



CITY OF MIAMI BEACH DUNE MANAGEMENT PLAN

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I. STATEMENT OF PURPOSE

Coastal dunes are habitat for wildlife and support a high biodiversity of flora and fauna. They also keep beaches healthy by accreting sand and minimizing beach erosion rates. The dunes protect coastal infrastructure and upland properties from storm damage by blocking storm surge and absorbing wave energy. Therefore, a healthy dune system is an invaluable asset to coastal communities like Miami Beach.

The purpose of the City of Miami Beach Dune Management Plan (“the Plan”) is to outline the framework and specifications that the City will use to foster and maintain a healthy, stable, and natural dune system that is appropriate for its location and reduces public safety and maintenance concerns. The Plan shall guide the City’s efforts in managing the urban, man-made dune as close to a natural system as possible and ensuring the dune provides storm protection, erosion control, and a biologically-rich habitat for local species.

II. OBJECTIVES

This plan was developed collaboratively with local government and community stakeholders, as well as local experts to meet the following primary objectives:

1. Reduce to the maximum extent possible the presence of invasive, non-native pest plant species within the dune system.

Non-native species compete with and overwhelm more stable native dune plants, thereby threatening the stability and biodiversity of the dune system. Reducing the presence of aggressive, non-native vegetation preserves and promotes the structural integrity and biodiversity of the dune.

2. Cultivate and support a dense grassy pioneer zone dune.

The foredune is the first line of defense against erosion. Sea oats and fast-growing, deep rooted grasses trap and accumulate wind-blown sand, build up the dune, and create a sand reservoir for the system. Their roots stabilize the accumulated sand and significantly minimize erosion during high tides and storms. Cultivating a dense grassy pioneer zone is a key component in fostering a stable, healthy dune primed for erosion control and storm protection.

3. Maintain a low, stable strand zone comprised of native species.

The historically stable coastal strand zone is most stable when it is populated by saw palmettos and low, native shrubs. Thick, low vegetation tends to be less top heavy, which reduces the potential for uprooting and toppling of strand zone vegetation from wave energy and storm surge. Additionally, maintaining low strand zone vegetation reduces safety concerns and improves the public’s connection with the ocean.

4. Improve native species diversity of the strand zone.

The removal of non-native, invasives and the crown reduction of tall native plant canopies exposes dune areas which can be colonized by non-native invasive vegetation if they are not replanted quickly with native vegetation. These areas offer an opportunity to reintroduce native rare and listed species, as well as to restore the dune to its original, pre-development condition. Supplemental planting in these areas will promote a healthier, more diverse strand zone.

5. Properly plan dune restoration activities to avoid and minimize potential impacts to sea turtles.

Every year between April 1 and October 31, three sea turtle species nest on the City's beaches: the Loggerhead, the Green, and the Leatherback. Disturbing sea turtle nests, hatchlings or nesting females is prohibited. Per City and State law, work in the dunes cannot allow upland lighting to be visible on the beach to prevent disorientation of hatchlings. The specifications in the Plan were developed to avoid and minimize potential impacts to sea turtles through best practices and proper planning.

III. HISTORY OF THE MIAMI BEACH DUNES

The City of Miami Beach's seven miles of Atlantic Ocean shoreline are protected by a coastal dune which was initially installed as part of the United States Army Corps of Engineers' ("USACE") Dade County Beach Erosion Control and Hurricane Protection ("BEC&HP") project. From 1975 to 1980, the USACE, in coordination with the Florida Department of Environmental Protection ("FDEP") built a non-vegetated levee for storm protection as part of the first beach restoration efforts targeting the Miami Beach coast. Due to high pedestrian and vehicular traffic, the levee wore down quickly and was deemed ineffective. In the mid-1980s, through the acquisition of a state grant, FDEP rebuilt the levee and fortified it with dune vegetation.

