



Know what's below
Call before you dig



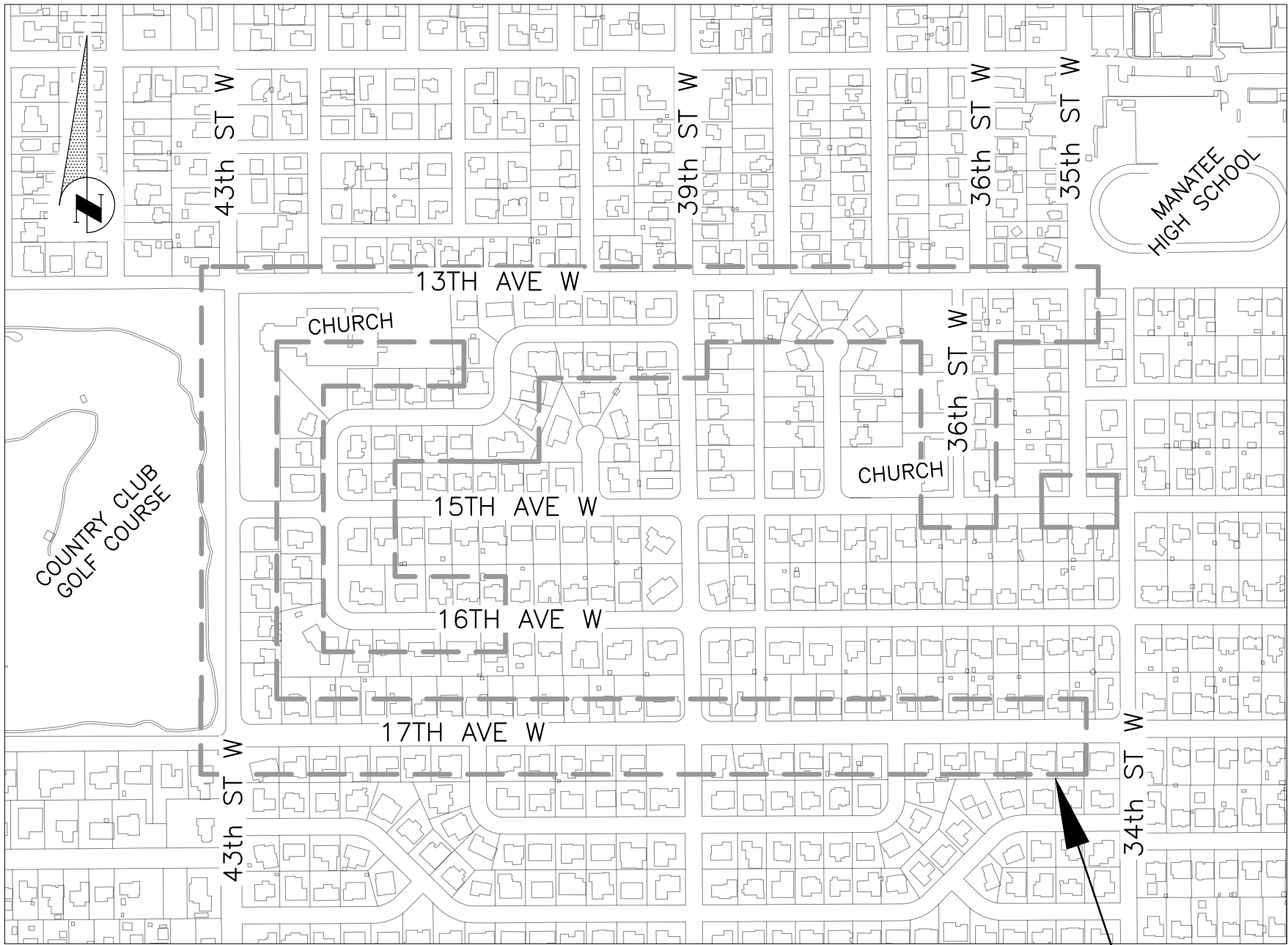
BID PLANS

ATTACHMENT 3

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
404-6088770

FEBRUARY 2018

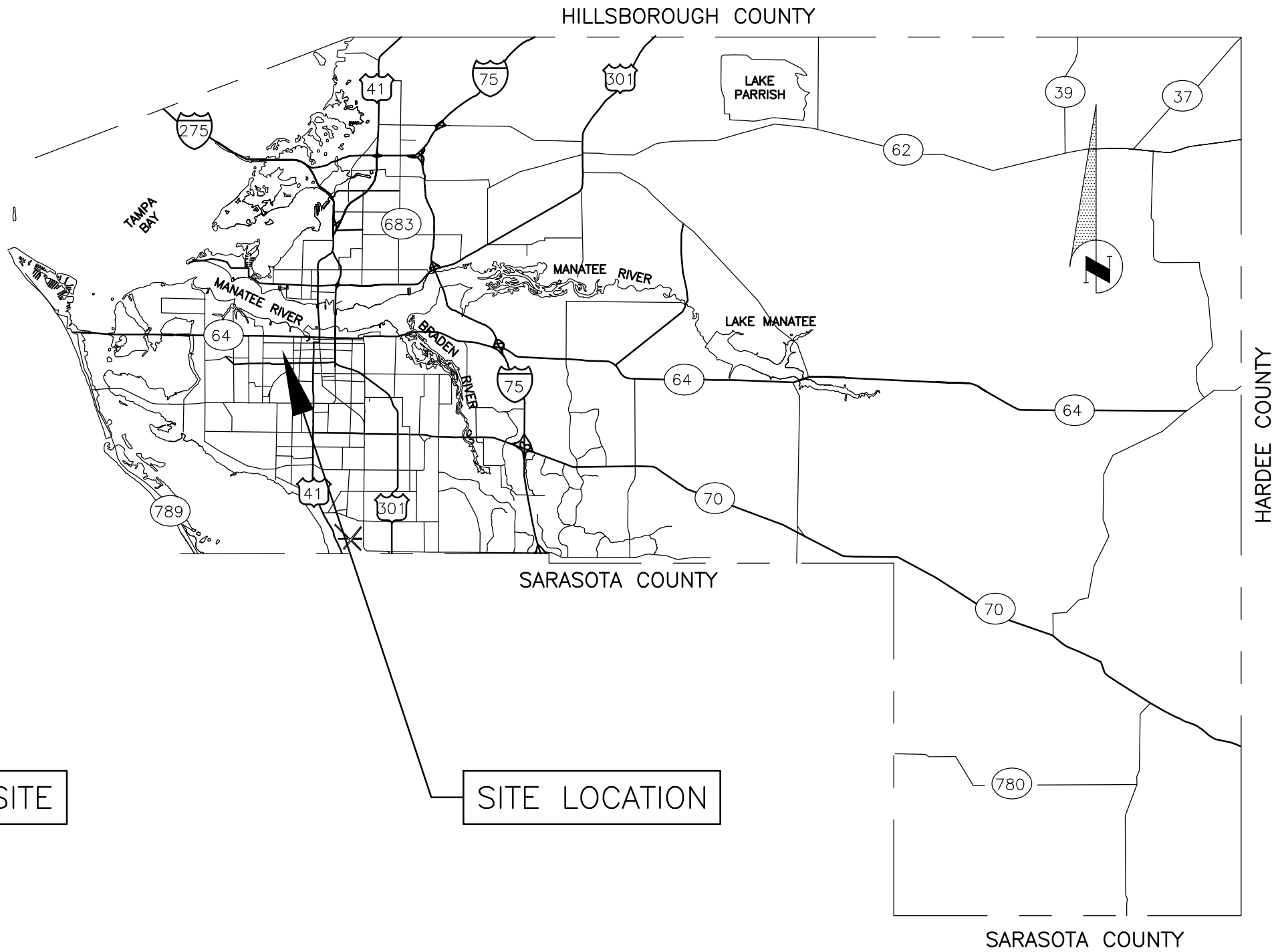
VICINITY MAP
N.T.S.



PROJECT DESCRIPTION

INSTALL APPROXIMATELY ± 6,100 LF OF 6" & 8" WATER MAIN TO REPLACE EXISTING OLD AND UNDERSIZED WATER MAINS. IN ORDER TO PROVIDE IMPROVED FIRE PROTECTION, WATER QUALITY AND SYSTEM RELIABILITY.

PROJECT SITE



SITE LOCATION

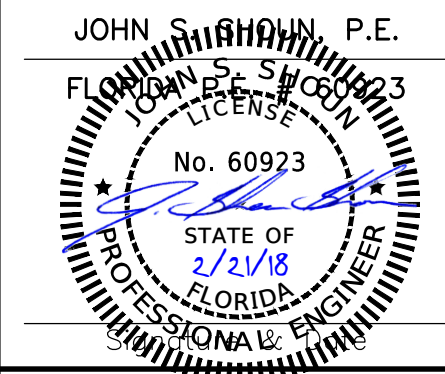
NO.	SHEET
01	COVER
02	NOTES
03	OVERALL UTILITY PLAN & KEY SHEET
04	RESURFACE AREAS
05	INTENTIONALLY LEFT BLANK
06	P&P 13TH AVE W STA 40+00 to 45+20
07	P&P 13TH AVE W STA 45+20 to 50+60
08	P&P 13TH AVE W STA 50+60 to 56+00
09	P&P 13TH AVE W STA 56+00 to 61+40
10	P&P 13TH AVE W STA 61+40 to 66+00
11	P&P 36TH ST W STA 70+00 to 73+50
12	P&P 36TH ST W STA 73+50 to 77+00
13	P&P 15TH AVE W STA 136+00 to 141+00
14	P&P 43RD ST W STA 30+00 to 35+00
15	P&P 43RD ST W STA 35+00 to 38+00
16	P&P 15TH AVE W STA 115+00 to 119+00
17	P&P 17TH ST W STA 0+00 to 5+50
18	P&P 17TH ST W STA 5+50 to 11+00
19	P&P 17TH ST W STA 11+00 to 16+50
20	P&P 17TH ST W STA 16+50 to 22+00
21	P&P 17TH ST W STA 22+00 to 27+50
22	P&P 14TH-16TH AVE W STA 80+00 to 85+40
23	P&P 14TH-16TH AVE W STA 85+40 to 88+60
24	P&P 14TH-16TH AVE W STA 88+60 to 92+80
25	P&P 14TH-16TH AVE W STA 92+80 to 97+60
26	P&P 14TH-16TH AVE W STA 97+60 to 99+80
27	P&P 14TH-16TH AVE W STA 99+80 to 105+30
28	P&P 39TH ST W STA 150+00 to 153+00
29	DETAILS
30	DETAILS
31	SURVEY CONTRTOL
32	EROSION CONTROL

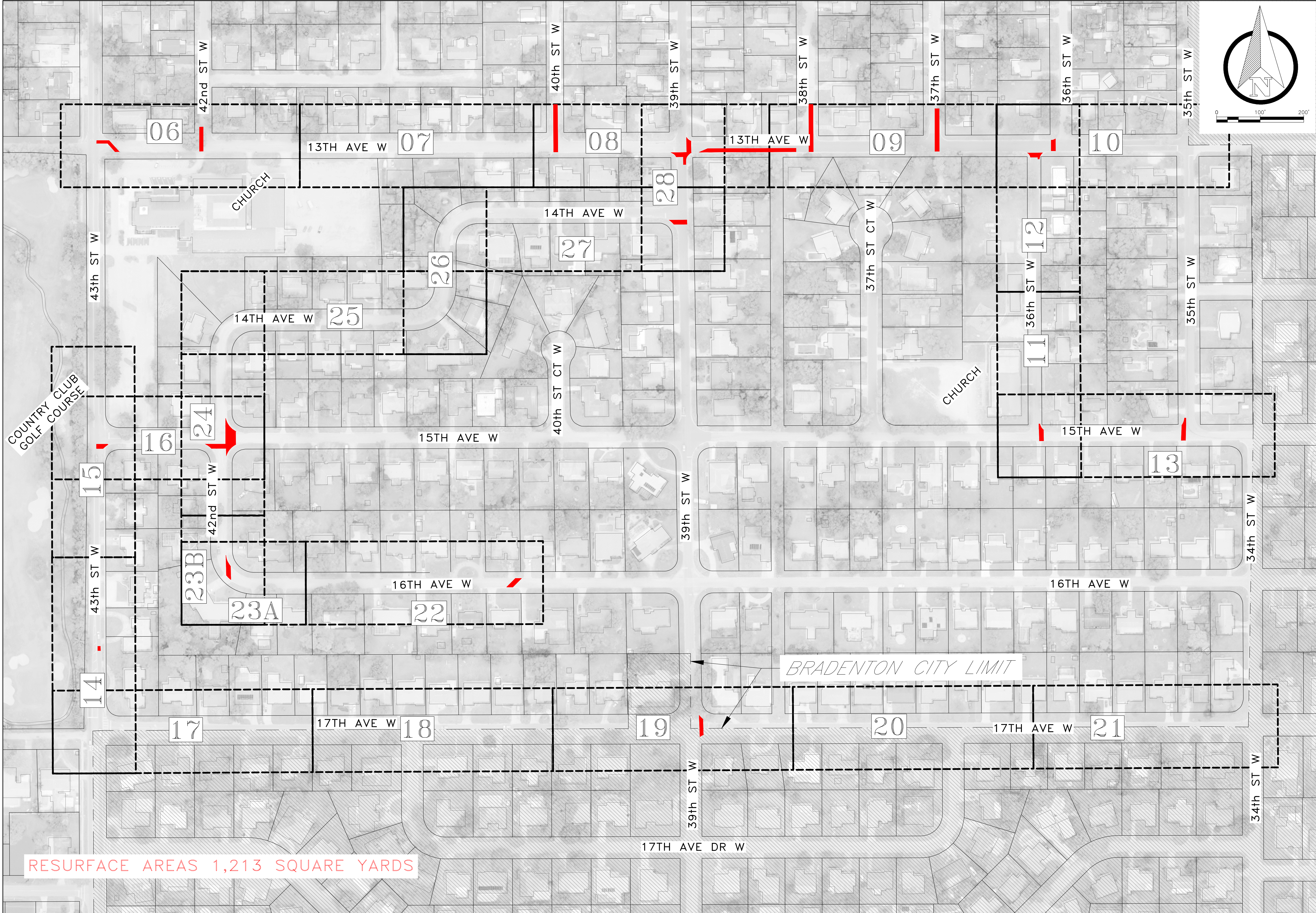


PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
COVER

NO.	REVISION DESCRIPTION	BY	DATE
PROJECT #	404-6088770		
SURVEY #	14Y13314LS		
SEC./TWN./RGE	33/34S/17E		
SCALE	VARIES		
VERTICAL DATUM	NAVD 88		
	BY	DATE	
SURVEYED	GFY	11/2016	
DESIGNED	BLR	03/2017	
DRAWN	BLR	03/2017	





RESURFACE AREAS 1,213 SQUARE YARDS

**COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
RESURFACE AREAS**

NO.	REVISION DESCRIPTION	BY	DATE
PROJECT #	404-6088770		
SURVEY #	14Y13314LS		
SEC./TWN./RGE	33/34S/17E		
SCALE	1"=100'		
VERTICAL DATUM	NAVD 88		
SURVEYED	GFY	11/2016	
DESIGNED	BLR	03/2017	
DRAWN	BLR	03/2017	

JOHN S. SHAW, P.E.
Professional Engineer
No. 60923
STATE OF FLORIDA
2/2/18

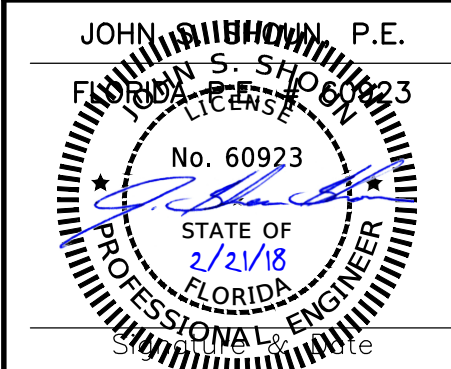
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PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT

NO.	REVISION DESCRIPTION	BY	DATE
PROJECT #		404-6088770	
SURVEY #		14Y13314LS	
SEC./TWN./RGE		33/34S/17E	
SCALE		1"=125'	
VERTICAL DATUM		NAVD 88	
		BY	DATE
SURVEYED	GFY		11/2016
DESIGNED	BLR		03/2017
DRAWN	BLR		03/2017



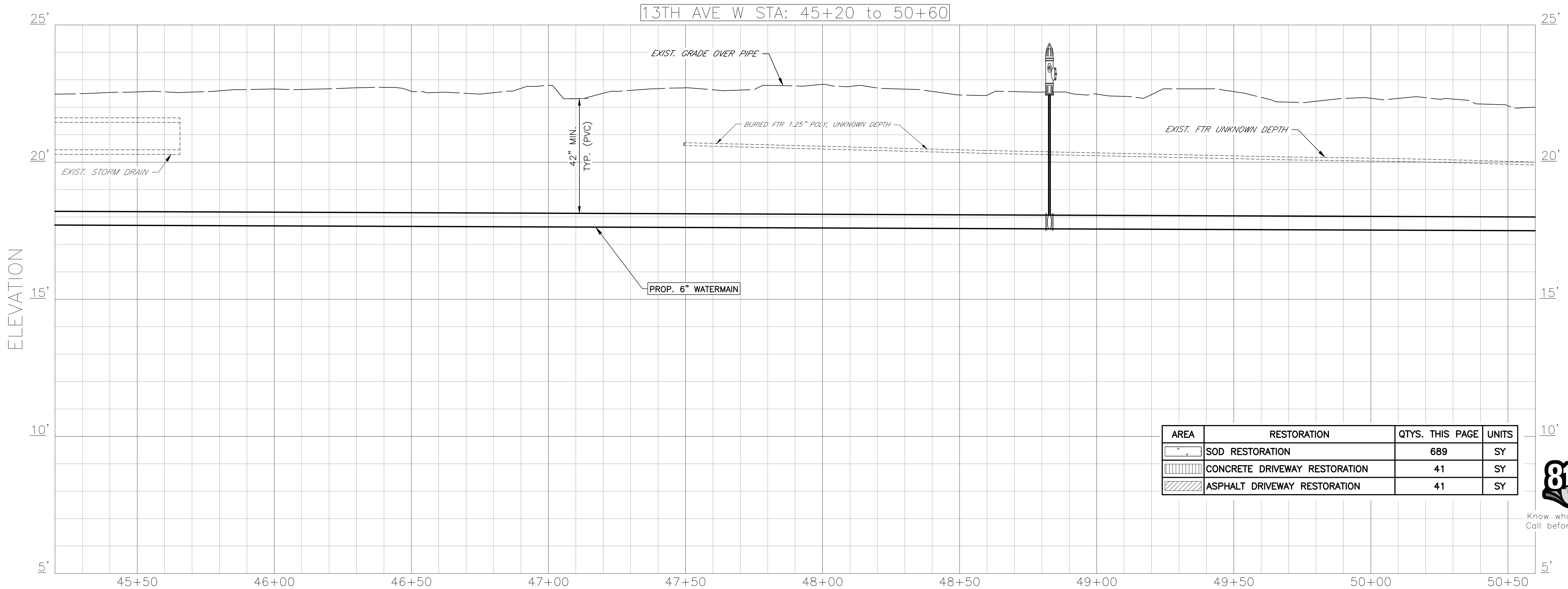
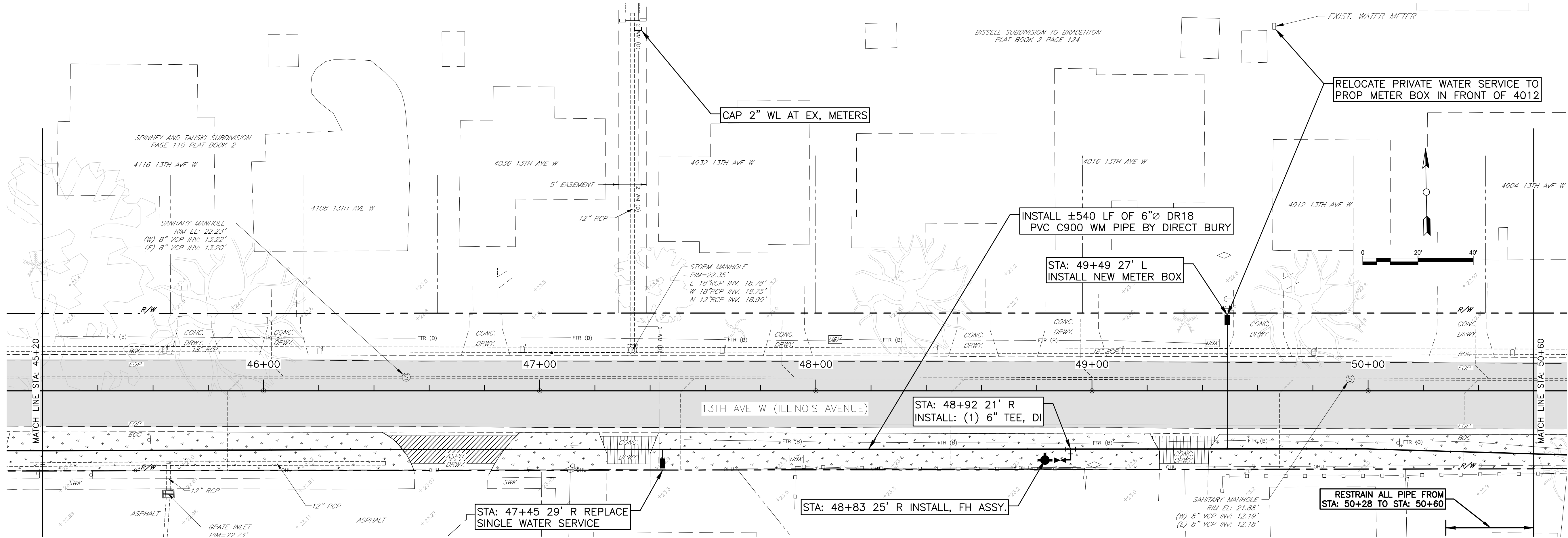


MANATEE COUNTY GOVERNMENT
 S:\PWD_Engineering_Share\Util Eng Design\PROJ\~WTR LINE Proj\Water Line-Country Club Heights (DWGS)\Country Club Heights
 P:\Design.dwg,06, 2/16/2018 10:24 AM Bruce Robertson 1:1, ANSI full bleed D (34.00 x 22.00 Inches)
 COPYRIGHT 2015



Now what's below
All before you dig

JOHN S. SHOLLOTT, P.E.
JOHN S. SHOLLOTT, P.E.
FLORIDA LICENSE # 60923
No. 60923
STATE OF
2/2/18
FLORIDA
PROFESSIONAL ENGINEER
Signature Date



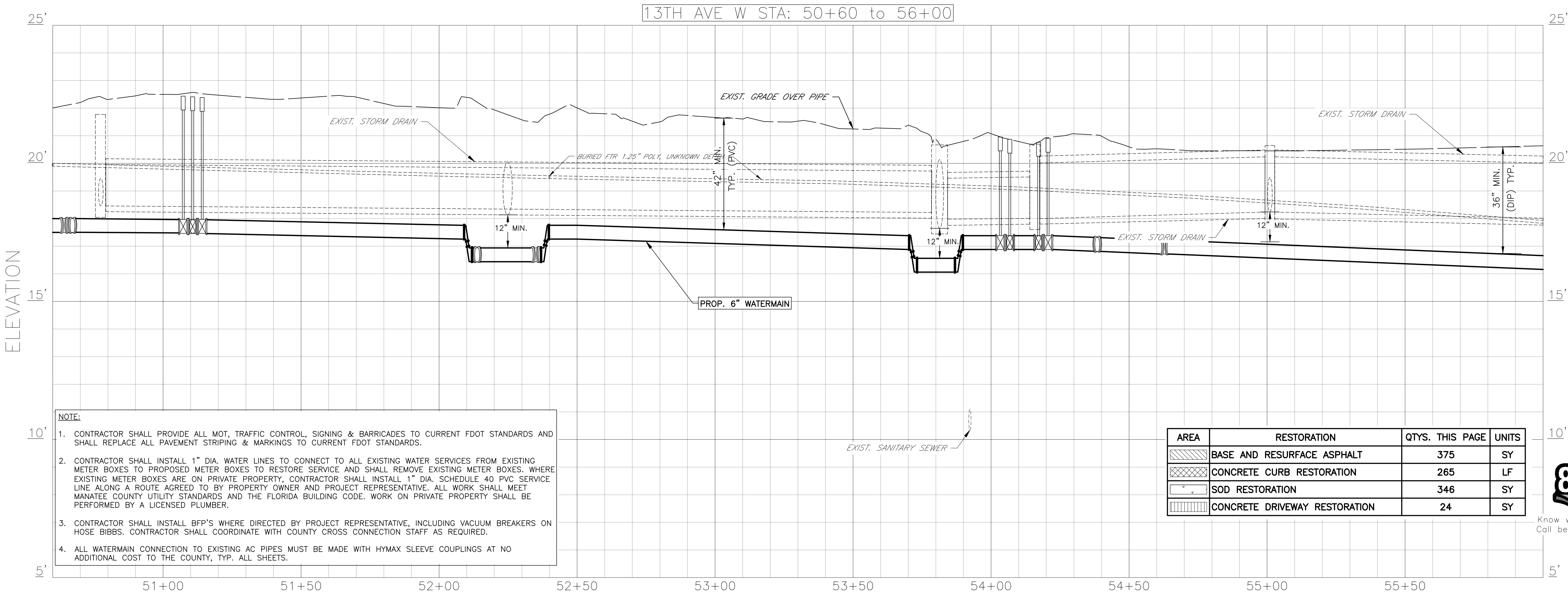
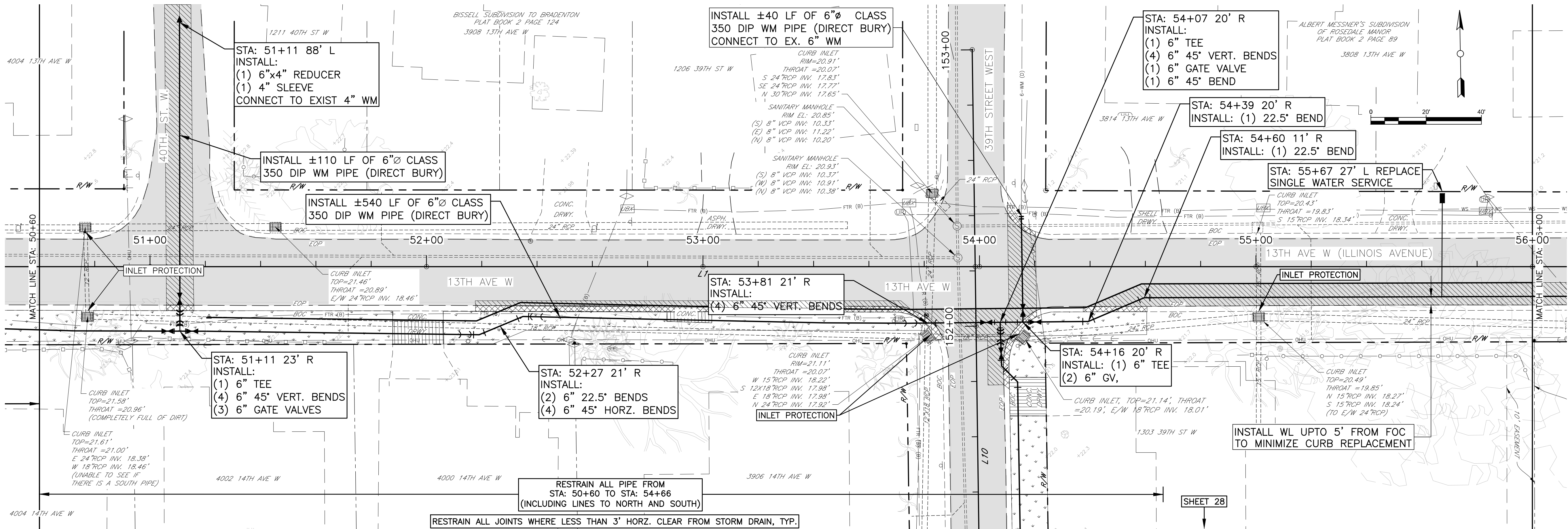
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	SOD RESTORATION	689	SY
	CONCRETE DRIVEWAY RESTORATION	41	SY
	ASPHALT DRIVEWAY RESTORATION	41	SY



COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 13TH AVE W STA 45+20 TO 50+60

NO.	REVISION	DESCRIPTION	BY	DATE
PROJECT #	404-6088770			
SURVEY #	14Y13314LS			
SEC./TWN./RGE	33/34S/17E			
VERT. SCALE	1"=2'			
HORZ. SCALE	1"=20'			
VERTICAL DATUM	NAVD 88			
	BY	DATE		
SURVEYED	GFY	11/2016		
DESIGNED	BLR	03/2017		
DRAWN	BLR	03/2017		

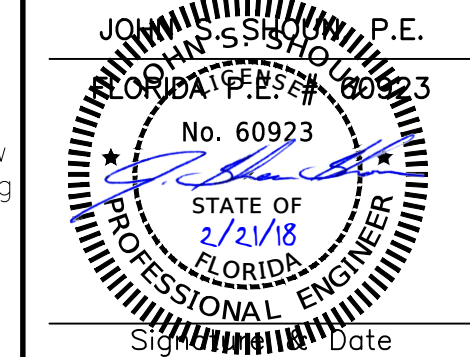
JOHN S. GHOHN, P.E.
FLORIDA PROFESSIONAL ENGINEER
No. 60923
2/2/18
STATE OF FLORIDA
SPECIALTY IN SANITARY & ENGINEERING

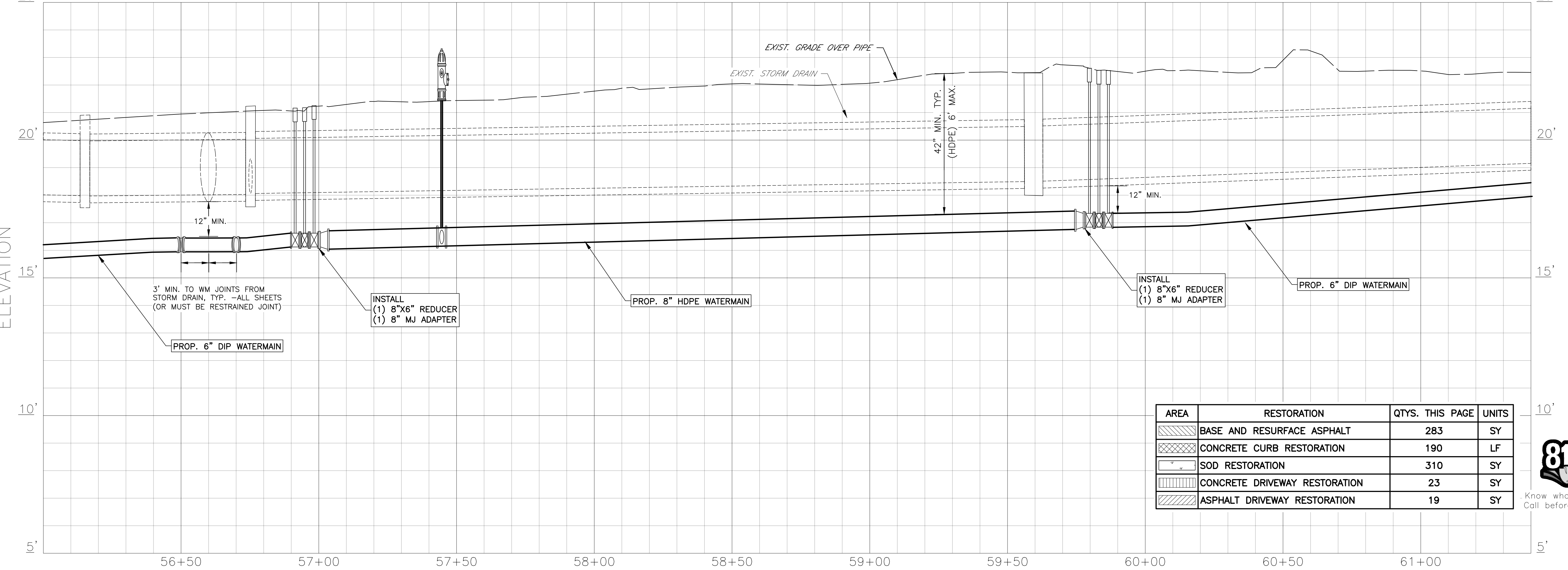


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	BASE AND RESURFACE ASPHALT	375	SY
	CONCRETE CURB RESTORATION	265	LF
	SOD RESTORATION	346	SY
	CONCRETE DRIVEWAY RESTORATION	24	SY

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 13TH AVE W STA 50+60 TO 56+00

REVISION	DESCRIPTION	BY	DATE
NO.			
PROJECT #	404-6088770		
SURVEY #	14Y13314LS		
SEC./TWN./RGE	33/34S/17E		
VERT. SCALE	1"=2'		
HORZ. SCALE	1"=20'		
VERTICAL DATUM	NAVD 88		
	BY	DATE	
SURVEYED	GFY	11/2016	
DESIGNED	BLR	03/2017	
DRAWN	BLR	03/2017	





AREA	RESTORATION	QTY'S. THIS PAGE	UNITS
	BASE AND RESURFACE ASPHALT	283	SY
	CONCRETE CURB RESTORATION	190	LF
	SOD RESTORATION	310	SY
	CONCRETE DRIVEWAY RESTORATION	23	SY
	ASPHALT DRIVEWAY RESTORATION	19	SY



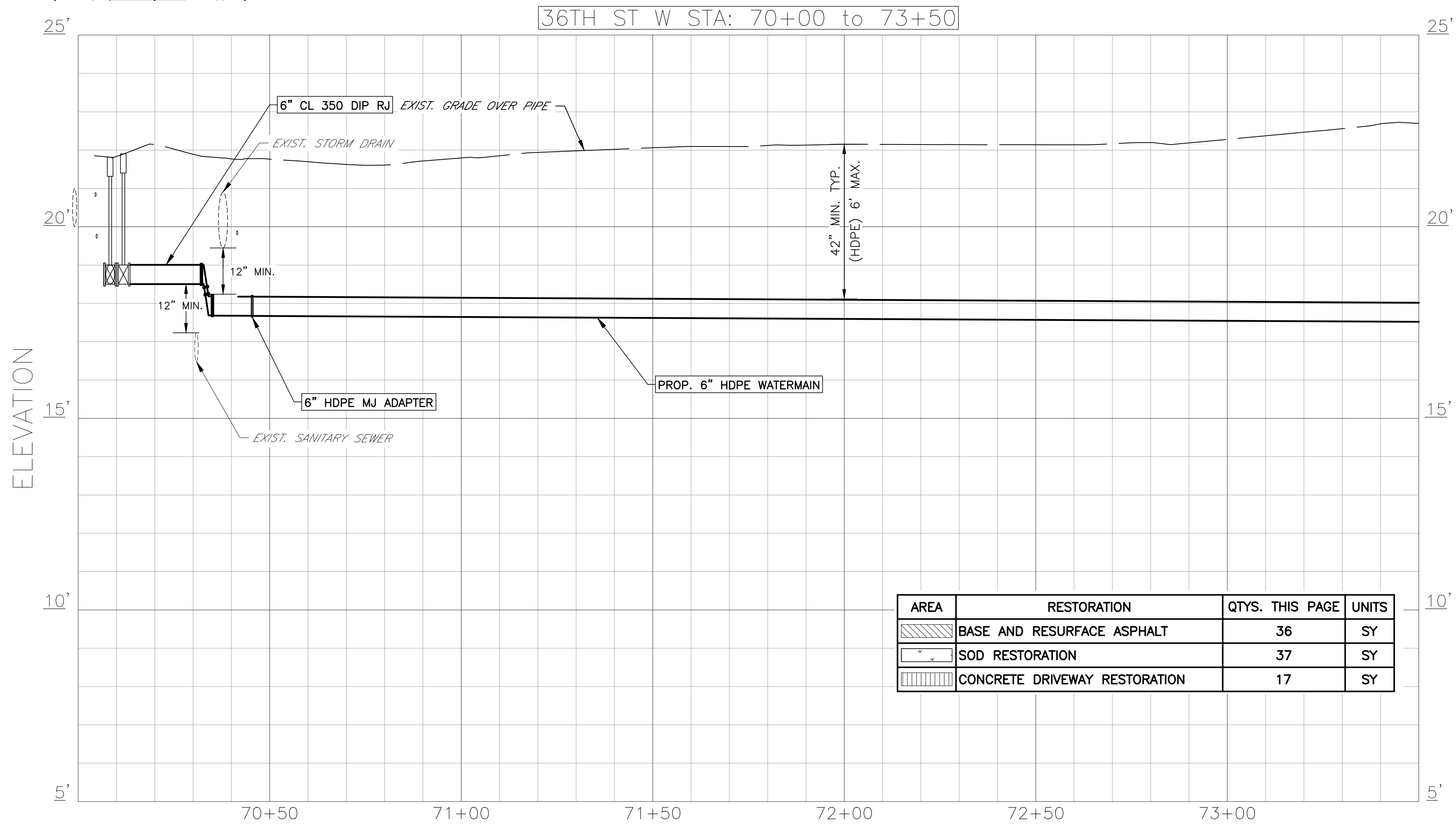
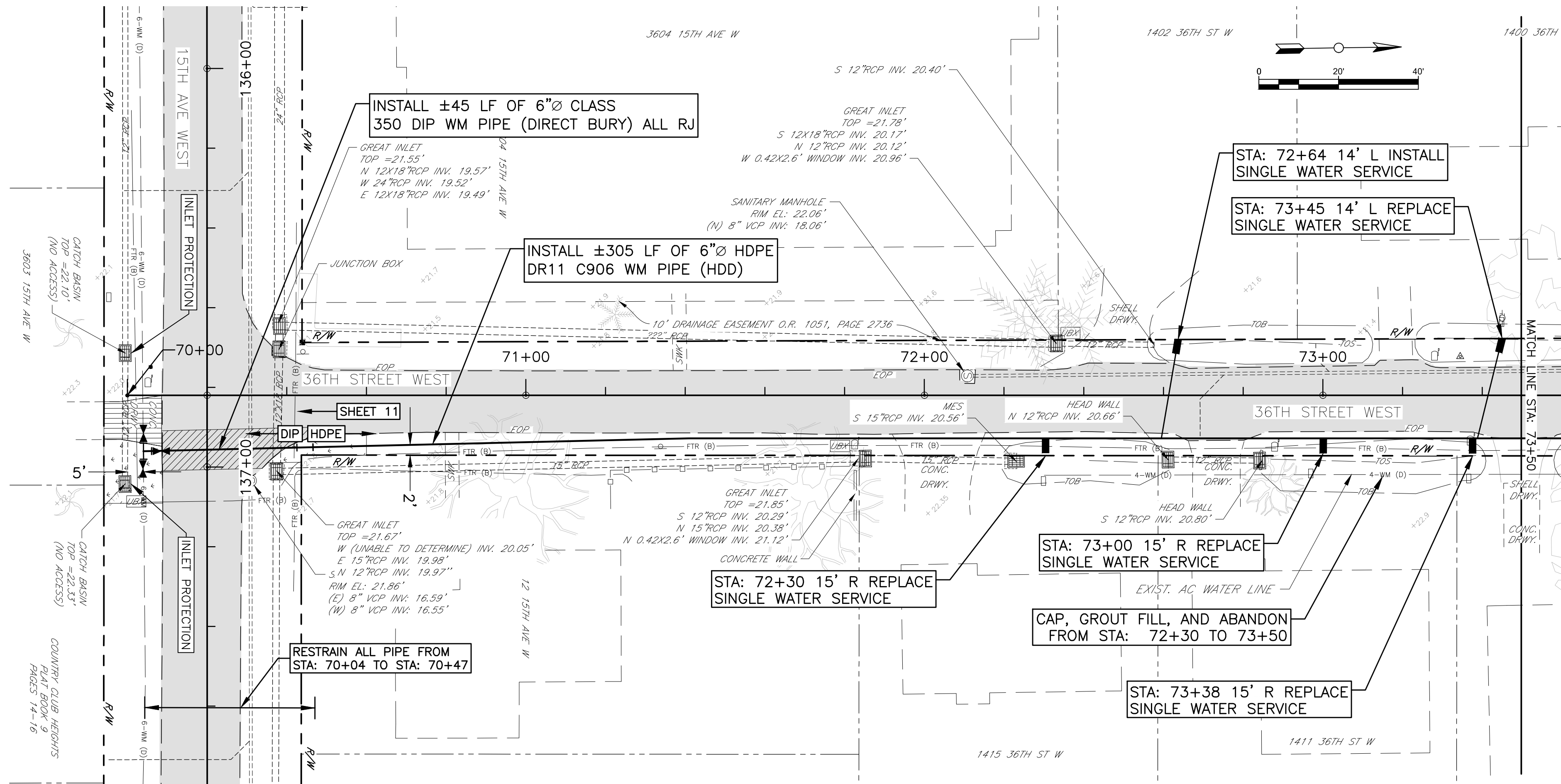
COPYRIGHT 2015 MANATEE COUNTY GOVERNMENT S:\PID_Engineering_Share\Util_Eng_Design\PROJ\~WTR LINE Water Line-Country Club Heights\DWG\Country Club Heights P_Design.dwg, 10, 2/16/2018 10:25 AM Bruce Robertson, 1:1, ANSI full bleed D (34.00 x 22.00 Inches)



NO.						
REVISION DESCRIPTION						
BY						
DATE						
PROJECT #	404-6088770					
SURVEY #	14Y13314LS					
SEC./TWN./RGE	33/34S/17E					
VERT. SCALE	1"=2'					
HORZ. SCALE	1"=20'					
VERTICAL DATUM	NAVD 88					
	BY		DATE			
SURVEYED	GFY		11/2016			
DESIGNED	BLR		03/2017			
DRAWN	BLR		03/2017			

JOHN B. SHOOK, P.E.
 JOHN B. SHOOK
 CRIPPLE CREEK, CO 80923
 No. 60923
 2/21/18
 STATE OF
 FLORIDA
 PROFESSIONAL ENGINEER
 SHOOK ENGINEERING, INC.
 Date

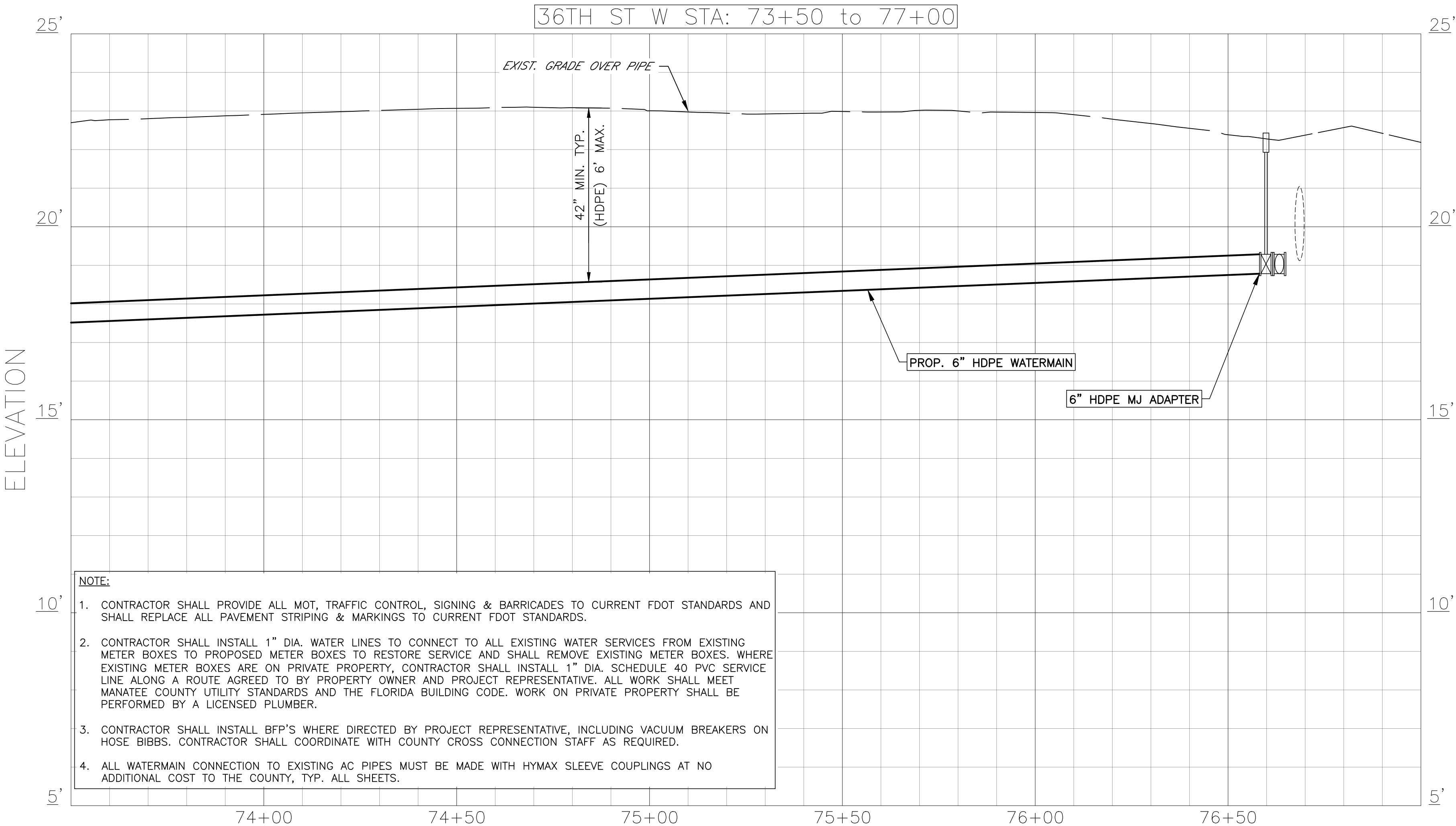
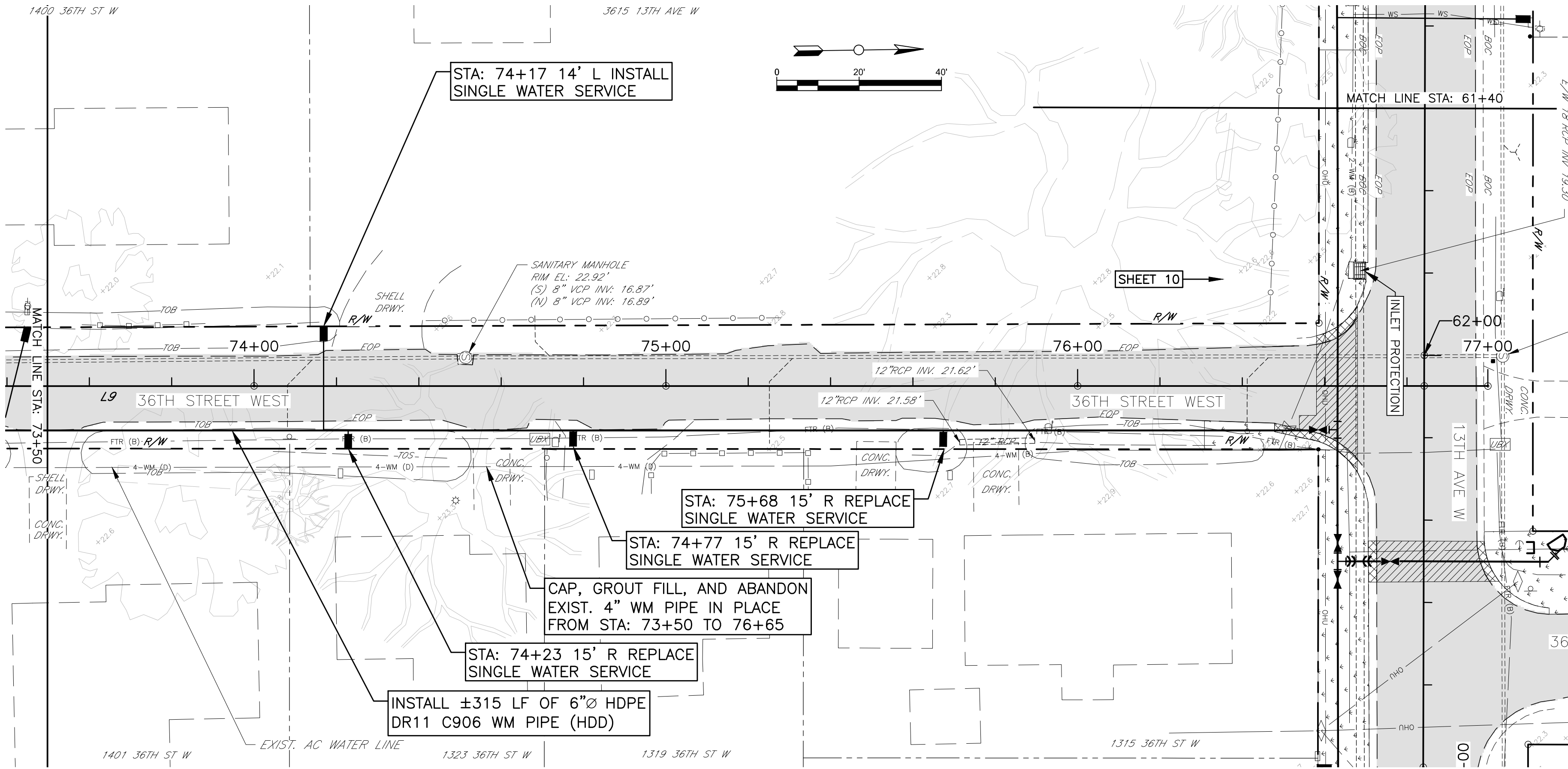
SHEET 10 OF 32



