Construction Drawings for OSPREY ACRES FLOWAY AND NATURE PRESERVE



PREPARED FOR INDIAN RIVER COUNTY

PREPARED BY **PUBLIC WORKS STORMWATER DIVISION** 1801 27th STREET, VERO BEACH, FLORIDA 32960

BOARD OF COUNTY COMMISSIONERS

JOSEPH E. FLESCHER, CHAIRMAN PETER D. O'BRYAN, VICE CHAIRMAN SUSAN ADAMS, COMMISSIONER BOB SOLARI, COMMISSIONER TIM ZORC, COMMISSIONER

CONFORMED DRAWINGS

JUNE 28, 2017

COUNTY STAFF JASON E. BROWN, COUNTY ADMINISTRATOR WILLIAM K. DeBRAAL, ESQ., DEPUTY COUNTY ATTORNEY RICHARD SZPYRKA, P.E., PUBLIC WORKS DIRECTOR W. KEITH MCCULLY, P.E., STORMWATER ENGINEER

INDEX TO THE CONSTRUCTION DRAWINGS

SHEET DESCRIPTION

CIVIL DRAWINGS OVERALL PLAN VIEW WITHOUT BACKGROUND AERIAL OVERALL PLAN VIEW WITH BACKGROUND AERIAL BASIC LAYOUT GEOMETRY: ROAD, DRIVEWAY, AND TREATMENT UNITS LAYOUT GEOMETRY: FLOWAY "A1" AND PART OF FLOWAY "A2" LAYOUT GEOMETRY: REMAINDER OF FLOWAY "A2" AND ALL OF FLOWAY "B' LAYOUT GEOMETRY: FLOWAY "C" AND FLOWAY "D" TRAIL SYSTEM AND SITE FENCING PLAN VIEW: FLOATING BAFFLE WALL AND SYSTEM INFLUENT PIPING ENTRANCE DRIVE, PARKING, AND MILLINGS ROAD PARKING AREA AND OPERATIONS BUILDING PLAN VIEW: TREATMENT UNITS PLAN VIEW: FLOWAY "A1", PART OF FLOWAY "A2", AND SHALLOW MARSH #1 PLAN VIEW: REMAINDER OF FLOWAY "A2" AND ALL OF FLOWAY "B" PLAN VIEW: FLOWAY "C" AND FLOWAY "D" PLAN VIEW: SHALLOW MARSH #2 TREATMENT UNIT SECTIONS TREATMENT UNIT AND HARVEST RAMP SECTIONS WEIR AND FLOWAY SECTIONS SECTIONS AND DETAILS STRUCTURE SECTIONS AND DETAILS STRUCTURE SECTIONS AND DETAILS ENTRANCE CULVERT, UTILITIES, AND FLOWAY CROSSINGS, ETC. SECTIONS AND DETAILS – OMITTED – C22 SECTIONS AND DETAILS SECTION AND DETAILS C23 WEIR STRUCTURAL DRAWINGS S-1 WEIR ELEVATIONS, SECTIONS & SPECIFICATIONS ELECTRICAL DRAWINGS E1.1 ELECTRICAL PLAN E2.1 ELECTRICAL SCHEDULE, NOTES, ONE-LINE E2.2 ELECTRICAL DETAILS LANDSCAPING DRAWINGS OVERALL LANDSCAPING PLAN LANDSCAPING: TREATMENT UNIT AREA LANDSCAPING: FLOWAY A1, PART OF FLOWAY A2, AND SHALLOW MARSH #1 LANDSCAPING: REMAINDER OF FLOWAY A2 AND ALL OF FLOWAY B LANDSCAPING: FLOWAY C AND FLOWAY D I ANDSCAPING: ENTRANCE ROAD LANDSCAPING: TREATMENT UNIT SECTIONS LANDSCAPING: DETAILS AND FLOWAY SECTIONS SURVEYING DRAWINGS PREPARED BY IRC PUBLIC WORKS ENGINEERING DIVISION (OSPREY ACRES BOUNDARY SURVEY) SHEET 1 OF 2 – BOUNDARY SURVEY SHEET 2 OF 2 - BOUNDARY SURVEY SURVEY DRAWINGS PREPARED BY MASTELLER. MOLER & TAYLOR. INC. (OSPREY ACRES MAIN SITE TOPOGRAPHIC SURVEY) SHEET 1 OF 2 SHEET 2 OF 2 SURVEY DRAWINGS PREPARED BY MORGAN & EKLUND, INC. (OSPREY MARSH POLISHING POND TOPOGRAPHIC SURVEY) SHEET 1 - COVER SHEET SHEET 2 – ELEVATION DATA SHEET 3 - PROFILE SHEET 4-6 - CROSS SECTIONS





FOR QUESTIONS CONCERNING THESE DOCUMENTS CALL KEITH McCULLY, P.E. AT 772-226-1562 THIS SHEET IS PREPARED FOR INFORMATIONAL PURPOSES ONLY



5' CONCRETE SIDEWALK			
TOP OF BANK	DIRT TRAIL	5TH STREET SW	
		TOP OF BANK DITCH	
	FENCE (TYPICAL)	20	20 72" C 7
PRESERVE AREA	FLOWAY "A1" BOTTOM EL. 11.0	REFUGIUM	PRESER
20	CROSSING NO. 1 S20 S19	S21	2
SHALLOW MARSH #1			
BEGIN FLOWAY "A"	FLOWAY "A BOTTOM EI	APPROXIMATE BORDER OF PEPPER TREES TO BE CLE AND DISPOSED OF OFFSITE	BRAZILIAN ARED PRESERVE AREA
BE	GIN TRANSITION FROM	DOTTOW EL. TT.O	
PRESERVE AREA	END TRANSITION FROM FLOWAY "A2" TO FLOWAY "E	CROSSING NO. 2 DIRT TRAIL DIRT TRAIL DIRT TRAIL PRESERVE AREA	FLC BOT
SITE MAG FACL ELEV	ERCP BENCHMARK TWO NALL IN NORTH 2.=22.04' 2.=22.04' 20' FRONT SETBAC	SITE BENCHMARK ONE MAG NAIL IN SOUTH FACE OF POLE ELEV.=22.91'	

		INDIAN RIVER COUNTY				
		STORMWATER DIVISION	OSPREY ACRES ELOWAY			
		1801 27TH STREET				
		VERO BEACH, FLORIDA 32960	AND NATURE DRESERVE			
BY	CHECKED BY	Designed by KM what KM checked by EAS approved by KM				





NUMBER	REVISIONS	REVISED



OSPREY ACRES FLOWAY AND NATURE PRESERVE

W. KEITH McCULLY, P.E. FLORIDA P.E. NO. 32007 DATE:

OVERALL PLAN VIEW WITH BACKGROUND AERIAL

PROJECT NO. date 6/28/2017 scale 1"=100' C2

SHEET







SEE SI	HEET C10 FOR INFORMATION
CURVE C8 R = 115.00' Lc = 88.54' ON HA STORAC	RVESTED AQUATIC PLANT
HARVEST EQUIPMEN	JT RAMP # 9
LINE L10 L = $6.61'$ S3d22'10"E CURVE C9 R = $65.00'$ Lc = $63.33'$ CURVE C9 R = $55.39'$ S59d11'44"E	24d25'28"
	900 ¹ 00 ["]
CENTER CULVERTS AT CROSSING	$\begin{array}{c} CURVE C10\\ R = 235.00'\\ Lc = 100.18' \end{array}$
LINE L12 L = 55.39' S59d11'44"E	FLOWAY "B" (25) LINE L13 L = 76.30' S83d37'12"E
DIRT TRAIL	
/ // INDIAN RIVER COUNTY STORMWATER DIVISION 1801 27TH STREET VERO BEACH, FLORIDA 32960 (772) 226-1562 BY CHECKED BY MM DRAWN BY KM CHECKED BY	OSPREY ACRES FLOWAY AND NATURE PRESERVE

—BEGIN TRANSITION FROM FLOWAY "A2" TO FLOWAY "B" AT BEGINNING OF LINE L8

- END TRANSITION FROM FLOWAY "A2" TO FLOWAY "B"

- CONTROL LINE



NUMBER	REVISIONS	REVISED











			INDIAN RIVER COUNTY STORMWATER DIVISION 1801 27TH STREET	OSPREY ACRES FLOV
			VERO BEACH, FLORIDA 32960 (772) 226–1562	AND NATURE PRESER
_	REVISED BY	CHECKED BY	DESIGNED BY KM DRAWN BY KM CHECKED BY EAS APPROVED BY KM	



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D BY	CHECKED BY	DESIGNED BY	KM	DRAWN BY	KM	CHECKED BY	EAS	APPROVED BY	KM		



