

National Occupational Standards Competency Levels

General Guidelines for Determining Competency Levels

- The emphasis is on **general** - there are always exceptions to the guidelines
- There should be no discrimination against any superintendent
- The basic level is a practicing superintendent with more of a focus on practical/day-to-day knowledge
- The emphasis is objective and measurable
- Simple and easy to recognize standards
- A person can be at a different level for each different skill
- Each level builds on the last until all criteria are met
- Progressive Levels
- Basic (familiar with skill set and knowledge – Bare Bones)
- Intermediate (building on basic, application and working knowledge of skill sets)
- Advanced (ongoing development of intermediate application of skill sets – Fleshed out)

	Basic	Intermediate	Advanced
Level of Technical Knowledge	<ul style="list-style-type: none"> • Practical • Basic • Normal/average conditions 	<ul style="list-style-type: none"> • Practical • Competent • All situations (Normal/average/exceptions) 	<ul style="list-style-type: none"> • Wisdom • Complex • All situations (Normal/average/exceptions/extreme) • Different climatic zones
Complexity of Work	<ul style="list-style-type: none"> • Straight forward routine skills • Visual 	<ul style="list-style-type: none"> • Applied self-directed technical skills • Management skills developing • Routine and non-routine skills • Increasing complexity 	<ul style="list-style-type: none"> • An innovator • A big picture person • Creative recommendations • Multi-factors at work • Leadership • Exceptional/Catastrophic situation skills
Level of Autonomy	<ul style="list-style-type: none"> • Directed e.g. Owner, General Manager or Regional Supervisor <p>Practitioner -----</p>	<ul style="list-style-type: none"> • Self-directed but under direction of course guidelines <p>-----</p>	<ul style="list-style-type: none"> • Co-determines future • Recognized as an authority within club and within profession • Asked for advice/mentor • Resource or reference person <p style="text-align: right;">Internal/External -----> Consultant</p>
Level of Responsibility	<ul style="list-style-type: none"> • Day to day 	<ul style="list-style-type: none"> • Course management - seasonally 	<ul style="list-style-type: none"> • Course leadership (future oriented)
Typical Working Experience	<ul style="list-style-type: none"> • 1-3 years 	<ul style="list-style-type: none"> • 3 to 9 years 	<ul style="list-style-type: none"> • 10 +

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Block A – Turfgrass Management

Skill A-1 – Identifies Turfgrass

Basic Level	<ul style="list-style-type: none"> • Recognizes different grasses on own golf course • Maintains different grasses on own golf course (e.g. water, fertilizer, growth habits) • Able to source out information required for turfgrass
Intermediate Level	<ul style="list-style-type: none"> • Identify the important agronomic turfgrass species and know area of usage on the course for each • Expanding knowledge of area cultivars • Recognize ornamental and specialty grasses • Knowledge of different uses, growth habits, basic soil and climate requirements and characteristics of grass species
Advanced Level	<ul style="list-style-type: none"> • Demonstrate knowledge of all grasses and usage across climate zones • Keep up to date on current research of new grass species and uses Ability • to pick species for any golf course and cultivars

Skill A-2 – Ensures turfgrass height of cut

Basic Level	<ul style="list-style-type: none"> • Understand the optimum height of cut for different grass in use • Select height of cut based on expectations of club committee, greens, machines available, weather, optimum height of cut • Ensure uniformity, desired height and quality of cut • Create a time and direction of cut schedule
Intermediate Level	<ul style="list-style-type: none"> • Meet club standards ensuring quality of results of cut • Recognize consequences of changing optimum height of cut • Provide consistent playability • Identify grass under stress on golf course
Advanced Level	<ul style="list-style-type: none"> • Influence club expectations • Determine various alternative maintenance practices to maximize turfgrass quality • Minimize turfgrass stress while maximizing playing conditions

Skill A-3 – Ensures Soil Management

Basic Level	<ul style="list-style-type: none"> • Know basic soils on own golf course • Understand the use of top dressing materials • Recognize turfgrass stress that maybe soil related • Knows that cultural practices could effect soil profile
Intermediate Level	<ul style="list-style-type: none"> • Identify soil structure deficiencies (e.g. localized dry spots, algae) and associated problems • Understand physical and chemical soil properties (e.g. texture, structure, organic matter, etc.) • Understand water movement and water holding capacity in different types of soil • Understand and select soil amendments appropriate to the problem • Understand the influence of cultural practices on the soil profile • Control soil erosion
Advanced Level	<ul style="list-style-type: none"> • Know the effects of soil management on soil microbial activity • Understand the causes of soil structure deficiencies and predict effects Understand physical analysis • Design and implement a program to correct soil deficiencies • Develop a soil management program

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Skill A-4 – Ensures turfgrass fertilization