AREA	RESTORATION	QTY. THIS PAGE	UNITS
	BASE AND RESURFACE ASPHALT	36	SY
	SOD RESTORATION	37	SY
	CONCRETE DRIVEWAY RESTORATION	17	SY

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 36TH ST W STA 70+00 TO 73+50

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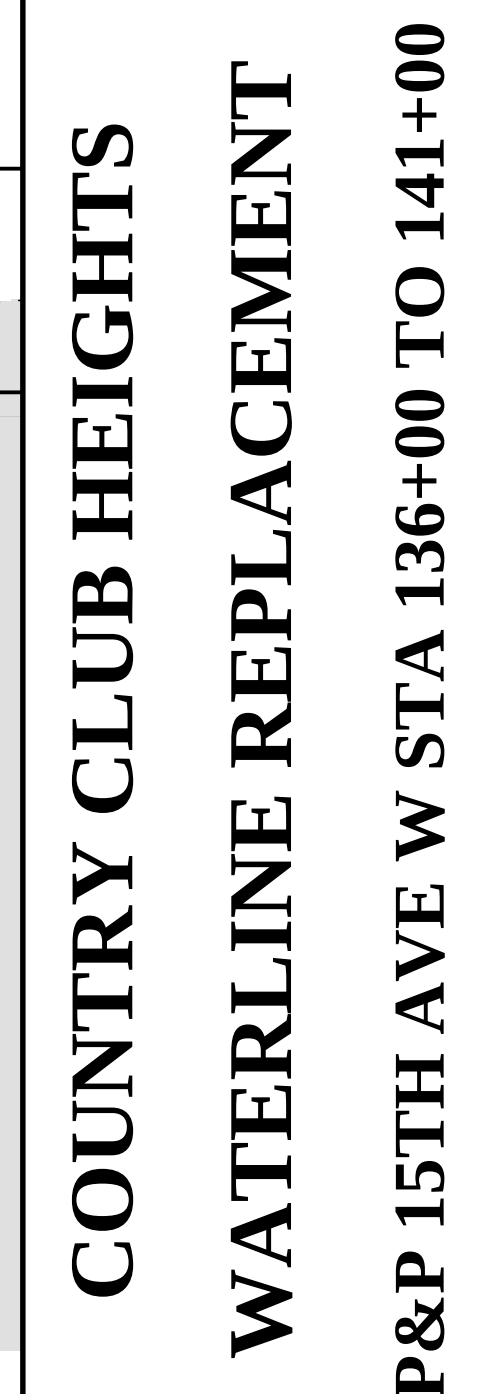
- NOTE:**
- CONTRACTOR SHALL PROVIDE ALL MOT, TRAFFIC CONTROL, SIGNING & BARRICADES TO CURRENT FDOT STANDARDS AND SHALL REPLACE ALL PAVEMENT STRIPING & MARKINGS TO CURRENT FDOT STANDARDS.
 - CONTRACTOR SHALL INSTALL 1" DIA. WATER LINES TO CONNECT TO ALL EXISTING WATER SERVICES FROM EXISTING METER BOXES TO PROPOSED METER BOXES TO RESTORE SERVICE AND SHALL REMOVE EXISTING METER BOXES. WHERE EXISTING METER BOXES ARE ON PRIVATE PROPERTY, CONTRACTOR SHALL INSTALL 1" DIA. SCHEDULE 40 PVC SERVICE LINE ALONG A ROUTE AGREED TO BY PROPERTY OWNER AND PROJECT REPRESENTATIVE. ALL WORK SHALL MEET MANATEE COUNTY UTILITY STANDARDS AND THE FLORIDA BUILDING CODE. WORK ON PRIVATE PROPERTY SHALL BE PERFORMED BY A LICENSED PLUMBER.
 - CONTRACTOR SHALL INSTALL BFP'S WHERE DIRECTED BY PROJECT REPRESENTATIVE, INCLUDING VACUUM BREAKERS ON HOSE BIBBS. CONTRACTOR SHALL COORDINATE WITH COUNTY CROSS CONNECTION STAFF AS REQUIRED.
 - ALL WATERMAIN CONNECTION TO EXISTING AC PIPES MUST BE MADE WITH HYMAX SLEEVE COUPLINGS AT NO ADDITIONAL COST TO THE COUNTY, TYP. ALL SHEETS.

**COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 36TH ST W STA 73+50 TO 77+00**

NO.	REVISION DESCRIPTION	BY	DATE
1	PROJECT #	404-6088770	
2	SURVEY #	14Y13314LS	
3	SEC./TWN./RGE	33/34S/17E	
4	VERT. SCALE	1"=2'	
5	HORZ. SCALE	1"=20'	
6	VERTICAL DATUM	NAVD 88	
7		BY	DATE
8	SURVEYED	GFY	11/2016
9	DESIGNED	BLR	03/2017
10	DRAWN	BLR	03/2017

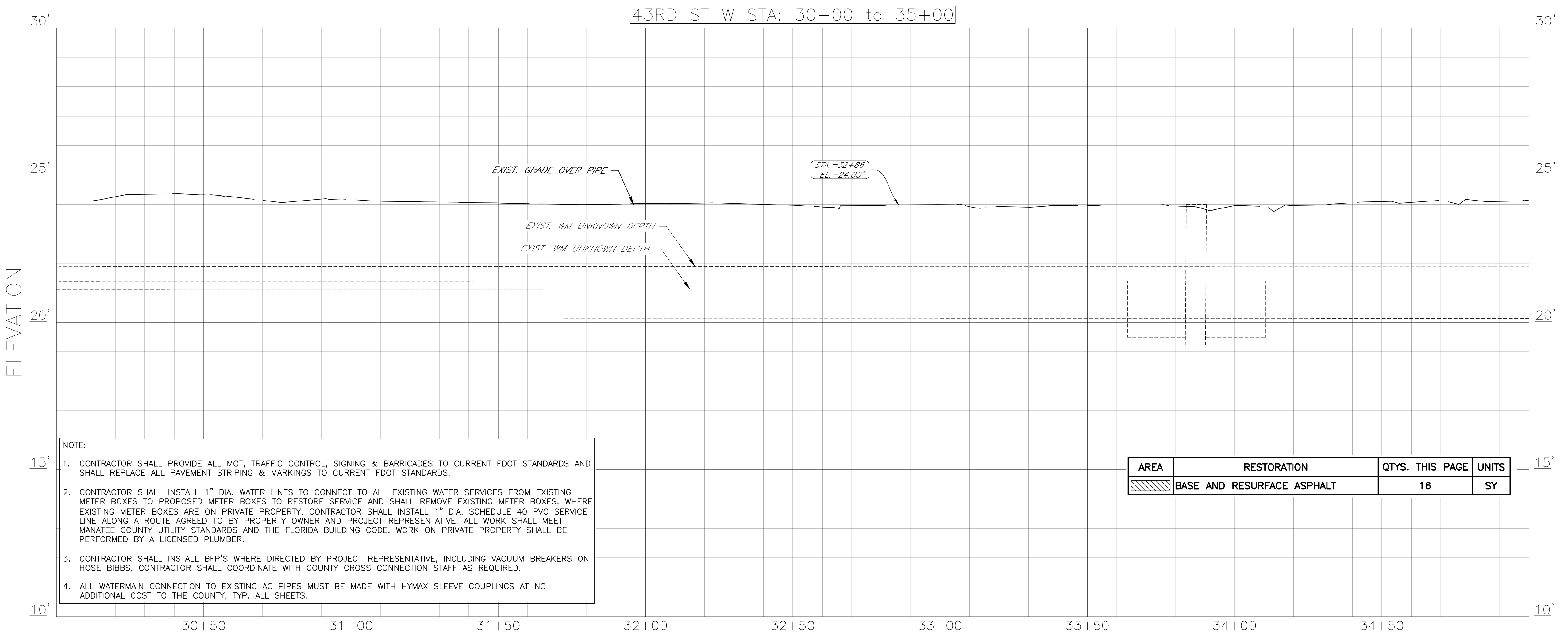
JOHN R. SHANN, P.E.
Professional Engineer
No. 60923
2/2/18
STATE OF FLORIDA
Professional Engineer





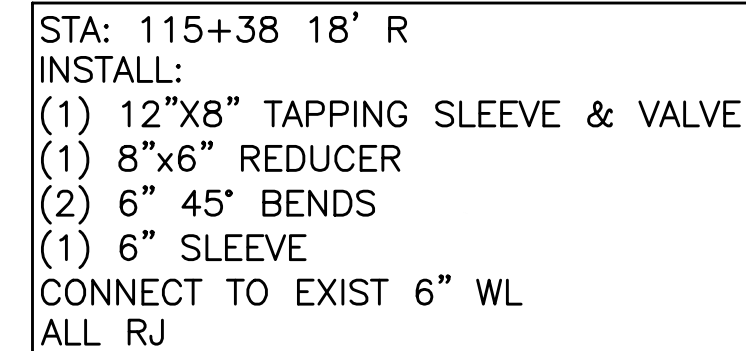
JOHN S. SHON P.E.
 FLORIDA LICENSE NO. 60923
 No. 60923
 STATE OF
 2/21/18
 FLORIDA
 PROFESSIONAL ENGINEER
 Signature: [Handwritten Signature]

SHEET 13 OF 32



**COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 43RD ST W STA 30+00 TO 35+00**

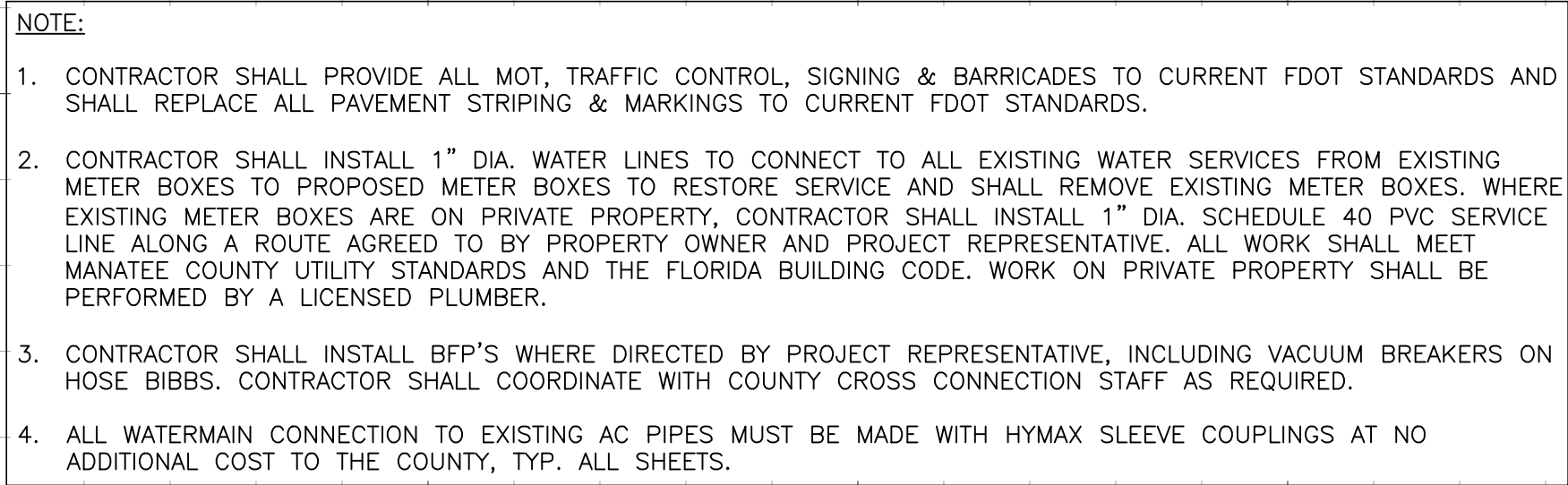
JOHN S. SHOOK, P.E.
JOHN S. SHOOK, P.E.
FLORIDA LICENSE NO. 60923
No. 60923
STATE OF
2/21/18
FLORIDA
PROFESSIONAL ENGINEER
Signature Date

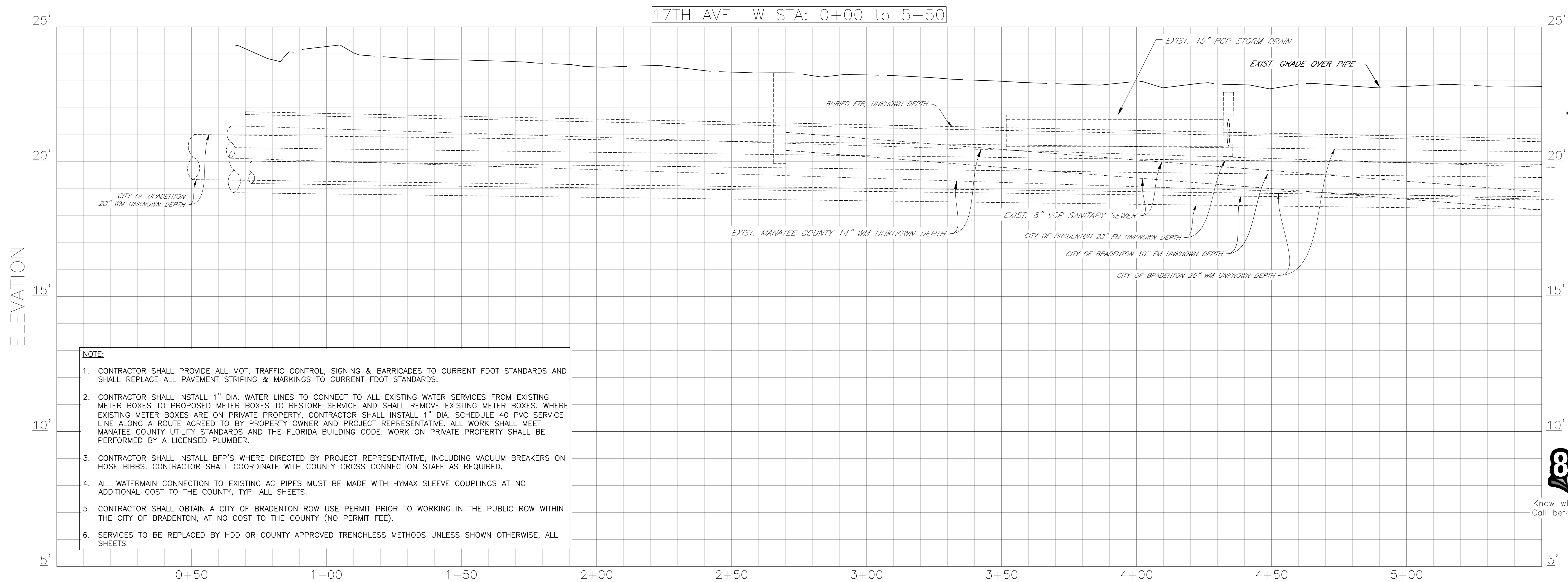
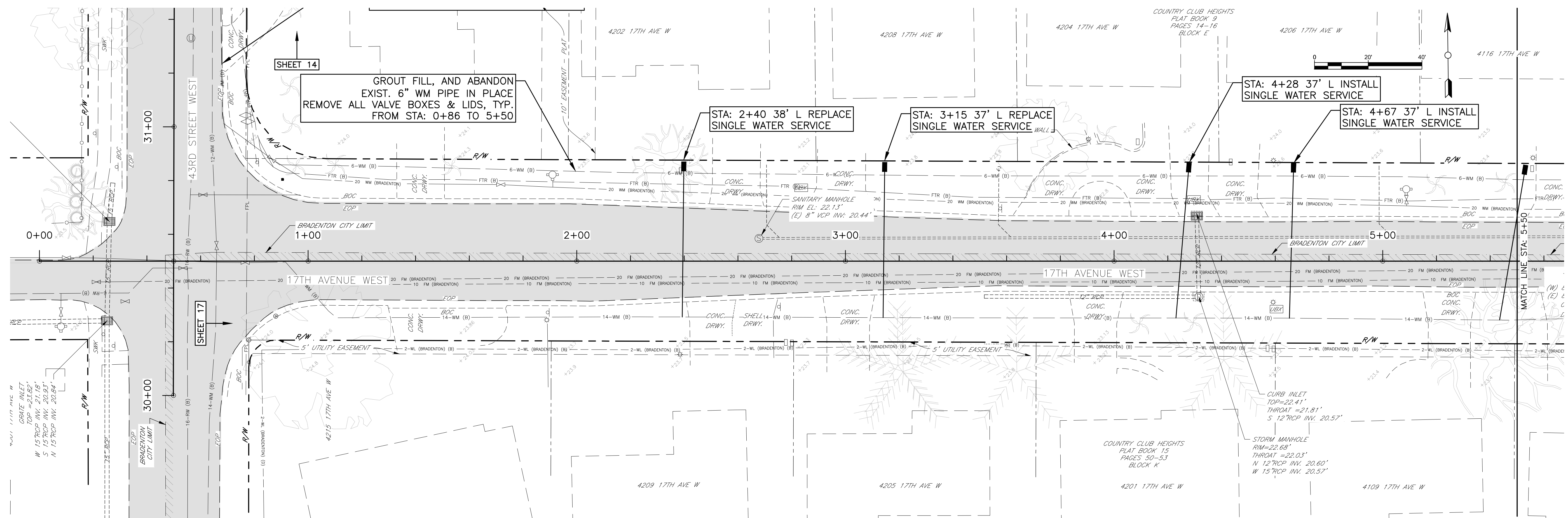


CAP, GROUT FILL, AND ABANDON
EXIST. 6" WM PIPE IN PLACE
REMOVE ALL VALVE BOXES & LIDS, TYP.
FROM STA: 35+00 TO 37+04

STA: 43+14 688' R
INSTALL:
±45 LF OF 6" DIP CL35
(4) 6" 45° VERT. BENDS
(1) 6" SLEEVE
CONNECT TO EXIST 6" W

STA: 118+33 19' R
INSTALL:
(1) 6" CROSS
(4) 6" GATE VALVES
(1) 6" SLEEVES





NOTE:

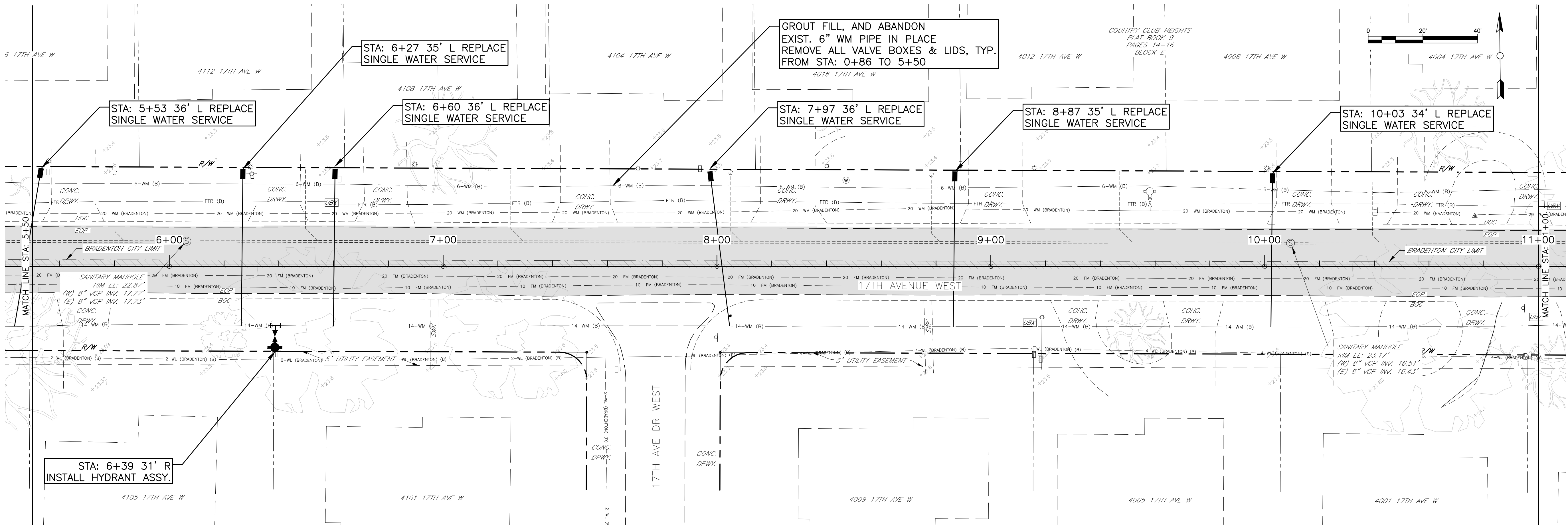
1. CONTRACTOR SHALL PROVIDE ALL MOT, TRAFFIC CONTROL, SIGNING & BARRICADES TO CURRENT FDOT STANDARDS AND SHALL REPLACE ALL PAVEMENT STRIPING & MARKINGS TO CURRENT FDOT STANDARDS.
2. CONTRACTOR SHALL INSTALL 1" DIA. WATER LINES TO CONNECT TO ALL EXISTING WATER SERVICES FROM EXISTING METER BOXES TO PROPOSED METER BOXES TO RESTORE SERVICE AND SHALL REMOVE EXISTING METER BOXES. WHERE EXISTING METER BOXES ARE ON PRIVATE PROPERTY, CONTRACTOR SHALL INSTALL 1" DIA. SCHEDULE 40 PVC SERVICE LINE ALONG A ROUTE AGREED TO BY PROPERTY OWNER AND PROJECT REPRESENTATIVE. ALL WORK SHALL MEET MANATEE COUNTY UTILITY STANDARDS AND THE FLORIDA BUILDING CODE. WORK ON PRIVATE PROPERTY SHALL BE PERFORMED BY A LICENSED PLUMBER.
3. CONTRACTOR SHALL INSTALL BFP'S WHERE DIRECTED BY PROJECT REPRESENTATIVE, INCLUDING VACUUM BREAKERS ON HOSE BIBBS. CONTRACTOR SHALL COORDINATE WITH COUNTY CROSS CONNECTION STAFF AS REQUIRED.
4. ALL WATERMAIN CONNECTION TO EXISTING AC PIPES MUST BE MADE WITH HYMAX SLEEVE COUPLINGS AT NO ADDITIONAL COST TO THE COUNTY, CITY. ALL SHEETS.
5. CONTRACTOR SHALL OBTAIN A TYPE OF BRADENTON ROW USE PERMIT PRIOR TO WORKING IN THE PUBLIC ROW WITHIN THE CITY OF BRADENTON, AT NO COST TO THE COUNTY (NO PERMIT FEE).
6. SERVICES TO BE REPLACED BY HDD OR COUNTY APPROVED TRENCHLESS METHODS UNLESS SHOWN OTHERWISE, ALL SHEETS



