Project Manual

Al Pearlman Sports Complex

Philadelphia, Pennsylvania

April 3, 2023

Client:

Rebuild – City of Philadelphia

1400 JFK Blvd

Philadelphia, PA 19107

Engineer:

David Mason + Associates

123 S Broad St, Ste 1130

Philadelphia, PA 19109

TABLE OF CONTENTS

SPECIFICATIONS GROUP

DIVISION 26 Outline Specifications – ELECTRICAL

Al Pearlman Sports Complex

SECTION 265668 - EXTERIOR ATHELTIC LIGHTING

PART 1 – GENERAL

1.1 PERFORMANCE REQUIREMENTS

A. Lighting design: If not supplied by the City, the lighting design shall be provided by the Contractor and the selected lighting manufacturer. Light poles and foundations shall be designed for applicable code requirements for wind loading and weight. Light pole foundations designs shall be prepared by a qualified structural engineer licensed as Professional Engineer in the Commonwealth of Pennsylvania.

B. Facility Type: Recreational or social facility.

C. Illuminance Calculations: Computer-analyzed point method for grid pattern dimensions and glare control.

D. Electric Power: Dependent on service provided. Multi-voltage drivers or ballasts are preferred.

E. Baseball Fields:
1. IESNA RP-6, Class of Play: I.
2. Speed of Sport: Slow.
3. Grid Pattern Dimensions: 30 by 30 feet.

F. Softball Fields:
1. IESNA RP-6, Class of Play: I.
2. Speed of Sport: Slow.
3. Grid Pattern Dimensions: 20 by 20 feet.

G. Football Fields:
1. IESNA RP-6, Class of Play: I.
2. Speed of Sport: Slow.
3. Grid Pattern Dimensions: 30 by 30 feet.

H. Soccer Fields: Outline Specifications Division 26 – Electrical January 2020
1. IESNA RP-6, Class of Play: I.
2. Speed of Sport: Slow.
3. Grid Pattern Dimensions: 30 by 30 feet.

I. Outdoor Tennis Courts:
1. IESNA RP-6, Class of Play: I.
2. Speed of Sport: Slow.
3. Grid Pattern Dimensions: 10 by 10 feet.

J. Basketball:
1. IESNA RP-6, Class of Play: I.
2. Speed of Sport: Slow.
3. Grid Pattern Dimensions: 10 by 10 feet.

1.2 FIELD QUALITY CONTROL

A. Testing: By a qualified electrical inspection agent hired by the Contractor.

PART 2 – PRODUCTS

2.1 COMPONENTS

A. Lighting Control: Manual, low voltage, or digital.

B. Electric Power: Dependent on service provided. Multi-voltage drivers or ballasts are preferred.

C. Luminaires: 1. Spill-light control devices. 2. Bracket-mounted, full-cutoff type with integral drivers. 3. LED, rated up to 1000 W.

D. Driver Mounting: At location of associated luminaires.

E. Support Structures: Light Standards for Sports Parking and Vandal lighting use shall be complete assemblies of 40'- 0" to 80'-0" high poles with the number of luminaries indicated on the drawings.

F. Poles shall be round tapered galvanized steel or aluminum, 40'- 0" to 80'-0" high with 4" x 6" hand hole (tamperproof screws), vibration dampener and nut covers at base. Finish of poles shall be polyester powder coat dark bronze, black, or dark bronze anodized. Color shall be approved by Philadelphia Parks and Recreation. Pole heights shall be the same for a specific field.

G. Poles shall be provided with single, double, triple or quad arm pole top brackets for the configurations indicated.

H. Poles shall be per Lighting Manufacturer's recommendations or equal to sports lighting poles manufactured by Valmont Industries, Inc. Outline Specifications Division 26 – Electrical January 2020

I. Pole Foundations: Reinforced concrete, min. 4,000 psi at 28 days, designed by a qualified structural engineer licensed as Professional Engineer in the Commonwealth of Pennsylvania.

J. Wiring below Grade: Nonmetallic raceway.

K. Weatherproof electrical enclosures.

L. Panelboard surge suppressors.

M. Pole Protection: Polyfoam pole pads.

2.2 APPROVED MANUFACTURERS

A. Musco Lighting – 100 1st Avenue West, P.O. Box 808, Oskaloosa, IA 52577, Phone: (800) 825.6030, E-mail: lighting@musco.com, Web: https://www.musco.com/

B. Eaton Sport Lighting – 1000 Cherrington Parkway, Moon Township, PA 15108, Phone: (412) 893- 3300, Web: https://www.eaton.com/.

