MATANZAS LIFT STATION IMPROVEMENTS

LOCATION MAP



BOARD OF SUPERVISORS

MEMBER MIKE GILPIN

MEMBER JOE BRANSON

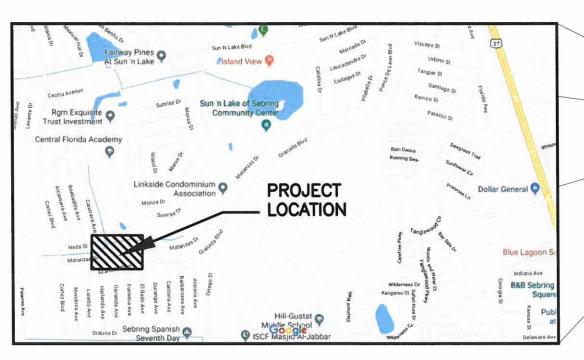
MEMBER DAN STEGALL

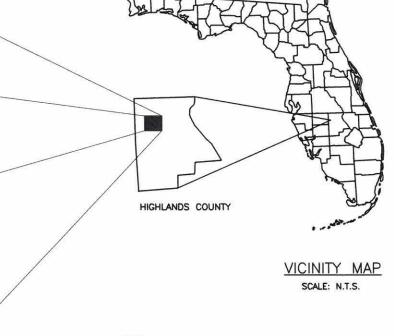
MEMBER RAYMOND BROOKS

MEMBER NEAL HOTELLING

FILE NAME: 10-2049-G-00-COVR.dwg









Know what's below. Call before you dig.

PREPARED FOR:

SUN 'N LAKE OF SEBRING IMPROVEMENT DISTRICT

CAS PROJECT No. 19-2049





CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

21045 COMMERCIAL TRAIL — BOCA RATON, FLORIDA 33486 (561) 314—4445 WWW.CRAIGASMITH.COM CERTIFICATE OF AUTHORIZATION NUMBER: LB0003110



GENE R. SCHRINER, P.E.

(CM

ABRV	DESCRIPTION	ABRV	
AC	ASBESTOS CEMENT	MIN	MINIMUM
ALUM	ALUMINUM	MJ	MECHANI
ARV	AIR RELIEF VALVE	NPT	NATIONAL
BE	BURIED ELECTRIC	NTS	NOT TO
BFV	BUTTERFLY VALVE	oc	ON CEN
B/L	BASELINE	OE	OVERHE
BSP	BACTERIOLOGICAL SAMPLE POINT BURIED	OHW	OVERHEA
вт	BUREID TELEPHONE CABLE	PC	POINT O
CATV	CABLE TELEVISION	PHDPE	PERFORA
СВ	CATCH BASIN	PL	PROPER'
CIP	CAST IRON PIPE	PPD	POUNDS
Q.	CENTER LINE	PRB	POLLUTI
CONC	CONCRETE	PROP	PROPOS
CV	CHECK VALVE	PSI	POUNDS
DIA	DIAMETER	PV	PLUG VA
DIP	DUCTILE IRON PIPE	PVC	POLY VI
DIPS	DUCTILE IRON PIPE SIZE	RCP	REINFOR
ELEV	ELEVATION	RE	RIM ELE
EP	EXISTING PAVEMENT EDGE	RED	REDUCE
EXIST	EXISTING	REQD	REQUIRE
F&I	FURNISH AND INSTALL	RJ	RESTRAIL
FDEP	FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION	RWM	RAW WA
FH	FIRE HYDRANT	R/W	RIGHT-C
FM	FORCEMAIN	SAN	SANITAR
FPL	FLORIDA POWER & LIGHT	SD	STORM
GE	GRATE ELEVATION	TEL	TELEPHO
GV	GATE VALVE	TYP	TYPICAL
HDPE	HIGH DENSITY POLYETHYLENE	UR	UTILITY
INV	INVERT ELEVATION	BE	BURIED
LAT	LATERAL	VCP	VITRIFIE
LF	LINEAR FEET	WL	WATER
MAX	MAXIMUM	WM	WATER
MFGR	MANUFACTURER	WTP	WATER
мн	MANHOLE	WWTP	WASTE

LINE WEIGHTS

EXISTING

FUTURE

PROPOSED

ARE SHOWN SOLID.

EXISTING

SHADED SOLID LINES & TEXT DENOTE EXISTING EQUIPMENT, STRUCTURES AND

NON-SHADED DASHED LINES & TEXT DENOTE FUTURE EQUIPMENT,

NON-SHADED, BOLD, SOLID LINES & TEXT DENOTE PROPOSED EQUIPMENT,

PROPOSED

STRUCTURES AND WORK.