	APPROXIMATE NORTH					23 23 		EXISTING FINISH ( LIMITS C NEW FEI	CONTOUR CONTOUR OF CLEA	DUR R RING
	WHERE FENCE EXTENDS OVER WATER, FENCE BOTTOM TO BE 12" ABOVE DESIGN WATER LEVEL	$\frac{N}{2}$ (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (14) (15) (15) (15) (15) (15) (15) (15) (15	DIES IT IS C S2 TO BETWEE STRUCT 18" TH SPECIFI TUFF-E AT DES TUFF-E SYSTEM 4'-6"" AND EY REQUIR ANCHOF OMITTED FOUR S FILLED PAINT E PRIMER INDICAT 27' CAI ON MIL INFORM HARVES (TYPICA HARVES HARVES HARVES HARVES HARVES	RITICAL T STRUCTU N PIPE L URE WAL CK (MINII CATIONS. BOOM DEE ND. FIELI IGN WATE BOOM AND S' (WWW. LONG AN C NUTS ED AT EA RODS. O O'-O" LON WITH COI STIRE ST AND TWO ED AND NTILEVERE LINGS RC ATION. T EQUIPM T EQUIPM T EQUIPM T EQUIPM T EQUIPM T EQUIPM T EQUIPM T EQUIPM T EQUIPM	HAT THE S RES S3 AI LENGTHS, V L TO INSIE MUM) RUB INSTALL BRIS BOOM D VERIFY I ER DEPTH. CHOR SYST PLATIPUS.I ICHOR SYST PLATIPUS.I ICHOR SYST PLATIPUS.I ICHOR SYST PLATIPUS.I ICHOR SYST PLATIPUS.I ICHOR SYST PLATIPUS.I ICHOR SYST ICHOR SYST ACH END CO NG 6" DIAI NCRETE. B TEEL PIPE O COATS O I FROM E ED SLIDE O NAD. SEE S MENT ACCE MENT ACCE MENT ACCE MENT ACCE MENT ACCE MENT ACCE MENT ACCE	36" PVC P ND S4 BE WITH LENG DE STRUCT BLE RIPRA AS INDICA (SYSTEM LOCATION TEM TO BE US) S6 ST D WITH SW PE 316 ST DF TUFF-E WITH TWO DF GLOSS EDGE OF M GATE WITH SHEET C4 CSS RAMP CSS RAMP CSS RAMP CSS RAMP CSS RAMP CSS RAMP CSS RAMP CSS RAMP	PELENG EQUAL. ( THS MEAS URE WALL POVER I TED ON I WITH ANC BY INSTAL E PLATIPU EALTH AN IVEL EYE AINLESS S OOM. USE TH = 4'. COATS C SAFETY Y MILLINGS F 3-STRAN FOR ADDI NO. 1. SI NO. 1. SI NO. 2 NO. 3 NO. 4 NO. 5 NO. 12 NO. 13 EN HARVE	THS FRO (TOLERAN SURED F ) FILTER ( DRAWING HORING LING AF SEARTH ICHOR, N NUT. AN STEEL. ( E MAXIM EEL PIPE BEFORE OF RUST 'ELLOW. ROAD. ID BARB ITIONAL EE SHEE	DM MANI NCE = ROM IN CLOTH P SYSTEM TER BA ANCHOR MITH MIN NCHOR H DNE AND UM DIAN E BOLLA INHIBIT SPACE WIRE. FENCE ET C22	HOLE +/-6" SIDE PER A AT SIN IS DRING NIMUM RODS CHOR METER RDS LATION, IVE AS CENTER
				F	PIPF DA	ΑΤΑ ΤΑ	BI F			
		$\langle \hat{\mathbf{X}} \rangle$	NORTH INVERT	WEST INVERT	SOUTH	EAST INVERT FL	PIPE DIAMETER	PIPE MATERIA	APPRC PIPE	<u>рх.</u>
		1	EL. 	<i>е</i> г. 14.10		14.00	36"	RCP	52'	
		2 3		14.00 15.00		14.10 15.10	36" 24"	RCP PVC	52'	,
		4	14.75		14.85		36"	RCP	60'	
	F	5 6	14.75 14.85		14.85 14.75		36" 30"	RCP RCP	60' 100.5	5'
		7		14.75		14.85	30"	PVC	34'	
			ROAD NOTE: AUTO C3A	WAY AND DO NOI CAD FOR	) TREATME TUSE BEA THE LINES	NT UNIT C RINGS CAL S ON THIS	CONTROL L CULATED SHEET. S	DATA — BY SEE SHE	ET	
CONF	ORMED DRA	W	ING							
				NUN	/BER	REVISIO	DNS	RE	VISED BY	CHECKED BY
	W. KEITH McCULLY, P.E. FLORIDA P.E. NO. 32007 DATE:		TF	PL REAT	AN V MEN	IEW:	IITS	DA SC SH	TE 6/28 ALE 1"=	3/2017 30' <b>28</b>

![](_page_12_Figure_0.jpeg)

![](_page_13_Figure_0.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_15_Figure_0.jpeg)

![](_page_16_Figure_0.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_18_Figure_0.jpeg)

<u>Y "D"</u>	T (VERTICAE). TIFICAE FOR ALL GOL.
INDIAN RIVER COUNTY         STORMWATER DIVISION         1801 27TH STREET         VERO BEACH, FLORIDA 32960         (772) 226–1562         BY<       CHECKED BY         MX       DRAWN BY         KM       CHECKED BY	OSPREY ACRES FLOWAY AND NATURE PRESERVE

![](_page_19_Figure_0.jpeg)

			INDIAN RA STORMWA 1801 VERO BEA (772	VER COUNTY TER DIVISION 27TH STREET CH, FLORIDA 32960 226-1562	/	OSPREY ACRES FLC AND NATURE PRESE
		DESIGNED BY TZNI	DRAWN BY TZNA	CHECKED BY TO A C	APPROVED BY TZNE	
REVISED BY	CHECKED BY	КM	L KM	L EAS	KM KM	

![](_page_20_Figure_0.jpeg)

ES S3, S4	, S6, S9,	S10, S18,	S20, ANI	D S21	
E OF STRUCTURE WITH PIPE	TOP OF GRATE ELEVATION	ELEVATION "AA"	STRUCTURE BOTTOM ELEVATION**	TRAFFIC BEARING GRATE AND FRAME ?	
EAST	EAST 22.50		13.35	YES	
WEST	22.50	14.00	13.35	YES	
SOUTH	22.25	14.50	14.00	YES	
WEST					
EAST	21.50	Same as Structure Bottom	11.25	YES	
SOUTH	21.00	12.00	11.25	YES	
WEST	19.50	Same as Structure Bottom	11.25	YES	

CONCRETE SLAB LENGTHS AT STRUCTURES							
STRUCTURE	SLAB LENGTH (FEET)						
S1	NO SLAB						
S3	8'-0"						
S4	8'-0"						
S5	10'-0"						
S6	7'-4" (FIELD VERIFY)						
S9 / 10	12'-0"						
S11	12'-0"						
S12	23'-10"						
S16	10'-0"						
S18	NO SLAB						
S20	13'-2" AT CENTERLINE						
S21	18'-10" AT CENTERLINE						
S22	NO SLAB						
S23	NO SLAB						
S24	17'-0" (FIELD VERIFY)						

	STRUCTURE	PROJECT NO.
W. KEITH McCULLY, P.E.	SECTIONS AND	date 6/28/2017 scale AS NOTED
DATE:	DETAILS	SHEET C17

![](_page_21_Figure_0.jpeg)

![](_page_22_Figure_0.jpeg)

DRAIN MITERED END R FDOT INDEX NO. T CONCRETE PAD. 2.00 (TYPICAL) ATER SURFACE EL. 17.50 FLOWAY B 0 VIEN MIMUM) RUBBLE FILTER CLOTH.	TOP OF BERM = EL. 20.0 10' 6' CHAIN LINK (BOTH SIDES) 2.5 1 CAP. SEE PLAN W FOR LENGTH 5 GEOSYNTHETIC CLAY LINER (TYPICAL)	FLOWAY B	<ul> <li>✓ 48" STANDARD ALUMINUM END— SECTION WITH TYPE 316 STAINLESS STEEL HARDWARE, TOE PLATE EXTENSION, AND SAFETY BARS. INVERT EL. 12.00</li> <li>✓ DESIGN WATER SURFACE EL. 1</li> <li>FLOWAY</li> <li>EL. 11.0</li> <li>18' THICK (MINIMUM) RUBBLE – RIPRAP OVER FILTER CLOTH. (TYPICAL)</li> </ul>
B       SECTION: CRO         C10       C10         SCALE: 1" = 10'-         RMISSIBLE         PROTECTED         OWNER'S         REE BARRICADES.         L EXISTING	OSSING NO. 2 (PIPE CRO o"	DSSING)	C C C C C C C C C C C C C C C C C C C
ILL SPACE AROUND N-SHRINK GROUT.	<ol> <li>BRASS DOUBLE STRAIGHT UP) A DRAWING W-4</li> <li>2" SCH. 80 PV0</li> <li>2" ABOVEGROUN METALLIC DOUBL ASSEMBLY APPR</li> <li>1" WATER METER</li> </ol>	6" PVC C PIPE EL. 6" PVC C PIPE EL. STRAP SERVICE SADDLE (POINT AND 2" CORP STOP PER IRCDU C ND REDUCED-PRESSURE NON-O LE CHECK VALVE BACKFLOW PER ROVED BY IRCDUS. R AND BOX	20'         FINISH GRADE THIS VICINITY         EL. 22.0 TO 2.5         (a)         (b)         (c)         (c)      (c)     <
18" THICK RIP-RAP OVER LOTH (TYPICAL BOTH SIDES)	6" WIDE SOLID WHITE PAINT	STRIPE ASPHALT BASE "SUBGRADE	6" WIDE SOLID WHITE PAIR 19'-0" TOP OF ASPHALT ALONG PIPE CENTERLINE = EL. 22.75 6" D.I.P. WATE
ELEVATION AS REQUIRED TO PROPERLY CONNECT PIPE TO PRECAST STRUCTURE IAL PER PICAL FURES)	* VERIE WATE CONS	$\frac{88 \text{ L.F. OF 72" RCP CENT}}{19 \text{ C19} \text{ C6} \text{ C19}}$	TERED_UNDER_DRIVEWAY
INDIAN RIV       INDIAN RIV       STORMWAT       1801       VERO BEAC       (772)       BY     CHECKED BY       M     MKM       DESIGNED BY     MKM	TER COUNTY         ER DIVISION         27TH STREET         H, FLORIDA 32960         226-1562         CHECKED BY EAS         APPROVED BY KM	OSPRE AND N/	Y ACRES FLOWAY ATURE PRESERVE

![](_page_22_Figure_2.jpeg)

![](_page_23_Figure_0.jpeg)

![](_page_23_Figure_1.jpeg)

╡╪╴╤╤

LOOKING UP

![](_page_24_Figure_0.jpeg)

![](_page_25_Figure_0.jpeg)