Historically, the City has maintained the dune as a natural system with little to no maintenance. The City's most recent large-scale dune maintenance efforts were conducted using two landscape contractors which were retained through a Citywide Dune Restoration Services contract (ITB No. 268-2013-TC). This project restored the following four areas by removing non-native, invasive vegetation and re-planting cleared areas with native dune species:

- South Beach A – Government Cut to South Pointe Drive
- South Beach B – 14 Court to 23 Street
- Middle Beach – 23 Street to 46 Street
- North Beach – 64 Street to 79 Street

Previous large-scale dune maintenance efforts were solely conducted as part of the Atlantic Greenway Network ("AGN") Master Plan projects which constructed at-grade

pedestrian pathway along the western edge of the dune. Specifically, as part of the following projects:

- Beachwalk II, Phase I – South Pointe Drive to 3rd Street
- Beachwalk I – 14 Court to 23 Street
- North Beach Recreational Corridor – 64 Street to 79 Street

The dunes adjacent to North Shore Open Space Park have been exclusively restored through volunteer efforts since 2009. Moving forward, the dunes adjacent to North Shore Open Space Park will continue to be reserved for volunteer dune restorations, unless otherwise approved by the City. The same rules shall apply to the dunes at adjacent to Lummus Park.

Common threats to the dunes include invasive, non-native vegetation, trampling from trespassers (e.g., general public, vagrants), unauthorized trimming, homeless and vagrant activities, and man-made fires.

IV. DUNE MANAGEMENT SPECIFICATIONS

1. Definition. The term dune shall be defined as the vegetated areas east of the beachwalk system to the easternmost limit of existing vegetation. In areas where a beachwalk system has not yet been constructed or is constructed within the dune system, the dune system shall constitute the continuously vegetated area bound by the erosion control line (“ECL”) to the west and by rope and post and/or sand fencing to the east. Where the dune is adjacent to public parks or areas designated as conservation areas, the dune shall also include areas of native dune vegetation west of the ECL enclosed by rope and post and/or sand fencing.

2. Location. This plan applies to all areas of the dune within the City of Miami Beach, from Government Cut north to the City Boundary at 87 Terrace.

3. Scope of work. Dune management will consist of restoration work (e.g. invasive exotic removal and re-planting with native species) and maintenance work (e.g. strand zone species pruning, litter removal, and safety hazard removal).

4. Restoration work. The City shall annually survey the dunes to identify and document the location of invasive, non-native pest plant species, to estimate the percent cover of invasive species in those areas, and to create a priority list for the restoration of these areas. Areas with higher percentages of invasive species will be prioritized for restoration, but not before funding is in place to replant cleared areas with native species.

The City will take special care, especially in critically eroded areas, to promote dense grassy pioneer zone growth. The City shall also promote a diverse strand zone by replanting cleared areas with a mix of the native species that existed in the dune before development in order to restore the dune to its original population. Rare and listed species will be prioritized for re-planting, where reasonable and feasible. The City will consult

local conservation organizations such as the Institute for Regional Conservation for recommendation of species to be prioritized for re-planting.

I. INVASIVE EXOTIC REMOVAL SPECIFICATIONS

Restoration work includes the full removal and off-site disposal of non-native, invasive, and/or pest plant species. It is incumbent upon City and private contractors to visit and thoroughly inspect the sites of proposed work to determine the area of invasive exotic removal that will be required. Aerial photographs may not be current and cannot be relied upon. Bid prices should be based on best estimates of total area occupied by invasive plants and square footage of area to be removed.

A. TARGETED SPECIES

City and private contractors shall be responsible for the physical removal of all vegetative mass, including leaves, stems, and trunks, plus all gross roots of, at a minimum, Category I and II Invasive exotic Pest Plants, as identified by the Florida Exotic Pest Plant Council (FLEPPC), including *Scaevola taccada* (Hawaiian naupaka), *Shinus terebinthifolius* (Brazilian pepper), *Casaurina equisetifolia* (Australian pine) and *Sophora tomentosa* var. *occidentalis* (necklace pod). Problem native species, such as *Dalbergia ecastophyllum* (coin vine) and *Ceasalpinia bonduc* (gray nickerbean), must also be removed, unless otherwise specified by the City.

B. PLANT DISPOSAL

All removed invasive exotic plant mass shall be legally disposed of off-site. No on-site shredding or chipping will be allowed.

C. NATIVE SPECIES TO BE PROTECTED

The worksites include a mixture of native dune species and targeted non-native species. City and private contractors shall take special precautions to ensure minimal impact to the existing dune during the exotic removal efforts. The use of herbicides is prohibited, except as approved by the City's Environment and Sustainability Division.

D. REMOVAL METHODS

Removal of smaller and medium sized exotic clusters should be done by hand cutting and digging to remove roots. Mechanized equipment may be used when it is possible to gain access without impact to the existing dune. Post and rope fencing and sand fencing may be temporarily removed for access, but must be replaced upon completion of each section. City and private contractors shall replace rope and post fencing and/or sand fencing damaged during exotic removal or pruning efforts in kind at no cost to the City.