Basic Level	<ul style="list-style-type: none"> • Calculate amount of fertilizer to use • Know basic nutritional requirements of existing turf • Maintain consistently healthy and dense turf • Apply fertilizer in an environmentally sensitive nature
Intermediate Level	<ul style="list-style-type: none"> • Collect materials for tests (soil, tissue, saturated paste) • Familiar with nutrient release patterns of a variety of products as well as proper application methods • Utilize micro and macro nutrients as part of a program as required to ensure consistent conditions • Determine basic nutritional adjustments based on soil tests • Formulate a fertilization program for own property • Selects products
Advanced Level	<ul style="list-style-type: none"> • Continually investigate and evaluate alternative products Keep up to date on soil chemistry • Understand soil test results and make adjustments • Understand micro and macro nutrients and their importance in turf physiology • Resource management in a cost effective manner (sources of Nitrogen)

Skill A-5 – Ensures turfgrass pest control

Basic Level	<ul style="list-style-type: none"> • Recognize common pests on own golf course • Demonstrate control methods of common turfgrass pests on own course Hold valid necessary pesticide licenses
Intermediate Level	<ul style="list-style-type: none"> • Manage turfgrass pests in local region • Knowledge of different micro climates of own course • Keeps up to date on new chemicals and improved cultural control methods • Develop Integrated Pest Management techniques (i.e. monitoring, developing thresholds, using appropriate cultural and chemical control methods)
Advanced Level	<ul style="list-style-type: none"> • Explain and implement a wide variety of pest control options • Awareness of pests outside own environment Improve chemical efficiency • More adept at identifying and trouble shooting problems on turf (pest vs. turf stress) • Knowledge of pesticide resistance

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Skill A-6 – Implements cultural practices

Basic Level	<ul style="list-style-type: none"> • Knowledge of cultural practices and equipment for current environment • Identify turfgrass stress and take action with use of a cultural practice Identify cultural equipment and products • Modify mowing patterns for turfgrass playability • Knowledge of the impact of cultural practices on the game of golf
Intermediate Level	<ul style="list-style-type: none"> • Determine proper timing of a culture practice • Able to pick out which cultural practice will best relieve turfgrass stress • Keeps up to date on new techniques and products of cultural practice • Uses the cultural practice in a way that least disrupts the golfers enjoyment of the course • Able to use cultural practices to improve the game of golf
Advanced Level	<ul style="list-style-type: none"> • Able to modify cultural practice equipment to suit job site • Anticipates turfgrass requirements and then apply a cultural practice to keep stress from occurring • Able to use a cultural practice to effect the playability of the game of golf but not adversely effect the turfgrass quality • Conduct on-course trials of new cultural practices and products

Skill A-7 – Establishes and renovates turfgrass

Basic Level	<ul style="list-style-type: none"> • Understand the proper uses of different grasses for different areas. • Understand the seed bed preparation requirements • Understand proper timing of seeding i.e. soil temperature • Able to monitor and ensure proper germination and establishment of seed and or sod • Has working knowledge of the proper tools required to establish or renovate turfgrass areas
Intermediate Level	<ul style="list-style-type: none"> • Identify micro environments on the course that may have special requirements for establishing or renovating turfgrass • Accountable for choosing the right solution for a problem area (e.g. seed or sod) • Able to renovate turfgrass to match the conditions on own golf course
Advanced Level	<ul style="list-style-type: none"> • Able to recognize problems before they require renovation and correct these problems in other ways (i.e. Traffic patterns or mower wear patterns) Utilize advanced establishment techniques (covers)

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Skill A-8 – Conducts seasonal turfgrass maintenance

Basic Level	<ul style="list-style-type: none"> • Identify normal end and start of growth season on own golf course • Aware of potential seasonal turfgrass stresses on own golf course (diseases, pests, snow/ice concerns, excessive moisture concerns, etc) • Aware, at basic level, adjustments needed seasonally in fertilization, water and mowing
Intermediate Level	<ul style="list-style-type: none"> • Understand seasonal growth changes (i.e. can differentiate between leaf growth changes vs. root growth changes) • Knowledge of potential stresses and successful turf strategies in own geographic area (i.e. appropriate fungicide, when to use covers, traffic control requirements, etc) • Knowledge of adjustments required in fertilization, water and mowing in own geographic area • Knowledge of current research and products available
Advanced Level	<ul style="list-style-type: none"> • Knowledge of seasonal turf strategies in other climates • Advanced knowledge of adjustments required seasonally in fertilization, irrigation and mowing practices • Understand long-term implications of adjustments made and strategies used

