

PART 1 GENERAL

1.1 RELATED WORK

- .1 Topsoil Placement And Grading – Section 32 91 19.13
- .2 Seeding – Section 32 92 20

1.2 SUBMITTALS

- .1 Submit samples as directed by Departmental Representative.
- .2 Obtain approval of samples by Departmental Representative.

1.3 QUALITY ASSURANCE

- .1 Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements.

1.4 SCHEDULING

- .1 Schedule sod installation to coincide with the preparation of the soil surface.
- .2 Schedule sod laying to coincide with preparation of soil surface.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 Construction/Demolition Waste Management and Disposal.
- .2 Divert unused fertilizer from landfill to official hazardous material collections site approved by Departmental Representative.
- .3 Do not dispose of unused soil amendments into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Sod
 - .1 Sod that has been especially sown and cultivated for use as sod. Generic sod type suitable for use in Banff National Park. Contractor to provide sod type and source for approval by Departmental Representative.
 - .2 Not more than 2 broadleaf weeds or 10 other weeds per 40 square meters.
 - .3 Density of sod sufficient so that no soil is visible from height of 1500mm when mown to height of 50mm.
 - .4 Mowing height limit: 35mm to 65mm.
 - .5 Soil portion of sod: 6mm to 15mm in thickness.
- .2 Sod establishment support:
 - .1 Erosion control blankets: biodegradable, 25mm square mesh on all slopes exceeding 40%.
 - .2 Wooden pegs: 17 x 8 x 200mm for all slopes exceeding 33% (3 height to 1 vertical).
- .3 Water
 - .1 Available from standpipes on site or as directed by Departmental Representative.
- .4 Fertilizer
 - .1 To Canada "Fertilizer Act" and "Fertilizers Regulations".
 - .2 Slow release in water-insoluble form, as approved by Departmental Representative.

2.2 SOURCE QUALITY CONTROL

- .1 Obtain approval from Departmental Representative of sod at source.
- .2 When proposed source of sod is approved, use no other source without written authorization.

PART 3 EXECUTION

3.1 PREPARATION

- .1 Verify that grades are correct and prepared in accordance with Section 32 91 19.13 – Topsoil Placement and Grading. If discrepancies occur, notify Departmental Representative.
- .2 Do not perform work under adverse field conditions such as frozen soil, excessively wet soil or soil covered in snow, ice or standing water.
- .3 Fine grade surface free of humps and hollows to smooth, even grade, to contours and elevations indicated, to tolerance of plus or minus 15mm, surface to drain naturally.

- .4 Remove and dispose of weeds, debris, stones 50mm in diameter and larger, soil contaminated by oil, gasoline and other deleterious materials, outside of Banff National Park, as directed by Departmental Representative.

3.2 SOD PLACEMENT

- .1 Lay sod within 24 hours of being lifted.
- .2 Lay sod sections in rows, longitudinally, along contours of slopes, joints staggered. Butt sections closely without overlapping or leaving gaps between sections. Cut out irregular or thin sections with sharp implements.
- .3 Roll sod as directed by Departmental Representative. Provide close contact between sod and soil by light rolling. Use of heavy roller to correct irregularities in grade is not permitted.

3.3 SOD PLACEMENT ON SLOPES, PEGGING, AND EROSION CONTROL BLANKETS

- .1 Install and secure erosion control blankets in areas indicated, in accordance with manufacturer's instructions.
- .2 Start laying sod at bottom of slopes.
- .3 Peg sod on slopes steeper than 3 horizontal to 1 vertical, within 1m of catch basins and within 1 m of drainage channels and ditches to following pattern:
 - .1 100 mm below top edge at 200 mm on centre for first sod sections along contours of slopes.
 - .2 Not less than 5 pegs per square metre.
 - .3 Not less than 7 pegs per square metre in drainage structures. Adjust pattern as directed by Departmental Representative.
 - .4 Drive pegs to 20mm above soil surface of sod sections.
- .4 Add Erosion Control Blankets as per manufacturer's installation instructions on all slopes that exceed 40% or as indicated on drawings.
 - .1 Pegs as per manufacturer's instructions.
 - .2 Pattern and amount of pegs as per manufacturer's instructions

3.4 FERTILIZING PROGRAM

- .1 Fertilize during establishment and warranty periods to following program agreed to by Departmental Representative.

3.5 MAINTENANCE DURING ESTABLISHMENT PERIOD

- .1 Perform following operations from time of installation until acceptance.
 - .1 Water sodded areas in sufficient quantities and at frequency required to maintain optimum soil moisture condition to depth of 75 to 100 mm.

- .2 Cut manicured sod areas to 50 mm when or prior to it reaching height of 75 mm. Remove clippings which will smother grassed areas.
- .3 Maintain sodded areas weed free.
- .4 Fertilize areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles and water in well.

3.6 ACCEPTANCE

- .1 Sodded Commercial Grade Turfgrass Nursery Sod areas will be accepted by Departmental Representative provided that:
 - .1 Sodded areas are properly established.
 - .2 No surface soil is visible from height of 1500mm when the grass has been cut to height of 50mm.
 - .3 Sod is free of bare or dead spots and extent of weeds.
 - .4 Sodded areas have been cut minimum 2 times prior to acceptance.
 - .5 Fertilizing in accordance with fertilizer program has been carried out.
- .2 Areas sodded in fall will be accepted in following spring one month after start of growing season provided acceptance conditions are fulfilled.

3.7 MAINTENANCE DURING WARRANTY PERIOD

- .1 Warranty Period shall be two weeks from date of sod installation.
- .2 Perform following operations from time of acceptance until end of warranty period:
 - .1 Water sodded areas as required. to obtain optimum soil moisture conditions to depth of 100 mm.
 - .2 Repair and re-sod dead or bare spots to satisfaction of Departmental Representative.
 - .3 Cut grass and remove clippings that will smother grass as directed by Departmental Representative:
 - .1 50mm during normal growing conditions
 - .2 Cut grass at 2 week intervals or as directed by the Departmental Representative but at intervals so that approximately one third of the growth is removed in a single cut.
 - .4 Fertilize areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles and water in well.
 - .5 Eliminate weeds by mechanical means to extent acceptable to Departmental Representative.

3.8 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION