ADDENDUM ACKNOWLEDGMENT

ADDENDUM NO. 2 **Dated: 6/4/24**
Bid Due Date: 6/11/24

NOTICE

It is the sole responsibility of the bidder to ensure that it has received any and all Addenda and the Philadelphia Redevelopment Authority may in their sole discretion reject any bid for which all Addenda have not been executed and returned.

RFP FOR

Project No.: 52025E-05-01
Description: McPherson Roof Restoration

IS AMENDED AS FOLLOWS:

1. **BID OPENING DATE: POSTPONED FROM *June 7, 2024* TO *June 11, 2024*.**

2. Addenda will be posted in Construction RFPs - MAKING PHILADELPHIA BETTER BLOCK BY BLOCK (phdcphila.org). Each Bidder shall ascertain prior to submitting a proposal that Bidder has received all Amendments issued, and shall acknowledge their receipt in their proposal submission.

3. The Pre-Bid Meeting Sign-in Sheet is posted at Construction RFPs - MAKING PHILADELPHIA BETTER BLOCK BY BLOCK (phdcphila.org).

4. Remove and Replace the following Sections:

Remove Section		Replace with attached Section	
Section Number	**Section Title**	**Section Number**	**Section Title**
000100	Table of Contents (Addendum 1, 05-13-24)	000100	Table of Contents (Addendum 2, 06-04-24)
000115	List of Drawings (04-25-24)	000115	List of Drawings (Addendum 2, 06-04-24)
004114	Construction Bid Proposal (Addendum 1, 05-13-24)	004114	Construction Bid Proposal (Addendum 2, 06-04-24)
007201	Supplementary_Federal_Grant_Conditions_(05-10-2024)	n/a	n/a
012100	Allowances (Addendum 1, 05-13-24)	012100	Allowances (Addendum 2, 06-04-24)
012300	Alternates (Addendum 1, 05-13-24)	012300	Alternates (Addendum 2, 06-04-24)
329000	Plantings and Seeding (04-25-24)	329000	Plantings and Seeding (Addendum 2, 06-04-24)
Attachment A	Attachment_A_Contract_Drawings_McPherson Square Library_COMBINED_REVISED_ADDENDUM_1_240511	Attachment A	Attachment_A_Contract_Drawings_McPherson Square Library_COMBINED_REVISED_ADDENDUM_2_06-04-24

5. Add the following Sections:

Add Section	
Section Number	**Section Title**
015639	Temporary Tree and Plant Protection
Attachment D	Asbestos Inspection Report

Bidder must acknowledge receipt of Addenda in their proposal submission.

Bidder Signature / Date

_____ _____

SECTION 000110

TABLE OF CONTENTS

END

SECTION 000115

LIST OF DRAWINGS

Drawing No.	**Title**
General	
CS	Cover Sheet
A0.0	**General Notes, Abbrev, Materials, Reference Symbols (Addendum 2)**
Civil	
C1.0	**Existing Site Plan (Addendum 2)**
C2.0	**Demolition Plan (Addendum 2)**
C3.0	**Proposed Site Plan (Addendum 2)**
C6.0	**Erosion and Sediment Control Plan (Addendum 2)**
C6.1	Erosion and Sediment Control Details
C6.2	Erosion and Sediment Control Notes
C7.0	**Construction Details (Addendum 2)**
C8.0	Utility Details
C8.1	Utility Details
Architectural	
D2.0	Demolition Basement and Roof Plan
D3.0	Demolition Exterior Elevations
D3.1	Demolition Exterior Elevations
A2.0	Floor Plans
A2.1	Roof Plan
A3.0	Exterior Elevations
A3.1	Exterior Elevations
A8.0	Roof Details
A8.1	Cornice Details
A10.0	Dome Interior Photos
Structural	
S1	Roof Framing Plan

SECTION 004114

CONSTRUCTION BID PROPOSAL

PHILADELPHIA REDEVLOPMENT AUTHORITY

MCPHERSON SQUARE LIBRARY ROOF RESTORATION
601 E INDIANA AVENUE
PHILADELPHIA, PA 19134

THIS BID FORM IS COMPLETE AND MUST NOT BE SEPARATED. IF ANY SHEET OR SHEETS ARE DETACHED WHEN SUBMITTED AS A BID, THE PHILADELPHIA REDEVELOPMENT AUTHORITY RESERVES THE RIGHT TO REJECT YOUR BID.

_____

FIRM NAME

_____

FIRM ADDRESS

_____ _____

FEDERAL EIN **TOTAL BASE BID**

_____

PHILADELPHIA BUSINESS TAX ID

To the Philadelphia Redevelopment Authority:

I, the undersigned Bidder, hereby propose to furnish all the labor, materials and equipment, perform the whole of the work, and submit to all conditions, as represented, intended and implied, both particularly and generally, by the Plans, Special Specifications, Standard Specifications, Standard Details, Standard Contract Requirements, Form of Agreement, the Ordinance authorizing the work and this bid at the prices herein stated, and agrees that each item bid shall be complete in itself, and the Philadelphia Redevelopment Authority may increase or diminish the amount of work thereunder, or omit the item without invalidating the unit price bid for it or any other item, on the following terms to wit:

A. BID AMOUNT

I will complete the Work in accordance with the Contract Documents for the following Bid Amount as defined in Section 00700, Standard Contract Requirements. (Insert Bid Amount in words as well as figures.)

(1) General Conditions	$ _____
(2) Temporary Protection	$ _____
(3) Building Demolition	$ _____
(4) Site Demolition	$ _____
(5) Masonry	$ _____
(6) Roofing	$ _____
(7) Carpentry	$ _____
(8) Site Improvements	$ _____
(9) Site Utilities	$ _____
TOTAL BASE BID AMOUNT	$ _____

_____

_____DOLLARS

(10) ALLOWANCE No. 1: Bidders are to include the amount equal to Two Percent (2%) of their base bid amount for payment of Permit and License fees to all regulatory agencies. Refer to Allowances, Section 01210 for more details.
ALLOWANCE AMOUNT _____ DOLLARS,
$_____

TOTAL BASE BID (Base Bid plus Allowance(s)). $_____

_____ DOLLARS

(11) ALLOWANCE No. 2: RESTORE SURFACE AT DOME INTERIOR Refer to Allowances, Section 012100 for more details.
ALLOWANCE AMOUNT _____$100,000_____ DOLLARS,
$_____

TOTAL BASE BID (Base Bid plus Allowance(s)). $_____
_____ DOLLARS

(12) ALLOWANCE No. 3: IN-PERSON SECURITY DURING OFF-HOURS Refer to Allowances, Section 012100 for more details.
ALLOWANCE AMOUNT _____$100,000_____ DOLLARS,
$_____

TOTAL BASE BID (Base Bid plus Allowance(s)). $_____
_____ DOLLARS

ALTERNATES [*if used]*

ADD ALTERNATE No. 1 (Substitution): CONTRACTOR MAY CONSIDER ALTERNATIVE MATERIALS, SUCH AS GLASS FIBER REINFORCED CONCRETE (GFRC), AS AN ALTERNATE TO TERRA COTTA (Specification 012300)

DEDUCT ALTERNATE No. 2 (Substitution): CONTRACTOR MAY CONSIDER MINERAL WOOL LOOSE FILL BLOWN-IN INSULATION FOR INSTALLATION IN ATTIC, IN LIEU OF MINERAL WOOL BATTS.

B. **COMPLETION**

I will substantially complete the Work, ready for final payment, in accordance with the Contract Documents within 150 consecutive calendar days counting from the date stated in the Notice to Proceed.

C. ADDENDA

Bidder must attach Addendum Acknowledgement sheets for all Addenda, if applicable.

EXECUTION OF CONTRACT

This contract consists of the Standard Contract Requirements; the Department's Standard Details and Specifications, as they apply; the Department's General Bidding and Contract Requirements; the Technical Specifications; the Bid; the Plans with all of the notes thereon (excluding any records or reports of test borings, underground structures, and test piles); any additional exhibits or attachments to any of the foregoing; and any addenda thereto issued by the PRA/City (collectively, the "Contract").

NOTE: ANY CONTRACT THAT IS NOT EXECUTED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED BELOW, MAY, IN THE SOLE DISCRETION OF THE PHILADELPHIA REDEVELOPMENT AUTHORITY, BE REJECTED.

SIGNING OF CONTRACT

If Contractor is an INDIVIDUAL or a PARTNERSHIP, date and sign the Contract here, with original signatures, in ink.

