SECTION 329300

PLANTS

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***NOTE TO SPECIFIER***

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 2 Specification with primarily editable text; therefore, most of the text can be edited, but there is some required text which is noted within the Section with a “Note to Specifier.” Do not revise these paragraphs without an approved Deviation from USPS Headquarters, Facilities Program Management, through the USPS Project Manager.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

***All disturbed areas not receiving impervious materials, shall receive topsoil and seed. No other landscaping is required unless the local approving authority requires additional landscaping. Should the local approving authority require landscaping, the A/E shall provide landscaping to meet minimum requirements. Seed and other plant materials shall be drought resistant, if applicable. No irrigation systems are to be provided.***

***Use plant materials that are ornamental and tolerant of the site's existing soils and climate. Indigenous plants that do not require supplemental irrigation or excessive fertilization once established must be used to the extent possible. Plant selection should be chosen for a range of pollinator friendly plants preferably native species blooming at different times. Allow for a variety of flower types and colors to provide food sources for pollinators throughout the seasons. Also, include plants that provide shelter for pollinators and caterpillar host plants. Arrange flowering plants in groups for pollinator efficiency.***

***The branching habit of all plants must be full form, free from disfigurements and conforming to the American Standard for Nursery Stock as published by the American Association of Nurserymen (ANSI Z60.1-1986, or later revision).***

**See Handbook AS-503, Standard Design Criteria, Modules 1 and 2A, 1-2.6, for more information regarding landscaping.**

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1. GENERAL
   1. SUMMARY
      1. Section Includes:
         1. Plants, Trees and Shrubs.
         2. Antidesiccants.
         3. Pesticides.
         4. Fertilizer.
         5. Planting Soil Mixtures.
         6. Membrane Ground Covers.
         7. Drainage Pipe and Bedding.
         8. Mulches.
         9. Edging Material.
         10. Trunk Wrapping Material.
         11. Staking and Guying Material.
         12. Water.
         13. Maintenance of Existing Erosion Control.
      2. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
      3. Related Sections:
         1. Section 311000 - Site Clearing: Mulch from recycled site debris.
         2. Section 312000 - Earth Moving: Topsoil materials.
         3. Section 313200 - Soil Stabilization: Stabilization materials and procedures.
         4. Section 312500 - Erosion and Sedimentation Controls: Slope and erosion protection materials.
         5. Section 329200 - Turf and Grasses: Grass, sod, and sprigs.
   2. REFERENCES
      1. American National Standards Institute (ANSI):
         1. ANSI Z60.1 - American Standard for Nursery stock.
      2. American Society for Testing and Materials (ASTM):
         1. ASTM C 4 - Specification for Clay Drain Tile.
         2. ASTM C 136 - Method for Sieve Analysis of fine and Coarse Aggregates.
         3. ASTM C 498 - Specification for Perforated Clay Drain Tile.
         4. ASTM C 700 - Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated.
         5. ASTM D 1621 - Test Method for Compressive Properties of Rigid Cellular Plastics.
         6. ASTM D 2103 - Specification for Polyethylene Film and Sheeting.
         7. ASTM D2178 - Specification for Asphalt Glass (Felt) Used in Roofing and Waterproofing.
         8. ASTM D 2729 - Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
         9. ASTM D 4491 - Test Methods for Water Permeability of Geotextiles by Permittivity.
         10. ASTM D 4716 - Test Method for Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products.
         11. ASTM F 405 - Specification for Corrugated Polyethylene (PE) Tubing and Fittings.
      3. National Arborist Association (NAA):
         1. NAA PSST - Pruning Standards for Shade Trees.
   3. SUBMITTALS
      1. Section 013300 - Submittal Procedures: Procedures for submittals.
         1. Assurance/Control Submittals:
            1. Delivery Schedule: Submit schedule of delivery of trees, plants, and ground covers minimum 10 days prior to first scheduled delivery.
         2. Pesticide Control Plan:
            1. Submit plan for proposed sequence of pesticide application including common name, chemical composition, formulation, concentration rate, and method of application of each type of pesticide.
      2. Section 017704 - Closeout Procedures and Training: Procedures for closeout submittals.
         1. Operation and Maintenance Data: Include maintenance instructions recommending procedures to be established by United States Postal Service for maintenance of trees, plants, and ground covers during entire year. Include cutting and trimming method and types, application frequency, and recommended coverage of fertilizer. Submit before expiration of maintenance during plant establishment period.
   4. QUALITY ASSURANCE
      1. Horticultural Standards:
         1. Names conform to "Standardized Plant Names" by American Joint Committee on horticultural Nomenclature.
         2. Material selection, sizing, transportation, protection and planting in accordance with "American Standard for Nursery Stock", by American Association of Nurserymen and American National Standard Institute (ANSI) Publication Z60.1.
      2. Regulatory Agencies: Conform to applicable requirements of the Local and State Department of Agriculture Extension Service of State where Project is located.
      3. Plant, tree, and shrub materials will be inspected by USPS Project Manager at growing site; tagged for size and quality and approved for delivery.
   5. DELIVERY, STORAGE AND HANDLING
      1. Section 016000 - Product Requirements: Transport, handle, store, and protect products.
      2. Delivery:
         1. Branched Plants: Branches tied and exposed branches covered with material that allows air circulation. Prevent damage to root balls and desiccation of leaves.
         2. Fertilizer and Lime: In original, unopened containers bearing manufacturer's chemical analysis, name, trade name, or trademark, and indication of conformance to state and federal rules and regulations. May be furnished in bulk with certificate indicating above information.
         3. Labels: Durable waterproof labels in weather-resistant ink, legible for a minimum of 60 days after delivery to planting location, stating the correct name and size as specified in the list of required plants. Attach to plants, bundles and containers of plants. Groups of plants may be labeled by tagging one plant.
         4. Pesticides: In original unopened containers with legible label indicating Environmental Protection Agency (EPA) registration number and manufacturer's registered uses.
      3. Storage:
         1. Plants, Trees and Shrubs: Store and protect plants not planted on day of arrival at Project Site as follows:
            1. Shade and protect plants in outside storage areas protected from wind and direct sunlight until planted.
            2. Heel-in bare root plants.
            3. Protect balled and burlapped plants from freezing or drying out by covering balls or roots with moist burlap, sawdust, wood chips, shredded bark, peat moss, or other approved material. Provide covering which allows air circulation.
            4. Keep all plants in a moist condition by watering with fine mist spray until planted.
         2. Lime, Fertilizers, Mulch: Store in dry locations away from contaminants.
         3. Pesticides, Antidesiccants: Do not store with other landscape materials.
      4. Handling: Do not drop or dump materials from vehicles. Handle plants by rootballs or containers. Do not lift or carry by stems or crown.
   6. PROJECT CONDITIONS
      1. Jobsite Requirements:
         1. Protection of Personnel and Property: Apply pesticides so damage will not result to personnel or property from either direct spray or drifting of chemicals both on and off site.
         2. Disposal of Excess Chemicals and Containers: In accordance with federal and state laws.

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**NOTE TO SPECIFIER**

**REQUIRED**: Do not revise ENVIRONMENTAL REQUIREMENTS without an approved Deviation from USPS Headquarters, Facilities Program Management, through the USPS Project Manager.

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* 1. ENVIRONMENTAL REQUIREMENTS
     1. Resource Management:
        1. Renewable Resources: Plants specified are indigenous, low maintenance varieties, tolerant of site's existing soils and climate without supplemental irrigation or fertilization once established.
           1. Soil amendments: No chemical fertilizers; use organic matter to support establishment of indigenous plants; use inorganic materials such as sand or gypsum to improve workability and drainage of soil as appropriate to indigenous plants.
           2. Mulch: Provide organic mulch products.
           3. Pesticides: No chemical pesticides.
        2. Recycled Content:
           1. Mulch from recycled site debris: Coordinate with Section 311000 - Site Clearing to identify and prepare suitable organic debris for use as mulch on site.
  2. WARRANTY
     1. Section 017704 - Closeout Procedures and Training: Procedures for closeout submittals.
     2. Submit written warranty signed by material supplier and installer agreeing that they will:
        1. Warrant plants, trees and shrubs unconditionally for 1 year or 1 full growing season, whichever is greater.
        2. Replace any material diseased or 25 percent dead or more at no additional cost to United States Postal Service.
        3. Warrant deciduous material to break dormancy if planted in dormant season.
        4. Warrant perennials to show signs of healthy growth by May 15 to June 1.
        5. Provide replacement material during next planting period.

