LOWER SAUCON TOWNSHIP
STEEL CITY PARK – LANDSCAPING BID ADDENDUM

ADDENDUM #1

REVISIONS MADE TO "EXHIBIT C"

8. **Modified Rain Garden Seed Mix - 0.16 Acres – See attached specifications**

9. **Infield Soil Mix – 45 CY +/- See attached specifications**

10. **Sod (infield) – 2,760 SF – See attached specifications**

11. **Installation of Warning Track Soil Mix – 38 CY +/- See attached specifications**

12. **Outfield seeded areas – use Pennington Seed Athletic Field Mixture or approved equal, 22,900 SF – See attached specifications**

ALSO SEE NEW DIAGRAM PAGES MARKED "ADDENDUM #1"
DISCARD PREVIOUS DIAGRAMS

Ernst Conservation Seeds Inc

9006 Mercer Pike
Meadville PA 16335-9299
Phone (814) 336-2404; (800) 873-3321; Fax (814) 336-5191
www.ernstseed.com
sales@ernstseed.com

Bill To:
BJ Engineers

Quote	107015
Date	8/21/2012
Page	1

Phone
Fax
E-mail

RAIN GARDEN SEED SPEC

Customer ID	Shipping Method	Payment Terms	Quote Expires	Sales Rep ID
ERNST		NRI	9/20/2012	

Quantity	U/M	Item Number	Description	Unit Price	Extension
0	Each	MODIFIED RAIN GARDEN			
0.24000	lb	CHALAT01	River Oats, PA/VA Ecotype blend	[redacted]	
0.20000	lb	SCHSCO01	Little Bluestem, 'Camper'		
0.10000	lb	CARVUL01	Fox Sedge, PA Ecotype		
0.04000	lb	ECHPUR01	Purple Coneflower		
0.03000	lb	PENDIG02	Tall White Beardtongue		
0.04000	lb	RUDHIR04	Blackeyed Susan		
0.03000	lb	TRAOHI01	Ohio Spiderwort, PA Ecotype		
0.03000	lb	ASTPRE01	Zigzag Aster, PA Ecotype		
0.05000	lb	EUPCOE01	Mistflower, VA Ecotype		
0.04000	lb	SENHEB01	Wild Senna, VA & WV Ecotype		
0.04000	lb	ZIZAUR02	Golden Alexanders		
0.03000	lb	SOLJUN01	Early Goldenrod, PA Ecotype		
0.05000	lb	CORTIN01	Plains Coreopsis		
0.05000	lb	GAIARI01	Perennial Gaillardia (Blanketflower)		
0.02000	lb	OENSPE01	Showy Evening Primrose		
0.01000	lb	PYCTEN01	Slender Mountainmint		
0	Each	PRICE	[redacted]		

Subtotal	[redacted]
Trade Discount	
Shipping & Handling	
Custom Mix Charge	
Tax	
Total US $	

PRICES QUOTED ARE FIRM FOR 30 DAYS AND ARE F.O.B. MEADVILLE.
ITEMS QUOTED ARE SUBJECT TO AVAILABILITY AT TIME OF DELIVERY.
RETURNS OF INDIVIDUAL ITEMS AND ERNST MIXES ARE SUBJECT TO 10% RESTOCKING FEE AND MUST BE MADE WITHIN 30 DAYS OF INVOICE DATE. NO RETURNS ON CUSTOM MIXES.
THERE IS A 25% RESTOCKING FEE ON CANCELLED OR RETURNED BIOENGINEERING ORDERS.

seeded over this uneven, absorbent surface.

Seeding and Planting Methods

Seeding and planting should begin immediately upon completion of the structure when the soil is still friable and before invasive weeds emerge. Plan seeding and planting before the basin is flooded, or allow the basin to drain to a few inches before seeding. Broadcast seed evenly over each unit by hand seeding or hydroseeding. Seeding rates are generally low (1/2 lb per 1,000 sq ft). The use of a seed filler; i.e., PAM-12, can be used to create a mix of 10 lb per 1,000 sq ft (i.e., 9-1/2 lb of PAM-12 mixed with 1/2 lb of seed), which can be broadcast evenly over the area. Barley, oats, or rye can provide temporary vegetation to protect the soil in storm water management facilities until permanent vegetation can be established. The use of native species; i.e., Virginia Wild Rye, can create an intermediate vegetative cover that succeeds to native long-term vegetation. Straw mulch or straw coconut mats are frequently used to control erosion and protect emerging seedlings from extreme temperatures and drying out. Mulch should be sparse to allow sunlight to reach the ground.

Transplanted seedlings and shrubs need temporary water until they become well rooted. Irrigation of seeded areas is of value until seedlings become established.

General Maintenance

In addition to structural maintenance, siltation needs to be removed as needed. Plants need to be trimmed back to maintain aesthetic value and invasive species need to be controlled. Close mowing or extensive chemical use is not conducive to water quality improvement and wildlife habitat.

1 Basin Basics, "Dig and Drop - Not Rock & Roll", New Jersey Natural Resources Conservation Program, Ocean County Soil Conservation District (www.ocscd.org).

Website: http://www.ernstseed.com/

TECHNICAL SPECIFICATIONS

Section 0810 – INFIELD DIRT MIX

I. DESCRIPTION:

This work shall consist of the installation of the infield mix for the Baseball Field.

II. MATERIAL:

Infield mix shall be "Original Diamond Tex" by Martin Limestone, Inc. (or approved equal).

III. CONSTRUCTION:

Infield mix shall be installed to a finished depth of 4". Infield mix shall be tamped or rolled to a level finished grade.

Section 0830 – WARNING TRACK MIX

I. DESCRIPTION:

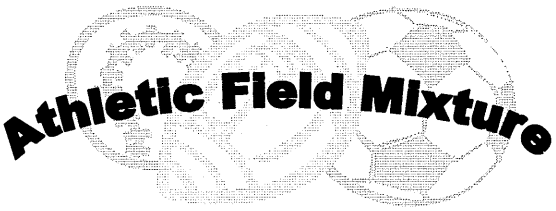
This work shall consist of the installation of the warning track mix for the Baseball Field.

II. MATERIAL:

Warning track mix shall be "Diamond Tex" by Martin Limestone, Inc. (or approved equal).

III. CONSTRUCTION:

Warning Track mix shall be installed to a finished depth of 4". Track mix shall be tamped or rolled to a level finished grade.



PENNINGTON SEED

*The **Athletic Field Mixture** is the economical seed mixture for use on general purpose athletic fields, high use parks, and for home lawns. The mixture of Turf Type Tall Fescue, Perennial Ryegrass, and Kentucky Bluegrass is quick to establish and provide a durable playing surface. The **Athletic Field Mixture** will tolerate extended periods of high temperatures with remarkable color retention.*

Characteristics of the mixture:

- Outstanding performance under low fertility and poor soil conditions.
- Improved resistance to Brown Patch, Dollar Spot, and Leaf Spot.
- Persistence under high heat & drought conditions.
- Good frost tolerance and winter hardiness.

