



CITY OF CLEMSON - REQUEST FOR PROPOSALS CLEMSON PARK ASPHALT PUMP TRACK

The City of Clemson is seeking proposals for design and construction of a year round “beginner” pump track. Services may include the following task:

1. **Design layout** for the asphalt pump track within the specified area of Clemson Park along with a “flow line” lead-in connecting to the existing concrete trail. The pump track must:
 - a. Have a smooth 4” asphalt (HMA), with a compacted stone base, riding surface of at least 6’ wide;
 - b. Fit within the perimeter specified in Exhibit #1;
 - c. Include features to help riders gain confidence and control while riding;
 - d. Be suitable for as broad range of ages and abilities as reasonably feasible; and,
 - e. The layout should work with existing contours.
2. **Design a drainage** plan that will tie into the existing catch basin shown in Exhibit #1;
 - a. After any rain event the pump track should not have standing water within the boundary of the track;
 - b. The drainage should help transfer as much water towards the level spreader as possible; and,
 - c. The Pump track team will work with the City Engineer for area drain and pipe sizing.
3. **Construction** of the approved layout out of materials, the cost should include, but are not limited too:
 - a. Permitting cost;
 - b. Man hours for pump track and drainage installation, to include 16 ft drainage swell within existing concrete path specified in Exhibit #1;
 - c. Man and Machine hours;
 - d. Overhead & Profit;
 - e. Materials (dirt, fill, gravel, asphalt, Seed & Straw etc);
 - f. Erosion control;
 - g. Final Grading and stabilization to Parkland City Spec, Exhibit #2;
 - h. Installation of 10 trees provided by City Horticulturist and to their specifications;
 - i. 30” wood post and wire perimeter fencing specified as detail in Exhibit #1;
 - j. Stabilization to include 4’ of sod perimeter around pump track and inside the “fast track”; and,
 - k. Construction Safety.
4. **Options** for stabilization of the side of the pump track slopes, these options should account for:
 - a. Maintenance considerations;
 - b. Cost; and,
 - c. Material availability.

Proposals will be accepted until 2:00 PM Thursday Sep 23, 2021 at the Clemson City Hall located at 1250 Tiger Blvd, Suite 5, Clemson SC 29631

Proposals should be visibly marked “Clemson Park Pump Track RFP” and sent to the attention of Nathan Hinkle, City Engineer

