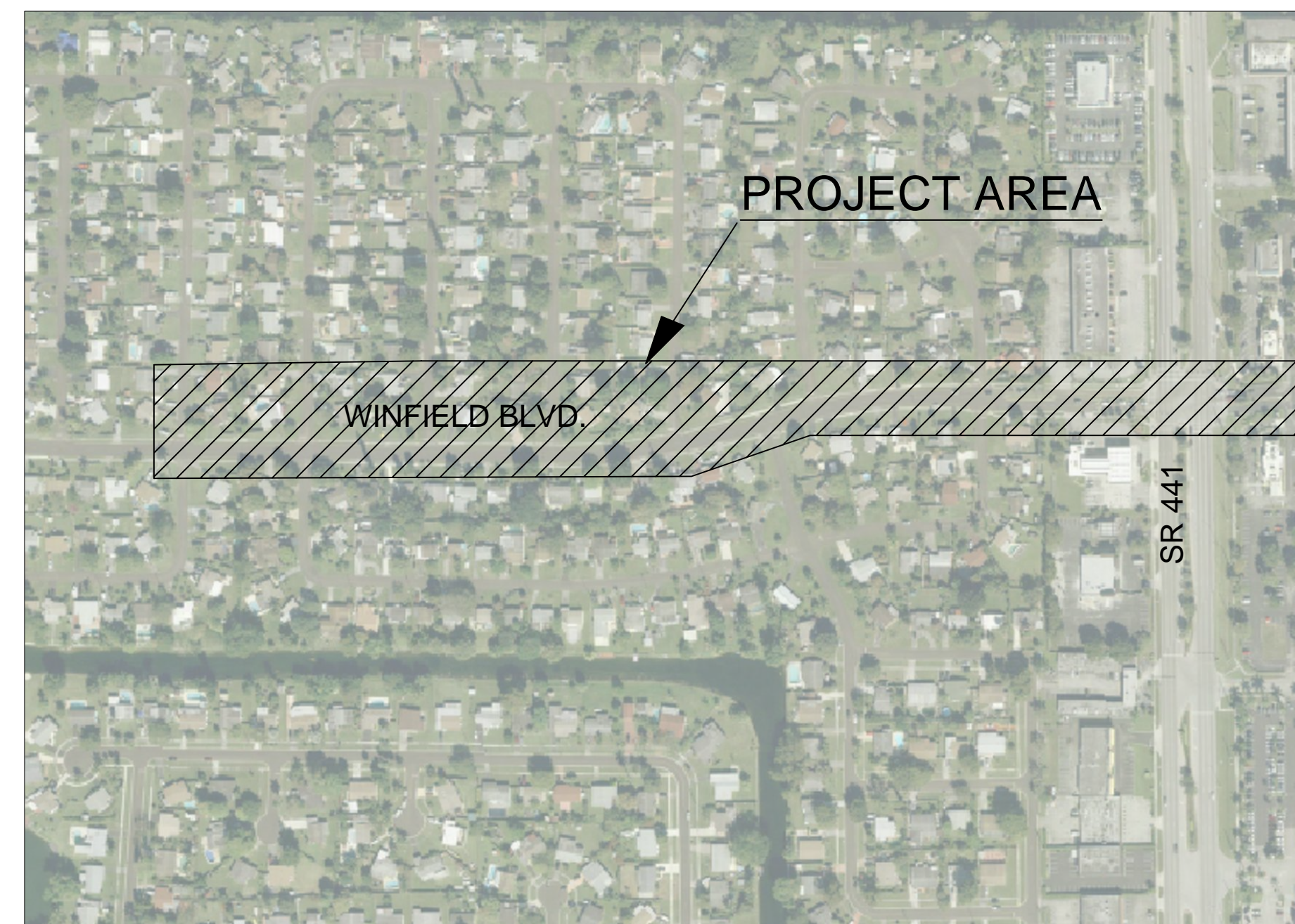
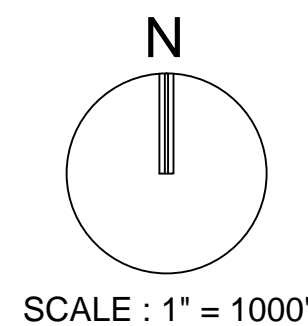
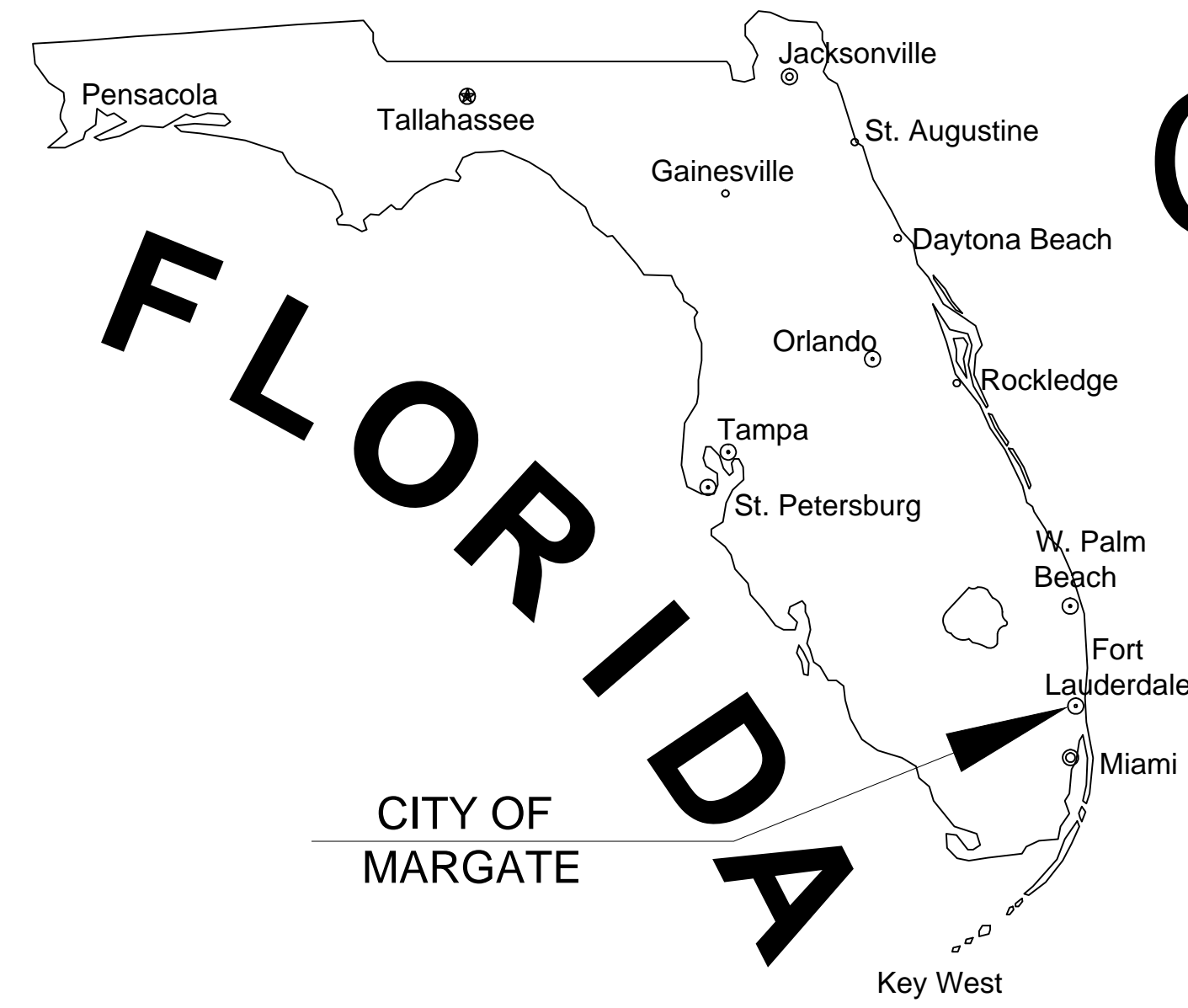


WINFIELD BOULEVARD TRAFFIC CALMING & STREETSCAPE IMPROVEMENTS

CITY OF MARGATE
BROWARD COUNTY, FLORIDA



INDEX OF SHEETS		
Sheet Sequence No.	Sheet Identification	Sheet Title
	--	COVER
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2	GI-002	LEGEND
3	GI-003	GENERAL NOTES
4	CP-101	ENGINEERING PLAN
5	CP-102	ENGINEERING PLAN
6	CP-103	ENGINEERING PLAN
7	CP-501-502	ENGINEERING DETAILS
8	CM-101	PAVEMENT MARKING & SIGNING PLAN
9	CM-102	PAVEMENT MARKING & SIGNING PLAN
10	CM-103	PAVEMENT MARKING & SIGNING PLAN
11	LP-101	LANDSCAPE PLAN
12	LP-102	LANDSCAPE PLAN
13	LP-103	LANDSCAPE PLAN
14	LD-101	LANDSCAPE DETAILS
15	LN-101	LANDSCAPE NOTES
16	IR-101	IRRIGATION PLAN
17	IR-102	IRRIGATION PLAN
18	IR-103	IRRIGATION PLAN
19	IR-104	IRRIGATION DETAILS & NOTES

ALL ELEVATIONS SHOWN ON THESE PLANS
ARE BASED ON NAVD 1988 DATUM

LOCATION MAP

SECTION 24, TOWNSHIP 48 S, RANGE 41 E

PREPARED FOR:
CITY OF MARGATE CRA
5790 MARGATE BOULEVARD

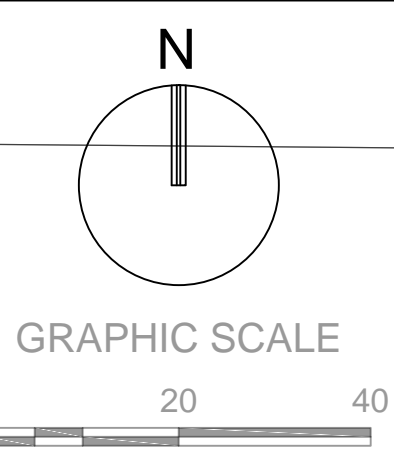
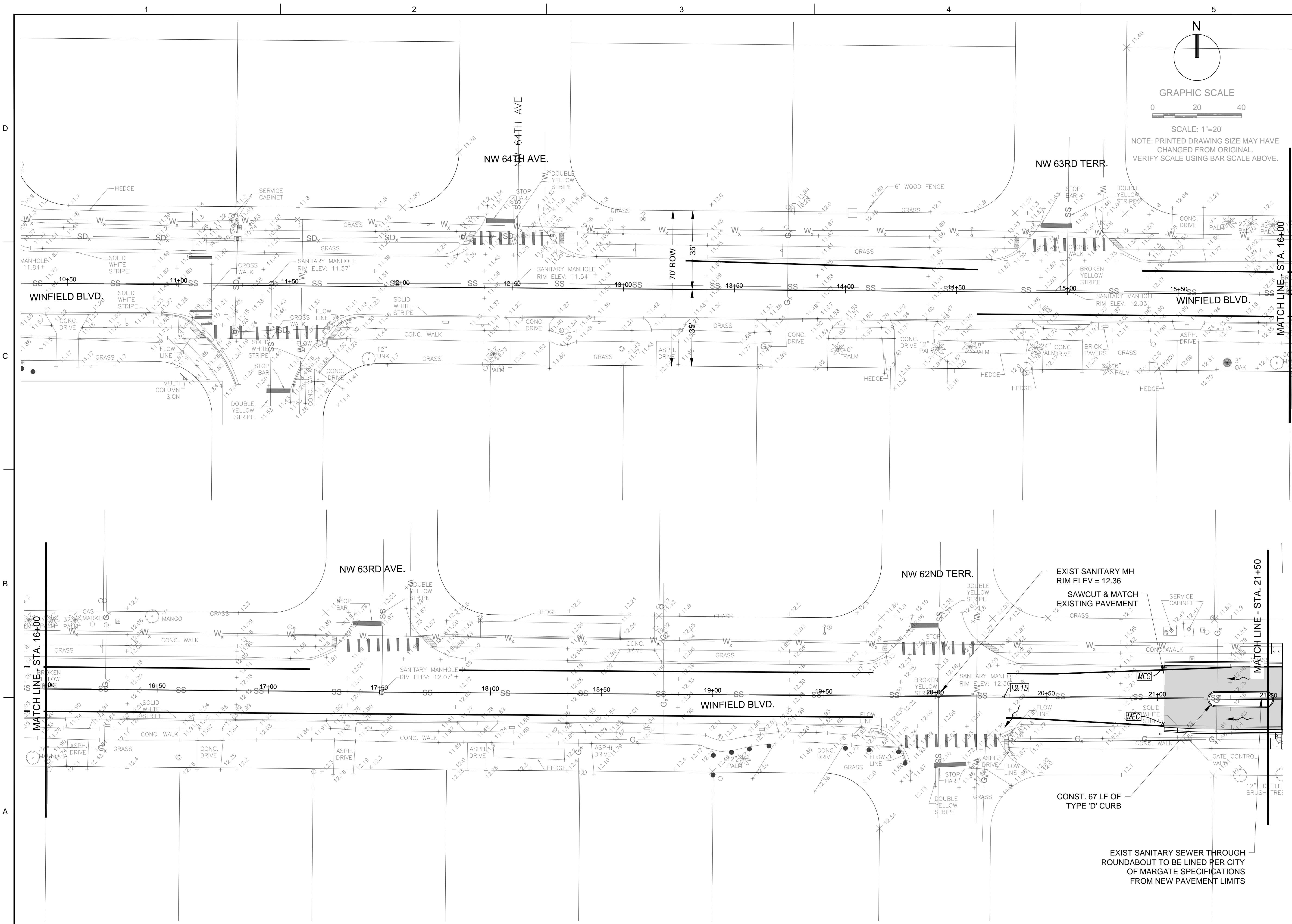


STEPHEN D. WILLIAMS, P.E.
FLORIDA REG. NO. 32090
(FOR THE FIRM)

PROJECT No. 09359.01 FEBRUARY 2017

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THIS MUST BE CONSIDERED WHEN
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REVISIONS		
NO.	DESCRIPTION	DATE

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IMPROVEMENTS
CITY OF
MARGATE**

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 10, 2017
DRAWN BY:	MC
DESIGNED BY:	MC
CHECKED BY:	SW

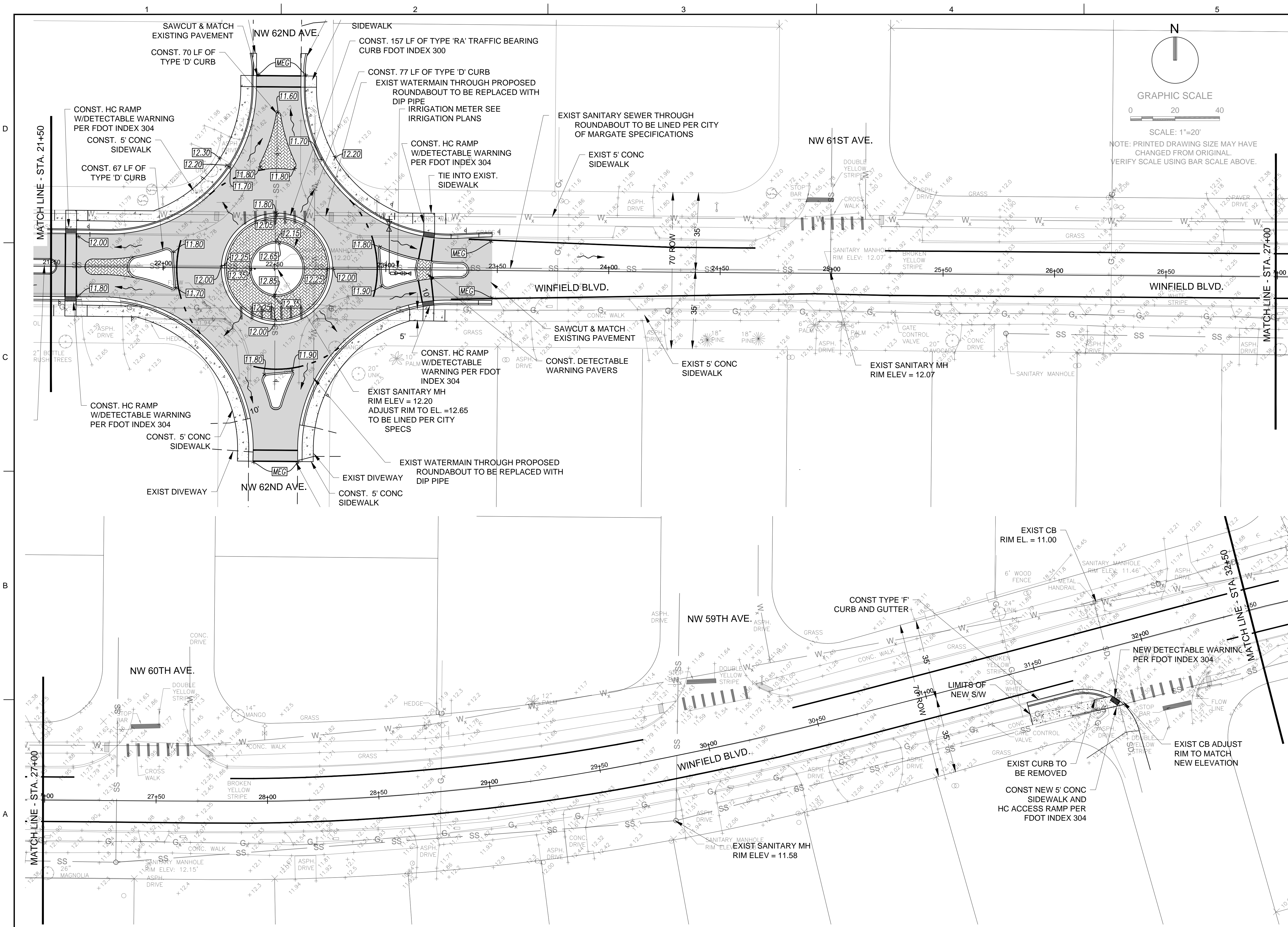
STEPHEN D. WILLIAMS, P.E.
FLORIDA REG. NO. 32090
(FOR THE FIRM)

SHEET TITLE
**ENGINEERING
PLANS**

SHEET NUMBER
CP-101

SHEET **of** 16
PROJECT NO. 09359.01

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WINFIELD BOULEVARD IMPROVEMENTS CITY OF MARGATE

SCALE: AS NOTED

DATE ISSUED: FEBRUARY 10, 2017

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DESIGNED BY: MC

CHECKED BY: SW

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(FOR THE FIRM)

SHEET TITLE

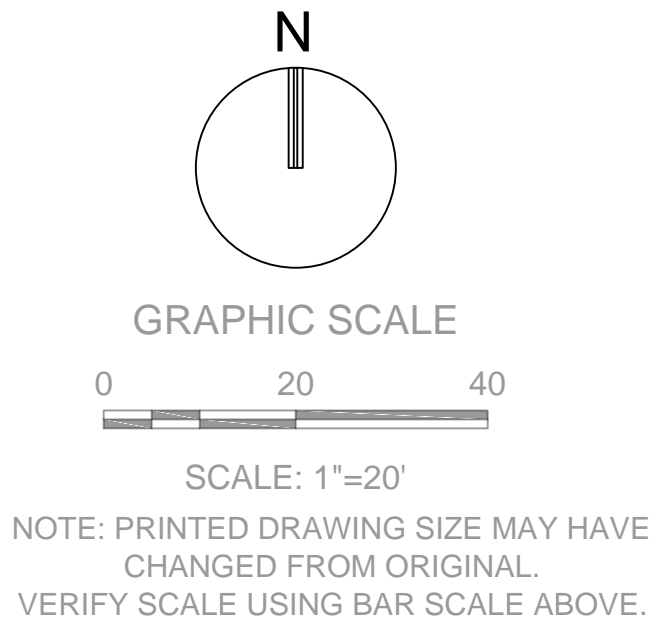
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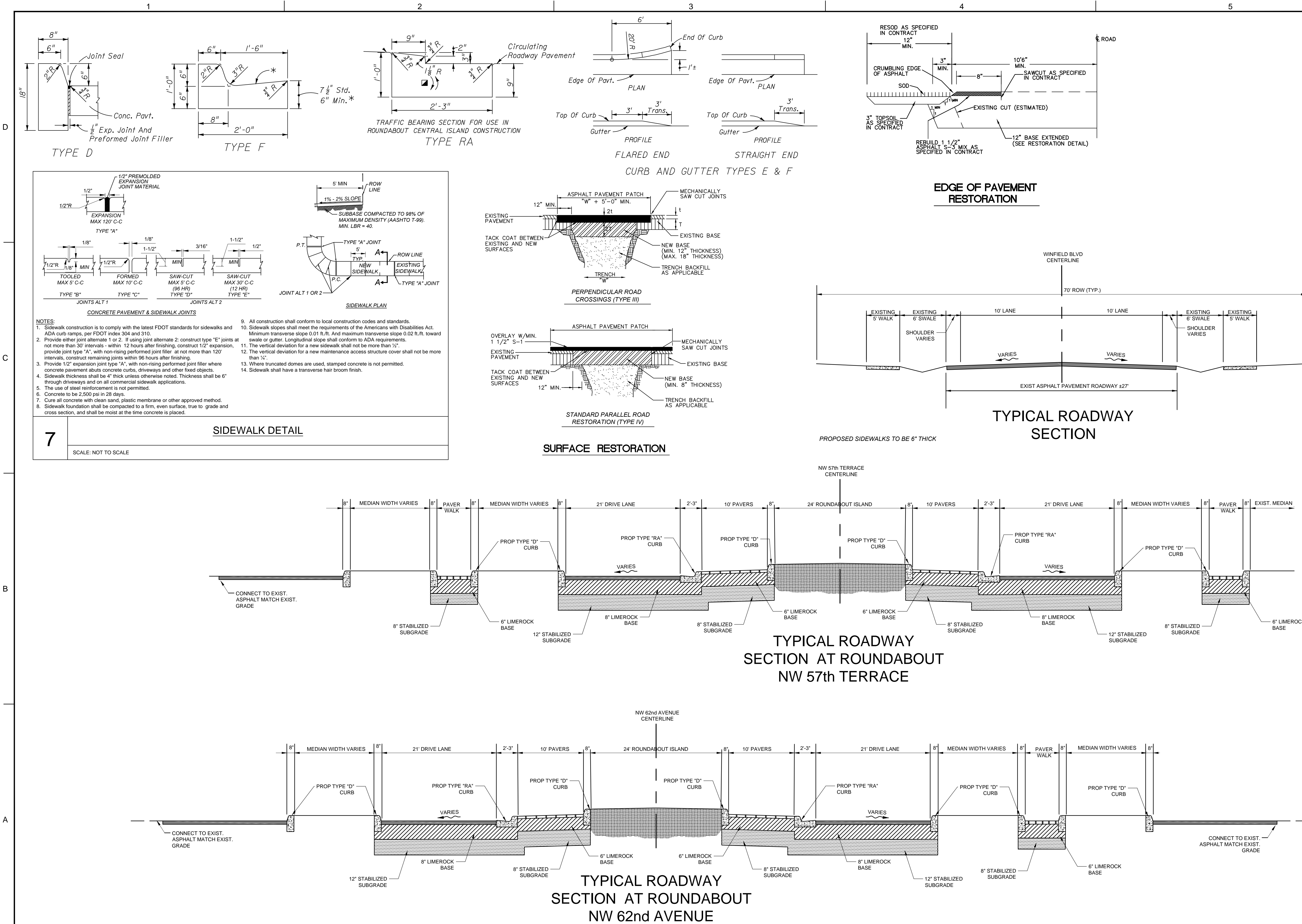
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PROJECT NO. 09359.01



PROJECT NO. 09359.01

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CITY OF MARGATE**

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 10, 2017
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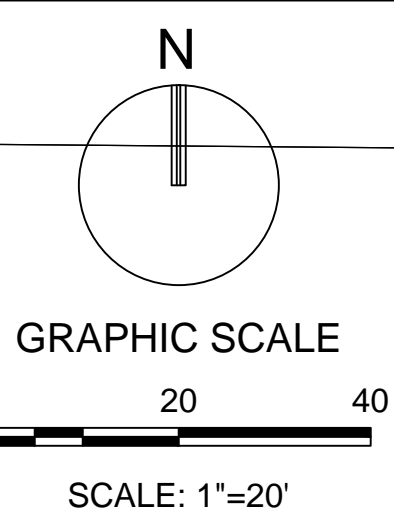
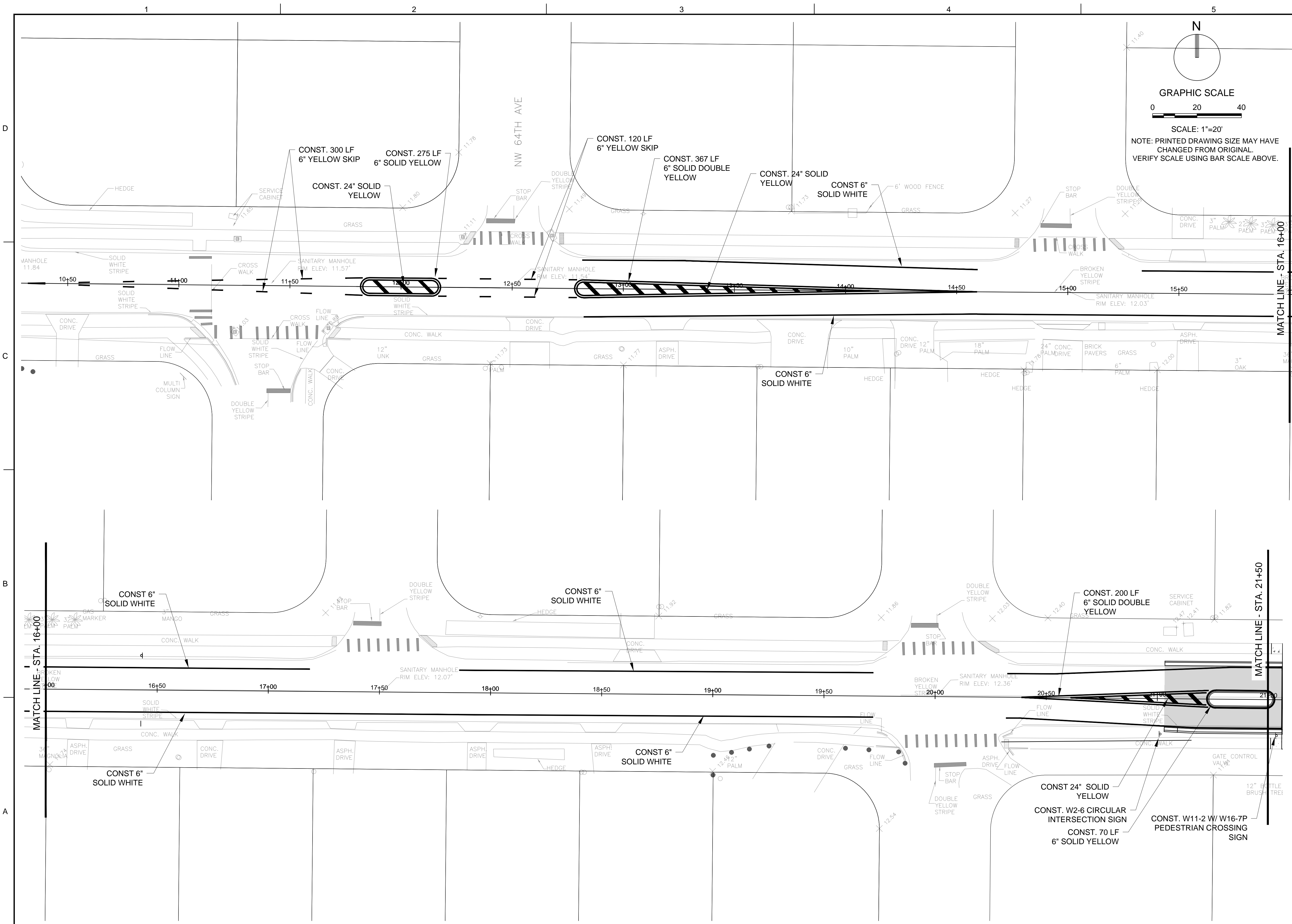
STEPHEN D. WILLIAMS, P.E.
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**ENGINEERING
DETAILS**

SHEET NUMBER
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SHEET of
PROJECT NO. 09359.01

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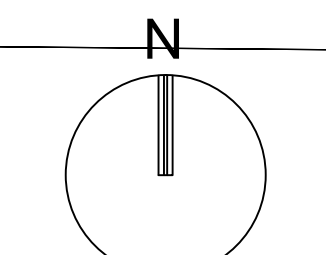
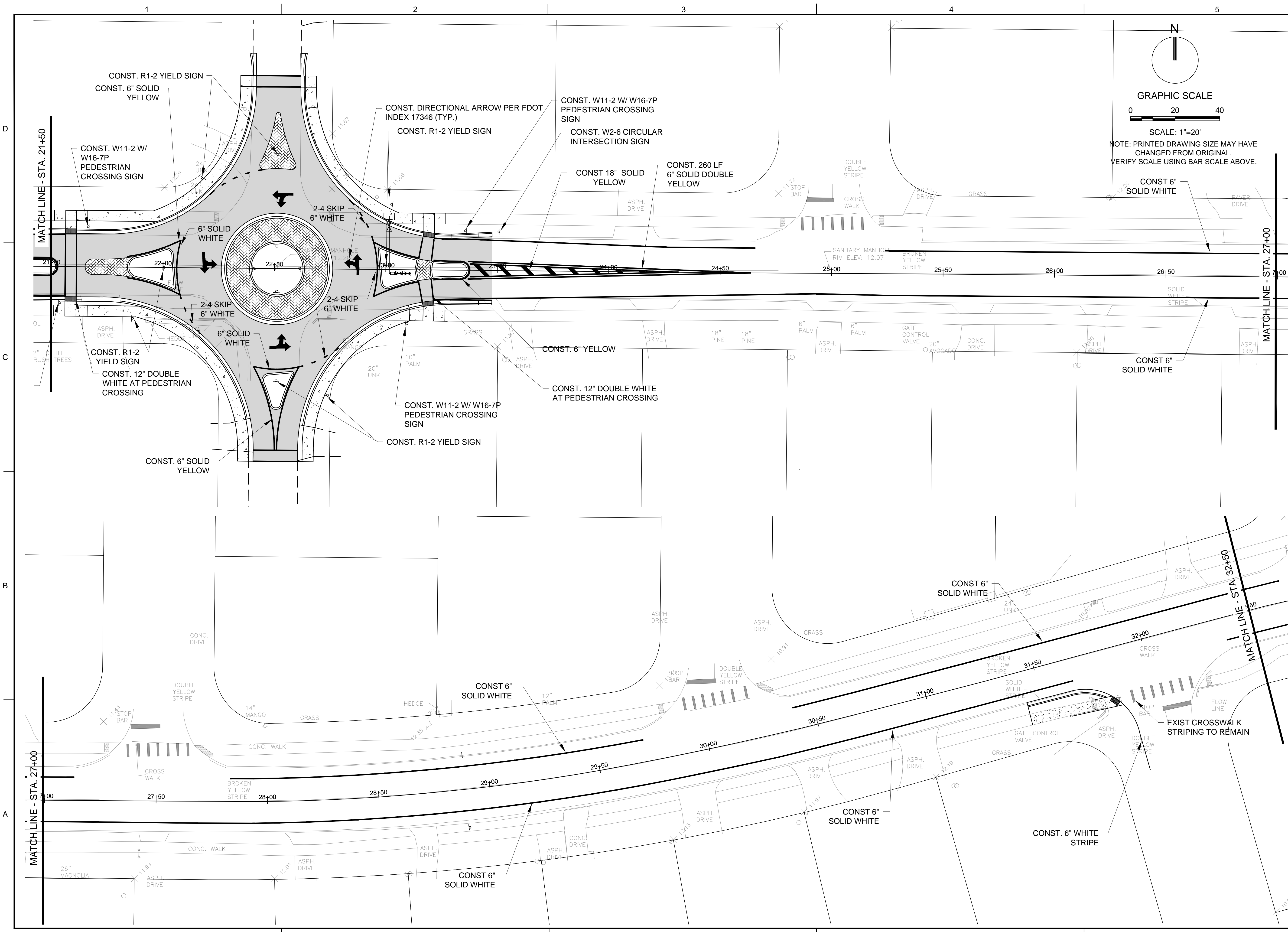
STEPHEN D. WILLIAMS, P.E.
FLORIDA REG. NO. 32090
(FOR THE FIRM)