Recommended Use:

Parks, Athletic Fields, Golf Courses (Roughs), and Home Lawns

Climatic Zones:

3, 5, 6, 7, 8 (may not be adaptable to all areas within each climatic zone)

Establishment & Maintenance:

Cover seed to a depth not exceeding 1/4 inch (6.35 mm) and keep seedlings moist until well rooted. The first mowing can be expected after 30 days, or when the grass blades reach a length of 3 inches (76.2 mm), mow back to 2 inches (50.8 mm) until turf is established. Limited use of the area can be expected in 4 to 6 weeks depending on climatic conditions.

Seeding Rate:

- Athletic Fields/Parks & Home Lawns 6 lbs/1000 sq ft (2.7 kgs/100 sq meters)

[redacted] [redacted]

1.8 DELIVERY, STORAGE, AND HANDLING

A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.

B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

C. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk materials with appropriate certificates.

1.9 FIELD CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.

1. Spring Planting: APRIL 1 - JUNE 15
2. Fall Planting: SEPTEMBER 15 - NOVEMBER 1

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species:

1. Quality: State-certified seed of grass species as listed below for solar exposure.
2. Quality: Seed of grass species as listed below for solar exposure, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5percent weed seed:
3. Full Sun: Bermudagrass (Cynodon dactylon).
4. Full Sun: Kentucky bluegrass (Poa pratensis), a minimum of three cultivars.
5. Sun and Partial Shade: Proportioned by weight as follows:

a. 50 percent Kentucky bluegrass (Poa pratensis).
b. 30 percent chewings red fescue (Festuca rubra variety).

[redacted]

c. 10 percent perennial ryegrass (Lolium perenne).
d. 10 percent redtop (Agrostis alba).

6. Shade: Proportioned by weight as follows:

a. 50 percent chewings red fescue (Festuca rubra variety).
b. 35 percent rough bluegrass (Poa trivialis).
c. 15 percent redtop (Agrostis alba).

[redacted]

2.2 TURFGRASS SOD

A. Turfgrass Sod: Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

B. Turfgrass Species: Bermudagrass (Cynodon dactylon), Carpetgrass (Axonopus affinis), Centipedegrass (Eremochloa ophiuroides), St. Augustinegrass (Stenotaphrum secundatum), Zoysiagrass (Zoysia japonica), Zoysiagrass (Zoysia matrella).

C. Turfgrass Species: Sod of grass species as follows, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5 percent weed seed:

1. Full Sun: Kentucky bluegrass (Poa pratensis), a minimum of three cultivars.
2. Sun and Partial Shade: Proportioned by weight as follows:

a. 50 percent Kentucky bluegrass (Poa pratensis).
b. 30 percent chewings red fescue (Festuca rubra variety).
c. 10 percent perennial ryegrass (Lolium perenne).
d. 10 percent redtop (Agrostis alba).

3. Shade: Proportioned by weight as follows:

a. 50 percent chewings red fescue (Festuca rubra variety).
b. 35 percent rough bluegrass (Poa trivialis).
c. 15 percent redtop (Agrostis alba).

2.3 PLUGS

A. Plugs: Turfgrass sod, Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is cut into square or round plugs, strongly rooted, and capable of vigorous growth and development when planted, of the following turfgrass species and plug size:

1. Turfgrass Species: Bermudagrass (Cynodon dactylon), Carpetgrass (Axonopus affinis), Centipedegrass (Eremochloa ophiuroides), St. Augustinegrass (Stenotaphrum secundatum), Zoysiagrass (Zoysia japonica), Zoysiagrass (Zoysia matrella).
2. Plug Size: 2 inches, 3 inches or 4 inches.

2.4 SPRIGS

A. Sod Sprigs: Healthy living stems, rhizomes, or stolons with a minimum of two nodes and attached roots free of soil, of the following turfgrass species:

1. Turfgrass Species: Bermudagrass (Cynodon dactylon), Carpetgrass (Axonopus affinis), Centipedegrass (Eremochloa ophiuroides), St. Augustinegrass (Stenotaphrum secundatum), Zoysiagrass (Zoysia japonica), Zoysiagrass (Zoysia matrella).
2. Turfgrass Species: Creeping bentgrass (Agrostis palustris).

2.5 MEADOW GRASSES AND WILDFLOWERS

A. Wildflower Seed: Fresh, clean, and dry new seed, of mixed species as follows:

1. See plans.

B. Native-Grass Seed: Fresh, clean, and dry new seed, of mixed species as follows:

1. See plans.

C. Wildflower and Native-Grass Seed: Fresh, clean, and dry new seed, of mixed species as follows:

1. See plans.

D. Seed Carrier: Inert material, sharp clean sand or perlite.

2.6 FERTILIZERS

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

D. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.

E. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.5 PREPARATION FOR GRASS-PAVING MATERIALS

A. Reduce subgrade elevation soil to allow for thickness of grass-paving system. Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade so that installed paving is within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions.

B. Install base course and sand course and sandy loam soil mix, proprietary growing mix, or soil for paving fill as recommended by paving-material manufacturer for site conditions and according to details indicated on Drawings. Compact according to paving-material manufacturer's written instructions.

C. Install paving mat and fasten according to paving-material manufacturer's written instructions.

D. Before planting, fill cells of paving mat with planting soil, sandy loam soil mix, proprietary growing mix, or sand half full and compact according to manufacturer's written instructions.

E. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.6 SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.

1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
2. Do not use wet seed or seed that is moldy or otherwise damaged.
3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Sow seed at a total rate of 2 lb/1000 sq. ft., 3 to 4 lb/1000 sq. ft., or 5 to 8 lb/1000 sq. ft.

C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets and 1:6 with erosion-control fiber mesh installed and stapled according to manufacturer's written instructions.

E. Protect seeded areas with erosion-control mats where indicated on Drawings; install and anchor according to manufacturer's written instructions.

F. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.

1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

2. Bond straw mulch by spraying with asphalt emulsion at a rate of 10 to 13 gal./1000 sq. ft. Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.

G. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch, peat mulch, or planting soil within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch, and roll surface smooth.

3.7 HYDROSEEDING

A. Hydroseeding: Mix specified seed, commercial fertilizer or slow-release fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.

1. Mix slurry with nonasphaltic, asphalt-emulsion, or fiber-mulch manufacturer's recommended tackifier.
2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.
3. Spray-apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry coat at a rate so that mulch component is deposited at not less than 500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate. Apply slurry cover coat of fiber mulch (hydromulching) at a rate of 1000 lb/acre .

3.8 SODDING

A. Lay sod within 24 hours of harvesting unless a suitable preservation method is accepted by Architect prior to delivery time. Do not lay sod if dormant or if ground is frozen or muddy.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Lay sod across slopes exceeding 1:3.
2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.

C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.9 PLUGGING

A. Plant plugs in holes or furrows, spaced 12 inches or 18 inches apart in both directions or triangular pattern. On slopes, contour furrows to near level.