1. PRODUCTS
   1. SUBSTITUTIONS
      1. Pre-Bid: If any plant specified is not obtainable, submit a written substitution request to Contracting Officer during bidding.
      2. Substitutions of planting materials will not be permitted unless authorized by Contracting Officer.

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**NOTE TO SPECIFIER**

Edit PLANTS, TREES, AND SHRUBS for planting used for specific Project.

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* 1. PLANTS, TREES, AND SHRUBS
     1. Varieties: Botanical names indicated are listed in "HORTUS III". Furnish nursery stock in accordance with ANSI Z60.1, except as otherwise specified or indicated. Furnish plants grown under climatic conditions similar to those in locality of Project Site. Spray plants budding into leaf of having soft growth with an antidesiccant before digging. Provide plants of same specified size in uniform size and character of growth.
     2. Shape: Well branched, well formed, sound, vigorous, healthy planting stock free from disease, sunscald, windburn, abrasion, and harmful insects or insect eggs and having healthy, normal, and unbroken root system.
     3. Deciduous Trees and Shrubs: Symmetrical tops with typical spread of branches for each particular species or variety.
     4. Evergreen Trees and Shrubs: Well developed symmetrical tops with typical spread of branches for each particular species or variety.
     5. Ground Covers and Vines: Number and length of runners and clump sizes indicated, and of proper age for grade of plants indicated, furnished in removable containers, integral containers or formed homogeneous soil section.
     6. Size: Minimum sizes measured before pruning and with branches in normal position, conform to measurements indicated, based on average width or height of plant for species specified in ANSI Z60.1. Plants of larger size than specified may be used with approval of Contracting Officer. When larger plants are used, increase ball of earth or spread of roots in accordance with ANSI Z60.1.
     7. Balled and Burlapped (B&B) and Balled and Potted (B&P) Plants: Ball size and ratios, conform to ANSI Z60.1. Ball plants with firm, natural balls of soil. Wrap B&B plants firmly with burlap or strong cloth, and tie securely.
     8. Balled and Platformed (BP) Plants: Wrap and ball in same manner as B&B plants and fasten securely to strong platforms.
     9. Bare-Root Plants: Dig with root system substantially intact but with earth carefully removed. Cover roots with a thick coating of mud by puddling after plants are dug or wrap with moist material immediately after digging.
     10. Container Grown Plants: Sufficient root growth to hold earth intact when removed from containers. Root bound plants not permitted.

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**NOTE TO SPECIFIER**

Use paragraph below when RELOCATION OF EXISTING PLANTS is a part of the Work.

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* + 1. Existing Plants for Relocation: Ball sizes shall conform to requirements for collected plants in ANSI Z60.1.

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**NOTE TO SPECIFIER**

Add additional Products and manufacturers as appropriate for specific Project.

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* 1. ANTIDESICCANTS
     1. Antidesiccants: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the work include the following.
        1. "Vapor Guard" - Miller Chemicals & Fertilizer Corp.; Hanover, PA (717) 632-8921.
        2. [ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ].
  2. PESTICIDES
     1. Soil fumigant, herbicide, insecticide and fungicide, EPA registered and state approved. Furnish for preemergence and postemergence application(s).

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**NOTE TO SPECIFIER**

Edit FERTILIZERS below for specific soil conditions at Project Site.

