

8 Turfgrass Sod

8.1. General

8.1.1. Purpose statement & intent

1. The intent of this section of the standard is to state standard requirements for quality grades and other classifications of grass types in turfgrass sod so that the desired quality can be specified, defined and installed for each application.
2. Both sections 7 and 8 are intended to be read, and interpreted, in conjunction with each other and all other sections of this standard.

8.1.2. Critical issues checklist:

	ITEM	REQUIREMENT
1	Sod Certification	The supplier shall provide a statement certifying the quality, species, grade and location of sod source.
2	Handling & Storage	Sod shall be protected during transportation to prevent drying, and shall arrive at the site in good condition
3	Finished Grade & Preparation	Finish grade shall meet the requirements of Section 4, <i>Grading and drainage</i> . Reference Section 4, <i>Grading and drainage</i> and Section 7, <i>Lawns and grass</i> .
4	Prohibition of Netting	The use of plastic netting is potentially hazardous and is to be prohibited.

8.1.3. Pertinent standards and legislation

1. Canada Seeds Act and Regulations, Weed Seeds Order.
2. International Sod Producers Association Guideline Specifications to Turfgrass Sodding.
3. Canada Fertilizers Act and Fertilizer Regulation.

8.1.4. Turfgrass quality grades

1. This standard divides turfgrass sod into the following quality grades:
 - a. Nursery (Cultivated) turfgrass sod
 - b. No. 1 Premium Grade
 - c. No. 2 Standard Grade
 - d. No. 3 Commercial Grade
 - e. Field (Pasture) turfgrass sod

2. Reference Section 8.2, *Products*, for quality requirements for each grade.

8.1.5. Specifying and identifying turfgrass

1. Turfgrass sod should be specified by reference to the quality grades in this standard, and should be fully specified with regard to the following characteristics:
 - a. Mix of grass types:
 - i. Unless otherwise specified, the mix of grass species in the sod shall be the producer's standard mix and shall meet the requirements of this standard for the quality grade appropriate to the location.
 - ii. Specialty or custom mixes may include mixes other than the producer's standard mix, or single species sod such as Kentucky bluegrass sod, or perennial rye.
 - b. Intended function or area:
 - i. This standard identifies three classes of grass area with regard to function, quality and appearance. Reference Section 7, *Lawns and grass*.
 - ii. Specifications should state the quality grade of turfgrass and other pertinent information (e.g. use of the area for play, shady conditions).
 - iii. Table T-8.1, *Recommended turfgrass quality for various areas*, shows the standard turfgrass classes in relation to the recommended quality grade of turfgrass and usual levels of maintenance for each class of lawn. Reference Section 13, *Establishment maintenance* and Section 14, *Landscape maintenance*.

Table T-8.1. Recommended turfgrass quality for various areas

Area	General Description/Typical Locations Usual Level of Maintenance	Recommended Turfgrass Quality Grade
Class 1 (Lawn)	High profile building sites, areas around public entrances to building of lower profile small urban and suburban sites. This is the minimum standard for residential and commercial. Maintenance Level 1 "Well-Groomed" or Level 2 "Groomed".	No. 1 Premium or No. 2 Standard
Class 2 (Grass)	Large suburban sites, public areas around large facilities with park like conditions, industrial sites. Maintenance Level 3 "Moderate" or Level 4 "Open Space/Play".	No. 3 Commercial
Class 3 (Rough Grass)	Rural sites, verges of runway, farms, highway rights-of-way, temporary grass. Commercial or field turfgrass cover. Maintenance Level 5 "Background" or Level 6 "Service and Industrial".	Usually seeded, however No.3 may be specified.

8.1.6. Special growing medium requirements

1. Unless otherwise specified, the growing medium for turf shall be the producer's standard growing medium unless otherwise specified, including the specific gradation and type of sand.

8.1.7. Other special requirements

1. Specifiers should identify any other special turfgrass sod requirements, such as whether netting is required or prohibited.

8.1.8. Certification of turfgrass

1. The supplier shall provide, upon request of the contractor, a label or statement certifying the quality grade, location of sod source and species of grass in the sod, to verify that the sod meets the specification or requirements of this standard for the stated grade.
2. Contractor shall retain labeling for inspection by owner or consultant.