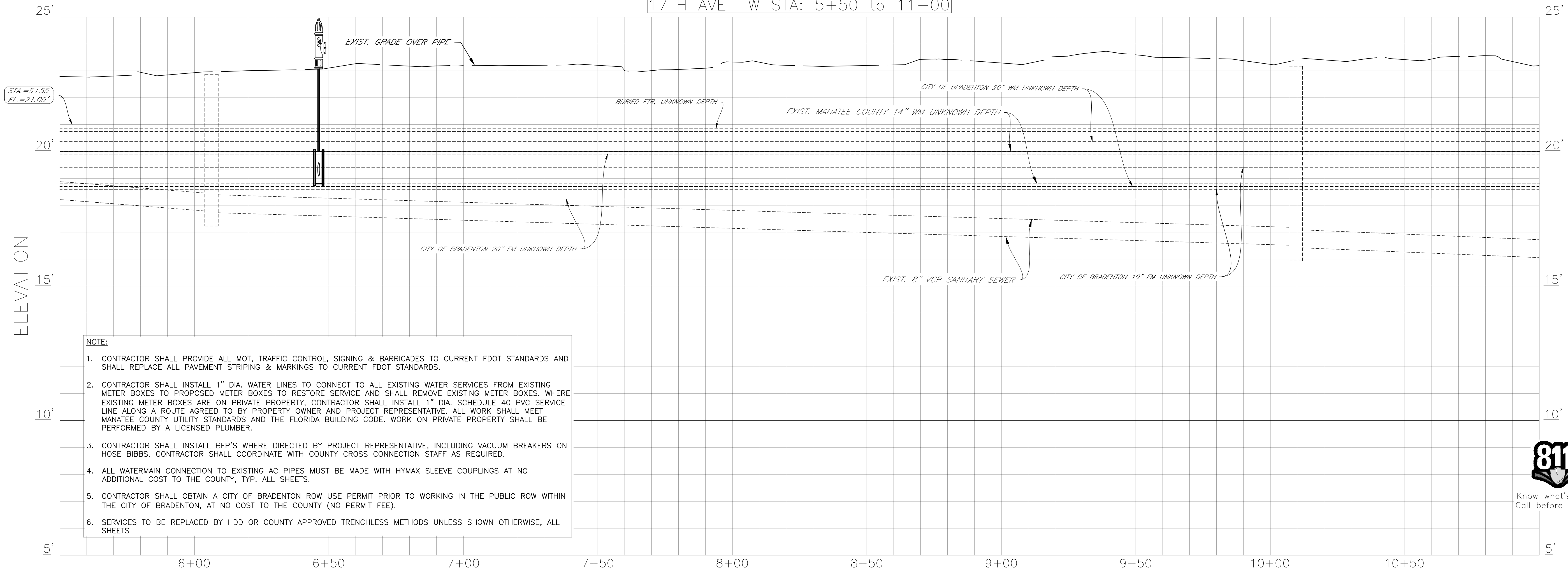
COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 17TH ST W STA 0+00 TO 5+50

NO.							
REVISION DESCRIPTION	BY						
	DATE						
	PROJECT #			404-6088770			
	SURVEY #			14Y13314LS			
	SEC./TWN./RGE			33/34S/17E			
VERT. SCALE			1"=2'				
HORZ. SCALE			1"=20'				
VERTICAL DATUM			NAVD 88				
			BY		DATE		
SURVEYED			GFY		11/2016		
DESIGNED			BLR		03/2017		
DRAWN			BLR		03/2017		

JOHN S. SHOLIN, P.E.
FEDERAL REGISTER 60923
LICENSE
No. 60923
STATE OF
2/21/18
FLORIDA
PROFESSIONAL ENGINEER
SPECIALTY: Mechanical Engineering



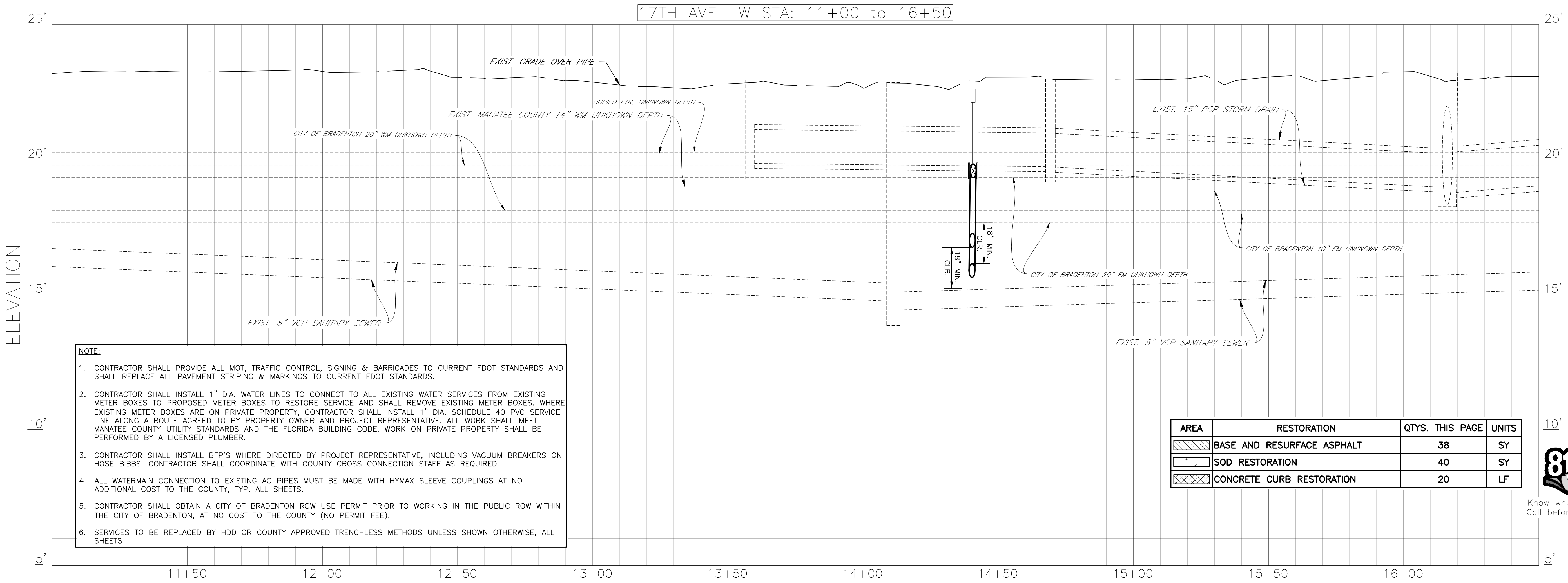
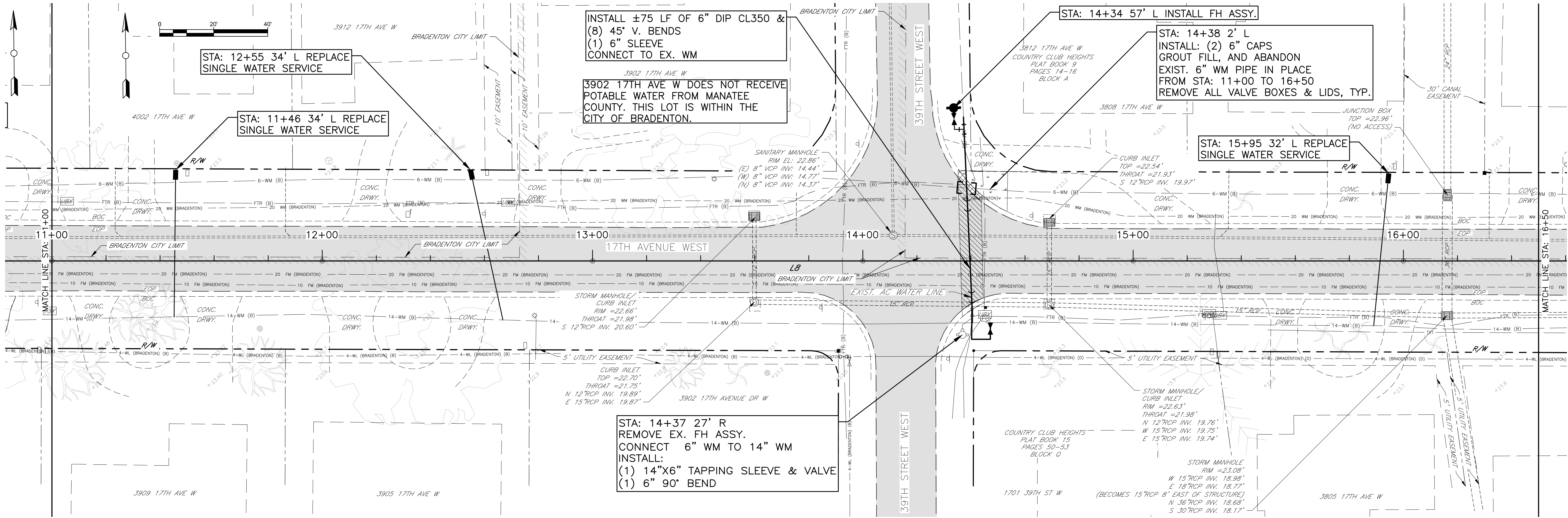
17TH AVE W STA: 5+50 to 11+00



- NOTE:
- CONTRACTOR SHALL PROVIDE ALL MOT, TRAFFIC CONTROL, SIGNING & BARRICADES TO CURRENT FDOT STANDARDS AND SHALL REPLACE ALL PAVEMENT STRIPING & MARKINGS TO CURRENT FDOT STANDARDS.
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 - CONTRACTOR SHALL INSTALL BFP'S WHERE DIRECTED BY PROJECT REPRESENTATIVE, INCLUDING VACUUM BREAKERS ON HOSE BIBBS. CONTRACTOR SHALL COORDINATE WITH COUNTY CROSS CONNECTION STAFF AS REQUIRED.
 - ALL WATERMAIN CONNECTION TO EXISTING AC PIPES MUST BE MADE WITH HYMAX SLEEVE COUPLINGS AT NO ADDITIONAL COST TO THE COUNTY, TYP. ALL SHEETS.
 - CONTRACTOR SHALL OBTAIN A CITY OF BRADENTON ROW USE PERMIT PRIOR TO WORKING IN THE PUBLIC ROW WITHIN THE CITY OF BRADENTON, AT NO COST TO THE COUNTY (NO PERMIT FEE).
 - SERVICES TO BE REPLACED BY HDD OR COUNTY APPROVED TRENCHLESS METHODS UNLESS SHOWN OTHERWISE, ALL SHEETS

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 17TH ST W STA 5+50 TO 11+00

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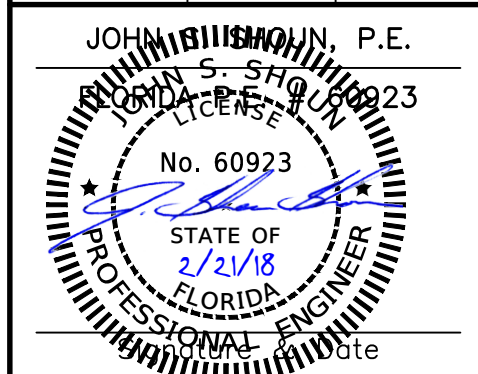
- NOTE:**
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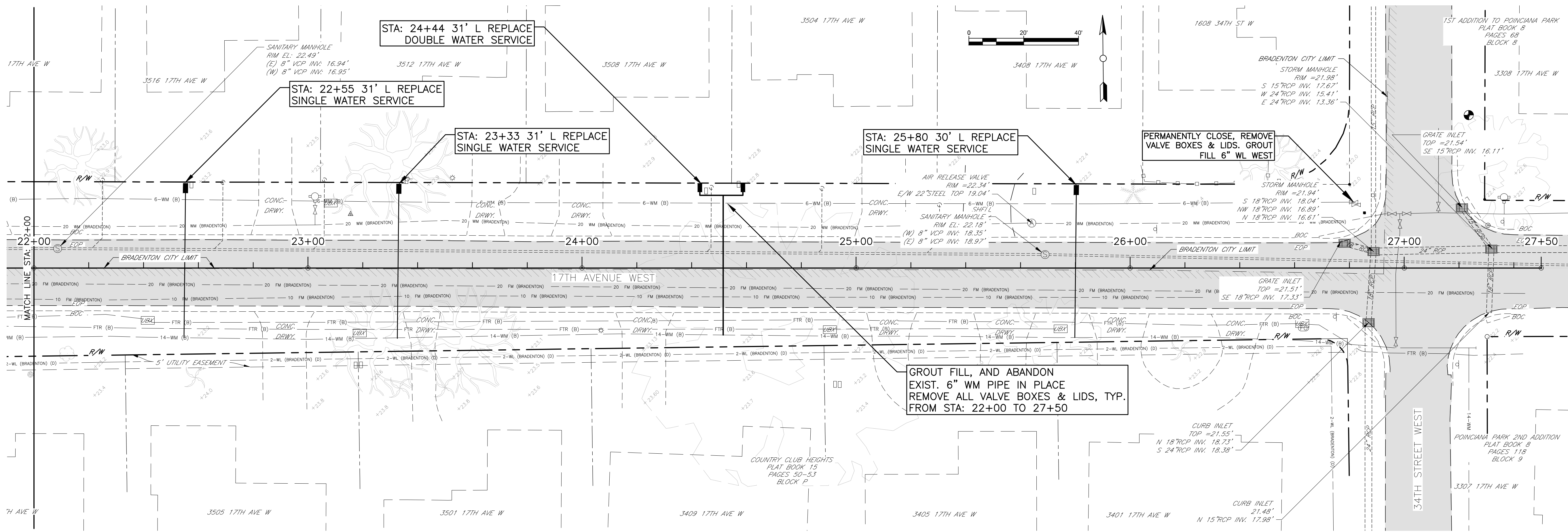
AREA	RESTORATION	QTYS. THIS PAGE	UNITS
	BASE AND RESURFACE ASPHALT	38	SY
	SOD RESTORATION	40	SY
	CONCRETE CURB RESTORATION	20	LF



COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 17TH ST W STA 11+00 TO 16+50

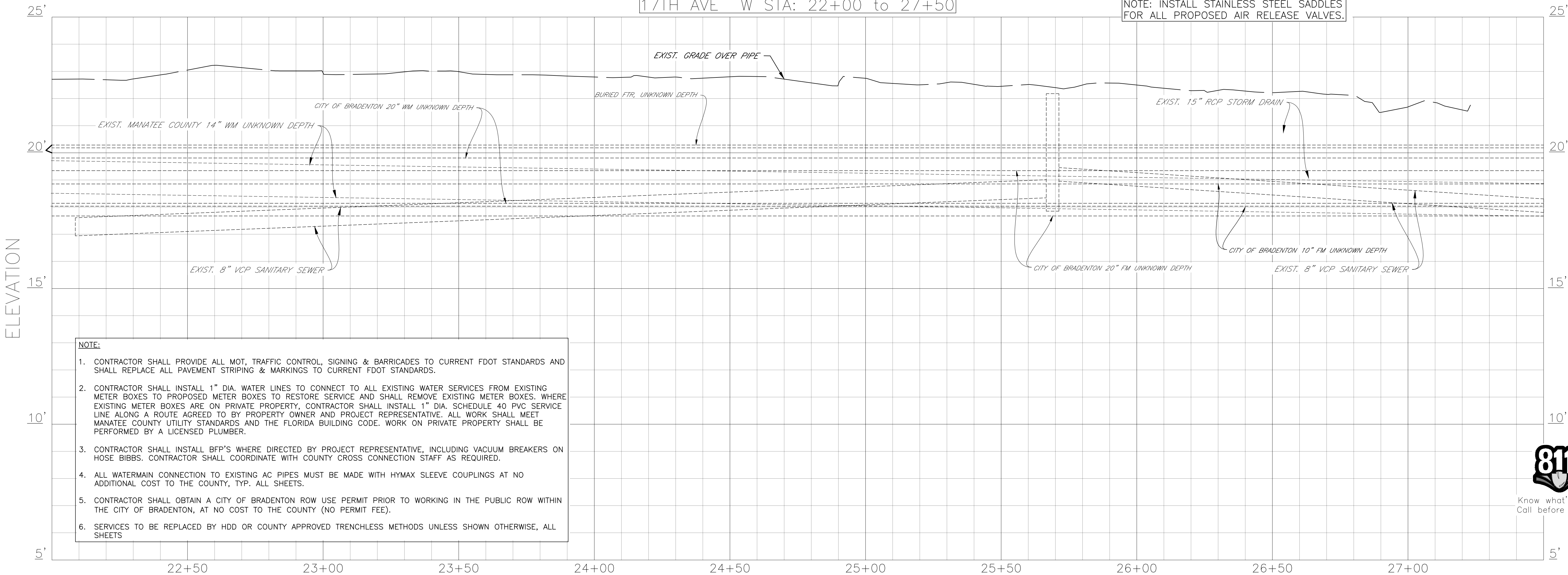
NO.	REVISION	DESCRIPTION	BY	DATE
PROJECT #	404-6088770			
SURVEY #	14Y13314LS			
SEC./TWN./RGE	33/34S/17E			
VERT. SCALE	1"=2'			
HORZ. SCALE	1"=20'			
VERTICAL DATUM	NAVD 88			
	BY	DATE		
SURVEYED	GFY	11/2016		
DESIGNED	BLR	03/2017		
DRAWN	BLR	03/2017		





17TH AVE W STA: 22+00 to 27+50

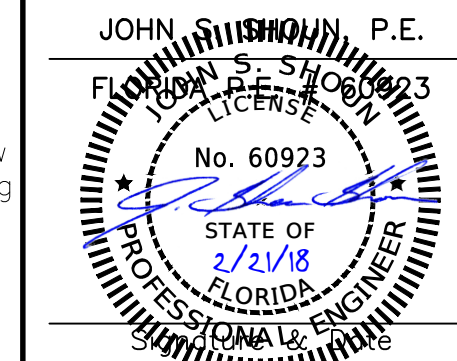
NOTE: INSTALL STAINLESS STEEL SADDLES FOR ALL PROPOSED AIR RELEASE VALVES.

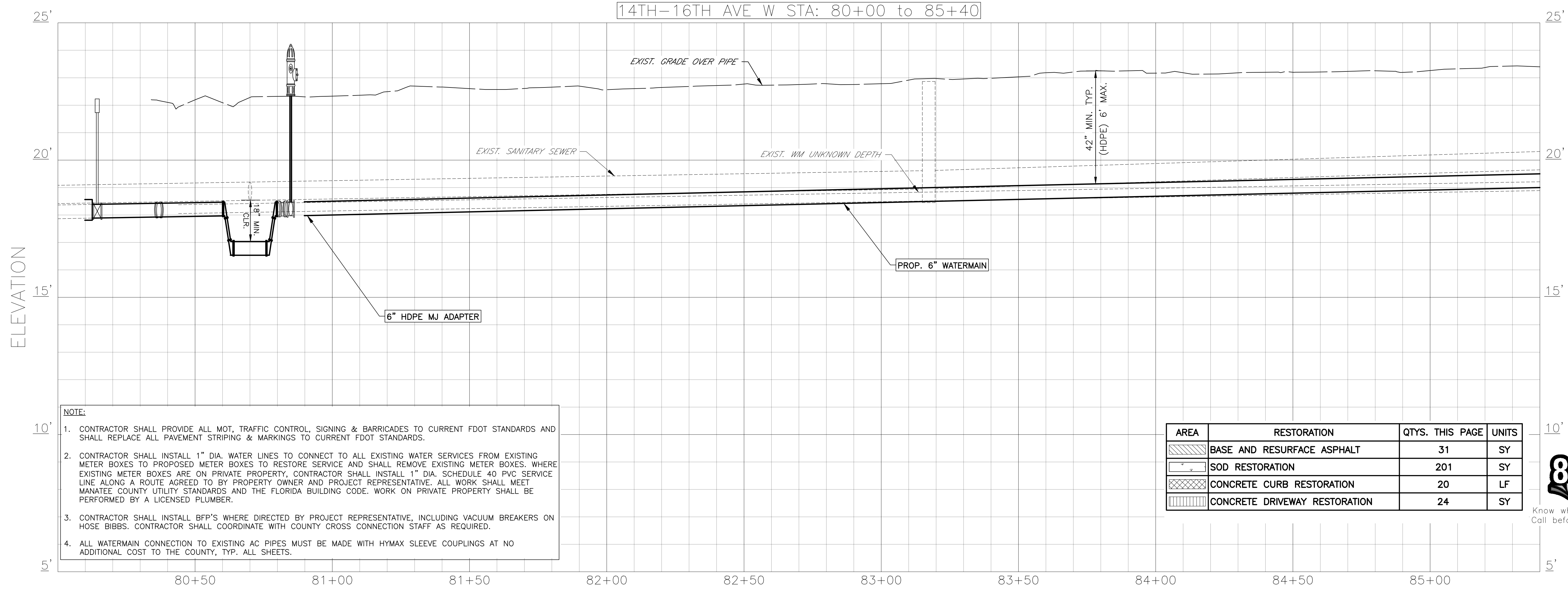
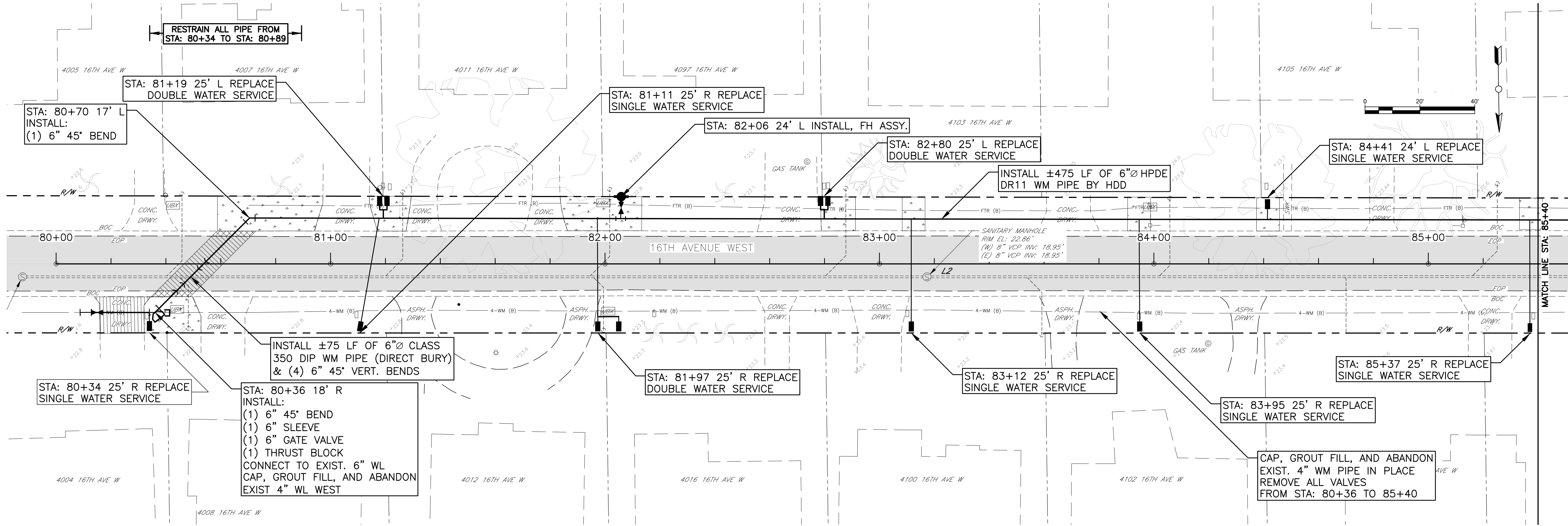


- NOTE:
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 - CONTRACTOR SHALL INSTALL 1" DIA. WATER LINES TO CONNECT TO ALL EXISTING WATER SERVICES FROM EXISTING METER BOXES TO PROPOSED METER BOXES TO RESTORE SERVICE AND SHALL REMOVE EXISTING METER BOXES. WHERE EXISTING METER BOXES ARE ON PRIVATE PROPERTY, CONTRACTOR SHALL INSTALL 1" DIA. SCHEDULE 40 PVC SERVICE LINE ALONG A ROUTE AGREED TO BY PROPERTY OWNER AND PROJECT REPRESENTATIVE. ALL WORK SHALL MEET MANATEE COUNTY UTILITY STANDARDS AND THE FLORIDA BUILDING CODE. WORK ON PRIVATE PROPERTY SHALL BE PERFORMED BY A LICENSED PLUMBER.
 - CONTRACTOR SHALL INSTALL BFP'S WHERE DIRECTED BY PROJECT REPRESENTATIVE, INCLUDING VACUUM BREAKERS ON HOSE BIBBS. CONTRACTOR SHALL COORDINATE WITH COUNTY CROSS CONNECTION STAFF AS REQUIRED.
 - ALL WATERMAIN CONNECTION TO EXISTING AC PIPES MUST BE MADE WITH HYMAX SLEEVE COUPLINGS AT NO ADDITIONAL COST TO THE COUNTY, TYP. ALL SHEETS.
 - CONTRACTOR SHALL OBTAIN A CITY OF BRADENTON ROW USE PERMIT PRIOR TO WORKING IN THE PUBLIC ROW WITHIN THE CITY OF BRADENTON, AT NO COST TO THE COUNTY (NO PERMIT FEE).
 - SERVICES TO BE REPLACED BY HDD OR COUNTY APPROVED TRENCHLESS METHODS UNLESS SHOWN OTHERWISE, ALL SHEETS

COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 17TH ST W STA 22+00 TO 27+50

REVISION	DESCRIPTION	BY	DATE
NO.			
PROJECT #	404-6088770		
SURVEY #	14Y13314LS		
SEC./TWN./RGE	33/34S/17E		
VERT. SCALE	1"=2'		
HORZ. SCALE	1"=20'		
VERTICAL DATUM	NAVD 88		
	BY	DATE	
SURVEYED	GFY	11/2016	
DESIGNED	BLR	03/2017	
DRAWN	BLR	03/2017	





PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

COUNTRY CLUB HEIGHTS

WATERLINE REPLACEMENT

P&P 14TH-16TH AVE W STA 80+00 TO 85+40

REVISION	DESCRIPTION	BY	DATE
NO.			

