PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

BOARD OF COUNTY COMMISSIONERS

MAYOR: TERESA JACOBS DISTRICT 1: COMMISSIONER BETSY VANDERLEY DISTRICT 2: COMMISSIONER BRYAN NELSON DISTRICT 3: COMMISSIONER PETE CLARKE DISTRICT 4: COMMISSIONER JENNIFER THOMPSON DISTRICT 5: COMMISSIONER EMILY BONILLA DISTRICT 6: COMMISSIONER VICTORIA P. SIPLIN

> ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA. DIMENSION INFORMATION SHOULD NOT BE OBTAINED BY SCALING THE PLANS.

Wednesday, May 24, 2017 F:\CIVIL\PROJECTS\2014\2014-28 Ocu Cont Eng Services\14-28.02 Pkg 10 Pump Stations\5.0 Drawings\2014-28-02 Package 10 PS G-01.dwg

PS 3116 MARTIN Co PS 3117 MILLAY DR PS 3216 PADGETT CIR

JUNE 2017



PREPARED BY:



ORANGE COUNTY ADMINISTRATOR AJIT LALCHANDANI, P.E.

DIRECTOR ORANGE COUNTY UTILITIES DEPARTMENT RAYMOND E HANSON, P.E.

ENGINEER OF RECORD GEOFFREY J. HENNESSY, P.E

FLORIDA REGISTRATION No. 58637 **OCU FILE No :** 77465

CIP FUNDING CODE : 1503-89 (PS 3116) 1502-45 (PS 3117) 1503-92 (PS 3216)

LEGEND

		RIGHT OF WAY LINE	
	/_/_/_/	LIMITED ACCESS RIGHT OF WA	Y LINE
· · ·		EASEMENT LINE	
	- x >	EXISTING FENCE	
— — —BTV— -	BTV	-BTV EXISTING CABLE TV	
— — —BFO— -	– – – –BFO– – –	-BFO EXISTING FIBER OPTIC CABLE	
— — — BE — -	BE	-BE EXISTING BURIED ELECTRIC	
— — — FM— -	FM	-FM EXISTING OVER FORCE MAIN	
G	G	- c EXISTING GAS	
— — – IRR	– – – – IRR – – –	- IRR EXISTING IRRIGATION	
0E	OE	-OE EXISTING OVER HEAD UTILITY	
— — -RWM	RWM	-RWM EXISTING RECLAIMED WATER	MAIN
S	S	- s EXISTING SANITARY SEWER	
— — — BT — -	BT	-BT EXISTING TELEPHONE	
— — — W — -	w	- w EXISTING WATER MAIN	



REMOVE AND REPLACE EXISTING CONCRETE SURFACE

REMOVE AND REPLACE EXISTING ASPHALT SURFACE

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EXISTING PIPE TO BE REMOVED EXISTING PIPE TO BE RETIRED MAG TREE - MAGNOLIA TAPPING SLEEVE AND VALVE MAP TREE - MAPLE TEE MYR TREE - CRAPE MYRTLE LINE STOP ASSEMBLY QAR) TREE - OAK REDUCER 🐵 🛛 TREE - OAK VALVE (TYP) SLEEVE O POWER POLE HDPE / DI ADAPTER f MAIL BOX (TYP) CAP 60.0 DESIGN ELEVATION AIR RELEASE VALVE ASSEMBLY

FIRE HYDRANT ASSEMBLY

REVISIONS BY DATE No. LINE IS 2 INCHES AT FULL SIZE (IF NOT SCALE ACCORDINGLY) BID SET GJH 5/24/2017 SCALE: AS NOTED



ABBREVIATIONS

AC	ASBESTOS CEMENT, AIR CONDITIONER
ADPT	ADAPTER
ALT	ALTERNATE
APPROX	APPROXIMATELY
ARV	AIR RELEASE VALVE ASSEMBLY
ASPH	ASPHALT
ASSEM	ASSEMBLY
B	BEND
BFO	BURIED FIBER OPTIC
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BLDG	BASE LINE BUILDING
BM	BENCHMARK
BO	BLOW OFF
BOT	BOTTOM
BKKI	
CB	CATCH BASIN
C/C	CENTER LINE TO CENTER LINE
CFS	CUBIC FEET PER SECOND
C&G	CURB AND GUTTER
CIP	CUT IN SLEEVE
CL	CENTER LINE
CLF	CHAIN LINK FENCE
CM	CONCRETE MONUMENT
	CURRUGATED METAL PIPE
CONC	CONCRETE
CONN	CONNECT
CONST	
CORP	CORPORATION
CPLG	COUPLING
CULV	CULVERT
CV	
	DITCH BOTTOM INVERT
DBL	DOUBLE
DEFL	DEFLECTION
	DESIGN HIGH WATER
DIA	DIMENSION
DIP	DUCTILE IRON PIPE
DWLS	DOWELS
	DRAWING
ELEC	ELECTRIC
EA	EACH
EFF	
ELEV	ELEVATION EMBED OR EMBEDDED
E∖P	EDGE OF PAVEMENT
ESMT	EASEMENT
EW	EACH WAY
EXIST	EXISTING EXPANSION JOINT
FD	FLOOR DRAIN
FDEP	FLORIDA DEPT OF ENVIRON PROTECTION
FDOI FA	FLORIDA DEPT OF TRANSPORTATION
17	FLANGED ADAPTER
FF	FLANGED ADAPTER FINISH FLOOR
FF FCA	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER
FF FCA FHA	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY
FF FCA FHA FIG FLG	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE
FF FCA FHA FIG FLG FL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE
FF FCA FHA FIG FLG FL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN
FF FCA FHA FIG FLG FL FM FT	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING
FF FCA FHA FIG FLG FL FM FT FTG GA	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE
FF FCA FHA FIG FLG FL FM FT FTG GA GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED CENERATOR
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV GEN GRD	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV GEN GRD GSP	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GROUND GALVANIZED STEEL PIPE
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV GEN GRD GSP GM	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV GEN GRD GSP GM GPM GV	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE CATE VALVE
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GALV GEN GRD GSP GM GV HB	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV GEN GRD GSP GM GV HB HDWL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GEN GRD GSP GM GPM GV HB HDWL HFCA	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GALV GEN GALV GEN GRD GSP GM GV HB HDWL HFCA HT	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GALV GEN GRD GSP GW GV HB HDWL HFCA HT HP	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATFR LEVEL
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GALV GEN GRD GSP GM GV HB HDWL HFCA HT HP HORIZ HWL IE ID IN INV IP	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GALV GEN GRD GSP GM GV HB HDWL HFCA HT HP HORIZ HWL IE ID IN INV IP IR JB	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX
FF FCA FHA FIG FLG FL FM FT FTG GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX JUNCTION BOX JUNCTION BOX
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GALV GEN GV HB HDWL HFCA HT HP HORIZ HWL ID IN INV IP IR JUNC LAT LF	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX JUNCTION BOX JUNCTION BOX JUNCTION BOX
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GAL GALV GEN GV HB HDWL HFCA HT HP HORIZ HWL IE ID IN INV IP IR JUNC LAT LF LS	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX JUNCTION BOX JUNCTION BOX
FF FCA FHA FIG FLG FL FM FT GA GAL GAL GAL GAL GAL GAL GAL GAL GAL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX JUNCTION LATERAL LINEAR FEET LIFT STATION LEFT
FF FCA FHA FIG FLG FL FM FT FTG GA GALV GEN GAL GALV GEN GV HB HDWL HFCA HT HP HORIZ HWL IE ID IN INV IP IR JUNC LAT LF LS LT LWL MAX	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX JUNCTION BOX JUNCTION LATERAL LINEAR FEET LIFT STATION LEFT LOW WATER LEVEL MAXIMUM
FF FCA FHA FIG FLG FL FM FT FTG GA GAL V GEN GAL GAL V GEN GV HDWL HFCA HT HORIZ HWL IE ID IN INV IP IR JUNC LAT LF LS LT LWL MAX MATL	FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALUON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HORSE POWER HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE IRON ROD JUNCTION BOX JUNCTION LATERAL LINEAR FEET LIFT STATION LEFT LOW WATER LEVEL MAXIMUM MATERIAL

MATCH EXISTING GRADE MEG MES MITERED END SECTION MFR MANUFACTURER MGD MILLION GALLONS PER DAY MH MANHOLE MIN MINIMUM MJ MECHANICAL JOINT MOD MODIFIED MOT MAINTENANCE OF TRAFFIC MTD MOUNTED MTG MOUNTING NG NATURAL GROUND NIC NOT IN CONTRACT NO NUMBER NOM NOMINAL NPT NATIONAL PIPE THREAD NPW NON-POTABLE WATER NTS NOT TO SCALE ORANGE COUNTY UTILITIES OCU OD OUTSIDE DIAMETER OHU OVERHEAD UTILITY O∖E OR EQUAL 0\0 OUTSIDE TO OUTSIDE OPER OPERATOR OPNG OPENING OUC ORLANDO UTILITIES COMMISSION PAVT PAVEMENT ΡB PULL BOX ΡE PLAIN END PG PAGE POINT OF INTERSECTION ΡI PH PHASE ΡL PROPERTY LINE PLS PROFESSIONAL LAND SURVEYOR POLY POLYETHYLENE PP POWER POLE PROP PROPOSED PS PUMP STATION PSI POUNDS PER SQUARE INCH PSM PROFESSIONAL SURVEYOR & MAPPER PUE PERMANENT UTILITY EASEMENT ΡV PLUG VALVE PVC POLYVINYL CHLORIDE PIPE QUANTITY QTY RAD PT RADIUS POINT R RADIUS RESTRAINED JOINT RJ R∖R RAIL ROAD RCP REINFORCED CONCRETE PIPE RED REDUCER REINF REINFORCED REQ REQUIRED RESTR RESTRAINED RPZ REDUCED PRESSURE ZONE RT RIGHT RW RECLAIMED WATER R∖W RIGHT OF WAY SANITARY SEWER SAN SB SOIL BORING SCH SCHEDULE SD STORM DRAIN SECT SECTION SF SQUARE FEET SHT SHEET SLV SLEEVE SPECS SPECIFICATIONS SQ SQUARE SS STAINLESS STEEL STA STATION STD STANDARD STL STEEL SY SQUARE YARDS SYS SYSTEM T&B TOP AND BOTTOM ТВМ TEMPORARY BENCHMARK TCE TEMPORARY CONSTRUCTION EASEMENT TEL TELEPHONE TEMP TEMPORARY THD THREADED THK THICK TOB TOP OF BANK тос TOP OF CONCRETE TOP OF SLAB TOS TOW TOP OF WALL TS&V TAPPING SLEEVE AND VALVE ΤΥΡ TYPICAL UG UNDERGROUND UKN UNKNOWN VAC VOLTAGE ALTERNATING CURRENT VCP VITRIFIED CLAY PIPE VDC VOLTAGE DIRECT CURRENT VERT VERTICAL VVH VERIFIED VERTICALLY & HORIZONTALLY w/ WITH w/o WITH OUT WATER LEVEL WL WATER MAIN WM W∖M WATER METER WP WALL PIPE WRF WATER RECLAMATION FACILITY WS WATER SERVICE WS WATER SURFACE WWF WELDED WIRE FABRIC



ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825



PUMP STATION R/R PACKAGI

LEGEND ABBREVIATIONS, UTILITY OWNER

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3	G-102	GENERAL NOTES			
4	G-103	LOCATION MAPS			
5	V-100	PS 3116 MARTIN Co BOUNDARY AND TOPOGRAPHIC SURVEY (1 OF 2)			
6	V-101	PS 3116 MARTIN Co BOUNDARY AND TOPOGRAPHIC SURVEY (2 OF 2)			
7	V-200	PS 3117 MILLAY DR BOUNDARY AND TOPOGRAPHIC SURVEY			
8	V-300	PS 3216 PADGETT CIR TOPOGRAPHIC SURVEY			
9	C-100	PS 3116 MARTIN Co EXISTING SITE AND DEMOLITION PLAN			
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23	D-104	CONSTRUCTION DETAILS			
24	E-001	ELECTRICAL NOTES SYMBOLS AND ABBREVIATIONS			
25	E-002	ELECTRICAL SYMBOLS			
26	E-100	PS 3116 MARTIN Co ELECTRICAL POWER SITE PLAN			
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SERVICE	NAME	PHONE #	24 HOUR EMERGENCY				
UTILITY LOCATION	SUNSHINE ONE CALL OF FLORIDA	811					
WATER/WASTEWATER	ORANGE COUNTY UTILITIES DISPATCH	407-836-2777					
WATER/WASTEWATER	ORANGE COUNTY UTILITIES FIELD SEVICES	407-836-6869					
TRAFFIC/FIBER	ORANGE COUNTY PUBLIC WORKS	407-836-7814					
WATER/POWER	ORLANDO UTILITIES COMMISSION	800-778-9140	407-423-9018				
POWER	DUKE ENERGY	800-778-9140	800-288-8485				
PHONE/COMMUNICATIONS	AT&T DISTRIBUTION	954-249-0558	800-288-2020				
PHONE/COMMUNICATIONS	MCI	972-729-6016					
PHONE/COMMUNICATIONS	CENTURYLINK	407-920-8987	800-788-3600				
PHONE/COMMUNICATIONS	ORLANDO PHONE COMPANY	407-996-1183					
CABLE TV/COMMUNICATIONS	BRIGHTHOUSE NETWORKS	407-532-8092					
CABLE TV/COMMUNICATIONS	COMCAST	352-315-8528					
COMMUNICATIONS	LEVEL 3	720-888-2061	877-366-8344				
COMMUNICATIONS	FPL FIBERNET	305-552-2931	866-553-4237				
COMMUNICATIONS	CROWN CASTLE	724-416-2193					
GAS TRANSMISSION	TECO/ PEOPLES GAS COMPANY	407-420-6650	877-832-6747				
GAS DISTRIBUTION	LAKE APOPKA NATURAL GAS COMPANY	407-656-2734					

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY. P.E.	PROJECT DATE: JUNE 2017	
		DESIGNED BY: RGB	G_101
DRAWING INDEA, AND		DRAWN BY: JAB	
CONTACTS	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u> 2 of 34 </u>

GENERAL NOTES

- EXCAVATE CAUTIOUSLY LOCATIONS OF EXISTING UTILITIES INDICATED HERE IN ARE BASED ON BEST AVAILABLE INFORMATION AND ARE NOT TO BE CONSIDERED ALL INCLUSIVE. CONTRACTOR SHALL VERIFY EXACT LOCATION, CHARACTER AND NATURE OF ALL EXISTING AND PROPOSED UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO FABRICATION OF PIPING AND EQUIPMENT TO ENSURE PROPER ASSEMBLY OF ALL ITEMS.
- 2. LOCATIONS AND DIMENSION OF EXISTING RIGHTS-OF-WAY AND EASEMENTS ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE LIMITS OF THE RIGHTS-OF-WAY AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS.
- ALL MAINS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS. A MINIMUM COVER OF 36-INCHES SHALL BE MAINTAINED ON ALL MAINS, WHERE IT IS NOT OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER.
- 4. ALL PIPES SHALL BE RESTRAINED IN ACCORDANCE WITH THE RESTRAINT TABLES SHOWN ON THE DETAILS SHEETS. IN ADDITION, ALL FITTINGS SHALL BE MECHANICAL JOINT RESTRAINED. NO THRUST BLOCKS SHALL BE PERMITTED. RESTRAIN EXISTING PIPE WHERE REQUIRED IN ACCORDANCE WITH THE RESTRAINT TABLES.
- 5. FOR PVC PIPE NO HORIZONTAL / VERTICAL PIPE DEFLECTION WILL BE ALLOWED. CONTRACTOR SHALL USE FITTINGS TO OBTAIN THE REQUIRED CLEARANCES. ON DUCTILE IRON PIPE CONTRACTOR SHALL NOT EXCEED 50% OF THE MANUFACTURES RECOMMENDATION FOR PIPE DEFLECTION. OTHERWISE USE FITTINGS TO OBTAIN REQUIRED CLEARANCES. ALL FITTINGS SHALL BE ADDED TO THE AS-BUILT COORDINATE ASSET TABLE.
- ALL EXCAVATIONS SHALL BE BACK FILLED AT THE END OF EACH WORK DAY. ALL FINAL BACK FILL IS TO BE COMPACTED TO 98% OF MAXIMUM MODIFIED PROCTOR.
- 7. ALL SITE WORK SHALL BE COORDINATED WITH THE COUNTY RESIDENT PROJECT REPRESENTATIVE (RPR).
- 8. ALL PROPOSED DRIVEWAY AND SIDEWALK IMPROVEMENTS MUST COMPLY WITH CURRENT ADA STANDARDS.
- 9. THE ELEVATIONS SHOWN ARE BASED ON NAVD88.
- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL 10. 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. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY-OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE3 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. 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.

