportunities;
- Daily reporting of competition status;
- Visitor choice of “Best Garden”.

The green city concept and the sustainable landscaping must be clear in the marketing of the skill;

http://thegreencity.com/

https://en.wikipedia.org/wiki/Sustainable_gardening

We have to get people more involved in trade (hands down and dirty).

11 Sustainability

11.1 Sustainable practices

This skill competition will focus on the sustainable practices below:

- Recycling of materials after the competition, or use of recycled materials;
- Use of “green” materials and techniques;
- Use of completed Test Projects (or parts thereof) after the Competition;
- There should be an explanation and evaluation of the environmental impact of the Test Project in the competition and what the impact would be in real life. We have to let people know that landscaping is (can be) the answer to many environmental issues and problems.
- Avoiding the use of one-way plastic products also in the catering

12 References for industry consultation

12.1 General notes

WorldSkills is committed to ensuring that the WorldSkills Occupational Standards fully reflect the dynamism of internationally recognized best practice in industry and business. To do this WorldSkills approaches a number of organizations across the world that can offer feedback on the draft Description of the Associated Role and WorldSkills Occupational Standards on a two-yearly cycle.

In parallel to this, WSI consults three international occupational classifications and databases:

- ISCO-08: (http://www.ilo.org/public/english/bureau/stat/isco/isco08/)
- ESCO: (https://ec.europa.eu/esco/portal/home)
- O*NET OnLine (www.onetonline.org/)

12.2 References

This WSOS (Section 2) appears most closely to relate to Landscape Gardener:
http://data.europa.eu/esco/occupation/1009be17-7efd-45f1-a033-566bf179c588

O*net: roles are either basic or supervisory.
https://www.onetonline.org/link/summary/37-3011.00

Adjacent occupations can also be explored through these links.

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The following table indicates which organizations were approached and provided valuable feedback for the Description of the Associated Role and WorldSkills Occupational Standards in place for WorldSkills Lyon 2024.

There were no responses to the requests for feedback this cycle.

13 Appendix

13.1 Appendix information

Not applicable.