Mechanized equipment may also be permitted on the soft sands of the beach, or boardwalk, or beachwalks on a case-by-case basis. All use of mechanized equipment must first be coordinated and approved by the City when obtaining a City Right-of-Way permit.

E. EXOTIC REMOVAL WARRANTY PERIOD

City and private contractors shall be responsible for maintaining cleared and pruned areas free of seedlings and resprouts for a one year warranty period.

II. PLANTING SPECIFICATIONS

The planting design shall be determined based on the area of dune cleared by invasive exotic removal or other activities that increase the exposed areas of bare sand. It is incumbent upon City and private contractors to visit and thoroughly inspect the sites of proposed work. Aerial photographs may not be current and cannot be relied upon. Bid prices should be based on best estimates of square footage of area to be replanted. Conditions on site at the time of planting may necessitate modification of the planting design and number of planting units required.

A. PIONEER ZONE SPECIES SPECIFICATIONS

1. Species specifications. Pre-approved species include sea oats (*Uniola paniculata*) in 96 cell liner size with 6 to 12 inches planted height and dune panic grass (*Panicum amarum*), shore paspalum (*Paspalum vaginatum*), Virginia dropseed (*Sporobolus Virginicus*), beach bean (*Canavalia maritima*), railroad vine (*Ipomea pes caprea*), and beach morningglory (*Ipomea imperati*) in 72 cell liner size. Additional native pioneer species from the Beach Dune database of the Institute of Regional Conservation (regionalconservation.org) may also be proposed but require City approval prior to installation.
2. Species distribution. Species approved for use in the pioneer zone include a mix of 75 to 80 percent of sea oats (*Uniola paniculata*) and 20 to 25 percent mix of other pioneer zone species.
3. Species spacing. Sea oats and pioneer zone species shall be installed to cover all barren areas and all areas cleared of exotics greater than 100 square feet, at an average spacing of 18 inches on center, to within 18 inches of the perimeter of undisturbed native vegetation. Sea oats shall comprise 75 percent of the species mix with the remainder comprised of approximately two thirds grasses and one third vines.
4. Species planting method. Pioneer zone species will be installed with the top of the rootball no less than six inches below finished grade. Fertilizer must be placed into the hole before the plant is introduced. Plants must be watered immediately to set the roots before backfilling the hole to grade. No further irrigation will be required. No hydrophilic gels may be used.

B. STRAND ZONE SPECIES

1. Species specifications. Pre-approved species include saw palmettos (*Serenoa repens*, silver variety) in 3 gallon size or larger, minimum 18 inches height, 12 inches spread and white indigo berry (*Randia aculeata*), coastal cocoplum (*Chrysobalanos icaco*, "horizontal" variety), bay cedar (*Suriana maritima*), blackbead (*Pithecellobium keyensis*), marlberry (*Ardisia escalonioides*), sea lavender (*Argusia gnaphalodes*), and golden beach creeper (*Ernodea litorallis*) in

3 gallon size, minimum 12 inches height, 12 inches spread. Additional native pioneer species from the Beach Dune database of the Institute of Regional Conservation (regionalconservation.org) may also be proposed but require City approval prior to installation.

2. Species spacing. Cleared areas less than 1000 square feet will be planted only with pioneer zone species. Areas exceeding 1000 square feet will be planted with 5 saw palmettos clustered toward the upland side in a random pattern, but no less than 5 feet on center. An additional six units of mixed strand zone species will be installed in clusters of two or three. Larger areas will be planted in proportion to this ratio of five palmettos and six strand zone plants per approximate 1000 square feet. Conditions on site at the time of planting may necessitate modification of the planting design and number of planting units required at the City's discretion.
3. Species planting method. Palmettos and strand species will be installed with the top of the rootball no less than four inches below finished grade. Plant shall be removed from the container by inverting the container and supporting the rootball as the container is pulled off. Pots should be cut as necessary to minimize disturbance of fragile roots. Pulling the plants out of the containers by the stems will be cause for rejection of the plant.

After digging a hole to the necessary depth, add one half of the fertilizer and incorporate it into the soil before inserting the plant. Twist the rootball to seat it before backfilling. After backfilling to cover two thirds of the rootball, add the remaining fertilizer in a ring before completely filling the planting hole.