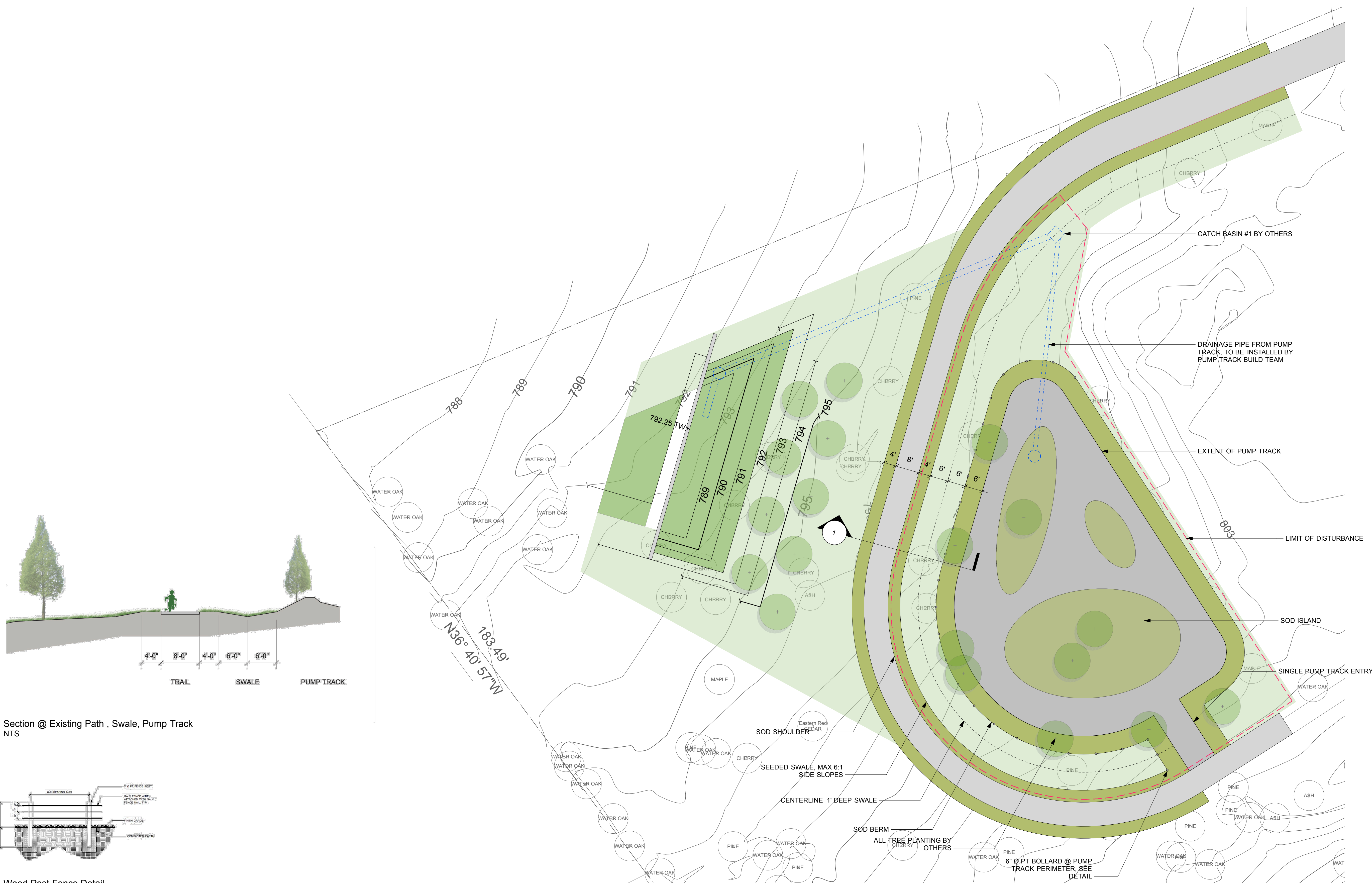
A complete proposal should contain the following:

- Resumes for key personnel;
- List of each sub consultant proposed for the project, their services and percentage of contract to be performed by each;
- Cost for Tasks #1-3:
 - Design Layout;
 - Drainage design; and,
 - Construction Cost.
- Options and cost for Task #4 should be provided separately from Task #1-3;
- 3 references demonstrating work on similar projects;
- Description of your current workload and your ability to perform all work in a timely manner;
- Provide a statement of your project approach not to exceed two (2) pages. Confirm the firm’s proposed technical approach, innovative ideas for this type of project, and any other relevant information concerning you firms qualifications;
- 4 hard copies of the proposal, 1 PDF

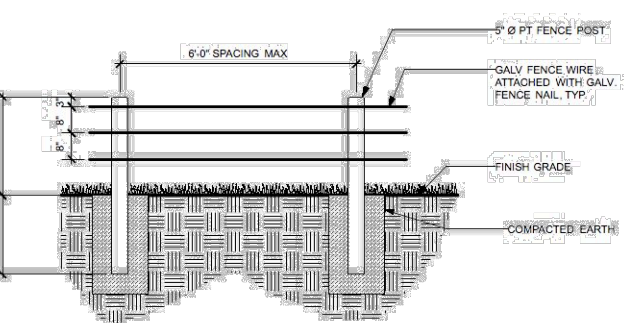
Additional information can be obtained by contacting Nathan Hinkle 864-624-1126 or nhinkle@cityofclemson.org

The City of Clemson, by way of the RFP, does not commit itself to award a contract or pay any costs incurred in the preparation of a proposal. The City of Clemson further reserves the right to accept or reject any or all proposals received or to cancel the entire RFP process.

