

- A. General: Spread amended imported soil over accepted subgrade prior to incorporating amendments.
- B. Restrictions: Do not commence spreading of amended imported soil prior to acceptance of subsoil cultivation above. Do not place soil under muddy or frozen conditions.
- C. Soil Depth: Refer to finish grade and planting details per the Drawings.

3.04 SOIL AMENDMENT

- A. Amending of Soil: Follow recommendations of soil tests
 - 1. Preparation: Do not commence amending of imported soil prior to acceptance of final subgrades. Do not work soils under muddy or frozen conditions.
 - 2. Soil Amendments: Incorporate by tilling amendment into the top (12) inches of imported soil in all planting areas.

3.05 FIELD QUALITY CONTROL

- A. Tests: Right is reserved to take samples of soil mixes prepared soil for testing for conformity to Specifications.
- B. Rejected Materials: Remove off site at Contractor's cost. Pay cost of testing of materials, not meeting Specifications.

3.06 CLEAN-UP

- A. After completion of all soil preparation operations and before acceptance of the work, the Contractor shall remove all debris, rubbish, etc. from the site in a legal manner. The premises shall be left clean, presentable, and satisfactory.

END OF SECTION

1.01 SUMMARY

Work to be done includes all labor, materials, transportation, equipment and services required to complete the soil preparation. Execute labor to achieve soil preparation, complete, as shown and as specified planting as indicated

PART 1 - GENERAL**1.01 DESCRIPTION**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- B. Related Work Specified Elsewhere:
 - 1. Section 32 90 00 Planting
- C. Scope: Prepare all areas indicated on the Drawings for grass seeding according to the specifications and drawings contained in the Contract Documents, including: furnishing and installing all seed, fertilizer, organic soil amendments and related maintenance.

1.02 QUALITY ASSURANCE

- A. Contractor Qualifications: All work specified herein shall be performed by a licensed landscape contractor experienced with the type and scale of work required and having equipment and personnel adequate to perform the work satisfactorily.

1.03 APPLICABLE STANDARDS

- A. All grass seed shall be certified by state of origin. The certification authority for the state of New Mexico is the New Mexico Crop Improvement Association.

1.04 SUBMITTALS

- A. Product Data:
 - 1. Proposed source of all native grass seed which shall indicate the location from which the seed was harvested, prior to ordering seed.
 - 2. Submit type and source of soil amendment and fertilizer for approval prior to ordering soil amendment.
- B. Seed Tags: Seed bag tags and weights per bag and copies of invoices identified by project name.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Keep fertilizer and seeds in dry storage away from contaminants.

1.06 JOB CONDITIONS

- A. Sequencing, Scheduling: Schedule to seed after installation and approval of the complete irrigation system in the area.

1.07 WARRANTY

- A. Warranty seeded areas through specified maintenance period, as outlined in Paragraph 3.04, Maintenance.
B. Where native grass is installed in areas without an irrigation system, no warranty shall be required after the date of final acceptance of all the contract work.

PART 2 - MATERIALS

2.00 SEED MIX

- A. All native grass seed shall be obtained from sources in New Mexico unless proof is provided that a particular seed is unavailable within the state. Fescue seed shall be obtained from approved producers.
B. Contractor shall furnish certification showing origin of all seed and pure live seed (P.L.S.) content as determined by a certified authority. Pure live seed shall be the product of percent purity time's percent germination. Each bag of seed shall be tagged and sealed by the seed dealer in accordance with the State Department of Agriculture or other local certification authority within the state of origin. The tag or label shall indicate analysis of seed and date of analysis, which shall not be more than 9 months prior to delivery date. Seed may be premixed by the seed dealer and appropriate data indicated on the bag label for each variety.
C. Native Grass Reseeding: The seed mix shall be as follows:

a. Seed Mix (Non-Irrigated):

Seed available at Curtis and Curtis Seed and Supply, 4500 N. Prince St, Clovis, NM 88101. Phone: (575) 762-4759 and Granite Seed Company, 490 E. 76th Ave., Unit A, Denver, CO 80229. Phone: (888) 577-5650; or approved equal.

Table with 3 columns: Common Name, Botanical Name, PLS/Acre. Rows include Alkali Muhly, Scratchgrass; Alkali Sacaton; Inland Saltgrass; Switchgrass, Blackwell; Muhlenbergia asperifolia; Sporobolus airoides; Distichilis spicata; Panicum virgatum.