[redacted]

[redacted]

3.12 TURF MAINTENANCE

A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

1. Mow bentgrass to a height of 1/2 inch or less.
2. Mow bermudagrass to a height of 1/2 to 1 inch.
3. Mow carpetgrass, centipedegrass, perennial ryegrass, and zoysiagrass to a height of 1 to 2 inches.
4. Mow Kentucky bluegrass, buffalograss, annual ryegrass, chewings red fescue to a height of 1-1/2 to 2 inches).
5. Mow bahiagrass, turf-type tall fescue, St. Augustinegrass to a height of 2 to 3 inches.

D. Turf Postfertilization: Apply slow-release fertilizer after initial mowing and when grass is dry.

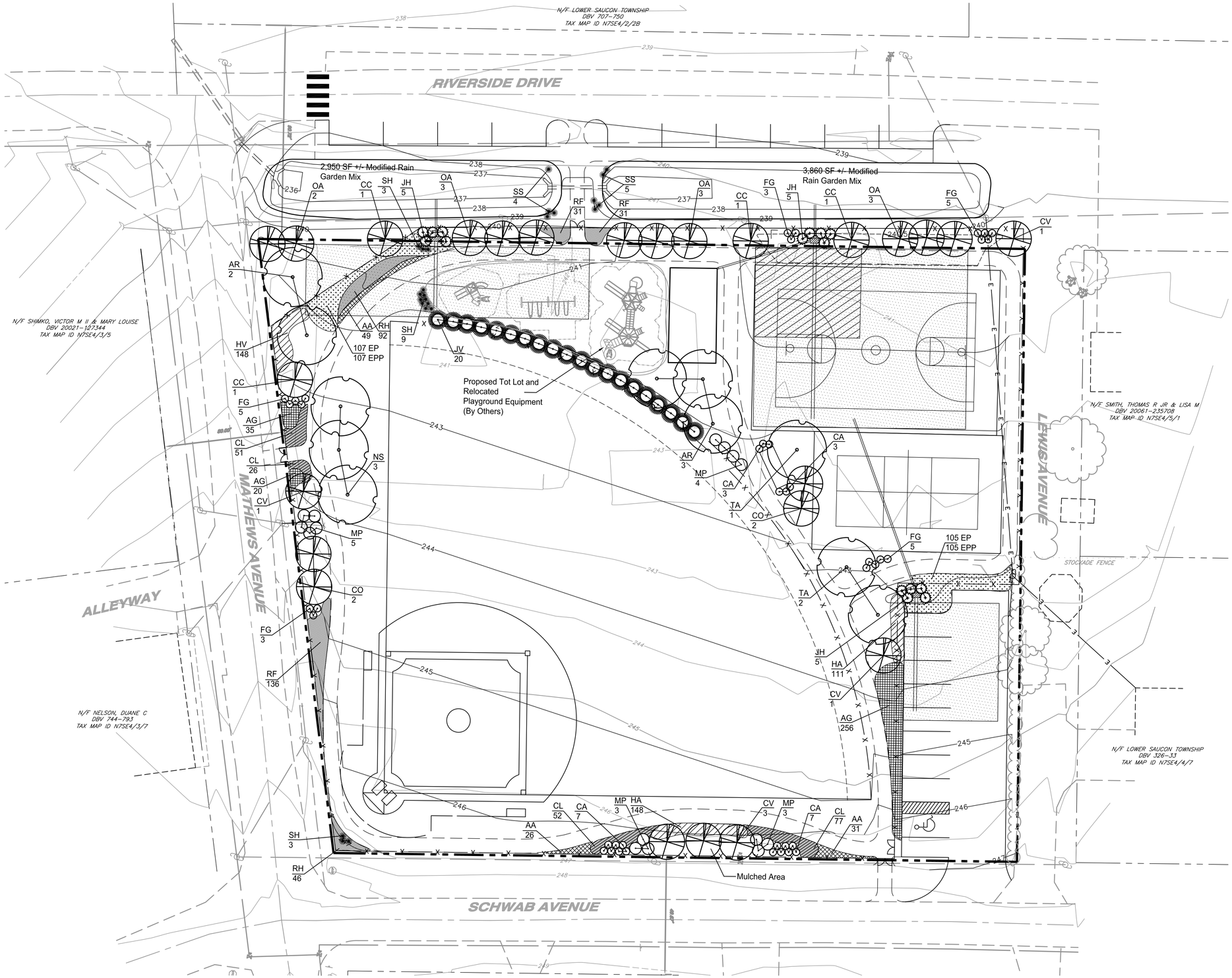
1. Use fertilizer that provides actual nitrogen of at least 1 lb/1000 sq. ft. to turf area.

3.13 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Architect:

1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
3. Satisfactory Plugged Turf: At end of maintenance period, the required number of plugs has been established as well-rooted, viable patches of grass, and areas between plugs are free of weeds and other undesirable vegetation.

ADDENDUM #1



REVISIONS :

DATE	DESCRIPTION	DATE	DESCRIPTION

PROJECT :
Steel City Park
Lower Saucon Township
Northampton County

APPLICANT :
Lower Saucon Township
3700 Old Philadelphia Pike
Bethlehem, PA 18015

JOB NO.: 0895013
DRAWN BY: VLL
CHECKED BY: JSG
SCALE: 1" = 20'
PLAN STATUS: Final

TITLE : LANDSCAPE PLAN

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN ◆ STROUDSBURG ◆ LEHIGH VALLEY
CORPORATE HEADQUARTERS: 1456 FERRY RD, BUILDING 500, DOYLESTOWN, PA. 18901
VOICE: (215) 345-9400 FAX: (215) 345-9401
www.bjengineers.com

PROJECT NAME : Steel City Park

SHEET 1 OF 2

DATE: October 2, 2012

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ADDENDUM #1

PLANTING STANDARDS

1. INDUSTRY STANDARDS
 1.1. ALL PLANT NAMES AND DESCRIPTIONS SHALL BE AS DEFINED IN THE LATEST EDITION OF "HORTUS THIRD" BY THE STAFF OF THE L.H. BAILEY HORTORIUM, 1976.
 1.2. ALL PLANT MATERIAL SHALL MEET SIZING, GRADING, QUALITY AND OTHER STANDARDS SPECIFIED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION IN THE "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1–2004 OR LATEST EDITION.
 1.3. INSTALLATION AND PLANT CARE OPERATIONS FOR TREES, SHRUBS AND OTHER WOODY PLANTS SHALL CONFORM TO THE STANDARDS SPECIFIED BY THE TREE CARE INDUSTRY ASSOCIATION IN THE LATEST EDITION OF "AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS" ANSI A300, AND THE LATEST EDITIONS OF THE ASSOCIATED "BEST MANAGEMENT PRACTICES" GUIDES AS PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE.
 1.4. WHERE THE PRUNING, REPAIRING, MAINTAINING, OR REMOVAL OF TREES, THE CUTTING OF BRUSH, OR PERFORMING OF PEST AND SOIL MANAGEMENT IS REQUIRED, OPERATIONS SHALL CONFORM TO THE STANDARDS SPECIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE IN THE "AMERICAN NATIONAL STANDARD FOR ARBORICULTURAL OPERATIONS – SAFETY REQUIREMENTS" ANSI Z133.1–2006 OR LATEST EDITION.