EXHIBIT #1



1 Section @ Existing Path , Swale, Pump Track
NTS



2 Wood Post Fence Detail
NTS

LEGEND

PROPERTY LINE	---
EXISTING CONTOUR MAJOR	----
EXISTING CONTOUR MINOR	-----
PROPOSED CONTOUR MAJOR	—
PROPOSED CONTOUR MINOR	- - -
SOD SHOULDER	[Light Green Box]
SEEDED SWALE	[Lighter Green Box]
WET MEADOW PLANTING	[Medium Green Box]
WOODLAND PLANTING BED	[Dark Green Box]

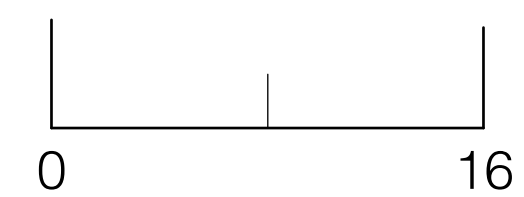
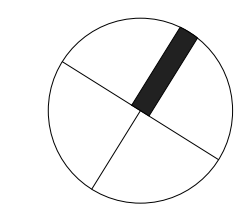


EXHIBIT #2

SECTION #####

OPEN SPACE FINAL STABILIZATION SPECIFICATION

PART 1 - GENERAL

1) **RELATED DOCUMENTS:**

Drawings and general provisions of the contract, including open space final stabilization preparation apply to this section.

2) **SUMMARY:**

This section includes the following:

- a) Soil Materials,
- b) Acceptable seed species and/or mixes,
- c) Final Grade Requirements,
- d) Soil Amendments,
- e) Seed Bed Preparation,
- f) Seeding,
- g) Sodding,
- h) Watering requirements,
- i) Acceptance of Final Stabilization for Close-out, and
- j) Final Payment.

3) **DEFINITIONS:**

A) The following definitions are applicable to the terms used in this section only:

- a) **Final Grade:** Finish grade of soil for all disturbed areas within the project
- b) **Seed Bed:** The first six (6) inches of soil and material below and including the soil surface.
- c) **Soil Amendments:** Additives to the seedbed to enhance quality/fertility including but not limited too:
 - i) Topsoil, compost, granular fertilizer, lime, and Biological Growth Stimulants (BGS).
- d) **Sod:** Sections/pieces/rolls of established turf or grasses at least one (1) inch thick, that have been adequately harvested by appropriate measures and are in good health/condition prior to being laid for stabilization.
- e) **Topsoil:** Natural or cultivated surface-soil layer containing any of the following properties:
 - i) organic matter and sand, silt, and clay particles
 - ii) friable, pervious and black or a darker shade of brown, gray or red then underlying subsoil

- iii) reasonably free of subsoil, clay lumps, gravel, and other objects more than two (2) inches in diameter
- iv) free of subsoil and weeds, roots, toxic materials, or other non-soil materials
- f) Unacceptable Seedbed Material: Any material found to be unacceptable on top or within the seedbed including but not limited to:
 - i) Construction debris,
 - ii) Rock/stone greater than two (2) inches in any dimension,
 - iii) Soil clumps greater than three (3) inches in any dimension,
 - iv) Unapproved vegetation or vegetative material,
 - v) Unapproved soil additives, and
 - vi) Woody material greater than two and one-half (2 ½) inches in diameter.

5) SUBMITTALS:

Photographs or videotape, sufficiently detailed or existing conditions of trees and plantings, adjoining construction and site improvements that might be misconstrued as damage caused by site clearing must be taken by the Contractor and submitted to the City, before work can commence.