FOR GRAPHICAL CLARIFICATION ON PLANS

CONTAINING BACKGROUND AERIAL PHOTOS EXISTING

ITEMS ARE SHOWN HOLLOW WHERE AS PROPOSED

ABRV	DESCRIPTION		
MIN	MINIMUM		
MJ	MECHANICAL JOINT		
NPT	NATIONAL PIPE THREAD		
NTS	NOT TO SCALE		
ос	ON CENTER		
OE	OVERHEAD ELECTRIC		
OHW	OVERHEAD WIRE		
PC	POINT OF CURVATURE		
PHDPE	PERFORATED HIGH DENSITY POLYETHYLENE		
PL	PROPERTY LINE		
PPD	POUNDS PER DAY		
PRB	POLLUTION RETARDANT BAFFLE		
PROP	PROPOSED		
PSI	POUNDS PER SQUARE INCH		
PV	PLUG VALVE		
PVC	POLY VINYL CHLORIDE		
RCP	REINFORCED CONCRETE PIPE		
RE	RIM ELEVATION		
RED	REDUCER		
REQD	REQUIRED		
RJ	RESTRAINED JOINT		
RWM	RAW WATER MAIN		
R/W	RIGHT-OF-WAY LINE		
SAN	SANITARY SEWER PIPE		
SD	STORM SEWER		
TEL	TELEPHONE		
TYP	TYPICAL		
JR	UTILITY RISER		
BE	BURIED ELECTRIC		
VCP	VITRIFIED CLAY PIPE		
WL	WATER LINE		
WM	WATER METER		
WTP	WATER TREATMENT PLANT		
WWTP	WASTE WATER TREATMENT PLANT		

MECHANICAL / DETAIL SHEET PIPE SYMBOLS EXISTING PIPE BELOW GROUND EXISTING PIPE ABOVE GROUND PROPOSED PIPE BELOW GROUND PROPOSED PIPE ABOVE GROUND

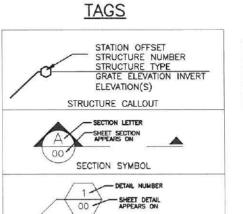
PIPE FITTINGS

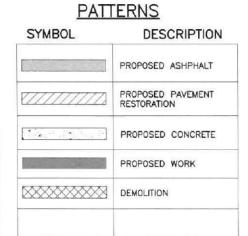
FITTING		Sì	MBOL	
DESCRIPTION	FLANGED	MECH	P.V.C.	SINGLE LINE
PROPOSED 11.25" BEND				7
PROPOSED 22.5* BEND	H			+
PROPOSED 45' BEND	4			X
PROP. 45" BEND (TURN DOWN)	CI			-(+-
PROP. 45* BEND (TURN UP)	24	I		\rightarrow
PROPOSED 90' BEND	4	A	4	t
PROP. 90" BEND (TURN DOWN)	a			01
PROP. 90° BEND (TURN UP)			a]	⊙
PROPOSED CROSS				
PROPOSED TEE			4	
PROP. TEE (TURN UP)			\square	
PROP. TEE (TURN DOWN)				
PROPOSED WYE OR LATERAL				
FLANGE FITTING FRONT VIEW	•	•	•	•
FLANGE (UNION) SIDE / TOP VIEW			由	
PROPOSED CHECK VALVE	М	N		──N →
PROPOSED GATE VALVE SIDE VIEW		M	ā	<u> </u>
PROPOSED GATE VALVE TOP VIEW				
PROPOSED BALL VALVE	M	M	B®3	- ā
PROPOSED PLUG VALVE				
PROPOSED REDUCER				
PROP. CAP W/ RESTRAINED JOINT	4]
PROP. PLUG W/ RESTRAINED JOINT				

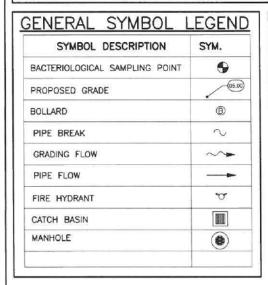
SYMBOL DESCRIPTION	SYM.	SYMBOL DESCRIPTION	SYM
SANITARY AIR RELEASE VALVE	Į.	PRESSURE GAUGE	Of the last
CORP STOP		VENT AND FILTER	
COUPLING SIDE / TOP VIEW	III.	MAG METER	
GRUVLOK FITTING		WATER LINE AIR RELEASE VALVE	1
KAMLOK FITTING	Ш	WALL PIPE	I
SYMBOL DESCRIPTION	SYM.		
PROP, FIRE HYDRANT ASSEMBLY		-\$- <u>W</u> -H	
PROP. DOUBLE GATE VALVE		→ ₩	
PROPOSED GLOBE VALVE	——×		
PROPOSED CAP AND BLOWOFF			
PROP. BACK FLOW PREVENTER	——————————————————————————————————————		

