

D

C

MILITARY TRAIL

B

PROPERTY LINE

A

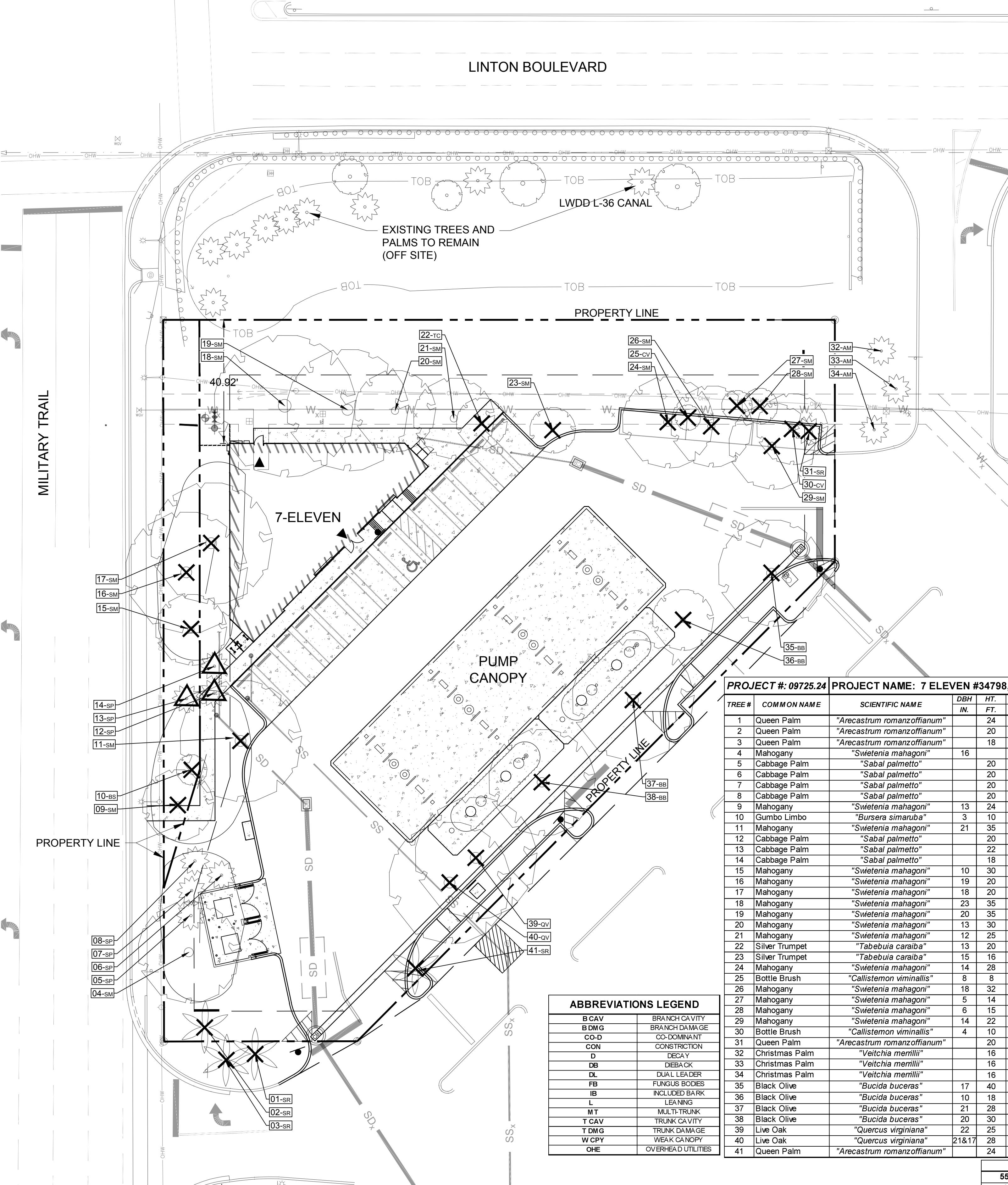
## LINTON BOULEVARD

EXISTING TREES AND  
PALMS TO REMAIN  
(OFF SITE)

PROPERTY LINE

PUMP  
CANOPY

## ABBREVIATIONS LEGEND

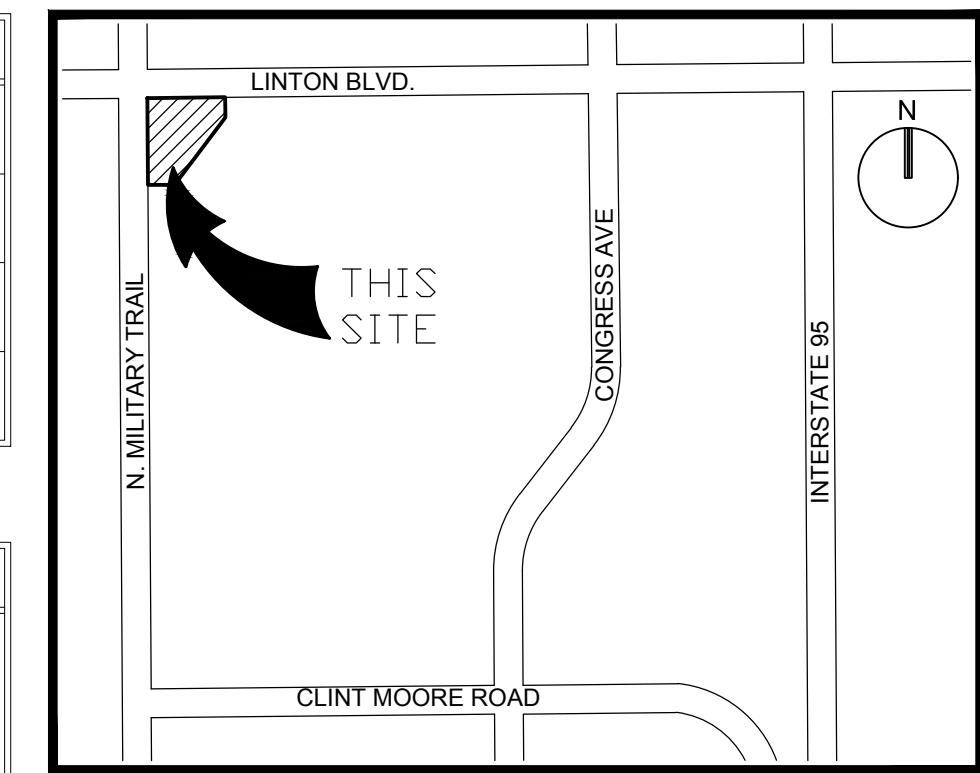


## TREE DISPOSITION LEGEND:

- EXISTING TREE/PALM TO REMAIN WITHOUT DISPOSITION SYMBOL
- EXISTING TREES/PALMS TO BE PROTECTED DURING CONSTRUCTION
- EXISTING TREE/PALM TO RELOCATE  
REFER TO LANDSCAPE PLAN FOR NEW LOCATION
- EXISTING TREE/PALM TO REMOVE  
REMOVE ALL CAT 1 INVASIVE EXOTICS (EX: BRAZ. PEPPER)
- EXISTING TREE/PALM NUMBER  
REFER TO TREE DISPOSITION AND TREE SURVEY LISTS

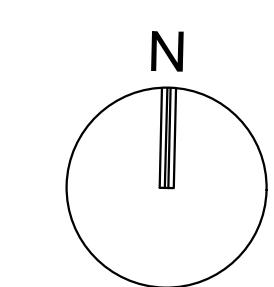
## TREE DISPOSITION NOTES:

- EXISTING TREES TO REMAIN SHALL BE TRIMMED PER ANSI-A300 STANDARDS, REMOVING WEAKEST RUBBING BRANCHES AND DEAD BRANCHES, BUT RETAINING 80% OF FOLIAGE. LARGE TREES SHALL HAVE LOWER BRANCHES CLEARED UP TO 8'.
- SYMBOLS MAY BE SHOWN OFFSET FROM ACTUAL TREE LOCATION FOR CLARITY.
- CONTACT LANDSCAPE ARCHITECT / ISA CERTIFIED ARBORIST FOR CLARIFICATION ON ANY DISCREPANCIES.
- TRIMMING AND ANY NECESSARY ROOT PRUNING SHALL BE PERFORMED OR SUPERVISED BY A CERTIFIED ARBORIST.
- ALL TREE WORK REQUIRE PERMITTING BY A REGISTERED COUNTY TREE TRIMMER.
- BUBBLERS SHALL BE PROVIDED FOR ALL RELOCATED TREES AND PALMS.
- REMOVAL OF ANY TREES OR PALMS WILL REQUIRE A WRITTEN "TREE REMOVAL PERMIT" FROM THE LOCAL GOVERNING AGENCY PRIOR TO REMOVAL. CONFIRM WITH LOCAL GOVERNING AGENCY THAT TREES CLASSIFIED AS NUISANCE/EXOTIC INVASIVE MAY BE EXEMPT.
- ALL TREES AND PLANT MATERIAL TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. REFER TO TREE PROTECTION DETAIL ON SHEET LP-501. THE CONTRACTOR SHALL TAKE EXTRA CAUTION TO PREVENT ANY DAMAGE TO THE TRUNK, ROOT ZONES AND GRADE.



## LOCATION SKETCH

NOT TO SCALE



SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE  
CHANGED FROM ORIGINAL. VERIFY SCALE  
USING BAR SCALE ABOVE.

KEITH

301 East Atlantic Boulevard  
Pompano Beach, FL 33060

PH: (954) 788-3400

Florida Certificate of  
Authorization # - 7928

## BID / CONTRACT NO. :

## REVISIONS

NO.	DESCRIPTION	DATE
1	SITE PLAN REVISION	01/11/19

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION  
THESE PLANS ARE NOT FULLY PERMITTED  
AND ARE SUBJECT TO REVISIONS MADE  
DURING THE PERMITTING PROCESS.  
RESPONSIBILITY FOR THE USE OF THESE  
PLANS PRIOR TO OBTAINING PERMITS  
FROM ALL AGENCIES HAVING JURISDICTION  
OVER THE PROJECT WILL FALL SOLELY  
UPON THE USER.



#34798  
16000 S. MILITARY TRAIL  
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	SR
DESIGNED BY:	MP
CHECKED BY:	MP

MICHAEL J. PHILLIPS, RLA  
FLORIDA REG. NO. LA00001540  
(FOR THE FIRM)

## SHEET TITLE

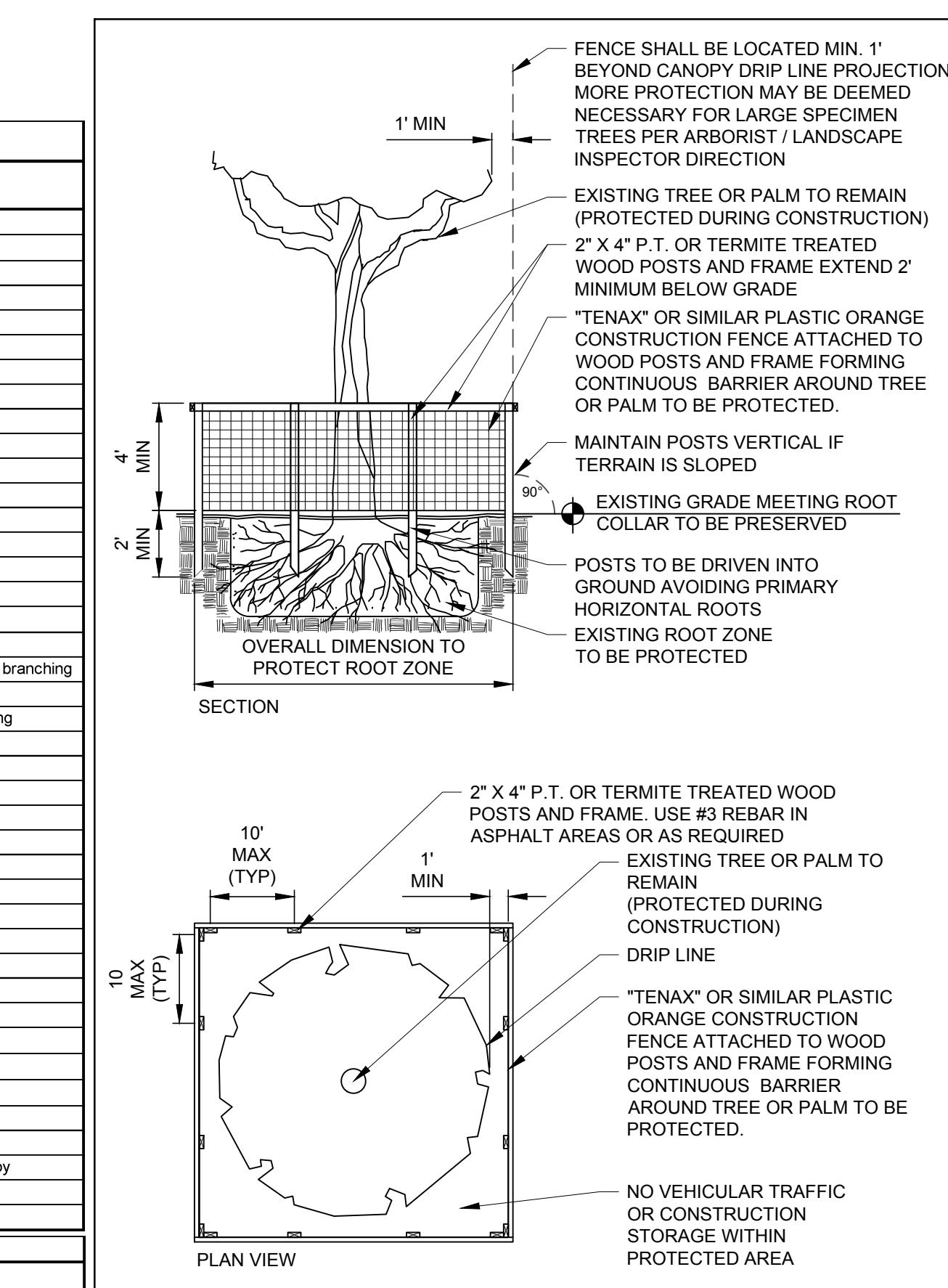
TREE DISPOSITION  
PLAN

## SHEET NUMBER

LD-101

SHEET of 27

PROJECT NO. 09725.24



TEMPORARY TREE PROTECTION DETAIL  
PLAN / SECTION NOT TO SCALE

Tree Mitigation Table
55" Total DBH to be removed (greater than 50% condition rating)
19 Total Trees to be removed (50% condition rating or less)
Replacement Trees
55" Total Caliper inches proposed (10 - 4" caliper trees)

**A. SCOPE**

- The location of plants, as shown on the plans, is approximate. The final locations may be adjusted slightly to accommodate unforeseen field conditions, to comply with safety setback criteria, to avoid creating unsafe sight conditions, or as otherwise directed or approved by the Landscape Architect / owner in writing. All other location adjustments to the layout are to be approved in advance by the Landscape Architect and owner.
- Contractor understands that an important element of the design of this project is meeting landscape ordinances with a design flare that includes symmetry, alignment, focal points and / or smooth curvilinear forms where applied and contractor shall follow and instruct the working crews accordingly. In the event of any doubt as to how to execute the plans, Contractor shall immediately consult with Architect and/or Owner.
- Landscape Contractor shall fine grade, prepare site as outlined in the following notes and per plans; furnish and install all plants, shrubs, trees and / or palms meeting minimum requirements and brace them per details provided. Furnish and install soil, gravel, boulders, sod and mulch as specified in plans and notes below.
- Landscape contractor shall furnish and install all trees, palms, shrubs, groundcover, sod, planting soil, fertilizer, herbicide, pre-emergence herbicide, seed, and mulch.

**D BIDDING**

- Contractor to have liability insurance including Owner and Landscaper as insured's in excess of \$10,000 as well as Worker's Compensation.
- Contractors and Subs must ensure they are doing take offs from Bldg Dep. Revised sets and / or Bid Set documents Verify with this Office that you are bidding from latest available plans.
- Submit Landscape / Hardscape RFQ directly to Keith & Associates Landscape Architect/Project Manager in writing. T. 954.783.3400
- Read ALL notes and typical planting details sheets prior to submitting RFQs and prior to bidding.
- When submitting an RFQ reference sheet number, detail number and/or note category and number.
- Landscape contractor shall verify all estimated quantities of material shown on the drawings prior to submitting their bid. Plant list pricing if shown is for permitting / mitigation comparison purposes only, any prices shown are to be disregarded by Landscape Contractor.

- All Plant Material shall meet or exceed height and spread requirement. Heights are City code requirement and / or design intent related and always governs over container size. Container size given for reference only and must be sized-up to meet height requirements of plant list. Plant material available with excessive height beyond specifications must be consulted with Landscape Architect for design intent.
- All landscape material was confirmed to be available at time of design landscape contractor understands that some material may not be available in the same City, however available in Tri-County Region. Plant material supply is the responsibility of the Landscape Contractor that is awarded the contract and he/she shall take steps to ensure availability at the time of installation. Bring to the attention of Landscape Architect if specific material availability is no longer the case at the time of bidding and / or prior to actual construction for approval of substitutions that meet City ordinances and / or owner requirements and design intent.
- Pre-inspections of site required prior to bidding.
- The plant list is intended only as an aid to bidding. Any discrepancies found between the quantities on the plan and the quantities on the plant list shall be held valid, but in any event, Landscape Architect shall be contacted for clarification.
- All labor and material for soil amendments and fertilizer that is required to ensure the successful establishment and survival of the proposed vegetation, as well as all the cost for the removal of unsuitable or excess backfill material from plantbeds, in addition to fine grading and mulching all plantbeds and individual trees shall be included in the contractor's bid to perform the work represented in this plan set.
- Bid shall be itemized for possible value engineering.
- Sod and Rocks (if specified) shall be estimated by scaling plans. Include price per square foot for sod. Rocks (include price per ton). Small rocks and gravel beds shall have landscape fabric material and minimum 2" depth. Boulders to be bid by unit.
- All S.F. if noted and shall not be considered all inclusive, it is the contractor's responsibility to do his or her take off, submit price per S.F. and in the end sod all areas that are not covered either by plants, mulch and/or rocks. It shall be the responsibility of the contractor to include in the bid, the repair of any existing sod which may be damaged during construction.
- Final payment to the Contractor shall be for actual plants installed on the project.
- Contractor shall be responsible for obtaining and paying for costs of all permits described in bid whether permit costs are reimbursable by owner or included in bid. Research permit status and research all permits and additional documentation and certifications required such as separate tree removal permit for example, and consider prior to bidding.
- General / Landscape Contractor shall leave a 5% unforeseen conditions allowance such as for additional root rovers determined to be needed on site and as job progresses.
- Refer to 1. Watering for supplemental watering requirement.
- Landscape contractor is responsible for verifying all plant quantities prior to bidding and within 7 calendar days of receipt of these plans shall notify the landscape architect in writing of any and all discrepancies. In case of discrepancies planting plans shall take precedence over plant list. No substitutions are to be made without prior consent of the Landscape Architect.

**C GENERAL LANDSCAPE NOTES**

- Plants grown in containers prior to installation shall be removed from their containers before they are planted in the ground and have circling roots removed. All screening shrubs shall be planted for proper operation of equipment being screened and/or per the requirements of the utility as necessary. All hedge material required for screening purposes shall be planted with branches touching. Adjust spacing as necessary and/or provide additional plants to provide an adequate screen as required by code. Leave access to utility or clearance as required.
- All landscaping shall be installed according to sound nursery practices. Contractor shall comply with federal, state and local laws and regulations pertaining to the inspection for plant disease and insect infestation.
- All ideas, designs and plans indicated or represented by this drawing are owned by and are the exclusive property of Keith and Associates and may not be duplicated without authorization or used for other projects than the intended.
- The Landscape Contractor shall exercise caution to protect any existing sod, electrical and irrigation. Any damage to the sod, electrical or irrigation shall be replaced or repaired to the original state by the Landscape Contractor at no additional cost to the owner.
- Tree, palm, accent shrubs and bed lines are to be located in the field and approved by the Landscape Architect / owner prior to planting. Landscape Contractor acknowledges that material planted without approval of location may be subject to relocation by Landscape Architect to maintain design intent if not followed properly.
- All trees must be pruned as per Landscape Architect's direction.
- In areas where asphalt is removed in order to receive landscape material, the lime rock sub-base material must also be removed and replaced with approved planting soil mix.
- Landscape contractor is responsible for sending photographs to the landscape architect to pre-approve all trees, palms, and shrubs prior to delivery to project site.
- Landscape contractor shall coordinate his or her work with that of the irrigation, landscape lighting, and hardscape contractor if different.
- The landscape contractor shall treat plant areas with pre-emergence herbicide after weeds and grass has been removed. Landscape contractor shall wait 7 days after pre-emergence treatment prior to planting.

**D PERMITS & REGULATIONS**

- Contractor(s) must obtain separate landscape, irrigation and tree relocation/removal permits from the city prior to the issuance of the first building permit for the project.
- Landscape contractor to call the city Landscape Inspector to schedule a pre-construction meeting prior to installation if required.
- All mandatory requirements by City Landscape Departments and their inspectors shall govern and landscape contractor commits by accepting contract to comply promptly for builder/owner to obtain C.O.

**E TREE REMOVAL**

- Removal of any trees or palms will require a written "tree removal permit" from the local governing agency prior to removal. Non-native trees classified as "prohibited" trees may be exempt from the permit if listed as Category 1 by Florida Exotic Pest Plant Council. Confirm with Local Municipality.
- Landscape Contractor is responsible to remove ALL invasive nuisance trees such as Brazilian Pepper, Melaleuca, Australian Pine and all invasive trees as categorized by the governing agencies, whether listed on plans or not.
- The Landscape Contractor is responsible for coordinating tree and palm removals and transplants shown on the tree/palm Disposition Plan. The Landscape Contractor is to remove and discard from site existing unwanted trees, palms, shrubs, ground covers, sod and weeds within landscape areas.

**F EXISTING TREES**

- Existing trees designated to remain shall be protected during all construction phases. Any trees or shrubs scarred or destroyed designated to remain will be replaced at the contractor's expense, with same species, size and quality.
- Existing plant material not shown on the plan and in conflict with new planting shall be evaluated at the time of new planting installation by the Landscape Architect. Trees and plant material indicated to be relocated with no new location provided in plans shall be moved to a location on site designated as a nursery holding area with the root ball protected from direct sunlight, maintained and irrigated until new location is determined.
- Prune trees to remove damaged branches and improve natural shape and thin out structure. Do not remove more than 15% of branches. Do not prune back terminal leader.
- Prune existing shrubs to remove damaged branches and improve natural shape.
- Existing trees to remain shall be trimmed per ANSI-A300 standards. Supervision of the trimming shall be performed by an ISA Certified Arborist to ensure quality work.

- All existing trees shall be "lifted and thinned" to provide an 8' minimum clearance for sidewalks and pedestrian walkways and a 14' minimum clearance for roadways, driveways and all vehicular use areas.
- Selective canopy and root pruning of existing trees can be conducted (only as necessary and in no event more than 35%) to accommodate for new approved construction. Pruning shall be conducted / supervised by an ISA Arborist.
- If plans call for relocation of trees, palms or plants. High level of care should be exercised to assure that they are not damaged in the process and that they are promptly replanted upon being dug up.
- All underground utilities and drain or irrigation lines shall be re-routed outside the tree protection zone. If lines must traverse the protection area, they shall be tunneled or bored under the tree.
- Erosion control devices such as silt fencing, debris basins, and water diversion structures shall be installed to prevent sediment and/or erosion within the tree protection zone.
- Roots shall be cut manually by digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment.

**G. TREE RELOCATION** (These notes for relocation trees only and if applicable)

- Flag all trees and palms to be transplanted with differentiating color than those to be saved or removed.
- Tree Relocation process must be performed or supervised by ISA Certified Arborist.
- Water the root zones to field capacity for 5 continuous days before root pruning. At a minimum soak the soil to a 4" depth within a 6' radius.
- Root prune a minimum of six weeks before relocation. Prune away all dead or damaged limbs or fronds. For trees, prune out 1/3 of the existing canopy by selectively trimming small internal branches. For palms, gather fronds above the butt, tie them loosely with jute twine to avoid damage.
- Brace prune trees awaiting relocation.
- Root prune 1/3 of the root system, irrigate daily for 2 weeks then root prune another 1/3, irrigate daily and prune last 1/3 on actual relocation date, no less than two weeks (six weeks total minimum root pruning by stages). ISA Arborist on staff shall observe for intense shock. Canopy pruning may be deemed necessary by Arborist on staff to balance for intense root ball loss, canopy shall be trimmed only as necessary to increase survival.
- Root prune with proper clean equipment to sever roots. Ensure roots are not torn or pulled apart.
- With hand tools, dig a 2"-0" wide by 3"-0" deep trench at a minimum distance as determined by the consulting arborist to expose roots. Cut all roots 1.5" and larger in diameter with a clean, sharp pruning saw. Treat all cuts with a fungicidal barrier. Backfill the trench, within 4 hours of digging, with a 1:1 mixture of site soil and sand/sand or other fine organic material. Do not compact.
- Form a rootball in compliance with Florida grades and Florida standards number 1 or better.
- Maintain the soil moisture at field capacity throughout the six weeks.
- Allow the plant to regenerate roots over a period of six weeks.
- At the end of six weeks, prepare the planting pit at the new location. Overdig the hole diameter by 2' beyond the root ball at a minimum, but it is recommended that transplanting hole to be at least 1/3 larger than the area that was trenched for transplanting.
- With the consulting arborist present, undercut the entire root ball of the plants to be transplanted at a depth specified by the arborist. The undercutting method may be a choker cable drawn through the root ball with heavy equipment.
- At the direction of a professional rigger, assemble slings, padding, guiding ropes and cables for attachment to the crane or backhoe. The professional rigger shall determine the size of machinery necessary to execute the lifting and moving operation.
- Install trees within 24 hours of removal from their original location to locations provided by Landscape Architect or Developer with approval of City / Landscape Inspector.
15. Experimented Tree Spade operator shall move tree or experimental tree mover shall choose best means and methods to strap and rig tree for transporting safely without damage to new location.
16. Maintain trees in a healthy and vigorous condition during installation and throughout the plant establishment period. Replace trees that do not meet this requirement with the same species, size, and quality or per mitigation requirements specific to the city with jurisdiction.
17. Fertilize the plant as directed by the consulting arborist.
- When the plant is placed in the new location, backfill the planting pit with topsoil and water thoroughly to eliminate air pockets and compact the soil. Set the tree no deeper than its original condition.
- Cover the root ball area with 3" depth of organic mulch.
- Post fungicide and fertilizer applications at the direction of the consulting arborist.
- Post transplant watering to provide moisture and reduce any excessive stress due to root desiccation. Watering to be adjusted according to conditions and at the supervision and direction of the ISA certified arborist.
- The diameter of the root-pruning or transplanting circle shall be at a distance away from the trunk equal to 12 times each inch of trunk diameter at breast height.
- For all palms except Sabal palmetto, the lower fronds shall be pruned leaving 9-11 fronds that can be tied without an extensive amount of weight that may damage the heart of the palm. The Sabal palmetto shall have all fronds cut without damaging the bud.
- Transplanting must occur within 24 hours after being dug for relocation. Trees/palms should be kept in shade and the canopy kept moist.
- Digging and preparation of the new hole for the transplant shall be done prior to removing the tree from the existing location.
- The landscape Contractor is to verify that all new holes have appropriate percolation.
- Padding the sling may be necessary so that the trunk or "boots" are not damaged.
- A 6" saucer shall be created around the edge of the plant pit to help hold water, see planting detail for additional information.
- Over the guarantee period the Landscape contractor shall be responsible for resetting any trees/palms that are not vertical when caused by winds less than 74 mph.
- After transplanting trees and palms, the landscape contractor shall be responsible for obtaining water and watering to maintain soil moisture during the guarantee period at a minimum of: First month- daily, Second month - three times per week, Third and Fourth months - two times per week, Last eight months - one time per week.
- For trees over 4" in caliper at the time of planting, the schedule should be: First six weeks, daily, one and a half months to six months - three times per week, last six months - one time per week.

**H. SITE PREPARATION & GRADING**

- Landscape contractor shall loosen and till compacted soils that are overly compacted in all planting areas of the project to provide for proper soil aeration for plant establishment.
- Planted areas shall be cleared of underground rocks, construction debris and other materials detrimental to the health of the plants. Lime rock base material shall be removed within planting pits and adjacent to pavement. The planting areas should be cleared to a depth equal to the root ball of the trees/palms proposed for the area. Planting area soils shall be tested for pH before planting. Soils showing high (alkaline) pH (over 7.5) shall be amended or replaced with native soil having a pH range of 6.5 - 7.5, as approved by Landscape Architect.
- All planting areas and planting pits shall be tested for sufficient percolation prior to final planting and irrigation installation to ensure proper drainage. Plant beds in parking lots and in areas compacted by heavy equipment shall be de-compactated so that drainage is not impeded.
- Landscape Contractor shall treat plant areas with pre-emergence herbicide after weeds and grass have been removed. Landscape Contractor shall wait 7 (7) seven days after pre-emergence treatment prior to planting.
- Site preparation shall include the eradication and removal of any weeds, clean-up of any dead material, debris, and rubbish.
- General site and base grading to +/- 1 inch ("1") shall be provided by the general contractor. All finished site grading shall be provided by the Landscape Contractor. All planting beds shall be free of all rocks 1/2" or larger, sticks, and objectionable material including weeds and weed seeds. All lime rock shall be removed/cleaned down to the native soils.
- The Landscape contractor shall ensure the planting areas are at finish grade prior to installing plant materials.
- All trees and plant material to remain shall be protected during construction. Contractor shall install protective barriers such as "Tennex" orange safety fencing or similar, to be installed before the beginning of the project. Barriers shall be located to include the drip line of the trees, palms and plant material. The contractor shall take extra caution to prevent any damage to the trunk, root zones and grade.
- Final grade within planting areas to be 4" below adjacent paved areas or top of curb. Sod areas to be 2" below.
- All planting beds shall be shaped and sloped to provide proper drainage away from building and structures and to swales, if applicable.