AT THE UTILITY CROSSINGS DESCRIBED 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 THE ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS. 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.

- 11. ALL PROPOSED DUCTILE IRON M.J. FITTINGS, PIPES, OR RESTRAINTS WITHIN FORTY (40) FEET OF EXISTING GAS MAINS SHALL BE POLYETHYLENE ENCASED.
- ALL EXISTING AND PROPOSED WATER, WASTEWATER AND REUSE VALVES SHALL BE OPERATED BY 12. ORANGE COUNTY UTILITIES AUTHORIZED REPRESENTATIVES. EXISTING VALVE BOXES AND MANHOLES, WHICH ARE TO REMAIN, SHALL BE ADJUSTED TO THE FINISHED GRADE. ALL VALVES UNDER CONSTRUCTION SHALL REMAIN CLOSED DURING CONSTRUCTION.
- 13. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE DURING THE LIFE OF THE PROJECT, A WEATHERPROOF ENCLOSURE CONTAINING A READILY ACCESSIBLE LIST OF EMERGENCY CONTACTS AND PHONE NUMBERS.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTION OF ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS WITH REGARD TO CONSTRUCTION ACTIVITIES AND RELATED CONDITIONS.
- 15. THE CONTRACTOR SHALL CALL SUNSHINE STATE ONE CALL NO LESS THAN FOURTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION. - PHONE - 800-432-4777.
- ADVANCE NOTIFICATION OF CONSTRUCTION 16. THE ORANGE COUNTY UTILITY CONSTRUCTION SECTION (407) 254-9798, SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- 17. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AT ALL INTERSECTIONS OF PROPOSED WORK AND EXISTING UTILITIES. THE EXPLORATORY EXCAVATIONS SHALL BE MADE FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. IF THERE IS A POTENTIAL CONFLICT, THE CONTRACTOR SHALL NOTIFY THE COUNTY RESIDENT PROJECT REPRESENTATIVE IMMEDIATELY WITH INFORMATION WHICH SHALL INCLUDE LOCATION, ELEVATION, UTILITY TYPE, MATERIAL AND SIZE.
- 18. MAINTAIN EMERGENCY VEHICLE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES.
- 19. IN AREAS WHERE CONSTRUCTION ACTIVITIES RESTRICT NORMAL ACCESS TO PROPERTIES, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALTERNATE ACCESS ROUTES WHICH ARE SUBJECT TO APPROVAL BY THE ENGINEER, AS PART OF THE M.O.T. PLAN.
- 20. THE DISPOSAL OF ANY EXCESS EARTH WORK MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 21. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL, OR AS DIRECTED BY THE RPR, ALL PAVING, GRASSED AREAS, STABILIZED EARTH, DRIVEWAYS, ETC., DISTURBED OR DAMAGED BY THE CONSTRUCTION OR RELATED ACTIVITIES. ALL DISTURBED AREAS SHALL BE SODDED, EXCEPT DIRT DRIVES AND WHERE INDICATED IN THE DRAWINGS.

- 24.
- CONSTRUCTION PROCESS.
- 26. SECTION 01001.1.05B OF THE TECHNICAL SPECIFICATIONS).
- 27. DEWATERING OF DRAINAGE STRUCTURES.

- A. LOCATION AND METHOD OF BY-PASS PUMPING. STATION START-UP AND DRAW-DOWN PROCEDURES. TIE IN OF THE NEW PUMP STATION.
- SANITARY FORCE MAIN SHUT-DOWN.
- 31. OUTLINE THE FOLLOWING:

THE COUNTY SHALL REVIEW THE SUBMITTAL WITHIN SEVEN (7) WORKING DAYS AFTER RECEIPT AND INFORM THE CONTRACTOR REGARDING APPROVAL OR DENIAL OF THE REQUEST. IF THE REQUEST IS REJECTED BY THE COUNTY, THE CONTRACTOR SHALL RESUBMIT THE WRITTEN REQUEST, WHICH HAS BEEN MODIFIED IN A MANNER ACCEPTABLE TO THE COUNTY. ALL CONNECTIONS SHALL BE MADE ONLY ON THE AGREED UPON DATE AND TIME. IF THE CONTRACTOR DOES NOT INITIATE AND COMPLETE THE CONNECTION WORK IN THE AGREED UPON MANNER, HE SHALL BE REQUIRED TO RESCHEDULE THE SAID CONNECTIONS BY FOLLOWING THE PROCEDURE OUTLINED ABOVE.

- ADVANCE NOTIFICATION OF PENDING CONNECTION 32. MAIN TIE-INS AND VALVE OPERATIONS.
- 33.
- REPAIR IMMEDIATELY 34. CONTRACTOR WILL BE CHARGED FOR SAID REPAIRS.
- 35. **TELEPHONE NOTIFICATIONS** ASSISTANCE).
- SPECIFICATIONS OR DRAWINGS.
- 37. VERIFY LENGTH OF LINER TO BE INSTALLED.
- 38.

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22. SALVAGE AND/OR DISPOSAL OF ALL EXISTING EQUIPMENT SHALL BE AT THE DIRECTION OF THE RPR.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL STRUCTURES, PIPE, CONDUIT, WIRE, FITTINGS, PANELS, ETC. THAT ARE DEMOLISHED, DISASSEMBLED, OR REMOVED, PER SECTION 02080 OF THE SPECIFICATION MANUAL OF THIS PROJECT.

OPERATION OF ORANGE COUNTY PUMP STATIONS THE CONTRACTOR SHALL COORDINATE ALL PUMP STATION OPERATIONS AND SHUT DOWN CONTROL WITH THE ORANGE COUNTY RPR.

25. THE CONTRACTOR SHALL PROVIDE TEMPORARY BY-PASS PUMPING AS NEEDED FOR EACH PUMP STATION AND/OR MANHOLE TO BE REHABILITATED AND/OR REPLACED PRIOR TO THE START OF ANY WORK. BOTH THE PRIMARY AND THE BACKUP BY-PASS PUMPING SYSTEMS SHALL BE OF ADEQUATE CAPACITIES AND SIZES TO HANDLE THE FLOW AND SHALL MAINTAIN CONTINUOUS SERVICE DURING THE ENTIRE CONSTRUCTION PROCESS UNTIL THE NEW OR REHABILITATED PUMP STATION OR MANHOLE HAS BEEN ACCEPTED BY THE COUNTY. THE BY-PASS PUMPING SYSTEMS SHALL BE APPROVED AND ACCEPTED BY THE COUNTY PRIOR TO INSTALLATION. THE CONTRACTOR SHALL NOT MAINTAIN MORE THAN TWO (2) PUMP STATION BY-PASS OPERATIONS AT THE SAME TIME DURING THE

BY-PASS PUMPING SHALL BE LOW NOISE SUITABLE FOR RESIDENTIAL NEIGHBORHOODS (SEE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DE-WATERING REQUIRED DURING CONSTRUCTION AND TO OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR THE TEMPORARY

28. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY PLUGS, BLOCKING, TAPS, AND TESTING EQUIPMENT REQUIRED TO COMPLETE PRESSURE TESTING, AS SPECIFIED.

29. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE COUNTY, A COMPREHENSIVE WRITTEN PROCEDURE THAT DESCRIBES THE INTENDED CONSTRUCTION SEQUENCE FOR MAINTAINING AND TRANSFERRING SERVICE FROM THE EXISTING PUMP STATION TO THE NEW PUMP STATION. ITEMS TO ADDRESS SHALL INCLUDE THE FOLLOWING AS A MINIMUM:

DISMANTLING OF EQUIPMENT AND CONVERSION OR REMOVAL OF OLD WET WELL.

THIS PROCEDURE SHALL BE SUBMITTED WITH THE PROJECT SCHEDULE.

30. THE CONTRACTOR SHALL NOTIFY THE COUNTY SEVEN (7) WORKING DAYS IN ADVANCE OF ANY

ALL CONNECTIONS TO EXISTING FORCE MAINS SHALL BE MADE BY THE CONTRACTOR ONLY AFTER THE CONNECTION PROCEDURE AND THE WORK SCHEDULING HAS BEEN REVIEWED AND APPROVED BY THE COUNTY. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE COUNTY A MINIMUM OF SEVEN (7) WORKING DAYS PRIOR TO SCHEDULING SAID CONNECTIONS. THE REQUEST SHALL

A. POINTS OF CONNECTION, FITTINGS TO BE USED, AND METHOD OF FLUSHING. ESTIMATED CONSTRUCTION TIME FOR SAID CONNECTIONS.

THE ORANGE COUNTY UTILITY WATER DIVISION AND THE ORANGE COUNTY UTILITY WATER RECLAMATION DIVISION SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS IN ADVANCE TO SCHEDULE

ANY WORK PROPOSED FOR THE POTABLE WATER SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND DETAILS OF THE APPROPRIATE UTILITY PROVIDER.

ALL DAMAGE TO ORANGE COUNTY MAINS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. IF THE REPAIR IS NOT DONE IN A TIMELY MANNER, AS DETERMINED BY THE ORANGE COUNTY UTILITY INSPECTOR. ORANGE COUNTY MAY PERFORM REPAIRS AND THE

THE ORANGE COUNTY DISPATCH OPERATOR SHALL BE NOTIFIED IMMEDIATELY IN THE EVENT OF A FORCEMAIN, GRAVITY SEWER, OR WATER MAIN BREAK OR DAMAGE AT (407)836-2777 (24-HOURS

36. ALL WORK AND MATERIAL SHALL CONFORM TO THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL, LATEST EDITION OR AS INDICATED IN THE PROJECT

PIPE AND MANHOLE LINER LENGTHS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL

EROSION AND SEDIMENT CONTROL MEASURES ARE TO PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION AND ARE THE MINIMUM REQUIRED. CONTRACTOR SHALL FURNISH ADDITIONAL CONTROLS AS NEEDED AT NO ADDITIONAL COST. MATERIALS FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND NOT ALLOWED TO COLLECT ON ANY OFF PERIMETER AREAS OR IN WATERWAYS. SILT SCREENS, HAY BALES, AND TURBIDITY BARRIERS MUST REMAIN IN PLACE AND IN GOOD CONDITION AT ALL LOCATIONS IN PLANS OR AS REQUIRED UNTIL THE CONTRACT IS COMPLETED AND SOILS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED. MEASURES SHOWN ARE THE MINIMUM REQUIRED, AND THE CONTRACTOR WILL ENSURE THAT THERE IS NO DIRECT OR INDIRECT DISCHARGE OF CONSTRUCTION MATERIALS IN TURBID WATERS TO OFF SITE AREAS OR WATERWAYS.

PRECAST STRUCTURAL NOTES

- PRECAST STRUCTURES SHALL BE ENGINEERED PRODUCTS OF A PRECAST MANUFACTURER AND SHALL BE SPECIFICALLY DESIGNED FOR THE SERVICE AND APPLICATION AS SHOWN ON THESE DRAWINGS. THE PRECAST MANUFACTURER IS SOLELY RESPONSIBLE FOR DESIGN AND MANUFACTURE OF EACH STRUCTURE. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INSTALLATION OF THESE PRODUCTS AND CONFORMANCE OF SAME WITH ALL PROJECT DOCUME THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL SUCH PRECAST STRUCTURES ON THE PROJECT FOR REVIEW AND APPROVAL, PRIOR TO THE ORDERING OF ANY STRUCTURES OR MATERIALS.
- 2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE CAST-IN-PLACE REINFORCEMENT AN CONCRETE PLACEMENT USED IN THE INSTALLATION OF SADDLE MANHOLES FOR REVIEW AND APPROVAL BY THE COUNTY, PRIOR TO THE ORDERING OF ANY MATERIALS.
- STRUCTURAL DESIGN STANDARDS ACI STANDARD 318-89 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ACI 350R-83, "CONCRETE SANITARY ENGINEERING STRUCTURES". PRECAST WALL SECTIONS ASTM C478.
- ALL CONCRETE SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF fc' = 4000 P.S.I. DAYS, UNLESS NOTED ON DRAWINGS.
- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. MINIMUM YIELD STRENGTH SHALL BE 60,000 P.S.I..
- CONTRACTOR SHALL COORDINATE WET WELL HATCH OPENING SIZE AND LOCATION AS REQUIRE PUMP MANUFACTURER/SUPPLIER WITH THE PRECAST CONCRETE SUPPLIER PRIOR TO CASTING. SHOP DRAWINGS OF THE PRECAST SHALL BE PROVIDED TO THE COUNTY FOR REVIEW.
- THE FLOOR GROUT (FILLET) SHALL BE FULL CIRCUMFERENCE OF THE STRUCTURE.

POWER AND WATER SUPPLY NOTES

- 1. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY PROVIDER FOR POWER AND SERVICE, AND SHALL INCLUDE IN HIS BID ALL PROVIDER CHARGES FOR MATERIALS, LABOR, ONI NONRECURRING CONSTRUCTION COST AND OTHER COST, INCLUDING WATER METER, ASSESS THE PROVIDER, WHETHER OR NOT INDICATED ON THE DRAWINGS, OR SPECIFIED.
- 2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE POWER SUPPLY AND THE V SYSTEM RELOCATION AND INSTALLATION WITH THE SUPPLIER.
- 3. THE POWER PROVIDER SHALL MAKE ALL SECONDARY TERMINATIONS AT POWER TRANSFORMERS
- 4. THE CONTRACTOR SHALL PERFORM THE REQUIRED RELOCATIONS TO THE EXISTING WATER SYST THE PUMP STATION.
- 5. POWER PROVIDER: POWER SUPPLIER: OUC (PS 3116)

DUKE ENERGY (PS 3117) DUKE ENERGY (PS 3216)

6. WATER PROVIDER FOR ALL PUMP STATIONS IS ORLANDO UTILITIES COMMISSION (OUC). OUC DISP. PHONE 407-823-9150.



ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

BFA Environmental Consultants Barnes, Ferland and Associates, Inc. 1230 E. Hillcrest Street, Orlando, FL, 32803 PH: (407) 896-8608 FAX: (407)896-1822 ENGINEERING BUSINESS No. 6899