This _____day of _____ 2019

_____ _____
(Signature of Owner, Partner) (Type or Print Name and Title)

_____
(Business Name of Bidder)

If Contractor is a CORPORATION, date and sign the Contract here with original signatures, in ink, by (a) President or Vice-President of the corporation AND (b) Secretary, Assistant Secretary, Treasurer or Assistant Treasurer of the corporation; and (c) affix the seal of the corporation. If the Contract is not signed by the President or Vice-President; and Secretary, Assistant Secretary; Treasurer or Assistant Treasurer, attach a duly certified corporate resolution authorizing the person signing in place of such officers to execute this Contract for the corporation.

This_____day of _____2019

_____ CORPORATE SEAL
(Corporate or Business Name of Bidder)

_____
(Address, Including Zip Code)

_____
(Telephone Number)

_____ _____
(Signature of President or Vice President) (Signature of Secretary, Asst. Secretary, Treasurer
or Assistant Treasurer

_____ _____
(Type or Print Name and Title) (Type or Print Name and Title)

SECTION 012100

ALLOWANCES

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

A. This Section specifies each Prime Contractor's administrative and procedural requirements governing handling and processing allowances

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Applicable provisions of Bidding Requirements, Contract Requirements in Division 0 and all applicable Division 1 sections.

B. Each section of the specifications including an allowance.

1.3 COORDINATION

A. Designate required selection and delivery dates for products under each allowance in the Contractor's Construction Schedule.

B. Designate each allowance with extensions based on estimated quantities for unit price allowances on Contractor's Schedule of Values.

1.4 DEFINITIONS

A. Refer to Section 007200.

1.5 ALLOWANCES

A. Include in Total Base Bid Amount, an amount equal to Two Percent (2%) of the base bid amount for payment of permit fees. This is a direct cost; no mark-ups will be permitted.

B. : RESTORE SURFACE AT DOME INTERIOR -- ALLOWANCE AMOUNT _____$100,000_____ DOLLARS

C. IN-PERSON SECURITY AT OFF-HOURS -- ALLOWANCE AMOUNT _____$100,000_____ DOLLARS

D. Amount of each allowance (excluding 1.5.A above) shall include:

1. Net cost of product.
2. Delivery to site.
3. Applicable taxes.
4. Preparing submittals.

E. In addition to amounts of allowances (excluding 1.5.A above), include in the base bid amount, the Contractor's cost for:

1. Assisting in selection and obtaining proposals from suppliers and subcontractors.
2. Processing submittals.
3. Handling at site, including unloading, uncrating and storage.
4. Protection from elements and from damage.

5. Labor, installation and finishing.

6. Other expenses required to complete installation.

7. Overhead and profit.

1.6 SELECTION OF PRODUCTS

A. Design Professional shall issue by Change Order a full specification for the final selected product.

B. Contractor's Duties

1. Notify Design Professional of deadlines for specification of final products, allowing for Contractor’s required submissions as required to meet Date of Completion.

2. Provide cost proposals for products being considered when requested by Design Professional.

3. Notify Design Professional of any effect anticipated by selection of product or supplier under consideration as it relates to:

a. Construction Schedule.

b. Contract Sum.

c. On notification of selection, enter into purchase agreement with designated supplier.

1.7 INSTALLATION

A. Comply with requirements of applicable specification section, including warranties/guarantees.

1.8 ADJUSTMENT OF COSTS

A. Should actual purchase cost be more or less than specified amount of allowance, Contract Sum shall be adjusted by Change Order equal to amount of difference. A percentage to cover Contractor's overhead and profit, as stated in Standard Contract Requirements, will be applied to difference in cost.

B. For products specified under unit cost allowance unit cost applies to quantity required to complete the Work as determined by the Contractor.

1. Submit invoices or other data to substantiate quantity actually used.

C. Submit request for other costs, claimed for additional work caused by increase over amount of allowance, prior to required submission for product.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

- END -

SECTION 012300

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

~~A. Alternate No. 1 (Add): RESTORE SURFACE AT DOME INTERIOR~~

1. ~~BASE BID: INTERIOR RESTORATION NOT IN SCOPE~~
2. ~~ALTERNATE (ADD): REPAIR AND RESTORE EXISTING PLASTER AND LATH CEILING (ASSUMED) AT DOME INTERIOR. REPAINT INTERIOR DOME SURFACE. INTERIOR WORK IS CONFINED TO THE DOME AREA LOCATED IN THE CENTER OF THE BUILDING.~~

B. Alternate No. 2 (Substitution): CONTRACTOR MAY CONSIDER ALTERNATIVE MATERIALS, SUCH AS GLASS FIBER REINFORCED CONCRETE (GFRC), AS AN ALTERNATE TO TERRA COTTA
   1. BASE BID: INSTALL REPLACMENT UNITS OF TERRA COTTA
   2. ALTERNATE: CONTRACTOR MAY CONSIDER ALTERNATIVE MATERIALS, SUCH AS GLASS FIBER REINFORCED CONCRETE (GFRC) AS AN ALTERNATE FOR CONSIDERATION BY OWNER. PROVIDE PRODUCT DATA FOR ALTERNATIVE PRODUCT FOR REVIEW, IN ADDITION TO PROPOSED DEDUCT ALTERNATE COST. IDENTIFY AND QUANTIFY SCHEDULE IMPROVEMENTS AVAILABLE TO THE PROJECT IF THIS ALTERNATE IS SELECTED BY THE OWNER.

C. Alternate No. 3 (Substitution): CONTRACTOR MAY CONSIDER MINERAL WOOL LOOSE FILL BLOWN-IN INSULATION FOR INSTALLATION IN ATTIC, IN LIEU OF MINERAL WOOL BATTS.
   1. BASE BID: MINERAL WOOL BATT INSULATION.
   2. ALTERNATE: CONTRACTOR MAY CONSIDER MINERAL WOOL LOOSE FILL BLOWN-IN INSULATION FOR INSTALLATION IN ATTIC.

      BASIS OF DESIGN: ROCKWOOL GRANULAR INSULATION

      PROVIDE PRODUCT DATA FOR ALTERNATE FOR REVIEW BY DESIGN TEAM, IN ADDITION TO PROPOSED DEDUCT ALTERNATE COST. IDENTIFY AND QUANTIFY SCHEDULE IMPROVEMENTS AVAILABLE TO THE PROJECT IF THIS ALTERNATE IS SELECTED BY THE OWNER.

END OF SECTION 012300

SECTION 015639

TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Related Requirements:

1. Section 024119 - Selective Demolition
2. Section 310000 - Earthwork
3. Section 329000 - Plantings and Seedings

1.3 DEFINITIONS

A. Caliper: Diameter of a trunk measured by a diameter tape at a height 6 inches above the ground for trees up to and including 4-inch size at this height and as measured at a height of 12 inches above the ground for trees larger than 4-inch size.

B. Tree-Protection: Individual tree guard surrounding single tree trunk delineating area not to be disturbed during construction and indicated on drawings.

C. Critical Root Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, as indicated on Drawings and defined by the drip line of individual trees or the perimeter drip line of groups of trees unless otherwise indicated.

D. Diameter Breast Height (DBH): Diameter of a trunk as measured by a diameter tape at a height 54 inches above the ground line.

E. Drip line: Outermost circumference of a tree canopy or the outermost extents of the collective canopy of a group of trees.

F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

   (a.) Tree-service firm's personnel and equipment needed to make progress and avoid delays.
   (b.) Arborist's responsibilities.
   (c.) Quality-control program.
   (d.) Coordination of Work and equipment movement with the locations of protection zones.
   (e.) Trenching by hand or with air spade within protection zones.
   (f.) Field quality control.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.
2. Detail fabrication and assembly of protection-zone fencing and signage.
3. Indicate extent of trenching by hand or with air spade within protection zones.

C. Samples: For each type of the following:

1. Organic Mulch: 1-quart volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.

D. Arborist Report: Written report prepared by Certified Arborist for care and protection of trees affected by construction during and after completing the Work.

1. Report shall be submitted prior to any removals on site and shall include, but is not limited to: recommendations for soil amendments at existing trees to remain, watering (volume) during all work (at no additional cost to Owner), any required treatment for pests or disease, decompaction procedures within critical root zones, and any required root pruning. Soil amendment recommendations shall be coordinated with work of Section 319000 and shall include list of products, timing, and methodology.

2. Report shall include Tree Pruning Schedule with dates for such work. The written pruning schedule shall detail scope and extent of pruning for all trees to remain that interfere with or are affected by construction. Report shall include:

   (a.) Species and size of tree.
   (b.) Location on site plan. Include unique number identifier for each as shown in Contract Documents.
   (c.) Reason for pruning.
   (d.) Description of pruning to be performed.
   (e.) Timing of pruning to be performed.
   (f.) Description of maintenance by tree service firm following pruning.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For arborist and tree service firm.