SHEET INDEX

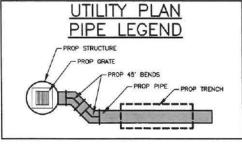
G-01 CIVIL ABBREVIATIONS, INDEX & LEGEND SHEET	MBER / SHEET	[2007]
V-01 - V-02 MAP OF TOPOGRAPHIC SURVEY C-01 LIFT STATION SITE PLAN C-02 LIFT STATION PROFILE VIEW C-03 LIFT STATION DETAILS	G-00	COVER SHEET
C-01 LIFT STATION SITE PLAN C-02 LIFT STATION PROFILE VIEW C-03 LIFT STATION DETAILS	G-01	CIVIL ABBREVIATIONS, INDEX & LEGEND SHEET
C-02 LIFT STATION PROFILE VIEW C-03 LIFT STATION DETAILS	V-01 - V-02	MAP OF TOPOGRAPHIC SURVEY
C-03 LIFT STATION DETAILS	C-01	LIFT STATION SITE PLAN
	C-02	LIFT STATION PROFILE VIEW
E-1 - E-7 ELECTRICAL PLANS	C-03	LIFT STATION DETAILS
	E-1 - E-7	ELECTRICAL PLANS







DETAIL SYMBOL



NOTE: THE LEGEND SHOWN HEREON IS REPRESENTATIVE OF ALL CAS DRAFTING STANDARDS AND IS NOT PROJECT SPECIFIC.

_			
NO	DATE	REVISION	BY

GENE R. SCHRINER, P.E. Date: 09/13/19 Designed: GAG Drawn: MM Checked GRS FLORIDA PROFESSIONAL ENGINEER NO. 38821

CRAIG A. SMITH & ASSOCIATES CONSULTING ENGINEERS-PLANNERS-SURVEYORS 21045 COMMERCIAL TRAIL BOCA RATON, FLORIDA 33486 (561) 314-4445 CERTIFICATE, NO. LB0003110

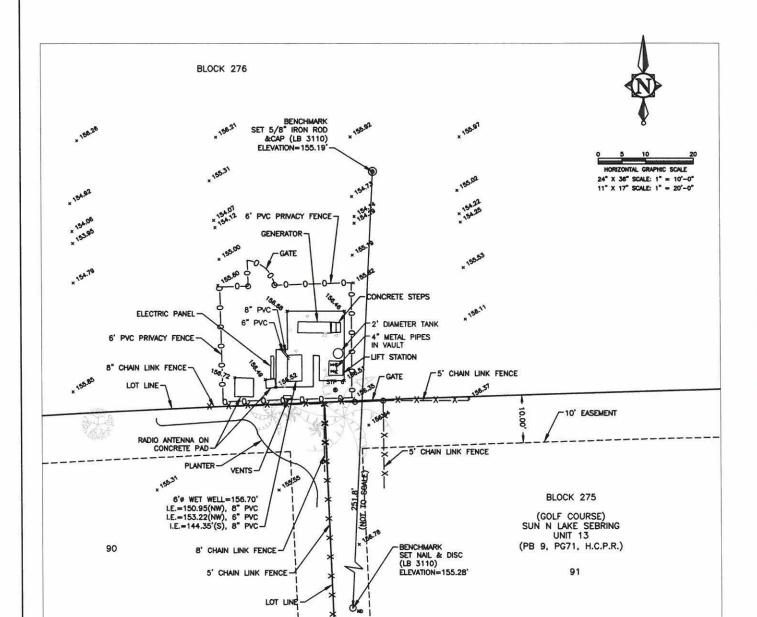
PREPARED FOR SUN 'N LAKE IMPROVEMENT DISTRICT MATANZA LIFT STATION

IMPROVEMENTS CIVIL ABBREVIATIONS, INDEX & LEGEND SHEET

FILE NAME: 10-2049-G-01-LGND.dwg LAST SAVED: 09/17/19 - 11:38am

19-2049

G-01



LIFT STATION

- 7.5' D.&U.E.

7.5' D.&U.E. -

SYMBOL LEGEND DESCRIPTION SYM INVERT ELEVATION 1.E. DRAINAGE & UTILITY EASEMENT LB LICENSED BUSINESS POLY VINYL CHLORIDE R.E. RIM ELEVATION P.B. PLAT BOOK HARDEE COUNTY PUBLIC RECORDS PAGES **PGS** H TEE PIPE FITTING

SEWER VALVE

STAND PIPE

SANITARY MANHOLE

GENERIC TREE (TRG)

PALM TREE (TRPL)

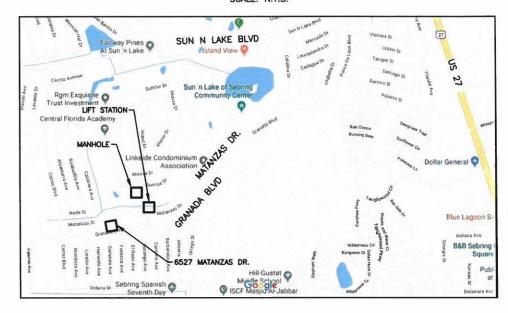
⋈ sv

O SMH

S

LOCATION MAP

SCALE: N.T.S.



LEGAL DESCRIPTION:

BEING PORTIONS OF SUN 'N LAKE OF SEBRING UNIT 13, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 9, PAGE 71, OF THE PUBLIC RECORDS OF HIGHLANDS COUNTY, FLORIDA.