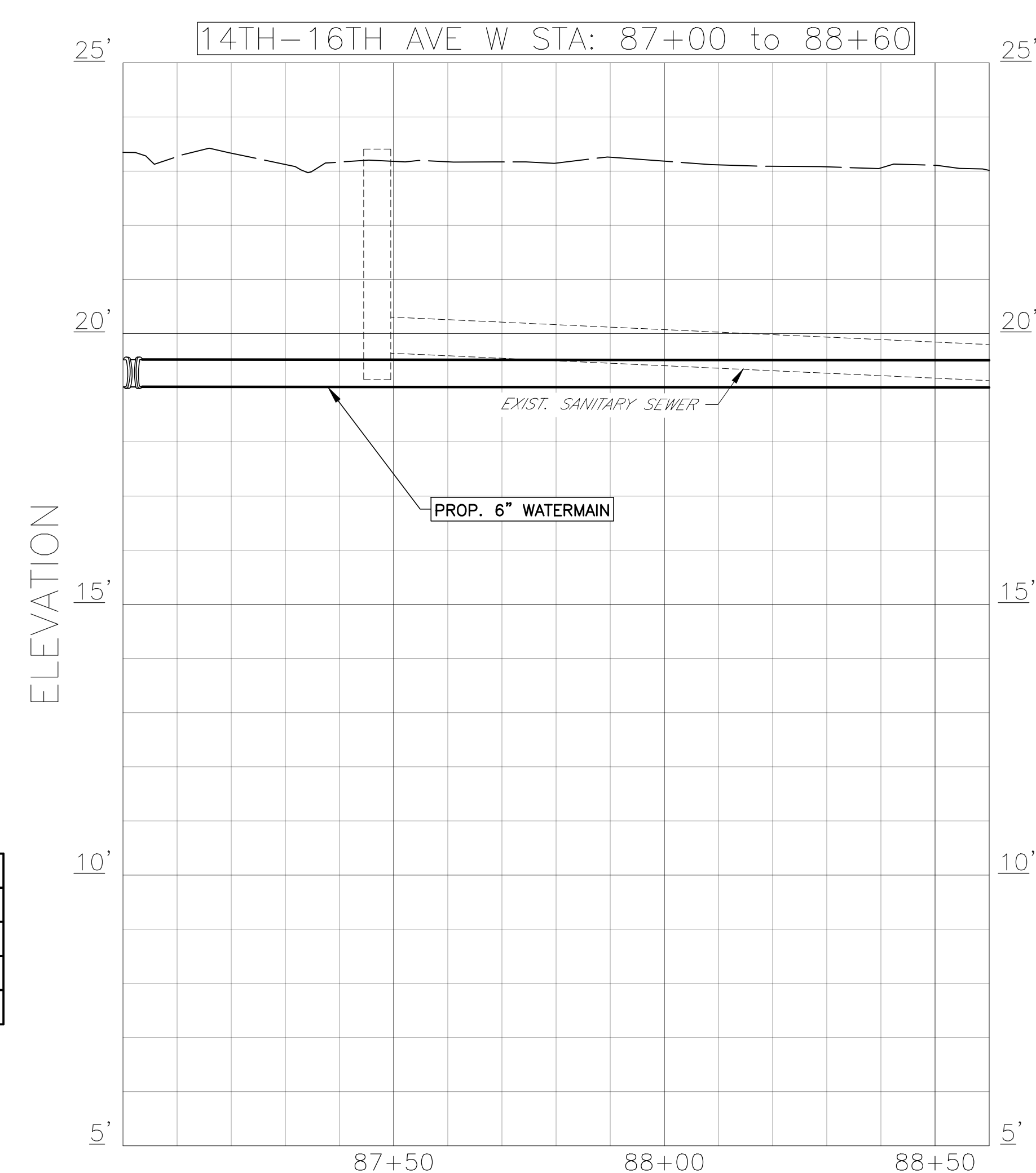
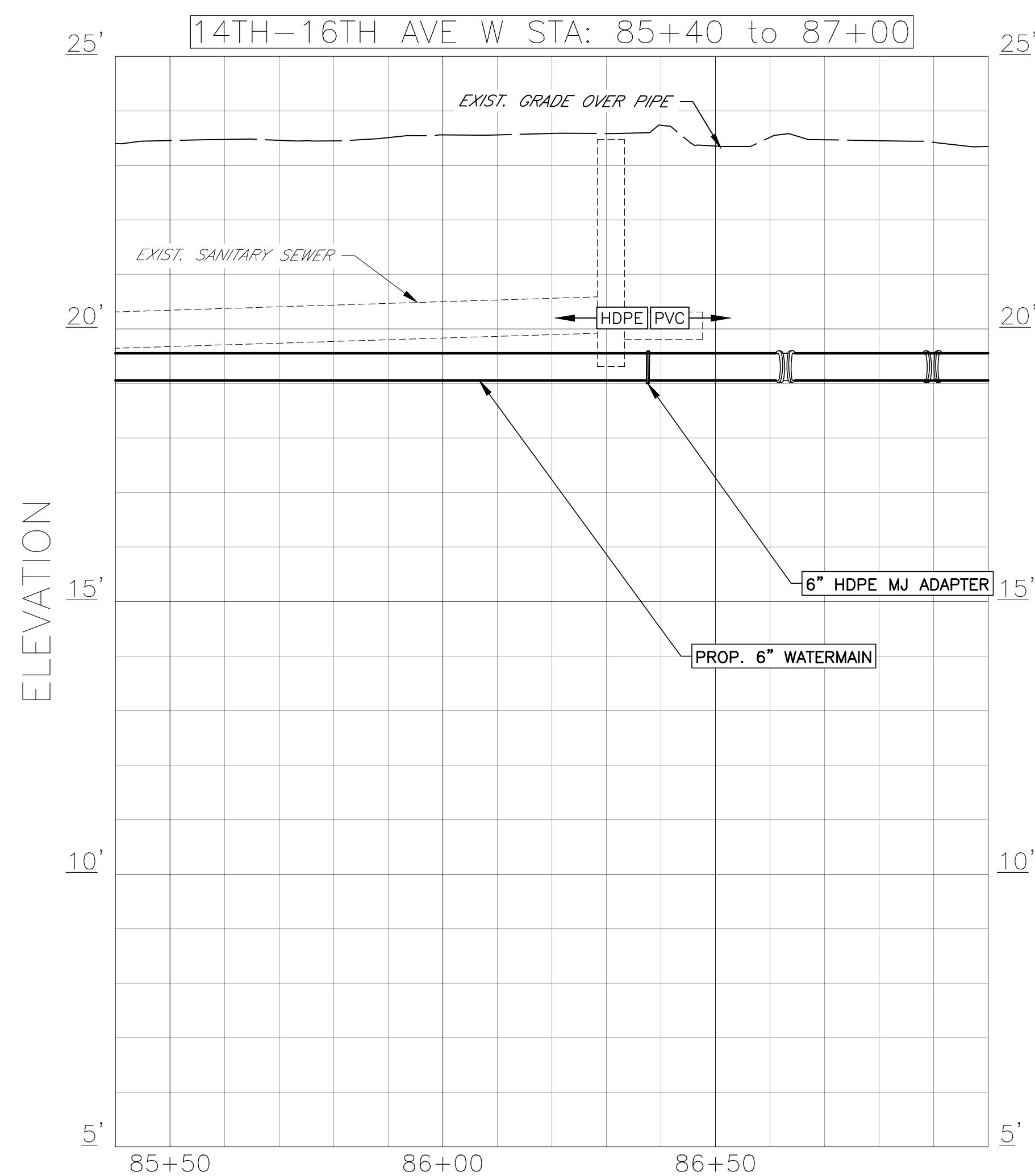
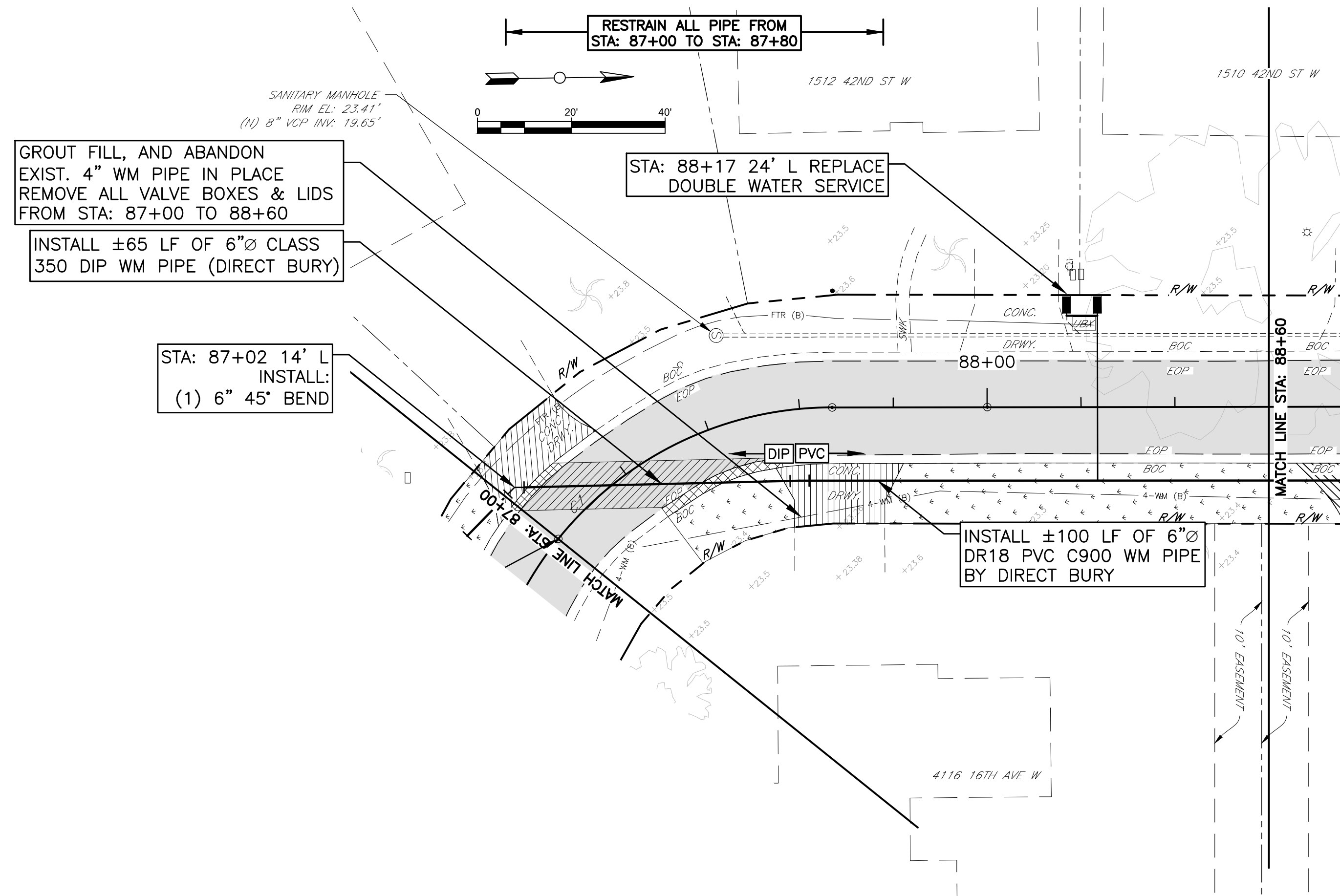
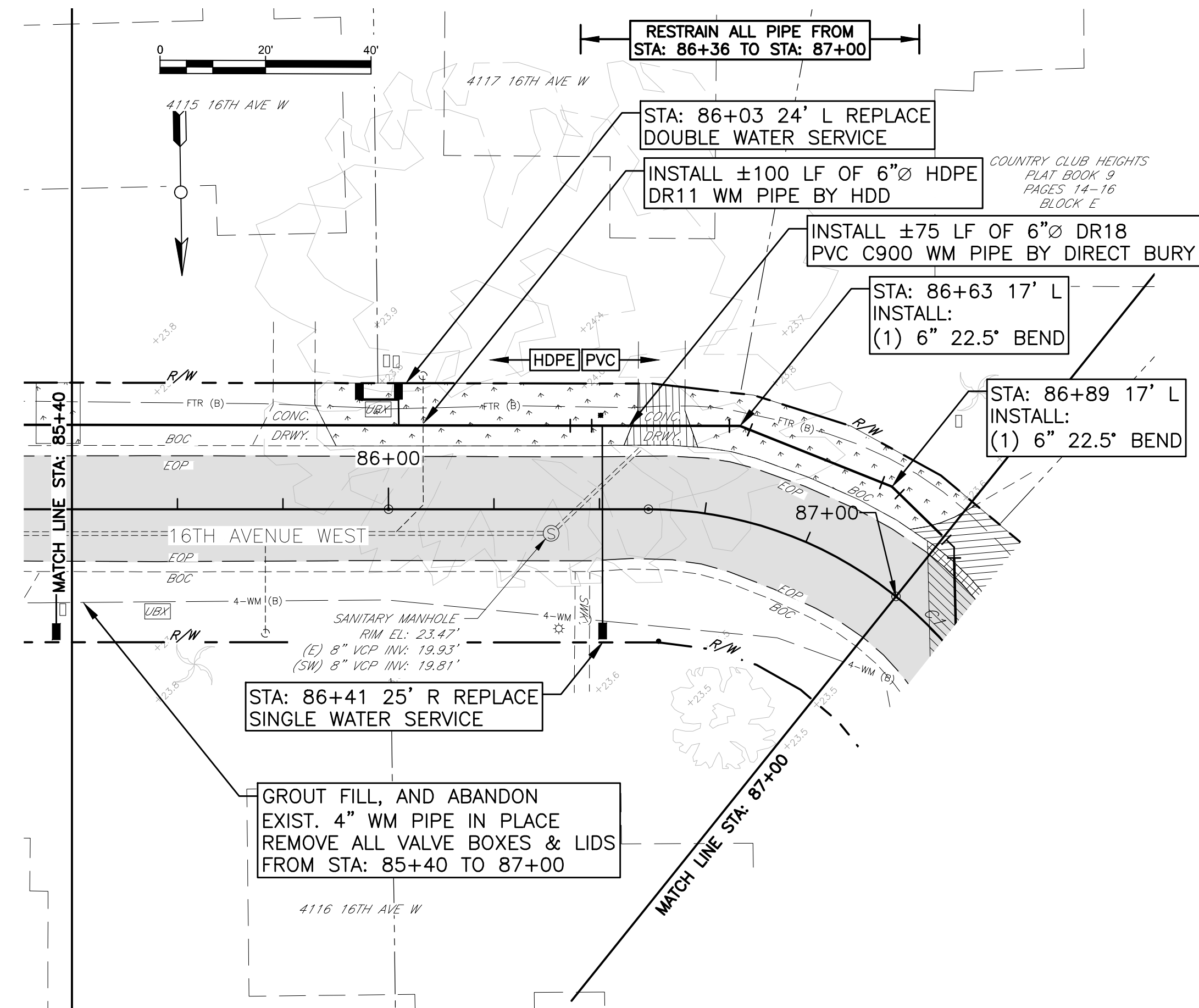
PROJECT #	404-6088770
SURVEY #	14Y13314LS
SEC./TWN./RGE	33/34S/17E
VERT. SCALE	1"=2'
HORZ. SCALE	1"=20'
VERTICAL DATUM	NAVD 88
	BY DATE
SURVEYED	GFY 11/2016
DESIGNED	BLR 03/2017
DRAWN	BLR 03/2017

JOHN S. SHOTTS, P.E.
No. 60923
STATE OF FLORIDA
PROFESSIONAL ENGINEER
Signature Date

Know what's below
Call before you dig

SHEET 22 OF 32

COPYRIGHT 2015 MANATEE COUNTY GOVERNMENT S:\PWD_Engineering_Share\Util_Eng_Design\Proj\Water Line-Country Club Heights\DWG\Country Club Heights_P&P.dwg, 22, 2/16/2016 10:30 AM Bruce Robertson, 1:1, ANSI full bleed D (34.00 x 22.00 inches)



AREA	RESTORATION	QTYs. THIS PAGE	UNITS
	BASE AND RESURFACE ASPHALT	39	SY
	CONCRETE CURB RESTORATION	15	LF
	SOD RESTORATION	296	SY
	CONCRETE DRIVEWAY RESTORATION	75	SY

NO.	REVISION DESCRIPTION	BY	DATE
	PROJECT #	404-6088770	
	SURVEY #	14Y13314LS	
	SEC./TWN./RGE	33/34S/17E	
	VERT. SCALE	1"=2'	
	HORZ. SCALE	1"=20'	
	VERTICAL DATUM	NAVD 88	
		BY	DATE
	SURVEYED	GFY	11/2016
	DESIGNED	BLR	03/2017
	DRAWN	BLR	03/2017

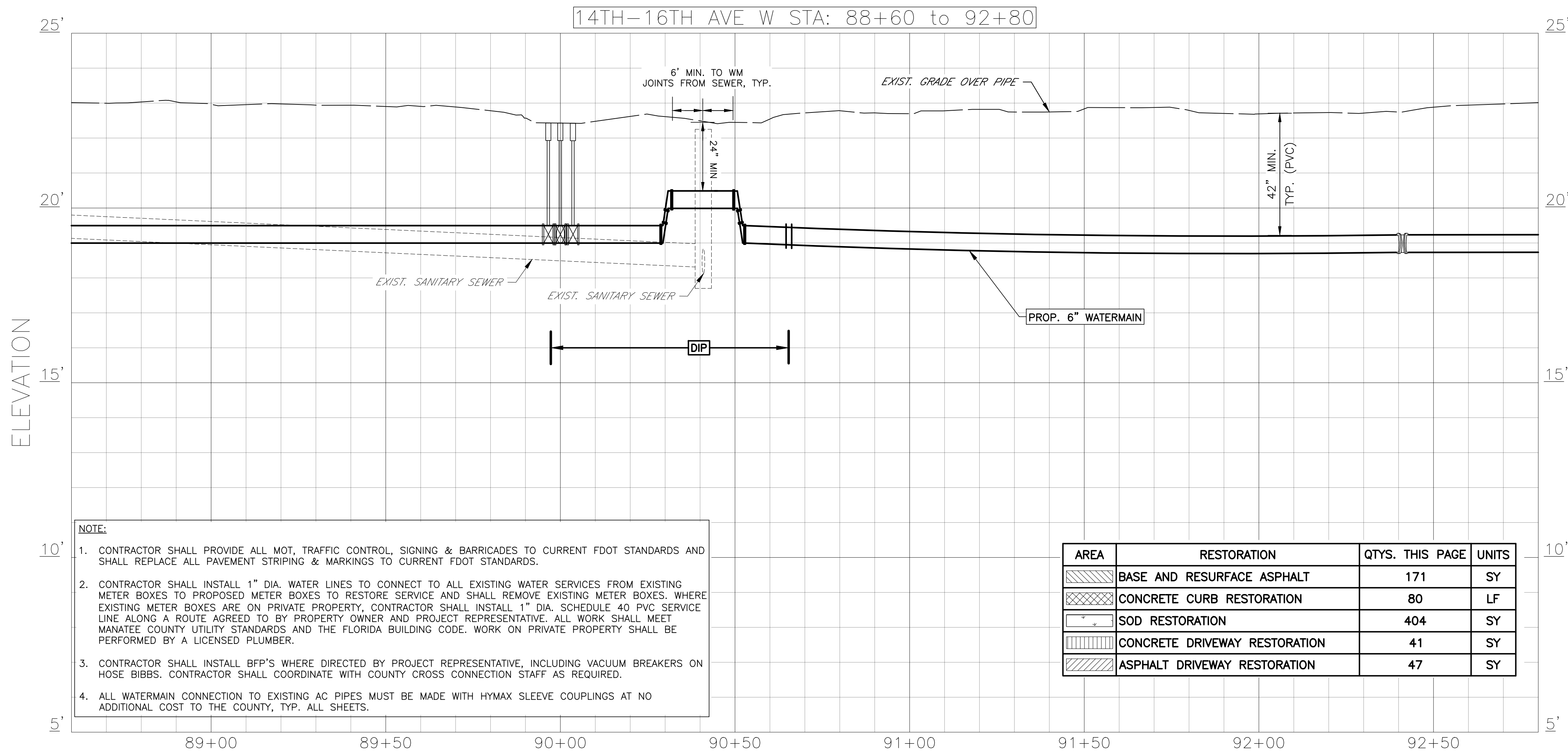
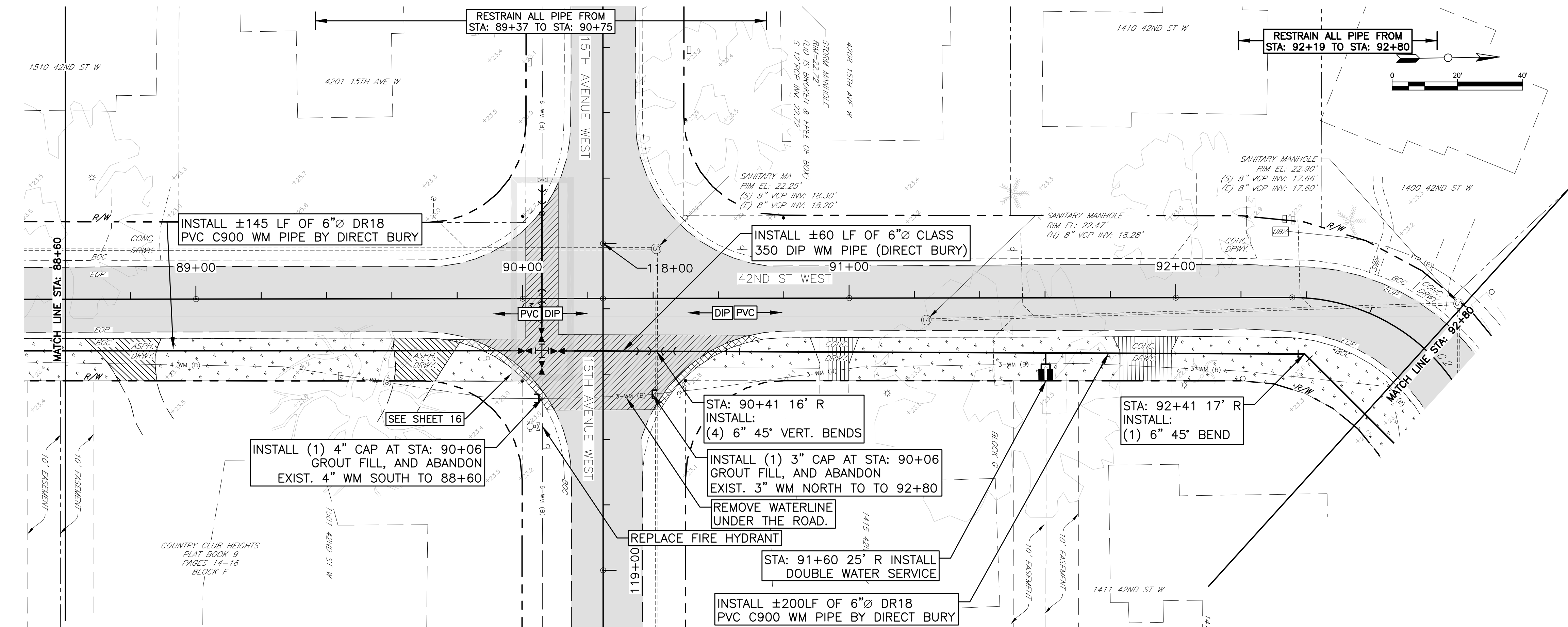
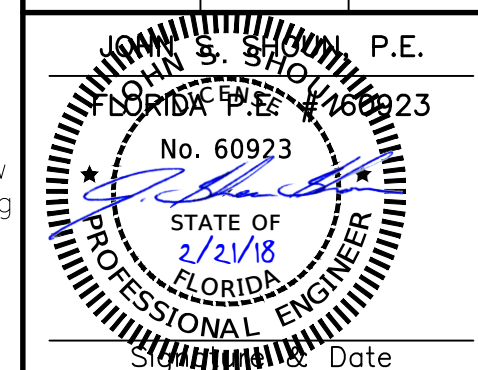


now what's below
all before you dig

JOHN S. SHOWN P.E.
JOHN S. SHOWN
FLORIDA
LICENSE
No. 60923
STATE OF
2/21/18
FLORIDA
PROFESSIONAL ENGINEER
Supra & Associates, Inc.

