



Know what's below
Call before you dig

100% PLANS

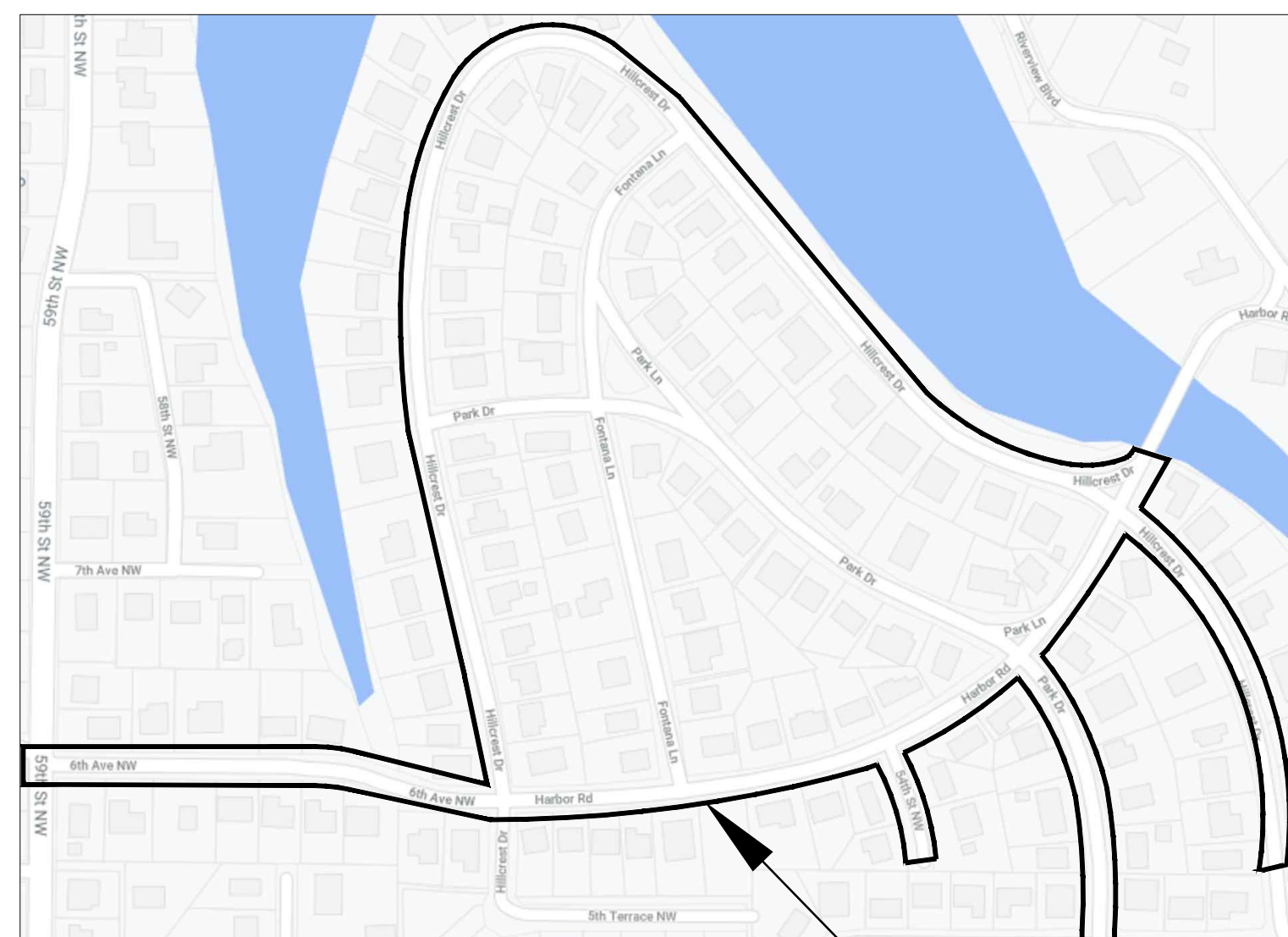
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT

WATER - 6104270
WASTEWATER - 6104271

September 2023

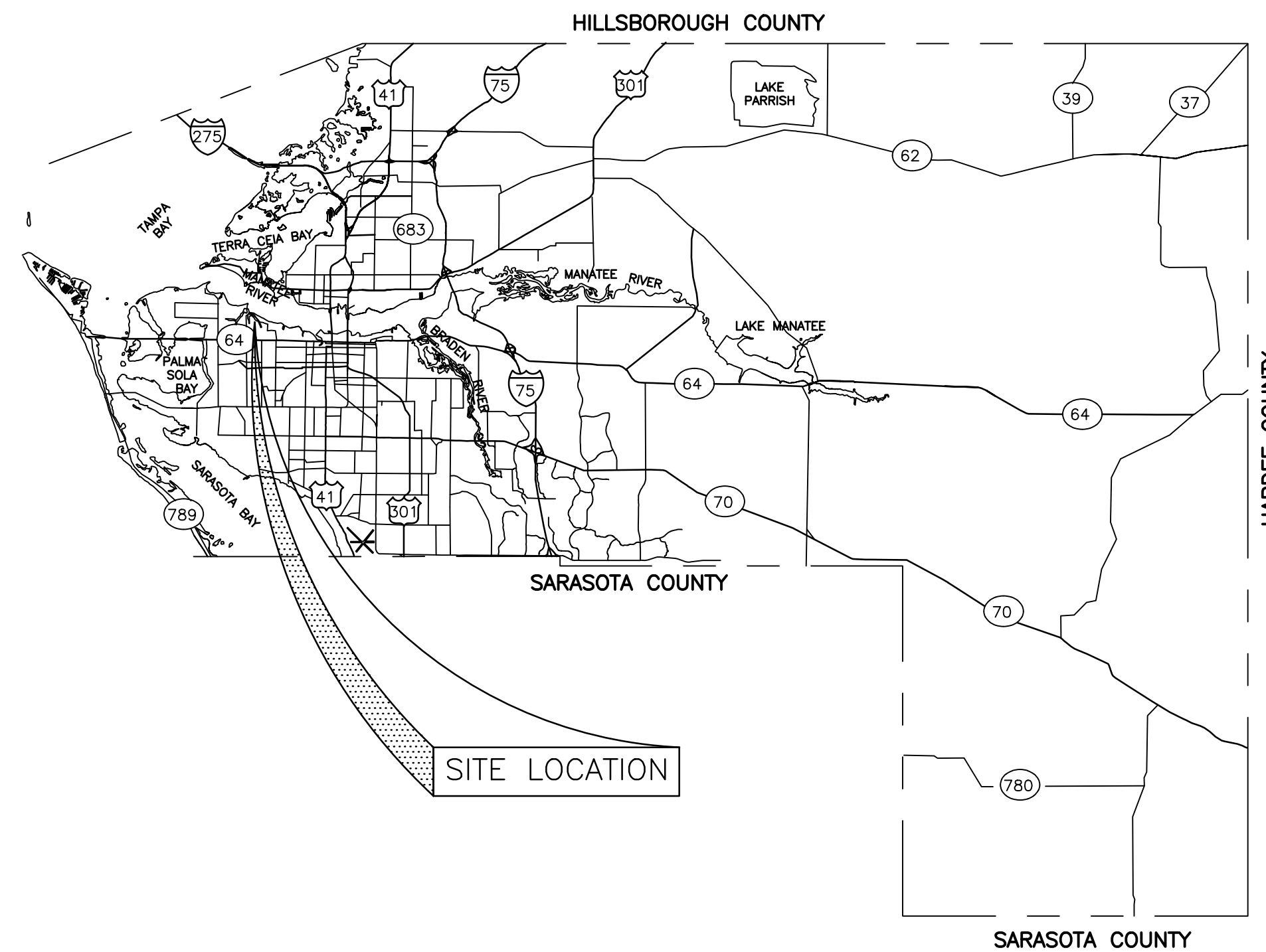
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5	HILLCREST DRIVE STA 45+50 TO 51+50
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7	HILLCREST DRIVE STA 56+00 TO 61+50
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21	HILLCREST DRIVE STA 120+00 TO 125+00
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**HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
COVER**



VICINITY MAP
N.T.S.

PROJECT SITE



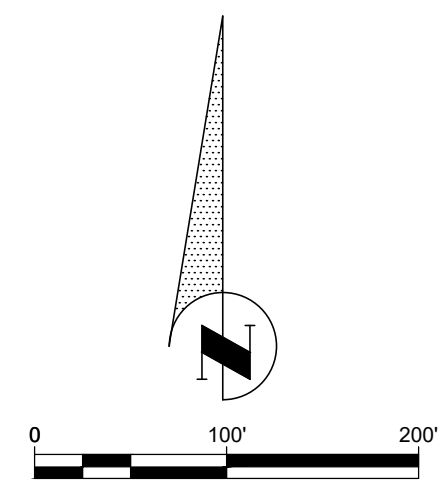
SITE LOCATION

PROJECT DESCRIPTION

INSTALLATION OF APPROXIMATELY 7,543 LF OF 6" WATER MAIN AND 86 SERVICE CONNECTIONS ALONG HARBOR ROAD, HILLCREST DRIVE, PARK DRIVE, FONTANA LANE AND 54TH ST NW, ALONG WITH INSTALLATION OF APPROXIMATELY 2,280 LF OF 4" FORCE MAIN.

NO.	REVISION DESCRIPTION	BY	DATE

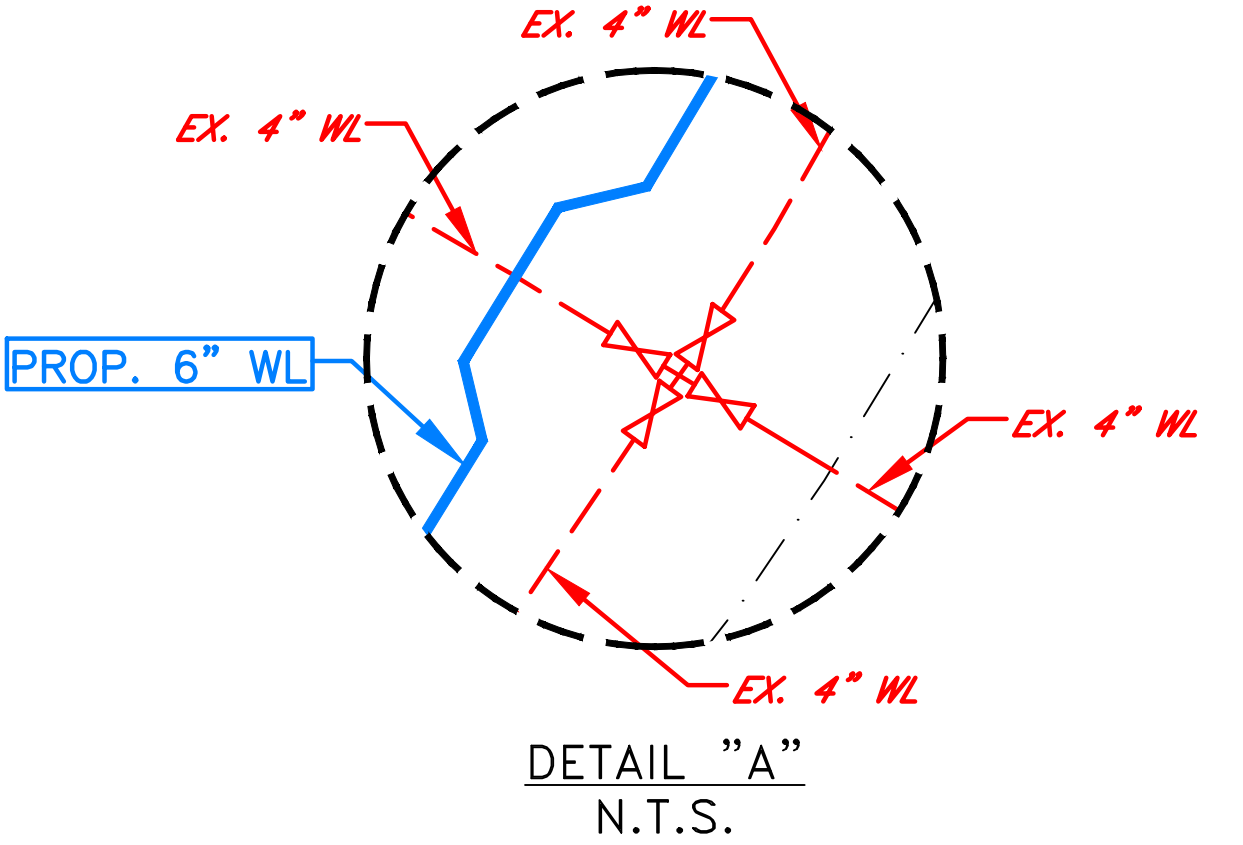
PROJECT #	6104270	
SURVEY #	-	
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	BY	DATE
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23
LORENZO DUARTE		
FLORIDA P.E. # 79285		
Signature & Date		



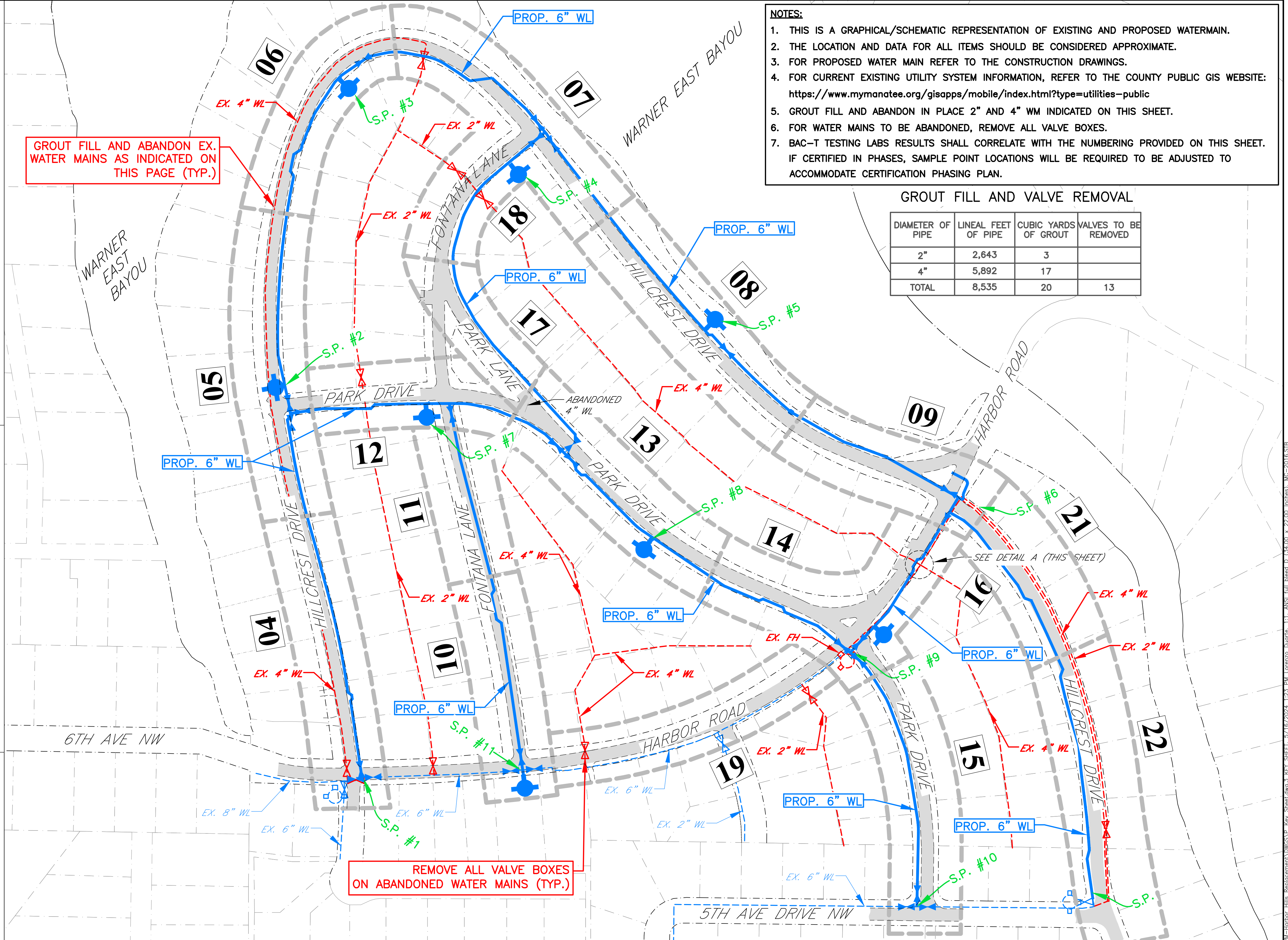
- NOTES:**
- THIS IS A GRAPHICAL/SCHEMATIC REPRESENTATION OF EXISTING AND PROPOSED WATERMAIN.
 - THE LOCATION AND DATA FOR ALL ITEMS SHOULD BE CONSIDERED APPROXIMATE.
 - FOR PROPOSED WATER MAIN REFER TO THE CONSTRUCTION DRAWINGS.
 - FOR CURRENT EXISTING UTILITY SYSTEM INFORMATION, REFER TO THE COUNTY PUBLIC GIS WEBSITE:
<https://www.mymanatee.org/gisapps/mobile/index.html?type=utilities-public>
 - GROUT FILL AND ABANDON IN PLACE 2" AND 4" WM INDICATED ON THIS SHEET.
 - FOR WATER MAINS TO BE ABANDONED, REMOVE ALL VALVE BOXES.
 - BAC-T TESTING LABS RESULTS SHALL CORRELATE WITH THE NUMBERING PROVIDED ON THIS SHEET.
 IF CERTIFIED IN PHASES, SAMPLE POINT LOCATIONS WILL BE REQUIRED TO BE ADJUSTED TO ACCOMMODATE CERTIFICATION PHASING PLAN.

