

Technical Description

Landscape Gardening

Construction and Building Technology



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.

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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 resources, and other materials will be 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 – Competition Rules
- WSI – WorldSkills Standards Specification framework
- WSI – WorldSkills Assessment Strategy
- WSI Online resources as indicated in this document
- WorldSkills Health, Safety, and Environment Policy and Regulations

2 THE WORLDSKILLS STANDARDS SPECIFICATION (WSSS)

2.1 GENERAL NOTES ON THE WSSS

The WSSS specifies the knowledge, understanding, and specific skills that underpin international best practice in technical and vocational performance. It should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business (www.worldskills.org/WSSS).

The skill competition is intended to reflect international best practice as described by the WSSS, and to the extent that it is able to. The Standards Specification 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 Standards Specification 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 Specification. This is often referred to as the “weighting”. The sum of all the percentage marks is 100.

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

The Marking Scheme and Test Project will follow the allocation of marks within the Standards Specification to the extent practically possible. A variation of five percent is allowed, provided that this does not distort the weightings assigned by the Standards Specification.

2.2 WORLDSKILLS STANDARDS SPECIFICATION

SECTION		RELATIVE IMPORTANCE (%)
1	Work organization and management	10
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • How a garden needs to be designed to fit into its environment and may be constrained by size, the built environment, position, weather conditions, and the physical environment • That a garden uses living materials and is a dynamic and changing environment • Local planning and construction regulations and how they relate to and impact landscape gardening • 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 the garden's impact on its environment and wildlife • Legal requirements and practices relating to health, safety, and environment • The importance of sustainability and recycling materials • The range of tools used by a landscape gardener and their use and maintenance • The range of materials used by the landscape gardener • The importance of working within prescribed budgets • The importance of working effectively as part of a team • How to interpret complex technical diagrams and design drawings • Mathematical calculations and geometry as they relate to landscape gardening • Dimensions, elevations and spatial awareness 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Safely and properly use appropriate tools such as hammer, chisel, table-mounted stone saw, and hand powered tools • Ensure cleanliness and security of the site • 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 a team and with other professions • Deliver landscape gardening projects within agreed timescales and budgets 	

2	Customer service and communications	5
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • The importance of effective and positive customer relations • The importance of good teamwork and good working relationships with other professions 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Follow clients' briefs • Provide advice and guidance to a customer on the design and creation of the project and any restrictions such as budgets, planning, and environmental concerns • Provide advice and guidance on ongoing maintenance • Solve problems • Provide excellent customer service 	
3	Garden design and garden design interpretation	15
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Principles of good garden design • International and cultural characteristics of garden design • Environmental impact of gardens and open spaces in city and urban areas and functional organisms that support city life and improve people's quality of life • Use of gardens a meditative and sensory spaces • Practicalities of hard landscaping, plumbing, electrical installation • Various types of sports surfaces, their uses and installations • 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 the garden or open space and how these impacts on the design • Modern trends in garden design 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Design a garden to meet a client's brief • 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 	

4	Shape and place stones, slabs and precast units	15
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • The various installation methods required for each type of structure and the manner in which the assemble 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 • Sources of supply for hard landscaping materials 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Assess the stability of the ground to ensure structural stability of the finished product • Prepare surfaces for hard-core and foundations by using earthmoving and excavation equipment, or by using hand tools • Calculate the 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 size and/or shape • Place single items and/or assemble multiple items as prescribe, 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 the site for layout with string-line • 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 slope and related manipulation of grades of finished surfaces • Protect surrounding environment 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	15
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Angles, square-cut, bevel, mitre, and other manners of cutting and joining timber/wood elements as prescribed in the drawings/specifications • 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 • 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 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • 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 the 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 slope 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 environment considering the end use, environmental conditions, and sustainability 	

6	Substrate, soil, and mulch	5
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Various types and structures of soil and growing medium • 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 • Function of various soil additives, growing mediums, mulches and composts 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Install soil and/or soil improvers for planting as prescribed • Install organic and/or inorganic mulch materials for planting or their 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
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • 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 	