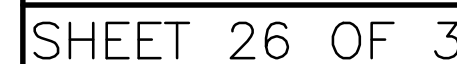
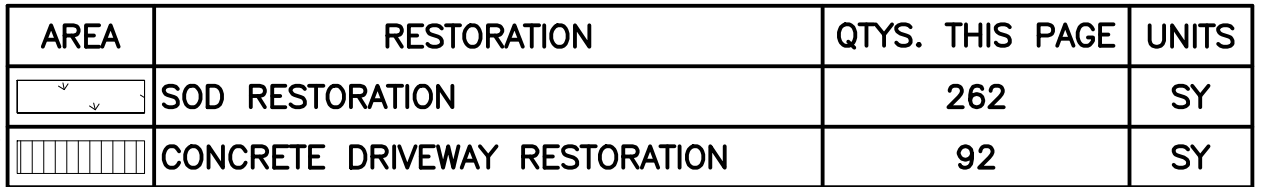
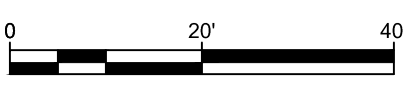
COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
P&P 14TH-16TH AVE W STA 88+60 TO 92+80

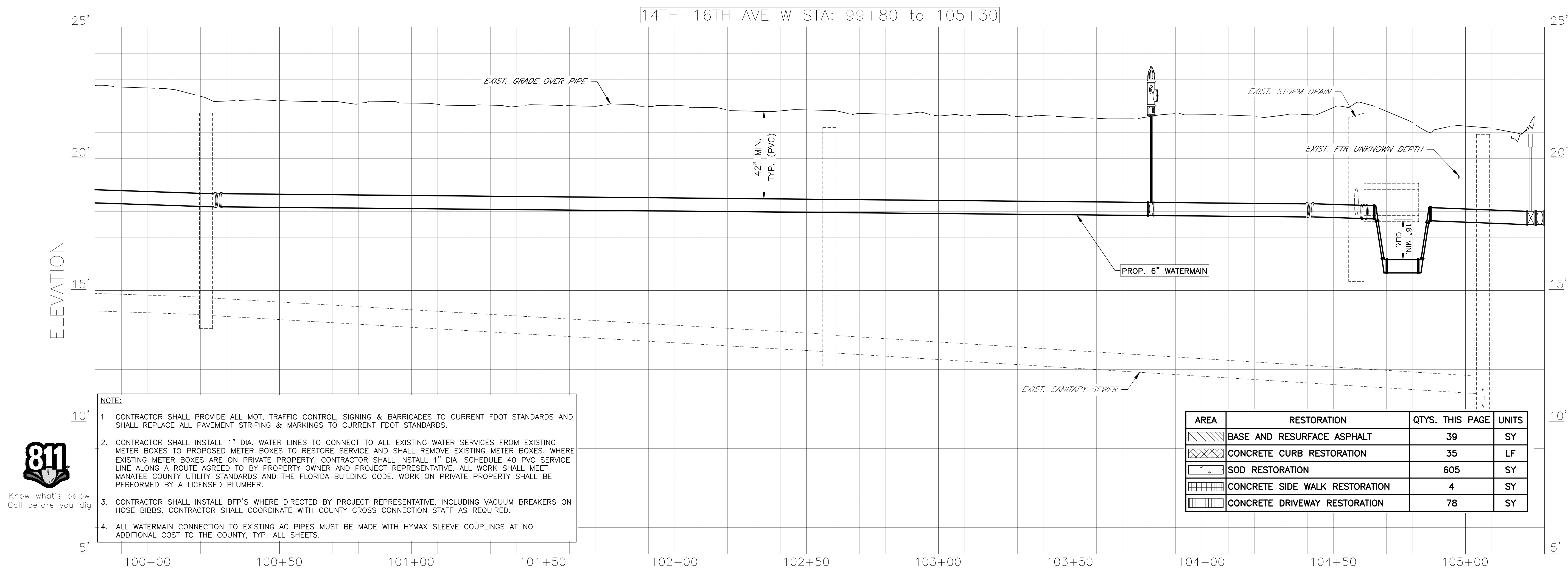
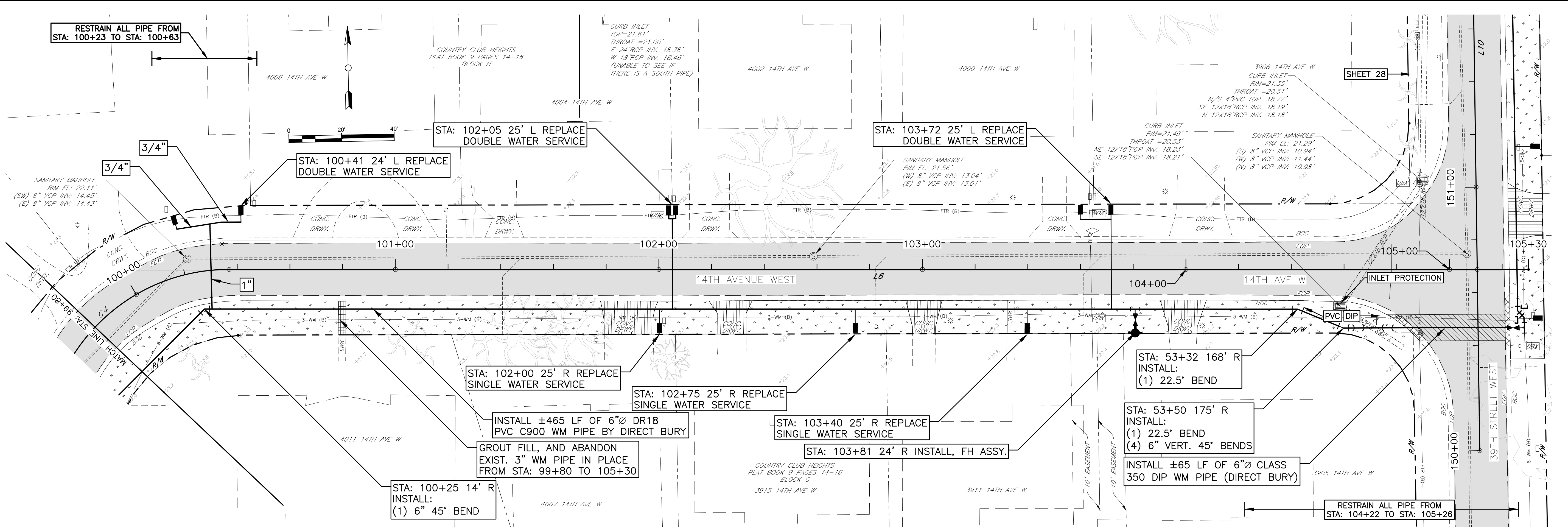
NO.	REVISION DESCRIPTION	BY	DATE
PROJECT #	404-6088770		
SURVEY #	14Y13314LS		
SEC./TWN./RGE	33/34S/17E		
VERT. SCALE	1"=2'		
HORZ. SCALE	1"=20'		
VERTICAL DATUM	NAVD 88		
		BY	DATE
SURVEYED	GFY		11/2016
DESIGNED	BLR		03/2017
DRAWN	BLR		03/2017



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AREA	RESTORATION	QTYS. THIS PAGE	UNITS
	BASE AND RESURFACE ASPHALT	171	SY
	CONCRETE CURB RESTORATION	80	LF
	SOD RESTORATION	404	SY
	CONCRETE DRIVEWAY RESTORATION	41	SY
	ASPHALT DRIVEWAY RESTORATION	47	SY





PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

COUNTRY CLUB HEIGHTS

WATERLINE REPLACEMENT

P&P 14TH-16TH AVE W STA 99+80 TO 105+30

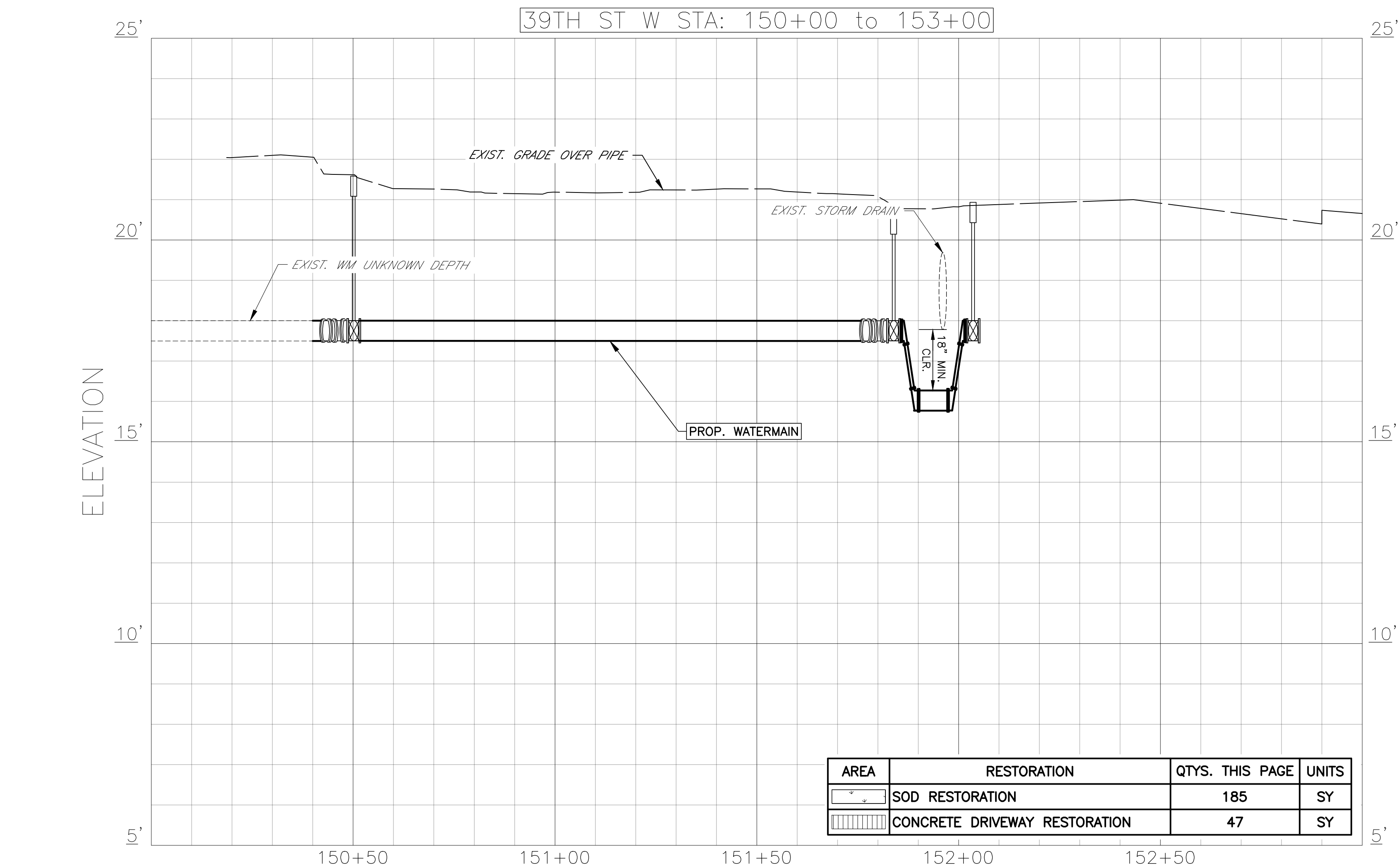
NO.	REVISION	DESCRIPTION	BY	DATE

PROJECT #	404-6088770
SURVEY #	14Y13314LS
SEC./TWN./RGE	33/34S/17E
VERT. SCALE	1"=2'
HORZ. SCALE	1"=20'
VERTICAL DATUM	NAVD 88
	BY DATE
SURVEYED	GFY 11/2016
DESIGNED	BLR 03/2017
DRAWN	BLR 03/2017

JOHN S. SHORP, P.E.
Professional Engineer
No. 60923
STATE OF FLORIDA
2/2/18
Professional Engineer
Signature

SHEET 27 OF 32

COPYRIGHT 2015 MANATEE COUNTY GOVERNMENT S:\PWD_Engineering_Share\Util_Eng_Design\Proj\Water Line-Country Club Heights\DWG\Country Club Heights_P&P.dwg, 27, 2/16/2018 10:32 AM Bruce Robertson, 1:1, ANSI full bleed D (34.00 x 22.00 inches)



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JOHN S. SHOWN, P.E.
JOHN S. SHOWN
LICENSE NO. 60923
No. 60923
STATE OF
2/21/18
FLORIDA
PROFESSIONAL ENGINEER
Date

REQUIRED LENGTH OF RESTRAINED JOINT PIPE
FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES										REDUCERS										PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH										SIZE LENGTH										
36	142	59	28	x36	x30	x24	x20	x16	x12	x10	x8	x6	x4	x36	x24	x20	x16	x12	x10	x8	x6	x4	453	
30	124	51	25	x30	x24	x20	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	391		
24	106	44	21	x24	x20	x16	x12	x10	x8	x6	x4	x24	x20	x16	x12	x10	x8	x6	x4	x24	x20	x16	327	
20	92	38	18	x20	x16	x12	x10	x8	x6	x4	x20	x16	x12	x10	x8	x6	x4	x20	x16	x12	x10	x8	280	
16	77	32	15	x16	x12	x10	x8	x6	x4	x16	x12	x10	x8	x6	x4	x16	x12	x10	x8	x6	x4	231		
12	61	25	12	x12	x10	x8	x6	x4	x12	x10	x8	x6	x4	x12	x10	x8	x6	x4	x12	x10	x8	x6	181	
10	52	22	10	x10	x8	x6	x4	x10	x8	x6	x4	x10	x8	x6	x4	x10	x8	x6	x4	x10	x8	x6	153	
8	44	18	9	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	x4	128		
6	34	14	7	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	98		
4	24	10	5	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	69		

REQUIRED LENGTH OF RESTRAINED JOINT PIPE
FOR DIP (NON-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES												REDUCERS												PLUGS & VALVES
	90°	45°	22.5°	SIZE						LENGTH						SIZE						LENGTH						
36	100	42	20	x36	x30	x24	x20	x16	x12	x10	x8	x6	x4	x36	x24	x20	x16	x12	x10	x8	x6	x4	188					
30	88	37	18	x30	x24	x20	x16	x12	x10	x8	x6	x4	x30	x24	x20	x16	x12	x10	x8	x6	x4	x30	x24	162				
24	75	31	15	x24	x20	x16	x12	x10	x8	x6	x4	x24	x20	x16	x12	x10	x8	x6	x4	x24	x20	x16	x12	135				
20	65	27	13	x20	x16	x12	x10	x8	x6	x4	x20	x16	x12	x10	x8	x6	x4	x20	x16	x12	x10	x8	x6	116				
16	54	22	11	x16	x12	x10	x8	x6	x4	x16	x12	x10	x8	x6	x4	x16	x12	x10	x8	x6	x4	x16	x12	96				
12	43	18	8	x12	x10	x8	x6	x4	x12	x10	x8	x6	x4	x12	x10	x8	x6	x4	x12	x10	x8	x6	x4	75				
10	37	15	7	x10	x8	x6	x4	x10	x8	x6	x4	x10	x8	x6	x4	x10	x8	x6	x4	x10	x8	x6	x4	63				
8	30	13	6	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	x4	x8	x6	53				
6	24	10	5	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	x6	x4	41				
4	17	7	3	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	x4	29				

NOTE:

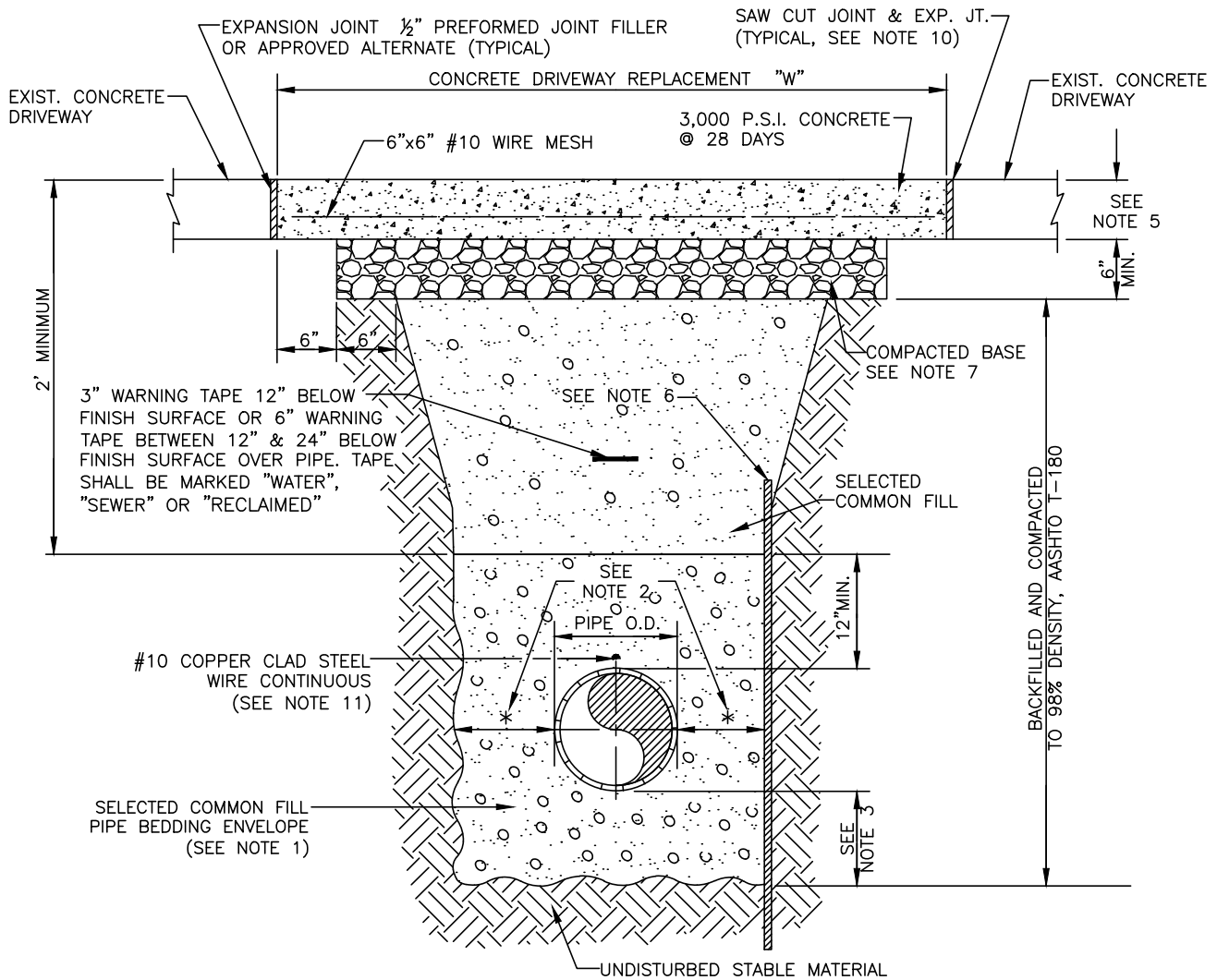
- SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 9 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	RESTRAINED LENGTHS FOR DIP	UG-9

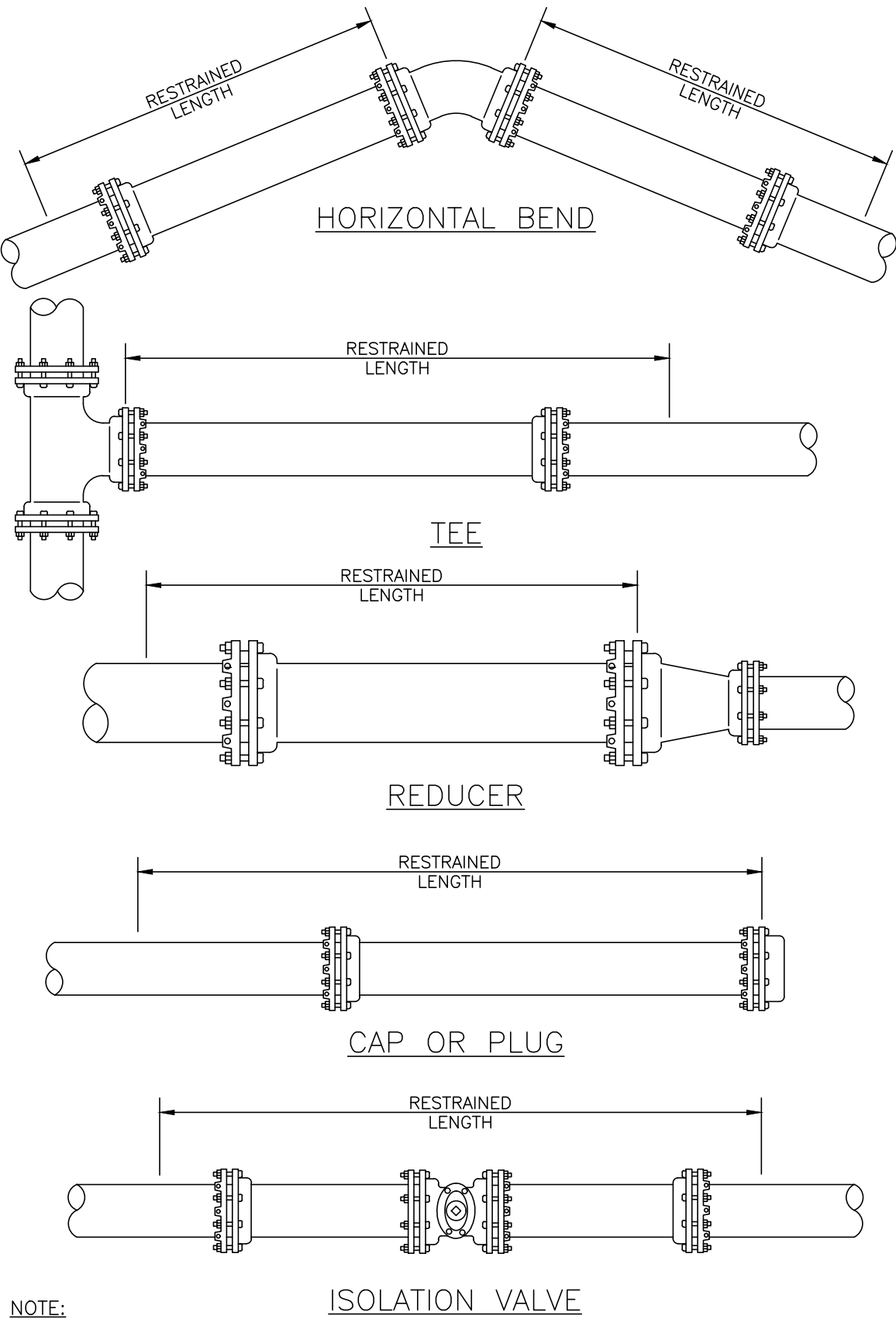
NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
- DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
- IF THE DRIVEWAY IS 12' OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (1/8" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
- IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING	UG-14



NOTE:

- SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 9 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR PIPE.