GROUT FILL AND VALVE REMOVAL

DIAMETER OF PIPE	LINEAL FEET OF PIPE	CUBIC YARDS OF GROUT	VALVES TO BE REMOVED
2"	2,643	3	
4"	5,892	17	
TOTAL	8,535	20	13



- PROPOSED FIRE HYDRANT
- EX. FIRE HYDRANT
- PROPOSED VALVE
- EXISTING VALVE
- PROPOSED WATER MAIN
- EX. WATER MAIN (TO REMAIN)
- EX. WATER MAIN (TO BE GROUT FILLED AND ABANDONED IN PLACE)
- EX. FIRE HYDRANT (TO BE REMOVED)
- FDEP BAC-T SAMPLE POINT



GROUT FILL AND ABANDON EX. WATER MAINS AS INDICATED ON THIS PAGE (TYP.)

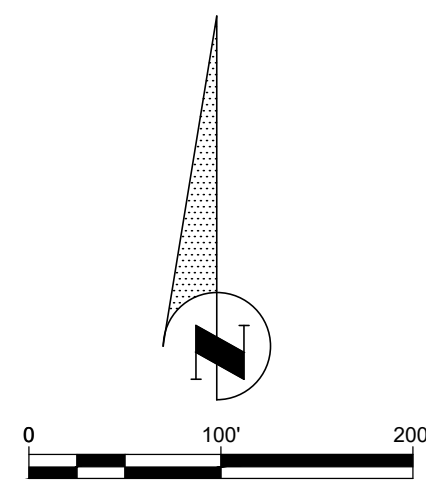
REMOVE ALL VALVE BOXES ON ABANDONED WATER MAINS (TYP.)

NO.	REVISION DESCRIPTION

HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
KEY SHEET - WATER MAIN



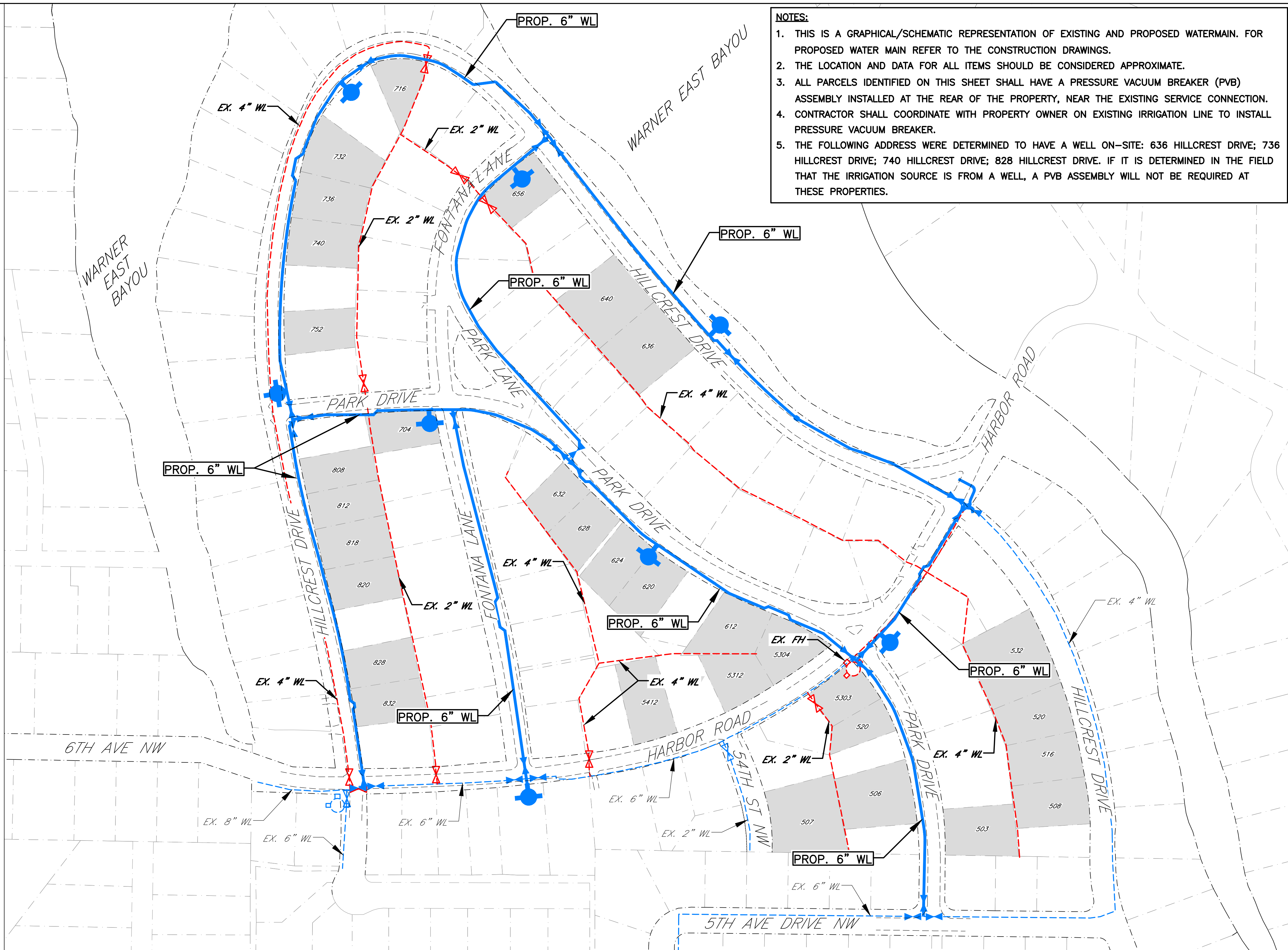
PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 100'	
BY	DATE	
SURVEYED SAC	02-2021	
DESIGNED LD	06-18-21	
DRAWN LD	06-18-21	Signature & Date
CHECKED LD	07-13-23	SHEET 3 OF 37



NOTES:

1. THIS IS A GRAPHICAL/SCHEMATIC REPRESENTATION OF EXISTING AND PROPOSED WATERMAIN. FOR PROPOSED WATER MAIN REFER TO THE CONSTRUCTION DRAWINGS.
2. THE LOCATION AND DATA FOR ALL ITEMS SHOULD BE CONSIDERED APPROXIMATE.
3. ALL PARCELS IDENTIFIED ON THIS SHEET SHALL HAVE A PRESSURE VACUUM BREAKER (PVB) ASSEMBLY INSTALLED AT THE REAR OF THE PROPERTY, NEAR THE EXISTING SERVICE CONNECTION.
4. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER ON EXISTING IRRIGATION LINE TO INSTALL PRESSURE VACUUM BREAKER.
5. THE FOLLOWING ADDRESS WERE DETERMINED TO HAVE A WELL ON-SITE: 636 HILLCREST DRIVE; 736 HILLCREST DRIVE; 740 HILLCREST DRIVE; 828 HILLCREST DRIVE. IF IT IS DETERMINED IN THE FIELD THAT THE IRRIGATION SOURCE IS FROM A WELL, A PVB ASSEMBLY WILL NOT BE REQUIRED AT THESE PROPERTIES.

500 PARCEL TO RECEIVE PRESSURE VACUUM BREAKER (PVB) ASSEMBLY



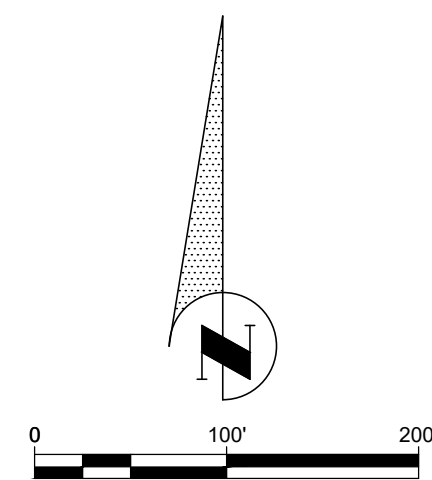
NO.	REVISION DESCRIPTION

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT KEY SHEET - PRESSURE VACUUM BREAKER



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 100'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23
		Signature & Date
		SHEET 3A OF 37

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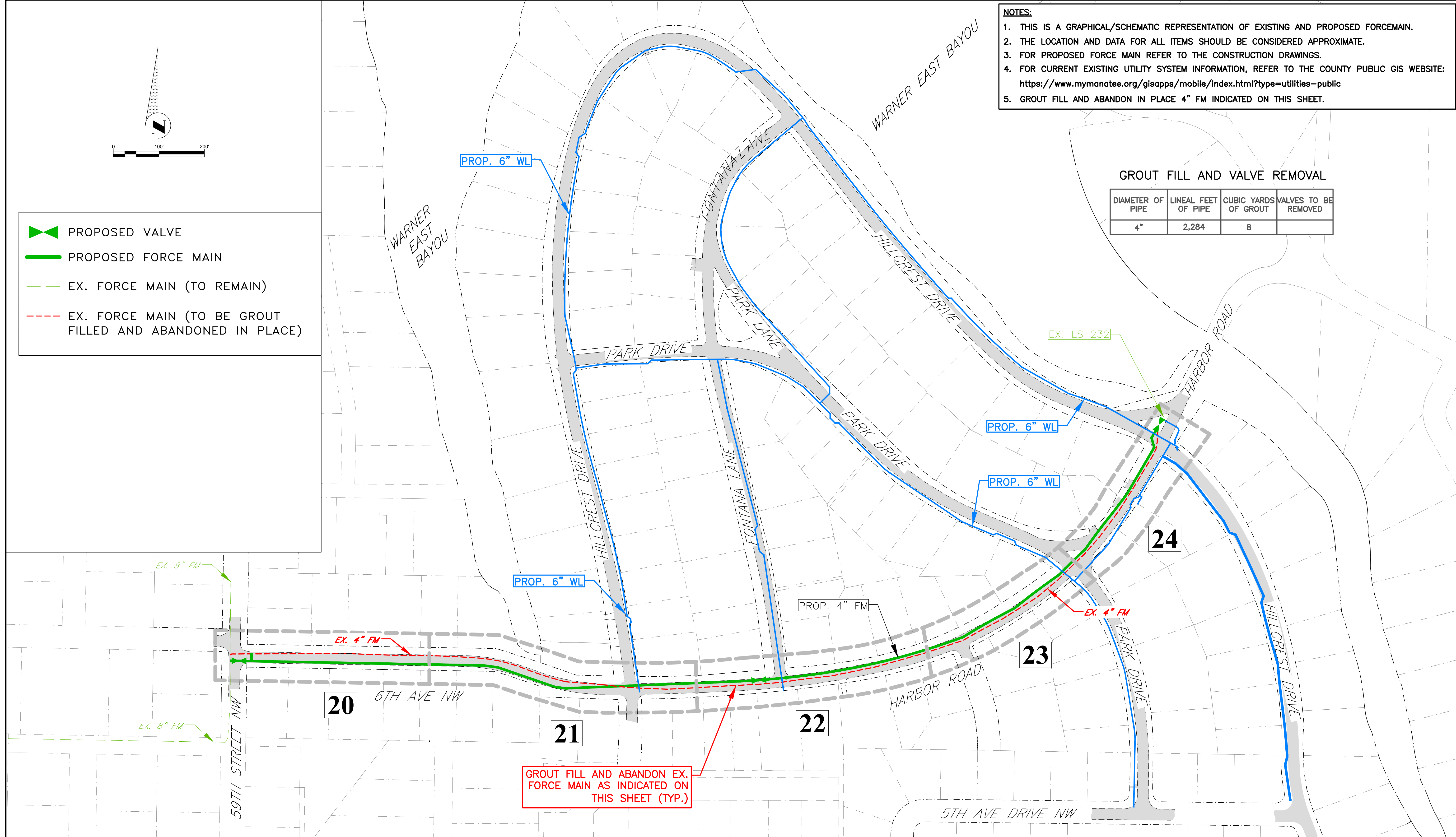


- PROPOSED VALVE
- PROPOSED FORCE MAIN
- EX. FORCE MAIN (TO REMAIN)
- EX. FORCE MAIN (TO BE GROUT FILLED AND ABANDONED IN PLACE)

- NOTES:**
1. THIS IS A GRAPHICAL/SCHEMATIC REPRESENTATION OF EXISTING AND PROPOSED FORCEMAIN.
 2. THE LOCATION AND DATA FOR ALL ITEMS SHOULD BE CONSIDERED APPROXIMATE.
 3. FOR PROPOSED FORCE MAIN REFER TO THE CONSTRUCTION DRAWINGS.
 4. FOR CURRENT EXISTING UTILITY SYSTEM INFORMATION, REFER TO THE COUNTY PUBLIC GIS WEBSITE:
<https://www.mymanatee.org/gisapps/mobile/index.html?type=utilities-public>
 5. GROUT FILL AND ABANDON IN PLACE 4" FM INDICATED ON THIS SHEET.

GROUT FILL AND VALVE REMOVAL

DIAMETER OF PIPE	LINEAL FEET OF PIPE	CUBIC YARDS OF GROUT	VALVES TO BE REMOVED
4"	2,284	8	



GROUT FILL AND ABANDON EX. FORCE MAIN AS INDICATED ON THIS SHEET (TYP.)