2. QUALITY
 2.1. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, SHALL BE OF SYMMETRICAL GROWTH AND SUITABLE FOR THE INTENDED USE; THEY SHALL HAVE NORMAL, WELL DEVELOPED BRANCHES AND VIGOROUS FIBROUS ROOT SYSTEMS AND SHALL BE FREE OF MECHANICAL DAMAGE AND INSECT AND DISEASE PROBLEMS.
 2.2. ALL PLANTS SHALL BE NURSERY GROWN UNLESS OTHERWISE STATED; THEY SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATE AND SOIL CONDITIONS AS THE SUBJECT SITE FOR AT LEAST TWO (2) YEARS PRIOR TO DATE OF PLANTING. UNLESS APPROVED BY THE OWNER OR THEIR REPRESENTATIVE, PLANTS SHALL HAVE BEEN GROWN IN A LATITUDE NOT MORE THAN 200 MILES NORTH OR SOUTH OF THE PROJECT SITE. IN THE EVENT THE PROVENANCE OF THE PLANT CAN BE DOCUMENTED TO BE COMPATIBLE WITH THE LATITUDE AND COLD HARDINESS ZONE OF THE PLANTING LOCATION.
 2.3. ALL CONTAINER GROWN NURSERY STOCK SHALL BE HEALTHY, VIGOROUS, WELL ROOTED, AND ESTABLISHED IN THE CONTAINER IN WHICH IT IS GROWING. CONTAINER GROWN NURSERY STOCK SHALL HAVE A WELL–ESTABLISHED ROOT SYSTEM REACHING THE SIDES OF THE CONTAINER TO MAINTAIN A FIRM BALL WHEN THE CONTAINER IS REMOVED, BUT SHALL NOT HAVE EXCESSIVE ROOT GROWTH ENCIRCLING THE INSIDE OF THE CONTAINER.
 2.4. B&B TREES SHALL HAVE A MINIMUM OF TWO (2) STRUCTURAL ROOTS WITHIN ONE (1) TO THREE (3) INCHES OF THE SOIL SURFACE OF THE ROOT BALL AS MEASURED FOUR (4) INCHES FROM THE TRUNK. WHERE EXCESS SOIL IS LOCATED OVERTOP OF THE STRUCTURAL ROOTS, THE EXCESS SOIL SHALL BE REMOVED SO THAT THE BOTTOM OF THE TRUNK FLARE IS VISIBLE. WHERE THE REMOVAL OF EXCESS SOIL OVERTOP OF THE STRUCTURAL ROOTS RESULTS IN AN UNDERSIZED ROOT BALL ACCORDING TO THE STANDARDS OF THE "AMERICAN STANDARD FOR NURSERY STOCK", THE TREE SHALL BE REJECTED.
 2.5. TREES MUST ARRIVE AT THE SITE IN EXCELLENT CONDITION. TREES WITH MULTIPLE LEADERS, UNLESS SPECIFIED, SHALL BE REJECTED. TREES WITH DAMAGED OR CROOKED LEADERS, BARK ABRASIONS, SUNSCALD, DISFIGURING KNOTS, INSECT DAMAGE, OR CUTS OF LIMBS OVER ¾ INCH IN DIAMETER THAT ARE NOT COMPLETELY CLOSED SHALL BE REJECTED. B&B TREES WITH BROKEN OR UNDERSIZED ROOT BALLS, TREES WITH EXCESSIVE CIRCLING ROOTS OR WITH GIRDLING ROOTS, TREES WITH INJURY FROM ROUGH TREATMENT, AND TREES THAT HAVE BEEN DROUGHT STRESSED SHALL BE REJECTED.
 2.6. ALL PLANTS WHICH ARE FOUND UNSUITABLE IN GROWTH OR CONDITION OR WHICH ARE NOT TRUE TO NAME SHALL BE REJECTED.
 2.7. A WRITTEN REQUEST FOR INSPECTION OF PLANT MATERIAL AT THE PLACE OF GROWTH MAY BE SUBMITTED TO THE TOWNSHIP AT LEAST TEN (10) CALENDAR DAYS PRIOR TO DIGGING. THE REQUEST SHALL STATE THE PLACE OF GROWTH AND QUANTITY OF PLANTS TO BE INSPECTED. INSPECTION MAY BE REFUSED IF INSUFFICIENT QUANTITIES OF PLANTS ARE AVAILABLE FOR INSPECTION.
 2.8. PLANTS MAY BE SUBJECT TO INSPECTION FOR CONFORMITY TO SPECIFICATIONS AND APPROVAL BY THE TOWNSHIP LANDSCAPE ARCHITECT UPON DELIVERY TO THE SITE. SUCH APPROVAL SHALL NOT CONFER FINAL APPROVAL AND DOES NOT SIGNIFY THAT THE PLANT MATERIAL IS ACCEPTABLE TO BEGIN THE GUARANTEE PERIOD.

3. MEASUREMENTS
 3.1. CALIPER OF NURSERY STOCK TREES SHALL BE MEASURED AT A POINT SIX (6) INCHES ABOVE THE GROUND IF THE RESULTING MEASUREMENT IS NO MORE THAN FOUR (4) INCHES. IF THE RESULTING MEASUREMENT IS MORE THAN FOUR (4) INCHES, THE MEASUREMENT SHALL BE MADE AT A POINT TWELVE (12) INCHES ABOVE THE GROUND IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK."
 3.2. EXISTING TREES SHALL BE MEASURED AT DBH OR AS SPECIFIED IN "SIMPLIFIED GUIDE TO MEASURING DBH" AS PROVIDED IN "GUIDELINES FOR DEVELOPING AND EVALUATING TREE ORDINANCES" PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE, OCTOBER 31, 2001 OR MOST RECENT EDITION.
 3.3. PLANTS SHALL BE MEASURED AS THEY STAND IN THEIR NATURAL POSITION. HEIGHT MEASUREMENT SHALL BE TAKEN FROM THE GROUND LEVEL FOR FIELD GROWN STOCK AND FROM THE SOIL LINE FOR CONTAINER GROWN STOCK, AT OR NEAR THE BOTTOM OF THE TRUNK FLARE. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO THE MAIN BODY OF THE PLANT AND NOT FROM BRANCH TIP TO BRANCH TIP.
 3.4. STOCK FURNISHED SHALL MEET ALL MINIMUM SIZE REQUIREMENTS INDICATED. STOCK SHALL BE A FAIR AVERAGE OF ANY SIZE RANGE INDICATED. PLANTS THAT MEET MEASUREMENTS BUT DO NOT POSSESS A STANDARD RELATIONSHIP BETWEEN HEIGHT AND SPREAD, IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK," SHALL BE REJECTED. WHERE GRADING OR MEASUREMENT STANDARDS IN THE "AMERICAN STANDARD FOR NURSERY STOCK" CONFLICT WITH THOSE IN THIS PLAN, THE MORE RIGOROUS MEASUREMENT SHALL APPLY.
 3.5. THE USE OF DIAMETER TAPE FOR THE MEASUREMENT OF CALIPER SIZES IS PREFERRED. CALIPER MEASUREMENTS TAKEN WITH MANUAL OR ELECTRONIC 'SLOT' OR 'PINCER' TYPE CALIPER TOOLS SHALL BE THE AVERAGE OF THE SMALLEST AND LARGEST MEASUREMENTS.

