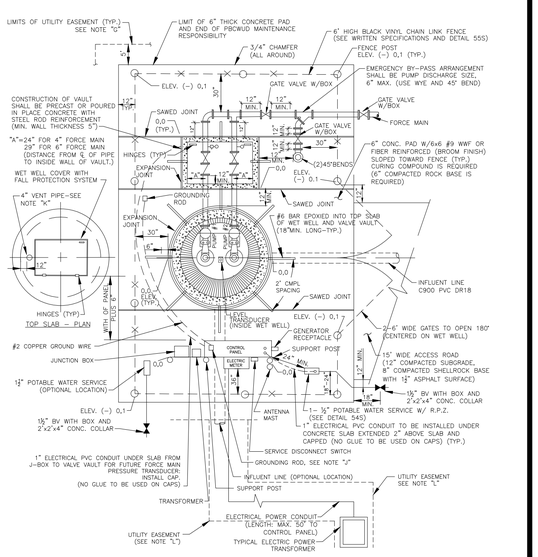
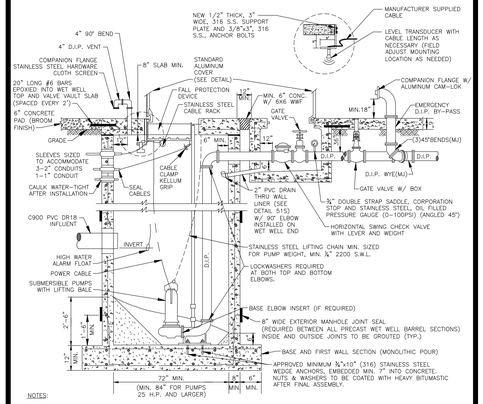


TYPICAL LIFT STATION SITE PLAN DETAIL ✳ 47S

NOTES:

A. ENGINEER SHALL DESIGN SITE PLAN USING THE "TYPICAL LIFT STATION SITE PLAN DETAIL", "SITE PLAN LOCATION" DETAIL SHALL BE DRAWN TO SCALE NOT SMALLER THAN 1"=10' WITH:
   1. NORTH ARROW, STREET NAME.
   2. FENCE WITH 2-6' WIDE GATES.
   3. INFLUENT LINE ENTRY LOCATION WITH MANHOLE AND GRAVITY MAIN DATA.
   4. HINGE LOCATION (HINGES FOR WET WELL COVER MUST BE LOCATED ON THE CONTROL PANEL SIDE; HINGED FOR VALVE VAULT COVER SHALL BE LOCATED ON DISCHARGE SIDE OF FORCE MAIN.)
   5. POWER SERVICE FEED (WITH "AS BUILTS"). MAXIMUM LENGTH OF ELECTRICAL SERVICE FROM THE TRANSFORMER / HANDHOLE TO CONTROL PANEL SHALL BE 50 FEET.
   6. EMERGENCY PUMP OUT LOCATION (SHALL BE SAME SIZE AS PUMP DISCHARGE).
   7. THE STATION SHALL BE POSITIONED SO THE FRONT OF CONTROL PANEL DOES NOT FACE WEST OR SOUTH (NORTH AND EAST ARE PREFERED)
B. HORIZONTAL DISTANCE FROM PANEL FRONT TO WET WELL OPENING. SHALL BE: WIDTH OF CONTROL PANEL PLUS 6".
C. DESIGN TO BE COORDINATED WITH "TYPICAL LIFT STATION PLAN DETAIL".
D. FENCED AREA TO BE COVERED WITH 2 PLY 4.0 (FOUR) MIL VISQUEEN AND A 6" CONCRETE PAD WITH #9 WIRE MESH (6" x 6") – BROOM FINISH REQUIRED. CONCRETE PAD TO EXTEND 12" BEYOND FENCED AREA.
E. INFLUENT MAIN SHALL BE CLEAR OF VAULT.
F. LANDSCAPE AREA ADJACENT TO LIFT STATION SITE MAY BE LANDSCAPED SUBJECT TO PRIOR APPROVAL BY THE DEPARTMENT. ONLY HEDGES WITH NON-AGGRESSIVE ROOT SYSTEM WILL BE APPROVED. MIN. 5' FROM CONCRETE PAD TO BUSHES, MIN. 5' FROM DRIVEWAY TO BUSHES, MIN. 10' FROM DRIVEWAY TO ANY TREES, (SUBJECT TO PRE-APPROVAL BY P.B.C.W.U.D.) THE DEVELOPER/SUCCESSOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE LANDSCAPING. APPROVED BUSHES ARE: EUGENIA, SURINAM CHERRY, WAX MURTLE, SIMPSON STOPPER, SOUTHERN RED CEDAR. WOODEN FENCES ARE NOT ACCEPTABLE.
G. A PLATTED LIFT STATION EASEMENT OR EXCLUSIVE PALM BEACH COUNTY UTILITY EASEMENT TO COVER AREA MIN. 5' BEYOND LIFT STATION CONCRETE PAD.
H. ALL EXPOSED (NOT BURIED) JOINTS SHALL BE FLANGED, BURIED JOINTS SHALL BE MECHANICAL JOINT TYPE WITH MEGALUGS OR EQUAL.
I. VALVE VAULT DIMENSIONS (INSIDE):
   1. 4" PIPING: 4'(L) X 6'(W) X 4'(D)
   2. 6" PIPING: 5'(L) X 7'(W) X 4'(D)
J. MINIMUM TWO GROUNDING RODS SHALL BE MIN. 6' APART AND SHALL BE RECESSED THROUGH 6" PVC SLEEVES IN CONCRETE SLAB. THE RODS SHALL BE CONNECTED WITH A #2 BARE TINNED COPPER GROUNDING WIRE.
K. WETWELL VENT PIPE SHALL BE INSTALLED SO NOT TO INTERFERE WITH ACCESS TO THE WETWELL AND INSTALLED OPPOSITE OF GATE.
L. THE ELECTRIC POWER SERVICE FEED FROM THE POWER TRANSFORMER TO THE CONTROL PANEL SHALL BE LOCATED WITHIN AN UTILITY EASEMENT.

