

# **Pilot Assessment**

Content is Subject To Change Prior to Full Implementation



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## **Horticulture - Landscaping - Pilot**

# NOCTI

## ***JOB READY ASSESSMENT BLUEPRINT***

### **HORTICULTURE-LANDSCAPING - PILOT**

**Test Code: 4449**

**Version: 1**

#### ***Specific Competencies and Skills Tested in this Assessment:***

##### **Safety and Employability Skills**

Demonstrate understanding of Standard Operating Procedures (SOPs)  
Demonstrate understanding of Personal Protective Equipment (PPE)  
Identify best practices regarding the safe use of landscape machinery and equipment  
Recognize basic workplace health and safety procedures  
Identify appropriate teamwork, communication, and collaboration skills

##### **Plant Science**

Identify the physiological processes, parts, and functions of plants  
Recognize and define common plant terminology  
Demonstrate understanding of plant growth cycles and propagation  
Demonstrate a basic understanding of greenhouses and nurseries  
Identify proper pruning techniques and best practices

##### **Irrigation**

Recognize the purpose of irrigation in the landscaping process  
Demonstrate understanding of the components of an irrigation system  
Identify the appropriate irrigation system for the landscape's needs

##### **Landscape Design and Installation**

Understand the components of landscape installation plans  
Recognize best practices to prepare the ground/site effectively and safely  
Demonstrate understanding of the proper planting process  
Recognize best practices regarding the correct application of mulch

## ***Horticulture-Landscaping - PILOT (continued)***

### **Soil and Fertilization**

Identify different fertilizers, amendments, and their uses

Understand the basic characteristics of soil

Recognize the signs of nutrient deficiencies, nutrient excesses, and environmental disorders

### **Turfgrass Management**

Demonstrate understanding of establishing new lawn and turf from sod/seed

Compare types and characteristics of turfgrasses

Understand the basics of turfgrass maintenance

Identify basic pests and diseases of turfgrass

### **Pest and Disease Management**

Identify and characterize pests, weeds, diseases, and other issues found in the landscape

Demonstrate understanding of Integrated Pest Management (IPM)

Demonstrate understanding of safe practices for chemical application

Recognize the common types of pesticides used in pest and disease management

### **Tool and Equipment Use and Maintenance**

Identify components of preventative maintenance

Demonstrate basic knowledge of hand tool usage and care

Identify basic installation and maintenance machinery

***Horticulture-Landscaping - PILOT (continued)***

***Written Assessment:***

Administration Time: 2 hours and 30 minutes

Number of Questions: 134

***Areas Covered:***

- 13% Safety and Employability Skills
- 15% Plant Science
- 8% Irrigation
- 14% Landscape Design and Installation
- 11% Soil and Fertilization
- 12% Turfgrass Management
- 14% Pest and Disease Management
- 13% Tool and Equipment Use and Maintenance

***Sample Questions:***

A set of written, step-by-step task instructions best describes a/an

- A. Safety Data Sheet (SDS)
- B. Organizational Hierarchy (OH)
- C. Standard Operating Procedure (SOP)
- D. Job Safety Analysis (JSA)

What type of plant lives for 3 or more years?

- A. perennial
- B. biennial
- C. annual
- D. asexual

A pointed shovel can be sharpened with what type of tool?

- A. hand file or whetstone
- B. belt sander or disc sander
- C. bench or angle grinder
- D. rotary tool or drill-mounted grinding stone

***Horticulture-Landscaping - PILOT (continued)***

Using gear driven rotor heads would be most appropriate for irrigation for what type of landscaping?

- A. flower beds
- B. turf
- C. vegetable gardens
- D. shrub borders

Site plans call for a circular flower bed with a radius of 13 feet. Approximately how many cubic yards of mulch will be needed if the mulch is spread evenly across the entire flower bed to a depth of 3 inches?

- A. 3 cubic yards
- B. 5 cubic yards
- C. 7 cubic yards
- D. 9 cubic yards

Water loss from a plant through the stomata is called

- A. guttation
- B. respiration
- C. transpiration
- D. evaporation

What is phytotoxicity?

- A. a nutrient deficiency caused by poor soil fertility
- B. a disease caused by fungal or bacterial pathogens
- C. damage caused to plants by exposure to chemical substances
- D. physical injury to plants from environmental stress

What are signs of soil compaction in a lawn?

- A. thick turf with rapid growth and firm, dry soil
- B. thin grass that pools with water
- C. patchy grass with a dark green color and spongy soil
- D. wilting grass that recovers quickly after irrigation

***Horticulture-Landscaping - PILOT (continued)***

Pulling weeds by hand is an example of \_\_\_\_\_ pest control.

- A. chemical
- B. mechanical
- C. biological
- D. natural

The diameter of the tree trunk is referred to as its

- A. circumference
- B. caliper
- C. canopy
- D. girth

*Horticulture-Landscaping - PILOT (continued)*

***Performance Assessment:***

Administration Time: 2 hours

Number of Jobs: 4

***Areas Covered:***

38%      **Planting a Containerized Tree**

*Participant will use the proper tools to dig and prepare a hole, plant and secure a containerized tree with backfill and mulch, water it properly, and clean up and return all equipment afterward.*

22%      **Tree Pruning**

*Participant will prepare tools to plan a pruning task by color-coding tools and branches, identifying proper cutting locations (including the three-cut method), demonstrating correct use of pruning tools, and then returning all equipment when finished.*

19%      **Site Plan Reading**

*Participant will use the site plan and its scale to measure and accurately transfer the layout onto the ground by staking and outlining beds and walkways and positioning plants according to the design without installing them.*

21%      **Using Power Tools**

*Participant will safely operate a backpack leaf blower to clear debris and a hedge trimmer to cut material using proper techniques, then shut down, secure, and return all equipment when finished.*

***Horticulture-Landscaping - PILOT (continued)***

***Sample Job:*** Planting a Containerized Tree

***Maximum*** 30 minutes

***Job Time:***

***Participant Activity:*** Participant will put on the proper PPE and select the necessary equipment before digging an appropriately sized hole for a containerized tree. Then, they will prepare backfill for planting; remove the tree from the container; plant, mulch, stake, and water the tree; clean up excess soil; and return the tools to their original location.