**I. IRRIGATION**

- Any Irrigation Notes and specifications included in Irrigation Sheets govern over the following Irrigation Notes.
- The Landscape Contractor shall coordinate with the irrigation contractor if not the same and leave provisions for all individual trees in turf areas and all planting beds.
- Irrigation / Landscape contractor to guarantee 100% coverage and 50% overlap (head to head coverage) to all landscaped areas and furnish and install a rain sensor.
- Irrigation Contractor to adapt design to onsite conditions adjusting heads and changing nozzles as required to avoid overspray onto buildings or paved areas.
- The contractor shall ensure that the irrigation system is operational and free of leaks prior to any planting being finalized. Plant material that is installed prior to the irrigation system being operational shall be watered by the contractor at his or her expense. Water for plant establishment should be included in the cost of the plant.
- All guidelines as outlined by the South Florida Water Management District (SFWMD) or water management district with jurisdiction shall be strictly adhered to.
- Any existing irrigation system shall be retrofitted to comply with the specifications as outlined above.

**J. HARDSCAPE & OTHER MATERIALS**

- Face of trees and palms to be located a minimum of 2' setback from all fences, walkways, walls, and paved surfaces, unless otherwise indicated on the plans. Refer to details.

**P. FERTILIZATION**

- All Fertilization shall comply with state fertilization laws. Fertilization shall be Agriform "20-10-5 Plus

**K. UTILITIES / CLEARANCES**

- The contractor shall be responsible for determining the location of and avoid and protect utility lines, buried cables, and other utilities. The owner or Landscape Architect shall not be responsible for damage to utility or irrigation lines.
- Trees shall be placed a minimum of 5 ft. from underground utilities, unless otherwise approved in writing by Landscape Architect and Owner.
- All canopy trees to be planted min. of 15' from light source/poles. Unless otherwise approved by the City / Landscape Architect and Owner.
- Landscape contractor shall contact the county, city and/or utility companies to locate all underground utilities or structures prior to digging. Landscape contractor shall repair all damage to underground utilities, and/or construction caused by utility damage, at no cost to the owner.
- All plant material symbols shown on landscape plan shall be considered diagrammatic and should be adjusted in the field by contractor to avoid all utilities, and all other obstructions.
- If/ When digging in right of way needed: Two (2) full business days before digging, call toll free 1-800-432-4770, or 811, Sunshine State One Call of Florida, inc. Notification Center. In addition, call the City's Utilities/Public Works Department. Contractors are responsible for coordinating with the owners and appropriate public agencies to assist in locating and verifying all underground utilities prior to excavating. All existing utilities shown on the plans are to be considered approximate and should be verified by the contractor prior to the start of work operations.
- Above and below ground utilities shall be verified and located in the field by the contractor prior to commencing work in the project area. The contractor shall examine available utility plans and confirm conflicts between indicated or located utilities and landscape work. The contractor shall then notify the Project Engineer of said conflicts and the Engineer will coordinate any necessary adjustments with the utility provider. Tree locations will be adjusted as necessary when in conflict with existing utilities.
- The final plant locations may be adjusted, as approved / directed by the Landscape Architect in writing, to accommodate utilities compliance. Excavations within 5' of known utilities should be done by hand.
- Contractor shall familiarize himself with the location of and avoid and protect utility lines, buried cables, and all other utilities, noted or not, on plans.
- Leave clearance and access to all above ground or at grade meters and equipment.
- Landscape planting shall be in conformance with FPL guidelines for setbacks from overhead utility lines.
- Landscape shall not interfere with light poles, fire hydrants, electrical/mechanical equipment access, signs, drainage structures, etc. Bring to the attention of Landscape Architect any conflicts.

**L. ROOT BARRIERS**

- Root barriers will be installed to protect building foundations, curbing, walkways, paved areas, roadway base material and utilities from existing large trees or proposed new trees that are within 5' of existing or new approved construction or as may be deemed necessary as job progresses.
- Mechanical Root barriers will be used for large existing Canopy Trees and chemical type barriers will be used for new trees.
- Mechanical Root barriers will be "DeepRoot" and Chemical Root barriers will be "BioBarrier". Substitutions must be of approved equal or better quality.
- Root barriers will be installed per manufacturer specifications.
- Root barrier depth will be determined by manufacturer recommended depth chart (<http://www.geo-synthetics.com/pdf/BioBarrier/BioBarrierApplicationManual.pdf>) and as required by on-site conditions in a case by case basis as deemed necessary by Landscape Architect / ISA Arborist and City Landscape Inspector.

**M. LANDSCAPE BACKFILL & SOIL AMENDMENT**

- All building construction material and foreign material shall be removed from the planting areas and replaced with 70/30 mix of organic planting soil and/or amend the existing soils per section H.2.
- Planting soil shall be delivered to the site in a clean loose and friable condition and is required around the root ball of all trees and shrubs, the top 6" of all shrubs and ground cover beds and top 2" of all grassed areas. This soil shall be tilled into the existing soil after the existing soil has been cleaned of all undesirable foreign materials. Recycled compost is encouraged as a soil amendment alternative. Planting soil to be weed free.
- Planting backfill for palms shall be clean coarse natural sand unless specified elsewhere.
- Do not allow air pockets to form when backfilling. All trees shall be watered-in utilizing water probe or a tree bar.

**N. PLANT SIZE & QUALITY**

- All plant material must meet or exceed the minimum size requirements as specified on the plant list. Height specification governs over container size if both specifications given cannot be met. Any other requirements for specific shape or effect as noted on the plan shall also be required for acceptance.
- Material specified as Balled and Burlapped (B&B) can be accepted in container if not available as B&B at the discretion of Landscape Architect; if not root bound and/or circling roots removed and root ball is proportionate to tree / palm.
- U.O.N. All trees designated as single trunk shall have a single, relatively straight, dominant leader, proper structural branching and even branch distribution. Trunks on palms shall be uniform in thickness for the entire length of the palm and shall not taper off to disproportionate thinness towards the crown. Trees with bark inclusion, tipped branches, and co-dominant trunks will not be accepted. Trees with girdling, circling and/or plugging shall be rejected.
- Use only grown plant materials that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of Florida Department of Agriculture, "Grade & Standards for Nursery Plants".
- All trees and palms shall be free of open wounds and unsightly visible scars.
- All substitutions must be approved by the City if it is required Canopy and by Landscape Architect / Owner if supplemental accent material.
- Contractor shall comply with Federal, State, and Local laws and regulations pertaining to the inspection for plant disease and insect infestation.
- Tree, palms, shrubs, ground covers:

Plant species and sizes shall conform to those indicated on the drawings. All nursery stock shall be in accordance with grades and standards for nursery plants parts 1 and 2, latest edition published by the Florida Department of Agriculture and Consumer Services, unless specified otherwise. All plants shall be Florida grade number 1 or better as determined by the Florida Division of Plant Industry and tightly knit plant, so trained or favored in its development that first appearance is unquestionable and it is outstandingly superior in form, number of branches, compactness and symmetry. All plants shall be freshly dug, sound, healthy, vigorous, well branched and free of disease and insect eggs and larvae and shall have adequate root systems. Trees and palms shall be uniform in size and shape. All materials shall be subject to approval by the Landscape Architect. Plants shall be pruned prior to delivery only upon the approval of the Landscape Architect.

- All containers grown material shall be healthy, vigorous, well-rooted plants and established in the container in which they are sold. The plants shall have tops of good quality and be in a healthy growing condition. An established container grown plant shall be transplanted into a container and grown in that container sufficiently long enough for the new fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container.
- Field grown trees and palms previously root pruned shall obtain a root ball with sufficient roots for continued growth without resulting shock.
- Root suckers on any tree are not acceptable and must be properly pruned.
- Contractor shall coordinate with Landscape Architect and Owner to obtain prior approval for the selection of the specific specimens of all palms and any trees of more than six feet in height. Contractor to supply photograph of trees prior to purchase and installation.

**O. PLANTING NOTES**

- At the discretion of the Landscape Architect, plants are subject to review for approval for size, variety, condition and appropriateness to the design intent.
- All synthetic burlap, synthetic string or cords, or wire baskets shall be removed before any trees are planted. All synthetic tape (i.e. tagging tape, nursery tape) shall be removed from trunks, branches, etc. before inspection. The top 1/3 of any natural burlap shall be removed or tucked into the planting hole before the trees are back filled.
- All "groundcover" requires 75% coverage and 100% within 3 months of installation. Bring to the attention of Landscape Architect in writing before commencing this is not achievable with the design.
- Set tree no deeper than it was in its original growing condition with the top of the root ball even with, or slightly higher (+/- 1") than the finished grade.
- All trees/palms shall be planted so the top of the root ball, root flare are slightly above final grade. Shrub material shall be planted so that the top of the plant ball is flush with the surrounding grade.
- All trees and palms shall be braced / staked / per accepted standards by the Florida Nursery, Growers & Landscape Association (FNGLA). Nailing into trees and palms for any reason is prohibited and the material will be rejected. Please refer to the planting details.
- All trees, new or relocated, to be staked and guyed as detailed.
- Layout shrubs to create a continuous smooth front line and fill in behind.
- Excavate pit or trench to 1-1/2 times the diameter of the balls or containers or 1' wider than the spread of roots and 3" deeper than required for positioning at proper height. Compact a layer of topsoil in bottom before placing plants. Backfill around plants with planting mixture, compacted to eliminate voids and air pockets. Form grade slightly dish and bermed at edges of excavation. Apply 3" of mulch.
- Groundcover and shrubs to be spaced

