



NOVA SCOTIA
APPRENTICESHIP
AGENCY

NOVA SCOTIA
OCCUPATIONAL STANDARD
ARBORIST

FORWARD

This occupational standard was developed by a committee of industry experts in the field led by a facilitator from the Nova Scotia Apprenticeship Agency. It has the following objectives:

- to describe and group the tasks performed by skilled workers
- to identify which tasks are performed by skilled workers
- to develop instruments for use in the preparation of examinations and curricula for training leading to the certification of skilled workers
- to facilitate the mobility of apprentices and skilled workers in Canada; and,
- to supply employers, employees, associations, industries, training institutions and governments with analyses of occupations.

Any questions, comments, or suggestions for changes, corrections, or revisions to this standard or any of its related products may be forwarded to:

Nova Scotia Apprenticeship Agency
1256 Barrington Street
Halifax, Nova Scotia
B3J 1Y6
Email: apprenticeship@novascotia.ca

ACKNOWLEDGEMENTS

The Nova Scotia Apprenticeship Agency wishes to acknowledge the contributions of the following individuals and organizations, and all others who participated in the development of the original draft of the standard and provided expert advice throughout its development:

Kirk Fletcher	Arbor Plant Health Care
Matt Hull	Arbor Plant Health Care
Tracey MacKenzie	Dalhousie University Agricultural Campus
Daniel Nightingale	Nova Scotia Community College
Clair Rankin	Green Butler Services Ltd.

TABLE OF CONTENTS

Forward.....	2
Acknowledgements.....	3
Structure of the Occupational Standard.....	5
Description of ARBORIST.....	6
Essential Skills Summary	7
Roles and Opportunities for Skilled Trades in a Sustainable Future	8
Industry-Expected Performance	10
Pie Chart Of Certification Exam Weightings	11
Task Matrix.....	12
MAJOR WORK ACTIVITY A.....	16
MAJOR WORK ACTIVITY B.....	22
MAJOR WORK ACTIVITY C.....	28
Appendix A Acronyms.....	39
Appendix B Tools and Equipment.....	40

STRUCTURE OF THE OCCUPATIONAL STANDARD

To facilitate the understanding of the occupation, the work performed is divided into the following categories:

Description of the trade: an overview of the trade's duties

Essential Skills Summary: An overview of how each of the 9 essential skills is applied in this trade

Industry Expected Performance: description of the expectations regarding the level of performance of the tasks, including information related to specific codes, regulations and standards that must be observed

Pie Chart Examination Weightings: a graph which depicts the percentages of exam questions assigned to the major work activities

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities

Task: distinct actions that describe the activities within a major work activity

Task Descriptor: a general description of the task

Sub-task: distinct actions that describe the activities within a task

Range of Variables: elements that provide a more in-depth description of a term used in the performance criteria, evidence of attainment, learning outcomes, or learning objectives

DESCRIPTION OF ARBORIST

“Arborist” is this trade’s official provincial occupational title approved by the Nova Scotia Apprenticeship Agency.

An Arborist transplants, maintains and removes trees and other woody plants. Arborists have knowledge in the science of arboriculture as well as the cultivation, management and study of individual trees, shrubs and vines. An Arborist carries out treatments for optimal plant health, managing pests, diseases, wounds and defects that impact trees and other woody plants.

Arborists tasks may include installation, pruning, removal and other treatments to maintain healthy plants such as enhancing soils, irrigating, mulching and aerating. Arborists typically work in a variety of commercial and residential applications. Arborists may work around utility lines, at heights and in close proximity to structures commonly found in urban environments. These structures include many obstacles and hazards such as houses, buildings, fences, vegetation, pools, water, utility lines, vehicles, traffic lights, underground water and power, etc.

Arborists work with equipment such as aerial lifts, chain saws, hand tools, mobile power equipment, woodchippers, winches, stump grinders and application equipment for insecticides. Arborists use climbing techniques involving knots, friction hitches, rope attachments, and static and moving rope systems. Arborists provide advice and reports on trees and other woody plants for residential, commercial, industrial and government representatives.

ESSENTIAL SKILLS SUMMARY

Essential skills are needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change.

Through extensive research, the Government of Canada and other national and international agencies have identified and validated nine essential skills. These skills are used in nearly every occupation and throughout daily life in different ways. The nine identified skills are:

- Reading
- Document Use
- Writing
- Oral Communication
- Numeracy
- Thinking
- Digital Technology
- Working with Others
- Continuous Learning

A series of CCDA-endorsed tools have been developed to support apprentices in their training and to be better prepared for a career in the trades. The tools can be used independently or with the assistance of a tradesperson, trainer, employer, teacher or mentor to:

- understand how essential skills are used in the trades;
- learn about individual essential skills strengths and areas for improvement; and
- improve essential skills and increase success in an apprenticeship program.

Tools are available online or for order at: [Skills for Success – Assessment and training tools - Canada.ca](https://www.skillsforsuccess.ca/)

The application of these skills may be described throughout this document within the competency statements which support each subtask of the trade. For a complete description of the nine essential skills for various trades, please visit: [Explore careers by essential skills - Job Bank](https://www.skillsforsuccess.ca/explore-careers-by-essential-skills)

ROLES AND OPPORTUNITIES FOR SKILLED TRADES IN A SUSTAINABLE FUTURE

Climate change affects all of us. Trades play a large role in implementing solutions and adjusting to changes in the world.

Throughout this standard, there may be specific references to tasks, skills and knowledge that clearly show this trade's role in a more sustainable future. Each trade has different roles to play and contributions to make in their own way.

For example:

- Construction tradespeople need to consider the materials they are using, building methods, and improvements to mechanical and electrical installations. There are important changes to codes and standards to help meet the climate change goals and commitments set for 2030 and 2050. Retrofits and new construction of low-energy buildings provide enormous opportunities for workers in this sector. Concepts, such as energy efficiency and regarding buildings as systems are foundational.
- Automotive and mechanical trades are seeing a shift towards the electrification of vehicles and equipment. As a result, new skills and knowledge will be required for tradespeople working in this sector. There are mandates for sales of new light-duty zero-emission vehicles (ZEV) in Canada, with the goal of achieving 100% ZEV sales by 2035. Due to this mandate, the demand for these vehicles is growing quickly among consumers and fleets. With this escalating demand, the need for skilled workers to maintain and repair these vehicles is also increasing.
- In industrial and resource sectors, there is pressure to move towards increased electrification of industrial processes. Many industrial and commercial facilities are also being upgraded to improve energy efficiency in areas such as lighting systems, and new production processes and technologies. There are also opportunities in carbon capture, utilization and storage (CCUS), as well as the production and export of low-carbon hydrogen.
- Trades in the service sector may also need to be aware of responsible sourcing, as well as efficient use of products and materials. New ways of working better are always a part of the job.