Block B – Management Planning

Skill B-1 – Develops the course's standard

Basic Level	<ul style="list-style-type: none"> • Identify and assess turf quality • Knowledge to set up course for play, within basic rules of golf • Basic understanding of correlation between budget and course conditions • Meet existing course expectations
Intermediate Level	<ul style="list-style-type: none"> • Ability to adjust standards according to variables (site specific) • Assess other standards in the area Co-relate standards with costs • Develop specific goals within standards • Reactive to club expectations • Understand the rules of golf as they apply to course maintenance
Advanced Level	<ul style="list-style-type: none"> • Takes innovative approach to achieving and increasing standards • Able to articulate standards in written form and adjust • Provides leadership in adjusting standards (visionary)

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Skill B-2 – Develops short term/ operational plan

Basic Level	<ul style="list-style-type: none"> • Responsible for day to day routines
Intermediate Level	<ul style="list-style-type: none"> • Responsible for monthly/seasonal routines Planning • is proactive
Advanced Level	<ul style="list-style-type: none"> • Planning is innovative and includes experimentation and is based on extensive experience • Short term plan becomes means to long term goals

Skill B-3 – Monitors and adjusts operational plan

Basic Level	<ul style="list-style-type: none"> • Reacts to day to day needs • Limited ability to adjust plan and still maintain standard
Intermediate Level	<ul style="list-style-type: none"> • Foresee operational plan obstacles • Monitor progress and ability to re-prioritize and adjust
Advanced Level	<ul style="list-style-type: none"> • Predict changing operational needs • Appreciation for affects of planning on overall facility operations • Reacts smoothly and more easily to changing challenges (i.e. budget cuts, weather changes, etc.)

Skill B-4 – Defines long term planning

Basic Level	<ul style="list-style-type: none"> • Follow directed long term plans
Intermediate Level	<ul style="list-style-type: none"> • Provide input into long range plans • Ability to prioritize within long range plans Implement existing course plans
Advanced Level	<ul style="list-style-type: none"> • Provides leadership in club vision • Can sell and implement components of a long range plan • Ability to factor in all financial considerations and options

Skill B-5 – Evaluates performance

Basic Level	<ul style="list-style-type: none"> • Goals are shorter term so evaluation tends to be daily • Evaluate performance daily • Build on successes of previous evaluations • Evaluations are more direct (done personally)
Intermediate Level	<ul style="list-style-type: none"> • Evaluation takes on longer term (weekly, monthly, annually) • Evaluations become more comprehensive • Train others to assist in evaluation process
Advanced Level	<ul style="list-style-type: none"> • Can connect evaluations of shorter term goals with longer range ones • Utilizes evaluation to make recommendation to achieve club vision • Uses effective delegation techniques

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Skill B-6– Manages Personal Skills

Basic Level	<ul style="list-style-type: none"> • Awareness of the need for time management Set • day-to-day priorities • Balance work and family life
Intermediate Level	<ul style="list-style-type: none"> • Manage time effectively • Effective stress management • Plan career and personal development
Advanced Level	<ul style="list-style-type: none"> • Provides community leadership and develops others Public • speaking skills

Block C – Course Administration

Skill C-1 – Manages human resource development

Basic Level	<ul style="list-style-type: none"> • Has minimum required knowledge of provincial and federal labour laws, employment standards, human rights and other applicable regulations • Works hands on with people to develop course standards and routines • Relies on management to advise and discuss human resource issues
Intermediate Level	<ul style="list-style-type: none"> • General knowledge of provincial and federal laws, employment standards, human rights and other applicable regulations • Determine course needs (number of people, skill set) within course expectations (budget, club expectations) • Has minimum required HRD skill set including recruitment process, interview process, people skills (communication, management skills) self-motivation and training • Complies with regulations to protect course from unnecessary liabilities (e.g. labour disputes, legal charges) • Develops staff attitudes, demeanor, enthusiasm and skill set • Handles difficult situations (personal frustrations, discipline problems) • Develops a network of peers to discuss HRD challenges
Advanced Level	<ul style="list-style-type: none"> • Provides leadership within the organization (shared vision, alignment on goals and strategies, common expectations, common measurement and evaluation, people development) • Models leadership behaviours • Creates a positive work environment by inspiring people to perform at high levels of professionalism (working in teams, personal manners and attitude towards work, demeanor , depth of knowledge) • Manage within collective agreements where required (e.g. grievance or dispute resolution process, probationary/disciplinary process, collective bargaining process) • Deals with work environment change issues and sub cultures • Effective use of outside professional resources

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Skill C-2 – Manages staff

Basic Level	<ul style="list-style-type: none"> • Be aware of the employment conditions within club • Have knowledge of club procedures and practices with respect to employees • Communicate with staff and others
Intermediate Level	<ul style="list-style-type: none"> • Effective listening skills • Motivate staff • Negotiate wages and salaries with staff • Implement employee review process • Ability to manage issues such as overtime, absenteeism and alcohol and drug abuse • Deal with difficult situations (labour shortage)
Advanced Level	<ul style="list-style-type: none"> • Provide work environment that exceeds expectations • Effective contact resolution skills, involving lawyers if needed • Develop employee resource manuals • Develop employee review process • Innovative in motivational techniques • Plan and deal effectively with issues such as outsourcing