B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

C. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1. Use sufficiently detailed photographs or video recordings.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
3. Identify any pests or disease as trees or other plants to remain that should be addressed in maintenance recommendations.

D. Quality-control program.

1.7 QUALITY ASSURANCE

A. Arborist Qualifications: Certified Arborist as certified by ISA.

B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work. Tree service firm shall have experience working in plaza areas with tight conformance to grade conditions.

C. Quality-Control Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work without damaging trees and plantings. Include dimensioned diagrams for placement of protection zone fencing, the arborist's and tree-service firm's responsibilities, instructions given to workers on the use and care of protection zones, and enforcement of requirements for protection zones.

1.8 FIELD CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Moving or parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Soil: Planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

1. Planting Soil: Planting soil as specified in Section 310000 - Earthwork

B. Protection Fencing: Fencing fixed in position and meeting the following requirements:

1. Tree Guard (Type 1): Fencing constructed of two 2-by-4-inch horizontal rails, with 4-by-4-inch preservative-treated wood posts spaced not more than 60 inches apart, and lower rail set 6 inches above existing grade. Plastic barrier fabric (color: orange) to be used as infill between posts.
   (a.) Height: 48 inches.

2. Critical Root Zone Protection (Type 2): Fencing constructed of 1 ¾" x 1" 13 GA U Channel steel posts. Plastic barrier fabric (color: orange) to be used as infill between posts.

   (a.) Height: 48 inches

C. Plastic Barrier Fabric: high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties on protection fencing support system.

1. Height: As required
2. Color: High-visibility orange, nonfading

PART 3 - EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. Prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Tie a 1-inch blue vinyl tape around each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Critical Root Zone Protection: Mulch areas inside critical root zone protection areas and other areas indicated. Do not exceed indicated thickness of mulch.

1. Apply 4-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.

3.3 PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Critical Root Zone Protection Fencing: Set or drive posts into ground to a minimum three (3) foot depth without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Owner.

B. Tree Protection: Install guards under direct supervision of arborist. The intent of the guard placement is to allow hand removal of pavers without disturbing individual tree guard protection.

C. Maintain protection zones free of weeds and trash.

D. Maintain all protection zone fencing in good condition as acceptable to Owner and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove Tree Protection Fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
2. Temporary access for activities such as hand removal of pavers is permitted within the critical root zone protection area, subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 310000 “Earthwork" unless otherwise indicated.

B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.

C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.

D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 SOIL DECOMPACTION AT EXISTING TREES

A. Contractor shall follow direction on decompaction procedures within critical root zones of existing trees as described in Arborist's written report.

3.6 ROOT PRUNING

A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows, unless arborist has provided detailed written instructions specific to the trees at this location:

1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
2. Cut Ends: Coat cut ends of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to arborist.
3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
4. Cover exposed roots with burlap and water regularly.
5. Backfill as soon as possible according to requirements in Section 310000 "Earthwork"

B. Root Pruning at Edge of Protection Zone: Prune tree roots 12 inches outside of the protection zone by cleanly cutting all roots to the depth of the required excavation.

C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.7 CROWN PRUNING

A. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.

1. Prune to remove only injured, broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.

2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
3. Pruning Standards: Prune trees according to ANSI A300 (Part 1).

B. Unless otherwise directed by arborist and acceptable to Director's Representative, do not cut tree leaders.

C. Cut branches with sharp pruning instruments; do not break or chop.

D. Do not paint or apply sealants to wounds.

E. Provide subsequent maintenance pruning during Contract period as recommended by arborist.

F. Chip removed branches and dispose of off-site.

3.8 REGRADING

A. Lowering Grade within Protection Zones: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.

1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone as recommended by arborist, unless otherwise indicated on drawings. Maintain existing grades within the protection zone.

C. Temporary Minor Fill within Protection Zones: Where existing grade is 2 inches or less below elevation of finish grade, temporarily fill with specified soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.9 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.10 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Owner.

1. Submit details of proposed pruning and repairs.
2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.

3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Owner.

B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition or are damaged during construction operations that Owner determines are incapable of restoring to normal growth pattern.

1. Replacement Trees: Provide new trees of same size and species as those being replaced for each tree that measures 4 inches or smaller in caliper size.
2. Restitution Planting: Provide new tree(s) of 4-inch caliper size for each tree being replaced that measure more than 4 inches in caliper size. Provide one additional tree for each 4-inch caliper increment above 4". For example, a 6-inch caliper restitution credit would equal two (2) 4-inch caliper trees. Tree shall be planted at same location or elsewhere within park.

   (a.) Species: As noted on Construction Document sheet C3.0, Proposed Site Plan.

3. Plant and maintain new trees as noted in section 329000 Plantings and Seedings.

C. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 2-inch uniform thickness to remain. Do not place mulch within 6" of tree trunks.

D. Soil Aeration: Where recommended by arborist, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch- diameter holes a minimum of 12 inches deep at 24 inches o.c. Backfill holes with an equal mix of augured soil and sand.

3.11 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 329000

PLANTINGS AND SEEDING

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The work of this Section includes furnishing all labor, materials, equipment and incidentals required to complete all planting related landscaping work indicated on the Drawings and as specified herein, including but not necessarily limited to the following;

1. Excavation for plantings.
2. Furnishing and installing plant materials as shown on the Drawings, including shrubs, trees, and perennials.
3. Mulch, fertilize, stake, and prune all plants and trees.
4. Watering all specified plants.
5. Final cleanup and all other work required to complete the job in accordance with the Drawings and Specifications.
6. Preparation of as-planted sketch plans.
7. Maintenance of all specified plants and trees for an 8-week maintenance period.
8. Monthly planting status reporting of completed planted and maintenance activities.
9. Provision of “As Planted” record drawings.
10. Plant and tree warranties.

1.2 REFERENCE STANDARDS

A. American Association of Nurserymen (AAN)

B. ANSI Z60.1 - American Standard for Nursery Stock, most current edition

C. ANSI A 300 - Standard Practices for Tree, Shrub, and other Woody Plant Maintenance, most current edition and parts.

D. Soil Science Society of America (SSSA) Methods of Soil Analysis, Parts 1, 2, 3 & 4

E. American Society of Agronomy (ASA)

F. Other Agencies

1. American Society of Testing and Materials (ASTM)
   a. ASTM A 641/A 641M - Galvanized-steel wire
   b. ASTM B 221, Alloy 6063-T6, Aluminum Edging
   c. ASTM D5539-94 – Standard Specification for Seed Started Mix
2. Association of Official Agricultural Chemists (AOAC)
3. Woods End Research Laboratory, Solvita compost maturity index test.
4. International Society of Arboriculture (ISA)
5. PWD GSI Landscape Design Guidebook recommended plant list (Fall Update)
6. Philadelphia Parks and Recreation (PP&R - previously Fairmount Park Commission) Recommended Street Tree List
7. PP&R Contractor Guidelines.
8. USDA Rules and Regulations under the Federal Seed Act
9. Philadelphia Streets Department, Standard Construction Items.

10. Pennsylvania Department of Transportation, Form 408 Specifications.

G. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.3 SUBMITTALS

A. Submit complete product data for all materials furnished under this Section. One set of complete submittals is required per planting season. Any changes to materials require resubmittal. Unless otherwise noted below, all submittals must be received at least three (3) months prior to the start of the upcoming planting season.

B. Submit qualifications of crew, equipment, and suppliers using the Landscaping Qualifications Form in Appendix F. Qualifications must conform to the requirements detailed in Section 1.06, Contractor Qualifications, below.

C. Samples, testing and certifications of all materials shall be submitted for inspection and acceptance upon Owner's request. None of the landscaping materials shall be delivered to the site until samples and test results are approved by Owner/Authorized Representative, however such approval does not constitute final acceptance.

1. Mulch: Submit [1-quart] volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.

D. Submit a schedule for planting at least three (3) months prior to the start of the upcoming planting season. Schedule shall conform to planting seasons as defined in these Specifications and take into account allotted days for completion of the Work in the Contract; any extensions of the time allotment to be made for accommodation of planting seasons may be made at the sole discretion of a Project Manager.

E. Submit a proposed list of plant species with botanical and common names, variety, size, quantity, and source of plant materials in the varieties, sizes, and quantities indicated on the Drawings at least three (3) months prior to the start of the upcoming planting season. Sources of planting materials must be confirmed by the Contractor and written documentation of plant availability in accordance with the submitted planting schedule shall be provided by the supplier(s).