PUMP STATION R/R PACKAG

SPILL NOTES

)	1. THE CONTRACTOR SHALL PROVIDE TANKERS AND SIGNED DOCUMENTS ACKNOWLEDGING THE UNDERSTANDING OF THE ORANGE COUNTY UTILITY " <u>EMERGENCY</u> WASTEWATER SPILL AND WATER MAIN BREAK PROCEDURES", IN THE PRE-CONSTRUCTION PACKET FOR THE MEETING.
NTS.	2. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE DURING THE LIFE OF THE PROJECT, A WEATHER PROOF ENCLOSURE CONTAINING A READILY ACCESSIBLE LIST OF EMERGENCY CONTACTS AND PHONE NUMBERS.
ID	EMERGENCY WASTEWATER SPILL OR BREAK PROCEDURES- DAMAGE NOTIFICATION:
	3. THE ORANGE COUNTY UTILITY DISPATCH OPERATOR (407-836-2777) SHALL BE NOTIFIED IMMEDIATELY IN THE EVENT OF A FORCE MAIN OR GRAVITY SEWER BREAK OR DAMAGE.
	EMERGENCY WATER MAIN BREAK PROCEDURE
AT 28	4. THE ORLANDO UTILITIES COMMISSION UTILITY DISPATCH OPERATOR (407-823-9150) SHALL BE NOTIFIED IMMEDIATELY IN THE EVENT OF A WATER MAIN BREAK OR DAMAGE.
	IMMEDIATE REPAIR:
D BY	5. ALL DAMAGE TO ORANGE COUNTY'S MAIN SHALL BE REPAIRED IMMEDIATELY WITHOUT DELAY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. IF THE REPAIR IS NOT MADE IN A TIMELY AND APPROVED MANNER, AS DETERMINED BY THE ORANGE COUNTY UTILITIES INSPECTOR, ORANGE COUNTY MAY PERFORM THE REPAIRS AND THE CONTRACTOR WILL BE CHARGED FOR THE REPAIRS.
	BY-PASS NOTES
	 CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ADEQUATE BY-PASS PUMPING TO MAINTAIN WASTEWATER SERVICE TO ALL CUSTOMERS.
	2. CONTRACTOR SHALL SUBMIT A WRITTEN BY-PASS PLAN FOR APPROVAL AND ACCEPTANCE PRIOR TO CONSTRUCTION.
ED BY	 CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS AND PROVISIONS AS SPECIFIED IN SECTION 01516 OF THE CONTRACT DOCUMENTS.
WATER	 FLOW CONTROL SHALL INCLUDE ACCOMMODATION OF FLOW FROM ANY SIDE SEWER AFFECTED BY THE WORK.
ГЕМ АТ	5. CONTRACTOR SHALL MAINTAIN SANITARY LATERAL SERVICE TO ANY RESIDENTIAL OR BUSINESS DURING LINER INSTALLATION OR PIPE REPAIR / REPLACEMENT.
	6. <u>OPERATION OF ORANGE COUNTY PUMP STATIONS</u> THE CONTRACTOR SHALL COORDINATE ALL PUMP STATION OPERATIONS AND SHUT DOWN CONTROL WITH THE ORANGE COUNTY ORANGE COUNTY UTILITIES INSPECTOR.
ATCH	7. THE CONTRACTOR SHALL PROVIDE TEMPORARY BY-PASS PUMPING AS NEEDED FOR EACH PUMP STATION AND/OR MANHOLE TO BE REHABILITATED AND/OR REPLACED PRIOR TO THE START OF ANY WORK. BOTH THE PRIMARY AND THE BACKUP BY-PASS PUMPING SYSTEMS SHALL BE OF ADEQUATE CAPACITIES AND SIZES TO HANDLE THE FLOW AND SHALL MAINTAIN A CONTINUOUS SERVICE DURING THE ENTIRE CONSTRUCTION PROCESS UNTIL THE NEW OR REHABILITATED PUMP STATION OR MANHOLE HAS BEEN ACCEPTED BY THE COUNTY. THE BY-PASS PUMPING SYSTEMS SHALL BE APPROVED AND ACCEPTED BY THE COUNTY PRIOR TO INSTALLATION. THE CONTRACTOR SHALL NOT MAINTAIN MORE THAN TWO (2) PUMP STATION BY-PASS OPERATIONS AT THE SAME TIME DURING THE CONSTRUCTION PROCESS.
	8. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE COUNTY. A COMPREHENSIVE WRITTEN PROCEDURE THAT DESCRIBES THE INTENDED CONSTRUCTION SEQUENCE FOR MAINTAINING AND TRANSFERRING SERVICE FROM THE EXISTING PUMP STATION TO THE NEW PUMP STATION. ITEMS TO ADDRESS SHALL INCLUDE THE FOLLOWING AS A MINIMUM:

- 8.1. LOCATION AND METHOD OF BY-PASS PUMPING
- 8.2. PUMP STATION STARTUP AND DRAW-DOWN PROCEDURES
- 8.3. TIE-IN OF THE NEW PUMP STATION 8.4. DISMANTLING OF EQUIPMENT AND CONVERSION OR REMOVAL OF OLD WET WELL

THIS PROCEDURE SHALL BE SUBMITTED WITH THE PROJECT SCHEDULE.

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: JUNE 2017	
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NOTES		DRAWN BY: JAB	0 102
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	58637	DRAWING FILE: SEE MARGIN	<u> </u>



ADDRESS: 6041 S. RIO GRANDE AVE ORLANDO, FL 32809

No.	REVISIONS	BY	DATE	
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				AT FULL SIZE
				(IF NOT SCALE ACCORDINGLY)
	BID SET	GJH	5/24/2017	SCALE: AS NOTED

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GENERAL PROJECT LOCATION MAP







ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825



PUMP STATION R/R PACKAGI

LOCATION I

ADDRESS: 5815 PADGETT CIR LOCATION MAP ORLANDO, FL 32839

PS # 3117 MILLAY DR LOCATION MAPADDRESS:
6698 MILLAY DR
ORLANDO, FL 32802

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY, P.F.	PROJECT DATE: JUNE 2017	
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MAPS		DRAWN BY: JAB	0 100
	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>4</u> OF <u>34</u>
	211		

SURVEYOR'S REPORT

1. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH THE BOUNDARY FOR THE PUMP STATION LOCATED AT 6039 SOUTH RIO GRANDE AVENUE BY ESTABLISHING OR RE-ESTABLISHING CORNERS, MONUMENTS AND BOUNDARY LINES, AND TO ESTABLISH THE HORIZONTAL AND VERTICAL SPATIAL RELATIONSHIP OF THE NATURAL OR MANMADE FEATURES LYING WITHIN THE DEFINED TOPOGRAPHIC SURVEY LIMITS NOTED BELOW.

COMMENCE AT THE NORTHWEST CORNER OF TRACT 1, AS RECORDED IN THE OFFICIAL RECORDS BOOK 7505, PAGE 3985 OF THE LIMITS OF THE TOPOGRAPHIC SURVEY INCLUDES THE EXISTING PUMP STATION SITE THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, SAID POINT BEING A FOUND 5/8" IRON ROD AND CAP STAMPED "SSMC LOCATED AT 6039 SOUTH RIO GRANDE AVENUE AND TEN FEET OF OVERLAP WHERE LB 2108"; THENCE SOUTH 00"12'06" EAST ALONG THE WEST LINE OF SAID TRACT 1, A DISTANCE OF 231.24 FEET TO A POINT ACCESSIBLE. ON THE NORTH LINE OF AN EXISTING 20 FOOT DRAINAGE AND UTILITY EASEMENT, AS RECORDED IN THE OFFICIAL RECORDS 2. BEARINGS AND COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE BOOK 3171, PAGE 2225 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA; THENCE NORTH 89"16'27" EAST ALONG SAID COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983/2011 ADJUSTMENT (NAD83/11), NORTH LINE, A DISTANCE OF 233.00 FEET TO THE POINT OF BEGINNING, SAID POINT BEING A SET 5/8" IRON ROD AND CAP ZONE 901, FLORIDA EAST, WITH THE NORTH RIGHT-OF-WAY LINE OF DOSS AVENUE HAVING STAMPED "GEODATA LB 6556"; THENCE NORTH 25°08'48" EAST, A DISTANCE OF 23.34 FEET TO A POINT, SAID POINT BEING A SET 5/8" IRON ROD AND CAP STAMPED "GEODATA LB 6556"; THENCE NORTH 89°16'27" EAST, A DISTANCE OF 12.00 FEET 3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF TO A POINT ON THE WEST LINE OF AN EXISTING UTILITY EASEMENT, AS RECORDED IN THE OFFICIAL RECORDS BOOK 1786, 1988 (NAVD88) AS ESTABLISHED FROM THE FOLLOWING ORANGE COUNTY BENCHMARKS: PAGE 986 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, SAID POINT BEING A SET 5/8" IRON ROD AND CAP S1485025 STAMPED "GEODATA LB 6556"; THENCE SOUTH 00"13'24" EAST ALONG SAID WEST LINE, A DISTANCE OF 21.00 FEET TO A FOUND A 3" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK ON TOP OF A CURB POINT ON SAID NORTH LINE OF EXISTING 20 FOOT DRAINAGE AND UTILITY EASEMENT, SAID POINT BEING A SET 5/8" IRON INLET ON THE WEST SIDE OF LAKE ELLENOR DRIVE, LOCATED 125 FEET WEST OF ROD AND CAP STAMPED "GEODATA LB 6556"; THENCE SOUTH 89"16'27" WEST ALONG SAID NORTH LINE, A DISTANCE OF THE INTERSECTION OF LAKE ELLENOR DRIVE AND WEST LANCASTER ROAD. PUBLISHED ELEVATION = 97.110 FEET (NAVD88) 22.00 FEET TO THE POINT OF BEGINNING.

- A BEARING OF NORTH 89"16'27" EAST.

S1485028 FOUND A 3" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK ON THE NORTHWEST CORNER OF A THREE FOOT WIDE CONCRETE SIDEWALK, LOCATED AT ADDRESS #6115 DOSS AVENUE, ON THE SOUTHEAST CORNER OF LAKE ELLENOR DRIVE AND DOSS AVENUE. PUBLISHED ELEVATION = 97.737 FEET (NAVD88)

- 4. LANDS SHOWN HEREON WERE ABSTRACTED FOR DEDICATED RIGHT-OF-WAY, EASEMENTS AND OR OWNERSHIP BY FIRST AMERICAN TITLE INSURANCE COMPANY, HAVING AN EFFECTIVE DATE OF DECEMBER 05, 2014 - FUND FILE NUMBER 2037-3277036. PUMP STATION NO. 3116 (MARTIN CO).
- 5. THE LOCATION OF UNDERGROUND UTILITY LINES SHOWN HEREON WERE DETERMINED BY A COMBINATION OF PHYSICAL MARKINGS MADE BY THE UTILITY COMPANIES IN RESPONSE TO CALL SUNSHINE LOCATE REQUEST, TICKET NUMBER 323405421 AND BY EXAMINATION OF SURFACE APPURTENANCES OF SAID UTILITIES. NO UNDERGROUND INSTALLATIONS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN.
- 6. ALL RECORDING REFERENCES SHOWN ON THIS SURVEY REFER TO THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, UNLESS OTHERWISE NOTED.
- 7. 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.
- 8. ACCORDING TO THE FLOOD INSURANCE RATE MAP (FIRM). DATED SEPTEMBER 25, 2009 THE SURVEY LIMITS SHOWN HEREON APPEARS TO LIE IN FLOOD ZONE ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS LOCATED ON COMMUNITY PANEL NO. 120179-0410-F, MAP NUMBER 12095C0410F.
- 9. DRAINAGE PIPE SIZES AND MATERIALS WERE TAKEN FROM A SPECIAL PURPOSE SURVEY BY BLOUNT SIKES & ASSOCIATES. INC. PREPARED FOR ORANGE COUNTY PUBLIC UTILITIES DATED 10-27-92.

BC = BACK OF CURB	INV = INVERT	RGE. = RANGE	BE = BURIED ELECTRIC	= FAUCET	
(C) = CALCULATED DATA	IRC = IRON ROD & CAP	RCP = REINFORCED CONCRETE PIPE	BURIED TELEPHONE	\sum_{WATER} = WATER VALVE	
CONC = CONCRETE	IR = IRON ROD	R/W = RIGHT OF WAY		\odot = TELEPHONE P	EDESTAL
CM = CONCRETE MONUMENT	NAVD88 = NORTH AMERICAN VERTICAL	SEC. = SECTION	WATER LINE	\square = ELECTRIC MET	TER
(D) = DEED		TOE = BOTTOM OF BANK	$+9^{5}$ = SPOT ELEVATION	\rightarrow = POWER POLE	
DIP = DUCTILE IRON PIPE	N&D - NARL & DISK	TOP = TOP OF BANK	- = END NOT LOCATED	ි = FIRE HYDRAN	т
E: = EASTING	N: = NORTHING	TWP. = TOWNSHIP	$ \rightarrow = GUY ANCHOR $		ORT SIGN
EP = EDGE OF PAVEMENT	N.I.S. = NOT TO SCALE	VCP = VITREOUS CLAY PIPE	= SERVICE CABINET	= SAME OWNER	
EL = ELEVATION	DR - PACE	W∕ = WITH	WATER METER	\circ_{SAN} = SANITARY VE	NT
(F) = FIELD	$(\mathbf{D}) = \mathbf{D} \mathbf{A}\mathbf{T}$	= FAUCET	BACK FLOW = 1" STEEL BACK FLOW PREVENTE	R < = TRANSFORMER	2
FND = FOUND	$(\Gamma) = \Gamma \Box \Lambda \Gamma$	\pm = MORE OR LESS		○ = SET 5/8" IR "GEODATA LE	C 3 6556"
REVISIONS	BY DATE			vironmental Consultants	PUMP STATION R/R PACKA
	AT FULL SIZE (IF NOT SCALE ACCORI	DINGLY) ORLANDO.	RY FORD ROAD FLORIDA 32825 Barnes, Ferland 1230 E. Hillcrest Str PH: (407) 896 8608	and Associates, Inc. eet, Orlando, FL, 32803 FAX: (407)896-1822	PS 3116 MARTIN Co TOPOGRAPHIC SI

SCALE: AS NOTED

Nednesday, May 24, 2017 3:17:00 PM F:\CIVIL\PROJECTS\2014\2014-28 Ocu Cont Eng Services\14-28.02 Pkg 10 Pump Stations\5.0 Drawings\2014-28-02 Package 10 PS V-100.dwg

BID SET

GJH 5/24/2017

BOUNDARY & TOPOGRAPHIC SURVEY

PUMP STATION 3116

LYING IN A PORTION OF SECTION 22, TOWNSHIP 23 SOUTH, RANGE 29 EAST

ORANGE COUNTY, FLORIDA

LEGAL DESCRIPTION – PERMANENT EASEMENT (PARCEL 800)

ENGINEERING BUSINESS No. 6899

ALL THAT TRACT OR PARCEL OF LAND LYING IN SECTION 22, TOWNSHIP 23 SOUTH, RANGE 29 EAST, ORANGE COUNTY, FLORIDA, BEING A PORTION OF TRACT 1, AS RECORDED IN THE OFFICIAL RECORDS BOOK 7505, PAGE 3985 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, BEING A PORTION OF LOT 88, PLAN OF BLOCK "ONE" PROSPER COLONY, AS RECORDED IN PLAT BOOK D, PAGE 109 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

CONTAINING 357 SQUARE FEET, MORE OR LESS.

IFCEND & ABBREVIATIONS



SH	EET INDEX
SHEET	CONTENTS
1	COVER
2	DETAIL SHEET

PREPARED FOR: ORANGE COUNTY UTILITIES BARNES, FERLAND AND ASSOCIATES, INC.