Skill C-3 – Performs administrative functions

Basic Level	<ul style="list-style-type: none"> • Records daily maintenance records (pesticide, fertilizer, fuel, etc.) and other records required by employer • Safely retain manuals, warranties and As Built documents
Intermediate Level	<ul style="list-style-type: none"> • Implement policies and procedures • Develop club record keeping • Develops and administers budgets • Deliver effective oral and/or written reporting (superintendent report, monthly communications, long range planning, abnormal conditions, equipment replacement) • Train others in record keeping skills
Advanced Level	<ul style="list-style-type: none"> • Develop policies and procedures • Communicate effectively with membership and board (reports, newsletter) • Delegation of record keeping to others • Runs superintendent specific software programs • Continue to make improvements with cost savings to eliminate waste (more for less)

Skill C-4 – Manages operational budgets

Basic Level	<ul style="list-style-type: none"> • Can follow a budget • Track operation costs as required • Be accountable for any variances
Intermediate Level	<ul style="list-style-type: none"> • Develop budgets (based on financial reports and previous years) • Adjust to seasonal conditions and changes in cash flow (environmental, economic) • Understand course financial reports
Advanced Level	<ul style="list-style-type: none"> • Create long term plans (Capital, expenditures, acquisitions, depreciation, leases, etc.) • Forecast expenditures and anticipate future conditions Co-determine direction of golf course

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Skill C-5 – Manages purchases for golf course

Basic Level	<ul style="list-style-type: none"> • Assess course needs (equipment, tools) • Make informed decision on purchases (research, mentors, product knowledge) • Understand and operate within club purchasing policy (P.O., coding) • Inventory control and monitoring
Intermediate Level	<ul style="list-style-type: none"> • Use of networks to gain knowledge • Assist in development of purchasing policy (set rates, approval practices) Influences board purchasing decisions • Secure competitive purchases through research, value assessment and tendering management
Advanced Level	<ul style="list-style-type: none"> • Create a purchasing system Able to sell ideas to board

Skill C-6 – Manages communications

Basic Level	<ul style="list-style-type: none"> • Communicate tasks to staff (orally or written) on a daily basis • Effective reporting on conditions • Communicates with members and other departments • Responsible for course operation communications (i.e. signage) • Communicates with others in industry
Intermediate Level	<ul style="list-style-type: none"> • Ensure staff communications systems in place (meetings, decision making, interdepartment information) • Resolve communication problems effectively (irate members, homeowners, staff issues) • Use technology effectively (e-mail, computers, voice-mail, pager) • Prepare and present presentations to committees, boards or other management groups (e.g. reports) • Participate as an active member in local industry associations • Able to handle internal emergency communications
Advanced Level	<ul style="list-style-type: none"> • Represent board directions or policies in communications outside of club (i.e. media, community events) • Publish articles to educate others • Offer seminars and public presentations • Participate at board level in associations • Promote and represent industry at regional or national group • Responsible for external communication during crisis management

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Skill C-7 – Displays ongoing professional development

Basic Level	<ul style="list-style-type: none"> • Promote a fair working environment for staff • Conduct oneself professionally • Understands the game of golf • Association member to establish network of peers • Operates in an ethical manner
Intermediate Level	<ul style="list-style-type: none"> • Represent profession at association/trade functions, golf shows • Deal with exceptional and difficult situations and move toward resolution • Participates in professional development and continuing education • Develop public relations skills
Advanced Level	<ul style="list-style-type: none"> • Organize and develop education functions • Present at education events to share expertise in a topic Expert in public issues (e.g. environment issues) • Efficient manager of time and organization • Provide direction and advise for board etc.

Skill C-8 – Uses research

Basic Level	<ul style="list-style-type: none"> • Trial and error experimentation • Aware research is being conducted • Utilize reference materials • Network with peers, educational institutions, suppliers, etc.
Intermediate Level	<ul style="list-style-type: none"> • Support turfgrass research (e.g. financially, host research tournaments) • Accessing and passing on information • Practical research – day to day experiments (applied research)
Advanced Level	<ul style="list-style-type: none"> • Presentations of research at conferences, publications or seminar • Promotes research • Understand research methodologies • Joint research projects with private or public organizations • Participate in practical research and passing this information on to peers <u>formally</u> • Critical evaluation of product claims (i.e. wetting agent claims, bio-amendment claims)

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Block D – Irrigation Management

Skill D-1 – Determines irrigation requirements

Basic Level	<ul style="list-style-type: none"> • Identify the basic water use requirements and source • Adjusts irrigation applications in accordance with basic maintenance practices, climatic conditions and environmental conditions • Understand importance of adjusting irrigation schedules for climatic conditions according to environmental conditions
Intermediate Level	<ul style="list-style-type: none"> • Determine the water quality and its effects on vegetation and soil types of a golf course • Determine irrigation requirement for optimal course conditions and playability • Identify local course environmental conditions that impact irrigation schedules • Understand the importance and benefits of syringing and hand watering
Advanced Level	<ul style="list-style-type: none"> • Monitor water quality • Mitigate the effects of poor water quality on course conditions and playability • Integrate the use of the irrigation system with other maintenance practices (e.g. fertigation, acid injection, green speed control, integrated pest management)

Skill D-2 – Operates irrigation systems

Basic Level	<ul style="list-style-type: none"> • Identify irrigation components and scheduling procedures • Operate irrigation system and controls • Starting up and safely pressurizing an irrigation system
Intermediate Level	<ul style="list-style-type: none"> • Identify monitoring and evaluation techniques for system • Knowledge of computerized irrigation systems • Monitor and adjust irrigation system • Ability to shut down irrigation system
Advanced Level	<ul style="list-style-type: none"> • Maintain irrigation activity records • Performs irrigation audit • Knowledge of advanced programming techniques for irrigation systems

Skill D-3 – Maintains pumping station

Basic Level	<ul style="list-style-type: none"> • Identify existing pump types, operation and maintenance requirements • Implement and document pump maintenance and repair schedules • Identify basic troubleshooting techniques for existing pump stations • Identify safety concerns and procedures within pump station
Intermediate Level	<ul style="list-style-type: none"> • Identify various irrigation pump system performance standards • Identify golf course pumping station requirements • Implement shut down procedures • Troubleshoot pumping station • Understand and implement manufactures' recommended pump maintenance schedules
Advanced Level	<ul style="list-style-type: none"> • Audit pump station performance in meeting irrigation system requirements

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Skill D-4 – Understands irrigation system design and operating principles

Basic Level	<ul style="list-style-type: none"> • • Understand irrigation system requirements and components (e.g. pump station, control valves, controls, pipes, sprinkler heads, etc.) and recognizes proper operation Read an irrigation plan
Intermediate Level	<ul style="list-style-type: none"> • Understand irrigation system performance and impact on the achievement of club standards • Understand a modification and/or replacement need • Understand irrigation system design, layout, operation and component parts • Understand basic design principles (e.g. hydraulics, precipitation rates, pipe sizing) • Understands installation and modification principles of an irrigation system
Advanced Level	<ul style="list-style-type: none"> • Design modifications to irrigation system

Skill D-5 – Maintains irrigation systems

Basic Level	<ul style="list-style-type: none"> • Identify and repair common irrigation systems repair problems Understands an “As Built” plan
Intermediate Level	<ul style="list-style-type: none"> • Update “As Built” plan as modifications made Maintains irrigation component inventory • Identify and schedule irrigation preventative maintenance requirements • Troubleshoot irrigation systems
Advanced Level	<ul style="list-style-type: none"> • Maintains irrigation system records • Test irrigation system delivery using appropriate audit procedures and equipment • Develop an as built plan • Troubleshoot electrical problems in irrigation systems

Skill D-6 – Winterizes irrigation system

Basic Level	<ul style="list-style-type: none"> • Identify and carry out safely winterization procedures for irrigation system Identify and carry out safely winterization procedures for pumping station
Intermediate	<ul style="list-style-type: none"> • Develop written procedures for winterizing the irrigation system
Advanced Level	<ul style="list-style-type: none"> • • Modify procedures to increase efficiency Ensure written procedures implemented properly

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Block E – Environmental Management

Skill E-1 – Assesses environmental position

Basic Level	<ul style="list-style-type: none"> • Aware of basic compliance issues • Ability to collect data for an audit (e.g. collect water samples)
Intermediate Level	<ul style="list-style-type: none"> • Aware of government regulations to protect environment (i.e. storage of fuel and containment, dispensing of materials, solid and water waste disposal, records for WHMIS, MSDS, etc) • Recognize deficiencies • Recognize need and participate in an audit • Monitors Basic Maintenance Practices (BMP) of audit industry • Anticipate emerging trends
Advanced Level	<ul style="list-style-type: none"> • Ability to do an environmental audit in house (water, waste management, pest management and compliance) • Conducts wildlife and habitat audit • Monitors and evaluates audit results • Manages proactive practices (e.g. Audubon certification)

Skill E-2 – Develop environmental programs

Basic Level	<ul style="list-style-type: none"> • Basic understanding of compliance Ability to follow existing plan
Intermediate Level	<ul style="list-style-type: none"> • Comply with and prioritize audit recommendations • Present, Implement an Environmental mission statement • Maintain environmental records and show due diligence • Implement corrective action
Advanced Level	<ul style="list-style-type: none"> • Monitor activities to ensure policy compliance • Ensures entire course environment plan and environment records Ensures surrounding area protection • Develop new environmental practices (issues that go beyond compliance i.e. image, environmental issues that have no legal compliance)