F. Plant Substitutions for plants not available locally should be ordered from nurseries located out of the state. Substitutions may be permitted only after substantiated written confirmation and documentation is submitted that a specified plant is either not obtainable or is not recommended for the location as shown on the landscaping plan. Substitutions should be drawn from the recommended plant list included in the PWD GSI Landscape Design Guidebook.

G. The Contractor must provide to a Project Manager each of their plant supplier's shipping lists for review and approval after ordering, but prior to supplier's shipping any plant material. Only specified plant species will be accepted. No cultivated varieties (cultivars) are acceptable.

H. The Contractor shall be required to submit status reports to Owner/Authorized Representative on a monthly basis during planting and maintenance activities. Photographic documentation as detailed in Section 01110 (Photographic Documentation) shall be provided as part of each status report. A template for the Project Status Report is appended to these Specifications.

I. Submit Monthly Project Status Reports using the template in Appendix D. Project Status Reports shall list detail all planting, maintenance activities, and upcoming site work. Photographic documentation shall be included with the Monthly Project Status Report in accordance with Section 01110 (Photographic Documentation) of these Specifications. Project Status Reports shall be submitted within one (1) week of the end of each month.

J. Sketch plans, photographs, and written documentation of all plant installations, including initial planting and any plant replacements during the eight (8)-week maintenance period shall be submitted for approval within one (1) week of provisional acceptance subsequent to the maintenance period.

1. Sketch plans must include a revised schedule with species (botanical name) and cultivars and final quantities along with a revised planting plan.
2. Landscape sketch plans may be a markup of the original landscaping plan. Changes to the original landscaping plan shall be clearly noted and shown in red.
3. All sketches shall be labeled “As Planted”, dated, and shall contain the name or initials of the Designer.

1.4 CONTRACTOR QUALIFICATIONS

A. Crew Requirements: Crews shall consist of a minimum of two workers. One (1) landscape foreperson shall be present at all times during execution of the work. The foreperson shall direct all work performed under the following sections. Notify the Department of the name and phone number of crew member with credentials outlined below, along with a contact phone number, at least five (5) business days in advance of the first day of the specified activity.

1. The foreperson shall have experience with at least five (5) landscape installations of similar scope and complexity and shall have a minimum of three (3) years of experience in successful completion of similar landscape installation work. The Vendor must submit a resume of the foreperson(s) who will supervise the work crew(s).
2. All crew certification documentation should be readily available onsite so Owner/Authorized Representative can confirm certifications during site inspections.
3. Multiple certifications can be held by an individual crew member to satisfy the requirements set for in these Specifications.

B. Pesticide applications: No pesticides shall be applied unless approved in writing by the Owner. For pesticide applications, one (1) crew member must have certification as a Pest and Disease Applicator, Pennsylvania State licensed, certified commercial applicator, category: Ornamental and Shade Trees, Lawn and Turf. This crew member shall be required to be present during application of pest and disease control practices. The Vendor must submit the Pesticide and Disease Applicator’s License IDs for employees performing pest and disease control.

1. The Vendor must submit a resume of the employee(s) who will supervise the work crew(s).
2. All crew certification documentation should be readily available onsite so Owner/Authorized Representative can confirm certifications during site inspections.
3. Multiple certifications can be held by an individual crew member to satisfy the requirements set for in these Specifications.

1.5 QUALITY ASSURANCE

A. All plant materials shall be tagged and approved by the Owner prior to site delivery. The Contractor shall notify Owner/Authorized Representative of planting and tagging days a minimum of seven (7) days prior.

B. Each plant or same-species group of plants shipped to the job site must be clearly labeled with its scientific name and common name. The Contractor is responsible to check to see that the plants are correctly labeled. Owner/Authorized Representative will not accept improperly labeled plants. The Contractor is prohibited to add, alter or remove labels. The Contractor will not be paid for material that is improperly labeled or for material on which the Contractor has altered or removed the labels.

1.6 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown ("root ball"), with a ball size not less than the diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.

C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than the diameter and depth recommended by ANSI Z60.1 for type and size of plant required.

D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than the minimum root spread according to ANSI Z60.1 for type and size of plant required.

E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.

F. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.

G. Finish Grade: Elevation of finished surface of planting or stormwater soil.

H. Multi-stem trees: Trees that have shall have three or more main stems that arise from the ground from a single root crown or at a point just above the root crown.

I. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.

J. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

K. Planting Area: Areas to be planted.

L. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

M. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.

N. Plugs: A cylinder of medium in which a plant is grown. The term is generally used to describe seedlings and rooted cuttings which have been removed from the container but with the medium held intact by the roots.

O. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

P. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.

Q. Stormwater Soil: A planting soil mixture intended to provide water quality management by filtering stormwater runoff and provide sufficient infiltration for management of specified quantities of surface water flows.

R. Subgrade: Surface or elevation of subsoil remaining after completing excavation or backfill immediately beneath planting soil or lightweight fill material , that is integrated with Specified Soil or Growing Media by tilling in a layer of Transition Mix.

1.7 INSPECTION OF PLANT MATERIALS

A. Owner/Authorized Representative may observe plants and trees at supplier before delivery to site for compliance with requirements for genus, species, variety, size, and quality. Owner/Authorized Representative reserves the right to be present for inspection of plants at nursery and may attach their seal to each plant. The Contractor is responsible for paying any up charge for Owner/Authorized Representative to attach their seal to specific plants.

B. Owner/Authorized Representative shall be present at time of delivery to inspect plants and trees delivered to the site. A Project Manager retains the right to inspect or reject substandard plants or trees for size and condition of balls and root systems, insects, injuries, latent defects, and speciation, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plants and trees must be removed immediately from the project site.

C. The Contractor shall stake the plant layout for approval by Owner/Authorized Representative. No plants or trees may be planted without on-site approval by Owner/Authorized Representative.

D. All trees shall be labeled by tree name (genus, species, and cultivar), and all labels securely attached to individual trees upon delivery to the jobsite.

1.8 DELIVERY, STORAGE AND HANDLING

A. The Contractor shall confine the storage of material and equipment to locations approved by Owner/Authorized Representative.

B. 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 if applicable.

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. Accompany each delivery of bulk materials with appropriate certificates.

D. Materials shall not be dropped or dumped from vehicles. Materials shall be reviewed for compliance with specified requirements. Unacceptable materials shall be removed and disposed from the job site. Materials shall be stored in designated areas.

E. Deliver plants freshly dug. Do not prune trees and shrubs, except as directed by Owner/Authorized Representative. Protect bark, branches, and root system from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during delivery. Carefully handle all trees and shrubs during delivery to avoid mechanical damage. Handle all planting stock by the root ball. After delivery, set plants in a location protected from sun and wind. Provide adequate water to the root ball package during shipping and storage.

F. Roots of plants shall be adequately protected at all times from sun and from drying winds.

G. Plants which cannot be planted immediately upon delivery shall be set on the ground, out of direct sun if possible, and be well-protected with soil, mulch, or other acceptable material. Plant materials shall not be stored on site for more than two (2) days prior to planting. It is the Contractor's responsibility to keep plants watered and maintained upon delivery to site; give plants enough water so that the entire soil mass is wet and water is draining out the pot bottom. Secure plants from theft and vandalism.

H. No tree shall be planted if the root ball is cracked, broken, or dropped either before or during the planting process. No container plants will be accepted if the container is cracked or broken except upon special approval of Owner/Authorized Representative.

I. Deliver plants on day of installation after preparations for installation have been completed. A Project Manager shall be onsite to approve condition and speciation of delivered trees and plant layout.

1.9 PROJECT CONDITIONS

A. Restrictions: Planting shall only be performed during the periods within the seasons which are normal for such work as determined by weather and by locally acceptable practice and which are approved by Owner/Authorized Representative. No planting shall be performed between acceptable planting periods unless otherwise approved by Owner/Authorized Representative. The Contractor shall schedule his work to conform to these requirements. Planting close to the end of the season should be avoided if possible to maximize favorable planting conditions.

1. Spring Planting: March 15 – June 15.
2. Fall Planting: September 15 – December 15.

B. Weather Limitations: Proceed with planting activities 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 and according to manufacturer's written instructions. Owner/Authorized Representative reserves the right to postpone planting activities due to unfavorable weather conditions.

1. During periods of drought, irrigation shall be provided as approved by Owner/Authorized Representative. Water rates shall be equivalent to one inch (1") of rainfall per week.

C. Access over finished grade soils shall be restricted. If access is required across placed soils, Contractor shall be required to rework compacted soil areas prior to fine grading to the full depth of the placed soils as directed by Owner/Authorized Representative.