6) QUALITY ASSURANCE:

Conform to requirements of all authorities having jurisdiction. Note: Where conflicts exist between the requirements of the contract documents and those of authorities having jurisdiction, the higher quality or more restrictive requirement shall apply.

PART 2 - PRODUCTS

1) SOIL MATERIALS:

- A) Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP and SM, AASHTO M145 Soil Classification Groups A-1, A-2-4, A-2-5 and A-3 or a combination of of these groups. Free from rock or gravel larger than two (2) inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious materials. Note: Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

2) ACCEPTABLE SEEDS AND/OR MIXES:

- A) Use seed that conforms to all state laws and all requirements and regulations of the South Carolina Department of Agriculture (SCDA). Seeds containing species designated by the State Crop Pest Commission as a plant pest (i.e., noxious weeds) are not permitted. Use seed that is individually packaged or bagged and tagged. Each tag must clearly state:
 - a) Net weight
 - b) Botanical name

- c) Common name
 - d) Variety
 - e) Grower name
 - f) Grower lot number
 - g) Percent purity
 - h) Percent germination
 - i) Percent other crop seed
 - j) Percent inert matter
 - k) Percent weed seed (if weed seed is present, provide a list of species by botanical name)
 - l) Origin
- B) The City reserves the right to test, reject, or approve all seed before seeding. Mixtures of different types of seed called for in the seeding schedule will be weighed and mixed in the proper proportions on-site in the presence of the City Engineer or a member of the City Engineer's staff.
- C) Seeding Schedule:
- a) Unless otherwise provided, select seed from Table 1 (Permanent Cover (Perennials)).
 - b) If the seed listed in the tables is not available, the Contractor may select the most practicable alternative seed available as a substitute. The Contractor must submit data to the City Engineer showing that the substitute seed is appropriate for the specific application.
 - c) Select a minimum of two (2) seed types from Table 1 for all permanent cover based on the specific application and the availability of the seed.
 - d) If the Common Name of the seed listed in Table 1 is not available, use seed with the listed Botanical Name.

TABLE 1: PERMANENT COVER (PERENNIALS)														
COMMON NAME	BOTANICAL NAME	RATE (lbs/ac)	Planting Dates*											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
TURF-TYPE GRASSES														
Common Bermudagrass (Hulled) ¹	Cynodon dactylon	50				■	■	■	■	■				
Common Bermudagrass (Unhulled) ¹	Cynodon dactylon	60	■	■	■						■	■	■	■
Centipedegrass	Eremochloa ophiuroides	10			■	■	■	■	■					
Tall Fescue (KY-31) ²	Festuca arundinacea	75	■	■	■	■					■	■	■	■
Perennial Rye Grass ³	Lolium perrene	15	■	■	■	■				■	■	■	■	■
* Months shaded in gray represent applicable planting date														
¹ Common Bermudagrass: Do NOT use Giant Bermudagrass (NK-37), Hulled = Hull Absent, Unhulled = Hull Present														
² Tall Fescue (KY-31): Do NOT use Tall Fescue (Lolium arundinacea)														
³ Perennial Rye Grass: Do NOT use Annual Italian Rye Grass (Lolium multiforum)														

PART 3 - EXECUTION

- 1) FINAL GRADE REQUIREMENTS:
 - A) All final grading activities should meet the following requirements:
 - a) Have positive drainage to City storm drainage systems,
 - b) Have a minimum of two (2) percent and a maximum of twenty-five (25) percent slope (unless otherwise approved on plans),
 - c) Have the seedbed prepared following the procedure outlined below, and
 - d) Not contain any of the unacceptable seedbed material defined above.
 - B) Any sections of the project that develop soil rills during the stabilization process and before close-out is issued, must be graded out and the stabilization process must be restarted.
 - C) The City reserves the right to inspect all final grading activities before final stabilization measures are implemented. The inspection will be performed by the City Engineer or a member of the City Engineer's staff.

