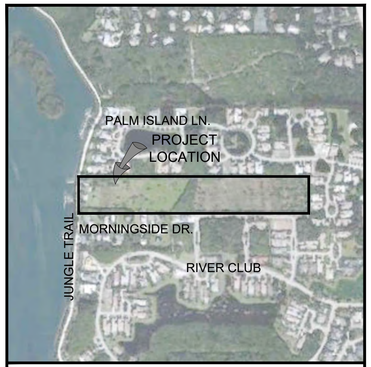
JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS

PHASE 1

SECTION 36, TOWNSHIP 31S, RANGE 39E
INDIAN RIVER COUNTY, FLORIDA
OCTOBER 2018

VICINITY MAP



LOCATION MAP

OWNER / APPLICANT

INDIAN RIVER COUNTY PARKS DIVISION
5500 77th STREET
VERO BEACH, FLORIDA 32967
PHONE: 772-226-1873

ENGINEER

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 20TH STREET
VERO BEACH, FL 32960
PH: (772) 569-0035
FAX: (772) 778-3617
MELBOURNE, FL - PH: (321) 253-1510
FT. PIERCE, FL - PH: (772) 468-9055

SURVEYOR

CAI Serving Florida Since 1911 CARTER ASSOCIATES, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1708 21st STREET, VERO BEACH, FL 32960
TEL: (772) 562-4191 FAX: (772) 562-7180

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
C1	COVER
C2	GENERAL NOTES
C3	OVERALL EXISTING CONDITIONS
C3A	EXISTING CONDITIONS - PHASE 1
C4	DEMOLITION PLAN
C5	OVERALL SITE PLAN
C6	PHASE 1 SITE PLAN
C7	PHASE 1 PAVING, GRADING AND DRAINAGE PLAN
C8	OVERALL UTILITY PLAN
C9	UTILITY PLAN ENLARGEMENT
~~C10~~	~~PRIVATE LIFT STATION DETAILS~~
C11	EROSION CONTROL PLAN
C12	EROSION CONTROL DETAILS
C13	GENERAL DETAILS
C14	COVB STANDARD UTILITY DETAILS
C15	COVB STANDARD UTILITY DETAILS
C16	LANDSCAPE PLAN

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AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

PROJECT: 17-0133

SHEET
C1
OF 17

CONSTRUCTION NOTES:

1. THE CONTRACTOR IS ADVISED TO THOROUGHLY REVIEW THIS PLAN PACKAGE SO AS TO BE TOTALLY PREPARED TO PRESENT HIS BID PRICES IN THE CONTRACT DOCUMENTS. THE PLAN PACKAGE SUFFICIENTLY DELINEATES THE SCOPE AND INTENT OF THE ROADWAY WORK TO BE ACCOMPLISHED. IT WILL, THEREFORE, BE INCUMBENT ON THE CONTRACTOR TO ADJUST HIS FEE DOLLARS TO REFLECT ANY AND ALL ITEMS WHICH MAY NOT BE CLEARLY OUTLINED OR THOSE ITEMS WHICH MAY NOT BE INDICATED BUT WHICH ARE NECESSARY FOR THE SUCCESSFUL COMPLETION OF THIS PROJECT WITHOUT ADDITIONAL COSTS TO THE OWNER.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH INDIAN RIVER COUNTY AND FDOT STANDARDS AND SPECIFICATIONS.
3. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR THE COORDINATION OF UTILITY RELOCATION.
4. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN THE FIELD WITH UTILITY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION UTILITY OWNERS:

AT&T
(888) 944-0447

FLORIDA POWER & LIGHT
3301 ORANGE AVENUE
FORT PIERCE, FL 34947
(800) 343-7941

COMCAST CABLE
(800) 289-8849

CITY OF VERO BEACH
17 17TH STREET
PO BOX 1389
VERO BEACH, FL 32961
TODD YOUNG (772) 978-5209

5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION, AS REQUIRED BY THE UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT. NOTIFY SUNSHINE AT 811.
6. UTILITIES ARE TO BE ADJUSTED BY UTILITY OWNER OR AS DIRECTED BY THE ENGINEER.
7. SURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND IS TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER IF SOIL OR SUBSURFACE CONDITIONS UNSUITABLE FOR CONSTRUCTION ARE ENCOUNTERED.
9. ALL EXCAVATED SOILS DEEMED SUITABLE AS FILL MATERIAL AS DETERMINED BY THE ENGINEER SHALL BE UTILIZED ON SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. THE EXACT LOCATION OF DELIVERY ON SITE SHALL BE DETERMINED BY THE ENGINEER. ALL EXCAVATED SOILS DEEMED UNSUITABLE SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE.
10. ITEM IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT HIS OWN EXPENSE.
11. IT SHOULD BE NOTED THAT THE OCCUPATIONAL SAFETY AND HEALTH ACT PROHIBITS THE OPERATING OF EQUIPMENT OR MACHINES CLOSER THAN TEN (10) FEET TO ENERGIZED ELECTRIC LINES RATES AT FIFTY KILOVOLTS OR BELOW. ALSO, NO EXCAVATION IS PERMITTED WITHIN FIVE (5) FEET OF POWER POLE FACILITIES.
12. ALL IRONS AND MONUMENTS (P.R.M.'S) SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
13. ANY PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR WILL NOTIFY THE ENGINEER.
14. ALL EXISTING TREES WITHIN THE RIGHT OF WAY ARE TO BE REMOVED AS CLEARING AND GRUBBING UNLESS OTHERWISE NOTED.
15. WHEN REFERENCED TO, FDOT REFERS TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS,CURRENT EDITION.
16. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN, THAT NOW EXISTING.
17. BACKFILL, GRADE AND SOD AS REQUIRED AROUND ALL NEW CONSTRUCTION AND ALL DEVELOPED LOTS TO PREVENT EROSION. SEED AND MULCH WILL ONLY BE ALLOWED TO RESTORE UNDEVELOPED LOTS AFFECTED BY CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
18. SODDING TO BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER.
19. PROPERTY OWNERS AND BUSINESSES WITHIN THE AREA OF CONSTRUCTION SHALL BE GIVEN ACCESS TO THEIR PROPERTY AT ALL TIMES DURING THE PERIOD OF CONSTRUCTION.
20. ALL MAILBOXES SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE U.S. POSTAL MAIL CARRIER.
21. THE CONTRACTOR SHALL REMOVE, COVER OR OBLITERATE EXISTING ROADWAY SIGNS AND PAVEMENT MARKINGS THAT CONFLICT WITH THE CONSTRUCTION TRAFFIC CONTROL PLANS.
22. CONTRACTOR TO PROTECT ALL SPRINKLER HEADS NOT IN CONFLICT WITH DESIGN AND RELOCATE ALL THOSE WHICH ARE IN CONFLICT TO A LOCATION DETERMINED IN FIELD.
23. SOD TWO (2) FEET MINIMUM ALONG SIDE PROPOSED EDGE OF PAVEMENT.
24. THE CONTRACTOR IS REQUIRED TO PERFORM HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE VARIOUS PERMITS WHICH WILL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
25. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY DRAINAGE MEASURES AS REQUIRED TO ADEQUATELY DRAIN THE PROJECT AND ANY TEMPORARILY TRAVELED ROADWAYS. TEMPORARY DRAINAGE DESIGN, CONSTRUCTION AND MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY; HOWEVER, ALL SUCH MEASURES MUST BE APPROVED BY THE ENGINEER.
26. THE EXISTING SIDEWALK SHALL NOT BE DISTURBED UNLESS OTHERWISE NOTED.
27. GRADES SHOWN ARE FINISHED GRADES.
28. SAWCUT CONCRETE OR ASPHALT DRIVEWAYS AS REQUIRED FOR REPLACEMENT.
29. ALL ABANDONED UTILITIES (INCLUDING PIPES, CABLES AND STRUCTURES) FOUND IN THE RIGHT OF WAY AND NOT SHOWN ON THE PLANS, ARE TO BE REMOVED AND PROPERLY DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR. THIS INCLUDES ALL EXOTIC PIPES LIKE ASBESTOS-CEMENT PIPE. COST TO BE INCLUDED IN CLEARING AND GRUBBING ITEM.
30. DRIVEWAY LOCATIONS AND WIDTHS ARE APPROXIMATE AND ARE TO BE ADJUSTED AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
31. BENCHMARK DATUM IN N.A.V.D. 1988.
32. BACKFILL AND SOD AS REQUIRED BEYOND RIGHT OF WAY LINES ON INDIVIDUAL LOTS TO MAINTAIN POSITIVE DRAINAGE FLOW INTO CURB AND GUTTER.
33. GRADE AND SOD SWALES TEN (10) FEET FROM PROPOSED DITCH BOTTOM INLETS AND MITERED END SECTIONS ON SIDE STREETS AS REQUIRED.
34. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ℄ (BASELINE) AND ℄ (CENTERLINE) CONSTRUCTION THROUGHOUT THE PROJECT.
35. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE (SEQUENCE OF OPERATIONS) PRIOR TO THE PRE-CONSTRUCTION MEETING.
36. THE CONTRACTOR SHALL REMOVE DRIVEWAY APRONS AND DRIVEWAY CULVERTS AND SHALL MAINTAIN ROUGH GRADE FOR UTILITY MODIFICATIONS.
37. ALL EXISTING SWALES SHALL BE PROTECTED BY THE CONTRACTOR. ANY DAMAGE TO THE SWALE LINE SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.
38. PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICES FOR BID ITEMS.
39. MAINTAIN A MINIMUM OF ONE (1) FOOT CLEARANCE BETWEEN POWER POLE AND EDGE OF SIDEWALK.
40. WHEN ALL OTHER PERMANENT CONSTRUCTION IS COMPLETE, THE FINAL SURFACE COURSE SHALL BE PLACED.
41. CONSTRUCTION OPERATIONS FOR PLACEMENT OF THE FINAL SURFACE COURSE SHALL BE LIMITED TO A DISTANCE, AS DIRECTED BY THE ENGINEER, THE CONTRACTOR CAN COMPLETE IN ONE (1) DAY.
42. THE CONTRACTOR SHALL IMPLEMENT TEMPORARY PAVEMENT MARKINGS UNTIL THE FINAL SURFACE COURSE HAS CURED (MINIMUM THIRTY (30) DAYS AFTER FINAL SURFACE COURSE PLACEMENT). ANY TEMPORARY PAINTED MARKINGS PLACED ON THE FINAL.
43. PAVEMENT TRANSITION SHALL BE MADE IN ACCORDANCE WITH PAVEMENT TRANSITION DETAIL.

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ROADWAY SPECIFICATIONS

GENERAL

IT IS INTENDED THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" MOST CURRENT EDITION BE USED WHERE APPLICABLE FOR VARIOUS WORK, AND THAT WHERE SUCH WORDING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL, SUCH WORDING IS INTENDED TO BE REPLACED WITH THAT WORDING WHICH WOULD PROVIDE PROPER TERMINOLOGY, THEREBY MAKING SUCH "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS THE "STANDARD SPECIFICATIONS" FOR THIS PROJECT.

IF WITHIN THAT PARTICULAR SECTION ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE A PART OF THE STANDARD SPECIFICATIONS ALSO.

ALL WORK SHALL BE IN WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.

THE CONTRACTOR SHALL GIVE THE ENGINEER 24 HOURS NOTICE PRIOR TO REQUESTING INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF TWO YEARS FROM THE DATE OF PROJECT ACCEPTANCE, DURING WHICH ALL FAULTY CONSTRUCTION AND/OR MATERIALS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

GRADING

THE CONTRACTOR SHALL PERFORM ALL GRADING NECESSARY TO ACHIEVE THE PROPOSED PLAN GRADES INCLUDING TYPICAL SECTIONS.

ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 120 OF THE STANDARD SPECIFICATIONS.

STAKING

CONSTRUCTION STAKING WILL BE PERFORMED BY THE CONTRACTOR.

STABILIZING

STABILIZED SUBGRADE SHALL BE CONSTRUCTED TO THE FLORIDA BEARING VALUE AS PER PLAN FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, AND IN ACCORDANCE WITH SECTION 160 OF THE STANDARD SPECIFICATIONS.

(TYPE C STABILIZATION). ALL STABILIZED AREAS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.

RECLAIMED ASPHALT PAVEMENT (MILLINGS):

THE MILLINGS DRIVEWAY AND PARKING LOT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 283 OF THE STANDARD SPECIFICATIONS. THE MILLINGS SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY FM 1-T180.

TESTING

THE COUNTY SHALL RETAIN THE SERVICES OF AN APPROVED INDEPENDENT TESTING LABORATORY TO CONDUCT ALL REQUIRED TESTS ON SUBGRADE, BASE AND SURFACE COURSE MATERIALS. TEST RESULTS MUST BE SUBMITTED PRIOR TO ANY REQUEST FOR PAYMENT ON THE ABOVE ITEMS.

THE SCHEDULE FOR TESTING OF THE ROAD CONSTRUCTION SHALL BE AS FOLLOWS:

A. SUBGRADE:
   1. FLORIDA BEARING VALUE TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET, OR CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN SUBSOIL CONDITIONS.
   2. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET OR CLOSER AS MIGHT BE NECESSARY.

B. BASE:
   1. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET OR CLOSER AS MIGHT BE NECESSARY.

ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 1 1/2 INCHES INSIDE THE LEFT EDGE, TO THE CENTER, TO A POINT 12 INCHES INSIDE THE RIGHT EDGE OF THE ITEM TESTED.

IF ANY TEST INDICATES THAT THE WORK DOES NOT MEET THE SPECIFICATIONS, I.E. "FAILS", THE SUBSTANDARD AREA SHALL BE REWORKED OR CORRECTED AND RETESTED, AT THE CONTRACTOR'S EXPENSE, UNTIL THE PROVISIONS OF THESE SPECIFICATIONS ARE MET.

ALL PASSING TESTS SHALL BE PAID FOR BY THE COUNTY. ALL FAILING TESTS SHALL BE PAID FOR BY THE CONTRACTOR.

CLEAN-UP

THE CONTRACTOR MUST PROVIDE CLEAN-UP OF EXCESS CONSTRUCTION MATERIAL UPON COMPLETION OF THE PROJECT. THE SITE MUST BE LEFT IN A NEAT, CLEAN, GRADED CONDITION.

DRAINAGE SPECIFICATIONS

STORM INLETS AND MANHOLES SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH SECTION 425 OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.

CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.

ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40, FYP = 40,000 PSI, AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 318-71.

PRECAST CONCRETE MANHOLES AND STORM INLETS MAY BE USED UPON THE ENGINEER'S APPROVAL OF THE MANUFACTURER'S SHOP DRAWINGS.

STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 430 AND RELATED SECTIONS OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.

CONCRETE

UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL FIBER-MESH CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND THE APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA.

CULVERT PIPES

REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.

PRECAST CONCRETE DRAINAGE PRODUCTS

ALL PRECAST CONCRETE DRAINAGE PRODUCTS (INCLUDING BUT NOT LIMITED TO ROUND CONC. PIPE. ELLIPTICAL CONC. PIPE, UNDERDRAINS, MANHOLES, INLETS, ENDWALLS, JUNCTION BOXES, THREE SIDED CONC. CULVERTS, AND CONC. BOX CULVERTS) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.

RECORD DRAWINGS

CONTRACTOR SHALL KEEP AND MAINTAIN RECORD DRAWINGS ON THE PROJECT SITE AT ALL TIMES WHICH SHALL BE ANNOTATED BY THE CONTRACTOR DEPICTING ANY CHANGES MADE IN THE FIELD WHICH DIFFER FROM THE CONTRACT DRAWINGS. RECORD DRAWINGS SHALL INCLUDE, BUT NOT LIMITED TO, INVERT AND TOP ELEVATIONS OF CULVERTS AND INLET STRUCTURES. CONTRACTOR SHALL SUBMIT COMPLETE AND FINAL RECORD DRAWINGS TO ENGINEER UPON COMPLETION OF PROJECT AND PRIOR TO FINAL INSPECTION AND FINAL PAYMENT.

DRAINAGE SPECIFICATIONS (CONTINUED)

INSPECTION

MINIMUM CONSTRUCTION INSPECTION CHECKPOINTS

THE ENGINEER SHALL BE NOTIFIED:

1. PRIOR TO ANY MAJOR DEVIATION FROM THE APPROVED PLANS.
2. PRIOR TO BACKFILLING ANY PIPE TRENCHES.
3. UPON COMPLETION OF SUBGRADE GRADING AND COMPACTION.
4. UPON BEGINNING OF SPREADING OF ROCK BASE MATERIAL.
5. UPON COMPLETION OF GRADING AND COMPACTION OF THE BASE MATERIAL AND PRIOR TO PRIMING.
6. IMMEDIATELY PRIOR TO AND UPON APPLICATION OF A.C.S.C.
7. UPON COMPLETION OF CONSTRUCTION.

CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS

1. OPEN ROAD CUTS REQUIRES PRIOR APPROVAL OF THE CITY, COUNTY, STATE OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
2. ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
3. ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD.
4. STREET RESTORATION TO BE DONE AS PER INDIAN RIVER COUNTY STANDARDS.
5. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
6. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
3. CONTRACTOR SHALL OBTAIN COPIES OF ALL REQUIRED PERMITS BEFORE COMMENCING WORK. CONTRACTOR SHALL FAMILIARIZE HIMSELF OF ALL PERMIT CONDITIONS AND PERFORM ALL WORK AN ACCORDANCE WITH ALL SAID CONDITIONS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE FOR CONSTRUCTION OPERATIONS.
5. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
6. ALL SUBDIVISION CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE INDIAN RIVER COUNTY ORDINANCES.
7. CONTRACTOR SHALL SUPPLY DENSITY TESTS TO ENGINEER ON ALL SUB-GRADE AND BASE. TESTS SHALL BE PREPARED PER AASHTO T-180 METHOD.
8. SLOPE GRADES FROM ELEVATIONS SHOWN TO EXISTING GRADE AT PROPERTY LINE. MAXIMUM SLOPE 3:1.
9. ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTION.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH M.U.T.C.D. STANDARDS.
11. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.
12. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTORS BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.
13. ALL INLETS SHALL HAVE A 6" MIN. SUMP BELOW LOWEST INVERT.
14. EROSION CONTROL FENCING MUST BE IN PLACE PRIOR TO GRADING.
15. PIPE LENGTHS AND SLOPES SHOWN ARE APPROXIMATE.
16. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
17. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
18. CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
19. THIS PLAN CONTEMPLATES ACCESS CONNECTIONS TO ADJACENT ROADS AS SHOWN.
20. FILL MATERIAL MAY NOT BE STOCKPILED HIGHER THAN SIX (6) VERTICAL FEET ONSITE PER INDIAN RIVER COUNTY CODE.
21. DIMENSIONS SHOWN ARE TO EDGE OF GUTTER OR PAVEMENT. RADII SHOWN ARE TO FACE OF CURB.
22. ALL SIGNS SHALL BE MUTCD STANDARD.
23. ALL PAVEMENT MARKINGS, EXCEPT PARKING STALL STRIPING, SHALL BE THERMOPLASTIC PER INDIAN RIVER COUNTY REQUIREMENTS.
24. THE USES PROPOSED AS PART OF THIS PLAN DO NOT REQUIRE A SUBMITTAL OF A RISK MANAGEMENT PLAN PURSUANT TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS AND SHALL NOT EXCEED THE EPA'S RMP THRESHOLD QUANTITIES OF LISTED SUBSTANCES.
25. WATER FOR FIRE FIGHTING PURPOSES SHALL BE INDICATED WITH A BLUE ROADWAY REFLECTOR, PLACE ONE FOOT OFF OF THE CENTERLINE OF THE ROAD FACING THE FIRE HYDRANT. THIS INCLUDES NEW AND EXISTING SOURCES.
26. REGARDLESS OF PRIVATE OR PUBLIC DEDICATIONS, THERE SHALL BE NO UTILITY CONNECTIONS, METER BOXES OR VALVE BOXES IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AREAS.
27. CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
28. ANY STATE AND FEDERAL PERMITS THAT MAY BE REQUIRED AS A RESULT OF LAND CLEARING AND LANDSCAPING ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
29. CONTRACTOR IS RESPONSIBLE TO PROTECT AND/OR REPLACE ALL SURVEY MONUMENTATION BY A LICENSED SURVEYOR IN THE STATE OF FLORIDA.

TECHNICAL SPECIFICATIONS

MATERIALS

A.) DRAINAGE PIPING:

1.) MINIMUM SIZED PIPING SHALL BE 15" OR EQUIVALENT ELLIPTICAL SIZE AND 18" MINIMUM ON COLLECTOR ROADS, UNLESS OTHERWISE NOTED.

2.) ALL STORM PIPING SHALL MEET MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO ENSURE PROPOSED PIPING DOES NOT REQUIRE ADDITIONAL INSTALLATION MATERIALS, INCLUDING BUT NOT LIMITED TO, STRAPPING, ANCHORING, BUOYANCY, ETC.

3.) ALL JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.

4.) SAFETY BARS SHALL BE PLACED ON PIPE AND MITERED END SECTIONS WHERE DETERMINED NECESSARY.

5.) OUTFALL END RUN TO DITCHES SHALL HAVE A MITERED END SECTION WITH SAFETY BARS TO MATCH EXISTING DITCH BANK SLOPE WITH APPROPRIATE EROSION CONTROL MEASURES UNLESS OTHERWISE NOTED.

B.) DRAINAGE STRUCTURES:

1.) ALL DRAINAGE STRUCTURES SHALL MEET SPECIFIC PLANNED USE AS DETERMINED BY THE DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY.

2.) ALL CATCH BASINS, INLETS OR MANHOLE STRUCTURES SHALL BE OF PRECAST REINFORCED TYPE PURSUANT TO FDOT DESIGN STANDARDS, LATEST EDITION, UNLESS OTHERWISE APPROVED.

3.) ALL STRUCTURES SHALL BE FREE OF DEFECTS SUCH AS CRACKING, HONEY COMBS AND EXPOSED STEEL REINFORCING INCLUDING BLEED THROUGH.

4.) SHOP DRAWINGS SHALL BE SUBMITTED BEFORE ORDERING MATERIAL FOR PLANNED PROJECT. CORRESPONDING SHALL BE BETWEEN THE DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY AND IS THE RESPONSIBILITY OF THE CONTRACTOR.

C.) OUTFALL SPECIFICATIONS:

1.) OUTFALL STRUCTURES SHALL INCLUDE ALUMINUM SKIMMERS, WEIR DEVICES, WEEP HOLES AND DRAW DOWN SYSTEMS AS DETERMINED BY DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY AS REQUIRED.

2.) HARDWARE TO ATTACH DEVICES TO OUTFALL STRUCTURES SHALL BE STAINLESS STEEL MATERIAL.

3.) CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL PERMIT REQUIREMENTS FOR OUTFALL PIPE INTO JURISDICTIONAL CANAL, OR ANY OTHER WATER BODY, TO ENSURE PROPER CONSTRUCTION MEANS AND METHODS PROPOSED ARE ACCEPTABLE. IT IS RECOMMENDED THIS COORDINATION IS DONE PRIOR TO CONTRACTOR'S PRICING.

D.) MANHOLE COVERS & GRATES:

1.) MANHOLE FRAMES, COVERS AND GRATES SHALL MEET SPECIFIC PLANNED USE AS DETERMINED BY DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY.

2.) MANHOLE FRAMES AND COVERS SHALL BE OF CAST IRON MATERIALS, UNLESS OTHERWISE NOTED, AND BE FREE FROM CRACKS, HOLES OR COLD SHUTS. FRAMES AND COVERS SHALL CONFORM TO A MINIMUM STANDARD OF USF 1260 SERIES OR EQUIVALENT WITH COVERS STATING "STORM SEWER."

3.) FRAMES AND GRATES SHALL BE OF CAST IRON MATERIALS, UNLESS OTHERWISE NOTED, AND BE FREE FROM CRACKS, HOLES AND COLD SHUTS. FRAMES AND GRATES SHALL CONFORM TO A MINIMUM STANDARD OF USF 4160-6210 OR EQUIVALENT.

No.	REVISIONS	DATE
8		
7	CONSTRUCTIBILITY REVIEW	10-28-2019
6	L.S. TO STEP SYSTEM	09-11-2019
5	FORCE MAIN	08-09-2019
4	PHASING COORDINATION	03-22-2019
3	15' U.E TO CITY OF VERO BEACH	11-21-2018
2	PER COVB UTIL DEPT	10-31-2018
1	PER COVB AND IRC COMMENTS	10-17-2018

JOB NO.	17-0133
DESIGNED	ND
DRAWN	RT
DATE	03-22-2018
CHECKED	AS
DATE ISSUED	10/28/2019

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 - 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
FX. (772) 778-3617
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9055

GENERAL NOTES

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C2
OF 17
17-0133

LEGEND

Symbol	Description	Abbreviation	Description	Line/Symbol	Description
wm	WATER METER	E	ELECTRICAL RISER	oe	OVERHEAD ELECTRIC
	ANCHOR & GUY WIRE	M	MAIL RECEPTACLE		EXISTING TOP OF BANK
	SIGN		ELECTRICAL METER		EXISTING TOE OF SLOPE
	DRAINAGE CATCH BASIN	P	PULL BOX	X X X	EXISTING FENCE LINE
S	SANITARY SEWER MANHOLE	DIA. Ø	DIAMETER		EXISTING TREE/VEGETATION LINE
wv	WATER VALVE	EOP	EDGE OF PAVEMENT	12	OAK TREE W/SIZE
	FIRE HYDRANT	R.O.W.	RIGHT OF WAY		MANGROVE TREE LINE
	UTILITY POLE	I.R.F.W.C.D.	INDIAN RIVER FARMS WATER CONTROL DISTRICT		COCONUT PALM
(O)	OBSERVED DATA	I.R.F.C.SD.	INDIAN RIVER FARMS COMPANY SUBDIVISION	12	CABBAGE PALM
(P)	PLAT DATA	C.B.S.	CONCRETE BLOCK STRUCTURE	12	CABBAGE PALM
(C)	CALCULATED DATA	CONC.	CONCRETE		ROYAL PALM
(D)	DEED DATA	L.P.	LIQUID PROPANE		NORFOLK ISLAND PINE
W	EXISTING IRRIGATION WELL	SWL	SWALE		WASHINGTON PALM
T	TELEPHONE\CATV RISER	PVC	POLYVINYL CHLORIDE PIPE		EXISTING WETLAND LINE
	SANITARY CLEAN-OUT	RCP	REINFORCED CONCRETE PIPE		EXISTING WETLAND
	YARD LIGHT	CMP	CORRUGATED METAL PIPE		
	WATER SERVICE	ADS	ADVANCED DRAINAGE SYSTEM		
	LIGHT POLE	CAP	CORRUGATED ALUMINUM PIPE		
BS	BELL SOUTH RISER	P.B.	PLAT BOOK		
TBM	TEMPORARY BENCH MARK	PG.	PAGE		
N.A.V.D.	NORTH AMERICAN VERTICAL DATUM	I.R.C., FL.	INDIAN RIVER COUNTY, FLORIDA		
EL.	ELEVATION	F.F.E.	FINISH FLOOR ELEVATION		
+5.5	EXISTING SPOT ELEVATION	SRC	SET 1/2" DIAMETER X 18" LONG REBAR/CAP STAMPED "CARTER ASSOC."		
■	10"x 10" CONCRETE PILING				
●	8"-10" WOOD PILING				
●	6"-8" PVC PILING	SRWC	SET 1/2" DIAMETER X 18" LONG REBAR/CAP STAMPED "WIT.COR. LB.205"		
	FLAG POLE				

DESCRIPTION AS FURNISHED BY CLIENT:

"THE NORTH 16.5 ACRES OF THE SOUTH 33 ACRES OF GOVERNMENT LOTS 8 & 9, SECTION 36, TOWNSHIP 31 SOUTH, RANGE 39 EAST, ALL LYING AND BEING IN INDIAN RIVER COUNTY, FLORIDA. LESS RIGHT OF WAY FOR JUNGLE TRAIL SURVEY BASELINE PER MAINTENANCE MAP AS RECORDED IN PLAT BOOK 9, PAGE 40, PUBLIC RECORDS OF INDIAN RIVER COUNTY, FLORIDA."

CONTAINING: 699,307 SQUARE FEET / 16.05 ACRES

SURVEYOR'S GENERAL NOTES AND REPORT:

1. UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER, THIS DRAWING, SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.
2. THE LAST DAY OF FIELD WORK PERFORMED FOR THE INITIAL SURVEY EFFORT WAS JUNE 7, 2017. SUBSEQUENT ADDITIONS, DELETIONS AND/OR UPDATES, IF ANY, ARE REFLECTED IN THE DRAWING REVISIONS.
3. BEARINGS SHOWN HEREON ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983, ADJUSTMENT OF 2011, AND ARE PROJECTED IN THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA EAST ZONE (901) AND ARE REFERENCED TO THE ESTABLISHED AND MONUMENTED LINE SHOWN HEREON LABELED AS THE BEARING BASIS.
4. UNLESS A DIFFERENCE IS SHOWN, OBSERVED AND RECORD DIMENSIONS ARE THE SAME. ALL DIMENSIONS SHOWN HEREON ARE DISPLAYED IN U.S. SURVEY FEET AND DECIMAL PARTS THEREOF.
5. THE BOUNDARY DETERMINATION AND DELINEATION SHOWN ON THIS MAP OF SURVEY WAS BASED UPON THE PROFESSIONAL OPINION OF THE REGISTERED SURVEYOR PURSUANT TO NORMAL PRINCIPALS AND PRACTICES OF LAND SURVEYING AND IS NOT INTENDED TO IMPLY OR DETERMINE OWNERSHIP. THIS SURVEY DOES NOT INTEND TO DELINEATE LOCAL AREAS OF CONCERN OR ANY OTHER JURISDICTIONAL DETERMINATION.
6. THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE BENEFIT AND USE OF THE PERSONS AND/OR ENTITIES NAMED HERON FOR THE PURPOSES IDENTIFIED HEREON ONLY. UNLESS OTHERWISE STATED, CERTIFICATION OF THIS SURVEY MAP APPLIES ONLY TO THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J17 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES. THE CERTIFICATION IN NO WAY CONSTITUTES NEITHER GUARANTY NOR WARRANTY TO ANY OTHER INFORMATION NOT SHOWN HEREON. ADDITIONS, DELETIONS OR REVISIONS TO THIS DRAWING BY OTHERS ARE NOT PERMITTED AND THIS SURVEY MAY NOT BE TRANSFERRED WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE SIGNING SURVEYOR. THIS SURVEY IS NOT VALID FOR ANY OTHER PURPOSE OTHER THAN INTENDED BY THE SIGNING SURVEYOR.
7. THE LEGAL DESCRIPTION AND MATTERS OF PUBLIC RECORD WERE FURNISHED BY THE CLIENT. THIS PROPERTY(S) WAS NOT ABSTRACTED OR RESEARCHED BY THIS OFFICE FOR ENCUMBRANCES OF RECORD. THE HEREON DESCRIBED PROPERTY IS SUBJECT TO RESTRICTIONS, RESERVATIONS, EASEMENTS AND RIGHTS-OF-WAY OF RECORD, IF ANY. MATTERS OF RECORD NOT BROUGHT TO THE SURVEYOR'S ATTENTION BY THE CLIENT, THEIR AGENT OR AS DISCLOSED BY A FURNISHED TITLE INSURANCE POLICY WERE NOT INCLUDED. NO INVESTIGATION WAS MADE BY THIS OFFICE INTO THE VALIDITY OF ANY EASEMENTS CITED IN THE LEGAL DESCRIPTION OR FOR ANY ENCUMBRANCES NOT OF RECORD IN THE INFORMATION FURNISHED BY THE CLIENT. NO TITLE COMMITMENT OR ABSTRACT WAS FURNISHED FOR THE PREPARATION OF THIS SURVEY.
8. THE EXPECTED USE OF THE LAND, AS CLASSIFIED IN THE STANDARDS OF PRACTICE (5J17 F.A.C.) IS SUBURBAN. THE MINIMUM RELATIVE DISTANCE ACCURACY OF BOUNDARIES FOR THIS TYPE OF SURVEY IS 1 FOOT IN 7,500 FEET. THIS SURVEY MEETS OR EXCEEDS THE STATED ACCURACY REQUIREMENT.
9. WITH EXCEPTION TO WHAT HAS BEEN FIELD LOCATED AND SHOWN ON THIS SURVEY, THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. SUBSURFACE AND/OR AERIAL ENCROACHMENTS, IF ANY, WERE NOT LOCATED AND/OR DEPICTED ON THIS SURVEY UNLESS NOTED OR IDENTIFIED.
10. THE HEREON DESCRIBED PROPERTY APPEARS TO LIE WITHIN FLOOD ZONE AE, SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, BASE FLOOD ELEVATIONS DETERMINED, ELEVATIONS 6 N.A.V.D. 1988 AND 7 N.A.V.D. 1988 AS SHOWN ON FLOOD INSURANCE RATE MAP (FIRM) NUMBER 12061C0232, COMMUNITY NUMBER 120121, PANEL 0232, SUFFIX 'H' MAP REVISED DATE DECEMBER 4, 2012, MAP INDEX DATE DECEMBER 4, 2012.
11. TREE LOCATIONS, IF SHOWN HEREON ARE GENERALLY ACCURATE TO 1/2 THE DIAMETER OF THAT PARTICULAR TREE. THE DIAMETER IS DISPLAYED IN INCHES MEASURED AT BREAST HEIGHT. ONLY TREES WITH A BREAST HEIGHT DIAMETER OF 4" OR LARGER OR WITH 10 FEET OF CLEAR TRUNK WERE FIELD LOCATED.
12. DIGITAL FILE DRAWING DISCLAIMER: THIS DRAWING, MAP, PLAT OR SKETCH IS PROVIDED SOLELY FOR THE CONVENIENCE OF THE CLIENT; CARTER ASSOCIATES INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, AS TO ITS SUITABILITY FOR ANY SPECIFIC PURPOSE. WHILE WE BELIEVE THIS DRAWING FILE TO BE ACCURATE AT THE TIME OF RETRIEVAL, THIS MEDIA AND ITS CONTENTS CAN BE EASILY ALTERED OR CORRUPTED EITHER PURPOSELY OR INADVERTENTLY THROUGH ANY NUMBER OF SOURCES. FOR THIS REASON, CARTER ASSOCIATES INC., ITS OFFICERS, DIRECTORS AND EMPLOYEES SHALL BE INDEMNIFIED AND HELD HARMLESS FROM ANY AND ALL LIABILITY THAT MAY ARISE OR RESULT FROM THE USE OF THIS DRAWING, MAP, PLAT OR SKETCH BY ANY FIRM, EMPLOYEES, AGENTS OR SUB-CONTRACTORS. OPENING AND OR USING THE FILE PROVIDED HEREIN CONSTITUTES ACCEPTANCE OF THE PROVISIONS STATED HEREIN. ORIGINAL SIGNED AND SEALED HARD COPIES OF THIS MAP, SKETCH, PLAT OR SURVEY MAY ONLY BE OBTAINED THROUGH: CARTER ASSOCIATES INC. 1708 21ST ST. VERO BEACH, FL 32960-3472, TELEPHONE: 1-772-562-4191 OR FAX: 1-772-562-7180
13. THIS SURVEY CONSISTS OF 4 SHEETS AND SHALL NOT BE CONSIDERED COMPLETE AND OR VALID UNLESS ALL SHEETS ARE PRESENT.

SURVEYOR'S GLOBAL POSITIONING SYSTEM (G.P.S.) NOTES:

1. G.P.S. SURVEY METHOD: REAL TIME KINEMATIC (RTK)
2. G.P.S. RECEIVER TYPE: DUAL FREQUENCY LEICA GS 14 / CS 15 GPS/GLONASS GNSS (GLOBAL NAVIGATION SATELLITE SYSTEM), SBAS, CODE AND PHASE (L1 AND L2)
3. THE ORIGINAL GPS RTK MEASUREMENTS BEGAN MAY 30, 2017 AND WERE COMPLETED ON JUNE 7, 2017. TWO LEICA DUAL FREQUENCY GPS RECEIVERS EQUIPPED WITH RT-SKI (REAL TIME MEASUREMENT CAPABILITIES) WERE USED TO GATHER GPS DATA. TYPICALLY A BASE RECEIVER IS SET UP ON AN ESTABLISHED CONTROL STATION WHILE A ROVING RECEIVER LOCATES EXISTING MONUMENTS, IMPROVEMENTS AND/OR TOPOGRAPHIC DATA AND CONTROL THROUGHOUT THE PROJECT AREA. REAL-TIME COORDINATE COMPUTATIONS AND PRECISION INFORMATION ARE DETERMINED VIA RADIO / MODEM LINK WITH THE BASE STATION AND RECORDED AS THREE DIMENSIONAL (3D) POSITIONS.
4. G.P.S. SURVEY MEASUREMENTS WERE PROCESSED AND ADJUSTED USING LEICA INFINITY, VERSION 2.1.0
5. THE HORIZONTAL TARGET ACCURACY FOR THIS SURVEY IS AS FOLLOWS:
HORIZONTAL: 8MM + 1PPM (RMS)
VERTICAL: 15MM + 1PPM (RMS).
6. HORIZONTAL POSITIONS OF SITE CONTROL WERE ESTABLISHED UTILIZING THE FDOT FPRN "MAX" NETWORK CORRECTION. LOCAL SITE CONTROL VALUES ARE NETWORK CORRECTED (ADJUSTED) POSITIONS.

VERTICAL DATUM AND CONTROL NOTES:

THE ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) AND ARE DISPLAYED IN U.S. SURVEY FEET AND DECIMAL PARTS THEREOF.

ORIGINATING BENCH MARK(S)

DESIGNATION: A 633
PID: DI4032
STATE/COUNTY: FL/INDIAN RIVER
USGS QUAD: VERO BEACH (1983)
NAVD 88 ORTHO HEIGHT: 2.496 (METERS) 8.19 (FEET)
GEOID HEIGHT: -27.91 (METERS)
DYNAMIC HEIGHT: 2.492 (METERS) 8.18 (FEET)
DESCRIPTION: STAINLESS STEEL ROD W/NGS LOGO CAP STAMPED "A 633 2005"
LOCATION: FROM THE JUNCTION OF STATE HIGHWAY 60 WEST (BEACHLAND BLVD) AND STATE HIGHWAY A1A IN VERO BEACH, GO NORTH ON STATE HIGHWAY A1A FOR 5.75 MILES TO THE JUNCTION OF OLD WINTER BEACH ROAD ON THE LEFT ANF THE MARK ON THE LEFT. LOCATED 110.5 FEET SOUTH OF THE APPROXIMATE CENTERLINE OF OLD WINTER BEACH ROAD, 42.5 FEET NORTH OF A CONCRETE RIGHT OF WAY MARKER, 30.7 FEET WEST OF THE WEST EDGE OF THE PAVEMENT OF STATE HIGHWAY A1A, 7.0 FEET EAST OF A 6-FOOT TALL CHAINLINK FENCE AND A CARSONITE WITNESS POST IN THE FENCELINE AND 5.0 FEET WEST OF THE WEST EDGE OF THE SIDEWALK.

DESIGNATION: 88 78 A 15
PID: AF6857
STATE/COUNTY: FL/INDIAN RIVER
USGS QUAD: VERO BEACH (1983)
NAD 83(2011) POSITION: 27 44 25.14972(N) 080 23 07.80581(W)
NAD 83(2011) ELLIP HEIGHT: -24.943 (METERS)
NAVD 88 ORTHO HEIGHT: 2.983 (METERS) 9.79 (FEET)
GEOID HEIGHT: -27.925 (METERS)
DYNAMIC HEIGHT: 2.979 (METERS) 9.77 (FEET)
DESCRIPTION: SURVEY DISK SET IN TOP OF A CONCRETE MONUMENT W/FLDT LOGO CAP STAMPED "88 78 A 15"
LOCATION: FROM THE JUNCTION OF STATE HIGHWAY 60 WEST (BEACHLAND BLVD.) AND STATE HIGHWAY A1A IN VERO BEACH, GO NORTH ON STATE HIGHWAY A1A FOR 6.35 MILES TO THE MARK ON THE RIGHT. LOCATED 25.0 FEET EAST-NORTHEAST OF THE CENTERLINE OF STATE HIGHWAY A1A, 18.1 FEET WEST-SOUTHWEST OF A POWER POLE AND 5.0 FEET SOUTHWEST OF A CARSONITE WITNESS POST.

TEMPORARY BENCHMARK(S):

TBM #2 FOUND 1/2" DIA. REBAR/CAP STAMPED "TRAV. PT. LB 205"
N 1236916.26
E 852366.09
EL. 2.37' N.A.V.D. 1988

TBM #5 FOUND 1/2" DIA. REBAR/CAP STAMPED "TRAV. PT. LB 205"
N 1236623.01
E 852368.68
EL. 2.23' N.A.V.D. 1988

TBM #6 FOUND 1/2" DIA. REBAR/CAP STAMPED "TRAV. PT. LB 205"
N 1236707.50
E 852530.57
EL. 1.31 N.A.V.D. 1988

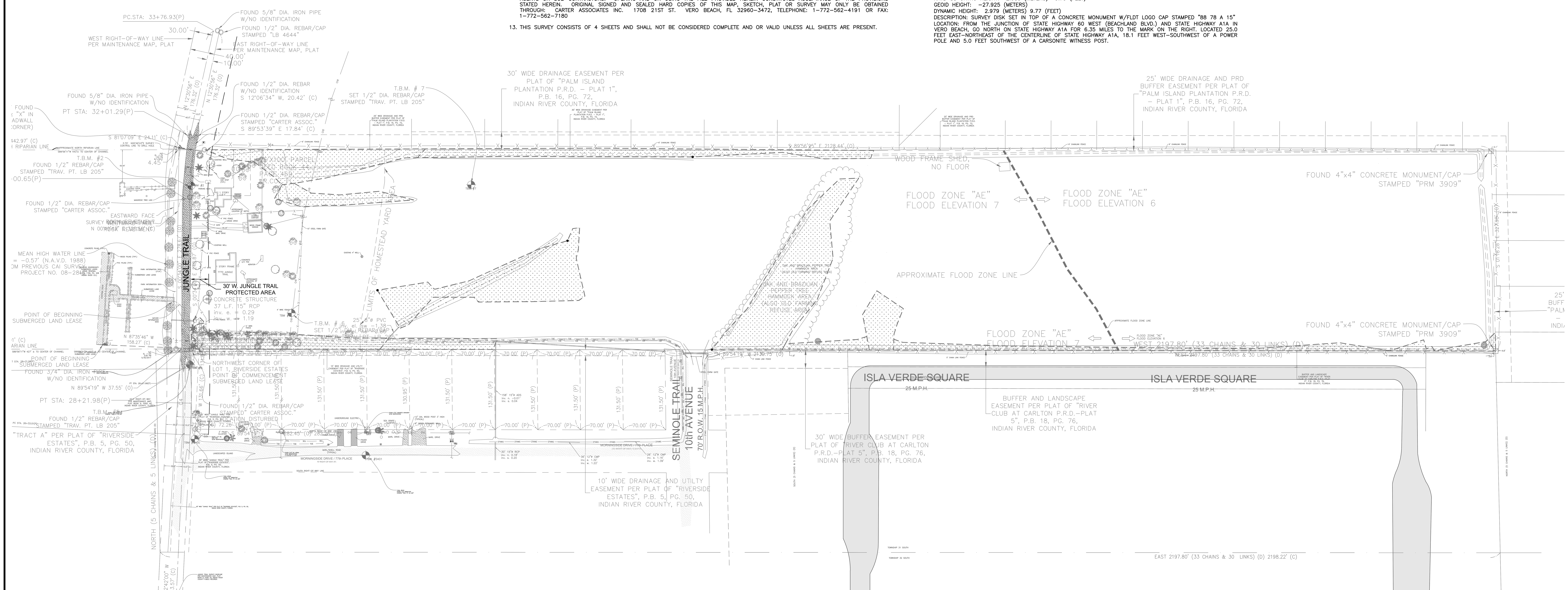
TBM #7 FOUND 1/2" DIA. REBAR/CAP STAMPED "TRAV. PT. LB 205"
N 1236917.76
E 852825.36
EL. 1.68 N.A.V.D. 1988

REFERENCES:

SKETCH OF SURVEY BOUNDARY & IMPROVEMENTS BY CAI, PROJ. 08-281S, DWG. NO. 18523-C
SPECIFIC PURPOSE SURVEY BY CAI, PROJ. 00-520S, DWG. NO. 15881 C, PROJECT # 00-520S, F.B. 563, PG. 65, DATE: 8/2/00.
MAINTENANCE MAP, INDIAN RIVER COUNTY ROAD & BRIDGE DEPARTMENT, JUNGLE TRAIL, DATE: 30th JULY, 1976 RECORDED IN PLAT BOOK 9, PAGE 40
C.A.I. DWG.# 16601-B, PROJECT #02-547, FB. 626, PG. 34
C.A.I. DWG.# 17932-C, PROJECT #05-412S, F.B. 678, PG. 69+
C.A.I. DWG.# 16289-B, PROJECT #01-694S, F.B. 608, PG. 36+
C.A.I. DWG.# 18497-C, PROJECT #08-255S, F.B. 729, PG. 1+

CERTIFIED TO:

INDIAN RIVER COUNTY
MBV ENGINEERING, INC.



OVERALL EXISTING CONDITIONS PLAN

SCALE: 1" = 80'

GRAPHIC SCALE
0 80 160
(IN FEET)
1 inch = 80 ft.

72 HOURS BEFORE DIGGING
CALL TOLL FREE
811
Know what's below.
Call before you dig.

No.	REVISIONS	DATE
8	----	----
7	CONSTRUCTIBILITY REVEW	10-28-2019
6	L.S. TO STEP SYSTEM	09-11-2019
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OVERALL EXISTING CONDITIONS

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
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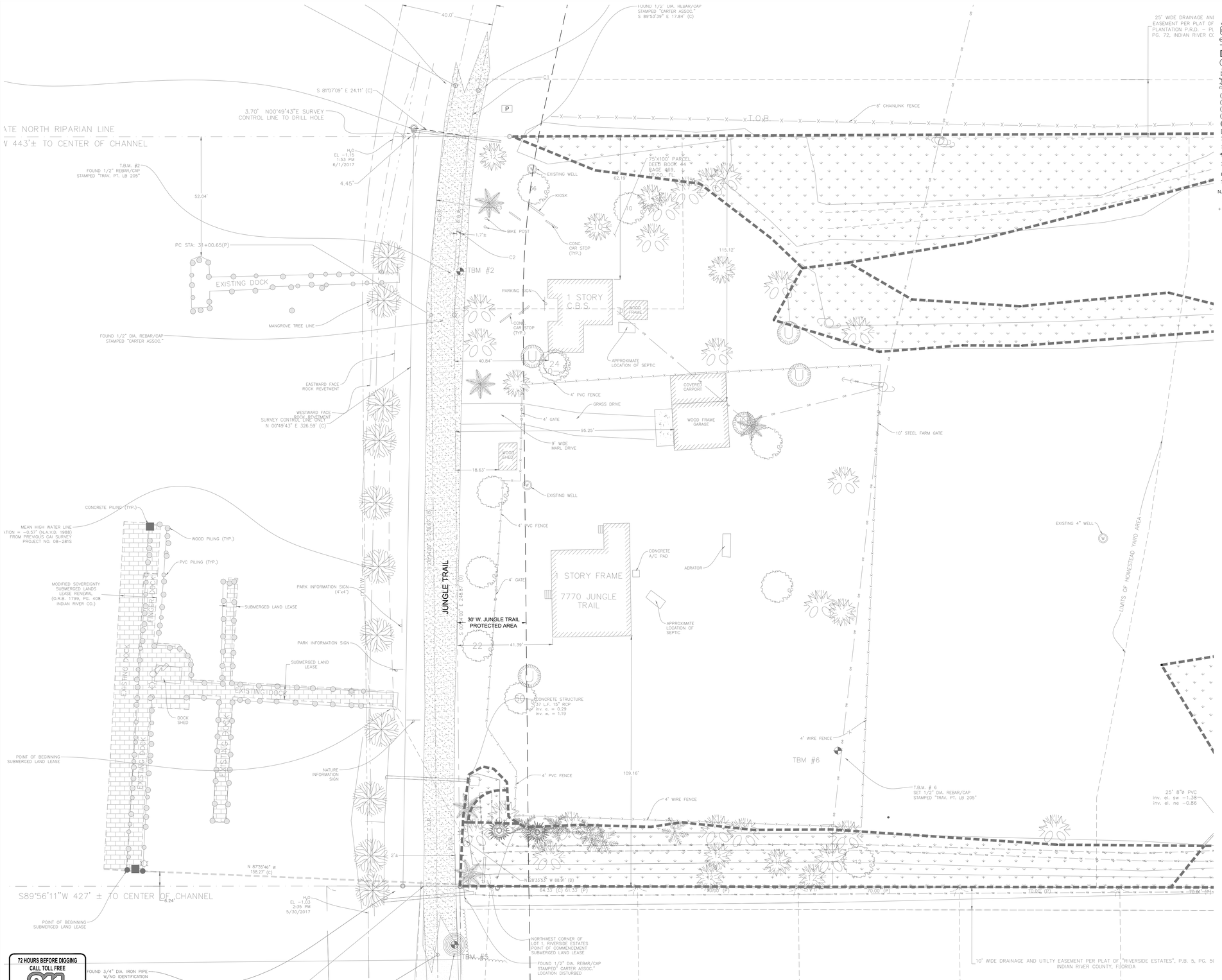

LEGEND

WM	WATER METER	E	ELECTRICAL RISER
	ANCHOR & GUY WIRE	M	MAIL RECEPTACLE
	SIGN		ELECTRICAL METER
	DRAINAGE CATCH BASIN	P	PULL BOX
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	BELL SOUTH RISER	P.B.	PLAT BOOK
TBM	TEMPORARY BENCH MARK	PG.	PAGE
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•	8"-10" WOOD PILING		
•	6"-8" PVC PILING	SRWC	SET 1/2" DIAMETER X 18" LONG REBAR/CAP STAMPED "WIT.COR. LB.205"
	FLAG POLE		

- OVERHEAD ELECTRIC
- EXISTING TOP OF BANK
- EXISTING TOE OF SLOPE
- EXISTING FENCE LINE
- EXISTING TREE/VEGETATION LINE
- 12 OAK TREE W/SIZE
- MANGROVE TREE LINE
- COCONUT PALM
- CABBAGE PALM
- CABBAGE PALM
- ROYAL PALM
- NORFOLK ISLAND PINE
- WASHINGTON PALM
- EXISTING WETLAND LINE
- EXISTING WETLAND

NO.	DATE
8	----
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PALM BEACH, FL – PH (772) 408-3505

EXISTING CONDITIONS - PHASE 1

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON FL. P.E. #72460 DATE:

SHEET C3A OF 17

17-0133

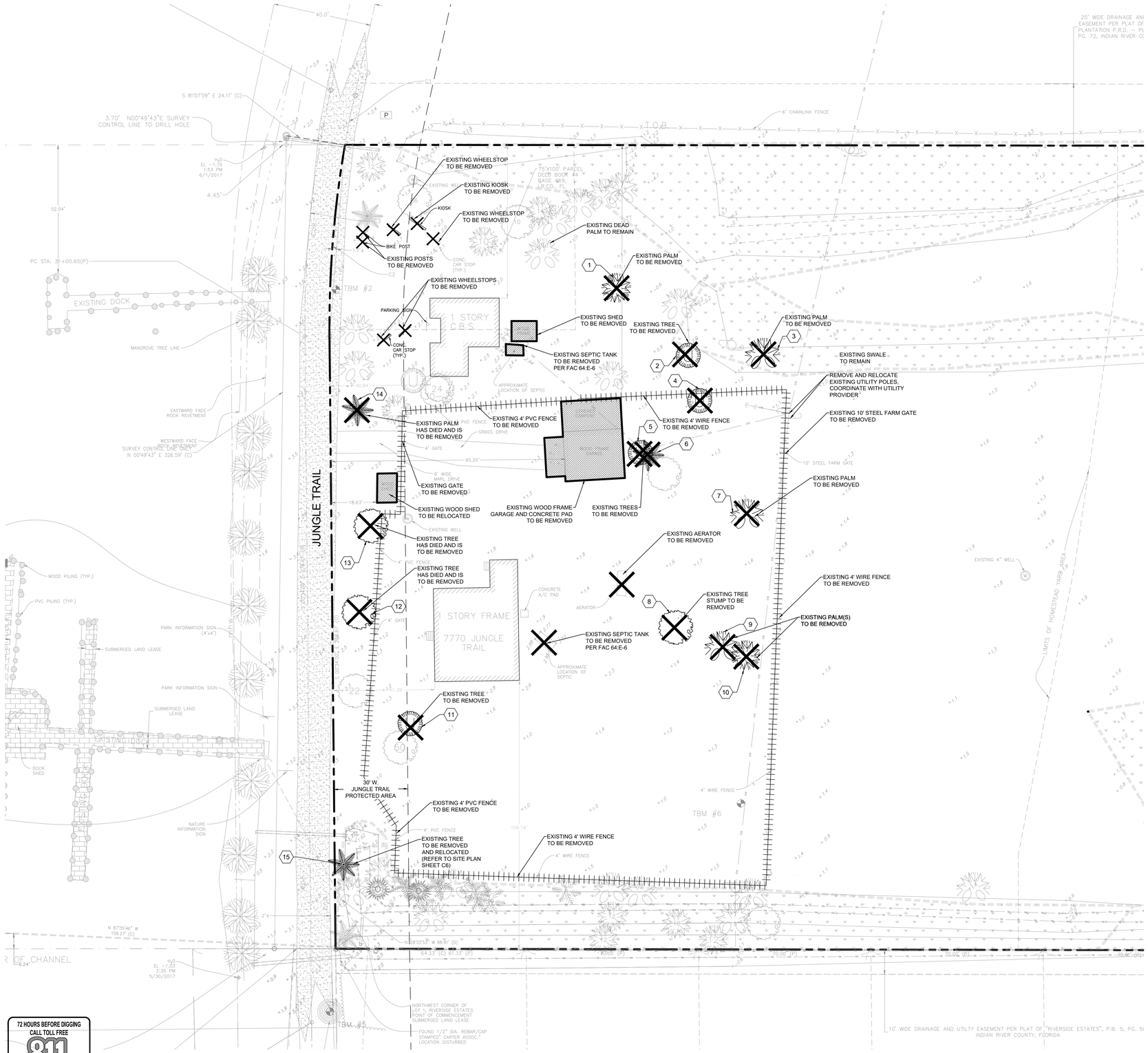
72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

EXISTING CONDITIONS PLAN - PHASE 1

SCALE: 1" = 20'

N

GRAPHIC SCALE
0 20 40
(IN FEET)
1 inch = 20 ft.



LEGEND

- EXISTING TREE/SITE FEATURE TO BE REMOVED
- EXISTING FENCE TO BE REMOVED
- EXISTING BUILDINGS, SHEDS, COVERED CONCRETE TO BE REMOVED
- EXISTING ASPHALT, CONCRETE, GRAVEL TO BE REMOVED
- PROPOSED TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

EXISTING TREE LEGEND

- EXISTING TREE/VEGETATION LINE
- 12 — OAK TREE W/SIZE
- MANGROVE TREE LINE
- COCONUT PALM
- 12 — CABBAGE PALM W/SIZE
- 12 — CABBAGE PALM W/SIZE
- ROYAL PALM
- NORFOLK ISLAND PINE
- WASHINGTON PALM
- EXOTIC TREE
- EXISTING WETLAND LINE
- EXISTING TOE OF SLOPE

EXISTING TREE INVENTORY

TREE #	TYPE	SIZE	ACTION	PROTECTED TREE	MITIGATION REQUIRED
1	CABBAGE PALM	10' CT	TO BE REMOVED	YES	YES
2	EXOTIC	-	TO BE REMOVED	-	-
3	COCONUT PALM	10' CT	TO BE REMOVED	YES	NO
4	EXOTIC	-	TO BE REMOVED	-	-
5	EXOTIC	-	TO BE REMOVED	-	-
6	ROYAL PALM	10' CT	TO BE REMOVED	YES	NO
7	COCONUT PALM	10' CT	TO BE REMOVED	YES	NO
8	DEAD/ STUMP	-	TO BE REMOVED	-	-
9	COCONUT PALM	10' CT	TO BE REMOVED	YES	NO
10	CABBAGE PALM	10' CT	TO BE REMOVED	YES	YES
11	EXOTIC	-	TO BE REMOVED	-	-
12	OAK DEAD	-	TO BE REMOVED	-	-
13	OAK DEAD	-	TO BE REMOVED	-	-
14	ROYAL PALM DEAD	10' CT	TO BE REMOVED	YES	NO
15	ROYAL PALM	-	TO BE RELOCATED	YES	NO

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DEMOLITION PLAN

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GRAPHIC SCALE
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FX: (772) 778-3417
TELEPHONE FL: PH (321) 337-5139
FT. PIERCE, FL - PH (772) 4463053

DEMOLITION PLAN

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C4
OF 17
17-0133

SITE INFORMATION

SITE ADDRESS
7770 JUNGLE TRAIL
VERO BEACH, FLORIDA 32963

OWNER/APPLICANT
INDIAN RIVER COUNTY PARKS DIVISION
5500 77TH STREET
VERO BEACH, FLORIDA 32967
PHONE: (772) 589-9223

ENGINEER
MBV ENGINEERING, INC.
1835 20TH STREET
VERO BEACH, FLORIDA 32960
PHONE: (772) 569-0035

SURVEYOR
CARTER ASSOCIATES, INC.
1708 21st STREET
VERO BEACH, FLORIDA 32960
PHONE: (772) 562-4191

TAX PARCEL I.D. NUMBER(S)
31-39-36-00000-0080-00004.0

ZONING
CON-1

LAND USE
HISTORIC AND CONSERVATION EDUCATION 911.12(4)

EXISTING SITE DATA

OVERALL SITE AREA	= 699,307 SF	= 16.05 Ac	= 100.00 %
WETLAND AREA	= 95,849 SF	= 2.21 Ac	= 13.76 %
PHASE 1			
PHASE 1 SITE AREA	= 61,958 SF	= 1.42 Ac	= 100.0 %
EXISTING BUILDINGS	= 3,089 SF	= 0.07 Ac	= 0.44 %
EXISTING CONC.	= 122 SF	= 0.00 Ac	= 0.00 %
PHASE 1 TOTAL IMPERVIOUS AREA	= 3,211 SF	= 0.07 Ac	= 4.93 %
PHASE 1 TOTAL OPEN AREA	= 58,747 SF	= 1.35 Ac	= 95.07 %
PHASE 2			
PHASE 2 SITE AREA (FUTURE)	= 637,349 SF	= 14.63 Ac	= 100.0 %

PROPOSED SITE DATA

OVERALL SITE AREA	= 699,307 SF	= 16.05 Ac	= 100.0 %
WETLAND AREA	= 95,849 SF	= 2.21 Ac	= 13.76 %
PHASE 1			
PHASE 1 SITE AREA	= 61,958 SF	= 1.42 Ac	= 100.0 %
EXISTING BUILDINGS	= 2,126 SF	= 0.05 Ac	= 3.5 %
PROPOSED BUILDING AREA	= 1,135 SF	= 0.03 Ac	= 2.1 %
PROPOSED CONCRETE AREA	= 1,040 SF	= 0.02 Ac	= 1.4 %
PROPOSED STABILIZED DRIVE AREA	= 12,563 SF	= 0.29 Ac	= 20.4 %
PROPOSED WOOD DECKS/ RAMPS	= 428 SF	= 0.01 Ac	= 0.8 %
PHASE 1 TOTAL IMPERVIOUS AREA	= 17,292 SF	= 0.40 Ac	= 28.2 %
PHASE 1 TOTAL OPEN AREA	= 44,666 SF	= 1.02 Ac	= 71.8 %
PHASE 2			
PHASE 2 SITE AREA (FUTURE)	= 637,349 SF	= 14.63 Ac	= 100.0 %
STABILIZED WALKING TRAIL (CONSTRUCTED IN PHASE 1)	= 33,069 SF	= 0.76 Ac	= 5.2 %

PARKING DATA

PARKING REQUIRED:
TWO (2) SPACES PER GROSS ACRE FOR EACH ACRE OF OPEN SPACE GENERATING USER PARKING DEMAND.

PHASE 1 AREA (1.42 AC) PLUS TRAIL AREA (0.76 AC) PLUS COMMUNITY GARDEN AREA (3.02 AC) MINUS WETLAND AREA (0.12 AC) =5.08 AC

5.08 AC x 2 SPACES PER ACRE = 10.16 SPACES = 11 SPACES REQUIRED

PARKING PROVIDED = 24 SPACES (22 STANDARD, 2 HANDICAPPED)

PERMITS REQUIRED

ST. JOHN'S RIVER WMD ENVIRONMENTAL RESOURCE STORMWATER PERMIT
CITY OF VERO BEACH UTILITIES APPROVAL
INDIAN RIVER COUNTY SITE PLAN APPROVAL
INDIAN RIVER COUNTY TREE REMOVAL PERMIT
INDIAN RIVER COUNTY STORMWATER PERMIT
INDIAN RIVER COUNTY LAND CLEARING PERMIT
INDIAN RIVER COUNTY WETLAND PERMIT
INDIAN RIVER COUNTY CONCURRENCY APPLICATION
FDEP WATER PERMIT
FDEP SEWER PERMIT
FDEP NPDES NOTICE OF INTENT

FLOOD ZONE

THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE 'AE' ELEVATION 7' NAVD AND ELEVATION 6' NAVD, PER FLOOD INSURANCE RATE MAP #12061C0232 H, DATED DEC. 4TH, 2012.

WASTEWATER SOURCE

CITY OF VERO BEACH UTILITIES

POTABLE WATER SOURCE

CITY OF VERO BEACH UTILITIES

TRAFFIC STATEMENT

PER ITE, 10TH EDITION: RECREATIONAL, COUNTY PARK (412)
2.28 TRIPS/1 ACRE = 2.28 TRIPS/ACRE * \ 16.05 ACRES = 37 TRIPS

CONSTRUCTION SCHEDULE

PHASE 1:
BEGIN CONSTRUCTION AUGUST 2019
END CONSTRUCTION AUGUST 2020

PHASE 2:
BEGIN CONSTRUCTION AUGUST 2019
END CONSTRUCTION AUGUST 2020

LEGAL DESCRIPTION

DESCRIPTION AS FURNISHED BY CLIENT:

"THE NORTH 16.5 ACRES OF THE SOUTH 33 ACRES OF GOVERNMENT LOTS 8 & 9, SECTION 36, TOWNSHIP 31 SOUTH, RANGE 39 EAST, ALL LYING AND BEING IN INDIAN RIVER COUNTY, FLORIDA. LESS RIGHT OF WAY FOR JUNGLE TRAIL SURVEY BASELINE PER MAINTENANCE MAP AS RECORDED IN PLAT BOOK 9, PAGE 40, PUBLIC RECORDS OF INDIAN RIVER COUNTY, FLORIDA."

CONTAINING: 699,307 SQUARE FEET / 16.05 ACRES

LAND CLEARING NOTE

ALL NUISANCE EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT [§29.08].

SOLID WASTE DISPOSAL NOTE

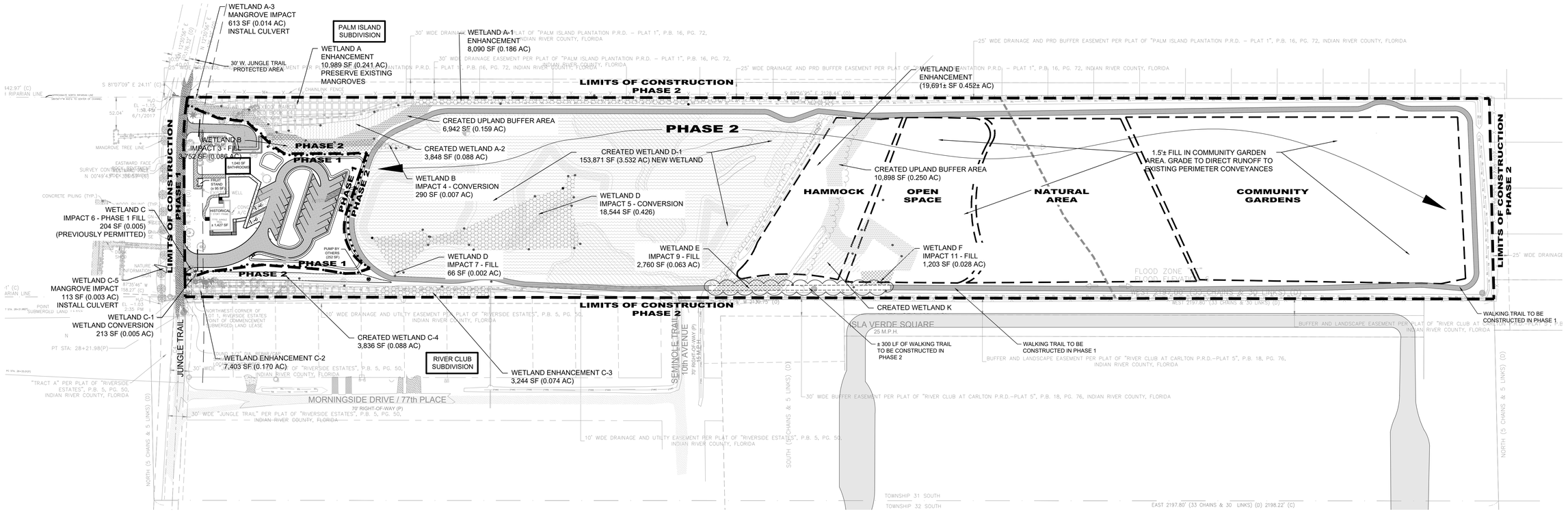
TRASH WILL BE COLLECTED IN TRASH BINS THROUGHOUT THE SITE AND WILL BE COLLECTED AND MAINTAINED BY THE INDIAN RIVER COUNTY PARKS DEPARTMENT.

BUILDING HEIGHT NOTE

EXISTING NORTH BUILDING HEIGHT = ± 8.0'
PROPOSED PAVILLON HEIGHT = ± 10.0'
PROPOSED FRUIT STAND HEIGHT = ± 8.0'
EXISTING HOMESTEAD (TO BE CONVERTED TO A MUSEUM) = ± 8.0' *
* FROM FLOOR TO ROOF

LEGEND

- PROPOSED ASPHALT MILLINGS DRIVEWAY/PARKING LOT
- PROPOSED WALKING PATH
- PROPOSED MARL WALKING PATH BETWEEN BUILDINGS
- PROPOSED CONCRETE
- CREATED UPLAND BUFFER AREA
- CREATED WETLAND AREA
- CONVERTED TO WETLAND AREA
- ENHANCED WETLAND AREA
- FILLED WETLAND AREA
- PHASE LINE



OVERALL SITE PLAN

SCALE: 1" = 80'

GRAPHIC SCALE
0 80 160
(IN FEET)
1 inch = 80 ft.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811
Know what's below. Call before you dig.

DATE	REVISIONS
1	PER COVB AND IRC COMMENTS 10-17-2018
2	PER COVB UTIL DEPT 10-31-2018
3	15' U.E. TO CITY OF VERO BEACH 11-21-2018
4	PHASING COORDINATION 03-22-2019
5	FORCE MAIN 08-09-2019
6	L.S. TO STEP SYSTEM 09-11-2019
7	CONSTRUCTIBILITY REVIEW 10-28-2019
8	---- ----

JOB NO. 17-0133
DESIGNED ND
DRAWN RT
DATE 03-22-2018
CHECKED AS
DATE ISSUED 10/28/2019

MBV ENGINEERING, INC.
MOJA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 20th STREET, VERO BEACH, FL 32960
PH. (772) 569-0035 FAX (772) 778-3677
MELBOURNE, FL – PH (321) 254-4101
PALM BEACH, FL – PH (772) 408-4005

OVERALL SITE PLAN

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER
AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
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OF 17
17-0133

LEGEND

- PROPOSED ASPHALT MILLINGS DRIVEWAY & PARKING LOT
- PROPOSED WALKING PATH
- PROPOSED MARL WALKING PATH BETWEEN BUILDINGS
- PROPOSED CONCRETE
- CREATED UPLAND BUFFER AREA
- CREATED WETLAND AREA
- CONVERTED TO WETLAND AREA
- ENHANCED WETLAND AREA
- FILLED WETLAND AREA
- OAK TREE W/SIZE
- MANGROVE TREE LINE
- COCONUT PALM
- CABBAGE PALM W/SIZE
- CABBAGE PALM W/SIZE
- ROYAL PALM
- NORFOLK ISLAND PINE
- WASHINGTON PALM
- EXOTIC TREE
- LIMITS OF CONSTRUCTION/ PHASE LINE

SPEED LIMIT 15

JUNGLE TRAIL

EXISTING DOCK

WETLAND A ENHANCEMENT 10,989 SF (0.241 AC) PRESERVED EXISTING MANGROVES

CREATED WETLAND A-2 3,848 SF (0.088 AC)

CREATED UPLAND BUFFER AREA 6,942 SF (0.159 AC)

WETLAND B IMPACT 3 - FILL 3,752 SF (0.086 AC)

WETLAND B IMPACT 4 - CONVERSION 290 SF (0.007 AC)

WETLAND A-3 MANGROVE IMPACT 613 SF (0.014 AC) INSTALL CULVERT

WETLAND C IMPACT 6 - PHASE 1 FILL 204 SF (0.005) (PREVIOUSLY PERMITTED)

WETLAND C IMPACT 6 - PHASE 1 FILL 204 SF (0.005 AC) (PREVIOUSLY PERMITTED)

WETLAND C-5 MANGROVE IMPACT 113 SF (0.003 AC) INSTALL CULVERT

WETLAND C-1 WETLAND CONVERSION 213 SF (0.005 AC)

WETLAND C-5 MANGROVE IMPACT 113 SF (0.003 AC) INSTALL CULVERT

WETLAND ENHANCEMENT C-2 7,403 SF (0.170 AC)

CREATED WETLAND C-4 3,836 SF (0.088 AC)

WETLAND C-1 WETLAND CONVERSION 213 SF (0.005 AC)

DRY DETENTION POND 1 844 S.F.

DRY DETENTION POND 2 3,531 S.F.

DRY DETENTION POND 3 2,421 S.F.

DRY DETENTION POND 4 6,147S.F.

40'x26' (1,040 SF) CONCRETE PAD/ BATHROOMS W/PAVILION FFE=4.00

28.1' HISTORICAL 1 STORY FRAME (EXISTING) (± 700 SF)

HISTORICAL STORY FRAME 7770 JUNGLE TRAIL (± 1,427 SF) BUILDING MODIFICATIONS BY OTHERS (NOT PART OF THIS PROJECT) RAISED FFE=8.00

EXISTING HOMESTEAD TO BE CONVERTED TO A MUSEUM

6' PROPOSED MARL WALKING PATH

RELOCATED FRUIT STAND (± 95 SF)

6' WALKING PATH

5' CONCRETE SIDEWALK

5' CONC. SIDEWALK

5' CONCRETE WALK

FTP-20-06 & FTP-22-06 HANDICAPPED PARKING SIGNS

CONCRETE A/C PAD

5' WOOD RAMP

WOOD RAMP AND SECTION OF CONC. WALK TO BE CONSTRUCTED BY OTHERS DURING HOMESTEAD IMPROVEMENTS BY IRC

ARROWS SHOWN FOR INFORMATIONAL PURPOSES ONLY. NOT TO BE CONSTRUCTED (TYPICAL)

PROPOSED SWING GATE (STAFF AND MAINTENANCE ENTRY ONLY)

PROPOSED SWING GATE (PUBLIC ENTRY)

R1-30 STOP SIGN

R5-1 "DO NOT ENTER" SIGNS

R4-7 "KEEP RIGHT" SIGN

PRE-CAST WHEEL STOP (TYP.)

6' TYP. CLEAR FOR GATE POSTS

30' W. JUNGLE TRAIL PROTECTED AREA

6' CHAINLINK FENCE

25' WIDE DRAINAGE AND EASEMENT PER PLAT OF PLANTATION P.R.D. – PL PG. 72, INDIAN RIVER CO

25'X100' PARCEL DEED BOOK 44 PAGE 469, IRCO., FL.

PHASE 1

PHASE 2

8' STABILIZED WALKING TRAIL (TO BE CONSTRUCTED IN PHASE 1)

FUTURE PHASE 2

PROPOSED PUMP 252 SF (BY OTHERS)

LIMITS OF PHASE 1 CONSTRUCTION

PHASE 1 PHASE 2

EXISTING DOCK

MANGROVE TREE LINE

EASTWARD FACE ROCK REVETMENT

WESTWARD FACE ROCK REVETMENT

SURVEY CONTROL LINE ONLY N 00°49'43" E 326.59' (C)

3.70' N00°49'43"E SURVEY CONTROL LINE TO DRILL HOLE

NORTH RIPARIAN LINE 443'± TO CENTER OF CHANNEL

S89°56'11"W 427' ± TO CENTER OF CHANNEL

39' 10"ø PVC inv. el. w =0.33 inv. el. e =0.14

S 81°07'09" E 24.11' (C)

H2O EL. =1.15 1:53 PM 6/1/2017

H2O EL. =1.03 2:35 PM 5/30/2017

37' 12"ø STEEL PIPE inv. el. w =0.83 inv. el. e =0.95

11' 10"ø PVC inv. el. s =0.59 inv. el. n =0.47

CONCRETE PILING (TYP.)

WOOD PILING (TYP.)

PVC PILING (TYP.)

MEAN HIGH WATER LINE = 0.57' (N.A.V.D. 1988) FROM PREVIOUS CAI SURVEY PROJECT NO. 08-2815

MODIFIED SOVEREIGNTY SUBMERGED LANDS LEASE RENEWAL (O.R.B. 1799, PG. 408 INDIAN RIVER CO.)

SUBMERGED LAND LEASE

PARK INFORMATION SIGN

NATURE INFORMATION SIGN

DOCK SHED

POINT OF BEGINNING IMERGED LAND LEASE

POINT OF BEGINNING SUBMERGED LAND LEASE

NORTHWEST CORNER OF LOT 1, RIVERSIDE ESTATES POINT OF COMMENCEMENT SUBMERGED LAND LEASE

FOUND 1/2" DIA. REBAR/CAP STAMPED "CARTER ASSOC." LOCATION DISTURBED

FOUND 3/4" DIA. IRON PIPE W/NO IDENTIFICATION

10' WIDE DRAINAGE AND UTILITY EASEMENT PER PLAT OF "RIVERSIDE ESTATES", P.B. 5, PG. 5

INDIAN RIVER COUNTY, FLORIDA

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

PHASE 1 SITE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE 0 20 40 (IN FEET) 1 inch = 20 ft.