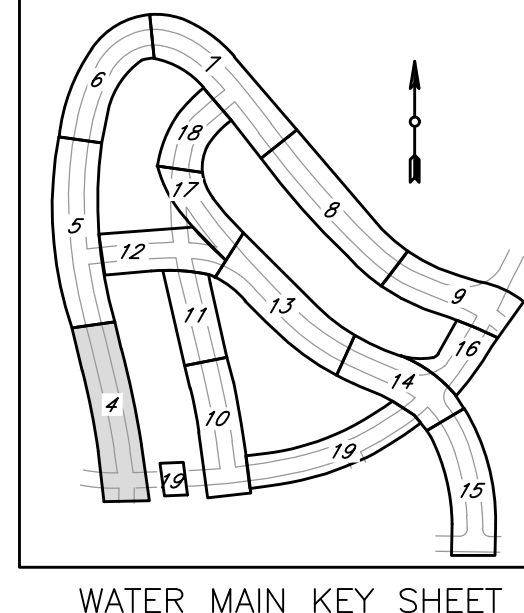
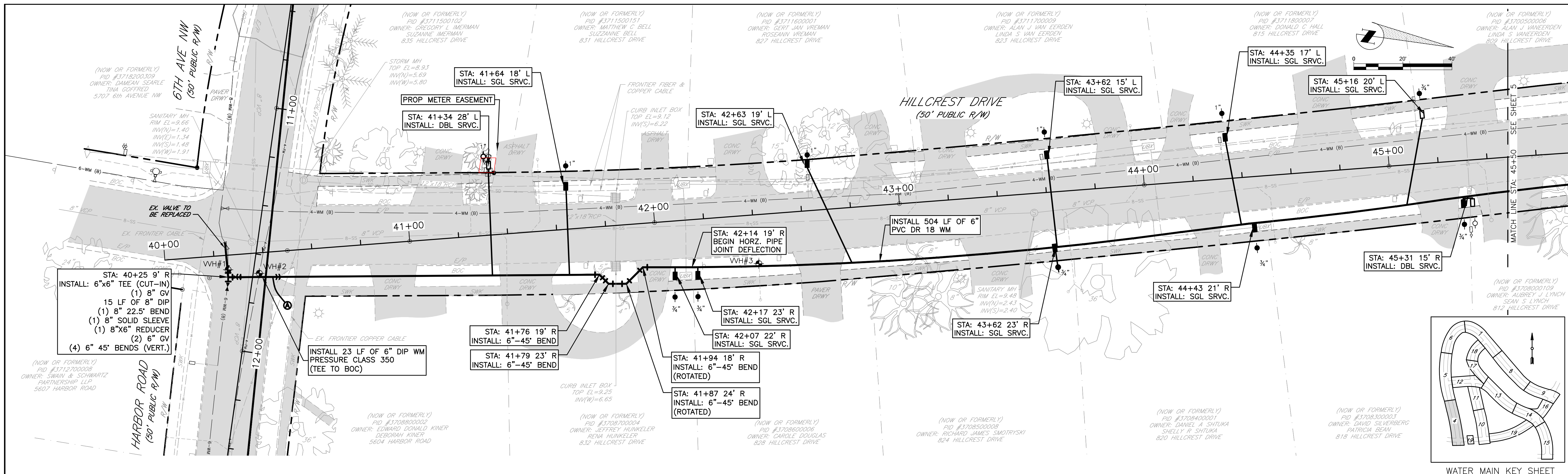
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**HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
KEY SHEET - FORCE MAIN**



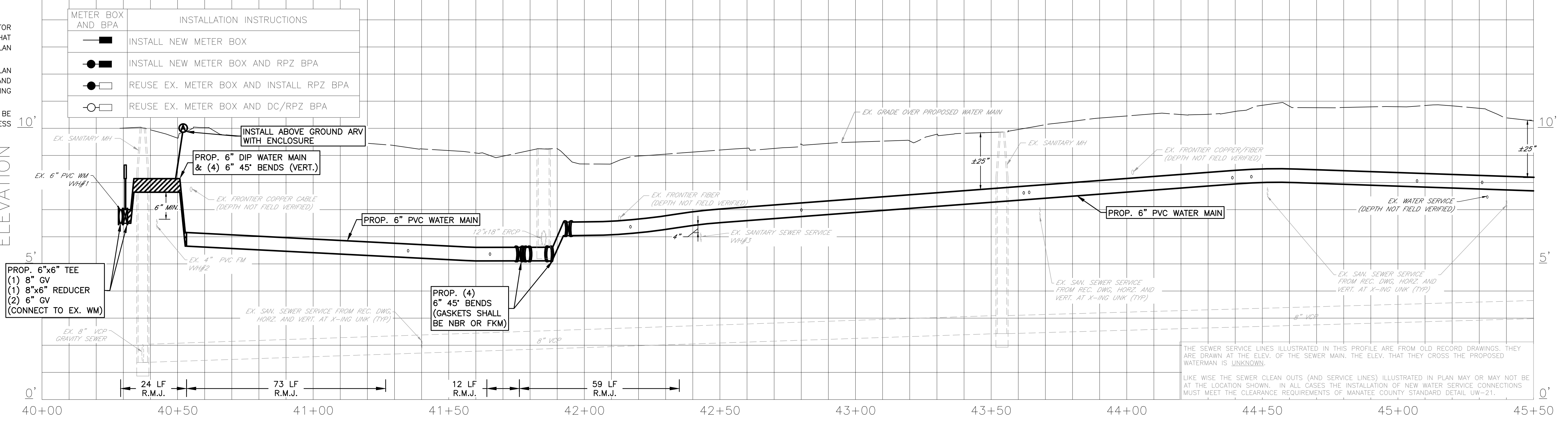
PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 100'	
BY	DATE	
SURVEYED	SAC 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	
		Signature & Date
		SHEET 3B OF 37

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HILLCREST DRIVE STA: 40+00 TO 45+50

- NOTES**
- SEE SHEET 19 FOR CONSTRUCTION NOTES THAT ARE APPLICABLE TO ALL PLAN AND PROFILE SHEETS.
 - REFER TO RESTORATION PLAN SHEETS FOR CURB RAMP AND DETECTABLE WARNING REQUIREMENTS.
 - ALL WATERMAIN IS TO BE DIRECT BURY, UNLESS OTHERWISE INDICATED.

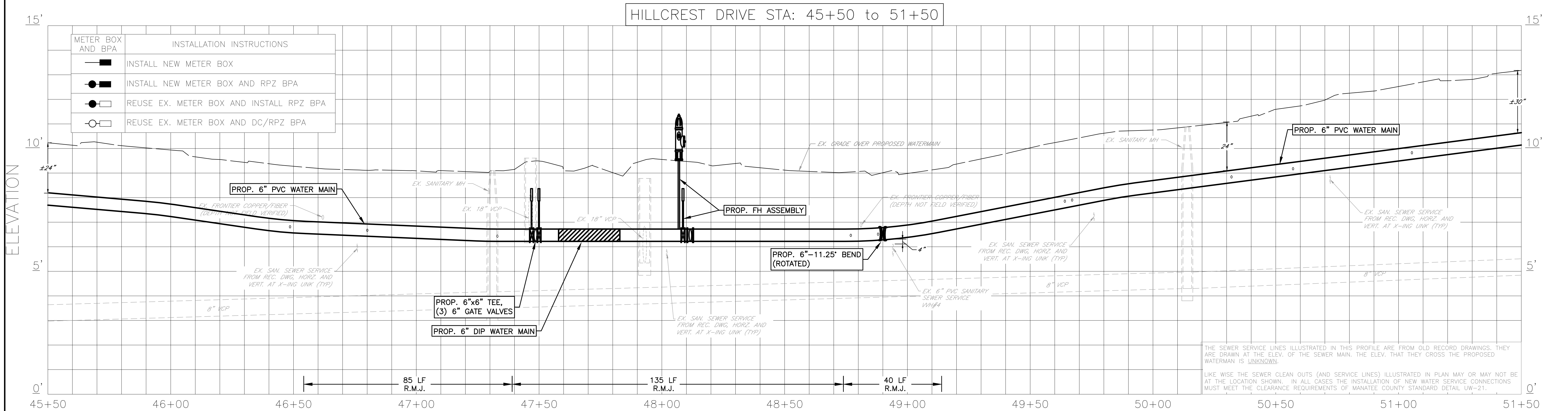
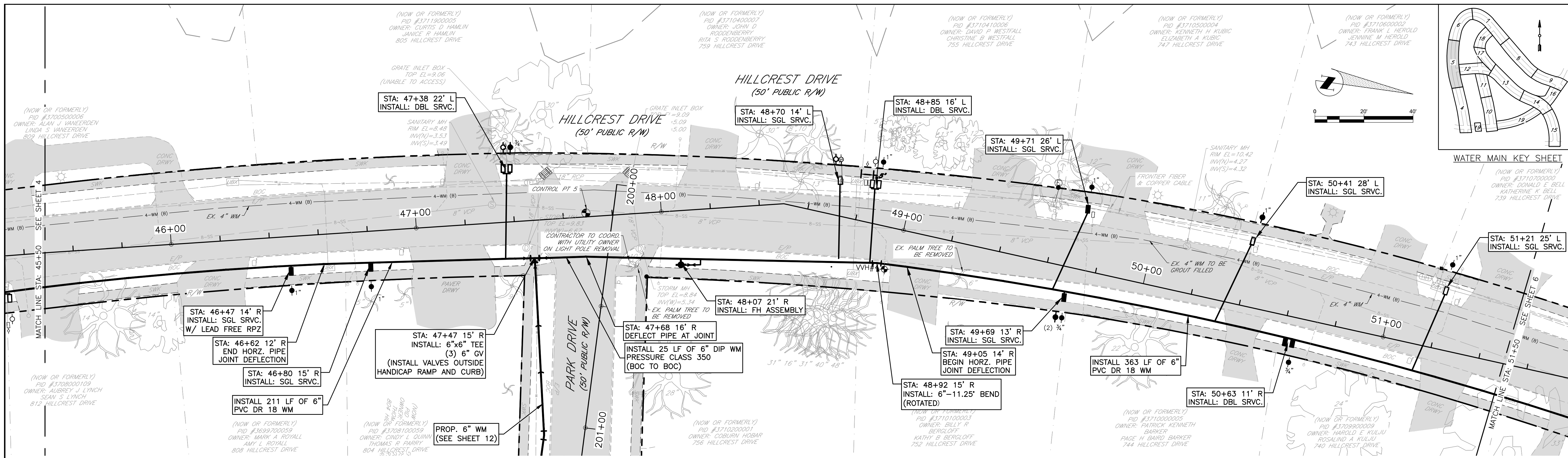


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 40+00 TO 45+50



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	

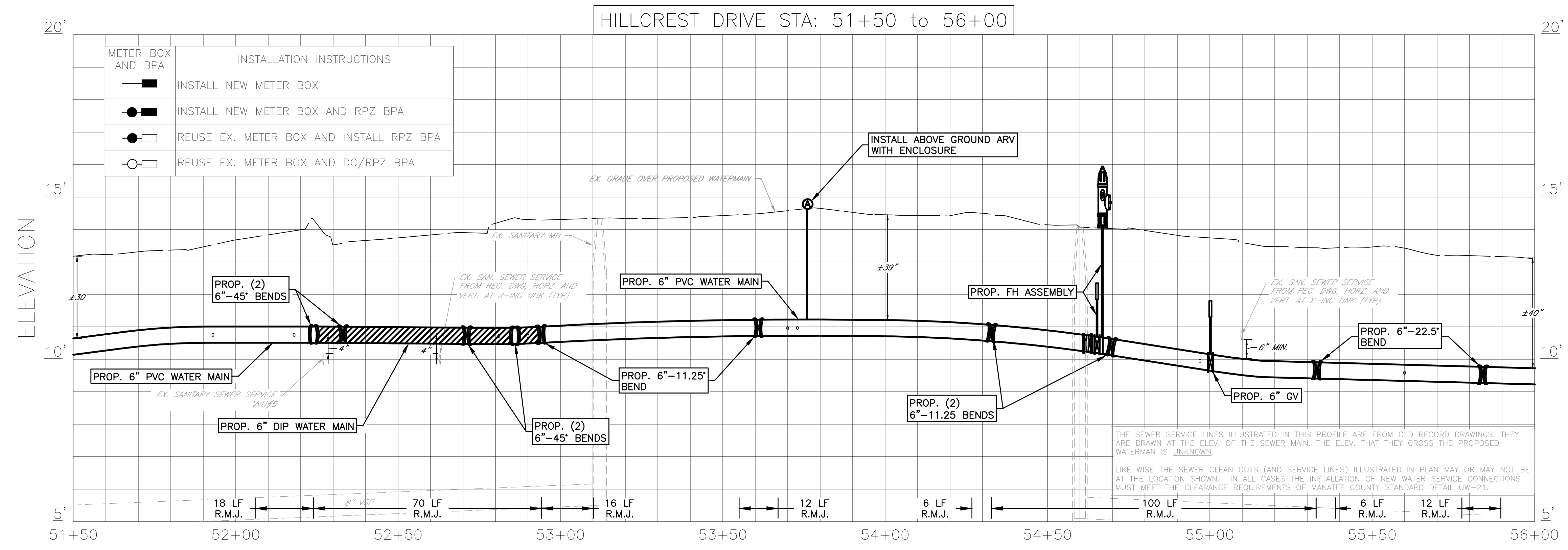
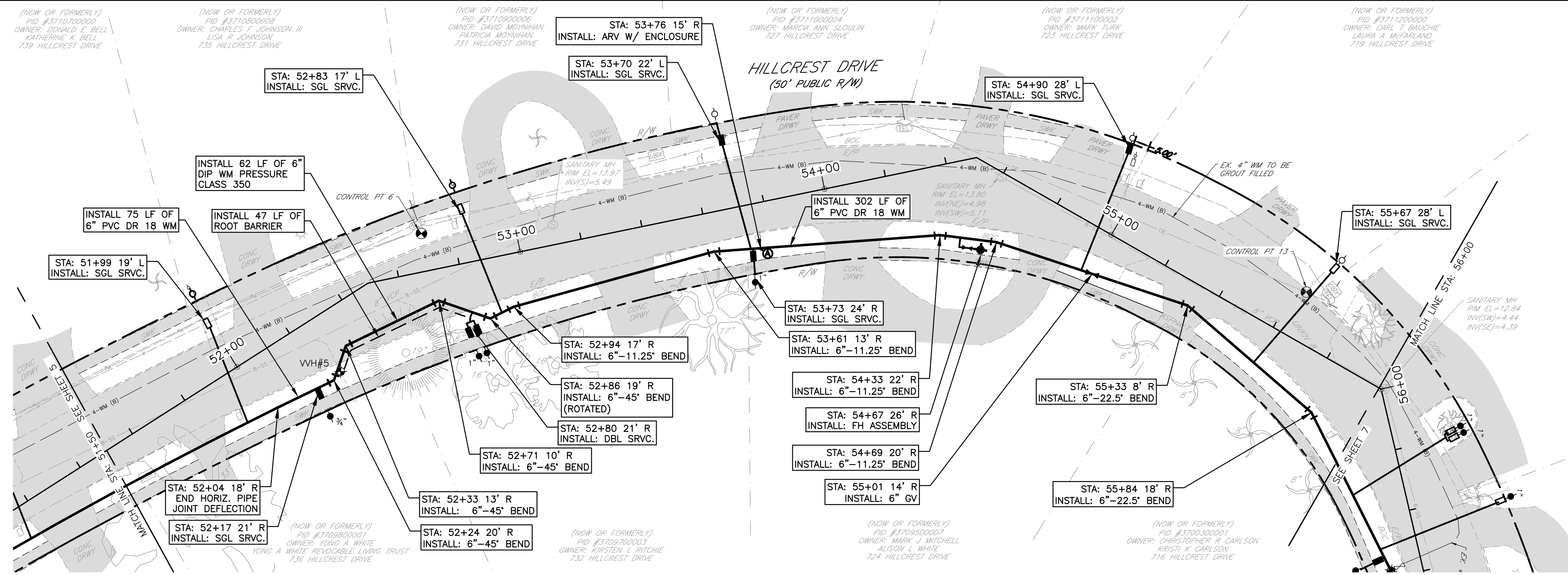


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 45+50 TO 51+50



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY DATE	
DESIGNED	SAC 02-2021	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	

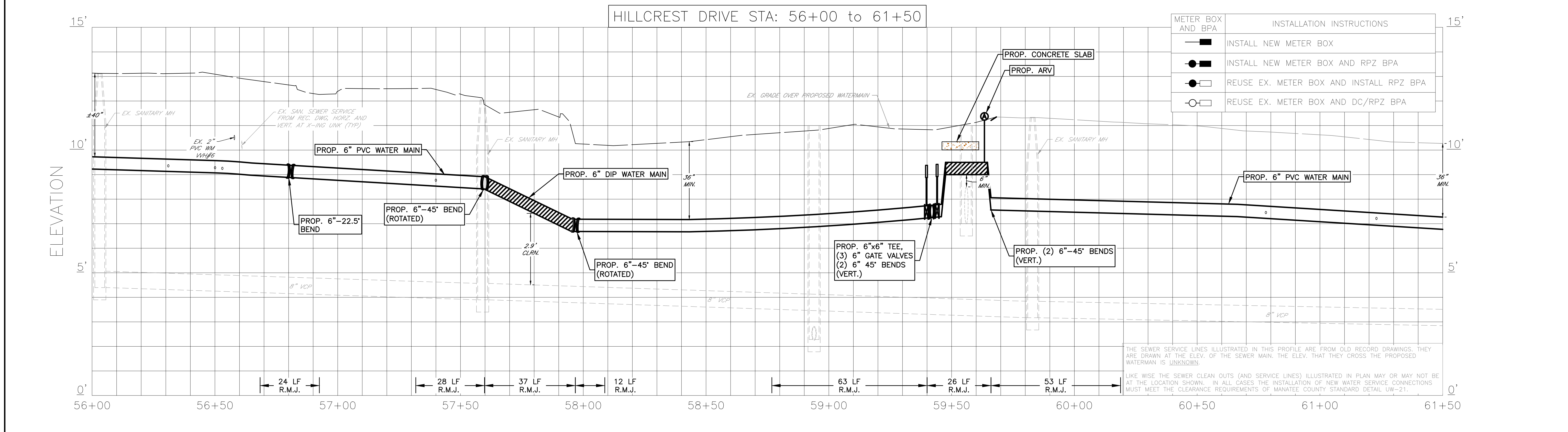
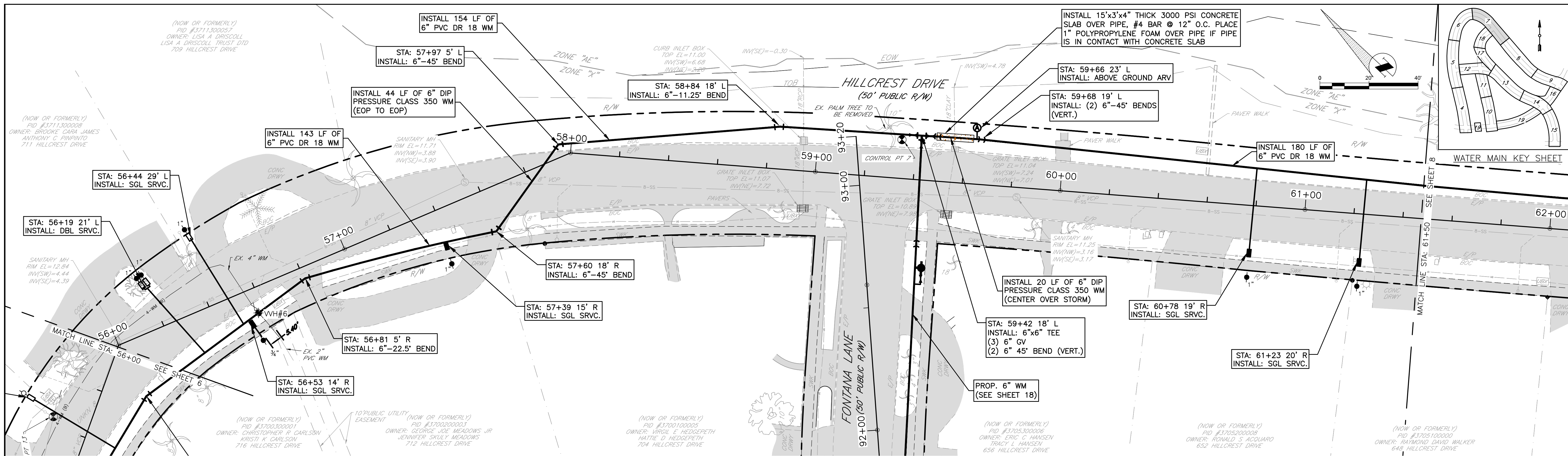