4. SUBSTITUTIONS
 4.1. ANY PROPOSED PLANT SUBSTITUTIONS SHALL BE SUBMITTED TO THE TOWNSHIP FOR APPROVAL PRIOR TO INSTALLATION OF THE PLANT MATERIAL. IF A SUBSTITUTION IS MADE WITHOUT RECEIVING PRIOR APPROVAL FROM THE TOWNSHIP, THE SUBSTITUTED PLANTS SHALL NOT BE ACCEPTED AND SHALL BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE APPROVED PLAN SET.
 4.2. WHEN CHANGES FROM THE LANDSCAPE PLANS AND SPECIFICATIONS BECOME NECESSARY (OTHER THAN FOR MINOR PLANT RELOCATIONS DUE TO UTILITY OR OTHER STRUCTURE CONFLICTS) DURING THE LANDSCAPE INSTALLATION, WRITTEN ACCEPTANCE BY THE TOWNSHIP, UPON ADVICE OF THE TOWNSHIP LANDSCAPE ARCHITECT, SHALL BE SECURED BEFORE THE EXECUTION OF SUCH CHANGES. CHANGES MADE WITHOUT RECEIVING PRIOR WRITTEN ACCEPTANCE FROM THE TOWNSHIP SHALL NOT BE ACCEPTED AND SHALL BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE APPROVED PLAN SET.

5. GUARANTEE
 5.1. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR EIGHTEEN (18) MONTHS FROM THE DATE OF ACCEPTANCE BY THE TOWNSHIP LANDSCAPE ARCHITECT. THE PLANTS ARE TO BE ALIVE AND IN SATISFACTORY GROWING CONDITION AS DETERMINED BY THE TOWNSHIP.
 5.2. ANY PLANT MATERIAL TWENTY–FIVE PERCENT (25%) OR MORE OF WHICH IS DEAD SHALL BE CONSIDERED DEAD. AN EXCURRENT FORM TREE SHALL BE CONSIDERED TO BE DEAD WHEN THE LEADER HAS DIED OR WHEN TWENTY–FIVE PERCENT (25%) OF THE CROWN IS DEAD. A DECURRENT FORM TREE SHALL BE CONSIDERED TO BE DEAD WHEN 25% OF THE CROWN IS DEAD. ALL DEAD PLANT MATERIAL SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH THESE PLANS DURING THE NORMAL PLANTING PERIOD.
 5.3. PLANT MATERIAL WHICH IS IN POOR HEALTH OR IS IN AN UNACCEPTABLE CONDITION SHALL BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE PLAN SET UNLESS IT CAN BE DEMONSTRATED THAT THE UNACCEPTABLE CONDITION WAS CAUSED BY ONE OF THE FOLLOWING:
  5.3.1. VANDALISM
  5.3.2. DAMAGE BY THE TOWNSHIP OR PADOT CREW OR CONTRACTORS.
  5.3.3. DAMAGE BY DEER WHERE IT CAN BE DEMONSTRATED THAT PROTECTION MEASURES WERE PROPERLY INSTALLED AND MAINTAINED. IT IS RECOMMENDED THAT DOCUMENTATION OF THE INSTALLATION, APPLICATION AND MAINTENANCE OF THESE MEASURES BE KEPT.
 5.4. REPLACEMENT SHALL BE MADE ACCORDING TO THESE SAME SPECIFICATIONS AND DURING THE NORMAL PLANTING PERIOD.
 5.5. THE CONTRACTOR SHALL CONTACT THE TOWNSHIP IN WRITING TO REQUEST A FINAL INSPECTION FOR ACCEPTANCE AT THE END OF THE GUARANTEE PERIOD. THESE INSPECTIONS WILL BE PERFORMED WHEN PLANT MATERIALS ARE IN FULL LEAF ONLY (MAY 1 THROUGH NOVEMBER 15). THE GUARANTEE WILL BE EXTENDED UNTIL 30 DAYS AFTER RECEIPT OF THE REQUEST LETTER FOLLOWING MAY 1. SHOULD THE END OF THE GUARANTEE PERIOD OCCUR AFTER NOVEMBER 15, THE GUARANTEE PERIOD SHALL BE EXTENDED TO MAY 15.

PLANTING AND MAINTENANCE SPECIFICATIONS

1. PREPARATION OF PLANTS
 1.1. ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE SHALL BE TAKEN IN PREPARING PLANTS FOR MOVING.
 1.2. B&B TREES SHALL BE PROPERLY DUG WITH FIRM, NATURAL BALLS OF SOIL RETAINING AS MANY FIBROUS ROOTS AS POSSIBLE, AND SHALL BE DUG TO MEET OR EXCEED THE "AMERICAN STANDARD FOR NURSERY STOCK." BALLS SHALL BE FIRMLY WRAPPED WITH NATURAL BURLAP AND SECURED WITH HEAVY, NONSYNTHETIC, ROTTABLE TWINE. THE TRUNK FLARE SHALL BE APPARENT AT THE SURFACE OF THE BALL.
 1.3. ANTI–DESICCANTS, IF SPECIFIED, ARE TO BE APPLIED TO PLANTS IN FULL LEAF IMMEDIATELY BEFORE DIGGING. ANTI–DESSICANTS ARE TO BE SPRAYED SO THAT ALL LEAVES AND BRANCHES ARE COVERED WITH A CONTINUOUS PROTECTIVE FILM.
 1.4. ALL FLAGGING MATERIALS USED TO MARK TREES OR OTHER PLANTS SHALL BE COMPLETELY BIODEGRADABLE. ALL TWINE, PLASTIC, OR OTHER MATERIALS ATTACHED TO PLANTS SHALL BE REMOVED UPON PLANTING. NO PLANT MATERIAL THAT BECOMES GIRDLED DUE TO TWINE OR OTHER EXTRANEOUS FLAGGING OR SUPPORT MATERIALS SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE PLANTS IN ACCORDANCE WITH THESE PLANS.

