SECTION 20 – SODDING, SEEDING, AND LANDSCAPING

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Section 20:

Sodding, Seeding, and Landscaping

SECTION 20 – SODDING, SEEDING, AND LANDSCAPING

20.1 SODDING

Sod is generally placed on slopes steeper than 3:1, in front of dwellings with maintained lawns, in ditches with grade of 1% or over, and in areas where mulch seeding will not perform satisfactorily. Sod placed on steep slopes must be pegged to keep the material in place until the root system becomes more established in the soil. The surface on which the sod is to be placed must possess sufficient depth below adjacent areas so newly laid sod will be level with the surrounding surface.

All soil on which sod is to be laid must be treated with fertilizer as designated in the SS and Special Provisions of the contract. Sod laid during the months of June, July, and August is subject to the following conditions:

1. Sod must be in good, live, and growing condition at time of cutting.

2. Sod must be placed within 36 hours after cutting and protected from damage during that period.

Winter sodding will be permitted when the temperature is above 35°F, and when both the sod and soil are not frozen. Sod must be properly protected from drying out and must be laid within 48 h after cutting.

The cost of furnishing and placing fertilizer used in sodding is included in the price per square yard of sod and is not paid as a separate item. Water is not paid as a separate item unless it is ordered by the PEMS after the initial 30-day maintenance period.

20.2 SEEDING

Seeding is utilized on prepared grade to control erosion of the soil and provide a pleasing appearance once established. Sections of bare earth and the length of their exposure to erosion should be minimized. Large cut and fill slopes should be seeded in stages as soon as they are finished. Taking time to include seeding operations as soon as possible, as often as possible, can help to reduce soil erosion. This process will prevent time lost to redress slopes after rain events.

Temporary seeding is applied prior to permanent seeding as a temporary stormwater control feature. This operation is usually performed one or more times during the contract as graded areas are completed or nearly completed. This involves the moving in and out of the seeding equipment in a disjointed fashion as opposed to the massive, one time application associated with the permanent seeding operation. Bare soil shall not be left inactive for more than seven calendar days without temporary stabilization in accordance with 205 of the SS.

There are two types of seeding consisting of plain seeding and mulched seeding. The only difference between the two types is a mulching material is placed on areas where mulched seeding is required based on the requirements of the contract documents.

Seeding may be paid for as mulched seeding by the square yard, or as separate bid items for seed by the pound, fertilizer by the ton, and mulching material by the ton. The PEMS must review the CIB for each contract, as different projects may require different quantities of seed and fertilizer.

All seeding operations require inspection to verify correct quantities, proper mixing of seed, correctly prepared seedbed, and any additional details to include in daily reports.

When hydro-seeders are used, fertilizer and seed must be applied with enough water to ensure a dampening effect. This provides a visual means of inspection for even distribution over the area to be seeded.

Contractors and subcontractors may experience difficulty obtaining the specified 12-12-12 fertilizer and request substitutes. All allowed substitutes must be a balanced mix, such as 10-10-10. The application rate for these substitutes must be adjusted to compensate for any change in the components. Application of fertilizer will be based on the rate of 400 lb/ac for seeding and sodding unless otherwise specified in the contract or directed.

For example, a change from 12-12-12 to 10-10-10 for 1 acre of seeding would mean the application of 1ac x (12/10) x 400 lb/ac = 480 lbs of fertilizer, but only 400 lbs would be paid for. In other words, areas where extra fertilizer is applied, the pay quantity using 10-10-10 would be 10/12 of the quantities applied. Accurate records must be maintained of all the fertilizer used and recorded in the contract records. The computations converting the total actual quantity used to an equivalent tonnage of 12-12-12 must be shown for the final payment.

If seeding is to be paid for by separate bid items, the PEMS must verify the quantity of seed used is recorded each day and properly reported. It will be permissible to count sacks of seed and fertilizer used each day, then multiply the number of sacks by the weight of one sack to get the daily record for seed and fertilizer. It is best to keep accurate records of all fertilizer delivered to any contract, then deduct the amount of fertilizer used in sodding to get correct quantities for separate pay items used in seeding.

Mulching material is paid for by the ton and each truckload must arrive on site with a weigh ticket. Representative samples must be taken from the mulching material to determine the amount of moisture in the material. These samples are to be weighed at time of delivery, then re-weighed when the mulching material is dry. The difference between these two numbers will determine the moisture content. To determine moisture, the sample is placed in a large burlap sack and then placed in a suitable location to dry. The PEMS should reference the Division of Materials and Test's Manual for Frequency of Sampling and Testing and Basis for Use of Materials to help determine the number of mulch samples required. It is the responsibility of the PEMS to see that all samples are taken, and documentation recorded.

The PEMS should verify the required amount of mulching material is placed and that it is uniformly distributed over the area to provide proper coverage. When too much mulch is placed, it retards the growth of the vegetation. Too little mulch will not provide sufficient protective cover for the seed.