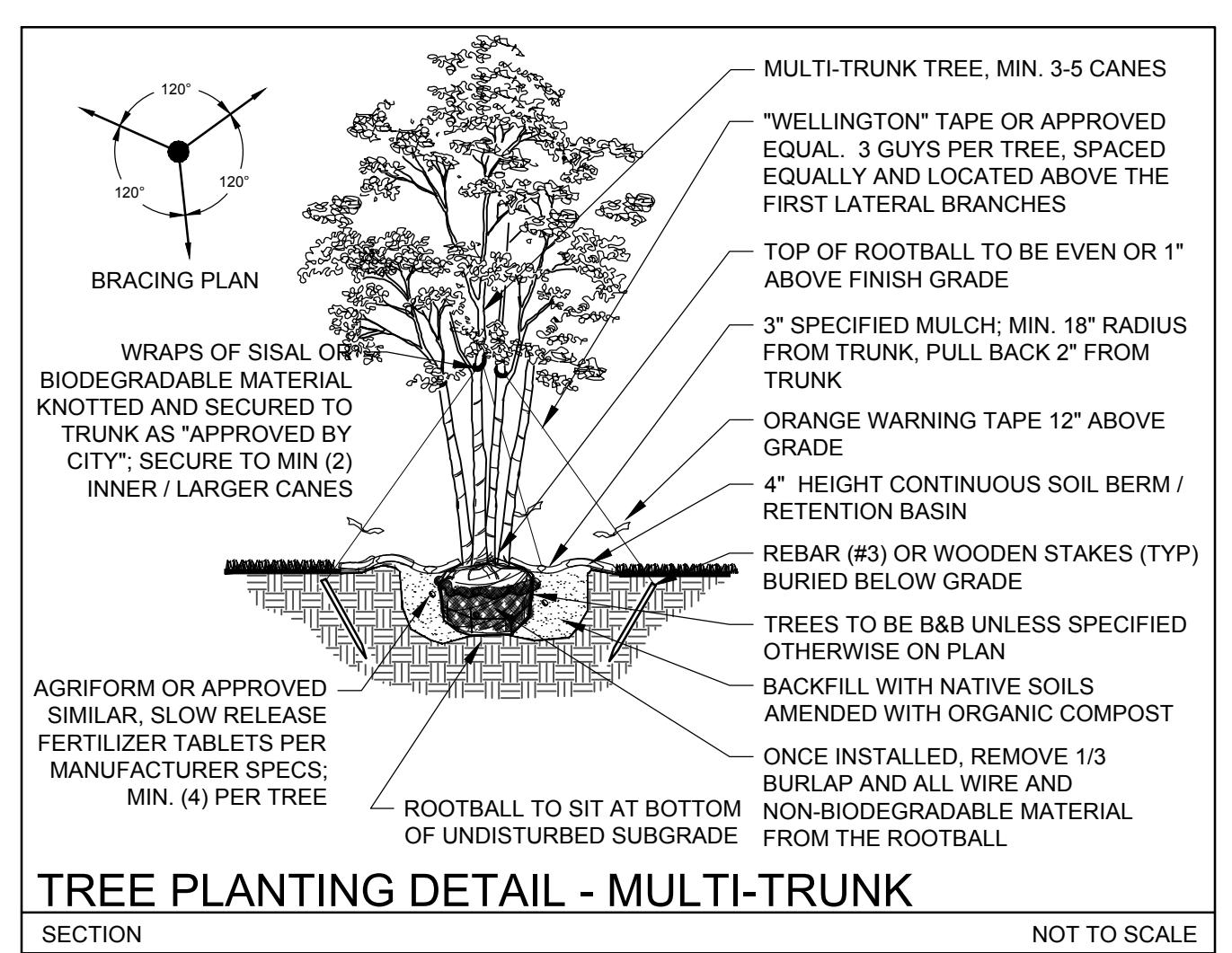
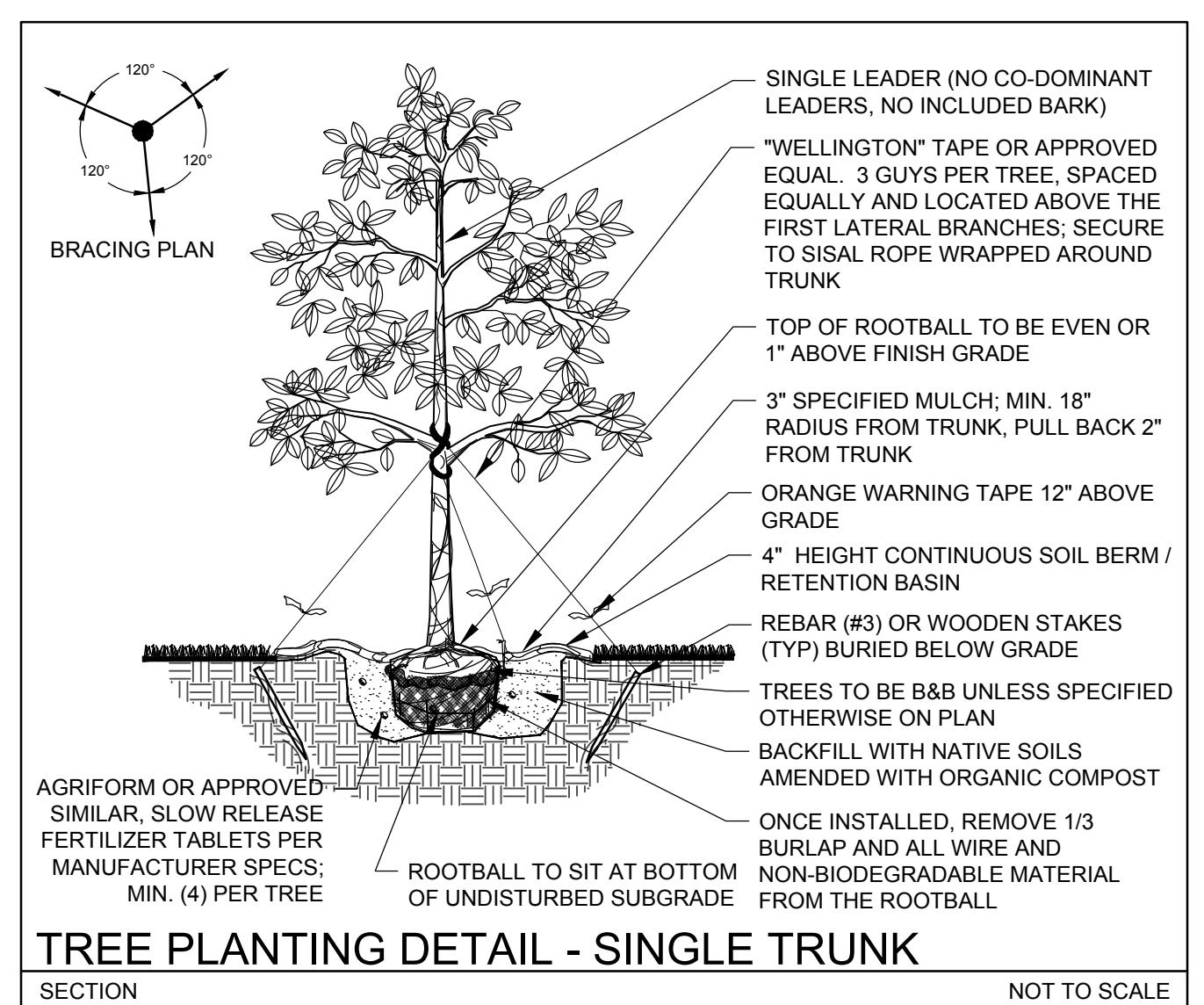
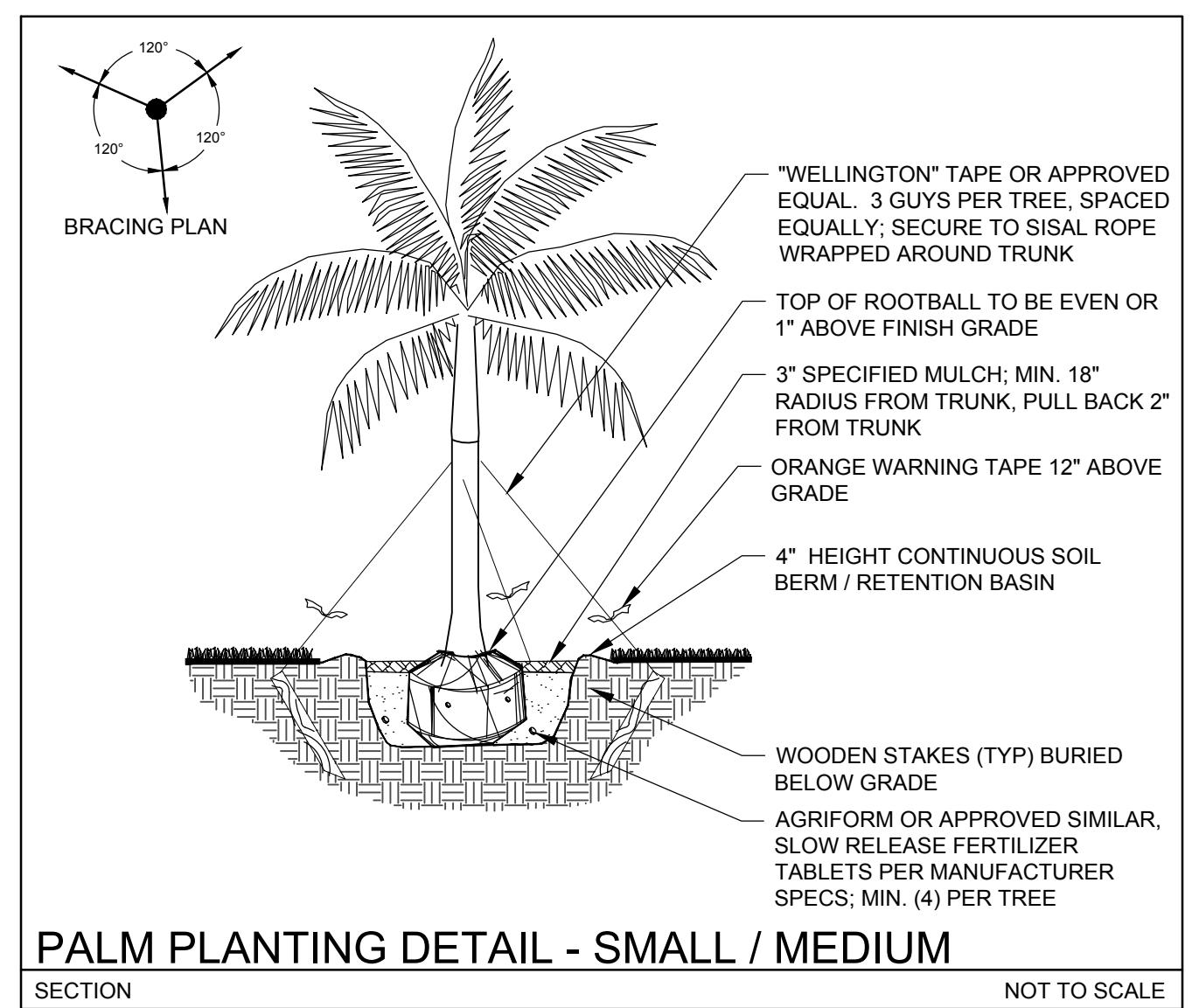
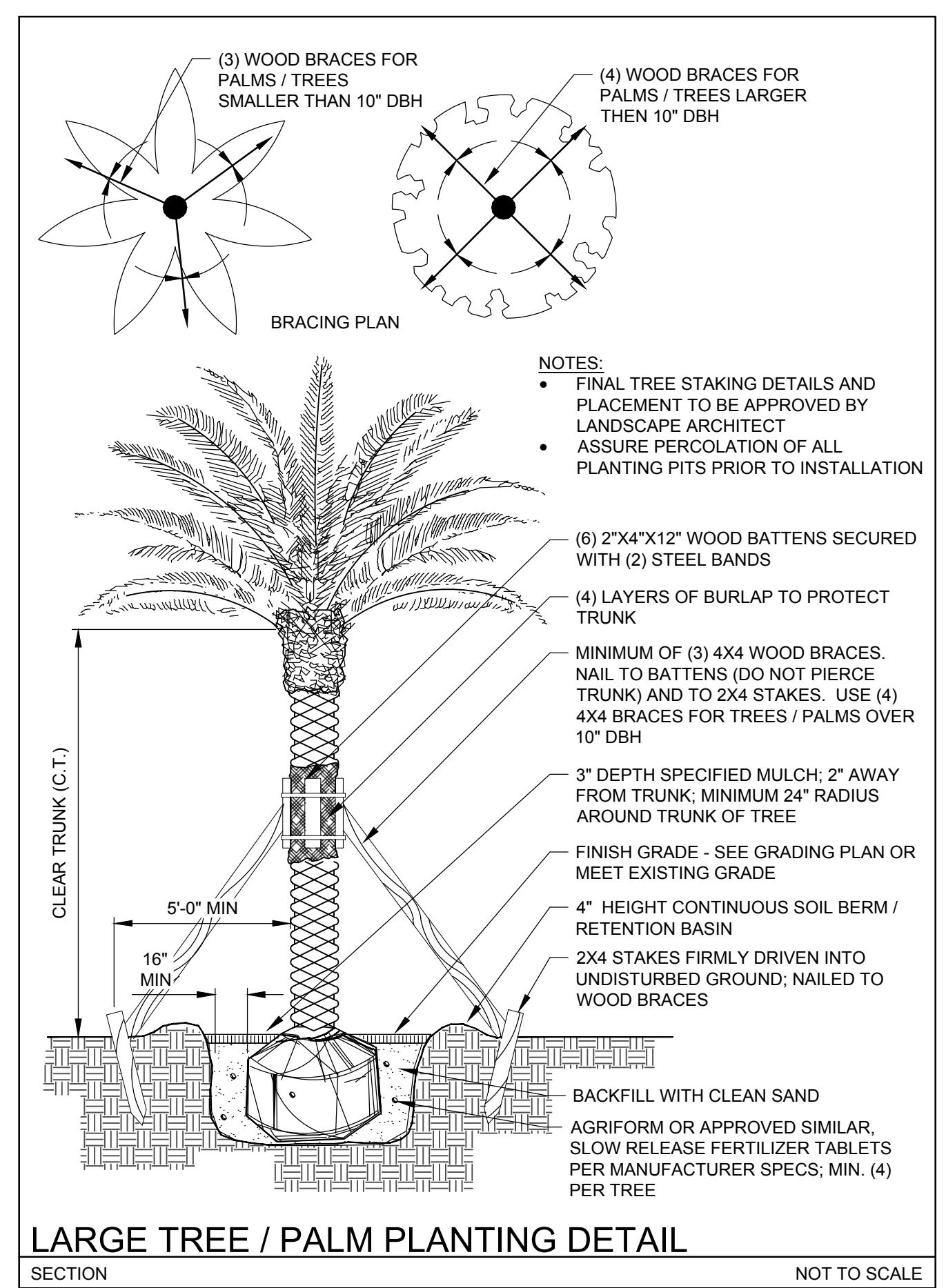
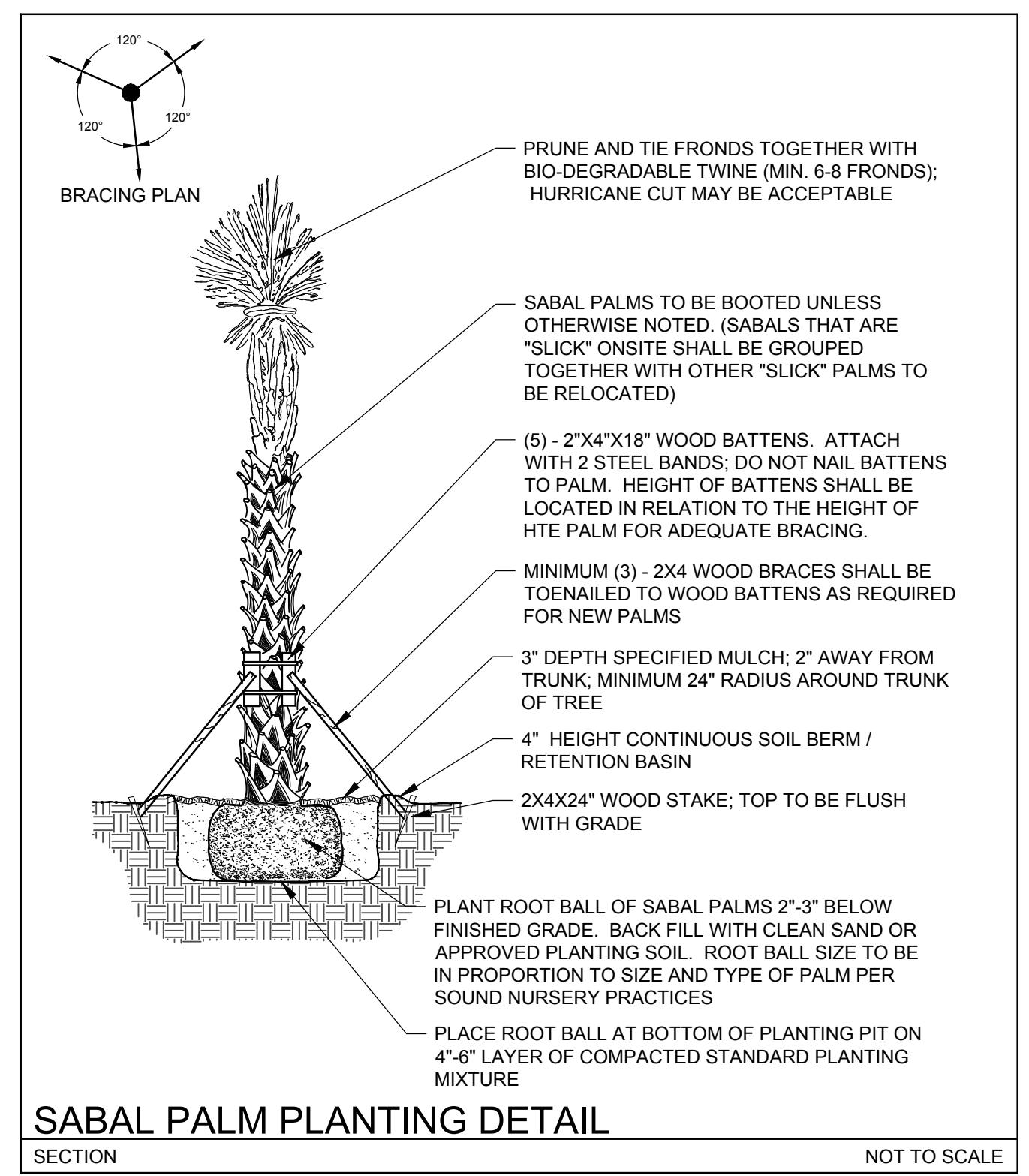