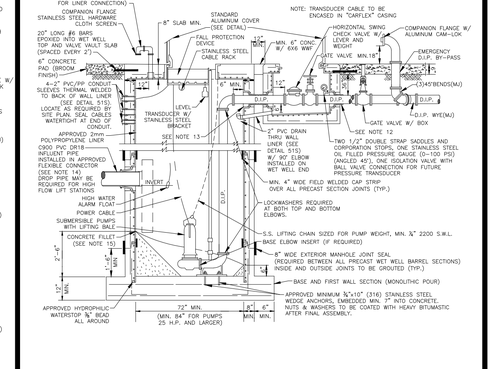
TYPICAL LIFT STATION SITE PLAN NOTES ✳ 48S



NOTES:

1. RAMNEK & NON-SHRINKING GROUT IN ACCORDANCE WITH STANDARD MANHOLE SPECIFICATIONS.
2. WET WELL PIPING AND VALVE VAULT PIPING TO RECEIVED 2 COATS OF KOPPERS BITUMASTIC 300M, 8-10 MILS EACH COAT, OR APPROVED EQUAL.
3. ALL STEEL IN WET WELL SHALL BE STAINLESS STEEL, INCLUDING GUIDE BARS, LIFTING CHAIN, CABLE SUPPORTS, CABLE HOLDER, AND GUIDE BAR BRACKET (TYPE 316).
4. TYPE II REINFORCED CONCRETE (#4 BARS THROUGHOUT), 4000 P.S.I. CALCAREOUS AGGREGATE REQUIRED (MIN. CaCO3 CONTENT: 65% IN LARGE AGGREGATE, 50% IN CONCRETE SCREENING).
5. SEE PLAN FOR CORRECT ORIENTATION OF PIPES, VENT, AND OTHER FIXTURES.
6. ALL HARDWARE INSIDE AND OUTSIDE OF WET WELL AND VALVE PIT SHALL BE STAINLESS STEEL (TYPE 316).
7. A. INSTALL ¾" THICK STAINLESS STEEL PLATE THAT EXTENDS MIN. 3" AROUND PERIMETER OF BASE ELBOW.
   B. BASE ELBOW ANCHORS SHALL BE MIN. ¾"x10" (316) S.S., DOUBLE NUTTED, MIN. 2" THREAD LENGTH, TORQUED TO 150 FOOT POUNDS.
8. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
9. INTERIOR OF A NEW WET WELL SHALL BE LINED WITH AN APPROVED SOLID THERMOPLASTIC CAST-IN LINER. INTERIOR OF A REHABILITATED WETWELL AND THE VALVE VAULT SHALL BE COATED WITH AN APPROVED CORROSION BARRIER SYSTEM. ANY PREVIOUSLY INSTALLED PIPING/EQUIPMENT SHALL BE PROTECTED FROM OVERSPRAY.
10. PAINT PUMP NUMBERS (1,2) ON UNDERSIDE OF WET WELL AND VALVE VAULT ALUMINUM COVERS (COLOR=RED, HEIGHT=12" MIN.)
11. A DROP PIPE MAY BE REQUIRED FOR HIGH FLOW LIFT STATIONS.
12. ALL PERTINENT NOTES FROM WET WELL DETAIL WITH CAST-IN LINER APPLY.