SURVEYOR'S NOTES:

- 1. REPRODUCTIONS OF THIS SURVEY ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- 2. NO SEARCH OF THE PUBLIC RECORDS WAS UNDERTAKEN FOR EASEMENTS, RIGHTS OF WAYS, RESTRICTIONS OR OTHER RECORDED OR EVIDENCE OF UNRECORDED DOCUMENTS BY THIS FIRM, NOR WERE ANY SUCH RECORDS SUPPLIED.
- 3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND ARE BASED ON NATIONAL GEODETIC SURVEY MONUMENT 758386A (HAVING A PUBLISHED ELEVATION OF 165.30 FEET)
- THE INTENT OF THIS "MAP OF TOPOGRAPHIC SURVEY" IS TO AID IN THE DESIGN OF INFRASTRUCTURE IMPROVEMENTS (SANITARY SEWER) WITHIN THE AREAS SHOWN HEREON. THIS IS NOT A BOUNDARY SURVEY.
- THERE MAY BE UNDERGROUND "FOOTINGS", DRAINAGE, UTILITIES, ETC. NOT SHOWN OR INDICATED HEREON.
- 6. THE ACCURACY OF THIS SURVEY IS PREMISED ON THE EXPECTED USE OF THE SURVEY. THE EXPECTED USE/PREMISE OF THIS SURVEY IS THE DESIGN OF A REPLACEMENT LIFT STATION AND ASSOCIATED STRUCTURES. TRIMBLE R2 AND R6 GNSS INSTRUMENTS WITH TRIMBLE TSC-3 DATA COLLECTION WERE UTILIZED TO ESTABLISH HORIZONTAL SURVEY CONTROL AND LOCATE MISC. FEATURES IN AREAS REQUESTED. A TOPCON ES-102 INSTRUMENT WITH RANGER (TDS) DATA COLLECTION WAS UTILIZED TO COLLECT DATA IN BOTH THE HORIZONTAL AND VERTICAL PLANES. A WILD GT2 LEVEL WAS USED TO TRANSFER THE ELEVATION TO THE SITE.
- THE DIGITAL DATA PROVIDED IS INTENDED TO BE VIEWED AT A SCALE OF 1" = 40' OR
- ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN ACCORD WITH THE UNITED STATES STANDARD USING FEET AND DECIMALS THEREOF.

SURVEYORS CERTIFICATE:

HEREBY CERTIFY THAT THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND MEETS APPLICABLE SECTIONS OF 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 SECTION 472.027, FLORIDA STATUTES, SUBJECT TO QUALIFICATIONS NOTED HEREON.

ROBERT D. KEENER PROFESSIONAL SURVEYOR & MAPPER FLORIDA REGISTRATION NO. 4846

> 06/24/19 FIELD DATE: .

SIGNATURE DATE: .