There are fast-moving changes in guidelines, codes, regulations and specifications. Many are being implemented for the purpose of energy efficiency and climate change. Those that affect specific trades may be mentioned within the standard. Examples of these guidelines and legislation include:

- The National Energy Code of Canada for Buildings (NECB).
- The Canadian Net-Zero Emissions Accountability Act (CNZEAA).
- Programs that encourage sustainable building design and construction such as Leadership in Energy and Environmental Design (LEED) and the Zero Carbon Building (ZCB) standards.
- The Montreal Protocol for phasing out R22 refrigerants.
- Energy efficiency programs such as ENERGY STAR.
- Principles of the United Nations Declaration for the Rights of Indigenous Peoples pertaining to energy sector development.

Apprentices and tradespeople need to increase their climate literacy and reinforce their own understanding of energy issues and environmental practices. It is important for them to understand why these changes are happening and their effect on trades' work. While individual tradespeople and apprentices may not be able to choose certain elements like; the architectural design of buildings, building material selection, regulatory requirements, use of electric vehicles and technologies, they must understand the impact of using these elements in their work. Impacts include using environmentally friendly products and following requirements related to the disposal and recycling of materials.

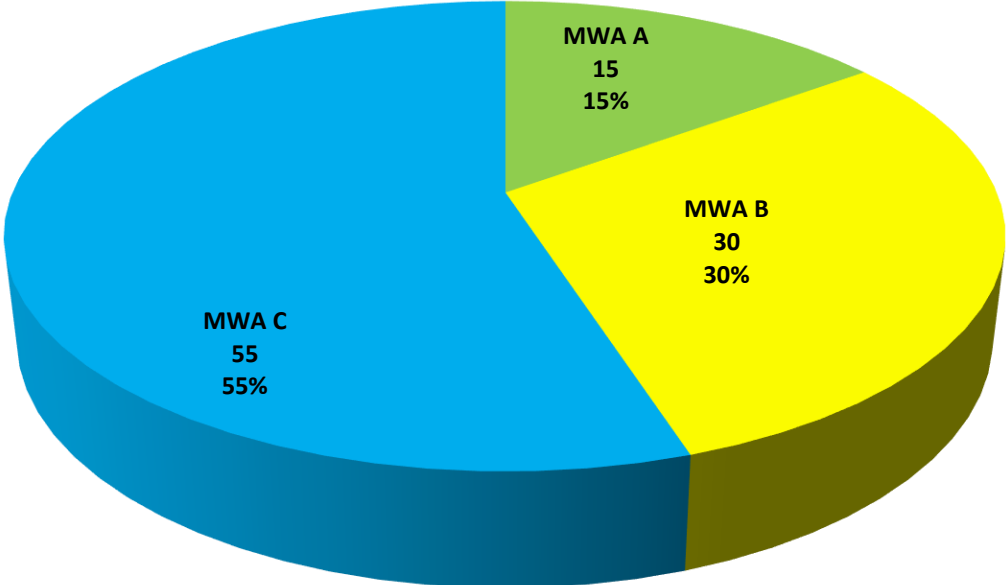
In apprenticeship, as well as in ongoing professional development, employers and instructors should encourage learning about these concepts, why they are important, how they are implemented, and the overarching targets they are aiming to achieve.

All in all, it's about doing the work better and building a better world.

INDUSTRY-EXPECTED PERFORMANCE

All tasks must be performed according to Nova Scotia regulations and standards. All health and safety standards must be respected and observed. Work should be done efficiently and to a high quality without material waste or environmental damage. All requirements of employers, consumers, clients and quality control policies must be met. At a journey person level of performance, all tasks must be done with minimal direction and supervision. As a journey person progresses in their career there is an expectation they continue to upgrade their skills and knowledge to maintain pace with industry and promote continuous learning in their trade through mentoring of apprentices.

PIE CHART OF CERTIFICATION EXAM WEIGHTINGS



MWA A	Performs common occupational skills	15%
MWA B	Performs routine work practices	30%
MWA C	Performs tree work and maintenance	55%

This pie chart represents a breakdown of the Nova Scotia provincial certification examination. The task matrix on the following pages indicates the breakdown of tasks and sub-tasks within each major work activity. The Arborist provincial certification examination has 100 questions.

ARBORIST

TASK MATRIX

MWA A – Performs common occupational skills

15%

<p>Task A-1 Performs safety-related functions 35%</p>	<p>A-1.01 Uses personal protective equipment (PPE) and safety equipment</p>	<p>A-1.02 Maintains safe work environment</p>	
<p>Task A-2 Uses tools and equipment 35%</p>	<p>A-2.01 Uses hand tools</p>	<p>A-2.02 Uses power tools</p>	<p>A-2.03 Uses measuring equipment and testing devices</p>
	<p>A-2.04 Uses trailers</p>		
<p>Task A-3 Organizes work 30%</p>	<p>A-3.01 Performs site assessments</p>	<p>A-3.02 Manages projects</p>	<p>A-3.03 Uses documentation and reference material</p>
	<p>A-3.04 Transports materials</p>	<p>A-3.05 Transports equipment</p>	
<p>Task A-4 Uses communication and mentoring techniques 0%</p>	<p>A-4.01 Uses communication techniques</p>	<p>A-4.02 Uses mentoring techniques</p>	

MWA B – Performs routine work practices

30%

<p>Task B-5 Uses work positioning systems and access equipment</p> <p>20%</p>	<p>B-5.01 Uses aerial lift equipment</p>	<p>B-5.02 Uses rope access systems</p>	<p>B-5.03 Uses ladders and scaffolding equipment</p>
<p>Task B-6 Operates and maintains Arborist equipment</p> <p>40%</p>	<p>B-6.01 Uses motorized equipment and attachments</p>	<p>B-6.02 Uses vehicles</p>	<p>B-6.03 Operates material handling equipment</p>
	<p>B-6.04 Uses chainsaws</p>	<p>B-6.05 Uses pole tools</p>	<p>B-6.06 Uses chippers</p>
<p>Task B-7 Performs aerial rescues</p> <p>40%</p>	<p>B-7.01 Determines action plan</p>	<p>B-7.02 Conducts aerial lift rescues</p>	<p>B-7.03 Conducts aerial lift evacuations</p>
	<p>B-7.04 Conducts climbing aerial rescues</p>	<p>B-7.05 Conducts spar and pole-top rescues</p>	

<p>Task C-8 Plants and maintains trees and other woody plants</p> <p>25%</p>	<p>C-8.01 Plants trees and other woody plants</p>	<p>C-8.02 Prunes trees and other woody plants</p>	<p>C-8.03 Manages wounds and defects of trees and other woody plants</p>
	<p>C-8.04 Manages pests, diseases and disorders of trees and other woody plants</p>		
<p>Task C-9 Removes trees and other woody plants</p> <p>20%</p>	<p>C-9.01 Conducts pre-felling assessment</p>	<p>C-9.02 Prepares work area for removal process</p>	<p>C-9.03 Performs directional felling</p>
	<p>C-9.04 Performs sectional removal</p>	<p>C-9.05 Performs limbing and bucking</p>	<p>C-9.06 Performs material handling</p>
	<p>C-9.07 Removes stumps</p>		
<p>Task C-10 Climbs trees and works at heights</p> <p>20%</p>	<p>C-10.01 Establishes work plan</p>	<p>C-10.02 Uses knots and mechanical friction devices</p>	<p>C-10.03 Climbs trees</p>

Task C-11
Uses rigging and hoisting equipment

25%

C-10.04 Uses tools and equipment aloft		
--	--	--

C-11.01 Determines load	C-11.02 Selects rigging and hoisting equipment	C-11.03 Secures area
-------------------------	--	----------------------

C-11.04 Sets up rigging and hoisting equipment	C-11.05 Performs rigging and hoisting operations	C-11.06 Controls movement of cut limbs and trunk sections
--	--	---

C-11.07 Maintains rigging and hoisting equipment		
--	--	--

Task C-12
Applies environmental practices

10%

C-12.01 Practices environmental stewardship	C-12.02 Practices biodiversity enhancement	C-12.03 Practices soil stewardship
---	--	------------------------------------

C-12.04 Practices water stewardship		
-------------------------------------	--	--

MAJOR WORK ACTIVITY A

Common Occupational Skills

TASK A-1 Performs safety-related functions

TASK DESCRIPTOR

Arborists must be able to recognize hazards as well as protect themselves and others. They must also protect property.

A-1.01 Uses personal protective equipment (PPE) and safety equipment

Performance Criteria

A-1.01.01	Recognize workplace hazards that require the use of PPE and safety equipment
A-1.01.02	Select and use PPE
A-1.01.03	Select and use safety equipment
A-1.01.04	Store PPE and safety equipment
A-1.01.05	Inspect operation and condition of PPE and safety equipment
A-1.01.06	Organize PPE and safety equipment
A-1.01.07	Inspect and maintain PPE and safety equipment inventory
A-1.01.08	Recognize, remove and replace worn, damaged, expired or defective PPE and safety equipment

RANGE OF VARIABLES

workplace hazards include: personal, environmental, shop/facility, high voltage systems, overhead and underground utility systems, production sites, trees, plants, biological, chemical, motorized equipment, spills, traffic, public, working at heights, wildlife, slope, uneven ground, septic tanks and fields, water and sewer, irrigation lines, drainage systems

PPE includes: safety boots, safety glasses, respirators, single-use disposable suits, gloves, dust masks, safety vests, fall arrest equipment, harnesses, face shields, hearing protection, sunscreen, insect repellent, safety sunglasses, hard hats, safety pants or chaps

safety equipment includes: seatbelts, first aid kits, fire extinguishers, eye wash stations, fall protection, barriers, signage

A-1.02 Maintains safe work environment

Performance Criteria

B-1.02.01	Identify and assess workplace hazards
B-1.02.02	Follow safety procedures
B-1.02.03	Maintain a clean and clutter-free work area
B-1.02.04	Comply with lock-out/tag-out procedures
B-1.02.05	Use safety barriers in work areas

Performance Criteria

B-1.02.06	Handle, store and dispose of hazardous materials
B-1.02.07	Recognize and report unsafe conditions
B-1.02.08	Use safety communication signals

RANGE OF VARIABLES

workplace hazards include: personal, environmental, shop/facility, high voltage systems, overhead and underground utility systems, production sites, trees, plants, biological, chemical, motorized equipment, spills, traffic, public, working at heights, wildlife, slope, uneven ground, septic tanks and fields, water and sewer, irrigation lines, drainage systems

safety procedures include: use of fall arrest and work positioning, establishing fuelling zones, traffic management safety, pedestrian management safety

safety barriers include: flagging, pylons, barricades, signage

safety communication signals include: workplace and job-site safety signage, truck signage, back-up signals, back-up alarms, warning lights, hand signals

TASK A-2 Uses tools and equipment

TASK DESCRIPTOR

Arborists use various tools and equipment to perform their work. This includes maintenance to ensure optimal efficiency and safe operation.

A-2.01 Uses hand tools

Performance Criteria

B-2.01.01	Select and use hand tools
B-2.01.02	Clean and disinfect hand tools
B-2.01.03	Inspect, repair or replace damaged or defective hand tools
B-2.01.04	Organize, store and maintain hand tools

RANGE OF VARIABLES

hand tools include: secateurs, pruners, loppers, hand saws, axes, shears

maintain includes: lubricate, sharpen, replace components

A-2.02 Uses power tools

Performance Criteria

B-2.02.01	Select and use power tools
B-2.02.02	Clean and disinfect power tools
B-2.02.03	Inspect, repair or replace damaged or defective power tools

Performance Criteria

B-2.02.04 Organize, store and **maintain** power tools

RANGE OF VARIABLES

power tools include: drills, leaf blowers, sprayers, air-powered tools, hydraulic tools

maintain includes: lubricate, sharpen, adjust, grease, replace components, replace and recharge batteries, refuel

A-2.03 Uses measuring equipment and testing devices

Performance Criteria

B-2.03.01	Select and use measuring equipment and testing devices
B-2.03.02	Clean and disinfect measuring equipment and testing devices
B-2.03.03	Calibrate measuring equipment and testing devices
B-2.03.04	Inspect, repair or replace damaged or defective measuring equipment and testing devices
B-2.03.05	Organize, store and maintain measuring equipment and testing devices

RANGE OF VARIABLES

measuring equipment includes: pH meters, tree diameter tapes, Global Positioning Systems (GPS), tape measures, calibrated cylinders, calipers

testing devices include: mechanical resistance measuring devices, rubber mallets, pull-test kits, sonic tomographs, increment borers

A-2.04 Uses trailers

Performance Criteria

B-2.04.01	Select and use trailers
B-2.04.02	Inspect trailers for wear, damage and defects
B-2.04.03	Identify trailer hazards
B-2.04.04	Verify load size and parameters
B-2.04.05	Guide and position loads
B-2.04.06	Verify couplings and safety connections
B-2.04.07	Operate trailers
B-2.04.08	Communicate with trailer operators
B-2.04.09	Store and maintain trailers
B-2.04.10	Tag and remove defective trailers from service

RANGE OF VARIABLES

trailers include: dump trailers, flatbeds, enclosed trailers

trailer hazards include: power lines, excessive loads, weather

couplings include: hitches, tow bars, safety chains, trailer brakes and lighting, breakaway switches

TASK A-3 Organizes work

TASK DESCRIPTOR

Arborists organize work for productivity and safety. They use documents, reference materials and maintain records in order to effectively plan future work. Arborists order and transport materials and equipment.