C. PLANT QUALITY

The Contractor shall provide nursery grown plants that are of Florida #1, or superior quality pursuant to Florida Department of Agriculture and Consumer Services (FDACS) Division of Plant Industry Grades and Standards (<http://www.freshfromflorida.com/pi/pubs.html>). All plants shall be true to the growth habit of the species, and are to be fully rooted in the container, healthy, vigorous, well branched, and densely foliated. Plants shall be free from physical damage, or conditions that would interfere with thriving growth, and free of disease, insects, or insect eggs and larvae. The City's Greenspace Management Division shall inspect all plants supplied by City and private contractors and may reject plants that do not meet these specifications.

D. ANTITRANSPIRANT

Strand species and palmettos shall be treated after delivery and prior to installation with application of an antitranspirant at manufacturers recommended application rate.

E. FERTILIZATION

1. Plants may be fertilized at the time of planting with Everris Suncoat, E98435 16-9-12 (see composition below) with minors 90 day release or a proposed equivalent as approved by the City's Greenspace Management or Environment and Sustainability staff. If fertilizer use is approved, seven grams (one teaspoon) shall be placed into the planting hole of pioneer zone species before initial watering. Strand zone species shall be fertilized at the time of planting by inclusion of 210 grams (one half cup), one half into the planting hole before installation of the plant and one half distributed in a ring around the nursery rootball after backfilling the hole to cover two thirds of the rootball height. Fertilization of established vegetation is not required.
2. Fertilizer composition:
 - Total Nitrogen 16%
 - Soluble potash 12%
 - Available phosphate 9%
 - Sulfur 5.4%
 - Magnesium 1.3%
 - Iron .46%
 - Manganese .06%
 - Copper .05%
 - Zinc .05%
 - Boron .02%
 - Molybdenum .02%

F. IRRIGATION

1. Water supply. There are no regularly dispersed water connections in the project areas. The City will provide a metered source for filling water tank trucks through the Right-of-Way permit process or will advise City and private contractors that they are solely responsible for providing a water source for irrigation.
2. Initial watering. Pioneer zone plants shall be watered in at the time of planting to set the roots. No further irrigation will be required except when it is determined by the contractor to be necessary to ensure survival of the plants to meet the criteria below. Strand zone plants and palmettos shall be watered initially using a jetting wand to consolidate the backfill soil and ensure that there are no air pockets surrounding the nursery rootball.
3. Maintenance watering. The goal of supplemental irrigation is to promote the establishment of a self-sustaining root system, rather than to wet the nursery rootball. City and private contractors shall determine the need for the additional irrigation to meet the required plant survival criteria, and provide a proposed irrigation plan during the permitting process. The proposed irrigation plan must include a detailed description of the anticipated number of irrigation events, the equipment, labor and irrigation methodology proposed for the maintenance irrigation. If the City, as part of a City contract, approves the plan, City contractors will be responsible for all aspects of the maintenance irrigation, including compliance with all environmental permitting regulations,

requirements, and conditions stated in the permits. The cost of all anticipated maintenance irrigation shall be included in the installation unit cost pricing schedule with the Bid.

The City requires a minimum watering schedule for strand species of every four days for three weeks then once per week for five weeks, then as needed as determined by observation to achieve minimum survival criteria.

G. SURVIVAL CRITERIA AND REPLANTING

Plants not living at the end of 30 days will be rejected and shall be replaced. City and private contractors shall guarantee that at least 90 percent of all pioneer zone, and separately 90 percent of all palmettos and strand zone species survive and are in healthy condition for a period of one (1) year from the time of planting. Plants shall be deemed surviving if they present vigorous new leaf growth and inspection of the root zone demonstrates that new roots have migrated into the surrounding soil by no less than four inches.

City and private contractors will not be responsible for any loss of plants resulting from erosion or vandalism. The City shall periodically inspect all installed plants and notify the Contractor if it is determined that the survival rate is not acceptable. Minimally, inspections will be conducted approximately one month, three months, and ten months after planting. Within thirty days of receipt of notification by the City, contractors shall install additional plants to achieve the acceptable level of plant survival.