1.10 SITE ACCESS

A. For each of the different areas where the Contractor needs to gain access to perform his work, the Contractor shall make arrangements with the Owner in advance to access the site. These arrangements may require the construction of temporary roadways or bridges and the removal and replacement of existing structures.

1.11 EXISTING STRUCTURES AND PAVING

A. It is expected the Contractor will prepare their own preconstruction documentation in addition to the City's own photographs, to verify the original site conditions and the immediate vicinity of the project areas. The Contractor shall provide a set of preconstruction photographs to the Owner/Authorized Representative.

B. Any disturbed paving or curb, footway or driveway shall be restored according to any instructions provided by the Philadelphia Streets Department. All disturbed surfaces outside of the Streets Department restoration area shall be restored in kind.

1.12 MAINTENANCE SERVICE

A. Project Maintenance: Provide maintenance of planted areas by skilled employees of the landscape installer as defined under quality assurance above. Maintain as required in Part 3 herein. Begin maintenance immediately after plantings are installed and continue for an eight (8) week period.

1.13 INSPECTION FOR PLANTING CERTIFICATION

A. Planting certification for provisional approval shall be determined by Owner/Authorized Representative on a site by site basis. Certification shall verify that the plants are in healthy condition at the time of inspection, that the planting methodology appears correct, and that the plants should be expected to survive as installed by the Contractor. Certification shall be made by a designee of the Owner that has experience locally installing native plants of similar types used in the project. Individual plantings or entire areas or species may be rejected at this time for certification. Owner/Authorized Representative reserves the right to determine remediation required in the event of non-certified plantings, up to and including full replacement.

B. A Project Manager will perform inspection on a site by site basis at the end of the eight (8)-week maintenance period and upon the written request of the Contractor received at least ten (10) calendar days before the anticipated date of inspection.

C. At the end of the maintenance period, the Contractor shall be responsible for replacement planting for any plants that are missing, dead, not true to name or size as specified, or not in satisfactory growth, as determined by Owner/Authorized Representative. Any determination made by a Project Manager regarding plant replacement shall be final, and the Contractor shall be responsible for replacing the plantings in kind (unless otherwise directed) as soon as weather conditions permit during the next appropriate planting season at no additional cost to the City. The Contractor shall not be responsible for damage or plant mortality due to vandalism.

D. The Contractor shall prepare a list of items to be completed or corrected for review by Owner/Authorized Representative. Upon completion of the inspection, Owner/Authorized Representative shall amend the list of items to be completed or corrected. Corrective work shall be completed within two (2) weeks of receipt of the list of items needing correction or completion.

E. The eight (8)-week maintenance period must reoccur if any replacement of plants is required the time of inspection.

F. After all necessary corrective work has been completed and approved by Owner/Authorized Representative subsequent to required maintenance period(s), Owner/Authorized Representative shall certify in writing the planting certification and the one-year warranty period will commence.

G. Should approval of work be delayed after the end of the maintenance period(s) has elapsed, the Contractor shall continue maintenance activities until such approval is granted.

1.14 WARRANTY PERIOD AND REPLACEMENTS

A. The Contractor shall warranty that plant material is properly handled and installed. The Contractor shall be responsible for replacement planting required for a period of twelve (12) months after a planting is certified. At the end of the warranty period, plants that are missing, dead, not true to name or size as specified, or not in satisfactory growth, as determined by Owner/Authorized Representative, shall be replaced within the quantity limits set forth in section 1.16.D below. Any determination made by a Project Manager regarding plant replacement shall be final, and the Contractor shall be responsible for replacing the plantings in kind (unless otherwise directed) as soon as weather conditions permit during the next appropriate planting season at no additional cost to the City. The Contractor shall not be responsible for damage or plant mortality due to vandalism.

B. All replacement of plants and trees shall be conducted in accordance with the material and construction (including schedule) in these Specifications.

C. Replace any trees or shrubs that are more than twenty-five percent (25%) dead or in unhealthy condition at end of warranty period, as determined by Project Manager. Reseed herbaceous cover that is less than eighty-five percent (85%) alive at end of warranty period.

D. Plant replacements for all plants installed during a planting season, across all sites under the contract, shall be limited to the following quantities at the end of the warranty period:

1. 20% of trees
2. 20% of shrubs
3. 20% of herbaceous cover
4. Additional replacements may be required from installation to the end of the provisional maintenance period should plants not survive.

1.15 FINAL INSPECTION AND FINAL ACCEPTANCE

A. At the end of the warranty period, final inspection will be made by a Project Manager. Owner/Authorized Representative will request the Contractor to attend the site inspection at least ten (10) calendar days before the anticipated date of inspection.

B. Upon completion of the inspection, Owner/Authorized Representative shall provide a list of items to be completed or corrected. Corrective work shall be completed within two (2) weeks of receipt of items needing correction or completion.

C. After all necessary corrective work has been completed, a Project Manager will certify in writing the final acceptance of planting.

PART 2 - PRODUCTS

2.1 PLANT CONDITIONERS

A. Herbicide application is not permitted for school planting. All weeding shall be performed manually.

B. Water used in this work shall be furnished by the Contractor and shall be suitable for irrigation and free from ingredients harmful to plant life. Hose and other watering equipment required for the work shall be furnished by the Contractor.

C. The use of hydrogels (in soil mixes or directly applied to plant roots) is prohibited in any green stormwater infrastructure system.

2.2 PLANT MATERIALS

A. Furnish and install plants, and pre-tagged and approved trees, as shown on the Drawings and specified herein. Plants shall be nursery grown under climatic conditions similar to those in the locality of the project and shall conform to the variety and sizes indicated. Plant material not obtained from an approved source is prohibited.

B. Plants shall conform to the indicated botanical names and standards of size, culture and quality for the highest grades and standards as adopted by the ANSI Z60.1 - American Standard for Nursery Stock. All plants shall meet specified sizes and be provided as plugs, container grown, field potted, or field balled and burlapped materials as specified.

1. All single-stem trees must have a straight trunk, well–balanced crown, and intact leader. Branching height (height of the lowest living branch) must be one-third to one-half (⅓ - ½) of tree height. Shrubs must be multi-stemmed with a well-balanced crown.
2. Tree measurements should be taken with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree for height and spread; do not measure branches or roots tip to tip. Take caliper measurements six inches (6”) above root flare for trees up to four-inch (4”) caliper size and 12 inches (12”) above the root flare for larger sizes.
3. All trees are to be a minimum of two inches (2”) caliper and balled and burlapped, or as specified in the landscaping drawings. Shrubs must be in a three (3) gallon container minimum and at least three to four feet (3-4’) feet tall, or as specified in the landscaping drawings.
4. All container grown materials shall be grown to specified size in a container and shall be healthy, vigorous, well rooted and established in the container in which they are growing. A container grown plant shall have a well-established root system reaching the sides of the containers to maintain a firm root ball, but shall not have excessive root growth encircling the inside of the container.
5. Plugs shall be cut into square or round plugs, strongly rooted, and capable of vigorous growth and development when planted; Plug Size: three (3) inches

6. Measure plant materials with stems, petioles, and foliage in their normal position. Plants shall be of sufficient dimensions to include most of the fibrous roots and conforming to the standards of the AAN and ANSI Z60.1.

C. Plants shall be freshly dug for delivery. No heeled in plants or plants from cold storage shall be accepted. All plants shall be sound, healthy, well branched, and free of disease or pests. Plants shall be free of physical damage such as bark abrasions, disfiguring knots, sunscald, or unhealed cuts over three-quarters of an inch (¾"). Trees with multiple leaders shall not be accepted. Plants or trees with girdling root systems shall not be accepted.

D. Plants larger than those shown in the planting schedule on the Drawings may be used, if approved by a Project Manager, but use of such plants shall be at no additional cost to the Owner. If the use of larger plants is approved, the spread of roots or ball of earth shall be increased in proportion to the size of the plant as approved and in accordance with ANSI Z60.1.

E. All plants shall be grown on their own roots. Grafted materials are only acceptable if grafted at least twelve (12) months before use, unless otherwise specified.

