


NO.	REVISION DESCRIPTION	BY	DATE
1	Rev. General Notes; add dimension btw VV and isolation valve	JSS	2/17/21

SATELLITE LIFT STATION R&R

2020 GROUP 3

NEW 301 IND. PARK, RTU 344 (REHAB)



PUBLIC WORKS DEPARTMENT

ENGINEERING SERVICES

1022 26th Avenue East, Bradenton, FL 34208

PROJECT #

402-0019707

SURVEY #

00-44787

SEC./TWN./RGE

31/35/18

SCALE

N.T.S.

SURVEYED

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DATE

4/12/19

DESIGNED

JSS

09/2019

DRAWN

JSS

08/2019

CHECKED

JSS

08/2019

JOHN S. SHOUN, P.E.

FLORIDA ENGINEERING LICENSE No. 60923

STATE OF FLORIDA

PROFESSIONAL ENGINEER

Signature: [Signature] Date: [Date]

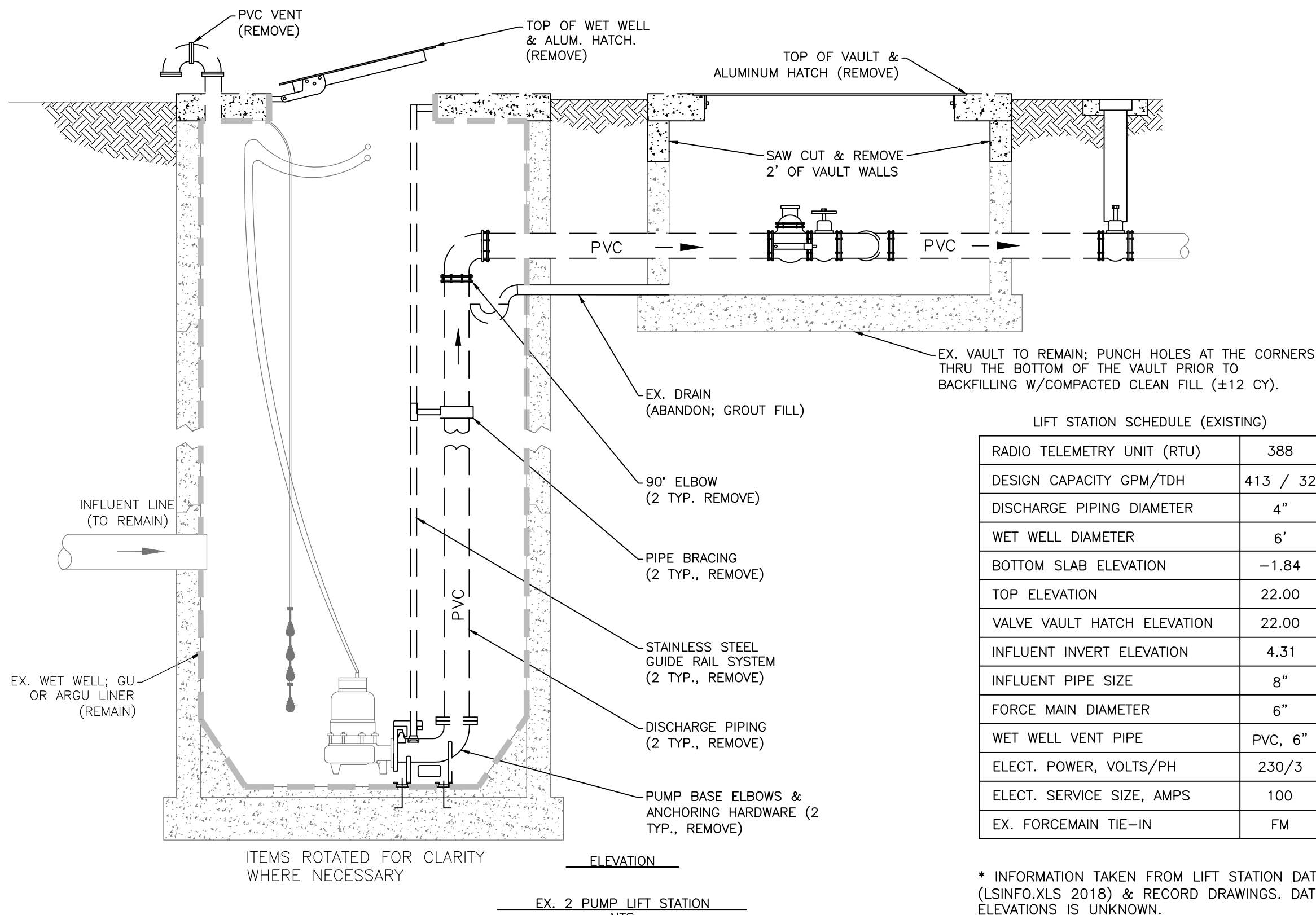
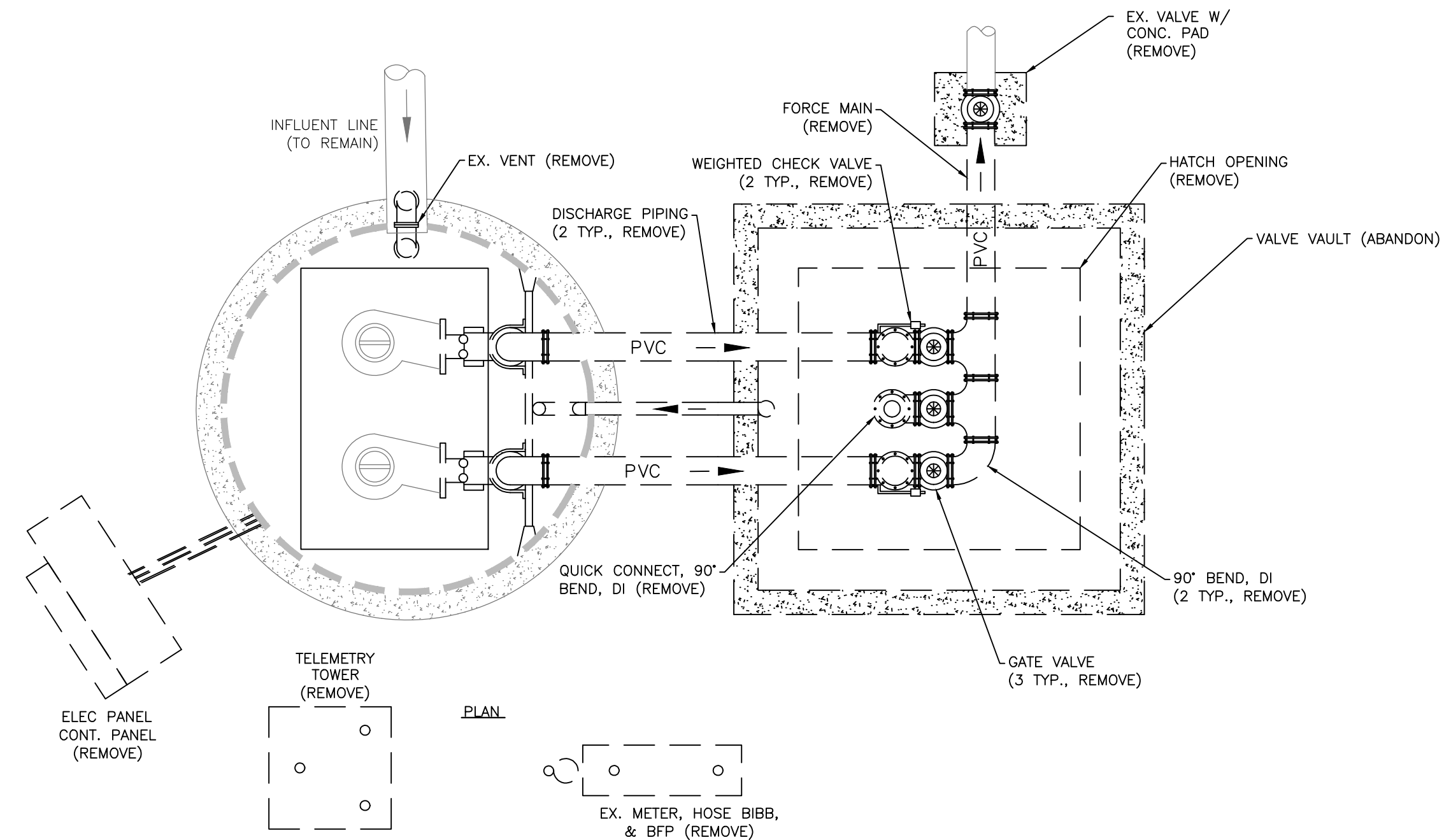
SHEET 04 OF 14