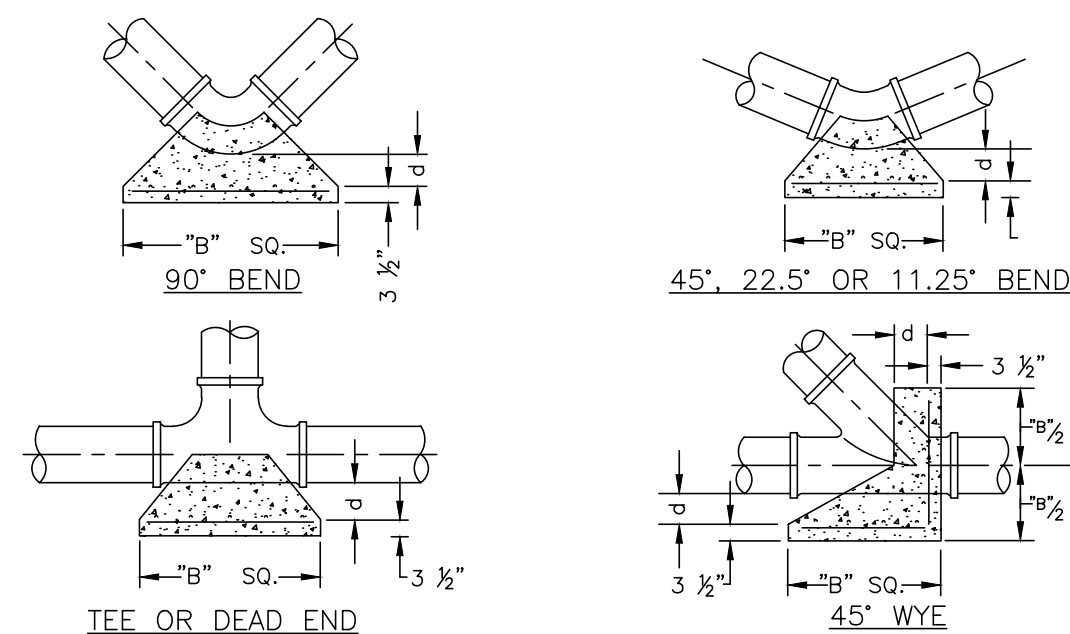
MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	RESTRAINED LENGTHS FOR PIPE	UG-10

THRUST BLOCK DIMENSIONS 8 ft. x d inches															
PIPE SIZE (IN.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		DEAD END & TEE		45° WYE				
	B	d	B	d	B	d	B	d	B	d	B	d	B	d	
4	1.5	3 1/2	1.1	3 1/2	0.8	3 1/2	0.6	3 1/2	1.3	3 1/2	1.1	3 1/2	1.1	3 1/2	
6	2.2	5 1/4	1.6	3 3/4	1.2	3 1/2	0.8	3 1/2	1.9	4 1/2	1.6	3 3/4	1.6	3 3/4	
8	2.9	7	2.1	5	1.5	3 1/2	1.1	3 1/2	2.4	5 3/4	2.0	4 3/4	2.0	4 3/4	
10	3.5	8 1/2	2.6	6 1/4	1.9	4 1/2	1.3	3 1/2	3.0	7 1/4	2.5	6	2.5	6	
12	4.2	10	3.1	7 1/2	2.2	5 1/4	1.6	3 3/4	3.5	8 1/4	3.0	7 1/4	3.0	7 1/4	
14	4.9	11 3/4	3.6	8 3/4	2.6	6 1/4	1.8	4 1/4	4.1	9 3/4	3.4	8 1/4	3.4	8 1/4	
16	5.5	13 1/4	4.1	9 3/4	2.9	7	2.1	5	4.7	11 1/4	3.9	9 1/4	3.9	9 1/4	
18	6.2	15	4.6	11	3.3	8	2.3	5 1/2	5.2	12 1/2	4.4	10 1/2	4.4	10 1/2	
20	6.9	16 1/2	5.0	12	3.6	8 3/4	2.6	6 1/4	5.8	14	4.9	11 3/4	4.9	11 3/4	
24	8.2	19 3/4	6.0	14 1/4	4.3	10 1/4	3.1	7 1/2	6.9	16 1/2	5.8	14	5.8	14	
30	10.1	24 1/4	7.5	18	5.3	12 1/4	3.8	9	8.5	20 1/2	7.2	17 1/4	7.2	17 1/4	
36	12.1	29	8.9	21 1/4	6.4	15 1/4	4.5	10 3/4	10.2	24 1/2	8.6	20 3/4	8.6	20 3/4	

NOTES:

- ALL THRUST BLOCKS SHALL BE CAST IN PLACE. FITTINGS ADJACENT TO THRUST BLOCKS SHALL BE WRAPPED IN POLYETHYLENE.
- THIS TABLE IS BASED ON WATER PRESSURE=180 PSI WITH AN ALLOWABLE SOIL BEARING PRESSURE=2000 PSF. CONCRETE STRENGTH f_c =3000 PSI. REINFORCEMENT f_y =60.0 KSI. THRUST BLOCK SHALL BE CAST AGAINST FIRM UNDISTURBED SOIL.
- FOR LARGER "B" DIMENSIONS IT IS NECESSARY TO CHECK THAT PIPE IS SUFFICIENTLY DEEP TO ALLOW 15" MIN. SOIL COVER OVER TOP EDGE OF THRUST BLOCK.
- RESTRAINED JOINTS MAY BE USED IN LIEU OF THRUST BLOCKS TO SAVE SPACE. THRUST BLOCKS SHALL BE USED IN SITUATIONS WHERE THRUST BLOCKS AND RESTRAINED JOINTS ARE BOTH REQUIRED.

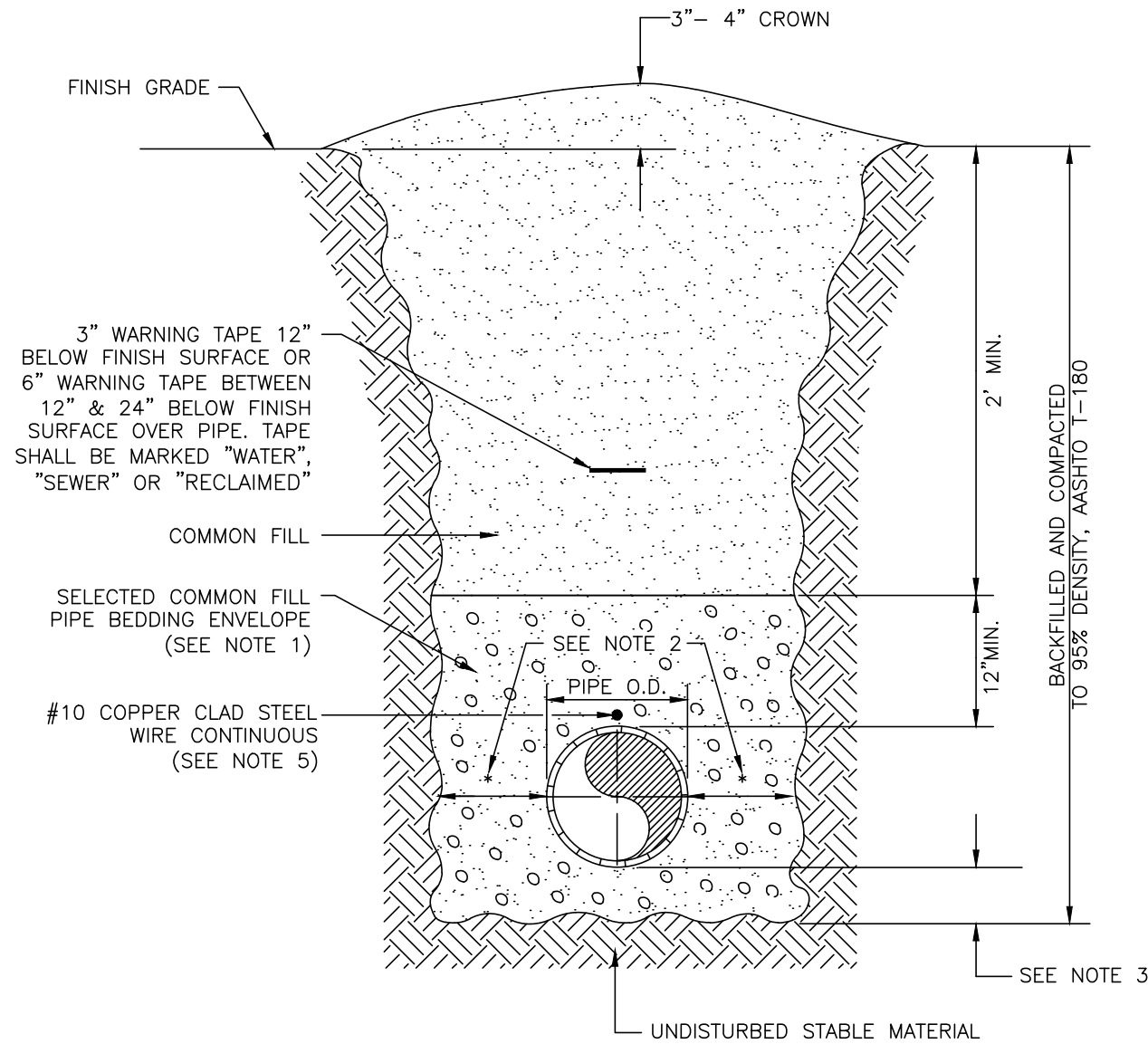


MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	CONCRETE THRUST BLOCKS	UG-7

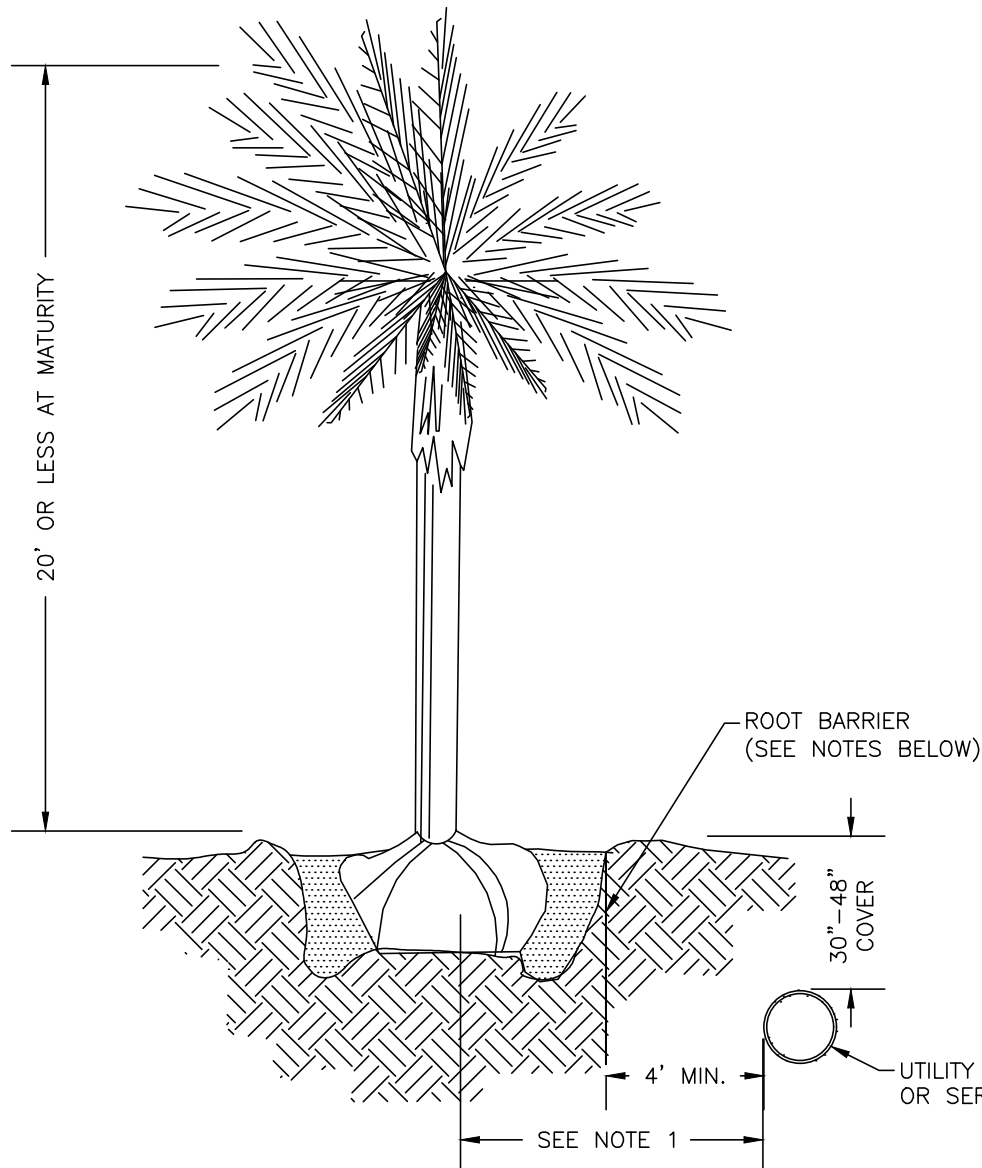
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- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	UG-11



NOTES:

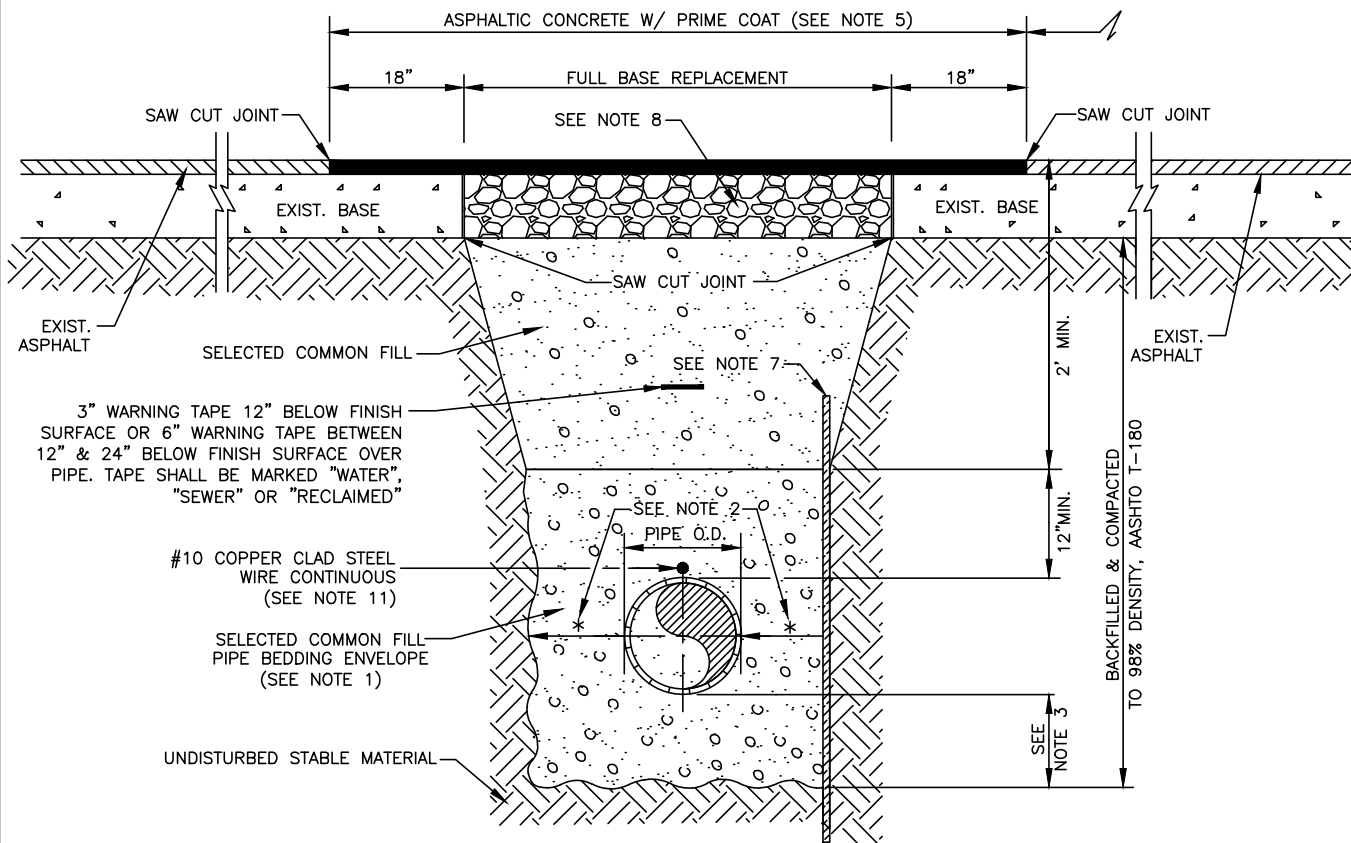
- THIS DISTANCE SHALL BE 7' MINIMUM WITH ROOT BARRIER AND 10' MINIMUM IF NO ROOT BARRIER IS USED.
- ALL ROOT BARRIERS SHALL BE 4' MINIMUM FROM ALL MAINS AND SERVICES.
- THE INSTALLATION OF ROOT BARRIERS SHALL BE COORDINATED WITH MANATEE COUNTY AND INSPECTED BY MANATEE COUNTY PRIOR TO BACKFILLING. ALL ROOT BARRIERS SHALL EXTEND UP TO FINISHED GRADE.
- ROOT BARRIERS SHALL BE MINIMUM 36" DEEP. APPROVED PRODUCTS INCLUDE "DEEP ROOT" AND "ROOT SOLUTIONS". FLEXIBLE BARRIERS SHALL BE 36" PANELS MANUFACTURED BY BIOBARRIER OR EQUIVALENT.
- ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURES WRITTEN INSTRUCTIONS.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	TYP. SMALL TREE OR PALM TREE WITH ROOT BARRIER	UG-19

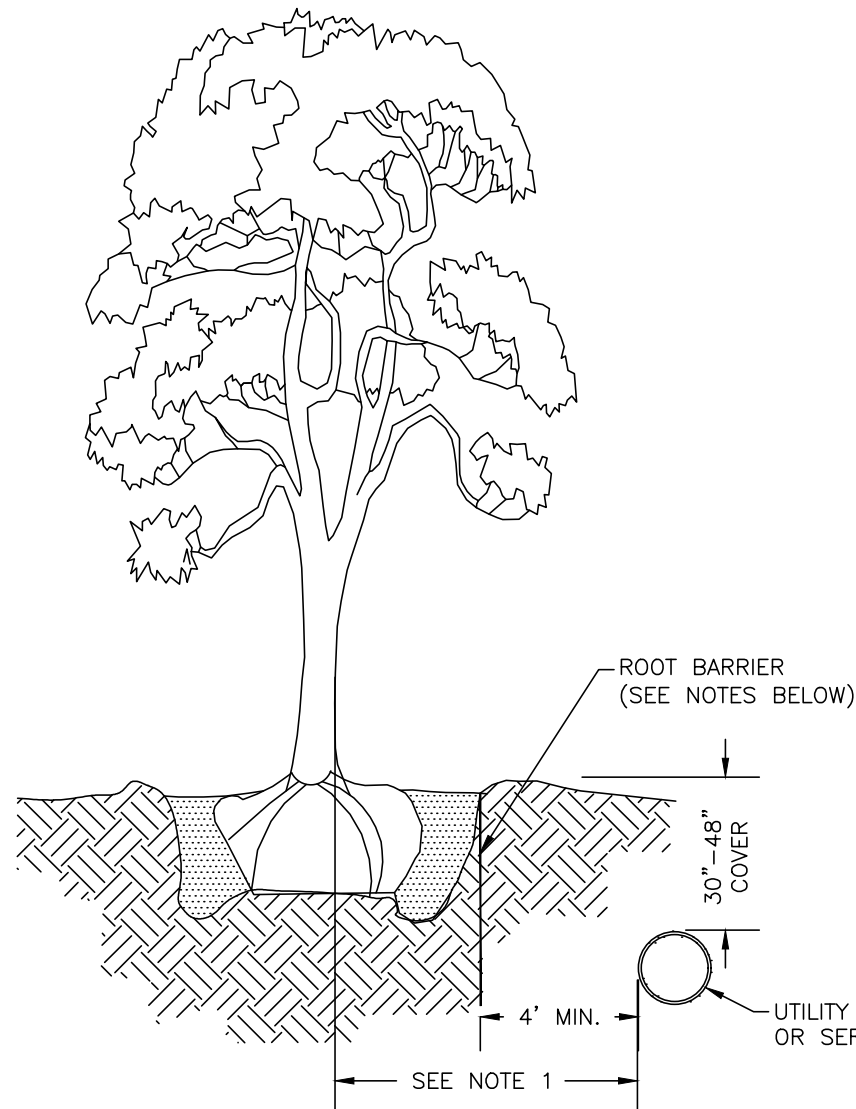
NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 4+1/4 INCH, 1 1/2 INCH, WHICHEVER IS GREATER.
- NOT USED.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE CRUSHED FDOT CERTIFIED CONCRETE, 8" MIN. THICKNESS, LBR ≥150 OR 10" MIN. THICKNESS, LBR >100-150.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5. THRU 10. ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING	UG-12 MOD.



NOTES:

- THIS DISTANCE SHALL BE 10' MINIMUM WITH ROOT BARRIER AND 15' MINIMUM IF NO ROOT BARRIER IS USED.
- ALL ROOT BARRIERS SHALL BE 4' MINIMUM FROM ALL MAINS AND SERVICES.
- THE INSTALLATION OF ROOT BARRIERS SHALL BE COORDINATED WITH MANATEE COUNTY AND INSPECTED BY MANATEE COUNTY PRIOR TO BACKFILLING. ALL ROOT BARRIERS SHALL EXTEND UP TO FINISHED GRADE.
- ROOT BARRIERS SHALL BE MINIMUM 36" DEEP. APPROVED PRODUCTS INCLUDE "DEEP ROOT" AND "ROOT SOLUTIONS". FLEXIBLE BARRIERS SHALL BE 36" PANELS MANUFACTURED BY BIOBARRIER OR EQUIVALENT.
- ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURES WRITTEN INSTRUCTIONS.
- LARGE PALM TREES INCLUDE ROYAL, WASHINGTONIAN, BISMARCK AND SIMILAR SIZED SPECIES.

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.	BY	DATE	TYP. CANOPY TREE, LARGE PALM OR EXOTIC TREE WITH ROOT BARRIER	UG-20



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

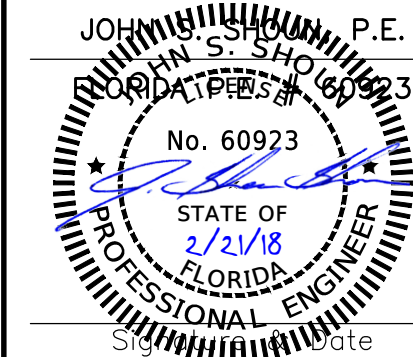
COUNTRY CLUB HEIGHTS

WATERLINE REPLACEMENT

DETAILS

REVISION	DESCRIPTION	BY	DATE

PROJECT #	404-6088770
SURVEY #	14Y13314LS
SEC./TWN./RGE	33/34S/17E
SCALE	VARIES
VERTICAL DATUM	NAVD 88
SURVEYED	GFY 11/2016
DESIGNED	BLR 03/2017
DRAWN	BLR 03/2017



THIS PAGE IS COMPROMISED OF INFORMATION EXTRACTED FROM THE ORIGINAL TOPOGRAPHIC SURVEY, THAT SURVEY IS AVAILABLE UPON REQUEST.

Topographic Survey

of
In Section 33, Township 34 South, Range 17 East
Manatee County, Florida

DATA SOURCES

1. Rosedale Manor Subdivision, recorded in Plat Book 2, Page 89.
2. Spinney and Tanski Subdivision, recorded in Plat Book 2, Page 110.
3. Bissell Subdivision to Bradentown, recorded in Plat Book 2, Page 124.
4. Country Club Court Subdivision, recorded in Plat Book 3, Page 11.
5. Country Club Court Subdivision, Second Section, recorded in Plat Book 4, Page 12.
6. Poinciana Park Subdivision, recorded in Plat Book 8, Page 68.
7. Poinciana Park Subdivision, Second Addition, recorded in Plat Book 8, Page 118.
8. Country Club Heights Subdivision recorded in Plat Book 9, Page 14.
9. Tomes Subdivision recorded in Plat Book 10 Page 70.
10. Country Club Heights Subdivision, First Addition, recorded in Plat Book 15, Page 50.
11. Re Subdivision of Golf Club Gardens, recorded in Plat Book 8, Page 98.

