

LANDSCAPE CODE PLANS FOR



PUNTA RASSA BOAT RAMP IMPROVEMENTS SECTION 09, TOWNSHIP 46 S., RANGE 23 E. LEE COUNTY, FLORIDA

UTILITIES PROVIDING SERVICE:

WATER AND SEWER:

LEE COUNTY UTILITIES
1500 MONROE ST
FORT MYERS, FLORIDA 33901
PHONE: (239) 533-8181

TELEPHONE:

CENTURYLINK
1520 LEE STREET
FORT MYERS, FLORIDA 33901
PHONE: (239) 336-2030

CABLE:

CENTURYLINK
1520 LEE STREET
FORT MYERS, FLORIDA 33901
PHONE: (239) 336-2030

ELECTRIC:

LEE COUNTY ELECTRIC COOPERATIVE
4980 BAYLINE DRIVE
FORT MYERS, FLORIDA 33917
PHONE: (239) 656-2300
FAX: (239) 995-4287

GARBAGE COLLECTION:

WASTE MANAGEMENT
11990 STATE ROAD 82
FORT MYERS, FLORIDA 33913
PHONE: (239) 334-1224

FIRE CONTROL DISTRICT:

IONA-MCGREGOR FIRE DISTRICT
6061 SOUTH POINTE BOULEVARD
FORT MYERS, FLORIDA 33919
PHONE: (239) 433-0660
FAX: (239) 425-9301

GAS:

TECO PEOPLES GAS
5901 ENTERPRISE PKWY
FORT MYERS, FLORIDA 33905
PHONE: (877) 832-6747

OWNER / DEVELOPER

LEE COUNTY
PO BOX 398
FORT MYERS FL 33902
PHONE: (239) 533-2111

STRAP NUMBER

09-46-23-00-00002.0060

ZONING

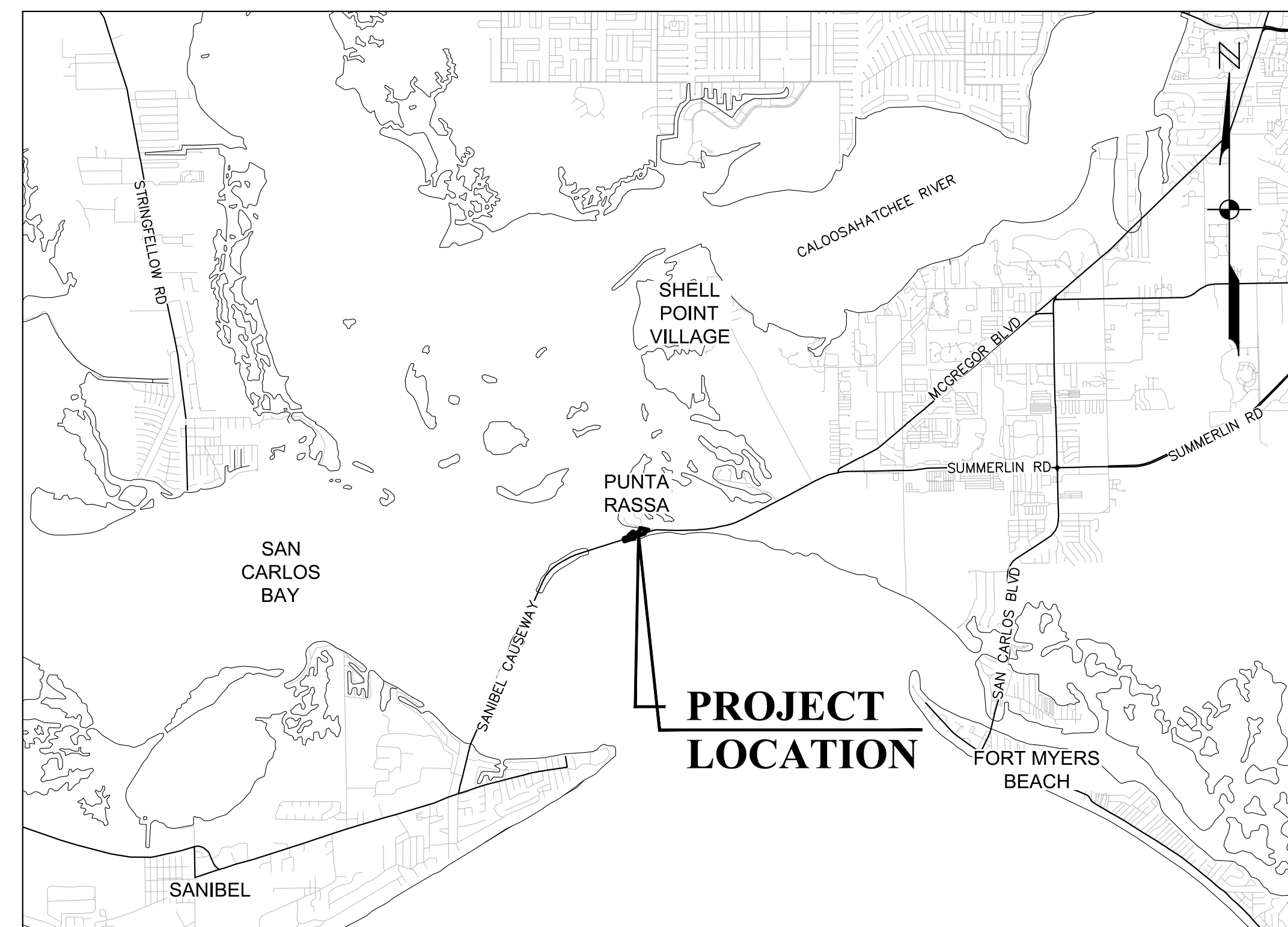
AG-2 (LCO)

SITE ADDRESS

18700 MCGREGOR BLVD
FORT MYERS FL 33908

INDEX OF PLANS

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LOCATION MAP

0 6,000 12,000
(INTENDED DISPLAY SCALE: 1"=6,000')

DECEMBER 2024

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**JOHNSON
ENGINEERING**

— An Apex Company —

REGISTERED LANDSCAPE ARCHITECT
FLORIDA LICENSE NO. LA-6667059

JEFFREY NAGLE, RLA

DATE

JOHNSON ENGINEERING, LLC.
2122 JOHNSON STREET
FORT MYERS, FLORIDA 33901
PHONE: (239) 334-0046
E.R. #642 & L.B. #642

BID DOCUMENTS

SHEET NUMBER
C01

PLANT SCHEDULE							
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE		REMARKS
TREES							
	BS	22	Bursera simaruba	Gumbo Limbo	10' Ht, 4' Sprd., 2" Cal. Std.		Native
	CE	37	Conocarpus erectus	Green Buttonwood	10' Ht, 4' Sprd., 2" Cal. Std.		Native
	DR	1	Delonix regia	Royal Poinciana	10' Ht, 4' Sprd., 2" Cal. Std.		Non-Native
PALM TREES							
	RR	27	Roystonea elata	Florida Royal Palm	10' CT, Matching Heights		Native
	SP	78	Sabal palmetto	Cabbage Palm	10' CT, Matching Heights		Native
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
SHRUBS							
	CIH	100	Chrysobalanus icaco 'Horizontalis'	Horizontal Cocoplum	3 Gal., 24" Ht.	36" o.c.	Native
	CIB	79	Chrysobalanus icaco 'Red Tip'	Red Tip Cocoplum Buffer Shrub	36" Ht	36" o.c.	Native
	FM	151	Ficus microcarpa 'Green Island'	Green Island Ficus	3 Gal., 12" Ht.	36" o.c.	Non-Native
GROUND COVERS							
	EL	536	Ernodea littoralis	Golden Creeper	1 Gal., 12" Ht	30" o.c.	Native
	MC3	460	Muhlenbergia capillaris	Pink Muhly Grass	1 Gal., 12" Ht	36" o.c.	Native
	CSB	1,212	Spartina bakeri	Sand Cordgrass	1 Gal., 12" Ht	36" o.c.	Native

REFERENCE NOTES SCHEDULE		
SYMBOL	DESCRIPTION	QTY
	Shredded Hardwood Mulch, 2" Depth in Proposed Plant Beds	85.5 cy
	Pine Straw Mulch, 2" Depth in Proposed Areas	10,001 sf

Landscape Calculations

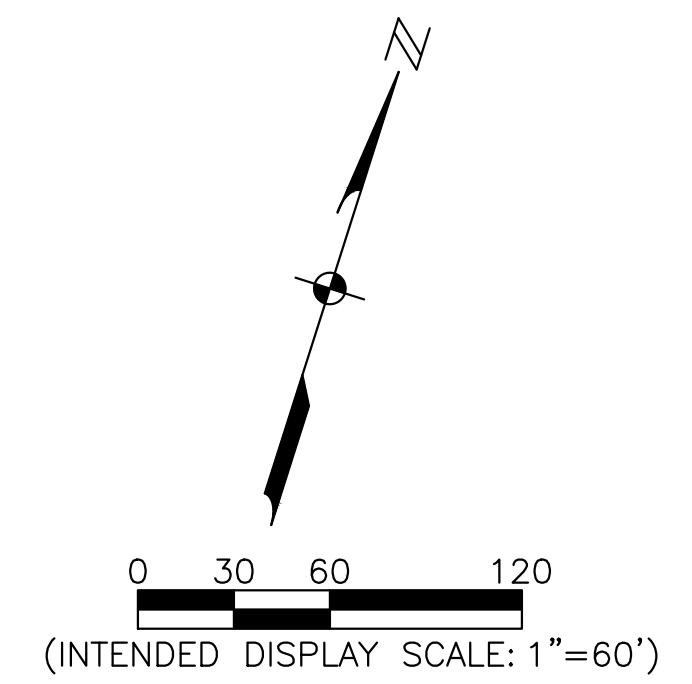
General Landscape Requirements		Sec. 10-425(a) & 10-416
Total Site Area	6.32 ACRES / 275365.00 SF	
1 Tree per 3,500 SF of Development Area	275365.00 SF ÷ 3500.00 SF =	79 Trees Required
General Tree Requirements		Sec. 10-416(a)(5)
Per Sec. 10-416(a)(5) every 400 Sq Ft of dry detention planted with appropriate native herbaceous (min. 1 gal container size planted 3' on center) and mulched with pine straw, the general tree requirement may be reduced by one ten-foot tree. 10,000 SF / 400 = 25 Tree Credits		
Note: Per Sec10-420(c)(1) 3 Sabal Palms = 1 Tree = 14 Trees + 40 Trees Provided		
Subtract Detention Planting credits from 79 Req. Gen. Trees (79 - 25 Tree Credits)		= 54 Trees Provided
Buffer Requirements		Sec. 10-416
North Buffer: 15' Type "C": 5 Trees, 18 Shrubs per 100 LF	@ 435 LF	= 22 Trees Required
6 Existing Trees to Remain Located in Buffer Area		= 6 Trees Existing
		= 16 Trees Provided
		= 79 Shrubs Required
		= 79 Shrubs Provided
Vehicle Use Area Requirements		Sec. 10-416(c)
10% of the Total Paved Surface Area:	135842.00 SF x 10%	= 13584.20 SF Required
		= 13584.20 SF Provided
1 Tree per 250 SF of Required Area	@ 13584.20 SF	= 55 Trees Required
11 Existing Trees to Remain		= 11 Trees Existing
Note: 3 Sabal Palms = 1 Tree = 12 Trees + 32 Trees Provided		= 44 Trees Provided
Building Perimeter Planting Area Requirements		Sec. 10-416
10% of the Gross 1st Floor Area. 5' Wide Minimum	683.00 SF x 10%	= 68.30 SF Required
		= 68.30 SF Provided
Native Variety Requirement		Sec. 10-420 (b)
75% of Trees Must be Florida Native Species	164 of 165 Trees	= 99% Native
50 % of Shrubs Must be Florida Native Species	2387 of 2538 Shrubs	= 94% Native
Notes:		
1.) Vegetation removal permit must be obtained from Lee County Environmental Sciences Division prior to the commencement of site work.		
2.) All plant material sizes specified are considered minimum. All parts of the plant material specifications must be met for the material to be considered acceptable.		
3.) The heights of all trees and shrubs shall be measured from the final grade of the project site.		
4.) Where necessary, contractor shall install root barrier to protect sidewalks, utilities, etc. from root damage. See details on sheet L04 for specific requirements for root barrier installation.		
5.) All pervious areas without landscape shall be sodded with Argentine Bahia sod unless directed by owner or owners representative.		
6.) All plant materials shall meet the minimum requirements for size & quality per sec. 10-416 & 10-420 of the Lee County Code of Ordinances to be considered acceptable.		
Minimum plant specifications are as follows:		
Trees:	10' Ht.; 2" cal. (@ 6" HT); 4' spd.	
Palms:	10' ct. (maintained with 8' ct. over walks & sidewalks)	
Shrubs:	24" Ht.; 3 gal.; 18'-36" o.c. (36" Ht. after 1 year for shrubs used as a screen)	

PROPOSED LANDSCAPE LEGEND

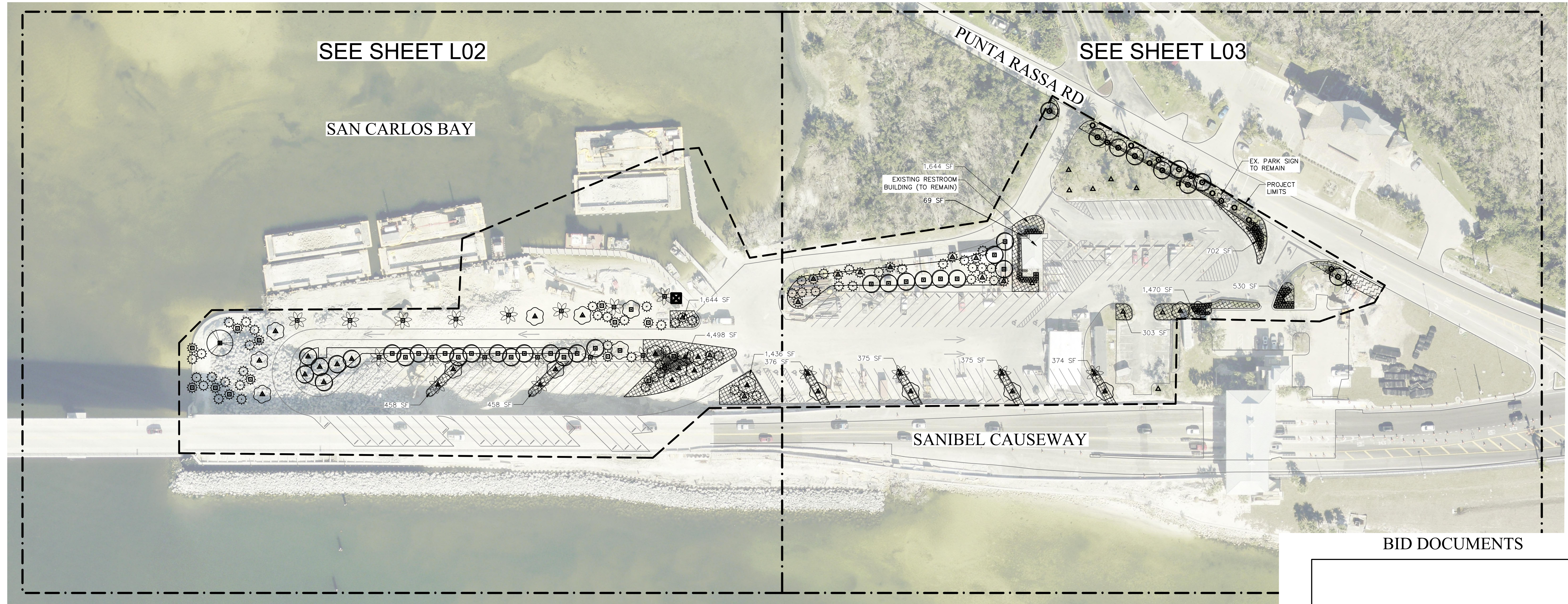
- ▲ VEHICULAR USE AREA CODE REQUIRED TREES
- BUFFER AREA CODE REQUIRED TREES
- GENERAL CODE REQUIRED TREES

LANDSCAPE CODE AREAS

- VEHICLE USE PLANTING AREA
- BUILDING PERIMETER PLANTING AREA
- BUFFER PLANTING AREA



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BID DOCUMENTS

NO.	REVISIONS DESCRIPTION	DATE

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

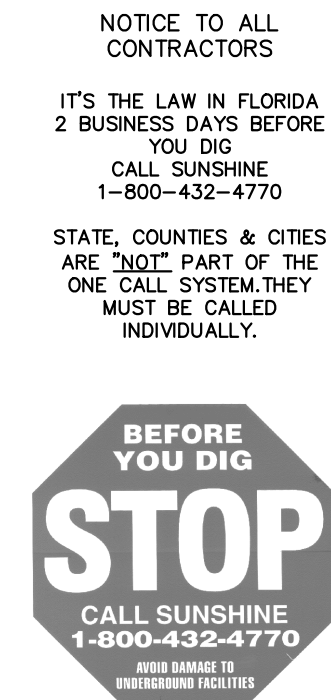
LANDSCAPE KEY SHEET

SHEET NUMBER

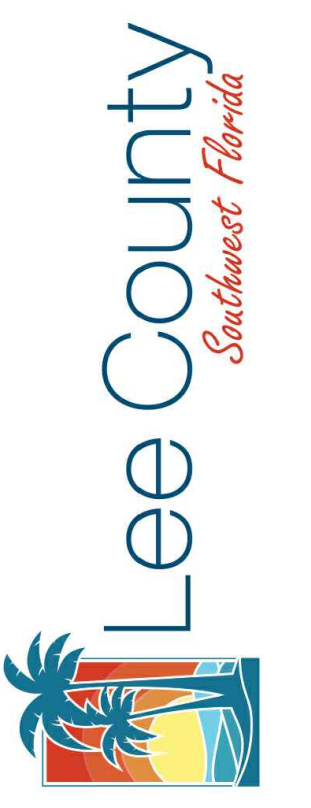
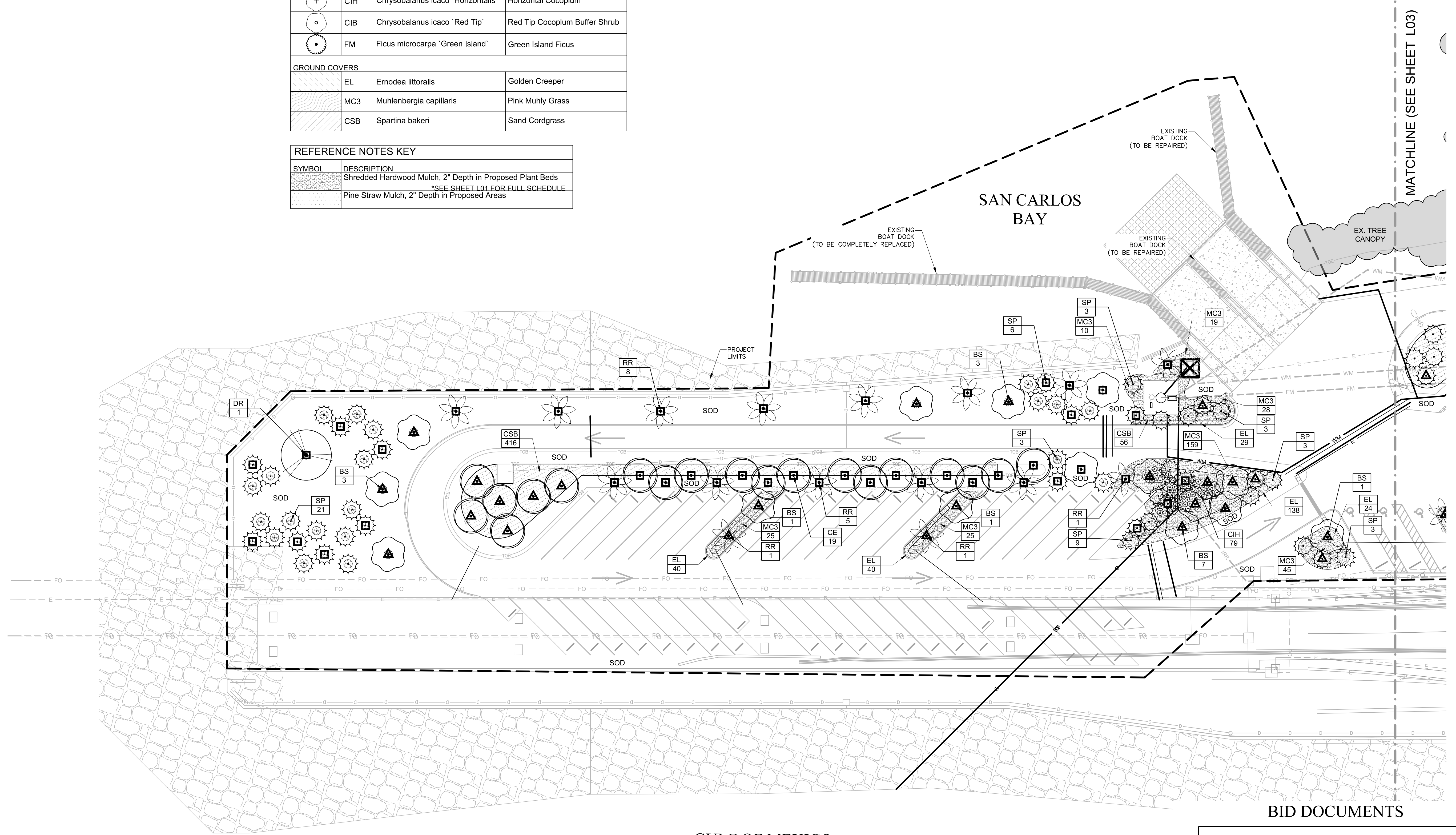
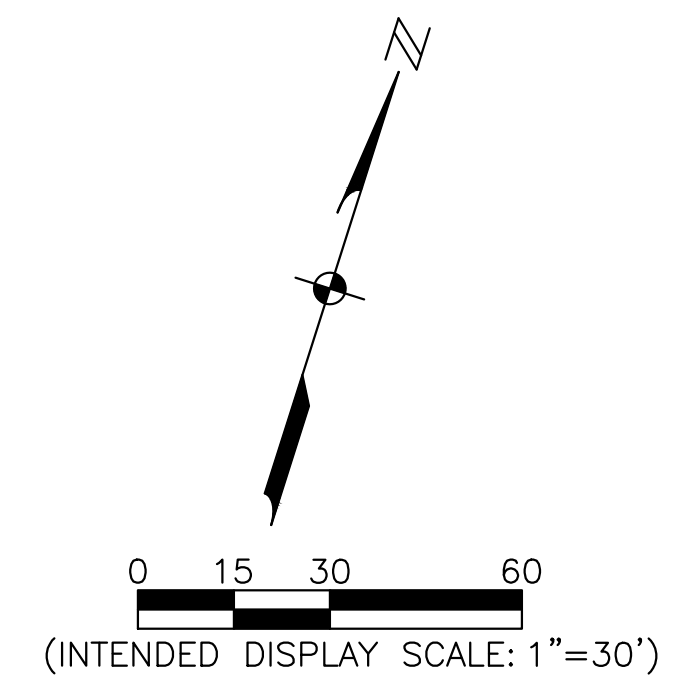
L01

PLANT KEY		*SEE SHEET L01 FOR FULL PLANT SCHEDULE	
SYMBOL	CODE	BOTANICAL NAME	COMMON NAME
TREES			
	BS	Bursera simaruba	Gumbo Limbo
	CE	Conocarpus erectus	Green Buttonwood
	DR	Delonix regia	Royal Poinciana
PALM TREES			
	RR	Roystonea elata	Florida Royal Palm
	SP	Sabal palmetto	Cabbage Palm
SHRUBS			
	CIH	Chrysobalanus icaco 'Horizontalis'	Horizontal Cocoplum
	CIB	Chrysobalanus icaco 'Red Tip'	Red Tip Cocoplum Buffer Shrub
	FM	Ficus microcarpa 'Green Island'	Green Island Ficus
GROUND COVERS			
	EL	Ernodea littoralis	Golden Creeper
	MC3	Muhlenbergia capillaris	Pink Muhly Grass
	CSB	Spartina bakeri	Sand Cordgrass

REFERENCE NOTES KEY	
SYMBOL	DESCRIPTION
	Shredded Hardwood Mulch, 2" Depth in Proposed Plant Beds *SEE SHEET L01 FOR FULL SCHEDULE
	Pine Straw Mulch, 2" Depth in Proposed Areas



- PROPOSED LANDSCAPE LEGEND**
- ▲ VEHICULAR USE AREA CODE REQUIRED TREES
 - BUFFER AREA CODE REQUIRED TREES
 - GENERAL CODE REQUIRED TREES



**PUNTA RASSA BOAT RAMP IMPROVEMENTS
LEE COUNTY, FLORIDA**

NO.	DATE	DESCRIPTION

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

LANDSCAPE CODE PLAN

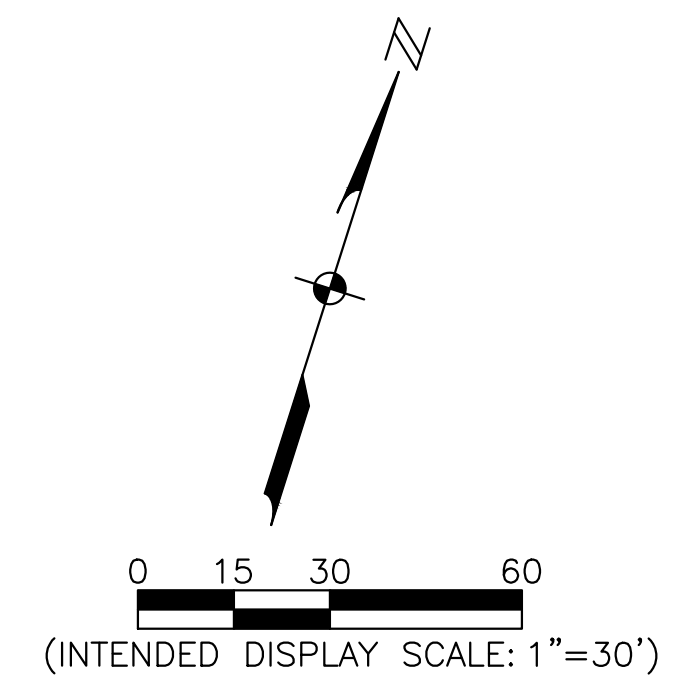
SHEET NUMBER
L02

PLANT KEY		*SEE SHEET L01 FOR FULL PLANT SCHEDULE	
SYMBOL	CODE	BOTANICAL NAME	COMMON NAME
TREES			
	BS	Bursera simaruba	Gumbo Limbo
	CE	Conocarpus erectus	Green Buttonwood
	DR	Delonix regia	Royal Poinciana
PALM TREES			
	RR	Roystonea elata	Florida Royal Palm
	SP	Sabal palmetto	Cabbage Palm
SHRUBS			
	CIH	Chrysobalanus icaco 'Horizontalis'	Horizontal Cocoplum
	CIB	Chrysobalanus icaco 'Red Tip'	Red Tip Cocoplum Buffer Shrub
	FM	Ficus microcarpa 'Green Island'	Green Island Ficus
GROUND COVERS			
	EL	Ernodea littoralis	Golden Creeper
	MC3	Muhlenbergia capillaris	Pink Muhly Grass
	CSB	Spartina bakeri	Sand Cordgrass