Skill E-3 – Protects wildlife and natural habitat

Basic Level	<ul style="list-style-type: none"> • Ability to identify wildlife on golf course • Ability to recognize and respect sensitive areas
Intermediate Level	<ul style="list-style-type: none"> • Monitoring habitats including documentation of changes Develop a plan
Advanced Level	<ul style="list-style-type: none"> • Implement programs to enhance these areas and/or existing programs Educate public on wildlife and habitat issues

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Skill E-4 – Manages water quality

Basic Level	<ul style="list-style-type: none"> • Ability to collect water samples for testing to develop baseline of quality data Follow water test recommendations
Intermediate Level	<ul style="list-style-type: none"> • Define whether club is an open system (water leaves property) or closed system • Recognize activities which impair water quality • Implement BMP's (erosion, buffer, fertilization, etc.) • Identify techniques to recycle water • Basic management of streams and ponds
Advanced Level	<ul style="list-style-type: none"> •• Monitor and evaluate water quality improvements • Enhance water quality • Manage healthy streams and open bodies of water • Ability to work with open systems and/or advanced closed systems (e.g. potential for development, utilization of effluent water, other sensitive wildlife affected) • Knowledge of provincial laws regarding water quality • Advanced Education (e.g. Audubon, Stream keepers courses)

Skill E-5 – Manages water conservation

Basic Level	<ul style="list-style-type: none"> • Familiar with water conservation and regulating issues • Aware of current usage and requirements Prioritize necessary water reductions
Intermediate Level	<ul style="list-style-type: none"> • Ability to adjust cultural practices to reduce water use • Determines water usage of different turf species • Adjust for environmental conditions (soil, weather, etc.) to conserve water • Recognize irrigation system deficiencies as they relate to conservation
Advanced Level	<ul style="list-style-type: none"> • Audit irrigation system • Reduce water use • Monitor and evaluate reduction practices

Skill E-6 – Manages solid waste

Basic Level	<ul style="list-style-type: none"> • Familiar with 3 R's - reuse, recycle, reduce • Identify waste (i.e. hazardous, organic, non-organic, etc.)
Intermediate Level	<ul style="list-style-type: none"> • Establish waste recycling program (compost, plastic/glass, etc.) Establish a hazardous waste disposal program
Advanced Level	<ul style="list-style-type: none"> • Establish a waste reduction program for all club departments

Skill E-7 – Promotes environmental awareness

Basic Level	<ul style="list-style-type: none"> • Set a good environment example • Communicate own environmental practices to staff and members
Intermediate Level	<ul style="list-style-type: none"> • Encourage staff to get environmentally involved/active
Advanced Level	<ul style="list-style-type: none"> •• Establish programs to educate golfers and public • Encourage community involvement • Establish working relationships with all government agencies

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Block F – Construction and renovation

Skill F-1 – Organizes project

Basic Level	<ul style="list-style-type: none"> • Facilitate and liaise with construction company • Observe project progress
Intermediate Level	<ul style="list-style-type: none"> • Identify symptoms of site deficiencies (reactive) • Basic knowledge of construction equipment and operation • Follows established plan in completing basic renovation or construction project
Advanced Level	<ul style="list-style-type: none"> • Assess site and looks for root causes of problem areas (proactive) • Outline elements of construction plan (material and equipment requirements, staff requirements, resources, budget, etc.) • Secures appropriate materials • Provides input into project design • Assesses and interprets the plan in consultation with architect or other key course personnel • Supervises intermediate and major construction project (e.g. enlarges tees, remodels bunkers) • Ensure consistency and continuity of all products used • Working knowledge of design principles • Develops and implements a turn key project (organized site, in depth analysis, ability to deal with project challenges and problems) • More apt to mentor other superintendents in renovation • Deals with highly complex situations requiring highly developed project management skills (e.g. supervises construction of new maintenance facility)

Skill F-2 – Manages site preparation

Basic Level	<ul style="list-style-type: none"> • Facilitate and liaise with construction company • Observe project progress
Intermediate Level	<ul style="list-style-type: none"> • Follow plan to prepare site • Has site organizational skills (e.g. line-up equipment and personnel) • Identify favourable and unfavourable site conditions (weather, soil variances, drainage) • Knowledge of resources required to prepare site
Advanced Level	<ul style="list-style-type: none"> • Identify deficiencies in site plan and make recommendations • React to required changes to implementation plan on specific site • Provide solutions to site specific problems • Manage outside contractor and/or crew in site preparation of construction projects

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Skill F-3 – Manages drainage systems installation