A-3.01 Performs site assessments

Performance Criteria

B-3.01.01	Determine access and egress points
B-3.01.02	Perform visual inspection of site and neighbouring properties for workplace hazards
B-3.01.03	Arrange for jurisdictional underground utility locate service
B-3.01.04	Perform soil tests
B-3.01.05	Locate septic system and wells
B-3.01.06	Identify and assess health of trees and woody plants
B-3.01.07	Determine scope of project or task

RANGE OF VARIABLES

access and egress includes: ground, aerial

workplace hazards include: personal, environmental, shop/facility, high voltage systems, overhead and underground utility systems, production sites, trees, plants, biological, chemical, motorized equipment, spills, traffic, public, working at heights, wildlife, slope, uneven ground, septic tanks and fields, water and sewer, irrigation lines, drainage systems

soil tests include: core samplings, texture tests, fertility values, pH

A-3.02 Manages projects

Performance Criteria

B-3.02.01	Determine scope of project or task
B-3.02.02	Determine procedures and timeline
B-3.02.03	Order materials
B-3.02.04	Organize labour, materials, tools and equipment
B-3.02.05	Transport materials, tools and equipment
B-3.02.06	Control inventory
B-3.02.07	Prepare estimates
B-3.02.08	Sell products and services
B-3.02.09	Consult with client

RANGE OF VARIABLES

N/A

A-3.03**Uses documentation and reference material****Performance Criteria**

B-3.03.01	Locate and interpret documentation
B-3.03.02	Use information resources
B-3.03.03	Maintain records and documentation
B-3.03.04	Complete safety records and work records
B-3.03.05	Complete tool and equipment sign-out and training sign-off sheets

RANGE OF VARIABLES

documentation includes: drawings, specifications, guidelines, codes and standards, tenders and contracts, site locates, product instructions

information resources include: plant identification keys, supplier products, pest management keys, textbooks, field books, operator equipment manuals (OEM), internet, material safety data sheets (MSDS)

records and documentation includes: work reports, work orders, incident reports, permits, time sheets, estimates, contracts, invoices

safety records include: accident reports, tag-outs, safety meeting records

work records include: training records, work orders, daily time sheets, change orders, site assessment records, vehicle and equipment maintenance records

A-3.04**Transports materials****Performance Criteria**

B-3.04.01	Identify types of transportation
B-3.04.02	Protect plant materials
B-3.04.03	Secure materials
B-3.04.04	Load and unload materials
B-3.04.05	Cover materials
B-3.04.06	Load and transport materials
B-3.04.07	Perform and document circle check of loaded vehicle and towed equipment

RANGE OF VARIABLES

materials include: wood chips, soil, aggregates, lumber, fertilizers, pond and irrigation materials, electrical supplies, hazardous materials (fertilizers, contaminated soils, pesticides, fuels)

A-3.05**Transports equipment****Performance Criteria**

B-3.05.01	select vehicle/trailer type
B-3.05.02	secure equipment

Performance Criteria

B-3.05.03	determine route from shop to work site for heavy hauling
B-3.05.04	attach signage to vehicle/trailer for oversized loads
B-3.05.05	place traffic cones and wheel chocks
B-3.05.06	follow road closure procedures
B-3.05.07	load and transport equipment

RANGE OF VARIABLES

N/A

TASK A-4 Uses mentoring techniques

TASK DESCRIPTOR

Learning in the trades is done primarily in the workplace with tradespeople passing on their skills and knowledge to apprentices, as well as sharing knowledge among themselves. Apprenticeship is, and always has been about mentoring – learning workplace skills and passing them on. Because of the importance of this to the trades, this task covers the activities related to communication in the workplace and mentoring skills.

A-4.01 Uses communication techniques

Performance Criteria

4.01.01	demonstrate communication practices individually or in a group
4.01.02	use active listening practices
4.01.03	speak clearly using correct industry terminology to ensure understanding
4.01.04	receive and respond to instructions
4.01.05	receive and respond to feedback on work completed or performed
4.01.06	explain and provide feedback
4.01.07	use questions to improve communication
4.01.08	conduct and participate in safety and information meetings
4.01.09	send and receive electronic messages

RANGE OF VARIABLES

communication practices include: verbal communication techniques, written communication techniques, electronic communication techniques, hand signal techniques

active listening includes: hearing, interpreting, reflecting, responding, paraphrasing, questioning

A-4.02**Uses mentoring techniques****Performance Criteria**

- 4.02.01 identify and communicate learning objective and point of lesson
- 4.02.02 link lesson to other lessons and project
- 4.02.03 demonstrate performance of a skill to an apprentice
- 4.02.04 set up conditions required for apprentice to practice a skill
- 4.02.05 assess an apprentice's ability to perform tasks with increasing independence
- 4.02.06 give supportive and corrective feedback
- 4.02.07 support apprentices in pursuing technical training opportunities
- 4.02.08 support anti-**harassment** and anti-**discrimination** practices in workplace
- 4.02.09 assess an apprentice's suitability to the trade during probationary period

RANGE OF VARIABLES

harassment includes: as defined by the Canadian and jurisdictional Human Rights Commissions
discrimination includes: as defined by the Canadian Human Rights Act and jurisdictional human rights laws

MAJOR WORK ACTIVITY B

Performs Routine Work Practices

TASK B-5 Uses work positioning systems and access equipment

TASK DESCRIPTOR

Arborists require access to various work locations, often at heights, to perform tree-related tasks. They must be proficient in using a variety of work positioning and access equipment, including aerial lift, rope access, ladders and scaffolding.

B-5.01**Uses aerial lift equipment****Performance Criteria**

- B-5.01.01 Select, inspect and use **aerial lift equipment**
- B-5.01.02 Select, inspect and use **fall arrest equipment**
- B-5.01.03 Identify, tag and remove from service unsafe, worn, damaged or defective aerial lift and fall arrest equipment
- B-5.01.04 Maintain and store aerial lift and fall arrest equipment

RANGE OF VARIABLES

aerial lift equipment includes: bucket trucks, tracked lifts, tow behinds, zoom booms

fall arrest equipment includes: full body harnesses, decelerating lanyards, attachment devices

B-5.02 Uses rope access equipment

Performance Criteria

- | | |
|-----------|--|
| B-5.02.01 | Select, inspect and use rope access equipment |
| B-5.02.02 | Identify, tag and remove from service unsafe, worn, damaged or defective rope access equipment |
| B-5.02.03 | Maintain, clean and store rope access equipment |

RANGE OF VARIABLES

rope access equipment includes: ropes, saddles, carabiners, spurs, friction hitches and devices, mechanical hitches, ascenders, motorized rope ascenders

B-5.03 Uses ladders and scaffolding equipment

Performance Criteria

- | | |
|-----------|--|
| B-5.03.01 | Select and inspect ladders and scaffolding equipment |
| B-5.03.02 | Set up and use ladders and scaffolding equipment |
| B-5.03.03 | Identify, tag and remove from service unsafe, worn, damaged or defective ladders and scaffolding equipment |
| B-5.03.04 | Maintain and store ladders and scaffolding equipment |

RANGE OF VARIABLES

set up and use includes: secures footing, uses tie-offs, ensures height and positioning, observes load limits, guards area, erects scaffolding

TASK B-6 Operates and maintains Arborist equipment

TASK DESCRIPTOR

Arborists use a variety of equipment, motorized equipment and specialized machinery to perform their work. This includes maintenance to ensure optimal efficiency and safe operation.