2) SOIL AMENDMENTS:

A) Compost:

- a) For seedbeds that have little or no topsoil, the Contractor may furnish and place certified weed free compost on the seedbed or mix compost with the seedbed in order to ensure a good stand of grass. Refer to the current SCDOT Compost Specification (SC-M-815-3) for description, materials, and construction requirements. As directed by the City Engineer, provide compost when seedbeds are excessively nutrient deficient to the extent of requiring costly fertilizer additions and or have excessively low pH values (5.0 or lower) to the extent of requiring costly lime additions.

B) Granular Fertilizer:

- a) Use granular fertilizer that complies with state fertilizer laws. In a mixed fertilizer such as 10-10-10, the first number represents the minimum percent of nitrogen required, the second number represents the minimum percent of available phosphoric acid required, and the third number represents the minimum percent of water soluble potash required in the fertilizer.
- b) Use fertilizer that has a package slip clearly stating the percentage of nitrogen, percentage of phosphoric acid, and percentage of potash along with the weight (pounds) of nitrogen, weight (pounds) of phosphoric acid, and weight (pounds) of potash. Animal by-product or municipal waste fertilizers are not acceptable under this Specification.
- c) A soil analysis is required prior to agricultural granular fertilizer applications. The soil analysis determines the need and rate of fertilizer applications for the specific vegetation species.
 - i) This soil analysis must be submitted to the Clemson University Agricultural Service Lab or an approved equal, for analysis.
 - ii) The Contractor must submit a copy of the results to the City of Clemson before seeding and follow the recommendations for fertilizer application to the site.
- d) Following advance preparation and placing selected material for shoulders and slopes when called for in the Contract, uniformly spread fertilizer over the designated areas. Adequately scarify all slopes subject to slides and inaccessible to power equipment. Fertilizer may be applied by approved mechanical spreaders or by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drills, no further incorporation is necessary. Apply the fertilizer and seed together when hydraulic methods of seeding are used.
- e) Apply all fertilizer at a rate that is within $\pm 10\%$ of the weight recommendation of the soil analysis. Apply fertilizer that is within ± 2 percentage points of the percentage recommendation of nitrogen, percentage of phosphoric acid, and percentage of potash from the soil analysis. The Contractor may combine fertilizers of different compositions to meet the composition requirements of the soil analysis.

C) Lime:

- a) Use solid agricultural granular lime for all permanent cover applications that are agricultural grade, standard ground limestone conforming to the current Rules, Regulations, and Standards of the Fertilizer Board of Control. These rules, regulations, and standards are promulgated and issued by the Fertilizer Board of Control at Clemson University in accordance with Section 16 of the South Carolina Liming Materials Act.
 - b) Ensure that each bag has affixed in a conspicuous manner a tag or label, or in the case of bulk sales, a delivery slip showing brand or trade name, calcium carbonate equivalent, percent by weight passing prescribed U. S. Standard Sieves, and other pertinent information to identify lime as being agricultural grade, standard ground limestone.
 - c) A soil analysis is required prior to agricultural granular lime applications. The soil analysis determines the need and rate of granular lime application for a given application area. Based on the results of the soil analysis, furnish granular lime to provide a long term pH adjustment.
 - d) Following advance preparation and placing selected material for shoulders and slopes when called for in the Contract, uniformly spread lime over the designated areas and thoroughly mix with the soil to a depth of approximately two (2) inches. Mixing is not required when spreading lime with hydraulic methods.
 - e) Adequately scarify all slopes subject to slides and inaccessible to power equipment. Lime may be applied by approved mechanical spreaders or by hydraulic methods as a mixture of lime and seed. Apply all agricultural granular lime at a rate that is within $\pm 10\%$ of the weight recommendation of the soil analysis.
- D) Liquid Fertilizer/Lime:
- a) The use of liquid fertilizer and/or lime is prohibited and should not be used as a soil amendment product or technique.
- E) Biological Growth Stimulants (BGS):
- a) Provide biological growth stimulants for all permanent cover and temporary cover by seeding applications. Use biological growth stimulants that provide an immediate seedbed adjustment to help stimulate seed germination, improve the availability of nutrients to the plant, increase the number and depth of root development, and generate robust plant growth that is more tolerant of changes in environmental conditions.
 - b) Use biological growth stimulants that:
 - i) Contain natural components that encourage nutrient uptake, nitrogen metabolism, and carbohydrates storage,
 - ii) Improve fertilizer utilization in the soil by increasing the enzymatic and microbial nutrient conversion activity,
 - iii) Improve photosynthetic production resulting in greater root mass and improved disease resistance,
 - iv) Contain components to improve nutrient and water uptake by the plant,