ESS STEEL CLAMP 3" MINIMUM WIDTH, IICK	THE ANCHOR TRENCH MAY BE SHAPED AS SHOWN OR "V" SHAPE FINISH GRADE TRENCH BOTTOM TO BE 1' MINIMUM ABOVE DESIGN WATER ELEVATION	ATHETIC CLAY LINER 12" MINIMUM TO CLEAN INDIGENO SHOWN OTHERW COMPACT PER S THE SPECIFICATI UNDER PRECAST COVER DESIGN	P COVER** OF US SOIL UNLESS SE ON DRAWINGS. SECTION 02575 OF ONS, EXCEPT STRUCTURES SECTION 02220. MATERIAL WATER SURFACE
	1. RUN-OUT TRENCHES MAY BE USED WHE APPROVED BY THE GCL MANUFACTURER.	RE SHOWN ON THE DRAWINGS AND	AS
	2. ANCHOR TRENCHES ARE NOT REQUIRED	NCH DETAIL	
	** BASIN SIDE BASIN BOTTOM 12" MINIMUM TO UNLESS SHOWN SECTION 02575 PREPARED SUBO SPECIFICATIONS	WHEN INSTALLED BELOW PRECAST S THE MINIMUM COVER ABOVE GCL = OP COVER OF CLEAN INDIGENOUS SC OTHERWISE ON DRAWINGS. COMPAC OF THE SPECIFICATIONS. ** GRADE PER SECTION 02575 OF THE	TRUCTURES, 2'-6" DIL F PER
	GEOSYNTHETIC CLAY LINER (GCL)	COMPACT PER	
ILED	SECTION 02220 - "EXCAVATION NOTE: IN ALL INSTANCES, THE COVEI	AND BACKFILL". R MATERIAL SHALL BE	
<u>S</u>	PLACED OVER THE LINER IN THE DIF THE LINER MANUFACTURER.	RECTION RECOMMENDED BY	FR
	C9 C23 C12 C23 C13 C23 C14 C23 C15 C23 NOT TO SC	ALE	
۹F 24 AINAGE DIA EL PIE ۹ING. INS IF SEI BO	FLOW METER. PROVIDE A 24" METER DUCTILE IRON FLANGED SPOOL CE THE SAME LENGTH AS THE FLOW TER. THE SPOOL PIECE WILL BE TALLED IN PLACE OF THE FLOW METER THE FLOW METER IS REMOVED FOR RVICE. METER TO HAVE A JUNCTION & FOR THE REMOTE SERVICE.	36" X 24" FLANGED CONCENTRIC REDUCER 36" STYLE 38 DRESS	DUCTILE IRON (TYPICAL) ER COUPLING
B c23 c2 36" C9 (TYPIC)	BOS CIOD PVC PIPE 4'-0" LOCATE FLOW METER AMPLIFIEF TO FENCE, SUPPORT WITH 6"	FENCE FENCE	
	EMBEDDED $3^{\circ}-6^{\circ}$ MINIMUM IN POST A MINIMUM OF 10 [°] . SLO FROM POST. INSTALL S.S. CAP THAT NORMALLY ASSOCIATED W 4 DETAIL: STF $C5 C23 SCALE: 1° = 4°$	CONCRETE. CONCRETE TO EXTEND A PE TOP OF CONCRETE TO DRAIN AW ON TOP OF POST. CABINET HEIGHT "ITH SUCH INSTRUMENTATION. RUCTURE NO. S23 -0"	ROUND AY TO BE
W. FLO DAT	KEITH McCULLY, P.E. RIDA P.E. NO. 32007	CTIONS AND DETAILS	project no. Date 6/28/2017 Scale AS NOTED Sheet C23

![](_page_26_Figure_0.jpeg)

![](_page_26_Figure_8.jpeg)

#### CONCRETE WEIR SECTIONS

REFER TO CIVIL PLANS FOR LOCATIONS. SEE WEIR ELEVATIONS FOR INFORMATION NOT SHOWN.

³⁄4" = 1'-0"

WEIR STRUCTURE \$15

#### DESIGN CODES

FBC FLORIDA BUILDING CODE, 5th EDITION (2014)

ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

ACI 350 ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES

ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

#### **DESIGN CRITERIA** WIND LOADS

SOILS DENSITY

HYDROSTAT DENSITY

NOMINAL WIND SPEED REGION V(asa)	132 IVIPH
	54 PSE (ult)
	32 psf (asd)
GUST RESPONSE FACTOR G	
SHAPE COEFF Cf	
	32 2 ET/ SEC
SOILS	
DENSITY OF SOIL	110 PCF
Angle of internal friction $\mu$	30°

ANGLE OF INTERNAL FRICTION $\mu$	
COEFF. OF FRICTION <b>\$</b>	0.5
ALLOWABLE SOIL BEARING PRESSURE	2,500 PSI

#### STRUCTURAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

2. CONTRACTOR SHALL COORDINATE ALL STRUCTURAL CONSTRUCTION WITH CIVIL AND MECHANICAL ENGINEERS DOCUMENTS. 3. BACKFILL ON WEIR WALLS AND FOOTINGS AT EMBANKMENTS SHALL BE PLACED CONCURRENTLY AT BOTH FACES OF THE WALLS AT EACH END. THE WALLS ARE NOT DESIGNED TO RESIST ECCENTRIC LOADING FROM EARTH PRESSURE.

#### FOUNDATION

1. FOUNDATIONS ARE DESIGNED BASED ON A MINIMUM SOIL BEARING PRESSURE OF 2,500 PSF. 2. CONTRACTOR SHALL VERIFY THAT THE MINIMUM COMPACTION OF 95% OF ITS MODIFIED PROCTOR IN ACCORDANCE WITH

ASTM D1557 IS OBTAINED PRIOR TO FOOTING PLACEMENT.

3. FOOTINGS SHALL BE PLACED ON COMPACTED SOIL FREE OF ORGANIC DEBRIS. 4. REFER TO SUBSURFACE SOIL EXPLORATION REPORT BY ANDERSEN ANDRE CONSULTING ENGINEERS, INC. FILE NO. 16-144 REPORT DATED 10/26/16.

CONCRETE

CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING:

A.C.I. 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"

A.C.I. 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" A.C.I. 350 "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"

CONCRETE FOR BUILDINGS" AND A.C.I. 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED PLACED, FINISHED AND CURED IN ACCORDANCE WITH ACI 301. 3. CONCRETE 28 DAY COMPRESSIVE STRENGTHS SHALL BE AS FOLLOWS:

FOUNDATIONS & WALLS .. .. 4000 PSI CLASS "A" SLUMP: 4"±1" MAX W/C RATIO 0.45 W/ GRACE DCI CORROSION INHIBITOR ... 3 GAL./CU. YD.

4. THE MINIMUM CONCRETE COVERAGES SHALL BE AS FOLLOWS:

5. CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH ASTM C39. A MINIMUM OF (5) TEST CYLINDERS SHALL BE TAKEN FOR EACH POUR, AND ADDITIONAL SETS FOR EVERY 50 CUBIC YARDS OF POUR. CYLINDERS SHALL BE TESTED AS FOLLOWS:

1 AT 3 DAYS, 1 AT 7 DAYS, 1 AT 14 DAYS, 1 AT 28 DAYS & 1 AT 56 DAYS (IF THE MIN. STRENGTH IS NOT MET IN 28 DAYS) 6. ALL EXPOSED CONCRETE SURFACES SHALL BE COATED WITH A WATERPROOF COATING AS SPECIFIED BY THE INDIAN RIVER COUNTY STORMWATER DIVISION.

#### **REINFORCING STEEL**

1. ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775 "STANDARD SPECIFICATION FOR EPOXY COATED REINFORCING BARS"

2. REINFORCING BARS SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60.

3. BAR SUPPORTS SHALL BE PLASTIC OR OTHER APPROVED INERT MATERIAL. ALL STEEL TIRE WIRES SHALL BE COATED WITH PVC. 4. FABRICATION, DETAILING, HANDLING & STORAGE AND PLACING SHALL BE IN ACCORDANCE WITH ASTM 775 AND ACI 301. 5. FLAME CUTTING OF BARS IN THE FIELD WILL NOT BE ACCEPTABLE, ALL FIELD CUTS IF NECESSARY SHALL BE MADE WITH AN ABRASIVE SAW.

6. ALL EXPOSED CUT OR DAMAGED SURFACES SHALL BE REPAIRED USING AN APPROVED COMPATIBLE EPOXY OR PLASTIC COATING MATERIAL AND BE INERT IN CONCRETE. PATCHING MATERIAL SHALL BE APPROVED BY THE COATING MANUFACTURER AND MEETING THE APPROPRIATE SPECIFICATIONS.

Consulting Structural Engineer 2030 37th Avenue	Vero Beach, Florida 32960 Phone: 772.569.1257 Fax: 772.569.4041
SEAL: THIS DRAWING AND DESIGN A	AS SHOWN IS
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COME OSPREY ACRES FLOWAY & NATURE PRESERVE INDIAN RIVER COUNTY	WEIR ELEVATIONS, SECTIONS & SPECIFICATIONS
1 FOR BIDDING 2 CONFORMED	05-03-17 06-28-17
REVISIONS: ISSUE DATE: 05-01 DRAWN BY: S.C. CHECKED BY: Mi JOB NUMBER: SHEET NUMBER: SHEET NUMBER: SHEET NUMBER:	I-2017 Baker ke Lue I 7-145
OF 1	SHEETS

![](_page_27_Figure_0.jpeg)

LUMI	NAIRE S	CHEDULE						
CALLOUT	SYMBOL	LAMP	DESCRIPTION	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE 1
А	$\bigcirc$	(1) 77W LED	LOW BAY PENDENT-TOP BAY LED	JBOX/HOOK /PIPE MOUNT	METALUX TBLED-LD1-8-W-UNV-L840-CD1-U	77	120V 1P 2W	
AE	$\bigcirc$	(1) 77W LED (1) 77W LED	LOW BAY PENDENT-TOP BAY LED- BATTERY BACKUP	JBOX/HOOK /PIPE MOUNT	METALUX TBLED-LD1-8-W-UNV-L840-CD1-U-IBP	77 10	120V 1P 2W	
В	=	(1) 58W LED	WALL MOUNT LED LUMINAIRE W/PHOTOCELL	WALL	LUMARK XTOR6B-PC1	58	MULTIPLE	
X1	⊗	(1) 1.1W LED	EMERGENCAY LIT EXIT SIGN	WALL	SURE-LITE APX7G	1.1	120V 1P 2W	EXIT SIGN FIXTURE DIRECTION ARROWS AS SHOWN (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE). CONNECT WITH 2 WIRE BEFORE LOCAL SWITCH.