2.01 COMPOST MATERIAL

- A. Compost material shall be as noted on the Drawings or approved equal. Rate of application shall be as noted on the Drawings.

2.02 FERTILIZER

- A. Fertilizer shall be manufactured from quality materials, be free from impurities, uniform in composition, meet recognized standards for effectiveness and be free flowing and suitable for application with approved equipment.
- B. Fertilizer shall be delivered to the site in bags or other containers, each clearly labeled, conforming to applicable state laws, bearing the grade and trade name of the producer.
- C. Application: Care shall be taken when spreading fertilizer that there are no gaps during application. The fertilizer shall be applied under favorable conditions and by such approved methods as will ensure maximum uniformity of distribution.
- D. Fertilizer: Exact fertilizer mix may be altered to reflect results of soil analysis, but for purposes of bidding the following fertilizer shall be used in the following applications:

Seed Mix Microrhyza:

Mix the following with seed mix at a rate of 1 lb / 5 acres (best done at facility):

- Endomaxia (or approved equal)
Soil Secrets LLC & Soil Secrets Worldwide LLC
9 Gilcrease Road, Los Lunas, New Mexico 87031
Phone: 505-866-7645; email: info@soilsecrets.com; web: www.soilsecrets.com

Seed Mix Fertilizer:

Mix the following with mulch / tackifier at a rate of 22 bags / 1 acres:

- Protein Crumbies (or approved equal)
Soil Secrets LLC & Soil Secrets Worldwide LLC
9 Gilcrease Road, Los Lunas, New Mexico 87031
Phone: 505-866-7645; email: info@soilsecrets.com; web: www.soilsecrets.com

Seed Mix Soil Conditioner:

Mix the following with mulch / tackifier at a rate of 44 bags / 1 acres:

- TerraPro (or approved equal)
Soil Secrets LLC & Soil Secrets Worldwide LLC
9 Gilcrease Road, Los Lunas, New Mexico 87031
Phone: 505-866-7645; email: info@soilsecrets.com; web: www.soilsecrets.com

2.03 MULCH AND TACKIFIER

- A. The tackifier shall be a colloidal polysaccharide or wood fiber tackifier. The tackifier shall be homogeneous within the unit package. It shall have no growth or germination inhibiting factors and be nontoxic. It shall be dry mixed with the fertilizer and soil conditioner at a rate of 1 bale per 1,000 sf.

- B. Apply mulch and tackifier at a rate of 1/2" layer evenly across seeded areas.

PART 3 - EXECUTION

3.00 PREPARATION

- A. Preparation of Subgrade: Clear existing soil free of roots, plants, sod, stones, clay lumps and other extraneous materials harmful or toxic to plant growth.
- B. Preparation for Seeding:
 - 1. The extent of seed bed preparation shall not exceed the area on which the entire seeding operation can be accomplished to such prepared seed bed within a 24 hour period, unless otherwise directed by the Landscape Architect.
 - 2. All areas to be seeded shall be brought to an even grade and shaped to drain. Areas to be seeded shall be graded to meet finished grades, and be uniformly compacted to prevent uneven settlement after seed installation and watering.
 - 3. Rototill to the following depths:
 - Native Grass: top four (4) inches.
 - Rototill area twice in cross directions. Rototilling shall not occur when the wind is over 10 mph and creates a dust problem to adjoining areas.
 - 4. Fine rake and remove stones over 1/2" in any dimension, sticks, roots, rubbish and any other extraneous matter brought to surface by the rotilling process. Drag to even grade, and compact to ninety (90) percent modified proctor.
 - 5. Water area to be seeded thoroughly. Apply a minimum of two inches of water throughout area. Allow area to dry.
 - 6. Regrade as necessary to insure drainage and to meet proposed grades. Correct any differential settlement.
- C. Harvested Topsoil Reapplication:
 - 1. Before spreading topsoil ensure that all necessary erosion and sediment control practices are in place and functioning properly. These practices must be maintained until the site is permanently stabilized.
 - 2. Maintain grades on the areas to receive topsoil according to the approved plan and do not alter them by adding topsoil.
 - 3. Immediately prior to spreading the topsoil, loosen the subgrade by disking or scarifying to a depth of at least 4 inches to ensure bonding of the topsoil and the subsoil. If no amendments have been incorporated, loosen the soil to a depth of at least 6 inches before spreading the topsoil.