	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Prepare plants and trees for planting by removing packaging and protective coverings and ensuring the plant is in good condition • Prepare the soil and planting area • Handle and plant trees and/or shrubs • Handle and plant perennials, annuals and/or ground cover in prepared planting beds • Plant selected plants appropriately spaced to account for growth patterns and the visual impact of the garden • Design and plant an area that will look mature and natural on completion of competition • Handle and plant vegetables and herbs for both crop and decoration • Maintain ongoing care of plants • Install sod/turf or slabs with joints as prescribed • Finish turf area by rolling or flattening for a firm contact between root mass and soil and eliminate bumps or hollows and spaces, as prescribed • Seed a lawn • Provide on-going care and maintenance for a lawn or turfed area 	
8	Garden technology (plumbing, electrical, drainage, and irrigation)	5
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Principles of plumbing and drainage in a garden setting • Principles of and types of irrigation systems • Collection, storage, and use of rainwater • 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 effects the installation and use of electrical and plumbed products and features 	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • 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	5
	The individual needs to know and understand: <ul style="list-style-type: none"> • Know the variety of ponds, water features, and fountains used in landscape gardening • How to install and maintain water features • Processes of installing swimming pools and hot tubs • Appropriate planting for ponds and water features • Ongoing cleaning and maintenance of water features 	
	The individual shall be able to: <ul style="list-style-type: none"> • Install flexible pond-liners and pre-fabricated 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 	
	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 Specification. The Test Project is the assessment vehicle for the skill competition, and also follows the Standards Specification. The CIS enables the timely and accurate recording of marks, and has expanding supportive capacity.

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

Prior to submission for approval to WSI, the Marking Scheme and Test Project will liaise with the WSI Skill Advisors in order 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 standards that represent the skill. It is designed to allocate marks for each assessed aspect of performance in accordance with the weightings in the Standards Specification.

By reflecting the weightings in the Standards Specification, the Marking Scheme establishes the parameters for the design of the Test Project. Depending on the nature of the skill 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 Specification, if there is no practicable alternative.

The detailed and final Marking Scheme and Test Project must be approved by the whole Expert Jury prior to submission for independent quality assurance. The exception to this process is for those skill competitions which use an independent designer for the development of the Marking Scheme and Test Project. Please see the Rules for further details.

Experts and independent designers are required to submit their Marking Schemes and Test Projects for comment and provisional approval well in advance of completion, in order to avoid disappointment or setbacks at a late stage. They are also advised to work with the CIS Team at this intermediate stage, in order to take full advantage of the possibilities of the CIS.

In all cases a draft Marking Scheme must be entered into the CIS at least eight weeks prior to the Competition using the CIS standard spreadsheet or other agreed methods. The Skill Competition Manager is responsible for this process.

4.2 ASSESSMENT CRITERIA

The main headings of the Marking Scheme are the Assessment Criteria. These headings are derived in conjunction with the Test Project. In some skill competitions the Assessment Criteria may be similar to the section headings in the Standards Specification; in others they may be totally 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 Specification.

Assessment Criteria are created by the person(s) developing the Marking Scheme, who are free to define 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). It is advisable not to specify either the Assessment Criteria, or the allocation of marks, or the assessment methods, within this Technical Description.

The Mark Summary Form generated by the CIS will comprise a list of the Assessment 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) specified 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, or instructions for how the marks are to be awarded. Aspects are assessed either by measurement or 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 skill in the Standards Specification. 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)

	CRITERIA								TOTAL MARKS PER SECTION	WSS 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		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	5.00	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, in all circumstances. The marking teams must be organized to ensure that there is no compatriot marking in any circumstances. (See 4.6.)

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)
- 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, with a fourth to coordinate the marking and acting as a judge to prevent compatriot marking.

4.7 ASSESSMENT AND MARKING USING MEASUREMENT

Three Experts will be used to assess each aspect. 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.

4.8 THE USE OF MEASUREMENT AND JUDGEMENT

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

4.9 COMPLETION OF SKILL ASSESSMENT SPECIFICATION

The skill 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 ten 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 will be assessed in each section of the Test Project.

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.

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;

C. Pavement

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

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;

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;

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;

G. General Impression

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

4.10 SKILL ASSESSMENT PROCEDURES

A separate marking group/team will be designated to do specific measurement marking aspects.

Descriptor will be developed and implement for judgement marking.

An independent professional measuring team will do the measurement markings on the Test Project as described in measuring plan.

- Marking will be measurement and judgement in accordance with the marking scale.
- 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 scale as defined for the Competition, but overall will align to the WorldSkills Standards Specification relative importance.
- For each criterion, there will be 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 evaluation criteria where possible.

A. Work site safety

- The work process is measurement marking with description;
- Work site safety is assessed every day.

B. Layout of green space

- Take location measurements of green objects with 2% tolerance to centre of stem/trunk;
- Take dimensions of green objects with 2% tolerance;
- Judge planting to plan only on main points as determined by consensus of Experts;
- Turf joints must be tight and at the same level;
- Turf is even with 6 mm tolerance under a level over a 1 m length.

C. Pavement

- Take location measurements of pavement with 1% tolerance;
- Take dimensions of pavement with 1% tolerance;
- Natural stone pavement is even with 4 mm tolerance under a level over a 1 m length;
- Artificial stone pavement is even with 2 mm tolerance under a level over a 1 m length;
- Joints must be alternate in their pattern or design.