2. SOIL EXCAVATIONS
 2.1. PLANT MATERIAL SHALL NOT BE INSTALLED UNTIL FINISHED GRADING HAS BEEN COMPLETED.
 2.2. THE FINAL DEPTH OF THE PLANTING HOLE SHALL BE DETERMINED BY THE DEPTH AND FIRMNESS OF THE ROOT BALL AND OTHER CHARACTERISTICS OF THE SITE AND THE PLANTING HOLE SHALL NOT EXCEED THE DEPTH OF THE ROOT BALL.
 2.3. THE DEPTH OF THE ROOT BALL SHALL BE MEASURED FROM THE BOTTOM OF THE TRUNK FLARE TO THE BOTTOM OF THE BALL.
 2.4. THE SOIL DIRECTLY BENEATH THE ROOT BALL SHALL BE UNDISTURBED OR PREPARED IN SUCH A WAY AS TO PREVENT SETTLING.
 2.5. THE TOP DIAMETER OF THE PLANTING HOLE SHALL BE A MINIMUM OF ONE AND ONE HALF (1.5) TIMES THE DIAMETER OF THE ROOT BALL. WHERE SOILS ON THE SITE ARE HIGHLY COMPACTED, THE DIAMETER OF THE TOP OF THE PLANTING HOLE SHALL BE A MINIMUM OF TWO (2) TIMES THE DIAMETER OF THE ROOT BALL.
 2.6. THE SIDES OF THE PLANTING HOLE SHALL BE SLOPED AT A 45 DEGREE ANGLE AND SCARIFIED.
 2.7. ON STEEP SLOPES, THE DEPTH OF THE EXCAVATION SHALL BE MEASURED AT THE CENTER OF THE PLANT HOLE.

3. PLANTING
 3.1. TREES AND SHRUBS SHALL BE ORIENTED TO THE SAME GENERAL COMPASS DIRECTION AS THEY WERE IN THE NURSERY. THE NORTH SIDE OF TREES SHALL BE MARKED IN THE NURSERY, AND THE TREE SHALL BE ROTATED TO FACE NORTH AT THE SITE WHENEVER POSSIBLE.
 3.2. PLANTS SHALL BE LIFTED ONLY FROM THE BOTTOM OF THE ROOT BALLS OR WITH BELTS OR LIFTING HARNESSES OF SUFFICIENT WIDTH NOT TO DAMAGE THE ROOT BALLS. TREES SHALL NOT BE LIFTED BY THEIR TRUNKS AND TRUNKS SHALL NOT BE USED AS A LEVER IN POSITIONING OR MOVING THE TREES.
 3.3. THE BOTTOM OF THE TRUNK FLARE SHALL BE AT OR SLIGHTLY ABOVE THE FINISHED GRADE. TREES AND SHRUBS PLANTED WITH THE TRUNK FLARE BELOW FINISHED GRADE SHALL BE REMOVED FROM THE PLANTING HOLE AND THE BOTTOM OF THE HOLE SHALL BE BACKFILLED WITH NATIVE SOIL MATERIAL SO THAT THE TREE SITS AT THE CORRECT HEIGHT. BACKFILLED MATERIAL SHALL BE PREPARED SO AS TO PREVENT SETTLING.
 3.4. IN AREAS OF SLOWLY DRAINING SOILS, THE ROOT BALL MAY BE SET UP TO THREE (3) INCHES OR ⅛ THE DEPTH OF THE ROOT BALL ABOVE THE ADJACENT SOIL LEVEL.
 3.5. REMOVE PLASTIC, PAPER, OR FIBER POTS FROM CONTAINERIZED PLANT MATERIAL. PULL ROOTS OUT OF THE ROOT MAT, AND CUT CIRCLING ROOTS WITH A SHARP KNIFE. LOOSEN THE POTTING MEDIUM AND SHAKE AWAY FROM THE ROOT MAT. IMMEDIATELY AFTER REMOVING THE CONTAINER, INSTALL THE PLANT SO THAT THE ROOTS DO NOT DRY OUT.
 3.6. ALL ROOT BALL SUPPORTING MATERIALS SHALL BE REMOVED FROM THE TOP ONE–THIRD OF THE ROOT BALL AND REMOVED FROM THE TREE PIT PRIOR TO BACKFILLING. NATURAL BURLAP AND BIODEGRADABLE MATERIALS SHALL BE PERMITTED TO REMAIN ON THE BOTTOM TWO–THIRDS OF THE ROOT BALL AS SUPPORTING MATERIAL. SYNTHETIC (PLASTIC) BURLAP AND TWINE SHALL NOT BE ACCEPTABLE. WIRE BASKETS SHALL BE CUT OFF EIGHT (8) TO TEN (10) INCHES BELOW THE SHOULDER OF THE ROOT BALL PRIOR TO BACKFILLING.
 3.7. BACKFILL SHALL CONSIST OF NATIVE SOIL MATERIAL OR APPROVED SOIL MIX SIMILAR TO THE SOIL AT THE PLANTING SITE. BACKFILL SHALL BE FREE OF STONES, LUMPS OF CLAY GREATER THAN TWO (2) INCHES IN DIAMETER, ROOTS AND ANY OTHER EXTRANEOUS MATERIAL. PEAT MOSS SHALL NOT BE USED IN ORDER TO PREVENT THE CREATION OF A HYDROPHOBIC CONDITION. THE TOP OF THE ROOT BALL SHALL NOT BE COVERED WITH SOIL. INFORMATION REGARDING ANY PROPOSED SOIL AMENDMENTS SHALL BE SUBMITTED TO THE TOWNSHIP FOR APPROVAL PRIOR TO INSTALLATION.
 3.8. TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT THE ROOT BALL DOES NOT SHIFT. BACKFILL SHALL BE INSTALLED, SETTLED AND WATERED IN LAYERED SECTIONS TO LIMIT FUTURE SETTLING AND TO PREVENT AIR POCKETS.
 3.9. BACKFILL SHALL NOT BE COMPACTED TO A DENSITY THAT INHIBITS ROOT GROWTH.
 3.10. ALL PLANTS SHALL BE WATERED THOROUGHLY AT THE TIME OF PLANTING.
 3.11. ANY CIRCLING ROOTS SHALL BE LOOSENED AND SPREAD OUT OR CUT IF NECESSARY.

4. PRUNING
 4.1. PRUNING OF TREES SHALL CONFORM TO THE STANDARDS SPECIFIED BY THE TREE CARE INDUSTRY ASSOCIATION IN THE LATEST EDITION OF "AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS" ANSI A300 (PART 1) – 2008 PRUNING OR LATEST EDITION.
 4.2. WOUND TREATMENTS SHALL NOT BE USED TO COVER WOUNDS OR PRUNING CUTS, EXCEPT WHEN NECESSARY FOR DISEASE, INSECT, MISTLETOE, OR SPROUT CONTROL.
 4.3. NOT MORE THAN 25% OF THE FOLIAGE OF A TREE SHALL BE REMOVED WITHIN AN ANNUAL GROWING SEASON. THE PERCENTAGE AND DISTRIBUTION OF FOLIAGE TO BE REMOVED SHALL BE ADJUSTED ACCORDING TO THE PLANT'S SPECIES, AGE, HEALTH, AND SITE CONDITIONS.
 4.4. TOPPING AND LION'S TAILING SHALL BE CONSIDERED UNACCEPTABLE PRUNING PRACTICES. TREES WHICH HAVE BEEN PRUNED ACCORDING TO THESE METHODS SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH LANDSCAPE PLAN.
 4.5. PRUNING OF TREES AT THE TIME OF PLANTING SHALL BE LIMITED TO THE REMOVAL OF DEAD, DAMAGED, OR CONFLICTING BRANCHES, SUCKER GROWTH OR WATER SPROUTS, OR TO MEET LIMB HEIGHT REQUIREMENTS.