REVISED INVERT NORTH MANHOLE NO. DATE FB/PG DWN

SUN N LAKE

CRAIG A. SMITH & ASSOCIATES CONSULTING ENGINEERS-PLANNERS-SURVEYORS

21045 COMMERCIAL TRAIL BOCA RATON, FLORIDA 33486

TOPOGRAPHIC SURVEY

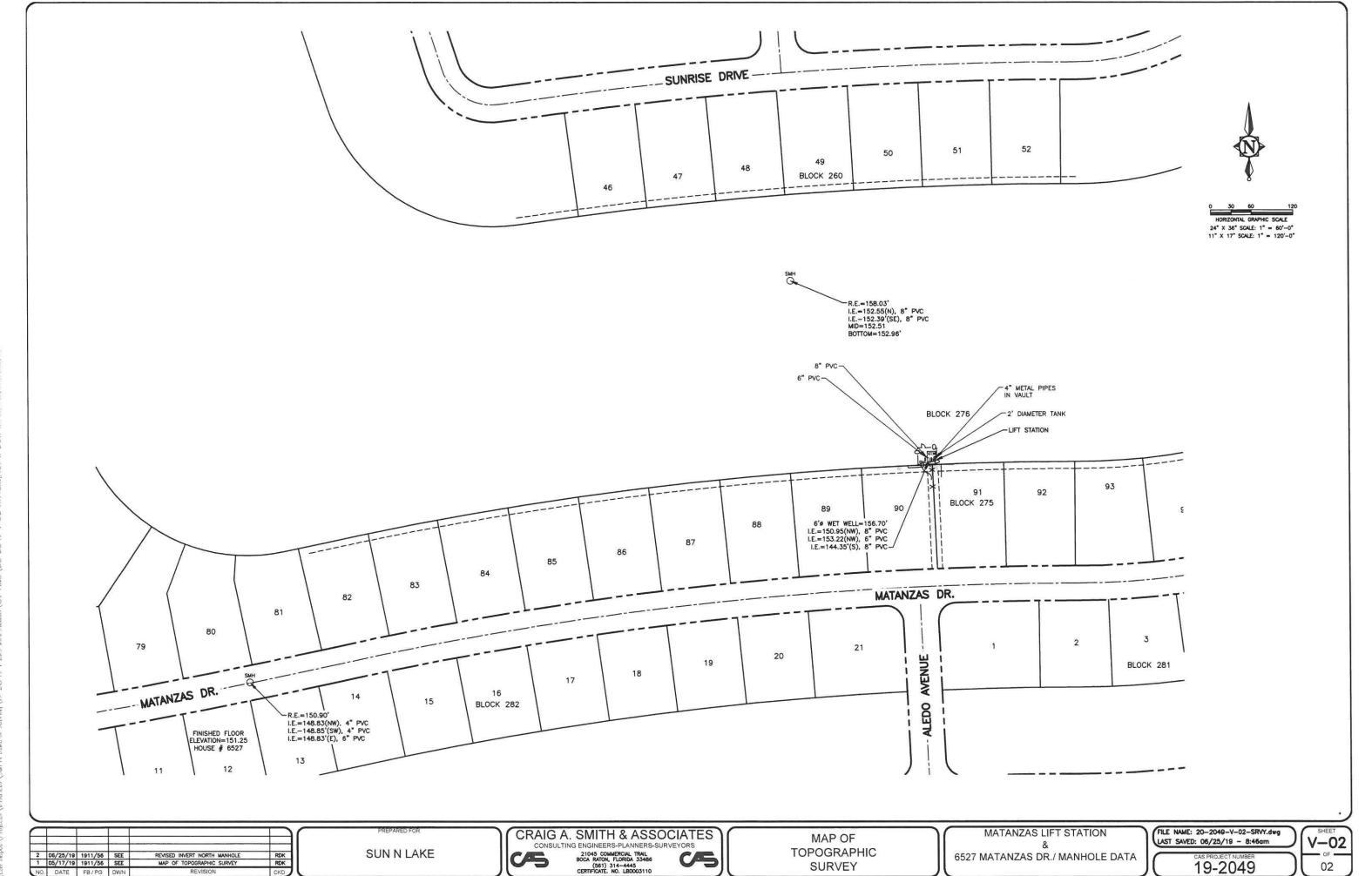