**EXISTING**

NOTES:

1. THE WET WELL AND VALVE VAULT CONFIGURATION SHOWN ON THESE GRAPHICS IS FOR IDENTIFICATION OF COMPONENTS TO BE REMOVED. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, CONFIGURATION, ETC. FOR ACCURACY.
2. THE CONTRACTOR/BIDDER SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
3. THE CONTRACTOR/BIDDER SHALL DETERMINE THE DISCHARGE PIPING ELEVATIONS DURING THE SITE VISITS.
4. REMOVAL AND REINSTALLATION OF FIVE PUMPS DURING THE REHABILITATION SHALL BE DONE BY MANATEE COUNTY PERSONNEL IN COORDINATION WITH THE CONTRACTOR
5. BY-PASS PUMPING IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. MANATEE COUNTY GOVERNMENT WILL PROVIDE ONE (1) LIFT STATION SHUT-DOWN AT NO COST TO THE CONTRACTOR. ADDITIONAL SHUT-DOWNS WILL COST THE CONTRACTOR \$3,500 EACH, IF NEEDED.
7. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY DAMAGED LANDSCAPING TO EXISTING OR DESIGN CONDITIONS.
8. THE WORK AREA IS LIMITED TO THE LIFT STATION SITE.



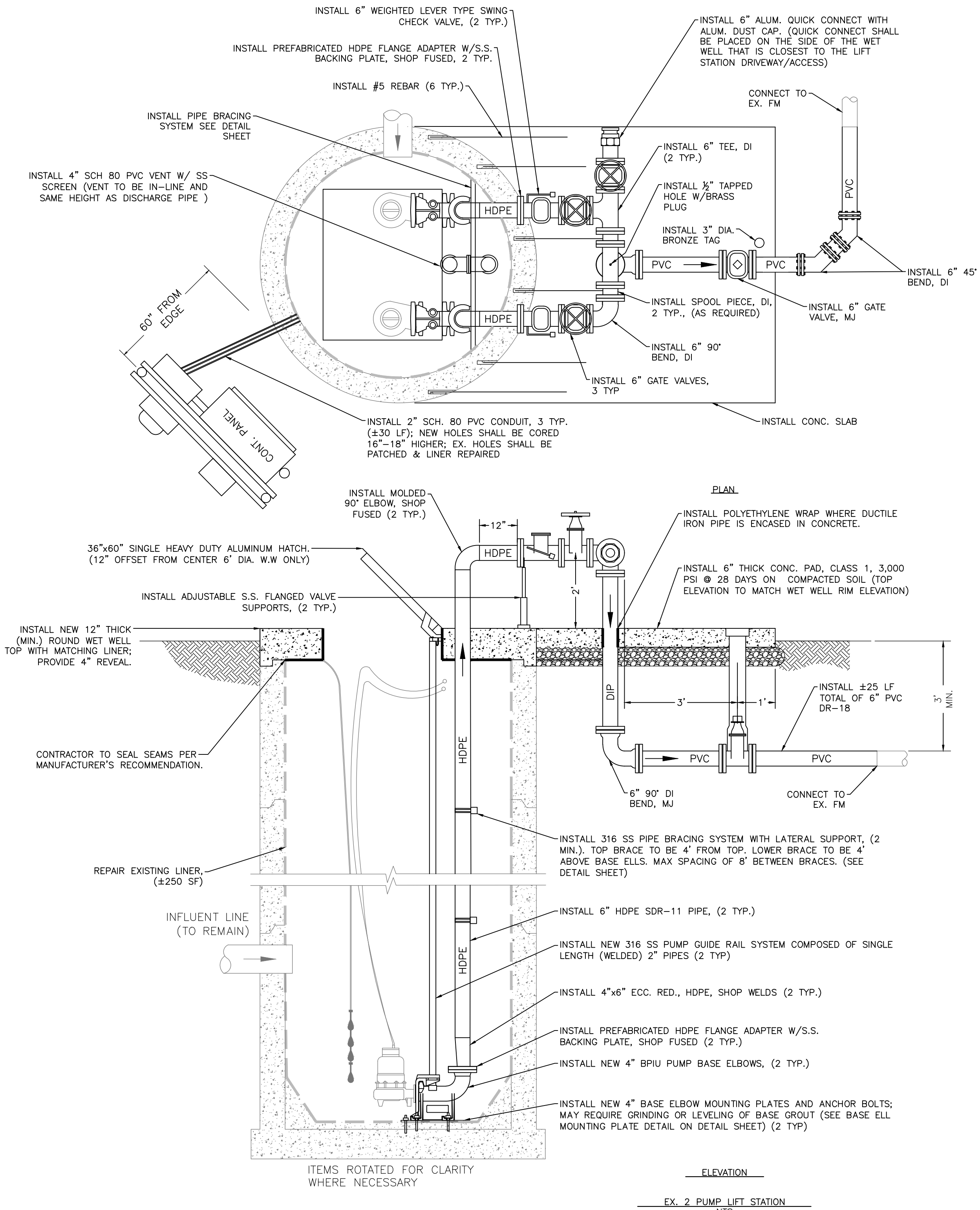
RADIO TELEMETRY UNIT (RTU)	388
DESIGN CAPACITY GPM/TDH	413 / 32
DISCHARGE PIPING DIAMETER	4"
WET WELL DIAMETER	6'
TOP BOTTOM SLAB ELEVATION	-1.84
TOT ELEVATION	22.00
VALVE VAULT HATCH ELEVATION	22.00
INFLUENT INVERT ELEVATION	4.31
INFLUENT PIPE SIZE	8"
FORCE MAIN DIAMETER	6"
WET WELL VENT PIPE	PVC, 6"
ELECT. POWER, VOLTS/PH	230/3
ELECT. SERVICE SIZE, AMPS	100
EX. FORCEMAIN TIE-IN	FM

\* INFORMATION TAKEN FROM LIFT STATION DATA FILE (LSINFO.XLS 2018) & RECORD DRAWINGS. DATUM OF ELEVATIONS IS UNKNOWN.

**PROPOSED**

GENERAL NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS.
2. THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAN 1/4" UNDER A TEN FOOT (10') STRAIGHTEDGE, NOT MORE THAN 1/8" ON A FIVE FOOT (5') TRANSVERSE SECTION. THE EDGE OF THE CONCRETE PAD SHALL BE CAREFULLY FINISHED WITH AN EDGING TOOL HAVE A RADIUS OF 1/2".
3. EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE CONC. PAD AND THE WET WELL SHALL BE 1/2" MATERIAL AND SHALL MEET THE REQUIREMENTS OF AASHTO M153 OR AASHTO M213.
4. THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE PAD EXPOSED ABOVE GRADE SHALL BE COATED WITH AT LEAST TWO COATS OF H & C SILICONE ACRYLIC CONCRETE STAIN, PALTU GREEN, MANUFACTURED BY FLR PRINTE. THE ABOVE GROUND VALVE ASSEMBLY PIPING SHALL BE PAINTED, RUSTOLENE 7538 HUNTER GREEN. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT OVER-SPRAY OF PAINT ONTO THE CONCRETE SLAB.
5. ALL PAINTING SHALL BE INCLUDED IN THE BID ITEM TO BE PAINTED.



CONSTRUCTION NOTES:

1. INSTALL ±10 LF NEW ELECTRICAL SERVICE W/ CONDUIT, AND PROPER LABELING IN COMPLIANCE WITH NFPA 70E "STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE" AND IEEE 1584 2018 "GUIDE FOR PERFORMING ARC FLASH HAZARDS CALCULATIONS" SHALL BE PROVIDED.
2. REMOVE AND INSTALL ALL NEW ELECTRICAL STRUCTURE (RACK), A CONTROL PANEL, TCU ENCLOSURE, JUNCTION BOX ENCLOSURE, A METER CAN, AND A SAFETY SWITCH (DISCONNECT). NEW ELECTRICAL STRUCTURE SHALL BE FIELD LOCATED WITH MANATEE COUNTY PERSONNEL.
3. A TCU BUBBLER UNIT (TBU360) SYSTEM PROVIDED AND INSTALLED BY DATA FLOW SYSTEMS (DFS) FOR WET WELL LEVEL CONTROL SHALL BE INCLUDED WITH THE CONTROL PANEL.
4. INSTALL #5 REBAR (6 TYP.) EPOXY EMBEDDED INTO THE WET WELL TOP 3-4 INCHES DEEP AND CAST 3.4 FEET INTO THE VALVE VAULT ASSEMBLY CONCRETE PAD TO ENSURE THE TOPS OF THE WET WELL AND VALVE ASSEMBLY PAD WILL REMAIN FLUSH.
5. INSTALL WASHED SHAL & WEED BARRIER (±100 SY); GRADE THE AREA AROUND WET WELL TO ALLOW FOR POSITIVE DRAINAGE AROUND LIFT STATION AND TO HAVE A 4" REVEAL ON THE WET WELL/VALVE ASSEMBLY PAD COORDINATE WITH MANATEE COUNTY PERSONNEL.
6. SEPARATE THE TELEMETRY TOWER FROM CONCRETE BASE AND MOVE TO SIDE OF LIFT STATION SITE. CONTRACTOR SHALL REMOVE AND DISPOSE OF CONCRETE BASE. COUNTY SHALL INSTALL NEW TELEMETRY ANTENNA.
7. REPAIR CONCRETE WALLS, AS NEEDED, IN WET WELL, 2-INCH MIN. THICK OVER EXISTING REBAR, (±250 SF). ALL REPAIRS TO BE VERIFIED W/ COUNTY PERSONNEL PRIOR TO WORK.