NO.	REVISIONS	DATE
8	----	----
7	CONSTRUCTIBILITY REVIEW	10-28-2019
6	L.S. TO STEP SYSTEM	09-11-2019
5	FORCE MAIN	08-09-2019
4	PHASING COORDINATION	03-22-2019
3	15' U/E TO CITY OF VERO BEACH	11-21-2018
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3350 DUNCAN STREET
VERO BEACH, FL 32960
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MELBOURNE, FL – PH (321) 254-9101
PALM BAY, FL – PH (772) 453-3505

PHASE 1 SITE PLAN

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON FL P.E. #72460 DATE:

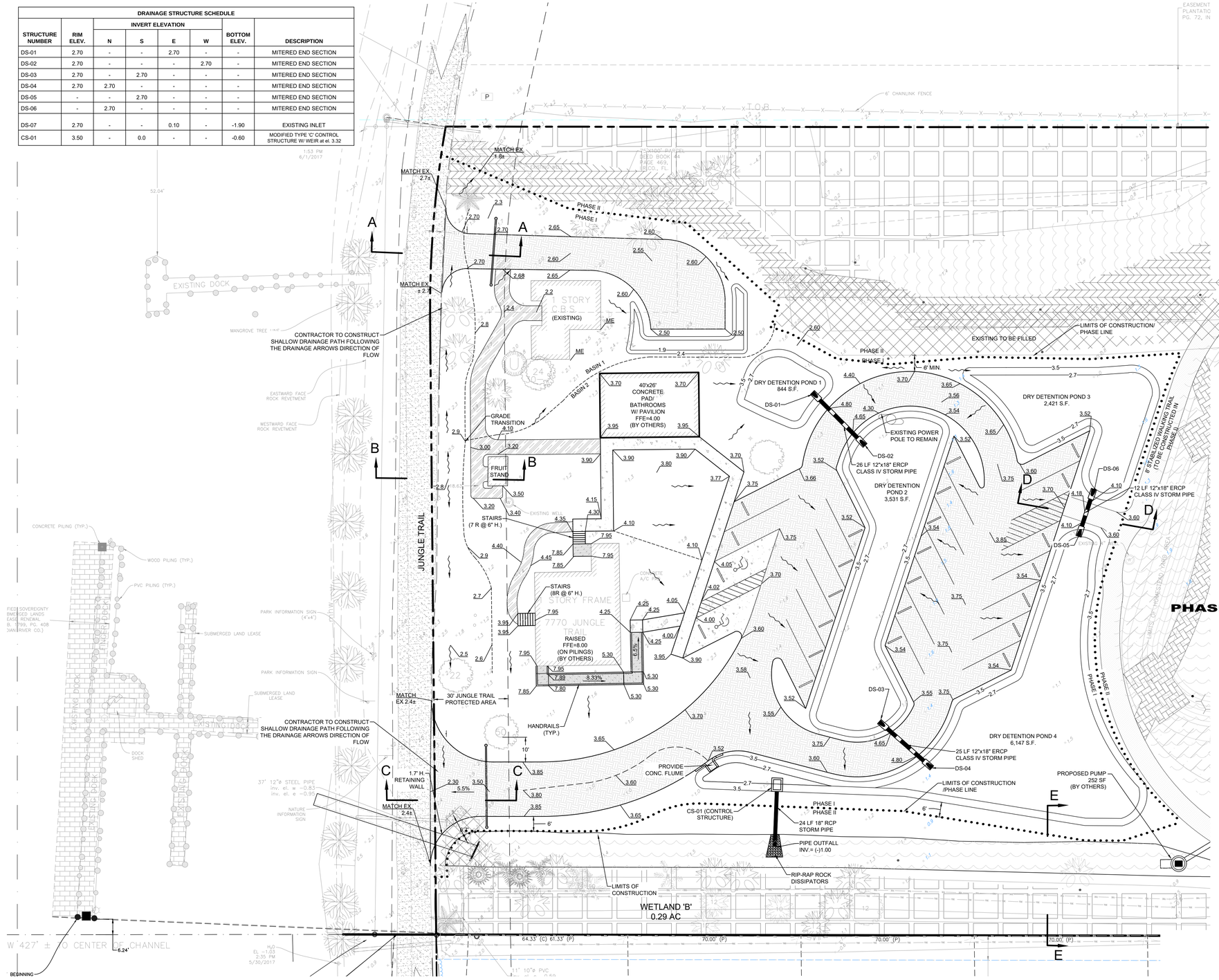
SHEET C6 OF 17

17-0133

DRAINAGE STRUCTURE SCHEDULE							
STRUCTURE NUMBER	RIM ELEV.	INVERT ELEVATION				BOTTOM ELEV.	DESCRIPTION
		N	S	E	W		
DS-01	2.70	-	-	2.70	-	-	MITERED END SECTION
DS-02	2.70	-	-	-	2.70	-	MITERED END SECTION
DS-03	2.70	-	2.70	-	-	-	MITERED END SECTION
DS-04	2.70	2.70	-	-	-	-	MITERED END SECTION
DS-05	-	-	2.70	-	-	-	MITERED END SECTION
DS-06	-	2.70	-	-	-	-	MITERED END SECTION
DS-07	2.70	-	-	0.10	-	-1.90	EXISTING INLET
CS-01	3.50	-	0.0	-	-	-0.60	MODIFIED TYPE 'C' CONTROL STRUCTURE W/ WEIR at el. 3.32

LEGEND

- PROPOSED ASPHALT MILLINGS DRIVEWAY & PARKING LOT
- PROPOSED WALKING PATH
- PROPOSED MARL WALK PATH BETW. BLDGS.
- PROPOSED CONCRETE
- CREATED UPLAND BUFFER AREA
- CREATED WETLAND AREA
- CONVERTED TO WETLAND AREA
- ENHANCED WETLAND AREA
- FILLED WETLAND AREA
- EXISTING ELEVATION (x.x)
- PROPOSED ELEVATION (2.50)
- DRAINAGE FLOW PATTERN
- OAK TREE W/SIZE
- MANGROVE TREE LINE
- COCONUT PALM
- CABBAGE PALM
- CABBAGE PALM
- ROYAL PALM
- NORFOLK ISLAND PINE
- WASHINGTON PALM
- LIMITS OF CONSTRUCTION/ PHASE LINE

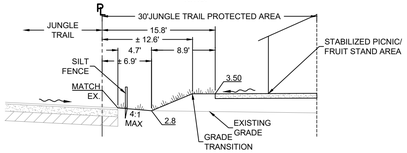


PHASE I PAVING, GRADING AND DRAINAGE PLAN

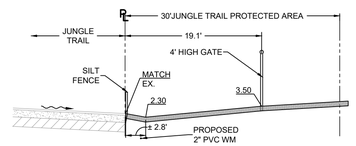
SCALE: 1" = 20'

GRAPHIC SCALE
0 20 40
(IN FEET)
1 inch = 20 ft.

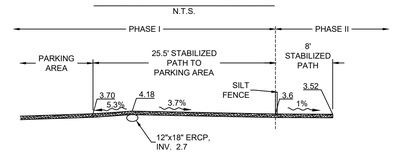
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.



SECTION D-D
N.T.S.

SECTION E-E
N.T.S.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

		DATE
8	----	----
7	CONSTRUCTIBILITY REVIEW	10-28-2019
6	L.S. TO STEP SYSTEM	09-11-2019
5	FORCE MAIN	08-09-2019
4	PHASING COORDINATION	03-22-2019
3	15' U/E TO CITY OF VERO BEACH	11-21-2018
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FT. PIERCE, FL – PH (772) 409-3505

PHASE 1 PAVING, GRADING AND DRAINAGE PLAN

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

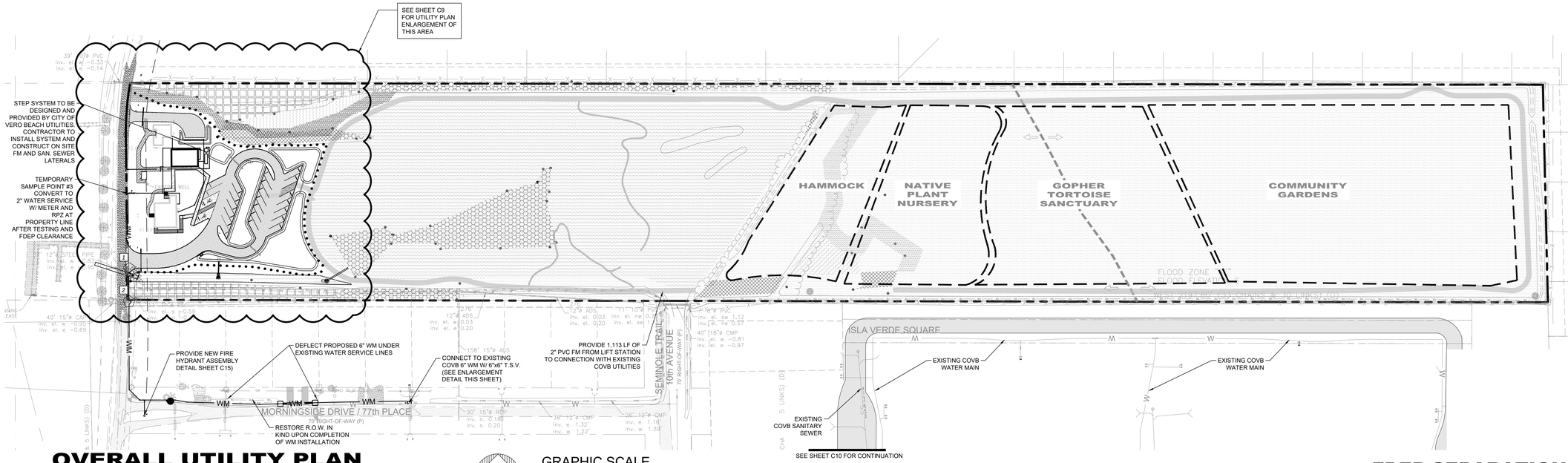
INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON FL. P.E. #72460 DATE:

SHEET C7 OF 17

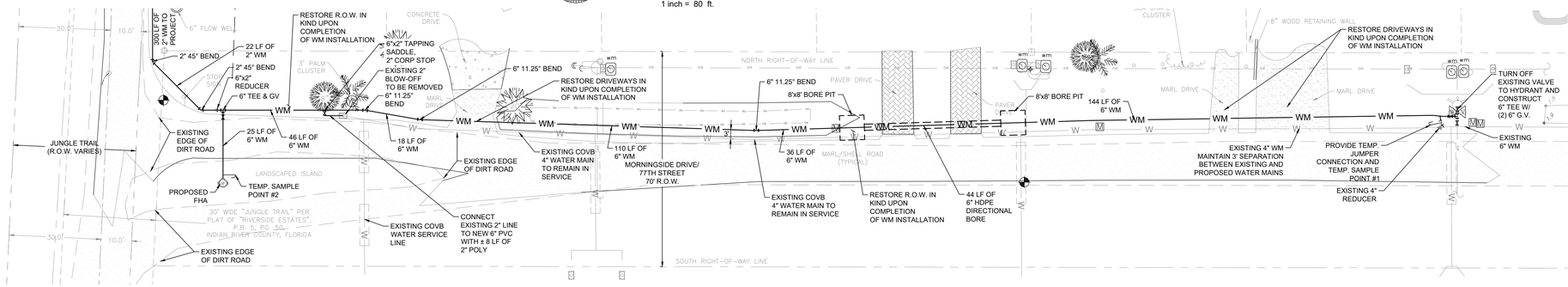
17-0133



OVERALL UTILITY PLAN

SCALE: 1" = 80'

GRAPHIC SCALE
0 80 160
(IN FEET)
1 inch = 80 ft.



WATER MAIN DETAIL AT FIRE HYDRANT

SCALE: 1" = 20'

CONFLICT TABLE						
CONFLICT NUMBER	GROUND ELEV.	UPPER PIPE	UPPER PIPE BOTTOM	LOWER PIPE	LOWER PIPE TOP	SEPARATION
1	2.60	EX. 12" STORM	(-) 0.89	2" WM	(-) 2.39	1.50
2	2.40	EX. 15" STORM	(-) 0.75	2" WM	(-) 2.25	1.50

LEGEND

- PROPOSED ASPHALT MILLINGS DRIVEWAY & PARKING LOT
- PROPOSED WALKING PATH
- PROP. MARL WALKING PATH BETW. BLDGS.
- PROPOSED CONCRETE
- CREATED UPLAND BUFFER AREA
- CREATED WETLAND AREA
- CONVERTED TO WETLAND AREA
- ENHANCED WETLAND AREA
- FILLED WETLAND AREA
- W — EXISTING WATER MAIN
- SS — EXISTING SANITARY SEWER
- F — EXISTING FORCE MAIN
- WM — PROPOSED WATER MAIN
- FM — PROPOSED WATER MAIN
- 2 — UTILITY CONFLICT (SEE TABLE)
- WETLAND LINE
- LIMITS OF CONSTRUCTION/ PHASE LINE

FDEP SEPARATION CRITERIA:

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PREASSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2),F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUME-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL THE WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

NO.	DESCRIPTION	DATE
8	----	----
7	CONSTRUCTIBILITY REVEW	10-28-2019
6	L.S. TO STEP SYSTEM	09-11-2019
5	FORCE MAIN	08-09-2019
4	PHASING COORDINATION	03-22-2019
3	15' U.E.TO CITY OF VERO BEACH	11-21-2018
2	PER COVB UTIL DEPT	10-31-2018
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△	**REVISIONS**	**DATE**

JOB NO. 17-0133
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MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
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OVERALL UTILITY PLAN

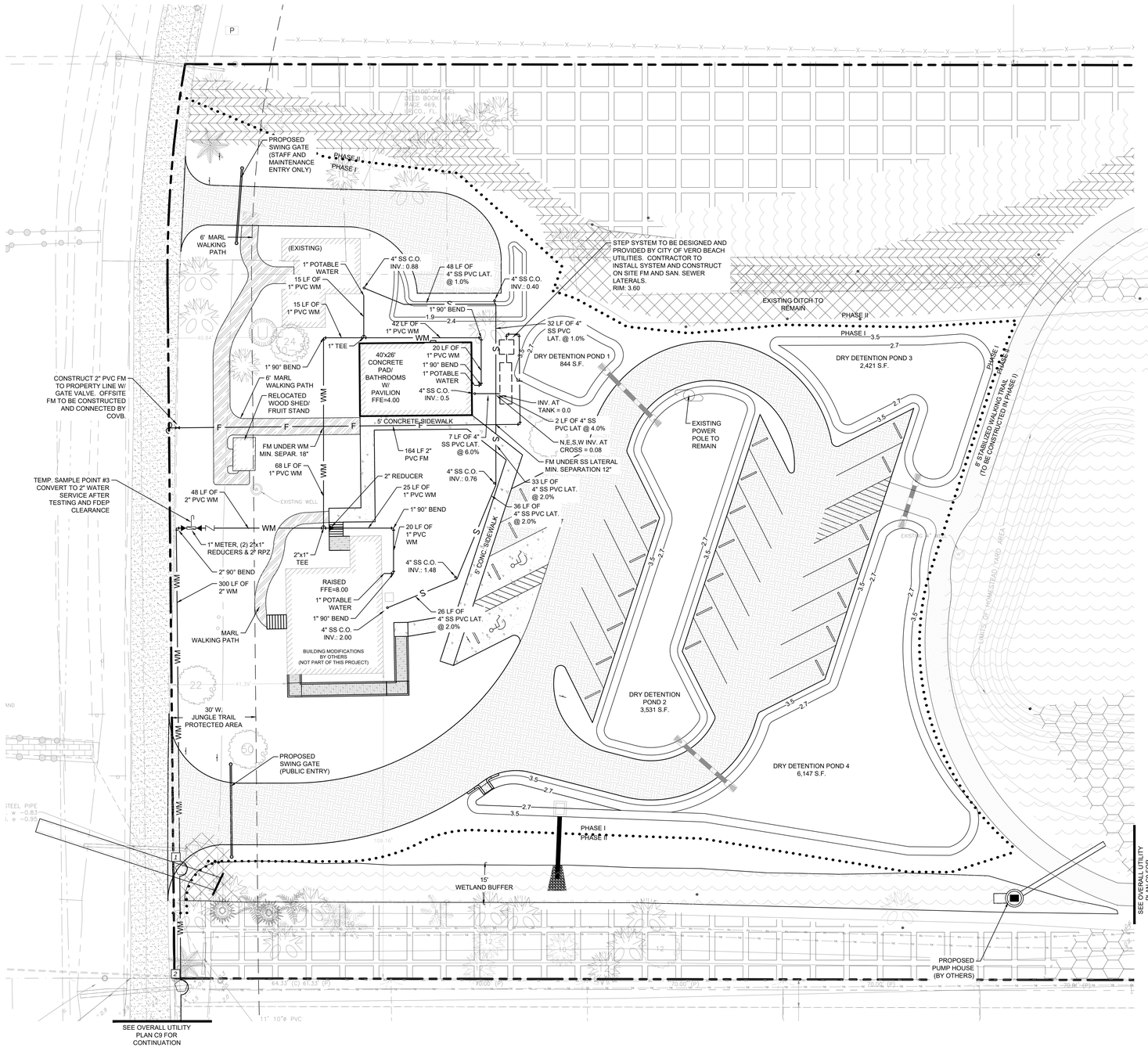
JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C8
OF 17
17-0133



UTILITY PLAN ENLARGEMENT

SCALE: 1" = 20'

GRAPHIC SCALE
0 20 40
(IN FEET)
1 inch = 20 ft.

CONFLICT TABLE

CONFLICT NUMBER	GROUND ELEV.	UPPER PIPE	UPPER PIPE BOTTOM	LOWER PIPE	LOWER PIPE TOP	SEPARATION
1	2.60	EX. 12" STORM	(-) 0.89	2" WM	(-) 2.39	1.50
2	2.40	EX. 15" STORM	(-) 0.75	2" WM	(-) 2.25	1.50

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FDEP SEPARATION CRITERIA:

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2),F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

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LEGEND

- PROPOSED ASPHALT MILLINGS DRIVEWAY & PARKING LOT
- PROPOSED WALKING PATH
- PROPOSED MARL WALKING PATH BETW. BLDGS.
- PROPOSED CONCRETE
- CREATED UPLAND BUFFER AREA
- CREATED WETLAND AREA
- CONVERTED TO WETLAND AREA
- ENHANCED WETLAND AREA
- FILLED WETLAND AREA
- W — EXISTING WATER MAIN
- SS — EXISTING SANITARY SEWER
- F — EXISTING FORCE MAIN
- WM — PROPOSED WATER MAIN
- FM — PROPOSED WATER MAIN
- 2 — UTILITY CONFLICT (SEE TABLE)
- LIMITS OF CONSTRUCTION/ PHASE LINE

	REVISIONS	DATE
8	----	----
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UTILITY PLAN ENLARGEMENT

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

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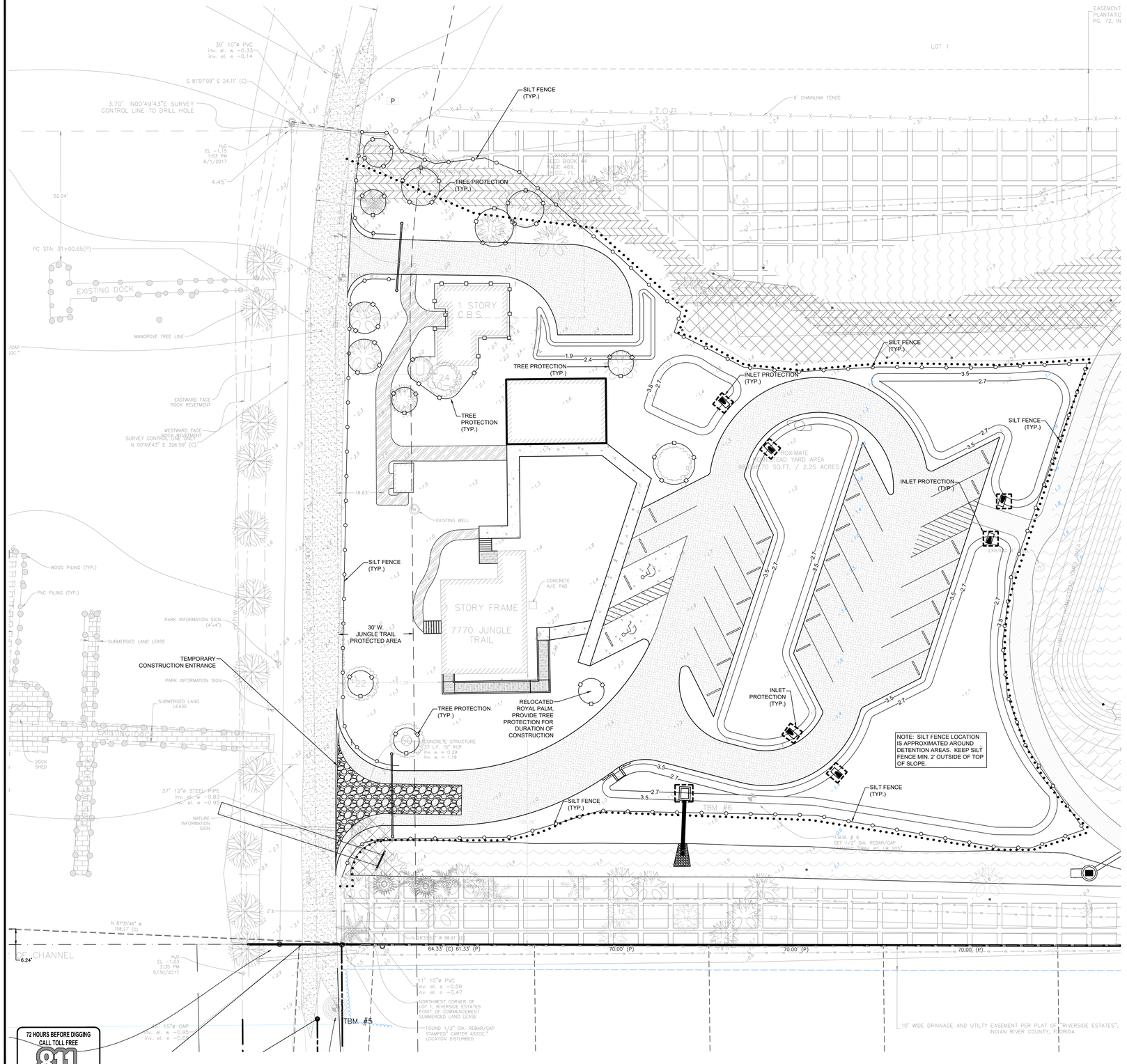

LEGEND

- SILT FENCE
- TREE PROTECTION FENCE/ORANGE BARRACADE FENCE
- INLET PROTECTION
- PROPOSED TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
- PROPOSED ASPHALT MILLINGS
- PROPOSED CONCRETE
- PROPOSED MARL WALKING PATH BETWEEN BUILDINGS
- EXISTING JUNGLE TRAIL
- LIMITS OF CONSTRUCTION/ PHASE LINE

EROSION AND SEDIMENTATION CONTROL NOTES

CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OF FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPAWNING SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

MINIMUM STANDARDS

1. SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UNSLOPE LAND DISTURBANCE TAKES PLACE.
2. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
3. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
5. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
6. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
7. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND-DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
8. AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
9. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
10. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
11. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
12. BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
13. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
14. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
16. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
17. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
    - A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
    - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    - C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
    - D. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
18. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE, WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE WITH CURBS AND GUTTERS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
19. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, IN THE OPINION OF THE REVIEWER. DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
20. PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION AND EROSION.
21. PHASED PROJECTS SHOULD BE CLEARED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
22. EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 104 AND 105 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
23. THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER PLANS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.

SEE SHEET C12 FOR EROSION CONTROL DETAILS

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8	----	----
7	CONSTRUCTIBILITY REVIEW	10-28-2019
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EROSION CONTROL PLAN

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

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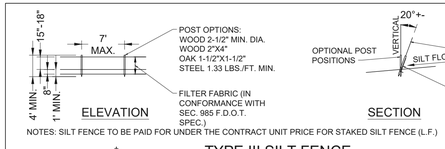
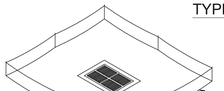


ELEVATION

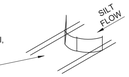
SECTION

NOTES: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (L.F.)

TYPE III SILT FENCE



NOTE: SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART I, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3



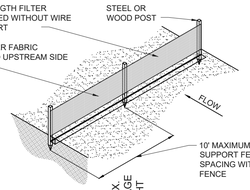
TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS

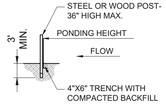
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS

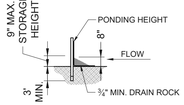
N.T.S.

NOTES:
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.





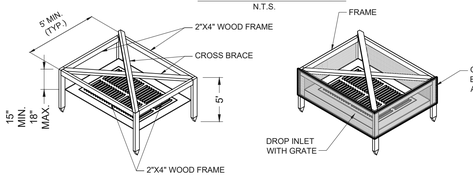
TRENCH DETAIL



INSTALLATION WITHOUT TRENCHING

TYPE IV SILT FENCE

N.T.S.

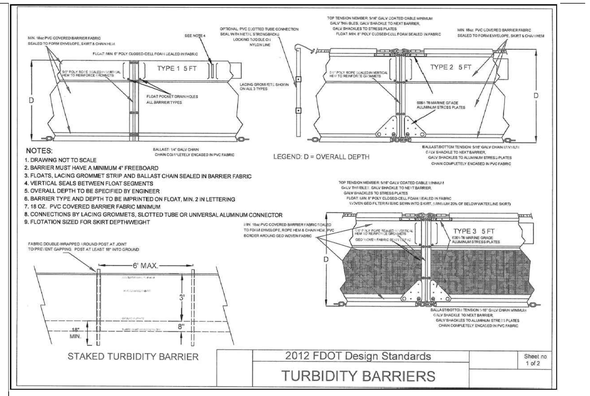


VIEW OF FRAME WITHOUT SILT FENCE

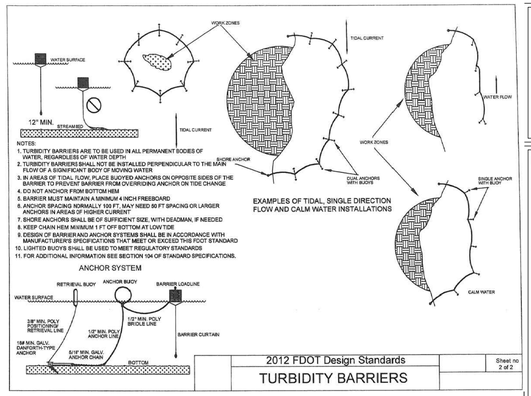
VIEW OF FRAME WITH SILT FENCE

SILT FENCE INLET PROTECTION

N.T.S.



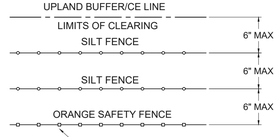
2012 FDOT Design Standards	Sheet no 1 of 2
TURBIDITY BARRIERS	



2012 FDOT Design Standards	Sheet no 2 of 2
TURBIDITY BARRIERS	

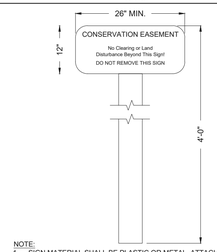
TURBIDITY BARRIER APPLICATIONS

N.T.S.



SILT FENCE/ORANGE FENCE PLACEMENT DETAIL AROUND WETLANDS

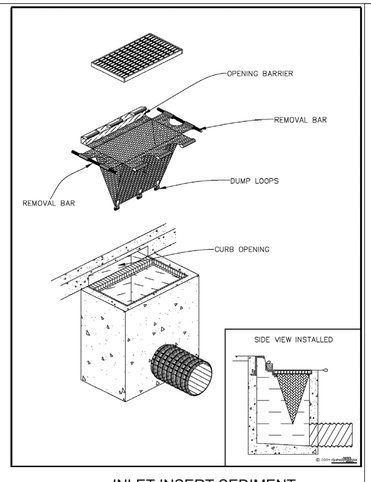
N.T.S.



NOTE:
1. SIGN MATERIAL SHALL BE PLASTIC OR METAL, ATTACHED TO 4"x4" TREATED WOOD POST.
2. CONSERVATION EASEMENT SHALL BE 3" HIGH LETTERS.
3. ALL OTHER LINES OF TEXT SHALL BE 1" HIGH WITH 1" SPACING BETWEEN LINES.
4. SIGN SHALL HAVE WHITE BACKGROUND WITH CONTRASTING COLOR FOR THE LETTERING.

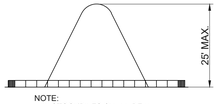
CONSERVATION EASEMENT SIGN

N.T.S.



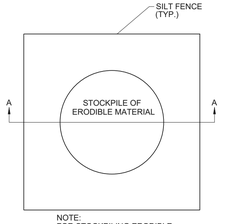
INLET INSERT SEDIMENT CONTAINMENT SYSTEM

N.T.S.



NOTE:
ALL STOCKPILES SHALL BE A MAXIMUM OF 25' HIGH.

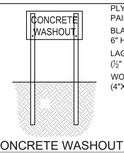
SECTION A-A



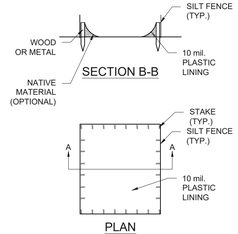
NOTE:
FOR STOCKPILING ERODIBLE MATERIAL FOR EXTENDED PERIODS, THE AREA SHALL BE SEEDED AND MULCHED.

SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL

N.T.S.



CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

TYPE "ABOVE GRADE" WITH SILT FENCE

CONCRETE & STUCCO WASTE MANAGEMENT

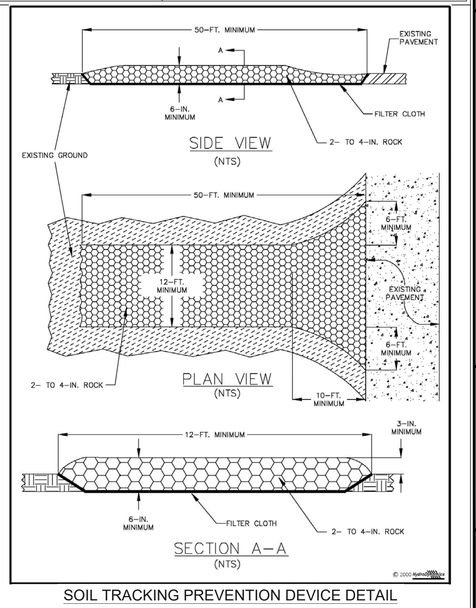
N.T.S.

EROSION AND SEDIMENTATION CONTROL NOTES

CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OF FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPAWNING SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

MINIMUM STANDARDS

1. SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UNSLOPE LAND DISTURBANCE TAKES PLACE.
2. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
3. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
5. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
6. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
7. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND-DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
8. AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
9. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
10. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
11. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
12. BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
13. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
14. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
16. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
17. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
    A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
    B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
    D. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
18. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE, WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE WITH CURBS AND GUTTERS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
19. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, IN THE OPINION OF THE REVIEWER. DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
20. PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION AND EROSION.
21. PHASED PROJECTS SHOULD BE CLEARED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
22. EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 104 AND 105 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
23. THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER PLANS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.



SOIL TRACKING PREVENTION DEVICE DETAIL

N.T.S.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

NO.	DATE	REVISIONS
8.	---	---
7.	10-28-2019	CONSTRUCTIBILITY REVIEW
6.	09-11-2019	L.S. TO STEP SYSTEM
5.	08-09-2019	FORCE MAIN
4.	03-22-2019	PHASING COORDINATION
3.	11-21-2018	16" U.E. TO CITY OF VERO BEACH
2.	10-31-2018	PER CCVB UTIL DEPT
1.	10-17-2018	PER CCVB AND IRC COMMENTS

JOB NO.	17-0133
DESIGNED	ND
DRAWN	RT
DATE	03-22-2018
CHECKED	AS
DATE ISSUED	10/28/2019

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1860 W. 20TH STREET MELBOURNE, FL - PH: (321) 253-1515
VERO BEACH, FL 32960 FT. PIERCE, FL - PH: (772) 466-9565
PH: (772) 562-0515
FAX: (772) 770-5977

EROSION CONTROL DETAILS

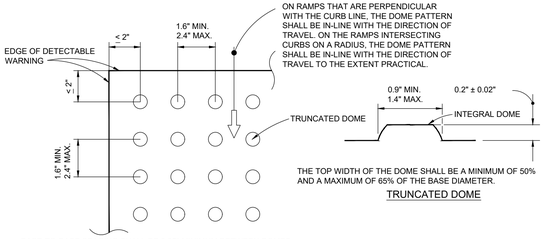
JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C12
OF 17
17-0133

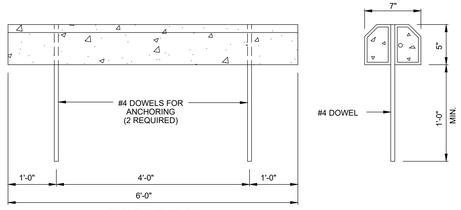


PLAN VIEW

ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES (610 MM) FROM THE BACK OF CURB. THE DETECTABLE WARNINGS SHALL BE CAST-IN-PLACE.

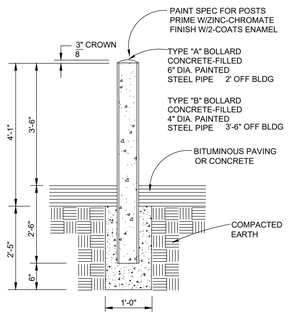
CURB RAMP DETECTABLE WARNING DETAIL

N.T.S.



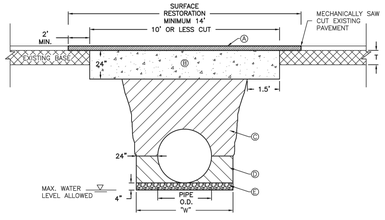
PRE-CAST CONCRETE WHEEL STOP DETAIL

N.T.S.



BOLLARD DETAIL

N.T.S.



STORMWATER/UTILITY PIPE INSTALLATION

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
   1.1. ALL INSTALLATIONS LESS THAN 12" DIAMETER AND NON GRAVITY UTILITIES SHALL BE BY DIRECTIONAL BORE.
   1.2. PARTIAL LANE CUTS REQUIRE A MINIMUM OF SINGLE LANE RESTORATION.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION FOR APPROVAL BY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. NEW SURFACING MATERIALS SHALL BE CONSISTENT OR BETTER THAN EXISTING CONDITIONS AND SHALL HAVE BUTT JOINTS (2.5 INCH MINIMUM THICKNESS).
5. ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS AND FDOT STANDARDS (LATEST EDITION).
6. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0" ON EACH SIDE.

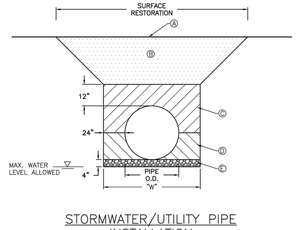
Ⓐ MINIMUM EXISTING PAVEMENT DEPTH OR PER COUNTY ROADWAY DESIGN CRITERIA DETAIL, WHICHEVER IS GREATER.

Ⓑ FLOWABLE FILL AS DEFINED AS NON-EXCAVATABLE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTH OF 125–300 PSI.

Ⓒ A.A.S.H.T.O. TYPE A–3 MATERIAL IN MAXIMUM 6" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T–180.

Ⓓ A.A.S.H.T.O. TYPE A–3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T–180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY THE COUNTY ENGINEER OR DESIGNEE.

Ⓔ ¾" DIAMETER, WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR IF DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.



STORMWATER/UTILITY PIPE INSTALLATION

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT–OF–WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE METHOD OF CONSTRUCTION FOR APPROVAL BY COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'–0" ON EACH SIDE.

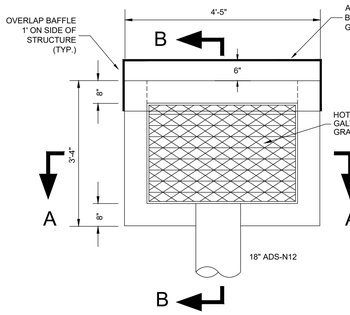
Ⓐ MATCH EXISTING GROUND WITH SMOOTH, LEVEL TRANSITION.

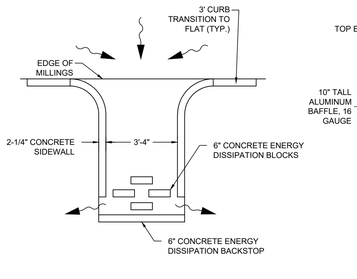
Ⓑ UNPAVED ROADS IN ROW SHALL CONSIST OF 8" LIMEROCK BASE OR COQUINA SHELL IN A MINIMUM OF (2) 4" LIFTS WITH A MINIMUM LBR OF 100 COMPACTED TO 98% MAXIMUM DENSITY PER A.A.S.H.T.O. T–180. WHEN INSTALLATION IS NOT LOCATED IN A TRAVEL LANE, RESTORATION SHALL BE ACCORDING TO Ⓒ BELOW WITH SOD LAID WITHIN THREE DAYS OF FINAL GRADING.

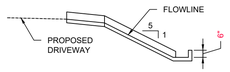
Ⓒ A.A.S.H.T.O. TYPE A–3 MATERIAL IN MAXIMUM 6" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T–180.

Ⓓ A.A.S.H.T.O. TYPE A–3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T–180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY COUNTY ENGINEER OR DESIGNEE.

Ⓔ ¾" DIAMETER, WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR IF DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.

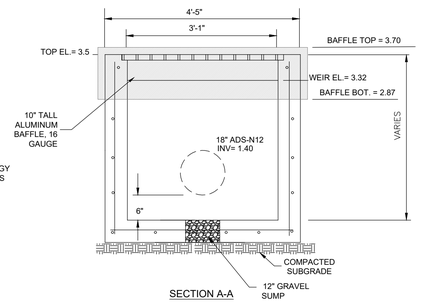






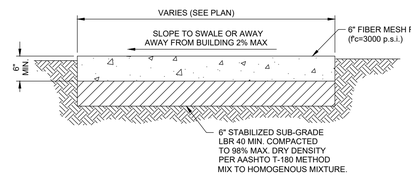
CONCRETE FLUME DETAIL

N.T.S.



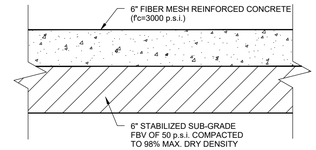
MODIFIED TYPE "C" CONTROL STRUCTURE

N.T.S.



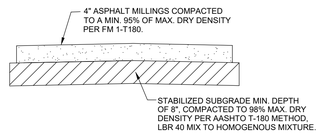
ON-SITE CONCRETE SIDEWALK DETAIL

N.T.S.



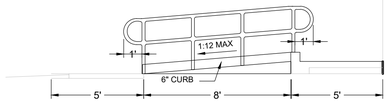
CONCRETE PAVEMENT SECTION

NTS



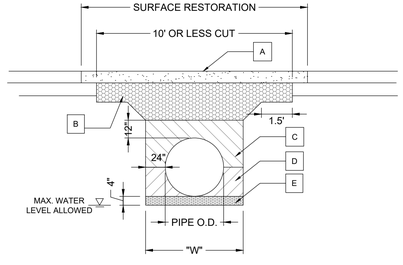
MILLINGS AT DRIVE AISLE & PARKING AREA DETAIL

N.T.S.



HANDICAPPED RAMP DETAIL

N.T.S.

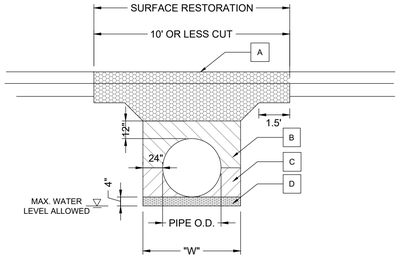


TRENCH IN MARL DRIVEWAY DETAIL

SCALE: N.T.S.

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
   1.1 ALL INSTALLATIONS LESS THAN 12" DIAMETER AND NON GRAVITY UTILITIES SHALL BE BY DIRECTIONAL BORE.
   1.2 PARTIAL LANE CUTS REQUIRE A MINIMUM OF SINGLE LANE RESTORATION.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION FOR APPROVAL BY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. NEW SURFACING MATERIALS SHALL BE CONSISTENT OR BETTER THAN EXISTING CONDITIONS AND SHALL HAVE BUTT JOINTS (2.5 INCH MINIMUM THICKNESS).
5. ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS AND FDOT STANDARDS (LATEST EDITION).
6. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0" ON EACH SIDE.

A. 6" MARL
B. 12" ROCK IN MAXIMUM 4" LIFTS COMPACTED TO 98% A.A.S.H.T.O. T-180.
C. NATIVE SOIL IN MAXIMUM 6" LIFTS COMPACTED TO 98% A.A.S.H.T.O. T-180.
D. A.A.S.H.T.O. TYPE A=3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED TO 98% A.A.S.H.TO. T-180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY THE COUNTY ENGINEER OR DESIGNEE.
E. ¾" DIAMETER WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR IF DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.



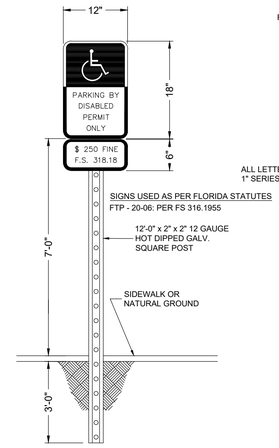
TRENCH IN ROCK DRIVEWAY DETAIL

SCALE: N.T.S.

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT–OF–WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
   1.1. ALL INSTALLATIONS LESS THAN 12" DIAMETER AND NON GRAVITY UTILITIES SHALL BE BY DIRECTIONAL BORE.
   1.2. PARTIAL LANE CUTS REQUIRE A MINIMUM OF SINGLE LANE RESTORATION.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION FOR APPROVAL BY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. NEW SURFACING MATERIALS SHALL BE CONSISTENT OR BETTER THAN EXISTING CONDITIONS AND SHALL HAVE BUTT JOINTS (2.5 INCH MINIMUM THICKNESS).
5. ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS AND FDOT STANDARDS (LATEST EDITION).
6. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0" ON EACH SIDE.
A. 12" ROCK IN MAXIMUM 4" LIFTS COMPACTED TO 98% A.A.S.H.T.O. T-180.
B. NATIVE SOIL IN MAXIMUM 6" LIFTS COMPACTED TO 98% A.A.S.H.T.O. T-180.
C. A.A.S.H.T.O. TYPE A=3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED TO 98% A.A.S.H.TO. T-180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY THE COUNTY ENGINEER OR DESIGNEE.
D. ¾" DIAMETER WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR IF DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.

HANDICAPPED RAMP AND PAVEMENT MARKING DETAIL

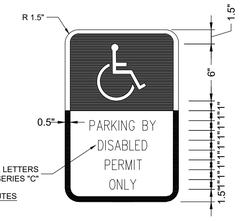
N.T.S.



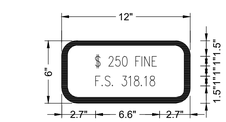
SIGNS USED AS PER FLORIDA STATUTES
FTP - 20-06: PER FS 316.1955

12'-0" x 2" x 2" 12 GAUGE HOT DIPPED GALV. SQUARE POST

FTP - 20-06



FTP - 22-06

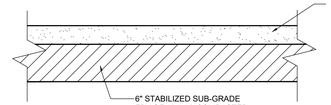


1" x 6"
1-1/2" RADII
3/4" BORDER
1" SERIES C LETTERS
WHITE BACKGROUND
BLACK LEGEND & BORDER

GENERAL NOTES
1. TOP PORTION OF FTP-20-06 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2. BOTTOM PORTION OF FTP-20-06 SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. THE SIGN SHALL BE PLACED A MINIMUM OF 3' FROM THE WHEEL STOP OR THE BACK OF CURB (WHERE APPLICABLE).

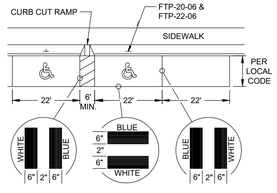
HANDICAPPED SIGN DETAIL

N.T.S.

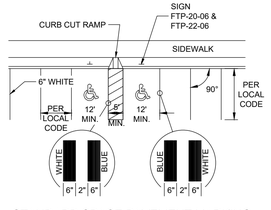


STABILIZED WALKING TRAIL DETAIL

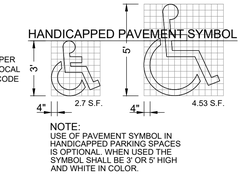
N.T.S.



PARALLEL SPACE PAVEMENT MARKING

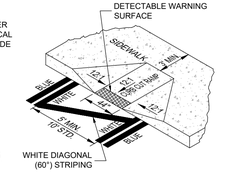


STANDARD SPACE PAVEMENT MARKING



HANDICAPPED PAVEMENT SYMBOL

NOTE:
USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS OPTIONAL. WHEN USED THE SYMBOL SHALL BE 3' OR 5' HIGH AND WHITE IN COLOR.



CURB CUT RAMP (TYP.)

GENERAL NOTES
1. CRITERIA FOR PAVEMENT MARKING ONLY, NOT CURB CUT RAMP LOCATIONS. FOR RAMP CRITERIA REFER TO FDOT STANDARD PLANS INDEX #522-002, LATEST EDITION.
2. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARD 595a.
3. CURB AND WHEELSTOP LOCATIONS SHALL BE AS PER DEPICTED ON THE PLANS.
4. FOR ANGLED PARKING APPLICATIONS, REFER TO FDOT STANDARD PLANS INDEX #711-001, LATEST EDITION.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

TRENCH (<10 FT.) IN PAVED AREAS DETAIL

SCALE: N.T.S.

TRENCH IN UNPAVED AREAS DETAIL

SCALE: N.T.S.

DATE	REVISIONS
---	---
10-28-2019	7 CONSTRUCTIBILITY REVIEW
09-11-2019	6 L.S. TO STEP SYSTEM
08-09-2019	5 FORCE MAIN
03-22-2019	4 PHASING COORDINATION
11-21-2018	3 15' U.E. TO CITY OF VERO BEACH
10-31-2018	2 PER COVB UTIL DEPT
10-17-2018	1 PER COVB AND IRC COMMENTS

JOB NO.	17-0133
DESIGNED	ND
DRAWN	RT
DATE	03-22-2018
CHECKED	AS
DATE ISSUED	10/28/2019

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728
1000 SCENIC HIGHWAY, SUITE 1
VERO BEACH, FL 32960
PH. (772) 778-3410
FX. (772) 778-3417
PBSC/BOYNE FL. PH (321) 242-5139
FT. PIERCE, FL. PH (772) 468-3553

GENERAL DETAILS

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

FLORIDA

INDIAN RIVER COUNTY

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C13
OF 17
17-0133

62-555.314 Location of Public Water System Mains. For the purpose of this section, the phrase "water mains" shall mean mains, including treatment plant process piping, conveying either raw, partially treated, or finished drinking water; fire hydrant leads; and service lines that are under the control of a public water system and that have an inside diameter of three inches or greater.

(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, Reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems.

(a) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.

(b) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least three feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed vacuum-type sanitary sewer.

(c) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least six feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer.

(d) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least ten feet between the outside of the water mains and all parts of any existing or proposed "on-site sewage treatment and disposal system" as defined in Section 381.0065(2), F.S., and Rule 64E-6.002, F.A.C.

(2) Vertical Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, and Reclaimed Water Pipelines.

(a) New or relocated, underground water mains crossing any existing or proposed gravity- or vacuum-type sanitary sewer or storm sewer shall be laid so the outside of the water main is at least six inches, and preferably 12 inches, above or at least 12 inches below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.

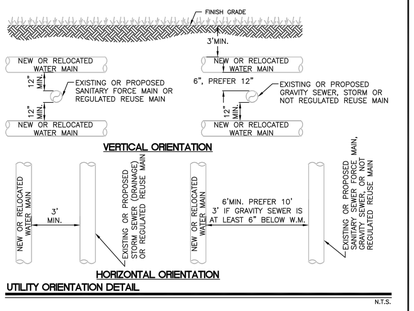
(b) New or relocated, underground water mains crossing any existing or proposed pressure-type sanitary sewer, wastewater or stormwater force main, or pipeline conveying reclaimed water shall be laid so the outside of the water main is at least 12 inches above or below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.

(c) At the utility crossings described in paragraphs (a) and (b) above, one full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or pipelines conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

(3) Separation Between Water Mains and Sanitary or Storm Sewer Manholes.

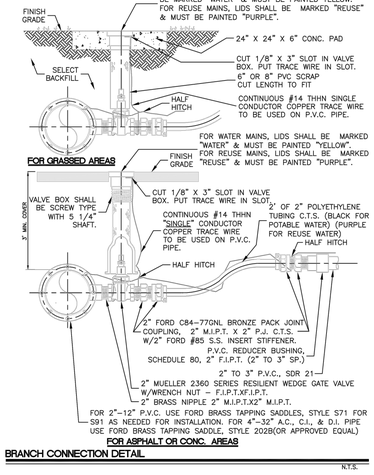
(a) No water main shall pass through, or come into contact with, any part of a sanitary sewer manhole.

(4) Separation Between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, Reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems. New or relocated fire hydrants with underground drains shall be located so that the drains are at least three feet from any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; at least three feet, and preferably ten feet, from any existing or proposed vacuum-type sanitary sewer; at least six feet, and preferably ten feet, from any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and at least ten feet from any existing or proposed "on-site sewage treatment and disposal system" as defined in Section 381.0065(2), F.S., and Rule 64E-6.002, F.A.C.



UTILITY ORIENTATION DETAIL

N.T.S.



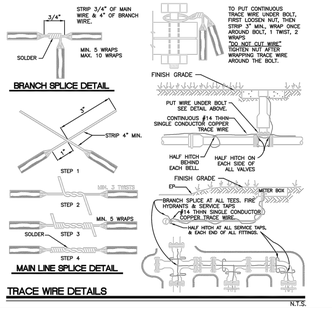
BRANCH CONNECTION DETAIL

N.T.S.

PVC PIPE COLOR CODE AND TRACE WIRE TABLE		
UTILITY	PVC PIPE COLOR	TRACE WIRE COLOR
POTABLE WATER MAIN	BLUE OR WHITE	BLUE
RAW WATER MAIN	BLUE OR WHITE	LIGHT BLUE
SANITARY SEWER GRAVITY MAIN	GREEN	GREEN
SANITARY SEWER FORCE MAIN	BROWN OR WHITE	BROWN
REUSE WATER MAIN	PURPLE OR WHITE	PURPLE

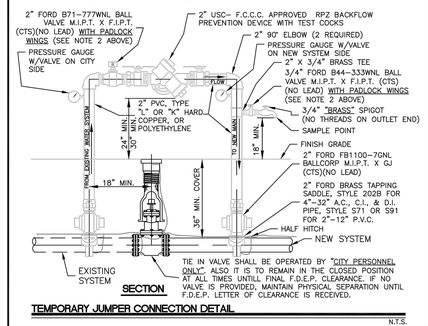
NOTE:
1. TRACE WIRE IS REQUIRED ON ALL PIPE.
2. INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE BID FOR PIPE.
3. CONTRACTOR RESPONSIBLE FOR CONTINUITY OF ALL TRACE WIRE.
4. ALL SPLICE CONNECTIONS ARE TO BE HOT SOLDERED (50/50 RESIN CORE), WRAP W/3 ALTERNATING LAYERS OF SCOTCH "33" TAPE & COVER WITH SCOTCH WATERPROOFING COMPOUND.
5. SHRINK WRAP MAY BE USED INSTEAD OF SCOTCH WRAP.
6. THE DRYCONN WATERPROOF CONNECTORS MAY ALSO BE USED INSTEAD OF SCOTCH WRAP OR SHRINK WRAP. (PART NO. 90220)

DRYCONN® WATERPROOF CONNECTOR



N.T.S.

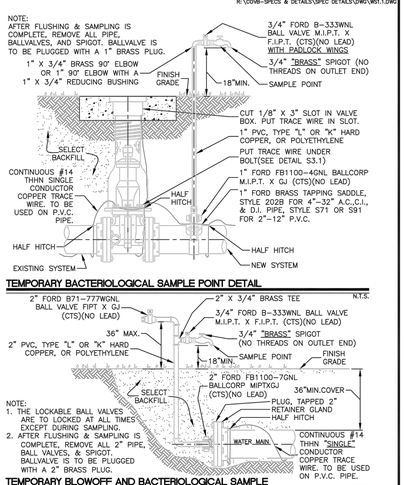
NOTES:
1. A TEMPORARY JUMPER CONNECTION IS TO BE USED FOR FILLING, FLUSHING, CHLORINATING, AND PULLING BACTERIOLOGICAL SAMPLES FOR ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS.
2. THE CONTRACTOR IS TO PROVIDE A CURRENT CERTIFICATION FOR THE BACKFLOW PREVENTER THAT IS USED ON THE JUMPER ASSEMBLY TO THE CITY WATER & SEWER DEPARTMENT "PRIOR TO USE"
3. THE TEMPORARY JUMPER CONNECTION AND ALL SAMPLE POINTS ARE TO BE "LOCKED AT ALL TIMES" EXCEPT FOR FILLING, FLUSHING, CHLORINATING, AND PULLING BACTERIOLOGICAL SAMPLES.
4. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH A.W.W.A. C651, 1992 EDITION. THE TAPPING SLEEVES AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION 11 OF A.W.W.A. C651-92.
5. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED. MAINTAIN MINIMUM VELOCITY OF 2.5 F.P.S. WHILE FLUSHING.
6. TEMPORARY JUMPER CONNECTION AND SAMPLE POINTS REMOVAL PROCEDURE:
   1. COMPLETE ALL FLUSHING AND TESTS.
   2. SEND RESULTS TO APPROPRIATE AGENCY FOR APPROVAL.
   3. RECEIVE F.D.E.P. CLEARANCE
   4. GET PERMISSION FROM THE CITY WATER & SEWER DEPT.
7. REMOVE THE TEMPORARY JUMPER CONNECTION AND PLUG THE REMAINING TAPPING VALVES



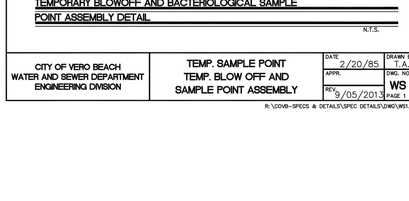
TEMPORARY JUMPER CONNECTION DETAIL

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	UTILITY ORIENTATION DETAIL AND PIPE ENCASEMENT DETAIL	DATE: 7/95	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS1.1.DWG
		APPR.	DWG. NO. WS 1.1	
		REV. 8/12/2013	PAGE 1 OF 2	



TEMPORARY BACTERIOLOGICAL SAMPLE POINT DETAIL

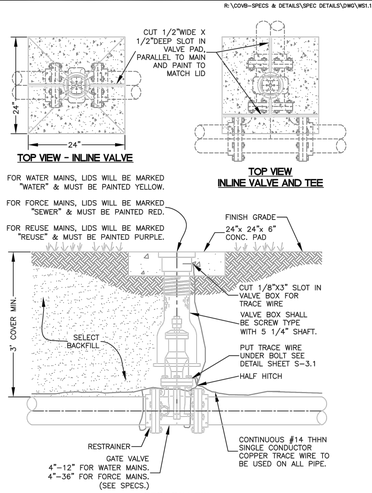


TEMPORARY BLOWOFF AND BACTERIOLOGICAL SAMPLE POINT ASSEMBLY DETAIL

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	TEMP. SAMPLE POINT TEMP. BLOW OFF AND SAMPLE POINT ASSEMBLY	DATE: 2/20/85	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS1.6.DWG
		APPR.	DWG. NO. WS 1.6	
		REV. 9/05/2013	PAGE 1 OF 1	

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	UTILITY ORIENTATION DETAIL AND PIPE ENCASEMENT DETAIL	DATE: 7/95	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS1.1.DWG
		APPR.	DWG. NO. WS 1.1	
		REV. 8/12/2013	PAGE 2 OF 2	

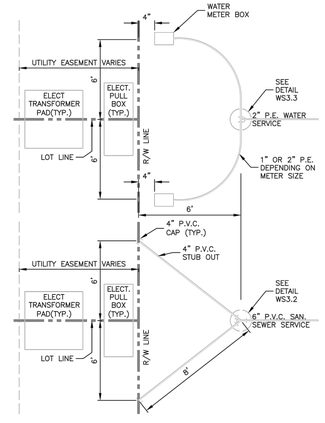


GATE VALVE ASSEMBLY DETAIL

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	GATE VALVE ASSEMBLY DETAIL	DATE: 5/29/87	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS2.1.DWG
		APPR.	DWG. NO. WS 2.1	
		REV. 8/14/2013	PAGE 1 OF 1	

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	BRANCH CONNECTION DETAIL	DATE: 3/4/87	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS1.3.DWG
		APPR.	DWG. NO. WS 1.3	
		REV. 8/12/2013	PAGE 2 OF 1	

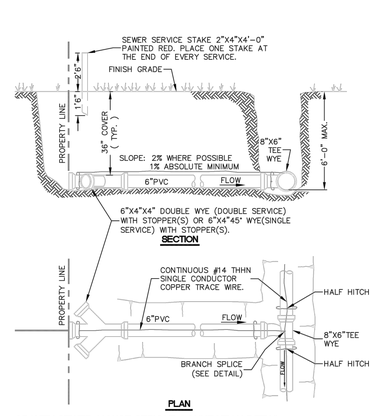


UTILITY SERVICE LOCATION DETAIL

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	UTILITY SERVICE LOCATION DETAIL	DATE: 8/12/88	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS3.1.DWG
		APPR.	DWG. NO. WS 3.1	
		REV. 9/06/2013	PAGE 1 OF 1	

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	TRACE WIRE DETAIL	DATE: 6/4/87	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS1.4.DWG
		APPR.	DWG. NO. WS 1.4	
		REV. 10/04/2013	PAGE 1 OF 1	

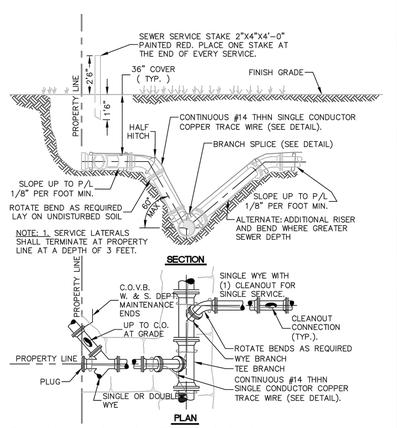


GRAVITY SEWER, HOUSE SERVICE CONNECTION DETAIL

WHERE DEPTH EXCEEDS 6'-0" USE VERTICAL STACK HOUSE SERVICE CONNECTION. FOR SERVICE TO BOTH SIDES OF STREET USE 8"X6"TEE WYE.

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	GRAVITY SEWER HOUSE SERVICE CONNECTION DETAIL	DATE: 6/4/87	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS3.2.DWG
		APPR.	DWG. NO. WS 3.2	
		REV. 8/19/2013	PAGE 1 OF 2	



GRAVITY SEWER, HOUSE SERVICE CONNECTION DETAIL

(VERTICAL STACK)

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	GRAVITY SEWER HOUSE SERVICE CONNECTION DETAIL	DATE: 6/4/87	DRAWN BY: T.A.Y.	R:\COVB-SPECS & DETAILS\SPEC DETAILS\DWG\WS3.2.DWG
		APPR.	DWG. NO. WS 3.2	
		REV. 8/19/2013	PAGE 2 OF 2	

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

NO.	DATE	REVISIONS
8	---	---
7	10-28-2019	CONSTRUCTIBILITY REVIEW
6	09-11-2019	L.S. TO STEP SYSTEM
5	08-09-2019	FORCE MAIN
4	03-22-2019	PHASING COORDINATION
3	11-21-2018	15" U.E. TO CITY OF VERO BEACH
2	10-31-2018	PER COVB UTIL DEPT
1	10-17-2018	PER COVB AND IRC COMMENTS

JOB NO.	17-0133	
DESIGNED	ND	
DRAWN	RT	
DATE	03-22-2018	AS
CHECKED		
DATE ISSUED	10/26/2019	

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FX: (772) 778-5417
PRELIMINARY E: PH:(772)321-5159
FT. PIERCE, FL: PH:(772) 460-3553

COVB STANDARD DETAILS

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

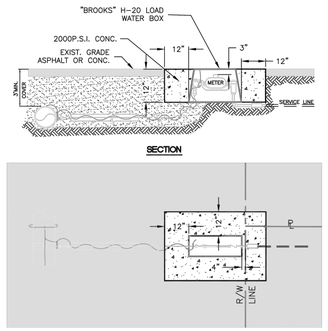
INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON FL. P.E. #72460 DATE:

SHEET C14 OF 17

17-0133



POTABLE WATER SERVICE DETAIL FOR 5/8" X 3/4" - 2' METERS

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	POTABLE WATER SERVICE H-20 LOAD BOX DETAIL	DATE 11/16/90	DRAWN BY: T.A.Y.		
		APPR.	DWG. NO. CCBOX		
		REV. 9/06/2013	PAGE 1 OF 1		

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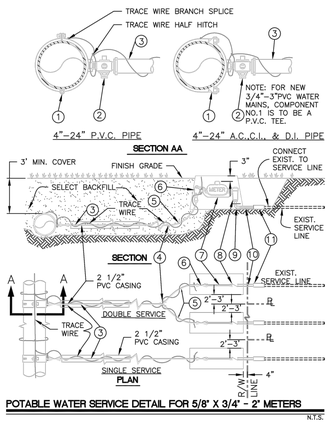

POTABLE WATER SERVICE DETAIL FOR 5/8" X 3/4" - 2" METERS

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	POTABLE WATER SERVICE DETAIL FOR 5/8"X3/4"-2" METERS	DATE 11/16/90	DRAWN BY: T.A.Y.		
		APPR.	DWG. NO. WS 3.3		
		REV. 8/20/2013	PAGE 1 OF 2		

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MATERIALS TABLE – POTABLE WATER SERVICE DETAIL FOR 5/8" X 3/4" – 2" METERS

	① SERVICE/ COMPONENT	② FORD–BRASS TAPPING SADDLE OR TEE	③ FORD–BRASS BALLCORP CORP. STOP	④ POLY–ETHYLENE	⑤ FORD–BRASS "Y" BRANCH COUPING	⑥ POLY–ETHYLENE	⑦ FORD–BRASS ANGLE YOKE VALVE	⑧ FORD METER YOKE	⑨ FORD–BRASS CHECK VALVE	⑩ BRASS STEEL ELL (90° BEND)	⑪ BRASS OR PVC SPOOL PIECES	⑫ COMPRESSION FITTING OR GLUE JOINT PVC SLEEVE
	SINGLE POTABLE WATER SERVICE FOR 5/8" X 3/4" METER	1" 07L591 OR 202B	1" FB1100–4GNL	1" BLACK	N/A	N/A	AV94–324WGNL 1"CU/CTS	Y502	3/4" HKA91–323NL	3/4" STREET ELL MIPT X FIPT	TO MATCH EXISTING	TO MATCH EXISTING
	SINGLE POTABLE WATER SERVICE FOR 3/4" METER	1" 07L591 OR 202B	1" FB1100–4GNL	1" BLACK	N/A	N/A	AV94–324WGNL 1"CU/CTS	Y503	3/4" HKA91–323NL	3/4" STREET ELL MIPT X FIPT	TO MATCH EXISTING	TO MATCH EXISTING
	SINGLE POTABLE WATER SERVICE FOR 1" METER	1" 07L591 OR 202B	1" FB1100–4GNL	1" BLACK	N/A	N/A	AV94–444WGNL 1"CU/CTS	Y504	HKA91–444NL	1" STREET ELL MIPT X FIPT	TO MATCH EXISTING	TO MATCH EXISTING
	SINGLE POTABLE WATER SERVICE FOR 1 1/2" METER	2" 07L591 OR 202B	2" FB1100–7GNL	2" BLACK	N/A	N/A	BFA13–777WGNL 2"CU/CTS	N/A	HF531–777NL	N/A	TO MATCH EXISTING	TO MATCH EXISTING
	SINGLE POTABLE WATER SERVICE FOR 2" METER	2" 07L591 OR 202B	2" FB1100–7GNL	2" BLACK	N/A	N/A	BFA13–777WGNL 2"CU/CTS	N/A	HF531–777NL	N/A	TO MATCH EXISTING	TO MATCH EXISTING
	DOUBLE POTABLE WATER SERVICE FOR TWO 5/8" X 3/4" METER	2" 07L591 OR 202B	2" FB1100–7GNL	2" BLACK	Y44–274–GNL 2"CU x 1"CU	1" BLACK	TWO_AV94–324WGNL 1"CU/CTS	TWO–Y502	TWO_3/4" HKA91–323NL	TWO_3/4" STREET ELL MIPT X FIPT	TO MATCH EXISTING	TO MATCH EXISTING
	DOUBLE POTABLE WATER SERVICE FOR TWO 3/4" METER	2" 07L591 OR 202B	2" FB1100–7GNL	2" BLACK	Y44–274–GNL 2"CU x 1"CU	1" BLACK	TWO_AV94–324WGNL 1"CU/CTS	TWO–Y503	TWO_3/4" HKA91–323NL	TWO_3/4" STREET ELL MIPT X FIPT	TO MATCH EXISTING	TO MATCH EXISTING
	DOUBLE POTABLE WATER SERVICE FOR TWO 1" METERS	2" 07L591 OR 202B	2" FB1100–7GNL	2" BLACK	Y44–274–GNL 2"CU x 1"CU	1" BLACK	TWO_AV94–444WGNL 1"CU/CTS	TWO–Y504	TWO_HHCA91–444NL	TWO_1" STREET ELL MIPT X FIPT	TO MATCH EXISTING	TO MATCH EXISTING

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION

POTABLE WATER SERVICE DETAIL FOR 5/8"X3/4"-2" METERS

DATE 11/16/90 | APPR. | REV. 8/20/2013 | DRAWN BY: T.A.Y. | DWG. NO. WS 3.3 | PAGE 2 OF 2

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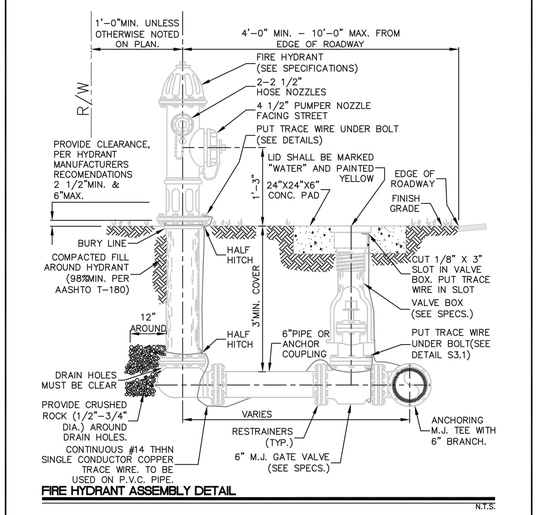

FIRE HYDRANT ASSEMBLY DETAIL

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	FIRE HYDRANT ASSEMBLY DETAIL	DATE 5/22/87	DRAWN BY: T.A.Y.		
		APPR.	DWG. NO. WS 2.3		
		REV. 8/16/2013	PAGE 1 OF 1		

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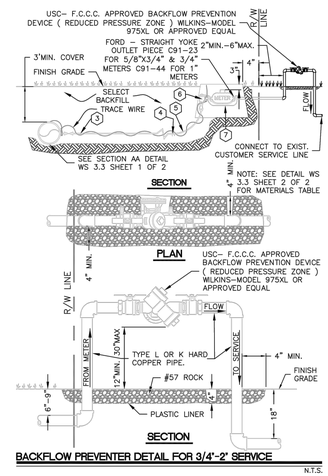

BACKFLOW PREVENTER DETAIL FOR 3/4"-2" SERVICE

N.T.S.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION	BACKFLOW PREVENTER DETAIL FOR 3/4" - 2" SERVICE	DATE 12/16/85	DRAWN BY: T.A.Y.		
		APPR.	DWG. NO. WS 3.4		
		REV. 9/06/2013	PAGE 1 OF 1		

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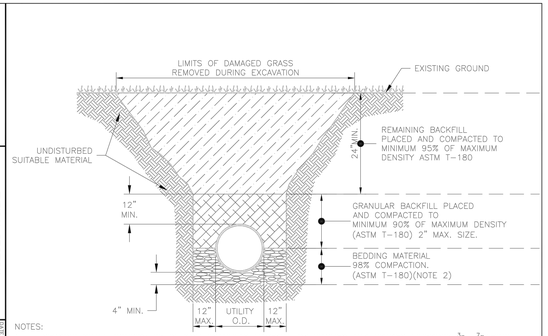
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION

TYPICAL SECTION GRASS RESTORATION DETAIL

DATE 5/22/87 | APPR. | REV. 4/9/07 | DRAWN BY: T.A.Y. | DWG. NO. WS 6.1 | PAGE 1 OF 1



NOTES:
1. BEDDING SHALL CONSIST OF IN–SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK ⅜"– 1"SIZING. UNSUITABLE IN–SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, AND DEBRIS.

TYPICAL SECTION GRASS RESTORATION DETAIL

(FOR EXCAVATION ACROSS GRASS AREAS)

N.T.S.

8	---	---
7	CONSTRUCTIBILITY REVEW	10-28-2019
6	L.S. TO STEP SYSTEM	09-11-2019
5	FORCE MAIN	08-09-2019
4	PHASING COORDINATION	03-22-2019
3	15" U.E. TO CITY OF VERO BEACH	11-21-2018
2	PER COVB UTIL DEPT	10-31-2018
1	PER COVB AND IRC COMMENTS	10-17-2018
△	**REVISIONS**	**DATE**

JOB NO.	17-0133		
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DRAWN	RT		
DATE	03-22-2018		
CHECKED	AS		
DATE ISSUED	10/28/2019		

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FT. PIERCE, FL: PH (772) 468-3553

COVB STANDARD UTILITY DETAILS

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

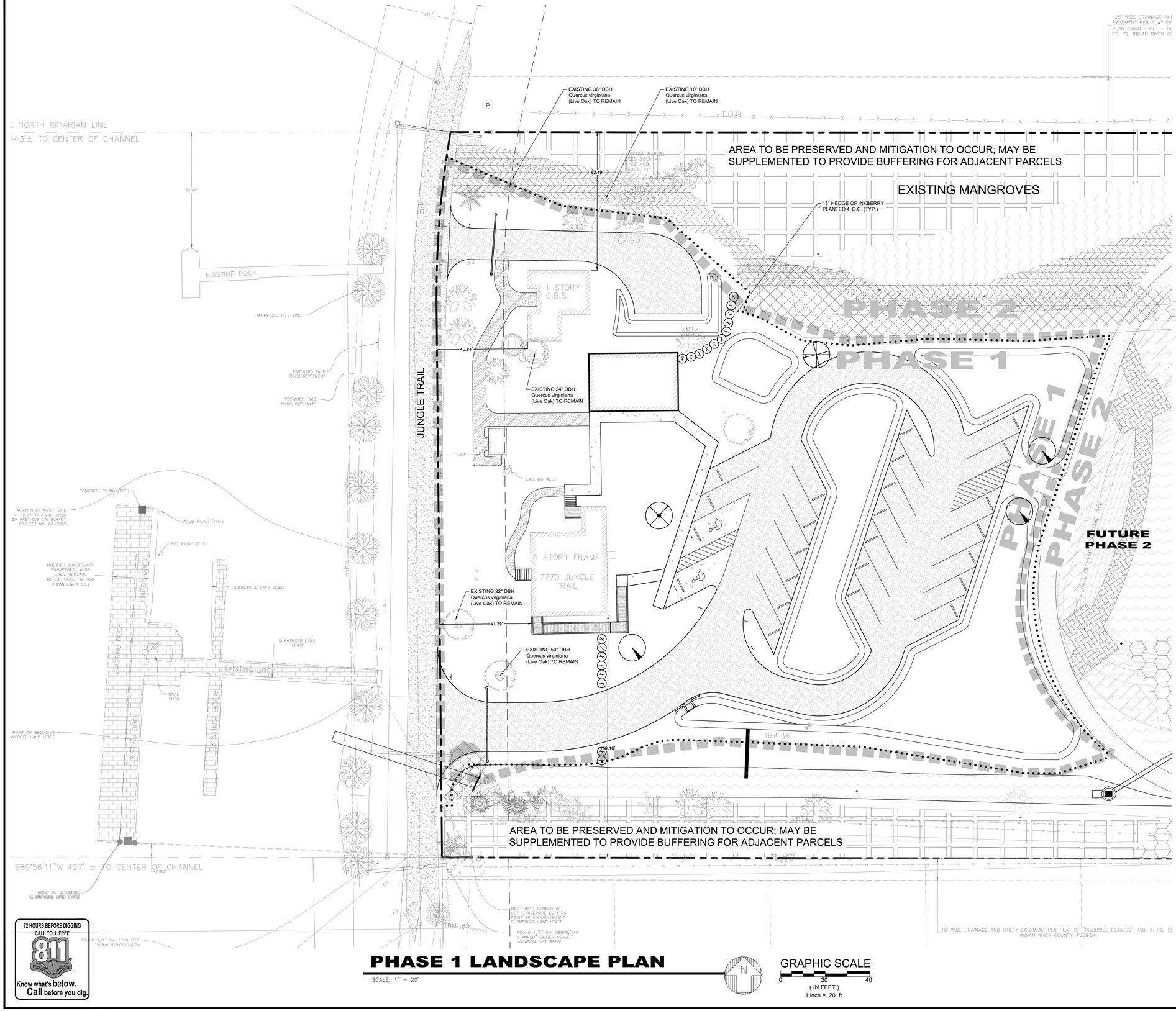
INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C15
OF 17
17-0133

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.



Planting Notes

1. **MATERIALS**

COMMON NAME	SCIENTIFIC NAME	MINIMUM SIZE	QUANTITY
GUMBO LIMBO	*Busera simbaruba*	15 GALLON	3
MASTIC	*Sideroxylon foetidissimum*	10 GALLON	1
GREEN BUTTONWOOD	*Conocarpus erectus*	7 GALLON	1
INKBERRY	*Scaevola plumieri*	3 GALLON	20

2. **GENERAL NOTES**
ALL PLANT MATERIAL SHALL BE FLORIDA #1 OR BETTER PER THE MOST RECENT PUBLICATION OF "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II", PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.

TREES TO BE PLANTED TO STANDARD DEPTHS, SET PLUMB AND BACKFILLED WITH EXISTING SOIL. DO NOT OVERLY COMPACT THE BACKFILL.

ALL TREES TO BE THOROUGHLY WATERED IN UPON INSTALLATION. TREES TO BE MONITORED BY CONTRACTOR THROUGHOUT THE CONSTRUCTION PERIOD TO ENSURE SUFFICIENT HYDRATION BASED ON CLIMATE, TEMPERATURE AND RAINFALL.

TREES MAY BE STAKED IN PLACE TO PROVIDE STABILITY. MATERIALS USED FOR STAKING MUST NOT RESULT IN DAMAGE TO BARK OR BRANCHES.

Parking Area Tree Calculation

12% OF THE TOTAL PAVED/ STABILIZED AREA SHALL BE PROVIDED WITH INTERIOR LANDSCAPE

TOTAL IMPERVIOUS PARKING AREA = 12,563 SF
12% OF 12,563 SF = 1,507.6 SF
CODE REQUIRES PLANTING 1 TREE/ 300 SF OF 1,507.6 SF ~ 5 TREES

PARKING AREA TREES REQUIRED = 5

PARKING AREA TREES PROVIDED = 5

Non-Vehicular Open Space Tree Calculation

TOTAL NON-VEHICULAR SITE AREA = (PH. 1 OPEN SPACE) - (30' JUNGLE TRAIL PROTECTED AREA)
= 44,666 SF - 9,779 SF
= 34,887 SF

CODE REQUIRES PLANTING 1 TREE/ 3,000 SF OF 34,887 SF ~ 12 TREES

Tree Preservation Credits

REQUIRED POINTS: MINIMUM 30

PROPOSED LANDSCAPE PLAN PLANTING SPECIFICATIONS

a) TREES 100% DROUGHT TOLERANT NATIVES: 10 POINTS
b) EXISTING OAK TREE PRESERVATION CREDIT:

SIZE OF TREE	CREDITS	# OF TREES	TOTAL CREDITS
20" OR MORE	8 CREDITS	4	32
13" TO 19"	6 CREDITS	0	0
7" TO 12"	4 CREDITS	1	4
3" TO 6"	2 CREDITS	0	0
2"	1 CREDIT	0	0

TOTAL TREE CREDITS: 36 CREDITS
TOTAL CREDITS FOR PROJECT: 46 CREDITS

NVOS TREES REQUIRED = 12 TREES

NVOS TREES PROVIDED = 36 TREES

Buffer Detail

NORTHERN BUFFER
INCLUDES CONSERVATION OF EXISTING MATURE MANGROVE AREA (WETLAND A) THAT VARIES BETWEEN 20 FEET AND 80 FEET. PROJECT INCLUDES CREATION OF NATIVE UPLAND BUFFER CONTIGUOUS TO MATURE MANGROVE. CREATED UPLAND BUFFER TO AVERAGE 15-20 FEET IN WIDTH. UPLAND BUFFER TO BE PLANTED WITH NATIVE SMALL TREE, SHRUB AND GROUNDCOVER SPECIES.

SOUTHERN BUFFER
INCLUDES CONSERVATION OF EXITING MATURE MANGROVE AREA (WETLAND C) THAT VARIES IN WIDTH BETWEEN 20-30 FEET. PROJECT INCLUDES ADDITIONAL BUFFER VIA THE CREATION OF 10 FT WIDE INFLUENT WETLAND FLOW-WAY ADJACENT TO WETLAND C THAT WILL BE VEGETATED WITH NATIVE SALT MARSH SPECIES

EXOTIC SPECIES SUCH AS BRAZILIAN PEPPER TO BE REMOVED FROM ALL BUFFER AREAS.

LEGEND

- PROPOSED STABILIZED DRIVE AND/OR PARKING
- PROPOSED CONCRETE
- PROPOSED WALKING PATH
- PROPOSED MARL WALKING PATH BETWEEN BUILDINGS
- EXISTING OAK TREE W/SIZE
- EXISTING MANGROVE TREE LINE
- EXISTING COCONUT PALM
- EXISTING CABBAGE PALM
- EXISTING CABBAGE PALM
- EXISTING ROYAL PALM
- EXISTING NORFOLK ISLAND PINE
- EXISTING WASHINGTON PALM
- PROPOSED *Bursera simaruba* (Gumbo Limbo) - 15 gal. Quantity: 3
- PROPOSED *Sideroxylon foetidissimum* (Mastic) - 10 gal. Quantity: 1
- PROPOSED *Conocarpus erectus* (Green Buttonwood) - 7 gal. Quantity: 1
- PROPOSED *Scaevola plumieri* (Inkberry) - 3 gal. Quantity: 20
- LIMITS OF CONSTRUCTION/ PHASE LINE

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

PHASE 1 LANDSCAPE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE
0 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE	REVISIONS
1	10-17-2018	PER COVB AND IRC COMMENTS
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3	11-21-2018	15' U.E.TO CITY OF VERO BEACH
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DATE ISSUED 10/28/2019

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LANDSCAPE PLAN

JONES PIER WETLAND RESTORATION AND CONSERVATION IMPROVEMENTS PHASE 1

INDIAN RIVER COUNTY FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER
AARON G. STANTON
FL. P.E. #72460 DATE:

SHEET
C16
OF 17
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