- v) Contain plant growth hormones which act as a stimulant to improve vegetative growth and intake of micronutrients and can reduce damage from disease and insect infestation, and
- vi) Contain components that increase biological activity in the soil to improve stress tolerance/drought resistance, reduces sodium uptake in sandy soils, provides more phosphorus availability, and increases cation exchange capacity resulting in earlier germination and better root establishment.
- vii) Provide biological growth stimulants that contain compounds such as: Humic acid (humates), Humectants, Cold water processed seaweed/kelp extract, Beneficial microbes, Cytokinins, Gibberellins, and Auxins (growth hormones).
- viii) Animal by-products or municipal waste products are not acceptable biological growth stimulants under this specification.
- ix) Provide Biological Growth Stimulants that have no germination or growth inhibiting factors and do not form a water-resistant crust that can inhibit plant growth.
- x) Furnish biological growth stimulants where all components are pre-packaged by the manufacturer to assure material performance and compliance with the minimum requirements in Table 2.

Table 2: Minimum Biological Growth Stimulant Requirements		
BGS Property	Test Method	Required Value
Physical		
Acute Toxicity	ASTM 7101	Non Toxic
	EPA Method 2021 or EPA Method 2002	
Performance		
Seed Germination	ASTM D7322 ¹	200% minimum
Plant Mass	ASTM D7322 ¹	110% minimum
¹ ASTM test methods developed for Rolled Erosion Control Products (RECPs) that have been modified for comparison to control between 14 and 21 days		

3) SEED BED PREPARATION:

- A) Ensure that the areas to be seeded are uniform and conform to the finished grade and cross-section shown on the Plans or as otherwise directed by the City Engineer. Perform minor shaping and evening of uneven and rough areas outside of graded sections as directed by the City Engineer in order to provide for more effective erosion control and for ease of subsequent mowing operations.
- B) Loosen the seedbed (including cut slopes) to a minimum depth of three (3) inches before compost, agricultural lime, fertilizer, or seed is applied. An acceptable method of preparing the seedbed on slopes is vertically tracking the seedbed up and down the slope with proper equipment.

- C) Remove stones larger than two (2) inches in any dimension, large clods, roots, or other debris brought to the surface. Use compost as directed by the City Engineer for shoulders and slopes if good seedbed material is not located on site.
 - a) The unacceptable seedbed material may be removed by any manual or mechanical method, subject to approval by the City Engineer or staff.
 - b) It has been found that the RockHound Landscape Rake does a sufficient job of removing the unacceptable seedbed material and it or any other equivalent equal is approved for use.
- D) Prepare and submit a seeding plan utilizing the seeding schedule to the City Engineer for all temporary cover by seeding and permanent cover applications. The City Engineer will approve all seeding plans before temporary cover by seeding and permanent cover applications are initiated.

4) SEEDING:

- A) Perform seeding work during the periods and at the rates specified in the seeding tables of this Specification.
- B) Do not conduct seeding work when the ground is frozen or excessively wet.
- C) Do not conduct seeding work when the ground is excessively dry (periods of drought) unless watering is specified in the Contract.
- D) During periods of adverse conditions, temporary stabilization by mulch may be used according to this Specification.
- E) Do not attempt to seed or establish vegetation around existing tree roots. Other stabilization techniques will be required in these areas and are subject to approval by the City Engineer or members of their staff.
- F) The approved methods of seeding include but are not limited to:
 - a) Broadcast seeding,
 - b) Drilling, or
 - c) Hydroseeding.