F. Plant material not obtained from an approved source is prohibited

2.3 TREES

A. In accordance with the design plans.

2.4 SEEDING

A. Seeding on the site shall be one of the following design mixes:

1. Drought Defy "Diamond Quality Mix" as manufactured by Reed and Perrine, 396 Main Street, Tennent, NJ, 732-446-6363:
   a. 35% Titanium LS Tall Fescue
   b. 35% Raptor II Tall Fescue
   c. 20% GrandSlam II Perennial Rye
   d. 10% Zinger Kentucky Bluegrass
2. "Sports Turf Mix" as manufactured by The Turf Trade, 517 Franklinville Road Mullica Hill, NJ 08032, 856-478-6704:
   a. 40% Turbo Tall Fescue
   b. 40% Hemi or Bullseye Tall Fescue
   c. 10% Octane or Secretariate 2 Perennial Ryegrass
   d. 10% Fusion Perennial Ryegrass
3. "Advantage Mix" Tall Fescue/Rye Mix (80/20) as manufactured by Fisher and Son, 110 Summit Drive, Exton PA 19341, 1-800-262-2127:
   a. 50% Inferno Tall Fescue
   b. 30% Quest Tall Fescue
   c. 10% Revenge GLX Perennial Ryegrass
   d. 10% Replay Perennial Ryegrass

2.5 MULCH

A. Organic mulch shall be double-shredded well-composted, hardwood bark, aged six (6) months to one year. Size shall be a maximum width or length of two inches (2") and a minimum of a half

inch (½") in width or length. Mulch shall be free of wood chips, stones or other undesirable matter. Mulch shall be natural hardwood color. Dyes shall not be permitted.

1. Source: The Contractor is reminded that mulch generally meeting these requirements is available for purchase from the Fairmount Park Organic Recycling Center, 3850 Ford Road, Philadelphia, (215) 685-0108.
2. Other supplier conforming to organic mulch requirements above.

2.6 WEED-FREE STRAW AND SALT HAY

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

2.7 TREE WRAP

A. Contractor shall not use tree wrap on trees unless specifically directed by Owner/Authorized Representative. Where directed by Owner/Authorized Representative, tree wrap shall be a woven polypropylene fabric. When used, tree wrap shall be installed on each tree immediately after planting.

2.8 TREE-STABILIZATION MATERIALS

A. Trunk-Stabilization Materials:

1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal by length indicated, pointed at one end.
2. Wood Deadmen: Timbers measuring 8 inches in diameter and 48 inches long, treated with specified wood pressure-preservative treatment.
3. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes.
4. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch (2.7 mm) in diameter.
5. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.

2.9 EROSION CONTROL MATERIALS

A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a 100% biodegradable mesh. Include manufacturer's recommended steel wire staples, six (6) inches long.

B. Erosion-Control Fiber Mesh: Biodegradable burlap or spun-coir mesh, a minimum of 0.92 lb./sq. yd., with 50 to 65 percent open area. Include manufacturer's recommended steel wire staples, six (6) inches long.

2.10 WATER

A. Water used in this work shall be furnished by the Contractor and shall be suitable for irrigation and free from ingredients harmful to plant life. Hose and other watering equipment required for the work shall be furnished by the Contractor.

B. The use of hydrogels (in soil mixes or directly applied to plant roots) is prohibited in any green stormwater infrastructure system.

PART 3 - EXECUTION

3.1 GENERAL

A. Planting, mulching and conditioning shall only be performed during those periods within the seasons which are normal for such work as determined by the weather and locally accepted practice, as approved by Owner/Authorized Representative and set forth in Section 1.10 herein.

B. Protect adjacent and adjoining structures, utilities, walks, pavements, fences and other facilities, trees, shrubs, mulched beds, plantings, and mulched areas from damage caused by planting operations. Any damages to infrastructure shall be repaired by the Contractor at no cost to Owner.

C. Schedules for planting shall be submitted to Owner/Authorized Representative for approval at least three (3) months prior to the start of the upcoming planting season. The Contractor shall notify Owner/Authorized Representative of plant tagging and planting days with a minimum of seven (7) days' notice. In the event of inclement weather, planting should occur when conditions permit. In the event of rain, specifically, planting should occur the following day.

D. The Contractor shall stake out locations of trees and secure approval of layout prior to planting.

3.2 EXAMINATION

A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance of the Work.

1. The Contractor shall review details of existing subsurface infrastructure to ensure digging or staking does not damage existing infrastructure. Contractor is responsible for costs to repair any damage to subsurface infrastructure caused by planting or staking operations.
2. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
3. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
4. Review details of subsurface infrastructure to ensure digging or staking does not interfere with other assets.
5. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
6. Uniformly moisten excessively dry soil that is not workable or which is dusty.

B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Project Manager and replace with new stormwater soil.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, other facilities, trees, shrubs, mulched beds, plantings, turf areas, and existing plants from damage caused by planting operations.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. All plants shall be installed at locations as shown on the Drawings. The Contractor shall stake out locations, outline areas, and obtain a Project Manager's approval of layout before excavating or planting. Make minor adjustments as required.

3.4 MINOR GRADING AND FILL

A. The addition of soil may be required given the condition of the site as directed by Owner/Authorized Representative. Minor grading shall take place following the addition of soil, or as deemed necessary by Owner/Authorized Representative.

B. Protect newly graded soils from traffic, freezing and erosion. Keep soils free of trash, debris or construction materials from other work.

C. Repair and re-establish grades to specified tolerances where completed surfaces become eroded, rutted, settled, or over compacted due to subsequent construction operations or weather conditions.

D. Scarify or remove and replace material to a depth as directed by Owner/Authorized Representative.

E. Where settling occurs, before final acceptance, remove mulch and backfill with additional approved soil, compact to specified density.

F. Finished grades to be landscaped or seeded shall include a minimum stormwater layer of six inches (6"). Finished grades to be otherwise surfaced shall allow sufficient elevation for the completed surface to produce the finished grades and elevations as shown on the Drawings.

3.5 PLANTING OPERATIONS

A. Planting shall be done by experienced workmen familiar with planting procedures under the supervision of a qualified foreman.

B. The Contractor shall make all efforts to not destroy soil structure by excessive traffic, working, or compacting the soil throughout the planting operation. Utilize the smallest practicable piece of low ground pressure mechanical equipment in the adjacent areas.

C. To prevent potential for plant settlement, do not over-excavate prior to planting.

D. Stormwater soil shall be backfilled in lightly compacted layers of not more than nine inches (9") and each layer watered sufficiently to settle before the next layer is put in place.

E. If more than two (2) days elapse following preparation of stormwater soil, then the Contractor shall be responsible for regrading and loosening areas before planting.

F. Plants which cannot be planted immediately upon delivery shall be set on the ground, out of direct sun when possible, and be well-protected with soil, mulch, or other acceptable material. Plant materials shall not be stored on site for more than two (2) days prior to planting. It is the Contractor's responsibility to keep plants watered and maintained upon delivery to site; give plants enough water so that the entire soil mass is wet and water is draining out the pot bottom. Secure plants from theft and vandalism.

G. Owner/Authorized Representative reserves the right to reject a plant or group of plants at any time during the project.

3.6 EXCAVATION FOR TREES AND SHRUBS

A. Planting Pits and Trenches

1. Excavate circular planting pits with sides sloping inward at a 45-degree angle where possible, or as indicated in planting detail drawings. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
2. Excavate approximately three times as wide as ball diameter for planting stock where possible, or as indicated in tree planting detail drawings.
3. For bare root stock, excavate at least 12 inches wider than root spread or as indicated on the drawings, whichever is the greater dimension and deep enough to accommodate vertical roots.
4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball
5. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling; the root flare must be visible for planted trees.
6. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
7. Maintain supervision of excavations during working hours.
8. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
9. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.

B. Backfill Soil: Topsoil, planting soil, or stormwater soil removed from excavations may be used as backfill soil unless otherwise indicated.

C. Obstructions: Notify Owner/Authorized Representative if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations

1. Hardpan Layer: Drill 6-inch-diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.

D. Drainage:

1. Notify Project Manager/Contracting Officer if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
2. Verify by testing that pits are free draining. If pits are not free draining notify Owner/Authorized Representative and submit alternative method of drainage for approval

3.7 INSTALLATION OF TREES AND CONTAINER SHRUBS

A. Remove all debris from the pit and tamp loose soil in the bottom of the pit by hand.

B. Do not handle the plant by the trunk, branches, leaves or stem.

C. Place the plant straight in the center of the planting pit, carrying the plant by the root mass.

D. Carefully cut and remove all of the wire baskets that are packaging the root system using the least amount of disturbance as possible.

E. Cut and remove all ropes around the burlapped ball. Remove all nails. Remove all burlap, wires, and/or other materials from the planting hole.

F. When planting container plants, scarify the sides and bottom of the root mass such that no roots continue to circle around the root mass. When possible, pull encircling roots away from root mass and position them in the soil around the planting hole such that they are being pulled away from the plant.