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT A SURVEY OF THE PROPERTY SHOWN HEREON WAS MADE UNDER MY SUPERVISION AND THAT THE SURVEY MEETS THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472.027 OF THE FLORIDA STATUTES AND THAT THE SKETCH HEREON IS A TRUE AND ACCURATE REPRESENTATION THEREOF TO THE BEST OF MY KNOWLEDGE AND BELIEF. SUBJECT TO NOTES AND NOTATIONS SHOWN

THIS DAY OF , 20

H. Paul deVivero, Professional Land Surveyor No. 4990 Land Surveyor Business License No. 6556 VALID ONLY WITH SIGNATURE AND EMBOSSED SEAL

			•	1	
GEOL	PATA CONSU	'LTANTS, INC.	DRAWN BY: DPW	CHECKED	BY: RJH/JMS
ST.	JRVEYING &	: MAPPING	DATE OF FIELD SUR	VEY: DECE	MBER 01, 2014
	OUTH INTERNA	ATIONAL PARKWAY	FIELD BOOK 14-22,	PAGES 24-	-25,27-28,30-31
LA 0ICE: (407) 73.	SUITE 2 KE MARY, FL 2–6965 FAX:	A01 ORIDA 32746 (407) 878-0841	ORANGE CO	OUNTY,	FLORIDA
No. DATE	REV	VISION	DATE:	SCA	LE:
			MARCH 16, 20	16 N	I/A
			PROJECT No	. SHE	'ET 1
			<u>B18–16</u>	3 OF ,	2 I
10 IMPROVEMENTS		DESIGN ENGINEER	PROJECT No.: 20	14-28-02	DRAWING No.
OUNDARY A	ND	GEOFFREY J. HENNESSY, I	DESIGNED BY: RGI DRAWN BY: JAB	B	V-100
KVEY (1 OF 2	<u>')</u>	FLORIDA REGISTRATION I	No. CHECKED BY: GJF DRAWING FILE: SEE M	H MARGIN	SHEET 5 OF <u>34</u>
				JUNE 2	017 - BID SET





LANCASTER ROAD
SOUTH ORANGE AVENUE
SO'
AKE ROAD
AKE R

- BOOK 2670, PAGE 1119 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA BY ESTABLISHING OR RE-ESTABLISHING CORNERS, MONUMENTS AND BOUNDARY LINES, AND TO ESTABLISH THE HORIZONTAL AND VERTICAL SPATIAL RELATIONSHIP OF THE NATURAL OR MANMADE FEATURES LYING WITHIN THE DEFINED TOPOGRAPHIC SURVEY LIMITS NOTED BELOW. THE LIMITS OF THE TOPOGRAPHIC SURVEY INCLUDES THE EXISTING PUMP STATION SITE LOCATED
- ON LOT 1352 OF SKY LAKE UNIT TEN, AS RECORDED IN PLAT BOOK 2, PAGE 135 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA ALONG WITH A PORTION OF AN EXISTING TEN FOOT UTILITY AND DRAINAGE EASEMENT AS SHOWN ON SAID PLAT AND TEN FEET OF OVERLAP ONTO THE ADJOINING PARCELS WHERE ACCESSIBLE.
- BEARINGS AND COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983/2011 ADJUSTMENT (NAD83/11), ZONE 901, FLORIDA EAST, WITH THE WESTERLY RIGHT-OF-WÁY LINE OF MILLAY`DRIVE´HÁVING A BEARING OF NORTH 28.32'34" EAST.
- 3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED FROM THE FOLLOWING ORANGE COUNTY BENCHMARKS:
 - S1499019 FOUND A 3" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK ON THE EAST EDGE OF A 7 FOOT WIDE CONCRETE SIDEWALK ON THE EAST SIDE OF WINEGARD ROAD, 380 FEET ± NORTH OF MAROT STREET. PUBLISHED ELEVATION = 99.212 FEET (NAVD88)
 - S1499022
 - FOUND A 3" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK IN THE CENTERLINE OF A 5 FOOT WIDE CONCRETE SIDEWALK ON THE WEST SIDE OF WINEGARD ROAD AT ADDRESS # 6622 "KINGDOM HALL OF JEHOVAH WITNESSES".
 - PUBLISHED ELEVATION = 100.010 FEET (NAVD88)
- 4. LANDS SHOWN HEREON WERE ABSTRACTED FOR DEDICATED RIGHT-OF-WAY, EASEMENTS AND OR OWNERSHIP BY FIRST AMERICAN TITLE INSURANCE COMPANY, HAVING AN EFFECTIVE DATE OF DECEMBER 08, 2014 - FUND FILE NUMBER 2037-3277148, PUMP STATION NO. 3117 (MILLAY DRIVE).
 - 5. THE LOCATION OF UNDERGROUND UTILITY LINES SHOWN HEREON WERE DETERMINED BY A COMBINATION OF PHYSICAL MARKINGS MADE BY THE UTILITY COMPANIES IN RESPONSE TO CALL SUNSHINE LOCATE REQUEST. TICKET NUMBER 303406153 AND BY EXAMINATION OF SURFACE APPURTENANCES OF SAID UTILITIES. NO UNDERGROUND INSTALLATIONS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN.
 - 6. ALL RECORDING REFERENCES SHOWN ON THIS SURVEY REFER TO THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, UNLESS OTHERWISE NOTED.
 - 7. 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.
 - 8. ACCORDING TO THE FLOOD INSURANCE RATE MAP (FIRM), DATED SEPTEMBER 25, 2009 THE SURVEY LIMITS SHOWN HEREON APPEARS TO LIE IN FLOOD ZONE ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS LOCATED ON COMMUNITY PANEL NO. 120179-0410-F, MAP NUMBER 12095C0410F.
- 9. DUE TO DEPTH OF PIPES IN STRUCTURES, THE PIPE TYPES WERE TAKEN OFF OF THE CONSTRUCTION AND AS-BUILT PLANS FOR SKY LAKE UNIT TEN, PROJECT NUMBER 6916, COMPLETED BY A.E. O'NEALL ASSOCIATES, INC. DATED APRIL 1969.

ORANGE COUNTY UTILITIES BARNES, FERLAND AND ASSOCIATES, INC.

23 SOUTH, RANGE 29 EAST, .AKE—UNIT ELEVEN—"A", AS			SURV	EYOR'	S CERT	IFICATION
ANGE COUNTY, FLORIDA, AND			I HEREBY C SHOWN HER	ERTIFY THAT EON WAS MA	A SURVEY OF TH	HE PROPERTY JPERVISION AND
EN, AS RECORDED IN PLAT			THAT THIS S THE STANDA	ARDS OF PRA	CTICE AS SET FO	ORTH BY THE
IDA, SAID POINT BEING A			FLORIDA BO	ARD OF PROP	ESSIONAL SURVE	EYORS AND
TH 61°25′48″ WEST ALONG			MAPPERS, C PURSUANT	TO SECTION 4	17, FLORIDA ADM 172.027. FLORIDA	STATUTES AND
SOUTHWEST CORNER OF			THAT THE S	SKETCH HEREC	ON IS A TRUE AN	ND ACCURATE
5/8" IRON ROD AND CAP			REPRESENTA	ATION THEREC	F TO THE BEST	OF MY KNOWLEDGE
I ALONG THE SOUTH LINE			AND BELIEF.	. SUBJECT TC	NOTES AND NO	TATIONS SHOWN
K 3, PAGE 90 OF THE			THIS	DAYO	F	20
EET TO THE SOUTHWEST					,	, 20
WEST LINE OF SAID LOT						
EAST, A DISTANCE OF						
NCENT CURVE: THENCE			H. Paul de	Vivero, Profe	ssional Land Su	rveyor No. 4990
			Land	' Surveyor Bu	isiness License i	No. 6556
OF SAID CURVE CONCAVE			VALID O	NLY WITH SIC	GNATURE AND E	MBOSSED SEAL
F 110.00 FFFT. A CHORD		🔊 GEOD	ATA CONSULTA	NTS. INC.	DRAWN BY: DPW	CHECKED BY: RJH/JMS
T TO THE NORTHEAST			RVEYING & MA	APPING	DATE OF FIELD SUR	EVEY: NOVEMBER 11, 2014
ND CAP STAMPED "GEODATA		1349 SO	UTH INTERNATION	NAL PARKWAY	FIELD BOOK 14-22, 1	PAGES 06-10
SAID LOT 1352, A DISTANCE		LA	SUITE 2401 KE MARY, FLORID	A 32746	SEC. 26, TWP. 23	SOUTH, RGE. 29 EAST
DINT BEING A SET 5/8"	VOICE:	(407) 732	2–6965 FAX: (40	7) 878–0841	ORANGE COU	JNTY, FLORIDA
2'51" WEST ALONG THE	No.	DATE	REVISION	V	DATE:	SCALE:
T OF BEGINNING.					MARCH 16, 2016	1" = 10'
					PROJECT No.	SHEET 1
					B18-16	$\overline{OF 1}$
10 IMPROVEMENTS	,	DESIC	GN ENGINEER	PROJECT N	No.: 2014-28-02	DRAWING No.
		GEOFFREY	J. HENNESSY, P.E.	PROJECT DA	TE: JUNE 2017	
OUNDARY AND				DESIGNED BY	Y: RGB	U-200
		FI ORIDA F				OUEET
		. 201.0/11			. GJH	SHEEL

58637

DRAWING FILE: SEE MARGIN

SHEET

7 OF 34



Wednesday, May 24, 2017 3:17:00 PM F:\CIVIL\PROJECTS\2014\2014-28 Ocu Cont Eng Services\14-28.02 Pkg 10 Pump Stations\5.0 Drawings\2014-28-02 Package 10 PS V-300.dwg

	CIP = CAST IRON PIPE	N: = NORTHING	$\longrightarrow_{\text{BE}}$ = BURIED ELECTRIC $\longrightarrow_{\text{EM}}$ = FORCE MAIN
	CLF = CHAIN LINK FENCE	N.T.S. = NOT TO SCALE	
	CONC = CONCRETE	ORB = OFFICIAL RECORDS BOOK	$+3^{x^{2}}$ = SPOT ELEVATION
	(D) = DEED	PG = PAGE	= POWER POLE WITH ELECTRIC METER
	E: = EASTING	RGE. = RANGE	- POWER POLE WITH TRANSFORMER
	EL = ELEVATION	R/W = RIGHT OF WAY	SANI = SANITARY VALVE
	(F) = FIELD	SEC. = SECTION	\backsim = END NOT LOCATED
N.	FND = FOUND	TWP. = TOWNSHIP	o _{san} o. = SANITARY VENT
	INV = INVERT	VCP = VITREOUS CLAY PIPE	= GUY ANCHOR
	IRC = IRON ROD & CAP		ME = WATER METER
	NAVD88 = NORTH AMERICAN VER DATUM OF 1988	TICAL	$\rightarrow_{\text{BACK FLOW}}$ = 3/4" STEEL BACK FLOW PREVENTER
i			

PUMP STATION R/R PACKAGE



SURVEYOR'S REPORT

1. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH THE BOUNDARY FOR THE PUMP STATION LOCATED AT 5811 PADGETT CIRCLE BY ESTABLISHING OR RE-ESTABLISHING CORNERS, MONUMENTS AND BOUNDARY LINES, AND TO ESTABLISH THE HORIZONTAL AND VERTICAL SPATIAL RELATIONSHIP OF THE NATURAL OR MANMADE FEATURES LYING WITHIN THE DEFINED TOPOGRAPHIC SURVEY LIMITS NOTED BELOW.

THE LIMITS OF THE TOPOGRAPHIC SURVEY INCLUDES THE EXISTING PUMP STATION SITE LOCATED AT 5811 PADGETT CIRCLE AND TEN FEET OF OVERLAP WHERE ACCESSIBLE.

- 2. BEARINGS AND COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983/2011 ADJUSTMENT (NAD83/11), ZONE 901, FLORIDA EAST, WITH THE EASTERLY RIGHT-OF-WAY LINE OF PADGETT CIRCLE HAVING A BEARING OF NORTH 27°23'34" WEST.
- 3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED FROM THE FOLLOWING ORANGE COUNTY BENCHMARKS:

S1316022 FOUND A SQUARE CUT ON THE NORTH WALL OF A CONCRETE BOX INLET ON THE SOUTH SIDE OF WEST OAK RIDGE ROAD, 50 FEET \pm EAST OF THE NORTHWEST ENTRANCE TO OAKRIDGE HIGH SCHOOL. PUBLISHED ELEVATION = 93.987 FEET (NAVD88)

S1316025 FOUND A 3" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK IN A CURB INLET LOCATED ON THE SOUTH SIDE OF WEST OAK RIDGE ROAD, 200 FEET ± EAST OF WINEGARD ROAD.

- PUBLISHED ELEVATION = 96.786 FEET (NAVD88)
- 4. THE SURVEYOR HAS NOT ABSTRACTED THE LANDS SHOWN HEREON FOR EASEMENTS AND/OR RIGHT-OF-WAY RECORDS. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TÍTLE REPORT.
- 5. THE LOCATION OF UNDERGROUND UTILITY LINES SHOWN HEREON WERE DETERMINED BY A COMBINATION OF PHYSICAL MARKINGS MADE BY THE UTILITY COMPANIES IN RESPONSE TO CALL SUNSHINE LOCATE REQUEST, TICKET NUMBER 323405489 AND BY EXAMINATION OF SURFACE APPURTENANCES OF SAID UTILITIES. NO UNDERGROUND INSTALLATIONS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN.
- 6. ALL RECORDING REFERENCES SHOWN ON THIS SURVEY REFER TO THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, UNLESS OTHERWISE NOTED.
- 7. 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.
- 8. ACCORDING TO THE FLOOD INSURANCE RATE MAP (FIRM), DATED SEPTEMBER 25, 2009 THE SURVEY LIMITS SHOWN HEREON APPEARS TO LIE IN FLOOD ZONE ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS LOCATED ON COMMUNITY PANEL NO. 120179-0410-F, MAP NUMBER 12095C0410F.

<u>PREPARED</u> FOR

ORANGE COUNTY UTILITIES BARNES, FERLAND AND ASSOCIATES, INC.

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT A SURVEY OF THE PROPERTY SHOWN HEREON WAS MADE UNDER MY SUPERVISION AND THAT THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES AND THAT THE SKETCH HEREON IS A TRUE AND ACCURATE REPRESENTATION THEREOF TO THE BEST OF MY KNOWLEDGE AND BELIEF. SUBJECT TO NOTES AND NOTATIONS SHOWN

THIS DAY OF

H. Paul deVivero, Professional Land Surveyor No. 4990 Land Surveyor Business License No. 6556 VALID ONLY WITH SIGNATURE AND EMBOSSED SEAL

				0,0,		COOLD OL	,,,_	
		GEODATA CONSULTANTS, INC. DRAWN BY: DPW CHECKED BY:					RJH/JMS	
		SURVEYING & MAPPING						
		1349 SOUTH INTERNATIONAL PARKWAY FIELD BOOK 14-22, PAGES 26,29,32-35						
		SUITE 2401 LAKE MARY, FLORIDA 32746 SEC. 23, TWP. 23 SOUTH, RGE. 29 EAST						
	VOICE:	(407) 73	32–6965 FAX: (407) 878–0	841	ORANGE COUN	TY, FLORI	DA	
	No.	DATE	REVISION DATE: SCALE:					
					Dec. 10, 2014 1'		= 10'	
					PROJECT No.	SHEET	1	
					B18-16	OF 1		
10 IMPROVEMENTS			DESIGN ENGINEER	PF	ROJECT No.: 2014	-28-02	DRAWI	NG No.
			GEOFFREY J. HENNESSY, P.E.	PR	OJECT DATE: JUNE	2017		
				DE	SIGNED BY: RGB		V_?	SOO
DOGRAPHIC SLIRVEY				DR	AWN BY: JAB			
		- '	FLORIDA REGISTRATION No.	CH	ECKED BY: GJH		SHE	ET
			58637	DR	AWING FILE: SEE MA	RGIN	<u>8</u> 0	F <u>34</u>

, 20







GRASSED AREA WITHIN THE LIMITS OF THE PROPOSED CONCRETE CURB. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL GRASS, EARTH AND

2. THE CONTRACTOR SHALL COORDINATE WITH ORANGE COUNTY UTILITIES FOR A LIST OF ITEMS TO BE SALVAGED, PRIOR TO THE REMOVAL OF STRUCTURES.

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY, P.F.	PROJECT DATE: JUNE 2017	
VISTING SITE AND	•_•····	DESIGNED BY: RGB	C-200
AISTING SITE AND		DRAWN BY: JAB	0 200
N PI AN	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>12</u> OF <u>34</u>

- CONC. COATED BRICK MH 31170001 REMOVE CAST IRON LADDER RUNGS, INSTALL INTERIOR COATING, SEWPERCOAT OR SPECTRASHIELD PER SECTION 09901

SANITARY MANHOLE (MH 31170001) TOP EL=97.58 N INV EL=87.47 S INV EL=88.57 W INV EL=87.26

└── DE-SCALE AND CIPP LINE 35 LF± OF 10" DI/VCP SANITARY SEWER

IRRIGATION SYSTEM COMPONENTS INCLUDING PIPE, SPRAY HEADS, FITTINGS AS REQUIRED TO RESTORE ALL AREAS IMPACTED BY CONSTRUCTION ACTIVITY. 3. INSTALL WOOD FENCE ALONG NORTH AND WEST SIDES OF PUMP STATION SITE,

4. SCADA PANELS THAT ARE NOTED TO BE RELOCATED SHALL BE MOUNTED BY THE CONTRACTOR ON THE CONTROL PANEL RACK SUPPLIED AND INSTALLED BY THE

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFEREY J. HENNESSY, P.F.	PROJECT DATE: JUNE 2017	
	,	DESIGNED BY: RGB	C_201
FUIVIE STATION		DRAWN BY: JAB	
JTS PLAN	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>13</u> OF <u>34</u>

N89°39'12"E 135.84'(F) 135.58'(D)

ORANGE COUNTY PARKS AND RECREATION (OCP&R) 407-836-6200. NOTIFY OCP&R AT LEAST 48- HOURS IN ADVANCE OF ANY CLEARING & GRUBBING WORK.