8. DAMAGED EXISTING PROTECTIVE LINER(S) AND DETERIORATED WET WELL CONCRETE WALLS SHALL BE INSPECTED BY COUNTY PERSONNEL PRIOR TO REMOVAL AND INSTALLATION OF NEW CONCRETE REPAIR(S) AND/OR INSTALLATION OF NEW PROTECTIVE LINER(S) AND/OR LINER REPAIR.
9. WET WELL CONCRETE WALLS SHALL BE INSPECTED BY COUNTY PERSONNEL PRIOR TO INSTALLATION OF NEW SPRAY LINER AND/OR LINER REPAIR.
10. UPGRADE AND RELOCATE METER, BPA, & HOSE BIB ASSEMBLY. FIELD LOCATE WITH MANATEE COUNTY PERSONNEL.
11. INSTALL A 12-FT WIDE 6-INCH THICK REINFORCE CONCRETE DRIVEWAY. EXACT LOCATION AND LAYOUT SHALL BE DETERMINED IN THE FIELD WITH COUNTY PERSONNEL, (±45 SF).
12. CONTRACTOR TO REGRADE SITE TO ALLOW FOR A POSITIVE DRAINAGE SLOPE AROUND THE LIFT STATION AREA TOWARDS THE SURROUNDING DITCHES. MAXIMUM OF 1% SLOPE.
13. AN ELECTRICAL SYSTEM STUDY, ELECTRICAL SYSTEM ANALYSIS AND PROPER LABELING IN COMPLIANCE WITH NFPA 70E "STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE" AND IEEE 1584 2018 "GUIDE FOR PERFORMING ARC FLASH HAZARDS CALCULATIONS" SHALL BE PROVIDED.

LIFT STATION SCHEDULE (PROPOSED)	
INSTALL FIBERGLASS W.W. LINER	NO
APPLY SPRAY LINER W.W. LINER	NO
INSTALL STILLING WELL	YES
INSTALL FORCE MAIN ISOLATION VALVE	YES
NEW HDPE DISCHARGE PIPING	YES, 6"
NEW BASE ELL	4" BPIU-14
RAISE TOP OF WET WELL:	YES
RAISE TOP OF VALVE VAULT:	NO
INSTALL WET WELL VENT PIPE	YES
INSTALL NEW WATER SERVICE ASSEMBLY, US-15	YES
UPGRADE / RELOCATE EX. WATER SERVICE ASSEMBLY	YES

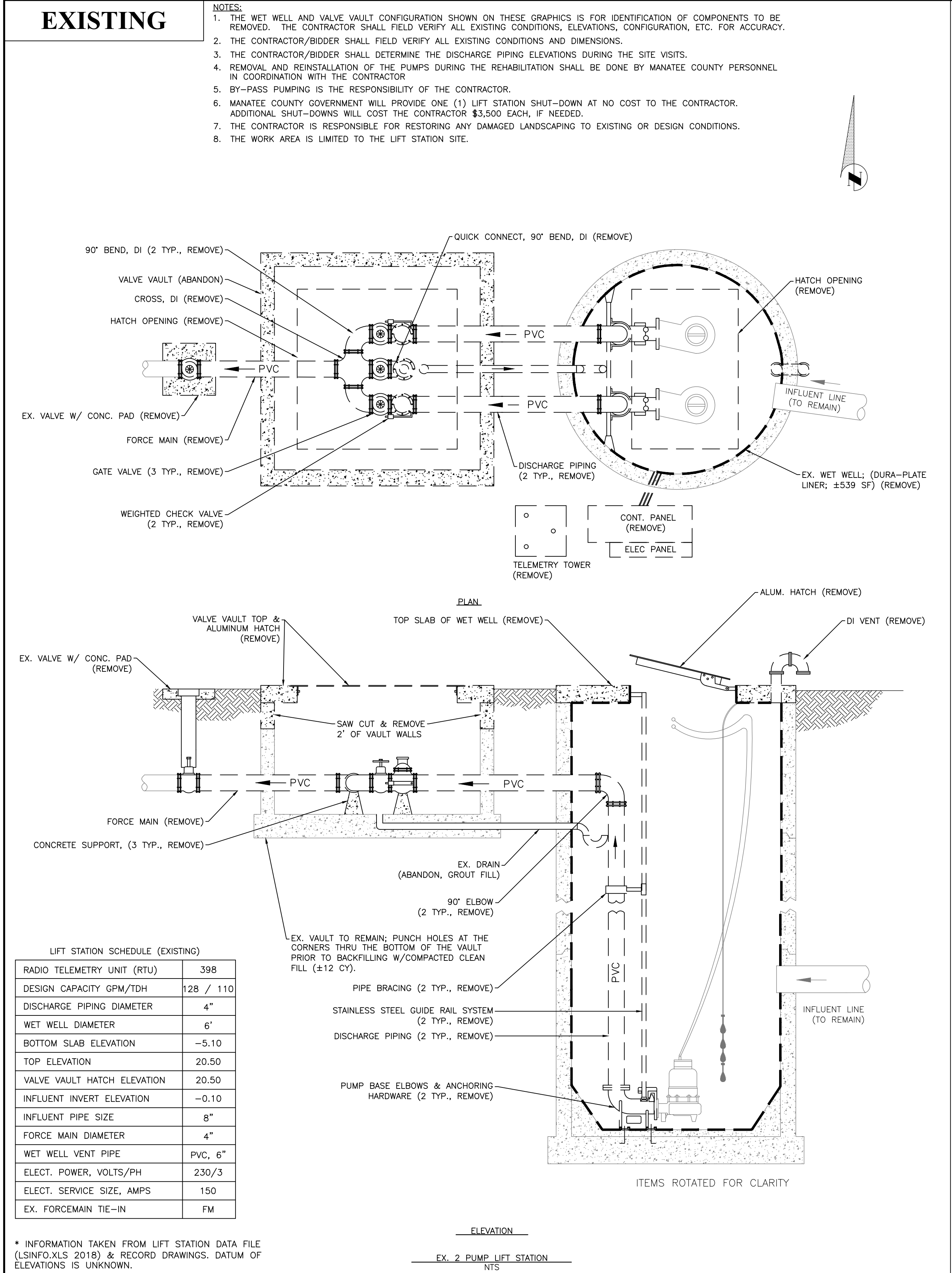
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**SATELLITE LIFT STATION R&R  
2020 GROUP 3  
LAKEWOOD MEADOWS, RTU 388 (REHAB)**