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 51+50 TO 56+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23
		Signature & Date

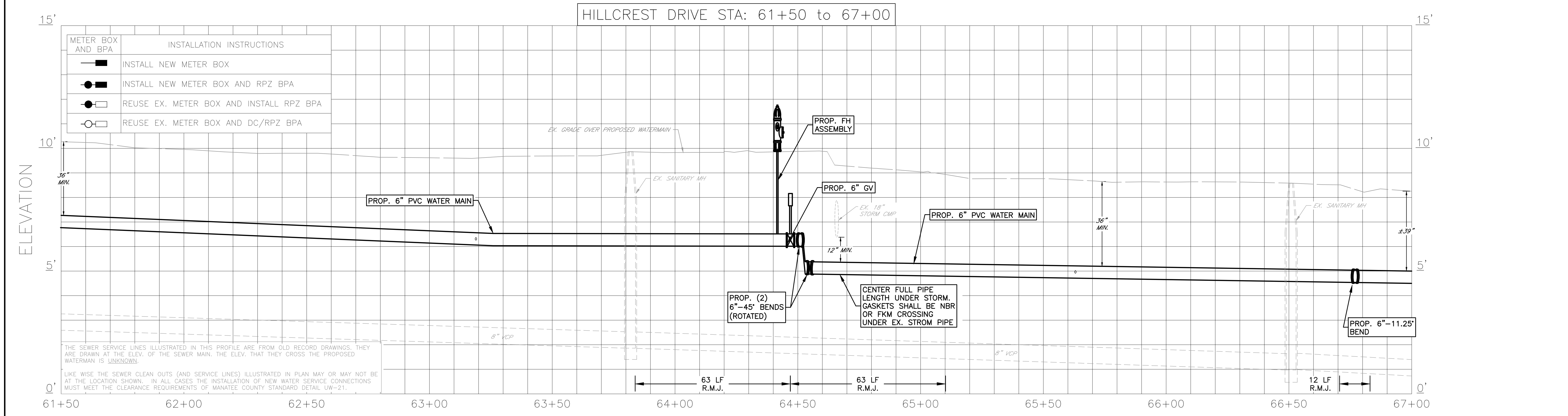
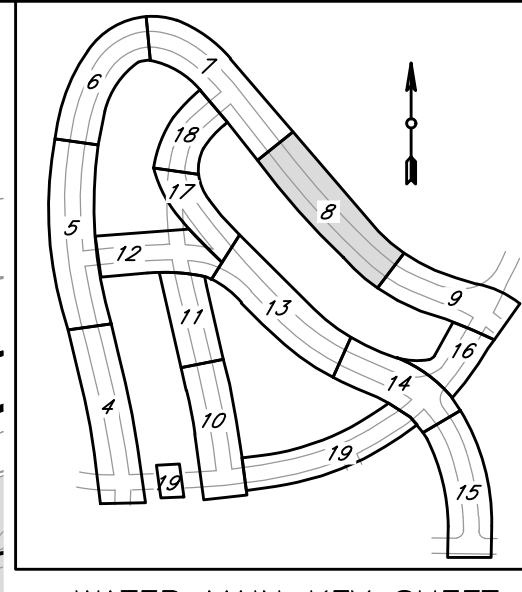
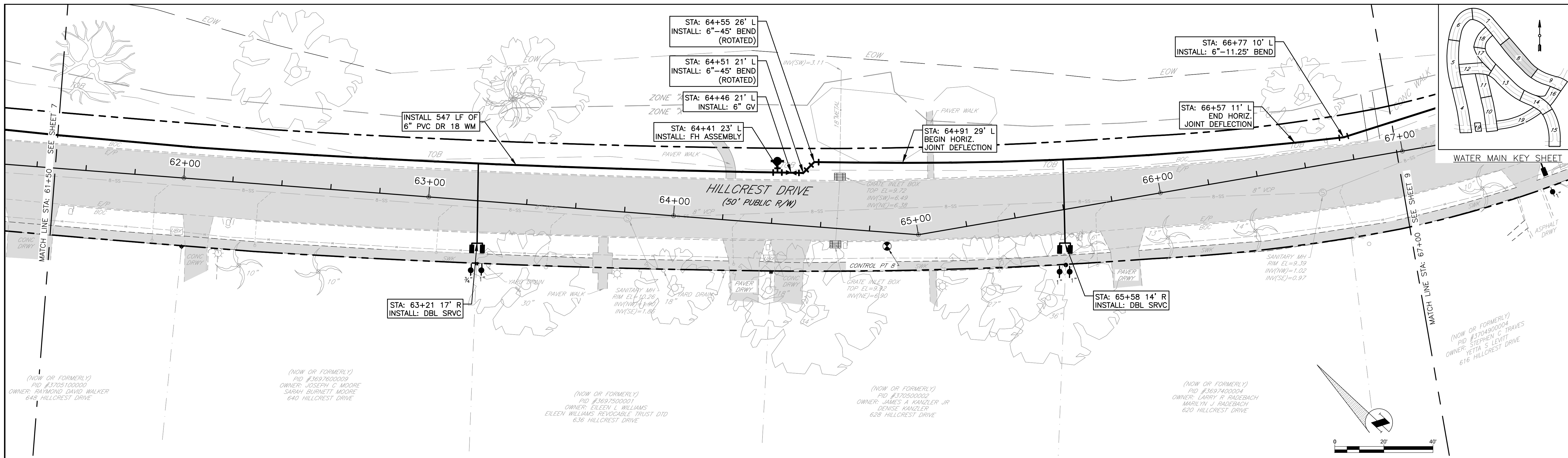


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 56+00 TO 61+50



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	

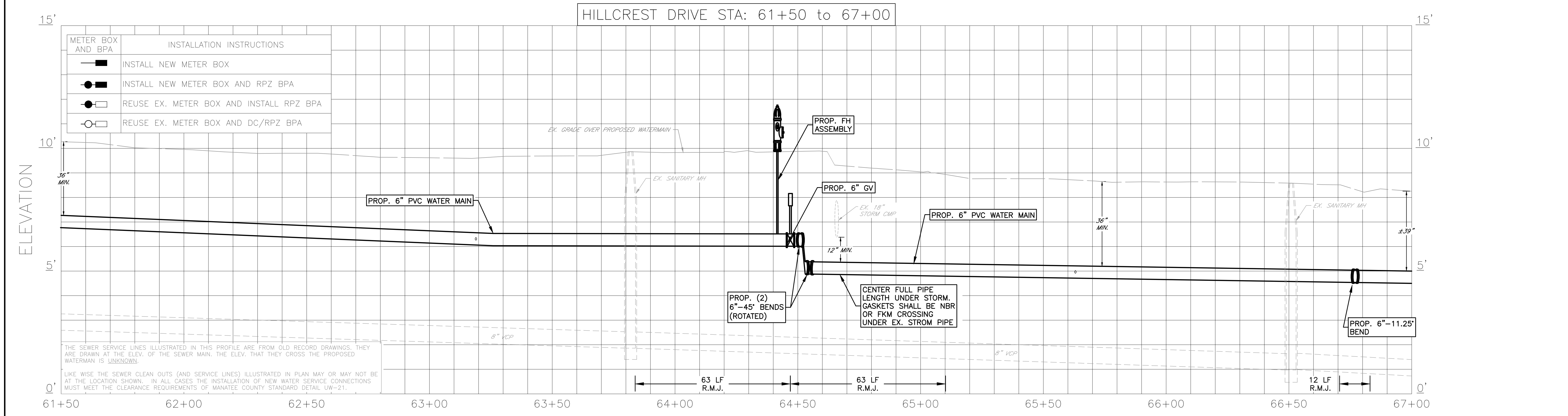
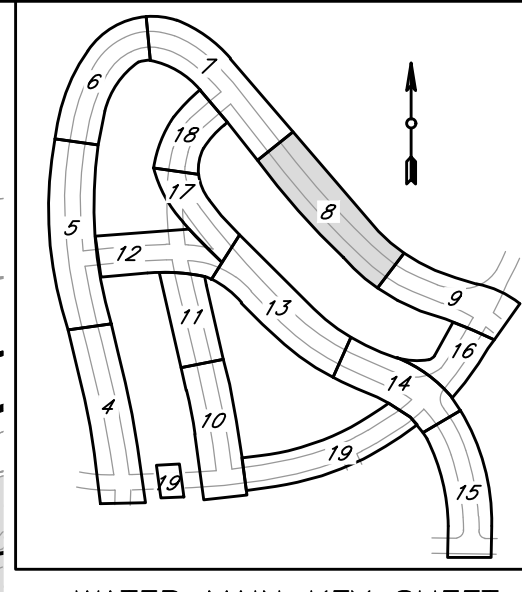
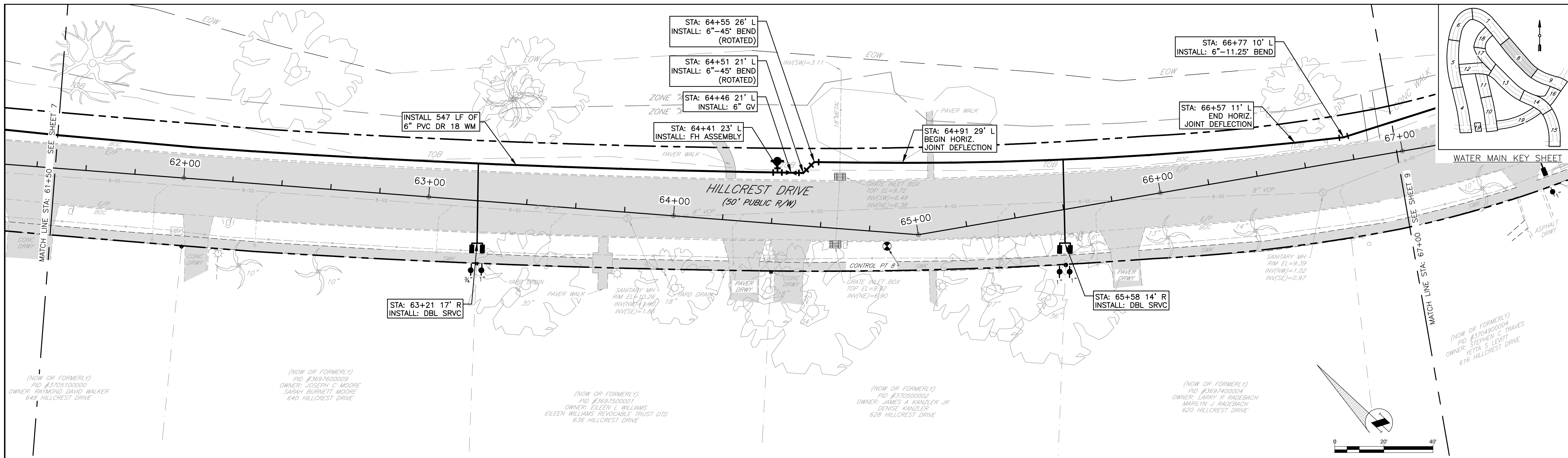


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 61+50 TO 67+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	

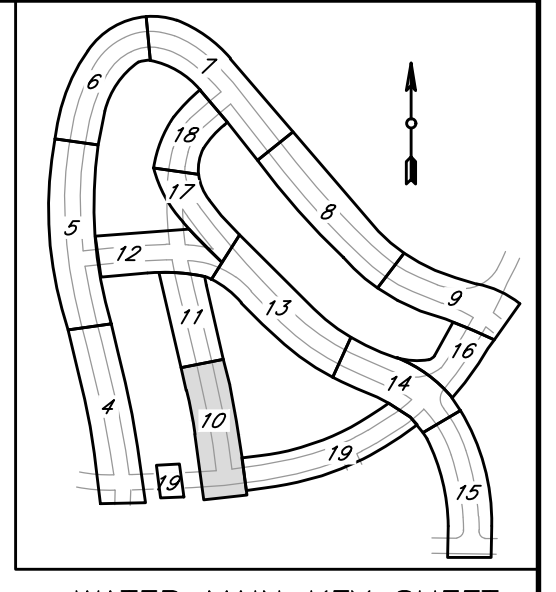


NO.	REVISION DESCRIPTION	BY	DATE

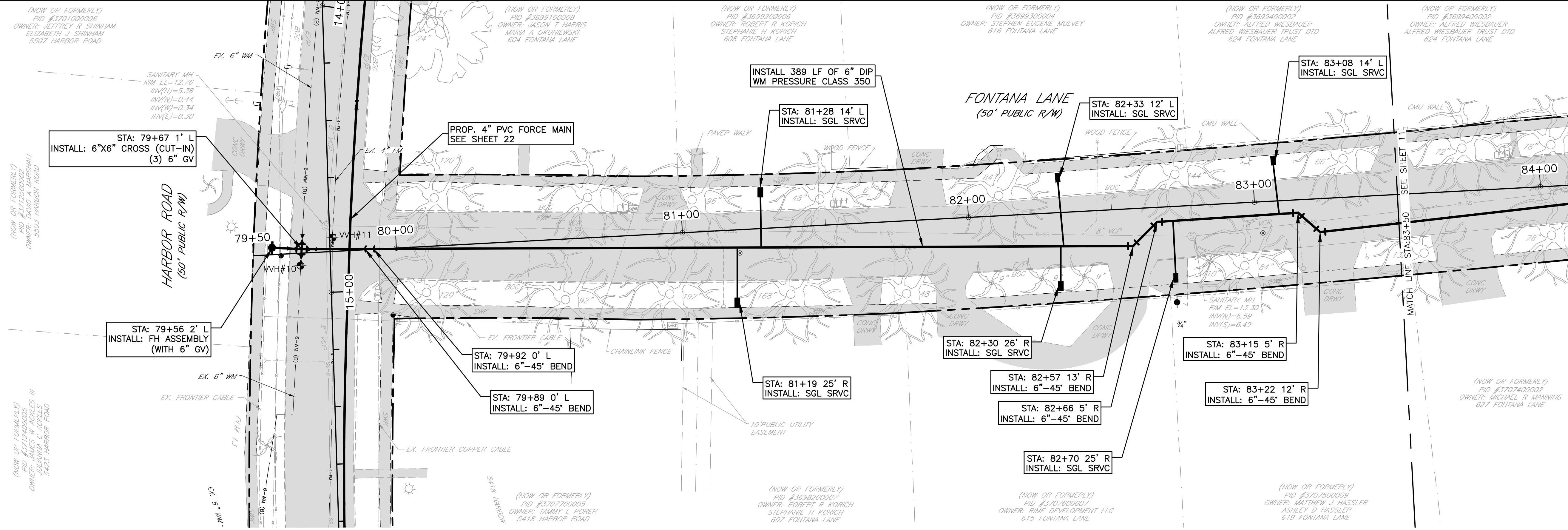
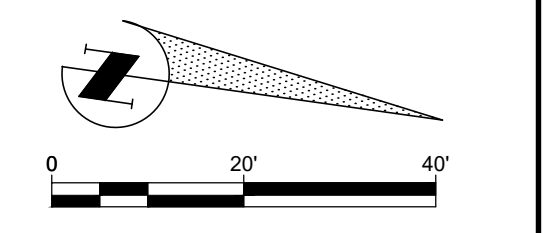
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 61+50 TO 67+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-20-21	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	