Adequate provisions for holding the mulching material in place, such as punching the mulch into the soil, are likewise important. Unless the mulching material is retained in place, winds or moving traffic adjacent to the pavement edge will displace it. Once displaced, mulching provides little protection for the seeding and allows erosion of the grade to progress.

There are several approved hold down methods that provide satisfactory results. The PEMS and the Contractor should discuss the proposed method of spreading and holding mulch in place prior to beginning seeding operations.

Normally, all areas inside slope stake locations which are not surfaced or sodded should be seeded. These areas include the radii at the top of cut slopes and bottom of fill slopes.

Seeding without mulch must not be performed between May 1 and August 15. For permanent seeding performed from October 16 through January 31, the Contractor is required to post a warranty bond. The Department will make the determination to release a Contractor from the warranty. This determination will be made within 10 calendar days after a documented request for inspection has been received from the Contractor, but will not be made prior to April 1.

The PEMS should go over the contract with the AE to determine where to place sod and seed well in advance of the Contractor starting work operations on these items.

The PEMS should verify that all seed has been tested and approved in accordance with 914 of the SS. Discuss seed requirements with the Contractor well in advance of seeding operations to avoid unnecessary delays.

20.3 LANDSCAPING

Landscaping contracts are to be administered the same as other construction contracts. This process would include the same supervisory checks such as weigh tickets and payrolls, when minimum wages are applicable. ES should be informed of the time and place for pre-construction conferences so arrangements can be made for a representative of the landscaping section to attend. The PEMS should study the contract provisions and SS carefully prior to starting work. All alternate sources of planting material must be approved by prior to use.

Tree plantings and shrubs must comply with the clear zone policy (distance from the edge of the driving lane to an obstruction) as outlined in the Roadside Safety Section of the AASHTO Roadside Design Guide.

Storage of equipment and materials should be stored 30 ft of the pavement edge for sections not protected with guardrail or other suitable barrier. These distances are considered as minimums. Where sufficient ROW is available and field conditions indicate greater clearance is needed for safety, the minimal distances should be increased. For areas protected by guardrail or other suitable barriers, storage of equipment must be in accordance with 107.08.

Lance watering of planted material is not allowed. Backfill and mulch are not direct pay items. Backfill material within 6 in. of the plant root ball must comply with the Standard Drawings and SS. Mulch must be placed to the depth and diameter specified. Guying and staking should be performed strictly in accordance with the plans, Standard Drawings, and SS to protect against damage to the plant, such as rubbing.

Landscape work and procedures are subject to frequent change and revisions. Therefore, the PEMS should refer to RSPs and USPs pertaining to their particular contract and be aware of and understand all current instructions for contract landscaping. ES is available for technical advice and interpretations and should be contacted when help is needed. “As built” plans are to be prepared and retained for all landscape contracts. They should identify any changes made during construction.

The Contractor must observe all State, Federal and local regulations and quarantines pertaining thereto, in accordance with 107.01 of the SS. The regulations and quarantines referenced pertain to harmful pests such as, but not limited to, various types of beetles. The quarantine applies to landscape plants, soils, sod, and all earthmoving equipment being used on the contract. When these items are moved from a generally infested location to a location considered to be less infested, a proper permit or certificate must be obtained. Maps indicating the regulated areas are distributed to the DO. It is the responsibility of the PEMS to determine when a certificate is required and that it is furnished. The DO and ES should be consulted for additional information.

The Contractor shall furnish landscaping materials accompanied by the proper certificate or permit when applicable. For landscaping material furnished to the Contractor by a commercial nursery, the nursery shall provide the required certificate to the Contractor. Out of state nurseries will provide the required certificate by cooperative agreement between the States. For material from a private source, such as sod from a farmer, the Contractor must contact IDNR, Division of Entomology and Plant Pathology at: https://www.in.gov/dnr/entomology/ for the location of a State or Federal inspector to secure the certificate if the PEMS or DO is not able to furnish an inspector’s name.

The PEMS should obtain copies of the required certificates or permits for all quarantined materials. This also applies to earthmoving equipment being moved from infested areas. These copies should be retained in the contract file.

20.4 MOWING AND HERBICIDE CONTRACTS

The Contractor must understand the exact areas to be mowed or treated with herbicides. This topic must be discussed and agreed upon at the pre-construction conference. If problems arise with interpretation of the contract areas to be treated, the PM and CM should be contacted immediately. The Contractor will be notified to begin each mowing cycle.

20.5 PLANTS AND SEEDLINGS

The Contractor must submit a list with the name and location of the source of plants to the PEMS. Once received, the PEMS will forward this list to ES for approval. The plants should not be placed until approval has been obtained.

The Contractor should choose a Pre-qualified source for seedlings for immediate use. If the source for seedlings is not pre-qualified, the same procedure will be followed as stated above for approval of plants.