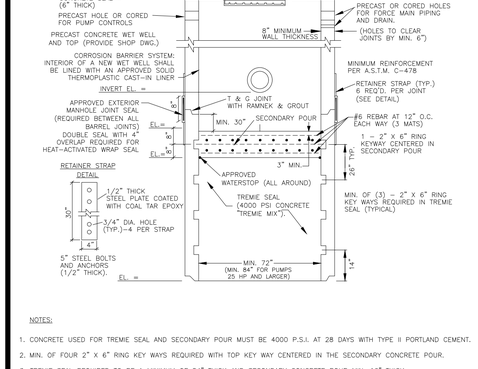
TYPICAL LIFT STATION SECTION ✳ 81S



NOTES:

1. INSTALL APPROVED GASKET MATERIAL AT ALL SECTION JOINTS PER GASKET MANUFACTURER'S SPECIFICATIONS. SHOP DRAWINGS TO IDENTIFY THE SIZE AND PLACEMENT OF JOINT SEALANT. JOINT PRIMER SHALL BE APPLIED TO THE PRECAST AND ALLOWED TO CURE.
2. PIPING IN WET WELL AND VALVE VAULT TO RECEIVE 2 COATS OF KOPPERS BITUMASTIC 300M, 8-10 MILS EA. COAT, OR APPROVED EQUAL.
3. ALL STEEL IN WET WELL SHALL BE STAINLESS STEEL, INCLUDING GUIDE BARS, LIFTING CHAIN, CABLE SUPPORTS, CABLE HOLDER, AND GUIDE BAR BRACKET (TYPE 316).
4. TYPE II REINFORCED CONCRETE (#4 BARS THROUGHOUT), 4000 P.S.I. CALCAREOUS AGGREGATE REQUIRED (MIN. CaCO3 CONTENT: 65% IN LARGE AGGREGATE, 50% IN CONCRETE SCREENING).
5. SEE PLAN FOR CORRECT ORIENTATION OF PIPES, VENT, AND OTHER FIXTURES.
6. ALL HARDWARE INSIDE AND OUTSIDE OF WET WELL AND VALVE PIT SHALL BE STAINLESS STEEL (TYPE 316).
7. A. INSTALL ¾" THICK STAINLESS STEEL PLATE THAT EXTENDS MIN. 3" AROUND PERIMETER OF BASE ELBOW.
   B. BASE ELBOW ANCHORS SHALL BE MIN. ¾"x10" (316) S.S., DOUBLE NUTTED, MIN. 2" THREAD LENGTH, TORQUED TO 150 FOOT POUNDS.
8. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
9. INTERIOR OF A NEW WET WELL SHALL BE LINED WITH ANY APPROVED SOLID CAST-IN LINER SYSTEM. LINERS MAY ONLY BE WELDED BY WELDERS CERTIFIED BY THE LINER MANUFACTURER AND CAST INTO THE STRUCTURE BY A PRECASTER CERTIFIED BY THE LINER MANUFACTURER. VALVE VAULT MAY BE LINED WITH ANY APPROVED CORROSION BARRIER SYSTEM.
10. WALL THICKNESS AND REINFORCING ARE PER ASTM C-478 LATEST REVISION.
11. ALL DRAIN LINES, CONDUITS, AND VENT PIPES WILL BE CONNECTED TO THE CAST-IN LINER PER THE MFG'S. SPECIFICATIONS (SEE DETAILS). ALL PIPE CONNECTIONS SHALL BE GAS TIGHT AND WATERTIGHT WITH NO EXPOSED CONCRETE SURFACES.
12. CAST OPENINGS SHALL BE MANUFACTURED WITH A CAST-IN POLYPROPYLENE SLEEVE. APPROVED FLEXIBLE CONNECTORS SHALL BE USED AT INFLUENT AND DISCHARGE PIPE CONNECTIONS. HOLE SIZE BY BOOT MFG'S. SPECIFICATIONS. DOUBLE PIPE CLAMPS MUST BE INSTALLED ON FLEXIBLE CONNECTORS WHERE REQUIRED BY BOOT MFG'S. INSTALLATION INSTRUCTIONS (SEE DETAIL).
13. CORED PIPE OPENINGS SHALL BE INSTALLED PER DETAIL. APPROVED FLEXIBLE CONNECTORS WILL BE INSTALLED ONTO POLYPROPYLENE WALL SLEEVE. WALL SLEEVE SHALL BE EPOXIED INTO CORED OPENING AND THERMAL WELDED TO WALL LINER (SEE DETAIL). WELDING SHALL BE PERFORMED EXCLUSIVELY BY LICENSED CERTIFIED WELDERS.
14. ALL BOLT PENETRATIONS THROUGH LINER SHALL BE SEALED WITH AN APPROVED HYDROPHILIC RUBBER CAULKING AND PLACED SO THAT A COMPRESSION SEAL WILL DEVELOP IN THE PRESENCE OF MOISTURE (SEE DETAIL).
15. SEAL LINER/FILLET INTERFACE WITH 3M WEATHERBAN 5354 SEALANT TAPE OR AN APPROVED EQUAL.