2. DISCUSS TREE LIMB TRIMMING WITH OCP&R PRIOR TO ANY WORK.

3. THE CONTRACTOR SHALL REMOVE THE TOP 4-INCHES OF MULCH, EARTH AND ORGANIC MATTER WITHIN THE LIMITS OF THE PROPOSED CONCRETE CURBED AREA. THE MULCH, EARTH AND ORGANIC MATTER SHALL BE REMOVED AND

4. THE CONTRACTOR SHALL RELOCATE THE COUNTY PARK LIGHTING METER, LOAD CENTER, TIME CLOCK, IRRIGATION CONTROLLER AND RECEPTACLE. SEE

5. THE CONTRACTOR SHALL COORDINATE WITH ORANGE COUNTY UTILITIES FOR A LIST OF ITEMS TO BE SALVAGED, PRIOR TO THE REMOVAL OF STRUCTURES.

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY. P.E.	PROJECT DATE: JUNE 2017	
		DESIGNED BY: RGB	C_{300}
		DRAWN BY: JAB	0 000
I ITION PI AN	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>14</u> OF <u>34</u>

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- RELOCATE OCP&R CONTROL PANELS TO NEW RACK AS PER E-DWGS, COORDINATE WITH OCP&R, PROVIDE ALL MATERIALS TO COMPLETE THE RELOCATION. SEE

N89°39'12"E 135.84'(F) 135.58'(D)

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: JUNE 2017	
		DESIGNED BY: RGB	C_{-301}
		DRAWN BY: JAB	
ITS PLAN	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>15</u> OF <u>34</u>

AND/OR AS SPECIFIED HEREIN. TO BE MADE IN THE FIELD. 5 STAMPED (ETCHED)ON THE TOP SIDE. EACH DOOR WILL BE EQUIPPED WITH RECESSED HASP ENCLOSURE. 7. ALL PIPING AND HARDWARE IN THE WET WELL SHALL BE 316 STAINLESS STEEL SCHEDULE 40. 8. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.

GENERAL NOTES:

- OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D.

- PUMPS, CHECK VALVES, SHUTOFF VALVES, AND CONTROL PANEL.

PS 3	116 MAI	RTIN C	0 DE	SIGN SPE	CIFICAT	IONS		
DESIGN A SPECIFI	CATIONS				DESIG	IN B SPECIFICATIONS		
MANUFACTURER:	ABS (SU	LZER)		MANUFACTUR	ER:	FLYGT (XYLEM)		
MODEL: XFP100C CB1	VOLTAGE:	230		MODEL: CP 310)2 MT3	VOLTAGE: 230		
IMP: PE 35-4	PHASE: 3			IMP: 432		PHASE: 3		
DIA: 7.09 INCH	RATED PO	WER: 4.7 HI	P	DIA: 7.2		RATED POWER: 5.0 HP		
SPEED: 1730 RPM	IMPELLER	THROUGHL	ET: 3 IN.	SPEED: 1745 R	PM	IMPELLER THROUGHLET: 3	3 IN.	
DISCHARGE SIZE: 4 INCH	CURVE NU	MBER: N.A.		DISCHARGE SI	ZE: 4 IN.	CURVE NUMBER: N.A.		
DESIGN COND.:	400 GPM @) 29 FT.		DESIGN COND.	:	400 GPM @ 29 FT.		
HIGH HEAD COND.:	N.A.			HIGH HEAD CO	ND.:	N.A.		
MIN. HEAD COND.:	550 GPM @) 22 FT.		MIN. HEAD COM	ND.:	550 GPM @ 22 FT.		
SHUTOFF HEAD:	48 FT.			SHUTOFF HEAI	D:	48 FT.		
DESCRIPTION	SYMBOL	DIM	ELEV.	DIMENSION	ELEV	DESIGN A & B SPECIFICATIO	ON NOTES	
THICKNESS OF WALL	A	EXIST.		EXIST.		1. (*) PER PUMP MANUFACTURE	R	
DIAMETER OF WET WELL	В	8'-0"		8'-0"		REQUIREMENTS		
WIDTH OF BOTTOM FILLET	С	* 1		* 1		2. DIMENSION P AND ELEVATIO	N Y AND Z MUST	
C\L OF WET WELL TO C\L OF PIPES	D	* 1		* 1			JUIREMENTS	
LENGTH OF PUMP ACCESS OPENING	E	* 1		* 1		3. EL X - EL Z \geq 5 FEET		
WIDTH OF PUMP ACCESS OPENING	F	* 1		* 1		4. TOP ELEVATION OF WETWELL SHALL BI A MIN OF 1 FT ABOVE 100 YR FLOOD ELEVATION AND THE ELEVATION OF TH		
CENTER OF WET WELL TO EDGE OF HATCH	G	* 1		* 1				
VALVE BOX HATCH OPENING	Н	5'-6"		5'-6"		CROWN OF THE ROAD		
VALVE BOX HATCH OPENING	I	5'-0"		5'-0"		5 SYMBOLS SHOWN IN THE 1		
LIP WIDTH OF WET WELL BASE	R	N.A.		N/A		USED IN THE ADJACENT PU	JMP STATION	
THICKNESS OF WET WELL BASE	S	N.A.		N/A		PLAN AND SECTION VIEWS		
TOP OF WET WELL	Т		99.87		99.87			
FINISHED GRADE (SEE C-101)	U		NA		NA			
HIGH LEVEL ALARMS	V		86.3		86.3			
LAG PUMP ON	W		85.8		85.8			
LEAD PUMP ON	X		85.3		85.3			
PUMPS OFF (TOP OF PUMP VOLUTE)	Y		82.3	SEE NOTE 2	82.3			
BOTTOM OF PUMP TO FLOOR OF WET WELL	Р	4.2		3.37				
STEP HEIGHT (IF REQUIRED)	Q	0.83		N/A				
FLOOR OF WET WELL	Z		81.36	SEE NOTE 2	81.36			
PUMP STATION R/R PACKAGE 1	0 IMPROVEM	ENTS		DESIGN	ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.	
PS 3116 MARTIN Co P	UMP ST	FATION		GEOFFREY J.	HENNESSY, P.I	DESIGNED BY: RGB	P-100	
PLAN, SECTION, AN	ND DET	AILS		FLORIDA REG	SISTRATION No	CHECKED BY: GJH	SHEET	
					0001	DRAWING FILE: SEE MARGIN		

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION),

2. ALL EXPOSED METAL OUTSIDE OF THE WET WELL SHALL BE IN ACCORDANCE WITH ORANGE COUNTY STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION).

3. A CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE ADDED TO THE CONCRETE DURING THE MIXING CYCLE FOR THE WET WELL AND VALVE VAULT PRECAST STRUCTURES. THE CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE APPROVED PRODUCT AS LISTED IN OCU APPENDIX D.

4. FOR EXISTING WET WELLS, VALVE VAULTS AND MANHOLES, THE INSIDE SHALL BE LINED WITH A FIBERGLASS REINFORCED POLYESTHER (FRP) LINER. FINAL SEALS AND SEALING TO BE MADE IN THE FIELD. FOR NEW CONSTRUCTION, THE INSIDE OF WET WELLS, VALVE VAULTS AND MANHOLES SHALL BE LINED WITH EITHER A HIGH DENSITY POLYETHYLENE (HDPE) LINER, A FIBERGLASS REINFORCED POLYESTHER (FRP) LINER, OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D. FINAL SEALS AND SEALING

WET WELL ACCESS OPENING SHALL BE COVERED ON ALL FOUR VERTICAL SIDES WITH A PROTECTIVE LINER.

6. WET WELL ACCESS HATCH AND COVER SHALL BE ALUMINUM WITH 316 STAINLESS STEEL HARDWARE AND LOCK BRACKET PLATE WITH THE WORDS "CONFINED SPACE"

9. ALL PIPING AND CONDUIT PENETRATIONS THROUGH CONCRETE SHALL BE WATERTIGHT. CAST-IN-PLACE SLEEVES SHALL BE PLACED IN ALL OPENINGS WHERE PRESSURE PIPE ENTER OR LEAVE THE WET WELL AND/OR VALVE VAULT. PENETRATIONS THROUGH WET WELL AND VALVE VAULT SHALL BE A COMPRESSION TYPE SEAL, SUCH AS "LINK-SEAL",

10. ALL CONNECTIONS WITHIN THE WET WELL, VALVE VAULT, AND ABOVE GRADE SHALL BE FLANGED JOINTS. ALL REMAINING JOINTS BETWEEN THE WET WELL AND THE CONNECTION TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS. (SEE TABLE ON DETAIL SHEET D100).

11. PIPE SUPPORTS SHALL BE 316 STAINLESS STEEL, PROVIDED AND INSTALLED TO SUPPORT AND ANCHOR THE PIPING SECURELY IN THE VALVE VAULT.

12. VALVE VAULT SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES, WITH MINIMUM CLEARANCE, AS SHOWN FOR 8" DIAMETER PIPE, OR SMALLER.

13. CONTRACTOR SHALL, AS DIRECTED BY THE COUNTY REPRESENTATIVE, REMOVE AND SALVAGE TO THE COUNTY, ALL EXISTING PUMP STATION EQUIPMENT, INCLUDING

14. CONTRACTOR SHALL DEMOLISH AND REMOVE FROM SITE ALL DEBRIS RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURES.

15. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING ANY MATERIALS OR EQUIPMENT

16. CONTRACTOR SHALL GROUT FLOOR OF WET WELL, AS REQUIRED BY MANUFACTURER'S SPECIFICATIONS, TO ACCOMMODATE INSTALLATION OF THE NEW PUMPS. 17. STRUCTURAL DESIGN OF THE PRECAST WET WELL, TOP, AND VALVE VAULT SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PRECAST WET WELL. THE PRECAST WET WELL TOP AND HATCH COVER. RISERS AND THE VALVE VAULT. TO THE ENGINEER.

18. 100-YEAR FLOOD ELEVATION: N.A., SURVEY AREA IS OUTSIDE THE (FIRM) FLOODPLAIN.

19. ALL EXTERNAL JOINTS SHALL BE COVERED WITH A HIGH STRENGTH, WATER TIGHT, PRESS-TO-SEAL TYPE TAPE/AS LISTED IN OCU APPENDIX D.

20. A SECOND HIGH LEVEL ALARM LIQUID FLOAT SHALL BE INSTALLED TO PROVIDE DRY CONTACT FOR SCADA. REFER TO PUMP CONTROL SCHEMATIC.

21. ALL SPOOLS SHALL BE MINIMUM OF SIX INCHES WHERE SPACE ALLOWS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALIGNMENT FROM THE BASE PLATE TO THE RISER PLATE AT NO EXTRA COST TO OCU.

JUNE 2017 - BID SET

Wednesday, May 24, 2017 3:17:00 PM F:\CIVIL\PROJECTS\2014\2014-28 Ocu Cont Eng Services\14-28.02 Pkg 10 Pump Stations\5.0 Drawings\2014-28-02 Package 10 PS P-200.dwg

GENERAL NOTES:

- AND/OR AS SPECIFIED HEREIN.

- TO BE MADE IN THE FIELD.
- 5
- STAMPED (ETCHED)ON THE TOP SIDE. EACH DOOR WILL BE EQUIPPED WITH RECESSED HASP ENCLOSURE.
- 7. ALL PIPING AND HARDWARE IN THE WET WELL SHALL BE 316 STAINLESS STEEL SCHEDULE 40.
- OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D.

- PUMPS, CHECK VALVES, SHUTOFF VALVES, AND CONTROL PANEL.

PS 31	17 MILL	AY DRI	VE - DE	ESIGN SPE	ECIFICA	TIONS	
DESIGN A SPECIFI	ICATIONS			DESIGN B SPECIFICATIONS			
MANUFACTURER:	ABS (SU	LZER)		MANUFACTUR	ER:	FLYGT (XYLEM)	
MODEL: XFP100E CB1	VOLTAGE:	230		MODEL: CP 310	02 MT3	VOLTAGE: 230	
IMP: PE45-4-E	PHASE: 3			IMP: 432		PHASE: 3	
DIA: 7.28 IN.	RATED PO	WER: 6.03 H	IP	DIA: 7.2 IN.		RATED POWER: 5.0 HP	
SPEED: 1770 RPM	IMPELLER	THROUGHL	.ET:3.15 IN.	SPEED: 1745 R	PM	IMPELLER THROUGHLET: 3 IN.	
DISCHARGE SIZE: 4 IN.	CURVE NU	IMBER: N.A.		DISCHARGE SI	ZE: 4 IN.	CURVE NUMBER: N.A.	
DESIGN CONDITIONS:	320 GPM @ 35 FT.			DESIGN COND	ITIONS:	320 GPM @ 35 FT.	
HIGH HEAD CONDITION: N.A.	N.A.			HIGH HEAD CC	NDITION:	N. A.	
MINIMUM HEAD CONDITION:	500 GPM @) 22 FT.				S: 500 GPM @ 22 FT.	
SHUTOFF HEAD:	53 FT.			SHUTOFF HEA	D:	53 FT.	
DESCRIPTION	SYMBOL	DIM	ELEV.	DIMENSION	ELEV	DESIGN A & B SPECIFICATION NOTES	
THICKNESS OF WALL	A	EXIST.		EXIST.		1. (*) PER PUMP MANUFACTURER	
DIAMETER OF WET WELL	В	6'-0"		6'-0"		REQUIREMENTS	
WIDTH OF BOTTOM FILLET	С	* 1		SEE NOTE 1		2. DIMENSION P AND ELEVATION Y AND Z MUS	
C\L OF WET WELL TO C\L OF PIPES	D	*1		SEE NOTE 1		MEET BOTH POMP MFR'S REQUIREMENTS	
LENGTH OF PUMP ACCESS OPENING	E	*1		SEE NOTE 1		3. EL X - EL Z \geq 5 FEET	
WIDTH OF PUMP ACCESS OPENING	F	*1		SEE NOTE 1		4. TOP ELEVATION OF WETWELL SHALL BE	
CENTER OF WET WELL TO EDGE OF HATCH	G	*1		SEE NOTE 1		A MIN OF 1 FT ABOVE 100 YR FLOOD	
VALVE BOX HATCH OPENING	Н	5'-6"		5'-6"		CROWN OF THE ROAD	
VALVE BOX HATCH OPENING	I	5'-0"		5'-0"		5 SYMBOLS SHOWN IN THE TABLE ARE	
LIP WIDTH OF WET WELL BASE	R	N.A.		N.A.		USED IN THE ADJACENT PUMP STATION	
THICKNESS OF WET WELL BASE	S	N.A.		N.A.		PLAN AND SECTION VIEWS	
TOP OF WET WELL	Т		99.2		99.2		
FINISHED GRADE	U		98.95		98.95		
HIGH LEVEL ALARMS	V		87.0		87.0		
LAG PUMP ON	W		86.5		86.5		
LEAD PUMP ON	X		86.0		86.0		
PUMPS OFF (TOP OF PUMP VOLUTE)	Y		82.0	SEE NOTE 2	82.0		
BOTTOM OF PUMP TO FLOOR OF WET WELL	Р	4.6		3.34			
STEP HEIGHT (IF REQUIRED)	Q	1.26		N.A.			
FLOOR OF WET WELL	Z		80.96	SEE NOTE 2	80.96		
PUMP STATION R/R PACKAGE	I 10 IMPROVEN	IENTS		DESIGN	ENGINEER	PROJECT No.: 2014-28-02 DRAWING No	
PS 3117 MILLAY DR P	UMP ST	FATION		GEOFFREY J.	HENNESSY, P.E.	DESIGNED BY: RGB P-2000	
PLAN, SECTION, AI	ND DET	AILS		FLORIDA REC	GISTRATION No. 3637	CHECKED BY:GJHSHEETDRAWING FILE: SEE MARGIN17OF34	

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION),

2. ALL EXPOSED METAL OUTSIDE OF THE WET WELL SHALL BE IN ACCORDANCE WITH ORANGE COUNTY STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION).

3. A CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE ADDED TO THE CONCRETE DURING THE MIXING CYCLE FOR THE WET WELL AND VALVE VAULT PRECAST STRUCTURES. THE CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE APPROVED PRODUCT AS LISTED IN OCU APPENDIX D.