III. STRAND ZONE SPECIES PRUNING SPECIFICATIONS

A. TARGETED SPECIES

Native strand zone species, particularly seagrapes (*Coccoloba uvifera*), that are taller than four feet above grade shall be carefully evaluated by Environment and Sustainability staff and designated to be maintained as either shrubs or as coastal hammock.

B. INITIAL PRUNING

Targeted species designated to be maintained as shrubs will be initially pruned to reduce the crown height to 24 inches above grade to establish a branching sub structure. When possible, initial pruning should be limited to the rainy season to allow for a quicker recovery of the pruned vegetation. Pruning of the vegetation shall not have adverse effects on the vegetation. In any instance where the vegetation does not survive the initial pruning, the entity responsible for the pruning shall be required to mitigate for the vegetation loss in accordance with the conditions of the approval issued by the FDEP Division of Beaches and Coastal Systems or by re-planting in accordance with Section II. Planting Specifications of the Plan.

C. COASTAL HAMMOCK ZONES

Where strand zone vegetation is adjacent to and provides shade to a pedestrian area outside of the dune, the City's Environment and Sustainability staff will

designate the existing species to be maintained as Coastal Hammock Zones. Tree species within these zones will be pruned no less than twice annually to remove understory branches and leaves and to reduce the crown as necessary. Pruning of trees in these zones shall remove no more than one-third of the total tree mass or 25 percent of the existing canopy annually. Additionally, pruning of vegetation in these areas shall be conducted under the supervision of an arborists certified by the International Society of Arboriculture and in accordance with ANSI A-300 Pruning Standards and the FDEP Seagrape Trimming Guidelines.

D. PRUNING METHODS

Plants will be pruned to natural organic shape, rather than box hedged. Pruning shall be conducted by hand pruners or loppers only, unless otherwise approved by the City. If mechanized equipment is approved, it may only be used when it is possible to gain access without impact to the existing dune. Post and rope fencing and sand fencing may be temporarily removed for access, but must be replaced upon completion of each section. City and private contractors shall replace rope and post fencing and/or sand fencing damaged during exotic removal or pruning efforts in kind at no cost to the City.

Mechanized equipment may also be permitted on the soft sands of the beach, or boardwalk, or beachwalks on a case-by-case basis. All use of mechanized equipment must first be coordinated and approved by the City when obtaining a City Right-of-Way permit.

E. DEBRIS DISPOSAL

All removed invasive exotic plant mass shall be legally disposed of off-site. No on-site shredding or chipping will be allowed. No areas of pioneer dune vegetation shall be covered by chipping.

F. NATIVE SPECIES TO BE PROTECTED

The worksites include a mixture of native dune species and targeted non-native pest species. City and private contractor shall take special precautions to ensure minimal impact to the existing dune during the exotic removal efforts. The use of herbicides is prohibited, except as approved by the City's Environment and Sustainability Division. If damage to any native vegetation occurs, the entity conducting the work shall be required to mitigate for the vegetation loss in accordance with the conditions of the approval issued by the FDEP Division of Beaches and Coastal Systems or by re-planting in accordance with Section II. Planting Specifications of the Plan.

G. PRUNING PROHIBITIONS

Trimming of *Scaevola* and other invasive, non-native species is strictly prohibited as trimming of these species prompts them to grow back thicker, further spread seeds, and become a greater maintenance concern.

Environment and Sustainability staff shall conduct a review of all proposed pruning areas to evaluate the work's potential for exposing upland property lighting to the beach. In areas where existing lighting has the potential to be exposed, the pruning request shall not be approved until sufficient evidence can be provided to and approved by FWC that the lighting will cause no adverse effect to sea turtles.

IV. SAFETY HAZARD REMOVAL SPECIFICATIONS

Species of cactus, yucca, agave, and other types of vegetation which, by their spiny nature, could pose a safety hazard to the public must be removed at ground level to leave a three foot safety buffer on the dune side of all walkways and rope and post barriers or other areas where there may be in close proximity to public traffic.

5. Maintenance work. Maintenance work in the dunes primarily constitutes of the following activities: pruning of strand vegetation; removal and disposal of safety hazard plant species; and, removal of disposal of new non-native and invasive native plant species growth. It is incumbent upon City and private contractors to visit and thoroughly inspect the sites of proposed work prior to bidding. Aerial photographs may not be current and cannot be relied upon. City contractors must provide bid prices best estimates of square footage of area to be maintained and must include all materials, labor, equipment, supervision, mobilization, demobilization, overhead and profit, insurance, permits, and taxes to complete the work.