I	1												
ROOM MOUI FED NOTE	M NTING SU FROM FF 200A (	JRFACE PL QB BREAKER/	SQ D NQ30L	VOLTS BUS AN NEUTRA 1/MH44WP31	240/120 APS 250 AL 100% 6SS TY	DV 2P 3 ) PE 316	3W STAIN	LESS STI	AIC MAIN LUGS EEL ENCLOSURE	22,000 <b>BKR</b> 225 STANDARD			
СКТ	СКТ				LOAD	KVA	СКТ	СКТ				LOAD	KVA
#	BKR	CIRCUIT DESC	CRIPTION		A	В	#	BKR		RIPTION		A	В
1	20/1	LIGHTING			0.618		2	20/1	FLOW METER	1		0.026	
3	20/1	RECEPTACLE				0.72	4	20/1	FLOW METER	2, RECEPTAG	CLE		0.206
5	20/1	RECEPTACLE			0.9		6	-/1	SPACE			0	
7	20/1	RECEPTACLE				0.9	8	-/1	SPACE				0
9	/1	SPACE			0		10	-/1	SPACE			0	
11	-/1	SPACE				0	12	-/1	SPACE				0
13	-/1	SPACE			0		14	-/1	SPACE			0	
15	-/1	SPACE				0	16	-/1	SPACE				0
17	-/1	SPACE			0		18	-/1	SPACE			0	
19	-/1	SPACE				0	20	-/1	SPACE				0
21	-/1	SPACE			0		22	-/1	SPACE			0	ļ
23	-/1	SPACE				0	24	-/1	SPACE				0
25	-/1	SPACE			0		26	-/1	SPACE			0	ļ
27	30/2	*SPD				0	28	-/1	SPACE				0
29					0		30	-/1	SPACE			0	
									TOTAL CO	NNECTED KV	A BY PHASE	1.54	1.83
			CONN KVA	CALC KVA		<u> </u>				CONN KVA	CALC KVA		
	GEN		24	3	(100%)			KIT		0	0	(N /A)	
			1 200 SF	5	(100%)			CON		0 052	0 065	(125%)	
			0	0	(125%)			HFA		0.002	0.000	$(N/\Delta)$	
		GEST MOTOR	0	0	$(N/\Delta)$			CO(		0	0	$(N/\Delta)$	
		FR MOTORS	0	0	(100%)			NON		0	0	(100%)	
	RFC	EPTACLES	2.7	2.7	(50%>10	))			ERSE	0	0	(N/A)	
	SIGN	OUTLETS	0	0	(125%)	- /		MET	TERED DEMAND	0	0	(125%)	
								TOT BAL	AL KVA ANCED AMPS	6.88	7.49 31.2		

![](_page_28_Figure_3.jpeg)

![](_page_28_Figure_4.jpeg)

FEEL	)_
ID	
225/2U	
SIZING METH	IC

SWIT SCHE	SWITCH SCHEDULE					
SYMBOL	NOTE 1					
\$ мс	GREENGATE GMDS MOMENTARY CONTACT SWITCH, DECORA TYPE, SPECIFICATION GRADE, WHEN TOGGLED, THE SWITCH MOMENTARILY MAKES A CONTACT CLOSURE TO THE LIGHTING CONTROL PANEL OR OCCUPANCY SENSOR, SENDING AN "ON" SIGNAL. WHEN NOT PRESSED, THE SWITCH IS IN THE (OPEN) POSITION.					
ØS	GREENGATE VAC-DT-2000-R CEILING MOUNTED VACANCY SENSOR, MULTI-TECHNOLOGY PIR/ULTRASONIC VERSION, SELF-ADJUSTING - ADJ TIME DELAY. CONNECT WITH THREE WIRE TO POWER PACK WITH 120V INPUT/ 10-30 VDC OUTPUT.					
PP	GREENGATE SP20-MV POWER PACK. USED TO CONTROL FIXTURE FROM OS. (SEE DETAIL)					

RECEPTACLE SCHEDULE				
SYMBOL	NEMA	VOLTS	FEATURES	NOTE 1
ф wP	5–20–2R	120V 1P 2W	GFI, GND	STANDARD WALL RECEPTACLE MOUNTED 18" AFF (WEATHER PROOF PER NEC, GFCI)
ф	5–20–2R	120V 1P 2W	GND	STANDARD WALL RECEPTACLE MOUNTED 48" AFF

GENERAL SCHEDULE								
CALLOUT	SYMBOL	DESCRIPTION	VOLTS	AMPS	KVA	CIRCUIT	WIRE CALLOUT	NOTES
<b>/</b> 1	Ø	BADGER METER M-SERIES M2000 REMOTE AMPLIFIER	120	0.2	0.03	P1-2	1#12,#12N,#12G	SUPPLIED WITH THREE WIRE-SHEATHED CABLE WITH OVERALL CABLE DIAMETER OF 0.2-0.45 INCH. RUN FACTORY SUPPLIED DATA CABLE TO DETECTOR IN 1" CONDUIT.
12	∞~\$	BADGER METER M-SERIES M2000 REMOTE AMPLIFIER	120	0.2	0.03	P1-4	1#12,#12N,#12G	SUPPLIED WITH THREE WIRE-SHEATHED CABLE WITH OVERALL CABLE DIAMETER OF 0.2-0.45 INCH. RUN FACTORY SUPPLIED DATA CABLE TO DETECTOR IN 1" CONDUIT. INSTALL IN TYPE 316 STAINLESS STEEL ENCLOSURE WITH SNAP SWITCH AS DISCONNECT.

SEE COUNTY SPECS FOR EXACT DESCRIPTION AND REQUIREMENTS.

ER SCHEDULE

CONDUIT AND FEEDER

2"C,2#4/0,#4/0N

OD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE PVC (EXCEPT WHERE NOTED)

### WIRING METHODS & MATERIALS

NOTE

THE NATIONAL AND LOCAL ELECTRIC AND BUILDING CODES, AND THE ELECTRICAL REQUIREMENTS AS ESTABLISHED BY THE STATE AND LOCAL FIRE MARSHAL, AND RULES AND REGULATIONS OF THE POWER COMPANY SERVING THE PROJECT. ARE HEREBY MADE PART OF THIS SPECIFICATION. SHOULD ANY CHANGES BE NECESSARY IN THE DRAWINGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER. CIRCUITS SHOWN ON PLANS ARE TO DETERMINE LOAD DATA AND PANEL SIZE. EQUIPMENT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL).

2 CONTRACT INCLUDES INSTALLING ELECTRICAL CONDUIT AND CONNECTIONS TO FLOW METERS. FLOW METER 2 REQUIRES INSTALLATION OF AN OUTDOOR ENCLOSURE WITH THE AMPLIFIER, SNAP SWITCH DISCONNECT INSTALLED INSIDE AND MOUNTED TO A SUPPORT POST. INSTALLED A LOCAL SERVICE OUTLET MOUNTED TO FLOW METER 2 BEFORE THE SNAP SWITCH. CONTRACTOR TO INSTALL A COMPLETE ELECTRICAL SYSTEM FOR LIGHT AND POWER FROM THE POINT

OF SERVICE OF THE POWER COMPANY TO AND THROUGH THE MAIN SERVICE DISCONNECT, DISTRIBUTION PANELS, AND BRANCH PANELS. INCLUDING ALL OUTLETS, DEVICES AND EQUIPMENT FURNISHED BY OTHERS AS MAY BE REQUIRED. UNTIL WORK IS COMPLETE, COST OF ALL POWER CONSUMED DURING CONSTRUCTION SHALL BE PAID BY THE PARTY DESIGNATED BY THE PRIME CONTRACTOR.

4 CONTRACTOR MUST COORDINATE WITH FPL FOR NEW UNDERGROUND SERVICE BEING RAN FROM THE NORTH SIDE OF 5TH ST SW TO NEW SERVICE TRANSFORMER SHOWN ON PLAN VIEW AND FOR INSTALLATION OF METER.

PROVIDE AND MAINTAIN A CLEAR WORKING SPACE ABOUT ELECTRIC EQUIPMENT IN ACCORDANCE WITH NEC ARTICLES 110.26 AND 110.34. AND TO BE PROPERLY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.

6 PROVIDE CIRCUIT BREAKERS WITH UL LISTED INTERRUPTING RATING (RMS SYMMETRICAL AMPERES) GREATER THAN THE AVAILABLE FAULT CURRENT SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM. ALL SUB-FEED BREAKERS ALLOWED TO BE SERIES RATED AT 10KA

7 BOND RACEWAYS AND THE FRAMES AND ENCLOSURES OF MOTORS, BREAKERS, SWITCHES, AND OTHER ELECTRICAL EQUIPMENT TO THE BUILDING GROUNDING SYSTEM. INSTALL AN INSULATED EQUIPMENT GROUND CONDUCTOR IN EACH RACEWAY OR CONDUIT.

8 CONTRACTOR TO MAKE NECESSARY PROVISIONS FOR THE INSTALLATION OF TELEPHONE SYSTEM INCLUDING RACEWAYS, CABINETS, PULL BOXES AND OUTLETS.

9 METAL FRAMING MEMBERS SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR FOR ANY CIRCUIT THAT MAY ENERGIZE THE BUILDING FRAMING AND BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, TABLE 250.122. FOR THE PURPOSE OF THIS REQUIREMENT, A GROUNDED METAL OUTLET BOX ATTACHED TO THE FRAMING SHALL BE PERMITTED.

10 IDENTIFY NEW BRANCH CIRCUITS AT THE PANEL AND AT THE LOAD OUTLET, RECEPTACLE AND SWITCH. IDENTIFY THE PURPOSE OF INDIVIDUAL CIRCUIT BREAKERS, SAFETY SWITCHES AND MOTOR STARTERS BY MEANS OF NAMEPLATES AS INDICATED.