8.1.9. Handling and storage

1. Sod shall not be dropped or dumped from vehicles.
2. Sod shall be protected during transportation against wind exposure to prevent drying, and shall arrive at the site in a fresh and healthy condition.
3. Where there is any delay in installation, the sod shall be kept moist, cool, and protected against adverse weather conditions at all times until installation.
4. During the growing season, and where feasible, sod should be delivered to the site within 36 hours of harvest, and shall be installed within 24 hours of delivery.
5. Sod shall be allowed to dry sufficiently after wet weather conditions to prevent tearing or damage during handling.

8.1.10. Finish grade preparation

Reference Section 4, *Grading and drainage* and Section 7, *Lawns and grass*.

8.1.11. Recommended conditions for acceptance

1. Acceptance of grass areas by the consultant and by the owner for further maintenance should be done only when the following conditions exist:
 - a. Sod has been sufficiently established that its roots are growing into the underlying growing medium.
 - b. Sodded areas have been mowed at least once to a height of 4cm (1.5in.), the last mowing being within 48 hours of the field review for acceptance.
 - c. Sod lawns show no visible seams.
 - d. Sod is of the required species only.
 - e. Sod areas are relatively free of weeds and invasive plants, containing no more

than 5 broadleaf weeds or 25 annual weeds or weedy grasses per 100m² (120sq.yd.).

8.1.12. Maintenance

1. Reference Section 7, *Lawns and grass*, Section 13, *Establishment maintenance*, and Section 14, *Landscape maintenance*.

8.2. Products

8.2.1. All turfgrass sod

1. All turfgrass sod shall be suited to the locality, site conditions, and intended function of each project or area, and specification.
2. Grass mixture in sod: supplier's standard sod (No. 1 and No. 2 Grade) shall be grown from certified seed of improved turf cultivars registered for sale in Canada, and suited to its regional requirements and its intended use.
3. Premium No.1 and standard No. 2 specialty or custom sod shall be as specified or as certified by the supplier, composed of a single variety or combinations of varieties of improved turf cultivars registered for sale in Canada, and suited to its regional requirements and its intended use.
4. Specialty sod mixes may include:
 - a. *Agrostis capillaris* (Colonial Bentgrass)
 - b. *Agrostis palustris* (Creeping Bentgrass)
 - c. *Festuca arundinacea* (Tall Fescue)
 - d. *Festuca brevipila* (Hard Fescue)
 - e. *Festuca ovina* var. *ovina* (Sheep's Fescue)
 - f. *Festuca octoflora* Slender Fescue
 - g. *Agrostis palustris* (Creeping Bentgrass) with *Poa annua* (Annual Bluegrass)
 - h. *Poa reptans* (Creeping Bluegrass)
 - i. *Poa supina* (Supina Bluegrass)
 - j. *Poa pratensis* (Kentucky Bluegrass)
 - k. *Lolium perenne* (Perennial Ryegrass)
5. Size of sections
 - a. Turfgrass sod shall be cut by machines designed for that purpose, to the supplier's standard length and width, plus or minus 2 percent in width and plus or minus 5 percent in length. Broken pieces and torn or uneven ends are not acceptable.
6. Thickness of cut
 - a. Turfgrass sod shall be cut at a uniform soil thickness (excluding top growth and thatch) of 15mm (0.6in.) plus or minus 6mm (0.25in.) or by special order.