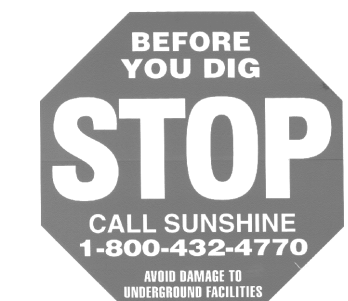
REFERENCE NOTES KEY	
SYMBOL	DESCRIPTION
	Shredded Hardwood Mulch, 2" Depth in Proposed Plant Beds *SEE SHEET L01 FOR FULL SCHEDULE
	Pine Straw Mulch, 2" Depth in Proposed Areas

PROPOSED LANDSCAPE LEGEND

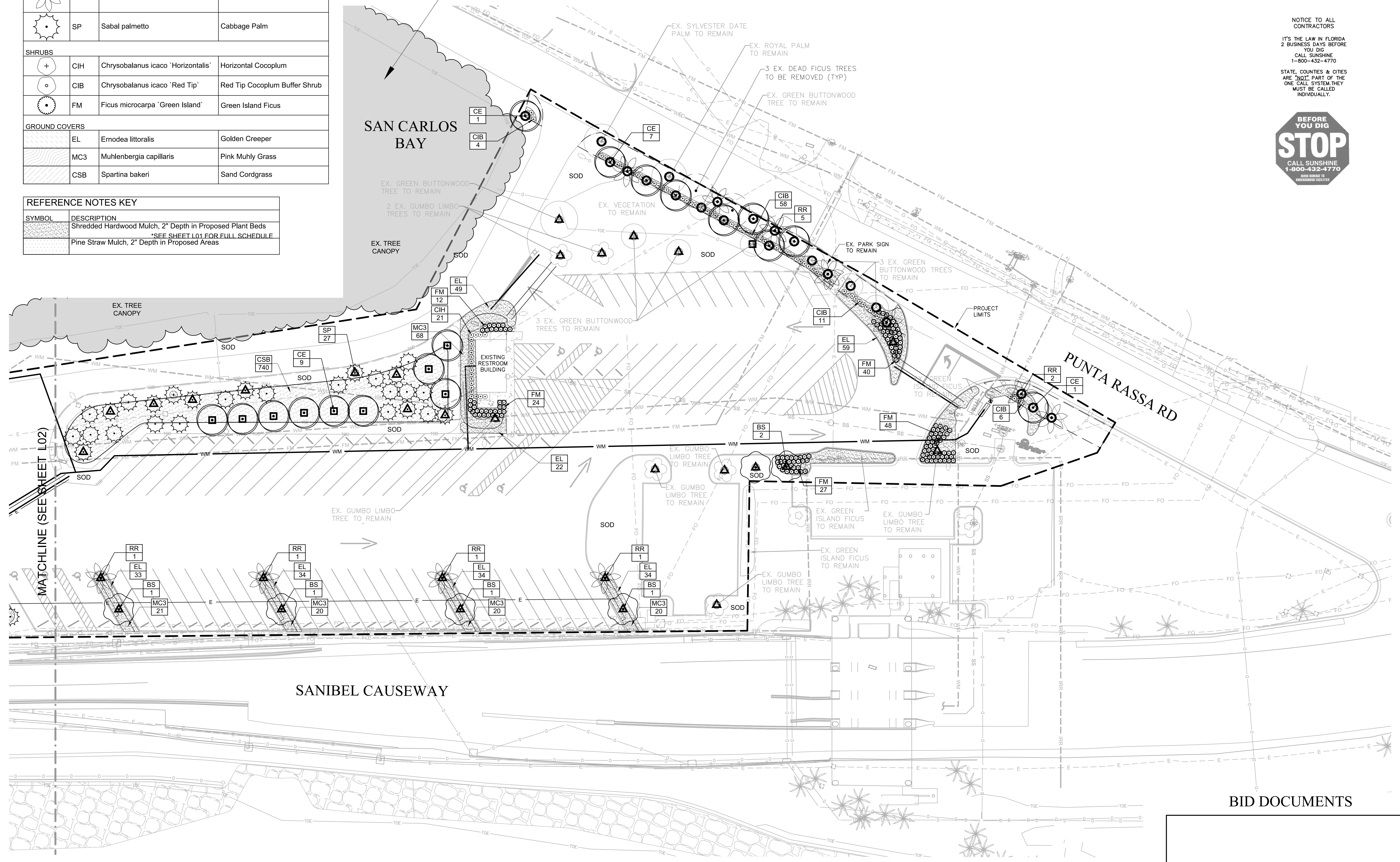
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 INDIVIDUALLY.



CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF INVASIVE AND EXOTIC VEGETATION, TRASH, AND LANDSCAPE DEBRIS WITHIN THE EXISTING MANGROVE AREA ASSOCIATED WITH THE SITE. ALL REMOVAL SHALL BE PERFORMED BY HAND, MECHANICAL EQUIPMENT IS PROHIBITED.



PUNTA RASSA BOAT RAMP IMPROVEMENTS
LEE COUNTY, FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

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LANDSCAPE CODE PLAN

C:\2024\20247063-000\landscape\DRAWINGS\247063-000-LSP.dwg (L03) tjr Dec 04, 2024 - 11:26am

CITED CODE REQUIREMENTS AND SPECIFICATIONS PER LEE COUNTY, L.D.C.

SEC. 10-415. OPEN SPACE.

(a) **OPEN SPACE CALCULATIONS.** REFER TO OPEN SPACE REQUIREMENT TABLE AS OUTLINED FOR MINIMUM PERCENTAGES OF OPEN SPACE FOR ALL DEVELOPMENTS.

(b) **INDIGENOUS NATIVE VEGETATION AND TREES.**

(1) **PRESERVATION.**

a. LARGE DEVELOPMENTS, WITH EXISTING INDIGENOUS NATIVE VEGETATION COMMUNITIES MUST PROVIDE 50 PERCENT OF THEIR OPEN SPACE PERCENTAGE REQUIREMENT THROUGH THE ONSITE PRESERVATION OF EXISTING NATIVE VEGETATION COMMUNITIES. REFER TO SECTION 10-701.

b. IF THE DEVELOPMENT AREA DOES NOT CONTAIN EXISTING INDIGENOUS NATIVE VEGETATION COMMUNITIES, BUT DOES CONTAIN EXISTING INDIGENOUS NATIVE TREES, THEN 50 PERCENT OF THEIR OPEN SPACE PERCENTAGE REQUIREMENT MUST BE MET THROUGH THE ONSITE PRESERVATION OF EXISTING NATIVE TREES CONSISTENT WITH SUBSECTION 1 THROUGH 4 BELOW. REFER TO APPENDIX E AND SECTION 34-373(6)(G).

1. PRESERVATION OF INDIGENOUS TREE CLUSTERS IS PREFERRED OVER INDIVIDUAL TREE PROTECTION. REASONABLE EFFORTS TO RETAIN INDIVIDUAL TREES MUST BE MADE. IT IS RECOGNIZED THAT SITE DESIGN REQUIREMENTS (E.G. FILL) MAY LIMIT THE ABILITY TO RETAIN SOME INDIVIDUAL TREES, AND IN THAT CASE THE COUNTY WILL ALLOW THE REMOVAL OF THOSE TREES.

2. SABAL PALMS MAY BE RELOCATED IN A HORTICULTURALLY CORRECT MANNER AND CLUSTERED WITHIN OPEN SPACE AREAS.

3. NATIVE TREES (FOUR TO 15-INCH CALIPER DBH) MAY BE RELOCATED TO OPEN SPACE AREAS WHEN PROPER HORTICULTURAL METHODS (E.G. ROOT PRUNING, USE OF ANTI-TRANSPIRANTS) ARE UTILIZED TO INSURE THE SURVIVABILITY OF THE TREES, AND A VEGETATION REMOVAL PERMIT IS OBTAINED.

4. DEVELOPMENTS GREATER THAN FIVE ACRES IN SIZE THAT ABUT AN ARTERIAL OR COLLECTOR ROAD AND HAVE EXISTING NATIVE TREES WITHIN 50-FEET OF THE RIGHT-OF-WAY MUST BE DESIGNED TO PROVIDE A 50-FOOT RIGHT-OF-WAY PRESERVATION, DRAINAGE OR UTILITY EASEMENTS LOCATED WITHIN OR ADJACENT TO THE 50-FOOT RIGHT-OF-WAY BUFFER AREA MUST BE ESTABLISHED IN THE LOCATION WITH THE LEAST AMOUNT OF TREES AS DETERMINED BY ONSITE INSPECTION BY LEE COUNTY. THE PRESERVATION OF THE EXISTING TREES WILL NOT REQUIRE A DOUBLE HEDGE ROW TO BE INSTALLED AS PART OF THE RIGHT-OF-WAY BUFFER. THE PRESERVE AREA MAY NOT BE UTILIZED FOR DRAINAGE OR OTHER SIMILAR USES THAT MAY ADVERSELY AFFECT THE EXISTING NATIVE TREES. TO INCREASE LONG-TERM SURVIVAL OF THE EXISTING TREES TO BE RETAINED, APPROPRIATE ARBORICULTURAL TECHNIQUES TO REDUCE IMPACTS TO THE TREES MUST BE USED. THOSE TECHNIQUES MUST INCLUDE WAYS TO REDUCE IMPACTS TO THE TREES' ROOT SYSTEMS AND CROWNS DURING CONSTRUCTION AND MUST BE CLEARLY PROVIDED ON THE LANDSCAPE PLANS OF THE DEVELOPMENT ORDER. THE NATIVE TREE PRESERVATION RIGHT-OF-WAY BUFFER MAY BE USED TOWARD MEETING THE INDIGENOUS PRESERVATION REQUIREMENT.

APPLICATIONS SUBMITTED PURSUANT TO THIS SECTION ENCOMPASSING DIFFICULT SITES, SUCH AS IRREGULARLY SHAPED PARCELS OR INDIGENOUS AREAS, MAY DEMONSTRATE THAT THE INTENT OF THIS SECTION CAN BE MORE EFFECTIVELY ACCOMPLISHED THROUGH AN ALTERNATIVE RIGHT-OF-WAY BUFFER DESIGN. APPROVAL OF AN ALTERNATIVE DESIGN IS AT THE DISCRETION OF THE DIRECTOR OR DESIGNEE.

c. A MINIMUM SETBACK OF 20 FEET FROM BUILDINGS IS REQUIRED. FOR INDIGENOUS PLANT COMMUNITIES SUBJECT TO FIRE, SUCH AS PINE FLATWOODS, PALMETTO PRAIRIE AND XERIC SCRUB, A 30-FOOT SETBACK IS REQUIRED FOR FIRE PROTECTION.

(2) SALVAGING EXISTING NATIVE PLANTS, SALVAGING EXISTING NATIVE PLANTS, OPEN SPACE AREAS MUST BE DESIGNED TO INCORPORATE AS MANY OF THE EXISTING LARGE NATIVE TREES AND SABAL PALMS AS POSSIBLE. SALVAGED NATIVE PLANTS RELOCATED TO AN INDIGENOUS NATIVE PRESERVE MUST BE PROVIDED WITH A TEMPORARY ABOVE GROUND IRRIGATION SYSTEM OR OTHER MEANS OF IRRIGATION TO ENSURE SURVIVABILITY.

HEALTHY NATIVE TREES WITH A MINIMUM CALIPER OF FOUR INCHES AT FOUR AND ONE-HALF FEET ABOVE THE GROUND (DBH) MAY BE RELOCATED ONSITE FOR FIVE TREE CREDITS TOWARD GENERAL TREE REQUIREMENTS. THE TREES MUST BE PROPERLY PREPARED FOR RELOCATION THROUGH ROOT PRUNING OR OTHER HORTICULTURALLY CORRECT METHODS.

(3) **CREDITS.**

a. FOR ALL DEVELOPMENTS WITH REQUIRED OPEN SPACE, EXCEPT SINGLE-FAMILY SUBDIVISIONS WITH INDIVIDUAL LOT AREA OF 6,500 SQUARE FEET OR GREATER AND A MAXIMUM LOT COVERAGE OF 45 PERCENT, AN INCENTIVE TO PRESERVE INDIGENOUS NATIVE PLANTS AND PLANT COMMUNITIES OR INDIGENOUS NATIVE TREE TRACTS, A SCALED OPEN SPACE CREDIT FOR SINGLE CONTIGUOUS PRESERVE AREAS WILL BE GRANTED AS FOLLOWS:

INDIGENOUS PLANT COMMUNITY & NATIVE TREE PRESERVATION AREA CREDITS		
CREDIT PROVIDED	MINIMUM SIZE	MINIMUM WIDTH
110%	1/2 ACRE	50 FEET
125%	1 ACRE	75 FEET
150%	3 ACRE	100 FEET

b. AN ADDITIONAL, MAXIMUM TEN PERCENT CREDIT WILL BE GRANTED IF ANY OF THE FOLLOWING ARE INCLUDED:

- RARE AND UNIQUE OFFSPRINGS AS DEFINED BY THE LEE PLAN.
- CONNECTION TO UPLANDS PUBLIC OR PRIVATE ENVIRONMENTAL CONSERVATION OR PRESERVE AREAS
- UPLAND BUFFERS TO NATURAL WATERBODIES.
- PRESERVATION ADJACENT TO A ROADWAY.
- RESTORATION OF NATIVE SHRUBS, GRASSES, AND/OR GROUND COVER PLANTS WITH THE NATIVE TREE PRESERVATION AREA. A MINIMUM PLANTING SIZE OF ONE GALLON PLANT, INSTALLED ON THREE FOOT CENTERS (THREE-FOOT O.C.).

(4) MAINTENANCE. A PLAN MUST BE SUBMITTED FOR THE LONG TERM MAINTENANCE OF VEGETATION IN INDIGENOUS OPEN SPACE AREAS. THIS INDIGENOUS VEGETATION MANAGEMENT PLAN MUST INCLUDE THE FOLLOWING CRITERIA:

- METHOD AND FREQUENCY OF PRUNING AND TRIMMING.
- METHODS TO REMOVE AND CONTROL ALL EXOTIC AND NUISANCE PLANTS IN PERPETUITY.
- DEBRIS REMOVAL.
- PROTECTED SPECIES MANAGEMENT PLAN CONDITIONS.
- DRAFTS OF EDUCATIONAL MATERIALS (SIGNAGE AND BROCHURES) TO BE PROVIDED TO THE RESIDENTS ABOUT THE PURPOSE AND FUNCTION OF THESE AREAS.
- MONITORING REPORTS, INCLUDING PHOTOS, THAT NARRATIVELY DOCUMENT PRESERVE AREA CONDITIONS MUST BE SUBMITTED TO OBTAIN PROJECT APPROVAL, AND, AS APPROPRIATE, TO OBTAIN A CERTIFICATE OF COMPLIANCE (CC). THE CC MONITORING REPORT MUST DESCRIBE AND DOCUMENT ECOLOGICAL RESTORATION ACTIVITY THAT HAS OCCURRED IN THE PRESERVE AREAS. IF REVIEW OF THE MONITORING REPORTS REVEALS DEATH OR SIGNIFICANT DECLINE TO PRESERVE VEGETATION, THEN REVISION OF THE MANAGEMENT PLAN AND RESTORATION IN ACCORD WITH SECTION 10-423 WILL BE REQUIRED.

(5) ADMINISTRATIVE DEVIATION. CONSISTENT WITH THE PROVISIONS OF SECTION 10-104, THE DIRECTOR MAY PERMIT DEVIATION FROM THE REQUIREMENT TO REDUCE THE MINIMUM 50 PERCENT INDIGENOUS NATIVE VEGETATION REQUIREMENT WITHIN THIS SUBSECTION TO A LOWER PERCENTAGE, EXISTING, APPROVED INDIGENOUS PRESERVE AREAS WITHIN PLANNED DEVELOPMENTS ARE NOT ELIGIBLE FOR ADMINISTRATIVE DEVIATIONS, UNLESS THE PRESERVE AREAS ARE INTERIOR TO THE PROJECT (100 FEET OR MORE FROM THE PROPERTY LINE). THE ADMINISTRATIVE DEVIATION REQUEST MUST INCLUDE THE UNIQUE CONDITIONS OR CIRCUMSTANCES THAT MAKE THE PROPERTY UNUSABLE AND UNREASONABLY BURDENSOME, AND DEMONSTRATE WHY GRANTING THE DEVIATION IS IN THE PUBLIC INTEREST. THE APPLICANT MUST PROVIDE DETAILS OF OTHER ACTIONS THAT WILL BE TAKEN TO OFFSET THE REDUCTION (MITIGATION), MITIGATION THAT WILL BE CONSIDERED INCLUDES, BUT IS NOT LIMITED TO:

- ONSITE ECOLOGICAL CREATION/RESTORATION, WITH LONG-TERM MANAGEMENT. A MINIMUM TWO TO ONE RATIO OF CREATION/RESTORATION AREA TO INDIGENOUS AREA TO BE MITIGATED.
- OFFSITE LAND ACQUISITION WITH PERPETUAL CONSERVATION PROTECTION. A MINIMUM THREE TO ONE RATIO OF ACQUIRED LAND TO INDIGENOUS AREA TO BE MITIGATED.
- OFFSITE ECOLOGICAL RESTORATION ON PUBLIC LANDS OR PROTECTED PRIVATE LANDS. A MINIMUM THREE TO ONE RATIO OF ACQUIRED LAND TO INDIGENOUS AREA TO BE MITIGATED.
- PURCHASE OF APPROPRIATE CREDITS FROM A PERMITTED MITIGATION BANK.

e. A MINIMUM THREE TO ONE RATIO OF ACQUIRED LAND TO INDIGENOUS AREA TO BE MITIGATED. INDIGENOUS PRESERVATION AREA CREDITS LISTED IN SECTION 10-415(B)(3)(A), DO NOT APPLY TO ONSITE ECOLOGICAL CREATION/RESTORATION AREAS OR OFFSITE AREAS.

(c) **MINIMUM DIMENSIONS.**

- THE MINIMUM AVERAGE WIDTH OF OPEN SPACE AREAS MUST BE TEN FEET.
- THE MINIMUM AREA OF OPEN SPACE MUST BE 180 SQUARE FEET.
- FOR PROJECTS UNDER TEN ACRES IN SIZE, INDIGENOUS OPEN SPACE AREAS MUST HAVE A MINIMUM AVERAGE WIDTH OF 20 FEET AND MINIMUM AREA OF 400 SQUARE FEET.
- FOR PROJECTS OVER TEN ACRES IN SIZE, INDIGENOUS OPEN SPACE AREAS MUST HAVE A MINIMUM AVERAGE WIDTH OF 40 FEET AND MINIMUM AREA 1,500 SQUARE FEET.
- NATIVE TREE PRESERVATION AREAS MUST BE DESIGNED WITH ADEQUATE WIDTHS TO PRESERVE AND ALLOW THE CONTINUED GROWTH AND VIABILITY OF EXISTING NATIVE TREES.
- OPEN SPACE PRESERVATION AREAS MUST EXTEND TO THE FULL DRIP LINE OF SLASH PINE, THREE QUARTER DRIP LINE FOR ALL CANOPY TYPE TREES, AND SIX FEET FROM THE TRUNK OF ANY NATIVE PALM, OR OTHER PROTECTIVE MEANS, SUCH AS RETAINING WALLS, MUST BE PROVIDED, EXCEPT FOR WORK RELATED TO APPROVED ECOLOGICAL RESTORATION ACTIVITIES, NO FILLING, GRADING OR EXCAVATING IS ALLOWED IN OPEN SPACE PRESERVATION AREAS.
- SURFACE WATER MANAGEMENT SYSTEMS MAY OVERLAP WITH NATIVE TREE PRESERVATION AREAS ONLY WHERE IT CAN BE CLEARLY DEMONSTRATED THAT THE EFFECTS OF WATER MANAGEMENT SYSTEM CONSTRUCTION OR OPERATION WILL NOT CAUSE DEATH OR HARM TO THE PRESERVE TREE AND INDIGENOUS PLANT COMMUNITY OF PROTECTED SPECIES.

SEC. 10-415. CONTINUED

(d) **USE OF OPEN SPACE.**

- OPEN SPACE AREAS MUST BE LANDSCAPED IN ACCORDANCE WITH THIS DIVISION.
- THE FOLLOWING USES MAY CONTRIBUTE TO THE OPEN SPACE REQUIREMENTS PROVIDED THE MINIMUM DIMENSIONS ARE MET:
 - BUFFERS AND LANDSCAPED AREAS IN OFF-STREET PARKING AREAS, EXCEPT FOR AREAS RESERVED FOR FUTURE PARKING SPACES PURSUANT TO SECTION 34-2017(D);
 - DRY DETENTION AREAS.
 - EXISTING OR PROPOSED BODIES OF WATER, INCLUDING STORMWATER MANAGEMENT AREAS AND AREAS SUBJECT TO SALTWATER INUNDATION, WHICH MAY BE USED TO OFFSET UP TO A MAXIMUM OF 25 PERCENT OF THE REQUIRED OPEN SPACE.
 - ACTIVE AND PASSIVE RECREATION AREAS SUCH AS PLAYGROUNDS, GOLF COURSES, BEACH FRONTAGE, NATURAL TRAILS, BIKEWAYS, PEDESTRIAN WAYS, TENNIS COURTS, SWIMMING POOLS AND OTHER SIMILAR OPEN SPACES, AS LONG AS NOT MORE THAN 20 PERCENT OF THE RECREATIONAL AREA CREDITED AS OPEN SPACE CONSISTS OF IMPERVIOUS SURFACE.
 - OUTDOOR ACTIVE AND PASSIVE PUBLIC USE AREAS SUCH AS PLAZAS, ATRIUMS, COURTYARDS AND OTHER SIMILAR PUBLIC SPACES, WHICH MAY BE USED TO OFFSET UP TO A MAXIMUM OF 20 PERCENT OF THE REQUIRED OPEN SPACE.

1. ARCHAEOLOGICAL SITES OR ZONES THAT ARE DESIGNATED AS SIGNIFICANT HISTORIC RESOURCES PURSUANT TO CHAPTER 22

9. REMOVAL OF NATIVE VEGETATION FROM INDIGENOUS OPEN SPACE AREAS BY MECHANICAL OR CHEMICAL MEANS IS PROHIBITED UNLESS SPECIFIED BY THE INDIGENOUS VEGETATION MANAGEMENT PLAN.

SEC. 10-416. - LANDSCAPE STANDARDS.

(a) GENERAL. LANDSCAPING FOR ALL NEW DEVELOPMENTS, EXCEPT COMMUNITY AND REGIONAL PARKS AS DEFINED IN THE LEE PLAN, MUST INCLUDE, AT A MINIMUM, THE FOLLOWING NUMBER OF TREES, IN ADDITION TO THE LANDSCAPING REQUIRED FOR PARKING AND VEHICLE USE AREAS AND BUFFERS. GENERAL TREE REQUIREMENTS MAY BE REDUCED THROUGH THE UTILIZATION OF LARGER TREES AS SPECIFIED IN SECTION 10-420(C)(2) OR THROUGH USE OF PLANTED DETENTION AREAS AS SPECIFIED IN SECTION 10-416(A)(5). EXISTING WATER BODIES WITHIN THE DEVELOPMENT AREA WILL NOT BE INCLUDED IN THE CALCULATION FOR GENERAL TREE REQUIREMENTS.

- RESIDENTIAL DEVELOPMENTS INCLUDING RECREATIONAL VEHICLE DEVELOPMENTS. ONE TREE MUST BE PROVIDED PER 3,000 SQUARE FEET OF DEVELOPMENT AREA. THE PREFERRED LOCATION TO INSTALL THESE TREES IS ON COMMON PROPERTY (CLUBHOUSE, LAKES, DRY DETENTION OR OTHER SIMILAR PROPERTY) PRIOR TO THE ISSUANCE OF A CERTIFICATE OF COMPLETION. TREE CREDIT SHOULD BE UTILIZED PER SECTION 10-420(J) FOR INDIGENOUS PRESERVES, WHERE APPLICABLE FOLLOWING THE GUIDELINES SET FORTH IN LDC SECTION 10-414(C).
- SINGLE-FAMILY DEVELOPMENTS WITH A CONVENTIONAL ZONING DISTRICT LOT AND LOT COVERAGE WITH MINIMUM LOT SIZES OF 6,500 SQUARE FEET OR GREATER, SINGLE-FAMILY DEVELOPMENTS WITH A CONVENTIONAL ZONING DISTRICT LOT AND LOT COVERAGE WITH MINIMUM LOT SIZES OF 6,500 SQUARE FEET OR GREATER WILL BE REQUIRED TO PROVIDE A MINIMUM OF TWO TREES PER LOT.
- ALL OTHER RESIDENTIAL DEVELOPMENTS, ALL OTHER RESIDENTIAL DEVELOPMENTS MUST PROVIDE ONE TREE PER 3,500 SQUARE FEET OF DEVELOPMENT AREA.
- HERITAGE TREES. FOR LARGE DEVELOPMENTS, EFFORT MUST BE MADE TO PRESERVE NATIVE HERITAGE TREES WITH AT LEAST A 20-INCH CALIPER DBH. PRESERVED HERITAGE TREES MAY BE COUNTED AT A 5:1 CREDIT RATIO TOWARDS THE GENERAL TREE REQUIREMENT. IF A HERITAGE TREE MUST BE REMOVED FROM A SITE THEN A REPLACEMENT NATIVE CANOPY TREE WITH A MINIMUM 20-FOOT HEIGHT MUST BE PLANTED WITHIN AN APPROPRIATE OPEN SPACE AREA. THE REPLACEMENT TREE CAN ONLY BE COUNTED AT A 1:1 RATIO TOWARDS MEETING THE GENERAL TREE REQUIREMENT.
- FOR EACH 400 SQUARE FEET OF DRY DETENTION OR DRAINAGE AREA PLANTED WITH APPROPRIATE NATIVE HERBACEOUS VEGETATION (MINIMUM ONE-GALLON CONTAINER SIZE PLANTED THREE-FOOT ON CENTER) AND MULCHED WITH PINE STRAW, THE GENERAL TREE REQUIREMENT MAY BE REDUCED BY ONE TEN-FOOT TREE.
- BUILDING PERIMETER PLANTINGS. ALL NEW DEVELOPMENT IN COMMERCIAL ZONING DISTRICTS AND COMMERCIAL COMPONENTS OF PLANNED DEVELOPMENT DISTRICTS AND DRIS MUST PROVIDE BUILDING PERIMETER PLANTINGS EQUAL TO TEN PERCENT OF THE PROPOSED BUILDING GROSS GROUND LEVEL FLOOR AREA. THESE PLANTINGS ARE REQUIRED TO BE LOCATED AT THE PERIMETER OF THE BUILDING WITH EMPHASIS ON THE SIDES MOST VISIBLE TO THE PUBLIC, NOT INCLUDING THE LOADING AREA. THE PERIMETER PLANTING AREAS MUST CONSIST OF LANDSCAPE AREAS, RAISED PLANTERS OR PLANTER BOXES THAT ARE A MINIMUM OF FIVE FEET WIDE. THESE LANDSCAPE AREAS MUST INCLUDE SHRUBS AND GROUND COVER PLANTS WITH A MINIMUM ONE-FOOT OF COVERAGE OF THE LANDSCAPE AREA AT THE TIME OF PLANTING. TREES AND SHRUBS MUST MEET THE SIZE REQUIREMENTS OF SECTION 10-420(D). GROUND COVER PLANTS MUST BE A MINIMUM ONE-GALLON CONTAINER SIZE. GENERAL TREES MAY BE PLANTED WITHIN THE BUILDING PERIMETER PLANTING AREAS, ESPECIALLY EFFECTIVE ARE CLUSTERS (THREE OR MORE) OF SABAL PALMS. TURFGRASS IS DISCOURAGED AND IS LIMITED TO TEN PERCENT OF THE LANDSCAPE AREA. WATER MANAGEMENT AREAS MAY NOT BE PLACED IN THE PERIMETER PLANTING AREA, BUT MAY NOT BE USED TO MEET MINIMUM PLANTING AREA OR OPEN SPACE REQUIREMENTS.

AN ENLARGED PERIMETER LANDSCAPE AREA IS REQUIRED IN THE FRONT OF SHOPPING CENTERS AND FREESTANDING RETAIL USES THAT CONSTITUTE A LARGE DEVELOPMENT. AN AREA THAT IS AT LEAST FIVE PERCENT OF THE SIZE OF THE VEHICULAR USE AREA MUST BE DEVELOPED AS GREEN SPACE WITHIN THE FRONT OF SHOPPING CENTERS AND FREESTANDING RETAIL USES AND IS SUBJECT TO THE REQUIREMENTS OF SECTION 10-420(D). PERIMETER PLANTING AREA, HOWEVER, IT IS NOT A REQUIREMENT THAT THIS AREA DIRECTLY ABUT THE FRONT OF THE BUILDING. THE ENLARGED PERIMETER PLANTING AREAS MUST CONSIST OF LANDSCAPE AREAS, RAISED PLANTERS OR PLANTER BOXES THAT ARE A MINIMUM OF FIVE FEET WIDE. THESE ENLARGED PERIMETER PLANTING AREAS MUST INCLUDE TREES, SHRUBS AND GROUND COVER PLANTS WITH A MINIMUM OF FOUR TREES PER 100 LINEAR FOOT OF BUILDING AND 50 PERCENT COVERAGE OF THE LANDSCAPE AREA AT THE TIME OF PLANTING. THE TREES PLACED AROUND THE BUILDING WILL BE APPLIED TO THE GENERAL TREE REQUIREMENT. TREES MAY BE INSTALLED IN CLUSTERS AND DO NOT NEED TO BE LOCATED WITHIN A 100 LINEAR FOOT SEGMENT. CLUSTERS OF TREES AT THE CORNERS OF BUILDINGS OR FRAMING ENTRANCES ARE ESPECIALLY EFFECTIVE. TREES AND SHRUBS MUST MEET THE SIZE REQUIREMENTS OF SECTION 10-420(D). GROUND COVER PLANTS MUST BE A MINIMUM ONE-GALLON CONTAINER SIZE. TALLER PALMS (65 TO 204-FOOT CLEAR TRUNK) MUST BE USED WHEN BUILDING HEIGHT IS GREATER THAN 35 FEET. TURFGRASS IS DISCOURAGED AND IS LIMITED TO TEN PERCENT OF THE LANDSCAPE AREA. WATER MANAGEMENT AREAS MAY NOT BE A PART OF THIS ENLARGED PLANTING AREA.

THIS FIVE PERCENT GREEN SPACE AREA MAY BE USED TO MEET OPEN SPACE REQUIREMENTS IF THEY ARE IN COMPLIANCE WITH SECTION 10-415(C), BUT MAY NOT BE USED TO REDUCE THE PERIMETER PLANTING AREAS ON A PERIOD OF ONE YEAR OR MORE AND A REQUEST FOR AN OCCUPATIONAL LICENSE TO RESUME BUSINESS IS MADE. CONSISTENT WITH THE PROVISIONS OF SECTION 10-104, THE DIRECTOR MAY PERMIT ADMINISTRATIVE DEVIATIONS WHERE A CONFLICT EXISTS BETWEEN THE APPLICATION OF THIS DIVISION AND THE REQUIREMENTS FOR THE NUMBER OF OFF-STREET PARKING SPACES OR AREA OF OFF-STREET LOADING FACILITIES.

- VEHICULAR OVERHANGS OF LANDSCAPE AREAS. THE FRONT OF A VEHICLE MAY OVERHANG ANY LANDSCAPED AREA A MAXIMUM OF TWO FEET, PROVIDED THE LANDSCAPED AREA IS PROTECTED BY MOTOR VEHICLE WHEEL STOPS OR CURBING. TWO FEET OF SUCH LANDSCAPED AREA OR WALKWAY MAY BE PART OF THE REQUIRED DEPTH OF EACH ABUTTING PARKING SPACE. WALKWAYS MUST BE DESIGNED WITH A MINIMUM OF FIVE FEET WIDTH THAT IS CLEAR OF ANY VEHICLE OVERHANG.
- INTERNAL LANDSCAPING. ALL PARKING AREAS MUST BE INTERNALLY LANDSCAPED TO PROVIDE VISUAL RELIEF AND CALM TO CHANNELIZE AND DEFINE LOGICAL AREAS FOR PEDESTRIAN AND VEHICULAR CIRCULATION, AS FOLLOWS:
 - TREES MUST BE PLANTED OR RETAINED IN LANDSCAPED AREAS IN PARKING AREAS, INCLUDING LANDSCAPED AREAS RESERVED FOR FUTURE PARKING SPACES, TO PROVIDE FOR CANOPY COVERAGE WHEN THE TREES MATURE. AT LEAST ONE CANOPY TREE OR A CLUSTER OF THREE SABAL PALMS MUST BE PLANTED OR RETAINED FOR EVERY 250 SQUARE FEET OF REQUIRED INTERNAL PLANTING AREA, AND ONE PARKING SPACE MAY BE PLANTED FROM A TREE PLANTED IN A PERMISSIBLE ISLAND, PENINSULA OR MEDIAN OF 18-FOOT MINIMUM WIDTH. CANOPY REQUIREMENTS MUST BE MET WITH EXISTING INDIGENOUS NATIVE TREES WHENEVER SUCH TREES ARE LOCATED WITHIN THE PARKING AREA.
 - LANDSCAPED AREAS ON THE PARKING AREA PERIMETER OR INTERNAL ISLANDS MUST EQUAL OR EXCEED A MINIMUM OF TEN PERCENT OF THE TOTAL PAVED SURFACE AREA. LANDSCAPED AREAS RESERVED FOR FUTURE PARKING SPACES PURSUANT TO SECTION 34-2017(D) MAY NOT BE INCLUDED IN THIS CALCULATION.
 - THE MINIMUM DIMENSION OF ANY REQUIRED INTERNAL LANDSCAPED AREA MUST BE TEN FEET FOR PROJECTS LESS THAN TEN ACRES AND 18 FEET FOR PROJECTS TEN ACRES OR LARGER.
 - NO MORE THAN AN AVERAGE OF TEN PARKING SPACES MUST OCCUR IN AN UNINTERRUPTED ROW WITH A MAXIMUM OF 13 PARKING SPACES BETWEEN LANDSCAPE AREAS WHEN TEN-FOOT WIDE LANDSCAPE ISLANDS ARE USED UNLESS OPTIONAL DIVIDER MEDIANS, AS SPECIFIED IN SECTION 10-416(C)(2)F, ARE USED.

NO MORE THAN 20 PARKING SPACES MUST OCCUR IN AN UNINTERRUPTED ROW WHEN 18 FOOT WIDE LANDSCAPE ISLANDS ARE USED UNLESS OPTIONAL DIVIDER MEDIANS, AS SPECIFIED IN SECTION (C)(2)F, OF THIS SECTION, ARE USED.

SEC. 10-416. CONTINUED

6. FOR LARGE DEVELOPMENTS ONLY, EACH ROW OF PARKING SPACES MUST BE TERMINATED BY LANDSCAPED ISLANDS THAT MEASURE NOT LESS THAN FIVE FEET IN WIDTH AND NOT LESS THAN 18 FEET IN LENGTH. CURBING IS STRONGLY ENCOURAGED. IF TERMINAL ISLANDS ARE USED FOR REQUIRED CANOPY TREES, THEY MUST BE A MINIMUM OF TEN FEET IN WIDTH.

1. OPTIONAL DIVIDER MEDIANS MAY BE USED TO MEET INTERIOR LANDSCAPE REQUIREMENTS. IF DIVIDER MEDIANS ARE USED, THEY MUST FORM A LANDSCAPED STRIP BETWEEN ABUTTING ROWS OF PARKING SPACES. THE MINIMUM WIDTH OF A DIVIDER MEDIAN MUST BE 18 FEET. ONE TREE MUST BE PLANTED FOR EACH 40 LINEAR FEET OF DIVIDER OR FRACTION THEREOF. TREES IN A DIVIDER MEDIAN MAY BE PLANTED SINGLY OR IN CLUSTERS. THE MAXIMUM SPACING OF TREES MUST BE 60 FEET.

9. ALL INTERIOR LANDSCAPED AREAS NOT DEDICATED TO TREES OR TO PRESERVATION OF EXISTING VEGETATION MUST BE LANDSCAPED WITH GRASS, GROUND COVER, SHRUBS OR OTHER APPROVED LANDSCAPING MATERIALS, AND THIS MUST BE SO NOTED ON THE LANDSCAPE PLANS. SAND, GRAVEL, ROCK, SHELL OR PAVEMENT ARE NOT APPROPRIATE LANDSCAPE MATERIALS.

(d) **BUFFERING ADJACENT PROPERTY.** BUFFERING AND SCREENING APPLIES TO ALL NEW DEVELOPMENT. EXISTING LANDSCAPES THAT DO NOT COMPLY WITH THE PROVISIONS OF THIS SECTION MUST BE BROUGHT INTO CONFORMITY TO THE MAXIMUM EXTENT POSSIBLE WHEN: THE VEHICULAR USE AREA IS ALTERED OR EXPANDED, EXCEPT FOR RESTRICTION OF LOTS/DRIVES; THE BUILDING SQUARE FOOTAGE IS INCREASED; OR THERE HAS BEEN A DISCONTINUANCE OF USE FOR A PERIOD OF ONE YEAR OR MORE AND A REQUEST FOR AN OCCUPATIONAL LICENSE TO RESUME BUSINESS IS MADE.

(1) **GENERAL.** A BUFFERING AREA IS REQUIRED ALONG THE ENTIRE PERIMETER OF THE PROPOSED DEVELOPMENT WHENEVER THE PROPOSED DEVELOPMENT ABUTS A DIFFERENT USE. THE EXISTING USE OR, WHERE VACANT, THE PERMITTED USE, OF THE ABUTTING PROPERTY WILL DETERMINE THE TYPE OF BUFFERING AREA REQUIRED FOR THE PROPOSED DEVELOPMENT. BUFFER AREAS MAY NOT BE LOCATED ON ANY PORTION OF AN EXISTING OR DEDICATED STREET RIGHT-OF-WAY OR ROADWAY EASEMENT EXCEPT THAT BUFFERS MAY BE LOCATED WITHIN SLOPE EASEMENTS AS LONG AS APPROPRIATE PLANTING SOIL IS PROVIDED IN THE SLOPE.

(2) **USE CATEGORIES.** REFER TO BUFFER TYPE USE REQUIREMENT TABLES IN INTERPRETING AND APPLYING THE PROVISIONS OF THIS SECTION.

(3) **BUFFER REQUIREMENTS.** REFER TO NOTES FOR BUFFER REQUIREMENTS TABLE:

IDENTIFY BUFFER TYPES. THE FOLLOWING TABLE PROVIDES SIX DIFFERENT BUFFER TYPES. EACH TYPE BUFFER, IDENTIFIED BY A LETTER, PROVIDES THE MINIMUM NUMBER OF TREES AND SHRUBS PER 100 LINEAR FOOT SEGMENT AND INDICATES WHETHER OR NOT A WALL OR HEDGE IS REQUIRED.

BUFFER TYPES	BUFFER TYPES (PER 100 LINEAR FEET)					
	A	B	C	D(3)	E	F
MINIMUM WIDTH IN FEET	5	15	15	15	25	30
MINIMUM # OF TREES	4	5	5	5	5	10
MINIMUM # OF SHRUBS	-	HEDGE (2)	18 (4)	HEDGE (2)	4 (4)	HEDGE (2)
WALL REQUIRED (1)	NO	NO	YES	NO	YES	NO

NOTES FOR BUFFER TYPES TABLE:

- A SOLID WALL, BERM OR WALL AND BERM COMBINATION, NOT LESS THAN EIGHT FEET IN HEIGHT AS MEASURED FROM THE FINISHED GRADE OF THE PROJECT SITE. ALL TREES AND SHRUBS REQUIRED IN THE BUFFER MUST BE PLACED ON THE UTILITY SIDE OF THE WALL. PALMS ARE TO BE PLANTED IN A ROW TO ENSURE THAT HISTORIC FLOW PATTERNS ARE ACCOMMODATED AND ALL STORMWATER FROM THE SITE IS DIRECTED TO ON-SITE DETENTION/RETENTION AREAS IN ACCORDANCE WITH THE SFVMD REQUIREMENTS.
- HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND BE MAINTAINED SO AS TO FORM A 36-INCH HIGH (IF TYPE BUFFERS MUST BE 48 INCHES AT INSTALLATION AND BE MAINTAINED AT 60 INCHES HIGH) CONTINUOUS VISUAL SCREEN WITHIN ONE YEAR AFTER TIME OF PLANTING.
- TREES WITHIN THE ROW BUFFER MUST BE APPROPRIATELY SIZED IN MATURE FORM SO THAT CONFLICTS WITH OVERHEAD UTILITIES, LIGHTING AND OTHER ARE AVOIDED. PALMS MUST BE PLANTED AT A MINIMUM OF 50 PERCENT OF THE ROW TREE REQUIREMENT. PALMS MUST BE CLUSTERED AND CANNOT BE PLANTED IN A "SOLDIERING" EFFECT, WHERE THEY ARE EQUAL DISTANCE AND IN A SINGLE ROW. SOUTH FLORIDA SLASH PINE (PINUS ELLIOTTI VAR. DENSA) AND LONGLEAF PINE (PINUS PALUSTRIS) TREES ARE ENCOURAGED FOR USE IN THE ROW BUFFERS DUE TO THEIR HIGH CROWN, WHICH PROVIDES TREE CANOPY WHILE MAINTAINING GOOD VISIBILITY TO THE DEVELOPMENT SITE.
- SHRUBS REQUIRED BY THIS SECTION ARE INTENDED TO PROVIDE VISUAL SCREENING AND MAY NOT BE PRUNED TO REDUCE HEIGHT.
- PUBLIC AND QUASI-PUBLIC FACILITIES, INCLUDING, BUT NOT LIMITED TO, PLACES OF WORSHIP, PARKS, UTILITY FACILITIES, GOVERNMENT OFFICES, NEIGHBORHOOD RECREATIONAL FACILITIES AND PRIVATE SCHOOLS MUST PROVIDE A TYPE C BUFFER IF, IN THE OPINION OF THE DIRECTOR, THE PROPOSED DEVELOPMENT WILL HAVE A SIGNIFICANTLY ADVERSE IMPACT ON ADJACENT EXISTING RESIDENTIAL USES.
- IF ROADS, DRIVES, OR PARKING AREAS ARE LOCATED LESS THAN 125 FEET FROM AN EXISTING SINGLE-FAMILY RESIDENTIAL SUBDIVISION OR SINGLE-FAMILY RESIDENTIAL LOTS, A SOLID WALL OR COMBINATION BERM AND SOLID WALL NOT LESS THAN EIGHT FEET IN HEIGHT MUST BE CONSTRUCTED NOT LESS THAN 25 FEET FROM THE ABUTTING PROPERTY AND LANDSCAPED (BETWEEN THE WALL AND THE ABUTTING PROPERTY) WITH A MINIMUM OF FIVE TREES AND 18 SHRUBS PER 100 LINEAR FEET OR A 30-FOOT WIDE TYPE F BUFFER WITH THE HEDGE PLANTED A MINIMUM OF 20 FEET FROM THE ABUTTING PROPERTY. WHERE RESIDENCES WILL BE CONSTRUCTED BETWEEN THE ROAD, DRIVE OR PARKING AREA AND THE EXISTING RESIDENTIAL SUBDIVISION OR LOTS, THE WALL OR WALL AND BERM COMBINATION ARE NOT REQUIRED.
- USES OR ACTIVITIES THAT GENERATE NOISE, DUST, ODOR, HEAT, GLARE OR OTHER SIMILAR IMPACTS, MUST PROVIDE A TYPE C OR F BUFFER IF, IN THE OPINION OF THE DIRECTOR, THE PROPOSED DEVELOPMENT WILL HAVE A SIGNIFICANTLY ADVERSE IMPACT ON ADJACENT PROPERTY.
- WALLS, BERMS AND BUFFER PLANTINGS MUST NOT BE PLACED SO THEY VIOLATE THE VEHICLE VISIBILITY REQUIREMENTS OF SECTION 34-3131.
- DEVELOPMENT ABUTTING NATURAL WATERWAY.** EXCEPT WHERE CHAPTER 33 PROVIDES A STRICTER STANDARD FOR GREATER PINE ISLAND (AS DEFINED IN PAR 1 OF THE LEE PLAN AND IN SECTION 33-1002), THERE MUST BE A 50-FOOT WIDE VEGETATIVE BUFFER LANDWARD OF NONSEAWALLED NATURAL WATERWAYS AS MEASURED FROM THE MEAN HIGH WATER LINE OR TOP OF BANK, WHICHEVER IS FURTHER LANDWARD.
 - IN RESIDENTIAL SUBDIVISIONS, THE BUFFER MUST BE LOCATED WITHIN A COMMON AREA OR TRACT, AND OUTSIDE OF ALL PRIVATE PROPERTY BOUNDARIES. LOCATION OF THE BUFFERS IN ACCORD WITH THIS SECTION WILL NOT PREVENT THE ISSUANCE OF RESIDENTIAL DOCK PERMITS MEETING THE REQUIREMENTS OF SECTION 26-71(G) OR PROHIBIT USE OF THE BUFFER AREA FOR PASSIVE RECREATIONAL USES.
 - EXISTING NATIVE VEGETATION WITHIN THE BUFFER AREA MUST BE RETAINED. THE NATURAL WATERWAY BUFFER MUST INCLUDE, AT A MINIMUM, SIX NATIVE CANOPY TREES AND 50 NATIVE SHRUBS PER 100 LINEAR FEET, WHICH MAY BE MET THROUGH CREDITS FROM THE EXISTING NATIVE VEGETATION WITHIN THE WATERWAY BUFFER AREA AT A 1:1 CREDIT RATIO. IF EXISTING NATIVE VEGETATION IS NOT PRESENT TO MEET THE BUFFER VEGETATION STANDARDS, A PLANTING PLAN MUST BE SUBMITTED TO ENVIRONMENTAL SCIENCES FOR REVIEW PRIOR TO LOCAL DEVELOPMENT ORDER APPROVAL. ALL PROPOSED PLANTINGS WITHIN THE NATURAL WATERWAY BUFFER AREA MUST BE INSTALLED TO MIMIC A NATURAL SYSTEM, AND ALL PLANTINGS MUST COMPLY WITH THE PLANT STANDARDS SET FORTH IN SECTION 10-420. THE USE OF HEAVY MECHANICAL EQUIPMENT SUCH AS BULLDOZERS, FRONT END LOADERS, HYDRAULIC EXCAVATORS, OR SIMILAR EQUIPMENT IS PROHIBITED, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE COUNTY.
- THE NATURAL WATERWAY BUFFER MUST BE DESIGNED TO INCORPORATE THE NATURAL RESOURCES MAINTENANCE EASEMENT REQUIRED UNDER SECTION 10-328(A). VEGETATION REMOVAL WITHIN THE BUFFER IS LIMITED TO:
 - ROUTINE REMOVAL OF EXOTICS AND DOWNED VEGETATIVE DEBRIS;
 - LIMITED REMOVAL TO ALLOW ACCESS OF VEHICLES FOR MAINTENANCE OF THE WATERWAY;
 - REMOVAL PERMITTED AS A CONDITION OF DOCK PERMIT APPROVAL; AND
 - PRIOR TO REMOVAL OF NATIVE VEGETATION, APPROVAL MUST BE OBTAINED FROM ES STAFF.
- ALL FREESTANDING PARKING AREAS, WHETHER COMMERCIAL, PUBLIC OR PRIVATE, NOT ASSOCIATED WITH OTHER DEVELOPMENT MUST PROVIDE A D TYPE BUFFER FOR THE RIGHT-OF-WAY AND C TYPE BUFFER IF THEY ABUT SINGLE-FAMILY RESIDENTIAL OR MULTIPLE-FAMILY RESIDENTIAL USES OR ZONING.
- USE OF BUFFER AREAS. REQUIRED BUFFERS MAY BE USED FOR PASSIVE RECREATION SUCH AS PEDESTRIAN, BIKE, OR EQUESTRIAN TRAILS. PROVIDED THAT:
 - NO REQUIRED TREES OR SHRUBS ARE ELIMINATED;
 - NOT MORE THAN 20 PERCENT OF THE WIDTH OF THE BUFFER IS IMPERVIOUS SURFACE;
 - THE TOTAL WIDTH OF THE BUFFER AREA IS MAINTAINED; AND
 - ALL OTHER REQUIREMENTS OF THIS CHAPTER ARE MET.

SEC. 10-420. - PLANT MATERIAL STANDARDS.

(a) **QUALITY.** PLANT MATERIALS USED TO MEET THE REQUIREMENTS OF THIS DIVISION MUST MEET THE STANDARDS FOR FLORIDA NO. 1 OR BETTER, AS SET OUT IN GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II, DEPARTMENT OF AGRICULTURAL, STATE OF FLORIDA (AS AMENDED), ROOT BALL SIZES ON ALL TRANSPLANTED PLANT MATERIALS MUST ALSO MEET STATE STANDARDS.

(b) **NATIVE VARIETIES.** AT LEAST 75 PERCENT OF THE TREES AND 50 PERCENT OF THE SHRUBS USED TO FULFILL THESE REQUIREMENTS MUST BE NATIVE FLORIDA SPECIES.

SEC. 10-420. CONTINUED

(c) **TREES AND PALMS.**

- CODE-REQUIRED TREES MUST BE A MINIMUM OF TEN FEET IN HEIGHT, HAVE A TWO-INCH CALIPER (AT SIX INCHES ABOVE THE GROUND) AND A FOUR-FOOT SPREAD AT THE TIME OF INSTALLATION. PALMS MUST HAVE A MINIMUM OF TEN FEET OF CLEAR TRUNK AT PLANTING; TREES HAVING AN AVERAGE MATURE SPREAD OR CROWN LESS THAN 20 FEET MUST BE SUBSTITUTED BY GROUPING THE SAME SO AS TO CREATE THE EQUIVALENT OF A 20-FOOT CROWN SPREAD. TREES ADJACENT TO WALKWAYS, BIKE PATHS AND RIGHTS-OF-WAY MUST BE MAINTAINED WITH EIGHT FEET OF CLEAR TRUNK.
- LARGER TREES SUBSTITUTED TO REDUCE THE MINIMUM NUMBER OF GENERAL TREES MUST BE NO LESS THAN FOUR INCHES IN DIAMETER AT 12 INCHES ABOVE THE GROUND AND NO LESS THAN 16 FEET IN HEIGHT AT THE TIME OF PLANTING. THE GENERAL TREE REQUIREMENT CANNOT BE REDUCED IN NUMBER TO MORE THAN 25 PERCENT OF THE GENERAL TREE REQUIREMENT.
- SHRUBS AND HEDGES. SHRUBS MUST BE A MINIMUM OF 24 INCHES (48 INCHES FOR TYPE F BUFFERS) IN HEIGHT, AT TIME OF PLANTING. SAW PALMETTOS (SERENOA REPENS) AND COONTIES (ZAMIA FLORIDANA) MAY BE USED AS SHRUBS, PROVIDED THEY ARE 12 INCHES IN HEIGHT AT TIME OF PLANTING. ALL SHRUBS MUST BE A MINIMUM THREE-GALLON CONTAINER SIZE AND BE SPACED 18 TO 36 INCHES ON CENTER. THEY MUST BE AT LEAST 36 INCHES (60 INCHES FOR TYPE F BUFFERS) IN HEIGHT WITHIN 12 MONTHS OF TIME OF PLANTING AND MAINTAINED IN PERPETUITY AT A HEIGHT OF NO LESS THAN 36 INCHES (60 INCHES FOR TYPE F BUFFERS).
- REQUIRED HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND MAINTAINED SO AS TO FORM A CONTINUOUS, UNBROKEN, SOLID VISUAL SCREEN WITHIN A MINIMUM OF ONE YEAR AFTER TIME OF PLANTING.
- THE HEIGHT OF ALL TREES AND SHRUBS MUST BE MEASURED FROM THE FINAL GRADE OF THE PROJECT SITE.
- MULCH REQUIREMENTS. A TWO-INCH MINIMUM LAYER, AFTER WATERING-IN, OF MULCH OR OTHER RECYCLED MATERIALS MUST BE PLACED AND MAINTAINED AROUND ALL NEWLY INSTALLED TREES, SHRUBS, AND GROUND COVER PLANTINGS. EACH TREE MUST HAVE A RING OF MULCH NO LESS THAN 24 INCHES BEYOND ITS TRUNK IN ALL DIRECTIONS. THE USE OF CYPRESS MULCH IS STRONGLY DISCOURAGED. SAND, GRAVEL, ROCK, OR SHELL ARE NOT APPROPRIATE MULCH MATERIALS.
- INVASIVE EXOTICS. THE FOLLOWING HIGHLY INVASIVE EXOTIC PLANTS MAY NOT BE PLANTED, (IE, ARE PROHIBITED) AND MUST BE REMOVED FROM THE PROJECT SITE PRIOR TO INSTALLATION AND CONTROL. INVASIVE EXOTIC PLANTS MUST BE INCLUDED ON THE DEVELOPMENT ORDER PLANS. A STATEMENT MUST ALSO BE INCLUDED ON THE DEVELOPMENT ORDER THAT THE DEVELOPMENT AREA WILL BE MAINTAINED FREE FROM INVASIVE EXOTIC PLANTS IN PERPETUITY. FOR PURPOSES OF THIS SUBSECTION, INVASIVE EXOTIC PLANTS INCLUDE:
 - (ACACIA JURICULIFORMIS) EARLEAF ACACIA, (ALBIZIA LEBECKII) WOMEN'S TONGUE, (BISCHOFFIA JAVANICA) BISHOPWOOD, (ALL CASUARINA SPP.) AUSTRALIAN PINES, (PANIOPSIS ANACARDIODES) CARROTWOOD, (DALBERGIA SISSOO) ROSEWOOD, (DIOSCOREA ALATA) AIR POTATO, (EUCALYPTUS CAMALDULENSIS) MURRAY RED GUM, (FICUS BENJAMINA) WEEPING FIG, (FICUS MICROCARPA) CUBAN LAUREL FIG, (LYGODIUM JAPONICUM) JAPANESE CLIMBING FERN, (LYGODIUM MICROPHYLLUM) OLD WORLD CLIMBING FERN, (MELALEUCA QUINQUEVARIATA) MELALEUCA PAPER TREE, (RHODODENDRUM TOmentosum) DOWNY ROSE MYRTLE, (SAPINUM SEBIFERUM) CHINESE TALLOW, (SCHINUS TEREBINTHIFOLIUS) BRAZILIAN PEPPER, FLORIDA HOLLY, (SOLANUM VIARUM) TROPICAL SODA APPLE, (SYZYGIUM CUMINI) JAYA PLUM, (SYZZIUM JAMBOS) ROSE APPLE, (THESPESIA POPULNEA) CORK TREE, AND (WEDDILLA TRILOBATA) WEDDILLA.
- IF DRY DETENTION AREAS ARE PLANTED WITH NATIVE CLUMP GRASSES IN LIEU OF SOO OR SEEDING, THEN THE PLANTS MUST BE A MINIMUM ONE-GALLON CONTAINER SIZE PLANTED THREE-FOOT ON CENTER.

SEC. 10-421. - PLANT INSTALLATION AND MAINTENANCE STANDARDS.

(a) INSTALLATION. PLANT MATERIALS MUST BE INSTALLED IN SOIL CONDITIONS THAT ARE CONDUCTIVE TO THE PROPER GROWTH OF THE PLANT MATERIAL. LIMEROCK LOCATED WITHIN PLANTING AREAS MUST BE REMOVED AND REPLACED WITH NATIVE OR GROWING QUALITY SOIL BEFORE PLANTING.

A PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS THAT MIGHT BE CREATED (E.G. VIEWS, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, BUILDINGS, AND CIRCULATION). TREES MAY NOT BE PLACED WHERE THEY INTERFERE WITH SITE DRAINAGE, SUBSURFACE UTILITIES, OR OVERHEAD UTILITY LINES, OR WHERE THEY WILL REQUIRE FREQUENT PRUNING IN ORDER TO AVOID INTERFERENCE WITH OVERHEAD POWER LINES. LIGHT POLES MUST BE LOCATED OUTSIDE OF ALL PARKING ISLANDS CONTAINING REQUIRED TREES. SEE ILLUSTRATION 10-421(a).

ALL LANDSCAPE MATERIALS MUST BE INSTALLED IN A RECOGNIZED HORTICULTURAL CORRECT MANNER. AT A MINIMUM, THE FOLLOWING INSTALLATION REQUIREMENTS MUST BE MET:

- ALL LANDSCAPE AREAS MUST BE MULCHED UNLESS VEGETATIVE COVER IS ALREADY ESTABLISHED.
- TREES AND SHRUBS USED IN BUFFERS MUST BE PLANTED IN A MINIMUM WIDTH AREA EQUAL TO ONE-HALF THE REQUIRED WIDTH OF THE BUFFER. HOWEVER, IN NO CASE MAY THE PLANTING AREA BE LESS THAN FIVE FEET IN WIDTH.
- ALL LANDSCAPED AREAS MUST BE PROVIDED PROTECTION FROM ENCRoACHMENT BY ANY TYPE OF VEHICLE.
- ALL REQUIRED PLANTS USED IN BUFFERS AND LANDSCAPING MUST BE INSTALLED USING XERISCAPE PRINCIPLES. XERISCAPE PRINCIPLES INCLUDE WATER CONSERVATION THROUGH DROUGHT-TOLERANT LANDSCAPING, THE USE OF APPROPRIATE PLANT MATERIAL, MULCHING, AND THE REDUCTION OF TURF AREAS.
- UTILITY OR DRAINAGE EASEMENTS MAY OVERLAP REQUIRED BUFFERS; HOWEVER, NO CODE REQUIRED TREES OR SHRUBS MAY BE LOCATED IN ANY UTILITY OR DRAINAGE EASEMENT UNLESS A WRITTEN STATEMENT, FROM THE ENTITY HOLDING THE BENEFICIAL INTEREST IN THE EASEMENT, IS SUBMITTED SPECIFICALLY STATING THAT THE ENTITY HAS NO OBJECTION TO THE LANDSCAPING AND, THAT THE PROPOSED LANDSCAPING WILL NOT INTERFERE WITH THE LONG TERM MAINTENANCE OF THE INFRASTRUCTURE WITHIN EASEMENT AREA, NO CODE REQUIRED LANDSCAPING MAY BE LOCATED IN ANY STREET EASEMENT OR RIGHT-OF-WAY, TO AVOID CONFLICTS WITH OVERHEAD UTILITY LINES, ONLY TREES LESS THAN 20 FEET IN HEIGHT AT MATURITY MAY BE USED DIRECTLY ADJACENT TO AN OVERHEAD LINE. VARIANCES OR DEVIATIONS FROM THE REQUIREMENTS OF THIS SUBSECTION ARE PROHIBITED.
- SAFE SIGHT DISTANCE TRIANGLES AT INTERSECTIONS AND VEHICLE CONNECTIONS, WHERE AN ACCESS WAY INTERSECTS A RIGHT-OF-WAY OR WHEN A PROPERTY ABUTS THE INTERSECTION OF TWO OR MORE RIGHTS-OF-WAY, A MINIMUM SAFE SIGHT DISTANCE TRIANGULAR AREA MUST BE ESTABLISHED. WITHIN THIS AREA, VEGETATION MUST BE PLANTED AND MAINTAINED IN A WAY THAT PROVIDES UNOBSTRUCTED VISIBILITY AT A LEVEL BETWEEN 30 INCHES AND EIGHT FEET ABOVE THE CROWN OF THE ADJACENT ROADWAY. LANDSCAPING MUST BE LOCATED IN ACCORDANCE WITH THE ROADSIDE RECOVERY AREA PROVISIONS OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION'S MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE OF STREETS AND HIGHWAYS (FDOT GREEN BOOK) LOCATED APPROPRIATE.
- SIGNAGE LOCATED WITHIN OR ADJACENT TO LANDSCAPE BUFFER AREA. ALL TREES AND SHRUBS LOCATED WITHIN LANDSCAPE BUFFER MUST BE LOCATED SO AS NOT TO BLOCK THE VIEW OF SIGNAGE.
- IF A WALL OR FENCE IS PROPOSED, BUT NOT REQUIRED, THEN THE REQUIRED BUFFER PLANTINGS MUST BE INSTALLED ON THE EXTERIOR SIDE BETWEEN THE WALL AND THE ABUTTING PROPERTY OR STREET RIGHT-OF-WAY.
- MAINTENANCE OF LANDSCAPING. THE OWNER IS RESPONSIBLE FOR MAINTAINING THE REQUIRED LANDSCAPING IN A HEALTHY AND VIGOROUS CONDITION AT ALL TIMES. TREE AND PALM STAKING MUST BE REMOVED WITHIN 12 MONTHS AFTER INSTALLATION. ALL LANDSCAPES MUST BE KEPT FREE OF REFUSE, DEBRIS, DISEASE, PESTS, AND WEEDS. ONGOING MAINTENANCE TO PROHIBIT THE ESTABLISHMENT OF PROHIBITED INVASIVE EXOTIC SPECIES IS REQUIRED.
- PRUNING. VEGETATION REQUIRED BY THIS CODE MAY ONLY BE PRUNED TO PROMOTE HEALTHY, UNIFORM, NATURAL GROWTH OF THE VEGETATION (EXCEPT WHERE NECESSARY TO PROMOTE HEALTH, SAFETY, AND WELFARE) AND BE IN ACCORDANCE WITH AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS - TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (PRUNING) (A300, PART 1) BY THE AMERICAN NATIONAL STANDARD INSTITUTE, AND "BEST MANAGEMENT PRACTICES" (TREE PRUNING) BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA).

TREES MUST NOT BE SEVERELY PRUNED TO PERMANENTLY MAINTAIN GROWTH AT A REDUCED HEIGHT OR SPREAD. PRUNING MUST NOT INTERFERE WITH THE DESIGN INTENT OF THE ORIGINAL INSTALLATION. SEVERELY PRUNED TREES MUST BE REPLACED BY THE PROPERTY OWNER. REPLACEMENT TREES MUST MEET THE TREE SIZE REQUIREMENTS OF LDC SECTION 10-420. A PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS WHICH MIGHT ARISE (IE, VIEWS, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION, SIDEWALKS, BUILDINGS, AND SIMILAR CONFLICTS).

SPECIFIC USES:

DIVISION 4 - SPECIFIC USES.
CHAPTER 33 - PLANNING COMMUNITY REGULATIONS.

NOTICE TO ALL CONTRACTORS

IT'S THE LAW IN FLORIDA 2 BUSINESS DAYS BEFORE YOU DIG

CALL SUNSHINE 1-800-44-4770

CALL SUNSHINE 1-800-432-4770

STATE, COUNTIES & OTES ARE NOT PART OF THE ONE CALL SYSTEM THEY MUST BE CALLED INDIVIDUALLY.

STOP

CALL SUNSHINE 1-800-44-4770

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CALL SUNSHINE 1-800-432-4770

STOP

CALL SUNSHINE 1-800-44-47

NO.	REVISIONS DESCRIPTION	DATE

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

NON-REGULATORY
WAYFINDING
SIGNAGE PLAN

SHEET NUMBER

L06

NOTE:
CONTRACTOR SHALL COORDINATE SIGN GRAPHICS AND COLORS WITH LEE COUNTY PARKS AND RECREATION.

NON-REGULATORY SIGNAGE KEY

A. METAL ENTRANCE SIGN

Sign, 1 each of 1 FT L x 2 FT W metal, "Entrance" sign with 6 FT H 4 X 4 wood post.

B. PARKING FEE SIGN

Sign, 1 each of 2 FT x 2 FT metal, "Parking Fee Required" with 3 IN W x 6 FT H metal post.

C. DO NOT FEED BIRDS SIGN

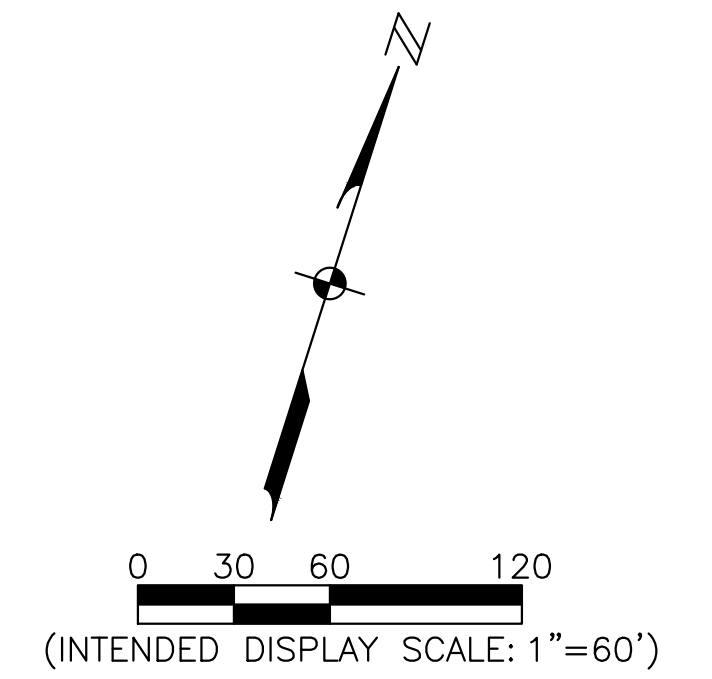
Sign, 1 each of metal, "Do Not Feed the Birds", 1.5 FT wide x 2 FT high.

D. FISH CLEANING TABLE GUIDELINES

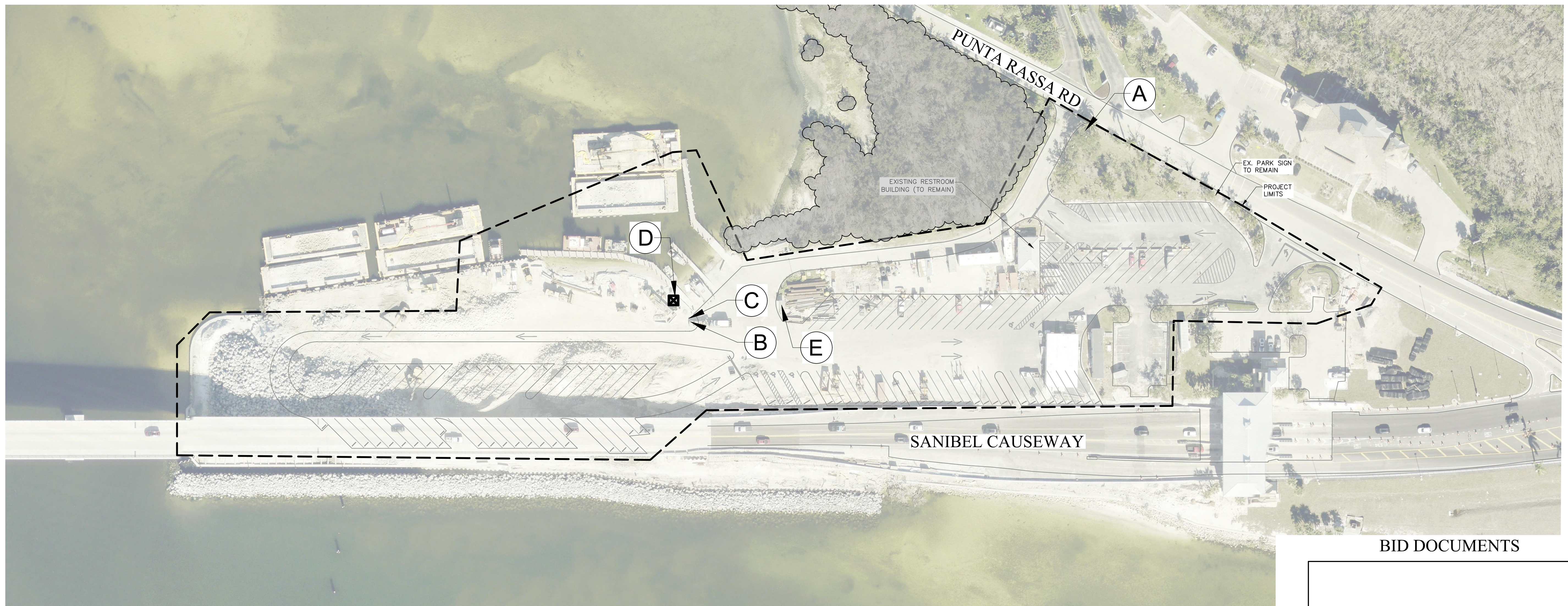
Sign, 1 each of metal, "Fish Cleaning Table Guidelines", 24 IN wide x 30 IN high.

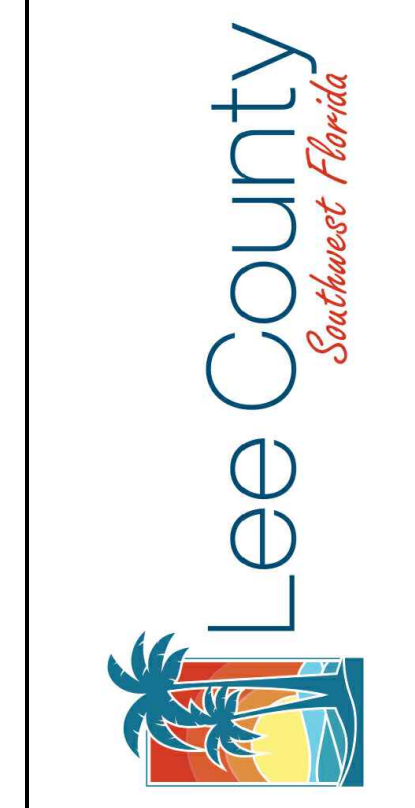
E. PAY PARKING INFORMATION SIGN

Sign, 1 each of metal, "Pay Parking Information", 4 FT wide x 4 FT high.



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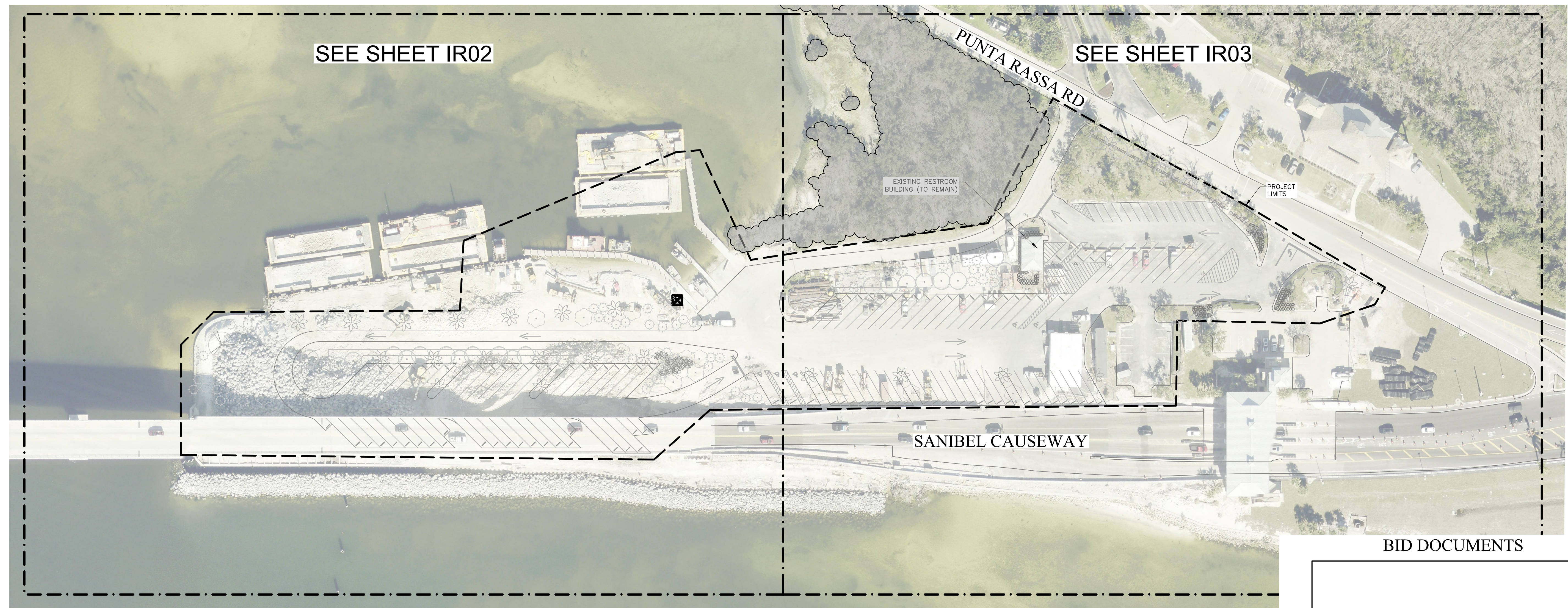
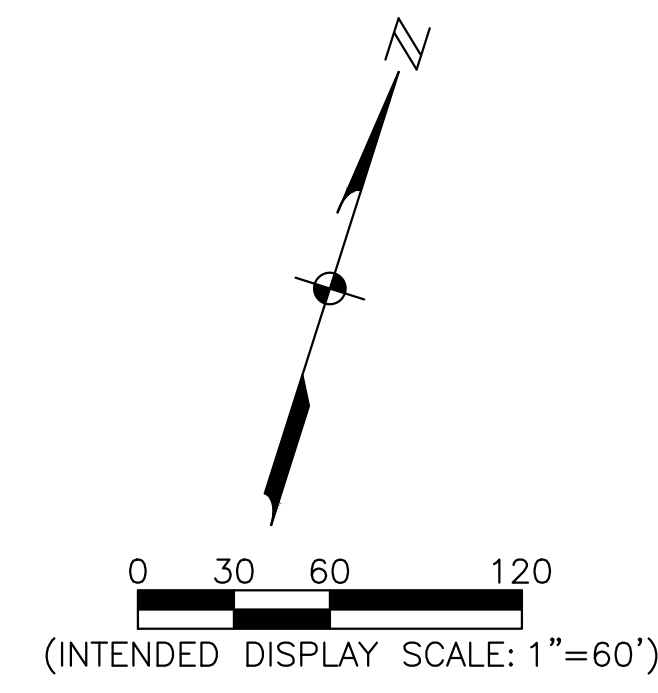
**PUNTA RASSA BOAT RAMP IMPROVEMENTS
LEE COUNTY, FLORIDA**

NO.	DESCRIPTION	DATE

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

IRRIGATION KEY
PLAN

SHEET NUMBER
IR01

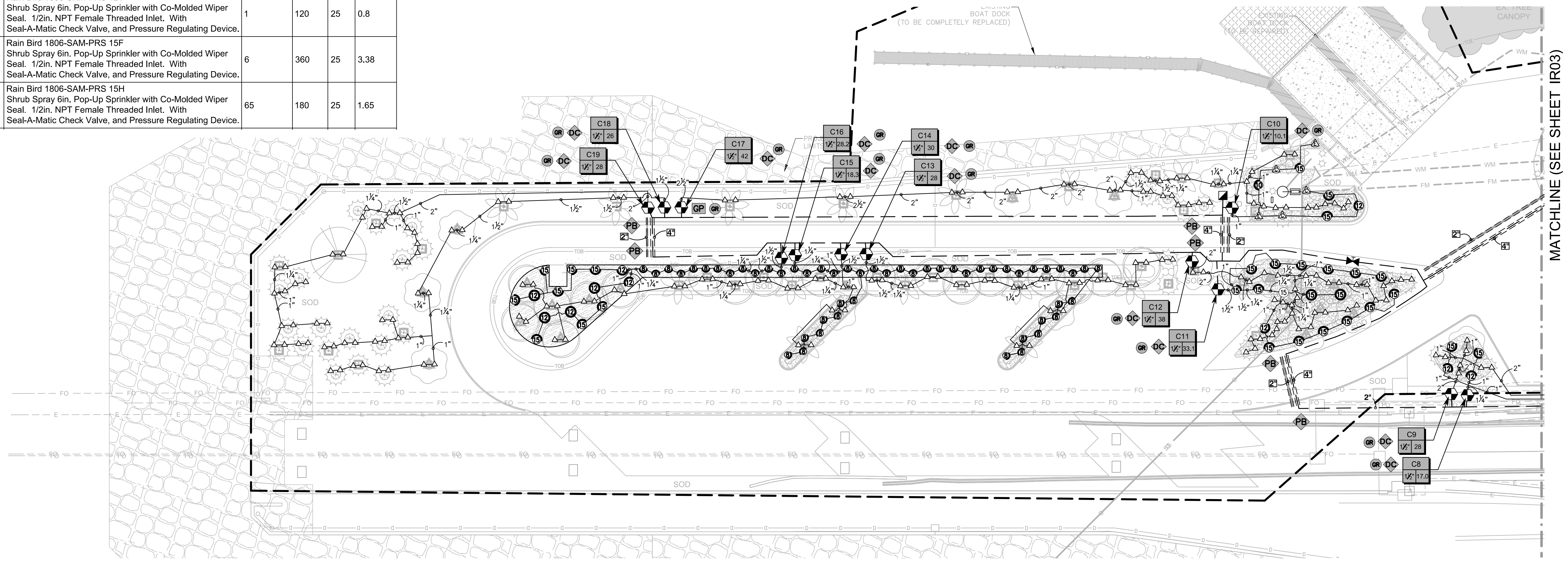
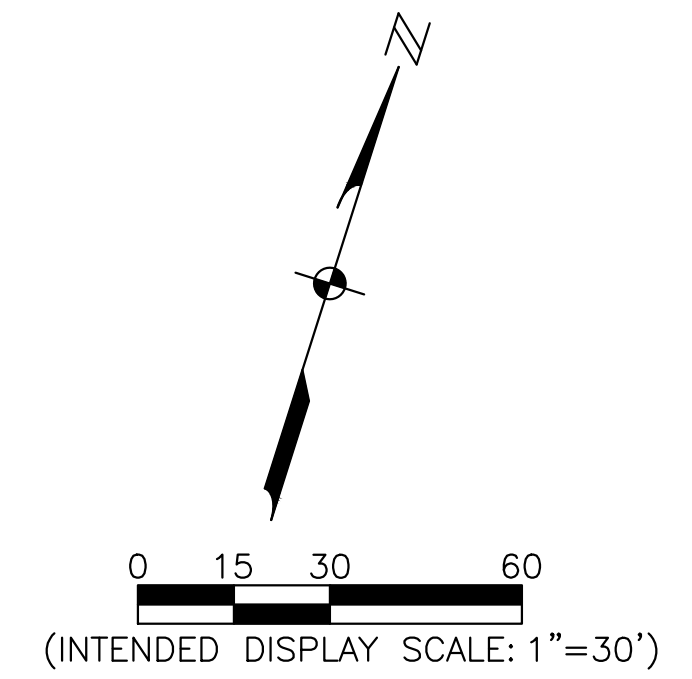
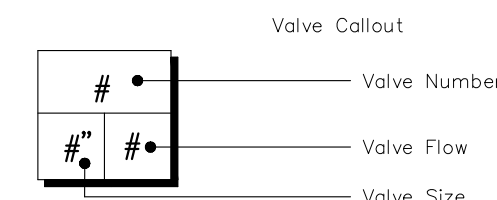


BID DOCUMENTS

IRRIGATION SCHEDULE					
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	ARC	PSI	GPM
▲	Rain Bird 1806-SAM-PRS 15CST Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	3	CST	25	1.11
▲	Rain Bird 1806-SAM-PRS 15EST Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	2	EST	25	0.56
▲	Rain Bird 1806-SAM-PRS 15LCS Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	2	LCS	25	0.45
▲	Rain Bird 1806-SAM-PRS 15RCS Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	4	RCS	25	0.45
▲	Rain Bird 1806-SAM-PRS 15SST Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	11	SST	25	1.11
●	Rain Bird 1806-SAM-PRS 08H Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	79	180	25	0.47
●	Rain Bird 1806-SAM-PRS 08Q Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	11	90	25	0.24
●	Rain Bird 1806-SAM-PRS 08T Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	2	120	25	0.32
●	Rain Bird 1806-SAM-PRS 10H Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	4	180	25	0.72
●	Rain Bird 1806-SAM-PRS 10T Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	1	120	25	0.48
●	Rain Bird 1806-SAM-PRS 12F Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	9	360	25	2.16
●	Rain Bird 1806-SAM-PRS 12H Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	15	180	25	1.2
●	Rain Bird 1806-SAM-PRS 12T Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	1	120	25	0.8
●	Rain Bird 1806-SAM-PRS 15F Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	6	360	25	3.38
●	Rain Bird 1806-SAM-PRS 15H Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	65	180	25	1.65

●	Rain Bird 1806-SAM-PRS 15Q Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	7	90	25	0.82
●	Rain Bird 1806-SAM-PRS 15T Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	4	120	25	1.1
●	Rain Bird 1806-SAM-PRS 15TQ Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	1	270	25	2.48
●	Rain Bird 1806-SAM-PRS 15V Shrub Spray 6in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve, and Pressure Regulating Device.	1	Adj	25	≤ 3.28
△	Rain Bird 1800-1400 Flood 1404 Fixed flow rate 0.25 GPM - 2.0 GPM, full circle bubbler, 1/2in. FIPT.	324	360	20	1
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY			
●	Rain Bird PESB-PRS-D 1-1/2" 1in., 1-1/2in., 2in., 3in., 3in. Plastic Industrial Remote Control Valve. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.	19			
■	Rain Bird 44-NP 1" 1in. Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Non-Potable Purple Rubber Cover, and 2-Piece Body.	1			
✂	Landscape Products Inc. BGV 2in Brass Gate Valve. Threaded bonnet, Non-rising stem, Pressure rated to 200 psi. Same size as mainline.	3			
●	Hunter ICV-G-DC-R 2" 1in., 1-1/2in., 2in., and 3in. Plastic Electric Master Valve, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use. With DC Latching Solenoid Factory Installed Option. Reclaimed Water ID, Purple Handle.	1			
□	Hunter A2C-75D-P 75-Station decoder controller in an outdoor plastic wall mount enclosure.	1			
◆	Hunter ICD-100 Single Station Decoder w/Surge Suppression and Ground Wire. To be installed on Universal Decoder Stake Kit (DECSTAKE10).	19			
●	Hunter MINI-CLIK Rain Sensor, mount as noted	1			

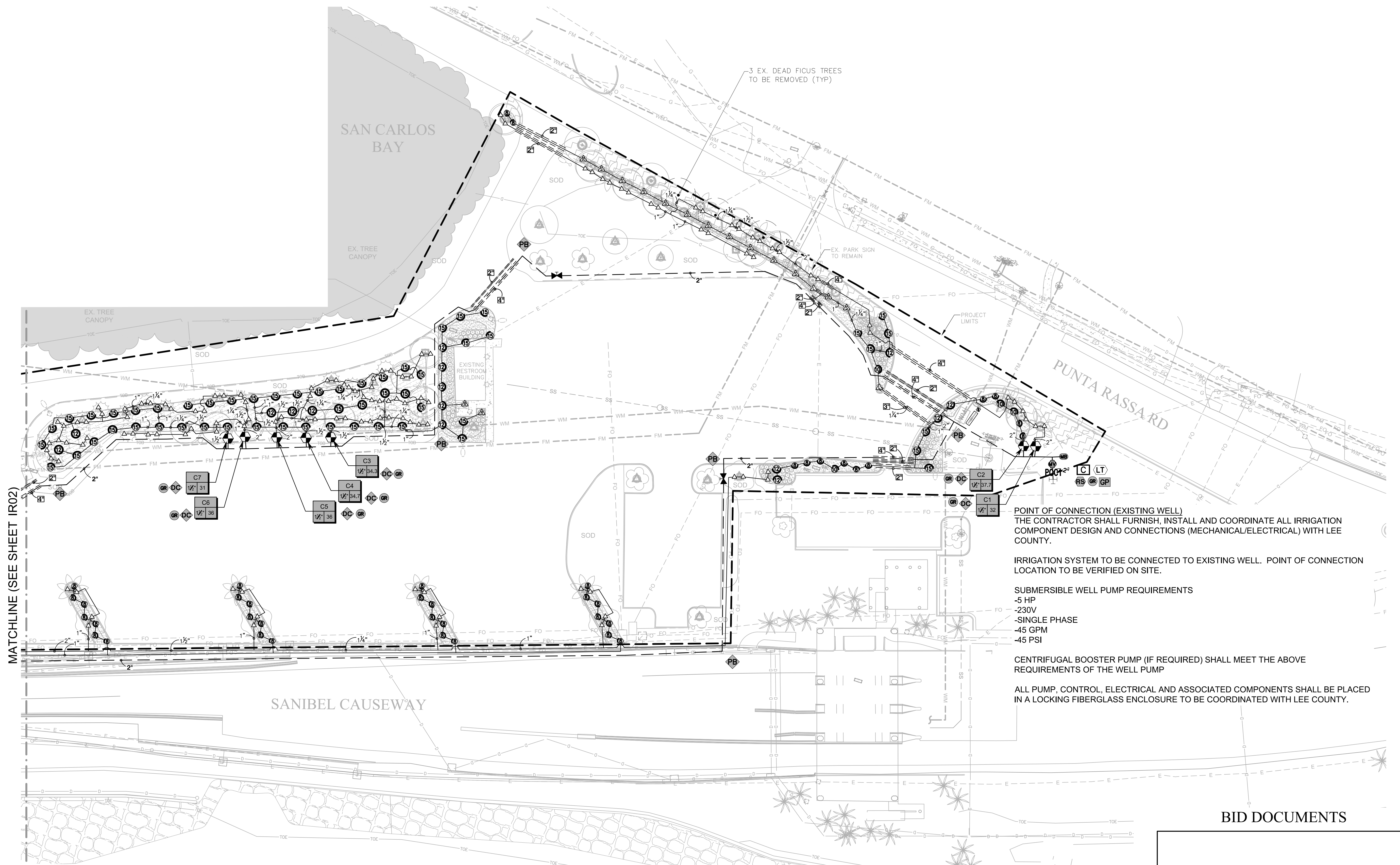
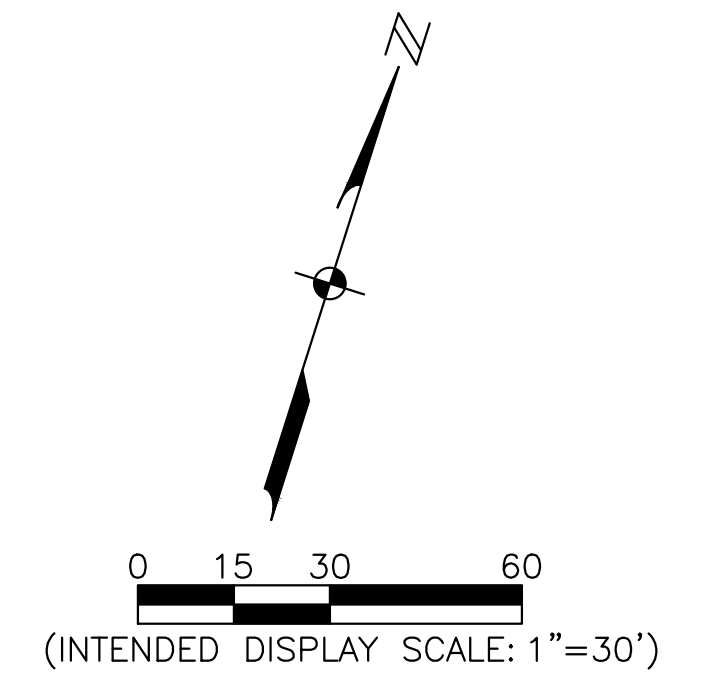
MB	Blow Off Assembly Main and submain flush/blow off assemblies per plan notes an details. Sizes to match main size. Install in a Carson Spec Grade (or approved equal) 14" x 19" x 12"H rectangle valve box purple box/purple lid overlapping RWDNDES w/ bolt stamped 'LCDOT IRRIGATION' with gravel, bricks, fabric, etc.	1			
GP	Grounding Plate 4" X 96" ground plate at controller and each end of the two wire path (if applicable). Connect ground plate to a 5/8" x 10' copper clad ground rod with a #6 bare copper wire	2			
GR	Grounding Rod Furnish and install 5/8" x 10' copper clad ground rod	21			
LT	HUNTER A2C-LTEM Cellular Communication Module (4G LTE) for ACC2 Controllers; service plan required.	1			
PB	Pull Box Furnish and install splice/pull/ junction boxes. Include a Carson Spec Grade (or approved equal) 14" x 19" x 12"H rectangle valve box purple box/purple lid overlapping RWDNDE w/ bolt stamped 'LCDOT IRRIGATION' with gravel, bricks, fabric, pull strings, etc.	12			
POCI	Point of Connection 2"	1			
	Irrigation Lateral Line: PVC Class 200 SDR 21 1"	5,057.5 l.f.			
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/4"	945.9 l.f.			
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/2"	544.4 l.f.			
	Irrigation Lateral Line: PVC Class 200 SDR 21 2"	779.3 l.f.			
	Irrigation Lateral Line: PVC Class 200 SDR 21 2 1/2"	95.0 l.f.			
	Irrigation Mainline: PVC Schedule 40 2"	2,780 l.f.			
	Pipe Sleeve: PVC Schedule 40 2"	269.5 l.f.			
	Pipe Sleeve: PVC Schedule 80 2"	96.4 l.f.			
	Pipe Sleeve: PVC Schedule 80 3"	39.7 l.f.			
	Pipe Sleeve: PVC Schedule 80 4"	336.9 l.f.			



NO.	DESCRIPTION	DATE

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

C:\2024\20247063-000\Landscape\DRAWINGS\247063-000-IRR.dwg (R02) tjr Dec 04, 2024 - 11:34am



POINT OF CONNECTION (EXISTING WELL)
THE CONTRACTOR SHALL FURNISH, INSTALL AND COORDINATE ALL IRRIGATION COMPONENT DESIGN AND CONNECTIONS (MECHANICAL/ELECTRICAL) WITH LEE COUNTY.

IRRIGATION SYSTEM TO BE CONNECTED TO EXISTING WELL. POINT OF CONNECTION LOCATION TO BE VERIFIED ON SITE.

SUBMERSIBLE WELL PUMP REQUIREMENTS
-5 HP
-230V
-SINGLE PHASE
-45 GPM
-45 PSI

CENTRIFUGAL BOOSTER PUMP (IF REQUIRED) SHALL MEET THE ABOVE REQUIREMENTS OF THE WELL PUMP

ALL PUMP, CONTROL, ELECTRICAL AND ASSOCIATED COMPONENTS SHALL BE PLACED IN A LOCKING FIBERGLASS ENCLOSURE TO BE COORDINATED WITH LEE COUNTY.

NO.	DESCRIPTION	DATE

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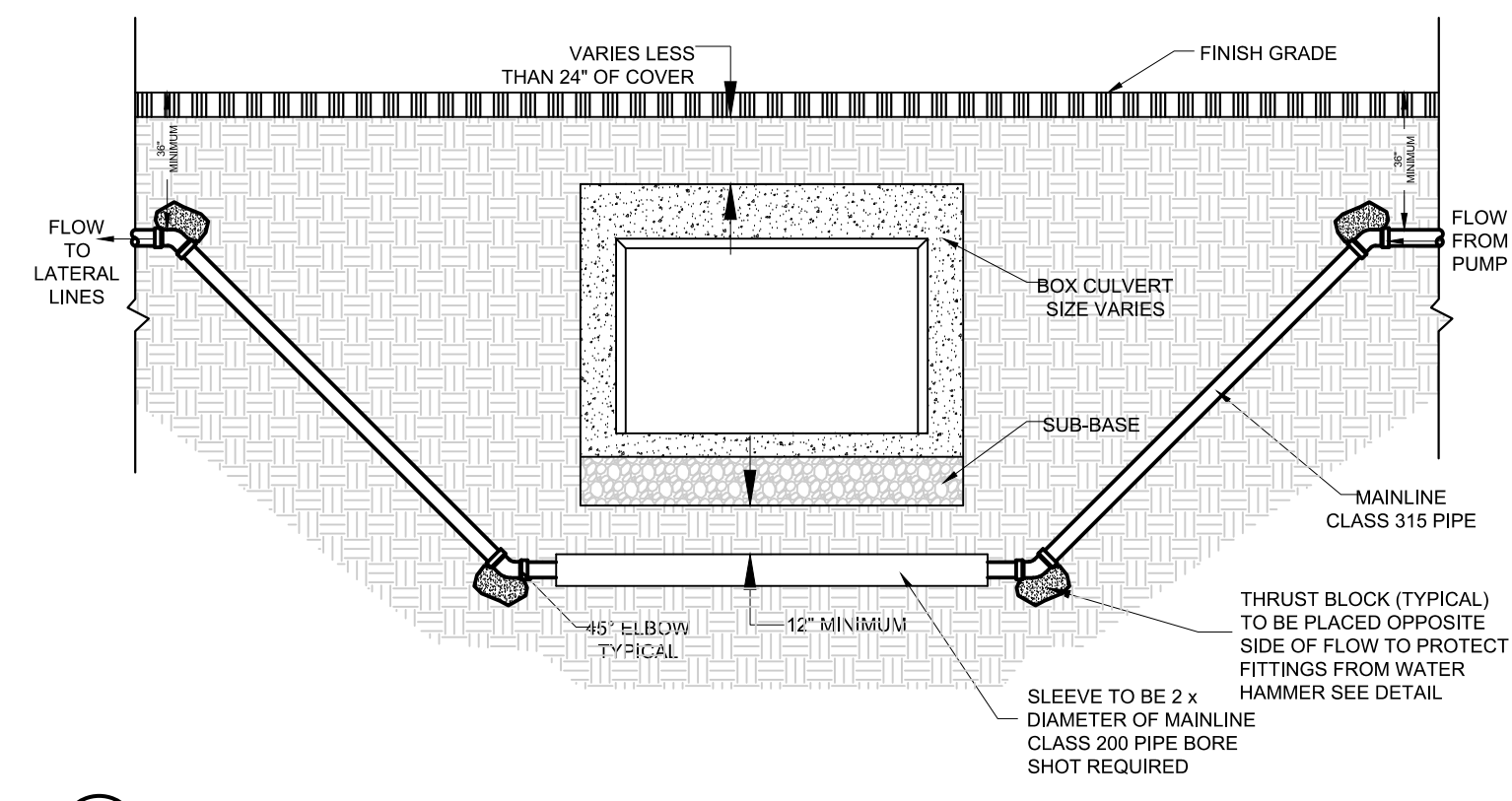
IRRIGATION PLAN

SHEET NUMBER

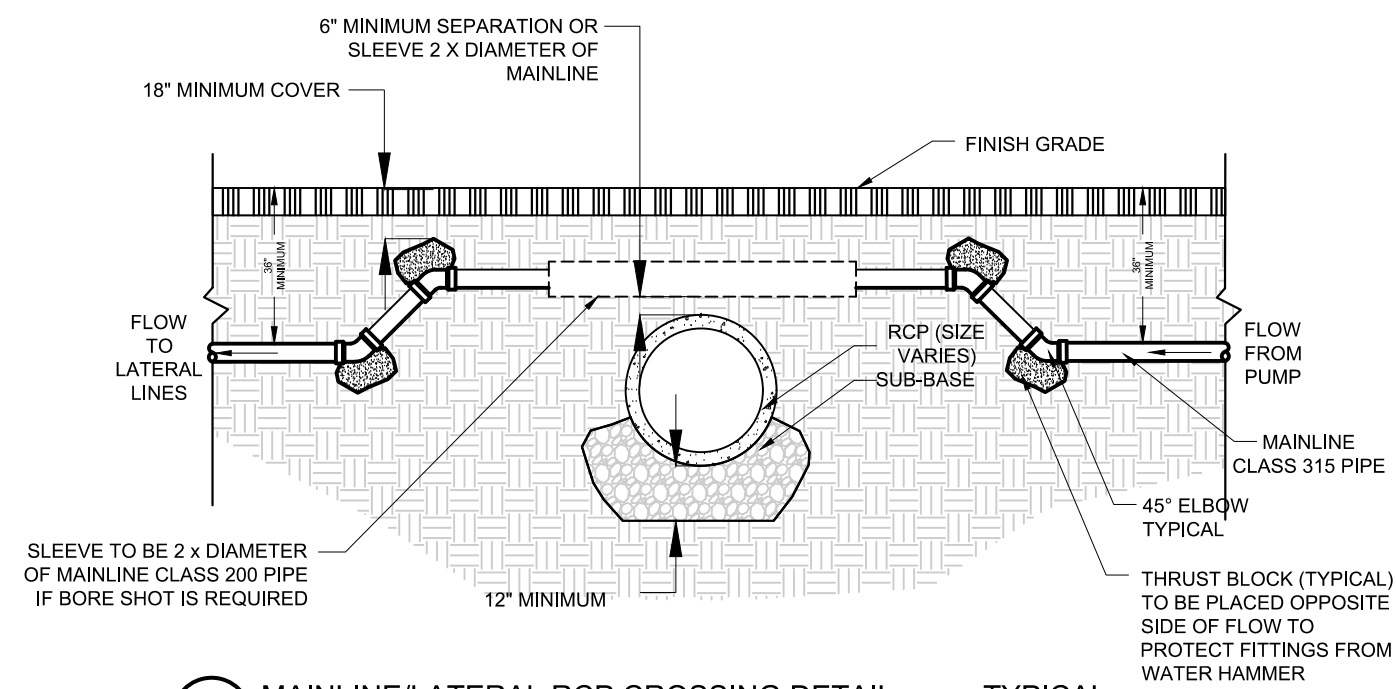
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IRRIGATION INSTALLATION DETAILS:

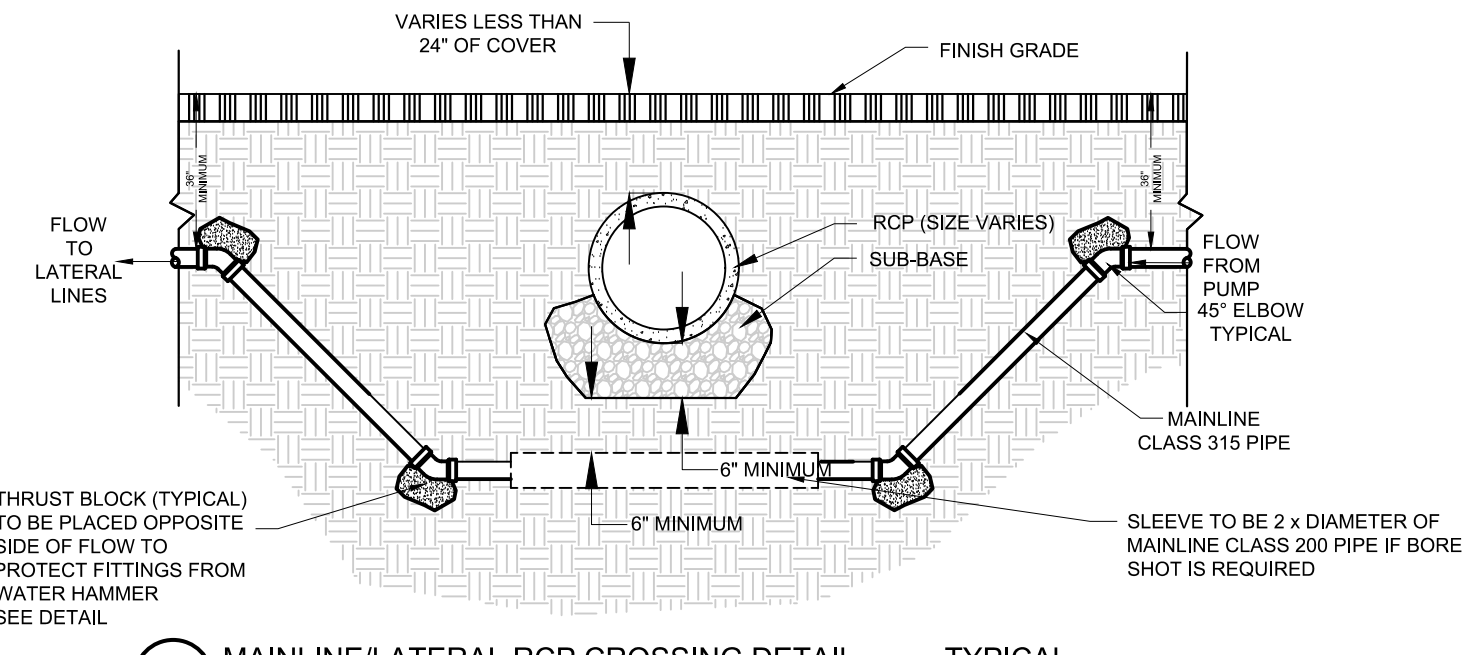
IRRIGATION DETAILS (Substitutions Only with Written Approval):



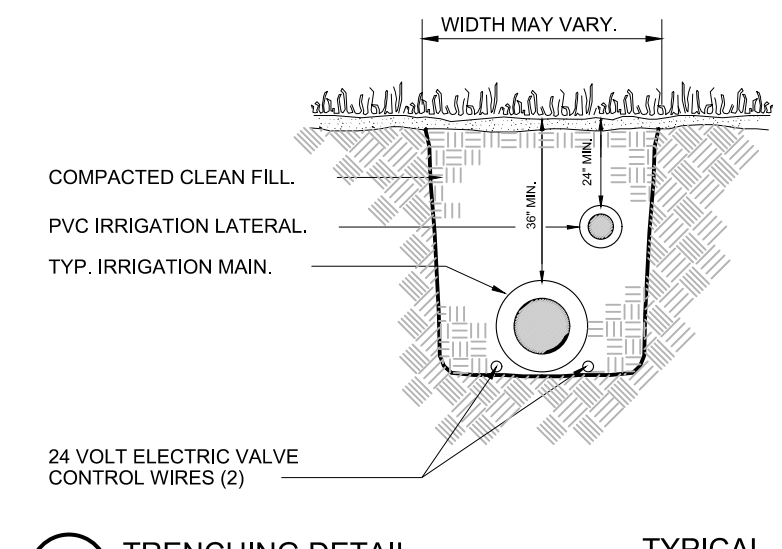
1 MAINLINE/LATERAL CULVERT CROSSING DETAIL -TYPICAL
N.T.S.
NOTES:
THIS DETAIL REPRESENTS SOLUTION WHERE 36\"/>



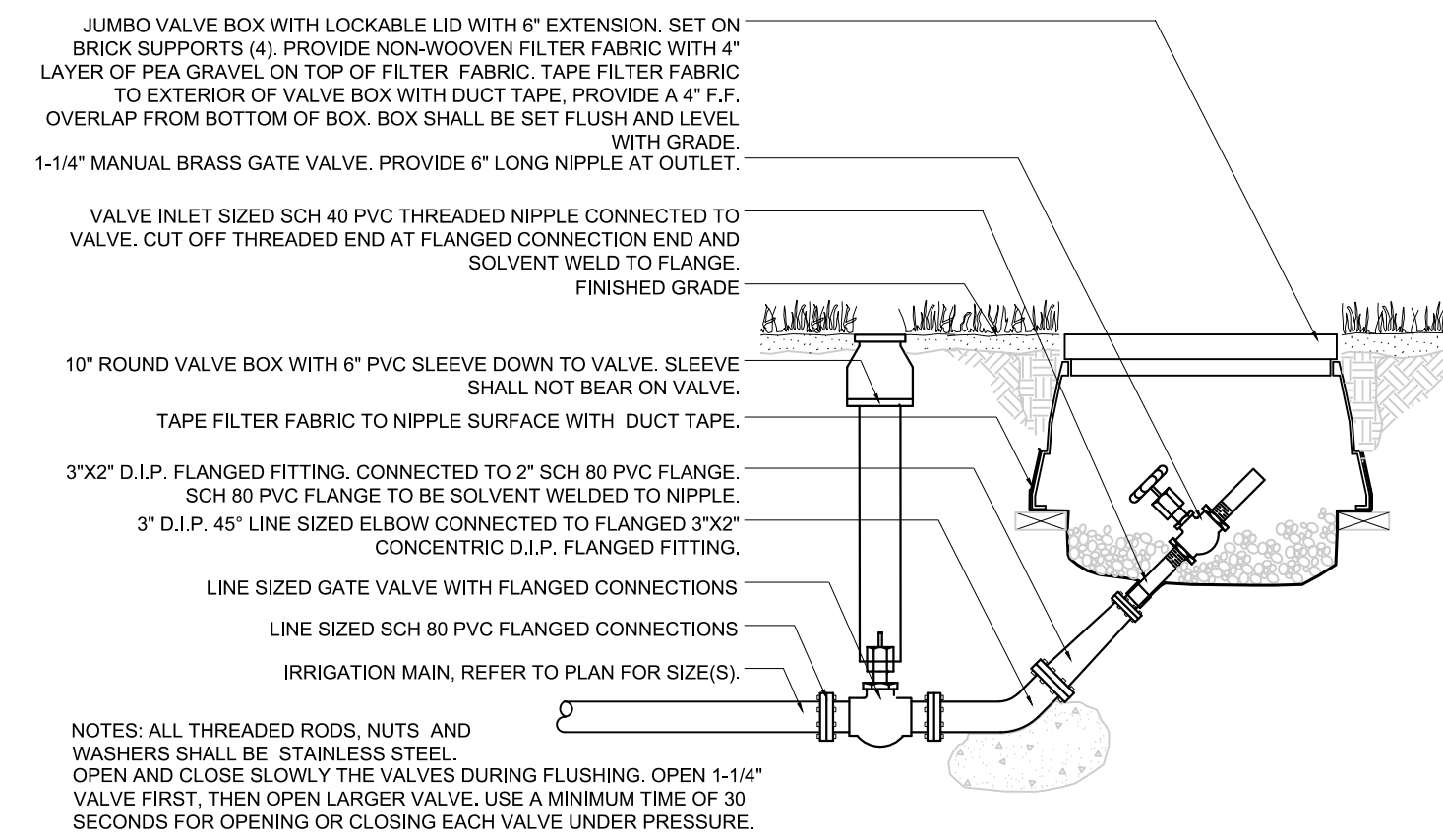
2 MAINLINE/LATERAL RCP CROSSING DETAIL -TYPICAL
N.T.S.
NOTES:
THIS DETAIL REPRESENTS SOLUTION WHERE 36\"/>



3 MAINLINE/LATERAL RCP CROSSING DETAIL -TYPICAL
N.T.S.
NOTES:
1. THIS DETAIL REPRESENTS SOLUTION WHERE 36\"/>



4 TRENCHING DETAIL -TYPICAL
N.T.S.
NOTES:
PULLING PIPE IS PROHIBITED. ALL IRRIGATION PIPES AND ELECTRICAL WIRES SHALL BE IN SEPARATE SLEEVES. ANY PIPE RUNNING UNDER ANY PAVED SURFACE SHALL BE SLEEVED WHETHER SHOWN OR NOT.

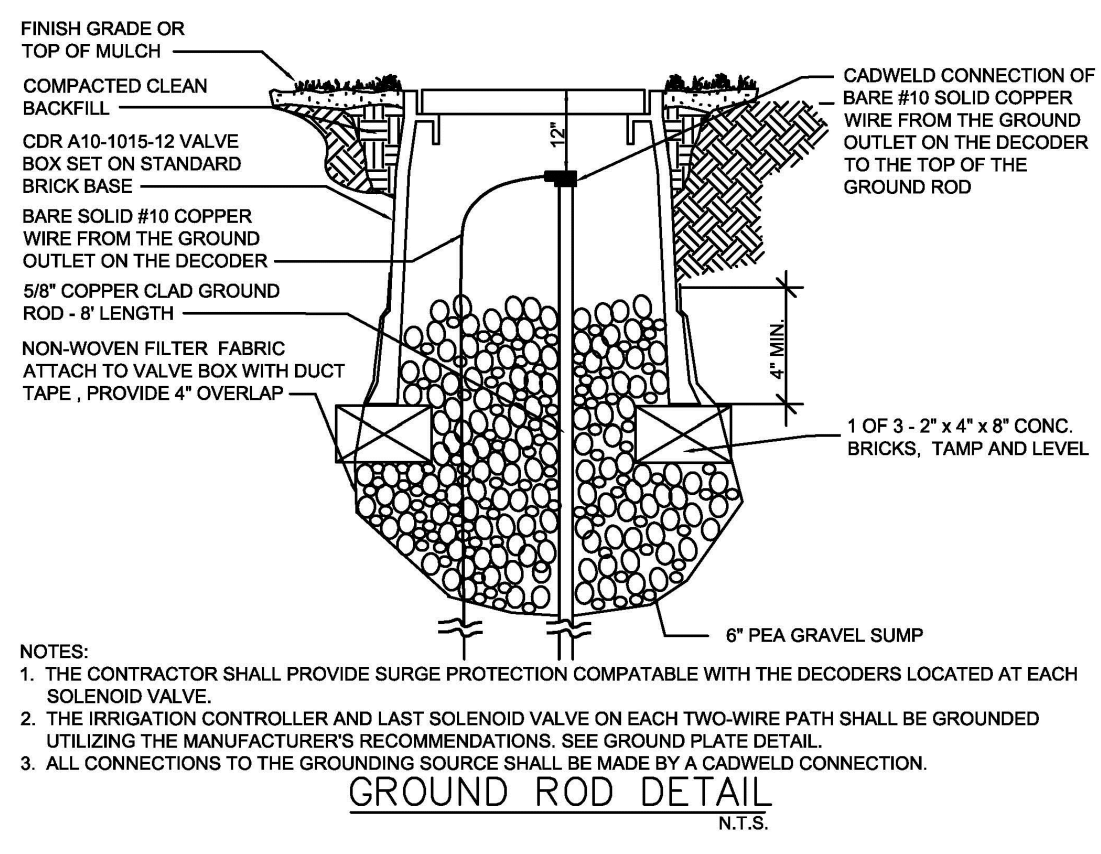
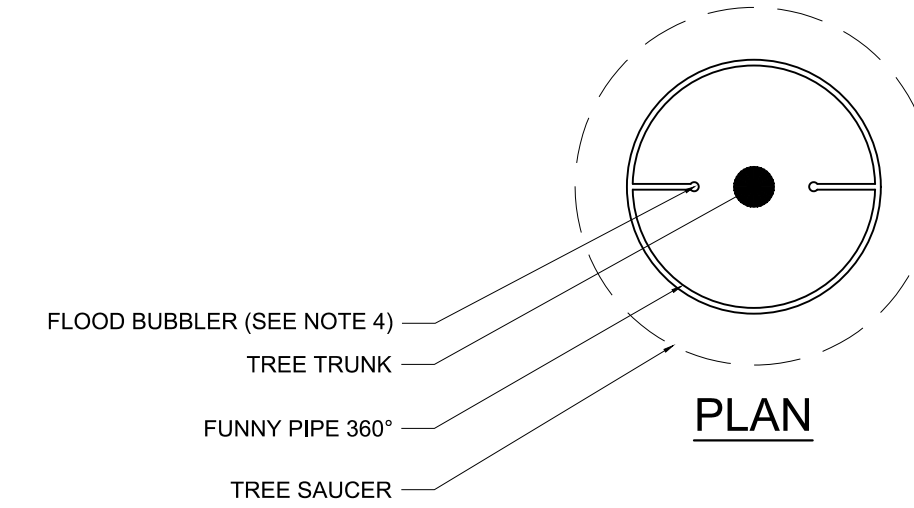


5 IRRIGATION MAIN BLOW OFF N.T.S.

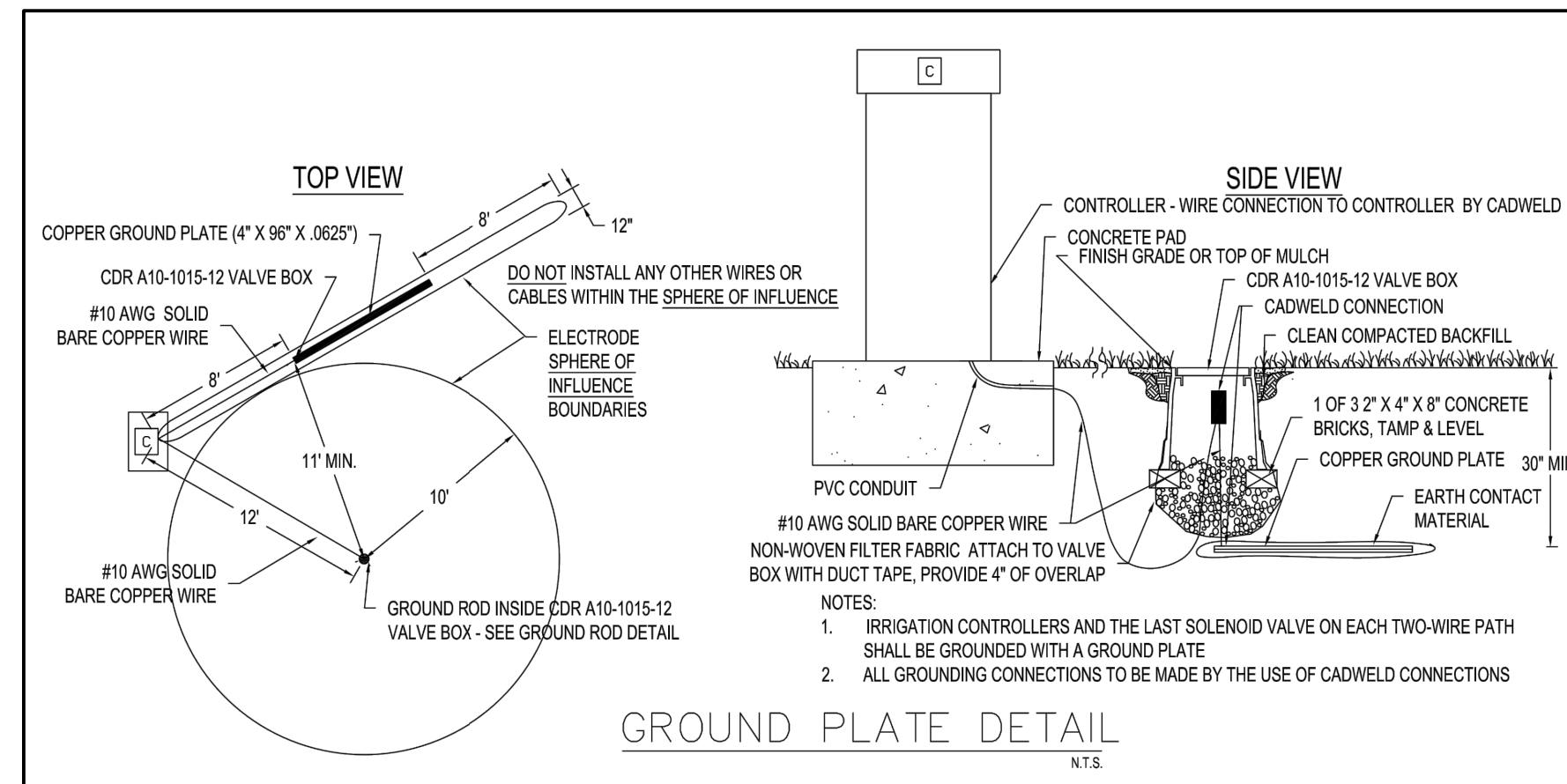
NOTICE TO ALL CONTRACTORS

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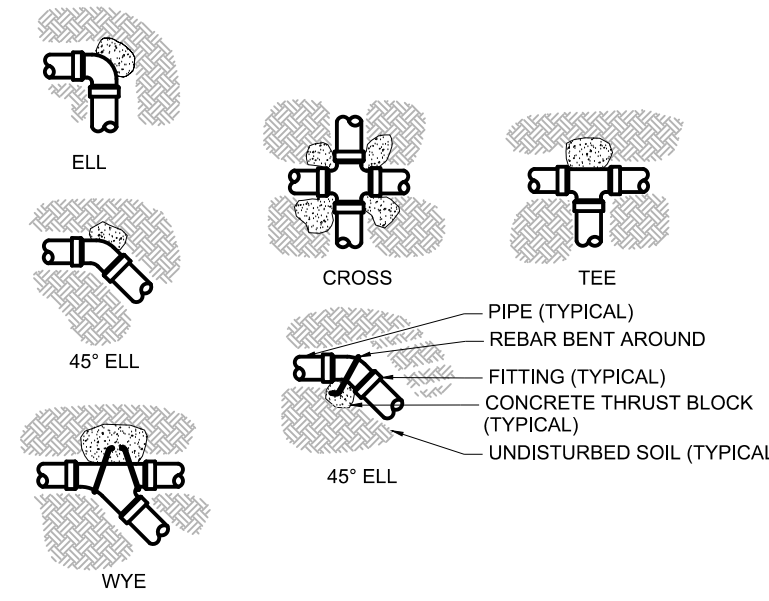
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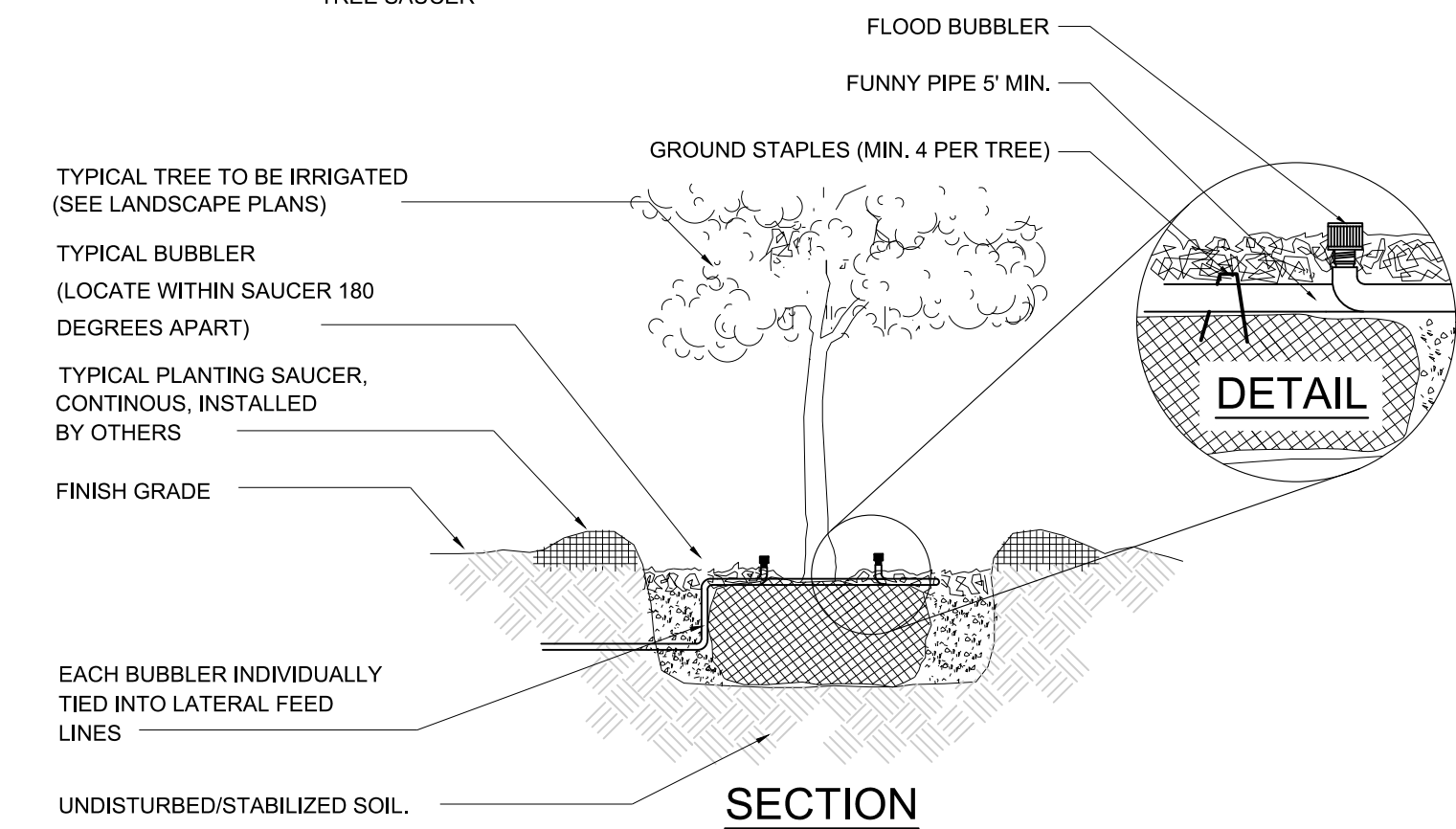
6 GROUND ROD -TYPICAL
N.T.S.
NOTES:
1. THE CONTRACTOR SHALL PROVIDE SURGE PROTECTION COMPATIBLE WITH THE DECODERS LOCATED AT EACH SOLENOID VALVE.
2. THE IRRIGATION CONTROLLER AND LAST SOLENOID VALVE ON EACH TWO-WIRE PATH SHALL BE GROUNDED UTILIZING THE MANUFACTURER'S RECOMMENDATIONS. SEE GROUND PLATE DETAIL.
3. ALL CONNECTIONS TO THE GROUNDING SOURCE SHALL BE MADE BY A CADWELDED CONNECTION.



7 GROUND PLATE DETAIL -TYPICAL
N.T.S.



8 THRUST BLOCK DETAILS -TYPICAL
N.T.S.



9 BUBBLER APPLICATION DETAIL N.T.S.
NOTES:
1. BUBBLERS ARE TO BE PLACED AT THE MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND THE MAIN TRUNK, PER REQUEST BY OTHERS.
2. THE BUBBLERS SHALL BE PLACED 180\"/>

NO.	REVISIONS	DATE

DATE: DECEMBER 2024
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SCALE: AS SHOWN

IRRIGATION
DETAILS

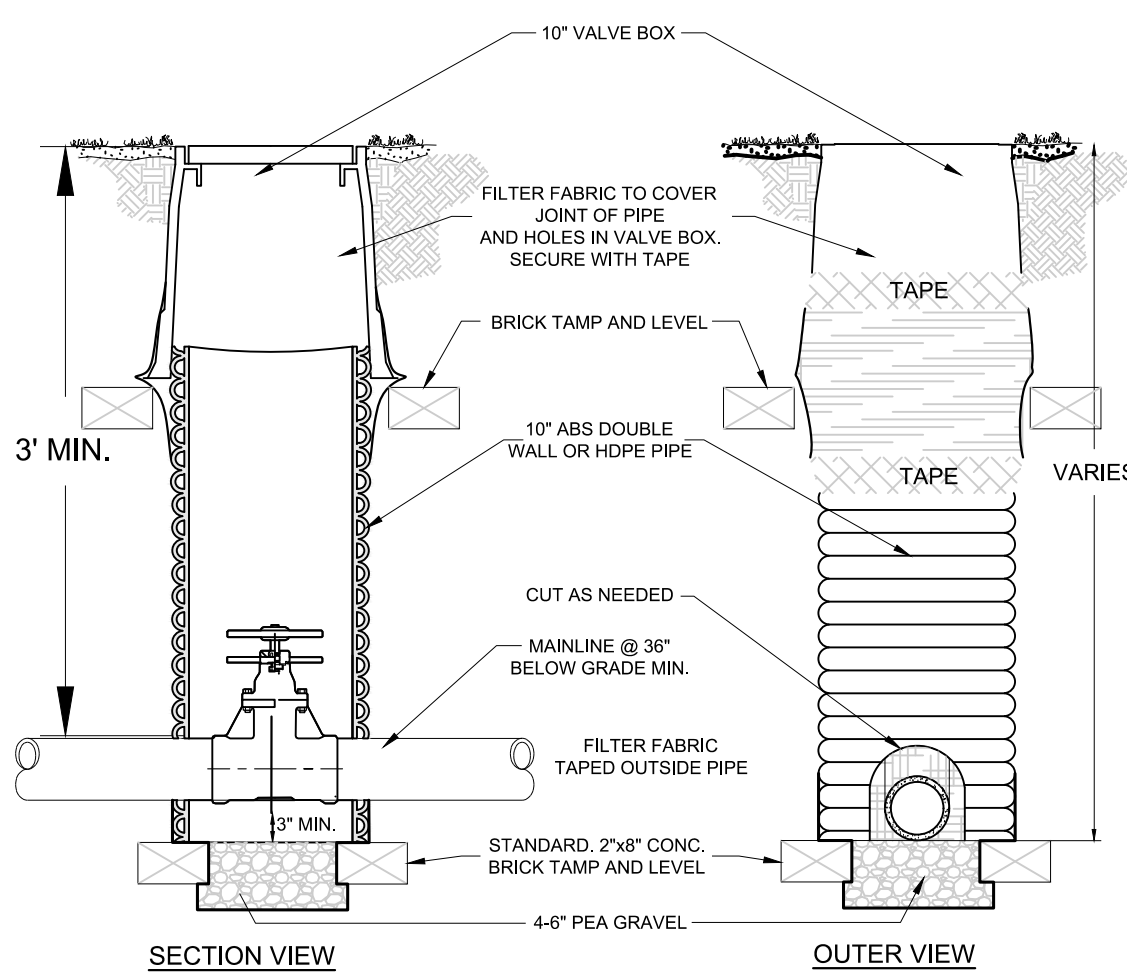
BID DOCUMENTS

SHEET NUMBER

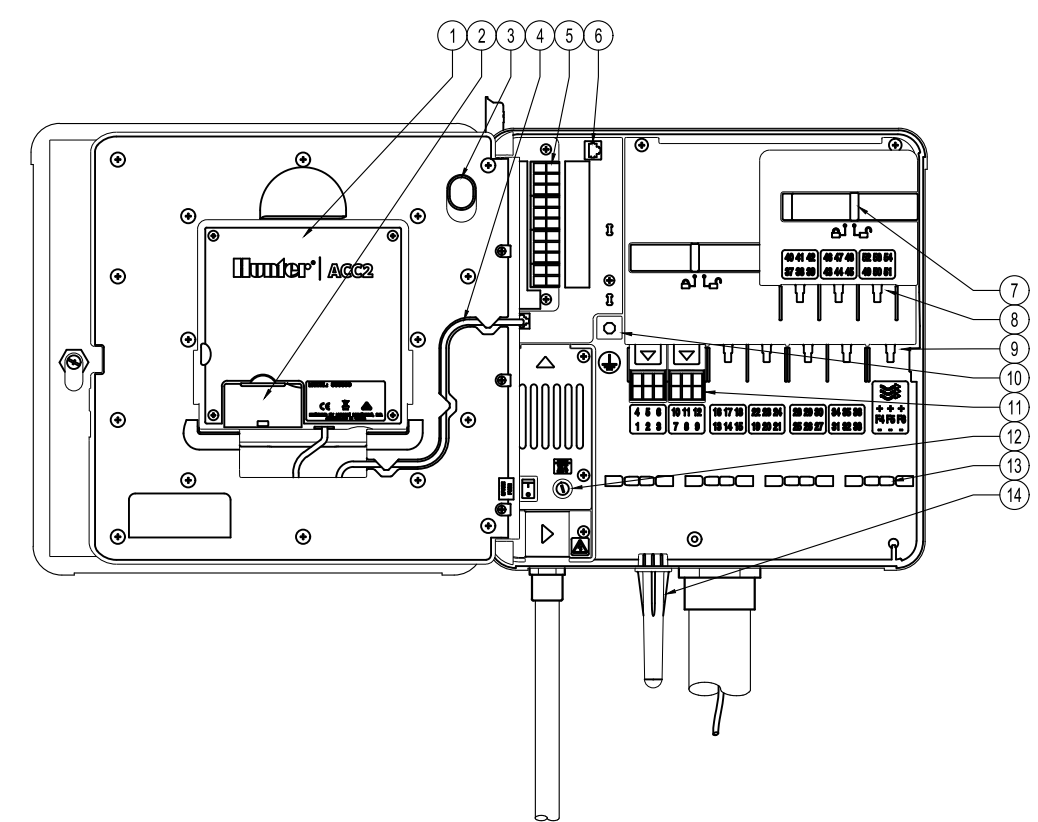
IR04

IRRIGATION INSTALLATION DETAILS:

IRRIGATION DETAILS (Substitutions Only with Written Approval):



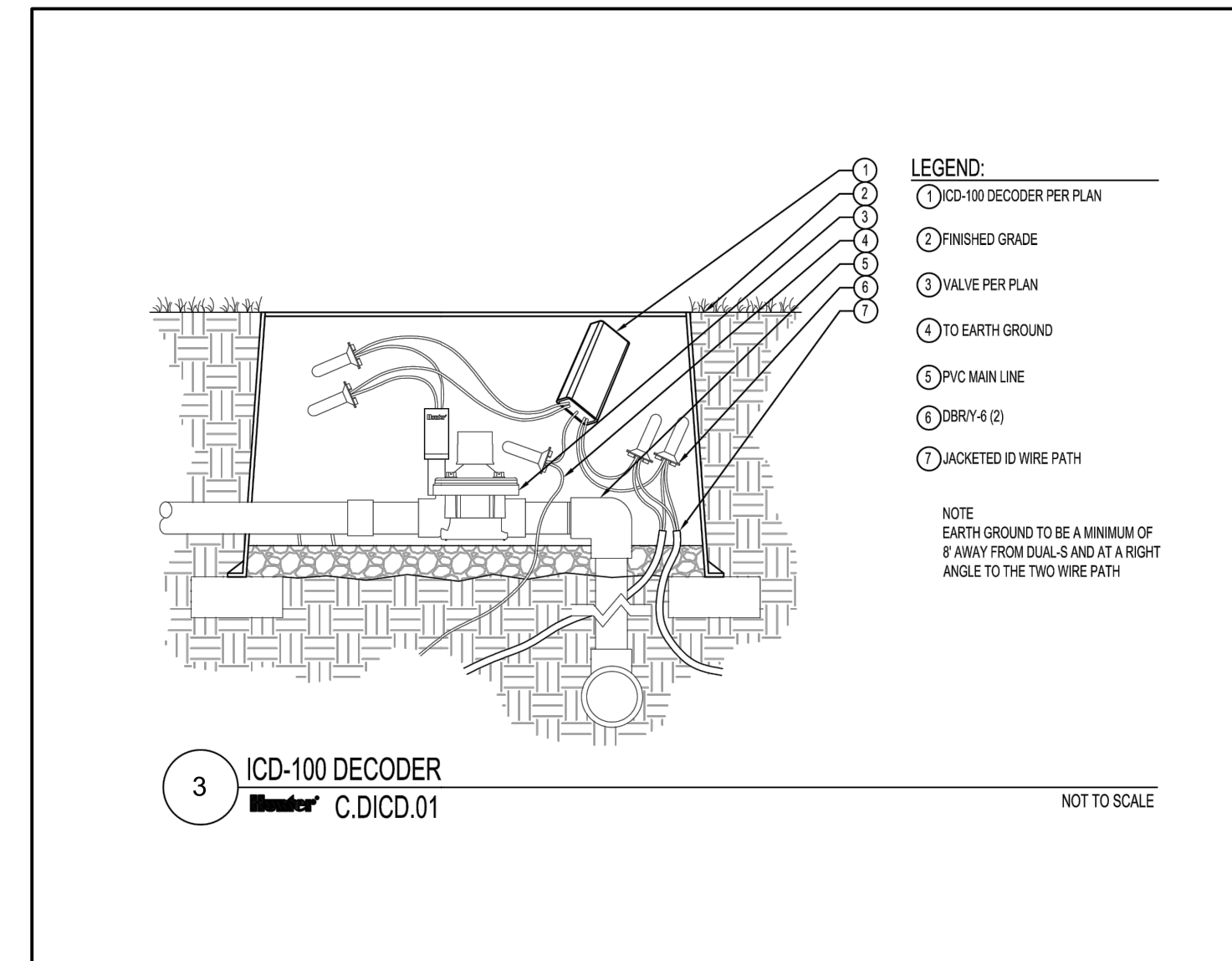
1 GATE/ ISOLATION VALVE DETAIL N.T.S.



2 HUNTER AC2 CONTROLLER N.T.S.

LEGEND:
 1 FACEPACK
 2 WFI OR LAN SLOT
 3 FACE FRAME RELEASE
 4 FACEPACK CONNECTION CABLE
 5 POWER SUPPLY BOARD
 6 SYNCPORT
 7 SLIDE LOCKS
 8 EXPANSION MODULE SLOT
 9 FLOW EXPANSION MODULE SLOT
 10 EARTH GROUND LUG
 11 EXPANSION MODULE
 12 TRANSFORMER FUSE
 13 WIRE TIE HOLDERS
 14 ANTENNA

NOTE:
 MOUNT CONTROLLER LCD SCREEN AT EYE LEVEL.
 CONTROLLER SHALL BE HARDWIRED TO GROUND
 110 VAC POWER SOURCE



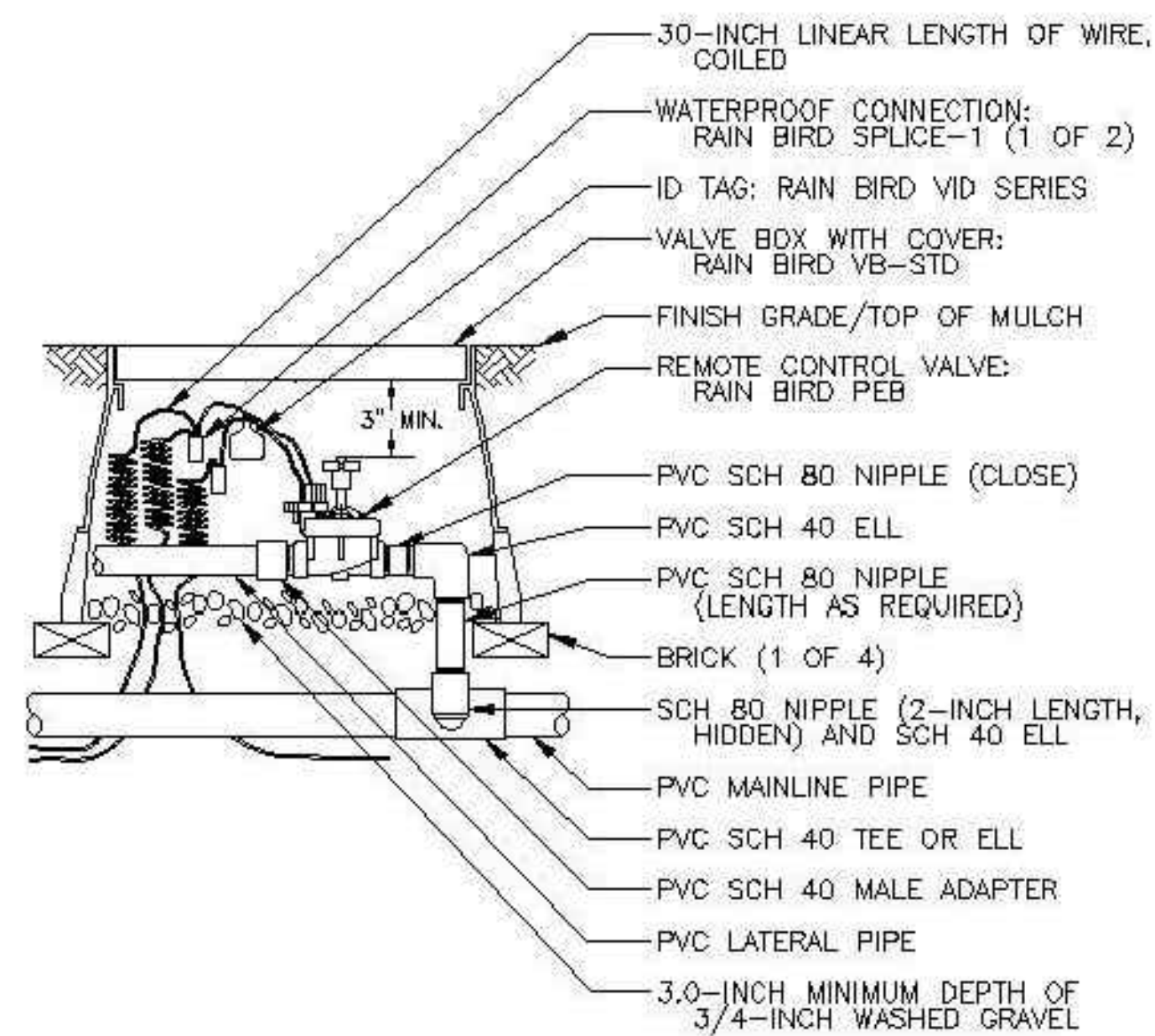
3 ICD-100 DECODER
Hunter C.DICD.01 NOT TO SCALE

STEP NO. 1.
 STRIP WIRE INSULATION 3/4"
 INSERT WIRES INTO THE
 CONNECTOR AND TIGHTEN IN A
 CLOCKWISE DIRECTION UNTIL SECURE.

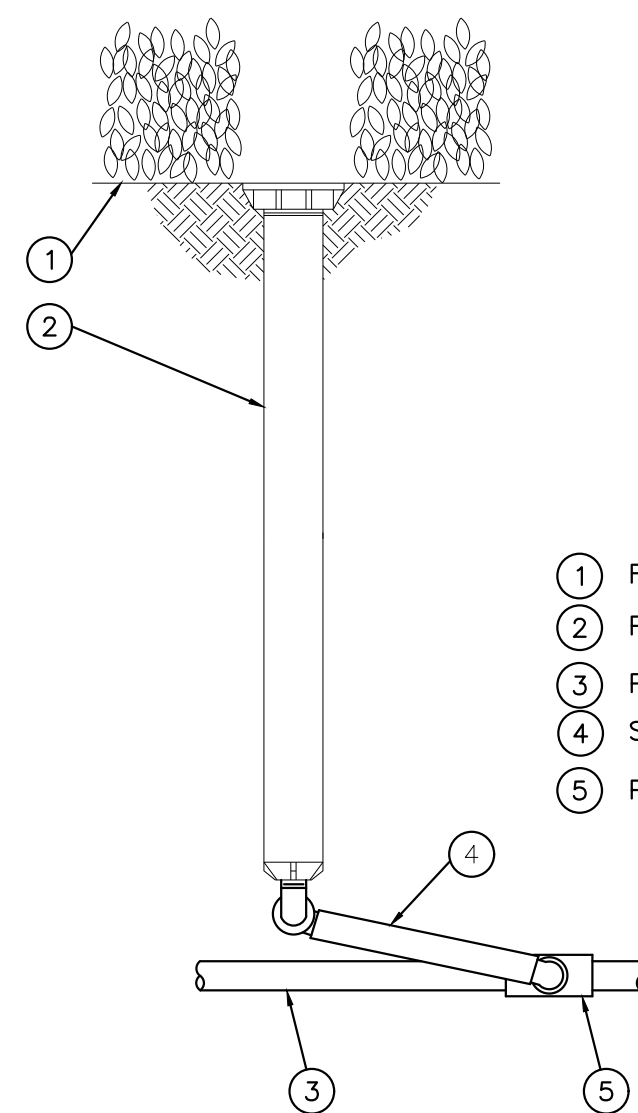
STEP NO. 2.
 INSERT SPLICE TO BOTTOM
 OF GEL-FILLED TUBE.
 VISUALLY CHECK TO MAKE
 SURE DDBRY'S CONNECTOR
 HAS BEEN PUSHED PAST THE
 LOCKING FINGERS AND
 IS SEATED ON THE
 BOTTOM OF THE TUBE.

STEP NO. 3.
 FOLD THE WIRES INTO
 THE CHANNELS AND
 CLOSE INSULATOR
 TUBE COVER.

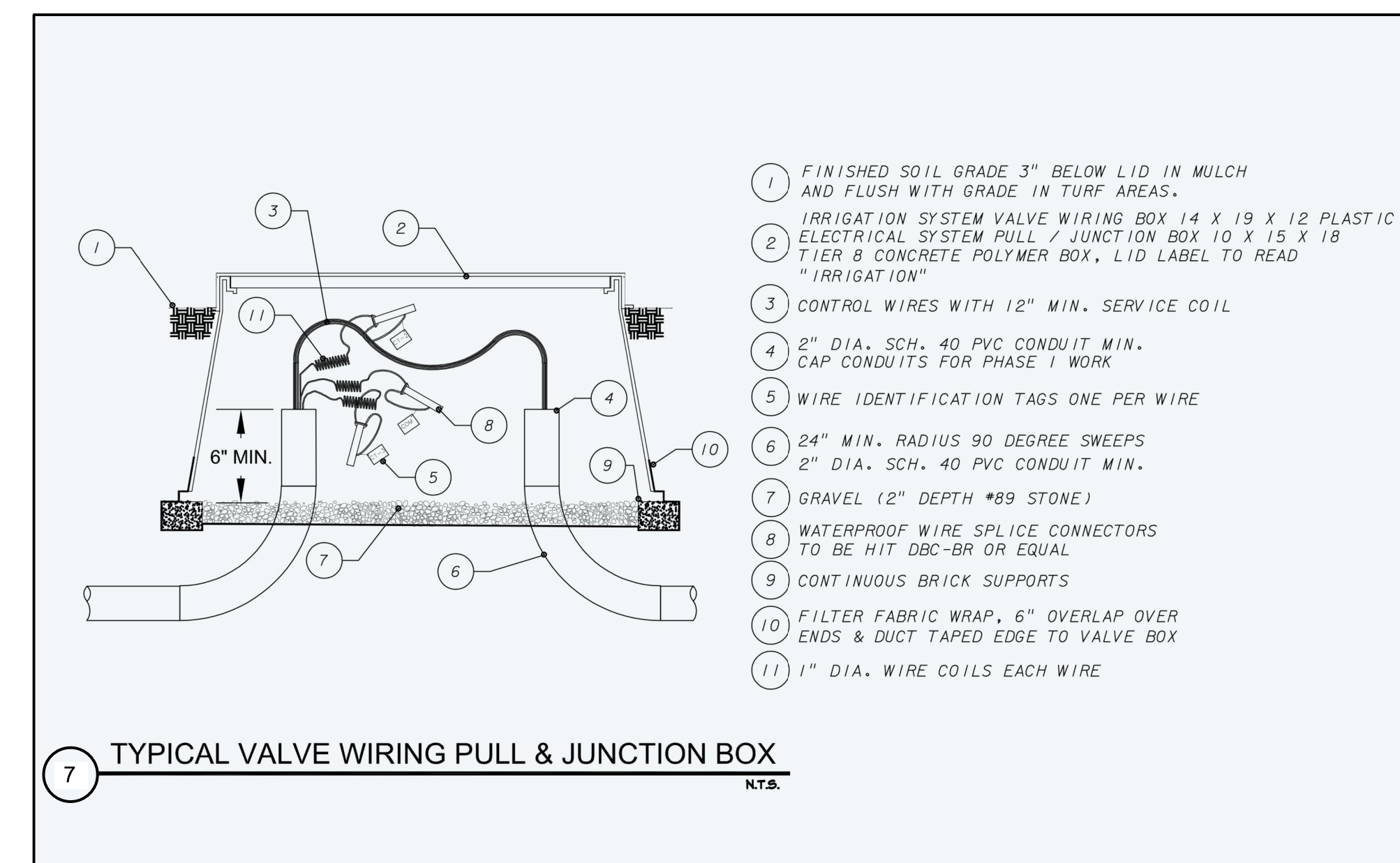
4 24-VOLT WIRE CONNECTION DETAIL -TYPICAL N.T.S.



5 ELECTRIC REMOTE-CONTROL VALVE
PEB OR PEBS SERIES
N.T.S. 1-23-04
V-PEB or PEBS.DWG



6 POP-UP SPRAY SPRINKLER N.T.S.



7 TYPICAL VALVE WIRING PULL & JUNCTION BOX N.T.S.

NOTICE TO ALL CONTRACTORS

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STATE, COUNTIES & CITIES
 ARE "NOT" PART OF THE
 ONE CALL SYSTEM.THEY
 MUST BE CALLED
 INDIVIDUALLY.

NO.	REVISIONS DESCRIPTION	DATE

DATE: DECEMBER 2024
 PROJECT NO. 20247063-000
 FILE NO. 09-46-23
 SCALE: AS SHOWN

IRRIGATION DETAILS

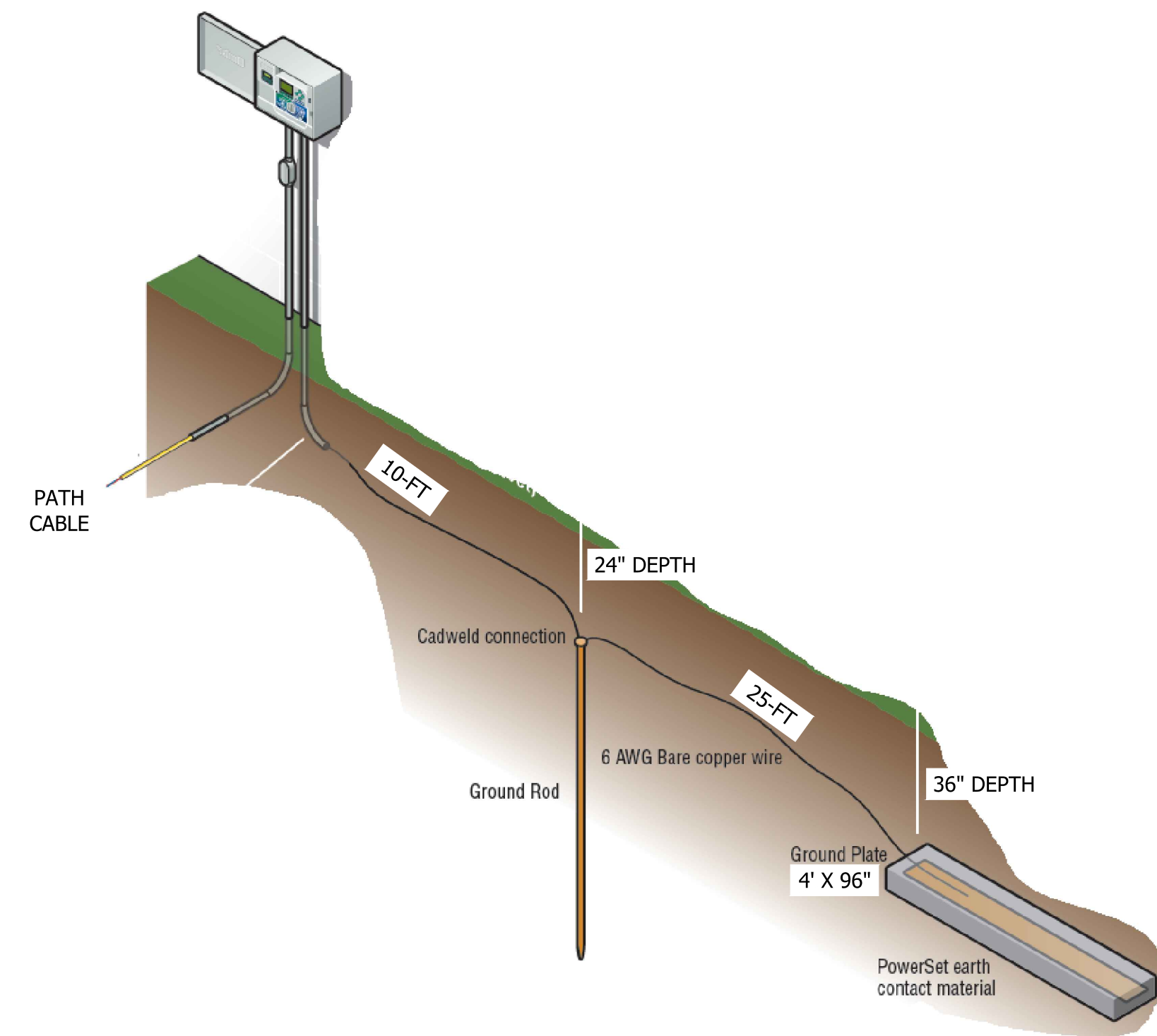
SHEET NUMBER

IR05

BID DOCUMENTS

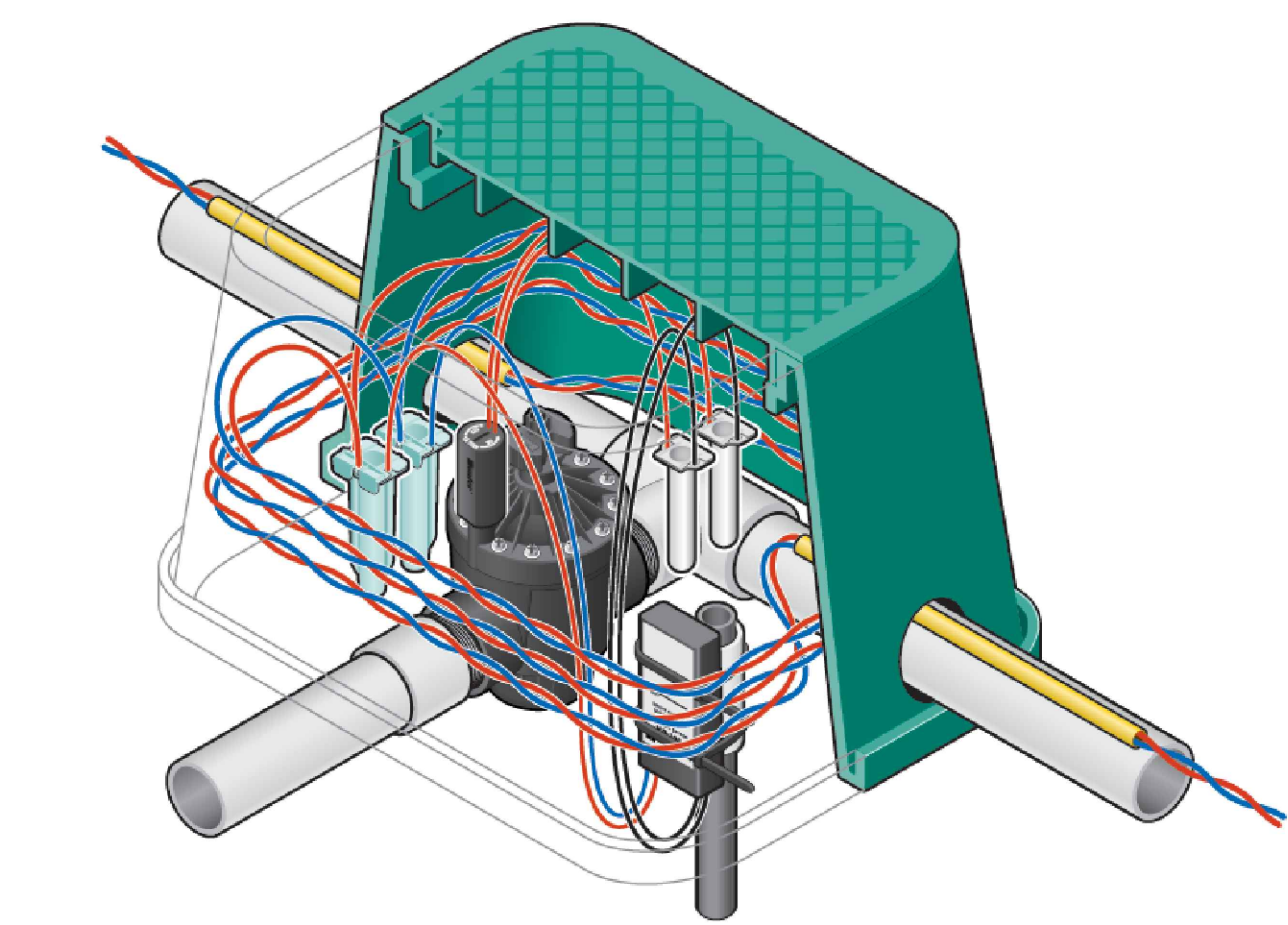
IRRIGATION INSTALLATION DETAILS:

IRRIGATION DETAILS (Substitutions Only with Written Approval):

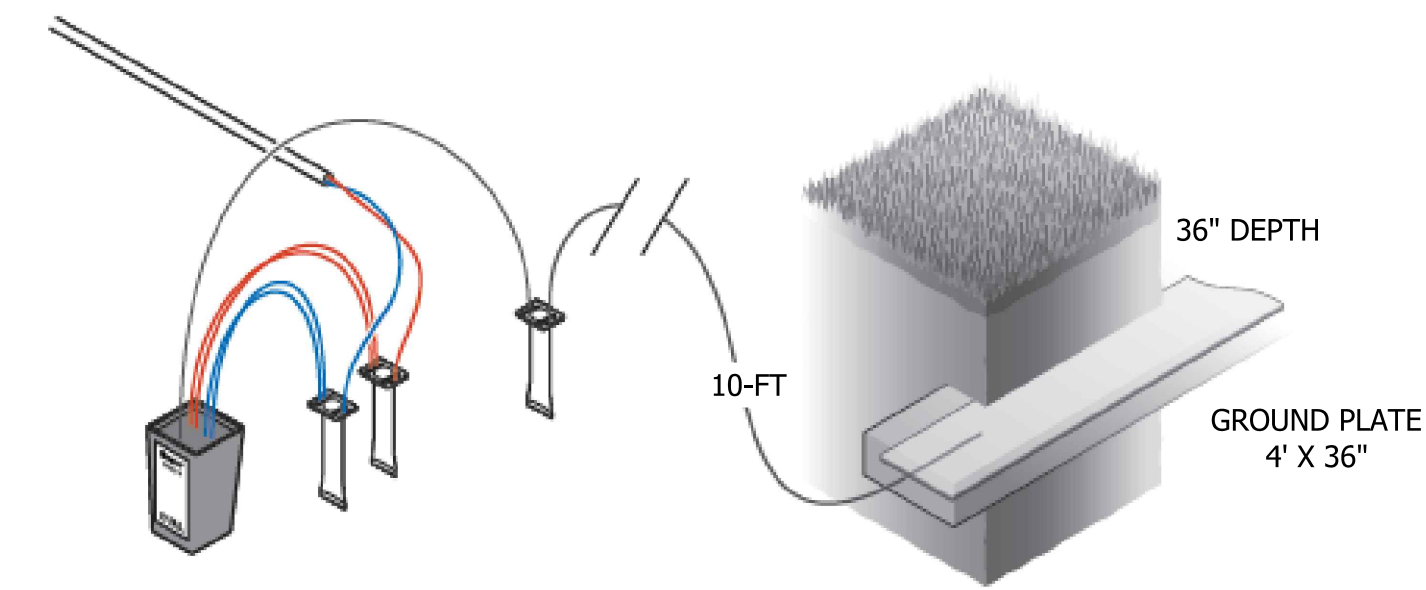


NOTES:
INSTALLATION OF GROUNDING COMPONENTS WILL BE PER MANUFACTURER'S RECOMMENDATIONS.

1 CONTROLLER GROUNDING N.T.S.

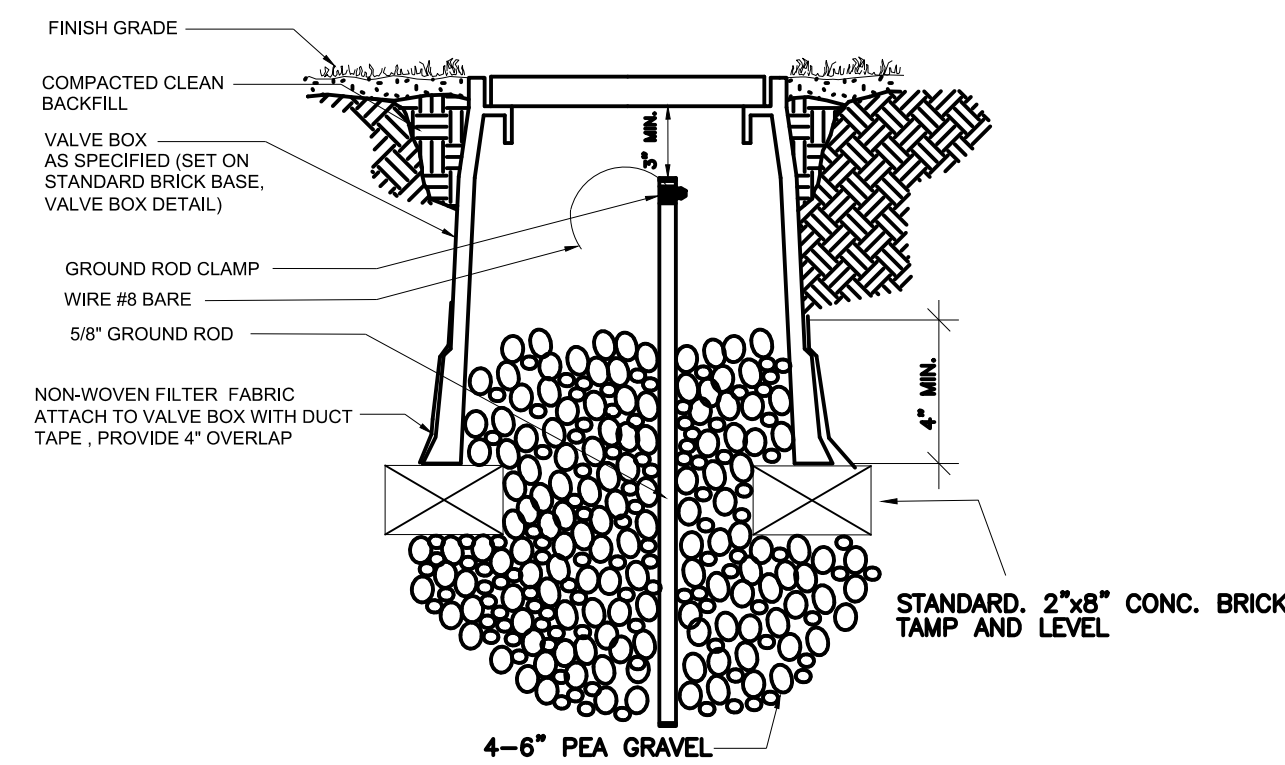


2 DECODER IN VALVE BOX (TYP.) N.T.S.

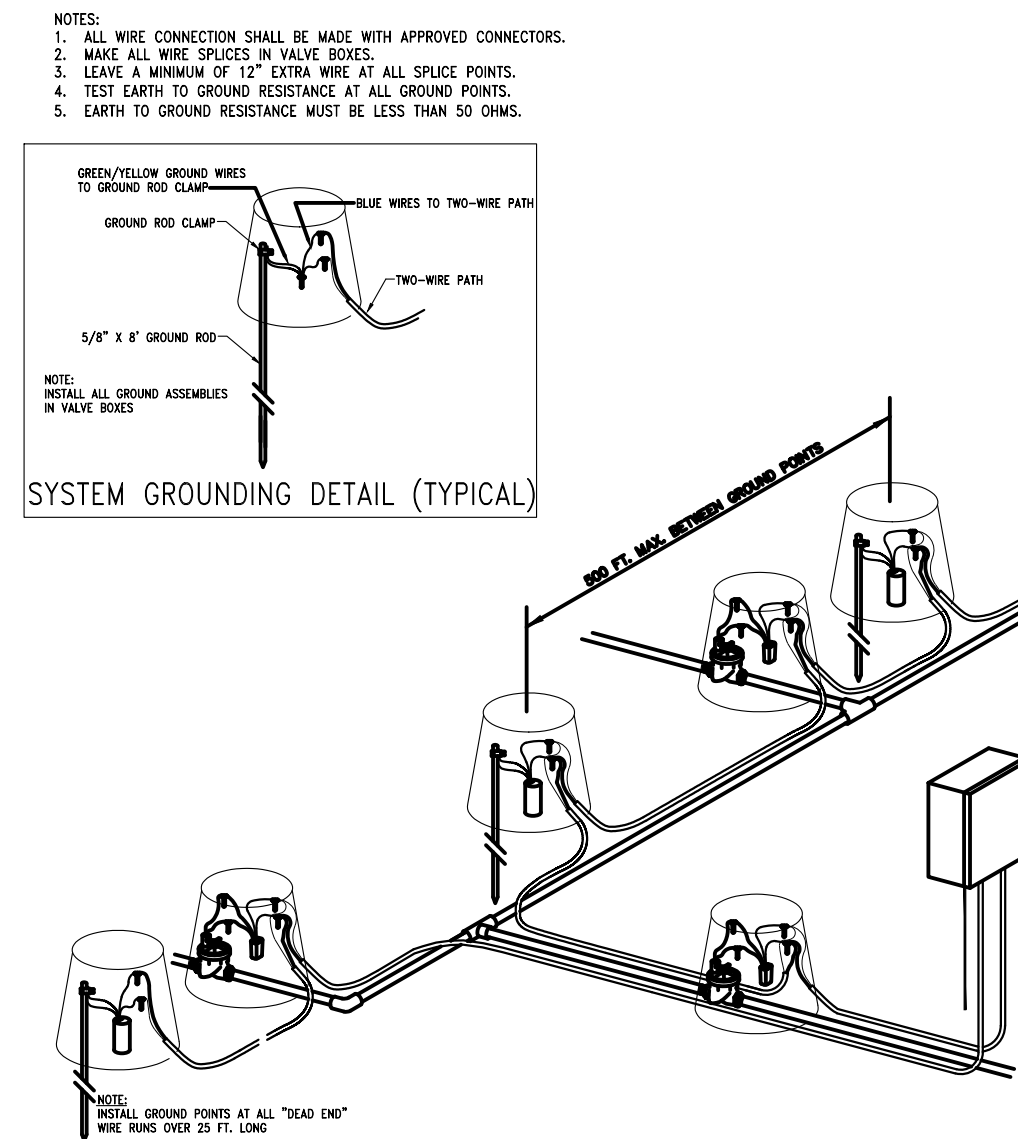


NOTES:
INSTALLATION OF GROUNDING COMPONENTS WILL BE PER MANUFACTURER'S RECOMMENDATIONS.

3 END-OF-LINE SURGE ARRESTOR WIRING AND GROUNDING (TYP.) N.T.S.



4 GROUND ROD SURGE PROTECTOR DETAIL N.T.S.



5 SYSTEM GROUNDING (TYP.) N.T.S.

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BID DOCUMENTS

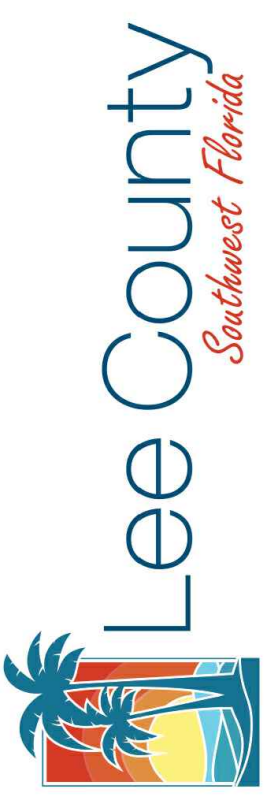
NO.	REVISIONS DESCRIPTION	DATE

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

IRRIGATION DETAILS

SHEET NUMBER

IR06



PUNTA RASSA BOAT RAMP IMPROVEMENTS
LEE COUNTY, FLORIDA

REVISIONS	DESCRIPTION	DATE
NO.		

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

IRRIGATION NOTES

SHEET NUMBER

IR07

IRRIGATION NOTES

- THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.
- THE COMPLETED IRRIGATION SYSTEM SHALL FULLY OPERATIONAL AND INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES, AND REGULATIONS.
- CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS, BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THE PLANS - CONTRACTOR TO VERIFY. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVING, CABLES, AND SERVICE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM SHALL 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 OR CALLED OUT ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.
- 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 (A MIN. OF 10 L.F. OF SEPARATION FROM ALL UNDERGROUND UTILITIES) TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN THE PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. OWNER'S REPRESENTATIVE SHALL DETERMINE WHETHER AN OBSTRUCTION OCCURS OR NOT.
- COMPONENT SPACING AS SHOWN ARE MAXIMUMS, DO NOT EXCEED SPACING SHOWN OR NOTED ON THE PLANS. COMPONENT SPACING MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACING DOES NOT EXCEED THE SPACING SHOWN IN THE PLANS, UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL PROVIDE 100% COVERAGE.
- ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW AND 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 AND INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.
- THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING PARAMETERS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND IN THE IRRIGATION SYSTEM SPECIFICATIONS.
- CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS, FOR APPROVAL PRIOR TO INSTALLATION. 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 MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.

Carson Spec Valve Box
Rectangle 12 in. x 20 in.
x 12 in.H Purple
Box/Purple Lid
Overlapping RWDNDES
w/Bolt

CDR VALVE BOX NUMBER A10-1010-12	CDR VALVE BOX NUMBER A10-1110-12	CDR VALVE BOX NUMBER A10-1410-10
GROUND RODS & PLATES	ELECTRIC SOLENOID VALVE & GATE VALVE	ELECTRIC SOLENOID VALVE & PRESSURE REDUCING VALVE
QUICK COUPLING VALVE	Carson Spec Valve Box	
MAINLINE GATE/ISOLATION VALVE	Rectangle 12 in. x 20 in.	
MAINLINE AIR RELIEF VALVE	x 12 in.H Purple	
PRESSURE GAUGE CHECK POINTS	Box/Purple Lid	
Overlapping RWDNDES		
CDR VALVE BOX NUMBER A10-1324-10	CDR VALVE BOX NUMBER WA00-1432-10	CDR VALVE BOX NUMBER A10-1324-10
WHEN A JUMBO BOX IS REQUIRED	GATE/ISOLATION VALVE	GATE/ISOLATION VALVE & LARGE DISC
Carson Spec Valve Box	SMALL DISC FILTER	FILTER (1 1/2" OR 2" SUPER FILTER), W/
Rectangle 12 in. x 20 in.	ELECTRIC SOLENOID VALVE	SOLENOID VALVE & PRESSURE REDUCING
x 12 in.H Purple	PRESSURE REDUCING VALVE	VALVE. *INSTALL SOLENOID VALVE AND
Box/Purple Lid		PRESSURE REDUCING VALVE IN MODEL
Overlapping RWDNDES		A10-1410-10 VALVE BOX
CDR VALVE BOX NUMBER 910 - AIR RELIEF VALVE, LINE FLUSHING VALVE		

- NOTES:**
- CDR VALVE BOXES SHALL BE POLYMER/CONCRETE WITH PURPLE LIDS STAMPED LEE COUNTY IRRIGATION
 - CARSON VALVE BOXES SHALL BE CONSTRUCTION GRADE WITH PURPLE LIDS
 - VALVE BOXES SHALL HAVE FILTER FABRIC SECURELY ATTACHED TO THE SIDES OF THE BOX AND HAVE 6" OF WASHED PEA GRAVEL ON TOP OF THE FILTER FABRIC INSIDE THE BOX
 - PROVIDE A 2" MINIMUM AIR GAP BETWEEN THE TOP OF THE GRAVEL AND THE BOTTOM OF THE DEVICES, AND A 2" AIR GAP BETWEEN THE TOP OF THE DEVICES AND THE BOTTOM OF THE VALVE BOX COVER
 - CONCRETE PAVERS OR BRICKS SHALL BE USED TO LEVEL AND SUPPORT THE VALVE BOX ON EACH SIDE

VALVE BOX SIZING TABLE

- 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.
- ALL SOLVENT WELDING SHALL BE PRECEDED BY PRIMING OF THE FITTINGS AND PIPE AS RECOMMENDED BY THE MANUFACTURER.
- ALL PVC SLEEVES SHALL BE JOINED WITH GLUE FITTINGS. ANY GASKETED JOINTS WILL BE REJECTED.
- DURING INSTALLATION AND UPON COMPLETION OF THE IRRIGATION SYSTEM, DECODERS SHALL BE PROGRAMMED TO THE CONTROLLER STATION AS PER THE IRRIGATION ZONE NUMBER. CONTRACTOR TO LABEL ALL VALVE BOX COVERS WITH THE CORRESPONDING CONTROLLER ZONE NUMBER. NUMBERING SIZE 1". PROVIDE TAGS TO ALL VALVES AS SHOWN PER DETAILS.
- CONTRACTOR TO PLACE TREE BUBBLERS AT OUTER EDGE OF ROOT BALL, NOT OUTER EDGE OF PLANTING HOLE. TREE BUBBLERS TO BE VISIBLE FOR INSPECTION.
- PIPING INCLUDING MAINLINES AND LATERALS SHALL BE COLOR CODED PANTONE PURPLE 522C FOR FUTURE CONVERSION OF THE SYSTEM TO REUSE WATER PER COUNTY ORDINANCES AND STATE STATUTES. THE IRRIGATION SYSTEM COMPONENTS SHALL BE COMPATIBLE FOR USE WITH REUSE WATER AND FLORIDA ADMINISTRATIVE CODE 62-610 REUSE OF RECLAIMED WATER AND LAND APPLICATION. ALL VALVES, VALVE BOX COVERS, AND OTHER APPLICABLE EQUIPMENT SHALL BE COLOR CODED PANTONE PURPLE 522C.
- THE TWO-WIRE PATH SHALL BE PAIGE ELECTRIC AWG 12-2 BLACK COMMUNICATION WIRE LAID BELOW THE IRRIGATION MAINLINE.
- ALL CONNECTIONS FROM THE 2-WIRE PATH TO THE DECODERS GROUND RODS, GROUND PLATES AND CONTROLLER SHALL BE WITH 3M DBR-6 WIRE CONNECTORS. ALL CONNECTIONS BETWEEN THE SOLENOID VALVES AND DECODERS SHALL BE WITH HIT DBC-Y CONNECTORS. WHERE ADDITIONAL WIRE IS REQUIRED FROM THE DECODER TO THE CONTROL VALVE SOLENOID, THE WIRE SHALL BE DIRECT BURIAL STANDARD PAIR 14 AWG.
- ELECTRICAL CONNECTIONS: CONTRACTOR WILL BE RESPONSIBLE FOR THE ELECTRICAL CONNECTION(S) TO THE ELECTRICAL SUPPLY(S). THE ELECTRICAL CONNECTION FOR EACH PUMP STATION WILL BE WITHIN 25' OF THE DESIGNATED WELL/PUMP LOCATION(S) AS SHOWN ON THE IRRIGATION PLANS. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING ALL PROJECT RELATED ELECTRICAL CONNECTIONS BEYOND THIS POINT FOR THE PUMP STATION AND IRRIGATION SYSTEM EQUIPMENT.
- ALL CONNECTIONS TO THE IRRIGATION MAINLINE (2 1/2" OR LARGER) SHALL BE ACCOMPLISHED VIA THE USE OF DUCTILE IRON SERVICE TEES. ALL CHANGES OF DIRECTION SHALL BE ACCOMPLISHED VIA THE USE OF DUCTILE IRON 45 DEGREE ELBOWS W/ PROPER THRUST BLOCKING.
- LOCATE ALL VALVES IN PLANTING BEDS OR MULCHED AREAS WITH A MINIMUM OFFSET OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT. VALVES LOCATED IN MEDIANS SHALL BE INSTALLED AS CLOSE TO THE MEDIAN CENTER AS POSSIBLE.
- ALL VALVES (SOLENOID, GATE, ISOLATION, AIR RELIEF AND FLUSH), SURGE PROTECTORS AND FILTERS SHALL BE LOCATED WITHIN THE SPECIFIED VALVE BOXES AS SHOWN ON THE VALVE BOX SIZING TABLE.
- ALL PULL BOXES SHALL CONTAIN A MIN. OF 6' OF SLACK COILED VALVE WIRES WITHOUT ANY SPLICES.
- IRRIGATION COMMUNICATION CABLE SHALL HAVE ITS OWN SEPARATE SCH 80 PVC CONDUIT UNLESS NOTED OTHERWISE. ELECTRICAL CONNECTING WIRE BETWEEN POINT OF CONNECTION AND CONTROLLER SHALL BE INSTALLED IN ITS OWN SCH. 80 PVC CONDUIT. WIRE FROM THE POINT OF CONNECTION TO THE CONTROLLER SHALL BE IN CONDUIT FOR ITS ENTIRE LENGTH.
- SWEEPS SHALL BE PROVIDED FOR ALL WIRES TO CONNECT CONDUIT TO VALVE BOXES.
- ALL PROPOSED IMPERVIOUS SURFACE IRRIGATION PIPE CROSSINGS WILL BE DIRECTIONAL BORE PIPE INSTALLATIONS TO BE COMPLETED BY CONTRACTOR FOLLOWING COMPLETION OF ROADWAY CONSTRUCTION. THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR ALL DIRECTIONAL BORES, UNLESS OTHERWISE NOTED.
- ALL UN-SIZED PIPE SHALL BE MINIMUM 1".

- EACH TREE AND PALM SHALL HAVE TWO (2) PRESSURE COMPENSATING FLOOD BUBBLERS (OR AS SHOWN ON THE PLANS). EACH BUBBLER SHALL BE ON A MINIMUM 5'-0" LENGTH OF FUNNY PIPE TO ALLOW ITS POSITIONING AT THE TREE. LOCATE BUBBLERS ON THE UPHILL SIDE OF TREES ON ALL SLOPES. LOCATE BUBBLERS IN THE CENTER OF THE ROOTBALL AND EQUAL DISTANCE APART.
- DURING INSTALLATION AND UPON COMPLETION OF THE IRRIGATION SYSTEM, DECODERS SHALL BE PROGRAMMED TO THE CONTROLLER STATION AS PER THE IRRIGATION ZONE NUMBERS.
- PER MANUFACTURER'S DIRECTIONS, THE IRRIGATION CONTRACTOR SHALL INSTALL A CONTINUOUS COLOR CODED DETECTABLE METAL MARKING TAPE IN CONJUNCTION WITH ALL MAINLINE IRRIGATION PIPE LOCATIONS, 12" BELOW FINISHED GRADE, WHICH CLEARLY NOTES: "CAUTION: WATER LINE BURIED BELOW". FOR FUTURE LOCATING PURPOSES. TAPE SHALL BE MANUFACTURED BY LINEGUARD, INC., OR APPROVED EQUAL.
- ALL VALVES SHALL BE LOCATED WITH REFLECTIVE PAVEMENT MARKERS (GREEN) ON EITHER SIDE OF THE MEDIAN.
- AT EACH END OF EACH BORING THE CONTRACTOR SHALL INSTALL ONE OMNI LOCATER BALL PER BORING PER MANUFACTURER'S INSTRUCTIONS, AND NOTE ON AS-BUILTS THE LOCATIONS OF THE MARKERS AS INSTALLED.
- IRRIGATION LATERAL LINES TO BE BURIED AT A DEPTH OF 24" UNLESS NOTED OTHERWISE.
- IRRIGATION MAINLINES TO BE BURIED AT A DEPTH OF 36" UNLESS NOTED OTHERWISE.
- ALL COMPONENTS INSTALLED BY THE IRRIGATION CONTRACTOR, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE EXACT LOCATION AND DEPTH BELOW FINISH GRADE OF ALL COMPONENTS SHALL BE NOTED ON THE "AS-BUILT" DRAWINGS. EACH POINT OF IRRIGATION SHALL BE MEASURED FROM 2 FIXED POINTS OF REFERENCE.
- IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE LANDSCAPE SUPERVISOR. WORK IN THE RIGHT OF WAY SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.
- INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY FLOW OF VEHICULAR TRAFFIC AND COMPLETION OF ALL WORK ON THE SITE.
- CONTRACTOR SHALL GRADE AND SOD ALL DISTURBED AREAS TO MATCH PRE-EXISTING CONDITIONS. RESTORATION WORK WILL PROVIDE A SMOOTH TRANSITION BETWEEN ALL DISTURBED AREAS TO EXISTING UNDISTURBED AREAS.
- PIPE LOCATIONS SHOWN ARE SCHEMATIC. THE MAINLINE SHALL BE INSTALLED 36" FROM THE EDGE OF PAVEMENT BUT NO CLOSER THAN 12". THE CONTRACTOR IS RESPONSIBLE FOR LOCATION ADJUSTMENTS WHEN NECESSARY TO AVOID CONFLICTS.
- ALL PROPOSED SLEEVES THAT CONNECT MEDIANS FROM NOSING TO NOSING SHALL EXTEND A MIN. OF 7' INTO THE PROPOSED 6-LANE PHASE OF THE MEDIAN LANDSCAPE BEDS.
- BACKFLUSH FILTER DRAIN PIPE SHALL DISCHARGE INTO WILD BLUE WATER BODY (UNLESS OTHERWISE DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE). THE SEPARATION DISTANCE BETWEEN THE WATER SOURCE INTAKE PIPE AND THE FILTER BACKFLUSH DISCHARGE PIPE SHALL BE A MINIMUM OF 60 (SIXTY) LINEAR FEET.
- CONTRACTOR SHALL PROVIDE SUPPLEMENTAL IRRIGATION OF ALL PROPOSED LANDSCAPE MATERIALS REGARDLESS OF AVAILABILITY OF ELECTRICAL POWER. USE OF WATERING BAGS ON PLANTS IS NOT AN ACCEPTABLE ALTERNATIVE.

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FINAL ACCEPTANCE

FINAL ACCEPTANCE OF THE IRRIGATION SYSTEM WILL BE GIVEN AFTER THE FOLLOWING DOCUMENTS AND CONDITIONS HAVE BEEN COMPLETED AND APPROVED. FINAL PAYMENT WILL NOT BE RELEASED UNTIL THESE CONDITIONS ARE SATISFIED.

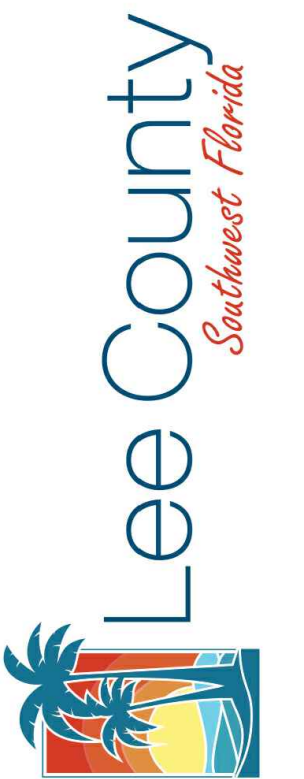
- FINAL WALK-THRU AND CORRECTION OF ALL PUNCH LIST ITEMS.
- COMPLETION AND ACCEPTANCE OF 'AS-BUILT' DRAWINGS.
- ACCEPTANCE OF REQUIRED CONTROLLER CHARTS AND PLACEMENT INSIDE OF CONTROLLERS.
- TURN OVER OF ALL REQUIRED PARTS AND TOOLS AS OUTLINED IN THE PROJECT SPECIFICATIONS.
- TURN OVER OF THE "IRRIGATION MANUAL" AS OUTLINED IN THE PROJECT SPECIFICATIONS.

GUARANTEE: THE IRRIGATION SYSTEMS SHALL BE GUARANTEED TO BE FULLY OPERATIONAL AND AUTOMATIC FOR A MINIMUM OF ONE CALENDAR YEAR FROM THE TIME OF FINAL ACCEPTANCE.

MINIMUM RECOMMENDED IRRIGATION MAINTENANCE PROCEDURES

- EVERY IRRIGATION ZONE SHOULD BE CHECKED MONTHLY AND WRITTEN REPORTS GENERATED DESCRIBING THE DATE(S) EACH ZONE WAS INSPECTED, PROBLEMS IDENTIFIED, DATE PROBLEMS REPAIRED, AND A LIST OF MATERIALS USED IN THE REPAIR. AT MINIMUM, THESE INSPECTIONS SHOULD INCLUDE THE FOLLOWING TASKS:
 - TURN ON EACH ZONE FROM THE CONTROLLER TO VERIFY AUTOMATIC OPERATION.
 - CHECK SCHEDULES TO ENSURE THEY ARE APPROPRIATE FOR THE SEASON, PLANT AND SOIL TYPE, AND IRRIGATION METHOD. CONSULT AN I.A. CERTIFIED AUDITOR FOR METHODS USED IN DETERMINING PROPER IRRIGATION SCHEDULING REQUIREMENTS.
 - CHECK REMOTE CONTROL VALVE TO ENSURE PROPER OPERATION.
 - CHECK SETTING ON PRESSURE REGULATOR TO VERIFY PROPER SETTING, IF PRESENT.
 - CHECK FLOW CONTROL AND ADJUST AS NEEDED; ENSURE VALVE CLOSURE WITHIN 10-15 SECONDS AFTER DEACTIVATION BY CONTROLLER.
 - CHECK FOR LEAKS - MAINLINE, LATERAL LINES, VALVES, HEADS, ETC.
- CHECK CONTROLLER/C.C.U. GROUNDS FOR RESISTANCE (10 OHMS OR LESS) ONCE PER YEAR. SUBMIT WRITTEN REPORTS.
- CHECK RAIN SHUT-OFF DEVICE MONTHLY TO ENSURE IT FUNCTIONS PROPERLY.
- INSPECT ALL FILTERS MONTHLY AND CLEAN/REPAIR/REPLACE AS NEEDED.
- INSPECT BACKFLOW DEVICES BY UTILIZING A PROPERLY LICENSED BACKFLOW INSPECTOR. THIS SHOULD BE DONE ANNUALLY, AT MINIMUM.
- INSPECT ALL VALVE BOXES TO ENSURE THEY ARE IN GOOD CONDITION, LIDS ARE IN PLACE AND LOCKED.
- CHECK CONTROLLER STATIONS FOR PROPER OPERATION, PRESSURES, FILTRATION, SETTINGS, ETC. - REFER TO PUMP STATION OPERATIONS MANUAL.
- CHECK AND CLEAN INTAKE SCREENS ON ALL SUCTION LINES QUARTERLY, AT MINIMUM. CLEAN AND/OR REPAIR, AS NEEDED.
- CONDUCT ADDITIONAL INSPECTIONS, MAINTENANCE TASKS, ETC. THAT ARE PARTICULAR FOR YOUR Site.

BID DOCUMENTS



NO.	DESCRIPTION	DATE

DATE: DECEMBER 2024
PROJECT NO. 20247063-000
FILE NO. 09-46-23
SCALE: AS SHOWN

IRRIGATION SCHEDULES

SHEET NUMBER

IR08

BID DOCUMENTS

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	DESIGN PSI	PRECIP
C1	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	32	40.8	20	3.53 in/h
C2	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	37.72	48.0	25	1.04 in/h
C3	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	34.28	627.6	25	0.9 in/h
C4	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	34.69	643.2	25	1.04 in/h
C5	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	36	662.6	20	3.48 in/h
C6	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	36	683.3	20	3.5 in/h
C7	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	31	693.5	25	1.05 in/h
C8	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	17.02	861.3	25	0.85 in/h
C9	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	28	869.6	20	3.45 in/h
C10	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	10.09	1,051	25	0.9 in/h
C11	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	33.09	1,035	25	1.07 in/h
C12	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	38	1,040	20	3.58 in/h
C13	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	28	1,218	20	3.44 in/h
C14	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	30	1,231	20	3.45 in/h
C15	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	18.27	1,255	25	0.9 in/h
C16	Rain Bird PESB-PRS-D	1-1/2"	Shrub Spray	28.22	1,264	25	1.05 in/h
C17	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	42	1,334	20	3.51 in/h
C18	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	26	1,343	20	3.49 in/h
C19	Rain Bird PESB-PRS-D	1-1/2"	Bubbler	28	1,350	20	3.48 in/h
	Common Wire				2,780		

CRITICAL ANALYSIS

Generated: 2024-12-03 16:18

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 2"
Flow Available: 44.25 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 45 PSI
Pressure Available: 45 PSI

DESIGN ANALYSIS
Maximum Station Flow: 37.72 GPM
Flow Available at POC: 44.25 GPM
Residual Flow Available: 6.53 GPM

Critical Station: C16
Design Pressure: 25 PSI
Friction Loss: 3.35 PSI
Fittings Loss: 0.34 PSI
Elevation Loss: 0 PSI
Loss through Valve: 3.65 PSI
Pressure Req. at Critical Station: 32.3 PSI
Loss for Fittings: 0.33 PSI
Loss for Main Line: 3.33 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 0 PSI
Loss for Master Valve: 0.8 PSI
Critical Station Pressure at POC: 36.8 PSI
Pressure Available: 45 PSI
Residual Pressure Available: 8.2 PSI

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
C1	Rain Bird PESB-PRS-D	Bubbler	3.53 in/h	1	17	544	181
C2	Rain Bird PESB-PRS-D	Shrub Spray	1.04 in/h	1	58	2,188	729
C3	Rain Bird PESB-PRS-D	Shrub Spray	0.9 in/h	1	67	2,297	766
C4	Rain Bird PESB-PRS-D	Shrub Spray	1.04 in/h	1	58	2,012	671
C5	Rain Bird PESB-PRS-D	Bubbler	3.48 in/h	1	18	648	216
C6	Rain Bird PESB-PRS-D	Bubbler	3.5 in/h	1	18	648	216
C7	Rain Bird PESB-PRS-D	Shrub Spray	1.05 in/h	1	58	1,798	599
C8	Rain Bird PESB-PRS-D	Shrub Spray	0.85 in/h	1	71	1,208	403
C9	Rain Bird PESB-PRS-D	Bubbler	3.45 in/h	1	18	504	168
C10	Rain Bird PESB-PRS-D	Shrub Spray	0.9 in/h	1	67	676	225
C11	Rain Bird PESB-PRS-D	Shrub Spray	1.07 in/h	1	56	1,853	618
C12	Rain Bird PESB-PRS-D	Bubbler	3.58 in/h	1	17	646	215
C13	Rain Bird PESB-PRS-D	Bubbler	3.44 in/h	1	18	504	168
C14	Rain Bird PESB-PRS-D	Bubbler	3.45 in/h	1	18	540	180
C15	Rain Bird PESB-PRS-D	Shrub Spray	0.9 in/h	1	67	1,224	408
C16	Rain Bird PESB-PRS-D	Shrub Spray	1.05 in/h	1	58	1,637	546
C17	Rain Bird PESB-PRS-D	Bubbler	3.51 in/h	1	18	756	252
C18	Rain Bird PESB-PRS-D	Bubbler	3.49 in/h	1	18	468	156
C19	Rain Bird PESB-PRS-D	Bubbler	3.48 in/h	1	18	504	168
		TOTALS:			738	20,655	6,885

RUNTIME SCHEDULE

TIME	CONTROLLER	NUMBER	ACTION
00:00	C	C2	ON
00:19	C	C2	OFF
00:19	C	C6	ON
00:25	C	C6	OFF
00:25	C	C5	ON
00:31	C	C5	OFF
00:31	C	C4	ON
00:50	C	C4	OFF
00:50	C	C3	ON
01:12	C	C3	OFF
01:12	C	C11	ON
01:30	C	C11	OFF
01:30	C	C1	ON
01:36	C	C1	OFF
01:36	C	C7	ON
01:55	C	C7	OFF
01:55	C	C14	ON
02:01	C	C14	OFF
02:01	C	C16	ON
02:20	C	C16	OFF
02:20	C	C13	ON
02:26	C	C13	OFF
02:26	C	C9	ON
02:32	C	C9	OFF
02:32	C	C18	ON
02:38	C	C18	OFF
02:38	C	C15	ON
03:00	C	C15	OFF
03:00	C	C8	ON
03:23	C	C8	OFF
03:23	C	C10	ON
03:45	C	C10	OFF

RUNTIME SUMMARY