5. MULCHING
 5.1. ALL PLANTS, WITH THE EXCEPTION OF SEEDED AREAS AND HERBACEOUS PLANT DRIFTS WITHIN STORMWATER MANAGEMENT AREAS, SHALL BE MULCHED WITHIN THREE (3) DAYS OF PLANTING WITH SHREDDED HARDWOOD MULCH.
 5.2. MULCH SHALL BE APPLIED NEAR, BUT SHALL NOT TOUCH, THE TRUNK OF THE TREE OR SHRUB AND SHALL BE APPLIED TO A MINIMUM 3' DIAMETER AREA OR TO THE PERIMETER OF THE PLANTING HOLE, WHICHEVER IS GREATER. THE TRUNK FLARES OF TREES SHALL REMAIN VISIBLE AFTER THE APPLICATION OF MULCH. 'VOLCANO MULCHING' OR THE USE OF AN EXCESSIVE AMOUNT OF MULCH IN A CONE AROUND THE TRUNK OF A TREE SHALL NOT BE PERMITTED.
 5.3. ORGANIC SHREDDED HARDWOOD MULCH SHALL BE APPLIED TO ALL PLANTS AT A MINIMUM DEPTH OF TWO (2) INCHES UPON SETTLING BUT IN NO INSTANCE SHALL THE MULCH DEPTH EXCEED FOUR (4) INCHES. FOR GROUNDCOVER PLANTS, THE MAXIMUM DEPTH SHALL BE ONE (1) INCH UPON SETTLING. A TEMPORARY SAUCER AT THE EDGE OF THE PLANTING HOLE SHALL BE CREATED TO ASSIST WITH THE RETENTION OF MOISTURE.

4. MAINTENANCE
 4.1. PLANT MATERIAL SHALL BE PROPERLY MAINTAINED BY THE CONTRACTOR AFTER PLANTING AND UNTIL THE END OF THE GUARANTEE PERIOD. THIS MAINTENANCE SHALL INCLUDE WATERING, REPLACEMENT OF DEAD PLANT MATERIAL, CONTROL OF INSECTS AND DISEASE, REPAIR OF MECHANICAL INJURY, REMOVAL OF DEAD BRANCHES, THE REMOVAL OF SUPPORT SYSTEMS AFTER THE FIRST GROWING SEASON, AND REMOVAL OF ANY TREE WRAP AND TREE GUARDS OR OTHER MATERIALS PRIOR TO THE END OF THE GUARANTEE PERIOD.
 4.2. IRRIGATOR BAGS SHALL NOT BE PERMITTED TO REMAIN ON TREES WHEN DORMANT (NOVEMBER 15TH THROUGH MAY 1ST.) TREES THAT ARE DAMAGED BY RODENTS OR INSECTS AS A RESULT OF IRRIGATOR BAGS BEING LEFT ON TREES THROUGH THE WINTER SHALL BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE LANDSCAPE PLAN.

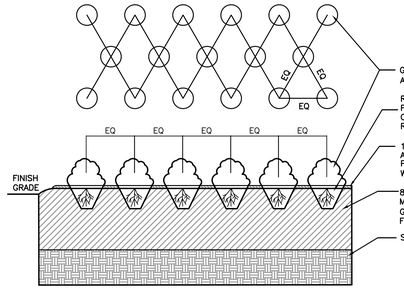
5. REMOVAL OF ALL PLANTING DEBRIS
 REMOVAL OF DEBRIS IS REQUIRED. THE PROPERTY MUST BE LEFT IN A NEAT AND ORDERLY CONDITION IN ACCORDANCE WITH GOOD AND ACCEPTED PLANTING PRACTICES.

SUPPORT SYSTEMS AND PLANT PROTECTION

1. TREE STABILIZATION
 1.1. STAKING OR STABILIZATION OF TREES SHALL ONLY BE PERMITTED IN THE EVENT THAT THE SITE CONDITIONS OR CONDITIONS OF THE TREE ARE SUCH THAT THE TREE IS ANTICIPATED TO BE UNSTABLE. WHERE IT IS DETERMINED DURING THE COURSE OF THE LANDSCAPE INSTALLATION THAT TREE STABILIZATION MAY BE NEEDED, A REQUEST SHALL BE SUBMITTED IN WRITING TO THE TOWNSHIP STATING THE SPECIES AND LOCATION OF EACH TREE TO BE STABILIZED, THE REASON WHY STABILIZATION IS REQUESTED, AND THE STABILIZATION METHODS TO BE EMPLOYED. APPROVAL MUST BE OBTAINED FROM THE TOWNSHIP FOR THE STABILIZATION OF ANY TREE WHERE NO PROPOSED STABILIZATION METHOD WAS PREVIOUSLY INDICATED ON THE LANDSCAPE PLAN. IN NO INSTANCE SHALL STABILIZATION METHODS BE USED TO COMPENSATE FOR IMPROPERLY DUG OR POOR QUALITY PLANT MATERIAL.
 1.2. TREES SHALL BE STAKED THE SAME DAY AS PLANTING. TWO (2) HARDWOOD STAKES OF A MAXIMUM OF SIX (6) FEET IN HEIGHT AND NOT LESS THAN TWO (2) INCHES IN SMALLEST DIAMETER SHALL BE INSTALLED ON OPPOSITE SIDES OF THE TREE ON THE OUTSIDE OF THE ROOT BALL. STAKES SHALL BE DRIVEN INTO THE GROUND TO A MINIMUM DEPTH OF TWELVE (12) INCHES BELOW THE BOTTOM OF THE PLANTING HOLE EXCAVATION. THIS SHALL BE DONE BEFORE SETTING THE TREE OR, IF AFTER SETTING IN SUCH A MANNER AS NOT TO INJURE THE ROOTS. THE TOP OF THE STAKES SHALL STAND AT ABOUT WAIST HEIGHT TO ALLOW MOVEMENT OF THE TOP OF THE TREE.
 1.3. THE TREE SHALL BE SECURED TO THE TWO STAKES WITH TWO SEPARATE WEBBED ARBOR TIES OR OTHER APPROVED FLEXIBLE TIES LOCATED NO HIGHER THAN ONE–THIRD (⅓) OF THE OVERALL HEIGHT OF THE TREE. TIE MATERIAL SHALL BE WIDE, SMOOTH, NONABRASIVE, AND FLEXIBLE. TIES SHALL BE LOOPED AROUND THE TRUNK WITH LARGE ENOUGH LOOPS TO ALLOW FOR TRUNK GROWTH. THE LOOPS SHALL BE SECURED BY USE OF AN OVERHAND SLIPKNOT PULLED AGAINST A SECOND OVERHAND KNOT TIED ON THE LINE, KEEPING THE LOOP DIAMETER AT LEAST SIX (6) TO EIGHT (8) INCHES LARGER THAN THE TRUNK DIAMETER. EACH TIE SHALL THEN BE SECURED TO THE STAKE SO AS TO BRACE THE TRUNK SNUGLY, BUT NOT SO TIGHTLY THAT THE TRUNK CANNOT BEND AND FLEX. EACH TIE SHALL BE MARKED WITH BRIGHTLY COLORED FLAGGING FOR SAFETY PURPOSES.
 1.4. THE USE OF WIRE WITH RUBBER HOSE, PLASTIC CHAIN, OR OTHER NON–FLEXIBLE TIES SHALL BE PROHIBITED.
 1.5. IF SUPPORT SYSTEMS ARE REQUIRED FOR TREES GREATER THAN FOUR (4) INCHES DBH, SUPPORT SYSTEMS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARDS SPECIFIED BY THE TREE CARE INDUSTRY ASSOCIATION IN THE LATEST EDITION OF "AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS" ANSI A300 (PART 3) – 2006 SUPPLEMENTAL SUPPORT SYSTEMS OR LATEST EDITION.
 1.6. STAKES AND STRAPS BROKEN (BUT NOT DELIBERATELY BROKEN THROUGH VANDALISM) PRIOR TO THE END OF THE FIRST GROWING SEASON SHALL BE REPLACED.
 1.7. ALL STAKES AND STRAPS SHALL BE REMOVED AT THE END OF THE FIRST GROWING SEASON. ANY TREES THAT BECOME GIRDLED OR DAMAGED OR DEVELOP OTHER ISSUES AS A RESULT OF THE IMPROPER USE, INSTALLATION OR MAINTENANCE OF TREE SUPPORT SYSTEMS SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH THESE PLANS.