ROUTE CONDUITS TO SUIT EQUIPMENT AND BUILDING STRUCTURE. UNLESS OTHERWISE NOTED ON DRAWINGS OR NOT ALLOWED BY THE AHJ THE FOLLOWING SHALL APPLY: CONDUIT FOR ABOVE GRADE SHALL BE INTERMEDIATE METAL CONDUIT (IMC), RIGID METAL CONDUIT (RMC) OR ELECTRICAL METALLIC TUBING (EMT). OPTIONAL: RIGID PVC CONDUIT CAN BE USED EXCEPT WHERE NOT ALLOWED PER CODE SUCH AS THEATER & ASSEMBLY LOCATIONS WITHOUT CONCEALED 15-MINUTE FINISH RATING OR DUCT/PLENUMS, AND OTHER AIR-HANDLING SPACES.] LIMIT THE USE OF EMT TO AREAS WHERE IT WILL NOT BE SUBJECT TO PHYSICAL DAMAGE, WET ENVIRONMENTS, OR CORROSION. USE IMC, RMC OR RIGID PVC SCH 40 FOR WORK EMBEDDED IN CONCRETE. ALL BURIED CONDUIT SHALL BE RIGID PVC SCH 40. GENERAL POWER AND LIGHTING HOME RUN CIRCUITS IN CONDUIT (IMC, RMC, EMT) WHEN RAN ABOVE CEILINGS (EXPOSED AND CONCEALED) SHALL BE RAN TO A JUNCTION BOX. METAL CLAD CABLE (MC) WILL BE PERMITTED FROM THE JUNCTION BOX DROPPED DOWN TO THE RECEPTACLE OUTLET OR SWITCH AT A MAXIMUM LENGTH OF 30 FEET. FLEXIBLE METAL CONDUIT OR MC CABLE MAY BE USED FOR TAP CONDUCTORS PER CODE FROM THE FIXTURES TERMINATION TO AN OUTLET BOX IN ACCESSIBLE CEILINGS. CONDUIT TERMINATIONS AT ELECTRICAL EQUIPMENT SUCH AS ELECTRIC MOTORS AND HEATERS SHALL BE MADE USING LIQUID-TIGHT, FLEXIBLE METAL CONDUIT. USE MINIMUM 3/4 INCH CONDUIT EXCEPT AS FOLLOWS: 1/2" CONDUIT MAY BE USED FOR 20 AMP GENERAL LIGHT AND POWER CIRCUITS AND FOR CONTROL CIRCUITS. CONDUIT EXPANSION FITTINGS AND GROUND BONDING JUMPERS SHALL BE INSTALLED ON ALL CONDUITS PASSING THROUGH BUILDING EXPANSION JOINTS TO PROVIDE MOVEMENT IN THE CONDUIT SYSTEM. WHERE GROUPS OF CONDUITS TERMINATE TOGETHER OR PASS THROUGH FLOORS, PROVIDE TEMPLATE TO HOLD CONDUITS IN PROPER RELATION TO EACH OTHER AND TO BUILDING.

12 OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS. 13 DISCONNECT SWITCHES SHALL BE H.P. RATED, HEAVY DUTY, QUICK MAKE, QUICK BREAK, WITH

ENCLOSURES AS REQUIRED BY EXPOSURE. 14 SEAL AROUND CONDUIT PENETRATIONS THROUGH INTERIOR WALLS AND FLOORS SEPARATING AREAS TO RESTORE SEAL PENETRATIONS THROUGH ROOF AND EXTERIOR WALLS TO MAKE WATERPROOF. REQUEST INSPECTION OF FIRE SEALS BY ELECTRICAL INSPECTOR FROM AUTHORITY HAVING JURISDICTION BEFORE AND AFTER PLACEMENT OF FIRE SEAL MATERIALS.

15 WHEN ANY TYPE OF ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), SUCH BOXES SHALL BE TESTED FOR USE IN FIRE RESISTIVE ASSEMBLIES AND INSTALLED IN ACCORDANCE WITH THE TESTED ASSEMBLY. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET WITHOUT THE NEED FOR "PUDDY PADS":

USE STEEL ELECTRICAL BOXES THAT DO NOT EXCEED 16 SQ. IN. IN AREA, PROVIDED THAT THE AREA OF SUCH OPENINGS DOES NOT EXCEED 100 SQ. IN. FOR ANY 100 SQ. FT. OF WALL AREA. ANY OUTLET BOXES ON OPPOSITE SIDES OF THE WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 IN. OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS AND THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.

USE "PUTTY PADS" IF THE AGGREGATE AREA OF THE BOXES EXCEEDS 100 SQ. IN. FOR ANY 100 SQ. FT. OF WALL AREA, OR IF THE HORIZONTAL SPACING BETWEEN BOXES IS LESS THAN THE REQUIRED 24 IN., OR IF ANY BOX EXCEEDS 16 SQ. IN. IN NO CASE SHALL THERE BE OVERLAPPING OF BACKS ANYWHERE.

16 USE 12 AWG OR LARGER CONDUCTORS FOR POWER WIRING UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS OR SCHEDULE. USE 14 AWG STRANDED CONDUCTORS FOR CONTROL WIRING UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS. 17 USE ONLY COPPER CONDUCTORS ON CIRCUITS 600V AND LESS. CONDUCTORS 10 AWG AND

SMALLER SHALL BE SOLID AND 8 AWG AND LARGER AWG SHALL BE STRANDED. PROVIDE TYPE THHN/THWN WIRE INSULATION; XHHW INSULATION MAY BE USED FOR 1 AWG AND LARGER. 18 USE THE FOLLOWING CONDUCTOR COLOR CODES:

	<u>120/240</u>	<u>/ 120Δ/240V</u>	<u>120Y/208V</u>	<u>277Y/480\</u>
PHASE A	BĹACK	BĹACK	BRÓWN	BRÓWN
PHASE B	RED	ORANGE	RED	ORANGE
PHASE C	—	BLUE	YELLOW	YELLOW
NEUTRAL	WHITE	WHITE	WHITE	GRAY
EQUIP. GR	ROUND (	GREEN		

ISOLATED GROUND SHALL BE GREEN WITH YELLOW TRACER.

19 TEST CONDUCTORS FOR CONTINUITY AND FREEDOM FROM SHORTS AND UNINTENTIONAL GROUNDS. 20 KEEP JOB SITE IN AN ORDERLY CONDITION AND AT PROJECT COMPLETION, REMOVE ALL WASTE. 21 IF DIRECTED BY THE ARCHITECT, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE

REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK. 22

ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER. 23 WITH SUBMISSION OF BID, THE ELECTRICAL CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE

ARCHITECT/ENGINEER OF ANY MATERIALS OR APPARATUS BELIEVED INADEQUATE OR UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES; AND ANY NECESSARY ITEMS OR WORK OMITTED. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THE CONTRACTOR HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN HIS PROPOSAL, AND THAT HE WILL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION. 24 DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTAL/CIVIL ENGINEERS PLANS AND

ELEVATIONS FOR EXACT LOCATION OF ALL EQUIPMENT. ALWAYS CONFIRM WITH OWNER'S REPRESENTATIVE IF IN DOUBT. ANY QUALITIES SHOW IN SCHEDULES ARE FOR REFERENCE ONLY AND SHALL NOT BE USED AS AN EXACT TAKE OFF. CONTRACTOR IS RESPONSIBLE FOR ALL ACTUAL QUANTITY COUNTS.

![](_page_28_Figure_41.jpeg)

![](_page_29_Figure_0.jpeg)

ONDUCTOR WITHOUT EGC. NEUTRAL CONDUCTOR CANNOT 66. SEE ELECTRICAL ONE—LINE FOR SIZE.	f BE				
IS SIZED BASED ON NEC TABLE 250.66 USING THE SE HASE CONDUCTOR SIZE.	RVICE OR				
CONDUCTOR SIZED BASED ON NEC TABLE 250.122 USING THE SIZE. IF THE FEEDER SUPPLIES A SEPARATE STRUCTURE THEN DRIVE STRUCTURE AND GROUND TO PANEL, BUT ISOLATE NEUTRAL. CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING M PHASE CONDUCTOR SIZE. ED TO NEUTRAL OF METER INSTEAD OF SE GROUND. MIN SIZE					
Hown shall only be used if present at each if none are part of the structure/building than rode shall be installed. A metal water pipe shal ng electrode system (ges). ig side of the gas meter that is sized based on building using nec table 250.122 with a minimum s	AT L NOT THE SIZE				
MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZE	S				
IS TO BUILDING STRUCTURE AND WATER PIPES AT LOCA LE FOR INSPECTION, MAINTENANCE, AND TESTING. GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRA S USING CONDUCTOR THAT IS SIZED BASED ON NEC TA SE CONDUCTOR SIZE. GROUNDING BUSHING ON EACH METALLIC FEEDER CONDU CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.1	NICE BLE JIT.				
CURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SY	STEM				
PING SYSTEMS. Impression connector with tamper proof hardwar or connections. DD. ED structural metals that are likely to be energy upment enclosure using the largest organic wir	e Gized Shall				
UIPMENT ENCLOSURE USING THE LARGEST GROUND WIR	L.				
	2				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT	PROTECT				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT SURGE PROTECTION DEVICE	PROTECT				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT	PROTECT				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT	PROTECT (SPD) NOR 120-1 0-1				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT SURGE PROTECTION DEVICE O O O MANUFACTURE: LEVITO EQUAL MODEL NUMBERS SURFACE MOUNT: 42 FLUSH MOUNT: 51120	PROTECT (SPD) ON OR 120-1 D-1 TO BE NCE.				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT SURGE PROTECTION DEVICE O O O MANUFACTURE: LEVITO EQUAL MODEL NUMBERS SURFACE MOUNT: 420 FLUSH MOUNT: 51120 LECTRICAL PANEL SERVING THE LOADS AD-LENGTH RESISTANCE AND INDUCTAL E POWER MAINS THROUGH A DISCONNE JIT BREAKERS (INDEPENDENT SINGLE-F MAY BE USED.	PROTECT (SPD) ON OR 120-1 D-1 TO BE NCE. CT AND POLE				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT SURGE PROTECTION DEVICE O O O O O MANUFACTURE: LEVITO EQUAL MODEL NUMBERS SURFACE MOUNT: 51120 LECTRICAL PANEL SERVING THE LOADS AD-LENGTH RESISTANCE AND INDUCTAR E POWER MAINS THROUGH A DISCONNE JIT BREAKERS (INDEPENDENT SINGLE-F MAY BE USED. OWER LINES AND SPD DEVICE SHOULD ITS SHOULD BE BUNDLED TOGETHER A	PROTECT (SPD) ON OR 120-1 D-1 TO BE NCE. CT AND POLE BE AS				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT SURGE PROTECTION DEVICE O O O MANUFACTURE: LEVITO EQUAL MODEL NUMBERS SURFACE MOUNT: 42 FLUSH MOUNT: 51120 LECTRICAL PANEL SERVING THE LOADS AD-LENGTH RESISTANCE AND INDUCTAN E POWER MAINS THROUGH A DISCONNE JIT BREAKERS (INDEPENDENT SINGLE-F WAY BE USED. OWER LINES AND SPD DEVICE SHOULD ITS SHOULD BE BUNDLED TOGETHER A O L1 OR L2 WITHOUT REGARD TO PHAS O CONDUCTOR(S).	PROTECT (SPD) (SPD) NOR 120-1 D-1 TO BE NCE. CT AND POLE BE AS ND SE.				
VOLTAGE WILL CAUSE SPD TO FAIL AND NOT SURGE PROTECTION DEVICE O O O O MANUFACTURE: LEVITO EQUAL MODEL NUMBERS SURFACE MOUNT: 427 FLUSH MOUNT: 51120 LECTRICAL PANEL SERVING THE LOADS AD-LENGTH RESISTANCE AND INDUCTAN POWER MAINS THROUGH A DISCONNE JIT BREAKERS (INDEPENDENT SINGLE-F MAY BE USED. OWER LINES AND SPD DEVICE SHOULD ITS SHOULD BE BUNDLED TOGETHER A L1 OR L2 WITHOUT REGARD TO PHAS CONDUCTOR(S). ASE, 3-WIRE	PROTECT (SPD) ON OR 120-1 D-1 TO BE NCE. CT AND POLE BE AS ND SE.				