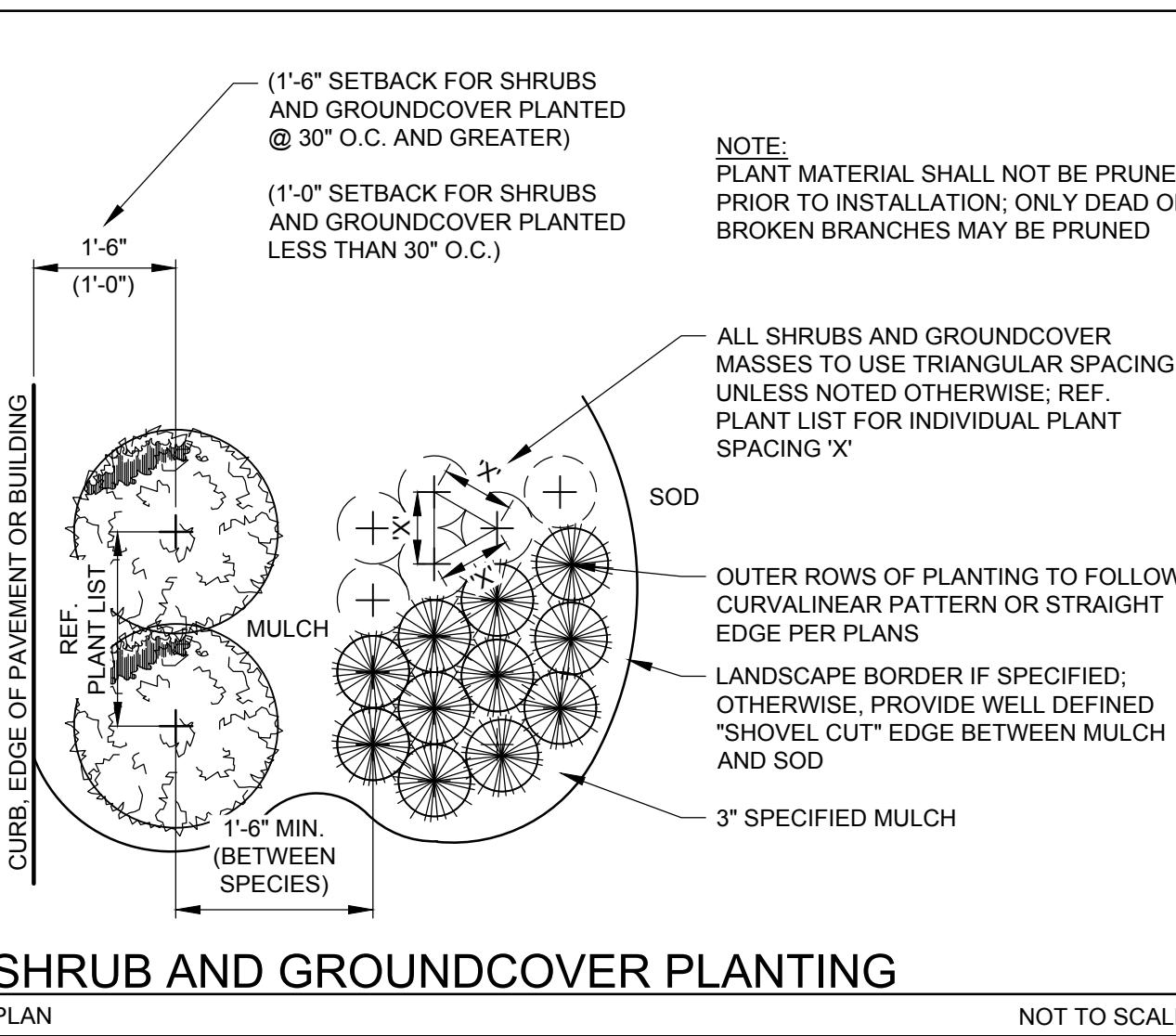
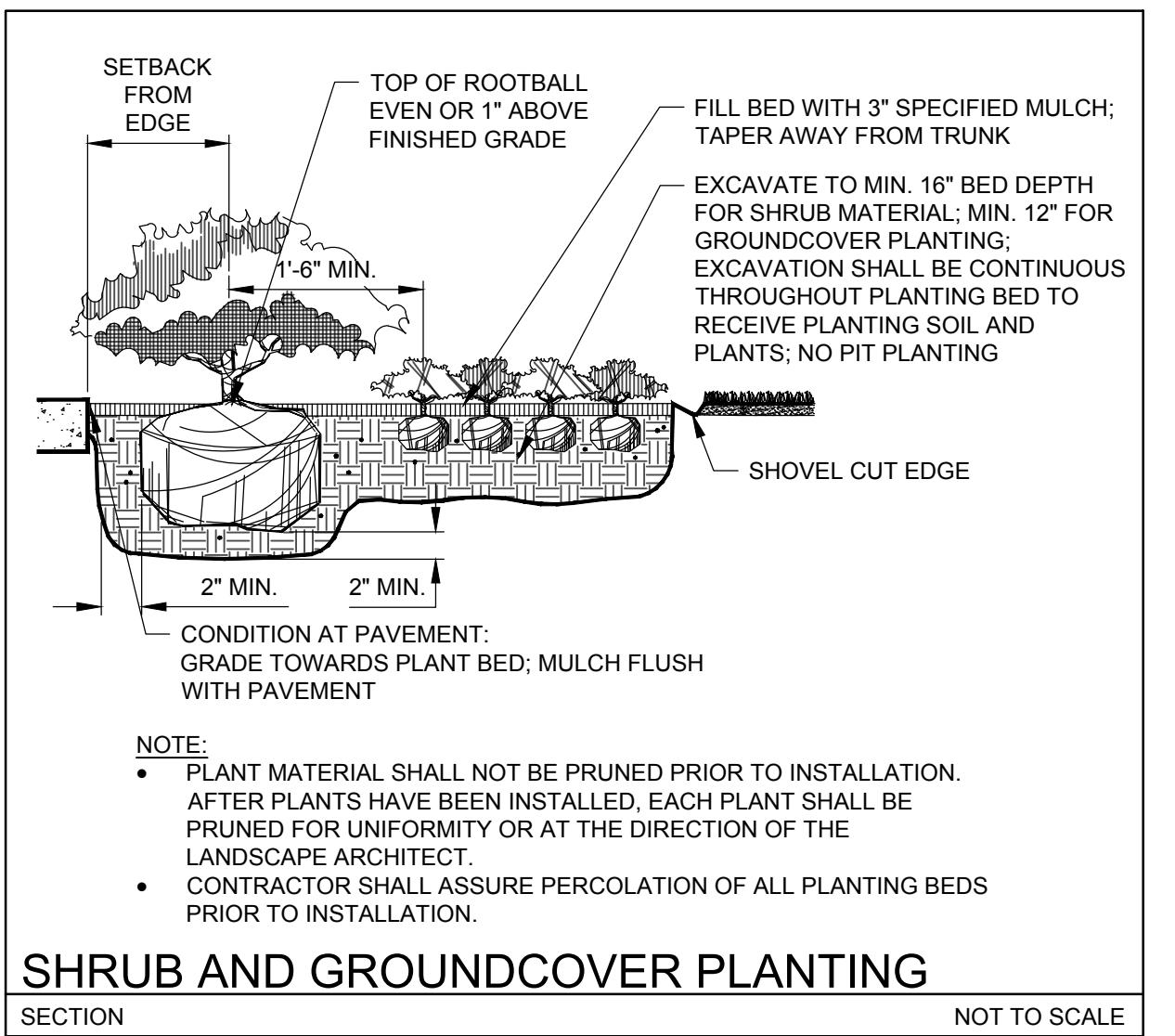
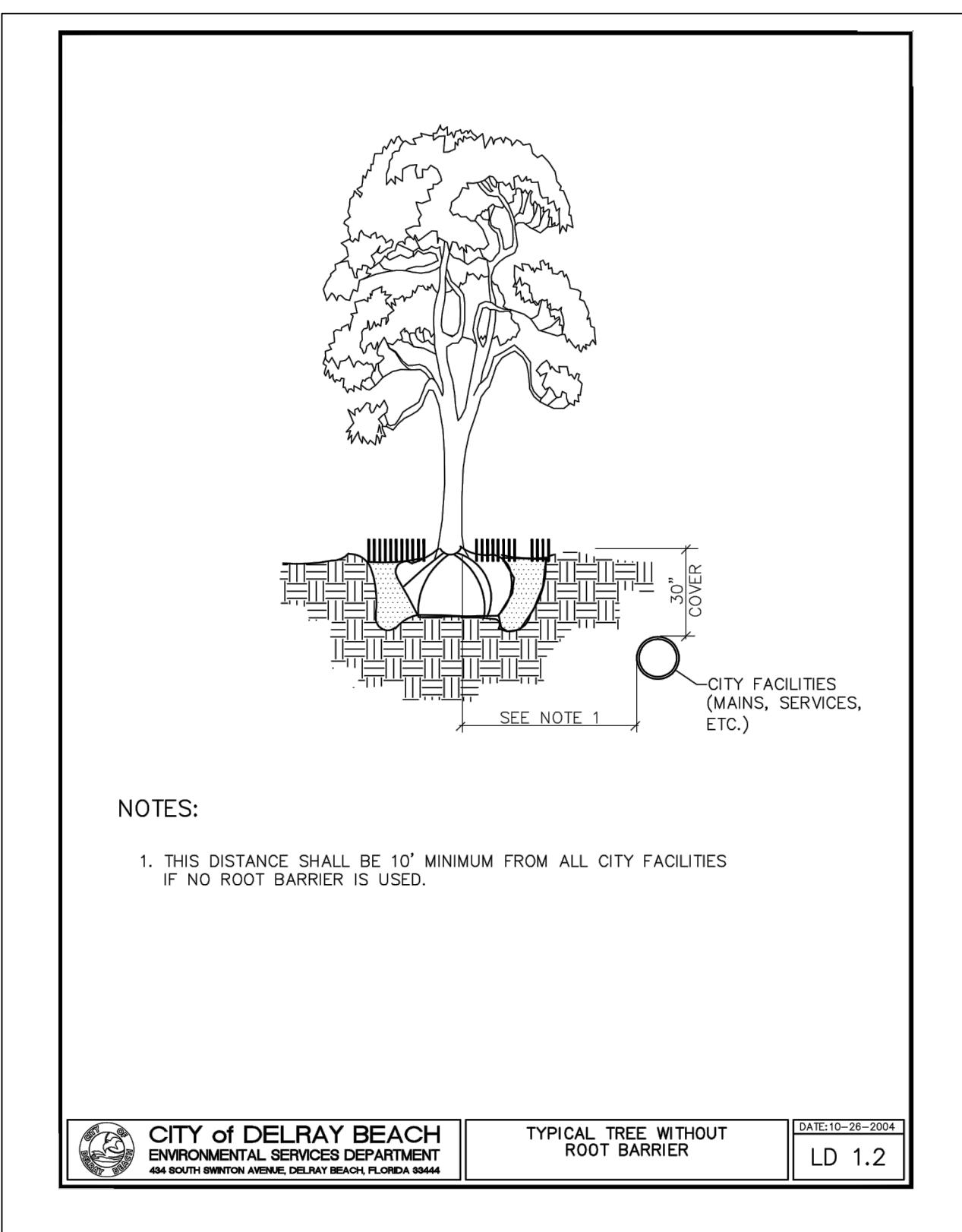
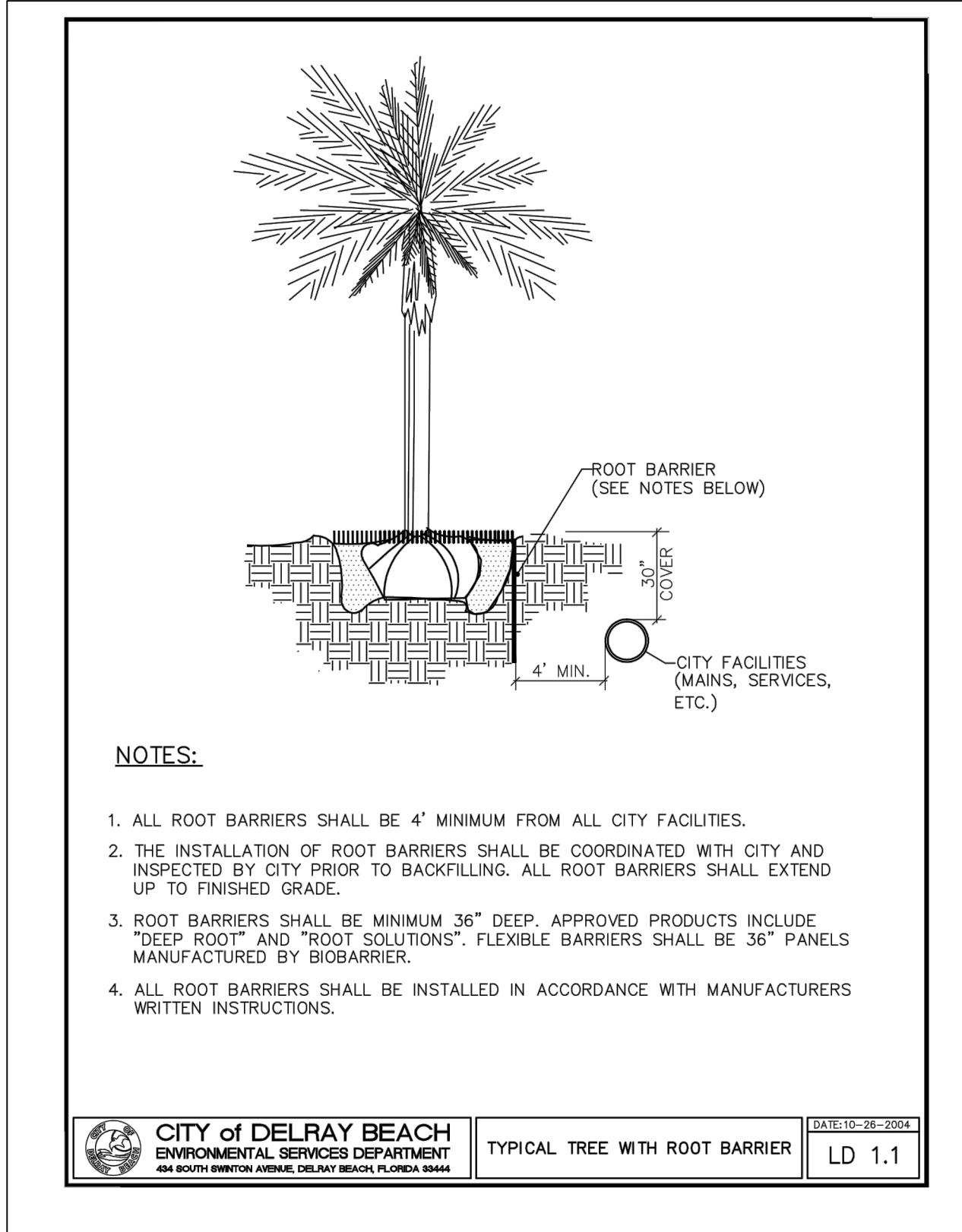
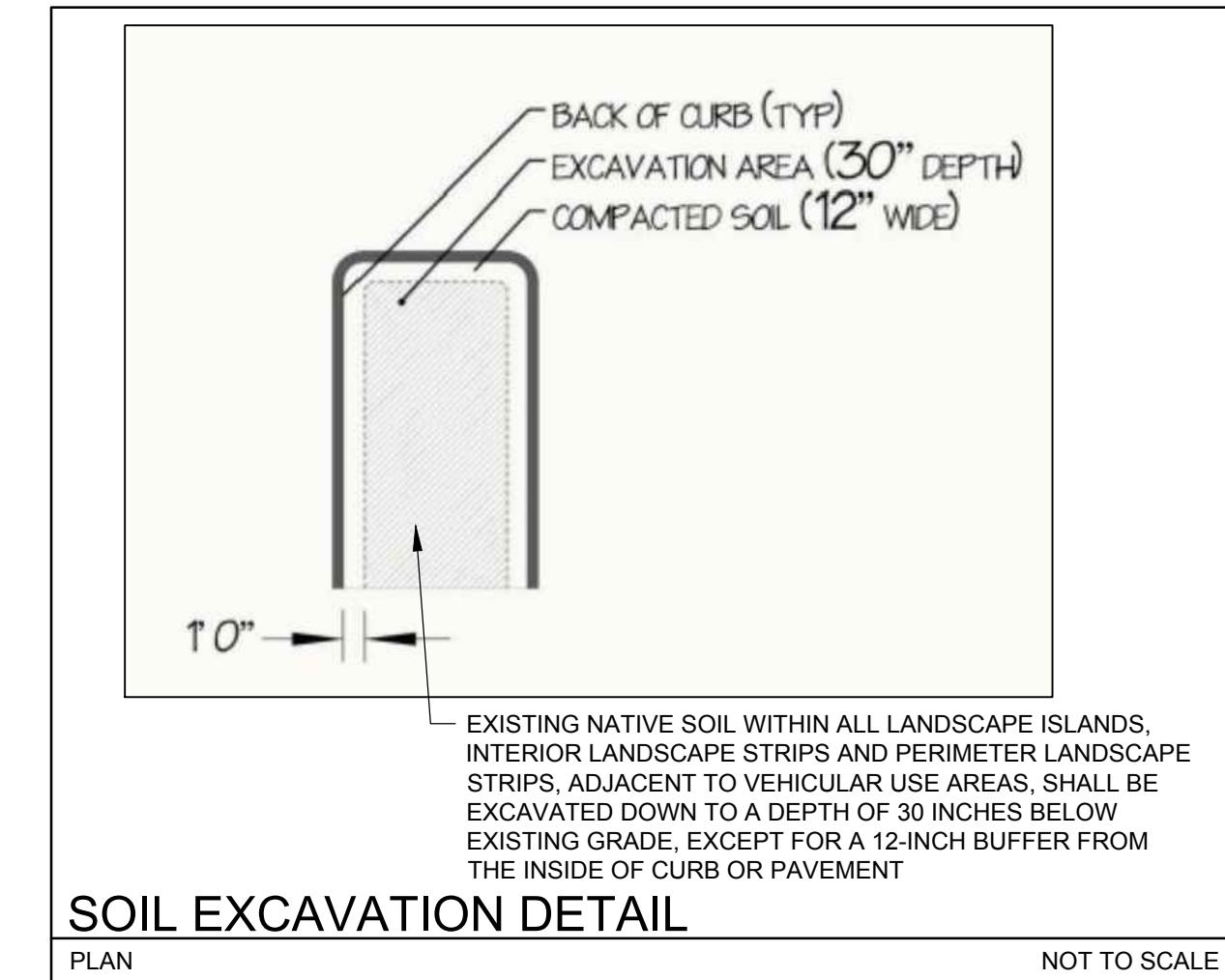