4. FOR EXISTING WET WELLS, VALVE VAULTS AND MANHOLES, THE INSIDE SHALL BE LINED WITH A FIBERGLASS REINFORCED POLYESTHER (FRP) LINER. FINAL SEALS AND SEALING TO BE MADE IN THE FIELD. FOR NEW CONSTRUCTION, THE INSIDE OF WET WELLS, VALVE VAULTS AND MANHOLES SHALL BE LINED WITH EITHER A HIGH DENSITY POLYETHYLENE (HDPE) LINER, A FIBERGLASS REINFORCED POLYESTHER (FRP) LINER, OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D. FINAL SEALS AND SEALING

WET WELL ACCESS OPENING SHALL BE COVERED ON ALL FOUR VERTICAL SIDES WITH A PROTECTIVE LINER.

6. WET WELL ACCESS HATCH AND COVER SHALL BE ALUMINUM WITH 316 STAINLESS STEEL HARDWARE AND LOCK BRACKET PLATE WITH THE WORDS "CONFINED SPACE"

8. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.

9. ALL PIPING AND CONDUIT PENETRATIONS THROUGH CONCRETE SHALL BE WATERTIGHT. CAST-IN-PLACE SLEEVES SHALL BE PLACED IN ALL OPENINGS WHERE PRESSURE PIPE ENTER OR LEAVE THE WET WELL AND/OR VALVE VAULT. PENETRATIONS THROUGH WET WELL AND VALVE VAULT SHALL BE A COMPRESSION TYPE SEAL, SUCH AS "LINK-SEAL",

10. ALL CONNECTIONS WITHIN THE WET WELL, VALVE VAULT, AND ABOVE GRADE SHALL BE FLANGED JOINTS. ALL REMAINING JOINTS BETWEEN THE WET WELL AND THE CONNECTION TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS. (SEE TABLE ON DETAIL SHEET D100).

11. PIPE SUPPORTS SHALL BE 316 STAINLESS STEEL, PROVIDED AND INSTALLED TO SUPPORT AND ANCHOR THE PIPING SECURELY IN THE VALVE VAULT.

12. VALVE VAULT SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES, WITH MINIMUM CLEARANCE, AS SHOWN FOR 8" DIAMETER PIPE, OR SMALLER.

13. CONTRACTOR SHALL, AS DIRECTED BY THE COUNTY REPRESENTATIVE, REMOVE AND SALVAGE TO THE COUNTY, ALL EXISTING PUMP STATION EQUIPMENT, INCLUDING

14. CONTRACTOR SHALL DEMOLISH AND REMOVE FROM SITE ALL DEBRIS RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURES.

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18. 100-YEAR FLOOD ELEVATION: N.A., SURVEY AREA IS OUTSIDE THE (FIRM) FLOODPLAIN.

19. ALL EXTERNAL JOINTS SHALL BE COVERED WITH A HIGH STRENGTH, WATER TIGHT, PRESS-TO-SEAL TYPE TAPE/AS LISTED IN OCU APPENDIX D.

20. A SECOND HIGH LEVEL ALARM LIQUID FLOAT SHALL BE INSTALLED TO PROVIDE DRY CONTACT FOR SCADA. REFER TO PUMP CONTROL SCHEMATIC.

21. ALL SPOOLS SHALL BE MINIMUM OF SIX INCHES WHERE SPACE ALLOWS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALIGNMENT FROM THE BASE PLATE TO THE RISER PLATE AT NO EXTRA COST TO OCU.

Wednesday, May 24, 2017 3:17:00 PM F:\CIVIL\PROJECTS\2014\2014-28 Ocu Cont Eng Services\14-28.02 Pkg 10 Pump Stations\5.0 Drawings\2014-28-02 Package 10 PS P-300.dwg

GENERAL NOTES:

- AND/OR AS SPECIFIED HEREIN.

- TO BE MADE IN THE FIELD.
- 5
- STAMPED (ETCHED)ON THE TOP SIDE. EACH DOOR WILL BE EQUIPPED WITH RECESSED HASP ENCLOSURE.
- 7. ALL PIPING AND HARDWARE IN THE WET WELL SHALL BE 316 STAINLESS STEEL SCHEDULE 40.
- 8. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
- OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D.

- PUMPS, CHECK VALVES, SHUTOFF VALVES, AND CONTROL PANEL.

- 18. 100-YEAR FLOOD ELEVATION: N.A., SURVEY AREA IS OUTSIDE THE (FIRM) FLOODPLAIN.

PS 3216		ETT CIF	RCLE - I	DESIGN S	PECIFI	CA	TIONS	
DESIGN A SPECIFI	CATIONS			DESIGN B SPECIFICATIONS				
MANUFACTURER:	ABS (SU	LZER)		MANUFACTUR	ER:		FLYGT (XYLEM)	
MODEL: XFP100 E CB1	VOLTAGE:	230		MODEL: CP 312	27 MT3		VOLTAGE: 230	
IMP: PE 75-4-E	PHASE: 3			IMP: 484			PHASE: 3	
DIA: 8.19 IN.	RATED PO	WER: 10.1 H	ΗP	DIA: 8.54 IN.			RATED POWER: 10 HP	
SPEED: 1760 RPM	IMPELLER	THROUGHL	ET: 3.15 IN	SPEED: 1720 R	PM		IMPELLER THROUGHLET: 3	BIN.
DISCHARGE SIZE: 4 IN.	CURVE NU	MBER: N.A.		DISCHARGE SI	ZE: 4 IN.		CURVE NUMBER: N.A.	
DESIGN CONDITIONS:	360 GPM @) 48 FT.		DESIGN COND	ITIONS:		360 GPM @ 48 FT.	
HIGH HEAD CONDITION:	N.A.			HIGH HEAD CC	NDITION:		N.A.	
MINIMUM HEAD CONDITION:	500 GPM @	0 42 FT.				NS:	500 GPM @ 42 FT.	
SHUTOFF HEAD:	80 FT.			SHUTOFF HEA	D:		80 FT.	
DESCRIPTION	SYMBOL	DIM	ELEV.	DIMENSION	ELEV		DESIGN A & B SPECIFICATIO	ON NOTES
THICKNESS OF WALL	А	Exist.		Exist.		1.	PER PUMP MANUFACTURER	REQUIREMENTS
DIAMETER OF WET WELL	В	6'-0"		6'-0"		2	DIMENSION P AND ELEVATIO	N Y AND Z MUST
WIDTH OF BOTTOM FILLET	С	*1		SEE NOTE 1			MEET BOTH PUMP MFR'S REG	QUIREMENTS
C\L OF WET WELL TO C\L OF PIPES	D	*1		SEE NOTE 1		3.	EL X - EL Z ≥ 5 FEET	
LENGTH OF PUMP ACCESS OPENING	E	*1		SEE NOTE 1				
WIDTH OF PUMP ACCESS OPENING	F	*1		SEE NOTE 1		4.	A MIN OF 1 FT ABOVE 100	R FLOOD
CENTER OF WET WELL TO EDGE OF HATCH	G	*1		SEE NOTE 1			ELEVATION AND THE ELEV	ATION OF THE
VALVE BOX HATCH OPENING	Н	6'-6"		6'-6"			CROWN OF THE ROAD	
VALVE BOX HATCH OPENING	I	6'-0"		6'-0"		5.	SYMBOLS SHOWN IN THE T	
LIP WIDTH OF WET WELL BASE	R	N.A.		N.A.			PLAN AND SECTION VIEWS	JMP STATION
THICKNESS OF WET WELL BASE	S	N.A.		N.A.				
TOP OF WET WELL	Т		96.65		96.95			
FINISHED GRADE	U		96.4		96.4			
HIGH LEVEL ALARMS	V		83.10		83.10			
LAG PUMP ON	W		82.60		82.60			
LEAD PUMP ON	Х		82.10		82.10			
PUMPS OFF (TOP OF PUMP VOLUTE)	Y		79.85	SEE NOTE 2	79.85			
BOTTOM OF PUMP TO FLOOR OF WET WELL	Р	4.6"		5.7"				
STEP HEIGHT (IF REQUIRED)	Q	1.1"		N.A.				
FLOOR OF WET WELL	Z		78.62	SEE NOTE 2	78.62			
PUMP STATION R/R PACKAGE 1	0 IMPROVEM	IENTS		DESIGN	ENGINEER		PROJECT No.: 2014-28-02	DRAWING No.
PS 3216 PADGETT CIR PU	MP STA		LAN.	GEOFFREY J.	HENNESSY, P	.е. <mark>н</mark>	PROJECT DATE: JUNE 2017 DESIGNED BY: RGB	P-300
SECTION, AND	DETAIL	S	,	FLORIDA REC	GISTRATION N 3637	0. (DRAWN BY: JAB CHECKED BY: GJH DRAWING FILE: SEE MARGIN	SHEET 18 OF 34

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION),

2. ALL EXPOSED METAL OUTSIDE OF THE WET WELL SHALL BE IN ACCORDANCE WITH ORANGE COUNTY STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION).

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WET WELL ACCESS OPENING SHALL BE COVERED ON ALL FOUR VERTICAL SIDES WITH A PROTECTIVE LINER.

6. WET WELL ACCESS HATCH AND COVER SHALL BE ALUMINUM WITH 316 STAINLESS STEEL HARDWARE AND LOCK BRACKET PLATE WITH THE WORDS "CONFINED SPACE"

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11. PIPE SUPPORTS SHALL BE 316 STAINLESS STEEL, PROVIDED AND INSTALLED TO SUPPORT AND ANCHOR THE PIPING SECURELY IN THE VALVE VAULT.

12. VALVE VAULT SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES, WITH MINIMUM CLEARANCE, AS SHOWN FOR 8" DIAMETER PIPE, OR SMALLER.

13. CONTRACTOR SHALL, AS DIRECTED BY THE COUNTY REPRESENTATIVE, REMOVE AND SALVAGE TO THE COUNTY, ALL EXISTING PUMP STATION EQUIPMENT, INCLUDING

14. CONTRACTOR SHALL DEMOLISH AND REMOVE FROM SITE ALL DEBRIS RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURES.

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16. CONTRACTOR SHALL GROUT FLOOR OF WET WELL, AS REQUIRED BY MANUFACTURER'S SPECIFICATIONS, TO ACCOMMODATE INSTALLATION OF THE NEW PUMPS. 17. STRUCTURAL DESIGN OF THE PRECAST WET WELL, TOP, AND VALVE VAULT SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PRECAST WET WELL, THE PRECAST WET WELL TOP AND HATCH COVER, RISERS AND THE VALVE VAULT, TO THE ENGINEER.

19. ALL EXTERNAL JOINTS SHALL BE COVERED WITH A HIGH STRENGTH, WATER TIGHT, PRESS-TO-SEAL TYPE TAPE/AS LISTED IN OCU APPENDIX D.

20. A SECOND HIGH LEVEL ALARM LIQUID FLOAT SHALL BE INSTALLED TO PROVIDE DRY CONTACT FOR SCADA. REFER TO PUMP CONTROL SCHEMATIC.

21. ALL SPOOLS SHALL BE MINIMUM OF SIX INCHES WHERE SPACE ALLOWS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALIGNMENT FROM THE BASE PLATE TO THE RISER PLATE AT NO EXTRA COST TO OCU.

DATE: July 2014

SEPARATION REQUIREMENTS FOR FIGURATER, WASTEWATER AND RECLAIMED WATER MAINS

FIGURE A116

	HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS								
PROPOSED	POTABLE WATER		RECLAIMED WATER		WASTEWATER (GRAVITY & FM)		STORM SEWER		
	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	
POTABLE WATER	3' NOTE 1	12"	3' NOTE 1 & 3	12" NOTE 3	6' NOTE 3	12" NOTE 3	3' NOTE 1 & 3	12"/18" NOTE 2 & 3	
RECLAIMED WATER	3' NOTE 1 & 3	12" NOTE 3	3' NOTE 1	12"	3' NOTE 1	12"	3' NOTE 1	12"/18" NOTE 2	
WASTEWATER (GRAVITY AND FM)	6' NOTE 3	12" NOTE 3	3' NOTE 1	12"	3' NOTE 1	12"	3' NOTE 1	12"/18" NOTE 2	
RIGHT OF WAY	3' NOTE 1	N/A	3' NOTE 1	N/A	3' NOTE 1	N/A	N/A	N/A	

NOTES:

- THIS SEPARATION REQUIREMENT IS TO PROVIDE ACCESSIBILITY FOR CONSTRUCTION AND MAINTENANCE. THREE FEET OF HORIZONTAL SEPARATION IS THE MINIMUM FOR PIPES WITH THREE FEET OF COVER. FOR PIPES INSTALLED AT GREATER DEPTHS, PROVIDE AN ADDITIONAL FOOT OF SEPARATION FOR EACH ADDITIONAL FOOT OF DEPTH.
 THE 18-INCH SEPARATION REQUIREMENT APPLIES WHEN THE STORM PIPE CROSSES ABOVE THE
- OCU MAIN, AND WHEN THE STORM PIPE HAS A DIAMETER EQUAL TO OR GREATER THAN 24 INCHES. OTHERWISE, THE REQUIRED SEPARATION IS 12 INCHES. 3. THIS SEPARATION REQUIREMENT COMPLIES WITH MINIMUM FDEP SEPARATION REQUIREMENTS
- THIS SEPARATION REQUIREMENT COMPLIES WITH MINIMUM FDEP SEPARATION REQUIREMENTS OUTLINED IN 62-555.314, FAC. VARIANCES FROM THE FDEP REQUIREMENTS MUST COMPLY WITH 62-555.314(5), FAC AND MUST BE APPROVED INDIVIDUALLY BY BOTH FDEP AND OCU.
 DISTANCES GIVEN ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
- 5. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY OR STORM WATER MANHOLE OR STRUCTURE.

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY, P.F.	PROJECT DATE: JUNE 2017	
		DESIGNED BY: RGB	D_100
N DETAILS		DRAWN BY: JAB	
	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>19</u> OF <u>34</u>

σταιις		DRAWN BY: JAB	D-101	
	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET 20 OF <u>34</u>	
	58637	DRAWING FILE: SEE MARGIN		
		JUNE 2	017 - BID SET	

	BFA Environmental Consultants	
UNAINGE COUNTY UTILITIES		
9150 CURRY FORD ROAD	Barnes, Ferland and Associates, Inc. 1230 F. Hillemet Street, Orlando, Fl. 32803	
ORLANDO, FLORIDA 32825	PH: (407) 896-8608 FAX: (407)896-1822	

PUMP STATION R/R PACKAGI

TYPE E

DROP CURB

*NOTE: WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	GEOFFREY J. HENNESSY. P.E.	PROJECT DATE: JUNE 2017	
		DESIGNED BY: RGB	D_104
N DETAILS		DRAWN BY: JAB	
	FLORIDA REGISTRATION No.	CHECKED BY: GJH	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>23</u> OF <u>34</u>

