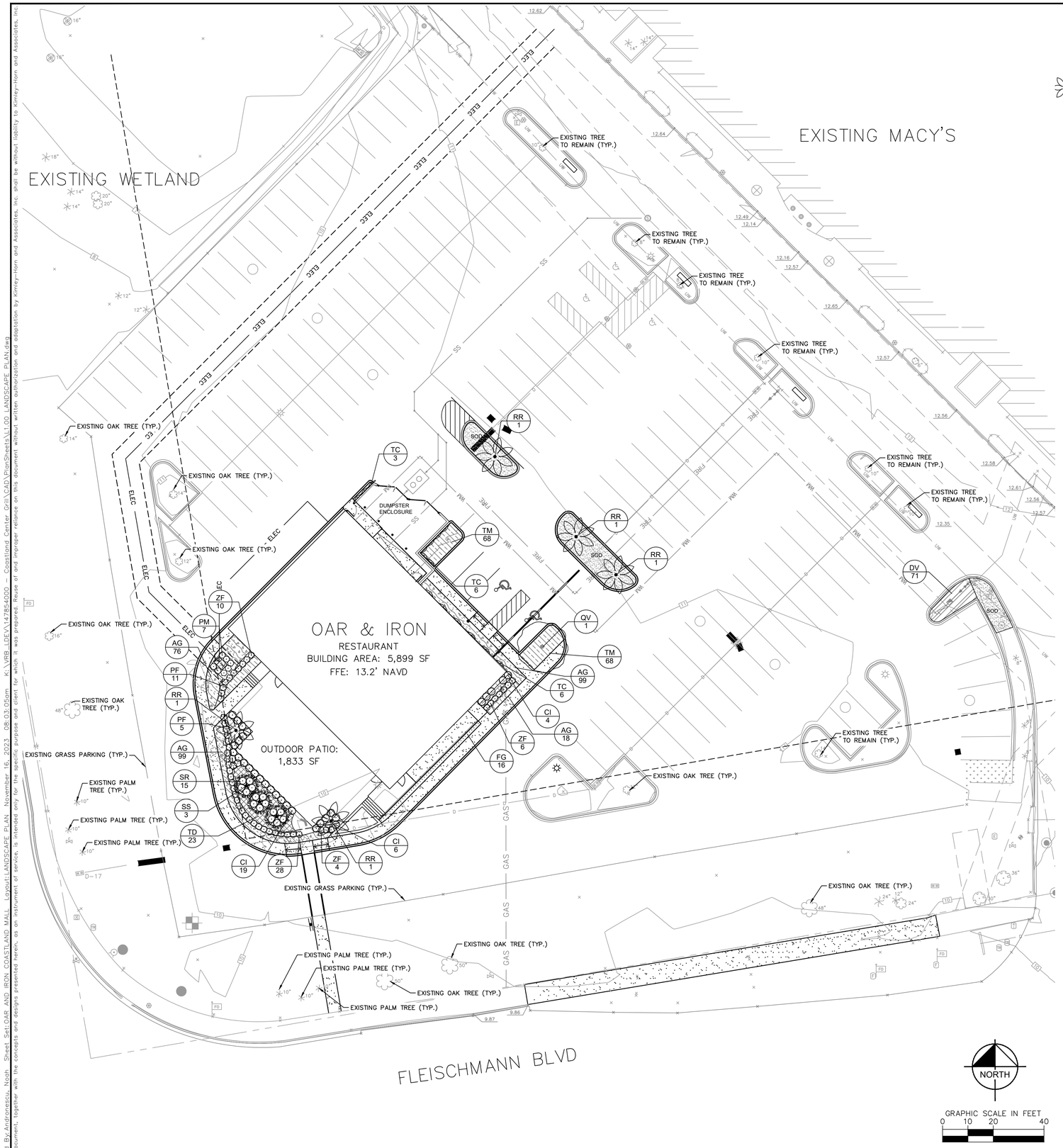

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	FG	DBH	HT	NATIVE
	QV	1	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK	FG	12` - 14` HEIGHT	14` HT., 6` SPR.	YES
	RR	5	ROYSTONEA REGIA / ROYAL PALM CLOSELY MATCHING, HEAVY CALIPER, FULL, FL #1	FG	12` - 14` HEIGHT	16` CT MIN	YES
	SS	3	SABAL PALMETTO / CABBAGE PALMETTO FULL, FL #1, CLOSELY MATCHING	FG	8` MIN HEIGHT	12` CT	YES

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE	NATIVE
	CI	30	CHRYSOBALANUS ICACO `RED TIP` / COCO PLUM FULL	FG	36" OC	20" FULL	YES
	PM	7	PODOCARPUS MACROPHYLLUS / PODOCARPUS FULL TO BASE, CLOSELY MATCHING	FG	30" OC	30" HT MIN	NO
	SR	18	STRELITZIA REGINAE `DWARF` / DWARF BIRD OF PARADISE FULL	FG	36" OC	24" HT MIN	NO
	TC	15	TRACHELOSPERMUM JASMINOIDES 'CONFEDERATE' / CONFEDERATE JASMINE	FG	24" OC		NO
	ZF	49	ZAMIA FLORIDANA / COONTIE FULL	FG	30" OC	20" FULL	YES

SHRUB AREAS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE	NATIVE
	FG	16	FICUS MICROCARPA 'GREEN ISLAND' / GREEN ISLAND FICUS	FG	36" OC	20" FULL	NO
	PF	22	PENNISETUM SETACEUM `ALBA` / WHITE FOUNTAIN GRASS	FG	36" OC	20" FULL	NO
	TD	22	TRIPSACUM DACTYLOIDES NANA / DWARF FAKAHATCHEE GRASS	FG	36" OC	20" FULL	YES

GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	O.C.	SIZE	NATIVE
	AG	287	ARACHIS GLABRATA / PERENNIAL PEANUT FULL	CONT.	18" OC	10" FULL	NO
	DV	71	DIANELLA TASMANICA 'VARIEGATA' / VARIEGATED FLAX LILY	CONT.	18" OC	12" HT MIN., 12" SPR MIN	NO
	TM	136	TRACHELOSPERMUM ASIATICUM `MINIMA` / MINIMA JASMINE FULL	CONT.	18" OC	10"-12" SPRD	NO

SOD	CODE	QTY	BOTANICAL / COMMON NAME	CONT	O.C.	SIZE	NATIVE
	SOD	760 SF	STENOTAPHRUM SECUNDATUM `FLORITAM` / FLORITAM ST. AUGUSTINE SOD ROLLED TIGHT, 100% INSECT / WEED / DISEASE / DEBRIS FREE	SOD	-	-	NO

LANDSCAPE REQUIREMENTS:
CITY OF NAPLES

	REQUIRED:	PROVIDED:
PLANTING SIZING:		
AVERAGE TREE CROWN OF 15 FT OR GROUPED TO EQUAL 15 FT	YES	YES
MINIMUM SHRUB HEIGHT OF 2FT IMMEDIATELY AFTER PLANTING	YES	YES
VEHICULAR USE AREAS ADJACENT TO PUBLIC RIGHT OF WAY:		
1 TREE PER 30 LF OF FRONTAGE	YES	YES; MET WITH EXISTING TREES
HEDGE, WALL, OR OTHER DURABLE BARRIER MINIMUM 2 FT HEIGHT SHALL BE PLACED ALONGENTIRE LENGTH OF REQUIRED AREA	YES	YES
INTERIOR LANDSCAPING FOR VEHICULAR USE AREAS:		
MINIMUM 20 SQ FT OF INTERIOR LANDSCAPING FOR EACH PARKING SPACE 19 PARKING SPACES X 20 SQ FT = 380 SQ FT	YES	YES

LANDSCAPE NOTES:

1. ALL LANDSCAPE MATERIAL TO BE FLORIDA GRADE #1 OR BETTER QUALITY
2. ALL LANDSCAPED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
3. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
4. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL PLANTING AREAS SHALL BE COMPLETELY MULCHED AS SPECIFIED.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES ADJACENT TO THE WORK AREA 2) TO PROTECT ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING TO MAINTAIN HEALTHY PLANT CONDITIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE WARRANTY PERIOD.
11. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
12. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR WARRANTY PERIOD. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS DURING THE NORMAL PLANTING SEASON.
13. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
14. ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES, AND SHALL BE FLORIDA NO. 1 OR BETTER AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II," STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.
15. ALL INVASIVE / EXOTIC SPECIES AND PROHIBITED TREE SPECIES SHALL BE REMOVED FROM SITE, INCLUDING ROOT BALLS TO THE EXTENT POSSIBLE WITH NO DAMAGE TO ADJACENT EXISTING TREES.
16. ALL LANDSCAPE AREAS WILL BE PROVIDED WITH PERMANENT AUTOMATIC IRRIGATION SYSTEM.
17. TREE SUPPORT MATERIALS ARE TO BE REMOVED FROM EACH TREE ONCE IT IS "ESTABLISHED" (AS APPROVED BY THE LANDSCAPE ARCHITECT).
18. ALL PLANT SPECIFICATIONS IN THE PLANT SCHEDULE SHALL BE CONSIDERED THE MINIMUM ALLOWABLE SPECIFICATIONS. CONTRACTOR SHALL PROCURE PLANT MATERIALS AND UPSIZE AS NECESSARY TO MEET THE MOST STRINGENT SPECIFICATION.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2022 KIMLEY-HORN AND ASSOCIATES, INC.
445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 696

11/16/2023

BENJAMIN V. JOHNSON LICENSE No. L6667524 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

KHA PROJECT	147854000
DATE	2022-12-06
SCALE	AS SHOWN
DESIGNED BY	EFD
DRAWN BY	EFD
CHECKED BY	KPD

LANDSCAPE PLAN

OAR AND IRON
COASTLAND MALL
OPREPARED FOR
APW2199 DEVELOPMENT LLC
CITY OF NAPLES FLORIDA

SHEET NUMBER
L1.00

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BENJAMIN V. JOHNSON, PLA ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE DIGITAL SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Plotted By:Aniproescu, Noah Sheet Set:OAR AND IRON COASTLAND MALL Layout:LANDSCAPE PLAN November 16, 2023 08:02:05am K:\VRB_LDF\V147854000 - Coastland Center Grill\CAD\PlanSheets\L1.00 LANDSCAPE PLAN.dwg
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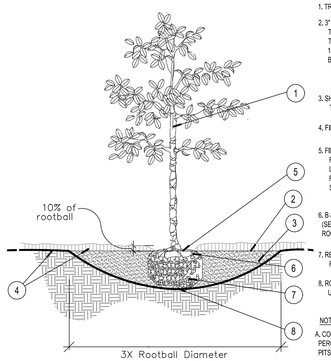
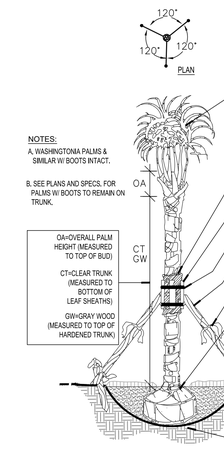


1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED, WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW! WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE - LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. B & B OR CONTAINER (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
7. REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL.
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

* ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

A Tree Planting
SECTION NTS



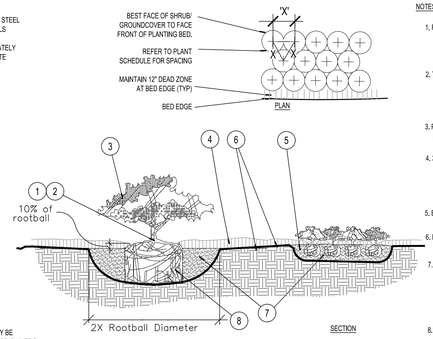
NOTES:
A. WASHINGTONIA PALMS & SIMILAR W/ BOOTS INTACT.
B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.

OA=OVERALL PALM HEIGHT (MEASURED TO TOP OF BUD)
CT=CLEAR TRUNK (MEASURED TO BOTTOM OF LEAF SHEATHS)
GW=GRAY WOOD (MEASURED TO TOP OF HARDENED TRUNK)

1. MINIMUM OF NINE (9) GOOD PALM FRONDS. PRUNE AND TIE FRONDS WITH HEMP TWINE, SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY-EMERGING GROWTH.
2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
3. FIVE (5) 18"L, 2X4 WOOD BATTENS, UNTREATED, #2
4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
5. THREE (3) 81, 2X4 SUPPORTS, NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES, PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
8. 3" SPECIFIED MULCH
9. FINISH GRADE
10. 24"L (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
11. PREPARED PLANTING SOIL AS SPECIFIED
12. ALTERNATE PALM ANCHORING SYSTEMS MAY BE SUBSTITUTED UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE

PRE-APPROVED SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

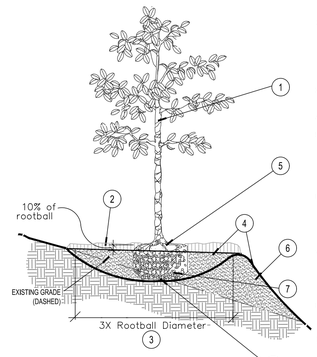
B Palm Planting and Staking
SECTION NTS



NOTES:
1. FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2" OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
2. TOP 10% OF SHRUB AND GROUNDCOVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
3. PRUNE ALL LIKE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS/HEIGHT.
4. 3" MINIMUM MULCH AS SPECIFIED - DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE "WATER RINGS" ONLY COVER SIDES OF ROOTBALL WITH MULCH
5. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
6. FINISHED GRADE (SEE GRADING PLAN).
7. PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND- COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
8. SCARIFY ROOTBALL SIDES AND BOTTOM.

* ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

C Shrub / Groundcover Planting
PLAN/SECTION NTS

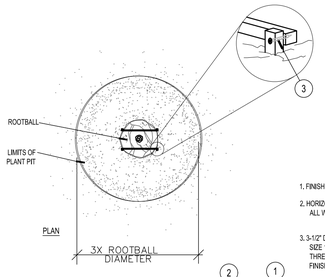


1. TREES, PALMS, AND LARGE SHRUBS (15 GAL OR GREATER) SHALL BE PLANTED IN SIMILAR MANNER
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW! WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE - LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. BERM SOIL SO THAT TOP OF BERM IS JUST BELOW THE TOP 10% OF THE TOP OF THE ROOTBALL. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE.
7. B & B OR CONTAINER REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL. (SEE SPECIFICATIONS FOR OTHER ROOT BALL REQUIREMENTS)
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

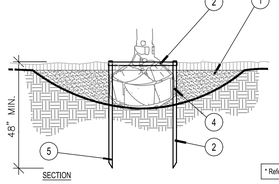
NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

* ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

D Planting on a Slope
SECTION NTS



1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X2 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3.-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.



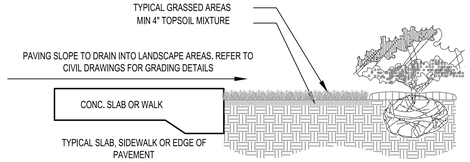
NOTE:
IF SPATIAL REQUIREMENTS PRECLUDE STAKING WITH THIS METHOD, SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLING PLANT.

* Refer to details B and D for planting

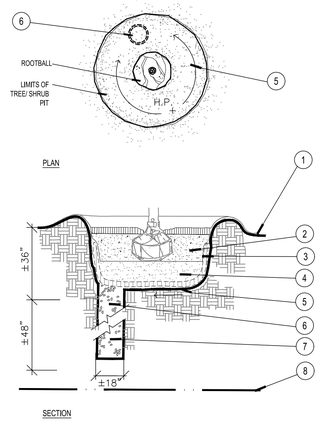
E Staking - up to 65 gal. or B&B to 3-1/2" Cal.
PLAN/SECTION NTS

SOD NOTES:
1. TYPICAL SOLID SOD LAID LEVEL WITH TIGHT JOINTS SET ADJACENT TO EDGE OF PAVEMENT SUCH THAT THE TOP OF SOD WHEN FRESHLY MOWED IS FLUSH WITH TOP OF PAVEMENT IN ORDER NOT TO IMPEDE THE FLOW OF RUNOFF INTO LANDSCAPE AREAS AND TO APPEAR NEAT AND WELL MAINTAINED.
2. ALL SOD LAID ADJACENT TO THE SHRUB OR GROUNDCOVER PLANTING AREAS SHALL HAVE WELL DEFINED BEDLINES, AND SHALL BE INSTALLED A DISTANCE BACK FROM THE FACE EDGE OF PLANT MATERIALS TO ALLOW FOR GROWTH OF THE PLANTS. THE TOP OF THE SOD AND THE FINISHED GRADE OF THE 3" MULCH COVER SHALL BE FLUSH AND LEVEL.
3. SOD SET ON PREPARED GRADE WHICH IS LEVEL OR GRADED TO MEET THE REQUIREMENTS OF THE ENGINEERED SITE DRAINAGE PLANS.

TOP SOIL NOTES:
1. PLANTING SOIL SHALL CONSIST OF 70% CLEAN, SHARP, SILICA SAND AND 30% EVERGLADES MUCK, MIXED WITH THE NATIVE, EXCAVATED SOIL IN A 1:1 RATIO (50/50).
2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 6.5 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.



F SOD
SECTION NTS

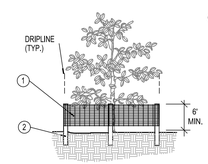


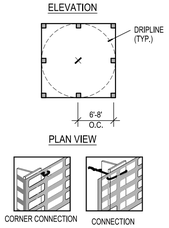
1. FINISH GRADE
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER
4. 12" CLEAN SAND, COMPACTED. ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
5. SLOPE BOTTOM TO DRAIN
6. ±18"Ø AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE PROPER PERCOLATION.
7. BACKFILL WITH 1/2" - 3/4" GRAVEL.
8. WATER TABLE. (DEPTH VARIES)

NOTE:
FOR A PARKING ISLAND PLANTING SITUATION, CONTRACTOR TO BACKFILL ENTIRE LENGTH OF PLANTING AREA TO WITHIN 6" OF BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO NOTE 0.3 OF WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

G Poor Drainage Condition
PLAN/SECTION NTS





1. 6'H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
2. 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

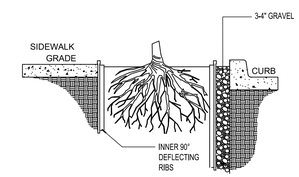
INSTALLATION NOTES:
A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.
C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).
D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

H Tree/Shrub Protector
Barrier Detail NTS

ROOT BARRIER BY: Century Root Barrier (714)632-7083
(or) DeepRoot (800)458-7668

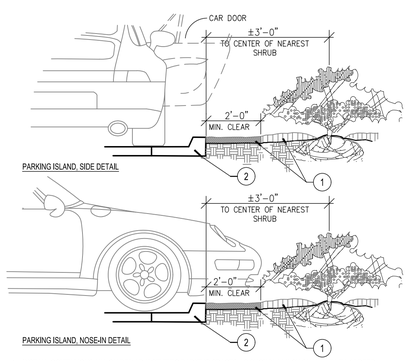
SIZE: 36" D, OR AS NOTED ON PLAN
MATERIAL: POLYETHYLENE WITH ULTRAVIOLET INHIBITORS
THICKNESS: .085 IN. (min.)



LINEAR APPLICATION

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CENTURY ROOT BARRIER OR APPROVED EQUAL.
4. ROOT BARRIER TO BE INSTALLED FOR ALL TREES WITHIN 5 FEET OF A SIDEWALK OR UTILITY.

I Root Barrier
Barrier Detail NTS

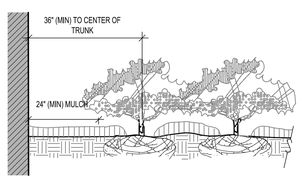


1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP.

NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE

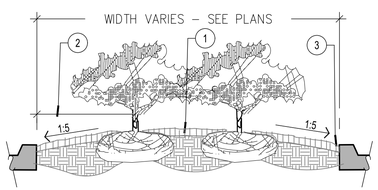
2. CURB OR PARKING LOT EDGE, BY OTHERS

J Parking Space/Curb Planting
SECTION NTS



NOTES
* CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

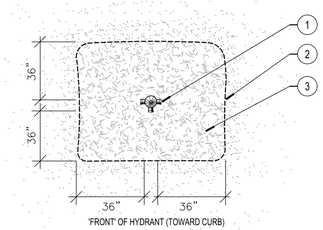
K Plantings Adjacent to Buildings
SECTION NTS



PLANTER ISLAND NOTES
1. CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS).
2. CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF, SEE PLANS. SEE DETAIL 'I' FOR PLANTER MEDIANS ADJACENT TO PARKING SPACES.
3. 1" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.

- EXCAVATE CONTINUOUS 36" DEEP (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.
- PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP).
- ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

L Planted Parking Lot Islands / Medians
SECTION NTS



1. FIRE HYDRANT
2. NO TREES SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. PROVIDE A MULCH, 3" DEPTH MIN., SURROUNDING AREA INDICATED.

M Fire Hydrant Clear Zone
PLAN NTS

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 696

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY DANIEL A. BLASCO, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

DANIEL A. BLASCO LICENSE No. 96101 STATE OF FLORIDA PROFESSIONAL ENGINEER
DATE: 11/16/2023

KHA PROJECT 147854000
DATE 2022-12-06
SCALE AS SHOWN
DESIGNED BY EFD
DRAWN BY EFD
CHECKED BY KPD

LANDSCAPE DETAILS

OAR AND IRON COASTLAND MALL
PREPARED FOR
APW2199 DEVELOPMENT LLC
CITY OF NAPLES FLORIDA

SHEET NUMBER
L1.50

Plotted By:Andronescu, Noah Sheet Set:OAR AND IRON COASTLAND MALL Layout:L1.50 LANDSCAPE DETAILS November 16, 2023 07:54:19am K:\VRB_LDEV\147854000 - coastland center grp\CAD\plansheets\L1.50 LANDSCAPE DETAILS.dwg
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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS ($100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SUBMITTAL
MULCH	PRODUCT DATA
TOPSOIL MIX	AMENDMENT MIX/ PRODUCT DATA/ TEST RESULTS
PLANTS	PHOTOGRAPHS OF ONE (1) OF EACH SPECIES (OR TAGGED IN NURSERY)
	CLIENT-REQUESTED TAGGING MAY SUBSTITUTE PHOTOS.
	INDICATE SIZES (HEIGHT/WIDTH) AND QUALITY PER SPEC.
FERTILIZER	PRODUCT DATA
INNOCULANT	PRODUCT DATA
HERBICIDE	PRODUCT DATA
STAKING/GUYING	FOR ALTERNATE TO DETAILS: SEND PRODUCT DATA, DETAIL

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

A. SOIL MIXTURE SHALL CONSIST OF 80% COARSE SAND, 20% FLORIDA PEAT AS DESCRIBED BELOW.

B. SOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING SHALL BE FERTILE, FRIABLE, AND REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEED AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONE LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL HAVE A PH BETWEEN 5.5 AND 7.0 – SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.

C. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE ORTONA MINED SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TEST FOR PEAT AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL.

D. CONTRACTOR SHALL SUBMIT SAMPLES OF SOIL MIXTURE FOR LANDSCAPE ARCHITECT REVIEW UNDER FORMAL SUBMITTAL AND SUBSEQUENTLY TO OWNER'S REPRESENTATIVE THEREAFTER FOR APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

E. FLORIDA MUCK / FLORIDA MUCKY PEAT MAY BE PROVIDED AS A SUBSTITUTE FOR THE 20% FLORIDA PEAT, CONTINGENT UPON PRELIMINARY TEST RESULTS AND AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING THE SUBMITTAL PROCESS. ANY CHANGES IN THE PERCENTAGES OR PARENT MATERIALS REQUIRED TO PROVIDE THE SPECIFIED MIXTURE AS DETERMINED BY THE LANDSCAPE ARCHITECT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

F. CONTRACTOR SHALL PROVIDE PH TEST RESULTS FOR ALL MIX COMPONENTS AND FINAL MIX.

G. CONTRACTOR SHALL PROVIDE PENETROMETER ON-SITE AT ALL TIMES FOR COMPACTION INSPECTION AT THE DISCRETION OF THE LANDSCAPE ARCHITECT.

H. PENETROMETER CRITERIA / SPECIFICATIONS SHALL RANGE FROM APPROX. 75 PSI TO LESS THAN 300 PSI OR AS DETERMINED BY THE LANDSCAPE ARCHITECT.

I. FINAL MIX SHALL BE TESTED TO HAVE A SATURATED WEIGHT OF NO MORE THAN 85 POUNDS PER CUBIC FOOT WHEN COMPACTED TO 85% STANDARD PROCTOR. FERTILIZER PRODUCT DATA AND RATE SCHEDULE SHALL BE SUBMITTED CONCURRENTLY WITH THE SOIL SUBMITTAL FOR EVALUATION BY THE LANDSCAPE ARCHITECT.

J. SOIL SHALL BE SUPPLIED BY ATLAS PEAT & SOIL INC. 9621 STATE ROAD, BOYNTON BEACH, FLORIDA 33472 PHONE: 561-734-7300.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC.. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF 3 INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). TYPE OF MATERIAL: "FLORIMULCH" OR SHREDDED, STERILE EUCALYPTUS MULCH OR BELOW ALTERNATES AT THE OWNER'S DIRECTION AND APPROVAL BY LANDSCAPE ARCHITECT.

ALTERNATE 1 - $\frac{1}{2}$" TO 1" DIAMETER CHATTAHOOCHEE ROCK BY OLIMAR STONE
ALTERNATE 2 - LANDSCAPE RUBBER MULCH (TERRA COTTA RED) BY RUBBERMULCH.COM

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.

4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.

3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE OR THE SPECIFIED PLANTING SOIL MIX AS DETERMINED BY THE LANDSCAPE ARCHITECT. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND ADEQUATE PERCOLATION CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE , PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES, METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.

7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).

11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.

12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES. STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, BASKETS, ETC.., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.

14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" TO ACHEIVE SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.

16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.

17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.

2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS, ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE:

A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

P. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

Q. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, PRUNING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR AND MAINTAIN THE DESIGN INTENT OF HEDGE LAYERING UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS SHALL PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

R. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS SHALL PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

S. FINAL INSPECTION AND ACCEPTANCE OF WORK

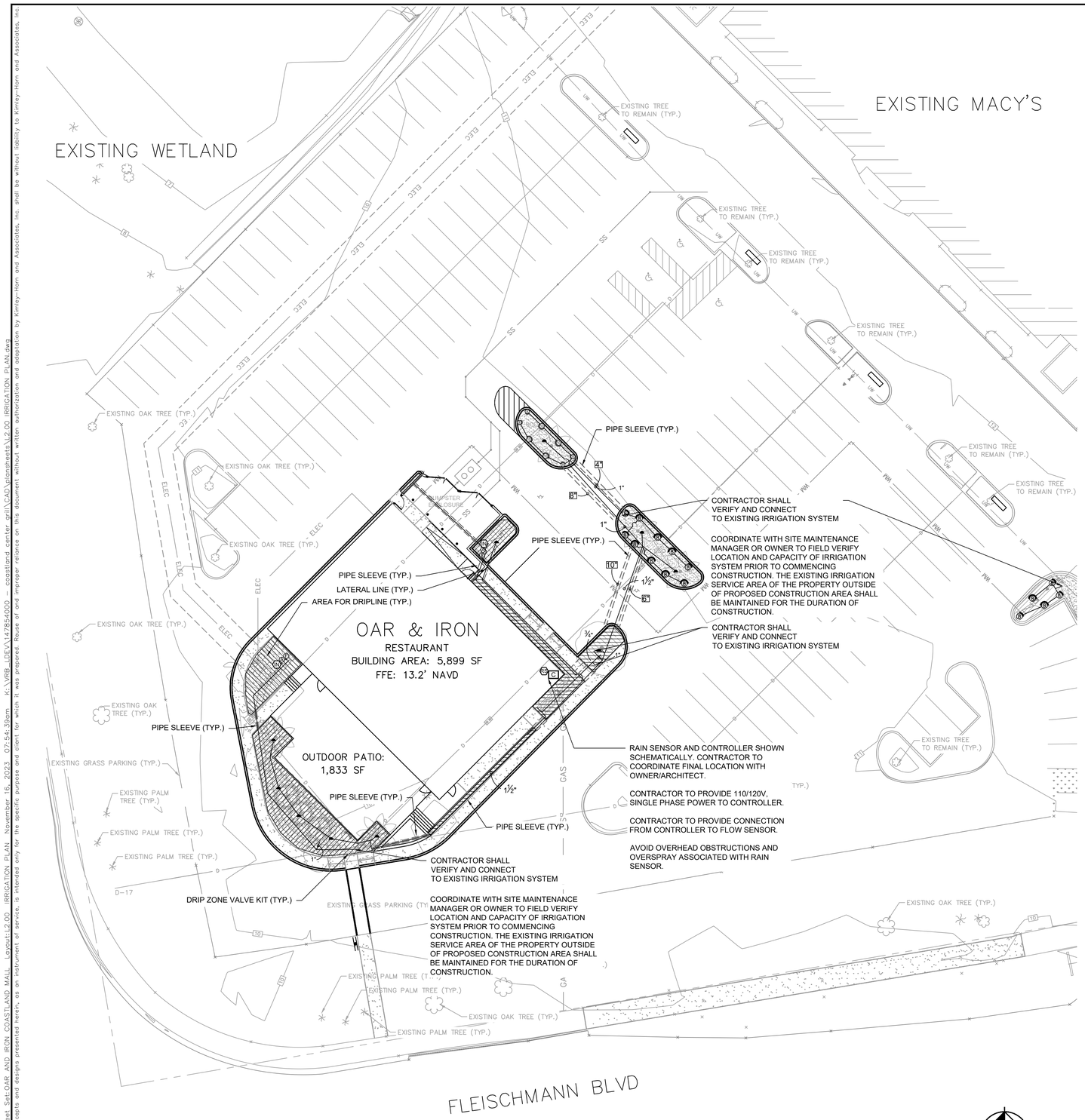
FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

T. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.

2. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING", AT NO ADDITIONAL COST TO THE OWNER.

3. IN THE EVENT



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
6 Q, 6 T, 6 H, 6 F	HUNTER PROS-04-PRS30-CV 6 SERIES TURF SPRAY, 30 PSI REGULATED 4IN. POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	19	30
10 Q, 10 T, 10 H, 10 F	HUNTER PROS-04-PRS30-CV 10 SERIES TURF SPRAY, 30 PSI REGULATED 4IN. POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.	4	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	739.0 L.F.
	PIPE SLEEVE: PVC CLASS 200 TYPICAL PIPE SLEEVE FOR IRRIGATION PIPE. PIPE SLEEVE SIZE SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING MATERIAL. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.	175.5 L.F.

Valve Callout

Valve Number
Valve Flow
Valve Size

IRRIGATION CONNECTIONS TO EXISTING SYSTEM:

1. THE 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 OWNER/GENERAL CONTRACTOR.
2. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER FOR OPERATING PARAMETERS OF THE EXISTING SYSTEM.
3. CONTRACTOR SHALL VERIFY CONTROLLER AND MAINLINE POINT OF CONNECTION AT PROJECT SITE WITH PROPERTY OWNER.
4. COORDINATE WITH PLANTING PLAN FOR PLANTER BED LOCATIONS AND TREE LOCATIONS.
5. ALL WIRING SHALL BE OF DIRECT BURIAL COPPER WIRE.
6. SPRAY HEADS, BUBBLERS, AND LATERALS SHOWN TO EXPRESS THE DESIGN INTENT TO PROVIDE 100% HEAD-TO-HEAD COVERAGE FOR ALL PROPOSED PLANTING AREAS. NEW IRRIGATION SPRAY HEADS AND BUBBLERS ARE TO BE INSTALLED TO SERVE PROPOSED PLANTINGS, AMENDING AN EXISTING NO-SITE IRRIGATION SYSTEM. CONTRACTOR SHALL MAKE ADJUSTMENTS TO THE DESIGN INTENT LAYOUT TO CONNECT TO THE EXISTING SYSTEM. IT IS ASSUMED THAT THE CONTRACTOR MAY NEED TO INSTALL ADDITIONAL LATERALS, SLEEVES, EXTEND MAINLINE, OR ADD CONTROL VALVES AND WIRING TO ACCOMMODATE THE IRRIGATION SYSTEM AMENDMENTS.
7. VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THESE PLANS-CONTRACTOR SHALL VERIFY THEIR LOCATION.
8. ALL PRESSURE MAINLINES UNDER ASPHALT PAVEMENT SHALL BE PLACED WITHIN SLEEVES AS NOTED. WHERE ELECTRIC VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER CONDUIT. ALL SLEEVES SHALL BE SIZED TWO PIPE SIZES GREATER THAN PIPE IT CARRIES.
9. CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT. ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR, WHETHER INSTALLED BY HIM OR NOT, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF EACH SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS.

IRRIGATION DESIGN NOTES:

1. INSTALLATION WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANOR AS TO ALLOW FOR SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON THE SITE.
2. ALL PROPOSED TREES AND SHRUBS SHALL BE IRRIGATED BY A 100% AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
3. IRRIGATION SYSTEM SHALL BE CAPABLE OF SUPPLYING AN AVERAGE OF 1" OF WATER PER WEEK WITHIN WATERING RESTRICTIONS AS APPLICABLE.
4. IRRIGATION SYSTEM SHALL NOT BE INSTALLED THROUGH EXISTING, OR PRESERVED PLANT COMMUNITIES.
5. IRRIGATION SPRINKLER ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER REQUIREMENTS AND OPERATING ON DIFFERENT WATERING CYCLES.
6. IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS SHALL BE MINIMIZED.
7. A RAIN SENSOR SHALL BE INSTALLED WITH THE IRRIGATION CONTROL SYSTEM, INSTALLED AT A LOCATION TO BE COORDINATED WITH OWNER.
8. IRRIGATED AREAS SHALL BE FULLY IRRIGATED WITH SPRAY HEADS & ROTORS SPACED TO PROVIDE 100% HEAD TO HEAD COVERAGE. ALL PROPOSED TREES AND PALMS SHALL BE IRRIGATED WITH TREE BUBBLERS.
9. THIS PLAN DEPICTS DESIGN INTENT ONLY FOR AMENDING AN EXISTING IRRIGATION SYSTEM AND ITS SOLE PURPOSE IS TO PROVIDE GUIDANCE FOR IRRIGATION IMPROVEMENTS REQUIRED TO SERVE PROPOSED PLANTINGS. THE SELECTED CONTRACTOR IS REQUIRED TO PROVIDE AN IRRIGATION DESIGN, AS REQUIRED BY THE PERMIT AGENCY. CONTRACTOR'S IRRIGATION DESIGN TO BE REVIEWED AMD APPROVED BY THE OWNER PRIOR TO SUBMITTING FOR AN IRRIGATION SYSTEM CONSTRUCTION PERMIT.
10. POINT OF CONNECTION TO BE DETERMINED BY IRRIGATION CONTRACTOR AND VERIFIED WITH THE LANDSCAPE ARCHITECT. IRRIGATION SYSTEM CONNECTIONS TO THE CITY OR COUNTY SERVICE SHALL COMPLY WITH ALL APPLICABLE CODES.
11. IRRIGATION SYSTEM CONNECTION TO POTABLE WATER SUPPLY WILL REQUIRE A DEDICATED IRRIGATION METER AND BACKFLOW PREVENTER, IRRIGATION CONTRACTOR RESPONSIBLE FOR ASSOCIATED PERMITTING AND FEES.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn

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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 696

11/16/2023

BENJAMIN VAN JOHNSON LICENSE No L6667524 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT DATE

KHA PROJECT	147854000
DATE	2022-12-06
SCALE	AS SHOWN
DESIGNED BY	PMR
DRAWN BY	PMR
CHECKED BY	BVJ

IRRIGATION PLAN

OAR AND IRON
COASTLAND MALL
OPREPARED FOR
APW2199 DEVELOPMENT LLC

CITY OF NAPLES FLORIDA

SHEET NUMBER
L2.00

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BENJAMIN V. JOHNSON, PLA ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE DIGITAL SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Plotted By:Andronescu, Noah Sheet Set:OAR AND IRON COASTLAND MALL Layout:L2.00 IRRIGATION PLAN November 16, 2023 07:54:39am K:\VRB_LDEV\147854000 — coastland center grn\CAD\plansheets\L2.00 IRRIGATION PLAN.dwg
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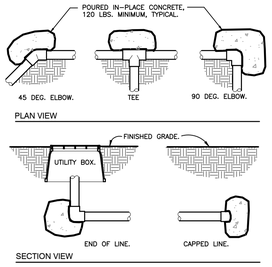
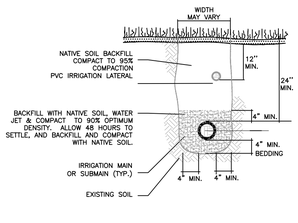
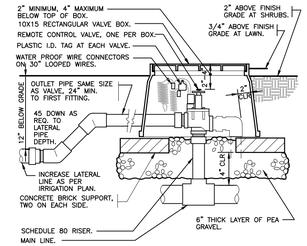


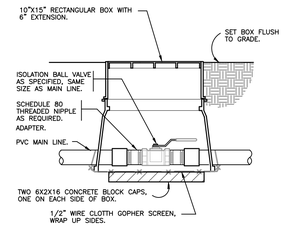
1 THRUST BLOCKING
3/4" = 1'-0"



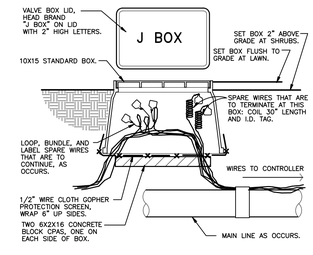
2 TRENCHING DETAIL
NOT TO SCALE



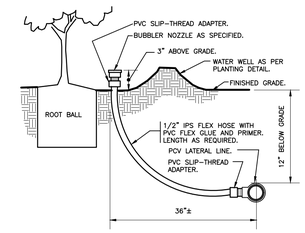
3 ELECTRIC REMOTE CONTROL VALVE
1 1/2" = 1'-0"



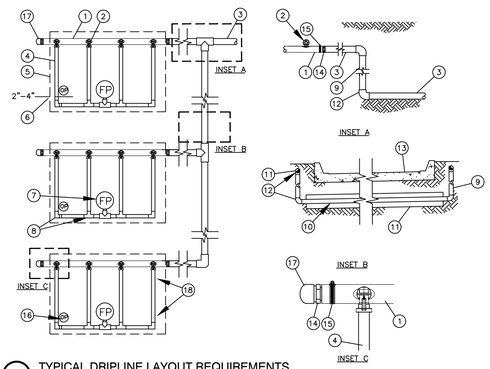
4 BRASS BALL ISOLATION VALVE
1 1/2" = 1'-0"



5 WIRE BUNDLE JUNCTION BOX
1 1/2" = 1'-0"



6 BUBBLER ON FLEX HOSE RISER
3" = 1'-0"

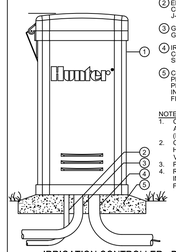


1. QF-SUPPLY HEADER
2. PRE-INSTALLED BARB FITTING
3. PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
4. RAIN BIRD XFS SERIES DRIPLINE (TYPICAL)
5. PERIMETER OF AREA
6. PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
7. FLUSH POINT (TYPICAL) – SEE RAIN BIRD XFD DETAILS FOR FLUSH POINT INSTALLATION
8. BARB X BARB INSERT TEE OR ELL: RAIN BIRD XFF-TEE OR RAIN BIRD XFF-ELBOW (TYPICAL)
9. PVC RISER PIPE
10. PVC SUPPLY MANIFOLD
11. PVC SCH 40 SLEEVE PIPE SIZED TWICE THE SIZE OF MANIFOLD PIPE SIZE
12. PVC SCH 40 TEE OR ELL (TYPICAL)
13. PAVEMENT AND CURB
14. MALE ADAPTER INSERT
15. STAINLESS STEEL, OETIKER OR MURRAY CLAMP
16. OPERATION INDICATOR RAIN BIRD MODEL: OPERIND
17. PVC SCH 40 CAP
18. XF SERIES TIE-DOWN STAKES (TDS-050) REFER TO RAIN BIRD DRIPLINE DESIGN GUIDE FOR PROPER SPACING

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
3. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
4. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

12 TYPICAL DRIPLINE LAYOUT REQUIREMENTS
NOT TO SCALE

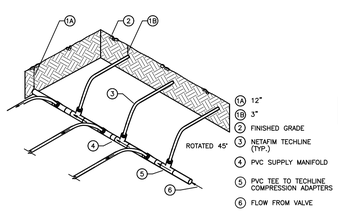
HUNTER INDUSTRIES
1940 Diamond Street
San Marcos, CA 92078
Main: 760-744-5240
Technical Support: 760-591-7383
www.hunterindustries.com



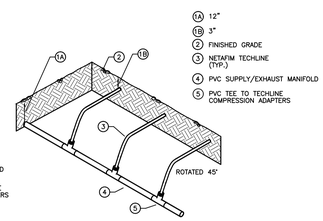
DETAIL LEGEND:
1. IRRIGATION CONTROLLER (HCC-800-PP) PER PLAN
2. ELECTRICAL SUPPLY CONDUIT - CONNECT TO POWER SOURCE. J-BOX INSIDE CONTROLLER.
3. GROUND WIRE CONDUIT - GROUND PER ASIC GUIDELINES
4. IRRIGATION CONTROL WIRE IN CONDUIT - SIZE AND TYPE PER LOCAL CODES
5. CONCRETE PEDESTAL BASE PER PLAN OR THE HUNTER "PLASTIC PEDESTAL INSTRUCTION GUIDE" - INSURE POSITIVE DRAINAGE AWAY FROM PEDESTAL.

NOTES:
1. CONTROLLER ACCEPTS 120 VOLTS A.C. OR 230 VOLTS A.C. (INTERNATIONAL MODEL).
2. CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE.
3. PEDESTAL IS 17" [43 cm] DEEP.
4. REFER TO THE HUNTER HCC INSTALLATION GUIDE FOR FURTHER INSTRUCTIONS.

IRRIGATION CONTROLLER - PLASTIC PEDESTAL (HCC-800-PP)
10 Hunter CJHCC.04 NOT TO SCALE

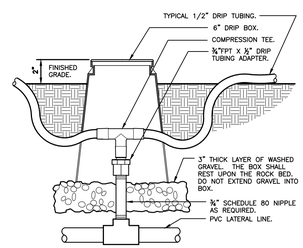


CENTER FEED SUPPLY MANIFOLD

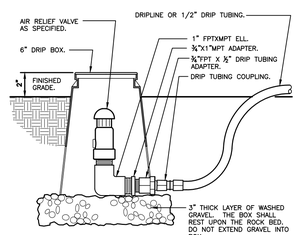


SUPPLY/EXHAUST MANIFOLD

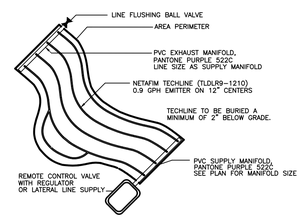
16 LATERAL TO DRIP FEED DETAILS
NOT TO SCALE



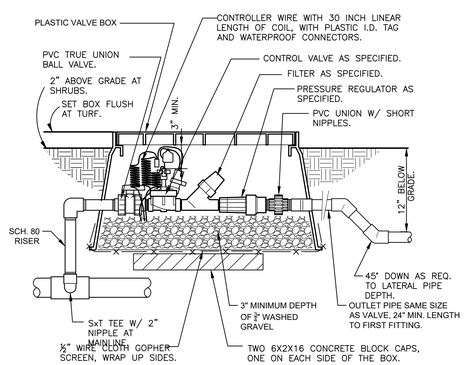
17 ZONE CONTROL
3" = 1'-0" 32 8413.46-03



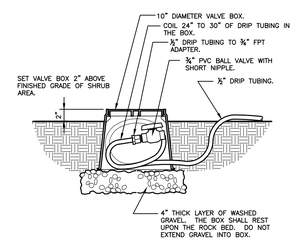
13 DRIP AIR RELIEF VALVE IN BOX
3" = 1'-0" 32 8413.53-03



14 IRREGULAR AREAS
NOT TO SCALE



10 REMOTE CONTROL VALVE (DRIP)
NTS L-IR-DRI-06



19 DRIP FLUSH VALVE
1 1/2" = 1'-0" 32 8413.49-03

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SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

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11/16/2023

BENJAMIN VAN JOHNSON LICENSE No 66667524 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT DATE

KHA PROJECT 147854000
DATE 2022-12-06
SCALE AS SHOWN
DESIGNED BY PMR
DRAWN BY PMR
CHECKED BY BVJ

IRRIGATION DETAILS

OAR AND IRON COASTLAND MALL
OPREPARED FOR
APW2199 DEVELOPMENT LLC
CITY OF NAPLES FLORIDA

SHEET NUMBER
L2.50

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Plotted By:Andronescu, Noah Sheet Set:OAR AND IRON COASTLAND MALL Layout:L2.50 IRRIGATION DETAILS November 16, 2023 07:54:49am K:\VRB_LDEV\147854000 - coastland center grill\CAD\plansheets\L2.50 IRRIGATION DETAILS.dwg
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UNDERGROUND IRRIGATION SYSTEM

PART I: GENERAL

1.01 SCOPE

A. THE WORK COVERED BY THIS SPECIFICATION SHALL INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY TO PERFORM AND COMPLETE THE INSTALLATION OF AN AUTOMATIC IRRIGATION SYSTEM AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS AND ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED WHICH CAN REASONABLY BE DETERMINED TO BE PART OF THE WORK AND NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.

B. THE WORK COVERED BY THIS SPECIFICATION ALSO INCLUDES ALL PERMITS, FEDERAL, STATE AND LOCAL TAXES AND ALL OTHER COSTS, BOTH FORESEEABLE AND UNFORESEEABLE AT THE TIME OF CONSTRUCTION.

C. NO DEVIATION FROM THESE SPECIFICATIONS, THE ACCOMPANYING DRAWINGS, OR AGREEMENT IS AUTHORIZED OR SHALL BE MADE WITHOUT PRIOR WRITTEN AUTHORIZATION SIGNED BY THE OWNER OR HIS DULY APPOINTED REPRESENTATIVE.

1.02 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: A FIRM SPECIALIZING IN IRRIGATION WORK WITH NOT LESS THAN FIVE (5) YEARS OF EXPERIENCE IN INSTALLING IRRIGATION SYSTEMS SIMILAR TO THOSE REQUIRED FOR THIS PROJECT.

B. COORDINATION: COORDINATE AND COOPERATE WITH OTHER CONTRACTORS TO ENABLE THE WORK TO PROCEED AS RAPIDLY AND EFFICIENTLY AS POSSIBLE.

C. INSPECTION OF SITE: THE CONTRACTOR SHALL ACQUAINT HIMSELF WITH ALL SITE CONDITIONS, INCLUDING UNDERGROUND UTILITIES BEFORE CONSTRUCTION IS TO BEGIN. CONTRACTOR SHALL COORDINATE PLACEMENT OF UNDERGROUND MATERIALS WITH CONTRACTORS PREVIOUSLY WORKING UNDERGROUND IN THE VICINITY OR THOSE SCHEDULED TO DO UNDERGROUND WORK IN THE VICINITY. CONTRACTOR IS RESPONSIBLE FOR MINOR ADJUSTMENTS IN THE LAYOUT OF THE WORK TO ACCOMMODATE EXISTING FACILITIES.

D. PROTECTION OF EXISTING PLANTS AND SITE CONDITIONS: THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS TO REMAIN. SHOULD DAMAGES BE INCURRED, THIS CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE. ANY DISRUPTION, DESTRUCTION, OR DISTURBANCE OF ANY EXISTING PLANT, TREE, SHRUB, OR TURF, OR ANY STRUCTURE SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE OWNER AND HIS REPRESENTATIVES, SOLELY AT THE CONTRACTOR'S EXPENSE.

E. PROTECTION OF WORK AND PROPERTY: THE CONTRACTOR SHALL BE LIABLE FOR AND SHALL TAKE THE FOLLOWING ACTIONS AS REQUIRED WITH REGARD TO DAMAGE TO ANY OF THE OWNER'S PROPERTY.

1. ANY EXISTING BUILDING, EQUIPMENT, PIPING, PIPE COVERINGS, ELECTRICAL SYSTEMS, SEWERS, SIDEWALKS, ROADS, GROUNDS, LANDSCAPING OR STRUCTURE OF ANY KIND (INCLUDING WITHOUT LIMITATION, DAMAGE FROM LEAKS IN THE PIPING SYSTEM BEING INSTALLED OR HAVING BEEN INSTALLED BY CONTRACTOR) DAMAGED BY THE CONTRACTOR, OR BY HIS AGENTS, EMPLOYEES, OR SUBCONTRACTORS, DURING THE COURSE OF HIS WORK, WHETHER THROUGH NEGLIGENCE OR OTHERWISE, SHALL BE REPLACED OR REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE IN A MANNER SATISFACTORY TO OWNER, WHICH REPAIR OR REPLACEMENT SHALL BE A CONDITION PRECEDENT TO OWNER'S OBLIGATION TO MAKE FINAL PAYMENT UNDER THE CONTRACT.
2. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR DAMAGE TO ANY WORK COVERED BY THESE SPECIFICATIONS BEFORE FINAL ACCEPTANCE OF THE WORK. HE SHALL SECURELY COVER ALL OPENINGS INTO THE SYSTEMS AND COVER ALL APPARATUS, EQUIPMENT AND APPLIANCES, BOTH BEFORE AND AFTER BEING SET IN PLACE TO PREVENT OBSTRUCTIONS ON THE PIPES AND THE BREAKAGE, MISUSE OR DISFIGUREMENT OF THE APPARATUS, EQUIPMENT OR APPLIANCE.
3. ALL TRENCHING OR OTHER WORK UNDER THE LEAF CANOPY OF ANY AND ALL TREES SHALL BE DONE BY HAND OR BY OTHER METHODS SO THAT NO BRANCHES ARE DAMAGED IN ANY WAY. BUILDINGS, WALKS, WALLS, AND OTHER PROPERTY SHALL BE PROTECTED FROM DAMAGE. OPEN DITCHES LEFT EXPOSED SHALL BE FLAGGED AND BARRICADED BY THE CONTRACTOR BY APPROVED MEANS. THE CONTRACTOR SHALL RESTORE DISTURBED AREAS TO THEIR ORIGINAL CONDITION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUESTING THE PROPER UTILITY COMPANY TO STAKE THE EXACT LOCATION OF ANY UNDERGROUND LINES INCLUDING BUT NOT LIMITED TO ELECTRIC, GAS, TELEPHONE SERVICE, WATER, AND CABLE. THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS ARE NECESSARY TO PROTECT THESE UNDERGROUND LINES FROM DAMAGE. IN THE EVENT DAMAGE DOES OCCUR, ALL DAMAGE SHALL BE COMPLETELY REPAIRED TO ITS ORIGINAL CONDITION, AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL REQUEST THE OWNER, IN WRITING, TO LOCATE ANY PRIVATE UTILITIES (I.E., ELECTRICAL SERVICE TO OUTSIDE LIGHTING) BEFORE PROCEEDING WITH ANY EXCAVATION. IF, AFTER SUCH REQUESTS AND NECESSARY STAKING, PRIVATE UTILITIES WHICH WERE NOT STAKED ARE ENCOUNTERED AND DAMAGED BY THE CONTRACTOR, THEY SHALL BE REPAIRED BY THE OWNER AT NO COST TO THE CONTRACTOR. IF THE CONTRACTOR DAMAGES STAKED OR LOCATED UTILITIES, THEY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

F. CODES AND INSPECTIONS: THE ENTIRE INSTALLATION SHALL COMPLY FULLY WITH ALL LOCAL AND STATE LAWS AND ORDINANCES AND WITH ALL ESTABLISHED CODES ARRANGE FOR ALL NECESSARY INSPECTIONS AND SHALL PAY ALL FEES AND EXPENSES IN CONNECTION WITH SAME, AS PART OF THE WORK UNDER THIS CONTRACT. UPON COMPLETION OF THE WORK, HE SHALL FURNISH TO THE "OWNER" ALL INSPECTION CERTIFICATES CUSTOMARILY ISSUED IN CONNECTION WITH THE CLASS OF WORK INVOLVED.

G. THE CONTRACTOR SHALL KEEP ON HIS WORK, DURING ITS PROGRESS, A COMPETENT SUPERINTENDENT AND ANY NECESSARY ASSISTANTS, ALL SATISFACTORY TO THE OWNER, OR OWNER'S REPRESENTATIVE.

H. THE SUPERINTENDENT SHALL REPRESENT THE CONTRACTOR IN HIS ABSENCE AND ALL DIRECTIONS GIVEN TO HIM SHALL BE AS BINDING AS IF GIVEN TO THE CONTRACTOR.

I. THE OWNER'S LANDSCAPE ARCHITECT OR DESIGNATED INDIVIDUAL SHALL HAVE FULL AUTHORITY TO APPROVE OR REJECT WORK PERFORMED BY THE CONTRACTOR. THE OWNER'S AUTHORIZED REPRESENTATIVE SHALL ALSO HAVE FULL AUTHORITY TO MAKE FIELD CHANGES THAT ARE DEEMED NECESSARY.

J. FINAL ACCEPTANCE: FINAL ACCEPTANCE OF THE WORK MAY BE OBTAINED FROM THE OWNER UPON THE SATISFACTORY COMPLETION OF ALL WORK. ACCEPTANCE BY THE LANDSCAPE ARCHITECT AND/OR OWNER IN NO WAY REMOVES THE CONTRACTOR OF HIS RESPONSIBILITY TO MAKE FURTHER REPAIRS, CORRECTIONS AND ADJUSTMENTS TO ELIMINATE ANY DEFICIENCIES WHICH MAY LATER BE DISCOVERED.

K. GUARANTEE: ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP TO THE SATISFACTION OF THE OWNER. REPAIRS, IF REQUIRED, SHALL BE DONE PROMPTLY AT NO COST TO THE OWNER.

1. THE GUARANTEE SHALL ALSO COVER REPAIR OF DAMAGE TO ANY PART OF THE PREMISES RESULTING FROM LEAKS OR WORKMANSHIP, TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR WORK DAMAGED BY OTHERS. REPAIRS, IF REQUIRED, SHALL BE DONE PROMPTLY. THE GUARANTEE SHALL STATE THE NAME OF THE OWNER, PROVIDE FULL GUARANTEE TERMS, EFFECTIVE AND TERMINATION DATE, NAME AND LICENSE NUMBER OF CONTRACTOR PROVIDING GUARANTEE, ADDRESS, AND TELEPHONE NUMBER. IT SHALL BE SIGNED BY THE CHIEF EXECUTIVE OF THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.
2. IF, WITHIN TEN (10) DAYS AFTER MAILING OF WRITTEN NOTICE BY THE OWNER TO THE CONTRACTOR REQUESTING REPAIRS OR REPLACEMENT RESULTING FROM A BREACH OF WARRANTY, THE CONTRACTOR SHALL NEGLECT TO MAKE OR UNDERTAKE WITH DUE DILIGENCE TO MAKE THE SAME, THE OWNER MAY MAKE SUCH REPAIRS AT THE CONTRACTOR'S EXPENSE; PROVIDED, HOWEVER, THAT IN THE CASE OF EMERGENCY WHERE, IN THE JUDGMENT OF THE OWNER, DELAY WOULD CAUSE SERIOUS LOSS OR DAMAGE, REPAIRS OR REPLACEMENT MAY BE MADE WITHOUT NOTICE BEING SENT TO THE CONTRACTOR, AND CONTRACTOR SHALL PAY THE COST THEREOF.

L. THE CONTRACTOR SHALL PROVIDE FULL, 100% IRRIGATION COVERAGE IN ALL AREAS DESIGNED WITH PROPOSED PLANTINGS, IN ACCORDANCE WITH THE SITE'S GOVERNING PERMITTING REQUIREMENTS AND AS DESIGNED.

M. ON-SITE OBSERVATION: AT ANY TIME DURING THE INSTALLATION OF THE IRRIGATION SYSTEM BY THE CONTRACTOR, THE OWNER OR LANDSCAPE ARCHITECT MAY VISIT THE SITE TO OBSERVE WORK UNDERWAY. UPON REQUEST, THE CONTRACTOR SHALL BE REQUIRED TO UNCOVER SPECIFIED WORK AS DIRECTED BY THE OWNER OR MATERIAL, WORKMANSHIP OR METHOD OF INSTALLATION NOT MEET THE STANDARDS SPECIFIED HEREIN, THE CONTRACTOR SHALL REPLACE THE WORK AT HIS OWN EXPENSE.

N. WORKMANSHIP: ALL WORK SHALL BE INSTALLED BY QUALIFIED, SKILLED PERSONNEL, PROFICIENT IN THE TRADES REQUIRED, IN A NEAT, ORDERLY, AND RESPONSIBLE MANNER WITH RECOGNIZED STANDARDS OF WORKMANSHIP. THE CONTRACTOR SHALL HAVE HAD CONSIDERABLE EXPERIENCE AND DEMONSTRATED ABILITY IN THE INSTALLATION OF SPRINKLER IRRIGATION SYSTEMS OF THIS TYPE.

1.03 SUBMITTALS

ALL MATERIALS SHALL BE THOSE SPECIFIED AND/OR APPROVED BY THE LANDSCAPE ARCHITECT.

A. PRODUCT DATA: AFTER THE AWARD OF THE CONTRACT AND PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE OWNER AND LANDSCAPE ARCHITECT, TWO COPIES OF THE COMPLETE LIST OF MATERIALS, MANUFACTURER'S TECHNICAL DATA, AND INSTALLATION INSTRUCTIONS WHICH HE PROPOSES TO INSTALL.

B. COMMENCE NO WORK BEFORE APPROVAL OF MATERIAL LIST AND DESCRIPTIVE MATERIAL BY THE LANDSCAPE ARCHITECT.

C. RECORD DRAWINGS: THE CONTRACTOR SHALL RECORD ON REPRODUCIBLES, ALL CHANGES THAT MAY BE MADE DURING ACTUAL INSTALLATION OF THE SYSTEM. PROVIDE CONTROLLER SEQUENCING AND CONTROL VALVE LOCATIONS.

1. IMMEDIATELY UPON INSTALLATION OF ANY PIPING, VALVES, WIRING, SPRINKLERS, ETC., IN LOCATIONS OTHER THAN SHOWN ON THE ORIGINAL DRAWINGS OR OF SIZES OTHER THAN INDICATED, THE CONTRACTOR SHALL CLEARLY INDICATE SUCH CHANGES ON A SET OF BLUELINE PRINTS. RECORDS SHALL BE MADE ON A DAILY BASIS. ALL RECORDS SHALL BE NEAT AND SUBJECT TO THE APPROVAL OF THE OWNER.
2. THE CONTRACTOR SHALL ALSO INDICATE ON THE RECORD PRINTS THE LOCATION OF ALL WIRE SPLICES, ORIGINAL OR DUE TO REPAIR, THAT ARE INSTALLED UNDERGROUND IN A LOCATION OTHER THAN THE CONTROLLER PEDESTAL, REMOTE CONTROL VALVE BOX, POWER SOURCE OR CONNECTION TO A VALVE-IN-HEAD SPRINKLER.
3. THESE DRAWINGS SHALL ALSO SERVE AS WORK PROGRESS SHEETS. THE CONTRACTOR SHALL MAKE NEAT AND LEGIBLE NOTATIONS THEREON DAILY AS THE WORK PROCEEDS, SHOWING THE WORK AS ACTUALLY INSTALLED. THESE DRAWINGS SHALL BE AVAILABLE AT ALL TIMES FOR REVIEW AND SHALL BE KEPT IN A LOCATION DESIGNATED BY THE OWNER'S REPRESENTATIVE.
4. PROGRESS PAYMENT REQUEST AND RECORD DRAWING INFORMATION MUST BE APPROVED BY LANDSCAPE ARCHITECT BEFORE PAYMENT IS MADE.
5. IF IN THE OPINION OF THE OWNER OR HIS REPRESENTATIVE, THE RECORD DRAWING INFORMATION IS NOT BEING PROPERLY OR PROMPTLY RECORDED, CONSTRUCTION PAYMENT MAY BE STOPPED UNTIL THE PROPER INFORMATION HAS BEEN RECORDED AND SUBMITTED.
6. BEFORE THE DATE OF THE FINAL SITE OBSERVATION AND APPROVAL, THE CONTRACTOR SHALL DELIVER ONE SET (COPIES) OF REPRODUCIBLE RECORD DRAWING PLANS AND NOTES TO THE LANDSCAPE ARCHITECT. RECORD DRAWING INFORMATION SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO SUBMITTAL TO OWNER FOR FINAL PAYMENTS, INCLUDING RETENTIONS.

D. OPERATIONS AND MAINTENANCE MANUALS: THE CONTRACTOR SHALL PREPARE AND DELIVER TO THE OWNER, OR HIS DESIGNATED REPRESENTATIVE WITHIN TEN (10) CALENDAR DAYS PRIOR TO COMPLETION OF CONSTRUCTION, A HARD COVER BINDER WITH THREE RINGS CONTAINING THE FOLLOWING INFORMATION:

1. INDEX SHEET STATING THE CONTRACTOR'S ADDRESS AND BUSINESS TELEPHONE NUMBER, LIST OF EQUIPMENT WITH NAME(S) AND ADDRESS(ES) OF LOCAL MANUFACTURER'S REPRESENTATIVE(S).
2. CATALOG AND PARTS SHEETS ON EVERY MATERIAL AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
3. COMPLETE OPERATING AND MAINTENANCE INSTRUCTION ON ALL MAJOR EQUIPMENT. INCLUDE INITIAL CONTROLLER SCHEDULE AND RECOMMENDED SCHEDULE AFTER ESTABLISHMENT PERIOD.
4. DEMONSTRATE TO AND PROVIDE THE OWNER'S MAINTENANCE PERSONNEL WITH INSTRUCTIONS FOR MAJOR EQUIPMENT AND SHOW EVIDENCE IN WRITING TO THE OWNER, OR HIS DESIGNATED REPRESENTATIVE AT THE CONCLUSION OF THE PROJECT THAT THIS SERVICE HAS BEEN RENDERED.

1.04 EXPLANATION OF DRAWINGS

A. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND SLEEVES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF THE WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH OFFSETS, FITTINGS AND SLEEVES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.

B. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEMS, PLANTING AND ARCHITECTURAL FEATURES. DEVIATIONS SHALL BE BROUGHT TO THE LANDSCAPE ARCHITECTS ATTENTION.

C. ALL WORK CALLED FOR A ON THE DRAWINGS BY NOTES OR DETAILS SHALL BE FURNISHED AND INSTALLED WHETHER OR NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS.

D. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DISCREPANCIES IN AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN KNOWN IN ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THAT NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISION NECESSARY.

E. IF, IN THE OPINION OF THE LANDSCAPE ARCHITECT, THE LABOR FURNISHED BY THE CONTRACTOR IS INCOMPETENT, UNSKILLED, OR UNRELIABLE, HIS EQUIPMENT INADEQUATE, IMPROPER OR UNSAFE, OR IF THE CONTRACTOR SHALL FAIL TO CONTINUOUSLY AND DILIGENTLY EXECUTE THE CONSTRUCTION, THE LANDSCAPE ARCHITECT OR OWNER SHALL, IN WRITING, INSTRUCT THE CONTRACTOR TO REMOVE ALL SUCH CAUSES OF NONCOMPLIANCE AND THE CONTRACTOR SHALL PROMPTLY COMPLY.

F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL AND COMPLETE COVERAGE OF ALL IRRIGATION AREAS. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY NECESSARY ADJUSTMENTS AT NO ADDITIONAL COST TO THE OWNER. ANY REVISIONS TO THE IRRIGATION SYSTEM MUST BE SUBMITTED AND ANSWERED IN WRITTEN FORM, ALONG WITH ANY CHANGE IN CONTRACT PRICE. LAYOUT MAY BE MODIFIED, IF NECESSARY TO OBTAIN COVERAGE. SPACING NOT TO EXCEED 60% OF THE DIAMETER.

PART II: PRODUCTS

2.01 MATERIALS

A. MATERIAL AND EQUIPMENT SHALL BE SUPPLIED BY THE CONTRACTOR. NO SUBSTITUTIONS SHALL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER/LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL INSPECT ALL MATERIALS AND EQUIPMENT PRIOR TO INSTALLATION, AND DEFECTIVE MATERIALS SHALL BE REPLACED WITH THE PROPER MATERIALS AND EQUIPMENT. THOSE ITEMS USED IN THE INSTALLATION FOUND TO BE DEFECTIVE, IMPROPERLY INSTALLED OR NOT AS SPECIFIED, SHALL BE REMOVED AND THE PROPER MATERIALS AND EQUIPMENT INSTALLED IN THE PROPER MANNER, AS INTERPRETED BY THE OWNER/LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REMOVE ALL DAMAGED AND DEFECTIVE PIPE AND EQUIPMENT FROM THE SITE.

2.02 PIPING

A. GENERAL PROVISIONS: ALL MATERIALS THROUGHOUT THE SYSTEM SHALL BE NEW AND IN PERFECT CONDITION UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT.

B. POLYVINYL CHLORIDE PIPE (PVC): (WHERE INDICATED ON PLAN, USE NON-POTABLE PURPLE PIPING.)

1. LATERALS: PVC SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241, CLASS 1120 OR 1220. ALL LATERAL PIPING LESS THAN 3" IN DIAMETER SHALL BE CLASS 200 SDR-21.
2. MAIN LINE UNDER PRESSURE: PVC SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241, CLASS 1120 OR 1220, SCHEDULE 40 WITH BELLED END FOR SOLVENT WELD CONNECTION.
3. PIPE MARKINGS: ALL PVC PIPE SHALL BEAR THE FOLLOWING MARKINGS:
   a. MANUFACTURER'S NAME
   b. NOMINAL PIPE SIZE
   c. SCHEDULE OR CLASS
   d. PRESSURE RATING OF PSI
   e. NSF (NATIONAL SANITATION FOUNDATION) APPROVAL
   f. DATE OF EXTRUSION

2.03 PVC JOINTS

A. JOINTS IN PVC PIPE SMALLER THAN 3" SHALL BE SOLVENT WELDED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER; THE SOLVENT CLEANER AND WELDING COMPOUND FURNISHED WITH THE PIPE.

2.04 THREADED CONNECTIONS

A. THREADED PVC CONNECTIONS SHALL BE MADE UP USING TEFLON TAPE ONLY.

B. CONNECTION BETWEEN MAINLINE PIPE FITTINGS AND AUTOMATIC OR MANUAL CONTROL VALVES SHALL BE MADE USING SCHEDULE 80 THREADED FITTINGS AND NIPPLES.

2.05 SOLVENT CEMENT

A. GENERAL: PROVIDE SOLVENT CEMENT AND PRIMER FOR PVC SOLVENT WELD PIPE AND FITTINGS RECOMMENDED BY THE MANUFACTURER. PIPE JOINTS FOR SOLVENT WELD PIPE TO BE BELLED END. PIPE JOINTS FOR GASKETED PIPE TO BE INTRICAL RING TYPE. INSERT GASKETS WILL NOT BE ACCEPTED.

B. THRUST BLOCKS: MAIN LINE PIPING 3" OR GREATER IN DIAMETER SHALL HAVE THRUST BLOCKS SIZED AND PLACED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS OR, IN THE ABSENCE OF SPECIFIED RECOMMENDATIONS BY THE PIPE MANUFACTURER. 3000 PSI CONCRETE THRUSTS SHALL BE PROPERLY INSTALLED AT TEES, ELBOWS, 45'S, CROSSES, REDUCERS, PLUGS, CAPS AND VALVES.

2.06 PIPE AND WIRE SLEEVES

A. SLEEVES TO BE INSTALLED:

1. THE CONTRACTOR SHALL INSTALL IRRIGATION SYSTEM PIPE AND WIRE SLEEVES CONFORMING TO THE FOLLOWING:
   a. ALL PIPE SLEEVES SHALL EXTEND A MINIMUM OF 36" BEYOND THE EDGES OF PAVEMENT.
   b. ALL PIPE SLEEVES TO BE INSTALLED BENEATH FUTURE/EXISTING ROAD SURFACES SHALL BE PVC PIPE SCHEDULE 40 OR JACK AND BORE STEEL PIPE AS PER FDOT SPECIFICATIONS, AND AS SHOWN ON PLANS.
   c. ALL IRRIGATION SYSTEM WIRES SHALL BE SLEEVED SEPARATELY FROM MAIN OR LATERAL LINES.
   d. ALL PIPE SLEEVES SHALL BE INSTALLED AT THE MINIMUM DEPTH SPECIFIED FOR MAIN LINES, LATERAL LINES, AND ELECTRIC WIRE.
   e. CONTRACTOR SHALL COORDINATE ALL PIPE SLEEVE LOCATIONS AND DEPTHS PRIOR TO INITIATING INSTALLATION OF THE IRRIGATION SYSTEM.

2.09 AUTOMATIC CONTROL VALVE

A. THE AUTOMATIC REMOTE CONTROL VALVES SHALL BE AS SPECIFIED ON THE PLANS, OR APPROVED EQUAL.

2.10 GATE VALVES

A. GATE VALVES FOR 3/4" THROUGH 2-1/2" SHALL BE OF BRASS OR BRONZE CONSTRUCTION, SOLID WEDGE, IPS THREADS, NON-RISING STEM WITH WHEEL OPERATING HANDLE, FOR A CONTINUOUS WORKING PRESSURE OF 150 PSI.

B. GATE VALVES FOR 3" AND LARGER: IRON BODY, BRASS OR BRONZE MOUNTED AWWA GATE VALVES, WITH A CLEAR WATERWAY EQUAL TO THE FULL NOMINAL DIAMETER OF THE VALVE, RUBBER GASKET FOR A CONTINUOUS WORKING PRESSURE OF 150P PSI. VALVE SHALL BE EQUIPPED WITH A SQUARE OPERATING NUT.

2.11 VALVE BOXES

A. FOR GATE VALVES, USE AMETEK #10-181-014 BOX WITH #10-181-015 LOCKING LID, OR AS PER THE DRAWINGS.

B. FOR CONTROL VALVES 3/4" THROUGH 2", THE DRIP VALVE ASSEMBLIES, USE AMETEK #10-181-014 BOX WITH #10-181-015 LOCKING LID, OR SIZED AS NECESSARY TO EFFECTIVELY HOUSE THE EQUIPMENT

C. FOR CONTROL WIRING SPLICES, USE AMETEK #10-181-014 BOX WITH #10-181-015 LOCKING LID, OR AS PER THE DRAWINGS.

2.12 IRRIGATION WIRING

A. WIRING USED FOR CONNECTING THE ELECTRIC CONTROL VALVES TO THE CONTROLLERS SHALL BE TYPE UF, 600 VOLT, SINGLE STRAND, SOLID COPPER WITH PVC INSULATION 4/64" THICK. SIZE SHALL BE 14 GAUGE, RED FOR "HOT" OR LEAD WIRES, AND COMMON WIRE TO BE 14 GAUGE, WHITE IN COLOR.

B. CONTRACTOR SHALL PERFORM AN OHM TEST ON GROUND TO ASSURE ADEQUATE PROTECTION AGAINST SURGES AND INDIRECT LIGHTNING STRIKES.

2.13 MISCELLANEOUS MATERIALS

A. DRAINAGE BACKFILL: CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 1" MAXIMUM TO 3/4" MINIMUM.

B. METALIZED UNDERGROUND TAPE: THE DETECTABLE, UNDERGROUND UTILITY MARKING TAPE SHALL CONSIST OF A MINIMUM: 5 MIL (0.005") OVERALL THICKNESS; FIVE-PLY COMPOSITION; ULTRA-HIGH MOLECULAR WEIGHT, 100% VIRGIN POLYETHYLENE; ACID, ALKALINE AND CORROSION RESISTANT; WITH NO LESS THAN 150 POUNDS OF TENSILE BREAK STRENGTH PER 6" WIDTH; COLOR-CODE IMPREGNATED WITH COLOR STABLE, LEAD-FREE, ORGANIC PIGMENTS SUITABLE FOR DIRECT BURIAL. TAPES UTILIZING REPROCESSED PLASTICS OR RESINS SHALL NOT BE ACCEPTABLE. THE DETECTABLE, UNDERGROUND UTILITY MARKING TAPE SHALL HAVE A 35 GAUGE (0.0035") SOLID ALUMINUM FOIL, CORE ENCAPSULATED WITHIN A 2.55 MIL (0.00255") POLYETHYLENE BACKING AND A 0.6 MIL (0.006") PET COVER COATING. THE LAMINATE ON EACH SIDE SHALL CONSIST OF A 0.75 MIL (0.00075") LAYER OF HOT LPDE, POLY-FUSING THE "SANDWICH" WITHOUT USE OF ADHESIVES.

2.14 AUTOMATIC CONTROL SYSTEM

1. AN INDEPENDENT STATION CONTROLLER: FURNISH A SOLID STATE CONTROLLER, AS SPECIFIED ON THE PLANS.
   a. EACH STATION SHALL BE CAPABLE OF TIMING FROM ZERO (0) MINUTE TO 99 MINUTES PER STATION IN ONE (1) MINUTE INCREMENTS.
   b. EACH STATION SHALL BE CAPABLE OF OPERATING TWO (2) 7VA ELECTRIC VALVE-IN-HEAD SOLENOIDS.
   c. THE STAND-ALONE CONTROLLER SHALL HAVE TWO (2) POSSIBLE PROGRAMS.
   d. THE STAND-ALONE CONTROLLER SHALL PROVIDE GLOBAL PERCENTAGE INCREASE/DECREASE (WATER BUDGET) FOR ALL STATIONS SIMULTANEOUSLY, FROM TEN (10) TO TWO HUNDRED (200) PERCENT, IN TEN (10) PERCENT INCREMENTS.
   e. ALL STATIONS SHALL BE ABLE TO BE TURNED ON/OFF MANUALLY BUY OPERATING TIMING MECHANISM OR BY MANUAL SWITCH AT STATION OUTPUT.
   f. THE STAND-ALONE CONTROLLER SHALL INCORPORATE AN INTEGRAL MOV SURGE PROTECTION INTO THE TERMINAL BLOCK FOR EACH OF ITS 24 VAC FIELD WIRE OUTPUTS. CONTROLLER POWER INPUT WIRES WILL ALSO INCORPORATE SURGE PROTECTION.
   g. THE CONTROL PANEL SHALL PROVIDE CONTINUOUS DISPLAY TIME. IT SHALL HAVE ALPHANUMERIC DISPLAYS OF DESCRIPTIVE ENGLISH MENUS AND LEGEND IDENTIFIERS WITH CURSOR SELECTION OF FUNCTION AND PRECISION VALUE ADJUSTMENT BY ROTARY DIAL INPUT.
   h. THE STAND-ALONE CONTROLLER SHALL BE UL LISTED AND FCC APPROVED.
   i. THE STAND-ALONE CONTROLLER SHALL HAVE 117 VAC, 60 HZ INPUT, 26.5 VAC, 60 HZ OUTPUT FOR OPERATING 24 VAC SOLENOIDS.
   j. THE STAND-ALONE CONTROLLER CABINET SHALL BE A LOCKABLE AND WEATHER-RESISTANT OUTDOOR CABINET. MOUNT AS NOTED ON PLANS.
   k. THE CONTROLLER SHALL BE EQUIPPED WITH LIGHTENING PROTECTION, BY THE CONTRACTOR, ON BOTH THE PRIMARY (120V) AND EACH SECONDARY (24V) CIRCUIT. THE CONTROLLER CIRCUITS SHALL BE GROUNDED TO A COPPER CLAD GROUNDING ROD LOCATED AT EACH CONTROLLER.
   l. THE CONTROLLER SHALL BE EQUIPPED FOR A WATER CONSERVATION DEVICE. AS SPECIFIED.

2.15

A. INLINE EMITTER TUBING

1. PRESSURE-COMPENSATING LANDSCAPE DRIPLINE
   a. THE INLINE EMITTER SHALL BE WELDED TO THE INNER CIRCUMFERENCE OF THE POLYETHYLENE TUBING. THE INLINE EMITTER SHALL HAVE DUAL OUTLET PORTS, 180° APART, ENSURING ONLY ONE PORT HAS CONTACT WITH THE GROUND WHEN THE TUBING IS INSTALLED AT GRADE AND MULCHED OVER.
   b. EMITTER SHALL PRESSURE COMPENSATE BY LENGTHENING THE EMITTER'S TURBULENT FLOW PATH. THE EMITTER SHALL BE CYLINDRICAL IN SHAPE AND PROVIDE SURFACE AREA FOR FILTRATION THROUGHOUT 360° OF ITS OUTER CIRCUMFERENCE. THIS INCREASED FILTRATION SURFACE AREA SHALL ASSURE THAT THE WATER THAT ENTERS THE INLINE EMITTER CAN ALWAYS COME FROM THE CLEANEST PART OF THE FLOW PATH IN THE POLYETHYLENE TUBING REGARDLESS OF HOW THE INLINE TUBING LAYS ON THE GROUND.
   c. LANDSCAPING DRIPLINE TUBING SHALL BE BROWN IN COLOR AND CONFORM TO AN OUTSIDE DIAMETER (O.D.) OF 0.630 INCHES (16MM) AND AN INSIDE DIAMETER (I.D.) OF 0.540 INCHES (13.7 MM) AND WALL THICKNESS OF 0.045 INCHES (1.1MM).
   d. LANDSCAPE DRIPLINE SHALL HAVE FACTORY INSTALLED, PRESSURE-COMPENSATING, INLINE EMITTERS WITH SPACING AS INDICATED ON DRAWINGS.
   e. THE FLOW RATE FROM EACH INSTALLED INLINE EMITTER SHALL BE CONSISTENT WHEN INLET PRESSURE IS BETWEEN 8.5 AND 60 PSI (0.7 TO 4.1 BARS). GPH RATING INDICATED BY SPECIFIED MODEL
   f. OPERATING PRESSURE RANGE: 8.5 TO 60 PSI (0.7 TO 4.1 BAR).
   g. MODEL: PRESSURE-COMPENSATING LANDSCAPE DRIPLINE AS INDICATED ON PLANS

B. SPRAY SPRINKLERS: THE SPRINKLER SHALL BE A FIXED SPRAY TYPE DESIGNED FOR IN-GROUND INSTALLATION. THE NOZZLE SHALL ELEVATE 6" (OR AS DESIGNED ON PLAN) WHEN IN OPERATION. THE BODY OF THE SPRINKLER SHALL BE CONSTRUCTED OF NON-CORROSIVE HEAVY DUTY CYCOLAC. A FILTER SCREEN SHALL BE IN THE NOZZLE PISTON. ALL SPRINKLER PARTS SHALL BE REMOVABLE THROUGH THE TIP OF THE UNIT BY REMOVAL OF A THREADED CAP. RISER MOUNTED SPRAY SHALL BE AS INDICATED ON THE PLANS. THE SPRINKLER SHALL CONSIST OF A NOZZLE AND BODY. THE BODY OF THE RISER-MOUNT SPRINKLER SHALL BE CONSTRUCTED OF NON-CORROSIVE MATERIALS. A CONE STRAINER SHALL BE SEPARATE PART WITH THE NOZZLE ASSEMBLY TO ALLOW FOR EASY FLUSHING OF THE SPRINKLER. MAXIMUM WORKING PRESSURE AT THE BASE OF THE SPRINKLER SHALL BE 40 PSI.

C. LOW VOLUME, PRESSURE-COMPENSATING (PC) EMITTER MODULES:
   a. PRESSURE-COMPENSATING MODULES SHALL BE PRESSURE COMPENSATING OVER THE RANGE OF 10 TO 50 PSI (0.7 TO 3.5 BAR) AND HAVE A CONSISTENT FLOW RATE OVER THIS PRESSURE RANGE AS SPECIFIED.
   b. THE PRESSURE-COMPENSATING MODULES SHALL BE MADE OF UV RESISTANT ACETYL EXTERNALLY.
   c. THE PRESSURE0COMPENSATING MODULES SHALL BE COLOR-CODED ON THE OUTLET SIDE TO IDENTIFY FLOW RATE. A TAN OUTLET SHALL INDICATE AN EMITTER WITH A FLOW RATE OF 5 GALLONS PER HOUR (18.93 L/H), A VIOLET OUTLET SHALL INDICATE A FLOW RATE OF 7 GALLONS PER HOUR (37.85 L/H), A DARK BROWN OUTLET SHALL INDICATE A FLOW RATE OF 12 GALLONS PER HOUR (45.42 L/H), A WHITE OUTLET SHALL INDICATE A FLOW RATE OF 18 GALLONS PER HOUR (68.13 L/H) AND AN ORANGE OUTLET SHALL INDICATE A FLOW RATE OF 24 GALLONS PER HOUR (90.84 L/H).
   d. MODEL: AS INDICATED ON PLANS

PART III: EXECUTION

3.01 INSPECTION

A. THE CONTRACTOR SHALL EXAMINE THE AREAS AND CONDITIONS UNDER WHICH LANDSCAPE IRRIGATION SYSTEM IS TO BE INSTALLED AND NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OF CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK. THE CONTRACTOR SHALL PROCEED WITH THE WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE LANDSCAPE ARCHITECT.

3.02 PREPARATION

A. THE CONTRACTOR SHALL PROVIDE SLEEVES TO ACCOMMODATE PIPING UNDER WALKS OR PAVING. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND INSTALL TO ACCURATE LEVELS PRIOR TO PAVING WORK. CUTTING AND PATCHING OF PAVING AND CONCRETE WILL NOT BE PERMITTED. THE CONTRACTOR SHALL MAINTAIN ALL WARNING SIGNS, SHORING, BARRICADES, FLARES AND RED LANTERNS, AS REQUIRED BY ANY LOCAL CODES, ORDINANCES OR PERMITS.

3.03 TRENCHING AND BACKFILLING

A. EXCAVATION: THE CONTRACTOR SHALL STAKE OUT THE LOCATION OF EACH RUN OF PIPE, SPRINKLER HEADS, SPRINKLER VALVES AND ISOLATION VALVES PRIOR TO TRENCHING. EXCAVATION SHALL BE OPEN VERTICAL CONSTRUCTION SUFFICIENTLY WIDE TO PROVIDE FREE WORKING SPACE AROUND THE WORK INSTALLED AND TO PROVIDE AMPLE SPACE OR BACKFILLING AND TAMPING. TRENCHES FOR PIPE SHALL BE CUT TO REQUIRED GRADE LINES, AND COMPACTED TO PROVIDE ACCURATE GRADE AND UNIFORM BEARING FOR THE FULL LENGTH OF THE LINE. THE BOTTOM OF THE TRENCHES SHALL BE FREE OF ROCK OR OTHER SHARP EDGED OBJECTS. MINIMUM COVER SHALL BE AS FOLLOWS:

PIPE AND WIRE DEPTH

PRESSURE MAINLINE	18" AT TOP OF PIPE FROM FINISH GRADE
LATERAL PIPING (ROTOR)	12" AT TOP OF PIPE FROM FINISH GRADE
LATERAL PIPING (POP-UP)	12" AT TOP OF PIPE FROM FINISH GRADE
CONTROL WIRING	SIDE OF MAIN LINE

B. MINIMUM CLEARANCES: ALL PIPELINES SHALL HAVE A MINIMUM CLEARANCE OF SIX INCHES FROM EACH OTHER AND FROM LINES OF OTHER CRAFTS. PARALLEL LINES SHALL NOT BE INSTALLED DIRECTLY OVER ONE ANOTHER. NO LATERAL LINE SHALL BE INSTALLED IN THE MAIN-LINE TRENCH

3.04 INSTALLATION OF PIPING

A. PVC PIPE AND JOINTS: THE CONTRACTOR SHALL NOT INSTALL SOLVENT WILD PIPE WHEN AIR TEMPERATURE IS BELOW 40Ø F. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

1. ONLY THE SOLVENT RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED. ALL PVC PIPE AND FITTINGS SHALL BE INSTALLED AS OUTLINED AND INSTRUCTED BY THE PIPE MANUFACTURER, AND IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO MAKE ARRANGEMENTS WITH THE PIPE MANUFACTURER FOR ANY FIELD ASSISTANCE THAT MAY BE NECESSARY. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE CORRECT INSTALLATION.

3.05 BACKFILLING PROCEDURES

INITIAL BACKFILL ON PVC LINES SHALL BE PULVERIZED NATIVE SOIL, FREE OF FOREIGN MATTER. WITHIN RADIUS OF 4" OF THE PIPE SHALL BE CLEAN SOIL OR SAND. PLANT LOCATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER AND PIPE LOCATIONS. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF TREES AND SHRUBS WITH THE ROUTING OF LINES AND FINAL HEAD LOCATIONS.

A. BACKFILL AND COMPACTION: THE CONTRACTOR SHALL LEAVE TRENCHES SLIGHTLY MOUNDED TO ALLOW FOR SETTLEMENT AFTER THE BACKFILLING IS COMPLETED. THE CONTRACTOR SHALL CLEAN THE SITE OF THE WORK CONTINUOUSLY OF EXCESS WASTE MATERIALS AS THE BACKFILLING PROGRESSES, AND LEAVE IN A NEAT CONDITION. NO TRENCHES SHALL BE LEFT OPEN FOR A PERIOD OF MORE THAN 48 HOURS. PROTECT OPEN TRENCHES AS REQUIRED.

1. THE CONTRACTOR SHALL CAREFULLY BACKFILL EXCAVATED MATERIALS APPROVED FOR BACKFILLING, CONSISTING OF EARTH, LOAM, SAND, AND OTHER APPROVED MATERIALS, FREE OF ROCK AND DEBRIS OVER 1" IN SIZE. BACKFILL SHALL BE COMPACTED TO ORIGINAL DENSITY OF SURROUNDING SOIL WITHOUT DIPS, SUNKEN AREAS, OR IRREGULARITIES.
2. THE CONTRACTOR SHALL CONFORM TO DOT REQUIREMENTS FOR METHODS AND REQUIRED COMPACTION PERCENTAGES, FOR ROADS AND PAVING.
3. THE CONTRACTOR SHALL HAND PLACE THE FIRST 6" OF BACKFILL (OR TO TOP OF PIPE) AND HAVE IT WALKED ON SO AS TO SECURE THE POSITION OF THE PIPE AND WIRE.
4. NO WHEEL ROLLING WILL BE ALLOWED. THE CONTRACTOR SHALL REMOVE ROCK OR DEBRIS EXTRACTED FROM BACKFILL MATERIALS AND DISPOSE OF OFFSITE. THE CONTRACTOR SHALL FILL ANY VOIDS LEFT IN BACKFILL WITH APPROVED BACKFILL MATERIALS.

B. EXISTING LAWNS: WHERE TRENCHING IS REQUIRED ACROSS EXISTING LAWNS, UNIFORMLY CUT STRIPS OF SOD 6" WIDER THAN TRENCH. THE CONTRACTOR SHALL REMOVE SOD IN ROLLS OF SUITABLE SIZE FOR HANDLING AND KEEP MOISTENED UNTIL REPLANTED. THE CONTRACTOR SHALL REPLANT SOD WITHIN 48 HOURS AFTER REMOVAL, ROLL AND WATER GENEROUSLY. THE CONTRACTOR SHALL RESOD ANY AREAS NOT IN HEALTHY CONDITION EQUAL TO ADJOINING LAWNS 10 DAYS AFTER REPLANTING.

C. SEEDED AREA: TRENCHING WILL BE REQUIRED ACROSS EXISTING SEEDED AREAS, PRIMARILY ROADWAY EDGING. THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF SEEDING, SECTION 02930 FOR THE RESEEDING OF THE DISTURBED TRENCH AREA.

D. PAVEMENTS: JACK AND BORE OR DIRECTIONAL BORE PIPING UNDER PAVING MATERIALS AS PER LOCAL REGULATORY CODES. NO CUTTING AND PATCHING OF PAVEMENT WILL BE PERMITTED.

3.06 VALVES

A. ISOLATION VALVES: SHALL BE SIZED CORRESPONDING TO ADJACENT PIPE SIZE. SPECIFIED VALVE BOXES SHALL BE INSTALLED FLUSH WITH FINISH GRADE IN SUCH A MANNER THAT SURFACE FORCES APPLIED TO THEIR EXPOSED AREA WILL NOT BE TRANSMITTED TO THE PIPING IN WHICH THE VALVE IS INSTALLED NOR ANY OTHER PIPING, WIRING OR OTHER LINES IN THE VICINITY OF SAID VALVES.

B. GATE VALVES: INSTALL WHERE SHOWN, IN VALVE BOXES.

C. ELECTRIC CONTROL VALVES: SHALL BE INSTALLED IN SPECIFIED VALVE BOXES. THE VALVE SHALL HAVE 6" OF 3/4" PEA GRAVEL INSTALLED BELOW THE BOTTOM OF THE VALVE. IF THE VALVE BOX DOES NOT EXTEND TO THE BASE OF THE VALVE, A VALVE BOX EXTENSION SHALL BE INSTALLED. ELECTRIC CONTROL VALVES SHALL BE INSTALLED WHERE SHOWN AND GROUPED TOGETHER WHERE PRACTICAL. THE CONTRACTOR SHALL PLACE NO CLOSER THAN 24" TO WALK EDGES, BIKEWAY EDGES, BUILDINGS AND WALLS. THE CONTRACTOR SHALL ADJUST THE VALVE TO PROVIDE FLOW RATE OR RATED OPERATING PRESSURE REQUIRED FOR EACH SPRINKLER CIRCUIT.

3.07 CONDUIT AND SLEEVES

A. CONDUIT AND SLEEVES FOR CONTROL WIRING AND MAIN/LATERAL PIPE: THE CONTRACTOR SHALL PROVIDE AND INSTALL WHERE NECESSARY. CONTRACTOR SHALL COORDINATE LOCATIONS OF PREVIOUSLY INSTALLED SLEEVING WITH THE GENERAL SITE CONTRACTOR.

1. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF SLEEVES WITH WORK OF OTHER DISCIPLINES.

3.08 CONTROLS

A. THE CONTRACTOR SHALL CONNECT ELECTRIC CONTROL VALVES TO CONTROLLERS IN A CLOCKWISE SEQUENCE TO CORRESPOND WITH STATION SETTINGS BEGINNING WITH STATIONS 1, 2, 3, ETC. AUTOMATIC CONTROLLERS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS NOTED ON THE DRAWINGS. ALL ZONES WILL BE LABELED ON THE CONTROLLER.

B. CONTROLLERS SHALL BE EQUIPPED WITH LIGHTNING PROTECTION AND GROUNDED TO A STANDARD 5/8" COPPER CLAD STEEL GROUND ROD DRIVEN A MINIMUM OF 8' INTO THE GROUND AND CLAMPED.

C. THE ELECTRICAL SERVICE TO THE CONTROLLERS SHALL BE PERFORMED BY AN ELECTRICAL SUBCONTRACTOR IN COMPLIANCE WITH NEC REQUIREMENTS.

3.09 CONTROL WIRE

A. CONTROL WIRING BETWEEN THE CONTROLLER AND ELECTRIC VALVES SHALL BE BURIED IN MAIN LINE TRENCHES OR IN SEPARATE TRENCHES. ELECTRICAL CONNECTION AT VALVE WILL ALLOW FOR PIGTAIL SO SOLENOID CAN BE REMOVED FROM VALVE WITH SUFFICIENT SLACK TO ALLOW ENDS TO BE PULLED 12" ABOVE GROUND FOR EXAMINATION AND CLEANING.

B. AN EXPANSION LOOP SHALL BE PROVIDED AT EVERY VALVE AT 100' O.C. EXPANSION LOOP SHALL BE FORMED BY WRAPPING WIRE AT LEAST EIGHT TIMES AROUND A 3/4" PIPE AND WITHDRAWING PIPE.

C. THE WIRE SHALL BE BUNDLED AND TAPED EVERY TEN FEET. THE WIRE SHALL BE LAID IN THE TRENCH PRIOR TO INSTALLING THE PIPE BEING CAREFUL TO INSTALL WIRE BENEATH AND 6" TO THE SIDE OF THE MAIN PIPE LINE.

D. ELECTRICAL CONNECTIONS TO ELECTRIC CONTROL VALVES SHALL BE MADE WITH RAINBIRD PEN-TITE OR TECHDEL GT-3-GEL - TITE CONNECTORS OR EQUAL.
   a. POWER CONNECTIONS: ELECTRICAL CONNECTIONS TO POWER AND SIGNAL WIRES SHALL BE MADE USING 3M 82-A2 POWER CABLE SPLICE KITS.

3.10 SPRINKLER HEADS

A. GENERAL PROVISIONS:

1. SPRINKLER HEADS SHALL BE INSTALLED AS DESIGNATED ON THE SHOP DRAWINGS. HEADS SHALL BE INSTALLED ON FLEXIBLE PVC. TOP TO BE FLUSH WITH FINISH GRADE OR TOP OF CURB.
2. SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM INDICATED ON THE SHOP DRAWINGS (UNLESS DIRECTED BY THE LANDSCAPE ARCHITECT). IN NO CASE SHALL THE SPACING EXCEED THE MAXIMUM RECOMMENDED BY THE MANUFACTURER.

B. HEAD TYPES:

1. POP-UP- ROTARY SPRINKLER HEADS: SHALL BE INSTALLED ON FLEX JOINT AND BE SET WITH TOP OF HEAD FLUSH WITH FINISH GRADE. HEADS INSTALLED AT CURB SHALL HAVE 6" TO 10" BETWEEN PERIMETER OF HEAD AND CONCRETE. HEADS PLACED AT EDGE OF PAVEMENT HAVING NO CURB SHALL BE INSTALLED 24" FROM EDGE OF PAVEMENT.
2. SPRAY POP-UP SPRINKLER HEADS: SHALL BE INSTALLED ON FLEXIBLE PVC AND BE SET WITH TOP OF HEAD FLUSH WITH FINISHED GRADE. SPRINKLER HEADS PLACED ADJACENT TO CURBS WILL BE INSTALLED 9" FROM CONCRETE. SPRINKLER HEADS PLACED ADJACENT TO PAVEMENT HAVING NO CURB SHALL BE INSTALLED 24" FROM THE EDGE OF PAVEMENT.

3.11 COMPLETION

A. FLUSHING: BEFORE SPRINKLER HEADS ARE SET, THE CONTRACTOR SHALL FLUSH THE LINES THOROUGHLY TO MAKE SURE THERE IS NO FOREIGN MATTER IN THE LINES.

1. THE CONTRACTOR SHALL FLUSH THE MAIN LINES FROM DEAD END FITTINGS FOR A MINIMUM OF FIVE MINUTES UNDER A FULL HEAD OF PRESSURE.

B. TESTING: THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND OWNER FORTY-EIGHT (48) HOURS IN ADVANCE OF TESTING.

1. PRIOR TO BACKFILLING OF MAIN LINE FITTINGS, CONTRACTOR SHALL FILL THE MAIN LINE PIPING WITH WATER, IN THE PRESENCE OF THE OWNER/LANDSCAPE ARCHITECT, TAKING CARE TO PURGE THE AIR FROM IT BY OPERATING ALL THE SPRINKLER CONTROL VALVES ONE OR MORE TIMES AND/OR SUCH OTHER MEANS AS MAY BE NECESSARY. A SMALL, HIGH PRESSURE PUMP OR OTHER MEANS OF MAINTAINING A CONTINUOUS WATER SUPPLY SHALL BE CONNECTED TO THE MAIN LINE AND SET SO AS TO MAINTAIN 100 PSI IN THE MAIN LINE SYSTEM FOR TWO (2) HOURS WITHOUT INTERRUPTION. WHEN THIS HAS BEEN ACCOMPLISHED AND WHILE THE PRESSURE IN THE SYSTEM IS STILL 100 PSI, LEAKAGE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA STANDARD C-600. PRESSURE READINGS SHALL BE NOTED AND MAKE UP WATER USAGE SHALL BE RECORDED. SHOULD THE RATE OF MAKE UP WATER USAGE INDICATE SIGNIFICANT LEAKAGE, THE SOURCE OF SUCH LEAKAGE SHALL BE FOUND AND CORRECTED AND THE SYSTEM THEN RETESTED UNTIL THE OWNER/LANDSCAPE ARCHITECT IS SATISFIED THAT THE SYSTEM IS REASONABLY SOUND. LATERAL LINE TESTING SHALL BE CONDUCTED DURING THE OPERATING TESTING OF THE SYSTEM BY CHECKING VISUALLY THE GROUND SURFACE UNTIL NO LEAKS IN THIS PORTION OF THE SYSTEM ARE EVIDENT. LEAKS SHALL BE REPAIRED OR PAID FOR BY THE CONTRACTOR AT ANY TIME THEY APPEAR DURING THE WARRANTY PERIOD.
2. ADJUSTMENT AND COVERAGE OF SYSTEM: COORDINATE PRESSURE TESTING WITH ADJUSTMENTS AND COVERAGE TEST OF SYSTEM SO BOTH MAY OCCUR AT THE SAME TIME. THE CONTRACTOR SHALL BALANCE AND ADJUST THE VARIOUS COMPONENTS OF THE SYSTEM SO THAT THE OVERALL OPERATION OF THE SYSTEM IS MOST EFFICIENT. THIS INCLUDES A SYNCHRONIZATION OF THE CONTROLLERS, ADJUSTMENTS TO PRESSURE REGULATORS, PRESSURE RELIEF VALVES, PART CIRCLE SPRINKLER HEADS, AND INDIVIDUAL STATION ADJUSTMENTS ON THE CONTROLLERS.

3.12 WARRANTY

A. THE CONTRACTOR SHALL FULLY WARRANT THE LANDSCAPE IRRIGATION SYSTEM FOR A PERIOD OF ONE (1) YEAR AFTER THE WRITTEN FINAL ACCEPTANCE AND WILL RECEIVE A WRITTEN CONFIRMATION FROM THE LANDSCAPE ARCHITECT THAT THE WARRANTY PERIOD IS IN EFFECT.

B. DURING THE WARRANTY PERIOD, THE CONTRACTOR WILL ENFORCE ALL MANUFACTURER'S AND SUPPLIER'S WARRANTIES AS IF MADE BY THE CONTRACTOR HIMSELF. ANY MALFUNCTIONS, DEFICIENCIES, BREAKS, DAMAGES, DISREPAIR, OR OTHER DISORDER DUE TO MATERIALS, WORKMANSHIP, OR INSTALLATION BY THE CONTRACTOR AND HIS SUPPLIERS SHALL BE IMMEDIATELY AND PROPERLY CORRECTED TO THE PROPER ORDER AS DIRECTED BY THE OWNER AND/OR LANDSCAPE ARCHITECT.

C. ANY DAMAGES CAUSED BY SYSTEM MALFUNCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WHO SHALL MAKE FULL AND IMMEDIATE RESTORATION FOR SAID DAMAGES.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

811. Know what's **below.** Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BENJAMIN V. JOHNSON, PLA ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE DIGITAL SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

No.	REVISIONS	DATE	BY

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11/16/2023

BENJAMIN VAN JOHNSON ★ LICENSE No LL6667524 ★ STATE OF FLORIDA ★ PROFESSIONAL LANDSCAPE ARCHITECT

DATE:

KHA PROJECT	147854000
DATE	2022-12-06
SCALE	AS SHOWN
DESIGNED BY	PMR
DRAWN BY	PMR
CHECKED BY	BVJ

IRRIGATION SPECIFICATIONS

OAR AND IRON COASTLAND MALL
OPREPARED FOR
APW2199 DEVELOPMENT LLC

CITY OF NAPLES FLORIDA

SHEET NUMBER
L2.51

Plotted By: Andronescu, Noah Sheet Set: OAR AND IRON COASTLAND MALL Layout: L2.51 IRRIGATION SPECIFICATIONS November 16, 2023 07:54:52am K:\VRB_LDEV\147854000 – coastland center grill\CAD\plansheets\L2.50 IRRIGATION DETAILS.dwg
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