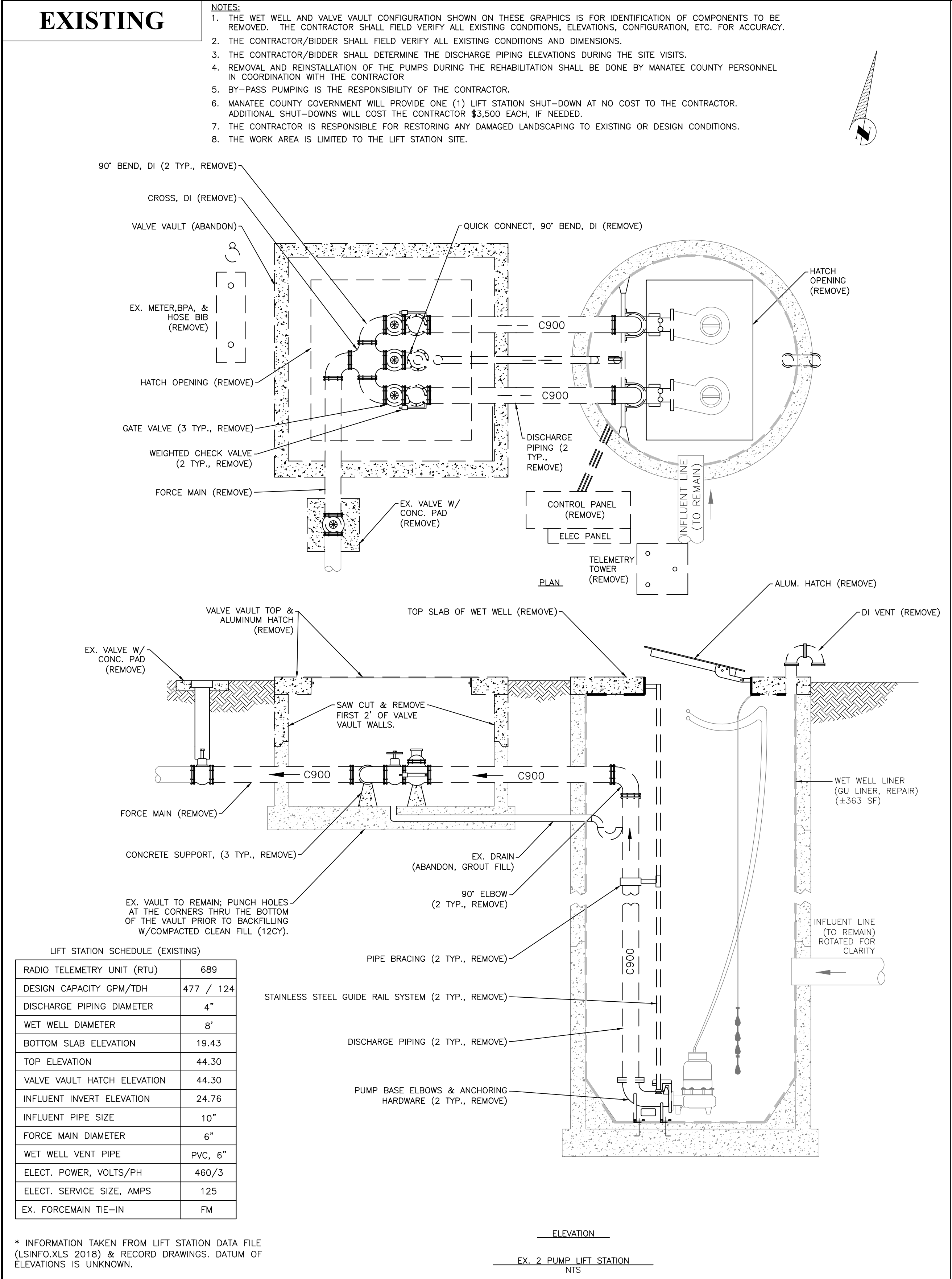


PROJECT #		402-0019707
SURVEY #		00-44787
SEC./TWN./RGE		31/35/18
SCALE		N.T.S.
	BY	DATE
SURVEYED	---	4/12/1
DESIGNED	JSS	09/201
DRAWN	JSS	08/201
CHECKED	JSS	08/201