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* 1. FERTILIZERS
     1. Commercial Grade Fertilizer: Granular, free flowing, and uniform in composition with nitrogen-phosphorus-potash ratio of [ \_\_\_\_ ] nitrogen, [ \_\_\_\_ ] available phosphorus, and [ \_\_\_\_ ] potash.
     2. Controlled Release Fertilizer: Magnesium ammonia phosphate and magnesium potassium phosphate with nitrogen-phosphorus-potassium ratio, [ \_\_\_\_ ] percent nitrogen, [ \_\_\_\_ ] percent phosphorus, and [ \_\_\_\_\_ ] percent potassium, granulated to pass 1/8 inch screen.

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**NOTE TO SPECIFIER**

Edit PLANTING SOIL MIXTURES below for specific soil conditions at Project Site.

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* 1. PLANTING SOIL MIXTURES
     1. [ \_\_\_ ] part topsoil, [ \_\_\_\_ ] parts[ \_\_\_\_\_\_\_ ], and [ \_\_\_\_ ] parts [ \_\_\_\_\_\_\_\_\_ ].
  2. MEMBRANE GROUND COVERS

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**NOTE TO SPECIFIER**

OPTION 1: Use paragraph below when SHEET POLYETHYLENE is appropriate for Project. Select mil thickness.

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* + 1. Sheet Polyethylene: Black, conforming to ASTM D2103, minimum thickness [4 mils] [6 mils].

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**NOTE TO SPECIFIER**

OPTION 2: Use paragraph below when ASPHALT GLASS FELT is appropriate for Project.

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* + 1. Asphalt Glass Felt: ASTM D2178; Types I, III or IV.

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**NOTE TO SPECIFIER**

OPTION 3: Use paragraph below when ROLL TYPE FIBERGLASS MATS is appropriate for Project. Select mil thickness.

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* + 1. Roll Type Fiberglass Mats: 100 percent lime borosilicate glass fibers with an average fiber diameter of 8 to 12 microns and 2 to 4 inch strands of fiber bonded with phenol formaldehyde resin, water permeable, having a minimum of 1/4 inch and a maximum of 1/2 inch thickness with a density of not less than 3/4 pound per cubic foot.
  1. DRAINAGE PIPE AND BEDDING

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**NOTE TO SPECIFIER**

OPTION 1: Use paragraph below when DRAINAGE PIPE is selected for Project. Edit for sizes and types of materials required for Project Site conditions.

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* + 1. Drainage Pipe for Plant Pits and Beds: [Plastic polyvinyl chloride pipe, [ \_\_\_\_\_ ] inches in diameter, [unperforated] [perforated] conforming to ASTM D2729.] [Corrugated plastic drainage tubing, [ \_\_\_\_\_ ] inches in diameter, [unperforated] [perforated] conforming to ASTM F405.] [Clay drain tile, [ \_\_\_\_\_ ] inches in diameter, [unperforated as specified in ASTM C4] [perforated conforming to ASTM C498] [extra strength] [standard strength] conforming to ASTM C700].

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**NOTE TO SPECIFIER**

OPTION 2: Use paragraph below when GRANULAR FILL is selected for Project.

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* + 1. Granular Fill for Plant Pit and Bed Drainage: Uniformly graded sand, stone, gravel, or stone screening free from an excess of soft or unsound particles or other objectionable material. When testing in accordance with ASTM C136, material shall conform to the following gradation limits:

Sieve Size Percent Passing

3/8 inch 100

No. 4 85 - 100

No. 16 45 - 80

No. 50 10 - 30

No. 100 0 - 10

No. 200 0 - 3

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**NOTE TO SPECIFIER**

OPTION 3: Use paragraph below when DRAINAGE BOARD is selected for Project.

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* + 1. Drainage Board for Planters:
       1. Drainage Board for Planters:
          1. "Miradrain 9000" - Miradri Moisture Protection Products.; Norcross, GA (888) 863-6781.
          2. "Hydraway WD3000" - Solutia, Inc.; St. Louis, MO (800) 325-4330.
          3. "Deck Drain" - Greenstreak; St. Louis, MO (800) 325-9504.
  1. MULCHES
     1. Free from noxious weeds, mold, or other deleterious materials.

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**NOTE TO SPECIFIER**

OPTION 1: Use paragraph below when INERT MULCH is selected for Project. Edit for types and sizes.