B-6.01 Uses motorized equipment and attachments

Performance Criteria

- | | |
|-----------|--|
| B-6.01.01 | Select, inspect and use motorized equipment and attachments |
| B-6.01.02 | Identify, tag and remove from service unsafe, worn, damaged or defective motorized equipment and attachments |
| B-6.01.03 | Maintain, clean and store motorized equipment and attachments |

RANGE OF VARIABLES

motorized equipment and attachments include: stump grinders, mulchers, grapple loaders

B-6.02 Uses vehicles

Performance Criteria

- | | |
|-----------|---------------------------------------|
| B-6.02.01 | Select and inspect vehicles |
| B-6.02.02 | Operate vehicles |
| B-6.02.03 | Reduce unnecessary idling of vehicles |
| B-6.02.04 | Maintain vehicles |

RANGE OF VARIABLES

vehicles include: cars, passenger trucks, grapple trucks, bucket trucks, chip trucks

maintain vehicles includes: clean, check fluids, check tire pressure, follow maintenance schedule

B-6.03 Operates material handling equipment

Performance Criteria

- | | |
|-----------|--|
| B-6.03.01 | Select, inspect and use material handling equipment |
| B-6.03.02 | Identify, tag and remove from service unsafe, worn, damaged or defective material handling equipment |
| B-6.03.03 | Maintain and store material handling equipment |

RANGE OF VARIABLES

material handling equipment includes: skid steers, grapples, cranes, winches, tractors, excavators

B-6.04 Uses chainsaws

Performance Criteria

- | | |
|-----------|---|
| B-6.04.01 | Select, inspect and use chain saws |
| B-6.04.02 | Clean and disinfect chain saws |
| B-6.04.03 | Identify, tag and remove from service unsafe, worn, damaged or defective chain saws |
| B-6.04.04 | Store and maintain chain saws |

RANGE OF VARIABLES

maintain chain saws includes: lubricate, sharpen, adjust, grease, replace components, recharge batteries, refuel, minor repairs

B-6.05 Uses pole tools**Performance Criteria**

B-6.05.01	Select, inspect and use pole tools
B-6.05.02	Clean and disinfect pole tools
B-6.05.03	Identify, tag and remove from service unsafe, worn, damaged or defective pole tools
B-6.05.04	Store and maintain pole tools

RANGE OF VARIABLES

pole tools include: hydraulic, gas, battery, manual, dielectric, extendable, saws, pruners
maintain pole tools includes: lubricate, sharpen, dielectric testing, adjust, grease, replace components, recharge batteries, refuel, minor repairs

B-6.06 Uses chippers**Performance Criteria**

B-6.06.01	Select, inspect and use chippers
B-6.06.02	Review and follow safety protocols
B-6.06.03	Identify, tag and remove from service unsafe, worn, damaged or defective chippers
B-6.06.04	Store and maintain chippers

RANGE OF VARIABLES

chippers include: hydraulic, gas, diesel, power take-off (PTO), gravity feed
maintain chippers includes: lubricate, sharpen, adjust, grease, replace components, refuel, minor repairs

TASK B-7 Performs aerial rescues

TASK DESCRIPTOR

Arborists are trained to respond swiftly and effectively in emergency situations involving tree work and working at heights. They may be required to evacuate individuals from elevated platforms or conduct aerial or climbing rescues.

B-7.01 Determines action plan**Performance Criteria**

B-7.01.01	Perform scene and hazard assessment
B-7.01.02	Assess worker condition
B-7.01.03	Contact emergency services

Performance Criteria

- B-7.01.04 Determine **tools and equipment**
- B-7.01.05 Determine **first aid** requirements

RANGE OF VARIABLES

scene and hazard assessment includes: cause, location, presence of energized conductors, weather conditions, worker position, condition of lifts, condition of trees

worker condition includes: level of responsiveness, extent of injuries

emergency services include: first responders, Nova Scotia Power, Arborist industry support

tools and equipment includes: rope access lines, aerial lifts, ladders, spurs, first aid kits, climbing saddles

first aid includes: airway, breathing and circulation (ABCs), pressure bandages, CPR, shock assessment

B-7.02 Conducts aerial lift rescues

Performance Criteria

- B-7.02.01 Select and use tools and equipment
- B-7.02.02 Perform **aerial rescue**
- B-7.02.03 Perform first aid

RANGE OF VARIABLES

aerial rescue includes: bucket to bucket, lift to lift, lower lift, extricate worker from lift

B-7.03 Conducts aerial lift evacuations

Performance Criteria

- B-7.03.01 Select, inspect and use evacuation tools and equipment
- B-7.03.02 Assemble and secure **evacuation kit**
- B-7.03.03 **Evacuate** the lift

RANGE OF VARIABLES

evacuation kit includes: anchor points, secondary saddle attachments, descending units

evacuate includes: lift to lift transfers, rope transfers

B-7.04 Conducts climbing aerial rescues

Performance Criteria

- B-7.04.01 Select, inspect and use tools and equipment
- B-7.04.02 Climb tree using ropes to access worker
- B-7.04.03 **Stabilize and assist** worker
- B-7.04.04 Descend with worker using ropes

Performance Criteria

B-7.04.05 Perform first aid

RANGE OF VARIABLES

stabilize and assist includes: address suspension traumas, check condition of work positioning systems, secure worker from additional injuries or falls

B-7.05 Conducts spar and pole-top rescues

Performance Criteria

B-7.05.01 Select, inspect and use tools and equipment

B-7.05.02 Climb tree using spurs to access worker

B-7.05.03 **Stabilize and assist** worker

B-7.05.04 Maneuver worker to **lowering position**

B-7.05.05 Descend with worker using ropes

B-7.05.06 Perform first aid

RANGE OF VARIABLES

stabilize and assist includes: address suspension traumas, check condition of work positioning systems, secure worker from additional injuries or falls

lowering position includes: rope positioning, remove spurs from tree

MAJOR WORK ACTIVITY C

Performs work and maintenance on trees and other woody plants

TASK C-8 Plants and maintains trees and other woody plants

TASK DESCRIPTOR

Arborists play a vital role in the holistic management of trees and woody plants. Key responsibilities include selection and planting, pruning, wound management, and pest and disease control to ensure health and longevity.