5) SODDING:

- A) Laying sod is an approved method for final stabilization. All sod and sodding activities must meet the following requirements to be approved for use:
 - a) All sod pieces/rolls must be a minimum of one (1) inch thick and a maximum of three (3) inches thick,
 - b) All sod pieces/rolls must be in good health and condition and be inspected by the City Engineer, City Horticulturist, or members of their staff; before being installed.
 - c) All sod pieces/rolls must be a **Bermudagrass and/or Zoysia Grass** species/cultivar approved by the City Engineer, City Horticulturist, or a member of their staff **before** purchase,
 - d) All sod seams are minimal in width and sanded to fill the any gap in the seam, and
 - e) All sod pieces/rolls are subject to the watering requirements below and must receive a minimum of one (1) inch of water per week; either by rainfall or by receiving supplemental watering, until root establishment has occurred.

B) The City reserves the right to inspect all sod and sodding activities before, during, or after it is implemented. The inspection will be performed by the City Engineer, City Horticulturist, or members of their staff.

6) WATERING REQUIREMENTS:

A) Watering for vegetation consists of applying water to seeded areas to enhance germination and applying water to germinated areas to enhance root growth. When directed by the Engineer, use watering for vegetation to establish a stand of cover. When watering, follow the following guidelines:

a) Immediately after seeding and/or sodding:

- i) Keep the soil moist but not excessively wet until the seed has germinated or root establishment for sod.
- ii) Water a minimum of three (3) days a week for two (2) weeks preferably watering two (2) or three (3) times a day in small quantities.
- iii) Use fine spray and low pressure to avoid soil wash and to prevent uncovering buried seeds.

b) After emergence:

- i) Apply one (1) inch of water per irrigation event. (Note: 1-acre-inch = 27,154 gallons. This is the volume of water necessary to cover one (1) acre one (1) inch deep.)
- ii) During summer, water two (2) to three (3) days per week.
- iii) During winter, water once every ten (10) to fourteen (14) days.
- iv) If rainfall occurs, suspend watering according to rainfall amount.
- v) Never apply at a rate faster than can be absorbed by the soil.
- vi) When applicable, water during early morning hours or early evening hours.
- vii) Do not water when rain is forecasted for the area.

7) ACCEPTANCE OF FINAL STABILIZATION FOR CLOSE-OUT:

A) Before acceptance of permanent cover, the Contractor will be required to produce a uniform perennial vegetative cover with a density of 70% of each square yard of the seeded/sodded area. A well developed root system must be established to sufficiently survive dry periods and winter weather and be capable of reestablishment in the spring. Using the seed specified in the seeding tables, the Contractor will create a seeding plan and determine all rates of application necessary to produce the required stand of grass and follow the application procedures as specified herein.

B) This percentage of vegetative cover will be determined by the City Engineer or a member of the City Engineer's staff using methods including but not limited to:

- a) Visual estimation,
- b) Quadrat technique(s), and/or
- c) The use of imagery; both aerial and non-aerial, and technology to determine percent vegetative coverage.

8) FINAL PAYMENT:

- A) Final payment to the Contractor will be made upon completion of the previous items and others required by these specifications. A final statement shall be forwarded to the Engineer. The statement shall address:
 - a) Previous change orders.
 - b) Unit prices.
 - c) Deductions for liquidated damages.
 - d) Adjusted contract sum.
 - e) Previous payments.
 - f) Amount Due.
- B) When required, the Engineer will prepare a contract change order for adjustments not previously made.
- C) The payment for this specification shall be based on an all inclusive price per acre (ac) basis except for sodding.
- D) Sod shall be based on a price per square foot, when used.

APPENDIX A:

END OF SECTION