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* + 1. Inert Mulch Materials: [Riverbank stone] [Crushed pit-run rock] [Granite chips] [Marble chips] [Crushed bricks] [Volcanic rock] [ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ ] ranging in size from [ \_\_\_\_\_ ] to [ \_\_\_\_\_ ] inch(es).

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**NOTE TO SPECIFIER**

OPTION 2: Use paragraph below when ORGANIC MULCH is selected for Project. Edit for types and sizes.

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* + 1. Organic Mulch Materials: [Ground or shredded bark] [Shredded hardwood] [Pine needles] [Cypress] ranging in size from [ \_\_\_\_\_ ] to [ \_\_\_\_\_ ] inch(es).
  1. EDGING

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**NOTE TO SPECIFIER**

OPTION 1: Use paragraph below when WOOD EDGING is selected for Project.

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* + 1. Wood Edging: Minimum 8 inches by 1/2 inch, treated in accordance with AWPA C2 with CCA Type C or ACA before installation, free of solvent at time of delivery.
       1. Anchoring Stakes: Same material as wood edging, 1/2 inch by 2 inches, 12 inches long.

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**NOTE TO SPECIFIER**

OPTION 2: Use paragraph below when METAL EDGING is selected for Project. Edit for types and sizes.

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* + 1. Metal Edging: [Galvanized steel] [Aluminum with slots for stakes], [1/4] [3/16] [1/8] inch thick by [4] [5] inches deep in [16] [20] foot length. Treat steel edging with rust preventative and factory finish in color [green] [black].
       1. Anchoring Stakes: Tapered galvanized steel with same finish as metal edging, 16 to 18 inch long.
  1. TRUNK WRAPPING
     1. Two thicknesses burlap minimum 4 inch width.
     2. Tying Material: 3 ply, lightly tarred medium or coarse sisal yarn twine.
  2. STAKING AND GUYING
     1. Tree Support Stakes: Rough sawn hard wood free of knots, rot, cross grain, bark, long slivers, or other defects that impair strength. Minimum 2 inches square or 2 1/2 inch diameter by 8 feet long, pointed at one end. Paint or stain wood stakes dark brown.
     2. Guying Wire: 12 gauge galvanized steel.
     3. Hose Chafing Guards: New or used 2 ply, 3/4 inch diameter, reinforced rubber or plastic hose, black or dark green, all of same color.
     4. Flags: White surveyor's plastic tape, 6 inches long, fastened to guying wires or cables.
     5. Driven Anchors: May be used instead of guy stakes for trees with 3 to 6 inch caliper. malleable iron, arrow shaped, galvanized.
  3. WATER
     1. Suitable quality for irrigation.

1. EXECUTION

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**NOTE TO SPECIFIER**

Edit paragraph below for Planting Date requirements for specific Project Site.

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* 1. TIME RESTRICTIONS AND PLANTING CONDITIONS
     1. Planting Dates:
        1. Deciduous material from [ \_\_\_\_\_\_\_\_\_\_\_ ] to [ \_\_\_\_\_\_\_\_\_\_\_ ] for spring planting and from [ \_\_\_\_\_\_\_\_\_\_\_ ] to [ \_\_\_\_\_\_\_\_\_\_\_ ] for fall planting.
        2. Evergreen material from [ \_\_\_\_\_\_\_\_\_\_\_ ] to [ \_\_\_\_\_\_\_\_\_\_\_ ] for spring planting and from [\_ \_\_\_\_\_\_\_\_\_\_ ] to [ \_\_\_\_\_\_\_\_\_\_\_ ] for fall planting.
     2. Restriction: Do not plant when ground is frozen, snow covered, or muddy.
  2. PREPARATION
     1. Layout: Stake out approved plant material locations and bed outlines on the project site before digging plant pits or beds. The landscape consultant reserves the right to adjust plant material locations to meet field conditions.
     2. Verify location of underground utilities prior to excavation. Protect existing adjacent turf before excavations are made. Where planting beds occur is existing turf areas, remove turf to a depth that will ensure removal of the entire root system. Measure depth of pits from finished grade. Depth of excavation shall provide proper relation between top of ball and finished grade as specified in paragraph entitled "Handling."
  3. PLANTING

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**NOTE TO SPECIFIER**

Edit paragraph below for selected depth requirements.

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* + 1. Handling: Move balled, burlapped and container-grown plants only by supporting the ball or container. Set plants on hand compacted layer of planting soil 6 inches thick and hold in position until soil has been firmly placed around roots or ball. Set plants [1/8 to 1/4 depth of ball above] [ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ] surrounding grade. Replaced balled plant whose balls are cracked or broken either before or during the planting process.
       1. Ball diameter 12 inches or less: Balled or potted items; excavate pits at least 16 inches larger in diameter and 6 inches deeper than size of ball or container.
       2. Ball diameter greater than 12 inches: Balled or potted items; excavate pits at least 24 inches larger in diameter and 6 inches deeper than size of ball or container.
       3. Mulch: Provide mulching material over entire earth saucer and berm surface around trees and shrubs [3 inches deep] [as indicated], ground cover and annuals [2 inches deep] [as indicated]. Keep mulch out of the crowns of shrubs.

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**NOTE TO SPECIFIER**

Edit paragraph below for selected backfill material.

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* + 1. Balled and Burlapped Stock: Backfill with [planting soil mixture] [topsoil] to approximately half the depth of ball and then tamp and water. Carefully remove or fold back excess burlap and tying materials. Tamp and complete backfill, place mulch and water.

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**NOTE TO SPECIFIER**

Edit paragraph below for selected backfill material.

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* + 1. Bare-Root Stock: Plant so roots are arranged in a natural position. Apply tree wound dressing to cuts larger than 1/2 inch in diameter. Carefully work [planting soil mixtures] [topsoil] among roots. Tamp remainder of backfill, place mulch and water.
    2. Container Grown Stock: Remove from container to prevent damage to plant or root system. Cut root ball vertically in 3 to 5 places with sharp knife before planting.
    3. Ground Covers and Vines: Plant after placing mulch. Do not remove from flats and containers until immediately before planting. Space at intervals indicated, sufficiently deep to cover all roots. Immediately sprinkle with water until entire area is soaked. Smooth planting areas after planting to provide even, smooth finish. Mulch as indicated.

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**NOTE TO SPECIFIER**

Edit paragraph below for fertilizer rate. No chemical fertilizers.

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* + 1. Fertilization: After establishment of finished grade around plants, top dress all pit and bed areas with fertilizer at the rate of [ \_\_\_\_\_ ] pounds per 100 square feet of areas. If fertilizer adheres to plants, carefully remove it by flushing.
    2. Application of Pesticides: No chemical pesticides.
  1. FINISHING

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**NOTE TO SPECIFIER**

Edit paragraph below for selected edging material.

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* + 1. Edging: Uniformly edge beds of individual plants with a 3 inch to 4 inch deep "Vee" cut to provide a clear division line between planted areas and adjacent lawn. Form bed shapes as indicated. Install [metal] [wooden] edging materials as specified. Mulch to bottom edge of cut.

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**NOTE TO SPECIFIER**

Edit paragraph below for selected mulching depth..

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* + 1. Mulching: Provide mulching materials at other indicated locations [3 inches deep] [ \_\_\_\_\_\_\_ ]. Keep mulch off buildings, sidewalks, light standards, and other structures.
       1. Placing Inert Materials: Lay membrane with edges lapped 6 inches to 12 inches to receive inert mulch material. Punch a grid of 1/4 inch holes for drainage in the membrane one foot on centers over entire area. Spread mulch [3 inches deep] [ \_\_\_\_\_\_\_\_\_ ] [as indicated].
       2. Placing Mulching Materials: Spread a uniform thickness [of 3 inches] [as indicated].
    2. Wrapping: Tie trunk wrapping material to trunks of deciduous trees with specified material within the next full working day after planting. Contracting Officer will inspect the trunks of deciduous trees for physical damage, insect infestation, or disease, and determine required treatment or rejection prior to wrapping operation. Begin wrapping at base and extend to first branches. Overlap wrapping half with width of underlying wrap and securely tie at top, bottom, and 18 inch maximum intervals with twine.
    3. Staking and Guying:
       1. Deadmen: Stake, guy and place deadmen for plantings as indicated.
       2. Chafing Guards: Hold plants firmly between stakes with double-strand of 12 gauge guying wire. Use hose chafing guards, where wire will contact the plant. (Provide turnbuckles as indicated).
       3. Stakes: Drive vertically into ground 3 feet deep outside of plant balls. Do not injure ball or roots.
       4. Ground Stakes: Drive into firm ground outside of plant pit with top of stakes flush with ground.
       5. Deadmen: Place minimum 18 inches below ground surface.
       6. Iron Anchors: Drive minimum 30 inches below ground surface.
       7. Steel Anchors: Insert steel screw anchors as recommended in manufacturer's data.
       8. Flags: Securely fasten flags on each guy [wire] [cable] approximately two-thirds of the distance up from ground level.
    4. Pruning: NAA DSST; prune in accordance with safety requirements of ANSI Z133.1.
       1. Trees and Shrubs: Remove dead and broken branches. Prune deciduous trees and shrubs to reduce total amount of branching structure by maximum one-third. Retain typical grown habit of individual plant with as much height and spread as is practical. Make cuts with sharp instruments flush with trunk or adjacent branch, above node.
       2. Wound Dressing: Apply tree wound dressing to cuts 1/2 inch in diameter and larger immediately after pruning.
  1. MAINTENANCE
     1. Commencement: Begin maintenance immediately after each plant is planted.
     2. Inspection: Inspect plants at least once a week during installation period and perform needed maintenance promptly.
  2. PLANT ESTABLISHMENT PERIOD
     1. Commencement: On the date that inspection by Contracting Officer shows that all new plants furnished under this Contract have been satisfactorily installed.

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**NOTE TO SPECIFIER**

Edit paragraph below for Establishment Period Dates, fertilizer application rate, and time for removal of dead plants.

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* + 1. Maintenance During Plant Establishment Period:
       1. Promote Plant Growth: Water, prune, mulch, re-guy, re-wrap and perform other operations necessary to promote plant growth.
       2. Fertilizing Plants: At least once during the plant establishment period between the dates of [ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ ] [ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ ]. Fertilize by topdressing at [ \_\_\_\_\_\_ ] pounds per 100 square feet of plant pit or bed area or by tablet or packet form with controlled release fertilizer.
       3. Remove Dead Plants: Remove and replace dead plants [immediately] [immediately upon commencement of specified planting season] and replace stakes, guys, wraps, and eroded plant saucers required. No additional plant establishment period will be required for replacement plants.
       4. Tracking Unhealthy Plants: Plants not in healthy growing condition, as determined by Contracting Officer, will be noted and removed as soon as seasonal conditions permit and replaced with plants of the same species and sizes as originally specified. Make replacements in same manner as specified for original plantings.
  1. FIELD QUALITY CONTROL
     1. Section 014000 - Quality Requirements: Field inspection.
     2. Inspect plant conditions, placement, and soil conditions.
  2. FINAL INSPECTION AND ACCEPTANCE

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**NOTE TO SPECIFIER**

Edit paragraph below for topdressing application rate.

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* + 1. Final Inspection: Upon written request from Contractor at least 10 days prior to last day of the plant establishment period. Prior to final inspection, fertilize all plants by topdressing at [ \_\_\_\_ ] pounds per 100 square feet of plant pit or bed area or by tablet or packet form with controlled release fertilizer.
    2. Final Acceptance: Base on compliance with the following:
       1. Total Plants on Site: Plants have been accepted and required number of replacements are in place.
       2. Mulching and Weeding: Plant beds and saucers are properly mulches and free of weeds.
       3. Supports: Stakes and guys are in good condition.
       4. Remedial Work: Remedial measures directed by Contracting Officer have been carried out to ensure plant survival.
       5. Fertilizing: Plant materials have been fertilized as required.
    3. Contractor is to maintain exterior plants for one year from completion.

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022