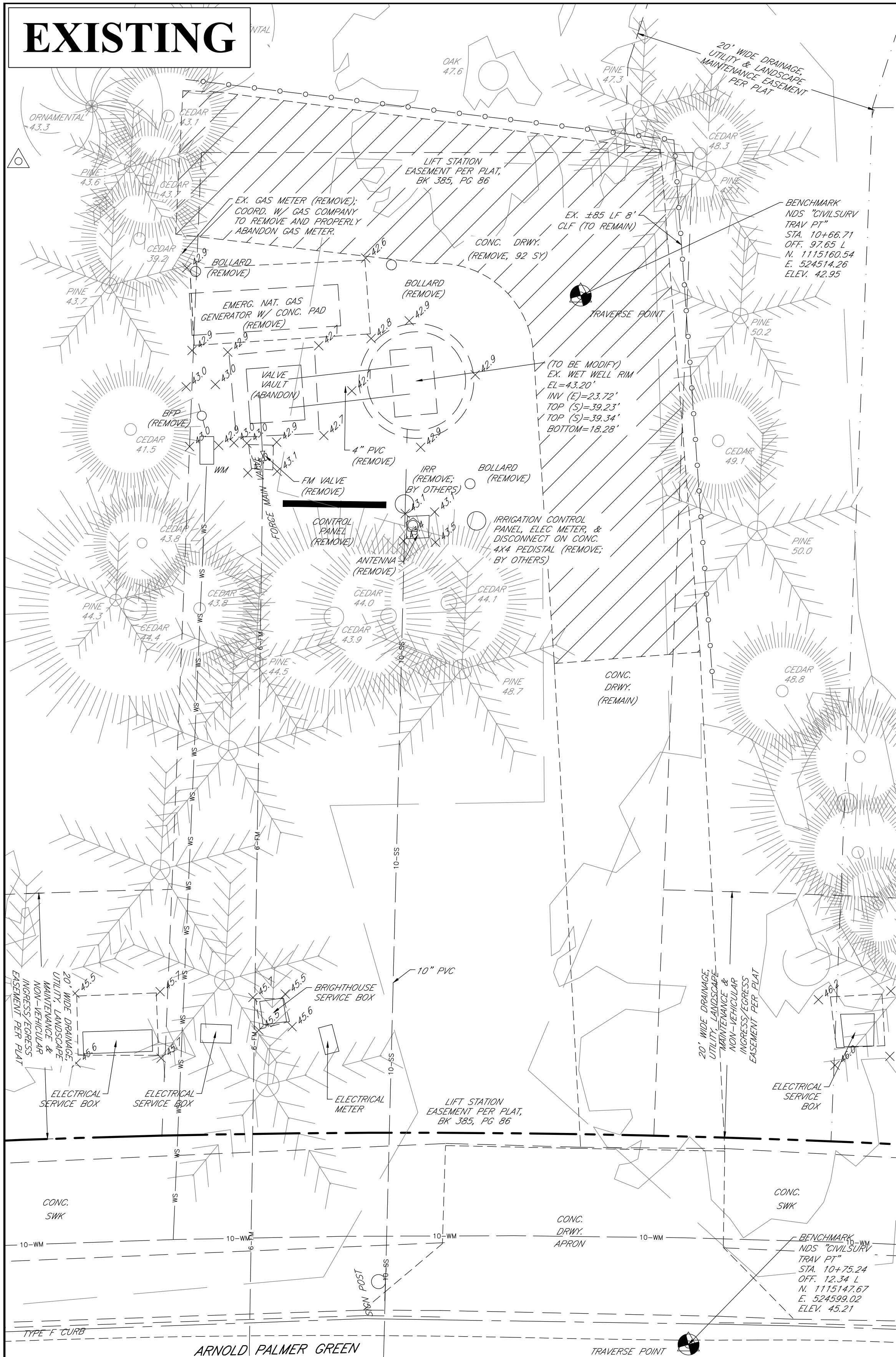








# EXISTING



## CONSTRUCTION NOTES:

1. A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF FLORIDA SHALL BE REQUIRED TO PREPARE RECORD DRAWINGS PER THE REQUIREMENTS OF THE PROJECT SPECIFICATION FOR ALL LIFT STATION SITE IMPROVEMENTS ABOVE & BELOW GROUND, (I.E. THE CONCRETE PADS, EMERGENCY PUMP PIPING, UNDERGROUND CONDUIT INSTALLED, ETC. FOR THE LIFT STATION SITE.
2. THE COUNTY SHALL RETAIN OWNERSHIP OF THE AUTOMATIC TRANSFER SWITCH (ATS), ENCLOSURE, AND PARTS.
3. ALL ITEMS IN THE LIFT STATION LIMITS SHALL BE REMOVED IN PREPARATION FOR THE SITE TO BE RAISED. ALL PROPOSED ITEMS AND/OR EQUIPMENT ARE TO BE INSTALLED AFTER THE SITE HAS BEEN RAISED AND COMPACTED.
4. THE LIFT STATION SITE WET WELL SHALL BE RAISE APPROXIMATELY 2'-FEET AND THE SURROUNDING AREA BROUGHT UP TO GRADE, ALLOWING FOR A 4-INCH REVEAL ON THE WET WELL. THE SITE SHALL BE GRADED AT APPROXIMATELY 6:1 SLOPE (CAN BE FIELD ADJUSTED) AWAY FROM THE WET WELL TO ALLOW FOR POSITIVE DRAINAGE AWAY FROM THE LIFT STATION. THE EXISTING TREES AND FENCE LINE SHALL BE USED A VISUAL BOUNDARY AND THE PROPOSED DAYLIGHT LIMITS OF THE FILL.
5. REPLACE EXISTING POTABLE WATER SERVICE LINE FROM THE EXISTING WATER MAIN TO THE LIFT STATION METER. INSPECT THE EXISTING SADDLE AND CORPORATION AT THE MAIN WITH A COUNTY REPRESENTATIVE; IF THEY DO NOT MEET CURRENT COUNTY STANDARDS, THEY SHALL BE REPLACED.