TYPICAL LIFT STATION SECTION WITH CAST-IN LINER ✳ 49S



NOTES:

1. CONCRETE USED FOR TREMIE SEAL AND SECONDARY POUR MUST BE 4000 P.S.I. AT 28 DAYS WITH TYPE II PORTLAND CEMENT.
2. MIN. OF FOUR 2" X 6" RING KEY WAYS REQUIRED WITH TOP KEY WAY CENTERED IN THE SECONDARY CONCRETE POUR.
3. TREMIE SEAL REQUIRED TO BE A MINIMUM OF 84" THICK AND SECONDARY CONCRETE POUR MIN. 16" THICK.
4. TREMIE SEAL TO CURE MINIMUM 72 HOURS PRIOR TO PUMPING OFF WATER TO PREPARE FOR SECONDARY CONCRETE POUR.
5. ENGINEER OF RECORD SHALL SUBMIT SIGNED AND SEALED BUOYANCY CALCULATIONS TO PBCWUD FOR REVIEW AND APPROVAL. FLOATATION CALCULATION SHALL BE BASED ON 25 YR. FLOOD STAGE DURING CONSTRUCTION AND ON 100 YR. FLOOD STAGE WITH SECONDARY POUR INCLUDED.
6. WEIGHT OF TOP SLAB, SECONDARY CONCRETE POUR, PUMPS AND EXTERIOR SKIN FRICTION SHALL NOT BE INCLUDED IN BUOYANCY CALCULATIONS. GROUNDWATER SHALL BE CONSIDERED AT GROUND LEVEL FOR BUOYANCY CALCULATIONS.
7. SEE TYPICAL LIFT STATION DETAILS FOR ADDITIONAL DESIGN AND CONSTRUCTION STANDARDS.
8. WET WELL RISERS SHALL BE MIN. 24", MAX. 72" TALL. CALCAREOUS AGGREGATE REQUIRED (MIN. CaCO3 CONTENT: 65% IN LARGE AGGREGATE, 50% IN CONCRETE SCREENING).
9. CONCRETE BARREL SECTIONS SHALL BE INSTALLED BY CLAMSHELL/CRANE METHOD. DAMAGED SECTIONS WILL NOT BE ACCEPTED.
10. NO CONCRETE SHALL BE PLACED UNLESS WATER LEVEL IN WET WELL IS EQUAL TO OUTSIDE WATER TABLE ELEVATION. INSIDE WATER LEVEL SHALL BE MAINTAINED AT WATER TABLE ELEVATION AT ALL TIMES DURING CONCRETE PLACEMENT.
11. THE CONCRETE TREMIE SEAL RAISE RATE SHOULD BE MAINTAINED BY CONTRACTOR TO ASSURE NO COLD JOINT OCCURS IN SEAL.
12. MIN. PUMP SIZE TO BE 2" MAXIMUM CHUTE SIZE TO BE 12".
13. ENGINEER OF RECORD OR HIS REPRESENTATIVE SHALL BE PRESENT DURING THE WET WELL SETTING AND TREMIE POUR PROCEDURE. ANY CORRECTIVE ACTION FOR LOST SEAL OCCURRENCE SHALL BE DOCUMENTED AND APPROVED BY THE ENGINEER OF RECORD.
    DROP PIPE MAY BE REQUIRED FOR HIGH FLOW LIFT STATION.