ABBREVIATIONS

	A ACCB ACCU AFF AFF AFG ALUM ALUM AMN ANN ANN ANN ANN ANN ANN ANN ANN AN	AMBER, AMPERE, ALARM ALTERNATING CURRENT AR ORCUT COURRENT AR ORCUT FUNCTION MAPPERE TRANSPORT AND FOR TRANSPED GRADE AR HANDLING UNIT ADVERT RETURNING CARACITY AMMETER ANNUNCIATOR AMES INTERREPTING CARACITY AMMETER ANNUNCIATOR AMESICAN WATCHARDS ASSOCIATION AMERICAN WATCHARDS ASSOCIATION AMERICAN WARCAGE BLUE BARE COPPER OR BATTERY CHARGER BASIS IMPULSE LEVEL BARE COPPER OR BATTERY CHARGER BASIS IMPULSE LEVEL BARE COPPER OR BATTERY CHARGER BASIS IMPULSE LEVEL BARE COPPER OR BATTERY CONTACT (COPIN WHEN BREAKER IS OPEN AND CLOSE COUNTER, CONTACTOR OR CONDUIT DEGRESS CENTIGRADE CARACTOR CIRCUT BREAKER ANJULARY CONTACT THE BREAKER IS OPEN AND CLOSE OWNER BREAKER IS OPEN AND CLOSED WHEN BREAKER MANULARY CONTACT (CONTROL FOR CONTROL FOR OR QUERENT TRANSFORMER CONTROL STATION CONTROL FOR OR OLDERLAT TRANSFORMER CYCLE THER COLUTCH CONTROL FOR OR OLDERLAT TRANSFORMER CYCLE THER CONTROL RELAY DECONTROL STATION DECONTROL FOR DOUBLE THROW DOUBLE FOLE DOUBLE THROW DOUBLE FOLE SINGLE THROW DOUBLE FOLE SUNCH CONTROL FOR TRANSFORMER CYCLE THER CLUTCH CYCLE THER		GALV GB GEN GFN H CHH TAOR HPS NO H CHH TAOR HPS	GALVANIZED GENERATOR BREAKER GROUND DEFAULT INTERRUPTER GROUND FAULT INTERRUPTER GROUND FAULT INTERRUPTER GROUND FAULT RELAY HIGH OR HUMIDISTAT HOT CIRCUIT HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-AUTO HAND-OFF-RESURE SODIUM HOW WATER CUTOFF HERTZ (CYCLE) INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS ELECTRONIC ENGINEERS ELECTRONIC AND AND AND AND AND HOW WATER CUTOFF KLOVOLT KLOVOLT KLOVOLT KLOVOLT KLOVAR KLOWATT HOURATT HOUR LOCAL-OFF-REMOTE LOCAL-OFF-REMOTE LOCATION LOCAL-OFF-REMOTE LOCATION CONTROL CENTER HALMPERE MAXIMUM MAIN CIRCUIT BREAKER MOTOR ONTROL CENTER HALMPERE MAXIMUM MAIN LUGS ONLY MANUAL TRANSFER SWITCH MANHOEL, MOUNTING HEIGHT OR MINIMUM MAIN LUGS ONLY MANUAL TRANSFER SWITCH MANHOEL, MOUNTING HEIGHT OR MINIMUM MAIN LUGS ONLY MANUAL TRANSFER SWITCH MALLY OF PRETECTOR MAGNETIC FLOW METER MANHOLE, MOUNTING HEIGHT OR MINIMUM MAIN LUGS ONLY MANUAL TRANSFER SWITCH MALLY CLOSED NATIONAL ELECTRICAL CONTRACTOR MAGNETIC PROTECTION ASSO NOT IN CONTRACT NORMALLY CLOSED NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL CODE MANUAL TRANSFER SWITCH MANUAL TRANSFER SWITCH MANUAL TRANSFER SWITCH MANUAL TRANSFER SWITCH MANUAL TRANSFER SWITCH MANUAL TRANSFORMER NOT TO SCALE OPEN ON CENTER ONVER FURNISHED CONTRACTOR OVERLOAD OCCENTER ONVER FACTOR PARE PAREL PAR PAR PAREL PAR PAR PAR PAR PANEL PAR PAR PANEL PAR PAR PANEL PANEN PANEL PAR PANEL PANEN	METAL RS ASS RERS A CIATION INSTALL TH ACT ER AM TIME
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						GENERAL NOTE
, ETAL HALIDE S ASSOCIATION ERS ASSOCIATION ATION ISTALLED H ACT	R REASY SET OF SERVICE SET SET SET SET SET SET SET SET SET SE	RED, RAISE, RELAY O RECEPTACLE RESISTOR RIGID GALVANIZED STE ROOT-MEAN-SQUARE RAPID START REPEATING TIMER RESISTANCE TYPE TEN REMOTE TERMINAL UN SCHEDULE SECONDARY SPACE HEATER OR SI SOLID NEUTRAL SINGLE POLE DOUBLE SINGLE POLE DOUBLE SINGLE POLE SINGLE SELECTOR SWITCH OF STATION TIE BREAKER SUPERVISORY CONTRO SOLENOID VALVE SWITCH SWITCHBOARD SWITCHGEAR THERMOSTAT, TIMER, TACHOMETER TERMINAL BLOCK TIMER CLUTCH OR TIM TIME DELAY RELAY TELEPHONE TERMINAL TELEPHONE TERMINAL TELEPHONE TERMINAL TELEPHONE TERMINAL TYPICAL UNDERWRITERS LABOR UNDERS OTHERWISE N UNDER VOLTAGE UNINTERRUPTIBLE PON VOLTS VOLTS VOLT AMPERE VARIABLE FREQUENCY VALVE LIMIT SWITCH VOLTMETER VARIABLE SPEED CON VALVE DOSITION INDIC VOLTMETER VARIABLE SPEED DRIV WHITE, WATTS OR WIF WATTHOUR METER WAAT METER WEATHER PROOF WATER TIGHT AUXILIARY RELAY TRANSFORMER TRANSFORMER YELLOW POSITION SWITCH PHASE	R REVERSE EEL AP DETECTOR HIELD THROW THROW STAINLESS STEEL OL OR TOTALIZER ME CLOCK BOX OR BOARD CABINET RATORIES NOTED MER SUPPLY DRIVE CATOR TROLLER EE		O 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	CUPECTRICAL DRAVINGS ARE DAY 1. ALL WORK SHALL COMPLY WITH TH 2. DO NOT SCALE THE ELECTRICAL DAY MECHANICAL, STRUCTURAL, CMLAA AND APPROVED SHOP DRAWINGS FO OF ALL QUIPMENT. 3. THE CONTRACTOR SHALL VERIFY ED BOXES, PANELBOARDS, CONDUITS, AGAINST SHOP DRAWINGS BEFORE 4. EXPOSED FLEXIBLE CONDUITS SHAL IN LENGTH FOR SIZES 1 INCHES 5. CONTRACTOR SHALL PRONDURA AA 6. CONDUIT ENTRY INTO ELECTRICAL D BELOW OR ABOVE AND BE LOCATE CENTERLINE CUPECTRICAL DRAWINGS ARE DAY OF EQUIPMENT OR ALL REQUIRED FI LABOR REQUIRED FOR A COMPLET WIRING WITH ACTUAL FIELD CONDUIT CIRCUIT BREAKER SHALL BE AS LIST UNDERGROUND CONDUITS SHALL BI 0.75° ABOVE GRADE, AND 1.00° BELO 24° BELOW BELOW GRADE. CABLE AND WIRE SHALL BE COPPER SHALL BE SOFT DRAWN COPPER INSTALL AND CONNECT ALL ELECTRICAL WARRANTEE ENTIRE ELECTRICAL IN ACCEPTANCE DATE. PROMPTLY RE UNDER DIVISION 16 DURING THE WIRE MISTALL AND CONNECT ALL ELECTRICAL WARRANTEE ENTIRE ELECTRICAL IN ACCEPTANCE DATE. PROMPTLY RE UNDER DIVISION 16 DURING THE WIRE DUMP CONTROL PANEL WILL BE FIND BY ELECTRICAL CONTRACTOR. CIRCU CONTRACTOR TO INSTALL ADDITION COUNTY UTILITIES IS THE WATER SENTING CONTRACTOR TO INSTALL ADDITIO
R EEL M TIMER						
ORANGE OF		UTILITIES	Barnes, Ferlar	Environmental Consult and Associates, I	ants	
GOVERNMENT FLORIDA	RLANDO, FLOR	IDA 32825	1230 E. Hillcrest PH: (407) 896-8608 ENGINEERING	Street, Orlando, FL, 328 FAX: (407)896-18 G BUSINESS No. 68	303 22 199	AND ABBREV

ΞS

THE 2011 NEC.

DRAWINGS. REFER TO THE AND ARCHITECTURAL DWGS FOR THE EXACT LOCATION

EXACT LOCATION OF TERMINAL CONTROL PANELS ETC, E STUBBING UP CONDUITS. ALL NOT EXCEED 30 INCHES AND LARGER, MAXIMUM OF 18

AND SMALLER ITIONAL PULLBOXES WHERE REQUIRED WORKABLE INSTALLATION.

EQUIPMENT SHALL BE DIRECTLY ED EQUALLY SPACED FROM EQUIPMENT

E 2011 NEC.

IAGRAMMATIC AND DO NOT NECESSARILY INDICATE EXACT LOCATIONS FITTINGS AND HARDWARE. PROVIDE ALL EQUIPMENT, MATERIALS, AND TE OPERATING SYSTEM. COORDINATE EQUIPMENT LOCATIONS AND ITIONS AND EQUIPMENT ACTUALLY PROVIDED.

TED IN APPENDIX D.

BE SCHEDULE 80 PVC BELOW GRADE. MINIMUM CONDUIT SIZE SHALL BE OW GRADE. UNDERGROUND CONDUIT SHALL BE RUN A MINIMUM OF

, DUAL RATED, TYPE THNN/THWN, EXCEPT GROUND CONDUCTORS

CLAD STEEL, 0.75" BY 10 FT., DRIVEN SO TOP OF ROD IS BELOW TORS ARE 30" BELOW GRADE. ALL CONNECTIONS TO GROUND LDS, ERICO "CADWELD" OR EQUAL, UNLESS OTHERWISE NOTED.

RICAL EQUIPMENT FURNISHED UNDER OTHER SECTIONS.

NSTALLATION FOR A PERIOD OF ONE YEAR FROM THE FINAL EPLACE AND/OR REPAIR ANY EQUIPMENT OR WIRING PROVIDED WARRANTEE PERIOD WITH NO ADDITIONAL COSTS TO THE OWNER.

RNISHED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED CUIT DIAGRAM AND DETAILS ARE PROVIDED FROM DATA RECEIVED /IDED FOR THE CONTRACTOR'S CONVENIENCE. ACTUAL CIRCUITRY ENT PROVIDED MAY VARY. PUMP CONTROL PANEL SPARE PARTS ARE

NAL 1" PVC CONDUIT FROM RPZ TO SCADA PANEL WHEN ORANGE ERVICE PROVIDER.

GE 10 IMPROVEMENTS

TES SYMBOLS AND ABBREVIATIONS

DESIGN ENGINEER WILLARD HOANSHELT P.E.

PROJECT No.: 2014-28-02	DRAWING No.
PROJECT DATE: JUNE 2017	
DESIGNED BY: WCH	F_001
DRAWN BY: DJK	
CHECKED BY: WCH	SHEET
DRAWING FILE: SEE MARGIN	<u>24</u> OF <u>34</u>

	ELEMENTARY SYMBOLS	ELE	EMEN	NTARY	SYMBOLS (CON'T)	
	ELEMENTARY SYMBOLS Image: Intersection Point Image: Intersection Point		 LIMIT LIMIT QUIT QUIT<	NTARY SWITCH RMALLY CLOS SWITCH RMALLY CLOS ERENTIAL PRE RMALLY CLOS ERENTIAL PRE RMALLY CLOS ERENTIAL PRE RMALLY CLOS ENCLY CLOS EN	SYMBOLS (CON'T) SED) SED, HELD OPEN) ESSURE SWITCH A, CLOSING ON INCREASING DIFF.) ESSURE SWITCH ED, OPENING ON INCREASING DIFF. ARM SYSTEM TION HT COMBINATION ETECTOR DKE DETECTOR (CR DIAGRAM SYMI (CLOSED TRANSITION), SOLID STATE SOFT START ERSING SOLID S) JOLS
	LIMIT SWITCH (NORMALLY OPEN, HELD CLOSED)	-}⊱ }^⊮ှ € ₪ ∎	POTENT QUANTI MOTOR NO. INI CURREN QUANTI KEY IN POWER LIGHTIN	TAL TRANSFO TY AS NOTED CIRCUIT PRO DICATES FRAN NT TRANSFOR TY AS NOTED TERLOCK PANEL IG PANEL	ORMER, O OTECTOR ME SIZE RMER, O	
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INO.	REVISIONS		BA	DATE		ORAN
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SWITCH SYMBOLS	SERVICE AND DISTRIBUTION
S SINGLE POLE SWITCH	
S2 DOUBLE POLE SWITCH S3 THREE-WAY SWITCH S4 FOUR-WAY SWITCH Swp WEATHERPROOF SWITCH Sp SWITCH WITH PILOT LAMP Sk KEY OPERATED SWITCH SH HAZARDOUS AREA SWITCH D DIMMER SWITCH SL SWITCH FOR LOW VOLTAGE SLM MASTER SWITCH FOR LOW VOLTAGE SWITCH FOR LOW VOLTAGE SWITCHING SYSTEM -OS SWITCH AND SINGLE RECEPTACLE SD DOOR SWITCH ST TIME SWITCH SCB CIRCUIT BREAKER SWITCH	Imagine in worder stratter or contaction Size as noted Imagine in worder connection, as noted Imagine in worder connection, future or existing as noted Imagine in worder connection, future or existing as noted Imagine in worder connection Imagine in worder connection, future or existing as noted Imagine in worder connection Imagine in worder connection, future or existing as noted Imagine in worder connection I
S _{MC} MOMENTARY CONTACT SWITCH OR PUSHBUTTON FOR OTHER THAN SIGNALING SYSTEM	
START/STOP SWITCH SPEED CONTROL LOCAL CONTROL SWITCH	 AIR TERMINAL WITH CAST ADHESIVE BASE MOUNT BONDING PLATE TEE SPLICE CONDUCTOR TURNED DOWN G G ROOFTOP MAIN CONDUCTOR ROOFTOP BONDING CONDUCTOR G G G MAIN CONDUCTOR CONCEALED BELOW ROOFTOP
RECEPTACLE OUTLET SYMBOLS	G BURIED COUNTERPOISE CONDUCTOR AIR TERMINAL WITH CAST ADHESIVE BASE MOUNT FOR USE ON TOP OF EXTUALIST FAIL HOUSING
- SINGLE RECEPTACLE OUTLET	
DUPLEX RECEPTACLE OUTLET-SPLIT WIRED	GROUND ROD
TRIPLEX RECEPTACLE OUTLET-SPLIT WIRED	
-O ¹ SINGLE SPECIAL PURPOSE RECEPTACLE OUTLET (SEE NOTE 1)	
DUPLEX RECEPTACLE SPECIAL PURPOSE OUTLET	RACEWAY SYSTEM
■ 1 RANGE OUTLET (SEE NOTE 1) ■ 1 SPECIAL PURPOSE CONNECTION OR PROVISION FOR CONNECTION (SEE NOTE 1) ■ 1 MULTIOUTLET ASSEMBLY (SEE NOTE 1) ■ 0 1 CLOCK HANGER RECEPTACLE (SEE NOTE 1) ■ 0 1 CLOCK HANGER RECEPTACLE (SEE NOTE 1) ■ 0 1 FAN HANGER RECEPTACLE (SEE NOTE 1) ■ 0 FLOOR SINGLE RECEPTACLE OUTLET ■ 0 FLOOR DUPLEX RECEPTACLE ■ 1 FLOOR SPECIAL PURPOSE OUTLET (SEE NOTE 1)	 JUNCTION BOX HOME RUN TO PANELBOARD. NO. OF ARROWS INDICATE NO. OF CIRCUITS, HASH MARKS INDICATE NO. OF #12 AWG. CONDUCTORS. NO HASH MARKS INDICATE 2#12 CONDUCTORS. CONDUIT CONCEALED IN WALL OR ABOVE CEILING CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL
NOTE 1: NUMERICAL SUBSCRIPT INDICATES THE SHEET NOTE WHERE THE TYPE OF RECEPTACLE AND USAGE IS NOTED.	S INTERIOR CEILING SPEAKER S EXTERIOR HORN SPEAKER S WALL MOUNTED SPEAKER S WP EXTERIOR HANDSET S FLOOR TELEPHONE OUTLET-PUBLIC FLOOR TELEPHONE OUTLET-PRIVATE FLUSH OUTLET BOX AND COVER PLATE FLUSH FLOOR MOUNTED OUTLET BOX AND COVER PLATE
ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825 ENGINEER	Environmental Consultants rland and Associates, Inc. rest Street, Orlando, FL, 32803 FAX: (407)896-1822 PING BUSINESS No. 6899

LIGHTING OUTLETS

NOTE 1: LETTER SUBSCRIPT INDICATES FIXTURE TYPE AS DESCRIBED IN THE LIGHTING FIXTURE SCHEDULE.