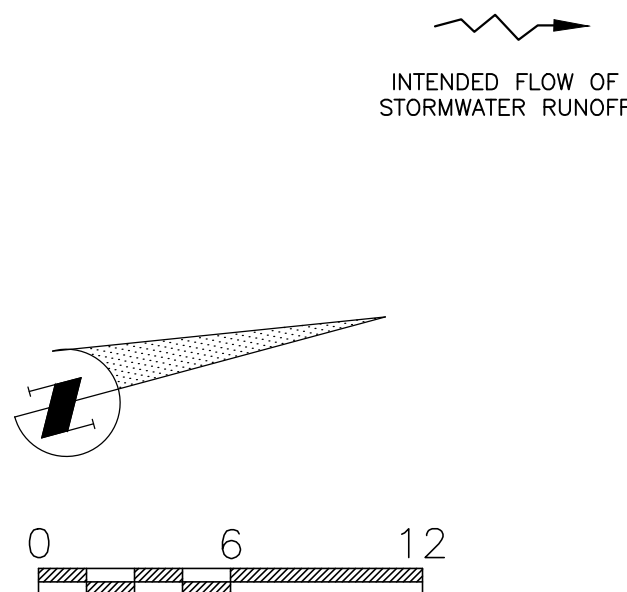
## EMERGENCY BACKUP PUMP NOTES:

1. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE SIZING, FURNISHING, AND INSTALLING A FULLY OPERATIONAL, PROPERLY FUNCTIONING, EMERGENCY BACKUP PUMP SUPPLIED BY GODWIN PUMPS; THIS SHALL INCLUDE ALL PIPING AND FITTINGS OF THE SUCTION AND DISCHARGE SIDE OF THE PUMP FROM THE WET WELL AND TO THE ISOLATION GATE VALVE (CONNECTION POINT) TO ENSURE THE MOST EFFICIENT DESIGN. THE COUNTY SHALL SUPPLY ALL REQUESTED AVAILABLE DATA TO ASSIST IN THE CONTRACTOR ENDEAVORS.
2. CONTRACTOR IS RESPONSIBLE FOR ALL FITTINGS REQUIRED TO CONNECT THE PUMP TO THE SUCTION/DISCHARGE PIPING. FITTING SHALL BE INCLUDED IN PUMP COST.
3. CONTRACTOR RESPONSIBLE TO PULL AND TERMINATE REMOTE REMOTE WIRING AT CONTROL PANEL. MANATEE COUNTY PERSONNEL TO MOUNT AND CONNECT TO PANEL. CONTRACTOR TO COORDINATE WITH MANATEE COUNTY PERSONNEL PRIOR TO AND DURING INSTALLATION OF REMOTE SENSOR.
4. CONTRACTOR SHALL COORDINATE WITH PUMP VENDOR TO TEST AND CONFIGURE THE PUMP OPERATION AS SUBMITTED IN THE SHOP DRAWING.
5. CONTRACTOR SHALL HIRE A LICENSED SURVEYOR TO STAKE OUT EXISTING EASEMENTS BOUNDARIES PRIOR TO COMMENCING WORK. ALL EQUIPMENT, PIPING, ETC. SHALL BE WITHIN THE EASEMENTS. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER & MANATEE COUNTY.
6. THE SUCTION AND DISCHARGE PIPING SHOWN IS ONE POSSIBILITY FOR INSTALLATION. CONTRACTOR SHALL COORDINATE WITH COUNTY PERSONNEL PRIOR TO INSTALLATION. ALL PIPING AND CONDUIT INSTALLED SHALL BE SHOWN ON THE RECORD DRAWINGS.
7. THE CAPACITY OF THE DIESEL FUEL TANK SHALL BE SIZED TO THE MINIMAL FOOTPRINT & HEIGHT TO RUN THE BACKUP PUMP CONTINUOUSLY AT MAXIMUM RATED CAPACITY FOR A MINIMUM 48 HOURS, BUT NOT TO EXCEED A MAXIMUM OF 540 GALLONS.
8. CONTRACTOR SHALL SUPPORT ALL SUSPENDED PIPING WITH 316 S.S. ADJUSTABLE STANDS FASTENED TO A CONCRETE PAD, AS NECESSARY.
9. THE OVERALL FUEL SYSTEM IS TO COMPLY WITH ALL APPLICABLE NFPA REGULATIONS AS WELL AS THOSE REQUIRED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION. THIS INCLUDES NFPA COMPLIANT LABELS FOR THE FUEL SHUT-OFF LOCATION AND APPLICATIONS OF DIESEL HAZMAT SYMBOL STICKERS.