D. Walls and stairs

- Take location measurements of walls and stairs with 1% tolerance;
- Take dimensions of walls and stairs with 1% tolerance;
- Steps of a stair must be equal in height (rise).

E. Water feature

- Pond liner must be completely hidden.

F. Wood constructions

- Take location measurements of timber constructions with 0.5% tolerance;
- Take dimensions of timber constructions with 0.5% tolerance;
- Posts of fences must be plumb;
- Screws and nails must be aligned to each other.

G. General impression

- General impression is subjective marking, with description if 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 skills in each section of the WSSS.

The purpose of the Test Project is to provide full, balanced and authentic opportunities for assessment and marking across the Standards Specification, in conjunction with the Marking Scheme. The relationship between the Test Project, Marking Scheme and Standards Specification 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 Specification, or affect the balance of marks within the Standards Specification other than in the circumstances indicated by Section 2.

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.

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 Specification. Section 2.1 refers.

5.2 FORMAT/STRUCTURE OF THE TEST PROJECT

A single Test Project will be constructed in modular form and will be evaluated every day.

5.3 TEST PROJECT DESIGN REQUIREMENTS

- 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.

5.4 TEST PROJECT 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 Who develops the Test Project or modules

The Test Projects/modules are developed by an independent Practicing Landscape Designer engaged by the Skill Competition Manager in consultation with the Workshop Manager.

5.4.2 How and where is the Test Project or modules developed

Independently by a practicing landscape designer using locally available materials with regard to the Assessment Criteria.

5.4.3 When is the Test Project developed

The Test Project is developed according to the following timeline:

TIME	ACTIVITY
Six (6) months prior to the Competition	The Test Project is developed by the independent Practicing Landscape Designer and the Workshop Manager. The Test Project needs to be built according to the design with timeframes, materials, and tools supplied to the Competitors by the Competition Organizer.
Three (3) months prior to the Competition	A Test Project concept and Infrastructure List are on the WSI website. The Workshop Manager gives a suggestion of the hand tools the Competitors need to bring for the Test Project to be completed.
At the Competition	The Test Project will be revealed to Experts. The designer must be at the workshop from C-4 to C-1 to customize the plans (with CAD) if required.

5.5 TEST PROJECT VALIDATION

The Test Project will be validated by Workshop Manager and the Skill Competition Manager

5.6 TEST PROJECT SELECTION

Not applicable.

5.7 TEST PROJECT CIRCULATION

The Test Project is circulated via the website as follows:

Not applicable.

5.8 TEST PROJECT COORDINATION (PREPARATION FOR COMPETITION)

Not applicable.

5.9 TEST PROJECT CHANGE AT THE COMPETITION

Not applicable.

5.10 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.

Materials and specifications are to be posted on the WorldSkills International website (including photographs) with concept of the Test Project three months before the current Competition.

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 skill specific Discussion Forum (<http://forums.worldskills.org>). Skill related decisions and communication are only valid if they take place on the forum. The Skill Competition Manager (or an Expert nominated by the Skill Competition Manager) will be the moderator for this Forum. Refer to 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
- Marking Schemes
- Test Projects
- 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 during the Competition is defined in the Skill Management Plan that is created by the Skill Management Team led by the Skill Competition Manager. The Skill Management Team comprises the Skill Competition Manager, Chief Expert, and Deputy Chief Expert. The Skill Management Plan is progressively developed in the eight months prior to the Competition and finalized at the Competition by agreement of the Experts. The Skill Management Plan can be viewed in the Expert Centre (www.worldskills.org/expertcentre).

7 SKILL-SPECIFIC SAFETY REQUIREMENTS

Refer to Host country or region 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.

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 Competition Manager on behalf of the Experts for the next Competition. The Competition Organizer will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items. Items supplied by the Competition Organizer are shown in a separate column.

At each Competition, the Skill Competition Manager must review, audit, and update the Infrastructure List in partnership with the Technical Observer in preparation for the next Competition. The Skill Competition Manager must advise the Director of Skills Competitions of any requests for increases in space and/or equipment.

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 COMPETITOR'S TOOLBOX

The external size of the Competitor toolbox is limited to 1.25 m³ outside excluding measuring devices, personal hand tools, and personal protection equipment which can be transported in separate containers. No toolbox greater than this size is allowed in the competition area.