PLAN SYMBOLS

Π	TEMPERATURE TRANSMITTER
PT	PRESSURE TRANSMITTER
FIT	FLOW INDICATING TRANSMITTER
FE	FLOW ELEMENT
DIT	DENSITY INDICATING TRANSMITTER
LIT	LEVEL INDICATING TRANSMITTER
LE	LEVEL ELEMENT
(VM)	VOLT METER
VS	VOLT SWITCH
AM	AMPMETER
AS	AMP SWITCH
MS	MOTION SWITCH
F	FLOAT SWITCH
FS	FLOW SWITCH
LS	LIMIT SWITCH
TS	TORQUE SWITCH
PS	PRESSURE SWITCH
T	THERMOSTAT
VS	VIBRATION SWITCH
SV	SOLENOID VALVE
ZS	ZERO SPEED SWITCH
TR	TIMING RELAY

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	TRACT 2
SHEET NOTES	
) TO CONTROL PANEL (SEE	RISER)

SCADA POLE COORDINATION

 $\overline{}$

- 1. CONTRACTOR SHALL INSTALL CONDUIT AND PULL STRING BETWEEN SCADA PANEL AND PUMP CONTROL PANEL.
- 2. SCADA SECTION WILL ACTIVATE SCADA PANEL AFTER STATION ACCEPTANCE BY ORANGE COUNTY.

1. IF GRAPHIC SCALE DOES NOT MATCH INDICATED SCALE, DRAWING IS REDUCED AND ADJUSTMENT SHALL BE MADE AS REQUIRED

2. CONTRACTOR TO REMOVE EXISTING ELECTRICAL EQUIPMENT AND DISPOSE OF AS DIRECTED BY OWNER'S REPRESENTATIVE.

 $\langle 3. \rangle$ SEE ELECTRICAL DETAILS 240 VAC FOR ELEVATIONS OF EQUIPMENT RACK.

4.> 3-1" CONDUIT TO BE INSTALLED BETWEEN PUMP CONTROL PANEL AND SCADA PANEL. CONTRACTOR TO INSTALL CONDUIT AND PULL STRING ONLY - FINAL CONNECTIONS BETWEEN PUMP CONTROL PANEL AND SCADA PANEL BY OTHERS. SEE SCADA POLE COORDINATION NOTES.

UTILITY: OUC	
METER #: 52R20064	
ADDRESS: 1635 DOSS AVE	
ORLANDO, FL 3280)9
VOLT: 240V	

	EMJ EB: 6160		
E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.
	WILLARD HOANSHELT P.E.	PROJECT DATE: JUNE 2017	
		DESIGNED BY: WCH	F_100
		DRAWN BY: DJK	
FR SITE PLAN	FLORIDA REGISTRATION No.	CHECKED BY: WCH	SHEET
	42593	DRAWING FILE: SEE MARGIN	<u>26</u> OF <u>34</u>
		JUNE 2	017 - BID SET

No.	REVISIONS	BY	DATE		
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				AT FULL SIZE	
				(IF NOT SCALE ACCORDINGLY)	
	BID SET	GJH	5/24/2017	SCALE: AS NOTED	F

Wednesday, May 24.	2017 F:\CIVIL\PROJECTS\2014\2014-2	8 Ocu Cont Ena Services\14-28.02 Pkg 10 Pump	Stations\5.0 Drawings\2014-28-02	Package 10 PS E-101.dwg

MARTIN #3116			
Electrical Load Calculations			
Available Voltage 120/240V - 3 Phase, 4W, Solid Ground			
Maximum Available Fault Current = 13,021 Amperes at Transformer Secondary	, 		
Load	Phase A Amps	Phase B Amps	Phase C Amps
Pump #1-5.0 HP	15	15	15
Pump #2-5.0 HP	15	15	15
Misc. Controls (At 240 Volts)	1	1	
25% Largest Motor	4	4	4
	-	-	-
Total	35	35	34

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

SINGLE LINE DIAGRAM

PS 3116 MARTIN Co

DESIGN ENGINEER WILLARD HOANSHELT P.E

	PROJECT No.: 2014-28-02	DRAWING No.
	PROJECT DATE: JUNE 2017	
	DESIGNED BY: WCH	F_101
_	DRAWN BY: DJK	
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PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

PS 3117 MILLAY DR ELECTRICAL POWER SITE PLAN

<u>SHEET NOTES</u>

 $\langle 1 \rangle$ TO CONTROL PANEL (SEE RISER)

SCADA POLE COORDINATION

- CONTRACTOR SHALL INSTALL CONDUIT AND PULL STRING BETWEEN 1. SCADA PANEL AND PUMP CONTROL PANEL.
- 2. SCADA SECTION WILL ACTIVATE SCADA PANEL AFTER STATION ACCEPTANCE BY ORANGE COUNTY.

SPECIFIC NOTES

IF GRAPHIC SCALE DOES NOT MATCH INDICATED SCALE, DRAWING IS REDUCED AND ADJUSTMENT SHALL BE MADE AS REQUIRED

2. CONTRACTOR TO REMOVE EXISTING ELECTRICAL EQUIPMENT AND DISPOSE OF AS DIRECTED BY OWNER'S REPRESENTATIVE.

3.> SEE ELECTRICAL DETAILS 240 VAC FOR ELEVATIONS OF EQUIPMENT RACK.

4.> 3-1" CONDUIT TO BE INSTALLED BETWEEN PUMP CONTROL PANEL AND SCADA PANEL. CONTRACTOR TO INSTALL CONDUIT AND PULL STRING ONLY - FINAL CONNECTIONS BETWEEN PUMP CONTROL PANEL AND SCADA PANEL BY OTHERS. SEE SCADA POLE COORDINATION NOTES.

> UTILITY: DUKE ENERGY METER #: 6648025 ADDRESS: 6698 MILLAY DR ORLANDO, FL 32802 VOLT: 240V

DESIGN ENGINEER WILLARD HOANSHELT P.E

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MILLAY DR #3117			
Electrical Load Calculations			
Available Voltage 120/240V - 3 Phase 4W, Solid Ground			
Maximum Available Fault Current = 13,888 Amperes at Transform	er Secondary		
Load	Phase A Amps	Phase B Amps	Phase C Amps
Pump #1- 6.0 HP	22	22	22
Pump #2- 6.0 HP	22	22	22
Misc. Controls (At 240 Volts)	1	1	
25% Largest Motor	6	6	6
	-	-	-
Total	51	51	50
NEC Service Size = 100 Amperes			

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

SINGLE LINE DIAGRAM

PS 3117 MILLAY DR

DESIGN ENGINEER WILLARD HOANSHELT P.E

	PROJECT No.: 2014-28-02	DRAWING No.
E.	PROJECT DATE: JUNE 2017	
	DESIGNED BY: WCH	F_201
	DRAWN BY: RGB	
No.	CHECKED BY: WCH	SHEET
	DRAWING FILE: SEE MARGIN	<u>29</u> OF <u>34</u>

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 $\langle 1 \rangle$ TO CONTROL PANEL (SEE RISER)

SCADA POLE COORDINATION

- 1. CONTRACTOR SHALL INSTALL CONDUIT AND PULL STRING BETWEEN SCADA PANEL AND PUMP CONTROL PANEL.
- 2. SCADA SECTION WILL ACTIVATE SCADA PANEL AFTER STATION ACCEPTANCE BY ORANGE COUNTY.

 \bigcirc SPECIFIC NOTES \bigcirc

1. IF GRAPHIC SCALE DOES NOT MATCH INDICATED SCALE, DRAWING IS REDUCED AND ADJUSTMENT SHALL BE MADE AS REQUIRED

2. CONTRACTOR TO REMOVE EXISTING ELECTRICAL EQUIPMENT AND DISPOSE OF AS DIRECTED BY OWNER'S REPRESENTATIVE.

3.> SEE ELECTRICAL DETAILS 240 VAC FOR ELEVATIONS OF EQUIPMENT RACK.

4.> 3-1" CONDUIT TO BE INSTALLED BETWEEN PUMP CONTROL PANEL AND SCADA PANEL. CONTRACTOR TO INSTALL CONDUIT AND PULL STRING ONLY - FINAL CONNECTIONS BETWEEN PUMP CONTROL PANEL AND SCADA PANEL BY OTHERS. SEE SCADA POLE COORDINATION NOTES.

> UTILITY: DUKE ENERGY METER #: 6643609 ADDRESS: 5828 PADGETT CIR ORLANDO, FL 32839 VOLT: 240V

DESIGN ENGINEER WILLARD HOANSHELT P.E

	L.	
	PROJECT No.: 2014-28-02	DRAWING No.
Ξ.	PROJECT DATE: JUNE 2017	
	DESIGNED BY: WCH	F-300
_	DRAWN BY: DJK	
lo.	CHECKED BY: WCH	SHEET
	DRAWING FILE: SEE MARGIN	<u>30</u> OF <u>34</u>

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PADGETT CIR. #3216
Electrical Load Calculations
Available Voltage 120/240V - 3 Phase, 4W, Solid Ground
Maximum Available Fault Current = 13,888 Amperes at Transf
Load
Pump #1-10.0 HP
Pump #2-10.0 HP
Misc. Controls (At 240 Volts)
25% Largest Motor
Total
NEC Service Size = 100 Amperes

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

PS 3216 PADGETT CIR SINGLE LINE DIAGRAM

sformer Secondary				
	Phase A Amps	Phase B Amps	Phase C Amps	
	28	28	28	
	28	28	28	
	1	1		
	7	7	7	
	_	-	_	
	64	64	63	

DESIGN ENGINEER WILLARD HOANSHELT P.E

	PROJECT No.: 2014-28-02	DRAWING No.
E.	PROJECT DATE: JUNE 2017	
	DESIGNED BY: WCH	F_301
_	DRAWN BY: DJK	
۱o.	CHECKED BY: WCH	SHEET
	DRAWING FILE: SEE MARGIN	<u>31</u> OF <u>34</u>

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DUPLEX PUMP CONTROL SCHEMATIC (240V)

PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

ELECTRICAL DETAILS

NOTES:

- 1. DEADFRONT LAYOUT NEMA TYPE 3R SS ENCLOSURE W/CONTINUOUS HINGE. ALL
- HARDWARE TYPE 316 SS TYPICAL, ACTUAL LAYOUT MAY VARY WITH HORSEPOWER. 2. THIS CONTROL PANEL, INCLUDING THE GENERATOR RECEPTACLE, COMPLIES WITH THE
- STANDARD LIST OF COMPONENTS REQUIRED BY UTILITIES.
- ALL CONTROL WIRE TO BE #14 AWG MINIMUM. 4. CONTROL PANEL SHALL BE UL LISTED AND LABELED.
- 5. 30 SPARE TERMINALS (TB2).

PHASE MONITOR CIRCUIT BREAKER TO BE SEIMENS P/N: MSP10G, OR SQ-D P/N: MG24532.

DUPLEX CONTROL PANEL ENCLOSURE DEAD FRONT LAYOUT

DESIGN ENGINEER WILLARD HOANSHELT P.E.

U.	
PROJECT No.: 2014-28-02	DRAWING No.
PROJECT DATE: JUNE 2017	
DESIGNED BY: WCH	IFD_100
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CHECKED BY: WCH	SHEET
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NOTES:

- 1. ON COVERS WITH MULTIPLE DOORS, PROVIDE BRAID FROM FRAME TO DOOR ON EACH DOOR PROVIDE WATERPROOF CAULKING WHERE GROUND CABLE AND CONDUIT PENETRATES WETWELL TO PREVENT INTRUSION OF GROUNDWATER AND ESCAPE OF VAPORS FROM WETWELL.
- 2. INSTALL GROUND WIRE SO THAT IT WILL NOT CROSS CLEAR OPENING OR PREVENT OR IMPEDE NORMAL METHOD OF REMOVING FLOATS OR PUMPS.

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

BFA Environmental Consultants Barnes, Ferland and Associates, Inc. 1230 E. Hillcrest Street, Orlando, FL, 32803 PH: (407) 896-8608 FAX: (407)896-1822 ENGINEERING BUSINESS No. 6899

PUMP STATION R/R PACKAGE 10 IMPROVEMENTS

ELECTRICAL DETAILS

DESIGN ENGINEER WILLARD HOANSHELT P.E.

PROJECT NO.: 2014-20-02	DRAWING No.
PROJECT DATE: JUNE 2017	
DESIGNED BY: WCH	FD_101
DRAWN BY: DJK	
CHECKED BY: WCH	SHEET
DRAWING FILE: SEE MARGIN	<u>33</u> OF <u>34</u>

FITTING										
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	ELEVATION	MAIN TYPE	FITTING TYPE	COMMENTS			
C101-F1	C-101				FORCE MAIN	6" 90° BEND	PS 3116			
C101-F2	C-101				FORCE MAIN	6" 45° BEND	PS 3116			
C201-F1	C-201				FORCE MAIN	6" 45° BEND	PS 3117			
C201-F2	C-201				FORCE MAIN	6" 45° BEND	PS 3117			
C201-F3	C-201				FORCE MAIN	LINE STOP	PS 3117			
C301-F1	C-301				FORCE MAIN	6" SLEEVE	PS 3216			
C301-F2	C-301				FORCE MAIN	6" 11.25° BEND	PS 3216			
C301-F3	C-301				FORCE MAIN	LINE STOP	PS 3216			

PUMP STATION									
ID NUMBER PLAN SHEET # EASTING NORTHING ELEVATION COMMENTS									
C101-PS1	C-101				PS 3116				
C201-PS1	C-201				PS 3117				
C301-PS1	C-301				PS 3216				

PROPERTY OR EASEMENT CORNER										
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	ELEVATION	BOUNDARY CORNER TYPE	COMMENTS				
C101-CNR1	C-101					PS 3116				
C101-CNR2	C-101					PS 3116				
C101-CNR3	C-101					PS 3116				
C101-CNR4	C-101					PS 3116				
C101-CNR5	C-101					PS 3116				
C101-CNR6	C-101					PS 3116				
C101-CNR7	C-101					PS 3116				
C101-CNR8	C-101					PS 3116				
C201-CNR1	C-201					PS 3117				
C201-CNR2	C-201					PS 3117				
C201-CNR3	C-201					PS 3117				
C201-CNR4	C-201					PS 3117				

MANHOLE														
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	RIM ELEVATION	INVERT ELV N	INVERT ELV NE	INVERT ELV E	INVERT ELV SE	INVERT ELV S	INVERT ELV SW	INVERT ELV W	INVERT ELV NW	MANUFACTURER	COMMENTS
C101-MH1	C-101													PS 3116

PUMP STATION OUTER LIMITS									
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	ELEVATION	COMMENTS				
C101-PSOL1	C-101				PS 3116				
C101-PSOL2	C-101				PS 3116				
C101-PSOL3	C-101				PS 3116				
C101-PSOL4	C-101				PS 3116				
C101-PSOL5	C-101				PS 3116				
C101-PSOL6	C-101				PS 3116				
C101-PSOL7	C-101				PS 3116				
C101-PSOL8	C-101				PS 3116				
C201-PSOL1	C-201				PS 3117				
C201-PSOL2	C-201				PS 3117				
C201-PSOL3	C-201				PS 3117				
C201-PSOL4	C-201				PS 3117				
C301-PSOL1	C-301				PS 3216				
C301-PSOL2	C-301				PS 3216				
C301-PSOL3	C-301				PS 3216				
C301-PSOL4	C-301				PS 3216				

N.C. 33	· · ·				
		DATE	BY	REVISIONS	No.
	LINE IS 2 INCHES				
	AT FULL SIZE				
Y)	(IF NOT SCALE ACCORDINGLY)				
TED F	SCALE: AS NOTED	5/24/2017	GJH	BID SET	

Wednesday, May 24, 2017 3:17:00 PM F:\CIVIL\PROJECTS\2014\2014-28 Ocu Cont Eng Services\14-28.02 Pkg 10 Pump Stations\5.0 Drawings\2014-28-02 Package 10 PS X-100.dwg

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

PUMP STATION R/R PACKAGE

E 10 IMPROVEMENTS	DESIGN ENGINEER	PROJECT No.: 2014-28-02	DRAWING No.	
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: JUNE 2017		
		DESIGNED BY: RGB	X_100	
ΓΕ ΔΩΩΕΤ ΤΔΒΙ ΕΩ		DRAWN BY: JAB		
	FLORIDA REGISTRATION No	CHECKED BY: GJH	SHEET	
	58637	DRAWING FILE: SEE MARGIN	<u>34</u> OF <u>34</u>	