LIFT STATION WETWELL SETTING TREMIE POUR DETAIL 52S

INSTALLATION NOTES

1. PANEL, METER, JUNCTION BOX AND 120 VOLT TRANSFORMER ARE TO BE MOUNTED ON STAINLESS STEEL STRUTS, WITH STAINLESS STEEL FASTENING DEVICES, AND SHALL BE SUPPORTED BY MINIMUM OF THREE POSTS, MIN. FOUR (4) INCH DIAMETER PIPE OR MIN. FOUR (4) INCH SQUARE TUBE (ALUMINUM OR STAINLESS STEEL) CAPPED AT THE TOP. PAINT BELOW GRADE SUPPORTS WITH ASPHALTUM PAINT TO FOUR (4) INCHES ABOVE GRADE.
2. PANEL SHALL BE AT 42 INCHES FROM THE WET WELL OPENING MEASURED FROM THE FRONT OF THE PANEL UNLESS OTHERWISE SHOWN IN THE DRAWINGS. FRONT OF CONTROL PANEL SHALL FACE TO THE WET WELL.
3. RADIO TO MATCH PALM BEACH COUNTY'S SYSTEM INCLUDING RUN TIME TRANSMITTAL. LIVE TEST OF THE TELEMETRY SYSTEM MUST BE DONE AND APPROVED AT THE PUMP STATION START-UP. ANTENNA AND CABLE SHALL BE PART OF THE RADIO SYSTEM. ANTENNA SHALL BE SEPARATELY GROUNDED TO THE GROUND ROD OF THE STATION.
4. FABRICATE ANTENNA FROM 21 FEET LENGTH OF 2" DIAMETER SCHEDULE 40 GALVANIZED STEEL CONTINUOUS PIPE. PAINT LOWER 42 INCHES WITH ASPHALTUM PAINT, CAP THE TOP OF PIPE.
5. RUN (1) INCH RIGID GALVANIZED CONDUIT UP THE MAST FOR THE ANTENNA CABLE TO WITHIN 16 INCHES OF THE TOP. RUN SECOND 3/4 INCH CONDUIT UP THE MAST FOR ALARM AND FLOOD LIGHTS AS SHOWN. RUN THIRD 3/4 INCH CONDUIT UP THE MAST FOR SOLAR PANEL. USE STAINLESS STEEL UNISTRUT AND CLAMPS TO HOLD CONDUITS TO THE MAST.
6. MOUNT FLOOD LIGHT AND FLASHING RED LIGHT ON THE ANTENNA MAST AT NINE (9) FEET AND EIGHT (8) FEET ABOVE GRADE.
7. CONDUIT TO THE POWER COMPANY SERVICE POINT SHALL BE RIGID GALVANIZE WITH ASPHALTUM PAINT ON ALL FITTINGS AND ON ALL RISERS TO 12 INCHES ABOVE GRADE. CONDUIT FROM SERVICE ENTRANCE FUSED DISCONNECT SWITCH TO THE PANEL SHALL BE RIGID GALVANIZED CONDUIT ENTERING THE BOTTOM OF THE PANEL. ALL WIRE SHALL BE COPPER. HIGH LEG ON 240 VOLT SHALL BE TAPED ORANGE AND PUT ON CENTRAL TERMINAL IN PANEL AND RIGHT TERMINAL IN METER.
8. PROVIDE PVC SCHEDULE 40 CONDUITS WITH SWEEP BENDS FROM THE JUNCTION BOX TO THE WET WELL.
9. SUPPORT PUMP CABLES WITH STAINLESS SPLIT BASKET KELLUM (OR EQUAL) GRIPS IN WET WELL. SUPPORT FLOAT CABLE ON S.S. THIMBLE FROM THE RACK. ALL HARDWARE IN THE WET WELL AND ALL FASTENERS SHALL BE STAINLESS STEEL. CABLES SHALL BE CONTINUOUS FROM THE JUNCTION BOX TO THE MOTORS OR SENSORS.
10. WHEN CONNECTIONS ARE COMPLETE IN THE JUNCTION BOX, COAT THE TERMINAL BLOCKS AND WIRE ENDS WITH PROTECTIVE COMPOUND, NO-OXIDE OR EQUAL, TO PREVENT CORROSION.
11. PROVIDE 3/4 INCH RIGID GALVANIZED CONDUIT FROM THE PANEL TO 120 VOLT TRANSFORMER. ALL CONDUITS ENTER BOTTOM OF THE PANEL UNLESS OTHERWISE SHOWN. SEAL ALL CONDUITS WITH DUCT SEAL TO KEEP OUT MOISTURE.
12. PAINT PVC PIPES, CONDUITS AND ANY PARTS NOT STAINLESS OR ALUMINUM WITH TWO (2) COATS OF ALUMINUM PAINT.
13. LIFT STATION START UP SHALL BE PERFORMED DURING THE ANTICIPATED PEAK FLOW CONDITIONS. TEST AS FOLLOWS (PUMP SUPPLIER'S FIELD REPRESENTATIVE MUST BE PRESENT AT THE START UP).
    A. MEGGER MOTORS, MOTORS SHALL BE 20 MEGOHMS OR MORE TO GROUND, DO NOT MEGGER LOW VOLTAGE CONTROLS.
    B. CHECK VOLTAGE, CHECK PUMP ROTATION, RECORD VOLTAGE AND AMPS UNDER LOAD.
    C. DEMONSTRATE PROPER OPERATION OF ALL CONTROLS.
    D. CONDUCT DRAWDOWN TESTS AS REQUIRED TO CONFIRM PROPER PUMP/IMPELLER INSTALLATION.
    E. CHECK OPERATION WITH OWNER'S PORTABLE GENERATOR CHANGE WIRE CONNECTIONS IN THE PANEL TO GIVE CORRECT ROTATION.
14. TEST AND DEMONSTRATE PROPER OPERATION OF THE RADIO TELEMETRY SYSTEM. SUPPLIER'S FIELD REPRESENTATIVE SHALL MOUNT AND CONNECT THE ANTENNA AND MAKE THE FINAL CONNECTIONS TO THE SYSTEM.
15. PROVIDE LIQUID TIGHT NONMETALLIC FLEXIBLE CONDUIT (CARLON CARFLEX) WITH SEAL TYPE FITTINGS FOR LEVEL TRANSMITTER CABLE INSIDE THE WET WELL.
16. PROVIDE GAS SEALOFF WITH CHICO COMPOUND FOR CONDUITS BETWEEN JUNCTION BOX AND CONTROL PANEL.
17. ALL STAINLESS STEEL SHALL BE 316 UNLESS INDICATED OTHERWISE.