G. Backfill planting pit with soil and tamp firmly to fill all voids and air pockets. Do not over compact soil (backfilled soil should have a maximum bulk density of 1.5g/cm3). Make sure plant remains straight during backfilling/tamping procedure.

H. The top of the root mass of the trees/shrubs should be flush with, or slightly elevated (no more than 1/8th its height) above the final grade. Do not cover stem with soil or mulch.

I. When planting on a slope, plant “out-of-the-hill” by raising the grade around the planted hole so it is flat at the surface. Do not plant “into-the-hill” by lowering the grade and do not leave the grade at an angle.

J. Water plants thoroughly at their bases immediately after planting to saturate backfill. Watering shall occur of a sufficient quantity to saturate the backfill and shall be applied slowly enough to sink into the soil avoiding runoff.

K. Install slow-release watering bags on all trees such as Treegator or equivalent with at least 15 gallon capacity. Fill watering bags during maintenance.

L. A layer of mulch should be placed around each tree and shrub installed as set forth in herein and as indicated in planting detail drawings.

M. The Contractor shall leave no open planting pits at the close of each day.

N. A woven polypropylene tree wrap shall be used to protect trees from deer damage if so directed by Owner/Authorized Representative. Tree wrap shall be installed on each tree immediately after planting.

O. Maintain protection of trees during installation and maintenance periods. Treat, repair or replace any damaged planting.

P. During planting, all areas shall be kept neat, clean and free of all trash and debris, and all reasonable precautions shall be taken to avoid damage to existing plants, turf, structures, and private property.

Q. Remove all tags, labels, strings and wire from the plant materials, unless otherwise directed by Owner/Authorized Representative.

R. Promptly remove soil debris created by work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks or other paved areas.

S. Final cleanup shall be the responsibility of the Contractor and consist of removing all trash and materials incidental to the project and disposing of them off-site.

T. When planting on side slopes, grade shall be raised to provide a level surface for planting.

3.8 PROTECTION OF TREES

A. Refer to section 015639 for Tree Protection requirements.

3.9 TREE REMOVAL

A. Refer to section 015639 for Tree Removal requirements.

3.10 TRIMMING AND PRUNING

A. Each plant shall be trimmed in accordance with AAN and ANSI Z60.1 standards to preserve the natural character of the plant and as directed by Owner/Authorized Representative.

B. Trimming and pruning shall be done with clean, sharp tools.

3.11 TREE STABILIZATION

A. Trunk Stabilization by Upright Staking and Tying: Install trunk stabilization as follows unless otherwise indicated:

1. Place stakes as low as possible, no higher than 2/3 the height of the tree.
2. Stake trees with two stakes for trees up to 12 feet high and 2-1/2 inches or less in caliper; three stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.
3. Materials used to tie the tree to the stake should be flexible and allow for movement all the way down to the ground so that trunk taper develops correctly.
4. Support trees with bands of flexible ties at contact points with tree trunk. Support trees with two strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.

B. Trunk Stabilization by Staking and Guying: Stake and guy trees more than 14 feet in height and more than 3 inches in caliper unless otherwise indicated. Install trunk stabilization as follows:

1. Site-Fabricated, Staking-and-Guying Method: Install no fewer than three guys spaced equally around tree.
    a. Securely attach guys to stakes 30 inches long, driven to grade. Adjust spacing to avoid penetrating root balls or root masses. Provide turnbuckle for each guy wire and tighten securely.
    b. For trees more than 6 inches in caliper, anchor guys to wood deadmen buried at least 36 inches below grade. Provide turnbuckle for each guy wire and tighten securely.
    c. Support trees with bands of flexible ties at contact points with tree trunk and reaching to turnbuckle. Allow enough slack to avoid rigid restraint of tree.
    d. Attach flags to each guy wire, 30 inches above finish grade.
    e. Paint turnbuckles with luminescent white pain

C. No staking shall be performed without full understanding of subsurface infrastructure locations.

3.12 INSTALLATION OF CONTAINER PLANTS

A. Install plants after stapled erosion control blanket is installed and approved by a Project Manager (where applicable). When stapled erosion control blanket is approved, dig a hole for each plug or plant that is about the same depth as the soil of the plug or potted plant. For plugs, a 'dibble bar' with the same diameter as the plug can be used to create the hole, when punched through the blanket. For container plants, the stapled erosion control blanket shall be cut in a circular hole shape to match the diameter of the container.

B. Remove the plants and soil from the pots and carefully break apart bound root balls. Position each plant in its hole so that the soil level of each plant is flush to the surrounding finished grade soil surface. After planting, fill soil in around the plant completely, firming the soil and ensuring there are no air pockets as plants are installed. When planted, cover the top of the potted soil mix with about ½-in of stormwater soil to match surrounding finished grades and help reduce wicking of moisture out of the potted soil mix. Water installed plants immediately after planting. Where specified on the Drawings, install mulch as directed.

C. When planting on a slope, plant "out-of-the-hill" by raising the grade around the planted hole so it is flat at the surface. Do not plant "into-the-hill" by lowering the grade and do not leave the grade at an angle.

3.13 GROUND COVER AND HERBACEOUS PLANTING

A. Sod may only be laid with written permission from owner.

B. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated on Drawings in even rows with triangular spacing.

C. Use stormwater soil for backfill.

D. Dig holes large enough to allow spreading of roots.

E. For plugs supplied in flats, plant each in a manner that minimally disturbs the root system.

1. Plant plugs in holes or furrows, spaced twelve (12) inches apart in triangular pattern unless otherwise indicated on drawings. On slopes, contour furrows to near level.

F. Work soil around roots to eliminate air pockets and maintain plant at finished grade.

G. Water thoroughly after planting, taking care not to wet plant foliage when sunny.

H. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.14 PLANTING AREA MULCHING

A. Immediately after planting operations are completed, planting beds placed outside the infiltration areas and channels (areas covered in erosion control blankets) shall be covered with the specified mulch as indicated.

1. For Trees and Shrubs in Turf Areas: Apply organic mulch ring of 3-inch average thickness, with a 3-foot radius around trunks or stems. Do not place mulch within three inches (3") of trunks or stems.

2. For Continuous Planting Areas: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of individual planting and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within three inches (3”) of trunks or stems and off of leaves or stems for container plants and plugs.

B. No mulch shall be placed in areas that will experience surface flows (channels, swales, etc.) or surface ponding of water (areas of basins, bumpouts, or other surface features that are designed for surface water detention). These areas that will be flooded shall only be covered with erosion control blankets and plantings or landscaping stone as specified.

3.15 WATERING

A. Trees shall be watered twice within the first twenty-four (24) hours of the time of planting and not less than twice per week until provisional acceptance. Trees shall be watered at the roots, to minimize wetting of the leaves. Water shall be released slowly to prevent runoff and in sufficient quantity to saturate the soils (approximately fifteen to twenty (15-20) gallons per watering). In the event of steady rainfall, frost, or yellowing of the leaves, watering may be temporarily reduced with the approval of Owner/Authorized Representative.

B. Plantings must be thoroughly watered twice within the first twenty four (24) hours of the time of planting and not less than twice per week until provisional acceptance. Plants shall be watered at the roots to minimize the wetting of the leaves. Overhead watering is permitted only during overcast weather. Water shall be released slowly to prevent runoff and in sufficient quantity to saturate the soils.

C. Suitable water for planting and maintenance will be the responsibility of the Contractor. The Contractor shall furnish his own hose and hose connections or other watering equipment.

D. See Table of Maintenance Tasks and Schedule for further watering requirements.

3.16 SITE RESTORATION

A. General

1. Restore all disturbed areas to the satisfaction of Owner/Authorized Representative.
2. Backfill all disturbed areas outside the Limits of Disturbance to original elevation and slope. Ensure stability of reconstructed slopes. On steep slopes, provide and arrange logs, large rocks or other devices to check erosion. Slope areas shall be seeded with the specified seed mix. The entire disturbed area of the slope shall be covered with erosion control blanket to prevent erosion. The fabric shall be pinned to the slope at 3-three foot (3’) intervals.
3. Restore all disturbed trenches, rubble gutters, bridle paths, asphalt paths, cinder roads, stone walls, structures, utilities, sidewalks and other fixtures in kind, to original condition, and to the satisfaction of Owner/Authorized Representative.

3.17 MAINTENANCE

A. Maintenance for provisional acceptance shall begin immediately after planting is installed on a site by site basis. Contractor will begin a formalized cyclical maintenance program that will last until the end of the maintenance period of eight (8) weeks.