MATANZAS LIFT STATION 6527 MATANZAS DR./ MANHOLE DATA

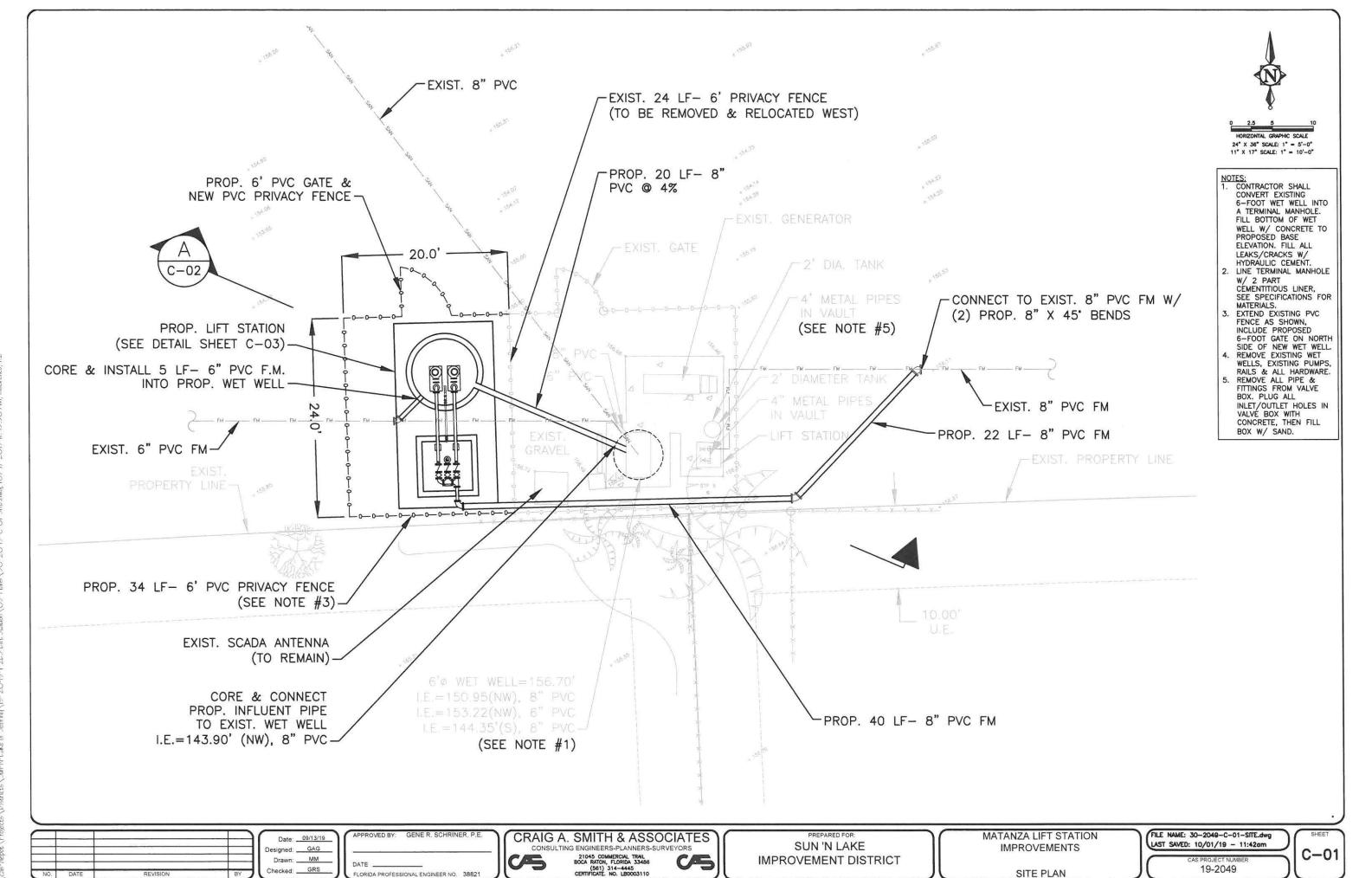
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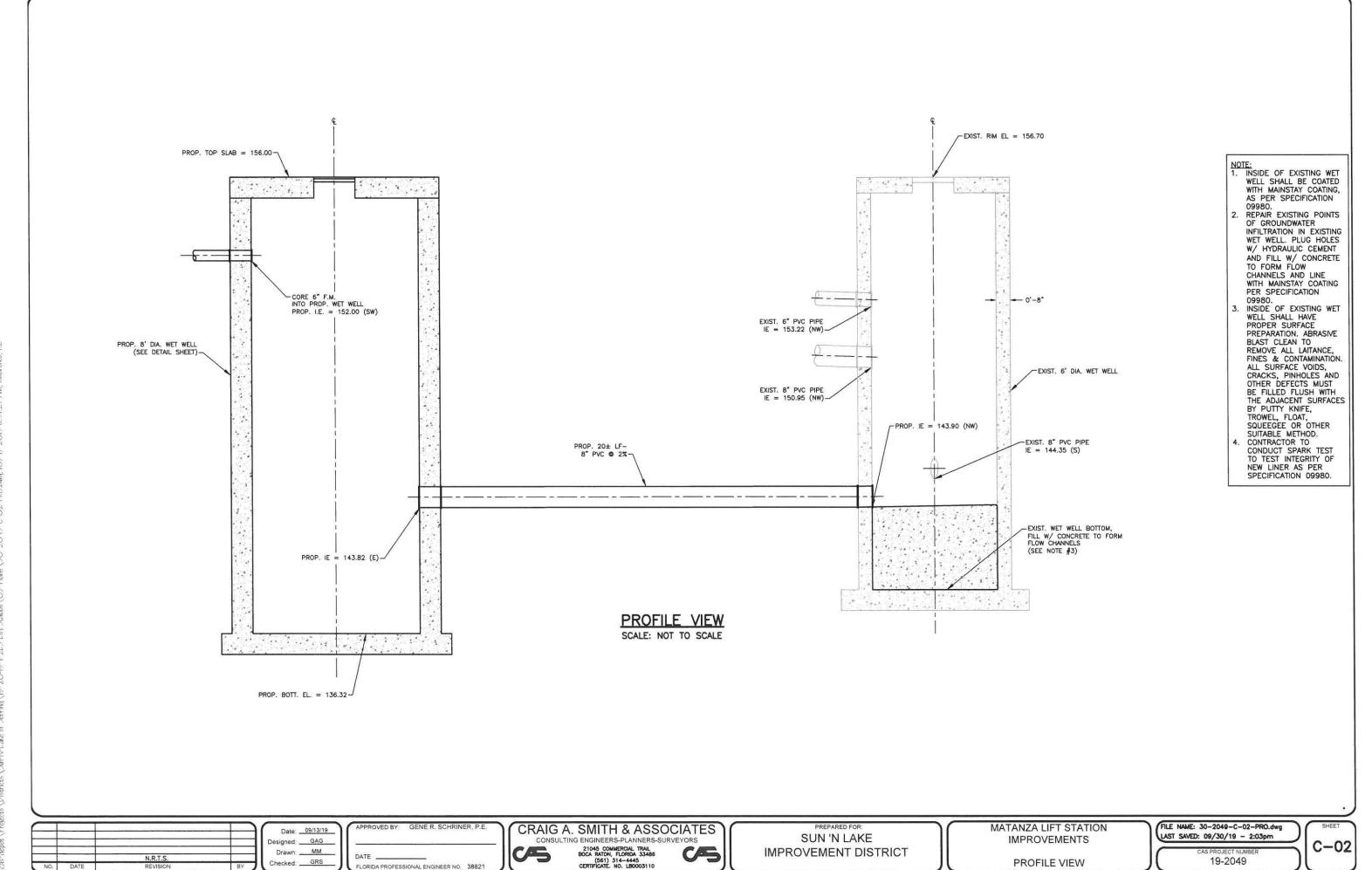
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19-2049