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EE TO REMAIN.			/	FLOWAY ACCESS PATH		
HIS AREA TO IN UNDISTURBED		EXISTING TRE NECESSARY D INSURE ITS S LIMITS OF CLEA (TYPICAL)	Z E TO REMAIN. PROT DURING CONSTRUCTIO SURVIVAL. TH REMAI RING	LIMITS OF CLEARING ECT AS DN TO HIS AREA TO N UNDISTURBED	OPEN SAND PATH	
	22 22	OPEN S/	AND PATH	21	22 22	
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		22 				
		16 FILTER_MA	RSH #1	<u>16</u>		
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TTRAIL			* *	* * * *		
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— THESE AREAS NOT INCLUDED IN PLANTING ZONE AREAS CALCULATED FOR THIS SHEET

![](_page_31_Picture_3.jpeg)

 —23—	

EXISTING CONTOUR FINISH CONTOUR LIMITS OF CLEARING DESIGN WATER LEVEL

## PLANTING ZONES ON THIS SHEET

₹ ₹	UPLAND ZONE 1 WITH COCONUT MAT EROSION PROTECTION Spartina patens (SALTMEADOW CORDGRASS): PLANTING AREA = 10,804 SQUARE FEET; 4" CONTAINERS, PLANT IN ROWS @ 2' O.C., SPACE ROWS 12" APART. UPLAND ZONE 2A TOTAL AREA = 3,595 SQUARE FEET Eragrostis elliottii (ELLIOT LOVEGRASS): PLANTING AREA = 719 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Spartina patens (SALTMEADOW CORDGRASS): PLANTING AREA = 719 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Muhlenbergia capillaris (MUHLY GRASS): PLANTING AREA = 719 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Spartina bakeri (SAND CORDGRASS): PLANTING AREA = 719 S.F.; 1 GALLON
	CONTAINERS @ 3' O.C. Gaillardia (BLANKET FLOWER): PLANTING AREA = 719 S.F; 1 GALLON CONTAINERS @ 3' O.C.
	<u>UPLAND ZONE 2</u> TOTAL AREA = 12,110 SQUARE FEET SEE SHEET L7 FOR PLANTINGS
-	UPLAND ZONE 2 WITH COCONUT MAT EROSION PROTECTION TOTAL AREA = 41,040 SQUARE FEET SEE SHEET L7 FOR PLANTINGS
	EMERGENT PLANT ZONE TOTAL AREA = 8,232 SQUARE FEET SEE SHEET L7 FOR PLANTINGS
	<u>SUBMERGED PLANT ZONE</u> Vallisneria americana (EEL GRASS): PLANTING AREA = 121 SQUARE FEET; BARE ROOT — CLUSTER OF 100
	<u>UPLAND ZONE 3</u> Eragrostis elliottii (ELLIOT LOVEGRASS): PLANTING AREA = 580 SQUARE FEET; 1 GALLON CONTAINERS @ 3' O.C.

![](_page_31_Picture_8.jpeg)

## LANDSCAPING: TREATMENT UNIT AREA

PROJE	CT NO.	
DATE	6/28/2017	-

SCALE 1"=30'

![](_page_32_Figure_0.jpeg)

![](_page_33_Figure_0.jpeg)

	LANDSCAPING: REMAINDER	PROJECT NO.
W. KEITH McCULLY, P.E. FLORIDA P.F. NO. 32007	OF FLOWAY "A2" AND ALL OF	DATE 6/28/2017 SCALE 1"=30'
DATE:		SHEET

![](_page_34_Picture_0.jpeg)

		INDIAN RIVER COUNTY STORMWATER DIVISION 1801 27TH STREET VERO BEACH, FLORIDA 32960 (772) 226–1562	OSPREY ACRES FLOWAY AND NATURE PRESERVE
D BY	CHECKED BY	Designed by KM drawn by KM checked by EAS approved by KM	

NO CLEARING OR DISTURBANCE OF EXISTING VEGETATION THIS SIDE. NO DEWATERING WATER TO BE DISCHARC ONTO THIS SIDE. EXISTING VEGETATION TO	NO CLEARING OR DISTURB EXISTING VEGETATION THIS DEWATERING WATER TO BE ONTO THIS SIDE.
_EXISTING_GRADE_/	
SLOPE TO EXISTING GRADE $-$ (TYPICAL)	
	(TYPICAL SECTION UNLESS OTHERWISE INDICATED BY CONTOUR LINES IN PLAN VIEW)

А

L6 L6

![](_page_35_Picture_1.jpeg)

ADDENDUM NO. 7 WKM 1/ EVISED BY REVISION

![](_page_35_Figure_4.jpeg)

23	FINISH CONTOUR
	LIMITS OF CLEARING
	DESIGN WATER LEVEL

## PLANTING ZONES ON THIS SHEET

UPLAND ZONE 1 WITH COCONUT MAT EROSION PROTECTION TOTAL AREA = 1,386 SQUARE FEET Spartina patens (SALTMEADOW CORDGRASS): 4" CONTAINERS @ 3' O.C.

UPLAND ZONE 2 TOTAL AREA = 1,837 SQUARE FEET Eragrostis elliottii (ELLIOT LOVEGRASS): PLANTING AREA 924 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Spartina patens (SALTMEADOW CORDGRASS): PLANTING AREA = 924 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Muhlenbergia capillaris (MUHLY GRASS): PLANTING AREA = 924 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Spartina bakeri (SAND CORDGRASS): PLANTING AREA = 924 S.F.; 1 GALLON CONTAINERS @ 3' O.C. Gaillardia (BLANKET FLOWER): PLANTING AREA = 924 S.F.; 1 GALLON CONTAINERS @ 3' O.C.

UPLAND ZONE 2 WITH COCONUT MAT EROSION PROTECTION (ALONG BOTH SIDES OF ENTRANCE DRIVE) TOTAL PLANTING AREA = 3,320 SQUARE FEET Spartina patens (SALTMEADOW CORDGRASS): 4" CONTAINERS @ 2' O.C.

	LANDSCAPING:
W. KEITH McCULLY, P.E. FLORIDA P.E. NO. 32007 DATE:	ENTRANCE ROAD

PROJECT NO.		
DATE	6/28/2017	
SCALE	AS NOTED	
SHEET	L6	

![](_page_36_Figure_0.jpeg)

![](_page_37_Figure_0.jpeg)

INDIAN RIVER COUNTY STORMWATER DIVISION 1801 27TH STREET	OSPRE
VERO BEACH, FLORIDA 32960 (772) 226–1562	AND N
DESIGNED BY KM DRAWN BY KM CHECKED BY IDG APPROVED BY KM	

![](_page_38_Figure_0.jpeg)

RIVER	Department of Public Works	APPROVED BY: D. SILON	SECTION 24	DATE: 6-23-2016
	Department of Fublic Works	DRAWN BY: D. SILON	TOWNSHIP         3.3         5.           RANGE         3.9         E.	COUNTY PROJECT NO.
ALORIDA	Engineering Division	FIELD BOOKSNO.BLANCHARD139	PAGES 44–47 & 64–69	1601

#### SURVEYOR'S NOTES:

28, 2016.