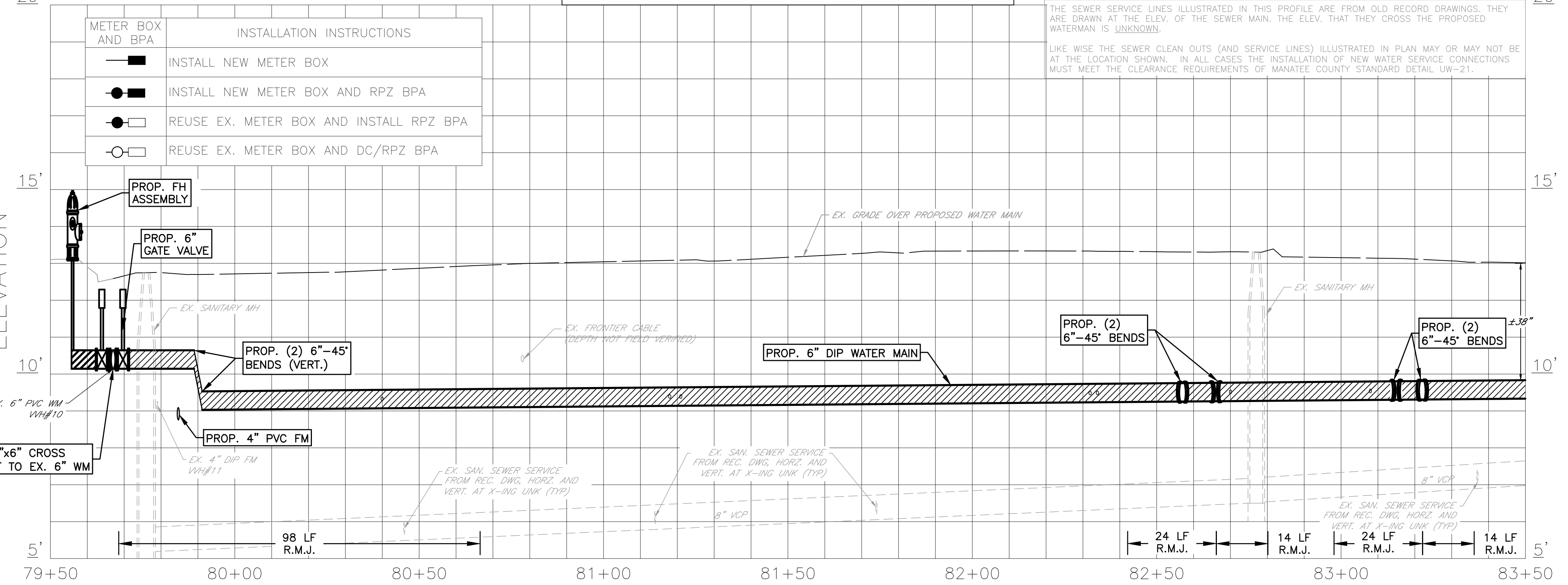
WATER MAIN KEY SHEET



FONTANA LANE STA: 79+50 to 83+50

TREE PROTECTION AND GENERAL NOTES:

- ANY TRIMMING OF TREES SHALL BE DONE BY A QUALIFIED, LICENSED TREE SERVICE AND SHALL BE PRUNED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARD INSTITUTE (ANSI) A-300 PRUNING STANDARDS.
- ALL ROOTS TO BE REMOVED DURING TRENCH EXCAVATION SHALL BE SEVERED CLEAN.
- THE ROOT PRUNING EQUIPMENT SELECTED SHALL BE EQUIVALENT TO A DOSKO ROOT CUTTER. PRUNE ROOTS ONLY WITH SHARP PRUNING TOOLS.
- CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND SHALL NOT BE PLACED OVER SURFACE ROOTS.
- PAVEMENT REMOVAL**
 - SAW-CUT PAVEMENT SURFACE LEAVING A UNIFORM AND STRAIGHT EDGE WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACE.
- CONTRACTOR SHALL UTILIZE CONSTRUCTION EQUIPMENT THAT WILL AVOID DAMAGING PAVEMENT. MILLING AND RESURFACING OF FONTANA LANE IS NOT PROPOSED DUE TO THE EXPOSED SURFACE ROOTS.
- ALL SERVICES SHALL BE POLYETHYLENE PIPE AND SHALL BE INSTALLED WITHIN A CASING.



THE SEWER SERVICE LINES ILLUSTRATED IN THIS PROFILE ARE FROM OLD RECORD DRAWINGS, THEY ARE DRAWN AT THE ELEV. OF THE SEWER MAIN, THE ELEV. THAT THEY CROSS THE PROPOSED WATERMAIN IS UNKNOWN.

LIKE WISE THE SEWER CLEAN OUTS (AND SERVICE LINES) ILLUSTRATED IN PLAN MAY OR MAY NOT BE AT THE LOCATION SHOWN. IN ALL CASES THE INSTALLATION OF NEW WATER SERVICE CONNECTIONS MUST MEET THE CLEARANCE REQUIREMENTS OF MANATEE COUNTY STANDARD DETAIL UW-21.

NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT FONTANA LANE STA 79+50 TO 83+50

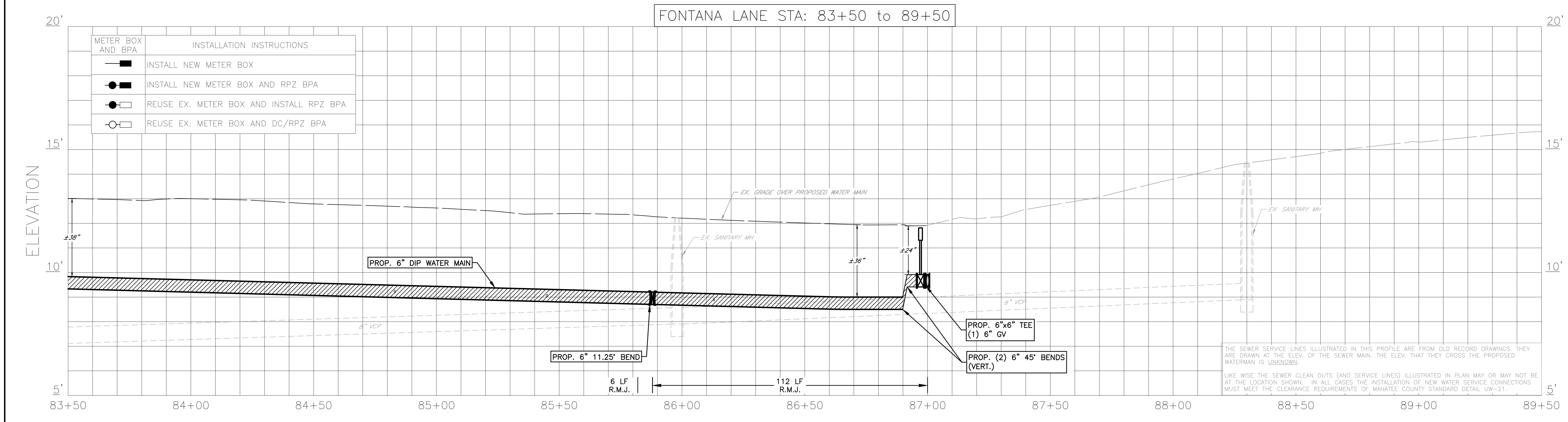
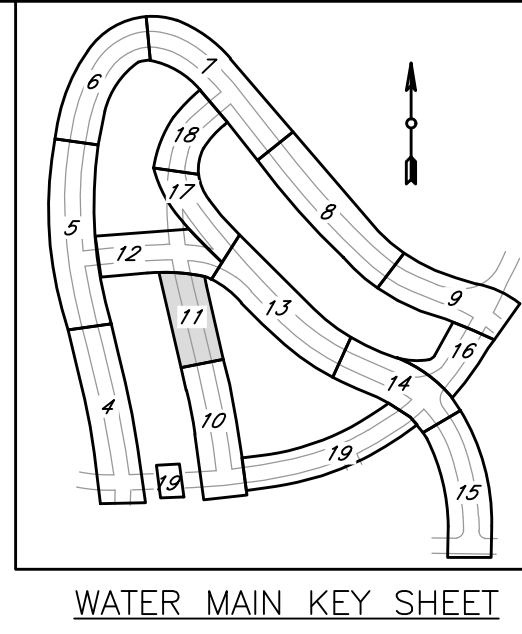
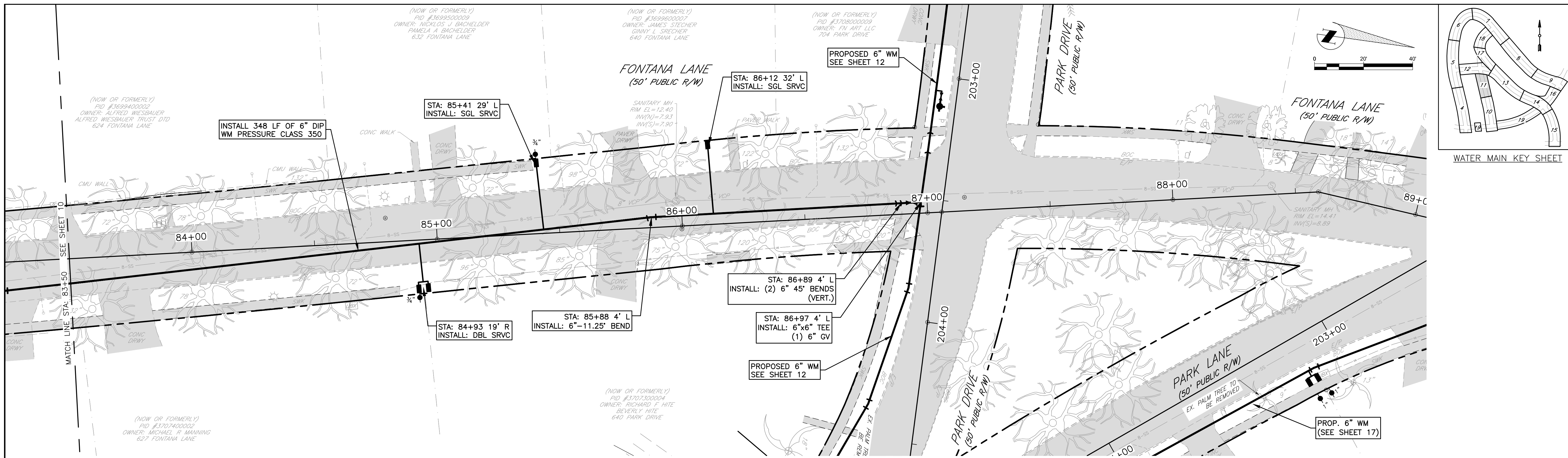


PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date

SHEET 10 OF 37

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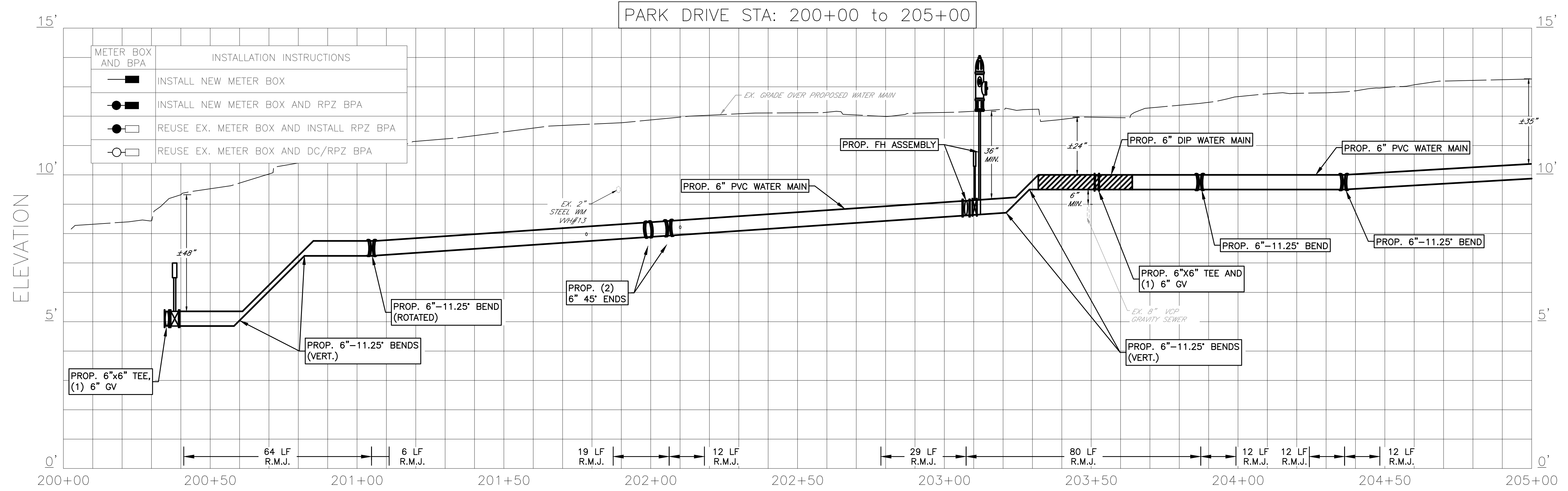
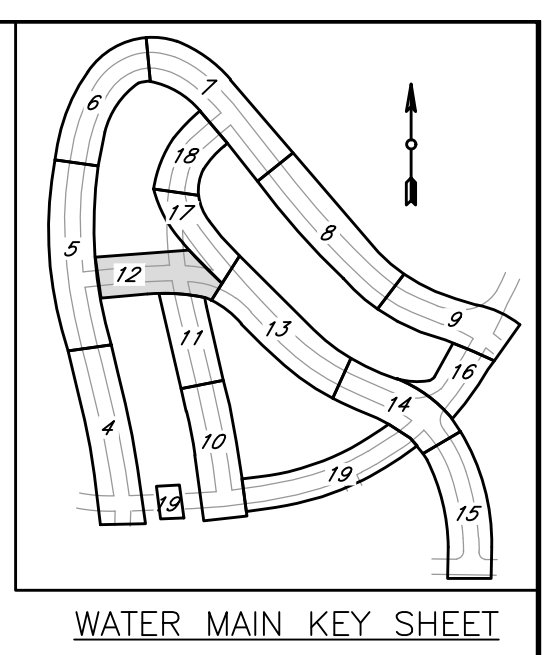
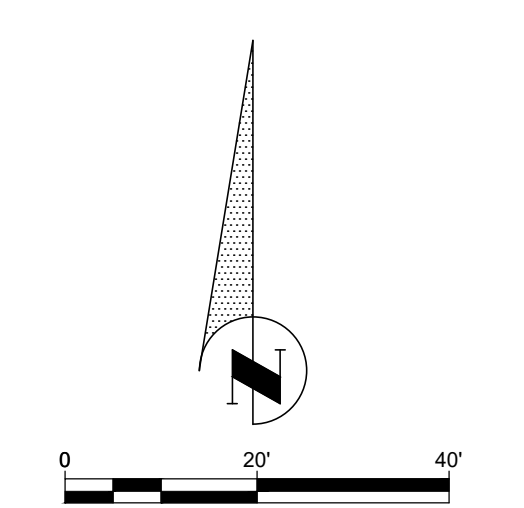
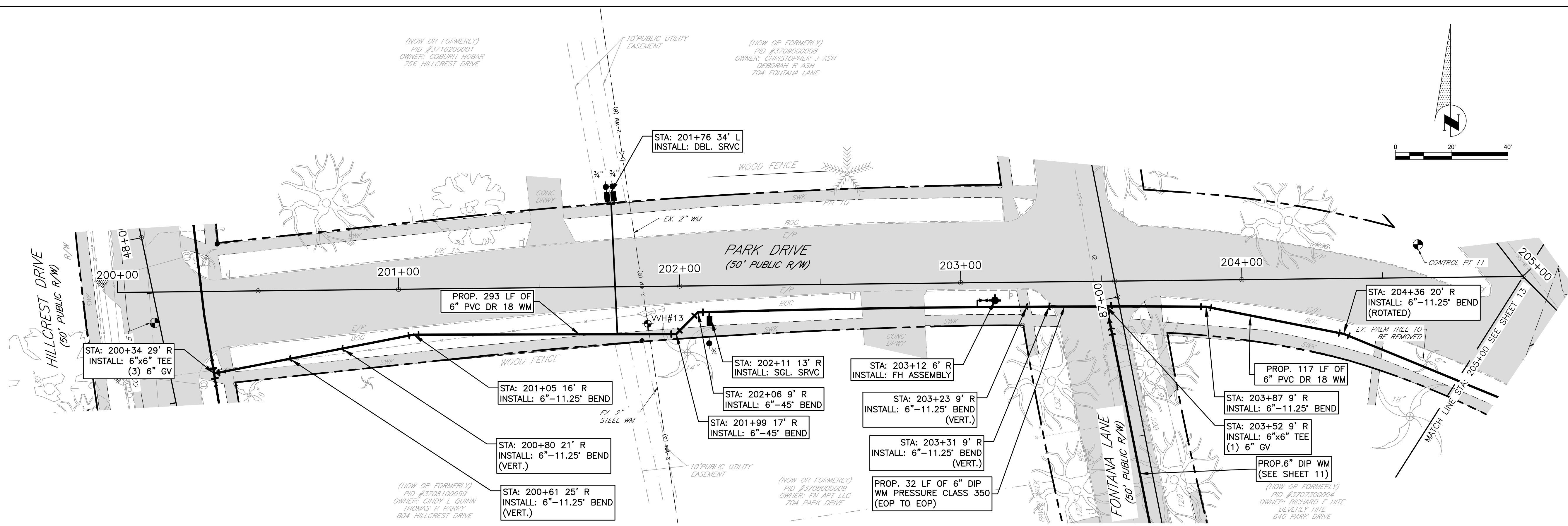