7. Strength of sod
 - a. Sod shall have a fibrous root system strong enough that a standard sized section can support its own weight without damage or tearing when suspended vertically by holding up the upper two corners.
8. Moisture content
 - a. Turfgrass sod shall not be harvested or transplanted when excessive moisture or dryness will result in damage to, or failure of the sod.
9. Grass height
 - a. The height of the grass in the sod at the time of harvesting shall be between 4cm (1.5in.) and 6cm (2.5in.), except where otherwise specified.
10. Thatch
 - a. Turfgrass sod shall be reasonably free from thatch. Up to 13mm (0.5in.) of thatch (uncompressed) is acceptable. Commercial grade is exempt.
11. Diseases, fungi, nematodes, insects
 - a. Turfgrass sod shall be reasonably free from visible diseases, detrimental fungi and damaging nematodes, and soil-born insects, to the extent that with proper installation methods and initial maintenance as described in this section, Section 7, *Lawns and grass*, Section 13, *Establishment maintenance*, and Section 14, *Landscape maintenance*, new turf will not deteriorate due to such causes.
12. Weeds, invasive and noxious plants
 - a. All turfgrass sod shall be absolutely free from plants designated as noxious weeds by Agriculture Canada or by provincial authorities.
 - b. Nursery turfgrass sod shall be free of broadleaf weeds, invasive species, and undesirable grasses to the extent required for each quality grade.
 - c. Field turfgrass sod shall contain no more than 10 weeds per 10 m² (100sq.ft.).

8.2.2. Nursery (cultivated) turfgrass sod

1. Nursery (cultivated) turfgrass sod shall be quality sod planted on cultivated agricultural land and grown specifically for sod purposes.
2. Cultivated turfgrass sod shall be mown regularly and otherwise maintained to obtain reasonable quality and uniformity.
3. Nursery turfgrass sod shall be grown from certified seed of improved turf cultivars registered for sale in Canada (except as noted for No. 3 commercial grade).
4. Following are the requirements specific to the three quality grades of nursery turfgrass sod:
 - a. No. 1 Premium Grade: Premium grade turfgrass shall contain only the species and varieties of grasses shown on the supplier's certificate or sales slip, free of weeds, invasive species, or foreign grasses, and relatively free of *Poa annua*.
 - b. No. 2 Standard Grade: Standard grade turfgrass shall show no visible broadleaf

weeds when viewed from a standing position; the turf shall be visibly consistent with no obvious patches of foreign grasses, and relatively free of *Poa annua*. In no case may the total amount of foreign grasses exceed 2 percent of the total canopy for any 10m² (100ft²) of turf.

- c. No. 3 Commercial grade: Commercial grade turfgrass is any nursery turfgrass that does not meet the requirements for premium or standard grades. Commercial grade turfgrass may be composed of grasses from non-certified seed, or of unknown origin, and may contain noticeable amounts of *Poa annua*.

8.2.3. Field (pasture) turfgrass sod

1. Field turfgrass sod is all sod that does not meet the requirements for nursery sod. It may consist of sod lifted from pastures or meadows.

8.3. Execution

8.3.1. Scheduling

1. Turfgrass sod shall be installed within 24 hours of delivery, and within 36 hours of harvest, unless otherwise authorized and a suitable preservation method is approved prior to delivery.
2. Sod not installed within 36 hours of harvesting or within 24 hours of delivery may be rejected if there is any evidence of deterioration.
3. The contractor shall coordinate sod laying with topsoil operations and with the installation of irrigation system and lighting system.

8.3.2. Preparation of grade

1. Sites requiring sodding shall be prepared to meet the requirements set out in Section 3, *Site preparation and protection of existing site elements*, and Section 4, *Grading and drainage*, or to contract specification.

8.3.3. Growing medium

1. Growing medium under all sodded areas shall be to the requirements as set out in Section 6, *Growing medium*, or to contract specification.
2. The growing medium under all sodded areas shall be spread evenly over the approved subgrade to the specified depth. The minimum depth of growing medium under sodded areas shall be as shown in Section 6, *Growing medium*, Table T-6.3.5.5. *Minimum depths of growing medium*.

8.3.4. Fertilizer

1. The required fertilizer shall be applied to and well worked 50mm (2in.) into the growing medium by cultivating, discing, raking or harrowing, at the rates specified. This shall be done at a maximum of 48 hours before laying sod.