MAP OF







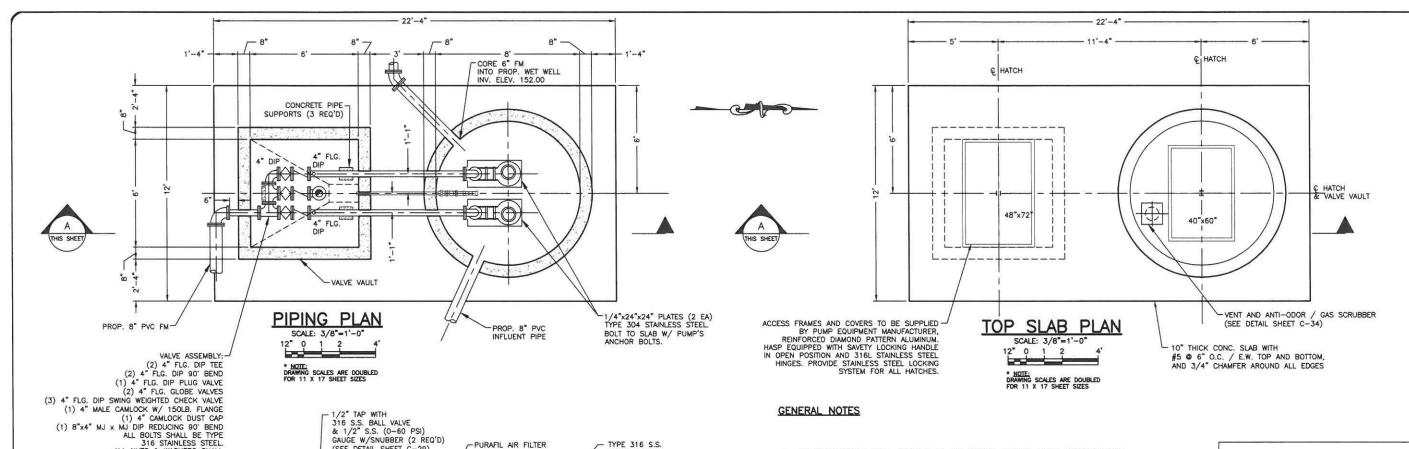
19-2049

PROFILE VIEW

Checked: GRS

FLORIDA PROFESSIONAL ENGINEER NO. 38821

THIS SHEET



CABLE HANGER

(OWNER SUPPLIED)

" FLG. DIP 90" BEND (1 EA)

2"PVC DRAIN PIPE WITH P-TRAP, CHECK VALVE, AND UNION

FLEXIBLE WATERPROOF POWER

TYPE 304 STAINLESS STEEL LIFTING RING CABLES

(OWNER SUPPLIED)