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
FONTANA LANE STA 83+50 TO 86+50



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	



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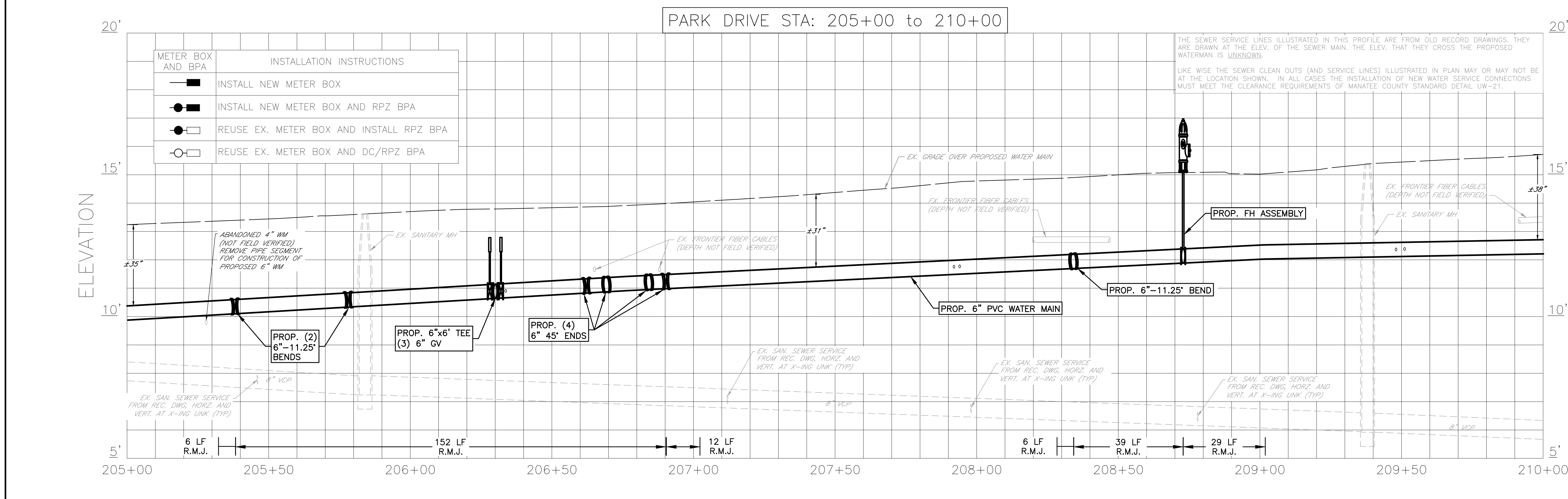
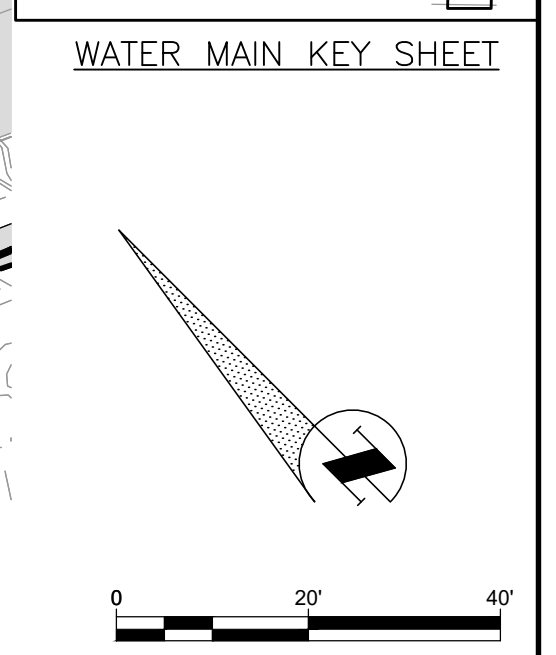
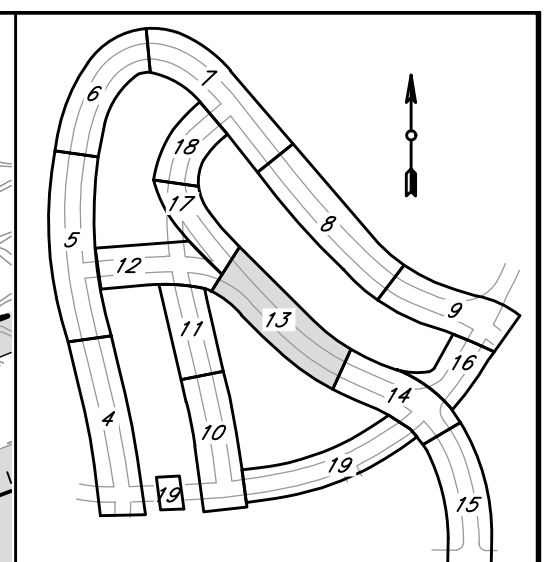
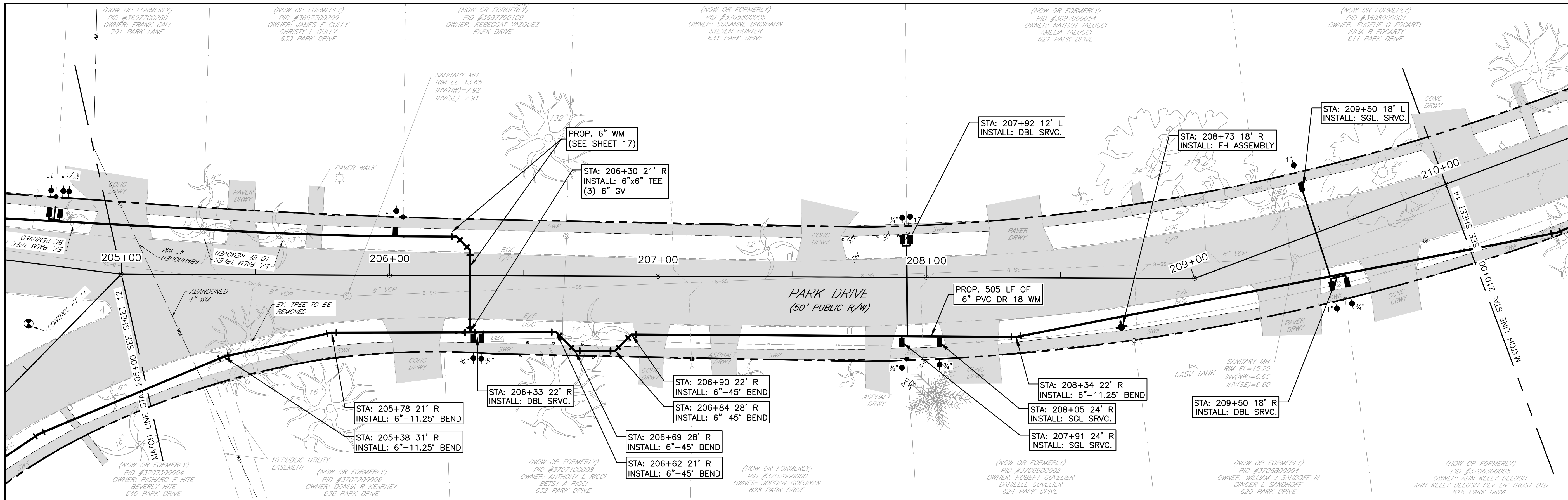
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT PARK DRIVE STA 200+00 TO 205+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
	BY	DATE
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date
SHEET 12 OF 37

I:\Projects\2021\2021-07\18\2024-125-PW-Lorenzo-Duarte-111-ANSI-Full-Beed-D (34,000 x 22,000 inches)_MC-2018518



NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS

WATER & FORCE MAIN REPLACEMENT

PARK DRIVE STA 205+00 TO 210+00

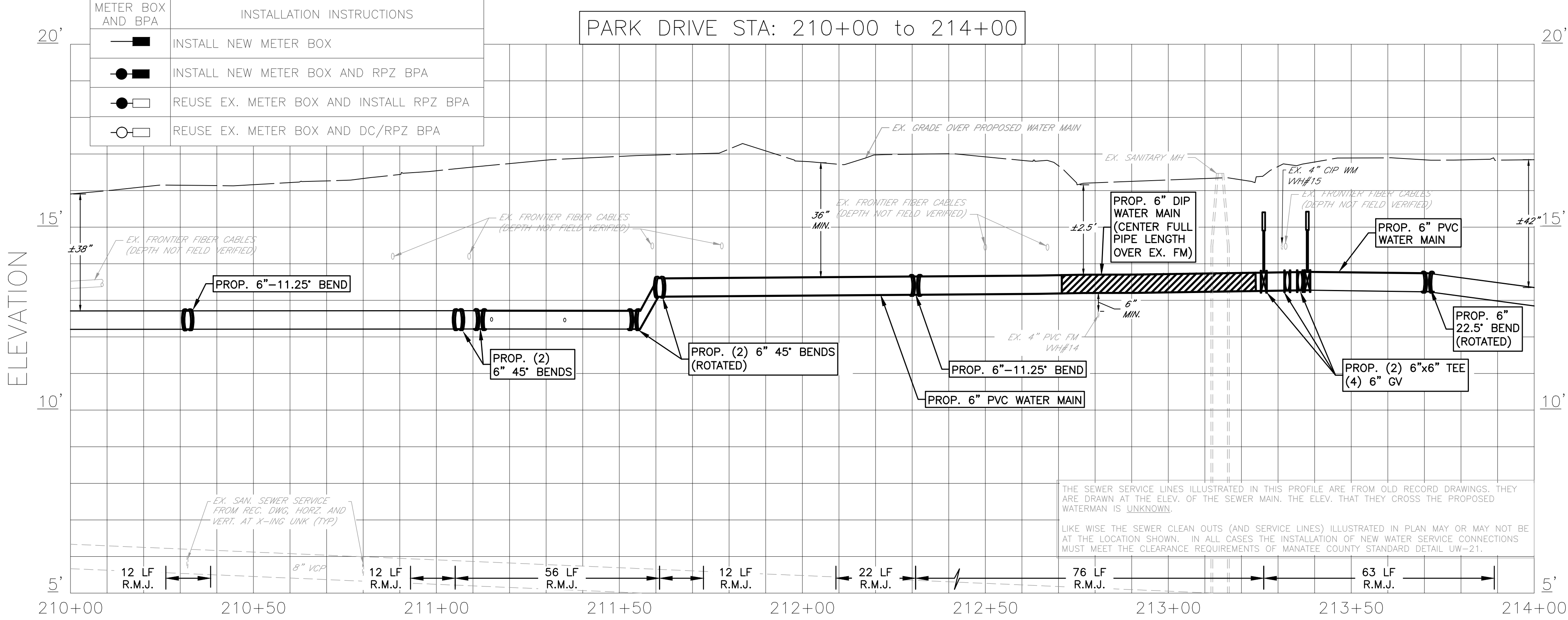
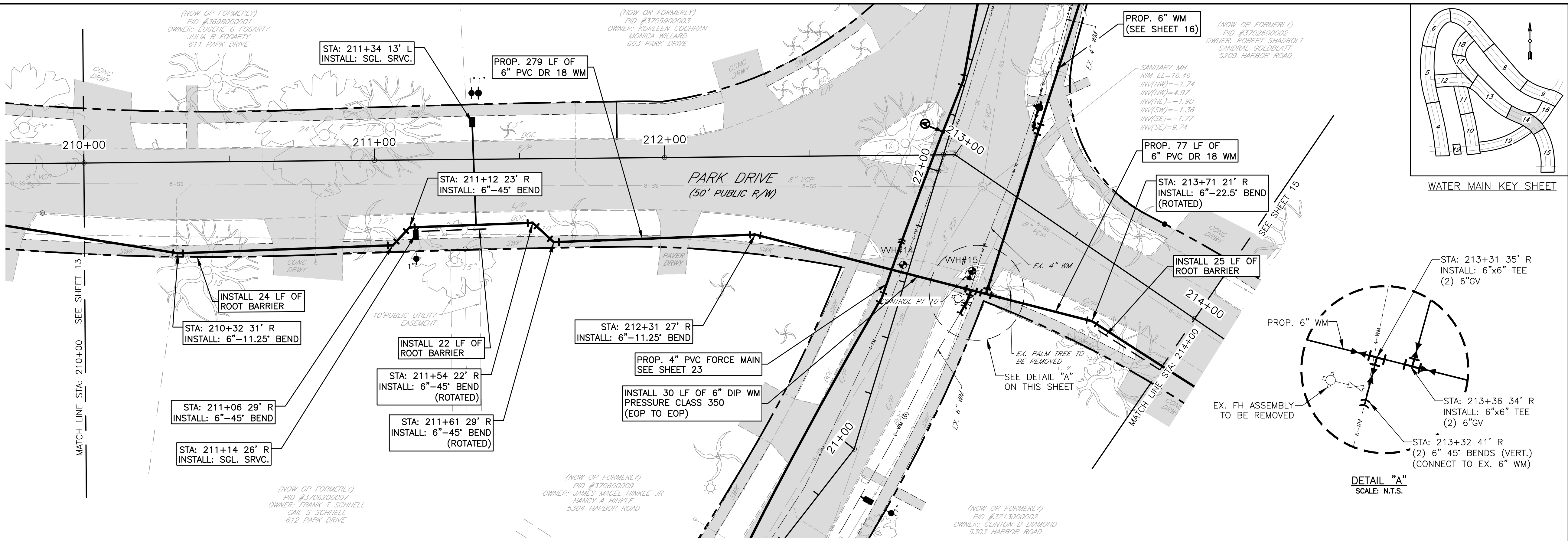
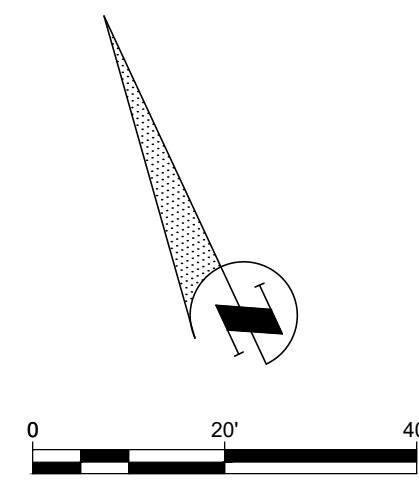


PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
	BY	DATE
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date

SHEET 13 OF 37

Harbor Hills.dwg, 11/18/2024, 1:25 PM, Lorenzo Duarte, 111, ANSI full sheet D (34.00 x 22.00 inches), WC-2015B18