C. Philadelphia Parks and Recreation (PPR) approved equal.

2.3 FLOODLIGHTS (Up to 1000 watt)

A. Floodlights shall be LED of the voltage and wattage shown. Drivers shall be integral, prewired, -20 degrees F.

B. Drivers and lamps shall be standard "off the shelf" items supplied by at least two manufacturers.

C. Reflectors for round general purpose floodlights shall be one-piece, symmetrical, end-punched spun aluminum, of sphero-parabolic shape. Reflectors shall be protected by heavy-duty cast aluminum outer housing.

D. Reflectors for rectangular floodlights shall be hydro-formed, semi-specular anodized aluminum protected by a die-cast aluminum housing.

E. Lenses shall be clear flat, high-strength heat-resistant tempered glass, mounted with a one-piece silicone rubber gasket into a hinged stainless steel or cast aluminum lens frame or clear fluorinated hydrocarbon, 5 mil. minimum thickness, in a suitable frame. The lens frame shall be secured in at least four points with captive stainless steel hardware, producing a water-tight seal.

F. Lenses shall be protected by a heavy gauge (.048) framed and welded stainless steel guard (3/4" x 3/4" grid) mounted to the lens frame with 1 inch stand-off bolts and tubing. Guard shall be furnished by luminaire manufacturer.

G. Integral driver housing shall be cast aluminum, with captive stainless steel access fasteners. The driver housing shall be physically and thermally isolated from the lamp socket and the optical assembly.

H. All wiring between the power source and the driver, and between the driver and the lamp socket, shall be completely enclosed in a watertight metal structure, such as liquid tight flexible conduit.

I. The entire floodlight including all wiring, shall be completely watertight and dust-tight even after repeated opening for lamp replacement and/or servicing. Outline Specifications Division 26 – Electrical January 2020

J. Floodlights shall be complete with rifle-type aiming sight, vertical degree scale, lockable repositioning device and two locking screws. Mounting shall be via two-inch slip fitter.

K. Floodlights shall be mounted not less than 30 feet above finished grade.

L. Each floodlight shall be furnished with a 1/8 inch stainless steel safety cable. Cable shall be supplied by the floodlight manufacturer.

M. Each 250 watt HPS floodlight proposed for vandal lighting application shall be furnished with a twist-lock type photocell receptacle and compatible photocell, as previously specified.

Infield Mix spec:

-Product Specifications-

ORIGINAL DIAMOND-TEX®

ASTM D422*
Particle-Size Analysis of Soils

SIEVE SIZE	PERCENT PASSING
# 4	100.0%
# 8	89.7%
# 10	86.7%
# 16	77.3%
# 30	62.2%
# 50	51.1%
# 100	42.3%
# 200	35.0%

Sieve Analysis Soil Classification

SOIL TYPE	CONTENT
Sand:	65%
Silt:	24%
Clay:	11%

ASTM D698
Standard Proctor Analysis

Optimum Moisture Content: 7.8%

Maximum Dry Density *(Loose)*

LB/Cu. Ft.	133.40
TN/Cu. Yd.	1.80

Maximum Wet Density *(Compacted)*

LB/Cu. Ft.	143.80
TN/Cu. Yd.	1.94

*Test results are an average of tests performed by the Diamond-Tex® quality control laboratory and an independent lab. Actual test results for a specific sample may vary slightly without affecting product performance.

Korey Swope
Quality Control Technician
Revised 2/15/2016

For additional product information contact:
Jeff Hall
New Enterprise Stone & Lime Co., Inc.
Office: 800.422.8107 or 717.354.1303 Fax: 814.766.0202
jmhall@nesl.com www.diamondtex.com

Division 31 outline Specifications – Earthwork

SECTION 310000 – GENERAL EARTHWORK REQUIREMENTS

1.1 General earthwork requirements shall conform to the following minimum standards:

A. Provide positive drainage away from all structures.

B. Unless otherwise noted, minimum slope shall be ¼ inch per foot or 2% and a maximum slope shall not exceed 3:1 (h:v) or 33% for non-paved surfaces. Paved surfaces shall have a minimum grade or 1% and have positive drainage off of the pavement.

C. Grades on designated handicapped accessible areas/routes shall comply with the provisions of the Americans with Disabilities Act.

D. Notify the PPR immediately if slope requirements cannot be met. At no time will slopes in excess of those above the maximum allowed, be accepted, unless prior approval is received in writing by PPR.

E. Grade earthen, non-paved, surfaces to a smooth finish. Slope lawn areas in swales to a gentle crown along the centerline.

F. Grade all seeded fine lawn areas flush with finish grade. Adjust finished grade to the proper depth where sod abuts paved areas.

G. Grade all tree/shrub/groundcover planting beds to 3 inches below top of abutting curbs, paving, or lawn areas to allow for mulching.

H. Adjust existing and new manhole, catch basins, and drains rim/grate elevations to new grade elevations (pavement or soil).

I. Finished surfaces shall be graded smooth and even with no abrupt or awkward changes in grade.

J. Provide properly compacted subgrades of native soil or approved fill. Native soils, fill, or subgrades deemed insufficient shall be removed and replaced with appropriate material. Subgrades shall be inspected by a qualified inspector to ensure compaction requirements are met. Submit test reports and field logs to PPR for review and for record.

K. Existing on-site soils should be evaluated for both suitability for use in construction as well as environmentally for contaminants by licensed and qualified professionals such geotechnical engineers and environmental scientists. Many sites throughout the City include various types of urban fill. In some cases there may be abandoned structures below grade. These soils and features should be evaluated before design and engineering newly planned features. Also, environmental due diligence and/or testing should be completed near the beginning of design and engineering to ascertain if on-site materials are clean or regulated. Testing of existing on-site soils and materials shall comply with the requirements of Pennsylvania Department of Environmental Protection requirements for fill management whether it is

determined to be clean or regulated. Submit geotechnical testing and environmental due diligence reports to PPR for review and for record.

L. Any soil materials leaving the site or being brought to the site shall comply with the Pennsylvania Department of Environmental Protection requirements for fill management.

M. Environmental due diligence: investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, sanborn maps, environmental questionnaires, transaction screen, analytical testing, environmental assessments or audits. Submit all environmental due diligence reports to PPR for review and for record.

N. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of a regulated substance. If the fill may have been affected by a spill or release of a regulated substance, it must be tested to determine if it qualifies as clean fill. Testing should be performed in accordance with appendix a of PADEP's policy "management of fill".

O. Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the municipal or residual waste regulations in 25 pa code chapters 287 residual waste management or 271 municipal waste management, whichever is applicable.

P. Designers and contractors shall comply with the Pennsylvania Underground Utility Line Protection Law, Act 287 of 1974, as amended by Act 50 of 2017. This includes contacting the Pennsylvania One Call System or 811 as required by law.

Designers and contractors, in additional to complying with the Pennsylvania Underground Utility Line Protection Law requirements shall research available utility records from the project owner for the site or facility. Upon evaluation of these records the designer or contractor can evaluate the need for extensive underground utility locating depending the project. The designer or contractor shall determine the need and level of underground utility located needed for the project in conformance with the American Society of Civil Engineers (ASCE) National Consensus Standard – ASCE C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. The designer or contractor shall determine the Quality Level of utility located required by the project, Levels D, C, B, or A. The costs associated with underground utility locating services shall be evaluated and balanced with the available utility information, conditions in the field, the type of project being proposed, the risks associated with utility conflict and/or damage, and the ability of a utility locator to obtain information. These evaluations shall be done in consultation with Philadelphia Parks and Recreation.

SECTION 321216 – ASPHALT PAVING

1.1 Asphalt paving sections shall be designed to withstand the use and traffic conditions they will be subjected to as well as the local soil conditions the pavements will be placed upon.

1.2 Asphalt paving shall conform to the following minimum standards:

A. Walkways and Trails:

1. Minimum Asphalt Thickness: 3.5 inches total thickness in two (2) layers/lifts:

a. Wearing Course: 1.5 inches thick PennDOT ID-2 Wearing meeting PennDOT Pub 408

b. Binder Course: 2 inches thick PennDOT ID-2 Binder meeting PennDOT Pub 408

2. Minimum Stone Base: 6” compacted gravel base (PennDOT 2A modified or approved equal).

3. Subgrade: Compacted and un-yielding to 95% minimum Standard Proctor ASTM D698

B. Drive Aisles and Parking Areas:

1. Minimum Asphalt Thickness: 4 inches total thickness in two (2) layers/lifts:

a. Wearing Course: 1.5 inches thick PennDOT ID-2 Wearing meeting PennDOT Pub 408

b. Binder Course: 2.5 inches thick PennDOT ID-2 Binder meeting PennDOT Pub 408

2. Minimum Stone Base: 6” compacted gravel base (PennDOT 2A modified or approved equal)

3. Subgrade: Compacted and un-yielding to 95% minimum ASTM D698 Standard Proctor

C. Asphalt Sports Courts:

1. Minimum Asphalt Thickness: 4 inches total thickness in two (2) layers/lifts:

a. Wearing Course: 1.5 inches thick PennDOT ID-2 ¼” gradation wearing meeting PennDOT Pub 408