SHEET TITLE

**PAVEMENT
MARKING
AND SIGNING PLAN**

SHEET NUMBER	
CM-101	
SHEET	of 16
PROJECT NO. 09359.01	

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STEPHEN D. WILLIAMS, P.E.
FLORIDA REG. NO. 32090
(FOR THE FIRM)

SHEET TITLE

PAVEMENT MARKING AND SIGNING PLAN

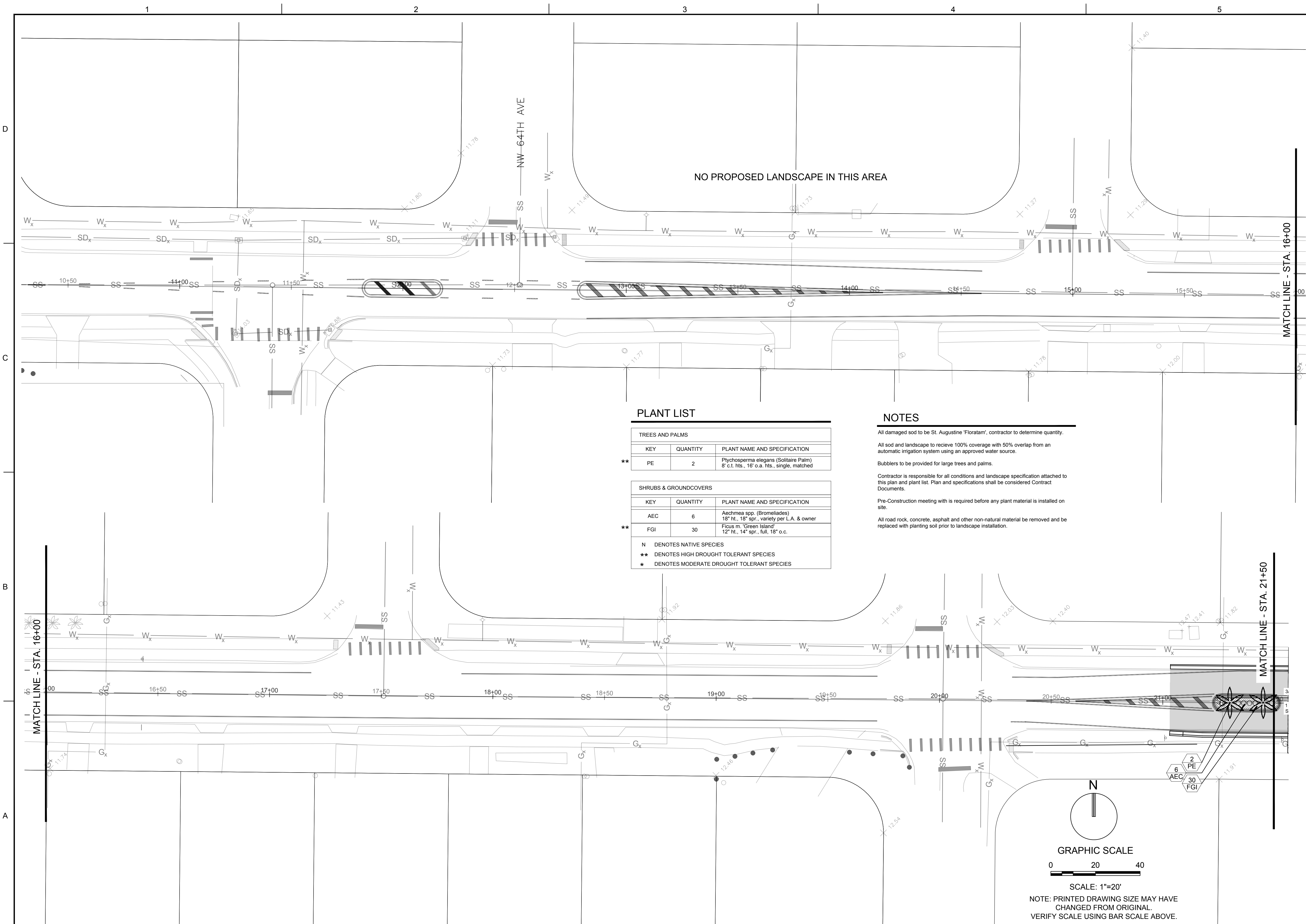
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PLANT LIST

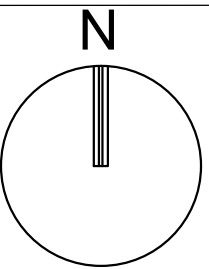
TREES AND PALMS		
KEY	QUANTITY	PLANT NAME AND SPECIFICATION
** PE	2	Ptychosperma elegans (Solitaire Palm) 8' c.t. hts., 16' o.a. hts., single, matched

SHRUBS & GROUNDCOVERS		
KEY	QUANTITY	PLANT NAME AND SPECIFICATION
AEC	6	Aechmea spp. (Bromeliades) 18" ht., 18" spr., variety per L.A. & owner
** FGI	30	Ficus m. 'Green Island' 12" ht., 14" spr., full, 18" o.c.

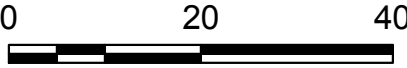
N DENOTES NATIVE SPECIES
** DENOTES HIGH DROUGHT TOLERANT SPECIES
* DENOTES MODERATE DROUGHT TOLERANT SPECIES

NOTES

- All damaged sod to be St. Augustine 'Floritam', contractor to determine quantity.
- All sod and landscape to relieve 100% coverage with 50% overlap from an automatic irrigation system using an approved water source.
- Bubblers to be provided for large trees and palms.
- Contractor is responsible for all conditions and landscape specification attached to this plan and plant list. Plan and specifications shall be considered Contract Documents.
- Pre-Construction meeting with is required before any plant material is installed on site.
- All road rock, concrete, asphalt and other non-natural material be removed and be replaced with planting soil prior to landscape installation.



GRAPHIC SCALE



SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE
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WINFIELD
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CITY OF
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DESIGNED BY: MP
CHECKED BY: MP

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

SHEET TITLE

LANDSCAPE
PLAN

SHEET NUMBER

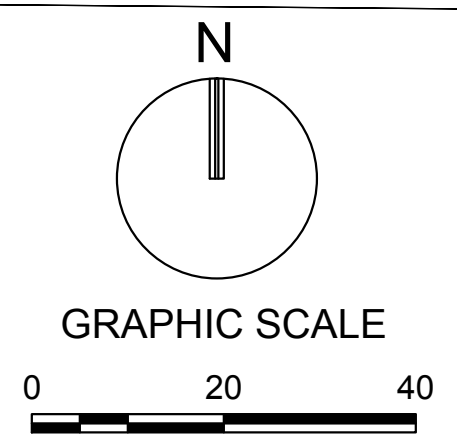
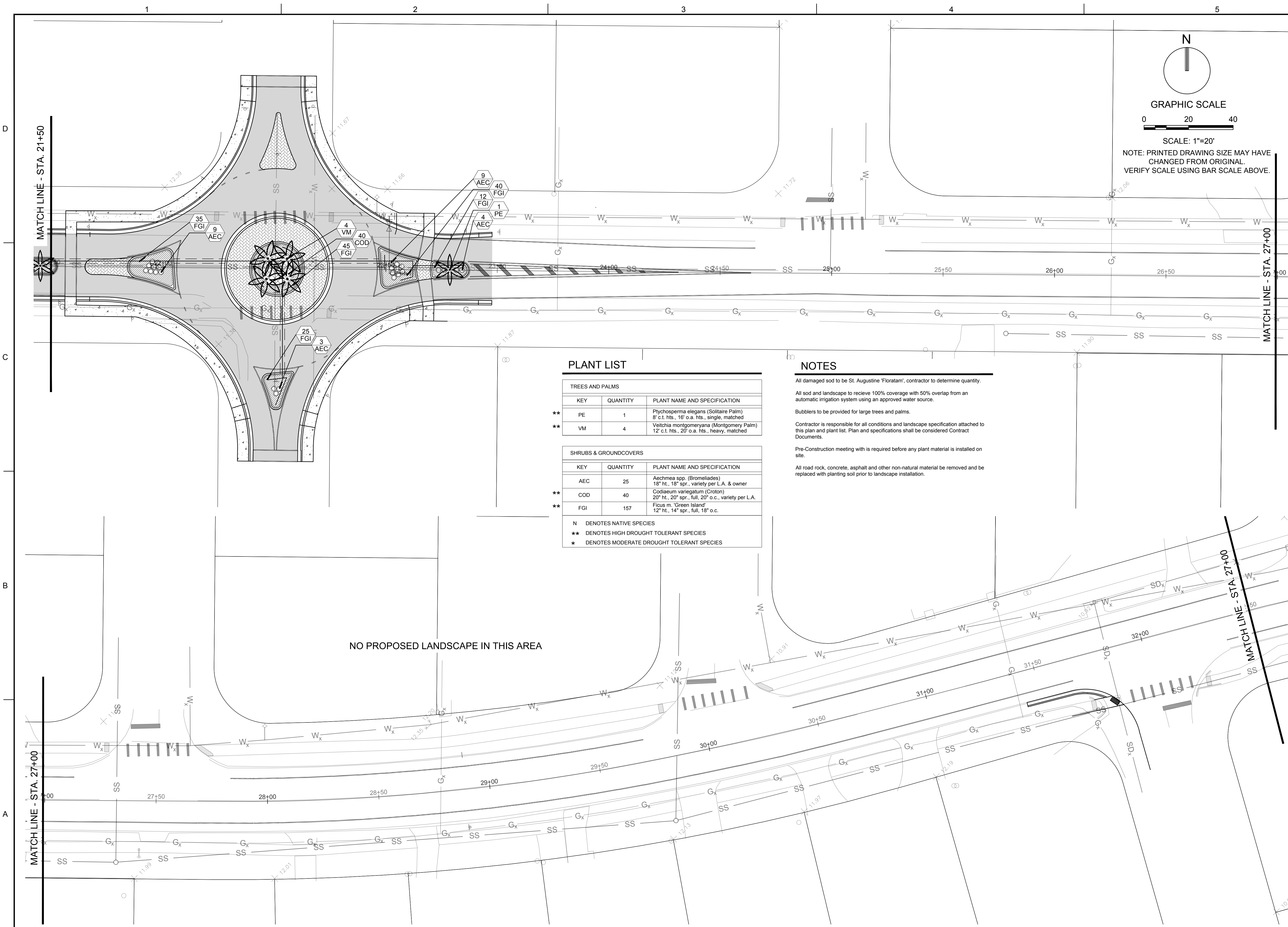
LP-101

SHEET

of

16

PROJECT NO. 09359.01



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PLANT LIST

TREES AND PALMS		
KEY	QUANTITY	PLANT NAME AND SPECIFICATION
** PE	1	Pythosperma elegans (Solitaire Palm) 8' c.t. hts., 16" o.a. hts., single, matched
** VM	4	Veitchia montgomeryana (Montgomery Palm) 12' c.t. hts., 20" o.a. hts., heavy, matched

SHRUBS & GROUNDCOVERS		
KEY	QUANTITY	PLANT NAME AND SPECIFICATION
AEC	25	Aechmea spp. (Bromeliades) 18" ht., 18" spr., variety per L.A. & owner
** COD	40	Codiaeum variegatum (Croton) 20" ht., 20" spr., full, 20" o.c., variety per L.A.
** FGI	157	Ficus m. "Green Island" 12" ht., 14" spr., full, 18" o.c.

N DENOTES NATIVE SPECIES
** DENOTES HIGH DROUGHT TOLERANT SPECIES
* DENOTES MODERATE DROUGHT TOLERANT SPECIES

NOTES

- All damaged sod to be St. Augustine 'Floritam', contractor to determine quantity.
- All sod and landscape to receive 100% coverage with 50% overlap from an automatic irrigation system using an approved water source.
- Bubblers to be provided for large trees and palms.
- Contractor is responsible for all conditions and landscape specification attached to this plan and plant list. Plan and specifications shall be considered Contract Documents.
- Pre-Construction meeting with is required before any plant material is installed on site.
- All road rock, concrete, asphalt and other non-natural material be removed and be replaced with planting soil prior to landscape installation.



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BOULEVARD
IMPROVEMENTS
CITY OF
MARGATE

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DATE ISSUED:	FEBRUARY 10, 2017
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DESIGNED BY:	MP
CHECKED BY:	MP

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

SHEET TITLE

LANDSCAPE
PLAN

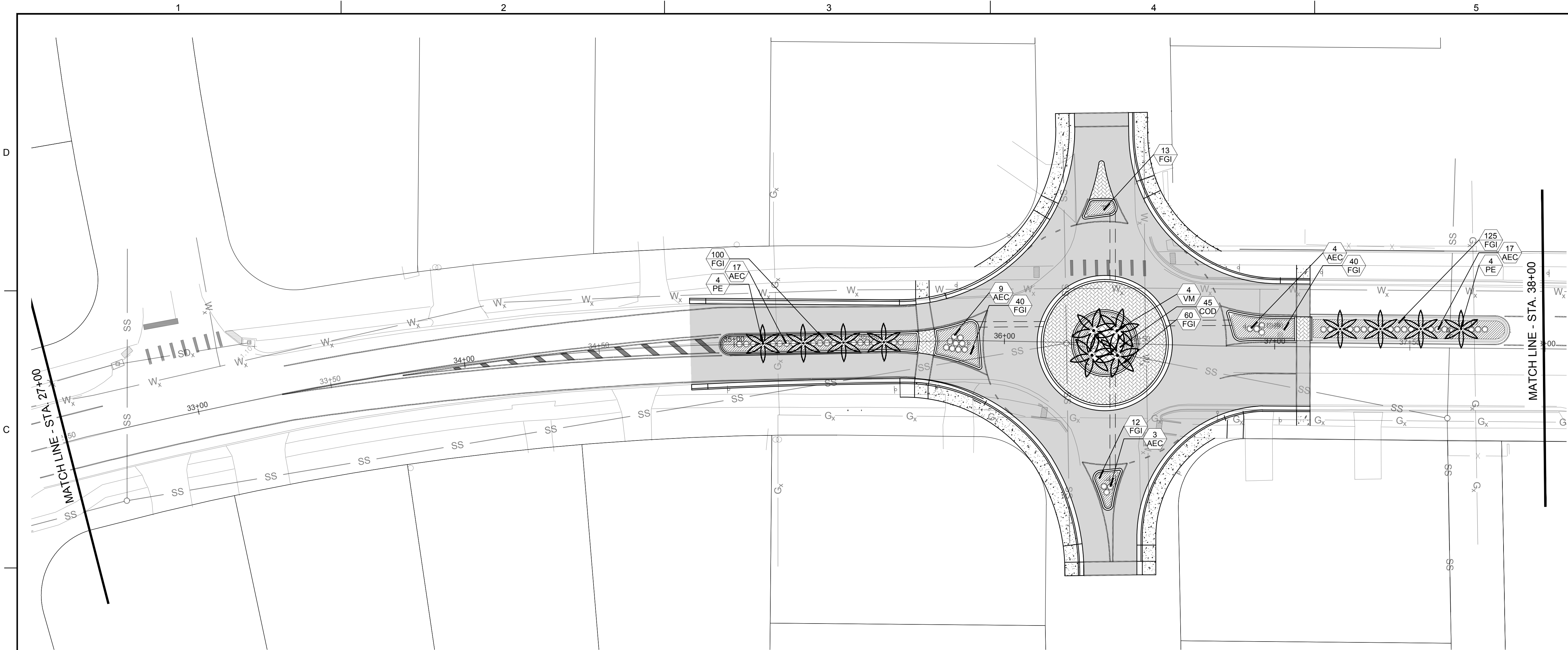
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LP-102

SHEET of 16

PROJECT NO. 09359.01

Drawing name: N:\090359\01 Winfield Boulevard - City of Margate\landscape\090359\LP-101-LANDSCAPE PLANS.dwg Layout Name: LP-102 Plotted on: Mar 29, 2017 4:25pm



B

PLANT LIST

TREES AND PALMS			
KEY	QUANTITY	PLANT NAME AND SPECIFICATION	
**	PE	8	Ptychosperma elegans (Solitaire Palm) 8' c.t. hts., 16' o.a. hts., single, matched
**	VM	8	Veitchia montgomeryana (Montgomery Palm) 12' c.t. hts., 20' o.a. hts., heavy, matched

SHRUBS & GROUNDCOVERS			
KEY	QUANTITY	PLANT NAME AND SPECIFICATION	
	AEC	68	Aechmea spp. (Bromeliades) 18" ht., 18" spr., variety per L.A. & owner
**	COD	45	Codiaeum variegatum (Croton) 20" ht., 20" spr., full, 20" o.c., variety per L.A.
**	FGI	540	Ficus m. 'Green Island' 12" ht., 14" spr., full, 18" o.c.
N DENOTES NATIVE SPECIES			
** DENOTES HIGH DROUGHT TOLERANT SPECIES			
* DENOTES MODERATE DROUGHT TOLERANT SPECIES			

NOTES

All damaged sod to be St. Augustine 'Floritam', contractor to determine quantity.

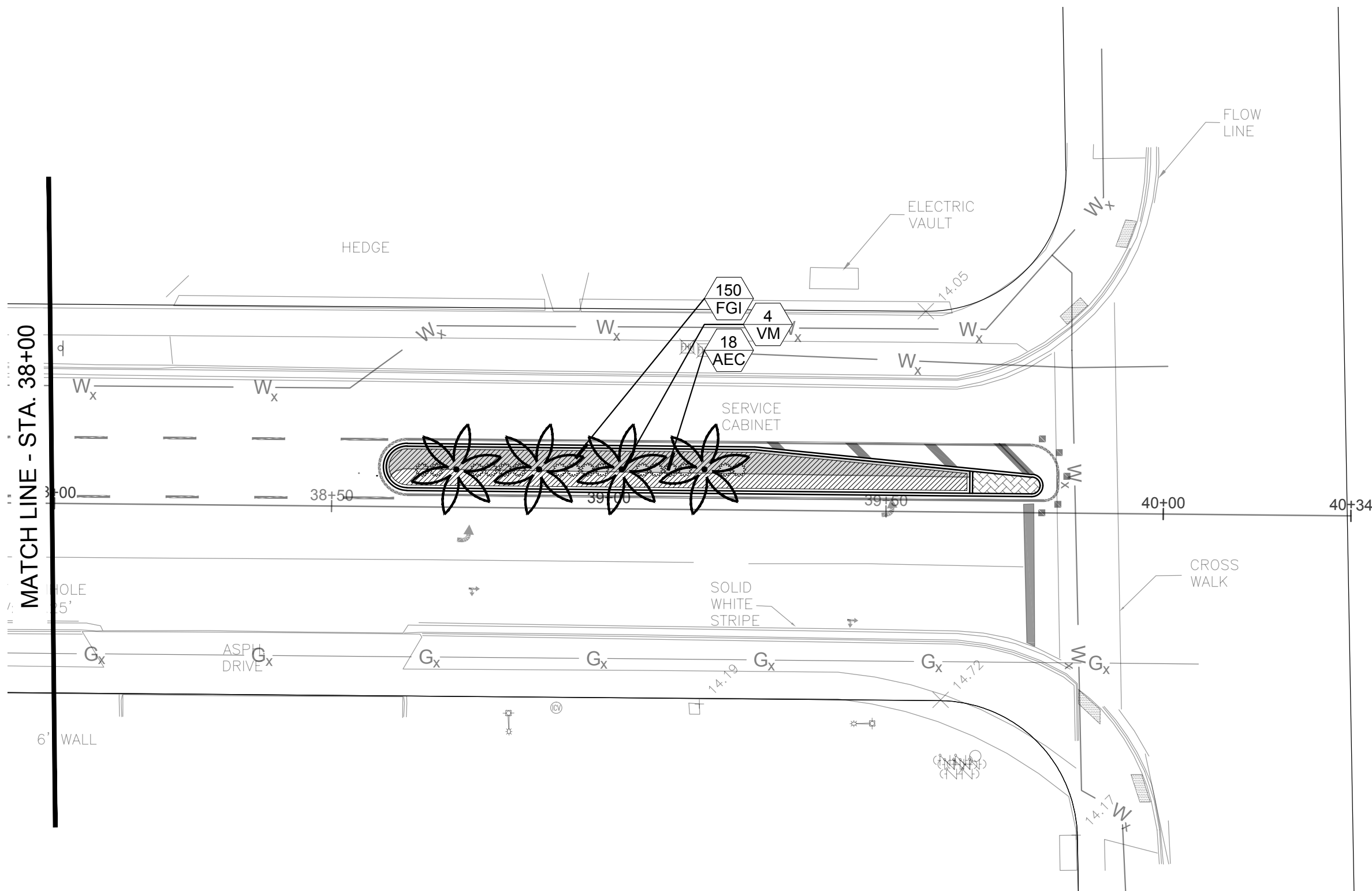
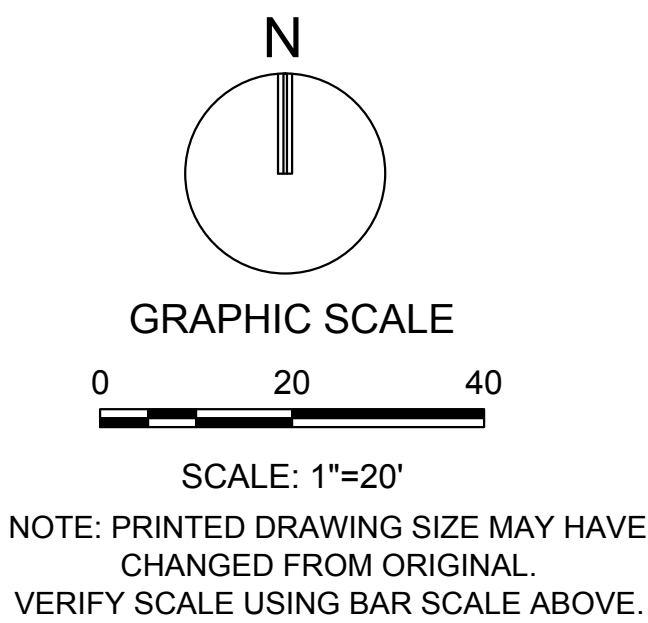
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consulting engineers

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WINFIELD BOULEVARD IMPROVEMENTS CITY OF MARGATE

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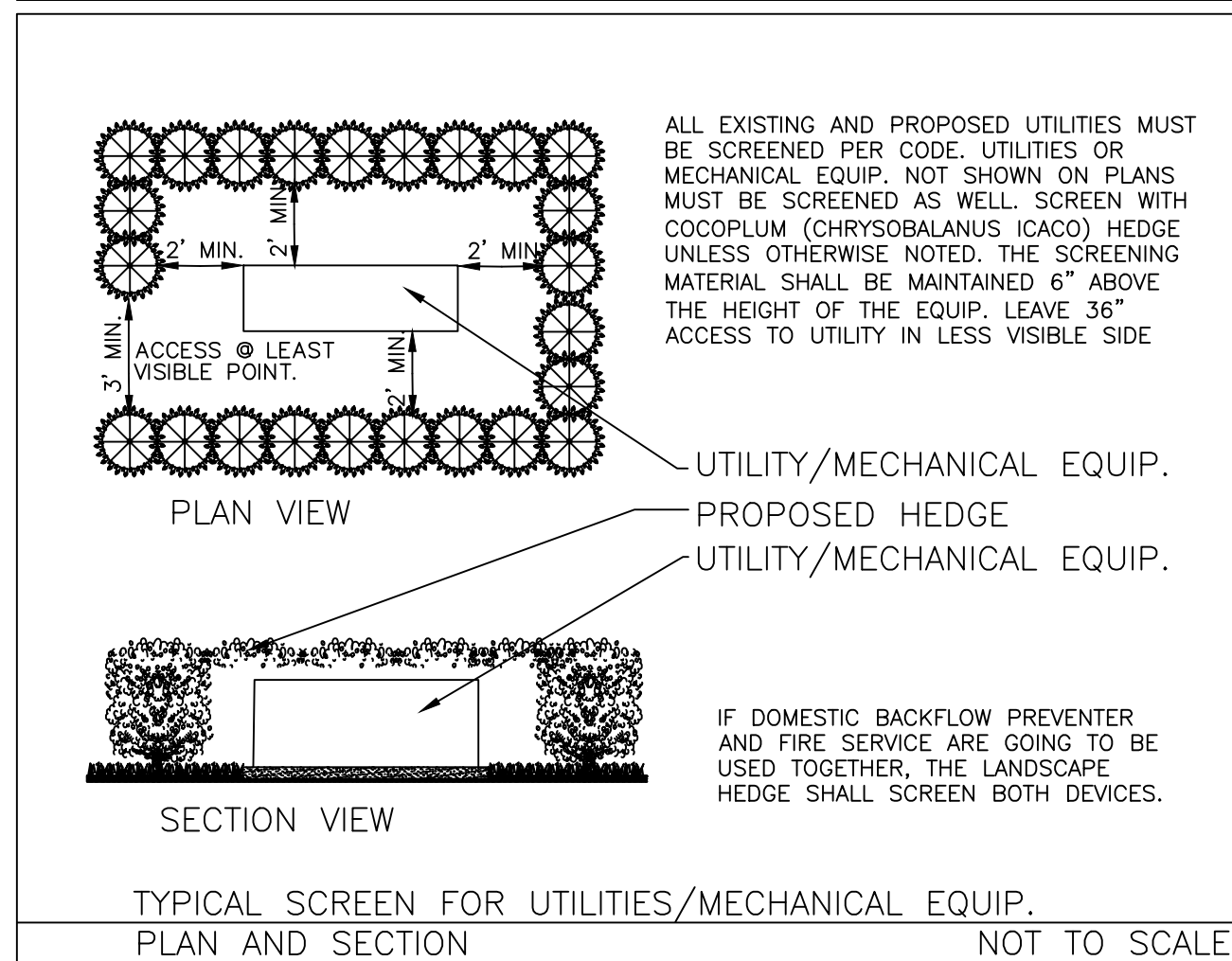
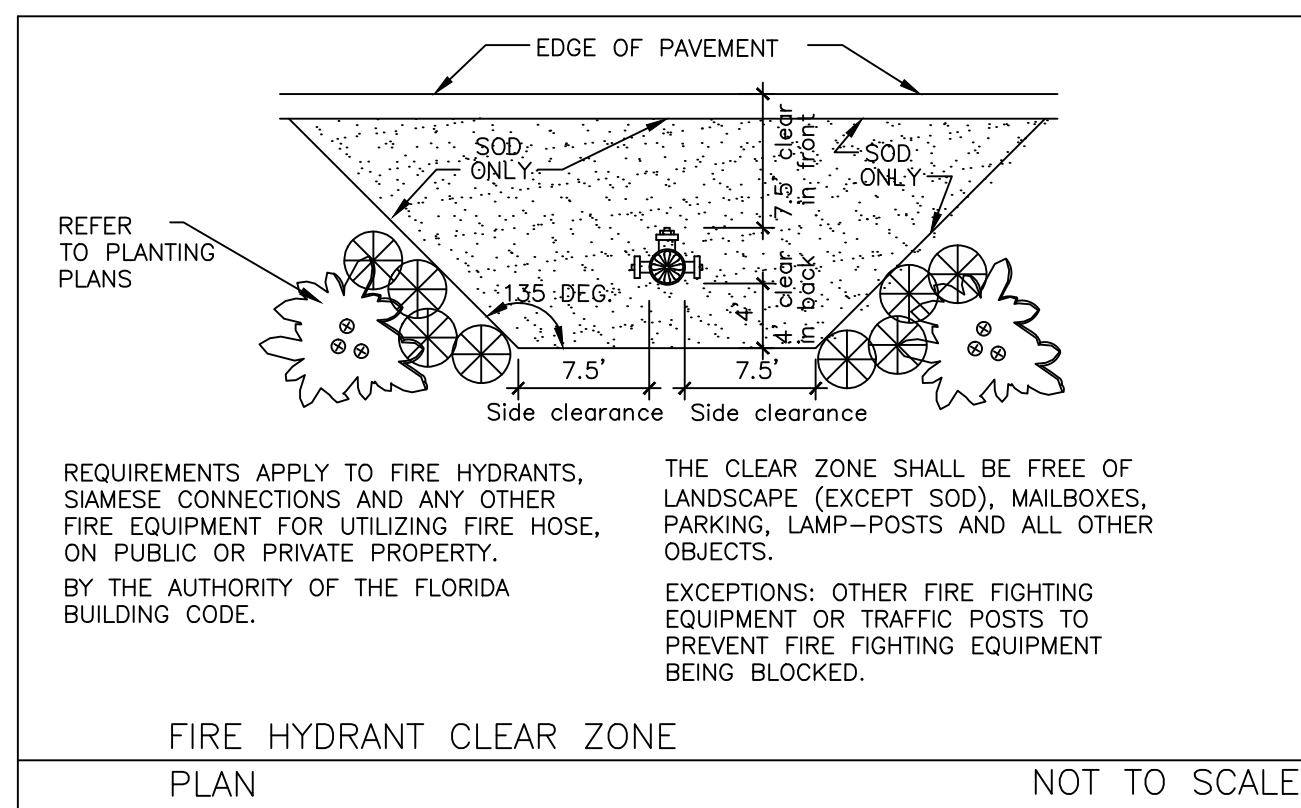
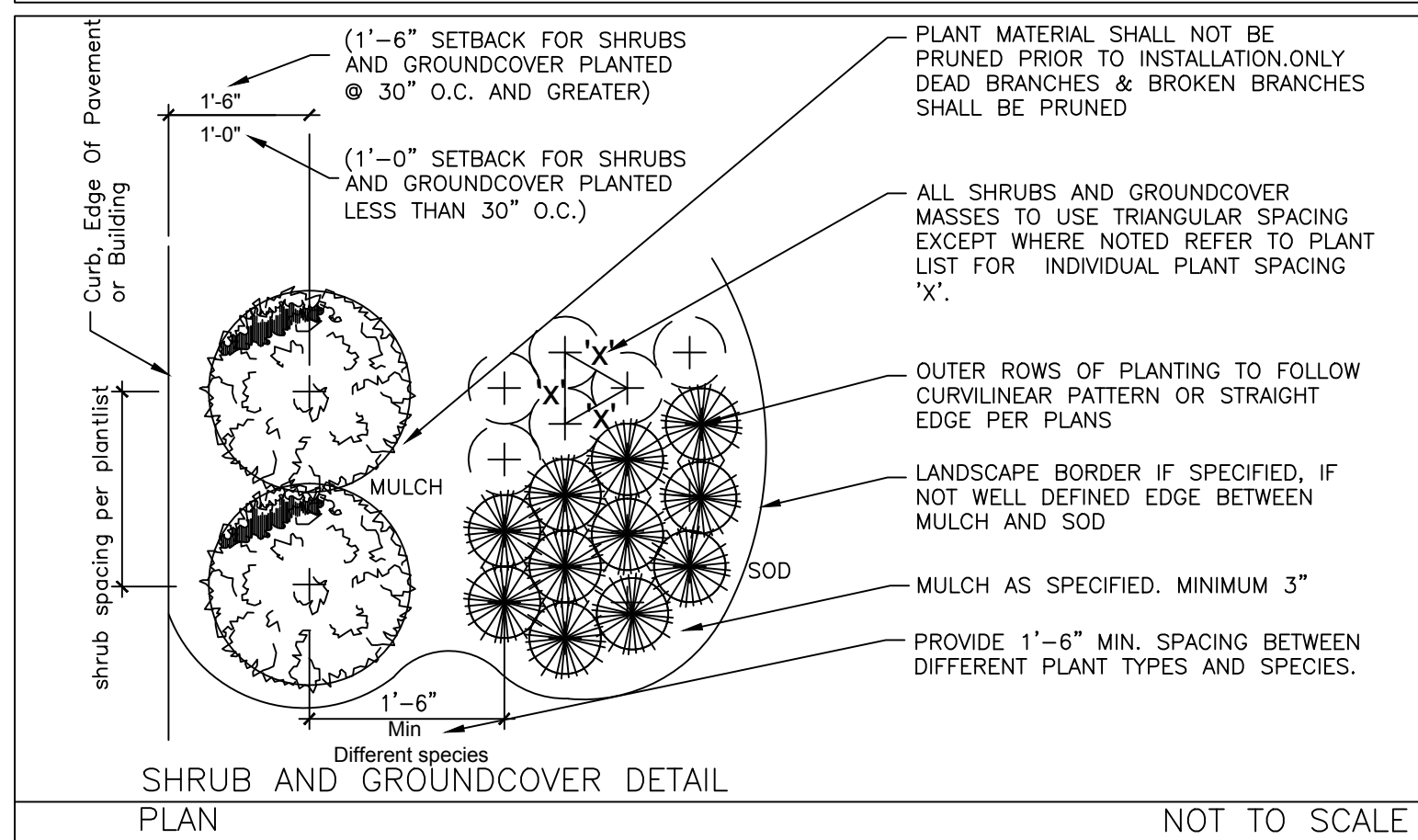
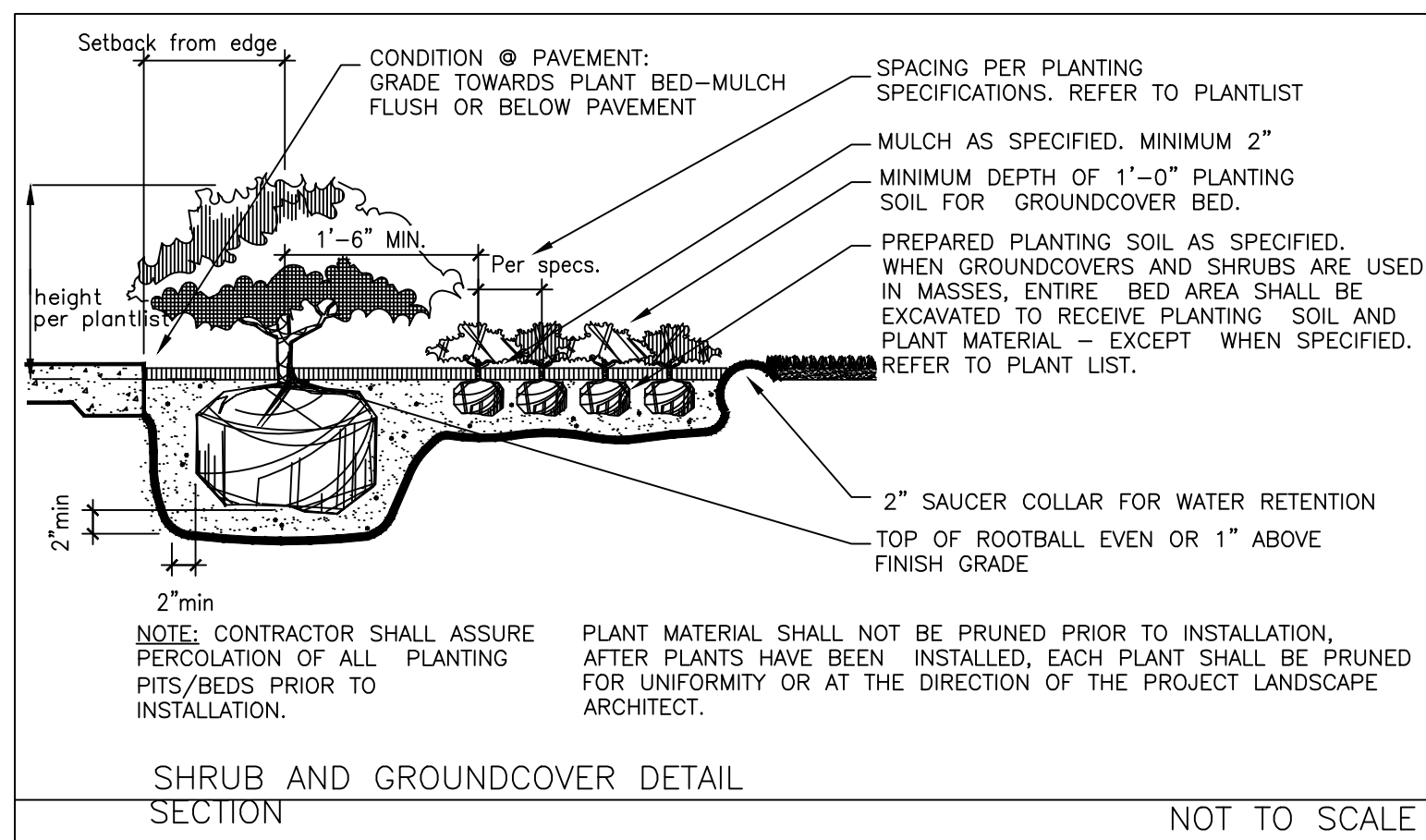
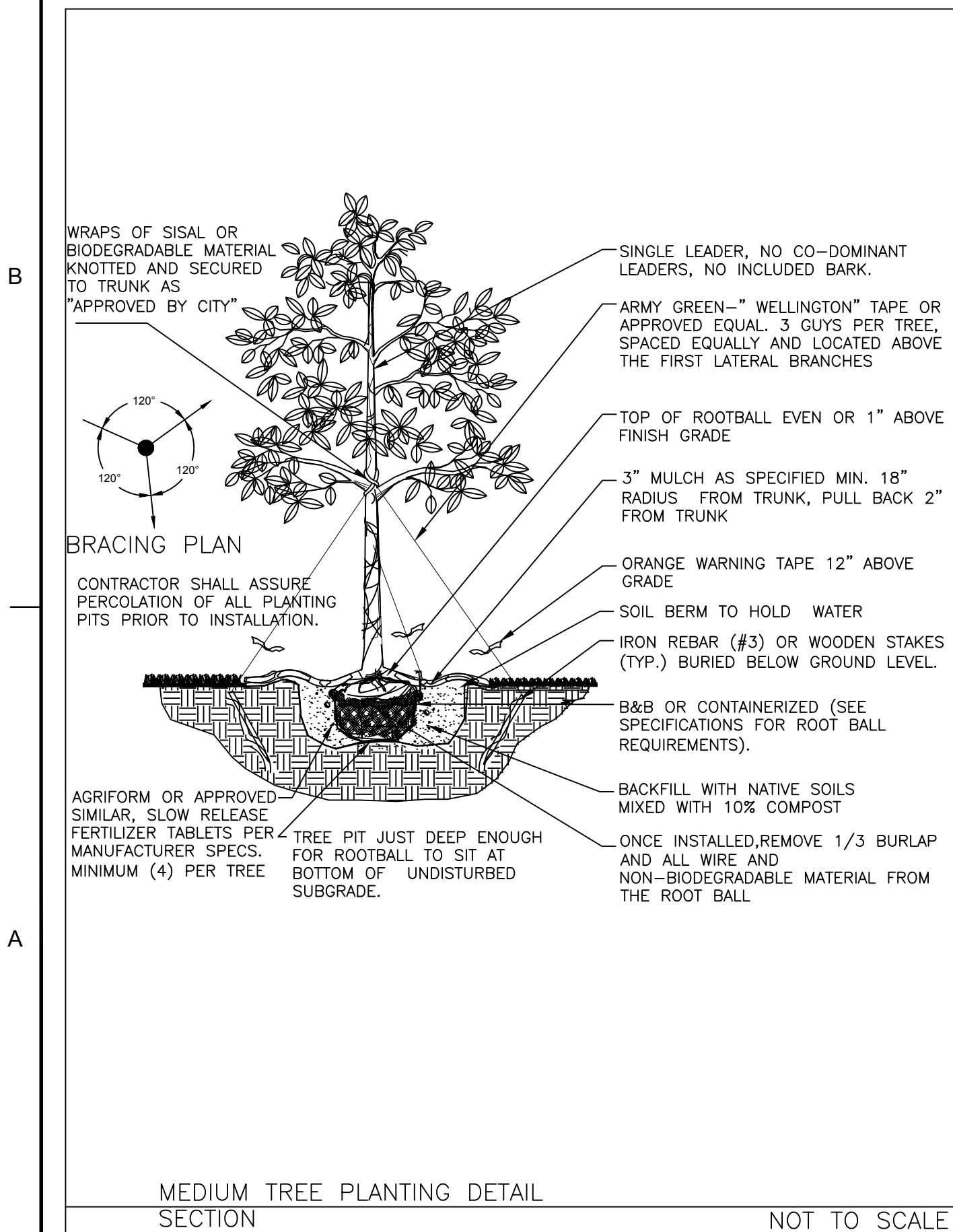
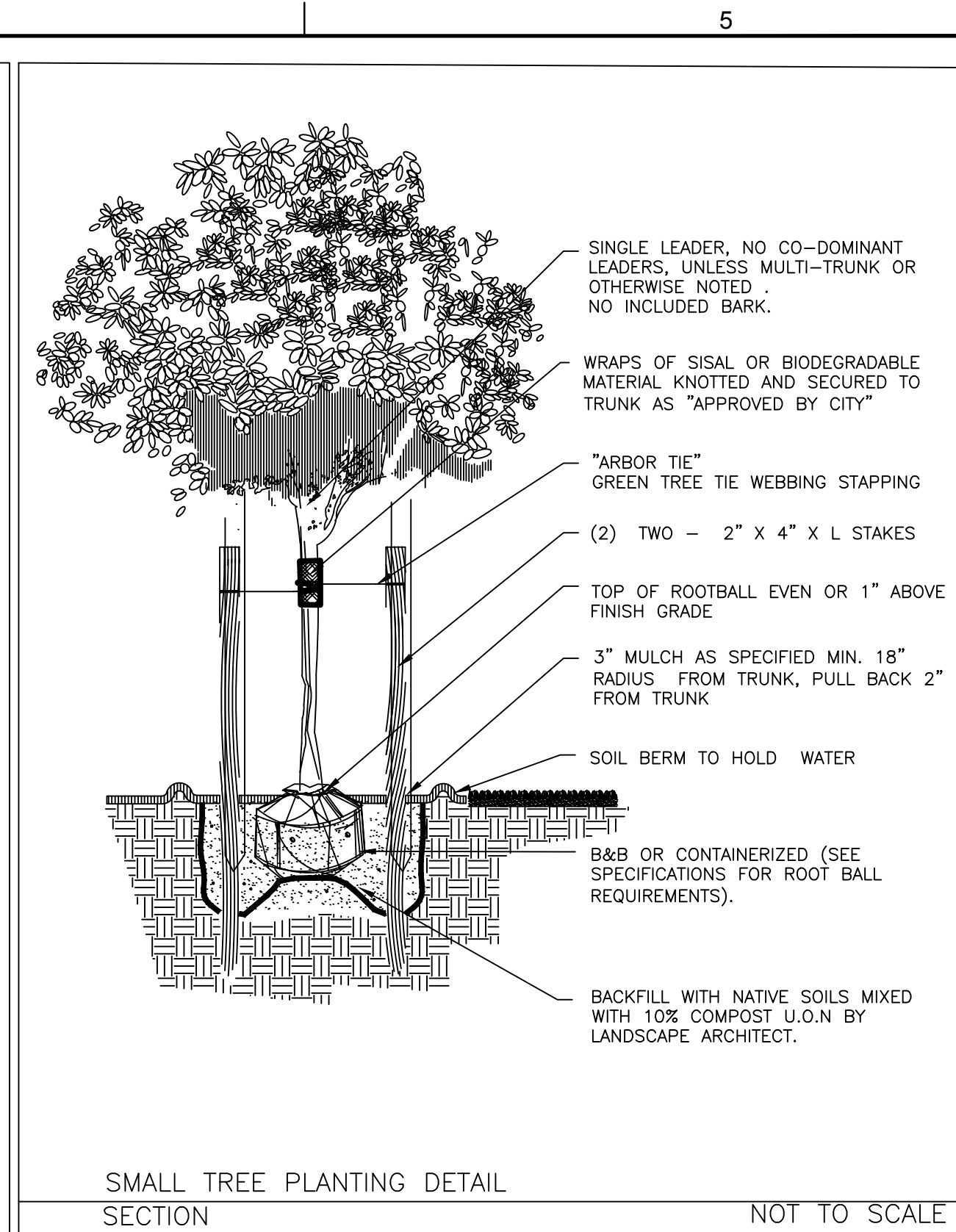
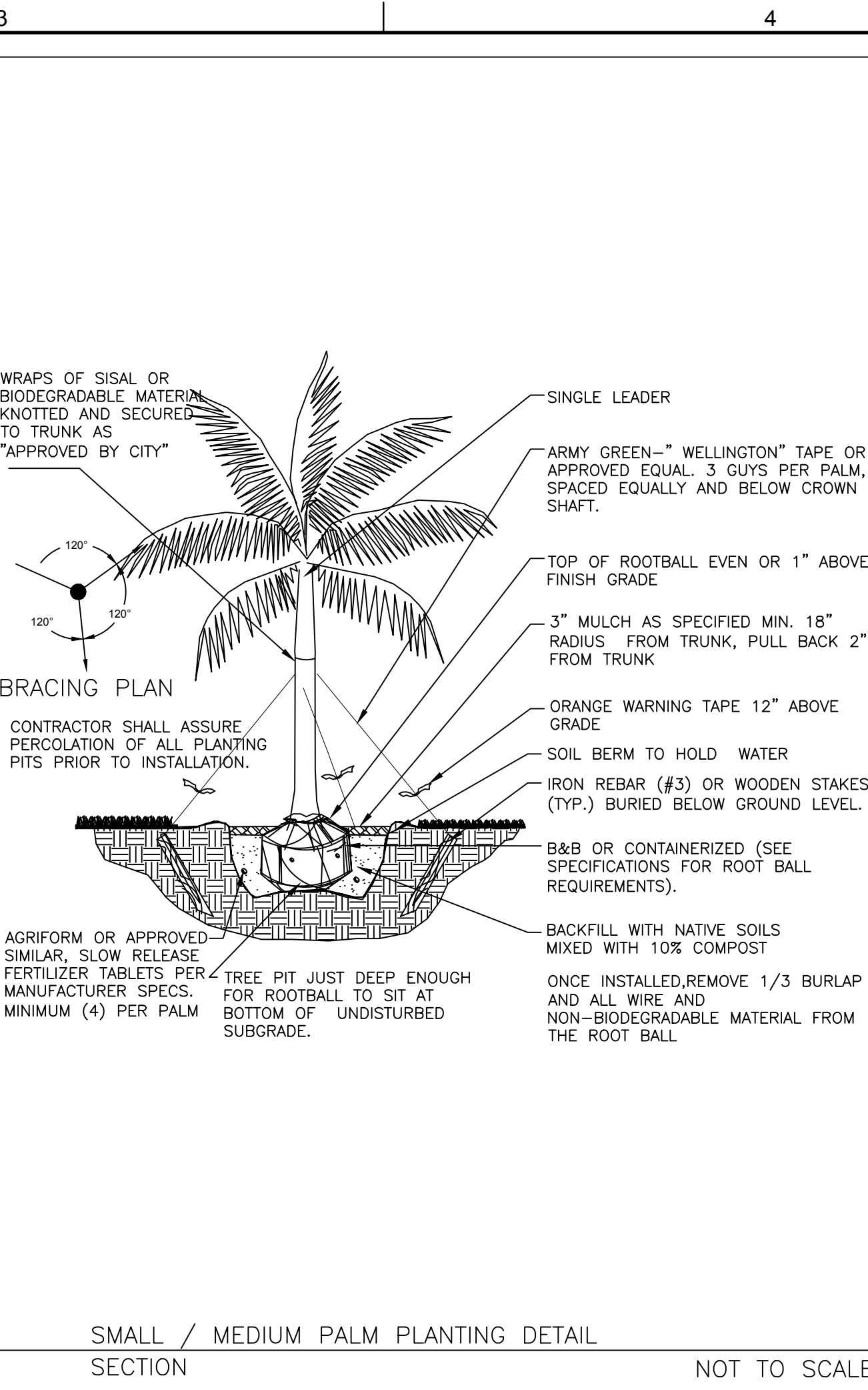
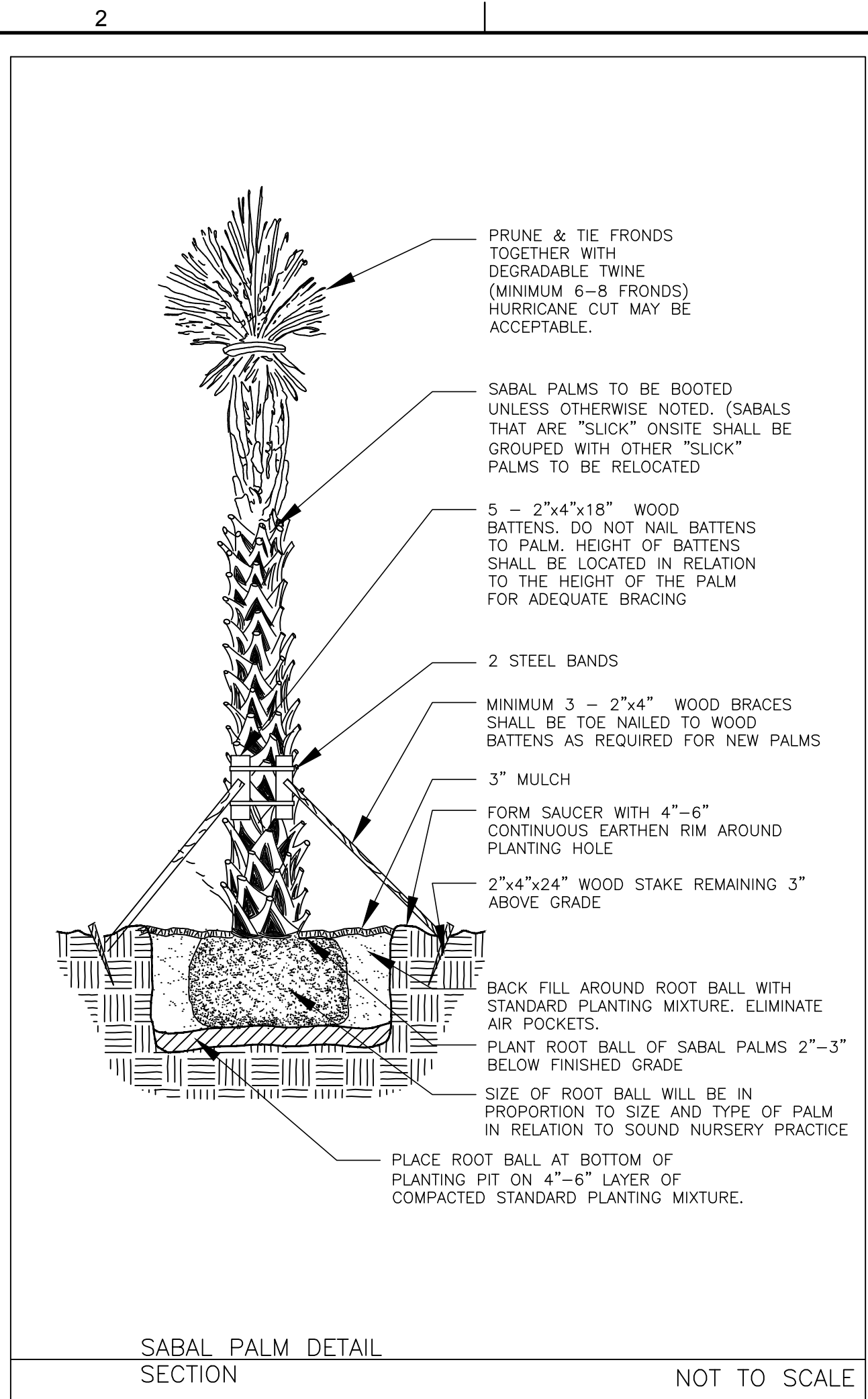
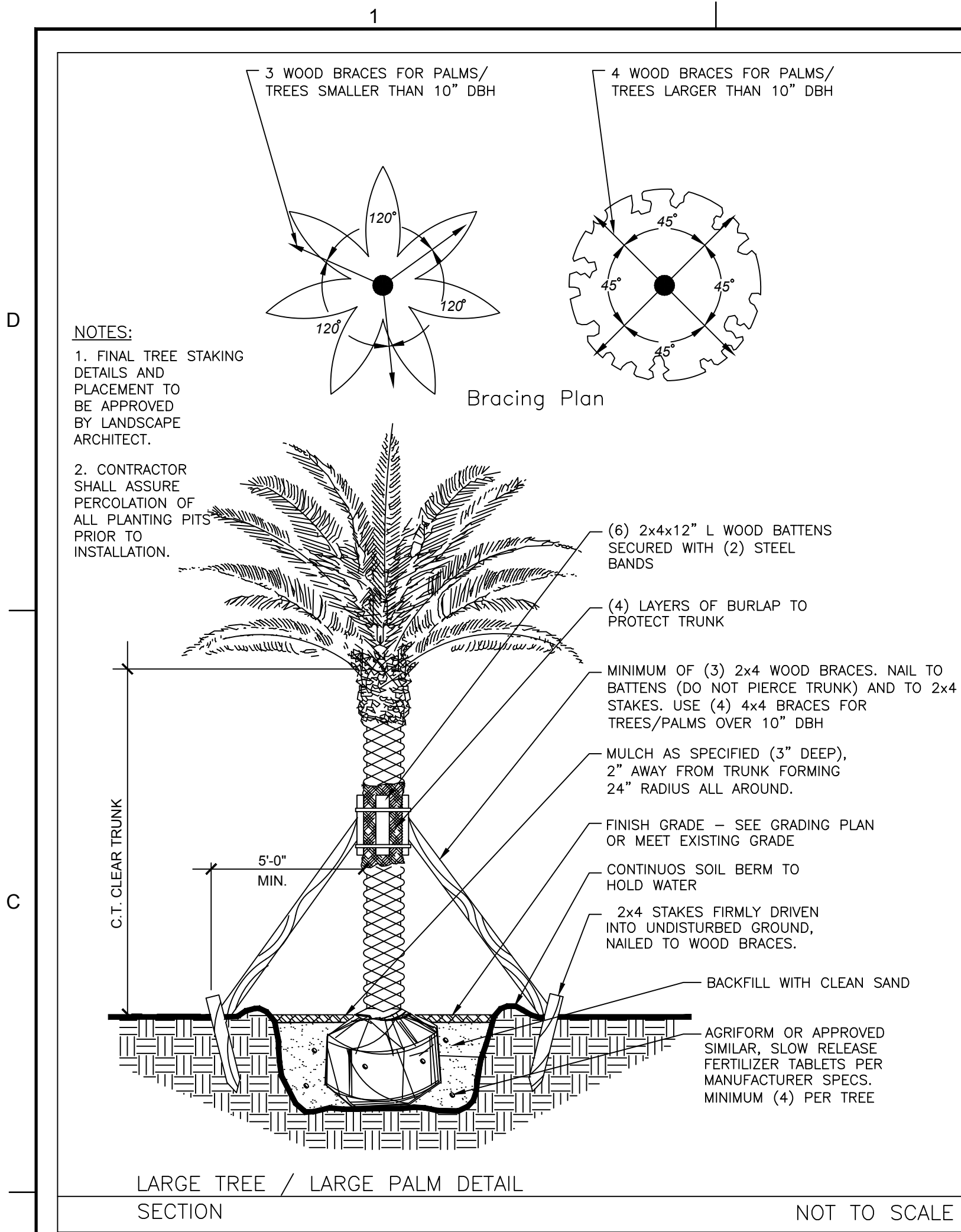
LANDSCAPE PLAN

SHEET NUMBER
LP-103

SHEET of 16

PROJECT NO. 09359.01

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consulting engineers

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DATE ISSUED: FEBRUARY 10, 2017

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

LD-101

SHEET of 16

PROJECT NO. 09359.01

	1	2	3	4	5																
A.	<p>1. 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 in writing by the Landscape Architect and owner.</p> <p>2. 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.</p> <p>3. 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.</p> <p>4. Landscape contractor shall furnish and install all trees, palms, shrubs, groundcover, sod, planting soil, fertilizer, herbicide, pre-emergence herbicide, seed, and mulch.</p>	<p>6. 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.</p> <p>7. 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.</p> <p>8. 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.</p> <p>9. All underground utilities shall be located and marked prior to excavation. All excavation shall be within the tree protection zone. If lines must traverse the protection area, they shall be tunneled or bored under the tree.</p> <p>10. Erosion control devices such as silt fencing, debris basins, and water diversion structures shall be installed to prevent siltation and/or erosion within the tree protection zone.</p> <p>11. 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.</p> <p>G. TREE RELOCATION (These notes for relocation trees only and if applicable)</p> <p>1. Flag all trees and palms to be transplanted with differentiating color than those to be saved or removed.</p> <p>2. Tree Relocation process must be performed or supervised by ISA Certified Arborist.</p> <p>3. Water the root zones to field capacity for 5 continuous days before root pruning. At a minimum soak the soil to a 4'-0" depth within a 6' radius.</p> <p>4. 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 bud and tie them loosely with twine to avoid damage.</p> <p>5. Brace root pruned trees awaiting relocation.</p> <p>6. Root prune 1/3 of the root system, irrigate daily for 2 weeks then root prune another 1/3 rd, irrigate daily and prune last 1/3 rd 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.</p> <p>7. Root prune with proper clean equipment to sever roots. Ensure roots are not torn or pulled apart.</p> <p>8. 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 sawdust or other fine organic material. Do not compact.</p> <p>9. Form a rootball size in compliance with Florida grades and Florida standards number 1 or better.</p> <p>10. Maintain the soil moisture at field capacity throughout the six weeks.</p> <p>11. Allow the plant to regenerate roots over a period of six weeks.</p> <p>12. 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.</p> <p>13. 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.</p> <p>14. 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.</p> <p>15. 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.</p> <p>16. Experimented Tree Spade operator shall move tree or experimented tree mover shall choose best means and methods to strap and rig tree for transporting safely without damage to new location.</p> <p>17. 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.</p> <p>18. Fertilize the plant as directed by the consulting arborist.</p> <p>19. 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.</p> <p>20. Cover the root ball area with 3" depth of organic mulch.</p> <p>21. Provide fungicide and fertility applications at the direction of the consulting arborist.</p> <p>22. 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.</p> <p>23. 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.</p> <p>24. 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.</p> <p>25. Transplanting must occur within 24 hours after being dug for relocation. Trees/palms should be kept in shade and the canopy kept moist.</p> <p>26. Digging and preparation of the new hole for the transplant shall be done prior to removing the tree from the existing location.</p> <p>27. The landscape Contractor is to verify that all new holes have appropriate percolation.</p> <p>28. Padding the sling may be necessary so that the trunk or "boots" are not damaged.</p> <p>29. A 6" saucer shall be created around the edge of the plant pit to help hold water, see planting detail for additional information.</p> <p>30. 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.</p> <p>31. 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.</p> <p>32. 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.</p>	<p>K. UTILITIES / CLEARANCES</p> <p>1. 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.</p> <p>2. Trees shall be placed a minimum of 5 ft. from underground utilities, unless otherwise approved in writing by Landscape Architect and Owner.</p> <p>3. All canopy trees to be planted min. of 15' from light source/poles. Unless otherwise approved by the City / Landscape Architect and Owner.</p> <p>4. 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.</p> <p>5. 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.</p> <p>6. 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 excavation. 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.</p> <p>7. 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.</p> <p>8. 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.</p> <p>9. 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.</p> <p>10. Leave clearance and access to all above ground or at grade meters and equipment.</p> <p>11. Landscape planting shall be in conformance with FPL guidelines for setbacks from overhead utility lines.</p> <p>12. Landscaping 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.</p> <p>L. ROOT BARRIERS</p> <p>1. 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.</p> <p>2. Mechanical Root barriers will be used for large existing Canopy Trees and chemical type barriers will be used for new trees.</p> <p>3. Mechanical Root barriers will be "DeepRoot" and Chemical Root barriers will be "Biobarrier". Substitutions must be of approved equal or better quality.</p> <p>4. Root barriers will be installed per manufacturer specifications.</p> <p>5. 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 Architect / ISA Arborist and City Landscape Inspector.</p> <p>M. LANDSCAPE BACKFILL & SOIL AMENDMENT</p> <p>1. 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.</p> <p>2. Planting soil mix 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 filled 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.</p> <p>3. Planting backfill for palms shall be clean coarse native sand unless specified elsewhere.</p> <p>4. Do not allow air pockets to form when backfilling. All trees shall be watered-in utilizing water probe or a tree bar.</p>	<p>minors" or similar approved slow-release tablets applied per manufacturer suggested application rate chart:</p> <p>Agriform® 21-gm Tablets (SKU# 90026*: 500 tablets/case)</p> <table><tr><th colspan="2">NEW Tree / Shrub Container Size</th></tr><tr><th>1 Gal</th><th>2 Gal</th><th>3 Gal</th><th>5 Gal</th><th>7 Gal</th><th>15 Gal</th><th>24" Box</th></tr><tr><td>1 to 2</td><td>2 to 3</td><td>2 to 3</td><td>2 to 3</td><td>3 to 5</td><td>7 to 10</td><td>15 to 24</td></tr></table> <p>Installation:</p> <ul style="list-style-type: none">• Place plant in the hole and backfill to halfway point.• Do not place tablets in the bottom of the planting hole.• Place Agriform Tablets in the hole about 1to 2 inches away from root tips.• Finish filling the hole around the plant to grade level. <p>SCOTTS: 1-800-492-8255 or visit www.scottsspro.com</p>	NEW Tree / Shrub Container Size		1 Gal	2 Gal	3 Gal	5 Gal	7 Gal	15 Gal	24" Box	1 to 2	2 to 3	2 to 3	2 to 3	3 to 5	7 to 10	15 to 24	
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B.	<p>BIDDING</p> <p>1. Contractor to have liability insurance including Owner and Landscaper as insured's in excess of \$10,000 as well as Worker's Compensation.</p> <p>2. 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.</p> <p>3. Submit Landscape / Hardscape RFI directly to Keith & Associates Landscape Architect/Project Manager in writing. T. 954.340.3400</p> <p>4. Read T. 1 notes and typical planting details sheets prior to submitting RFIs and prior to bidding.</p> <p>5. When submitting an RFI reference sheet number, detail number and/or note category and number.</p> <p>6. 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.</p> <p>7. 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.</p> <p>8. 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.</p> <p>9. Pre-inspections of site required prior to bidding.</p> <p>10. 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.</p> <p>11. 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.</p> <p>12. Bid shall be itemized for possible value engineering.</p> <p>13. Sodded areas (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.</p> <p>14. All S.F. if noted is approximate 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 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.</p> <p>15. Final payment to the Contractor shall be for actual plants installed on the project.</p> <p>16. 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.</p> <p>17. General / Landscape Contractor shall leave a 5% unforeseen conditions allowance such as for additional root barriers determined to be needed on site and as job progresses.</p> <p>18. Refer to T. Watering for supplemental watering requirement.</p> <p>19. 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.</p>	<p>G. TREE RELOCATION (These notes for relocation trees only and if applicable)</p> <p>1. Flag all trees and palms to be transplanted with differentiating color than those to be saved or removed.</p> <p>2. Tree Relocation process must be performed or supervised by ISA Certified Arborist.</p> <p>3. 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C.	<p>GENERAL LANDSCAPE NOTES</p> <p>1. 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.</p> <p>2. 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.</p> <p>3. 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.</p> <p>4. 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.</p> <p>5. 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.</p> <p>6. All trees must be pruned as per Landscape Architect's direction.</p> <p>7. 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.</p> <p>8. 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.</p> <p>9. Landscape contractor shall coordinate his or her work with that of the irrigation, landscape lighting, and hardscape contractor if different.</p> <p>10. 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.</p>	<p>H. SITE PREPARATION & GRADING</p> <p>1. 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.</p> <p>2. 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 clean 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.</p> <p>3. 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-compacted so that drainage is not impeded.</p> <p>4. Landscape Contractor shall treat plant areas with pre-emergence herbicide after weeds and grass have been removed. Landscape Contractor shall wait (7) seven days after pre-emergence treatment prior to planting.</p> <p>5. Site preparation shall include the eradication and removal of any weeds, clean-up of any dead material, debris, and rubbish.</p> <p>6. General site and berm 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.</p> <p>7. The Landscape contractor shall ensure the planting areas are at finish grade prior to installing plant materials.</p> <p>8. All trees and plant material to remain shall be protected during construction. Contractor shall install protective barriers such as "Tenax" 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.</p> <p>9. Final grade within planting areas to be 4" below adjacent paved areas or top of curb. Sod areas to be 2" below.</p> <p>10. All planting beds shall be shaped and sloped to provide proper drainage away from building and structures and to swales, if applicable.</p>	<p>N. PLANT SIZE & QUALITY</p> <p>1. 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.</p> <p>2. 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.</p> <p>3. 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 plunging roots will be rejected.</p> <p>4. Use nursery 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".</p> <p>5. All trees and palms shall be free of open wounds and unsightly visible scars.</p> <p>6. All substitutions must be approved by the City if it is required Canopy and by Landscape Architect / Owner if supplemental accent material.</p> <p>7. Contractor shall comply with Federal, State, and Local laws and regulations pertaining to the inspection for plant disease and insect infestation.</p> <p>8. Trees, 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.</p> <p>9. 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 top 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.</p> <p>10. Field grown trees and palms previously root pruned shall obtain a root ball with sufficient roots for continued growth without resulting shock.</p> <p>11. Root suckers on any tree are not acceptable and must be properly pruned.</p> <p>12. 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.</p>	<p>Q. SOD</p> <p>1. All areas disturbed during construction shall be sodded with St. Augustine 'Seville' unless otherwise noted. The disturbed areas shall have proper irrigation established or re-established if they were disrupted or non-functional.</p> <p>2. Landscape Contractor to supply and install 2" soil layer 50/50 mix blanket for all new sod areas.</p> <p>3. All open areas not covered by trees, palms, shrubs, vines, ground covers or existing sod in good condition to remain, shall receive Stenotaphrum Secundatum, St. Augustine 'Seville' sod, whether labeled on the plans or not, unless a different species is indicated on the planting plan. Sod shall be strongly rooted, free from weed, fungus, insects and disease. Contractor shall be paid by the total sodded area x the unit price submitted (field verified).</p> <p>3. Sod shall be machine stripped no more than 24 hours prior to laying.</p> <p>4. Lay sod strips with tight joints, do not overlap, stagger strips to offset joints in adjacent courses. Work sifted soil mix into minor cracks between pieces of sod and remove excess soil deposits from sodded areas. Sod on slopes greater than 3:1 shall be immediately staked after planting.</p>	<p>R. INSPECTION & ACCEPTANCE</p> <p>1. Notify the governing Agency if required and Landscape Architect of commencement.</p> <p>2. Onsite plant deliveries shall occur on Monday through Friday only unless otherwise directed by the Landscape Architect / Owner. The contractor shall ensure that plant material is delivered undamaged from transportation or digging operations. The Landscape Architect may reject material that has been damaged or rendered unacceptable due to relocation or transportation from the point of origin. All plant material shall be available for inspection and approval by the Landscape Architect prior to final installation.</p> <p>3. There shall be one final inspection for approval by each of the presiding governing agency, Landscape Architect and owner. Contractor shall ensure that the plans, details, specifications and notes have been adhered to and that the landscape and irrigation installation is compliant to all items as directed on the plans prior to scheduling of the final inspection.</p> <p>4. Upon completion of the work, the Landscape Contractor shall notify the Landscape Architect and request a final inspection. Any items that are judged incomplete or unacceptable by the Landscape Architect or owner shall be promptly corrected by the Landscape Contractor.</p> <p>5. No substitution of plant material, type or sizes will be permitted without prior written authorization from the Landscape Architect and owner.</p> <p>6. To obtain final payment, Contractor must provide release of all mechanic's liens and material liens.</p>	<p>S. MULCH</p> <p>1. All planting beds shall be mulched to a depth of 3" with an organic mulch approved by Landscape Architect. No heavy metals, such as arsenic, etc. are to be contained in the mulch. The contractor shall provide certification if requested or proof that all mulch is free of heavy metals or similar environmental contaminants.</p> <p>2. Shredded approved organic mulch to be used beyond trunk in all directions and throughout all hedges and plant material.</p> <p>3. All trees in sodded areas shall have a clean cut 4' diameter mulch ring.</p> <p>4. Preferred mulch is shredded maleuca, Cypress, red, gold and green mulch is prohibited.</p> <p>5. All mulch shall have a minimum 3" separation from the trunk of the tree/palm trunk to avoid rotting.</p>	<p>T. WATERING</p> <p>1. All plant material shall be watered in thoroughly at the time of planting.</p> <p>2. It is the sole responsibility of the Landscape Contractor to ensure that all new plantings receive adequate water during the installation and until completion of contract. Deep watering of all new trees and palms and any supplemental watering that may be required to augment natural rainfall and site irrigation is mandatory to ensure proper plant establishment and development and shall be provided by Contractor as a part of this contract.</p>	<p>U. CLEAN UP</p> <p>1. The Landscape Contractor is responsible for maintaining all landscape planting areas until final acceptance of the owner.</p> <p>2. The contractor is responsible for mowing the entire project during planting and establishment periods, based on mowing project once a month from October to April, and twice a month from April to October (During installation and plant establishment only and until final inspection and owner accepts and takes ownership).</p> <p>3. Any excess soil, undesired stones or debris resulting from landscape operations shall be removed promptly, keeping the site clean as work progresses.</p> <p>4. The Landscape Contractor shall at all times keep the premises free from accumulation of waste material or debris caused by their crews during the performance of the work. Upon completion of the work, the contractor shall promptly remove all waste materials, debris, unused plant material, empty plant containers, and all equipment from the project site.</p>	<p>V. MAINTENANCE</p> <p>1. Landscape Contractor to return to job site 12 months after tree bracing and remove all tree braces. Owner may choose to retain 5% of payment to ensure compliance.</p> <p>2. The Landscape Contractor shall water, mulch, weed, prune, and otherwise maintain all plants, including sod, until completion of contract or acceptance by landscape architect. Settled plants shall be reset to proper grade, planting saucers restored, and defective work corrected.</p> <p>3. Trees and shrubs shall be maintained to keep clearance of stop signs and safety clearance for visibility at traffic intersection.</p>	<p>W. GUARANTEE & REPLACEMENT</p> <p>1. By acceptance of this contract, the Contractor is thereby guaranteeing all plant materials and design for a period of not less than one (1) year from the time of final acceptance by the owner. Contractor shall replace any plants which die or wither within such period with healthy plants that meet specifications of the same species and size without additional cost to the owner unless such death or withering is due to Owner's failure to do ordinary maintenance on such plants after final acceptance in accordance with any maintenance instructions given by Landscape Architect for such plants. Such replacement shall include all plants and labor to plant the replacement plants. Any plant materials damaged by lightning, storms, freeze damage or other "acts of God" as well plants damaged by vehicles, vandalism or neglect are not included in this replacement agreement. If requested, the Landscape Architect may act as a mediator between owner and Landscape Contractor on a time material basis. "Plants" includes all trees, palms, shrubs, grass and other plants provided or planted by Contractor.</p>	<p>X. MISCELLANEOUS.</p> <p>1. All work to be done in a professional manner.</p> <p>2. No change order shall be valid, due or paid unless it is approved by Owner in writing in advance.</p> <p>3. These notes shall be an integral part of the contract of Contractor and shall be deemed incorporated therein by reference. In the event of a conflict among the terms among the plans and these notes, the terms of this document shall control.</p>	<p>Y. ABBREVIATIONS IN NOTES AND PLANS</p> <p>U.O.N = Unless Otherwise Noted L.A = Landscape Architect S.F = Square Feet STD = Standard (single trunk) B&B = Balled and Burlapped BLDG DEP = Building Department RFI = Request for Information FPL = Florida Power & Light C.O. = Certificate of Occupancy ISA CA = ISA Arborist = International Society of Arboriculture Certified Arborist</p>									
D.	<p>PERMITS & REGULATIONS</p> <p>1. 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.</p> <p>2. Landscape contractor to call the city Landscape Inspector to schedule a pre-construction meeting prior to installation if required.</p> <p>3. 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.</p>	<p>H. SITE PREPARATION & GRADING</p> <p>1. 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.</p> <p>2. 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 clean 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.</p> <p>3. 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-compacted so that drainage is not impeded.</p> <p>4. Landscape Contractor shall treat plant areas with pre-emergence herbicide after weeds and grass have been removed. Landscape Contractor shall wait (7) seven days after pre-emergence treatment prior to planting.</p> <p>5. Site preparation shall include the eradication and removal of any weeds, clean-up of any dead material, debris, and rubbish.</p> <p>6. General site and berm 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.</p> <p>7. The Landscape contractor shall ensure the planting areas are at finish grade prior to installing plant materials.</p> <p>8. All trees and plant material to remain shall be protected during construction. Contractor shall install protective barriers such as "Tenax" 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.</p> <p>9. Final grade within planting areas to be 4" below adjacent paved areas or top of curb. Sod areas to be 2" below.</p> <p>10. All planting beds shall be shaped and sloped to provide proper drainage away from building and structures and to swales, if applicable.</p>	<p>N. PLANT SIZE & QUALITY</p> <p>1. 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.</p> <p>2. 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.</p> <p>3. 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 plunging roots will be rejected.</p> <p>4. Use nursery 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".</p> <p></p>																		



301 East Atlantic Boulevard
Pompano Beach, Florida 33060-6643

2160 NW 82nd Avenue
Doral, Florida 33122

(954) 788-3400 FAX (954) 788-3500

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BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE

**PRELIMINARY PLAN
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THESE PLANS ARE NOT FULLY PERMITTED
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RESPONSIBILITY FOR THE USE OF THESE
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FROM ALL AGENCIES HAVING JURISDICTION
OVER THE PROJECT WILL FALL SOLELY
UPON THE USER.

WINFIELD BOULEVARD IMPROVEMENTS CITY OF MARGATE

SCALE: AS NOTED

DATE ISSUED: FEBRUARY 10, 2017

DRAWN BY: SR

DESIGNED BY: MP

CHECKED BY: MP

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

SHEET TITLE

LANDSCAPE NOTES

SHEET NUMBER

LN-101

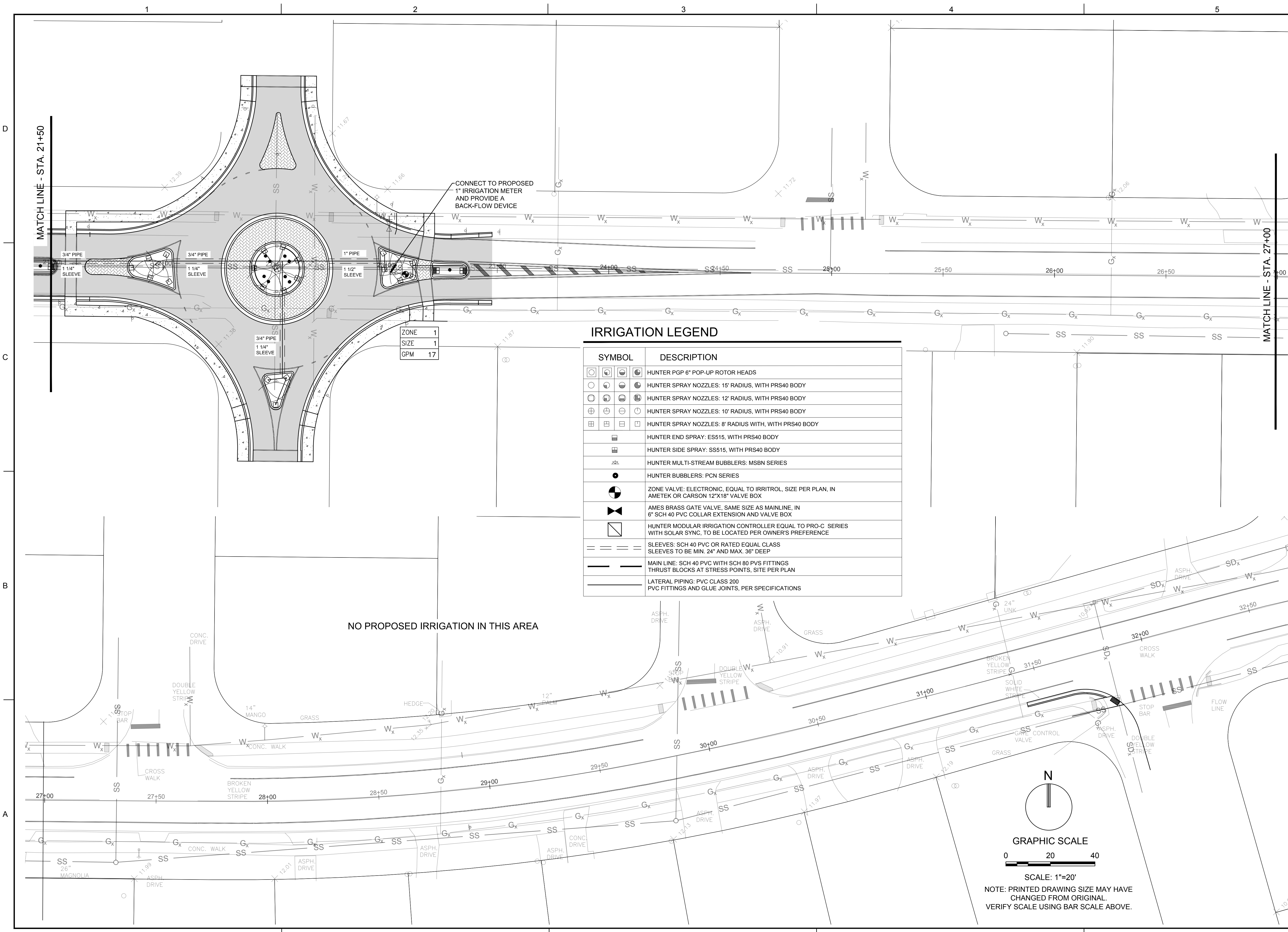
SHEET of 16

PROJECT NO. 09359.01



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Authorization # - 7928

PROJECT NO. 09359.01



KEITH & ASSOCIATES, INC.
consulting engineers

301 East Atlantic Boulevard
Pompano Beach, Florida 33060-6643

2160 NW 82nd Avenue
Doral, Florida 33122

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**WINFIELD
BOULEVARD
IMPROVEMENTS
CITY OF
MARGATE**

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 10, 2017
DRAWN BY:	SR
DESIGNED BY:	MP
CHECKED BY:	MP

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

SHEET TITLE

**IRRIGATION
PLAN**

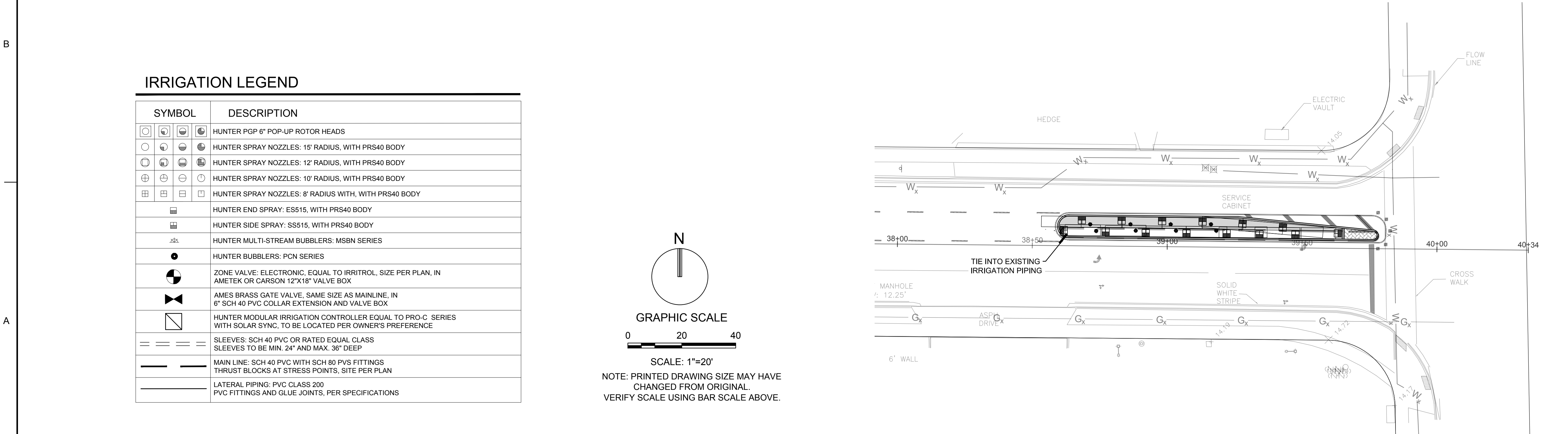
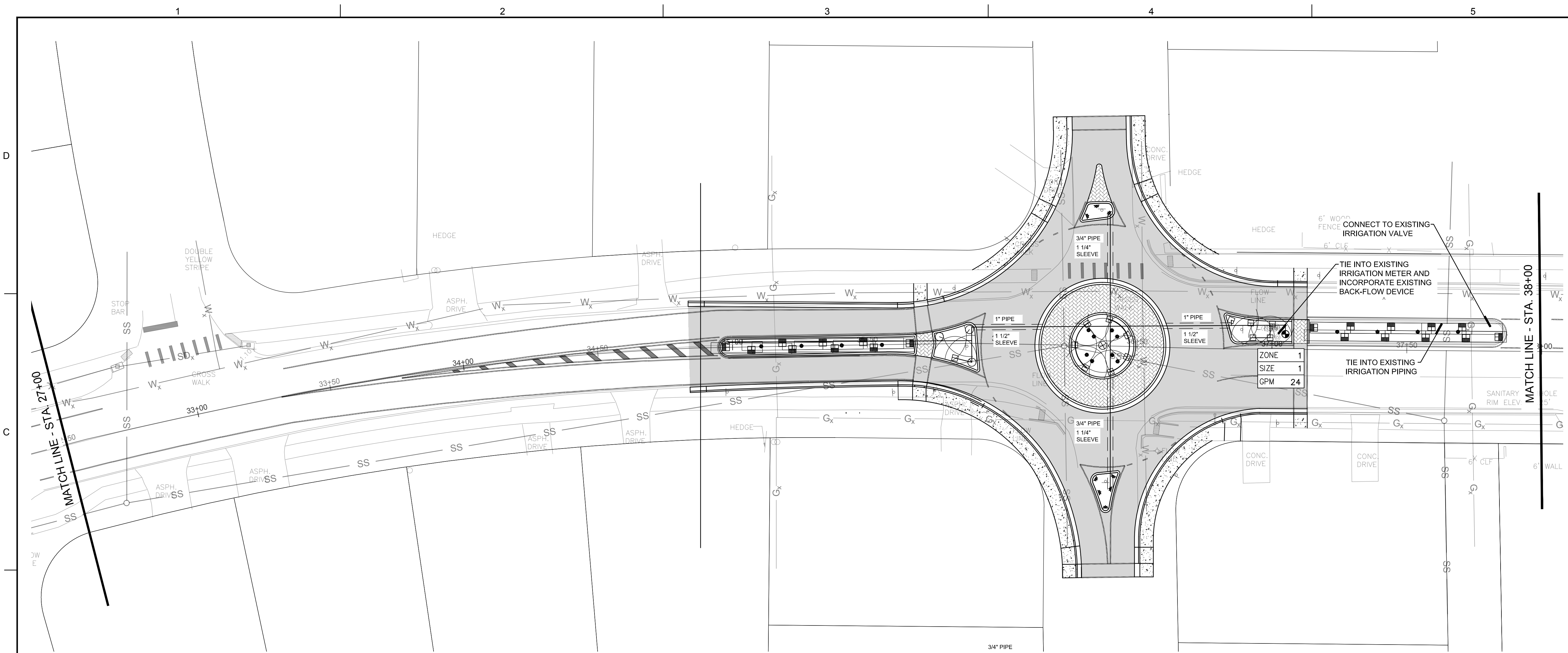
SHEET NUMBER

IR-102

SHEET of 16

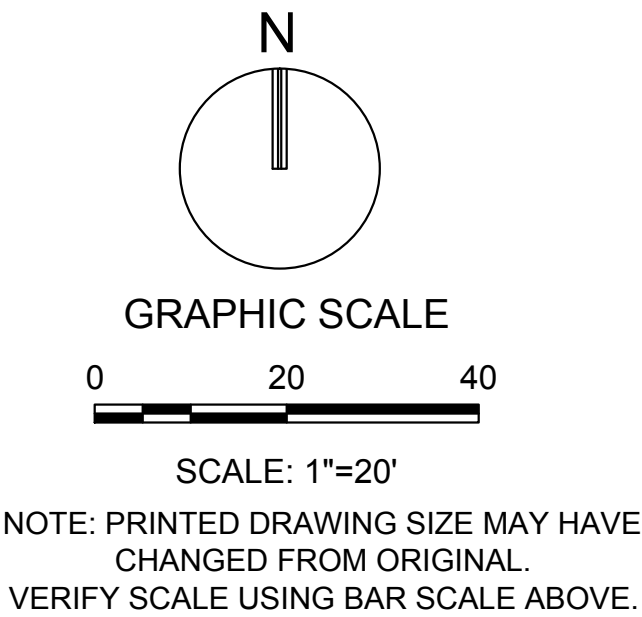
PROJECT NO. 09359.01

Drawing name: N:\090359.01 Winfield Boulevard - City of Margate Landscape Architecture\Cadd\090359.01-LP-101-LANDSCAPE PLANS.dwg Layout Name: IR-102 Printed on: Mar 28, 2017 - 4:22pm



IRRIGATION LEGEND

SYMBOL	DESCRIPTION
	HUNTER PGP 6" POP-UP ROTOR HEADS
	HUNTER SPRAY NOZZLES: 15' RADIUS, WITH PRS40 BODY HUNTER SPRAY NOZZLES: 12' RADIUS, WITH PRS40 BODY HUNTER SPRAY NOZZLES: 10' RADIUS, WITH PRS40 BODY HUNTER SPRAY NOZZLES: 8' RADIUS WITH, WITH PRS40 BODY
	HUNTER END SPRAY: ES515, WITH PRS40 BODY
	HUNTER SIDE SPRAY: SS515, WITH PRS40 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



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301 East Atlantic Boulevard
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Doral, Florida 33122

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**WINFIELD
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IMPROVEMENTS
CITY OF
MARGATE**

SCALE: AS NOTED
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DRAWN BY: SR
DESIGNED BY: MP
CHECKED BY: MP

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

SHEET TITLE

**IRRIGATION
PLAN**

SHEET NUMBER

IR-103

SHEET of 16

PROJECT NO. 09359.01

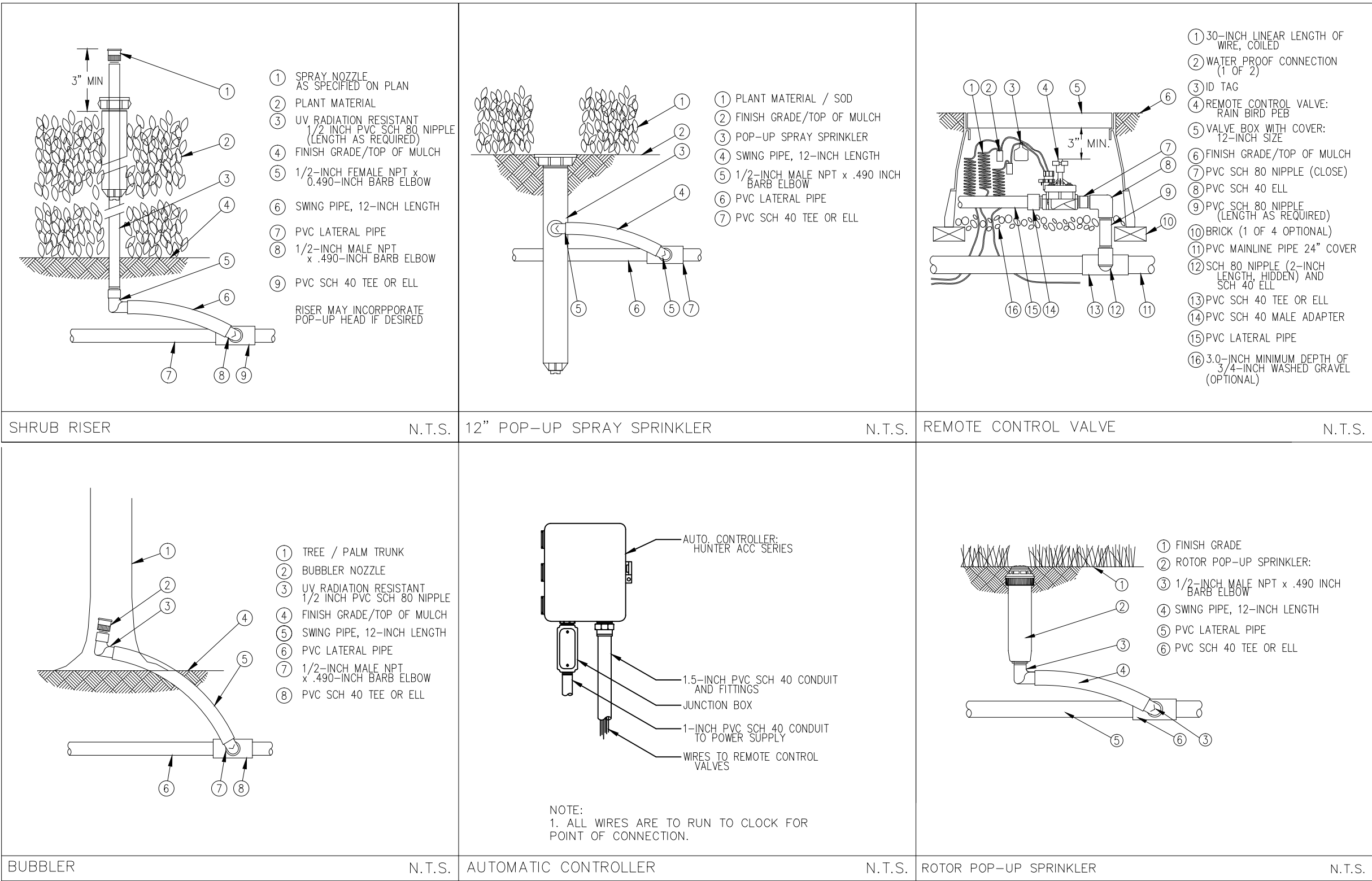
Drawing name: N:\090359.01 Winfield Boulevard - City of Margate\landscape Architecture\Cadd\090359.01-LP-101-LANDSCAPE PLANS.dwg Layout Name: IR-103 Printed on: Mar 27, 2017 - 3:38pm

D

C

B

A



IRRIGATION LEGEND

SYMBOL	DESCRIPTION
	HUNTER PGP 6" POP-UP ROTOR HEADS
	HUNTER SPRAY NOZZLES: 15' RADIUS, WITH PRS40 BODY
	HUNTER SPRAY NOZZLES: 12' RADIUS, WITH PRS40 BODY
	HUNTER SPRAY NOZZLES: 10' RADIUS, WITH PRS40 BODY
	HUNTER SPRAY NOZZLES: 8' RADIUS WITH, WITH PRS40 BODY
	HUNTER END SPRAY: ES515, WITH PRS40 BODY
	HUNTER SIDE SPRAY: SS515, WITH PRS40 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

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.
- 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 COMPACTED. 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.



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

SHEET TITLE

IRRIGATION DETAILS AND NOTES

SHEET NUMBER

IR-104

SHEET of 16

PROJECT NO. 09359.01