ASPH = ASPHALT

CALC = CALCULATED

CONC = CONCRETE

COR = CORNER

D.B. = DEED BOOK

DWY = DRIVEWAY

ESMT = EASEMENT

FND = FOUND

I.P. = IRON PIPE

I.R. = IRON ROD

MAG = MAGNETIC

O/S = OFFSET

P.B. = PLAT BOOK

APPRAISER

N&D = NAIL AND DISK N/V = NOT VERIFIED

C.C.R. = CERTIFIED CORNER RECORD

C.M. = CONCRETE MONUMENT

(F) = FIELD MEASURED COURSE

I.R.C. = INDIAN RIVER COUNTY

I.R.&C. = IRON ROD AND CAP

I.R.F.C.S. = INDIAN RIVER FARMS

COMPANY'S SUBDIVISION

I.R.F.W.C.D. = INDIAN RIVER FARMS

L.L.C. = LIMITED LIABILITY COMPANY

O.R.B. = OFFICIAL RECORDS BOOK

(P) = PLATTED COURSE AND/OR DISTANCE

INDIAN RIVER COUNTY PROPERTY

P.B.S. = St. LUCIE COUNTY PLAT BOOK

P.I.D. = PARCEL IDENTIFICATION PER

WATER CONTROL DISTRICT

AND/OR DISTANCE

1. THE BEARINGS SHOWN HEREON ARE BASED 1983 NORTH AMERICAN DATUM, 2011 ADJUSTMENT, AND PROJECTED IN THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE... THIS SURVEY WAS TIED TO THE FLORIDA PERMANENT REFERENCE NETWORK, DERIVING A GRID BEARING OF N00°15'22"E ALONG THE WEST LINE OF THE SOUTHWEST QUARTER, OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 33 SOUTH, RANGE 39 EAST.

2. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF THE OSLO ROAD PHASE 1, RIGHT OF WAY MAP AS RECORDED IN PLAT BOOK 22, PAGE 24, THE PLAT OF OSLO PARK AS RECORDED IN PLAT BOOK 3, PAGE 96, THE PLAT OF SERENOA PHASE 1 AS RECORDED IN PLAT BOOK 21, PAGE 18 AND THE WARRANTY DEED FOR THIS PARCEL AS RECORDED IN OFFICIAL RECORDS BOOK 2663, PAGE 838, ALL OF THE PUBLIC RECORDS OF INDIAN RIVER COUNTY, FLORIDA.

3. ONLY ABOVE GROUND APPURTENANCES (ENCROACHMENTS) WITHIN 5 FEET OF THE BOUNDARY LINES HAVE BEEN LOCATED. UNDERGROUND IMPROVEMENTS SUCH AS UTILITIES AND FOUNDATIONS WERE NOT LOCATED. THE SUBJECT PROPERTY IS HEAVILY WOODED.

4. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE POLICY. THEREFORE THERE MAY BE EASEMENTS, RESTRICTIONS AND RESERVATIONS NOT SHOWN HEREON, BUT FOUND IN THE PUBLIC RECORDS.

5. THE SUBJECT PROPERTY LIES IN UNSHADED FLOOD ZONE 'X' AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP; PANEL 357 AND 359 OF 390, MAP No. 12061C0357 H AND 12061C0359 H, EFFECTIVE DATE: DECEMBER 4, 2012.

6. THIS SURVEYOR HAS NOT DETERMINED WHETHER OR NOT WETLANDS EXIST ON THIS PROPERTY.

7. SYMBOLS SHOWN HEREON DEPICT THE HORIZONTAL POSITION OF THAT SPECIFIC IMPROVEMENT. THE SYMBOLS (FOR GRAPHICAL PURPOSE) ARE NOT DRAWN TO SCALE. 8. THE FIELD WORK FOR THIS SURVEY WAS COMPLETED BY INDIAN RIVER COUNTY PERSONNEL ON THE DATE OF MARCH

9. ALL MAPPED FEATURES SHOWN HEREON WERE LOCATED AND PREPARED UNDER THE DIRECTION OF THE LICENSED SURVEYOR NAMED HEREON AND MEETS AND/OR EXCEEDS THE ACCURACY REQUIREMENTS PER CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE. THE ACCURACY OF ALL MONUMENTS SHOWN HEREON, WHETHER FOUND OR SET, WERE VERIFIED BY REDUNDANT MEASUREMENTS.

10. THE MEASUREMENTS FOR THIS SURVEY WERE MADE UTILIZING CONVENTIONAL AND REAL TIME KINEMATIC SURVEYING METHODS WITH THE FOLLOWING EQUIPMENT: LEICA VIVA GLOBAL POSITIONING SYSTEM, A LEICA TCR 1203 TOTAL STATION AND A SPECTRA PRECISION NOMAD DATA COLLECTOR. 11. ALL DISTANCES SHOWN HEREON ARE EXPRESSED IN U.S. SURVEY FEET.

12. SHEET 1 OF THIS MAP IS INTENDED TO BE DISPLAYED AT A SCALE OF 1"=200' OR SMALLER. THE SCALE VARIES FOR THE DETAILS SHOWN ON SHEET 2.

P.K. = PARKER KAYLON

MAPPER

PVT = PAVEMENT

R/W = RIGHT OF WAY

SWK = SIDEWALK

W/ = WITH

P.O.B. = POINT OF BEGINNING

P.O.C. = POINT OF COMMENCEMENT

SEC = SECTION-TOWNSHIP-RANGE

T.I.I.F. = TRUSTEES OF THE INTERNAL

INDICATES JOINT OWNERSHIP

23 24= QUARTER SECTION CORNER

IMPROVEMENT FUND

23 + 24 = SECTION CORNER26 25

P.S.M. = PROFESSIONAL SURVEYOR AND

13. THE SUBJECT PROPERTY CONTAINS 83.70 ACRES, MORE OR LESS.

#### SYMBOLS AND ABBREVIATIONS:

Y	POLE		

![](_page_38_Picture_19.jpeg)

Surveyor and Mapper in responsible charge

DAVID M. SILON, P.S.M. No. 6139 INDIAN RIVER ASSISTANT COUNTY SURVEYOR

1	NDIAN RIVER COU	UNTY	
UTILITIES	DEPARTMENT -	GHO	PARCEL
	BOUNDARY SUR	VEY	

![](_page_38_Picture_23.jpeg)

![](_page_39_Figure_0.jpeg)

![](_page_40_Picture_0.jpeg)

	AB	BREVIA	TIONS AND SYMBOLS		
A/C	AIR CONDITIONING PAD	S	SANITARY MANHOLE	<del></del>	STREET SIGN
ዊ BM (C)	BASELINE BENCHMARK CALCULATED	$\bigcirc$	DRAINAGE MANHOLE	¢	YARD LIGHT
CH. CHB.	CHORD CHORD BEARING	$\bigcirc$	WELL		MAIL OR PAPER BOX
е СМ	CENTERLINE 4"X4" CONCRETE MONUMENT	ЭС,	HYDRANT	•	COMMUNICATIONS BOX
CMP	CORRUGATED METAL PIPE	wv M	WATER VALVE	$\Diamond$	CABLE TV BOX
(D)	DEED	6	WATER METER	C)	POWER POLE
D.E.	DELTA DRAINAGE EASEMENT	500		<b></b>	ELECTRIC BOX
ELEV.	ELEVATION	0		<u> </u>	UNDERGROUND UTILITIES SIGN
F.A.C.	FLORIDA ADMINISTRATIVE CODE		CATCH BASIN	(m)	MONITORING WELL
FDOT F.F.	FLORIDA DEPARTMENT OF TRANSPORTATION	RUV	CURB INLET	sv	
FND.	FOUND	$\bowtie$	REUSE WATER VALVE		SANITARY VALVE
F.D.E.P.	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION		IRRIGATION VALVE	$\bigcirc$	TELEPHONE MANHOLE
F.O. CR	FIBER OPTIC GRADE	$\bigotimes$	YARD DRAIN	$\otimes$	POST WOOD OR STEEL
ID INV	IDENTIFICATION	$\implies$	PROPOSED DRAINAGE	$\square$	CONCRETE POWER POLE
IRC IP	1/1/2" IRON ROD AND CAP 1/2" IRON PIPE		FIRE DEPARTMENT CONNECTION	E	TRANSFORMER PAD
IR I	%" IRON ROD	≈ ₩ <b>r</b>	REUSE WATER METER	=Ø=	BACK FLOW PREVENTER
(M)	MEASURED	Ň	BLOW-OFF	$\ominus$	SPRINKLER HEAD
MES V&D OR N.D. NGS	MITERED END SECTION NAIL & DISK NATIONAL GEODETIC SURVEY	Ρ	PULL BOX		BENCHMARK
NO. O.R.B.	NUMBER OFFICIAL RECORD BOOK	GV	GAS VALVE	(	GUY WIRE
P.C.P. (P)	PERMANENT CONTROL POINT	<u>STOP</u>	STOP SIGN	-0-	STREET LIGHT
CR D	COUNTY ROAD	INFO	TRAFFIC SIGN	$\sim$	STOP LIGHT
Р/Е Р.L.S. Р.В.	PROFESSIONAL LICENSED SURVEYOR PLAT BOOK		TELEPHONE PAD	Ē	ELECTRIC MANHOLE
P.I. P.R.D.	POINT OF INTERSECTION PLANNED RESIDENTIAL DEVELOPMENT	SEPT.	SEPTIC TANK	<u>َنْ</u>	DRAIN CLEAN OUT
P.R.M. P.S.M.	PERMANENT REFERENCE MONUMENT PROFESSIONAL SURVEYOR & MAPPER			WI	WATERLINE
P.U.D.E. R	PUBLIC UTILITY AND DRAINAGE EASEMENT RADIUS	E BORNER BER	ΟΑΚ	ow	OVERHEAD WIRES
RGE. R.L.S.	RANGE REGISTERED LAND SURVEYOR BEINGROED CONCRETE DIRE		PINE		CHAIN LINK FENCE
R/W	RIGHT OF WAY		PALM	D	WOOD FENCE
SEC	A.K.A. A.T.T. SECTION				TREE LINE
STA.	STATION	62	3000		HEDGE
S.P.C. OFF.	STATE PLANE COORDINATE OFFSET		MAPLE		
TWP. U.E.	TOWNSHIP UTILITY EASEMENT	裕	CITRUS		
CBS OE N.G.V.D.	CONCRETE BLOCK STUCCO OVERHEAD ELECTRIC NATIONAL GEODETIC VERTICAL DATUM		CYPRUS		
N.A.V.D.	NORTH AMERICAN VERTICAL DATUM				

MISC. TREE

CR VLE

LEFT

RIGH1

COUNTY ROAD VERO LAKE ESTATES

## KLER HEAD

BENCHMARK
GUY WIRE
STREET LIGHT
STOP LIGHT
ELECTRIC MANHOLE
DRAIN CLEAN OUT
TRAFFIC SIGNAL BOX
WATERLINE
OVERHEAD WIRES
CHAIN LINK FENCE
WOOD FENCE
TREE LINE
HEDGE

Map of Survey Performed For Indian River County Board of County Commissioners **Osprey Acres Stormwater Park** Indian River County Project #1611

![](_page_40_Picture_6.jpeg)

![](_page_40_Figure_7.jpeg)

#### REPORT OF SURVEY

• TYPE OF SURVEY: TOPOGRAPHIC.