8.3 MATERIALS, EQUIPMENT, AND TOOLS SUPPLIED BY COMPETITORS IN THEIR TOOLBOX

The team must bring all (personal) equipment. This may include:

- Levelling, (marking and measuring) instruments (e.g. auto level, laser level);
- Double metre, tape measure;
- Pencil/greasy chalk;
- Alignment string, (and poles);
- Plumb line;
- Lump hammer (non-recoil mallet, etc.);
- Trowel;
- Mason's hammer;
- Square;
- Spirit level;
- Point tools;
- Bolster (stone chisel);
- Jointer;
- Carpenters saw;
- Wood chisels;
- Mallet;
- Spade;
- Pruning shears/secateurs;
- Pruning saw;
- Personal protection material (glasses, ear protection, gloves, safety boots, knee protection, and dust mask etc.)

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

No power tools will be allowed, they will be provided by the Competition Organizer as required.

8.4 MATERIALS, EQUIPMENT, AND TOOLS SUPPLIED BY EXPERTS

Measuring and marking tools and equipment.

8.5 MATERIALS AND EQUIPMENT PROHIBITED IN THE SKILL AREA

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

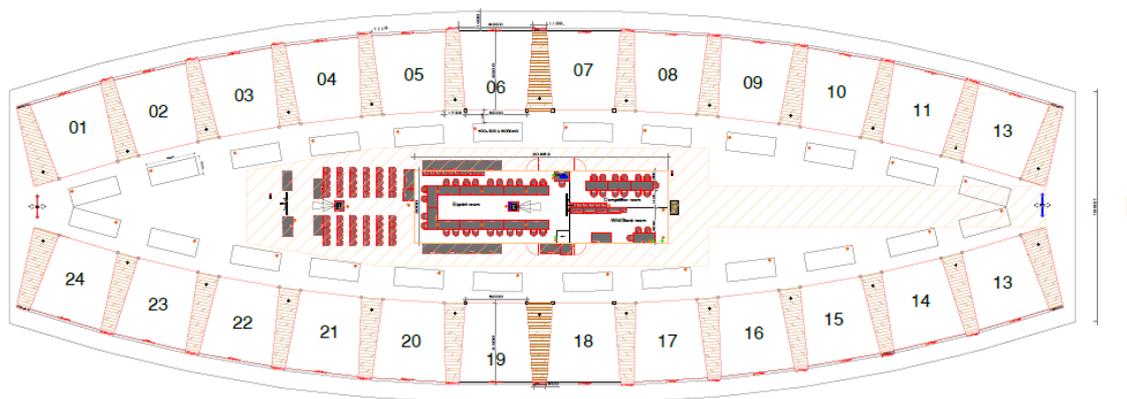
Angle cutters are prohibited.

When completed the Test Project cannot include any material not 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

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 work flow, and documentation management and distribution.

TOPIC/TASK	SKILL-SPECIFIC RULE
Use of technology – USB, memory sticks	<ul style="list-style-type: none"> • Competitors are not allowed to bring memory sticks into the workshop. • Experts and Interpreters are allowed to bring memory sticks into the workshop.
Use of technology – personal laptops, tablets and mobile phones	<ul style="list-style-type: none"> • Competitors are not allowed to bring personal laptops, tablets or mobile phones into the workshop. • Experts and Interpreters are allowed to bring personal laptops, tablets or mobile phones into the workshop.
Use of technology – personal photo and video taking devices	<ul style="list-style-type: none"> • Competitors, Experts, and Interpreters are allowed to use personal photo and video taking devices in the workshop.
Tools/infrastructure	<ul style="list-style-type: none"> • Competitors are not permitted to use glue and chemical auxiliaries.
Templates, aids, etc.	<ul style="list-style-type: none"> • Competitors are allowed to use simple templates and aids.
Drawings, recording information	<ul style="list-style-type: none"> • 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.
Health, Safety, and Environment	<ul style="list-style-type: none"> • Refer to the WorldSkills Health, Safety, and Environment policy and guidelines document.

10 VISITOR AND MEDIA ENGAGEMENT

To maximize visitor and media engagement in Landscape Gardening the following may be considered:

- “Try A Trade”;
- Display screens;
- Test Project descriptions/plans/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

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.

12 REFERENCES FOR INDUSTRY CONSULTATION

WorldSkills is committed to ensuring that the WorldSkills Standards Specifications 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 Standards Specification 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/)

This WSSS (Section 2) appears most closely to relate to *Landscape Gardener*:

<http://data.europa.eu/esco/occupation/1009be17-7efd-45f1-a033-566bf179c588>

Adjacent occupations can also be explored through these links.

The following table indicates which organizations were approached and provided valuable feedback for the Description of the Associated Role and WorldSkills Standards Specification in place for WorldSkills Kazan 2019.

ORGANIZATION	CONTACT NAME
CARLISLE: Construction Materials Europe	Benno Nijenhuis, Senior Marketing Manager