SURVEYOR'S REPORT

3. Unless noted, locations limited to — observable, above ground improvements, no underground improvements have been located except those shown hereon. Some features may be exaggerated for clarity, dimensions shown supersede scaled dimensions.
2. This survey does not certify or warranty: title, zoning, easements, or freedom of encumbrances.
3. There are no visible encroachments except as shown. The location and existence of underground utilities and underground foundations or any other pertinent attributes to subject property (if any) not abstracted as part of this survey, except as shown.
4. No instruments of record reflecting easements, rights-of-way and/or ownership are known by, or were furnished to this surveyor except as shown hereon.
5. Not valid without the original raised seal and signature of the Florida Registered Surveyor & Mapper shown hereon.
6. Parcel information shown hereon was gathered from the Manatee County Geographic Information Systems property locator web site.
7. This survey does not reflect or determine ownership.
8. Bearings and coordinates (if any) shown are based on State Plane Coordinates, Florida West Zone—NAD '83(2011), and were derived using the Florida Department of Transportation Virtual Reference Station (VRS) network and checked against National Geodetic Survey (NGS) shared solution for NGS benchmarks COB1024 (PID#D06908) which has published coordinates of (N) 1,145,898.70', (E) 463,015.26', and COB1025 (PID#D06908) which has published coordinates of (N) 1,145,672.92' (E) 460,304.67'.
9. The elevations shown hereon are based on National Geodetic Survey (NGS) benchmark COB1024 (NGS PID#D06908), which has a published elevation of 22.41' feet, North American Vertical Datum of 1988 (NAVD88), and NGS benchmark COB1025 (NGS PID#D06908), which has a published elevation of 23.93' feet NAVD88. The conversion factor from NAVD88 to National Geodetic Vertical Datum of 1929 (NGVD29) is (+)0.981', calculated with 'CORPSCON' program.
10. Adjoining private properties parcels are subject to all restrictions, rights of way and easements of record, if any.
11. Reuse of documents: this document is an instrument of service in respect of the project to which it applies and any reuse without written verification or adaptation by George F. Young, Inc. (GFY) for the specific purposes intended will be at the user's sole risk and without liability or legal exposure to GFY and user shall indemnify and hold harmless GFY from all claims, damages, losses and expenses including attorneys fees arising out of or resulting therefrom. Any such verification or adaptation will entitle GFY to further compensation at rates to be agreed upon by user and GFY.
12. The expected use of the land, as classified in the Standards of Practice for Surveyors and Mappers (5J-17-F.A.C.), is urban.
13. The purpose of this topographic survey was to obtain existing conditions for the design of the replacement of water lines in the Country Club Heights neighborhoods.
14. The last field date of the survey: 2nd December 2016.
15. Property Identification Number(s) (PID), if any shown hereon, was taken from the Manatee County GIS website and/or the Manatee County Property Appraiser website.
16. Utility designation as shown and mapped, performed by George F. Young, Inc.
17. This is not a BOUNDARY SURVEY. Right-of-way lines as shown were 'best fit' to found property monuments.

13th AVE W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
L1	2600.000			S88° 58' 16.01"E		40+00.00	1147220.15	460311.22	66+00.00	1147173.46	462910.80

14th-16th AVE W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
L2	649.261			N89° 05' 54.81"W		80+00.00	1146200.95	461362.38	86+49.26	1146211.16	460713.20
C1	117.700	75.000	089.92	N44° 08' 26.14"W	105.99	86+49.26	1146211.16	460713.20	87+66.96	1146287.22	460639.39
L3	468.734			N00° 49' 02.53"E		87+66.96	1146287.22	460639.39	92+35.70	1146755.91	460646.07
C2	94.468	60.000	090.21	N45° 55' 20.79"E	85.01	92+35.70	1146755.91	460646.07	93+30.16	1146815.04	460707.14
L4	378.837			S88° 58' 20.95"E		93+30.16	1146815.04	460707.14	97+09.00	1146808.25	461085.92
C3	117.810	75.000	090.00	N46° 01' 39.05"E	106.07	97+09.00	1146808.25	461085.92	98+26.81	1146881.89	461162.25
L5	100.142			N01° 01' 39.05"E		98+26.81	1146881.89	461162.25	99+26.95	1146982.02	461164.05
C4	108.956	70.000	090.00	N46° 01' 39.05"E	98.99	99+26.95	1146982.02	461164.05	100+36.91	1147050.75	461235.29
L6	493.093			S88° 58' 20.95"E		100+36.91	1147050.75	461235.29	105+30.00	1147041.91	461728.31

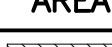
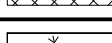
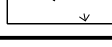
15th AVE W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
L7	2709.478			S89° 07' 30.92"E		115+00.00	1146549.73	460326.25	142+09.48	1146508.36	463035.41

17th AVE W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
1.8	2749.991			S89° 15' 59.07"E		0+00.00	1145877.80	460291.26	27+49.99	1145842.59	463041.02

36th ST W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
L9	699.619			N00° 53' 18.47"E		70+00.00	1146496.42	462507.70	76+99.62	1147195.95	462518.55

39th ST W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
L10	300.003			N00° 13' 59.45"E		150+00.00	1146973.52	461708.57	153+00.00	1147273.52	461709.79

4.3rd ST W CONSTRUCTION BASELINE											
Number	Length	Radius	Delta Angle	Line/Chord	Chord Length	Start Station	Start Northing	Start Easting	End Station	End Northing	End Easting
L11	800.000			N00° 51' 14.99"E		30+00.00	1145827.17	460340.46	38+00.00	1146627.08	460352.38

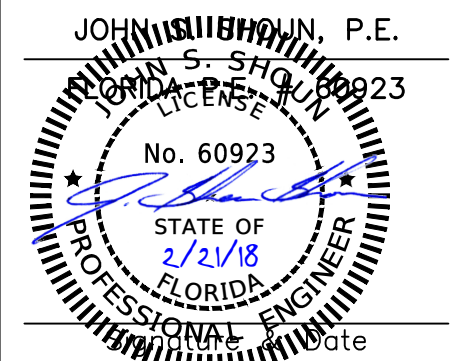
AREA	RESTORATION	PROJECT QTYS.	UNITS
	BASE AND RESURFACE ASPHALT	1262	SY
	CONCRETE CURB RESTORATION	565	LF
	SOD RESTORATION	5184	SY
	CONCRETE SIDE WALK RESTORATION	7	SY
	CONCRETE DRIVEWAY RESTORATION	583	SY
	ASPHALT DRIVEWAY RESTORATION	161	SY

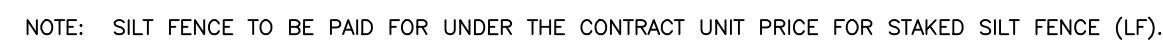


**PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208**

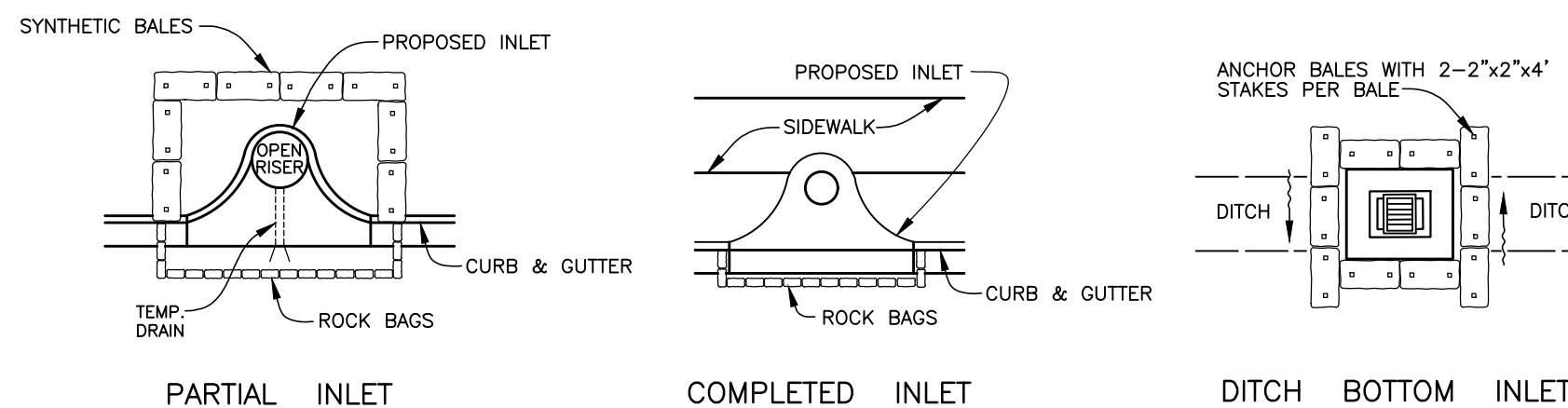
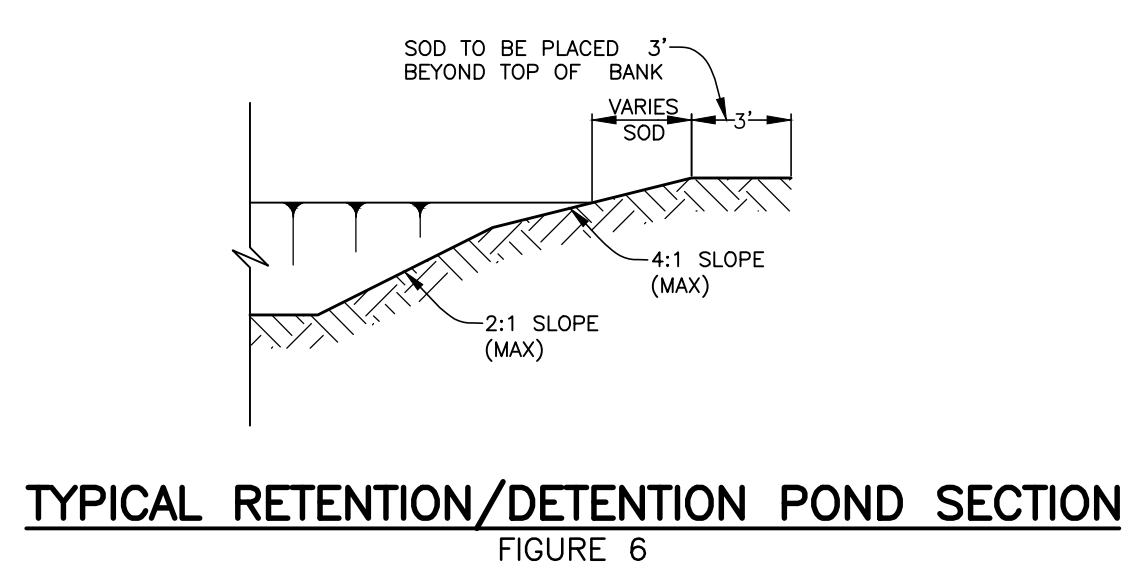
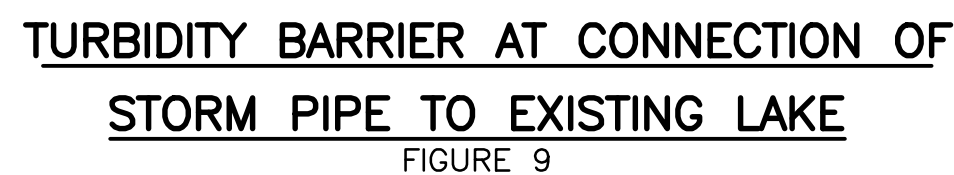
**COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
SURVEY CONTROL**

NO.	REVISION DESCRIPTION	BY	DATE
PROJECT #		404—608B770	
SURVEY #		14Y13314LS	
SEC./TWN./RGE		33/34S/17E	
SCALE		NA	
VERTICAL DATUM		NAVD 88	
	BY	DATE	
SURVEYED	GFY	11/2016	
DESIGNED	BLR	03/2017	
DRAWN	BLR	03/2017	

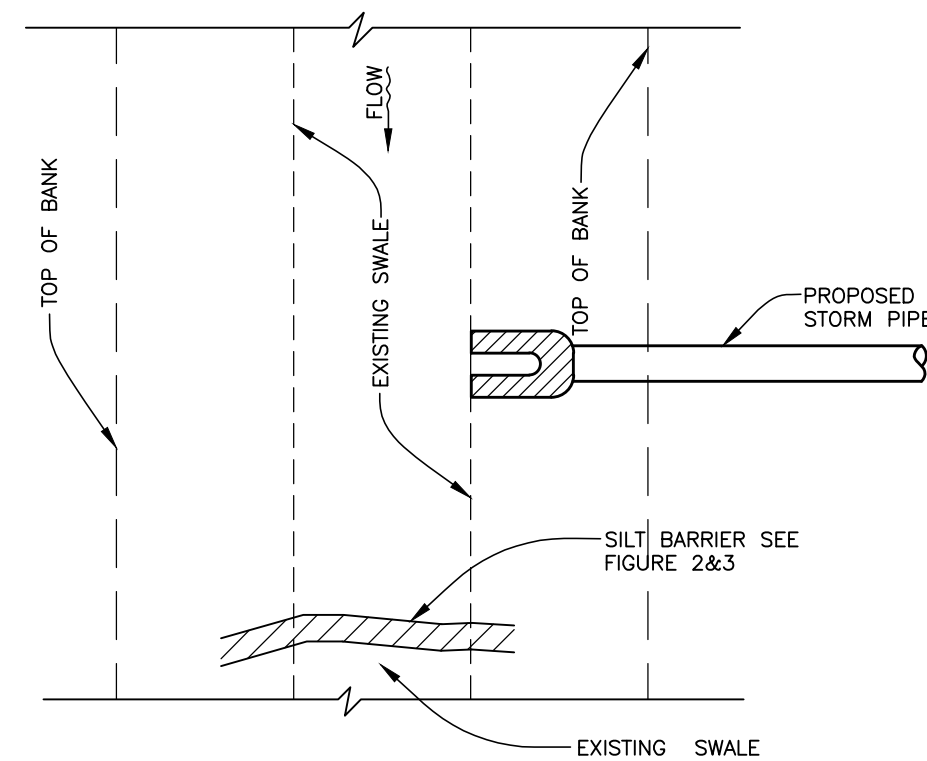




STAKED SILT BARRIER OR SILT FENCE
PROTECTION AROUND DITCH BOTTOM INLETS

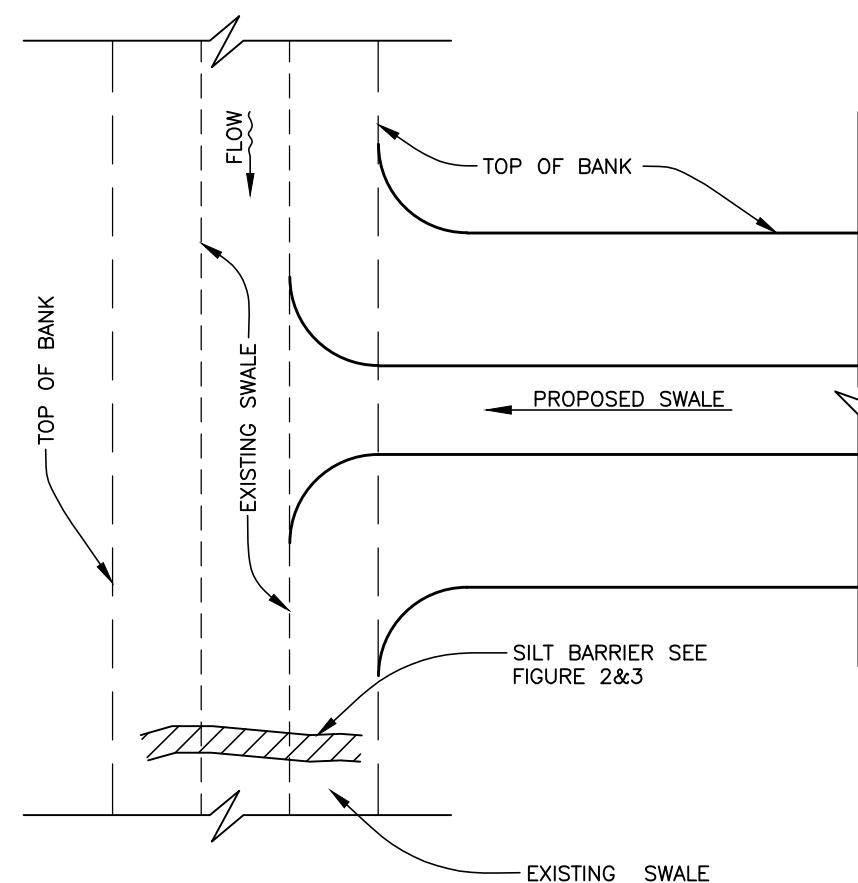


SYNTHETIC BALE PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

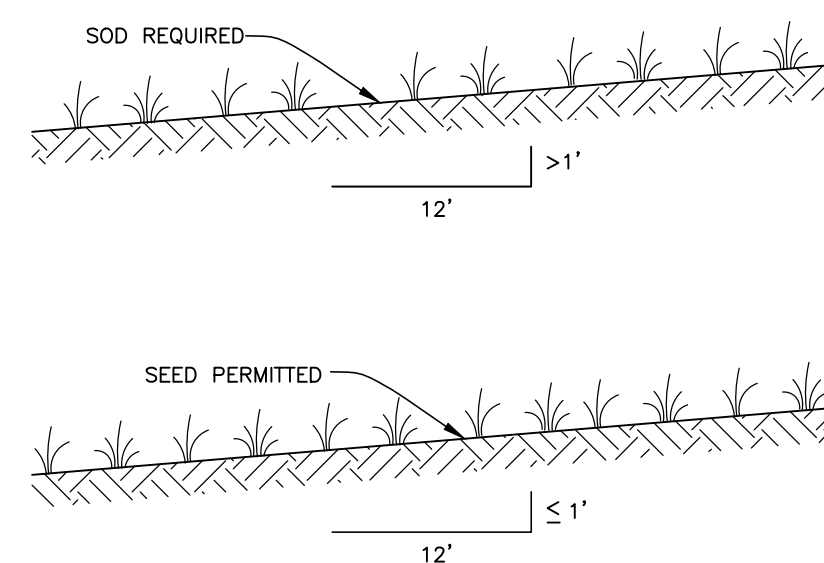


**SILT BARRIER AT CONNECTION OF
STORM PIPE TO EXISTING SWALE**

FIGURE 10

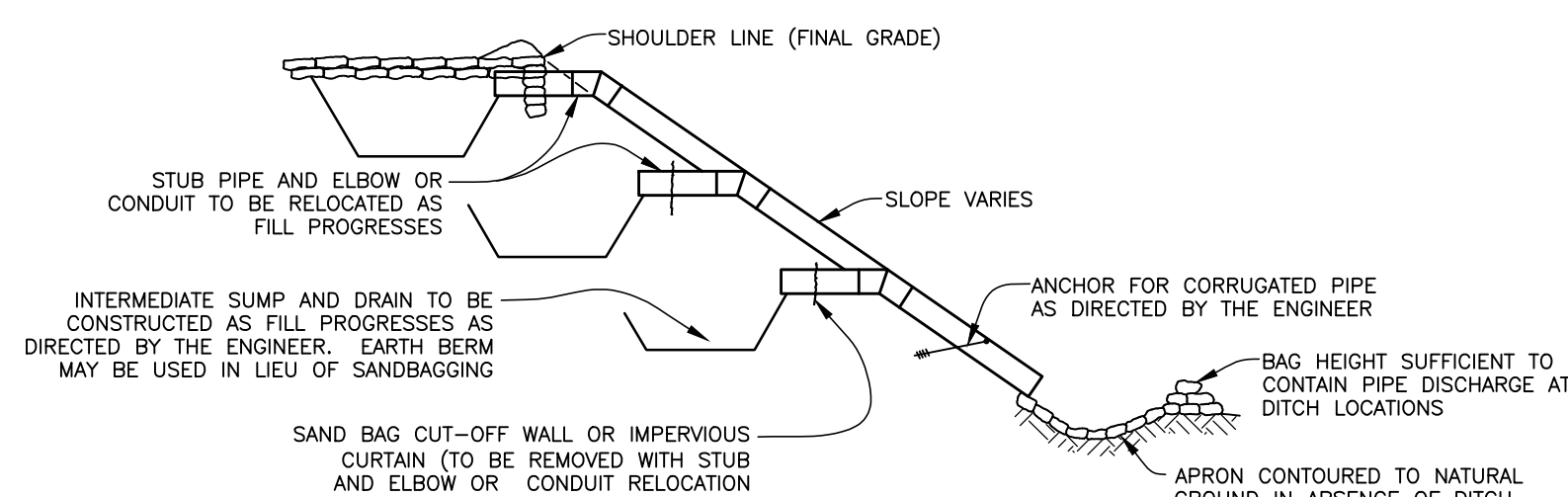


SILT BARRIER AT CONNECTION
OF SWALE TO EXISTING SWALE



GRASS SLOPES

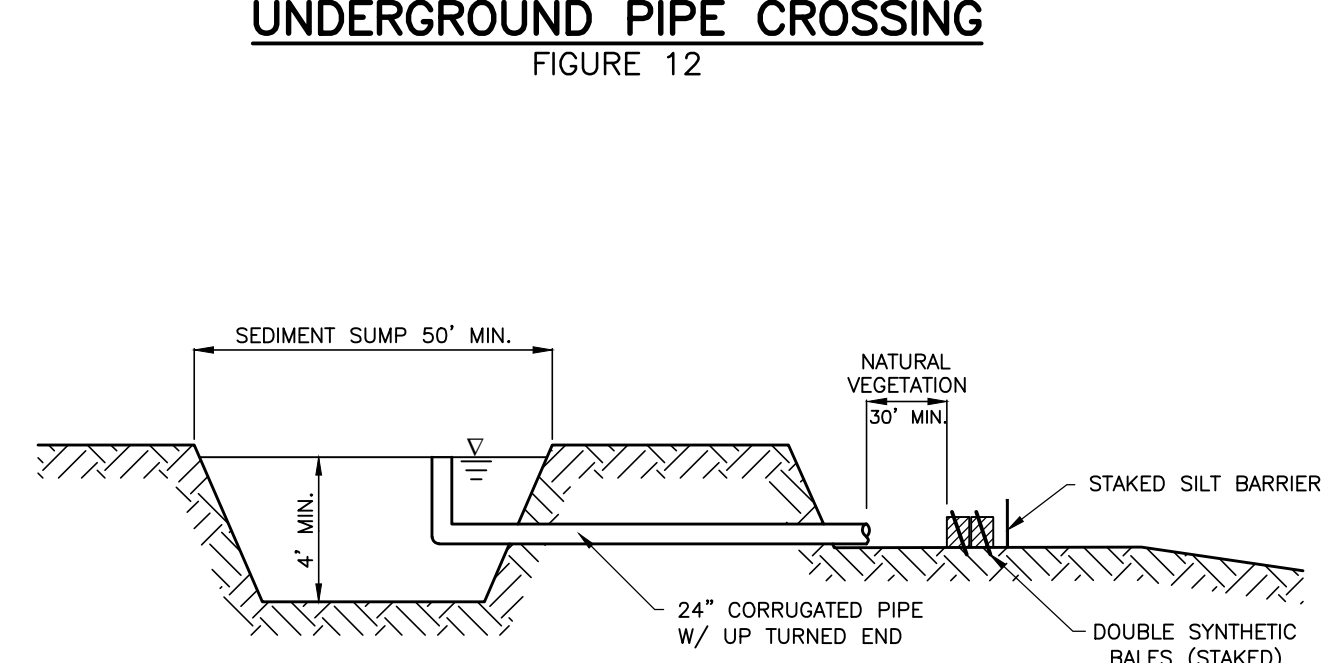
FIGURE 13



SECTION AA

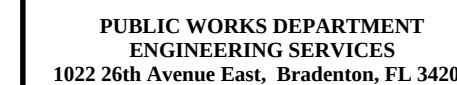
TEMPORARY SLOPE DRAIN

FIGURE 15



SEDIMENT SUMP SECTION
FIGURE 16

NOTE:
REFERENCE THE STATE OF FLORIDA EROSION
AND SEDIMENT CONTROL DESIGNER AND
REVIEWER MANUAL, LATEST EDITION, FOR ALL
TEMPORARY EROSION CONTROL MEASURES



**COUNTRY CLUB HEIGHTS
WATERLINE REPLACEMENT
EROSION CONTROL**

NO.	REVISION DESCRIPTION	BY	DATE
	PROJECT #	404-6088770	
	SURVEY #	14Y13314LS	
	SEC./TWN./RGE	33/34S/17E	
	SCALE	VARIES	
	VERTICAL DATUM	NAVD 88	
		BY	DATE
	SURVEYED	GFY	11/2016
	DESIGNED	BLR	03/2017
	DRAWN	BLR	03/2017

JOHN S. SHOUN, P.E.
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STATE OF
2/21/18
FLORIDA
PROFESSIONAL ENGINEER