b. Binder Course = 2.5 inches thick PennDOT ID-2 Binder meeting PennDOT Pub 408

2. Minimum Stone Base: 6” compacted gravel base (PennDOT 2A modified or approved equal)

3. Subgrade: Compacted and un-yielding to 95% minimum ASTM D698 Standard Proctor

D. Porous/Pervious Asphalt: Porous/pervious asphalt paving is not approved for use unless otherwise approved Philadelphia Parks and Recreation.

SECTION 321313 – PLAIN CEMENT CONCRETE PAVING

1.1 Concrete paving shall conform to the following minimum standards:

A. Minimum Strength: 4,000 psi at 28 days.

B. Provide sealed/caulked expansion joints.

C. Provide control joints at a spacing as required to prevent cracking within panels.

D. Finish shall be non-slip broom type finish.

E. Joints shall be tooled prior to broom finishing to eliminate "window pane" appearance. Sawcut joints are not preferred. If designer/contractor wishes to utilize sawcut joints prior approval shall be obtained from Philadelphia Parks and Recreation.

F. Concrete paving shall conform to the flowing standards:

1. ACI 117 – Specification for Tolerance for Concrete Construction and Materials

2. ACI 318 – Building Code Requirements for Reinforced Concrete

3. PennDOT 408 – Construction Specifications

4. PennDOT RC-67M – Curb Ramp and Sidewalk Construction Details

G. Concrete shall contain either a water-reducing, plasticizing admixture or a high-range water-reducing admixture. All concrete shall contain an air-entraining admixture to provide 5%-7% air entrainment. Maximum chloride content shall be 0.15%. Maximum water/cement ratio shall be 0.45. Maximum design slump of 3 inches without super plasticizers. Aggregate size shall be 3/4 of an inch with a designation of 4S per ASTM C33.

H. Reinforcing: PPR prefers most pavements be unreinforced to facilitate future repairs and/or replacements. In some cases, reinforcing is required either by site conditions or by design requirements such as some sprayground elements require reinforcing. If reinforcing is provided if shall meet the following:

1. Welded wire fabric shall be galvanized and comply with ASTM A185.

2. Reinforcing steel bars shall be grade 60 per ASTM A615.

SECTION 321316 – DECORATIVE/COLORED CONCRETE PAVING

1.1 Decorative/colored concrete paving shall conform to the following minimum standards:

A. Comply with the requirements and specifications as set forth in Section 321313 Plain Cement Concrete Paving.

B. Decorative/colored concrete paving use should be limited and not utilized extensively as it can be challenging to replace if it needs to be repaired or replaced.

C. Stamped and surface colored concrete paving is not preferred. If designer/contractor wishes to utilize stamped and surface colored concrete paving prior approval shall be obtained from Philadelphia Parks and Recreation.

D. If decorative/colored concrete is to be used it should be integrally colored with coloring agent(s) combined as an add mixture into the concrete mix prior to pouring. Color shall be through the entire slab thickness and not added on top.

E. Approved coloring agent manufacturers:

1. Sika Scofield - 4155 Scofield Road, Douglasville, GA 30134, Phone: (800) 800-9900, Web: http://www.scofield.com

   a. CHROMIX Admixture for color conditioned concrete

2. Davis Colors - 3700 East Olympic Blvd., Los Angeles, CA 90023, Phone: (844) 341-4780, Web: www.daviscolors.com

   a. MIX-READY Pigments

3. Equal approved Philadelphia Parks and Recreation.

F. Approved Colors: Selected colors for decorative/colored concrete shall be from manufacturer's standard color lines. Custom or specialized colors are not preferred.

G. Colored concrete admixtures shall comply with ASTM C 979.

H. Installer Qualifications: Installer must have a minimum of 5 similar jobs completed and a minimum of 5 years prior experience installing decorative/colored concrete.

Al Pearlman Sports Complex

SECTION 323113 – CHAIN-LINK FENCING AND GATES

1.1 Chain-Link Fencing shall conform to the following minimum standards:

A. General Site Fencing Standards (Chain-link):

1. Height: All chain-link fencing will either measure 6' tall (72") or 8' tall (96") in height from the finished grade, unless otherwise requested or approved by Philadelphia Parks and Recreation.