B. Proposed maintenance activities and schedule shall be coordinated with the Owner/Authorized Representative and shall be in accordance with the program submitted by the Contractor based on Table of Provisional Maintenance Tasks and Schedules below.

C. Plants shall be watered, mulched, weeded, pruned, and sprayed as described herein and otherwise maintained and protected during this period. Dead or damaged plants shall be replaced before the end of the provisional maintenance period. Maintenance activities are outlined in the table below.

D. Submit Monthly Project Status Reports using the template in Appendix B detailing the completed maintenance activities.

E. Site inspection for provisional approval shall take place at the end of the eight (8) week period. The Contractor shall coordinate the site inspection with the Owner/Authorized Representative ten (10) calendar days prior to the anticipated date of inspection. Should approval by the Owner/Authorized Representative be delayed until after the 8-week period has elapsed, the Contractor is responsible for continuing maintenance activities until such approval is granted.

F. Table of Provisional Maintenance Tasks and Schedules:

Task	**Description**	**Frequency**
Remove trash, sediment and organic debris	Remove trash, sediment, and organic debris from all SMP surfaces and inlet gutters	Weekly
	Clean pretreatment devices; empty filter bags for inlets, domed rises or other structures. Sweep or vacuum at least five (5) ft. one either side of inlets or curb cuts.	Monthly
Remove non-target/invasive vegetation	Remove all non-target or invasive vegetation not part of the original planting manually. Weeds shall be disposed of offsite in an approved manner.	Monthly, from March to November
Water vegetation	Place and fill 15-20 gallon water bags such as Treegator® or equivalent on trees. Follow directions of manufacturer. Replace bags if they become damaged or missing.	Weekly

	Water shrubs and herbaceous plants at the base of the plant with a hose or ground-level irrigation system. Natural rainfall is not considered a watering as it will not provide the required depth of water. Each watering should slowly soak the entire depth of root system.	3 times per week on dry days; no later than 3-4 hours from dusk. Watering with an overhead system is only permitted when weather is overcast.
	Water groundcover and plugs - do not allow soil to dry out. Provide a half-inch (0.5”) of water at each watering.	Daily, when there is no rainfall for first 6 weeks; twice weekly thereafter
Apply insecticides or other chemicals	Apply insecticides or other chemicals	As approved by Owner / Authorized Representative
Prune trees and shrubs	Remove dead, damaged, or diseased wood	As needed during Provisional Maintenance period; should be completed prior to Final Owner/Authorized Representative Inspection and Walk-through
Replace tree stakes	Replace or amend tree stakes or tree protection	As needed during Provisional Maintenance period; should be completed prior to Final Owner/Authorized

		Representative Inspection and Walk-through
Apply mulch	Apply mulch to landscaped beds as needed to maintain three-inch (3”) depth; extending from the edge of the bed or pit to a radius of three inches (3”) from the stem of each plant. Mulch shall not touch the woody stem of a shrub or tree. When there is more than a one-inch (1”) drop from the edge of the pavement to the mulch, add mulch to reduce the gap to a minimum of a half-inch (0.5”) from the edge of the pavement.	As needed during Provisional Maintenance period; should be completed prior to Final Owner/Authorized Representative Inspection and Walk-through
Reset elevation of plants	Reset settled plants to proper grade and position	As needed during Provisional Maintenance period; should be completed prior to Final Owner/Authorized Representative Inspection and Walk-through

Replace dead or damaged plants	Replace plants that are more than 25% dead	As needed during Provisional Maintenance period; should be completed prior to Final Owner/Authorized Representative Inspection and Walk-through

END OF SECTION 329000

City of Philadelphia Rebuild Initiative

Attachment D – Asbestos Inspection Report

City of Philadelphia - Department of Public Health
Air Management Services, 2nd Fl. Asbestos Control Unit
321 University Ave. Philadelphia, PA 19104

Asbestos Inspection Report

Office Use Only	Date Received L&I:	Date Received AMS:
	Date Inspected	Inspector No.

1. Name of Building / Property: McPherson Library
Address: 601 East Indiana Ave, Philadelphia, PA 19134

2. Name of Building / Property Owner: Philadelphia Parks & Recreation
Address: 1515 Arch Street 10th Floor 19102
Phone No.: (215) 683-3600

3. Name of Philadelphia Certified Investigator: Bernard J. Bryson
Certification No.: 0437
Contact Information / Email / Phone No.: 215-755-2305

L&I Commercial Activity No. (Former Business Privilege License No.): H-31804
Business Tax ID No.: 559-2027

4. Name of Philadelphia Licensed Laboratory: IATL
License No.: 101
Phone No.: 856-231-9449

5. Scope of Work: (Insert or attach a complete description of the portion of the subject property inspected and the anticipated work that will result in the disturbance of the identified Asbestos Containing Materials (ACMs) (e.g. demolition, asbestos abatement, and / or renovation activities.)

The scope of work will either be complete building demolition of the building or major renovations throughout the building. A comprehensive asbestos inspection along with bulk sampling of accessible suspect materials was performed.

6. ☐ Property has been declared to be in imminent danger (ID) of failure or collapse by the City of Philadelphia Department of Licenses & Inspections. Attached is a copy of the L&I Notice of Violation declaring the property I.D. **Note: INVESTIGATOR MUST BE ON SITE DURING DEMOLITION!

7. (ACMs) identified? ☑ Yes (List Below) ☐ No (explain)

Project No. 632-190

8. Suspected ACM's sampled? ☑ Yes (attached are copies of the laboratory chain of custody and bulk sample results.) ☐ No (Why?)

9. List all identified ACM's located in the planned renovation/demolition areas. Damaged ACM must be listed and then repaired or removed prior to renovation. You (Investigator) must label all ACM that may be left in the work area. (Attached are add'tl sheets)

Location	Description	Type (Code 1)	Amount Square	Amount Linear	Condition (Code 2)	Action (Code 3)
Section 9 begins of Page 2						

Code 1
FRI - Friable
NF1 - Non-Friable, Cat. 1
NF2 - Non-Friable, Cat. 2

Code 2
DD - Deteriorated or Delaminated
ND - Non-Damaged

Code 3
REM - Removal necessary prior to Demo/Reno
NRN - No removal necessary, label ACM
REP - Repair & Label ACM, removal not necessary

10. I hereby certify that the foregoing statements are true and the information contained in this report is true. This certification is made subject to the penalties set forth in 18 PA. C.S. S4904 relating to unsworn falsification to authorities. Furthermore I certify that the inspection, sampling, and labeling requirements of section X of the Asbestos Control Regulation (ACR) have been met. The building owner has been notified of the ACR requirements and given a copy of this report. If the inspection has revealed ACM which will be disturbed by the proposed work or if it has revealed ACM in bad condition, the building owner has been notified to remove or repair the ACM in accordance with the ACR prior to renovation or demolition activity.

11. Signature of Certified Asbestos Investigator	Date:	Signature of Building Owner:	Date:
Bernard J Bryson	8/14/2019		

Asbestos Inspection Report

9.
List Asbestos Containing Material (ACM) located in the planned renovation/demolition area(s). Damaged ACM must be listed and then repaired or removed prior to renovation. You (Investigator) must label all ACM that may be left in the work area.

Q/U = Quantity Undetermined

Location	Description	Type (Code 1)	Amount Square	Amount Linear	Condition (Code 2)	Action (Code 3)
Basement Mechanical Room	White Packing surrounding the Boiler Breeching/Chimney connection point	FRI	5 square feet		ND	REM
Throughout Basement	12” x 12” White Floor Tile and associated Mastic (120 sf below non-asbestos Vinyl Composite Tile)	NF1	2,748 square feet		ND	REM
Throughout First Floor	12” x 12” White Floor Tile and associated Mastic (3,740 sf below Carpeting and 856 sf below non-asbestos Vinyl Composite Tile)	NF1	4,896 square feet		ND	REM
Throughout	Wood and Metal Fire Doors throughout the Building (assumed asbestos-containing interior cores)	NF2	Approx. 20 doors		ND	REM
Throughout – Concealed within Electric Boxes Behind Panel Breakers	Wire Insulation	NF2	Q/U		ND	REM
Concealed within Wall Cavities (feeding radiators from Attic)	Magnesia (MAG) Pipe/Pipe Fitting Insulation	FRI	Q/U		ND	REM
Attic	Magnesia (MAG) Pipe/Pipe Fitting Insulation	FRI		250 linear feet		REM
Rooftops	Roof field and flashing (assumed asbestos-containing)	NF1	6,500 square feet			REM

Signature of Certified Asbestos Investigator: Date:

8/14/2019

Signature of Building Owner: Date: