

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes the requirements for care of plant material, soils and irrigation for all landscape during the Plant Warranty and Plant Establishment Period per approved Plant Establishment Plan required by Section 32 93 00 "Exterior Plants."
- B. Plant Establishment services are to include all maintenance and irrigation of all new shrub planting beds, new trees and tree protection areas, including providing and filling watering bags for trees in the south play yard. Once lawn areas have been accepted, the Owner will be responsible for maintaining the lawn areas.

1.03 RELATED SECTIONS

- A. Division 01 – General Requirements for Warranties and Bonds and Payment Procedures
- B. Section 31 10 00 – Site Preparation
- C. Section 31 22 000 – Earthwork
- D. Section 32 80 00 – Irrigation
- E. Section 32 91 00 – Soil and Subgrade Preparation
- F. Section 32 93 00 – Exterior Plants

1.04 SUBMITTALS

- A. Reporting on Plant Establishment Services
 - 1. Submit monthly reports of activities per the Plant Establishment Plan and Plant Establishment Services in Part 3.
 - 2. Each Monthly report requires the signature of the Owner as detailed in Part 3.
- B. Closeout Submittals
 - 1. Tree Staking and Guying Removal Report including date of completion.
 - 2. Mulch Replenishment Report including receipt for top mulch, application rate to areas, and date of completion.

1.05 DEFINITIONS

- A. See Section 32 93 00 – Exterior Plants.

1.06 QUALITY ASSURANCE

- A. Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants.
 - 1. Professional Membership: Installer shall be a member in good standing of the American Nursery and Landscape Association or approved equal.
 - 2. Experience: Five years' experience in landscape installation and planting and irrigation care in addition to requirements in Division 01 Section "Quality Requirements."
 - 3. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
 - a. Certified Landscape Technician - Exterior, with installation specialty area(s), designated CLT-Exterior.
 - b. Certified Landscape Technician.
 - c. Certified Ornamental Landscape Professional, designated COLP.
 - 4. Pesticide Applicator: State licensed, commercial.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

1.08 PLANT ESTABLISHMENT PLAN

- A. During the Plant Establishment period, it shall be the Contractor's responsibility to perform all work necessary to ensure the resumption and continued growth of the transplanted material. This care shall include, but not be limited to:
 - 1. Labor and materials necessary for removal of foreign, dead, or rejected plant material, maintaining a weed-free condition.
 - 2. The replacement of all unsatisfactory plant material planted under the Contract.
- B. Coordinate with the Irrigation Contractor to adjust schedule to achieve healthy growth of plants. It is the responsibility of the Plant Establishment Contractor to communicate issues with the irrigation schedule or performance directly to the Irrigation Contractor. If performance of the irrigation system is not satisfactory, notify the Owner's Representative in writing.

1.09 PLANT ESTABLISHMENT SERVICE

- A. Provide plant establishment services for all plant and irrigation materials by skilled employees of the Landscape Installer. Provide services as required in Part 3. Begin plant establishment services immediately upon approval of completion of planting and irrigation and continue through plant establishment period, as defined below:
 - 1. Plant Establishment Period: **Two (2) years** from date of approved completion of planting and irrigation.
 - 2. Provide hand watering, gator bags or other temporary irrigation systems to plants not served by irrigation system on an as-needed basis per the Plant Establishment Services Schedule.
- B. During the plant establishment period, it shall be the Contractor's responsibility to perform all work necessary to ensure the resumption and continued growth of the transplanted material. This care shall include, but not be limited to:
 - 1. Labor and materials necessary for removal of foreign, dead, or rejected plant material, maintaining a weed-free condition.
 - 2. The replacement of all unsatisfactory plant material planted under the Contract.
- C. All automatic irrigation systems shall be operated fully automatic during the plant establishment period and until final acceptance of the Contract.

1.10 WARRANTY

- A. Warranty: Installer agrees to repair or immediately replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - 1. Warranty periods of plant material shall be **two (2) years** from date of approved completion of planting.
 - 2. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, or incidents that are beyond Contractor's control.
 - b. Structural failures including plantings falling or blowing over.
 - 3. Include the following remedial actions as a minimum:
 - a. Immediately replace plants that are in an unhealthy condition, as determined by the Architect, excepting plants with specific seasonal planting requirements.
 - 1) A tree shall be considered dying or dead when the main leader has died back, or a minimum of 25% of the crown has died. A shrub or groundcover shall be considered dying or dead when a minimum of 25% of the plant has died. This condition may be determined by visual inspection and scraping a 1/16-inch square area of a branch, maximum, to determine if material is green and alive or brown and dead or dying.

1.11 BONDS

- A. All of the work of this section is to be under an establishment period bond to be paid out incrementally upon completion of monthly services. Services will not be considered complete without the monthly reports signed and approved by the Owner.

PART 2 - PRODUCTS

2.01 SEE SECTION 32 93 00 PART 2.p

PART 3 - EXECUTION

3.01 GENERAL

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting, and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Coordinate with Irrigation Contractor to maintain appropriate watering for new plants to thrive.
- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply certified Organic treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use Owner's integrated past management practices. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents without use of pesticides or herbicides. SPS Grounds are chemical free. Per Superintendent Procedure 6895SP – Integrated Pest Management, use of pesticides will only be considered as a last-resort, must be approved by SPS' IPM coordinator and requires notification procedures be followed.

3.02 TREE, SHRUB, AND VINE PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Do not apply pruning paint to wounds.
- C. Discard all tree trimmings off-site using a legal method.
- D. The cutting blades on pruning shears, clippers, blades, saws, etc., shall be sterilized after pruning each tree and every 3 shrubs to minimize the possibility of spreading disease. When pruning trees known or suspected to be diseased, cutting blades shall be sterilized after each cut. Sterilize blades by dipping them in a solution of 1 part bleach and 9 parts water or heavily spray them with a disinfectant spray, such as Lysol. After dipping or spraying, wait 20 seconds before using again.
 - 1. Prune trees only in appropriate months as specified herein or as determined by an Arborist. Prune in accordance with generally accepted standards for proper pruning.
 - 2. Meet jurisdictional vertical clearance restrictions for street trees and trees above all parking spaces. Trim trees to remove all limbs within these areas.

3.03 PLANTING AREA MULCHING

- A. At the end of the landscape establishment period, apply 1-inch of top mulch to all surfaces of planting areas and other areas indicated.

1. Trees and tree-like shrubs in turf areas: Apply top mulch to maintain a ring of 3-inch average thickness, with 36-inch radius around trunks or stems or as indicated on plans. Do not place top mulch within 3 inches of trunks or stems.
2. Planting areas: Apply top mulch to maintain a total depth of top mulch of 3 inches in tree and shrub areas and 2 inches in groundcover areas only where groundcover has not completely covered areas.
3. In all instances, feather back top mulch from stems or trunks of plants per Contract Documents.

3.04 WEED AND PEST CONTROL PLAN

- A. See Section 32 93 00.

3.05 PESTICIDE APPLICATION

- A. See Section 32 93 00.

3.06 PLANT ESTABLISHMENT REQUIREMENTS

A. General:

1. Frequency is monthly unless otherwise noted.
 - a. Provide a written record to the Owner's Representative at the end of each month during plant establishment period of each task completed that month.
 - b. Signature of the Owner's representative confirming acceptance of satisfactory completion of each month's task, especially elimination of weeds is required.
2. Apply a layer of finely shredded bark mulch in planting areas at end of plant establishment period to achieve thickness stated above under Mulching.
3. 'Shrub beds' include tree, shrub, and groundcover planting areas.
4. Excludes sports fields, unimproved buffer areas, and unimproved tree protection areas.

B. Plant Establishment Services Schedule

1. The following monthly services schedule is provided as a basis of anticipated maintenance efforts for exterior planting, hydroseeded and sodded areas, and irrigation. Review requirements stated herein and per related specification sections for additional information. Irrigation systems shall not be adjusted by the Landscape Establishment contractor unless they are one and the same as the Irrigation Contractor as per Section 32 80 00. Otherwise, the Landscape Establishment Contractor shall coordinate with Irrigation Contractor to adjust and or fix irrigation systems as required and described below:
2. Monthly Schedule
 - a. January:
 - 1) Prune any tree branches that interfere with public safety.
 - 2) Inspect Grounds and remove debris.
 - b. February:
 - 1) Inspect Grounds and remove debris.
 - 2) Remove all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas (monthly).
 - 3) Smart Weeding: Springtime "Smart Weeding" is a deep weeding, roots included. Subsequent weeding throughout the growing season can be limited

to surface hoeing if weeds have germinated in the 2 weeks prior to weeding and are not more than 2” tall or long and have not gone to seed.

- c. March:
 - 1) Inspect grounds and remove debris (bi-weekly).
 - 2) Smart Weeding: Remove 100% of all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas (bi-weekly).
 - 3) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 4) Soil test (Twice yearly—see October): Send soil samples to soil testing laboratory to determine supplemental fertilizer or other amendments needed. Provide amendments at rates prescribed by the soil testing laboratory for each plant type. Submit receipts to authorized Owner’s Representative as proof of fertilizer/amendment purchase.
 - 5) Fertilize trees, shrubs, groundcovers only as required by soil test. Make the application prior to a moderate rainfall in drip-irrigated zones so the rain will wash the fertilizer in. Submit receipts to authorized Owner’s Representative as proof of fertilizer purchase.
- d. April:
 - 1) Inspect grounds and remove debris (bi-weekly).
 - 2) Smart Weeding: Remove 100% of all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas (bi-weekly).
 - 3) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 4) Coordinate with Irrigation Contractor to ensure that the irrigation system has been activated (April 1). Activation includes but is not limited to the following:
 - a) Flush out irrigation systems, as needed, and check for proper operation of each valve zone.
 - b) Remove and clean Wye filter screens.
 - c) Clean or replace plugged sprinkler nozzles. Replace plugged drip emitters.
 - d) Replace irrigation controller program back-up batteries.
 - 5) Coordinate with Irrigation Contractor to adjust irrigation watering schedule to maintain thriving plants.
- e. May:
 - 1) Inspect grounds and remove debris (bi-weekly).
 - 2) Smart Weeding: Remove 100% of all weeds from shrub beds hydroseeded and sodded areas, and tree protection areas (bi-weekly).
 - 3) Reestablish bed lines between shrub beds and hydroseeded or sodded using a shovel or power edger, if needed.
 - 4) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 5) Adjust irrigation watering schedule to maintain thriving plants.
- f. June:
 - 1) Inspect grounds and remove debris (bi-weekly).
 - 2) Water as necessary to maintain thriving plants.
 - 3) Smart Weeding: Remove 100% of all weeds from shrub beds hydroseeded and sodded areas, and tree protection areas within limits of work (bi-weekly).
 - 4) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.

- 5) Coordinate with Irrigation Contractor to adjust irrigation watering schedule to maintain thriving plants (biweekly).
- g. July:
- 1) Inspect grounds and remove debris (bi-weekly).
 - 2) Smart Weeding: Remove 100% of all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas within limits of work (bi-weekly).
 - 3) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 4) Coordinate with Irrigation Contractor to adjust irrigation watering schedule to maintain thriving plants (bi-weekly).
- h. August:
- 1) Inspect grounds and remove debris (bi-weekly).
 - 2) Smart Weeding: Remove 100% of all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas within limits of work (bi-weekly).
 - 3) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 4) Coordinate with Irrigation Contractor to adjust irrigation watering schedule to maintain thriving plants (biweekly).
- i. September:
- 1) Inspect grounds and remove debris (monthly).
 - 2) Smart Weeding: Remove 100% of all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas within limits of work (monthly).
 - 3) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 4) Coordinate with Irrigation Contractor to adjust irrigation watering schedule to maintain thriving plants (biweekly).
- j. October:
- 1) Inspect grounds and remove debris (monthly).
 - 2) Soil test on ground level landscape: Send soil samples to soil testing laboratory to determine supplemental fertilizer or other amendments needed. Provide amendments at rates prescribed by the soil testing laboratory for each plant type. Apply Dolomite (if soil registers acidic - as required). Submit receipts to authorized Owner's Representative as proof of fertilizer/amendment purchase.
 - 3) Fertilize trees, shrubs, groundcovers as required by soil test. Make the application prior to a moderate rainfall in drip-irrigated zones so the rain will wash the fertilizer in. Submit receipts to authorized Owner's Representative as proof of fertilizer purchase.
 - 4) Drain manual drains at low points (15 October).
 - 5) Fertilize trees and shrubs.
 - 6) Remove 100% of all weeds from shrub beds, hydroseeded and sodded areas, and tree protection areas within limits of work (monthly).
 - 7) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 8) Coordinate with Irrigation Contractor to adjust irrigation watering schedule to maintain thriving plants (biweekly).
 - 9) Coordinate with Irrigation Contractor to prepare irrigation system for winter. Make sure backflow preventer is well insulated or drained prior to first freeze. Blow out pipes using compressed air in areas where freezing could result in breakage.
- k. November:

- 1) Mow Ecolawn and sodded areas as required to maintain height indicated in paragraph 3.10D.3.
 - 2) Inspect grounds and remove debris (monthly).
 - 3) Remove 100% of all weeds from shrub beds (monthly).
1. December:
 - 1) Inspect grounds and remove debris (monthly).
 - 2) Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly only if needed to encourage strong, upward growth.

3.07 TREE PROTECTION AREAS

- A. Maintain areas within tree protection by mowing, weeding, and mulching and as indicated by drawings and 01 56 39 "Tree Protection." Follow schedules as outlined in this section.

3.08 DISPOSAL

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

3.09 WARRANTY WALKTHROUGH

- A. Contractor to walk the site with SPS Maintenance staff quarterly to check the status of the site. The walk shall include the Contractor, ESD Project Manager and ESD Maintenance Staff. The project Landscape Architect shall be in attendance at least 1 time per year. The Contractor shall set up these meetings at the end of the project construction period.
- B. Contractor to walk the site with the ESD Maintenance staff at the end of the establishment period. During this walk, the Contractor shall provide a complete record of all work completed during Plant Establishment period, per Part 3 of section "Plant Establishment Requirements." The Contractor shall walk the SPS staff through all areas, noting any areas that have specific or irregular needs, in order to pass this knowledge on.

3.10 LANDSCAPE ESTABLISHMENT CARE OF PLANTED AREAS

- A. Trees:
 1. Trees shall be maintained in a healthy, vigorous growing condition, free from disease and large concentrations of pests.
 2. Any tree found to be dead or missing shall be replaced with plant material of identical species at the Contractor's expense, unless the loss was due to excluded damage per 32 93 00 "Exterior Plants." Replacement trees shall be equal in size to the originally installed tree at the time it was planted at the site and shall be planted per the Contract Document planting details.
 3. At the end of the landscape establishment period, remove stakes from site and recycle or dispose of by a legal method.
- B. Shrubs and Vines:

1. Shrubs and vines shall be kept in a healthy, vigorous condition, free from disease and large concentrations of pests.
 2. Any shrub found to be dead or missing shall be replaced with plant material of identical species found in the Contract Documents at the Contractor's expense, unless the loss was due to excluded damage. The replacement plant shall be equivalent to the size of other plants of the same variety that are on site.
- C. Groundcover:
1. Groundcover shall be maintained in a healthy, vigorous growing condition.
 2. Any groundcover found to be dead or missing shall be replaced with plant material of identical species at the Contractor's expense, unless the loss was due to excluded damage. The replacement plant shall be equivalent to the size of other plants of the same variety that are on site.
- D. Hydroseeded and Sodded Areas:
1. Begin care of seeded and sodded areas immediately after each area is planted and continue until satisfactory seeded or sodded area is established.
 - a. Establishment period begins upon Owner's Acceptance of installation and continues as defined throughout establishment period.
 2. Establish hydroseeded and sodded areas by fertilizing, weeding, mowing, trimming, re-seeding and other operations. Coordinate with irrigation contractor to adjust watering schedules appropriate to the specific needs of the lawn areas and the site. Roll, re-grade, and re-seed or re-sod bare or eroded areas and mulch to produce a uniformly smooth hydroseeded or sodded area.
 - a. Re-seed or re-sod bar areas with same materials specified for given area.
 3. Mowing:
 - a. Mow seeded Lawn areas (seed Mix 1) and sodded areas as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height without cutting more than 40% of the grass height. Remove no more than 40% of grass-leaf growth in initial or subsequent mowing's. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet.
 - b. Schedule mowing's to maintain following grass height:
 - 1) Mow grass sod 2 inches high throughout establishment period.
 - 2) Mow Lawn 3" high throughout establishment period. Mow a minimum of once a week during the months of June, July, August, and September and as needed during other months.
- E. Fertilizer Use:
1. Only fertilize as indicated in Section 32 92 0091 20 and by agricultural suitability soil test. See 32 93 00 "Exterior Plants."
- F. Weed Control:
1. Weeds in planted areas, sidewalks, curbs, gutters, or pavement shall be removed or killed completely. Weeds shall be removed (not just killed) if they are larger than 2 inches (5 cm) in height or diameter. Dispose of weeds off-site. Herbicides are not to be used. For example, hoeing or raking early in the germination of weeds (when the first tender shoots are present) can eliminate the need for 100% removal of the weed growth.
 2. Smart Weeding:
 - a. 100% removal of weeds early in the growing season, and relative to weed seed lifecycles, especially prior to seed production is the objective in order to limit future

weed-removal efforts. Providing more intense weeding early in the growing season and tied to weed seed germination can be used to eliminate the frequency of visits during the remainder of growing seasons, if approved by the Owner, and demonstrated by lack of weed growth.

- G. Chemicals, Herbicides, Pesticides
 - 1. See Section 32 93 00 and Section 32 92 00.

3.11 CLEAN UP AND LITTER REMOVAL

- A. Do not sweep or blow trash, leaves, clippings, or landscape debris into planters or onto adjacent property. Collect all debris swept or blown from landscape areas and remove from the site.

END OF SECTION