2. Gates: All gates are to match the height of the new fencing that they are linked to. Gate widths will either be 4' (48") for single man gates or 8' (96") for double man gates. Fabric will match the specifications of the new fence that it is linked to.

3. Fabric: All chain-link fabric will be vinyl coated and have a minimum weave of 2"x2" with 9GA tie wire, knuckled on both top and bottom. Cut ends of fence fabric shall be turned or knuckled over in the field to sharp wire ends are not exposed. Tie wires will be 24" on center, unless otherwise approved by Philadelphia Parks and Recreation. The color will be black, unless otherwise stated/approved by Philadelphia Parks and Recreation.

   a. For fencing along the perimeter of athletic fields, baseball/softball fields, and sport courts that fabric shall be installed on the field or court side facing the field or court.

4. Posts: Minimum 2" (outside diameter) galvanized steel, painted black. Posts should have a maximum spacing of 8'(96") on center per section of chain-link fencing. All Terminal posts will have caps and tension bar. All line posts will have top and bottom connectors.

5. Rails: Minimum 1-5/8" (outside diameter) galvanized steel, painted black. The bottom rail will be a 2" from finished grade.

6. Footings: Footings will be minimum 3500 PSI concrete at 36" depth below finished grade and have a 12" diameter, unless otherwise required. The new post will be set at a depth of 30" from finished grade within the new footing.

7. Approved Manufacturers:

   a. Northeast Fence and Iron Works – 8451 Hegerman Street, Philadelphia, Pennsylvania 19136, Phone: (215) 335-1681, Web: http://www.northeastfence.net/

   b. Stephens Pipe and Steel, LLC – 300 Streibeigh Lane, Montoursville, Pennsylvania 17754, Phone: (888) 275-1638, Web: http://www.spsfence.com

   c. Master Halco – 3010 Lyndon B Johnson Freeway, Suite 800, Dallas, Texas 75234, Phone: (800) 883-8384, Web: www.masterhalco.com

d. Equal approved Philadelphia Parks and Recreation.

B. Dog Park Fencing Standards (Chain-link):

1. Height: The minimum height for all dog park enclosures is 72 inches (6 feet).

2. Gates: All gates are to match the height of the fence they are abutting. Gate widths will either be 4 feet (48 inches) wide for single man gates or 8 feet (96 inches) for double wide man gates. The fabric on the gate will match the specifications of the new fence they are linked to.

3. Fabric: All chain-link fabric will be coated vinyl with a maximum weave of 1"x1" for the safety of both dogs and pedestrians outside of the fenced in area. The color will be black, unless otherwise stated/approved by Philadelphia Parks and Recreation.

4. Posts: Minimum 2" (outside diameter) galvanized steel, painted black. Posts should have a maximum spacing of 8' (96") on center per section of chain-link fencing. All Terminal posts will have caps and tension bar. All line posts will have top and bottom connectors.

5. Rails: Minimum 1-5/8" (outside diameter) galvanized steel, painted black. The bottom rail will be a 2" from finished grade.

6. Footings: Footings will be minimum 3500 PSI concrete at 36" depth below finished grade and have a 12" diameter, unless otherwise required. The new post will be set at a depth of 30" from finished grade within the new footing.

7. Approved Manufacturers:

a. Northeast Fence and Iron Works – 8451 Hegerman Street, Philadelphia, Pennsylvania 19136, Phone: (215) 335-1681, Web: http://www.northeastfence.net/

b. Stephens Pipe and Steel, LLC – 300 Streibeigh Lane, Montoursville, Pennsylvania 17754, Phone: (888) 275-1638, Web: http://www.spsfence.com

c. Master Halco – 3010 Lyndon B Johnson Freeway, Suite 800, Dallas, Texas 75234, Phone: (800) 883-8384, Web: www.masterhalco.com

d. Equal approved Philadelphia Parks and Recreation.

D. Porous/Pervious Asphalt: Porous/pervious asphalt paving is not approved for use unless otherwise approved Philadelphia Parks and Recreation.

SECTION 323119 – DECORATIVE METAL FENCING AND GATES

1.1 Decorative metal fencing will conform to the following standards:

A. General Fencing Standards (Decorative Metal):

1. Approved Materials:

   a. Steel

   b. Wrought Iron

2. Height: The minimum height for decorative metal fences is 4’ (48”), unless otherwise requested or approved by Philadelphia Parks and Recreation.