4. Uniformly distribute topsoil to a minimum compacted depth of 2 inches on 3:1 slopes and 4 inches on flatter slopes. Topsoil shall not be spread while it is frozen or muddy or when the subsoil is frozen or muddy. Do not apply topsoil to slopes greater than 2:1 to prevent slippage.
 5. If topsoil is stockpiled prior to final placement, the top 1 foot of the stockpile material should be mixed with the remainder of the stockpile to ensure that living organisms are distributed throughout the topsoil material at the time of final placement.
- D. Moisten prepared areas before seeding if soil is dry. Do not create muddy soil conditions.
- E. Approval of Seed Bed Preparation: Seed bed preparation is to be approved by the Landscape Architect immediately prior to the seeding operations, and after all seed bed preparation is complete.

3.01 SEEDING

- A. General:
1. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
 2. Sow not less than the quantity of seed specified or scheduled.
- B. Seeding Dates: Shall be accomplished between June 15th and September 1st unless specific permission in writing is issued by the Landscape Architect to allow seeding before or after these dates.
- C. Seeding Rate and Mix: As per Paragraph 2.00.C.
- D. Drill Seeding:
1. Where indicated on the plans, the seed shall be mechanically broadcast by use of a range drill seeder. Seed should be drilled to a depth of $\frac{1}{4}$ ".
 2. Contractor's vehicles and other equipment are prohibited from traveling over the seeded areas.

3.02 MULCH / TACKIFER

- A. Immediately following the drill seeding operation, seeded areas on slopes less than 2:1 shall receive mulch/tackifier at the even rate of $\frac{1}{2}$ " depth throughout the seeded area.
- B. Spread mulch to achieve an even coverage.
- C. All areas receiving insufficient coverage in the opinion of the Architect shall receive additional mulch/tackifer.

3.03 RESEEDING

- A. Void areas greater than one square foot, or repetitive voids smaller than one square foot which amount to more than 10% of any area that occur within 60 days after installation shall be reseeded.

3.04 MAINTENANCE

- A. Begin maintenance immediately after planting.
- B. Maintain seeded grass for not less than the period stated below, and longer as required to establish an acceptable grass stand.
 - 1. Maintenance shall continue through the first mowing, or until the entire landscape project is accepted, and until the end of the maintenance period. Maintenance period shall be not less than sixty (60) days after substantial completion, unless otherwise approved by the Landscape Architect.
 - 2. Maintain seeded areas by watering fertilizing, weeding, mowing, trimming and other operations such as rolling, regrading and replanting as required to establish an acceptable grass stands, free of weeds and eroded or bare areas. Irrigate by means of the underground automatic irrigation system where irrigation is available, as often as necessary to promote healthy grass growth, and until a thick, even stand of grass has been obtained.

3.05 CLEANUP AND PROTECTION

- A. During the work, keep all pavements clean and work area in an orderly condition.
- B. Protect existing elements from damage due to seeding operations, operations by other contractors, other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged work to the satisfaction of the Owner at no cost to the Owner.
- C. Preservation of Existing Vegetation: The Contractor shall preserve and protect all existing vegetation adjacent to areas being seeded and which do not unreasonably interfere with construction procedures. The contractor shall replace or restore, at his own expense, all vegetation that may be destroyed or damaged which has not been protected or preserved as specified herein.

3.06 OBSERVATION AND ACCEPTANCE

- A. When work is completed, including maintenance, the Landscape Architect will, upon request, make an observation to determine acceptability.
- B. All seed must be well-rooted into sub grade and any bare spots, low areas or dead native grass must be repaired or reseeded to the satisfaction of the Owner prior to acceptance. Final acceptance of all grass areas shall be when a minimum of 80% germination is evidenced and approved by the Landscape Architect and all areas have been seeded for a minimum of twenty eight (28) days.
- C. When observed work does not comply with requirements, reseed rejected work and continue specified maintenance until re-observed by Landscape Architect and found to be acceptable.

- D. The owner shall begin grass establishment operations upon acceptance of grassing operations by the Landscape Architect.

END OF SECTION