NOTES :

PLANTS MUST BE PLANTED IN BEDDING MIX OR TOPSOIL NOT MULCH.
SPACE PLANTS ON CENTER AS INDICATED IN NURSERY STOCK SCHEDULE.



TYPICAL PERENNIAL PLANTING DETAIL

NOT TO SCALE

NURSERY STOCK PLANTING SCHEDULES

SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT BALL	REMARKS
			CANOPY TREES					
	5	AR	*Acer rubrum*	Red Maple	2 1/2" cal	12–16'	28" dia.	B&B
	3	NS	*Nyssa sylvatica*	Black Gum	2 1/2" cal	12–16'	28" dia.	B&B
	3	TA	*Tilia americana*	American Linden	2 1/2" cal	12–16'	28" dia.	B&B

SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT BALL	REMARKS
			UNDERSTORY TREES					
	4	CC	*Cercis canadensis*	Eastern Redbud	1 1/4" cal	10–12'	18" dia.	B&B
	6	CV	*Chionanthus virginicus*	White Fringetree	1 1/4" cal*	10–12'	18" dia.	B&B
	4	CO	*Cotinus obovatus*	American Smoketree	1 1/4" cal*	10–12'	18" dia.	B&B
	11	OA	*Oxydendrum arboreum*	Sourwood	1 1/4" cal	10–12'	18" dia.	B&B
*No Multi–Stemmed Trees Permitted								

SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	SPREAD	HEIGHT	REMARKS
			EVERGREEN TREES				
	20	JV	*Juniperus virginiana 'Cupressifolia'*	Hillspire Juniper	4–5' min	8–10'	B&B, Single Leader, Symmetrically branched to the ground.

SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	HEIGHT	ROOT BALL	REMARKS
			DECIDUOUS SHRUBS				
	20	CA	*Ceanothus americanus*	New Jersey Tea	30" min	B&B 12" dia.	Min. 5 canes 30" ht.
	21	FG	*Fothergilla gardenii*	Dwarf Fothergilla	30" min	B&B 12" dia.	Min. 5 canes 30" ht.
	15	MP	*Myrica pensylvanica*	Northern Bayberry	30" min	B&B 12" dia.	Min. 5 canes 30" ht.

SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	HEIGHT	SPREAD	REMARKS
			EVERGREEN SHRUBS				
	15	JH	*Juniperus horizontalis 'Hegedus'*	Good Vibrations Juniper	12" min.	24" min.	B&B min. 16" dia.

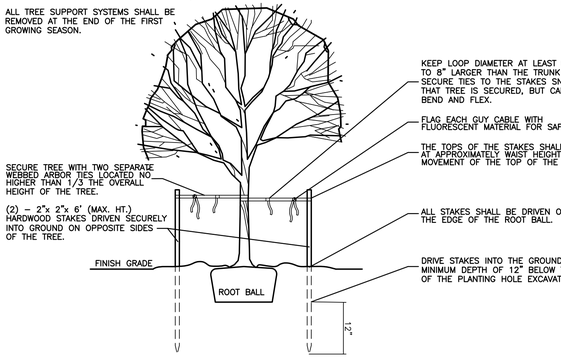
SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
			GRASSES			
	9	SS	*Schizachyrium scoparium*	Little Bluestem	#1 cont.	18" o.c.
	15	SH	*Sporobolus heterolepsis*	Prairie Dropseed	#1 cont.	18" o.c.

SYMBOL	QUANT.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
			PERENNIALS			
	311	AG	*Agastache rupestris*	Rock Anise Hyssop	Trays of 32	18" o.c.
	106	AA	*Aster azureus*	Sky Blue Aster	Trays of 32	18" o.c.
	206	CL	*Coreopsis lanceolata*	Lanceleaf Coreopsis	Trays of 32	18" o.c.
	212	EP	*Echinacea paradoxa*	Yellow Coneflower	Trays of 32	18" o.c.
	212	EPP	*Echinacea purpurea*	Eastern Purple Coneflower	Trays of 32	18" o.c.
	259	HA	*Heuchera americana var. Interior*	American Alum Root	Trays of 32	15" o.c.
	148	HV	*Heuchera villosa var. Atropurpurea*	Maple Leaved Alum Root	Trays of 32	15" o.c.
	198	RF	*Rudbeckia fulgida*	Orange Coneflower	Trays of 32	18" o.c.
	138	RH	*Rudbeckia hirta*	Black–Eyed Susan	Trays of 32	18" o.c.

NOTES:
TREE STAKING SHALL ONLY BE INSTALLED WHERE APPROVED BY LOWER SAUCON TOWNSHIP.
WHERE STAKING IS APPROVED, STAKE TREES THE SAME DAY AS PLANTING.

TIE MATERIAL SHALL BE WIDE, SMOOTH, NONABRASIVE AND FLEXIBLE. THE USE OF WIRE WITH RUBBER HOSE, PLASTIC CHAIN, OR OTHER NON–FLEXIBLE TIES SHALL BE PROHIBITED.

WHERE SUPPORT SYSTEMS ARE REQUIRED FOR TREES GREATER THAN 4" DBH, SUPPORT SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARDS SPECIFIED IN ANSI A300 (PART 3) – 2006 SUPPLEMENTAL SUPPORT SYSTEMS, OR LATEST EDITION.


ALL TREE SU