SUBMERSIBLE LEVEL TRANSMITTER (LE.). SEE

12"x12" FILLETS

12" CRUSHED

ELECTRICAL PLANS & SPECIFICATIONS FOR DETAILS

(2) S.S. SUPPORT BRACKETS

EXISTING GRADE @ 155.67

CABLES TO BE CONTINUOUS WITHOUT SPLICES TO CONTROL PANEL

- 1. ALL CONSTRUCTION SHALL CONFORM TO THE FLORIDA BUILDING CODE, LATEST REVISION.
- THE CONTRACTOR SHALL VERIFY ALL INFORMATION SHOWN PRIOR TO CONSTRUCTION AND ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
- 3. CONCRETE SHALL NOT HAVE LESS THAN 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. PRECAST CONCRTE SHALL BE 4000 PSI CLASS II MINIMUM. REINFORCING STEEL SHALL CONFORM TO ASTM SPEC. A-615 AND SHALL BE DEFORMED ACCORDING TO ASTM SPEC. 305. ALL PIPE OPENINGS SHALL BE CAST
- 4. DUCTILE IRON PIPE SHALL BE AWWA C151, CLASS 350, CERAMIC EPOXY COATED WITH PROTECTO 401 CERAMIC EPOXY LINING.
- 5. DUCTILE IRON FITTINGS SHALL BE AWWA C110/C153, FLANGED JOINTS CERAMIC COATED WITH PROTECTO
- FOLLOW ALL PROCEDURES FOR SEALING CUT ENDS AND REPAIRING FIELD DAMAGED AREAS OF PROTECTO 401 CERAMIC EPOXY LINED PIPES AND FITTINGS.
- SHOP DRAWINGS FOR THE COMPLETE LIFT STATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO DELIVERY TO THE JOB SITE.
- 8. FIVE (5) COPIES OF OPERATION AND MAINTENANCE MANUAL ARE TO BE SUBMITTED TO THE CITY AFTER ENGINEER'S APPROVAL
- 9. OPENINGS AROUND ALL PIPES SHALL BE SEALED WITH EMBECO MORTAR.
- 10. ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF CONSTRUCTION.
- 11. OUTSIDE OF NEW VALVE BOX SHALL BE COATED WITH COAL TAR EPOXY
- 12. CONTRACTOR SHALL COORDINATE INSTALLING THE TWO "OWNER SUPPLIED" SUBMERSIBLE PUMPS W/ UTILITY STAFF WHO HAS PURCHASED THESE PUMPS.
- CHECK VALVES SHALL BE IRON BODY, EPOXY COATED, BRONZE MOUNTED, SWING CHECK, LEVER AND WEIGHT.
- 14. ELECTRICAL PANEL SHALL HAVE A NEMA 4X STAINLESS STEEL ENCLOSURE & UL LABEL. ALL CONTROL WIRING TO HAVE WIRE NUMBERS W/ A DATA FLOW TCU CONTROLLER.
- 15. ELECTRICAL PANEL MUST HAVE A STORAGE COMPARTMENT INSIDE PANEL DOOR FOR OPERATION AND MAINTENANCE MANUAL.
- 16. ELECTRICAL SYSTEM SHALL BE PROTECTED BY A LIGHTNING ARRESTOR AND SURGE CAPACITOR.
- 17. POWER TOOL OUTLET TO BE MOUNTED IN DEAD FRONT AND MUST BE A GFI RECEPTACLE.
- 18. SEAL-OFFS TO BE PROVIDED ON ALL ELECTRICAL CONDUITS ENTERING CONTROL PANEL FROM WETWELL.
- ALL PIPE SUPPORTS, CLAMPS, AND FASTENERS IN THE WETWELL AND VALVE BOX SHALL BE TYPE 304 STAINLESS STEEL. ALL BOLTS SHALL BE TYPE 316 STAINLESS STEEL (UNLESS OTHERWISE NOTED). ALL NUTS AND WASHERS SHALL BE TYPE 304 STAINLESS STEEL (UNLESS OTHERWISE NOTED.)
- 20. PUMPS TO HAVE STAINLESS STEEL NAME PLATE IDENTIFICATION
- 21. SEE ELECTRICAL DRAWINGS FOR CONTROL PANEL INFORMATION.

LIFT STATION DATA	TABLE
PUMP MANUFACTURER (OWNER SUPPLIED)	FLYGHT-XYLEM
PUMP MODEL NUMBER	NP-3102 SH-3
PUMP IMPELLER NUMBER	135MM IRON IMPELLER
QUANTITY OF PUMPS PER STATION	2
DESIGN FLOW (CAPACITY EAG.P.M.)	285
DESIGN TDH (FEET)	47
MOTOR H.P. REQUIRED	6.5
SHUT OFF HEAD (FEET)	102
MOTOR SPEED (R.P.M.)	3440
MOTOR SERVICE FACTOR	1.25
ELECTRICAL SERVICE	3Ø 230V/480V 60Hz

-			
_			
		N.R.T.S.	
NO.	DATE	REVISION	BY

LIFT STATION SECTION

SCALE: 3/8"=1'-0"

* NOTE: DRAWING SCALES ARE DOUBLED FOR 11 X 17 SHEET SIZES

12" 0 1 2

ALL NUTS & WASHERS SHALL

BE TYPE 304 STAINLESS STEEL.

TOP OF SLAB ELEV. 156.00-

SLOPE GROUT

TOWARDS DRAIN

NO. 57 STONE

12" MIN.

CONCRETE

PIPE SUPPORT

(3 REQUIRED)

APPROVED BY: GENE R. SCHRINER, P.E. Date: 09/13/19 Designed: GAG MM Drawn: ___ DATE Checked: GRS FLORIDA PROFESSIONAL ENGINEER NO. 38821

(SEE DETAIL SHEET C-29)

FLG. DIF

CORE 6" FM

INV. ELEV. 152.00

INTO PROP. WET WELL

DISCHARGE PIPE

(OWNER SUPPLIED)

8" INFLUENT PIPE-INV. ELEV. 143.82

LEAD PUMP ON 142.32

4"x4" DISCHARGE

(OWNER SUPPLIED)

ALL PUMPS OFF 138.32

(4) 3/4"øx84" LONG 316 S.S. ANCHOR BOLTS (PER PUMP MFGR. RECOMMENDATIONS (OWNER SUPPLIED)

W/ 24"x24"x1/4" THICK 304 S.S. WEAR PLATES ATTACH WEAR PLATES W/ PUMP'S ANCHOR BOLTS-

HIGH WATER ALARM 143.32 LAG PUMP ON 142.82

2"Ø TYPE 316 S.S. GUIDE RAIL

=

CRAIG A. SMITH & ASSOCIATES CONSULTING ENGINEERS-PLANNERS-SURVEYORS 21045 COMMERCIAL TRAIL BOCA RATON, FLORIDA 33486

(561) 314-4445 CERTIFICATE. NO. LB0003110

PREPARED FOR SUN 'N LAKE IMPROVEMENT DISTRICT MATANZA LIFT STATION **IMPROVEMENTS**

LIFT STATION DETAILS

FILE NAME: 30-2049-C-03-LS.dwo LAST SAVED: 09/27/19 - 2:12pm

19-2049