- MASTELLER, MOLER & TAYLOR INC. CERTIFICATE OF AUTHORIZATION L.B. 4644 1655 27TH STREET, SUITE 2, VERO BEACH, FLORIDA 32960 PHONE (772) 564-8050 FAX (772) 794-0647
- THIS SURVEY AND REPORT IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO THE SURVEY MAP AND/OR REPORT OF SURVEY BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
- HORIZONTAL CONTROL ACCURACY: THE EXPECTED USE OF THE SURVEY MAP AND REPORT FOR THE LAND AS CLASSIFIED IN THE STANDARDS OF PRACTICE FOR SURVEYING (5J-17, FLORIDA ADMINISTRATIVE CODE) IS SUBURBAN. THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS TYPE OF BOUNDARY CONTROL SURVEY IS 1 FOOT IN 7500 FEET. THE ACCURACY OBTAINED BY MEASUREMENT AND CALCULATION OF A CLOSED GEOMETRIC FIGURE OR REDUNDANCY OF MEASUREMENT WAS FOUND TO MEET OR EXCEED THIS REQUIREMENT.
- HORIZONTAL FEATURE ACCURACY: TOPOGRAPHIC LAND FEATURES (SIGNS, INLETS, VALVES, MAILBOXES, POWER POLES, DRIVEWAYS, CULVERTS AND SIMILAR FEATURES) HAVE A HORIZONTAL FEATURE ACCURACY OF PLUS OR MINUS 0.25 FEET.
- VERTICAL CONTROL ACCURACY: VERTICAL CONTROL AS ESTABLISHED FOR THIS PROJECT SITE IS ACCURATE TO PLUS OR MINUS 0.05 FEET TIMES THE SQUARE ROOT OF THE DISTANCE IN MILES.
- ELEVATIONS OF WELL-IDENTIFIED FEATURES CONTAINED IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED VERTICAL POSITION ACCURACY OF PLUS OR MINUS 0.10 FEET.
- DATA ACQUISITION WAS COMPLETED ON THE FOLLOWING DATE: 6-23-16
- THE BEARING BASE SHOWN HEREON ARE BASED ON 1983 NORTH AMERICAN DATUM. 2011 ADJUSTMENT AND PROJECTED IN THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE. THIS SURVEY WAS TIED TO THE FLORIDA PERMANENT REFERENCE NETWORK, DERIVING A GRID BEARING OF N 00'15'22" E ALONG THE WEST LINE OF THE SOUTHWEST QUARTER, OF THE SOUTHWEST QUARTER OF SECTION 24. TOWNSHIP 33 SOUTH, RANGE 39 EAST.
- NO INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY AND/OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR EXCEPT AS SHOWN. NO TITLE OPINION IS EXPRESSED OR IMPLIED.
- THIS SURVEY DOES NOT CERTIFY TO THE EXISTENCE OR LOCATION OF ANY FOUNDATIONS, UTILITIES UNDERGROUND ENCROACHMENTS OR IMPROVEMENTS EXCEPT AS SHOWN.
- ALL MEASUREMENTS ARE IN FEET AND DECIMAL PARTS THEREOF AND ARE IN ACCORDANCE WITH THE STANDARDS OF THE UNITED STATES.
- THE HORIZONTAL VALUES SHOWN HEREON REFER TO THE STATE PLANE COORDINATE SYSTEM, FLORIDA EAST ZONE, NAD 83 (NGS ADJUSTMENT OF 2011).
- THIS MAP IS INTENDED TO BE DISPLAYED AT A SCALE AS SHOWN ON THE INDIVIDUAL SHEETS OR SMALLER.
- THIS SURVEY CONSISTS OF TWO (2) SHEETS AS IS NOT VALID WITHOUT ALL SHEETS ATTACHED.
- THE BOUNDARY AND ADJACENT PROPERTY INFORMATION SHOWN HEREON IS BASED UPON INDIAN RIVER COUNTY BOUNDARY SURVEY DATED 03-29-2016, PROJECT #1601 AS PROVIDED.

SHEET INDEX **COVER SHEET** TOPOGRAPHIC SURVEY

#### **BENCHMARK NOTE:**

SHEET 1

SHEET 2

THE ELEVATIONS AS SHOWN ON THIS SURVEY ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. THE ESTABLISHED BENCHMARK FOR THIS SURVEY IS A SERIES OF RECOVERED INDIAN RIVER COUNTY BENCHMARKS AS FOLLOWS: *IRC BM290008 ELEVATION=21.26' IRC BM472012 ELEVATION=21.49'* IRC BM290005 ELEVATION=21.46' SITE BENCHMARKS AS SHOWN

#### **REFERENCE MATERIALS**

INDIAN RIVER COUNTY BOUNDARY SURVEY PROJECT #1601 INDIAN RIVER COUNTY BENCHRUN-490 INDIAN RIVER COUNTY BENCHRUN-491 PRIOR SURVEY BY THIS FIRM DATED 05-06-2006, PROJECT #5971

![](_page_40_Figure_30.jpeg)

![](_page_41_Figure_0.jpeg)

![](_page_42_Figure_0.jpeg)

#### LOCATION MAP 1" INCH = 3,000 FEET

SURVEY NOTES:

- 1. GRID COORDINATES SHOWN ARE IN FEET, AND ARE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983, ADJUSTMENT OF 2011 (NAD 83).
- 2. GRID COORDINATES ARE BASED ON MONUMENTS AS SHOWN IN THE CONTROL TABLE.
- 3. ELEVATIONS SHOWN ARE IN FEET AND ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- 4. ELEVATIONS ARE BASED ON MONUMENTS AS SHOWN IN THE CONTROL TABLE.
- 5. TOPOGRAPHIC INFORMATION DEPICTED ON THIS SURVEY REPRESENTS THE EXISTING CONDITIONS ON THE DATE OF THE FIELD SURVEY.
- 6. AERIAL IMAGERY WAS TAKEN 2015 BY THE FLORIDA DEPARTMENT OF TRANSPORTATION.
- 7. AERIAL IMAGERY IS DISPLAYED HEREON FOR INFORMATION PURPOSES ONLY, NO PHOTOGRAPHIC ACCURACY IS IMPLIED BY THIS MAP.
- 8. NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- 9. UNDERGROUND UTILITIES AND IMPROVEMENTS NOT LOCATED.

# TOPOGRAPHIC SURVEY OSPREY MARSH ALGAL TURF SCRUBBER POND INDIAN RIVER COUNTY, FLORIDA

## -FOR-INDIAN RIVER COUNTY

PREPARED BY:

![](_page_42_Picture_17.jpeg)

CONTROL TABULATION

	NAD 83/11	SPCS 0901	NAVD 88			
PDINT	NDRTHING	EASTING	ELEVATION	AGENCY	DESCRIPTION	STAMPING
147	1187350, 88	848555, 14	22, 52	I. R. C.	CONCRETE MONUMENT	GPS 47
148	1184598, 35	848609, 10	23, 65	I. R. C.	CONCRETE MONUMENT	GPS 48
101	1185615.41	848521, 21	22, 31	N. G. S.	DEEP ROD MONUMENT	E 647 2006
201	1185632, 89	850703, 63	22, 46	M&E	5/8" REBAR & CAP	LB 4298
202	1185669, 90	851111,05	23, 39	M&E	5/8" REBAR & CAP	LB 4298

![](_page_42_Figure_20.jpeg)

SHEET INDEX		
SHEET NO.	DESCRIPTION	
1	COVER SHEET	
2	2 ELEVATION DATA	
3	PROFILE	
4-6	CROSS SECTIONS	

FIELD BOOKS: BOOK 176, PAGES 47-48 INDIAN RIVER 259, PAGES 53-55

SHEET 1 OF 6

![](_page_43_Picture_0.jpeg)

![](_page_43_Picture_3.jpeg)

![](_page_44_Figure_0.jpeg)

![](_page_44_Figure_1.jpeg)

![](_page_44_Picture_3.jpeg)

![](_page_45_Figure_0.jpeg)

![](_page_45_Figure_1.jpeg)

![](_page_45_Figure_3.jpeg)

![](_page_45_Picture_4.jpeg)

![](_page_46_Figure_0.jpeg)

![](_page_46_Figure_1.jpeg)

![](_page_46_Picture_3.jpeg)

![](_page_47_Figure_0.jpeg)

![](_page_47_Figure_1.jpeg)

kproi\5315-32\dwg\5315-32.dwg lou Wed, 30 Nov 2016 - 2:30pm

![](_page_47_Figure_3.jpeg)

![](_page_47_Picture_4.jpeg)

			12 YZ		
			4		
			2		
	0	50	0		
		CROSS SECTION	NS (NAVD 88)		
Y CERTIFY THAT THE INFORMATION ITH A RECENT FIELD SURVEY T IT IS TRUE AND CORRECT TO LIEF, AND MEETS THE STANDARDS	TOPOGRAPHIC SURVEY OSPREY MARSH ALGAL TURE SCRUBBER POND				сомміззіон но. 5315.32
FLORIDA BOARD OF PROFESSIONAL FLORIDA ADMINISTRATIVE CODE, IDA STATUTES.	VERO BEACH, FLORIDA				<i>scale</i> 1" = 20'
INDIAN RIVER COUNTY DATE 11/29/16					
S RVEYOR #3520			FIELD BOOK SEE	DATE OF SURVEY	<i>ѕнеет</i> 6 <i>о</i> ғ 6
			PAGE NO. COVER	1713/10	