Basic Level	<ul style="list-style-type: none"> • Facilitate and liaise with construction company • Observe project progress
Intermediate Level	<ul style="list-style-type: none"> • Determine drainage needs • Knowledge of grades (slopes, surface and sub-surface) • Apply this knowledge to site
Advanced Level	<ul style="list-style-type: none"> • Analyze plan (provide input and discuss) • Knowledge of drainage system (herring bone, grid) • Impact of discharge outflows • Fine tune the plan • Troubleshoot plan using site knowledge (e.g. deal with unexpected conditions) • Design a drainage system with consultation from engineers • Maintain knowledge of current technology • Installing drainage in established greens (detail with finish work)

Skill F-4 – Manages irrigation system installation

Basic Level	<ul style="list-style-type: none"> • Facilitate and liaise with construction company • Observe project progress
Intermediate Level	<ul style="list-style-type: none"> • Ensures installation is done accordance to plan
Advanced Level	<ul style="list-style-type: none"> • Ability to follow plan • Ability to determine thrust blocks needs and placements • Knowledge of irrigation system wiring, controllers, satellites • Knowledge of pressures, sprinklers outputs, spacing water flow, pipe sizing, etc. • Analyze existing or potential coverage problems • Interpret external variables (wind, topography) • Change plan to accommodate site modifications • Co-determine system design

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Skill F-5 – Manages site completion

Basic Level	<ul style="list-style-type: none"> • Facilitate and liase with construction company • Observe project progress
Intermediate Level	<ul style="list-style-type: none"> • Understands finished look and product • Knowledge of common equipment to do the work Knowledge of seed bed preparation • Approve the finished product
Advanced Level	<ul style="list-style-type: none"> • Monitor site completion and identify irregularities (e.g. pockets in terrain that may cause drainage problems) • Make adjustments to achieve final product (i.e. identify faults or weaknesses to gain positive effect throughout project) • Identify and avoid potential deficiencies • Maintain quality threshold level

Skill F-6 – Manages construction grow-in

Basic Level	<ul style="list-style-type: none"> • Facilitate and liase with construction company • Observe project progress
Intermediate Level	<ul style="list-style-type: none"> • Implement an existing grow-in maintenance plan • Adjust grow in plan to reflect changes in weather, timing and other variable conditions
Advanced Level	<ul style="list-style-type: none"> • Develop the grow-in maintenance plan • Ability to reduce down time in grow schedule

Block G – Property Management

Skill G-1 – Maintains golf course

Basic Level	<ul style="list-style-type: none"> • Set up a golf course in accordance with basic rules of golf and club expectations (e.g. pin placements) • Continually assesses the state of the golf course (appearance, organization, traffic patterns, etc.) • Treats the symptoms and learn about the causes • Ensure golf course is ready to play everyday by applying basic maintenance techniques • Develop simple routines • Work within specific limitations (resources, finances and qualified help) and apply hands on support • Completes basic level projects to improve the golf course (i.e. small drainage project) • Deal with routine course maintenance problems
Intermediate Level	<ul style="list-style-type: none"> • Ensure maintenance standards are implemented within club expectations • Modify existing routines and non-routine problems so there is less interrupts for golfers • Adjust maintenance practices as necessary
Advanced Level	<ul style="list-style-type: none"> • Anticipate problems and adjust • Plan and create new routines (people, machine techniques) to manage course conditions for the future • Involved in the whole golfing experience/environment starting from the main gate • Attention to detail • Deal with exceptional or potentially catastrophic problems

National Occupational Standards Competency Levels

Skill G-2 – Maintains hardscape

Basic Level	<ul style="list-style-type: none"> • Perform everyday maintenance routines for existing hardscape • Perform repairs where needed (carts, gates, fences, bridges, walls) and basic maintenance projects (e.g. tie curb along tee)
Intermediate Level	<ul style="list-style-type: none"> • Continually improve existing hardscape • Develop and implement seasonal maintenance system (painting, hardscape repairs, gravel on cart paths, bench repair, ball washers, cart path edges) • Research new products and materials (gravel consistency, asphalt mixtures) • Train and develop personnel on hardscape maintenance
Advanced Level	<ul style="list-style-type: none"> • Develop long term plans for hardscape (material for retaining walls, bridges, safety concerns, life expectancy of hardscape) • Provide leadership to club on hardscape changes • Prepare, research, review tenders and manage large scale hardscape projects • Adjust seasonal maintenance system to anticipate and prevent problems

Skill G-3 – Maintains softscape

Basic Level	<ul style="list-style-type: none"> • Recognize primary plants (trees, shrubs, annuals, perennials, weeds) on own golf course • Maintain existing softscape (fertility, irrigation, weed control, pruning, etc.) • React to common softscape problems (e.g. washouts, cart through flower bed)
Intermediate Level	<ul style="list-style-type: none"> • Develop year plan (calendar) and implement for softscape maintenance and aesthetics • Identify and control pests affecting softscape • Recognize and deal with the impacts of softscape on playability (location, framing shots, target lines, etc.)
Advanced Level	<ul style="list-style-type: none"> • Develop long term program (tree replacement or transplant, flower beds, plant selection for naturalization, audubon design) within limitations and meeting expectations • Develop a vision (under developed areas, showcase areas) and sell ideas to club • Design and evaluate softscape

