

C:\Users\tonya\OneDrive\Documents\CLEAN LINES\Urban Green Studio\Littleton-NEW\100% Plans\REV02 Littleton-Widening.dwg, 4/26/2023 9:44:13 AM

PHASE I

LEE COUNTY
DEPARTMENT OF TRANSPORTATION
CONTRACT PLANS
FINANCIAL PROJECT ID 442000-1-54-1

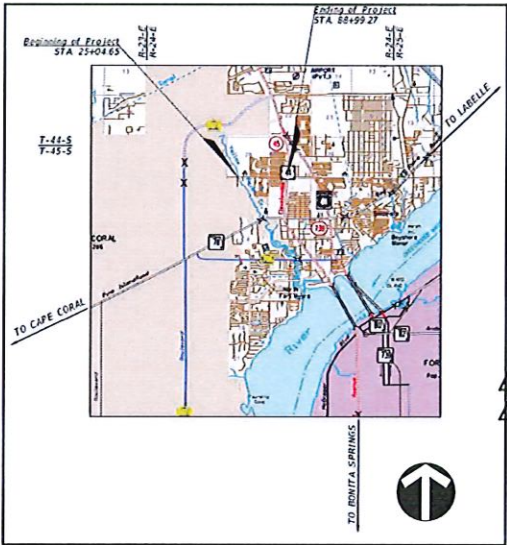
LITTLETON ROAD WIDENING
FROM CORBETT ROAD TO U.S. 41
LEE COUNTY (12)

LANDSCAPE AND IRRIGATION PLANS

SHEET INDEX

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PROJECT LOCATION MAP

UTILITY PROVIDERS:

LEE COUNTY UTILITIES
(WATER AND SEWER)
1500 MONROE STREET
FORT MYERS, FL 33901
239.533.8181

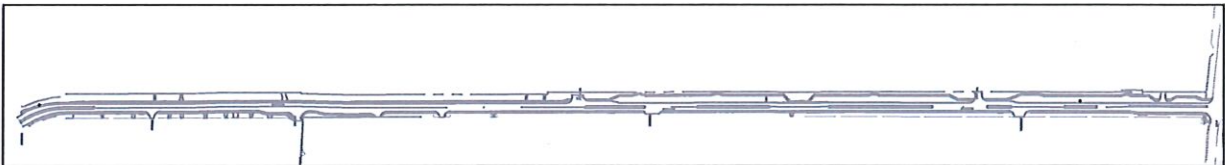
LEE COUNTY PORT AUTHORITY ARFF
(FIRE RESCUE)
11901 REGIONAL LANE
FORT MYERS, FL 33913
239.590.4716

LEE COUNTY TRAFFIC
5642 ENTERPRISE PARKWAY
FORT MYERS, FL 33905
239.533.9300

FPL
15834 WINKLER ROAD
FORT MYERS, FL 33908
239.415.4319

CENTURYLINK
2820 CARGO STREET
FORT MYERS, FL 33916
239.336.2035

COMCAST
12641 CORPORATE LAKES DRIVE
FORT MYERS, FL 33913
239.432.1805



NORTH
SCALE: 1" = 1000'

OVERALL SITE MAP

Dayna L.
Fendrick
LA0001224
State of Florida

Digitally signed by
Dayna L. Fendrick
LA0001224 State of
Florida
Date: 2023.04.26
11:06:03 -04'00'



IN COORDINATION WITH:
Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION
2023/04/28	REVISED PER LCDOT COMMENTS	

CIP NO.
5028

COVER
SHEET

DAYNA L. FENDRICK, RLA #0001224

SHEET #
CVR

R.O.W. / PROJECT LIMITS

LF

PAVERS

7 PE

42 CN

3 CA

6 AB

6 PJ

14 CN

99 LE

26 CN

3 PE

PAVERS

MATCHLINE STA. 27+40

LITTLETON ROAD

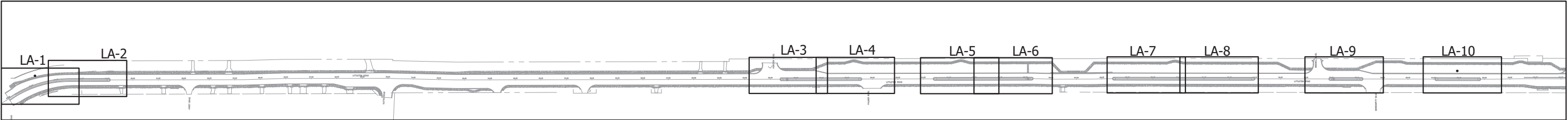
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NORTH

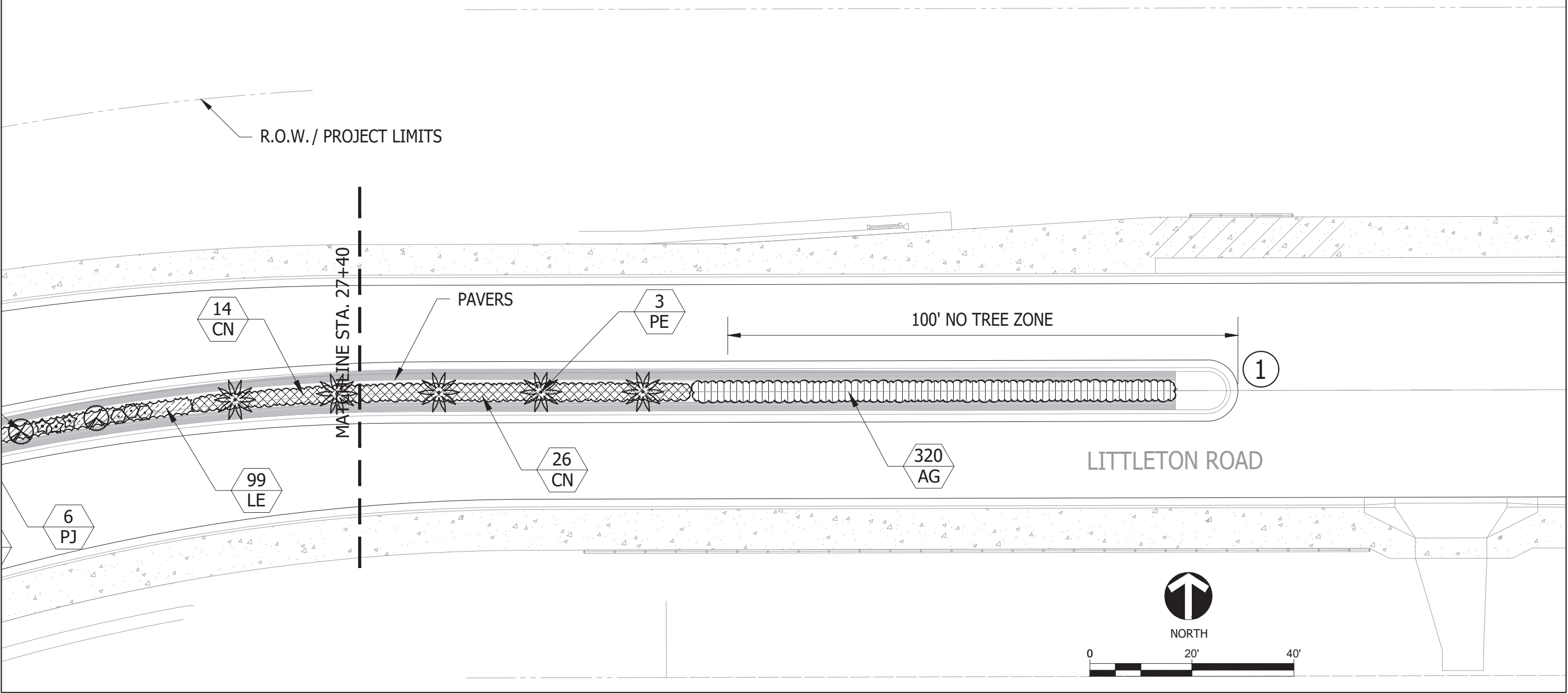
0 20' 40'



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KEY MAP



IN COORDINATION WITH:
Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION	SCALE:	1" = 20'
			DATE:	MARCH 2021
			PROJECT #:	

LANDSCAPE PLAN

DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-2

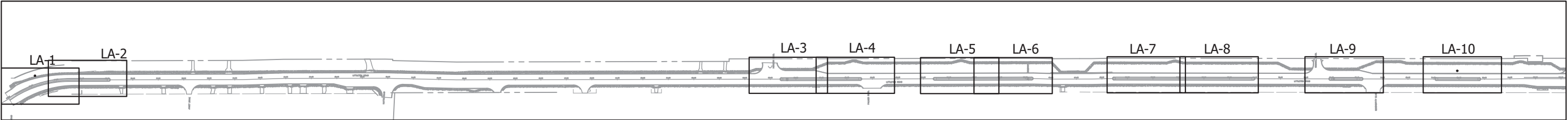
Site plan of Littleton Road showing a 100' no tree zone, pavers, and various plantings. The plan includes a north arrow and a scale bar (0 to 40').

Labels and features include:

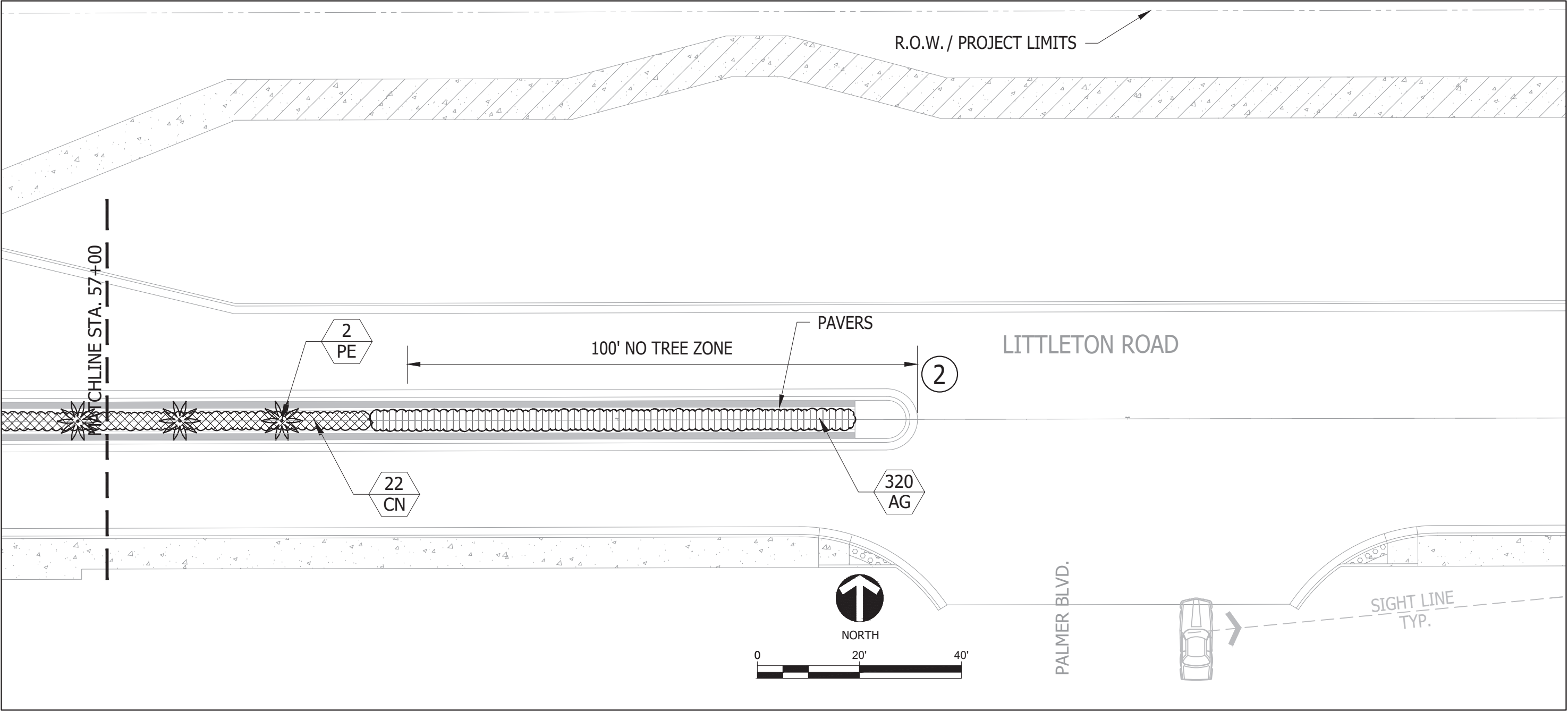
- LITTLETON ROAD** (road name)
- HORIZON BLVD.** (road name)
- R.O.W. / PROJECT LIMITS** (boundary line)
- 100' NO TREE ZONE** (dimensioned area)
- PAVERS** (material label)
- 294 AG** (planting quantity and type)
- 22 CN** (planting quantity and type)
- 3 PE** (planting quantity and type)
- MATCHLINE STA. 57+00** (stationing marker)
- NORTH** (directional indicator)
- 0 20' 40'** (scale bar)



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KEY MAP



IN COORDINATION WITH:

Stantec

1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:

LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

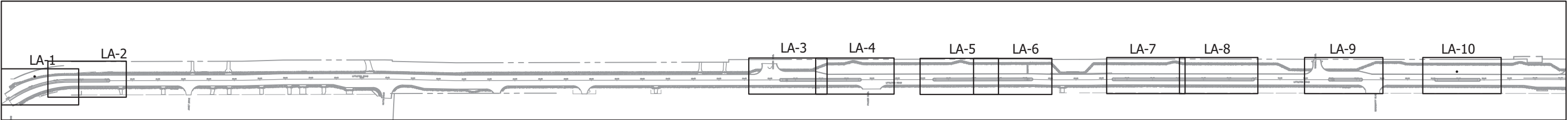
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			DATE: MARCH 2021
			PROJECT #:

LANDSCAPE PLAN

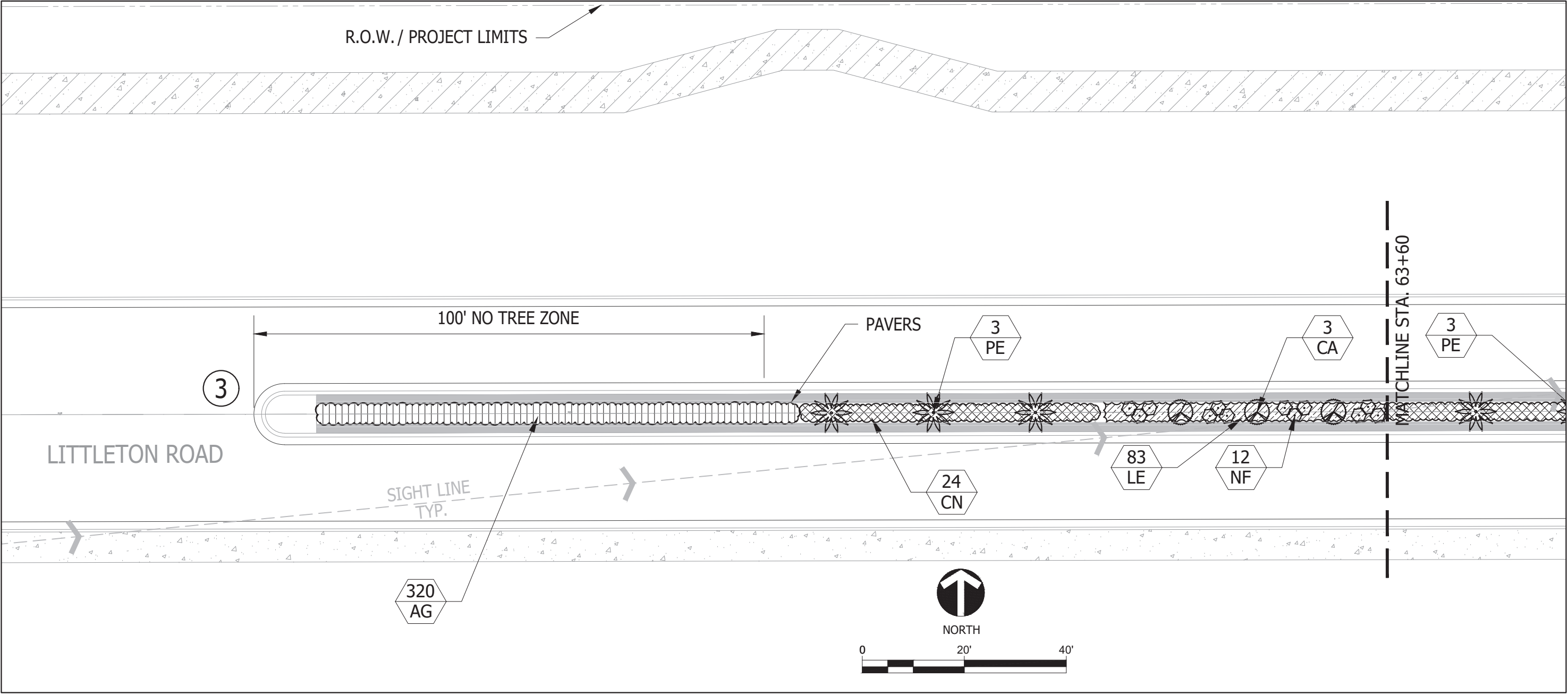
DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-4

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KEY MAP



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Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

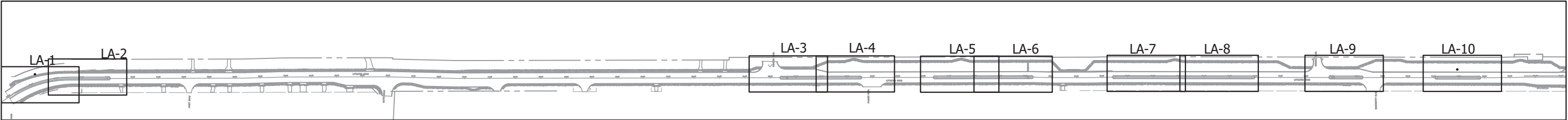
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DATE:	MARCH 2021
PROJECT #:	

LANDSCAPE PLAN

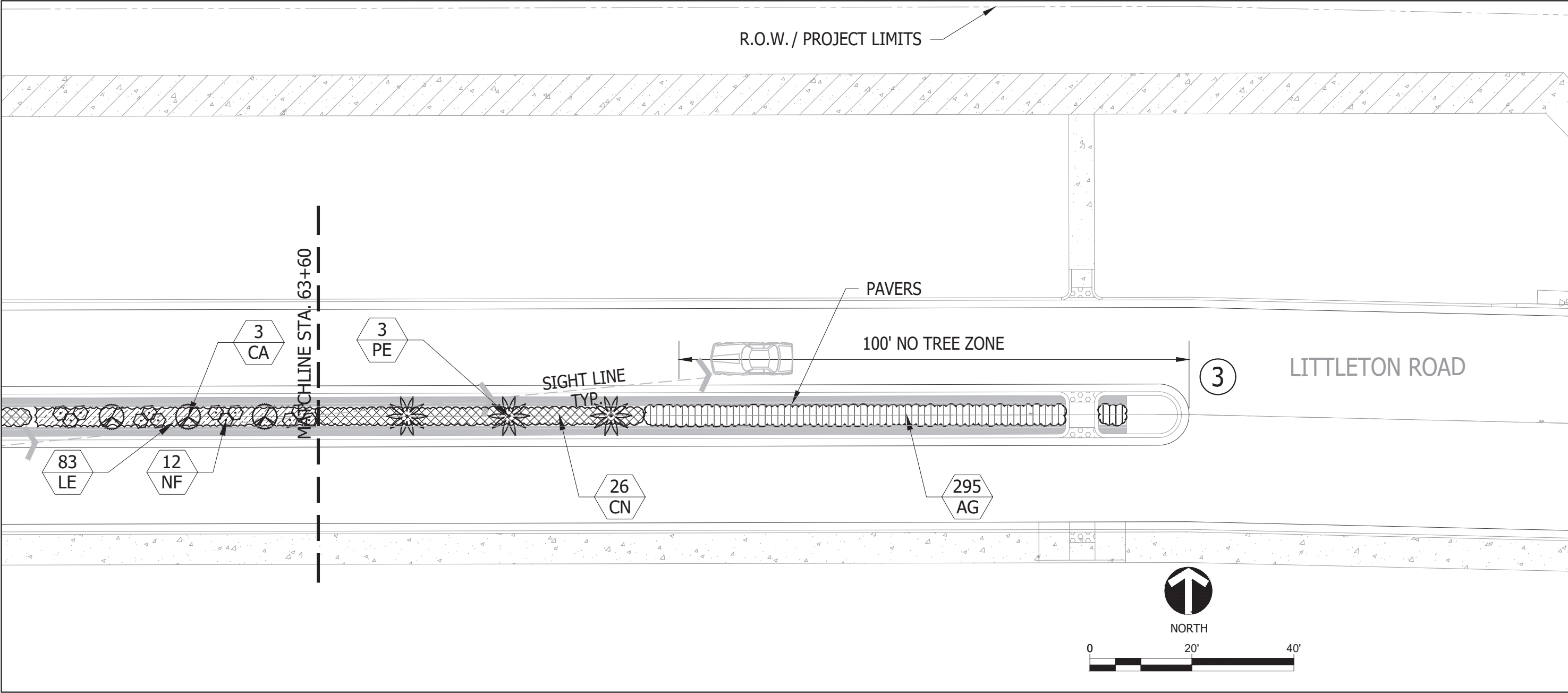
DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-5

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KEY MAP



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1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

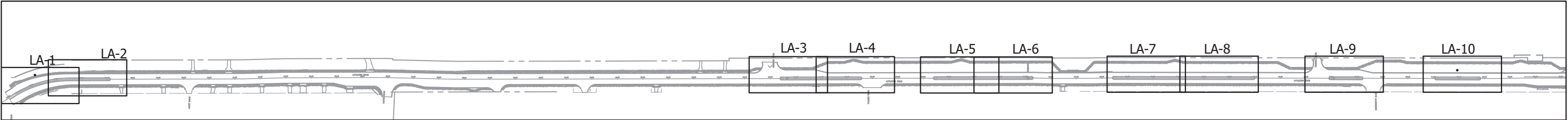
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PROJECT #:	

LANDSCAPE PLAN

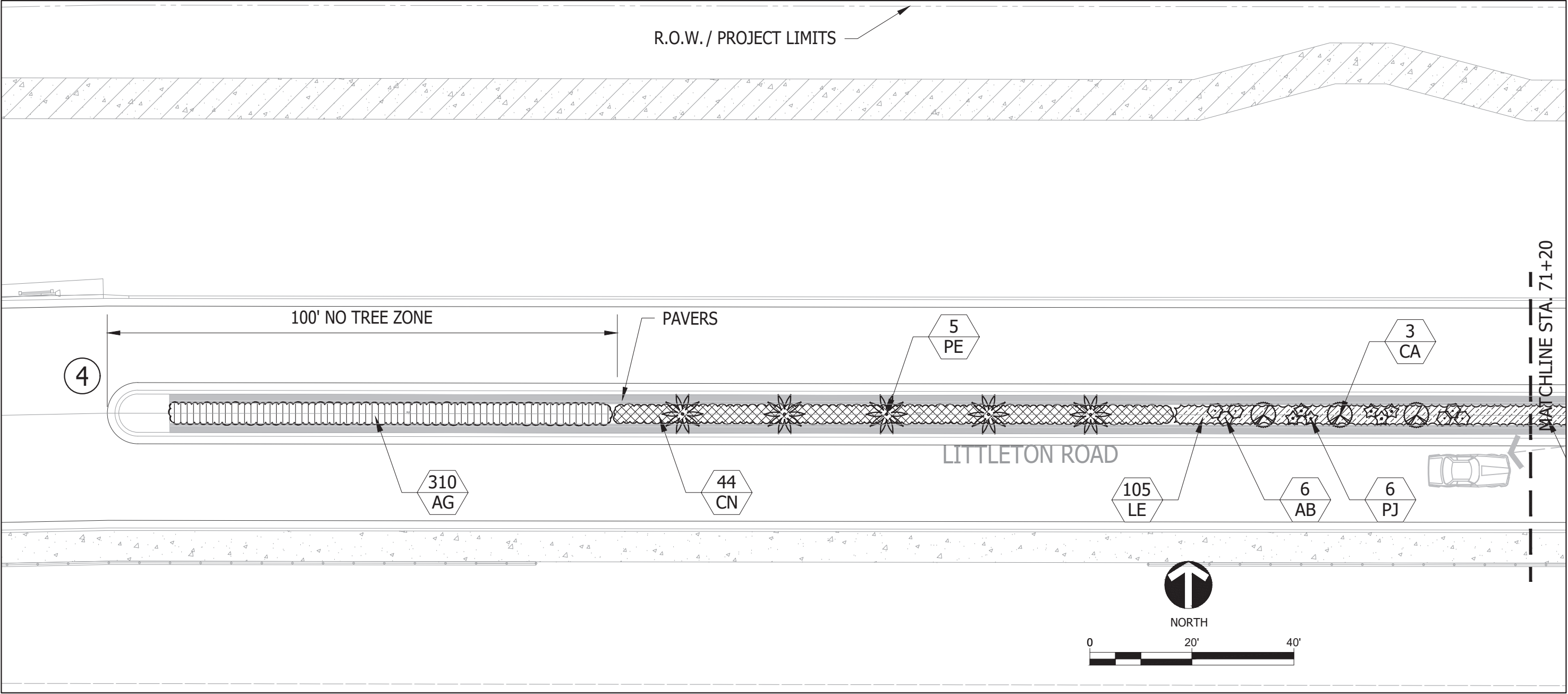
DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-6

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KEY MAP



IN COORDINATION WITH:
Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

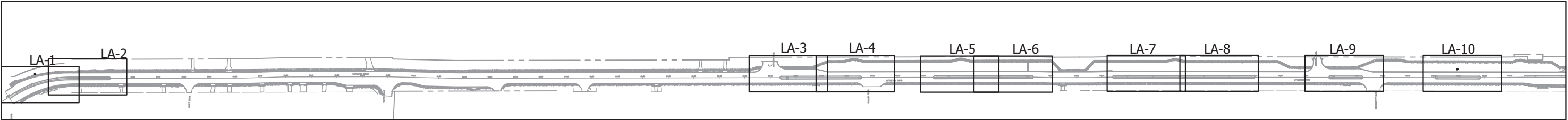
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DATE:	MARCH 2021
PROJECT #:	

LANDSCAPE PLAN

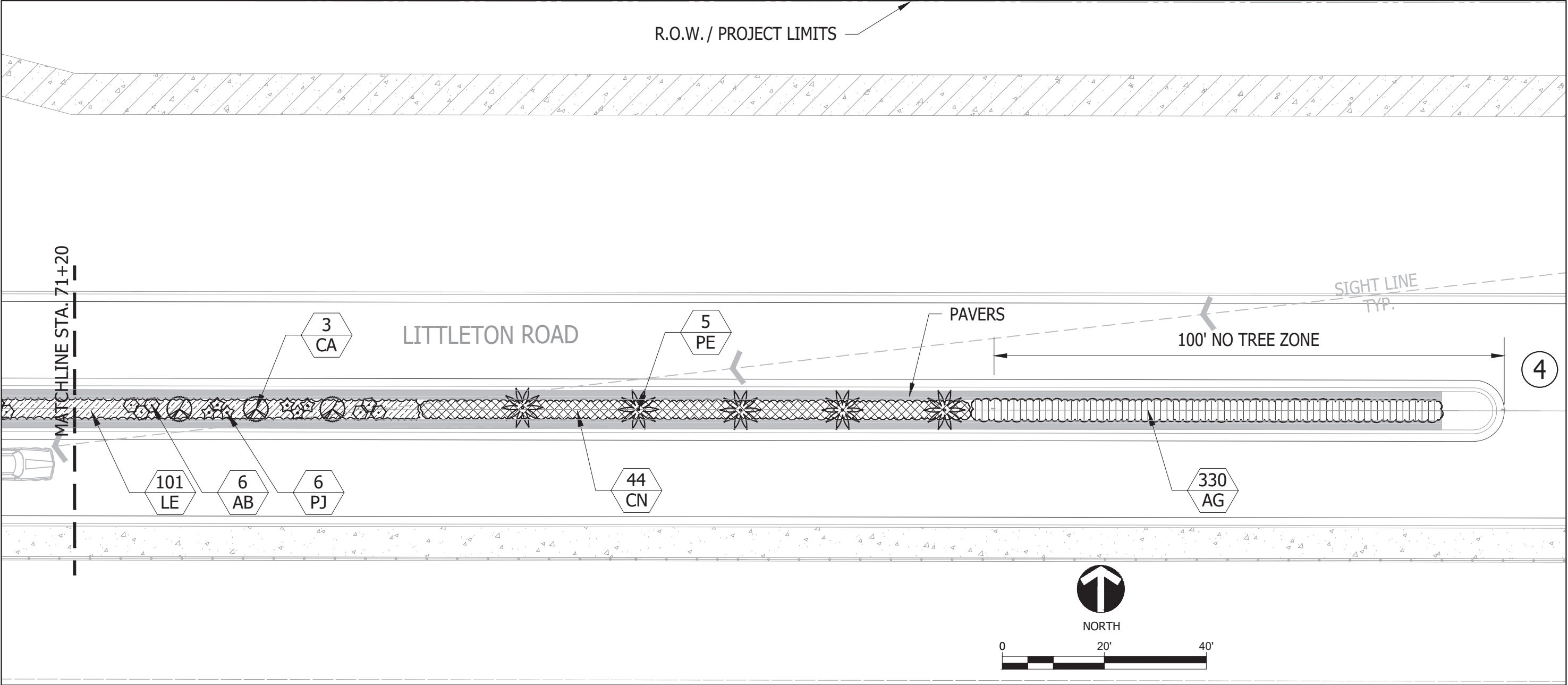
DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-7

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KEY MAP



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Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

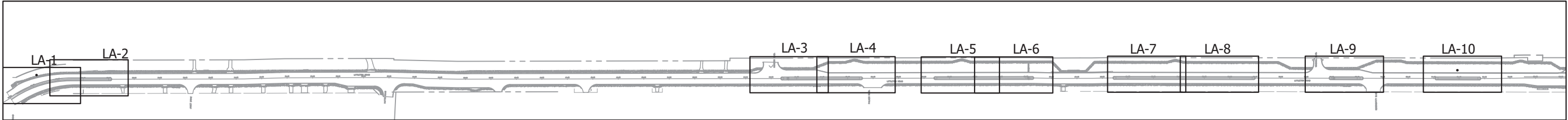
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PROJECT #:	

LANDSCAPE PLAN

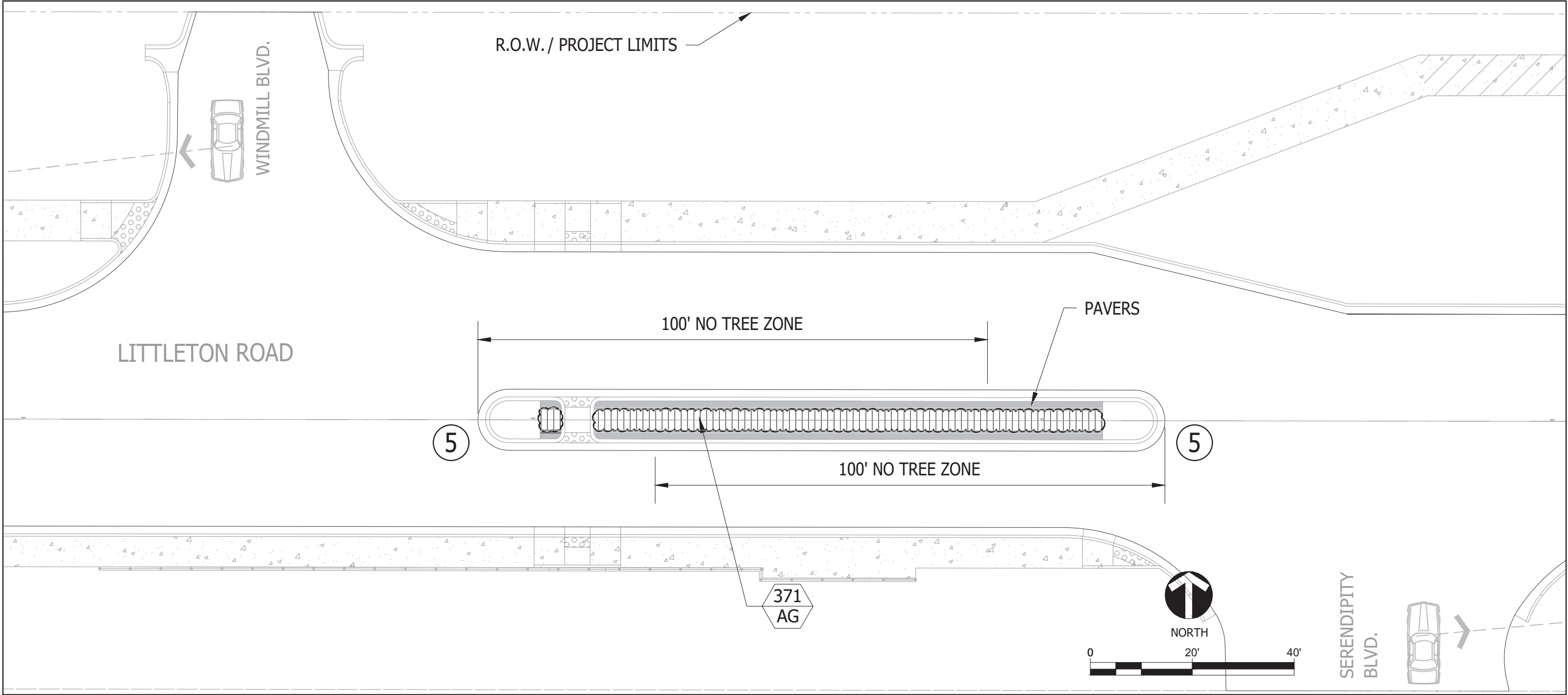
DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-8

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KEY MAP



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1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

SCALE:	1" = 20'
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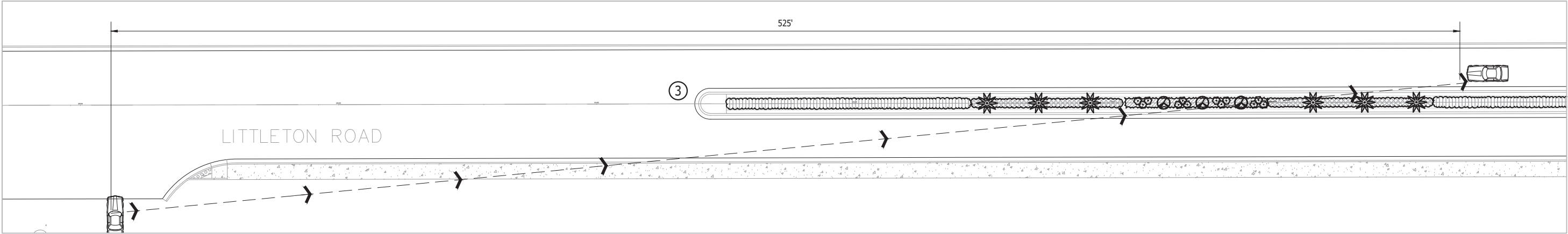
LANDSCAPE PLAN

DAYNA L. FENDRICK, RLA #0001224

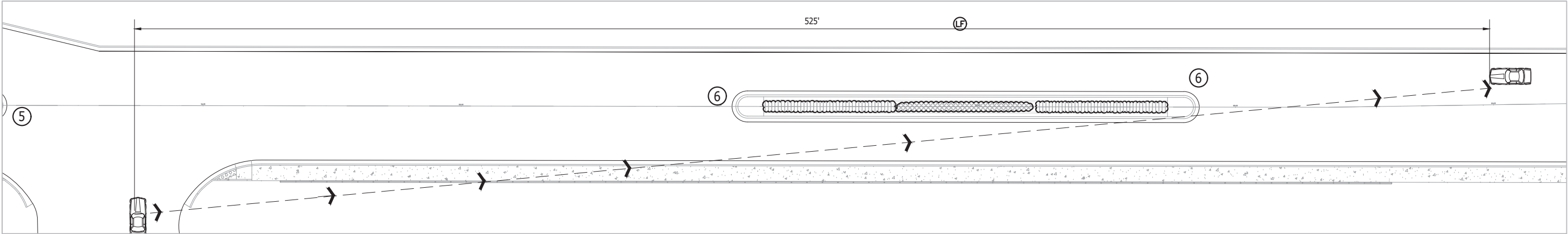
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LA-9

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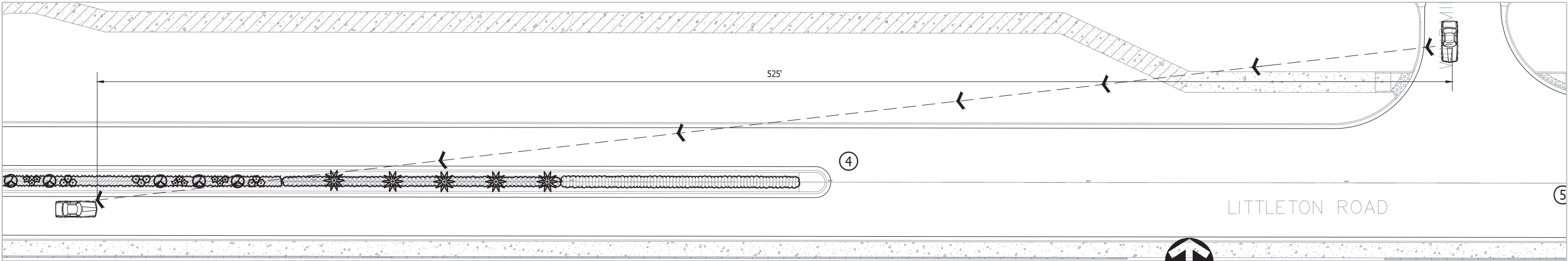
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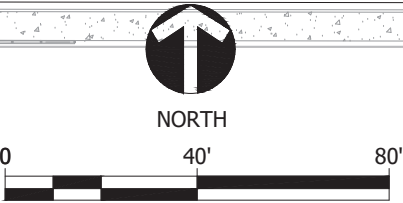
SIGHTLINE AT PALMER BLVD. INTERSECTION



SIGHTLINE AT SERENDIPITY BLVD. INTERSECTION



SIGHTLINE AT WINDMILL BLVD. INTERSECTION



IN COORDINATION WITH:
 Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

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LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

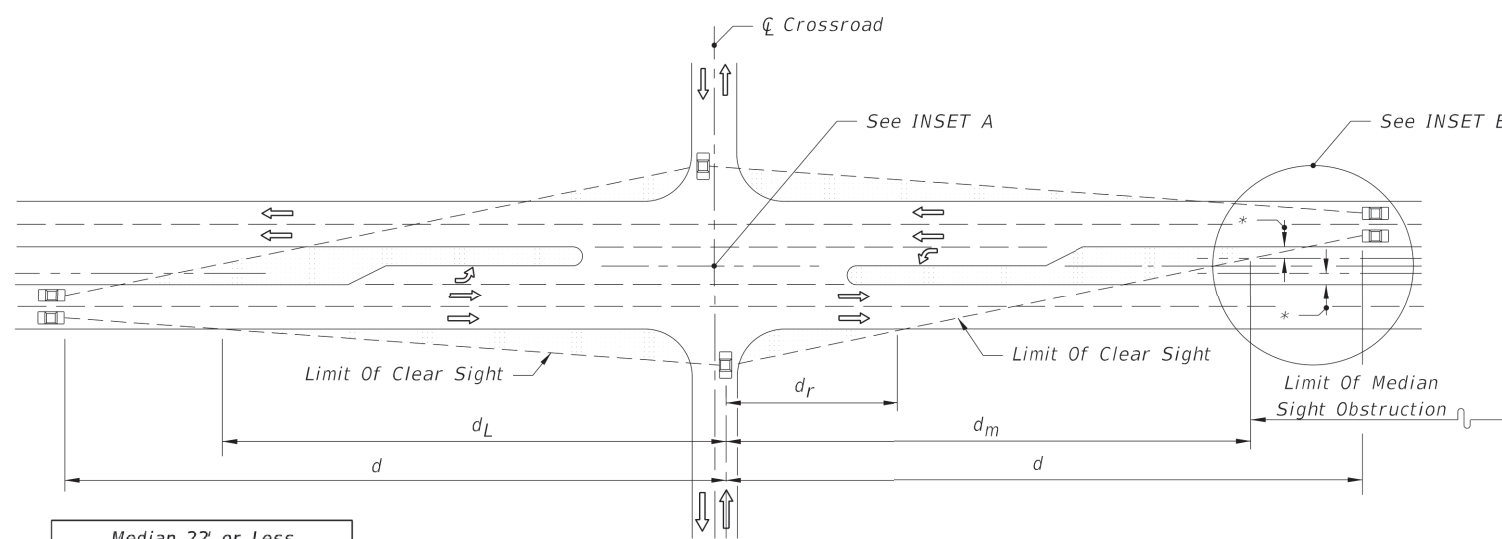
REV	DATE	DESCRIPTION	SCALE: 1" = 40'
			DATE: MARCH 2021
			PROJECT #:

SIGHTLINE DIAGRAMS

DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-11

INTERSECTION SIGHT DISTANCE: 4-LANE DIVIDED



Median 22' or Less				
Design Speed (mph)	d (Ft.)	d _L (Ft.)	d _R (Ft.)	d _M (Ft.)
30	395	280	90	325
35	460	325	100	380
40	525	375	115	430
45	590	420	130	485
50	655	465	145	540
55	720	510	160	590
60	785	555	175	645
65	850	605	185	700

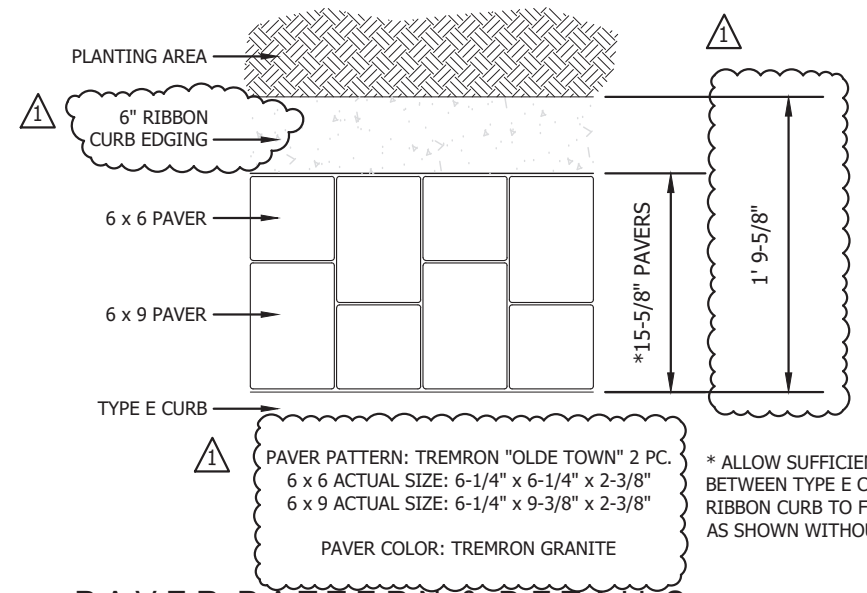
4-LANE DIVIDED

FDOT SIGHT DISTANCE GRAPHIC

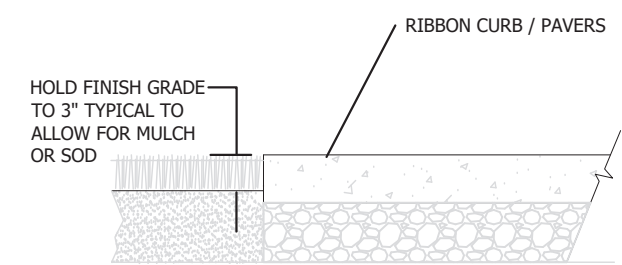
4-LANE DIVIDED ROADWAY, PASSENGER VEHICLE
2021 FDOT DESIGN MANUAL, EXHIBIT No. 212-6
N.T.S.

BASED ON 40 MPH DESIGN SPEED, SIGHT DISTANCE IS 525'.

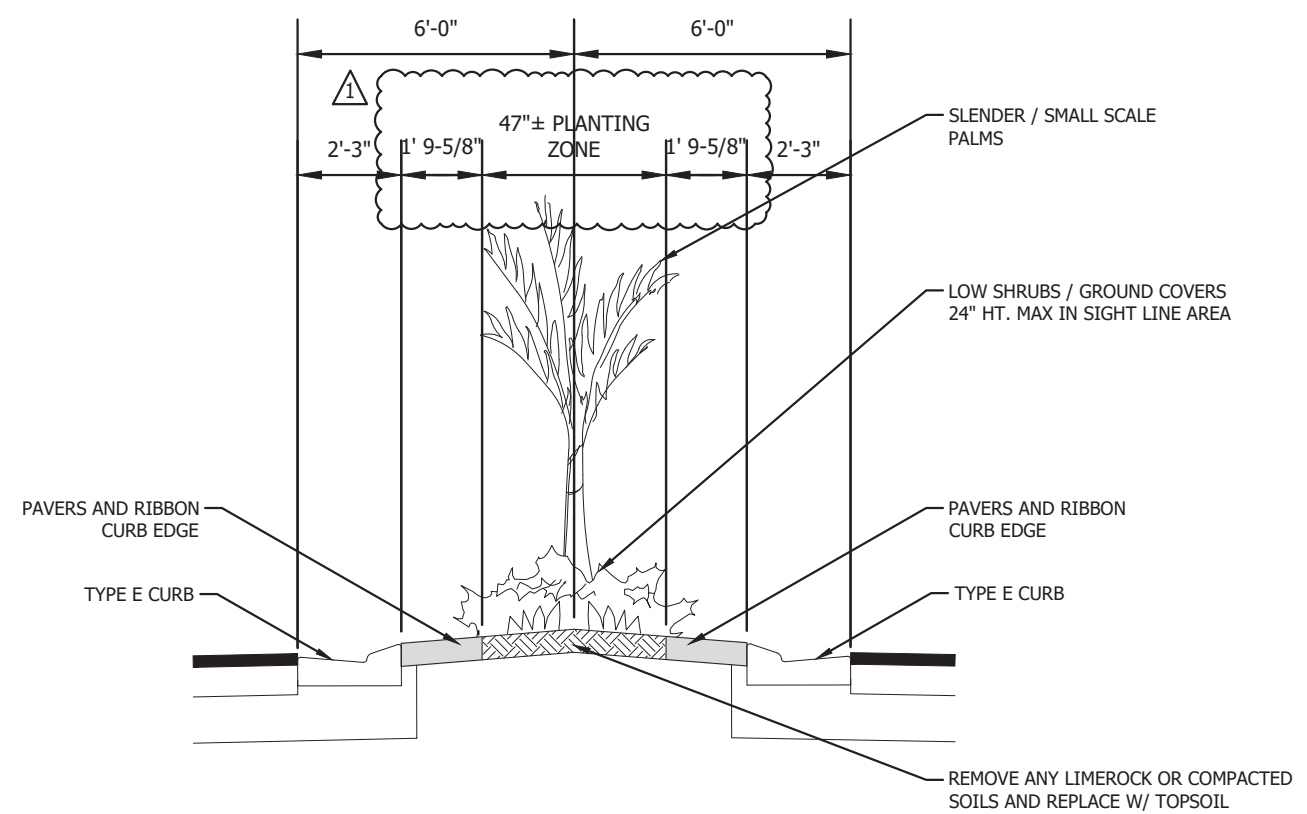
Passenger Vehicle



PAVER PATTERN & DETAILS
N.T.S.



SOD/MULCH AT PAVEMENT EDGE
N.T.S.



TYPICAL MEDIAN SECTION
WITH PAVERS FOR EMERGENCY ACCESS
N.T.S.



IN COORDINATION WITH:
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1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

			SCALE:	1" = 40'
			DATE:	MARCH 2021
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A	2023/04/28	REVISED PER LCDOT COMMENTS		
REV	DATE	DESCRIPTION		

LANDSCAPE DETAILS

DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-12

12"

PLANT TOP OF ROOT BALL SLIGHTLY ABOVE FINISH GRADE

3" MULCH, KEEP 6" AWAY FROM TRUNK.

BERM SOIL 6" TO CONTAIN WATER; REMOVE AFTER SIX MONTHS

SOIL BACKFILL TO BE 50/50 MIX OF TOPSOIL (EXISTING SOIL, IF ACCEPTABLE) AND SOIL AMENDMENTS

CONTRACTOR SHALL ASSURE FREE DRAINAGE/PERCOLATION (MIN. 2"/HR) OF ALL PLANTING PITS PRIOR TO INSTALLATION. PROVIDE AUGER HOLE TO BREAK THROUGH COMPACTED FILL LAYER IF PITS DO NOT DRAIN FREELY.

PLANT MATERIAL SHALL BE PLANTED 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOT BALL.

3" MINIMUM OF MULCH
KEEP MULCH 1" AWAY FROM STEM OF PLANT

MINIMUM DEPTH OF 12" PLANTING SOIL FOR GROUND COVER BED.
PREPARE MASS PLANTING BED, NOT INDIVIDUAL PITS

FINISHED GRADE

12"
MIN.

CONTRACTOR SHALL ASSURE FREE DRAINAGE/PERCOLATION OF ALL PLANTING PITS/BEDS PRIOR TO INSTALLATION.

SHEET #
LA-13

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SPECIFICATIONS

GENERAL

1.

PRIOR TO CONSTRUCTION, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR CONTACTING SUNSHINE ONE (CALL 811, OR TOLL FREE 800-432-4770), LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING CONSTRUCTION. SHOULD THE LANDSCAPE CONTRACTOR CAUSE DAMAGE TO ANY UTILITIES, NECESSARY REPAIRS SHALL BE MADE AS QUICKLY AS PRACTICABLE, AT LANDSCAPE CONTRACTOR'S EXPENSE.
2.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS NOT PROVIDED FOR BY THE OWNER PRIOR TO COMMENCING ANY WORK.
3.

THE CONTRACTOR IS RESPONSIBLE FOR TESTING THE pH OF THE WELL WATER PRIOR TO SOIL PREPARATION.
4.

THE CONTRACTOR IS RESPONSIBLE FOR KEEPING A FULL SIGNED AND SEALED PLAN SET ON SITE AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN A REDLINED COPY OF ALL FIELD ADJUSTMENTS MADE, AND PROVIDE A COPY OF THE REDLINED PLANS TO THE LANDSCAPE ARCHITECT FOR PREPARING THE AS-BUILT PLANS AT THE COMPLETION OF THE JOB.
5.

THE CONSTRUCTION BID PRICES FOR ITEMS THAT REQUIRE DEMOLITION AND/OR REMOVAL OF EXISTING MATERIALS SHALL INCLUDE THE COST OF DEMOLITION AND PROPER DISPOSAL OF THE EXISTING MATERIALS, SUCH AS PLANTINGS, ASPHALT, LIMESTONE, FILL DIRT, AND CONCRETE.
6.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, IN FULL ALL PLANTING AREAS (INCLUDING WATERING, SPRAYING, MULCHING, MOWING, FERTILIZING, ETC.) UNTIL THE JOB IS ACCEPTED BY THE OWNER AND LANDSCAPE ARCHITECT.
7.

ALL PLANT MATERIAL SHALL BE OF FLORIDA NO. 1 OR BETTER QUALITY AT TIME OF INSTALLATION AND SHALL BE MAINTAINED IN THIS SAME CONDITION UNTIL FINAL ACCEPTANCE. DECLINE IN CONDITION OF PLANT MATERIAL DURING THE MAINTENANCE PERIOD SHALL BE GROUNDS FOR REJECTION AND REPLACEMENT.
8.

SAMPLES OF ALL PLANT AND HARDSCAPE MATERIAL TO BE SUBMITTED FOR OWNER AND/OR LANDSCAPE ARCHITECT APPROVAL PRIOR TO INSTALLATION.
9.

ALL QUANTITIES INDICATED ON THE PLANS ARE INTENDED AS A GUIDE FOR THE BIDDER AND DOES NOT RELIEVE THE BIDDER OF HIS RESPONSIBILITY TO DO A COMPREHENSIVE PLANT QUANTITY TAKE OFF. IN THE CASE OF A CONFLICT BETWEEN THE DRAWINGS AND THE BID FORM, THE DRAWINGS SHALL GOVERN.
10.

AFTER RECEIPT OF BIDS, PRICES FOR ANY QUANTITIES ADDED TO OR DELETED FROM THE BID SCHEDULE BY THE LANDSCAPE ARCHITECT WILL BE BASED ON THE UNIT PRICE SCHEDULE SUBMITTED BY CONTRACTOR.

MEDIAN GRADING AND SOIL PREPARATION SPECIFICATIONS:

1.

IF ANY LIMEROCK BASE MATERIAL, ROCK, OR OTHER DELETERIOUS MATERIALS ARE ENCOUNTERED DURING GRADING, IRRIGATION, OR PLANTING, THOSE MATERIALS MUST BE REMOVED AND DISPOSED OF OFF-SITE. ANY COMPACTED FILL OR SUBGRADE MUST BE PIERCED THROUGH COMPLETELY TO ALLOW FOR PERCOLATION AND DRAINAGE.
2.

INSTALL IRRIGATION MAIN LINES, WIRING, AND STUB UP VALVE LOCATIONS TO WITHIN EIGHT INCHES OF EXISTING SURFACE GRADE.
3.

SPRAY EXISTING MEDIANS WITH CONTACT HERBICIDE FOR 100% KILL OF EXISTING GRASS AS APPROVED BY LANDSCAPE ARCHITECT AND MAINTAIN MEDIANS WEED-FREE DURING INSTALLATION UNTIL FINAL ACCEPTANCE.
4.

CUT EXISTING SOIL BEHIND BACK OF CURBING IF REQUIRED TO PROPOSED 2" DEPTH AND SPREAD CUT INWARD TOWARD THE CENTER OF THE MEDIAN AND ROUGH GRADE PER PROFILE.
5.

ROTOR TILL MEDIAN TO AN 8-10" DEPTH TO WITHIN 6 INCHES OF THE BACK OF CURBING. ROTOR TILLING MEANS 6 TOTAL PASSES OF THE AREA TILLED WITH REVERSE ROTOR TYPE TILLER OR DISC PLOW.
6.

FINE GRADE MEDIANS TO PROPOSED PROFILES AND REMOVE ALL DEBRIS LARGER THAN 1 INCH IN DIAMETER FROM WITHIN THE TOP 4 INCHES OF THE FINISHED GRADE.
7.

ADD FINISHED SOIL LAYER MATERIAL AS REQUIRED TO PROVIDE FOR PROPOSED GRADES/PROFILES. MAKE ONE MORE PASS WITH ROTOR TILLER/DISC TO MIX ADDITIONAL TOPSOIL INTO EXISTING SOIL.
8.

TOPSOIL SHALL NOT BE EXTREMELY ACIDIC OR ALKALINE, NOR CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. THE pH SHALL BE IN THE RANGE OF 6.5 TO 7.0. IF NECESSARY, THE CONTRACTOR TOPSOIL pH SHALL APPLY THE APPROPRIATE SOIL AMENDMENTS ADJUSTING SOIL pH TO ASSURE A pH RANGE OF 6.5 TO 7.0.
9.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING TOPSOIL TESTED. REPRESENTATIVE SAMPLES ARE TO BE TESTED FOR ACIDITY, FERTILITY, AND GENERAL COMPOSITION BY A RECOGNIZED COMMERCIAL OR GOVERNMENT AGENCY. THE CONTRACTOR SHALL FURNISH ONE (1) COPY OF THE SOIL ANALYSIS AND RECOMMENDED AMENDMENTS (TO MEET THE DESIRED pH, NUTRITIONAL AND ORGANIC LEVELS DETERMINED TO BE ADEQUATE FOR THE AREA) PREPARED BY THE TESTING AGENCY, TO THE LANDSCAPE ARCHITECT PRIOR TO APPLICATION OF ANY AMENDMENTS OR FERTILIZER.
10.

TOPSOIL SHALL BE NATURAL, FERTILE, AGRICULTURAL SOIL CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL BE OF UNIFORM COMPOSITION THROUGHOUT, WITHOUT ADMIXTURE OF SUBSOIL, CLAY, STONES, LUMPS, LIVE PLANTS AND THEIR ROOTS, STICKS, AND OTHER EXTRANEIOUS MATTER. REMOVE ALL ROCKS AND OTHER OBJECTS OVER 1 INCH IN DIAMETER.

PLANTING

1.

ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASES. ALL PLANT MATERIAL SHALL BE IN FULL AND STRICT ACCORDANCE TO FLORIDA NO. 1 GRADE, ACCORDING TO THE "GRADES AND STANDARD FOR NURSERY PLANTS", 1998, 2ND EDITION, PUBLISHED BY FLORIDA DEPARMENT OF AGRICULTURE AND CONSUMER SERVICES. PLANT MATERIALS IN SOME INSTANCES EXCEED NO. 1 GRADE IN ORDER TO MEET THE MINIMUM REQUIREMENTS OF THIS PROJECT.
2.

ALL PLANTS NOT LISTED IN GRADES AND STANDARDS FOR NURSERY PLANTS, 1998, 2ND EDITION, SHALL CONFORM TO A FLORIDA NO. 1 AS TO; 1. HEALTH AND VITALITY; 2. CONDITION OF FOLIAGE; 3. ROOT SYSTEM; 4. FREEDOM FROM PEST OR MECHANICAL DAMAGE; 5. HEAVILY BRANCHED AND DENSELY FOLIATED ACCORDING TO THE ACCEPTED NORMAL SHAPE OF THE SPECIES.
3.

CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTS MEETING SPECIFICATION AS NOTED PRIOR TO INSTALLATION. CONTRACTOR SHALL IMMEDIATELY REMOVE ALL PLANT MATERIAL THAT DOES NOT CONFORM TO SPECIFICATIONS.
4.

ALL ROOTBALLS SHALL CONFORM TO THE SIZE STANDARDS SET FORTH IN "AMERICAN STANDARDS FOR NURSERY STOCK".
5.

ALL PLANT MATERIAL SHALL BE PROTECTED DURING TRANSPORT AND DELIVERY TO JOB SITE WITH SHADE CLOTH OR OTHER ACCEPTABLE MEANS OF WINDBURN PREVENTION.
6.

CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION PRIOR TO INITIATING PLANTING INSTALLATION. ALL EXISTING PLANTING SHALL REMAIN INTACT AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS.
7.

ALL TREES MUST BE STRAIGHT TRUNKED, FULL HEADED, AND MEET ALL REQUIREMENTS SPECIFIED.
8.

ANY SUBSTITUTIONS IN SIZE AND/OR PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER. ALL PLANTS WILL BE SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT BEFORE PLANTING CAN BEGIN.
9.

THE CONTRACTOR SHALL FIELD STAKE THE LOCATION OF ALL PLANT MATERIAL AND BEDLINES PRIOR TO INITIATING INSTALLATION FOR THE REVIEW AND APPROVAL OF THE LANDSCAPE ARCHITECT.
10.

TYPICALLY, SHRUB AND GROUNDCOVER PLANTINGS ARE SHOWN AS MASS PLANTING BEDS. PLANTS SHALL BE PLACED ON A TRIANGULAR SPACING CONFIGURATION (STAGGERED SPACING) AS SHOWN IN THE PLANTING DETAILS. PLANT CENTER TO CENTER DIMENSIONS (O.C.) ARE LISTED ON THE PLANT LIST.
11.

INSTALLATION - ALL PLANT MATERIAL SHALL BE INSTALLED IN A SOUND, WORKMANLIKE MANNER AND ACCORDING TO ACCEPTED GOOD PLANTING PROCEDURES WITH THE QUALITY OF PLANT MATERIALS AS HEREINAFTER DESCRIBED. ALL ELEMENTS OF LANDSCAPING SHALL BE INSTALLED SO AS TO MEET ALL APPLICABLE ORDINANCES AND CODE REQUIREMENTS.
12.

CONTRACTOR SHALL ASSURE DRAINAGE AND PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION OF PLANT MATERIAL. CONTRACTOR SHALL FILL ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE THAT PROPER DRAINAGE AND PERCOLATION IS AVAILABLE. CORRECT IF REQUIRED TO ASSURE PERCOLATION. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ALL PLANTS LOST DUE TO INADEQUATE DRAINAGE CONDITIONS.
13.

TREES GROWN IN GROW BAGS OR GROW BAG TYPE MATERIAL MUST HAVE THE GROW BAG REMOVED ENTIRELY PRIOR TO PLANTING .
14.

BALLED AND BURLAPPED MATERIAL SHALL HAVE THE TOP ONE HALF (1/2) OF THE BURLAP AROUND THE BASE OF THE TRUNK CUT AND PULLED BACK. DO NOT REMOVE BURLAP. WIRE CAGES, STRAPS, ETC. MUST BE CUT AND REMOVED PRIOR TO INSTALLATION. ALL PLASTIC WRAPPING SHALL BE REMOVED PRIOR TO INSTALLATION.
15.

CONTRACTOR TO REPLACE REJECTED PLANT MATERIAL WITHIN ONE (1) WEEK OF NOTICE FROM THE OWNER OR LANDSCAPE ARCHITECT.
16.

CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, PLANTS LIST, GENERAL NOTES AND THE PLANTING SPECIFICATIONS FOR COMPLETE LANDSCAPE PLANTING INSTRUCTIONS.
17.

FERTILIZATION

Palms

8-2-12 PLUS MINOR ELEMENTS - SLOW RELEASE 1/2 LB FERTILIZER PER 1/2 INCH CALIPER. SUPPLEMENT WITH SOPO-MAG MICRONUTRIENTS. APPLY GRANULAR SULPHUR AT THE RECOMMENDED APPLICATION RATES.

Shrubs and Groundcovers

8-10-10 PLUS MINOR ELEMENTS - SLOW RELEASE 1/2 LB FERTILIZER PER 100 FT2

Trees

8-6-6 PLUS MINOR ELEMENTS - SLOW RELEASE 1/2 LB FERTILIZER PER 1/2 INCH CALIPER

Turf

16-4-8 PLUS MINOR ELEMENTS - SLOW RELEASE 1 LB FERTILIZER PER 1000 FT2

* THE COST FOR LANDSCAPE FERTILIZER AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE PER PLANT PRICE.
18.

GUYING / STAKING PRACTICES SHALL NOT PERMIT NAILS, SCREWS, WIRES ETC., TO PENETRATE OUTER SURFACE OF TREE OR PALM. TREES OR PALMS REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED.
19.

CONTRACTOR SHALL MULCH ALL PLANT MATERIAL THROUGHOUT AND COMPLETELY TO A THREE (3) INCH WATERED-IN DEPTH WITH CLEAN, WEED FREE MULCH AS SPECIFIED.

SOIL AMENDMENTS / BACKFILL MIX

1.

CONTRACTOR TO APPLY "RONSTAR" OR APPROVED PRE-EMERGENT HERBICIDE IN ACCORDANCE WITH MANUFACTURER'S RATE AND SPECIFICATIONS.
2.

PLANTING SOIL MIX FOR TREES, SHRUBS, AND GROUNDCOVERS SHALL CONSIST OF A THOROUGHLY BLENDED MIXTURE OF:

50% TOPSOIL / EXISTING SOIL IF ACCEPTABLE

50% COMPOSTED SOIL AMENDMENTS, WHICH SHALL CONSIST OF PEAT, COMPOSTED PINE BARK AND HARDWOOD FINES

PROVIDE THE FOLLOWING AMOUNT OF COMPOSTED SOIL AMENDMENTS PER PLANT:
-13 CF / LARGE TREE (>16')
-9 CF / SMALL TREE OR PALM (10-16')
-6 CF / MEDIUM TREE OR PALM (<10')
-1 CF / 3 GAL SHRUB OR LARGER
-5 CF / 1 GAL GROUNDCOVER
-6" DEPTH ALL ANNUAL BEDS

3.

COMPOST MIX SHALL BE FREE OF DELETERIOUS MATERIALS THAT WOULD BE HARMFUL TO PLANT GROWTH, SHALL BE FREE OF NEMATODES, SHALL BE OF UNIFORM QUALITY AND SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5 (AS DETERMINED IN ACCORDANCE WITH ASTM E70). FLORIDA PEAT SHALL BE STERILIZED TO MAKE FREE OF ALL VIABLE NUT GRASS AND OTHER UNDESIRABLE WEEDS.

PROJECT COMPLETION AND WARRANTY

1.

COMPLETION OF THE WORK SHALL MEAN THE FULL AND EXACT COMPLIANCE AND CONFORMITY WITH THE PROVISIONS EXPRESSED OR IMPLIED IN THE DRAWINGS AND SPECIFICATIONS, AND ASSOCIATED CHANGE ORDERS.
2.

SUBSTANTIAL COMPLETION: UPON NOTIFICATION BY THE CONTRACTOR THAT THE INSTALLATION IS COMPLETE, THE LANDSCAPE ARCHITECT WILL PERFORM A SUBSTANTIAL COMPLETION SITE OBSERVATION TO DETERMINE IF THE CONTRACTOR HAS COMPLETED THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IF FINAL ACCEPTANCE IS NOT GIVEN, THE LANDSCAPE ARCHITECT WILL PREPARE A "PUNCH LIST." THE NOTIFICATION BY THE CONTRACTOR MUST BE MADE AT LEAST THREE (3) WORKING DAYS BEFORE THE ANTICIPATED SUBSTANTIAL COMPLETION SITE OBSERVATION.
3.

FINAL ACCEPTANCE: UPON NOTIFICATION BY THE CONTRACTOR THAT ALL DEFECTS HAVE BEEN CORRECTED, THE LANDSCAPE ARCHITECT WILL PERFORM A FINAL SITE OBSERVATION. FINAL ACCEPTANCE WILL BE GIVEN UPON SATISFACTORY COMPLETION OF ALL WORK, INCLUDING "PUNCH LIST" ITEMS. THE NOTIFICATION BY CONTRACTOR MUST BE MADE AT LEAST THREE (3) WORKING DAYS BEFORE THE ANTICIPATED FINAL SITE OBSERVATION.
4.

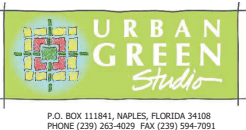
CONTRACTOR TO GUARANTEE PLANT MATERIAL FOR A 12 MONTH PERIOD. THE CONTRACTOR SHALL VISIT THE SITE ONCE A MONTH TO REVIEW THE STATUS OF MAINTENANCE BY THE OWNER AND ADVISE IN WRITING ANY ACTIVITIES OR DISCREPENCIES THAT ARE POTENTIALLY DETRIMENTAL TO THE LANDSCAPE INSTALLATION OR MAY VOID WARRANTY.
5.

LANDSCAPE WHICH WAS INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AND IS DAMAGED OR DESTROYED THROUGH VANDALISM, THEFT, OR TRAFFIC, SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE THROUGH THE CONSTRUCTION PERIOD AND UNTIL FINAL ACCEPTANCE.
6.

AFTER FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE LANDSCAPING. IT SHALL BE UNDERSTOOD THAT IN ACCORDANCE WITH THE TERMS OF THE WARRANTY THAT THE CONTRACTOR MUST PROMPTLY INFORM THE OWNER IF PROPER MAINTENANCE IS NOT BEING GIVEN TO THE INSTALLATION. INSPECTIONS BY CONTRACTOR OF THE JOB SHALL BE MADE DURING THE WARRANTY PERIOD TO DETERMINE IF PROPER MAINTENANCE IS BEING GIVEN.
7.

AT THE END OF THE ONE YEAR WARRANTY PERIOD, INSPECTIONS SHALL BE MADE JOINTLY BY THE OWNER, LANDSCAPE ARCHTIECT AND CONTRACTOR. ALL PLANTS NOT IN A HEALTHY GROWING CONDITION SHALL BE REMOVED AND REPLACED WITH PLANTS OF A LIKE KIND AND SIZE, EXCEPT FOR DEFECTS RESULTING FROM NEGLIGENCE BY OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND CONTRACTOR'S CONTROL.
8.

ALL REPLACEMENT STOCK SHALL BE SUBJECT TO THE SAME WARRANTY REQUIREMENTS AS THE ORIGINAL STOCK, PERIOD TO BEGIN UPON ACCEPTANCE OF THE REPLACEMENT BY THE LANDSCAPE ARCHITECT. ANY DAMAGE DUE TO REPLACEMENT OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR.



IN COORDINATION WITH:

1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

	SCALE:	
	DATE:	MARCH 2021
	PROJECT #:	
REV	DATE	DESCRIPTION

LANDSCAPE SPECIFICATIONS

DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-14

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TABULATION OF QUANTITIES / PLANT SCHEDULE																		
100% SUBMITTAL																		
March 12, 2021																		
PAY ITEM NO.	SYM	BOTANICAL NAME	COMMON NAME	SIZE/SPACING	MAX. MAINT. SIZE	UNIT	QUANTITIES BY SHEET NUMBER										TOTAL QTY	
							LA-1	LA-2	LA-3	LA-4	LA-5	LA-6	LA-7	LA-8	LA-9	LA-10		
		PALMS																
	CA	Coccothrinax argentata	Florida Silver Palm	25 gal, 4-5' ht	8-10' ht	EA	3				3		3	3				12
	PE	Ptychosperma elegans	Alexander Palm	12-14' OA ht	25-30' ht	EA	7	3	3	2	3	3	5	5				31
		LOW SHRUB / GROUND COVERS																
	AG	Arachis glabrata	Perennial Peanut	4" pots, 12" oc	8 -10" ht	EA		320	294	320	320	295	310	330	371	364		2924
	CN	Clusia "Nana"	Dwarf Clusia (small-leaf)	3 gal, 15" x 15", 30" oc	24" ht	EA	56	26	22	22	24	26	44	44		22		286
	LE	Liriope muscari "Emerald Goddess"	Emerald Goddess Liriope	1 gal, 12" x 12", 24" oc	18" ht	EA	99				83		105	101				388
		COLOR ACCENT SHRUBS																
	AB	Aechmea blanchettiana	Orange Bromeliad	9" pot, 24"x24", 4' oc	48" ht	EA	6						6	6				18
	PJ	Portea petropolitana "Jungles"	Jungles Bromeliad	9" pot, 18"x18", 4 ' oc	48" ht	EA	6						6	6				18
	NF	Neoreglia 'Super Fireball"	Super Fireball Bromeliad	6" pot, 8"x12", 3 ' oc	18" ht	EA					12							12
		MISCELLANEOUS																
	N/A	Coco Brown Shredded Mulch		2 CF bags, 3" depth		BAGS	88	80	72	73	105	76	145	123	52	78		892
	N/A	Soil Amendments	6" depth all planting areas + tree pits			CY												145
	NOTE:	All staking and fertilizers as called out in the details and specifications are to be included in the unit planting price.																



IN COORDINATION WITH:
 Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

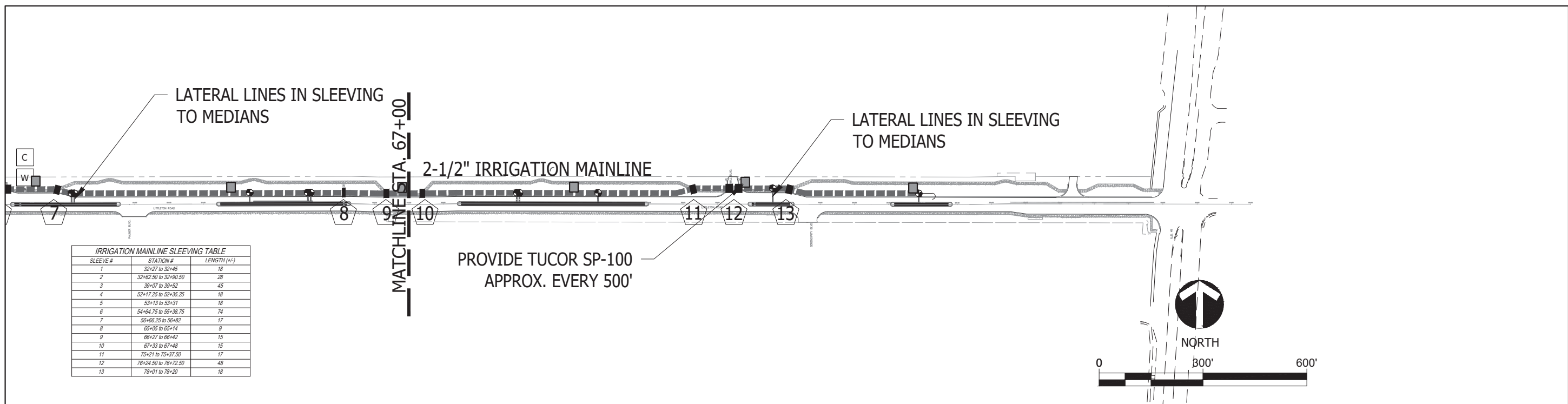
LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION	SCALE:
			DATE: MARCH 2021
			PROJECT #:

PLANT SCHEDULE

DAYNA L. FENDRICK, RLA #0001224

SHEET #
LA-15



NOTES:

- LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
- SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
- ADJUST SPECIFIC LOCATIONS OF HEADS IF NEEDED TO COORDINATE WITH PALM LOCATIONS AND SPACING.
- LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

REFERENCE LEGEND

- [Symbol] 6" HIGH POP-UP SPRAY HEAD
- [Symbol] 12" HIGH POP-UP SPRAY HEAD
- [Symbol] BUBBLER
- ES END STRIP

Table 1: Spray Head Specifications

Head Type	Size	GPM
1	1-1/2"	16.9 GPM
2	1"	5.8 GPM

Table 2: Bubbler Specifications

Bubbler Size	GPM
1"	5.8 GPM

Labels and Callouts:

- R.O.W. / PROJECT LIMITS
- 2-1/2" IRRIGATION MAIN LINE
- 2" ELEC CONDUIT FOR CONTROL WIRING
- TUCOR SP-100
- 1" BUBBLER LINE
- CS-530 NOZZLES, TYP.
- CS-5 TYP.
- MATCHLINE STA. 27+40
- LITTLETON ROAD
- ES-515
- ES
- 1"
- 1-1/4" BOTH WITHIN (1) 4" SLEEVE
- BLOW-OFF ASSEMBLY
- LF
- 1
- 2
- 3
- 1-1/4" WIT

Scale and Orientation:

- NORTH arrow pointing up.
- Scale bar: 0, 20', 40'.



R.O.W. / PROJECT LIMITS

3
1-1/2"
17.6 GPM SPRAY

REFERENCE LEGEND

6" HIGH POP-UP SPRAY HEAD

12" HIGH POP-UP SPRAY HEAD

*

BUBBLER

ES

END STRIP

NOTES:
 1. LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
 2. SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
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MATCHLINE STA. 27+40

2-1/2" IRRIGATION MAINLINE

2" ELEC CONDUIT FOR CONTROL WIRING

1-1/4" LATERAL LINE WITHIN 4" SLEEVE

1" BUBBLER LINE

1"

CS-530 NOZZLES, TYP.

MEDIAN #1, 1338 S.F. TOTAL IRRIGATED AREA

LITTLETON ROAD

1

N

NORTH

0 20' 40'

SHEET #
IR-2

R.O.W. / PROJECT LIMITS

HORIZON BLVD.

LITTLETON ROAD

MATCHLINE STA. 57+00

2-1/2" IRRIGATION MAINLINE IN 4" SLEEVE

ISOLATION VALVE

PS IW

C RS

FIELD LOCATION OF WELL, PUMP STATION, AND CONTROLLER TO BE DETERMINED BY OWNER AND CONTRACTOR PROVIDE DEDICATED ELECTRICAL SERVICE, 240 V SINGLE PHASE TO PUMP STATION AND CONTROLLER. CONTROLLER TO BE LOCATED WITHIN PUMP STATION.

2-1/2" IRRIGATION MAINLINE

2" ELEC CONDUIT FOR CONTROL WIRING

TUCOR SP-100

1" LATERAL WITHIN 2" SLEEVE

BUBBLER LINE 1"

CS-530 NOZZLES, TYP.

6" HIGH POP-UP SPRAY HEAD

12" HIGH POP-UP SPRAY HEAD

BUBBLER

ES END STRIP

NOTES:

- LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
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- LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

NORTH

0 20' 40'

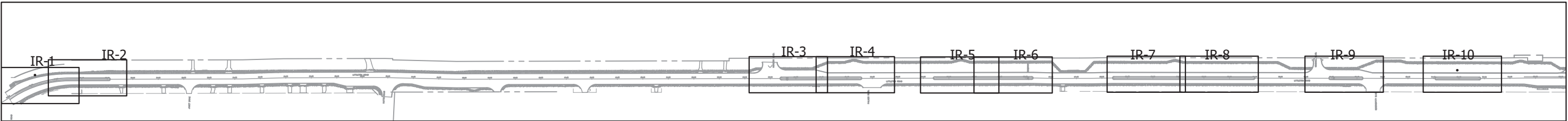
2

MEDIAN #2A, 53 S.F. TOTAL IRRIGATED AREA

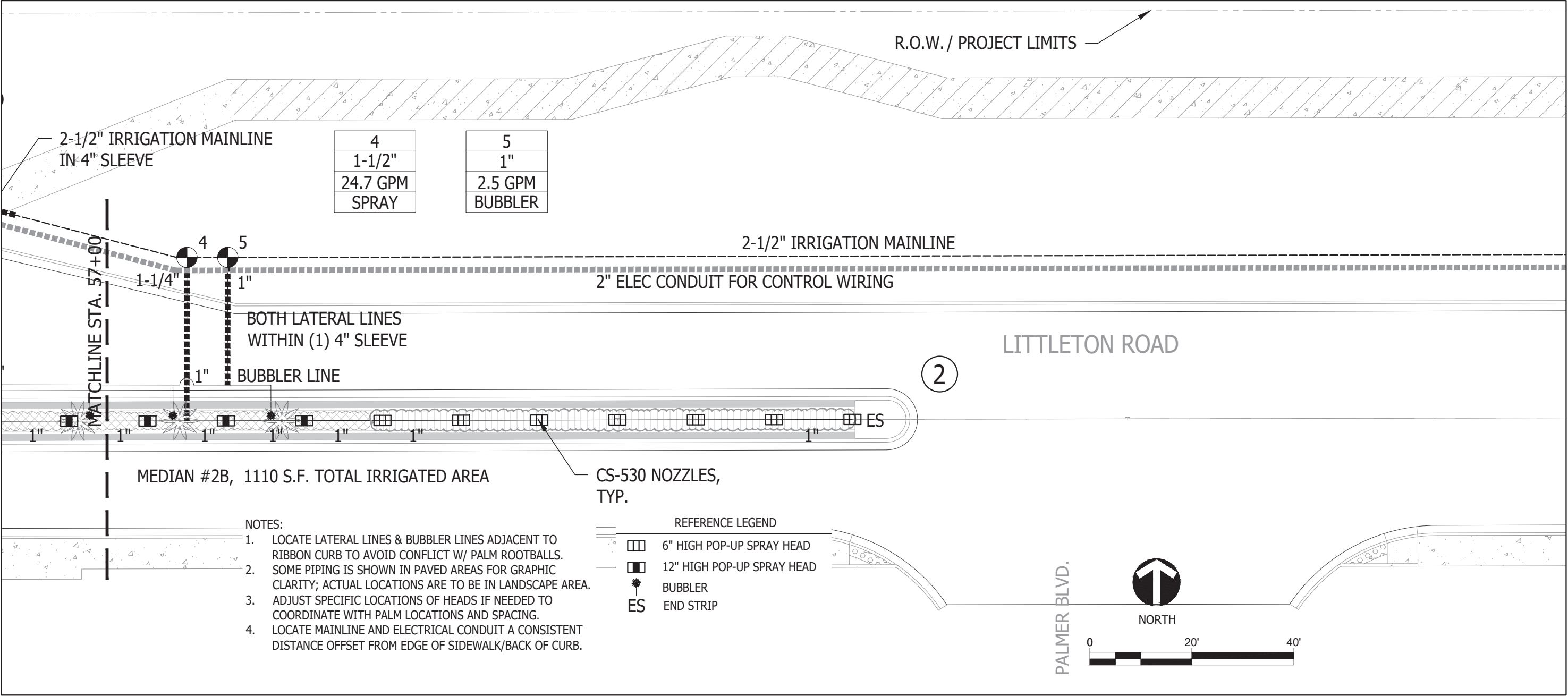
MEDIAN #2B



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KEY MAP



- NOTES:
1. LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS. SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
 2. ADJUST SPECIFIC LOCATIONS OF HEADS IF NEEDED TO COORDINATE WITH PALM LOCATIONS AND SPACING.
 3. LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

REFERENCE LEGEND	
	6" HIGH POP-UP SPRAY HEAD
	12" HIGH POP-UP SPRAY HEAD
	BUBBLER
	END STRIP



IN COORDINATION WITH:

1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

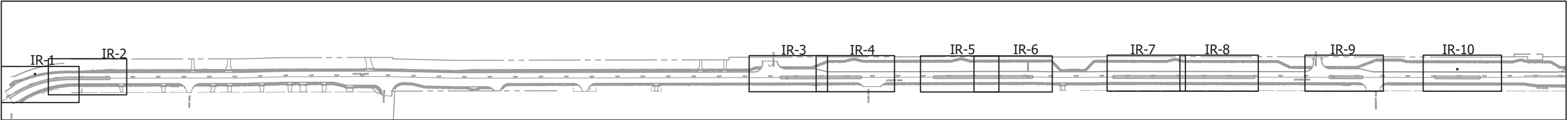
SCALE:	1" = 20'
DATE:	MARCH 2021
PROJECT #:	

IRRIGATION PLAN

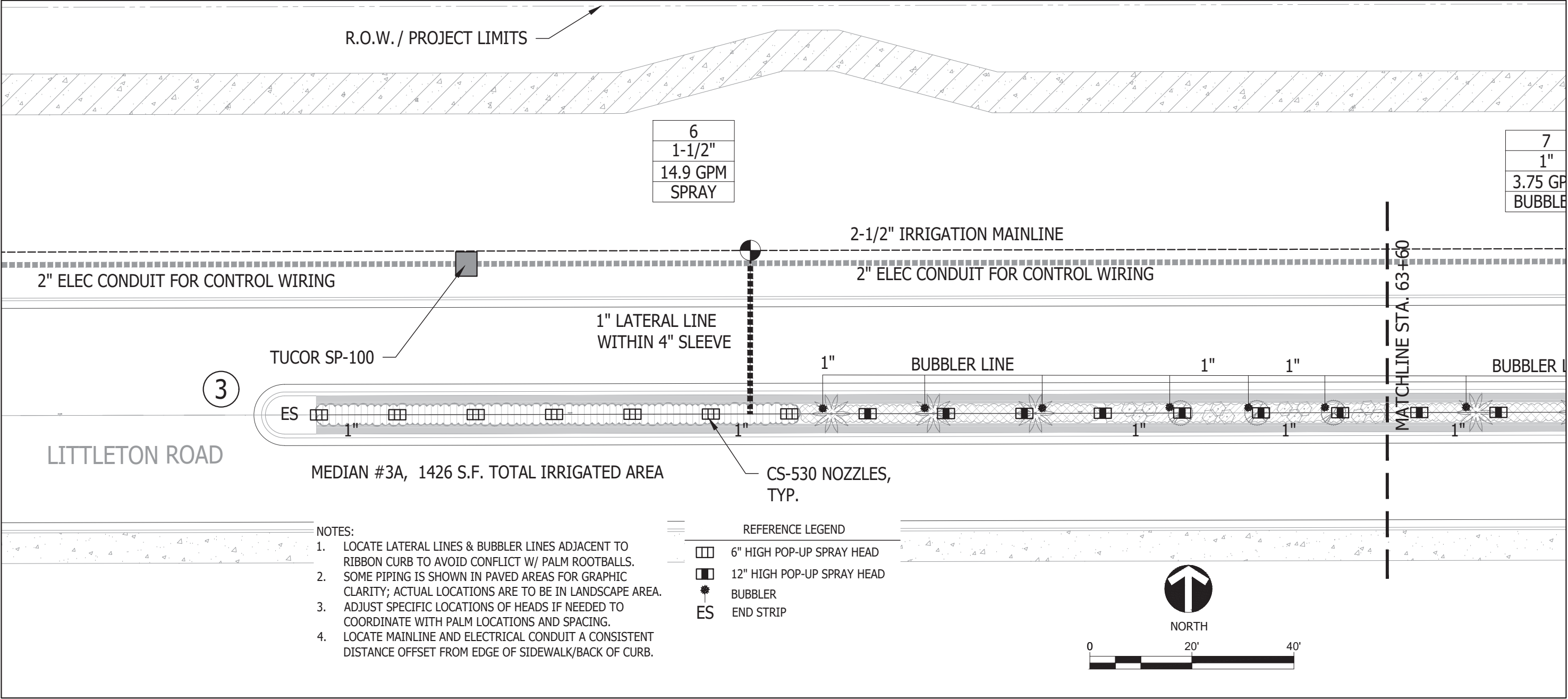
DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-4

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KEY MAP



- NOTES:
1. LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
 2. SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
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 4. LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

REFERENCE LEGEND	
	6" HIGH POP-UP SPRAY HEAD
	12" HIGH POP-UP SPRAY HEAD
	BUBBLER
	END STRIP



IN COORDINATION WITH:

1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

SCALE:	1" = 20'
DATE:	MARCH 2021
PROJECT #:	

IRRIGATION PLAN

DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-5

The site plan illustrates the proposed irrigation system for Median #3B, which has a total irrigated area of 22 square feet. The layout includes a mainline running parallel to Littleton Road, with various lateral lines and components as detailed below.

ID	Type / Component	Flow Rate / Specification
7	Bubbler	3.75 GPM
8	Spray Head	16.5 GPM

System Components and Specifications:

- Mainlines:** 2-1/2" IRRIGATION MAINLINE; 2" ELEC CONDUIT FOR CONTROL WIRING.
- Lateral Lines:** BOTH LATERAL LINES WITHIN (1) 4" SLEEVE.
- Headings:** CS-530 NOZZLES, TYP.; 6" HIGH POP-UP SPRAY HEAD; 12" HIGH POP-UP SPRAY HEAD.
- Other Features:** BUBBLER LINE; 1" SPRAY LINE WITHIN 2" SLEEVE; Q - 4' RADIUS; MEDIAN #3B, 22 S.F. TOTAL IRRIGATED AREA.

REFERENCE LEGEND:

- [Grid Symbol] 6" HIGH POP-UP SPRAY HEAD
- [Solid Square Symbol] 12" HIGH POP-UP SPRAY HEAD
- [Star Symbol] BUBBLER
- [ES Symbol] END STRIP

NOTES:

- LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
- SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
- ADJUST SPECIFIC LOCATIONS OF HEADS IF NEEDED TO COORDINATE WITH PALM LOCATIONS AND SPACING.
- LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

The diagram illustrates an irrigation system layout. At the top, a hatched area represents the "R.O.W. / PROJECT LIMITS". Below it are two boxes for pipe specifications:

9
1-1/2"
24.0 GPM SPRAY

10
1"
6.5 GPM BUBBLER

Main components shown include:

- 2-1/2" IRRIGATION MAINLINE**: A dashed line running horizontally.
- 2" ELEC CONDUIT FOR CONTROL WIRING**: A solid line below the mainline.
- BUBBLER LINE**: Indicated by star symbols connected to the mainline.
- LATERAL LINES**: Solid lines branching from the mainline, labeled "BOTH LATERAL LINES WITHIN (1) 4\" SLEEVE".
- CS-530 NOZZLES, TYP.**: Represented by small square symbols with crosshairs.
- ES**: End strip symbol at the left end of the mainline.
- MATCHLINE STA. 71+20**: Vertical dashed line on the right side.
- LITTLETON ROAD**: Label for the road below the piping.

NOTES:

- LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
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REFERENCE LEGEND:

- [Grid Symbol] 6" HIGH POP-UP SPRAY HEAD
- [Solid Square] 12" HIGH POP-UP SPRAY HEAD
- [Star Symbol] BUBBLER
- [ES] END STRIP

A north arrow points upwards, and a scale bar shows 0, 20', and 40'.

1. LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
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	6" HIGH POP-UP SPRAY HEAD
	12" HIGH POP-UP SPRAY HEAD
	BUBBLER
	END STRIP



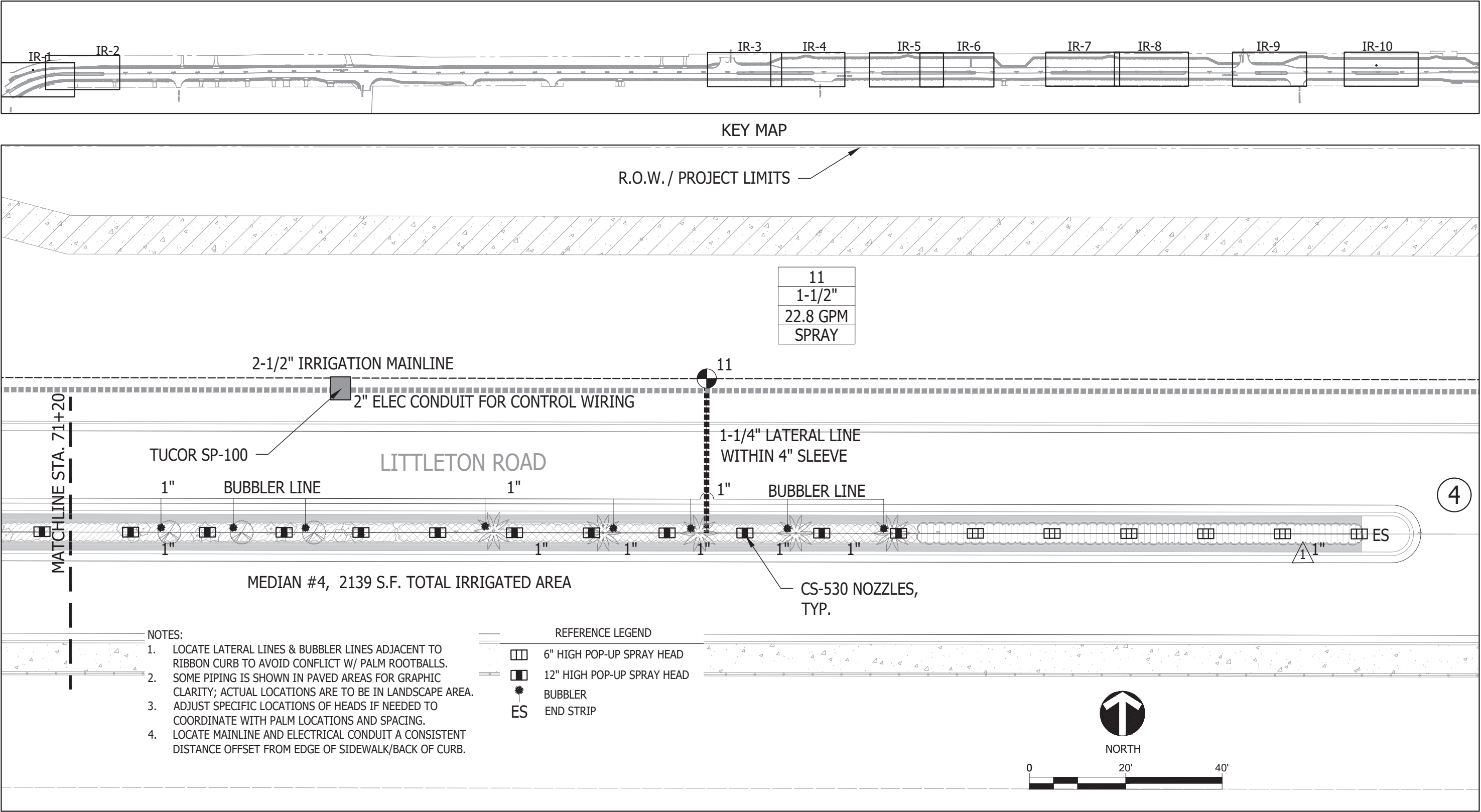
LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

			SCALE:	1" = 2'
			DATE:	MARCH 2025
			PROJECT #:	
REV	DATE	DESCRIPTION		

SHEET #
IR-7

DAYNA L. FENDRICK, RLA #0001224

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IN COORDINATION WITH:

Stantec

1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:

LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION	SCALE: 1" = 20'
			DATE: MARCH 2021
			PROJECT #:

IRRIGATION PLAN

DAYNA L. FENDRICK, RLA #0001224

SHEET #

IR-8

WINDMILL BLVD.

R.O.W. / PROJECT LIMITS

2-1/2" IRRIGATION MAINLINE IN 4" SLEEVE

2-1/2" IRRIGATION MAINLINE

2" ELEC CONDUIT FOR CONTROL WIRING

TUCOR SP-100

ISOLATION VALVE

LITTLETON ROAD

1" SPRAY LINE WITHIN 2" SLEEVE

ES

5

Q - 4' RADIUS

12

1" LATERAL LINE WITHIN 4" SLEEVE

2-1/2" IRRIGATION MAINLINE IN 4" SLEEVE

2-1/2" IRRIGATION MAINLINE

2-1/2" IRRIGATION MAINLINE

ES

5

MEDIAN #5, 415 S.F. TOTAL IRRIGATED AREA

NOTES:

1. LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS.
2. SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
3. ADJUST SPECIFIC LOCATIONS OF HEADS IF NEEDED TO COORDINATE WITH PALM LOCATIONS AND SPACING.
4. LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

REFERENCE LEGEND

- 6" HIGH POP-UP SPRAY HEAD
- 12" HIGH POP-UP SPRAY HEAD
- BUBBLER
- ES END STRIP

0 20' 40'

NORTH

SERENDIPITY BLVD.

12
1-1/2"
9.35 GPM
SPRAY

SHEET #
IR-9

R.O.W. / PROJECT LIMITS

13
1-1/2"
14.3 GPM
SPRAY

2-1/2" IRRIGATION MAINLINE

2" ELEC CONDUIT FOR CONTROL WIRING

TUCOR SP-100

13 LF

BLOW-OFF ASSEMBLY

1" LATERAL LINE
WITHIN 4" SLEEVE

CS-530 NOZZLES,
TYP.

6

ES

1"

1"

1"

ES

LITTLETON ROAD

MEDIAN #6, 626 S.F. TOTAL IRRIGATED AREA

NOTES:

1. LOCATE LATERAL LINES & BUBBLER LINES ADJACENT TO RIBBON CURB TO AVOID CONFLICT W/ PALM ROOTBALLS. SOME PIPING IS SHOWN IN PAVED AREAS FOR GRAPHIC CLARITY; ACTUAL LOCATIONS ARE TO BE IN LANDSCAPE AREA.
2. ADJUST SPECIFIC LOCATIONS OF HEADS IF NEEDED TO COORDINATE WITH PALM LOCATIONS AND SPACING.
3. LOCATE MAINLINE AND ELECTRICAL CONDUIT A CONSISTENT DISTANCE OFFSET FROM EDGE OF SIDEWALK/BACK OF CURB.

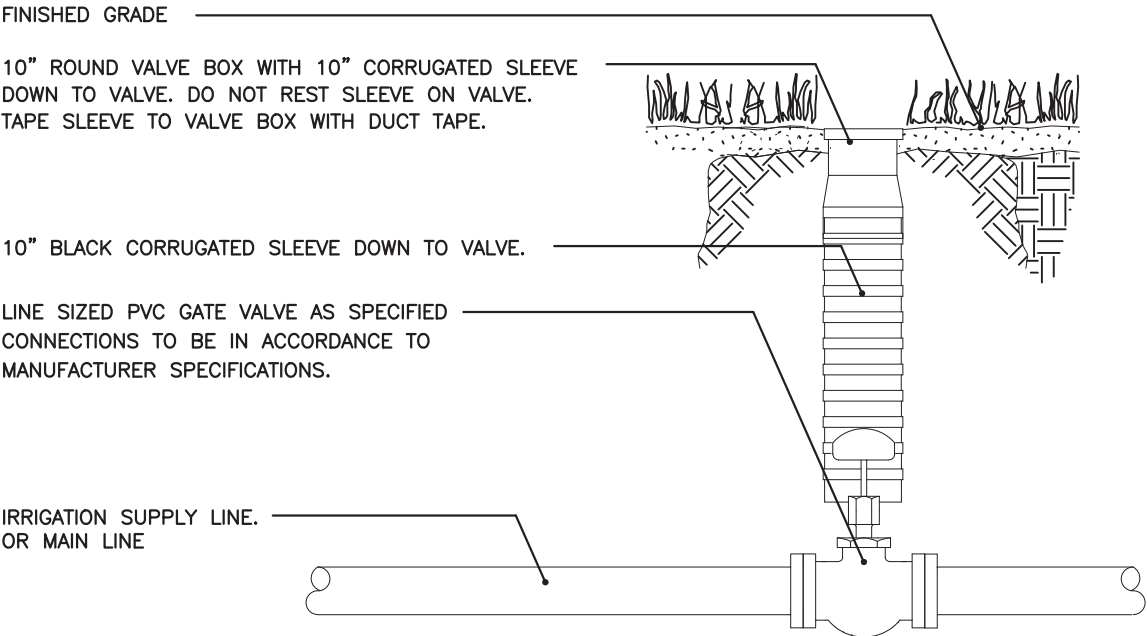
REFERENCE LEGEND

	6" HIGH POP-UP SPRAY HEAD
	12" HIGH POP-UP SPRAY HEAD
	BUBBLER
	END STRIP

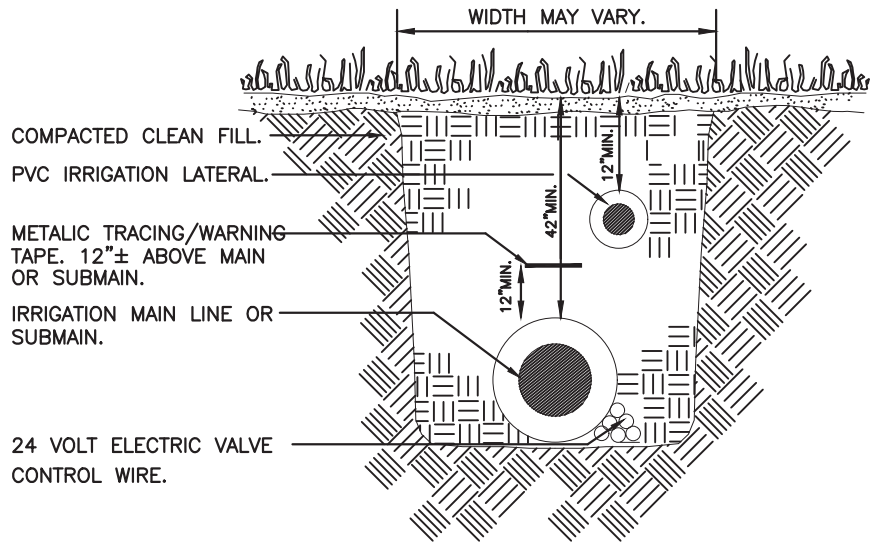
0 20' 40'

NORTH

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MAIN LINE ISOLATION MANUAL GATE
VALVE INSTALLATION DETAIL
N.T.S.



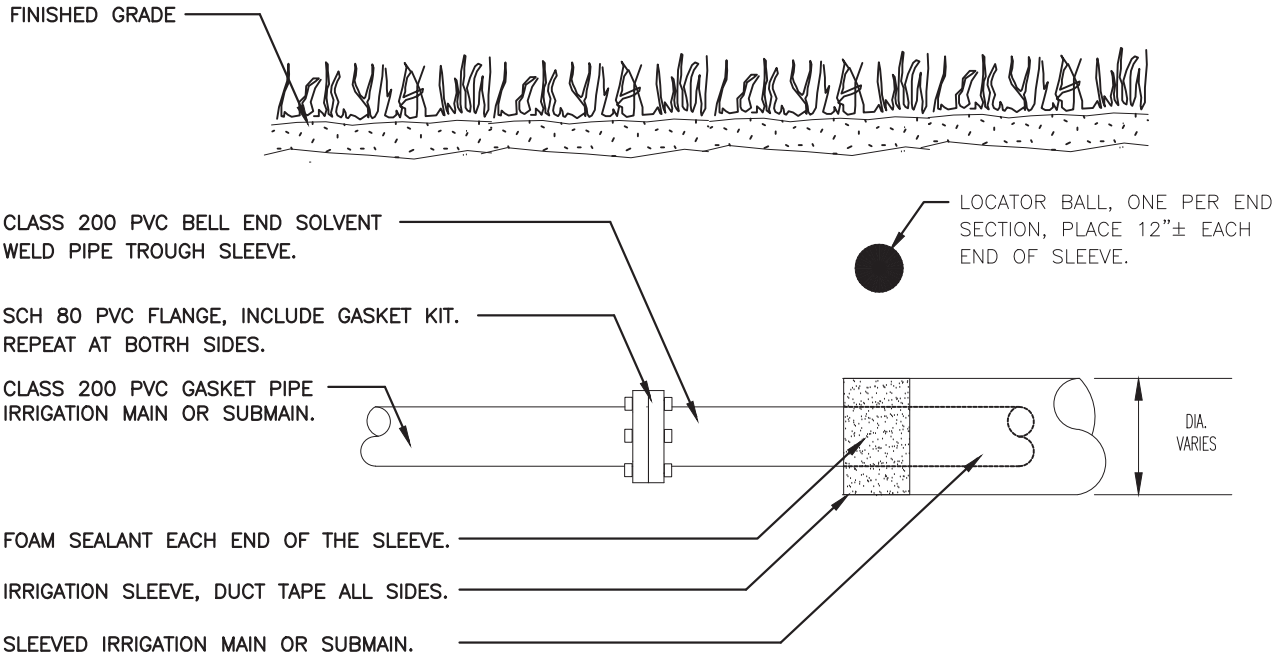
ALL TRENCHING DEPTHS SHOWN ARE MINIMUM. IN THE EVENT THAT MINIMUM TRENCHING DEPTHS ARE NOT MET, THE TRENCHES SHALL BE RE-EXCAVATED.

DEPTH MEASUREMENTS ARE TO BE DONE FROM FLUSH GRADE TO TOP OF PIPE.

PROVIDE A 30" MINIMUM VERTICAL SEPARATION BETWEEN MAIN/SUBMAIN LINE(S) AND LATERAL LINE(S).

ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN SOIL FREE OF DEBRIS & NOXIOUS WEEDS. TRENCHES SHALL BE COMPACTED TO A 90% STANDARD PROCTOR DENSITY, ASTM D698-78.

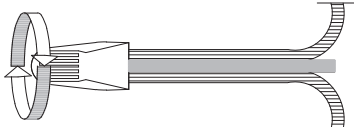
TYPICAL IRRIGATION MAIN TRENCHING DETAIL
N.T.S.



IRRIGATION SLEEVE SEALING DETAIL
N.T.S.

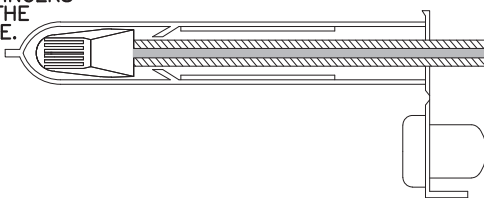
STEP NO. 1.

STRIP WIRES AND APPLY SCOTCHLOK Y ELECTRICAL SPRING CONNECTOR IN A CLOCKWISE DIRECTION.



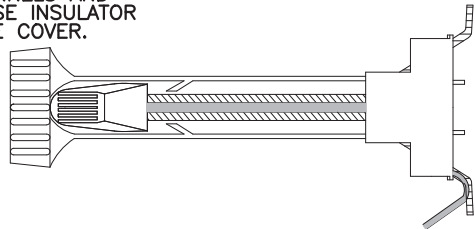
STEP NO. 2.

INSERT SPLICE TO BOTTOM OF GEL-FILED TUBE. VISUALLY CHECK TO MAKE SURE SCOTCHLOK CONNECTOR HAS BEEN PUSHED PAST THE LOCKING FINGERS AND IS SEATED ON THE BOTTOM OF THE TUBE.



STEP NO. 3.

POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.



24 VOLT WIRE CONNECTION DETAIL
N.T.S.



IN COORDINATION WITH:
Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

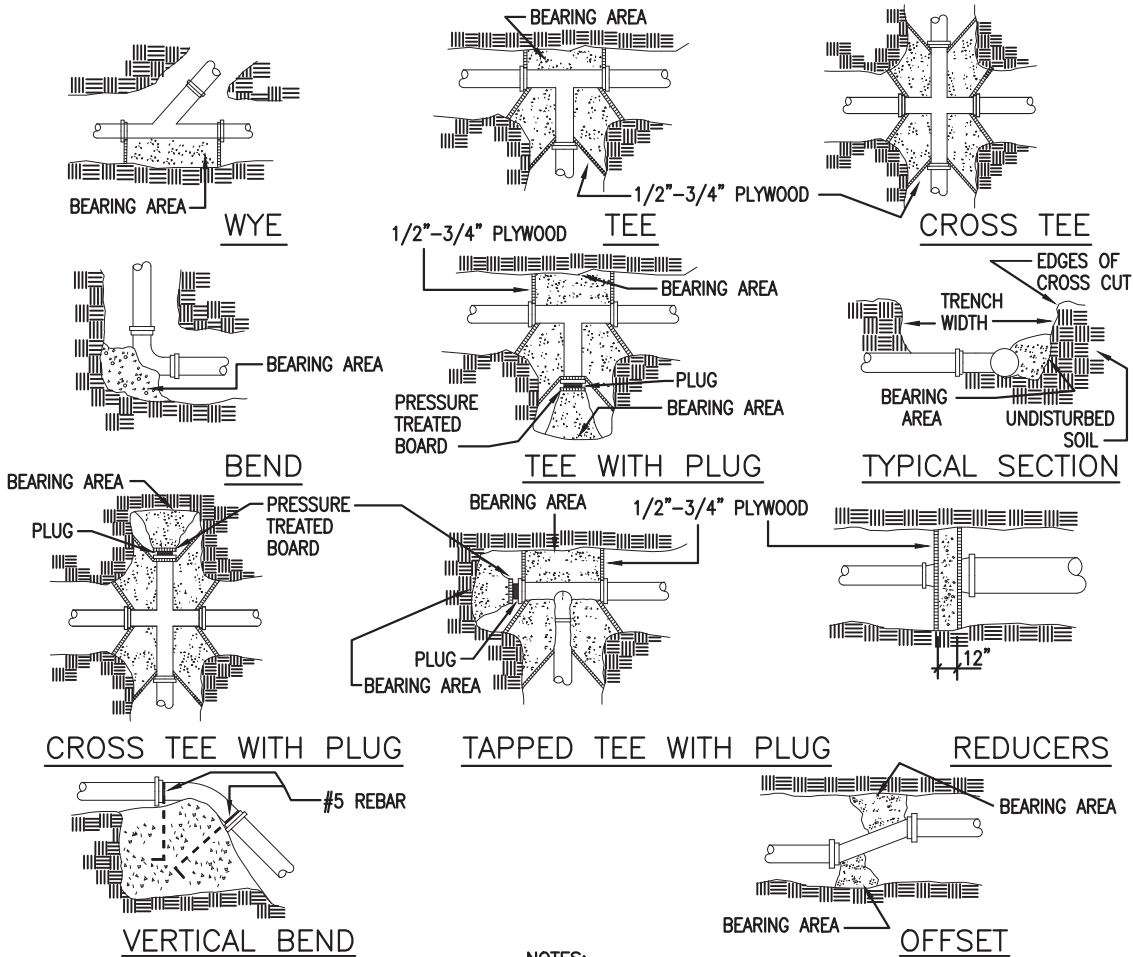
REV	DATE	DESCRIPTION	SCALE:
			DATE: MARCH 2021
			PROJECT #:

IRRIGATION DETAILS & NOTES

DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-11

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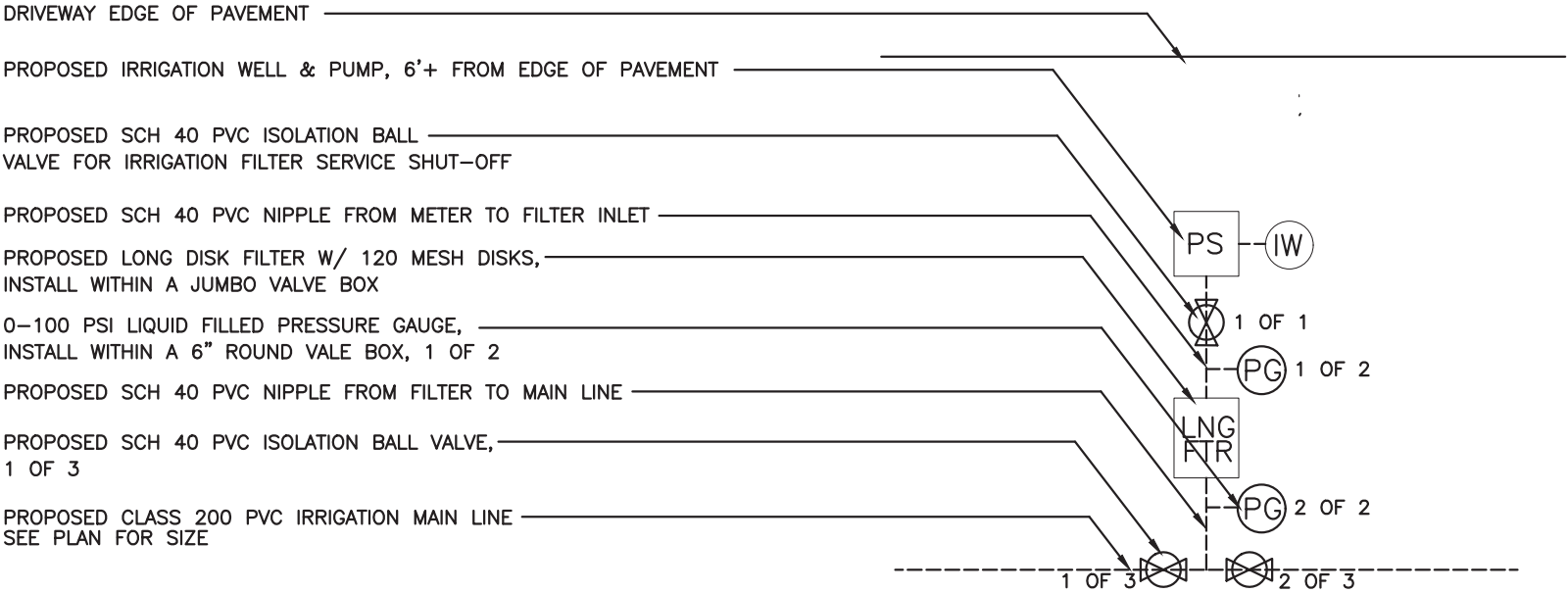


MINIMUM BEARING AREAS IN Sq.Ft. FOR THRUST BLOCKS.					
PIPE SIZE	TEES	90° BEND	45° BEND	22 1/2° BEND	WELVES & PLUGS
4"	1	1	1	1	1
6"	3	4	2	1	3
8"	5	7	4	2	5
10"	8	12	6	3	9
12"	12	16	9	5	12
16"	16	20	12	7	16
20"	24	20	17	10	24
24"	34	34	24	13	34

- NOTES:
- ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH.
 - PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
 - POUR THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE SOIL & EXTEND THRUST BLOCK TO UNDISTURBED SOIL.
 - IN BACK FILLING, ANY MUCK ENCOUNTERED SHALL BE REMOVED & REPLACED WITH ACCEPTABLE MATERIAL.
 - BACK FILL MATERIAL SHALL NOT INCLUDE ROCK OR BOULDERS.
 - THRUST BLOCK AREAS BASED ON SOIL BEARING LOAD OF 2000 PSF. & LINE PRESSURE OF 150 PSI..
 - ALL IRRIGATION LINES LARGER THAN 2" ARE TO BE THRUST BLOCKED AS 4" SIZE.

TYPICAL THRUST BLOCKS
INSTALLATION DETAIL

N.T.S.



- NOTES:
- ALL BALL VALVES AND OTHER ELEMENTS TO BE SIZED TO FIT MAINLINE SIZE.
- THE IRRIGATION FILTER ISOLATION VALVE, IRRIGATION FILTER AND PRESSURE GAUGES ARE NOT SHOWN IN PLAN DUE TO LIMITED SPACE AND GRAPHIC CLARITY COMMUNICATION.
- THE FILTER SHALL BE INSTALLED WITHIN THE JUMBO VALVE BOX IN A NEAT ARRANGEMENT THAT ENABLES MAINTENANCE PERSONNEL TO SERVICE THE FILTER WITH CARTRIDGE CASING REMOVAL AND RE-ATTACHMENT EASE
- THE IRRIGATION CONTRACTOR SHALL DOCUMENT THE INITIAL PRESSURE DROP BETWEEN THE FIRST AND SECOND PRESSURE GAUGE SO THAT THE PRESSURE DIFFERENCE WITH A CLEAN FILTER IS KNOWN AND THE MAINTENANCE PERSONNEL CAN DETERMINE HOW OFTEN THE FILTER NEEDS TO BE FLUSH-CLEANED.
- PROVIDE FILTER FABRIC AND GRAVEL AT ALL PRESSURE GAUGE VALVE BOXES; AND 10" CORRUGATED PLASTIC SLEEVES AT ALL PVC BALL VALVE BOXES. PVC BALL VALVE BOXES SHALL BE 10" ROUND BOXES.

IRRIGATION POINT OF CONNECTION
PLAN VIEW SCHEMATIC DETAIL

N.T.S.



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LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

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IRRIGATION DETAILS & NOTES

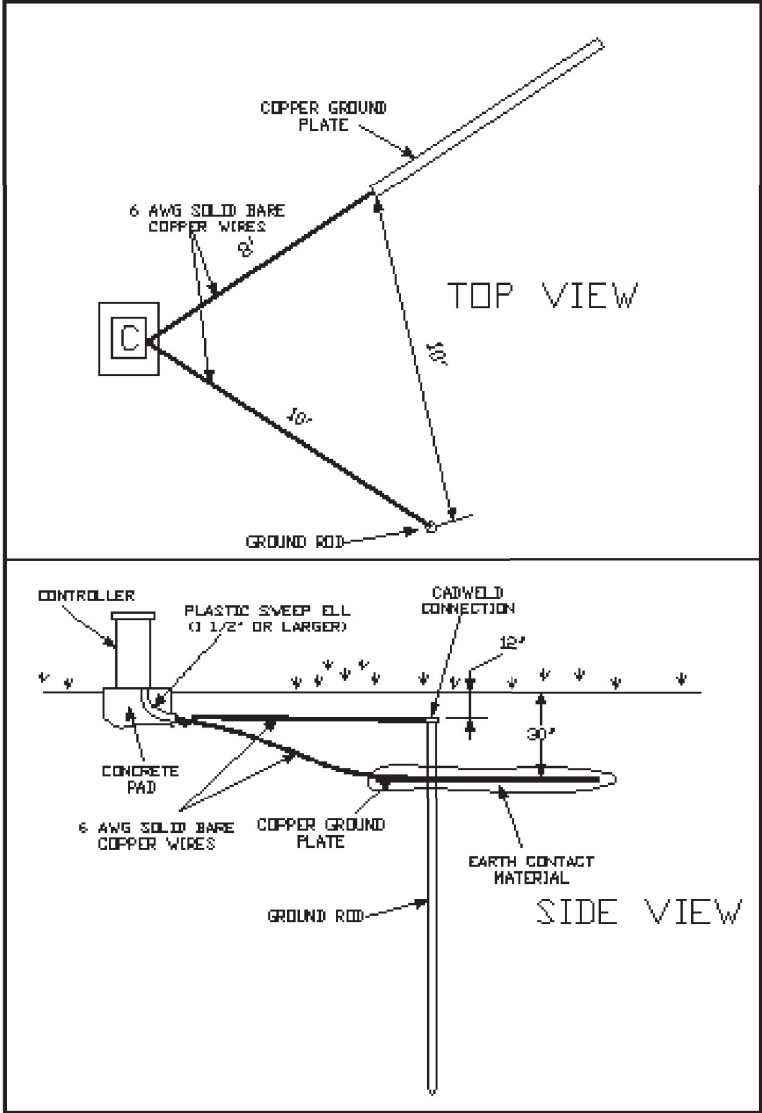
DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-12

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IT IS THE RESPONSIBILITY OF THE INSTALLER TO CONNECT ALL ELECTRONIC IRRIGATION EQUIPMENT FOR WHICH HE IS RESPONSIBLE TO EARTH GROUND IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE (NEC.) GROUNDING COMPONENTS WILL INCLUDE THE ITEMS DESCRIBED IN THE FOLLOWING PARAGRAPHS, AT A MINIMUM.

USE GROUNDING ELECTRODES THAT ARE UL LISTED OR MANUFACTURED TO MEET THE MINIMUM REQUIREMENTS OF ARTICLE 250-52 OF THE 1999 NEC. AT THE VERY MINIMUM, THE GROUNDING CIRCUIT WILL INCLUDE A COPPER CLAD STEEL GROUND ROD, A SOLID COPPER GROUND PLATE AND 100 POUNDS OF PowerSet EARTH CONTACT MATERIAL, AS DEFINED BELOW AND PER THE FOLLOWING DETAIL.



EARTH GROUNDING DETAIL
N.T.S.

GROUND RODS ARE TO HAVE A MINIMUM DIAMETER OF 5/8" AND A MINIMUM LENGTH OF 10 FEET. THESE ARE TO BE DRIVEN INTO THE GROUND IN A VERTICAL POSITION OR AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES AT A LOCATION 10 FEET FROM THE ELECTRONIC EQUIPMENT, THE GROUND PLATE, OR THE WIRES AND CABLES CONNECTED TO SAID EQUIPMENT, AS SHOWN IN THE DETAIL ABOVE. THE ROD IS TO BE STAMPED WITH THE UL LOGO [PAIGE ELECTRIC PART NUMBER 182007.] A 6 AWG SOLID BARE COPPER WIRE (ABOUT 12 FEET LONG) SHALL BE CONNECTED TO THE GROUND ROD BY THE INSTALLER USING A CADWELD GR1161G "ONE-SHOT" WELDING KIT [PAIGE ELECTRIC PART NUMBER 1820037.] THIS WIRE SHALL BE CONNECTED TO THE ELECTRONIC EQUIPMENT GROUND LUG AS SHOWN IN THE DETAIL ABOVE.

THE COPPER GROUNDING PLATE ASSEMBLIES [PAIGE ELECTRIC PART NUMBER 182199L] MUST MEET THE MINIMUM REQUIREMENTS OF ARTICLE 250-52(d) OF THE 1999 NEC. THEY ARE TO BE MADE OF A COPPER ALLOY INTENDED FOR GROUNDING APPLICATIONS AND WILL HAVE MINIMUM DIMENSIONS OF 4" X 96" X 0.0625". A 25-FOOT CONTINUOUS LENGTH (NO SPLICES ALLOWED UNLESS USING EXOTHERMIC WELDING PROCESS) OF 6 AWG SOLID BARE COPPER WIRE IS TO BE ATTACHED TO THE PLATE BY THE MANUFACTURER USING AN APPROVED WELDING PROCESS. THIS WIRE IS TO BE CONNECTED TO THE ELECTRONIC EQUIPMENT GROUND LUG AS SHOWN IN THE DETAIL. THE GROUND PLATE IS TO BE INSTALLED TO A MINIMUM DEPTH OF 30", OR BELOW THE FROST LINE IF IT IS LOWER THAN 30", AT A LOCATION 8 FEET FROM THE ELECTRONIC EQUIPMENT AND UNDERGROUND WIRES AND CABLES. TWO 50-POUND BAGS OF PowerSet [PAIGE ELECTRIC PART NUMBER 1820058] EARTH CONTACT MATERIAL MUST BE SPREAD SO THAT IT SURROUNDS THE COPPER PLATE EVENLY ALONG ITS ENTIRE LENGTH WITHIN A 6" WIDE TRENCH. SALTS, FERTILIZERS, BENTONITE CLAY, CEMENT, COKE, CARBON, AND OTHER CHEMICALS ARE NOT TO BE USED TO IMPROVE SOIL CONDUCTIVITY BECAUSE THESE MATERIALS ARE CORROSIVE AND WILL CAUSE THE COPPER ELECTRODES TO ERODE AND BECOME LESS EFFECTIVE WITH TIME.

INSTALL ALL GROUNDING CIRCUIT COMPONENTS IN STRAIGHT LINES. WHEN NECESSARY TO MAKE BENDS, DO NOT MAKE SHARP TURNS. TO PREVENT THE ELECTRODE-DISCHARGED ENERGY FROM RE-ENTERING THE UNDERGROUND WIRES AND CABLES, ALL ELECTRODES SHALL BE INSTALLED AWAY FROM SAID WIRES AND CABLES. THE SPACING BETWEEN ANY TWO ELECTRODES SHALL BE AS SHOWN IN THE DETAIL, SO THAT THEY DON'T COMPETE FOR THE SAME SOIL.

THE EARTH-TO GROUND RESISTANCE OF THIS CIRCUIT IS TO BE MEASURED USING A Megger, OR OTHER SIMILAR INSTRUMENT AND THE READING IS TO BE NO MORE THAN 10 OHMS. IF THE RESISTANCE IS MORE THAN 10 OHMS, ADDITIONAL GROUND PLATES AND PowerSet ARE TO BE INSTALLED IN THE DIRECTION OF AN IRRIGATED AREA AT A DISTANCE OF 10', 12', 14', ETC. IT IS REQUIRED THAT THE SOIL SURROUNDING COPPER ELECTRODES BE KEPT A MINIMUM MOISTURE LEVEL OF 15% AT ALL TIMES BY DEDICATING AN IRRIGATION STATION AT EACH CONTROLLER LOCATION. THE IRRIGATED AREA SHOULD INCLUDE A CIRCLE WITH A 10-FOOT RADIUS AROUND THE GROUND ROD AND A RECTANGLE MEASURING 1-FOOT BY 24-FEET AROUND THE PLATE.

ALL UNDERGROUND CIRCUIT CONNECTIONS ARE TO BE MADE USING AN EXOTHERMIC WELDING PROCESS UTILIZING PRODUCTS SUCH AS THE CADWELD "ONE-SHOT" KITS. SOLDER SHALL NOT BE ALLOWED TO MAKE CONNECTIONS. IN ORDER TO ENSURE PROPER IGNITION OF THE "ONE-SHOT", THE CADWELD T-320 IGNITER MUST BE UTILIZED [PAIGE ELECTRIC PART NUMBER 1820040]. THE 6 AWG BARE COPPER WIRES ARE TO BE INSTALLED IN AS STRAIGHT A LINE AS POSSIBLE, AND IF IT IS NECESSARY TO MAKE A TURN OR BEND IT SHALL BE DONE IN A SWEEPING CURVE WITH A MINIMUM RADIUS OF 8" AND A MINIMUM INCLUDED ANGLE OF 90-DEGREES. MECHANICAL CLAMPS SHALL BE PERMITTED TEMPORARILY DURING THE RESISTANCE TEST PROCESS, BUT ARE TO BE REPLACED WITH CADWELD "ONE-SHOT" KITS IMMEDIATELY THEREAFTER.



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PREPARED FOR:
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DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

REV	DATE	DESCRIPTION

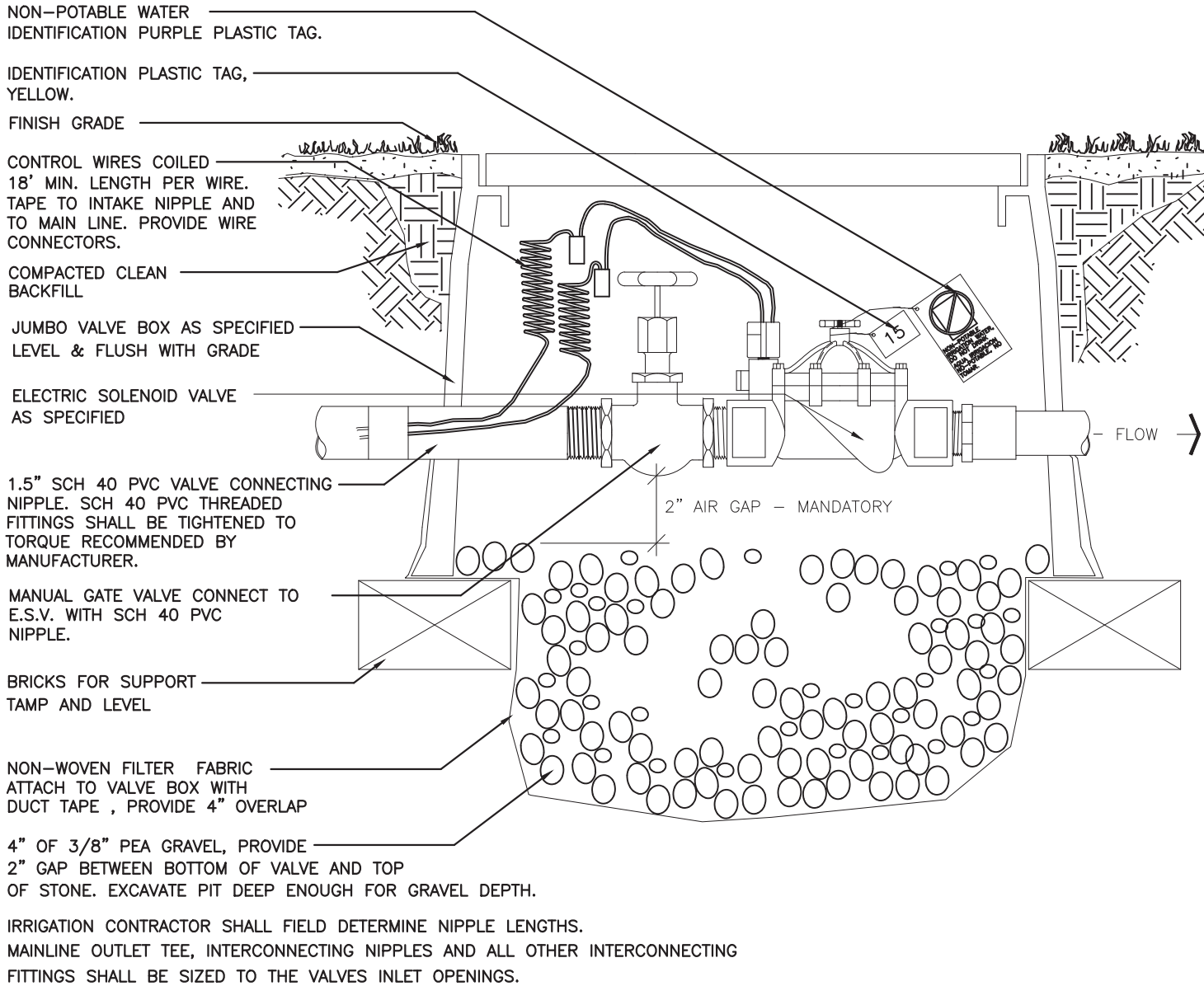
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DATE: MARCH 2021
PROJECT #:

IRRIGATION DETAILS & NOTES

DAYNA L. FENDRICK, RLA #0001224

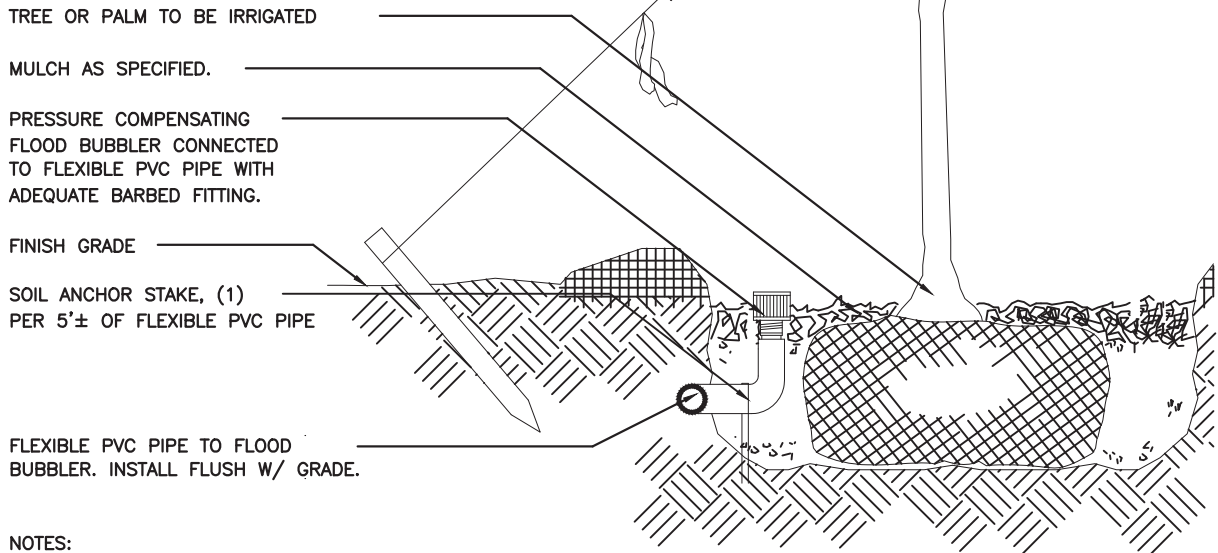
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ELECTRIC SOLENOID VALVE WITH MANUAL GATE VALVE INSTALLATION DETAIL

N.T.S.



- NOTES:
- REFER TO PLAN OR BUBBLER LEGEND FOR BUBBLER QUANTITIES & NOZZLE SIZE PER TREE/PALM.
- BUBBLER(S) IS/ARE TO BE INSTALLED ADJACENT TO ROOTBALL PERIMETER. DO NOT INSTALL BUBBLER ON TOP OF ROOTBALL, NEXT TO TRUNK; INSTALL AT EDGE OF ROOTBALL..
- ON SLOPING GROUNDS, INSTALL BUBBLER(S) DIRECTLY UPHILL FROM THE TREE/PALM ROOTBALL.

IRRIGATION FLOOD BUBBLER FOR TREES OR PALMS INSTALLATION DETAIL

N.T.S.



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LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

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IRRIGATION DETAILS & NOTES

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JUMBO VALVE BOX WITH LOCKABLE LID WITH 6" EXTENSION. SET ON BRICK SUPPORTS (4). PROVIDE NON-WOVEN FILTER FABRIC WITH 4" LAYER OF PEA GRAVEL ON TOP OF FILTER FABRIC. TAPE FILTER FABRIC TO EXTERIOR OF VALVE BOX WITH DUCT TAPE, PROVIDE A F.F. OVERLAP FROM BOTTOM OF BOX SHALL BE SET FLUSH AND LEVEL WITH GRADE.

1-1/4" MANUAL BRASS GATE VALVE. PROVIDE 6" LONG NIPPLE AT OUTLET.

VALVE INLET SIZED SCH 40 PVC THREADED NIPPLE CONNECTED TO VALVE. CUT OFF THREADED END AT FLANGED CONNECTION END AND SOLVENT WELD TO FLANGE.

FINISHED GRADE

10" ROUND VALVE BOX WITH 6" PVC SLEEVE DOWN TO VALVE. SLEEVE SHALL NOT BEAR ON VALVE.

2.5" SCH 80 PVC 45° LINE SIZED ELBOW CONNECTED TO FLANGED 2.5"x1-1/4" SCH 80 PVC FLANGE.

LINE SIZED GATE VALVE WITH FLANGED CONNECTIONS

LINE SIZED SCH 80 PVC FLANGED CONNECTIONS

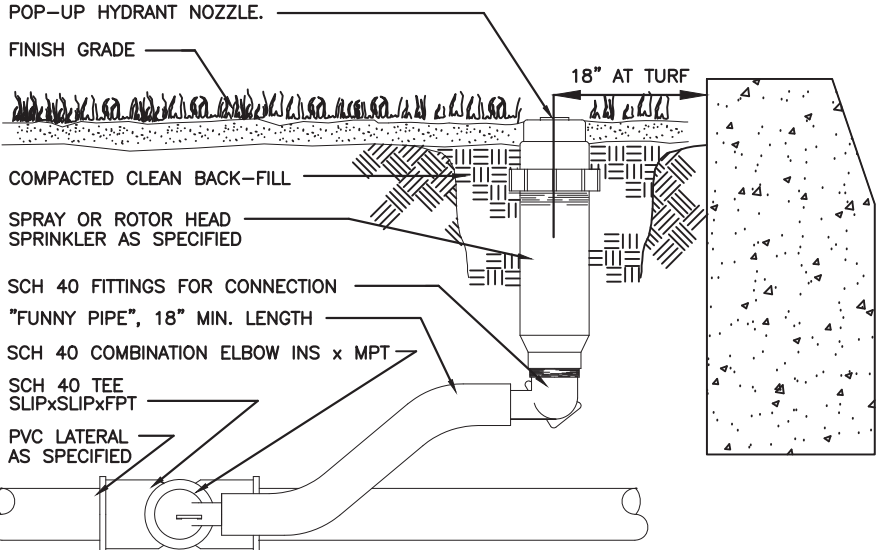
IRRIGATION MAIN, REFER TO PLAN FOR SIZE(S).

NOTES:
ALL THREADED RODS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.

OPEN AND CLOSE SLOWLY THE VALVES DURING FLUSHING. OPEN 2" VALVE FIRST, THEN OPEN LARGER VALVE. USE A MINIMUM TIME OF 30 SECONDS FOR OPENING OR CLOSING EACH VALVE UNDER PRESSURE.

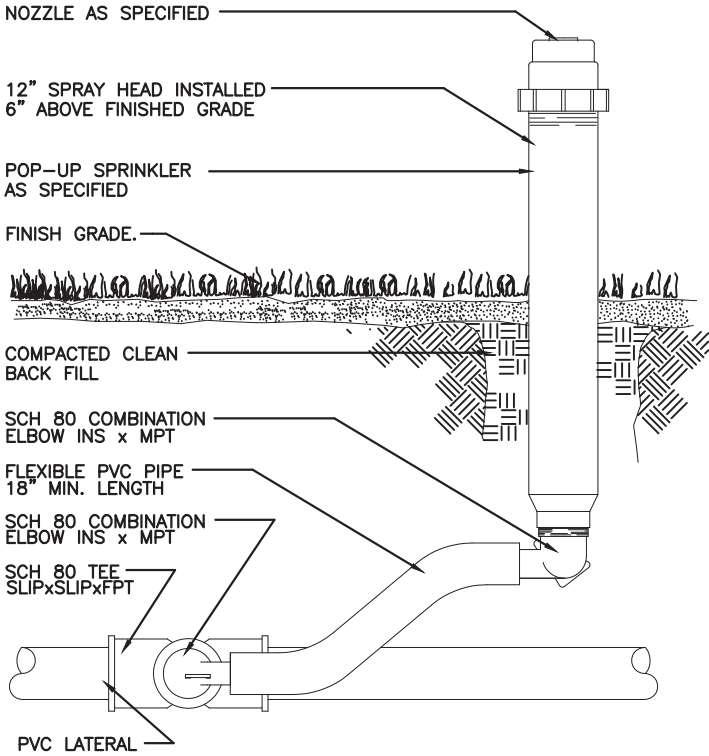
TAPE FILTER FABRIC TO NIPPLE SURFACE WITH DUCT TAPE.

IRRIGATION MAIN/SUBMAIN BLOW-OFF
INSTALLATION DETAIL
N.T.S.



NOTES :
NO SPRINKLER HEADS SHALL OCCUR WITHIN 18" FROM THE BACK OF CURB AT SOD AREAS, OR 24" FROM THE BACK OF CURB AT PLANTING AREAS.

6" POP-UP SPRINKLER HEAD
INSTALLATION DETAIL
N.T.S.



12" POP-UP SPRAY HEAD
INSTALLATION DETAIL
N.T.S.



IN COORDINATION WITH:
Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

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IRRIGATION DETAILS & NOTES

DAYNA L. FENDRICK, RLA #0001224

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IR-15

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10" ROUND VALVE BOX, COMPACT
AND GRADE SOIL AROUND VALVE BOX.

0-100 PSI LIQUID FILLED PRESSURE GAUGE, CONNECT
WITH TEFLON TAPE, 3 WRAPS MINIMUM. NUMBER FACE UP.

SCH 40 PVC 3/4"x1/4" SPIGxFIPT FITTING

SCHRADDER TYPE AIR VALVE, CONNECT
WITH TEFLON TAPE, 3 WRAPS MINIMUM.

SCH 40 PVC 3/4"x1/8" SPIGxFIPT FITTING

SCH 40 PVC 3/4"x3/4"x3/4" TEE, SLIP @ ALL OUTLETS

SCH 40 PVC 3/4" PIPE SECTION, FIELD
DETERMINE LENGTH.

SCH 40 PVC 2"x3/4" SPIGxSOC BUSHING.

LINE SIZED TEE WITH 3/4" OUTLET, SLIPxSLIPxSLIP

IRRIGATION VALVES INTERCONNECTING HEADER
MANIFOLD PIPING, REFER SCHEMATIC DETAIL FOR SIZE(S).

BRICK FOR SUPPORT, TAMP AND LEVEL.
(1 OF 4)

NON-WOOVEN FILTER FABRIC, TAPE TO VALVE
BOX WITH DUCT TAPE, PROVIDE 4" OVERLAP.

3/4" DIAM. RIVER GRAVEL, 6" MIN. LAYER, PROVIDE
2" AIR GAP BETWEEN TOP OF GRAVEL & BOTTOM OF PIPE.

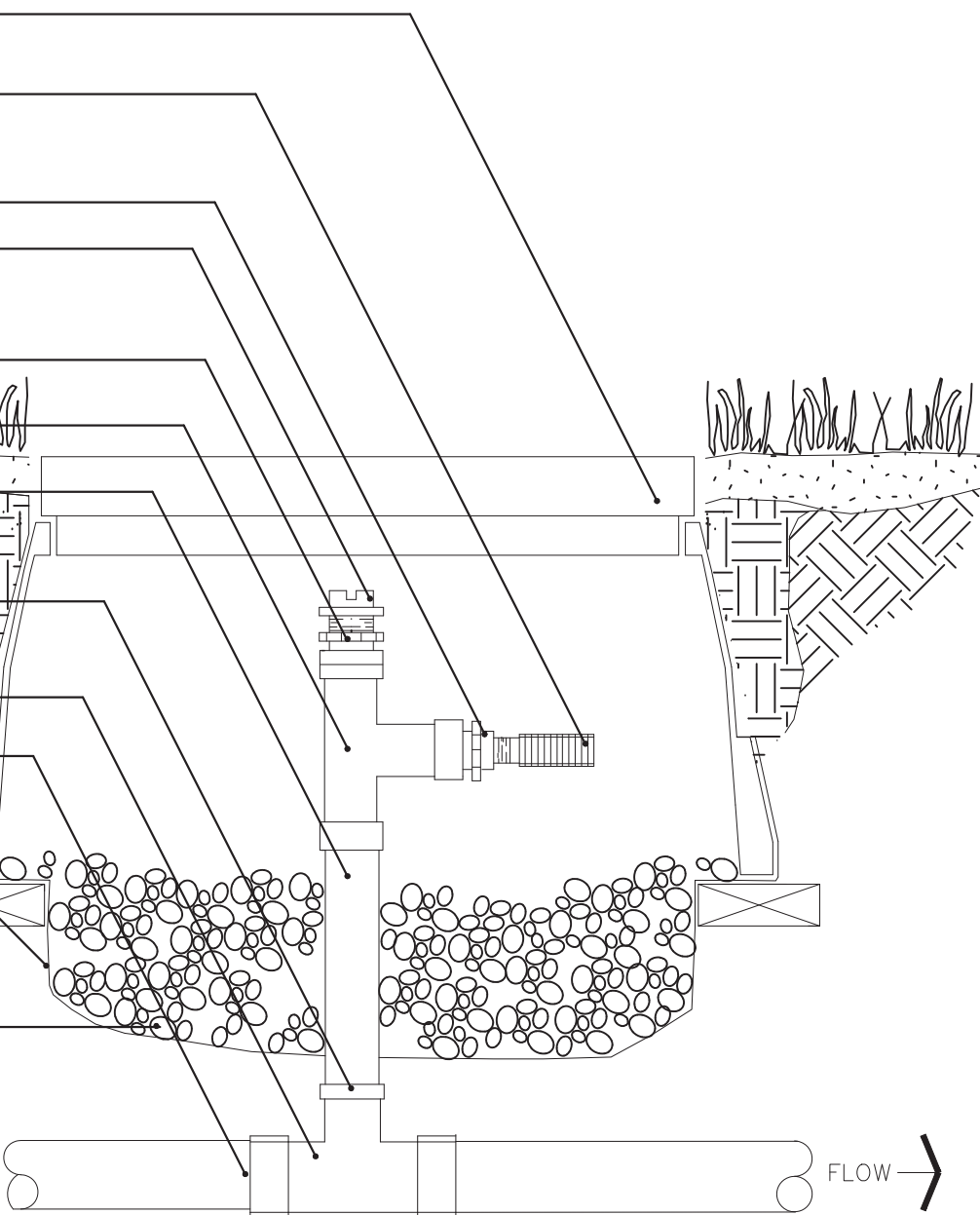
NOTES:

FOR MAIN LINES SMALLER THAN 2" REDUCE THE SIZE OF THE TEE, OUTLET &
SPIGxSOC BUSHING SO THAT IT IS SIZED AS THE MAIN LINE.

FOR MAIN LINES WITH BURIAL DEPTHS GREATER THAN 18", PROVIDE VALVE BOX
EXTENSIONS AS NEEDED TO MEET THE SPECIFIED DEPTH.

IRRIGATION MAIN LINE PRESSURE CHECK
UNIT INSTALLATION DETAIL

N.T.S.



DESIGN & APPLICATION
CONTROL PARAMETERS

- ACREAGE TO IRRIGATE: 0.17 ACRES
- EVAPOTRANSPIRATION RATE AT PEAK TIME OF THE YEAR: 8.0"±
- CROPS TO IRRIGATE: SHRUB & GROUND COVER PLANTINGS WITH LOW WATER NEEDS.
- IRRIGATION APPLICATION METHODS TO BE IMPLEMENTED: CONVENTIONAL OVERHEAD SPRINKLER AND ROOT ZONE BUBBLER HYDRATION.
- TARGETED SYSTEM EFFICIENCY: SPRAY HYDRANTS, 70%; AND BUBBLER DISCHARGE HYDRANTS, 95%.
- REQUIRED WEEKLY APPLICATION RATE AT PEAK TIME OF THE YEAR: PLANTINGS, TREES & PALMS, 1.0"±.
- RECOMMENDED WATERING WINDOW: 2 NIGHTS PER WEEK, 4 HOURS PER NIGHT.
- FLOW DEMAND REQUIRED TO MEET RECOMMENDED WATERING WINDOW: TBD
- ESTIMATED HYDRANT APPLICATION RATES (MEASURED IN INCHES PER HOUR): FULL COVERAGE SPRAY HEADS, 1.50"; SINGLE ROW COVERAGE SPRAY HEADS, 1.0"; SIDESTRIP SPRAY NOZZLES, 2.0"±; SINGLE SPRAY HYDRANT AT SPARSE BROMELIAD PLANTINGS, .40"±.
- RECOMMENDED APPLICATION RUN TIMES: SPRAY HEADS W/ SIDESTRIP NOZZLES AT TURF GRASS AREAS, 2 NIGHTS PER WEEK, 25± MINUTES PER NIGHT; SINGLE HYDRANT SPRAY HEADS AT BROMELIAD PLANTING GROUP AREAS, 2 NIGHTS PER WEEK, 60± MINUTES PER NIGHT; TREE/PALM BUBBLERS; TWO NIGHTS PER WEEK, 30 ± MINUTES PER NIGHT.



IN COORDINATION WITH:
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1821 VICTORIA AVENUE
FORT MYERS, FL 33901

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LEE COUNTY
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LITTLETON ROAD
CONTRACT NO.: CN190114
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IRRIGATION DETAILS & NOTES

DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-16

IRRIGATION NOTES

A. GENERAL NOTES

1.

The plans and drawings are diagrammatic of the work to be performed. The work shall be executed in a manner to avoid conflicts with utilities and other elements of construction, including landscape materials. Any and all deviations shall be brought to the attention of the owner or owners. The contractor shall not willfully install any aspet of the irrigation system as shown on the plans and drawings when it is obvious in the field that obstructions, grade differences, or discpreancies exist that might not have been known during the design of the irrigation system. in the event that notification of the conflict is not given to the representative, the contractor will assume full responsibility for all revisions.
2.

Irrigation system shall be installed in accordance with the plans, Irrigation System Specifications and all contract documents. Contractor shall comply with all prevailing local codes, ordinances and regulations.
3.

Check and verify all site conditions, including service utility locations, prior to trenching or digging. Coordinate all irrigation system construction with existing and/or new plantings to avoid conflict or interference with location of piping, sleeving, cables and service utilities.The irrigation contractor is responsible for coordinating installation with all other construction on site, especially landscape installation. Irrigation system is to be relocated at no additional cost for any conflict with landscape installation or any other site construction or existing conditions. All components that are not contained within the specific areas shown on the drawings will not be accepted. All piping and other components are to remain within the property of the OWNER.
4.

Where existing or new trees, light standards, signs, electronic controllers and/or other objects are an obstruction to an irrigation sprinkler's pattern, the component and piping shall be relocated as necessary to obtain proper coverage without damaging the obstruction. Landscape Architect or representative to determine whether obstruction occurs or not.
5.

Component spacings are maximum. Do not exceed spacings shown or noted on the plans. Component spacings may be adjusted to accommodate changes in terrain and planting layout as long as the modified spacings do not exceed the spacings shown in the plans. Unless shown otherwise, irrigation contractor shall provide 110% coverage.
6.

All materials and equipment shown shall be installed as detailed on the plans. If the drawings do not thoroughly describe the techniques to be used, the installer shall follow the installation methods/instructions recommended by their manufacturer.
7.

Irrigation contractor shall adjust all hydrants, controller and other devices to obtain specified operating characteristics, including coverage, operating pressure, flow rates and operation time, as indicated on the drawings and on the irrigation system Specifications. Adjust all sprinklers to avoid overthrow of water onto buildings, roadways, sidewalks or existing native vegetation.
8.

Contractor shall provide installation shop drawings and manufacturer product information for all irrigation components. All installations shall be as recommended by manufacturers. The quantities shown in the legends and symbol sheets shall not be used for bidding purposes. The contractor will be responsible for conducting a comprehensive take-off of materials to determine the actual quantities of material necessary to execute the work described on the plans and drawings.
9.

All trenches shall be backfilled with clean, debris-free materials. Clean sand shall be used for bedding material if parent soil cannot be adequately rid of rock and other extraneous debris. Pulling pipe shall be prohibited.
10.

All solvent welding shall be preceded by priming of the fittings and pipe as recomended by the manufacturer.

B. MAINLINE & PIPING

1.

All irrigation main(s) & submain(s) shall be 1120-1220 class 200 PVC gasketed pipe with DIP gasketed fittings. All pipes used downstream of each remote control valve shall be class 200 PVC solvent weld pipe, unless shown otherwise.
2.

The depth of all lines shall be as specified per plans and details. Measurements shall be from top of pipe(s) to finish grade. Contractor will be responsible for retrenching and relaying any pipe not meeting specified depth(s).
3.

All main lines & submain lines shall be installed with a tracing tape labeled "Non-potable Irrigation Main."
4.

All piping stubouts for future zone expansions shall have the capped end within a 6" valve box.

C. SLEEVING

1.

All roadway crossings, whether shown or not shall be sleeved as indicated per plans. The sleeving method shall be as indicated per plans. The casing shall be sized as per plans. A second casing designated (sch 40 pvc 2") for control controller valve wiring shall occur at all main & submain line crossings.
2.

Irrigation contractor shall coordinate with general contractor for the location of sleeve crossings whether shown or not. At no time will wiring share the same sleeve with main(s) or other piping.
3.

All sleeving shall extend (12") beyond the edge of of the surface requiring sleeving.
4.

All wiring sleeves shall be White Schedule 40 (2") or as sized per plan.

D. ISOLATION VALVES

1.

All isolation valves shall be brass or Ductile Iron Pipe. Isolation valves shall be sized as identified by symbols on the drawings, or by matching the size of the pipes they occurr within.
2.

All isolation valves installed along the mainline shall be installed within a valve box. Refer to details and specifications for valve box sizes. Contractor shall provide valve box extensions when necessary.

IRRIGATION NOTES

E. QUICK COUPLER VALVES

1.

All quick coupler valves shall be brass. Quick coupler valves shall occurr at locations shown on the plans, if applicable. Quick coupler valves shall be installed in 10" round valve boxes and as detailed on the drawings.
2.

The contractor shall furnish one (1) key and swivel assembly per (4) quick coupler valves.

F. CONTROL SYSTEM

1.

All controller(s) (each if applicable) will be installed in areas designated by the irrigation consultant or the landscape architect. In the event that no areas are designated, the irrigation contractor shall determine and field locate all controller(s) and rain sensor(s) location(s). Contoller(s) shall be located in areas accesible to maintenance personnel. Rain sensor(s) shall be installed in open areas as per manufacturer recommendations. General contractor to provide dedicated 120 V. power in conduit to all controllers and provide electrical contractor to connect 120 V. power source to the controller.
2.

All controller(s) (each if applicable) will be grounded using (2) eight foot (8') copper clad rod with #6 braided copper wire. Copper clamps will be used to attach the wire to the rod. If another controller is utilized, an earth ground of five (5) five ohms or less shall be obtained on the grounding equipment.
3.

All controller(s) (each if applicable) will have a rain sensor and by-pass switch installed to meet state and local codes. Rain sensors and by-pass switches also will be installed in accordance to manufacturer's guidelines. Rain sensors to be Mini-Click II unless otherwise specified.
4.

It shall be the responsibility of the irrigation contractor to coordinate with other trades on site. Program or schedule the irrigation sequence for the irrigation system during construction and normal operation until final acceptance by the Landscape Architect. Controller & valve operation shall be chronological.

G. REMOTE CONTROL VALVES

1.

All control valves shall be installed as close as possible to the mainline(s) or submain(s) piping as possible . Control valves shall be type and size as specified herein and indicated on the drawings.
2.

Wire sizes for control valve connections to the controller will be as specified per plan and/or per decoder manufacturer specifications. The zone control valves' solenoid must be compatible with the control system decoders.
3.

All electrical splices shall be made in accordance to latest controller and decoder manufacturer specifications.

H. VALVE & SPLICE BOXES

1.

All valve boxes shall meet specifications, be sized & installed as shown and detailed herein. Top of valve boxes shall be 1"± above grade and level when installed. Contractor to reinstall and relevel boxes if soil settling occurs.
2.

Where possible and feasible install valve boxes within planting bedlines. No valve boxes shall be installed within: 3' of any sidewalk or other pedestrian used surface, 5' from any vehicular roadways, swale(s) or any other low point.

I. POP-UP SPRAYHEADS, TURF GEAR DRIVE HEADS & BUBBLERS

1.

All sprinkler heads will be installed and connected to lateral lines as per details. The smallest pipe size allowed to connect sprinkler heads shall be 1".
2.

All pop-up spray heads occurring in turf areas shall be 6" sprayheads. Rotor heads shall be those as specified herein. All sprinkler heads occurring within low plantings (24" or lower - average mature height) shall be 12" high pop-up sprinklers. All sprinkler heads occurring within plantings (24" or greater - average mature height) shall be installed on SCH 80 PVC risers and be "shrub" designated sprinklers, unless otherwise shown on the drawings.
3.

All trees and palms designated to have supplemental irrigation shall have pressure compensating flood type bubblers installed at the edge of the rootball. All tree/palm supplemental hydration bubbler nozzles shall have discharge rates as indicated in the plans. The irrigation contractor shall be responsible for coordinating with the landscape contractor to determine the total quantity of tree/palm bubblers needed, and also confirm their location. Tree/palm bubbler hydrants must be zoned separate hydrants.
4.

Sprayhead nozzle range shall be selected based on the spacings shown on the plan(s). The following guide lines shall be considered when selecting sprayhead nozzle ranges; 1'-4' spaces use side strip nozzles; 5'-8' spaces, 8' flat spray nozzles; 8.5'- 10.5' spaces, 10' nozzles; 10.6'-12.5' spaces, 12' nozzles; 13.0'-16' spaces, 15' nozzles; 16.1'-18' spaces, 17' nozzles. The contractor shall consult with the Landscape Architect for arc adjustments if needed. The radius for rotor heads shall be adjusted to provide 10% better than "head to head" or 100% coverage.
5.

Hydrant nozzle selection shall be as shown on the plan. TheIrrigation Contractor shall provide all adjustments necessary so that the installed layout has compatible application rates within the subject zone. The Irrigation Contractor shall not willfully change specified nozzle sizes without calculating possible application rates.

J. INLINE TUBING DRIP IRRIGATION

1.

Drip irrigation components installation shall be in accordance to the latest product manufacture specifications, and also in accordance to the Drip Irrigation Specifications section presented per this set of plans.
2.

Drip irrigation inline tubing shall be installed in straight rows or rows that are parallel to an adjacent hardscape of landscape boundary located next to the area where the Drip Irrigation inline tubing is being laid.



IN COORDINATION WITH:
 Stantec
1821 VICTORIA AVENUE
FORT MYERS, FL 33901

PREPARED FOR:
LEE COUNTY
DEPARTMENT OF
TRANSPORTATION

LITTLETON ROAD
CONTRACT NO.: CN190114
LEE COUNTY, FL

	SCALE:	
	DATE:	MARCH 2021
	PROJECT #:	
REV	DATE	DESCRIPTION















IRRIGATION NOTES




DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-18



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IRRIGATION SCHEDULE

SYMBOL	DESCRIPTION	EST. QTY.
	IRRIGATION WATER SOURCE: 4" IRRIGATION WELL W/ 5 HP VFD SUBMERSIBLE PUMP. FLOW CAPACITY; 50± GPM, REQUIRED MINIMUM PRESSURE, 50± PSI. WELL DEPTH & OTHER DRILLING SPECIFICS TO BE DETERMINED BY OTHERS BASED ON SITE CONDITIONS. THE PUMP STATION SHALL INCORPORATE PROTECTIVE, LOCKABLE FIBERGLASS ENCLOSURE. OWNER & PROJECT ENGINEER SHALL SELECT PUMP STATION MANUFACTURER & MODEL BASED ON OWNER'S PREFERENCE, FEATURES, & OPERATING CHARACTERISTICS, BY NAPLES ELECTRIC MOTORWORKS, OR EQUAL. ELECTRIC SERVICE REQUIREMENTS: 240 V SINGLE PHASE	1
	IRRIGATION CONTROLLER & RAIN SENSOR: TUCOR RKD+ CONTROLLER, TO BE LOCATED WITHIN THE PUMP STATION ENCLOSURE. TUCOR ET-300-W WEATHER STATION. REFER TO MANUFACTURER SPECIFICATIONS SPECIFIC INSTALLATION DIRECTIONS.	1
	IRRIGATION MAIN SHUT-OFF/FILTER SERVICE VALVE: 2.5" SCH 40 PVC SOLVENT WELD VALVES. INSTALL AT MAIN LINE LOCATION SHOWN PLUS UPSTREAM FROM OF FILTER AT POINT OF CONNECTION.	3
	IRRIGATION SLEEVE: 4" SCH 40 PVC FOR MULTIPLE LINE CROSSINGS.	630 L.F.
	IRRIGATION SLEEVE: 2" SCH 40 PVC FOR SINGLE LINES & CONTROL WIRE CROSSINGS.	36 L.F.
	2" ELECTRIC CONDUIT: FOR CONTROL VALVE WIRING	5,570 L.F.
	IRRIGATION MAIN: 1120-1220 2-1/2" CLASS 200 PVC SOLVENT WELD PIPE WITH SCH 40 PVC INTERCONNECTING FITTINGS, PANTONE PURPLE 522C. INSTALLATION DEPTH, 30"±.	5,570 L.F.
	IRRIGATION LATERAL LINE: 1120-1220 CLASS 200 PVC SOLVENT WELD PIPE WITH SCH 40 PVC INTERCONNECTING FITTINGS, PANTONE PURPLE 522C. INSTALLATION DEPTH, 12". PIPE SIZES FROM 3/4" TO 1-1/4".	3,000 L.F.* *TBC
	IRRIGATION MAIN PRESSURE CHECK POINT: 0-100 PSI LIQUID FILLED PRESSURE GAUGE WITH OTHER ELEMENTS AS SHOWN PER DETAIL. REFER TO PRESSURE CHECK ASSEMBLY DETAIL	2
	IRRIGATION ZONE CONTROL VALVE: HUNTER ICV-151G, ICV SERIES 1-1/2" ELECTRIC SOLENOID VALVE WITH FLOW CONTROL HUNTER ICV-101G, ICV SERIES 1" ELECTRIC SOLENOID VALVE WITH FLOW CONTROL. INSTALL WITHIN A 14" x 19" x 12" CARSON VALVE BOX. REFER TO INSTALLATION DETAIL FOR OTHER COMPONENTS AND ASSEMBLY ILLUSTRATION.	9 4
	6" HIGH POP-UP SPRAY HEAD: HUNTER PROS-06, PRO-SPRAY SERIES 6" POP-UP SPRAY HYDRANT WITH CENTERSTRIP OR END STRIP NOZZLE.	60
	12" HIGH POP-UP SPRAY HEAD: HUNTER PROS-12, PRO-SPRAY SERIES 12" POP-UP SPRAY HYDRANT WITH CENTERSTRIP NOZZLE.	65
	6" HIGH POP-UP SPRAY HEAD: HUNTER PROS-06, PRO-SPRAY SERIES 6" POP-UP SPRAY HYDRANT WITH 90-DEGREE 4' RADIUS MICROSpray HEAD.	2
	TREE/PALM BUBBLER HYDRANT: RAINBIRD/HUNTER SR-00, SHRUB RISER NOZZLE ADAPTER W/ PC UMBRELLA BUBBLER NOZZLE. PROVIDE ONE UNIT PER DESIGNATED TREE/PALM. 1 GPM; .5 GPM; .25 GPM.	43

SYMBOL	DESCRIPTION	EST. QTY.
NO SYMBOL	IRRIGATION GROUND CONTROL WIRE: AWG 12 GAUGE SOLID COPPER INSULATED CONTROL WIRE SUITABLE FOR DIRECT BURIAL APPLICATIONS. PROVIDE DBR WIRE CONNECTORS IN ACCORDANCE TO CONTROLLER & SOLENOID MANUFACTURER'S SPECIFICATIONS. REFER TO BID TABLES FOR CONTROL WIRE GAUGE & COLORS.	5570 LF
NO SYMBOL	IRRIGATION ACTIVE CONTROL WIRE: AWG 14 GAUGE SOLID COPPER INSULATED CONTROL WIRE SUITABLE FOR DIRECT BURIAL APPLICATIONS. PROVIDE DBR WIRE CONNECTORS IN ACCORDANCE TO CONTROLLER & SOLENOID MANUFACTURER'S SPECIFICATIONS. REFER TO BID TABLES FOR CONTROL WIRE GAUGE & COLORS.	5570 LF
	PROPOSED 2-1/2" IRRIGATION MAIN ISOLATION VALVE: MATCO 514 SERIES 2-1/2" BRASS VALVE WITH THREADED CONNECTIONS, NON-RISING STEM, WHEEL TURN SQUARE NUT TURN HANDLE. INSTALL WITHIN A 10" ROUND BOX. PROVIDE 10" CORRUGATED PLASTIC ACCESS SLEEVE. REFER TO INSTALLATION DETAIL FOR OTHER COMPONENTS LISTING AND ASSEMBLY ILLUSTRATION.	1
	PROPOSED 2-1/2" IRRIGATION MAIN DOUBLE VALVE BLOW-OFF ASSEMBLY: 2-1/2" FLANGED CONNECTION VALVE WITH SQUARE NUT, WITH 1-1/4" SCH 80 PVC INTERCONNECTING FITTINGS, 1-1/4" MATCO 514 SERIES ISOLATION VALVE, VALVE BOXES, 10" CORRUGATED PLASTIC ACCESS SLEEVE. REFER TO INSTALLATION DETAIL.	2
<div><div><div>1</div><div>1.0"</div><div>32 GPM</div><div>DRIP</div></div><div><div>— VALVE/CONTROLLER NUMBER</div><div>— VALVE SIZE</div><div>— ZONE FLOW DEMAND</div><div>— ZONE IRRIGATION TYPE</div></div></div>		
NO SYMBOL	TUCOR LD-050 SINGLE STATION DECODERS – PROVIDE ONE PER CONTROL VALVE.	13
	TUCOR SP-100 SURGE PROTECTOR WITH PAIGE 182199IC GROUND PLATE 4" x 8' SOLID COPPER WITH 25' 0 6 AWG GREEN WIRE, 8' GROUND ROD AND CADWELD "ONE SHOT". INSTALL PER MANUFACTURER'S SPECIFICATIONS AND DETAILS.	12

BUBBLERS REFERENCE TABLE

SYMBOL	DESCRIPTION	BUBBLER NOZZLE SIZE & QTY.
	ALEXANDER PALM (PE)	(1) 1402, .5 GPM BUBBLER PER PALM
	FLORIDA SILVER PALM (CA)	(1) 1401, .25 GPM BUBBLER PER PALM
*TBC: TO BE CONFIRMED BY CONTRACTOR		



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	SCALE:
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REV	DATE DESCRIPTION

IRRIGATION SCHEDULE

DAYNA L. FENDRICK, RLA #0001224

SHEET #
IR-19