3. Gates: Gates are to match the height of the new fencing that it is linked to. Color to match.

4. Color: All decorative metal fences are to be powder coated flat black.

5. Fabric: Fabric is only applicable if decorative metal fencing is being used in an area of restriction, such as a dog park or stormwater planter.

6. Posts: Minimum 2” Square galvanized steel, painted black. Posts should have a maximum spacing of 8’ (96”) on center per section of fencing. All Terminal posts will have caps. All line posts will have top and bottom connectors.

7. Rails: Minimum 1-1/2” square rail (2 top rails, 2 bottom rails), painted black. The bottom rail will be a maximum 2” above finished grade.

8. Footings: Footings will be minimum 3500 PSI concrete at 36” depth below finished grade and have a 12” diameter, unless otherwise required. The new post will be set at a depth of 30” from finished grade within the new footing.

9. Approved Manufacturers:

   a. Northeast Fence and Iron Works, 8451 Hegerman Street, Philadelphia, Pennsylvania 19136, (215) 335-1681

   b. Stephens Pipe and Steel, LLC, 300 Streibeigh Lane, Montoursville, Pennsylvania 17754, (888) 275-1638

   c. Iron World Fencing, 9390 Davie Avenue, Laurel , Maryland 20723, (301) 776-7448

   d. Ameristar Fence – 1555 N. Mingo Rd Tulsa, OK 74116, Phone: (888) 333-3422, Web: www.ameristarfence.com

   e. Equal approved Philadelphia Parks and Recreation.

SECTION 32 9200 TURF AND GRASS LAWN

1.1 Turf grass lawn areas or athletic fields can be seeded or sodded depending on project needs, project budget, time of planting, etc. Ideally lawns are easily maintained with standard commercial lawn mowing equipment and maintenance access must be considered and incorporated into any design. Design considerations include:

A. Maintain proper drainage with lawns pitched no less than 1.5%, preferably 2.0% with surface drainage (drains/inlets) as appropriate. Flatter lawns or special drainage concerns may require underdrainage.

B. Many of the project sites have poor, insufficient, or non-existent topsoil to support proper lawn growth. The designer should perform topsoil testing to detect the existence of topsoil, to assess if new topsoil needs to be imported or manufactured, and what soil amendments are needed. Many sites contain urban fill which may need to be screened to remove debris or other deleterious materials that are not appropriate for a general lawn or athletic field.

C. In the design or specification of any soil improvement the designer should consider compaction over time and specify a soil to resist compaction if possible.

D. Small isolated lawn areas that are difficult to access with commercial mowing equipment are not preferred.

E. “No-Mow” lawns are not to be specified for playgrounds, recreation centers, or athletic fields. “NoMow” lawns would only be appropriate in areas that do not get extensive use by the public. Specification of “No-Mow” lawns should be approved by Philadelphia Parks and Recreation prior to specification.

F. The lawn seed mixture listed below is a general recommendation for drought and heat tolerance as well as maintenance. Specific site and micro-climatic conditions must be considered when specifying a seed or sod mixture.

G. Designer shall include in specifications instructions for proper lawn establishment including responsibilities of the contractor for watering, mowing, protection, etc.

1.2 Turf grass lawn will conform to the following standards:

A. General standards for Turf Grass Lawn:

1. Seeding:

a. Approved Time Periods/Seasons: Seeding will occur during the following periods, unless otherwise approved by Philadelphia Parks and Recreation:

1) Spring: April 1st – June 15th
2) Fall: September 1st – October 15th

b. Soil Conditions: Soil must not be frozen, excessively wet or in unsatisfactory condition prior to tilling or any other soil preparation.

c. Temperature: Seeding will only commence when the average low temperature has reached above freezing (40 degrees Fahrenheit)

d. Mixtures: Areas of permanent turf will adhere to the following mixture ratios, unless otherwise stated or approved by Philadelphia Parks and Recreation:

Seed Type	Proportion by Weight	Minimum Purity	Minimum Germination
Turf-Type Tall Fescue (3 Varieties Min.)	60%	95%	80%
Perennial Rye Grass	30%	95%	85%
Kentucky Blue Grass	10%	90%	80%

2. Sodding:

a. Types of Sod:

1) Fresh cut within 48 hours of installation at the site.

2) Mixture: Majority of seed to be Turf Type Tall Fescue (3 varieties min.) with remaining volume of seed to be Perennial Rye Grass, Kentucky Blue Grass, and/or Fine Fescue depending on sod farm.