Skill G-4 – Maintains golf course infrastructure & facilities

Basic Level	<ul style="list-style-type: none"> • Aware of golf course infrastructure systems (e.g. telephone, hydro, gas, fire, water) • Follow emergency and security procedures as set out by club • Comply with utility companies policies and procedures “Call before you dig” • Perform day-to-day maintenance (e.g. removal of ice accumulated on roof)
Intermediate Level	<ul style="list-style-type: none"> • Develop maintenance systems (parking lot cleaning, painting, clubhouse maintenance, painting, roofing, snow removal, resurfacing, etc.) Knowledge of detailed “As Built” for facility • Implement emergency systems planning (power failures, health issues) • Train and delegate staff on infrastructure maintenance (plumbing, electrical repairs)
Advanced Level	<ul style="list-style-type: none"> • Develop a long range plan for infrastructure improvements in accordance to all required regulations • Create new and adjust existing maintenance systems • Advise club on infrastructure development

National Occupational Standards Competency Levels

Block H – Equipment Management

Skill H-1 – Acquires and liquidates tools and equipment

Basic Level	<ul style="list-style-type: none"> • Assess equipment • Understand equipment types • Understand equipment club purchase process (lease vs. buying) • Short term replacement of equipment
Intermediate Level	<ul style="list-style-type: none"> • Evaluate required equipment for course • Recommend and identify equipment needs • Evaluate life expectancy of equipment use
Advanced Level	<ul style="list-style-type: none"> • Delegate the evaluation of equipment • Develop long range equipment replacement program • Recommend purchase options • Identify value of existing equipment

Skill H-2 – Monitors and ensures equipment operation

Basic Level	<ul style="list-style-type: none"> • Ability to operate equipment Understand basic training • Identify equipment and application • Ensure proper operation of equipment
Intermediate Level	<ul style="list-style-type: none"> • Evaluate the performance of equipment • Develop a plan for effective use of equipment
Advanced Level	<ul style="list-style-type: none"> • Recommend improvement in performance and efficiency • Policies and procedures (written training forms)

Skill H-3 – Calibrates equipment

Basic Level	<ul style="list-style-type: none"> • Understand process to calibrate equipment to ensure accurate product distribution
Intermediate Level	<ul style="list-style-type: none"> • Ensure proper equipment calibration
Advanced Level	<ul style="list-style-type: none"> • Knowledge of advanced calibration techniques (e.g. computer controlled)

Skill H-4 – Oversees equipment maintenance

Basic Level	<ul style="list-style-type: none"> • Identify standard equipment requirements Ensure repairs
Intermediate Level	<ul style="list-style-type: none"> • Ensure preventative maintenance
Advanced Level	<ul style="list-style-type: none"> • Determine time cost analysis for equipment maintenance

National Occupational Standards Competency Levels

Block I – Health and Safety

Skill I-1 – Assesses health and safety position

Basic Level	<ul style="list-style-type: none"> • Aware of provincial and federal regulations and ensure compliance Examples: Identify obvious risks Maintains required health and safety records (e.g. accident reports) Provides training (e.g. first aid) to staff and ensure compliance Provides Personal Protective Equipment and ensures proper use Knows how to follow emergency response plan • Follows club health and safety plan
Intermediate Level	<ul style="list-style-type: none"> • Resolve health and safety risks (prevention) e.g. mowing slopes • Assist in development of health and safety plan (PPE, mission, communication, meetings, committee) • Alert management to requirements and potential risks • Assist in the development of emergency response plan • Recognize, implement and enforce common sense safety applications • Anticipates health and safety risks not already regulated
Advanced Level	<ul style="list-style-type: none"> • Assess health and safety records for preventative measures • Recognize industry best practices • Designs formal training system (annual training, etc.) • Researches and purchases beyond minimum requirements • Thorough knowledge of health and safety regulations • Provide club leadership (first aid, employee response, insists regulations be followed) • Create an atmosphere of health and safety priority for all staff

Skill I-2 – Ensures safe handling of hazardous material

Basic Level	<ul style="list-style-type: none"> • Identify and have knowledge of hazardous materials • Comply with legislation on usage, storage, transportation and disposal of all hazardous material in use • Obtain all appropriate licenses (e.g. pesticide, WHMIS)
Intermediate Level	<ul style="list-style-type: none"> • Continually update knowledge of legislation
Advanced Level	<ul style="list-style-type: none"> • Interpret and apply new routines to ensure spirit of law is followed (e.g. complete a rinsate program even if it is not legally required)

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