C-8.01 Plants trees and other woody plants

Performance Criteria

C-8.01.01	Select and inspect trees and other woody plants
C-8.01.02	Select, inspect and use planting tools and equipment
C-8.01.03	Select, inspect and use materials
C-8.01.04	Dig trees and other woody plants
C-8.01.05	Handle, load and protect nursery stock for transport and interim storage
C-8.01.06	Determine and prepare planting sites
C-8.01.07	Plant trees and other woody plants
C-8.01.08	Install support systems
C-8.01.09	Apply mulch over root zones

RANGE OF VARIABLES

planting tools and equipment includes: tree spades, air excavators, shovels, pickaxes

prepare planting site includes: soil analysis, planting hole depth, growing medium

support system includes: guying, staking, wind protection, trunk wraps

C-8.02 Prunes trees and other woody plants

Performance Criteria

C-8.02.01	Identify and inspect trees and other woody plants
C-8.02.02	Select pruning methods
C-8.02.03	Select, inspect and use tools and equipment
C-8.02.04	Clean and disinfect tools and equipment
C-8.02.05	Perform selective pruning and removal
C-8.02.06	Remove pruning debris

RANGE OF VARIABLES

pruning methods include: shearing, thinning, heading, shaping, hazard reduction, structural, restoration

C-8.03

Manages wounds and defects of trees and other woody plants

Performance Criteria

C-8.03.01	Identify and inspect trees and other woody plants
C-8.03.02	Select treatment method
C-8.03.03	Select, inspect and use tools and equipment
C-8.03.04	Select, inspect and use materials
C-8.03.05	Manage wounds and defects
C-8.03.06	Clean and disinfect tools and equipment

RANGE OF VARIABLES

treatment method includes: bark tracing, cabling, bracing, pruning

manage wounds and defects include: pruning, cabling, bracing, removing of temporary support systems

C-8.04

Manages pests, diseases and disorders of trees and other woody plants

Performance Criteria

C-8.04.01	Identify and inspect trees and other woody plants
C-8.04.02	Identify source of stress or abnormal growth
C-8.04.03	Diagnose trees and other woody plants
C-8.04.04	Select, inspect and use tools and equipment
C-8.04.05	Select, inspect and use materials
C-8.04.06	Treat trees and other woody plants
C-8.04.07	Monitor plant performance
C-8.04.08	Clean and disinfect tools and equipment

RANGE OF VARIABLES

diagnose includes: collect, analyze and interpret plant tissue, soil and pest samples

treat includes: selective pruning, spray pesticides, inject pesticides, correct soil deficiencies

TASK C-9 Removes trees and other woody plants

TASK DESCRIPTOR

Arborists remove trees and other woody plants. They demonstrate proficiency in techniques

and procedures, including directional felling, sectional removal and stump removal.

C-9.01 Performs pre-felling assessment

Performance Criteria

C-9.01.01	Identify and inspect trees and other woody plants to be removed
C-9.01.02	Identify felling hazards and conditions
C-9.01.03	Identify drop zone
C-9.01.04	Select felling method
C-9.01.05	Identify an escape route
C-9.01.06	Determine ground positioning

RANGE OF VARIABLES

felling hazards and conditions include: wind, lean, weight distribution, snow and ice load, overhead hazards, slope, uneven ground, adjacent structures, vehicles, public, traffic, tree defects and decay, adjacent trees, wildlife, imbedded objects

felling method includes: directional felling, sectional removal

C-9.02 Prepares work area

Performance Criteria

C-9.02.01	Select, inspect and use tools and equipment
C-9.02.02	Remove obstacles and debris
C-9.02.03	Identify workplace hazards
C-9.02.04	Perform pre-limbing
C-9.02.05	Prepare an escape route
C-9.02.06	Establish safety perimeter

RANGE OF VARIABLES

workplace hazards include: personal, environmental, shop/facility, high voltage systems, overhead and underground utility systems, production sites, trees, plants, biological, chemical, motorized equipment, spills, traffic, public, working at heights, wildlife, slope, uneven ground, septic tanks and fields, water and sewer, irrigation lines, drainage systems

C-9.03 Performs directional felling

Performance Criteria

C-9.03.01	Identify and inspect trees and other woody plants to be removed
C-9.03.02	Identify structural defects
C-9.03.03	Determine notch and felling-cut strategy
C-9.03.04	Select, inspect and use felling tools and equipment
C-9.03.05	Perform directional felling
C-9.03.06	Use escape route

RANGE OF VARIABLES

structural defects include: cankers, wounds, decay, weak wood, included bark, hangers, deadwood

notch and felling-cut strategy includes: location, direction, notch depth and angle, hinge width and thickness

felling tools and equipment includes: wedges, felling levers, handsaws

C-9.04 Performs sectional removal

Performance Criteria

C-9.04.01	Identify and inspect trees and other woody plants
C-9.04.02	Identify structural defects
C-9.04.03	Select, inspect and use tools and equipment
C-9.04.04	Perform sectional removals
C-9.04.05	Control movement of cut limbs and trunk sections
C-9.04.06	Remove debris

RANGE OF VARIABLES

structural defects include: cankers, wounds, decay, weak wood, included bark, hangers, deadwood

C-9.05 Performs limbing and bucking

Performance Criteria

C-9.05.01	Identify and inspect trees and other woody plants
C-9.05.02	Identify limbing and bucking hazards
C-9.05.03	Select, inspect and use tools and equipment
C-9.05.04	Perform limbing and bucking
C-9.05.05	Remove debris

RANGE OF VARIABLES

limbing and bucking hazards include: tension, compression, overhead hazards, slope, uneven ground, spring poles, wildlife

C-9.06 Performs material handling

Performance Criteria

C-9.06.01	Determine access and egress points
C-9.06.02	Select, inspect and use material handling tools and equipment
C-9.06.03	Perform material handling

RANGE OF VARIABLES

access and egress includes: ground, aerial

material handling includes: loading, chipping, piling, yarding, lifting, removing
material handling tools and equipment includes: chippers, grapple trucks, skid steers, winches, cranes, excavators

C-9.07 Removes stumps

Performance Criteria

C-9.07.01	Determine access and egress points
C-9.07.02	Identify stump removal hazards
C-9.07.03	Select, inspect and use stump removal tools and equipment
C-9.07.04	Perform stump removal
C-9.07.05	Remove debris

RANGE OF VARIABLES

stump removal hazards include: slope, uneven ground, underground utilities, public, vehicles, traffic, structures, flying debris, imbedded objects

stump removal tools and equipment includes: skid steers, excavators, stump grinders, pickaxes, shovels, rakes, prybars

stump removal includes: grinding, excavating

TASK C-10 Climbs trees and works at heights

TASK DESCRIPTOR

Arborists employ safe and effective techniques to ascend trees and perform tasks at elevated positions. They must be proficient in both rope and spur climbing and prioritize safety while operating tools and equipment aloft.