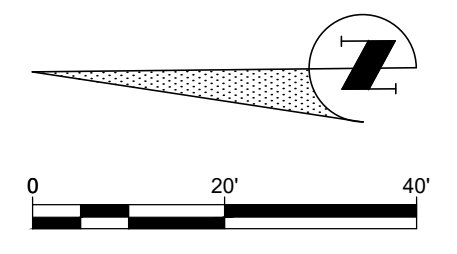
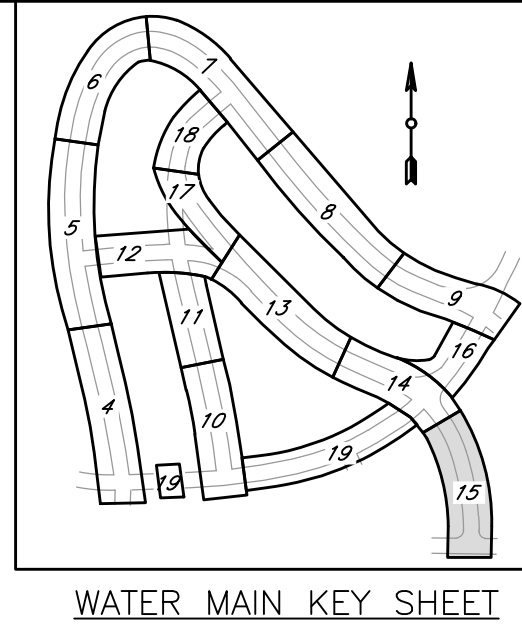
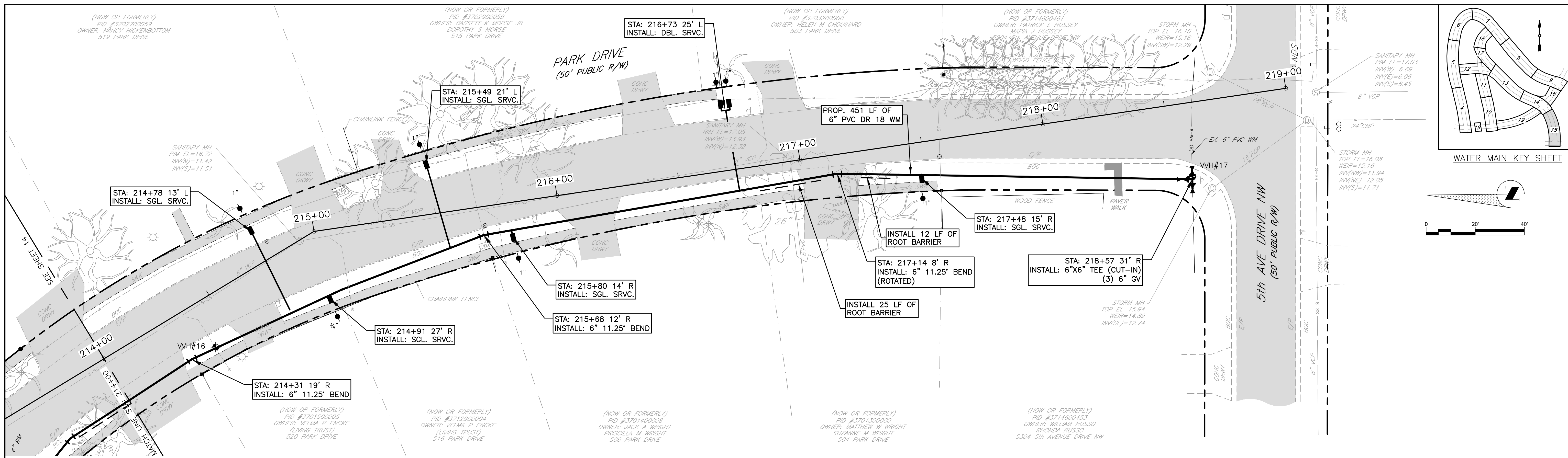
NO.	REVISION DESCRIPTION	BY	DATE

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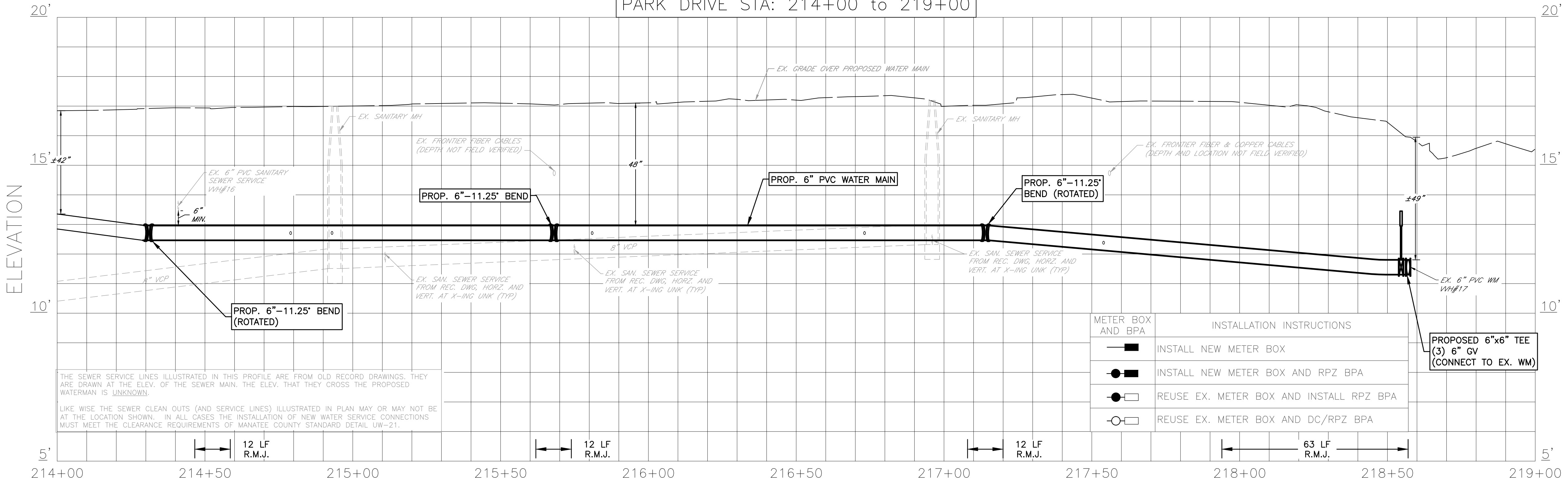


PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date



PARK DRIVE STA: 214+00 to 219+00



METER BOX AND BPA	INSTALLATION INSTRUCTIONS
	INSTALL NEW METER BOX
	INSTALL NEW METER BOX AND RPZ BPA
	REUSE EX. METER BOX AND INSTALL RPZ BPA
	REUSE EX. METER BOX AND DC/RPZ BPA

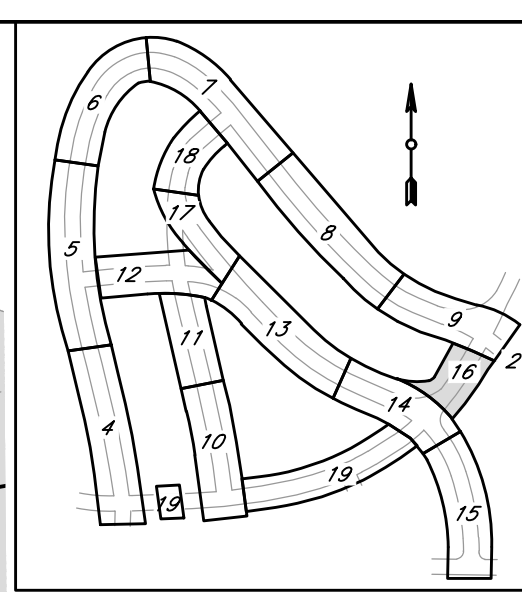
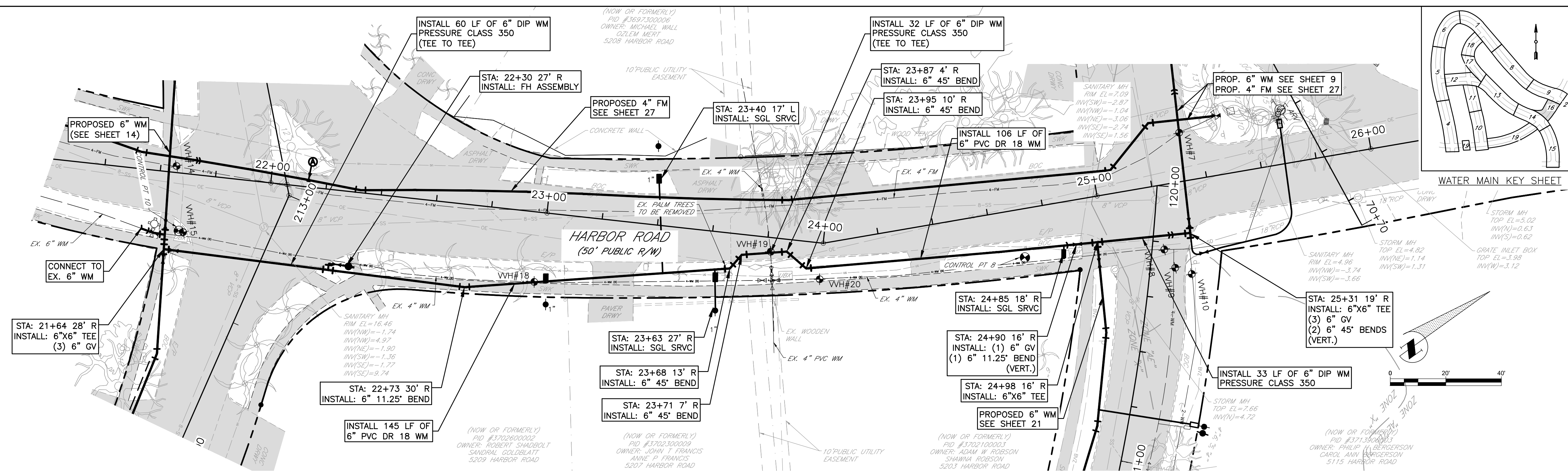
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT PARK DRIVE STA 214+00 TO 219+00

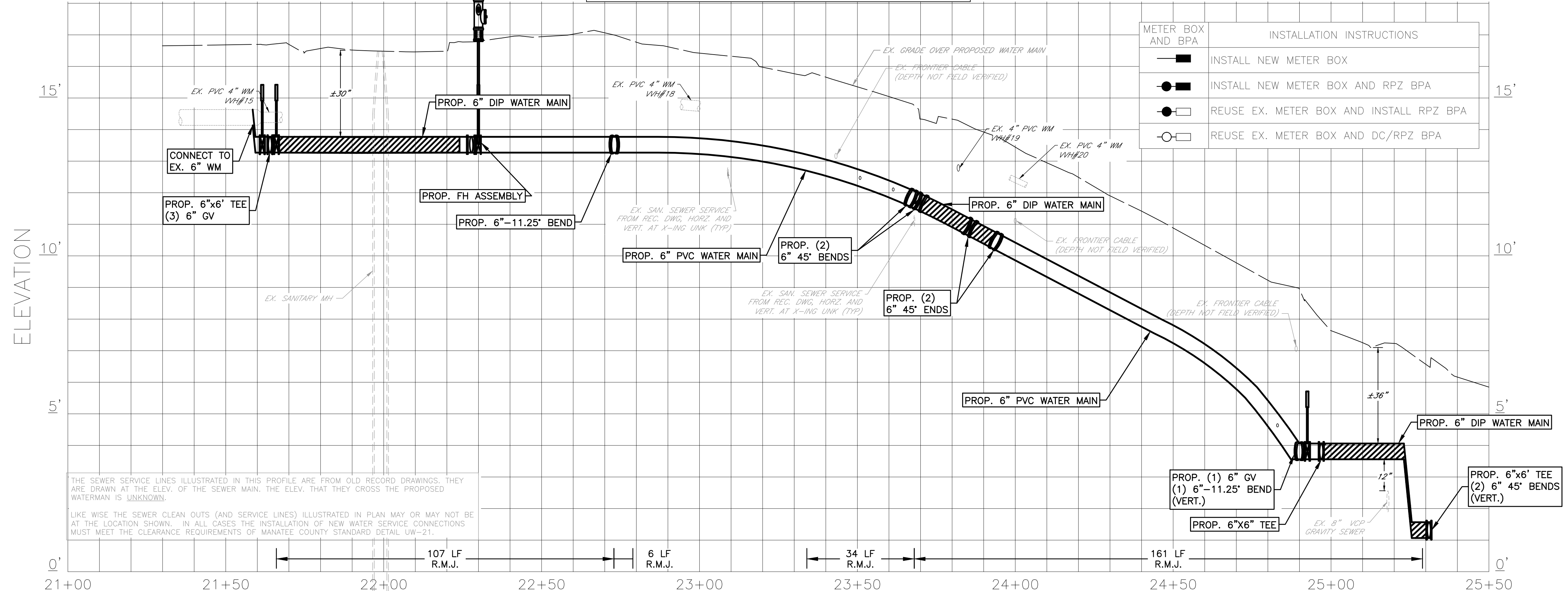


PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date
SHEET 15 OF 37



HARBOR ROAD STA: 21+00 TO 25+50



METER BOX AND BPA	INSTALLATION INSTRUCTIONS
	INSTALL NEW METER BOX
	INSTALL NEW METER BOX AND RPZ BPA
	REUSE EX. METER BOX AND INSTALL RPZ BPA
	REUSE EX. METER BOX AND DC/RPZ BPA

THE SEWER SERVICE LINES ILLUSTRATED IN THIS PROFILE ARE FROM OLD RECORD DRAWINGS. THEY ARE DRAWN AT THE ELEV. OF THE SEWER MAIN. THE ELEV. THAT THEY CROSS THE PROPOSED WATERMAIN IS UNKNOWN.

LIKE WISE THE SEWER CLEAN OUTS (AND SERVICE LINES) ILLUSTRATED IN PLAN MAY OR MAY NOT BE AT THE LOCATION SHOWN. IN ALL CASES THE INSTALLATION OF NEW WATER SERVICE CONNECTIONS MUST MEET THE CLEARANCE REQUIREMENTS OF MANATEE COUNTY STANDARD DETAIL UW-21.

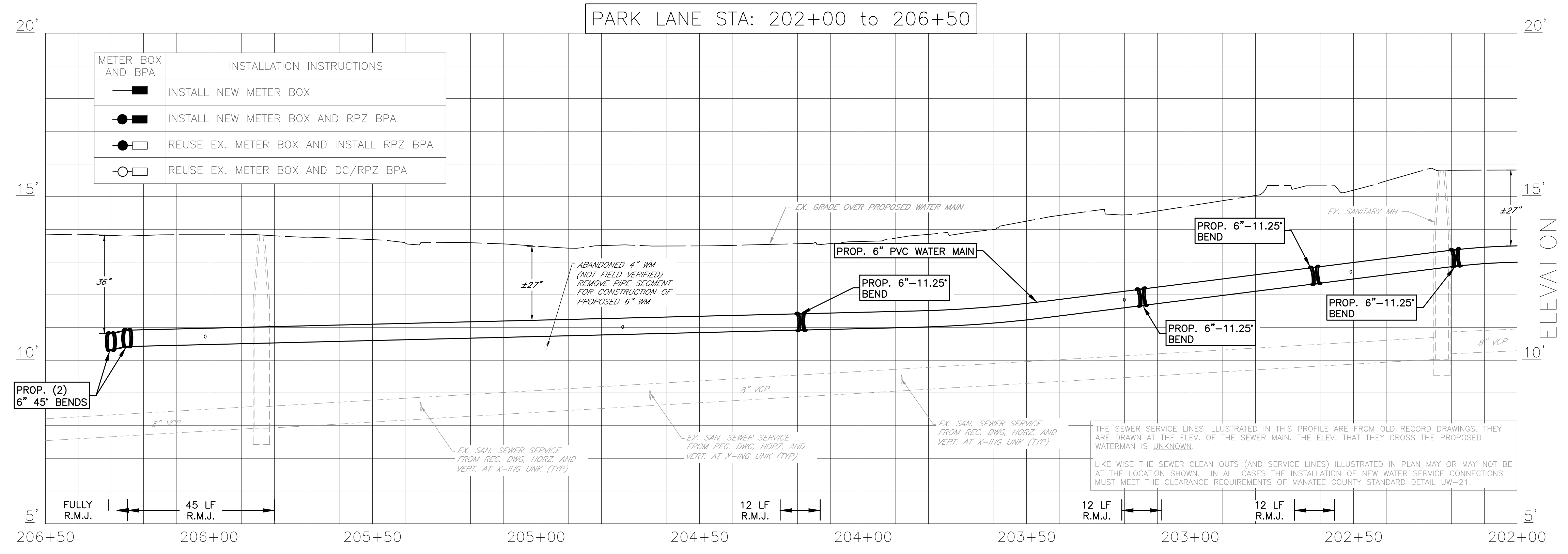
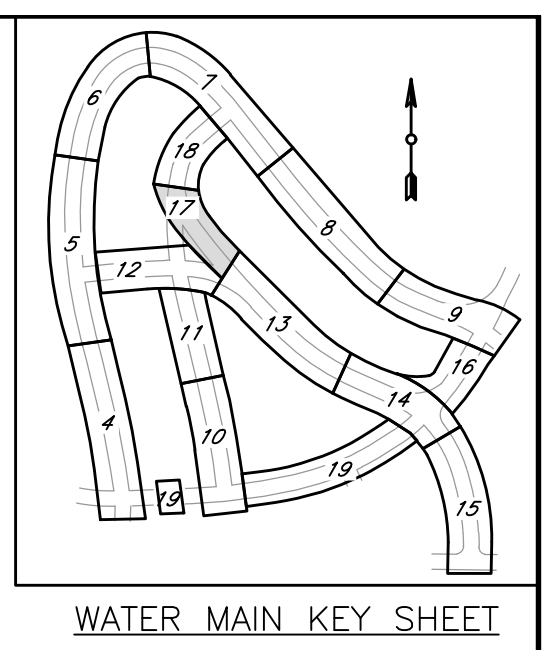
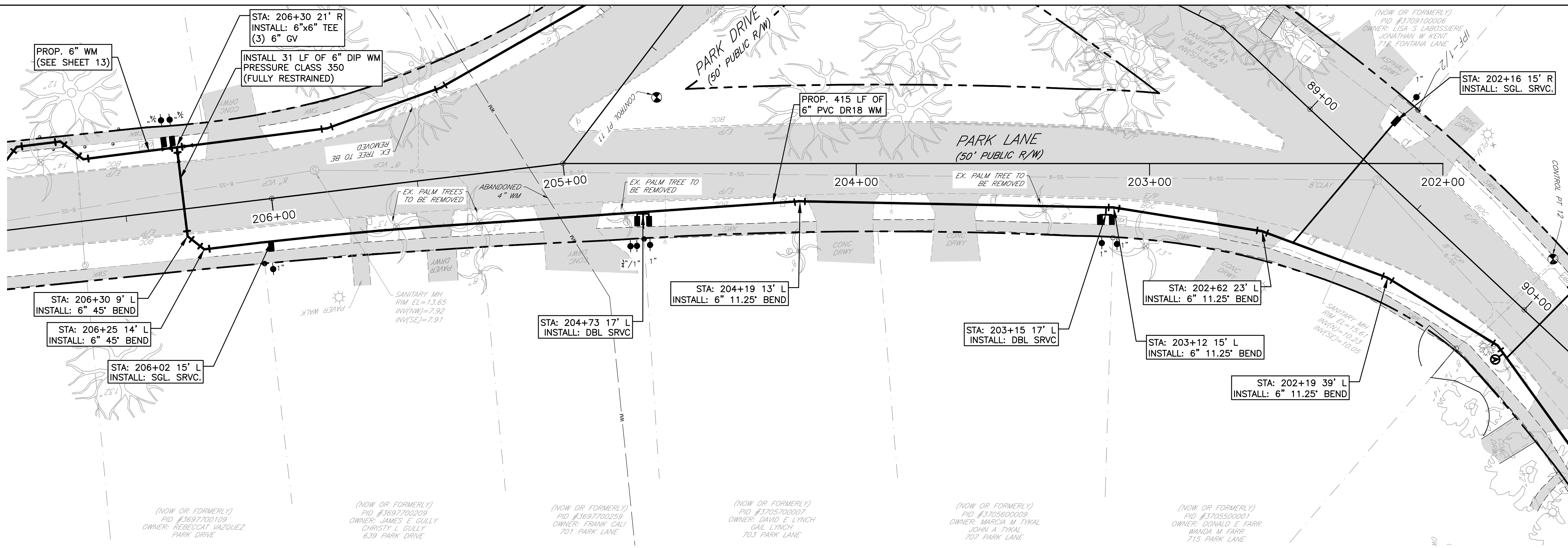
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HARBOR DRIVE STA 21+00 TO 25+50