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#34798  
16000 S. MILITARY TRAIL  
DELRAY BEACH, FL 33484

SCALE: AS NOTED  
DATE ISSUED: FEBRUARY 2018  
DRAWN BY: SR  
DESIGNED BY: MP  
CHECKED BY: MP

MICHAEL J. PHILLIPS, RLA  
FLORIDA REG. NO. LA0001540  
(FOR THE FIRM)

SHEET TITLE

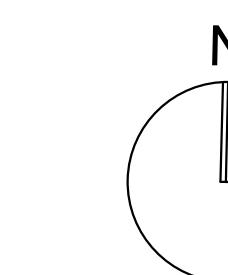
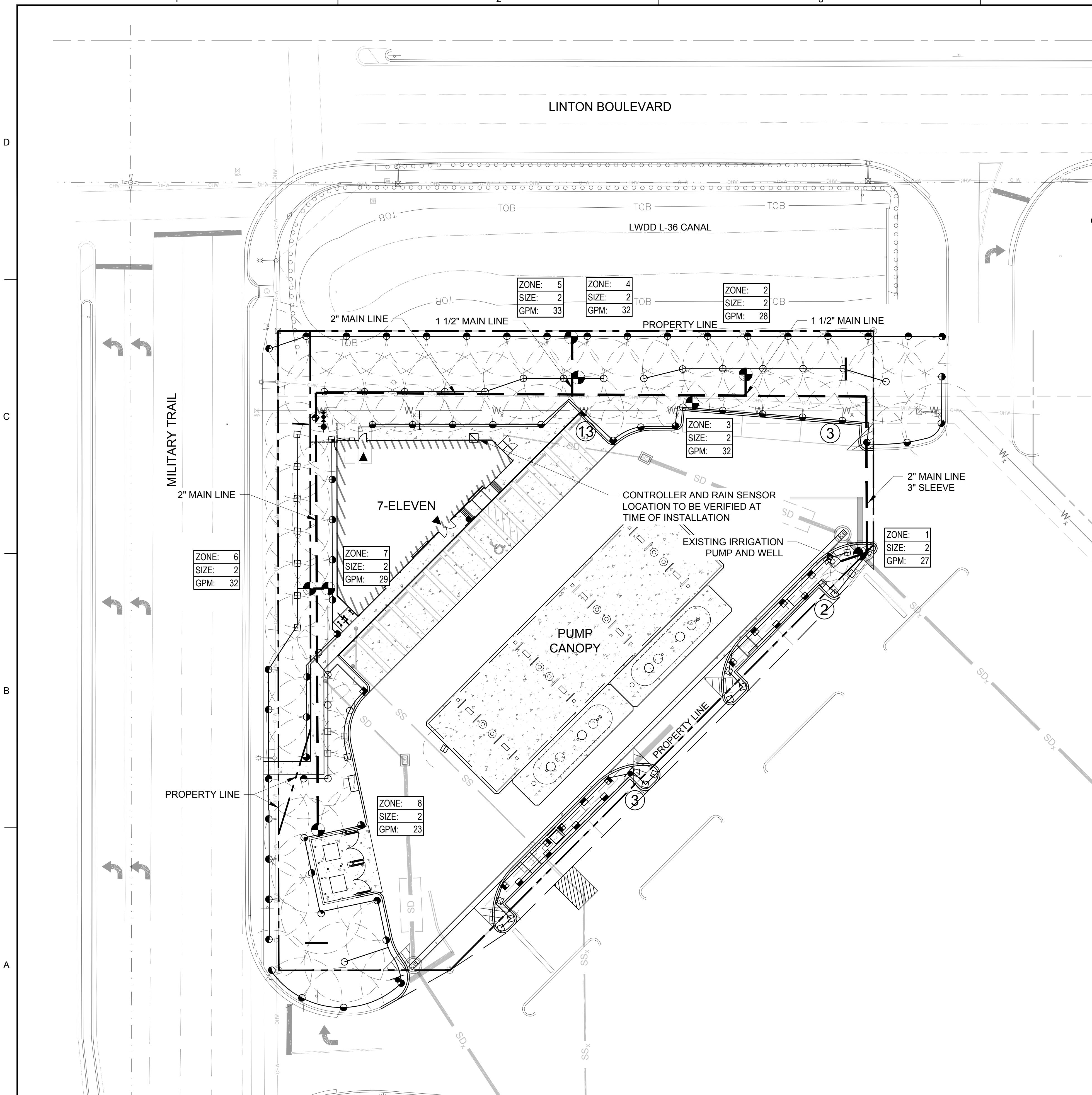
**LANDSCAPE DETAILS**

SHEET NUMBER

LP-501

SHEET of 12

PROJECT NO. 09725.24

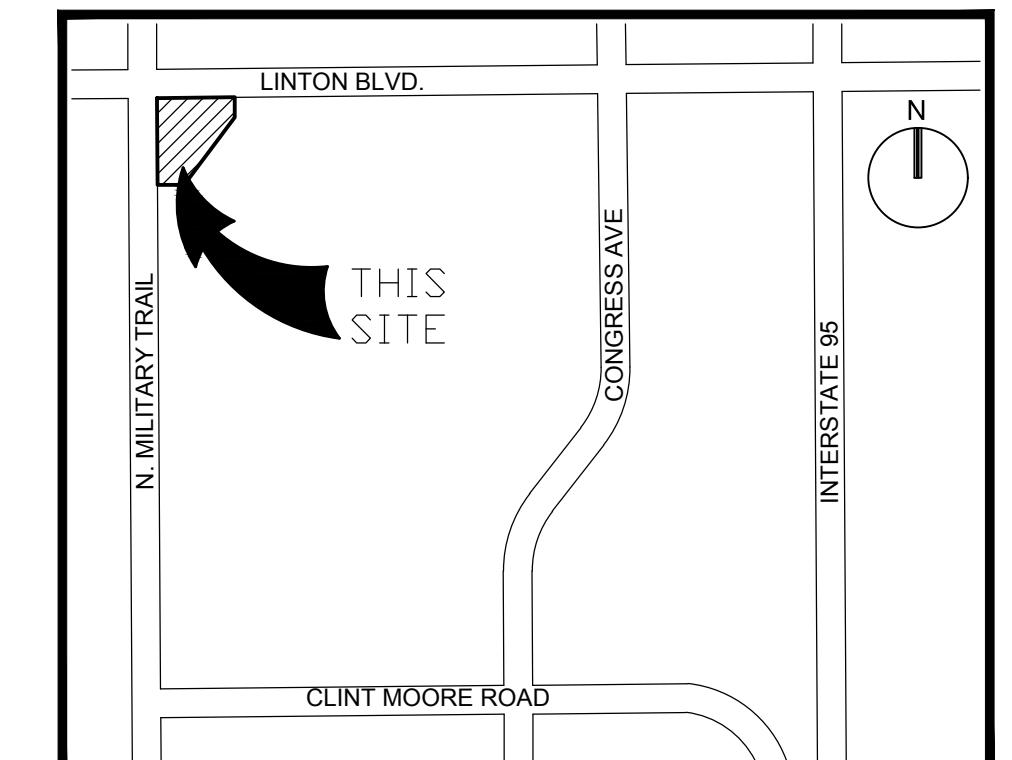


GRAPHIC SCALE

A horizontal scale bar with numerical markings at 0, 20, and 40. The scale is divided into four equal segments by these markings. The first segment from 0 to 20 is further subdivided into two equal parts by a vertical tick mark located at the 10 position. The segments are represented by different patterns: the first segment (0-10) is white, the second (10-20) is black, the third (20-30) is white, and the fourth (30-40) is black.

0 20 40

NOTE: PRINTED DRAWING SIZE MAY HAVE  
CHANGED FROM ORIGINAL. VERIFY SCALE  
USING BAR SCALE ABOVE.



## LOCATION SKETCH

NOT TO SCALE

 KEITH

301 East Atlantic Boulevard  
Pompano Beach, FL 33060

PH: (954) 788-3400

Florida Certificate of  
Authorization # - 7928

**BID / CONTRACT NO. :**

## REVISIONS

NO.	DESCRIPTION	DATE
1	SITE PLAN REVISION	01/11/19

# PRELIMINARY PLAN NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED  
AND ARE SUBJECT TO REVISIONS MADE  
DURING THE PERMITTING PROCESS.  
RESPONSIBILITY FOR THE USE OF THESE  
PLANS PRIOR TO OBTAINING PERMITS  
FROM ALL AGENCIES HAVING JURISDICTION  
OVER THE PROJECT WILL FALL SOLELY  
UPON THE USER.



#34798  
16000 S. MILITARY TRAIL  
DEI RAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	SR
DESIGNED BY:	MP
CHECKED BY:	MR

IRRIGATION | EGFND

SYMBOL	DESCRIPTION
◎	HUNTER PGP 6" POP-UP ROTOR HEADS
○ ○ ● ●	HUNTER SPRAY NOZZLES: 15' RADIUS, WITH PRO SPRAY BODY
□ □ ■ ■	HUNTER SPRAY NOZZLES: 12' RADIUS, WITH PRO SPRAY BODY
⊕ ⊖ ⊖ ○	HUNTER SPRAY NOZZLES: 10' RADIUS, WITH PRO SPRAY BODY
田 田 田 □	HUNTER SPRAY NOZZLES: 8' RADIUS, WITH PRO SPRAY BODY
■	HUNTER END SPRAY: ES515, WITH PRO SPRAY BODY
■	HUNTER SIDE SPRAY: SS515, WITH PRO SPRAY BODY
☒☒☒☒	HUNTER MULTI-STREAM BUBBLERS: MSBN SERIES
●	HUNTER BUBBLERS: PCN SERIES
◐	ZONE VALVE: ELECTRONIC, EQUAL TO IRRITROL, SIZE PER PLAN, IN AMETEK OR CARSON 12"X18" VALVE BOX
►►	AMES BRASS GATE VALVE, SAME SIZE AS MAINLINE, IN 6" SCH 40 PVC COLLAR EXTENSION AND VALVE BOX
□□□□	HUNTER MODULAR IRRIGATION CONTROLLER EQUAL TO PRO-C SERIES WITH SOLAR SYNC, TO BE LOCATED PER OWNER'S PREFERENCE
-----	SLEEVES: SCH 40 PVC OR RATED EQUAL CLASS SLEEVES TO BE MIN. 24" AND MAX. 36" DEEP
— — — —	MAIN LINE: SCH 40 PVC WITH SCH 80 PVS FITTINGS THRUST BLOCKS AT STRESS POINTS, SITE PER PLAN
_____	LATERAL PIPING: PVC CLASS 200 PVC FITTINGS AND GLUE JOINTS, PER SPECIFICATIONS