C-10.01 Establishes work plan

Performance Criteria

C-10.01.01	Identify and inspect trees and other woody plants
C-10.01.02	Identify workplace hazards
C-10.01.03	Determine anchor points
C-10.01.04	Determine ascent strategy
C-10.01.05	Select tools and equipment

RANGE OF VARIABLES

workplace hazards include: personal, environmental, shop/facility, high voltage systems, overhead and underground utility systems, production sites, trees, plants, biological, chemical, motorized equipment, spills, traffic, public, working at heights, wildlife, slope, uneven ground,

septic tanks and fields, water and sewer, irrigation lines, drainage systems

anchor points include: rigging, access lines, working lines

ascent strategy includes: rope access, spurs, motorized rope ascenders

C-10.02 Uses knots and mechanical friction devices

Performance Criteria

C-10.02.01	Select, inspect and use ropes
C-10.02.02	Tie, dress and set knots
C-10.02.03	Select, inspect and use mechanical friction devices
C-10.02.04	Recognize, remove and replace worn, damaged, expired or defective ropes and mechanical friction devices
C-10.02.05	Organize, store and maintain ropes and mechanical friction devices

RANGE OF VARIABLES

rope includes: climbing lines, hitch cords

maintain ropes and mechanical friction devices include: cleaning, drying, lubricating

C-10.03 Climbs trees

Performance Criteria

C-10.03.01	Identify and inspect trees and other woody plants
C-10.03.02	Identify climbing hazards and conditions
C-10.03.03	Select, inspect and use climbing tools and equipment
C-10.03.04	Climb trees using ropes
C-10.03.05	Climb trees using ropes and spurs
C-10.03.06	Reposition climbing lines
C-10.03.07	Descend trees

RANGE OF VARIABLES

climbing hazards and conditions include: wind, lean, weight distribution, snow and ice load, overhead hazards, adjacent structures, vehicles, public, traffic, tree defects and decay, adjacent trees, wildlife

climbing tools and equipment includes: saddles, carabiners, spurs, friction hitches and devices, mechanical hitches, ascenders

C-10.04 Uses tools and equipment aloft

Performance Criteria

C-10.04.01	Select, inspect and use tools and equipment
C-10.04.02	Identify hazards for operating tools and equipment aloft
C-10.04.03	Secure equipment at ground level

Performance Criteria

C-10.04.04 Raise and secure equipment aloft

C-10.04.05 Lower equipment

RANGE OF VARIABLES

secure equipment includes: knots, clips, carabiners, ropes, lanyards, slings

hazards for operating tools and equipment aloft includes: weight, work positioning, tension and compression

TASK C-11 Uses rigging and hoisting equipment

TASK DESCRIPTOR

Arborists determine load and select appropriate rigging and hoisting equipment to ensure proper and safe lifts. This Task includes lifting and moving of materials and components. Rigging and hoisting are hazardous activities, and care must be taken to ensure the safety of all personnel and prevent damage to property and equipment. Arborists must be skilled in the proper procedures for rigging, hoisting and dragging loads.

C-11.01 Determines load

Performance Criteria

C-11.01.01 Identify **rigging and hoisting hazards**

C-11.01.02 **Estimate** total weight of load

C-11.01.03 Confirm load capacity

C-11.01.04 Determine anchor points and centre of gravity

RANGE OF VARIABLES

rigging and hoisting hazards include: proximity to structures, weather, trees, public, vehicles traffic

estimate includes: using Green Log Weight Chart

C-11.02 Selects rigging and hoisting equipment

Performance Criteria

C-11.02.01 Select rigging and hoisting equipment

C-11.02.02 Refer to load ratings for **rigging and hoisting components**

C-11.02.03 Confirm rigging and hoisting capacity

C-11.02.04 Confirm rating of rigging and hoisting equipment

C-11.02.05 Inspect and document condition of rigging and hoisting equipment

C-11.02.06 Identify, remove and replace worn, damaged, expired or defective rigging and hoisting equipment

RANGE OF VARIABLES

rigging and hoisting components include: friction devices, anchor points, ropes, slings, knots, eye-bolts, shackles, hooks, safety latches, tag lines, carabiners, blocks, pulleys, winches

C-11.03 Secures rigging and hoisting area

Performance Criteria

C-11.03.01	Assess site, ground and environmental conditions and plan route
C-11.03.02	Determine and secure lift radius
C-11.03.03	Confirm location of personnel and equipment

RANGE OF VARIABLES

N/A

C-11.04 Sets up rigging and hoisting equipment

Performance Criteria

C-11.04.01	Position equipment and personnel
C-11.04.02	Install and set up rigging and hoisting components
C-11.04.03	Perform pre-use inspection of equipment
C-11.04.04	Read and interpret load charts
C-11.04.05	Adjust schedule of rigging and hoisting to address environmental conditions

RANGE OF VARIABLES

environmental conditions include: wind, shifting ground, lightning, fog, rain, snow, temperature

rigging and hoisting components include: friction devices, anchor points, ropes, slings, knots, eye-bolts, shackles, hooks, safety latches, tag lines, carabiners, blocks, pulleys, winches

C-11.05 Performs rigging and hoisting operations

Performance Criteria

C-11.05.01	Ensure direct line of sight between the operator and signal person
C-11.05.02	Use hand signals and verbal communication
C-11.05.03	Use two-way radios when there is no direct line of sight
C-11.05.04	Assess and make adjustments to stabilize load as required
C-11.05.05	Adjust schedule of lift to address environmental conditions
C-11.05.06	Perform rigging and hoisting

RANGE OF VARIABLES

environmental conditions include: wind, changing ground conditions, lightning, fog, rain,

snow, temperature

C-11.06 Controls movement of cut limbs and trunk sections

Performance Criteria

C-11.06.01	Attach tag lines
C-11.06.02	Determine anchor points
C-11.06.03	Use friction devices and winches

RANGE OF VARIABLES

friction devices includes: trees, knots, mechanical devices, steel rope friction devices

anchor points include: tip ties, butt ties, balance ties

C-11.07 Maintains rigging and hoisting equipment

Performance Criteria

C-11.07.01	Disassemble and perform post-lift inspection
C-11.07.02	Perform scheduled rigging and hoisting equipment maintenance
C-11.07.03	Inspect rigging and hoisting components
C-11.07.04	Identify, tag and remove from service unsafe, worn, damaged or defective rigging and hoisting equipment
C-11.07.05	Organize, store and maintain rigging and hoisting equipment

RANGE OF VARIABLES

rigging and hoisting equipment maintenance includes: lubricating, cleaning, inspecting, repairing

rigging and hoisting components include: friction devices, anchor points, ropes, slings, knots, eye-bolts, shackles, hooks, safety latches, tag lines, carabiners, blocks, pulleys, winches

TASK C-12 Applies environmental practices

TASK DESCRIPTOR

Arborists, as environmental stewards, identify and apply best practices to develop, conserve, preserve and protect the environment and ecosystems. They play a crucial role in sustaining a healthy environment while working with trees and woody plants.