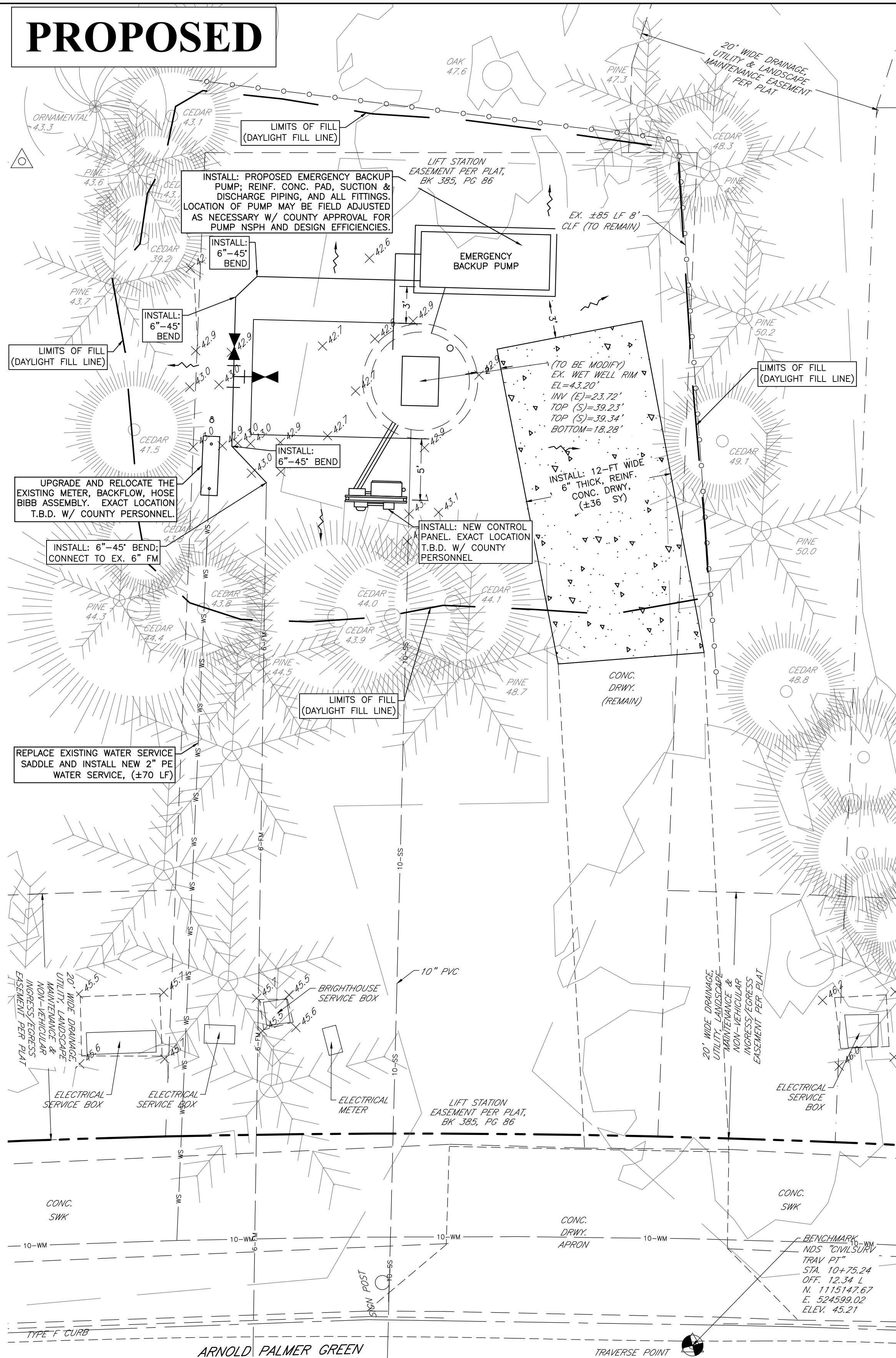
## SURVEYOR'S NOTES:

1. SURVEYOR: CIVLSURV DESIGN GROUP, INC., FIELD DATES: 12/11/2019 THRU 12/16/2019.
2. NORTH AND THE COORDINATES SHOWN HEREON ARE REFERENCED TO GRID NORTH, WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983, ADJUSTMENT OF 2011 UTILIZING CHAMPION TKO GNSS RTK RECEIVERS AND A NETWORK SOLUTION PROVIDED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION FLORIDA PERMANENT REFERENCE NETWORK (FPRN). THE COORDINATES LISTED HEREON ARE GRID VALUES AND ARE LISTED IN FEET. MANATEE COUNTY SURVEY CONTROL STATIONS "MARCO" (PID: DP2149) AND "LELY" (PID: DP2148) WERE UTILIZED AS CONTROL FOR THIS SURVEY.
3. ELEVATIONS SHOWN ARE RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND ARE BASED ON MANATEE COUNTY SURVEY BENCHMARKS "132-88-04" (PUBLISHED ELEVATION 35.20') AND "132-88-10" (PUBLISHED ELEVATION 43.85'). ADD 0.96' TO THE PUBLISHED NAVD 1988 ELEVATIONS TO CONVERT TO NGVD 1929. THIS CONVERSION WAS DETERMINED BY USING NATIONAL GEODETIC SURVEY PROGRAM VERICON.
4. PARCEL LINES AND RIGHT OF WAYS LINES SHOWN HEREON ARE BASED ON FOUND MONUMENTATION, PLATS AND DEEDS OF RECORD CONTAINED IN THE OFFICIAL RECORDS OF MANATEE COUNTY, FLORIDA. THE PARCEL LINES AND RIGHT OF WAY LINE SHOWN HEREON ARE APPROXIMATE AND ARE SHOWN GRAPHICALLY AS AN AID FOR VISUAL REFERENCE.
5. AN ABSTRACT OF TITLE WAS NOT PERFORMED BY OR NOR FURNISHED TO CIVLSURV DESIGN GROUP, INC. ANY EASEMENTS OR ENCUMBRANCES THAT MAY APPEAR AS A RESULT OF SAID ABSTRACT IS NOT CERTIFIED HEREON.
6. THE ADJOINING OWNER INFORMATION SHOWN HEREON WERE TAKEN FROM THE MANATEE COUNTY TAX ROLLS.
7. THIS ELECTRONIC DRAWING FILE IS NOT COMPLETE WITHOUT THE ACCOMPANYING SURVEYOR'S REPORT
8. ABBREVIATIONS SHOWN HEREON ARE FROM MANATEE COUNTY.
9. BASED UPON A GRAPHIC DETERMINATION THIS PROPERTY IS LOCATED IN FLOOD ZONE "X" ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY'S (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR MANATEE COUNTY FLORIDA; MAP NUMBER 12081C0345E, WITH AN EFFECTIVE DATE OF 03/17/2014.

THE ABOVE STATEMENT AND THE GRAPHICAL REPRESENTATION OF THE ZONE(S) (IF SHOWN) ARE FOR INFORMATION PURPOSES ONLY, AND THE UNDERSIGNED ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE CITED MAP. ADDITIONALLY THE ABOVE STATEMENT DOES NOT REPRESENT THE OPINION OF THE UNDERSIGNED AS TO THE PROBABILITY OF FLOODING.



# PROPOSED



## SATELLITE LIFT STATION R&R 2020 GROUP 3 ARNOLD PALMER GREEN 1, RTU 689 (SITE)



PROJECT #	402-0019707
SURVEY #	00-44787
SEC./TWN./RGE	33/35/19
SCALE	SEE PLAN
SURVEYED	CIVLSURV 12/2019
DESIGNED	JSS 09/2019
DRAWN	JSS 08/2019
CHECKED	JSS 08/2019

JOHN S. SHAW, P.E.  
FLORIDA LICENSE NO. 60923  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
Signature & Date