A. PRUNING MAINTENANCE INTERVALS

The long term height of strand shrub species will be maintained between 36 inches and no greater than 42 inches above grade. Please note that individual plant growth rates will vary between species and by season. Heights are approximate and should follow the logical growth habit of the recovering plant.

Maintenance pruning of strand zone vegetation shall also be conducted as necessary to control lateral growth which encroaches within two feet of pedestrian paths or accessways. Additional maintenance pruning may be requested to increase visibility into the dunes in areas with known security concerns and will be reviewed and approved on a case-by-case basis. All pruning must be conducted in accordance with Section III. Strand Zone Pruning Specification of the Plan.

B. EXOTIC REMOVAL MAINTENANCE INTERVALS

Maintenance events shall be conducted at quarterly intervals to hand remove new growth of seedlings or root sprouts. All non-native, invasive species removal shall be conducted in accordance with Section I. Invasive Exotic Removal Specifications of the Plan.

C. PEDESTRIAN CLEARANCE

The City, at its discretion, may conduct maintenance trimming of dune vegetation to maintain pedestrian clearance as follows:

1. Trimming of dune vegetation to maintain existing beach access crossover configurations and line of site, on and off of the beach.
2. Trimming of dune vegetation encroaching onto the beachwalk/boardwalk pathways and clearing of any low-hanging limbs.
3. Maintenance trimming of shrub-sized vegetation (<50") at 42" to promote low, dense growth.

The City annually renews their existing field permit from FDEP's Division of Beaches and Coastal Systems for this work.

Species of cactus, yucca, agave, and other types of vegetation which, by their spiny nature, could pose a safety hazard to the public must be removed at ground level to leave a three foot safety buffer on the dune side of all walkways and rope and post barriers or other areas where there may be in close proximity to public traffic.

D. REMOVAL OF DEAD VEGETATION

Where the City identifies vegetation that has died of natural causes, the vegetation shall remain on-site unless the Urban Forestry confirms the condition of the vegetation poses a potential safety hazard. Vegetation determined to pose a potential safety hazard shall be inspected by Greenspace Management staff to determine that it is not providing habitat or shelter to wildlife. If it does not act as habitat for wildlife, the City shall obtain an exemption determination from FDEP's Division of Beaches and Coastal System for its removal. Removal of dead vegetation must be conducted in accordance with sub-sections C and D of Section I. Invasive Exotic Removal Specifications of the Plan.

V. ROPE AND POST SPECIFICATIONS

The City's rope and post specifications and standard operating procedures (SOP) are outlined in Exhibit M of the City's Beachfront Management Plan. Per the SOP, modification of the dune limits requires the Environment and Sustainability staff's review and approval. A dune modification will generally be considered appropriate if moving the rope and post will not impact the minimum required emergency vehicle lane width or the approved footprint of the adjacent beach concession operations. The City's known critical erosion hot spots shall not be considered viable locations for the eastward expansion of the dune rope and post (Beachfront Management Plan Exhibit L).

When the dune vegetation outgrows the rope and post and/or sand fencing limits, City staff should contact the Environment and Sustainability staff to review the area and determine if trimming is appropriate. If the trimming request is approved, Environment and Sustainability staff will coordinate with the Greenspace Management Division to request that the overgrown vegetation be trimmed back by in-house staff or the landscaping maintenance contractor per the provisions of the City's dune management plan.

VI. MOBILIZATION AND ACCESS

City and private contractors shall coordinate mobilization, staging, and access through the City's Right-of-Way permit process.

VII. PERMITS

No work can occur in the dunes without approval or a CCCL permit from FDEP and a City Right-of-Way permit. The City's Environment and Sustainability staff is available to assist with and facilitate both permitting processes. City and private contractors shall be responsible for providing a certificate of liability insurance listing the City as the additional insured and for submitting a work plan that shows the project area, the scope of work, the access points to the site, the species disposition (to stay, to be removed, to be relocated), and what materials and equipment will be used. If a planting plan is required, it must be developed using the planting specifications previously described and provided to the City's Environment and Sustainability staff for approval. Contractors are responsible for paying for, signing for, and picking up their Right-of-Way permits from the City's Public Works Department once they are notified that it has been processed. Once the Right-of-Way permit is executed and in-hand, contractors may begin the work approved in their permits.