C-12.01 Practices environmental stewardship

Performance Criteria

C-12.01.01	Select and use sustainable materials
C-12.01.02	Select and use recycled and recyclable materials

Performance Criteria

C-12.01.03	Select low-impact tools and equipment that minimize the negative impacts on the environment and ecosystems
C-12.01.04	Source local materials and equipment
C-12.01.05	Select permeable surfaces and maximize green space
C-12.01.06	Perform on-site recycling/composting
C-12.01.07	Organize workflow to minimize the environmental impact
C-12.01.08	Incorporate on-site elements into naturalized green spaces

RANGE OF VARIABLES

sustainable materials include: plants, wood, mulch, soil, irrigation components, bio-stimulants, compost

low-impact tools and equipment includes: rechargeable batteries, hybrid and energy-efficient engines, sharp blades

negative impacts on environment includes: compaction, fuel emission, noise pollution, erosion

ecosystems include: meadows, bodies of water, parks, urban landscapes, forests, coastlines, water courses

elements include: native plants, natural materials found on site, locally sourced materials, bioswales, raingardens, natural stormwater management, wildlife habitat structures

C-12.02 Practices biodiversity enhancement

Performance Criteria

C-12.02.01	Select plants that ensure diversity within landscapes
C-12.02.02	Select bio-diverse enhancement strategies
C-12.02.03	Select edible plants to be included in landscapes
C-12.02.04	Create a variety of habitats to support a range of species
C-12.02.05	Select pest and disease control methods that are compatible with a variety of organisms

RANGE OF VARIABLES

bio-diverse enhancement strategies include: selecting plants that attract pollinators and wildlife, ensuring inter-relationships in nature, creating or maintaining wetlands, employing maintenance practices to preserve habitats, creating habitats and structures

C-12.03 Practices soil stewardship

Performance Criteria

C-12.03.01	Select soil stewardship methods
C-12.03.02	Assess growing media composition based on pre-existing conditions
C-12.03.03	Collect and label growing media samples, determine requirements for soil testing and send to lab
C-12.03.04	Interpret test results

Performance Criteria

C-12.03.05	Select and apply fertilizers and amendments
C-12.03.06	Cultivate soil based on situation
C-12.03.07	Monitor and maintain soil conditions

RANGE OF VARIABLES

growing media includes: native soil, soilless media, manufactured soil

pre-existing conditions include: compaction, depletion of organic matter, destruction of soil structure, damage to soil microbiome, hardpan, erosion, presence of invasive species, diseases and pests, damage to root systems

soil testing includes: pH, nutrients, deficiency levels, micro-activity levels, organic content

C-12.04 Practices water stewardship

Performance Criteria

C-12.04.01	Assess site features and determine low impact development (LID) practices
C-12.04.02	Collect water samples for testing
C-12.04.03	Interpret test results

RANGE OF VARIABLES

low impact development (LID) practices include: rain barrels, infiltration trenches, bioswales, bioretention cells, rain gardens, green roofing, smart irrigation, xeriscaping, permeable surfacing, water harvesting systems, downspout disconnects, stormwater ponds

APPENDIX A ACRONYMS

ABC	airway, breathing, circulation
AED	automatic external defibrillator
CPR	cardiopulmonary resuscitation
GPS	global positioning system
LID	low impact development
MSDS	material safety data sheet
OEM	operator equipment manuals
OH&S	occupational Health and Safety
pH	potential hydrogen
PPE	personal protective equipment
PTO	power take-off
SDS	safety data sheets
SRT	stationary rope technique
WHMIS	workplace hazardous materials information system

APPENDIX B TOOLS AND EQUIPMENT

Access Equipment:

ladders (various types), scaffolding

Arborist-specific tools:

ascenders, descenders, SRT equipment, carabiners, lanyards, flip lines, friction savers, climbing saddles, ropes, throw lines, spurs, pulleys, snaps, harnesses, portable winches, blocks, slings, felling levers, wedges

Attachments:

auger/post hole diggers, backhoes, buckets (various types) forks, grapples, stump grinders, tree spades

Hand Tools:

axes, backpack sprayer, box cutters, brooms, bypass pruners, calculator, chisels (various types) core samplers (probe), crowbars, cultivator (manual), dolly, edgers, files, flags, forks (various types), grease guns, hammers (various types), handheld watering equipment, handsaws (various types), hedge shears, hex keys, hoes, knives (various types), loppers, picks, pole pruners, pole saws, pruning saws, pruning shears, pry bars, rakes (various types), screwdrivers (various types), secateurs, seed/fertilizer spreader, sharpening tools, shears, shovels (various types), side cutters, sprinklers, stakes, measuring tapes, tarps, tie downs (various types), tree carts, trowels, water hoses, water keys, watering cans, wheelbarrows, wire cutters, wire strippers, wrenches (various types)

Measuring Equipment:

barometers, catch can readers, compaction measuring devices, EC meters, flow meters, gas meters, global hygrometers, laser distance measures, light meters, graduated cylinders (metric/imperial), measuring wheels, moisture metres/ pH meters, soil testers, measuring tapes, tension meters, thermometers, timers & controllers, tire pressure meters, tree calipers, voltmeter/multimeters, water meters

Motorized Equipment:

air compressors, all-terrain vehicles, backhoes, bed edgers, blower trucks, blowers (various types), brush cutters, chippers, circulation/exhaust fans, clearing saws, excavators, fertilizer injectors, forklifts, front end loaders, hedge trimmers (various types), mechanical powered wheelbarrows, pressure washers, skid-steers (various types), tractors (various types), walk-behind snowblowers, spider lifts

Power Tools:

chainsaws, chainsaws (pole), electric drills, grinders (various types), heat guns, mechanical diggers, power augers, power cultivators, power pole saws, power sprayers, reciprocating saws

PPE and Safety Equipment:

chaps/ballistic pants, chemical suits, ear protection, eye protection (various types), eye wash kits, face shields, fall protection equipment, fire extinguishers, first aid kits, flares, gloves, hard hats, hearing protection, high visibility clothing, insect repellent, respiratory protections, safety boots and shoes, safety vests, scabbards/protective sheaths, skin protection, spill kits, sun hats, sunblock, traffic cones, ventilation fans