MICHAEL J. PHILLIPS, RLA  
FLORIDA REG. NO. LA0001540

**SHEET TITLE**

# IRRIGATION PLAN

**SHEET NUMBER**

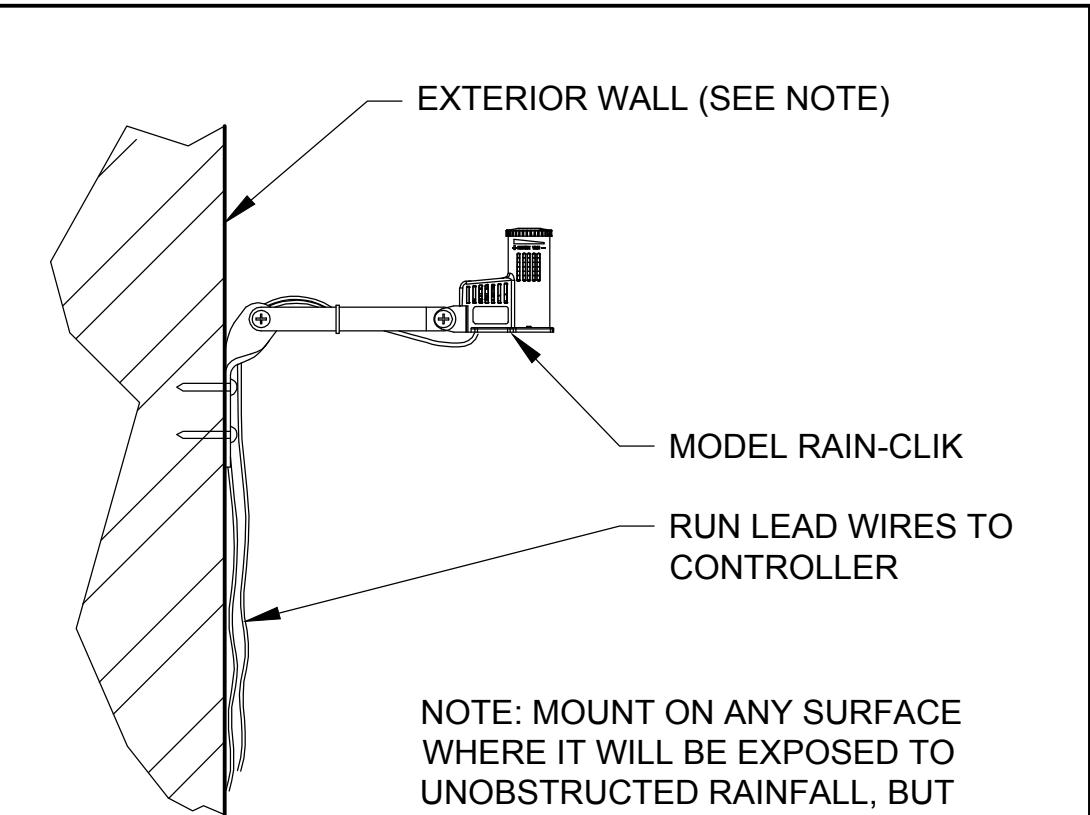
LI-101

SHEET of 27

PROJECT NO. 09725.24

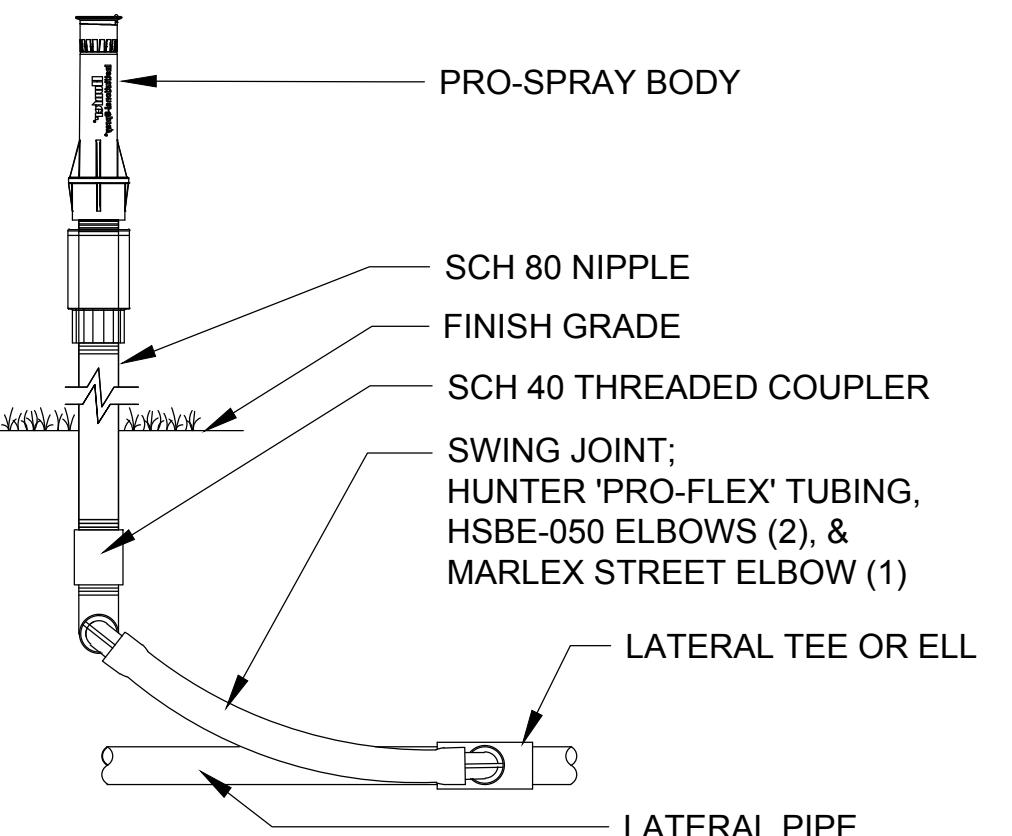
## IRRIGATION NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL REQUIRED TO MAKE THE SYSTEM FUNCTION PROPERLY. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND ALSO STATE AND/OR LOCAL CODES.
- IRRIGATION PLANS ARE SCHEMATIC AND DRAWN FOR GRAPHIC CLARITY. ALL PIPING BELOW PAVEMENT SHALL BE SLEEVED. LAYOUT OF IRRIGATION SYSTEM SHALL BE COORDINATED WITH CORRESPONDING LANDSCAPE PLAN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING LOCAL UNDERGROUND UTILITY PROVIDERS TO VERIFY LOCATIONS. THE CONTRACTOR IS ENCOURAGED TO VISIT THE SITE PRIOR TO INSTALLATION AND BECOME FAMILIAR WITH EXISTING CONDITIONS.
- VALVE LOCATIONS ARE SCHEMATIC ONLY AND WILL BE ADJUSTED FOR SITE CONDITIONS. EACH VALVE SHALL BE INSTALLED IN A AMETEK OR CARSON VALVE BOX. THE FLOW ADJUSTMENT FEATURE WILL BE USED TO BALANCE PRESSURE THROUGHOUT THE SYSTEM.
- PIPING SHALL BE SIZED TO MINIMIZE FRICTION LOSS AND MAINTAIN FLOW VELOCITY BELOW 5 FPS.
- THE IRRIGATION CONTROLLER SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS. PROPER GROUNDING EQUIPMENT AND SURGE PROTECTION SHALL BE PROVIDED. A RAIN SENSOR SHALL BE INSTALLED TO OVER-RIDE THE CONTROLLER.
- ALL HEADS ON RISERS SHALL BE SET AT THE HEIGHT OF ADJACENT PLANT MATERIAL.
- SPRINKLER LOCATIONS ADJACENT TO PAVEMENT, STRUCTURES, FENCES, ETC. SHALL BE OFFSET AS FOLLOWS: 12" MIN FOR POP-UP MIST HEADS, 18" FOR SHRUB RISERS, 18" FOR ROTOR HEADS, AND TYPICALLY 5 FEET FOR ROTORS ALONG UNCURBED ROADWAYS.
- ALL SLEEVING SHALL BE SCH 40 PVC TO SIZE INDICATED ON PLAN, OR IF NOT INDICATED, A MIN. OF 2 PIPE SIZES LARGER THAN SUPPLY LINE CONTAINED. ALL SLEEVES SHALL BE INSTALLED A MIN. OF 24" BELOW FINISH GRADE.
- CONTROL WIRES SHALL BE UL APPROVED PE IRRIGATION CONTROL WIRE. USE 14 GAGE CONTROL WIRE AND 12 GAGE GROUND WIRE. WIRE SHALL BE BUNDLED AND ATTACHED TO THE MAIN LINE IN TRENCH OR THROUGH WIRE SLEEVES AT PAVEMENT CROSSINGS 24" BELOW FIN. GRADE. ALL SPLICES SHALL BE MADE WITH WATERPROOF DIRECT-BURIAL SPLICE KITS AND CONTAINED IN VALVE BOXES. TWO EXTRA CONTROL WIRES SHALL BE INSTALLED TO THE FURTHEST VALVES IN EACH DIRECTION FROM THE CONTROLLER.