8.3.5. Sodding

1. Sod laying shall be performed during the active growing season for type of sod. Sodding during dry periods, at freezing temperatures or over frozen soil is unacceptable.
2. Where the growing medium surface is dry, it shall be lightly moistened immediately before laying sod.
3. Sod shall be laid in smooth even staggered rows, and closely knit together in such a manner that no open joints wider than 3mm (1/8in.) are visible, joints are staggered a minimum of 25cm (10in.), and no pieces are stretched or overlapped.
4. Sod shall be laid smooth and flush with adjoining grass areas, paving and top surface of curbs unless shown otherwise on the drawings.
5. New sod shall be protected from heavy foot traffic during and after laying. Appropriate protection in the form of broad planks and plywood shall be placed if necessary to prevent damage to sod, as well as growing medium grade and level.
6. Sod shall be cut where necessary only with a sharp knife or edging tool.
7. The sodded area shall be rolled, tamped, or planked with plywood providing sufficient pressure, to ensure a good bond between sod and growing medium.
8. The sod area shall be irrigated immediately with sufficient amounts of water to thoroughly moisten the sod and upper 10cm (4in.) of growing medium. Sod will be irrigated as required in order to maintain a moist root zone.
9. Erosion control netting shall be installed in sodded areas where required. Erosion control mesh or netting shall be placed and secured with stakes or staples set firmly into the ground to a minimum depth of 15cm (6in.).
10. Spacing of stakes or staples shall be adequate to ensure complete anchorage of the sod to the ground or as specified by the manufacturer.
11. On slope areas approximately 2:1, sod shall be laid at right angles to slopes or the flow of water. Sodding shall start at the bottom of the slope and shall be laid crosswise and staggered on the slope. Every row shall be pegged with wooden lath pegs, of sufficient length to ensure satisfactory anchorage of the sod, and at intervals of not more than 0.5m (1.5ft.). Pegs shall be driven flush with the sod.
12. Before pedestrian traffic is permitted on the turf, and after the turf is well rooted into the growing medium, pegs or stakes shall be removed or driven at least 5cm (2in.) below the sod surface.

8.3.6. Maintenance before acceptance

1. Reference Section 7, *Lawns and grass* and Section 13, *Establishment maintenance*.
2. Maintenance for sodded areas shall begin immediately after sodding has been completed, and shall continue until the date set for signing off or acceptance of the

areas by the owner for further maintenance or as specified in the contract.

3. Maintenance shall include all measures necessary to establish and maintain grass in accordance with its class, and in a vigorous growing condition, including, but not limited to the following:
 - a. Mowing shall be carried out at regular intervals as required, to maintain grass at a maximum height of 6cm (2.5in.) for Class 1 lawns; 8cm (3in.) for Class 2 lawns.
 - b. No more than 1/3 of the blade shall be cut at any one mowing on Class 1 and 2 lawns. Class 3 lawns shall be cut as required to maintain function and health of the grass.
 - c. Edges of Class 1 and 2 lawns shall be maintained in a neatly trimmed condition.
 - d. Heavy clippings that may interfere with the healthy growth of the sod shall be removed immediately after mowing and trimming.
4. Irrigation shall be scheduled and carried out when required and with sufficient quantities of water to prevent sod and underlying soil from drying out.
5. When environmental conditions allow, all sodded areas showing shrinkage cracks shall be top-dressed and seeded with a seed mix matching the original.

8.3.7. Insect pest, weed and invasive plant control

1. Reference Section 13, *Establishment maintenance*.
2. Lawns shall be inspected regularly for signs of insects, disease, and invasive and weed species.
3. Weed control measures shall be carried out when the density of weeds reaches 25 broadleaf weeds per 100m² (1080sq.ft.) or to an acceptable threshold for the class of lawn and in consultation with the owner.
4. Weed control shall consist of IPM best practices and shall reduce the density of weeds to an acceptable, established threshold for the class of lawn, in consultation with the owner.
5. Invasive and noxious plant control shall reduce the density of these plant materials to zero.
6. Insect pest controls shall be timely and applied as appropriate to individual species.
7. Where chemical controls are used, products shall be applied as per manufacture's recommendations and shall meet municipal standards and bylaws.

8.3.8. Protection

1. Temporary wire or twine fencing, barriers, barricades or signage shall be provided and maintained where required to protect newly sodded areas from damage, including but not limited to erosion, pedestrian and vehicular traffic, or wild life.
2. Except as otherwise required by the contract or as otherwise agreed, protective fencing shall be maintained in good condition until such time as the lawn has been

established or until acceptance.

8.3.9. All cleanup

1. Materials and other debris resulting from sodding operations shall be removed promptly from the job site upon completion of each phase of the project.