CONTROL PANEL INSTALLATION NOTES ✳ 58S

SITE PLAN

WET WELL DATA

	PROPOSED	AS-BUILT
STATION NUMBER		
DIAMETER		
TOP SLAB ELEV.		
BASE SLAB ELEV.		
INFLUENT ELEV.		
HIGH WATER ALARM		
STANDBY PUMP ON		
DUTY PUMP ON		
BOTH PUMPS OFF		
FINISHED GRADE		
LOCATED ON SHEET		

PUMP DATA

PUMP STATION NUMBER			
PUMP NUMBER			
MAX./MIN. G.P.M.			
MIN./MAX. T.D.H			
MANUFACTURER			
MODEL			
IMPELLER NUMBER			
R.P.M.			
H.P.			
SIZE			
MAX. SOLID SIZE			
PHASE			
CYCLE			
VOLTS			

RTU RECORD DATA

ADDRESS		LOCATION DESCRIPTION (DISTANCES AND DIRECTIONS FROM CENTERLINES AND/OR INTERSECTIONS OF STREETS, CANALS OR EQUAL)	
GEOGRAPHICAL LOCATION	LAT. 26° ' "N		
	LONG. 80° ' "W		
HEIGHT OF ANTENNA ABOVE SLAB	FEET		
FREQUENCY	MHZ		
POWER	WATTS		
P.B.C. LIFT STATION No.			

LIFT STATION MECHANICAL
STANDARD DETAILS, 1 OF 2

CONSULTANT:

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

Jul 29, 2019

PROJECT NO.
00-000

PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	REVISION / REMARKS	BY
✳	JUNE 2019	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

SEAL