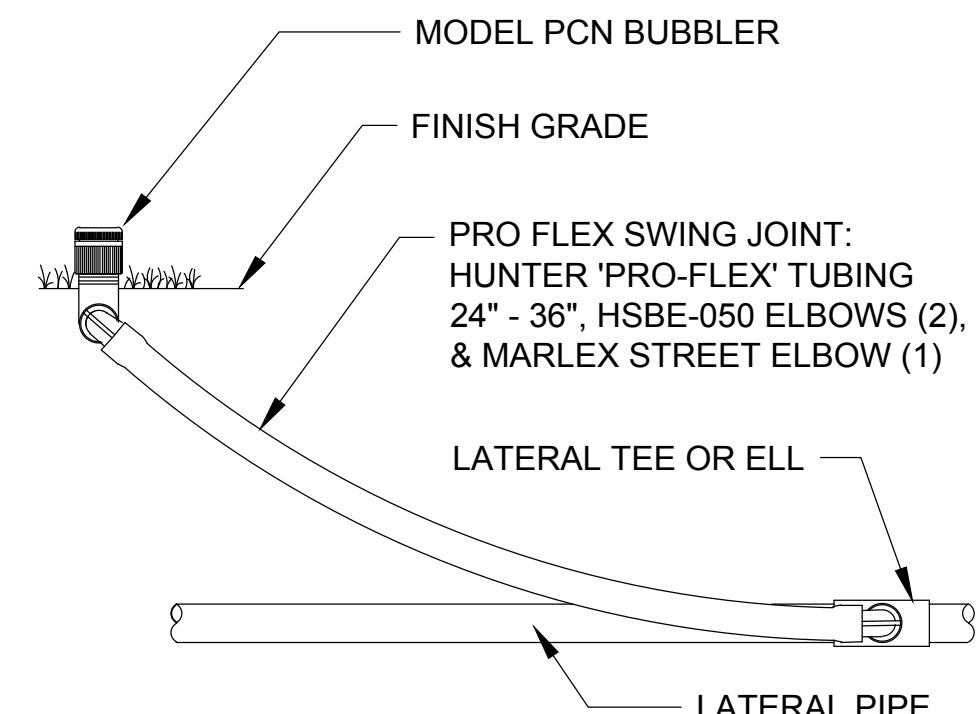
RAIN-CLICK

**Hunter® IRRIGATION DETAIL** NOT TO SCALE



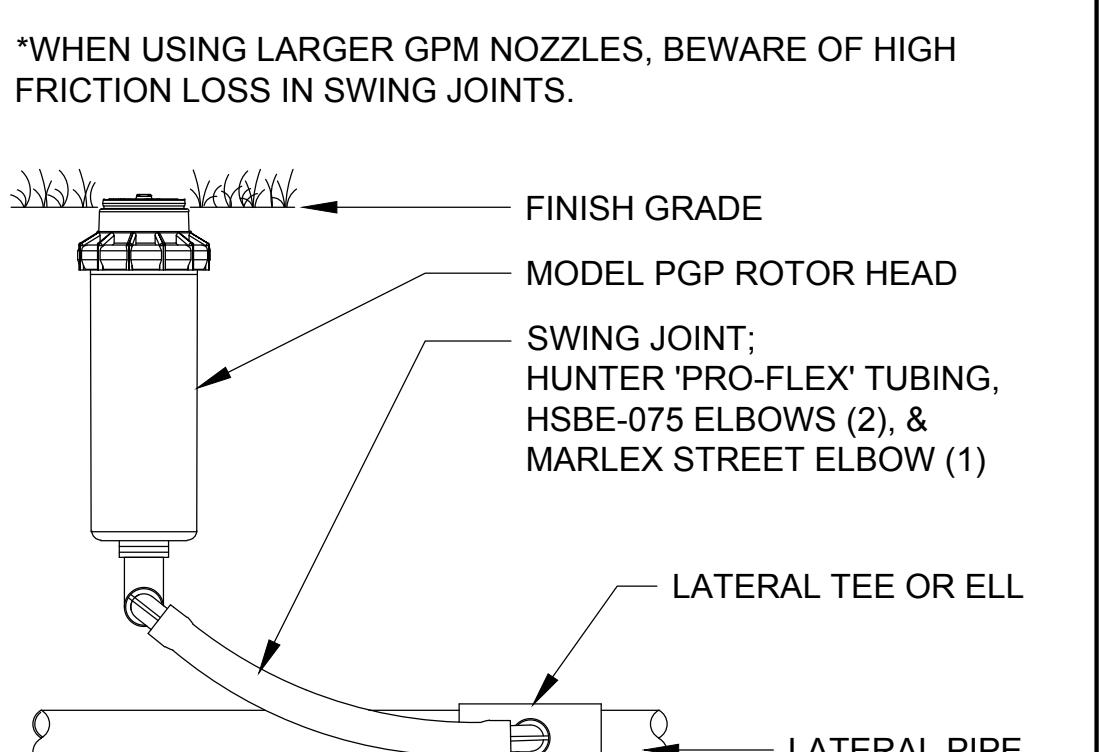
SPRAY HEAD ON RISER

**Hunter® IRRIGATION DETAIL** NOT TO SCALE



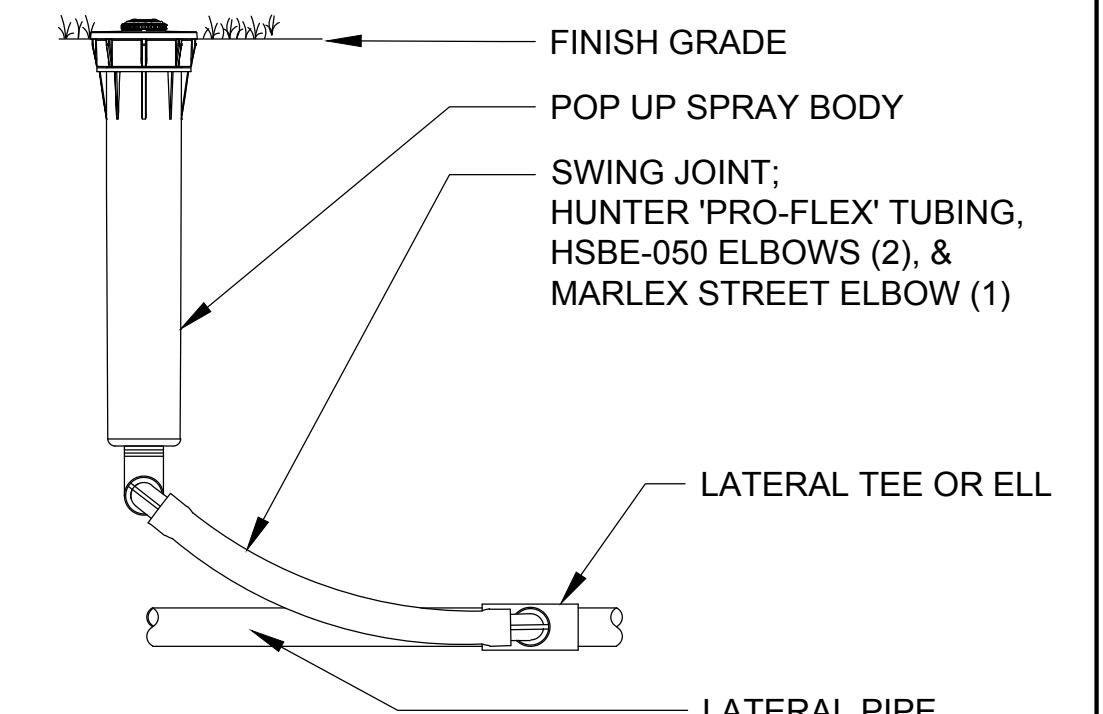
PCN BUBBLER

**Hunter® IRRIGATION DETAIL** NOT TO SCALE



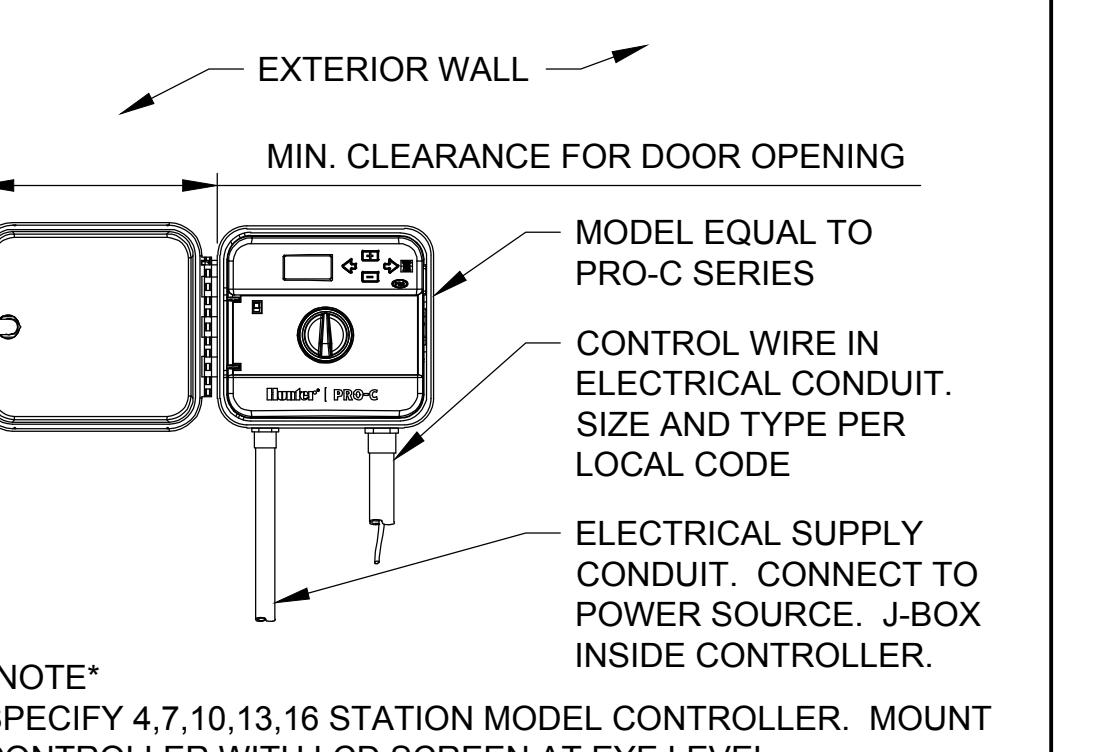
PGP ROTOR HEAD

**Hunter® IRRIGATION DETAIL** NOT TO SCALE



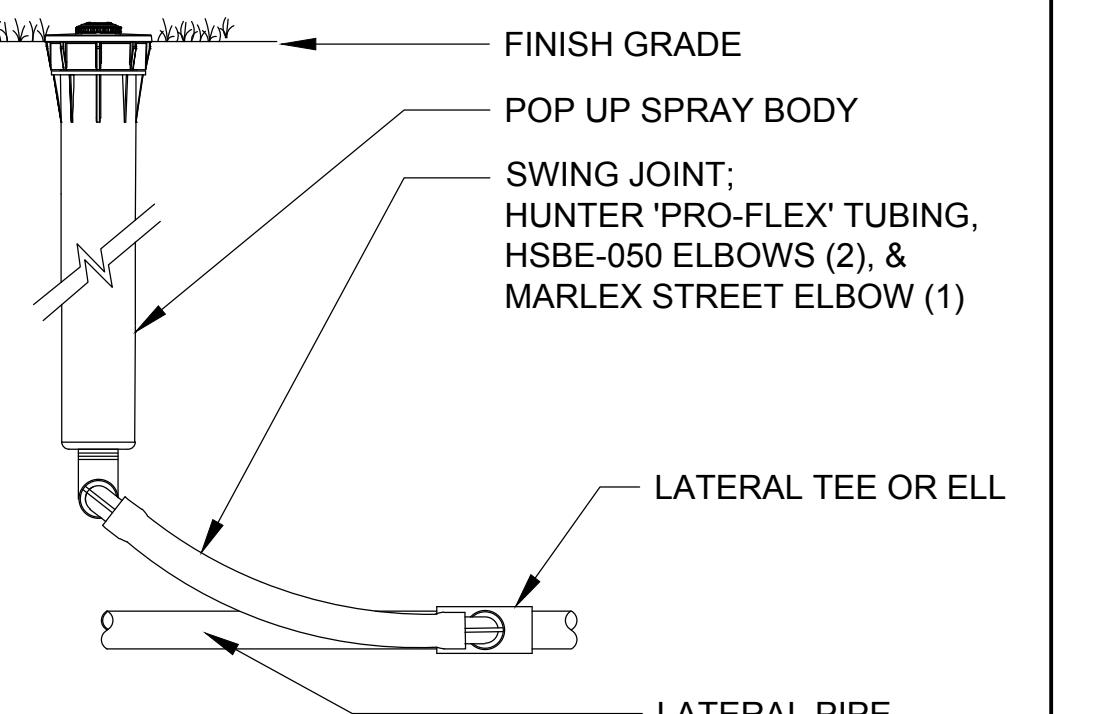
12" POP-UP SPRAY HEAD

**Hunter® IRRIGATION DETAIL** NOT TO SCALE



PRO-C CONTROLLER

**Hunter® IRRIGATION DETAIL** NOT TO SCALE



6" POP-UP SPRAY HEAD

**Hunter® IRRIGATION DETAIL** NOT TO SCALE

- PIPING IN NARROW PLANTING AREAS, PARKING ISLANDS AND PLANTERS SHALL BE SET TO ONE SIDE TO ALLOW ROOM FOR ROOT BALLS. PIPE AS INDICATED ON PLAN IS SCHEMATIC AND SHOULD BE ADJUSTED FOR FIELD CONDITIONS.
- ALL GLUE JOINTS SHALL BE CLEANED, SANDED, AND TREATED WITH A COLORED HIGH ETCH PRIMER AND JOINED USING A SOLVENT CONFORMING WITH ASTM D2564.
- SYSTEM PIPE SIZE 3/4" SHALL BE CLASS 200 PVC; SYSTEM PIPE SIZE 1" OR GREATER SHALL BE CLASS 160 PVC. SYSTEM MAIN WILL BE SCH. 40 PVC TO SIZE INDICATED ON PLAN. ALL FITTINGS WILL BE SOLVENT WELD SCH 40 PVC. MAIN LINE SHALL HAVE 24" MINIMUM COVER; ALL OTHER PIPING WILL HAVE 12" MIN. COVER. ALL BACKFILL FOR PIPE TRENCHES SHALL BE CLEAN AND FREE OF FOREIGN DEBRIS AND SHARP OBJECTS; BACKFILLED TRENCHES SHALL BE PROPERLY COMPAKTED. ALL MAIN LINES WILL BE INSTALLED A MIN. OF 3' FROM ANY TREE OR PALM.
- WATERING TIME PER STATION WILL BE DETERMINED IN THE FIELD AND PER LOCAL REQUIREMENTS. REFER TO MANUFACTURER'S INSTRUCTIONS FOR PRECIPITATION RATES OF SPRINKLERS SPECIFIED.
- IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE WITH 50% OVERLAP MIN. PROVIDE BUBBLERS FOR ALL NEW AND RELOCATED TREES AND PALMS.
- RUST CONTROL SYSTEM TO BE INSTALLED WITH PUMP STATION (IF FROM WELL).
- THE IRRIGATION SYSTEM IN THE RIGHT-OF-WAY IS TO INCORPORATE LOW TRAJECTORY SPRAY HEADS TO MINIMIZE OVERSPRAY.
- AS-BUILT DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND GIVEN TO THE OWNER PRIOR TO FINAL ACCEPTANCE.

## CITY OF DELRAY IRRIGATION REQUIREMENTS:

ALL LANDSCAPE AREAS SHALL BE PROVIDED WITH A FULLY AUTOMATED SPRINKLER SYSTEM THAT WILL PROVIDE COMPLETE COVERAGE OF ALL PLANT MATERIALS AND GRASS TO BE MAINTAINED. ALL SYSTEMS SHALL BE DESIGNED TO ALLOW FOR HEAD-TO-HEAD COVERAGE. LOW-VOLUME IRRIGATION SYSTEMS, SUCH AS DRIP OR MICRO-IRRIGATION SYSTEMS, ARE STRONGLY ENCOURAGED.

- WATERING RESTRICTIONS. THE LANDSCAPE IRRIGATION RESTRICTIONS SET FORTH BY THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), AS AMENDED, ARE HEREBY ADOPTED AND INCORPORATED AS IF SET FORTH.
- IRRIGATION OF EXISTING PLANT COMMUNITIES. EXISTING PLANT COMMUNITIES AND ECOSYSTEMS, MAINTAINED IN A NATURAL STATE, DO NOT REQUIRE AND SHALL NOT HAVE ANY ADDITIONAL IRRIGATION WATER ADDED IN ANY FORM.
- RE-ESTABLISHMENT OF NATIVE PLANT COMMUNITIES. NATIVE PLANT AREAS THAT ARE SUPPLEMENTS TO AN EXISTING PLANT COMMUNITY OR NEWLY INSTALLED BY THE DEVELOPER MAY INITIALLY REQUIRE ADDITIONAL WATER TO BECOME ESTABLISHED. THE WATER REQUIRED DURING THE ESTABLISHMENT PERIOD SHALL BE APPLIED FROM A TEMPORARY IRRIGATION SYSTEM, A WATER TRUCK OR BY HAND WATERING FROM A STANDARD HOSE BIB SOURCE.
- IRRIGATION DESIGN STANDARDS AND PRACTICES. THE FOLLOWING STANDARDS SHALL BE CONSIDERED THE MINIMUM REQUIREMENTS FOR LANDSCAPE IRRIGATION DESIGN:
  - ALL LANDSCAPED AREAS SHALL BE PROVIDED WITH A FULLY AUTOMATED SPRINKLER SYSTEM THAT WILL PROVIDE COMPLETE COVERAGE OF ALL PLANT MATERIALS AND GRASS TO BE MAINTAINED. THE USE OF RECYCLED WATER IS ENCOURAGED.
  - ALL NEW INSTALLATIONS OF LANDSCAPE IRRIGATION SYSTEMS AND SUBSTANTIAL MODIFICATIONS OF EXISTING IRRIGATION SYSTEMS WHICH USE WELL WATER, EXCLUDING SINGLE FAMILY RESIDENCES, SHALL INSTALL, OPERATE AND MAINTAIN RUST INHIBITOR EQUIPMENT TO PREVENT STAINING OF STRUCTURES AND PAVEMENTS.
  - WHEREVER FEASIBLE, SPRINKLER HEADS IRRIGATING LAWNS OR OTHER HIGH WATER DEMAND LANDSCAPE AREAS SHALL BE CIRCUITED SO THEY ARE ON A SEPARATE ZONE OR ZONES FROM THOSE IRRIGATING TREES, SHRUBBERY OR OTHER REDUCED WATER REQUIREMENT AREAS.
  - AUTOMATICALLY CONTROLLED IRRIGATION SYSTEMS SHALL BE OPERATED BY AN IRRIGATION CONTROLLER THAT IS CAPABLE OF WATERING HIGH WATER REQUIREMENT AREAS ON A DIFFERENT SCHEDULE FROM LOW WATER REQUIREMENT AREAS.
  - SPRINKLER HEADS SHALL BE INSTALLED AND MAINTAINED SO AS TO MINIMIZE SPRAY UPON ANY PUBLIC ACCESS, SIDEWALK, STREET OR OTHER NON-PERVIOUS AREA.
  - THE USE OF LOW TRAJECTORY SPRAY NOZZLES IS ENCOURAGED IN ORDER TO REDUCE THE EFFECT OF WIND VELOCITY ON THE SPRAY SYSTEM.
  - THE USE OF LOW VOLUME OR DRIP SYSTEMS IS ENCOURAGED.
  - ALL NEW INSTALLATIONS OF LANDSCAPE IRRIGATION SYSTEMS, AND MODIFICATIONS OF EXISTING SYSTEMS, SHALL BE EQUIPPED WITH A RAIN SENSING DEVICE WHICH WILL OVERRIDE THE IRRIGATION CYCLE OF THE SYSTEM WHEN ADEQUATE RAINFALL HAS OCCURRED. FURTHER, THESE RAIN SENSING DEVICES MUST BE OPERATED AND MAINTAINED FOR THE LIFE OF THE IRRIGATION SYSTEM.
  - THE USE OF POP-UP SPRINKLER HEADS IS REQUIRED IN THE SWALE AREA BETWEEN THE PROPERTY LINE AND THE EDGE OF PAVEMENT OF THE ADJACENT RIGHT-OF-WAY TO MINIMIZE PEDESTRIAN HAZARD.
  - THE PLANT PALETTE AND IRRIGATION SYSTEM SHALL BE APPROPRIATE FOR SITE CONDITIONS, TAKING INTO ACCOUNT THAT, IN SOME CASES, SOIL IMPROVEMENT CAN ENHANCE WATER USE EFFICIENCY.
  - PLANTS SHALL BE GROUPED TOGETHER BY IRRIGATION DEMAND.
  - THE PERCENTAGE OF LANDSCAPED AREA IN IRRIGATED HIGH WATER USE HYDROZONES SHOULD BE MINIMIZED. LANDSCAPE PLANS SHALL DEPICT THE DIFFERENT HYDROZONES AND IRRIGATE ACCORDING TO DEMAND.
  - ALL IRRIGATION SYSTEMS SHALL MEET CURRENT BEST MANAGEMENT PRACTICES AS ESTABLISHED BY THE MOST CURRENT VERSION OF THE FLORIDA GREEN INDUSTRIES BEST MANAGEMENT PRACTICES HANDBOOK, INCLUDING THE UNIFORM DISTRIBUTION OF WATER THROUGHOUT ALL ZONES.

**KEITH**  
ASSOCIATES, INC.  
consulting engineers

301 East Atlantic Boulevard  
Pompano Beach, Florida 33060-6643

2160 NW 82<sup>nd</sup> Avenue  
Doral, Florida 33122  
PH: (954) 788-3400

Florida Certificate of  
Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS  
NO. DESCRIPTION DATE

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SHEET TITLE

IRRIGATION  
NOTES & DETAILS

SHEET NUMBER

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SHEET of 12

PROJECT NO. 09725.24