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY DATE	
DESIGNED	SAC 02-2021	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	

Signature & Date



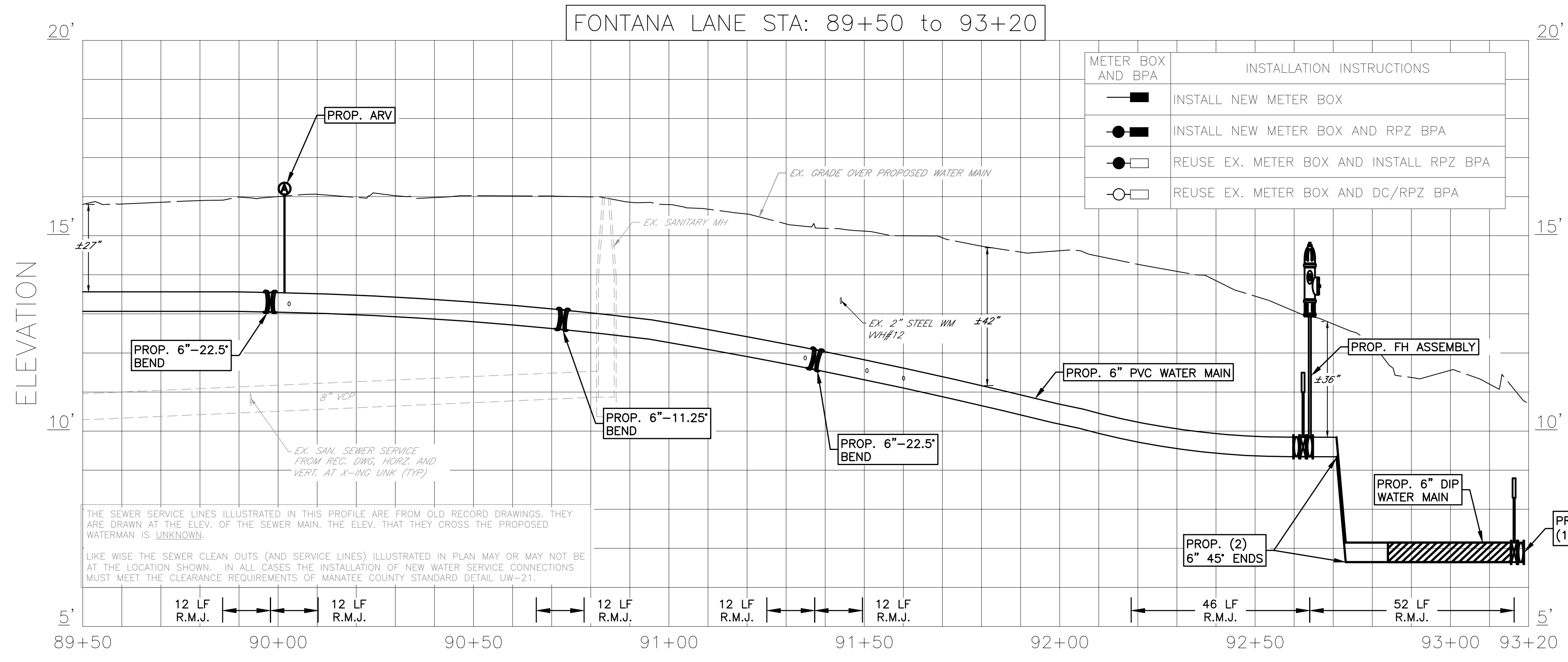
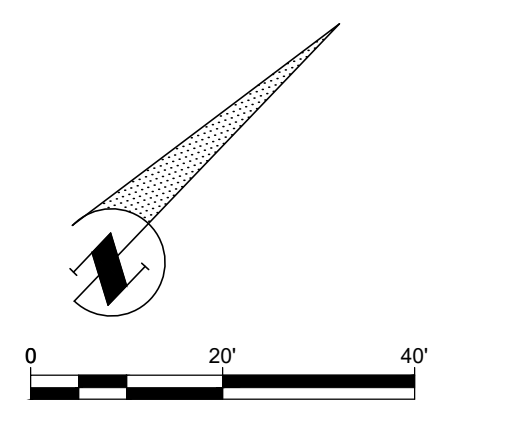
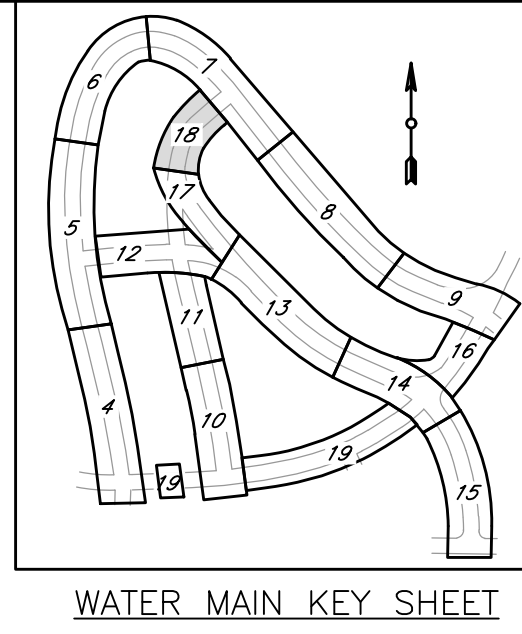
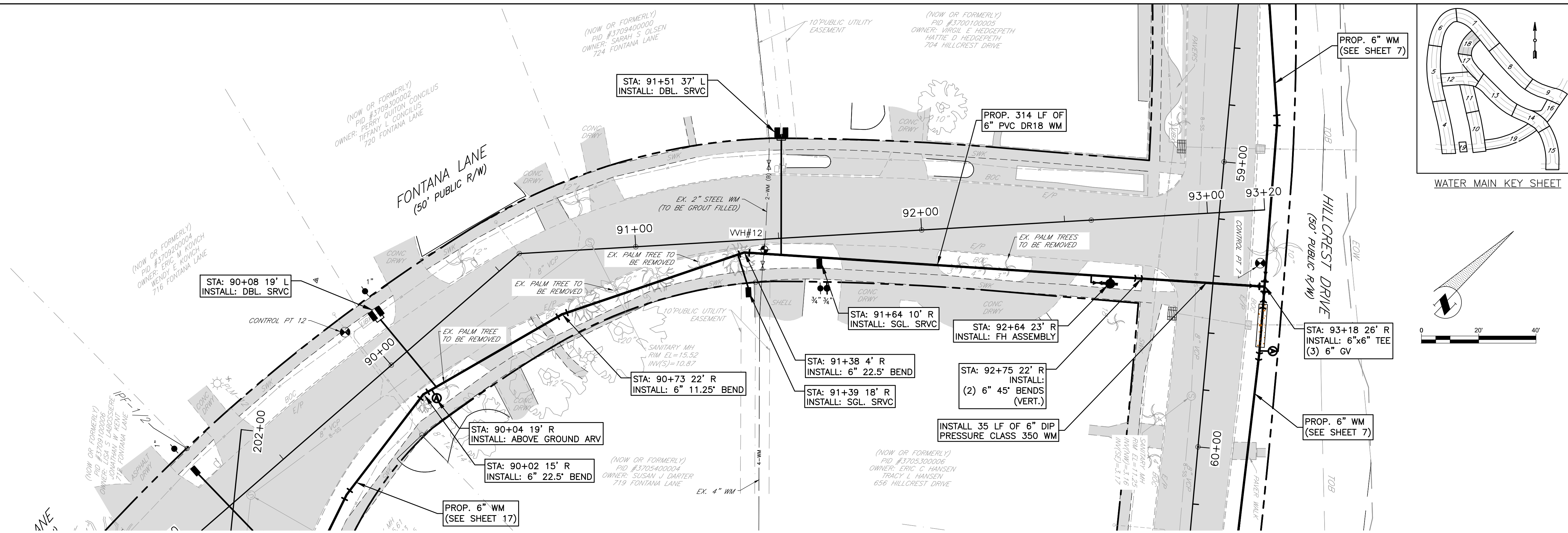
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT PARK LANE STA 202+00 TO 206+50



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY: SAC	DATE: 02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23
		Signature & Date
		SHEET 17 OF 37

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METER BOX AND BPA	INSTALLATION INSTRUCTIONS
	INSTALL NEW METER BOX
	INSTALL NEW METER BOX AND RPZ BPA
	REUSE EX. METER BOX AND INSTALL RPZ BPA
	REUSE EX. METER BOX AND DC/RPZ BPA

THE SEWER SERVICE LINES ILLUSTRATED IN THIS PROFILE ARE FROM OLD RECORD DRAWINGS. THEY ARE DRAWN AT THE ELEV. OF THE SEWER MAIN. THE ELEV. THAT THEY CROSS THE PROPOSED WATERMAIN IS UNKNOWN.

LIKE WISE THE SEWER CLEAN OUTS (AND SERVICE LINES) ILLUSTRATED IN PLAN MAY OR MAY NOT BE AT THE LOCATION SHOWN. IN ALL CASES THE INSTALLATION OF NEW WATER SERVICE CONNECTIONS MUST MEET THE CLEARANCE REQUIREMENTS OF MANATEE COUNTY STANDARD DETAIL UW-21.

NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT FONTANA LANE STA 89+50 TO 93+20



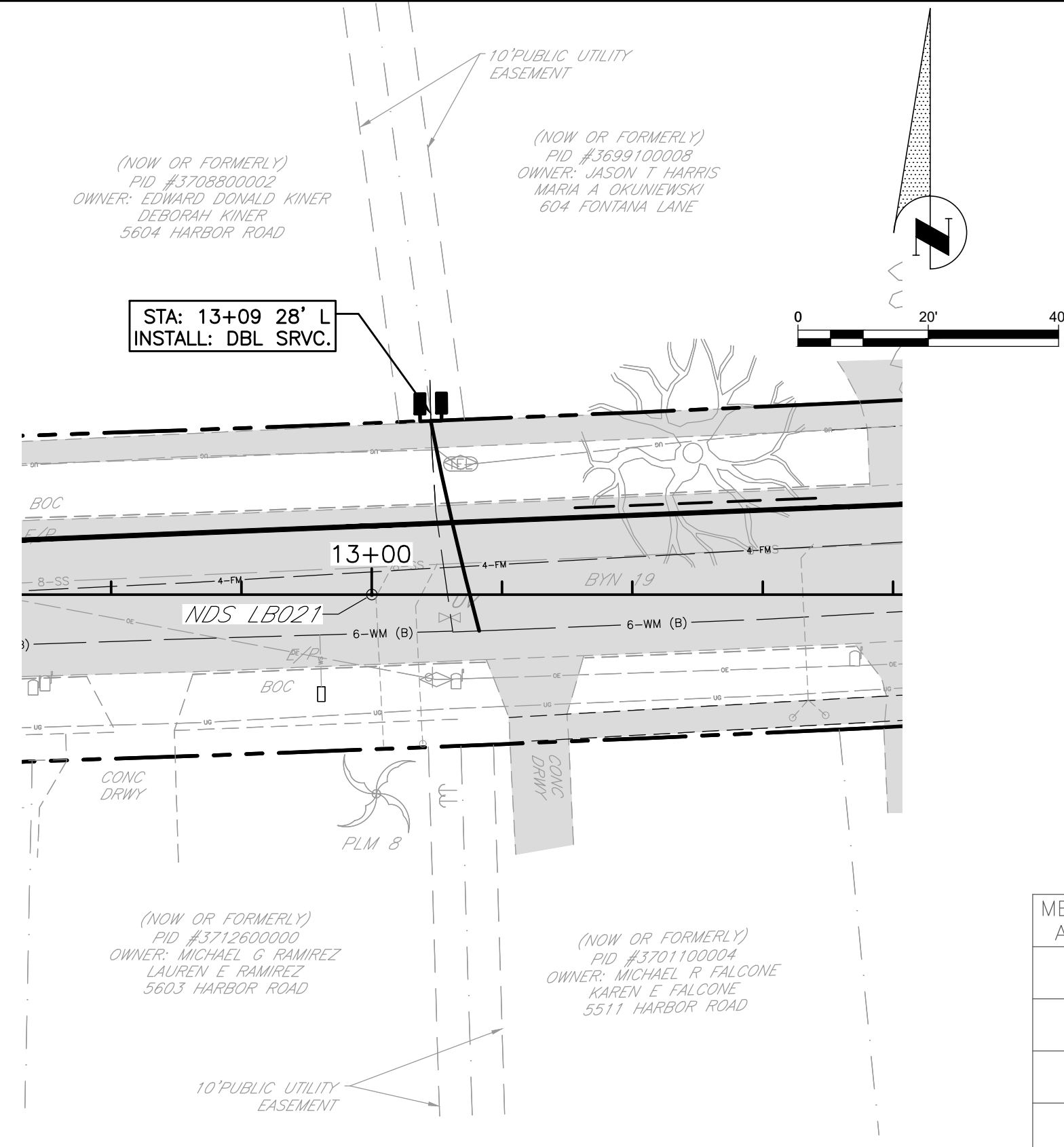
PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	SHEET 18 OF 37

I:\Users\eng_design\prow\line Proj\Harbor Hills\Harbor Hills Replacement\DWG\WP-Harbor Hills\Harbor Hills STA 89+50 to 93+20 (18).dwg, 18, 5/18/2024, 1:26 PM, Lorenzo Duarte, 1:1, ANS, Full Speed D (34.00 x 22.00 inches), WC-20 (5)B

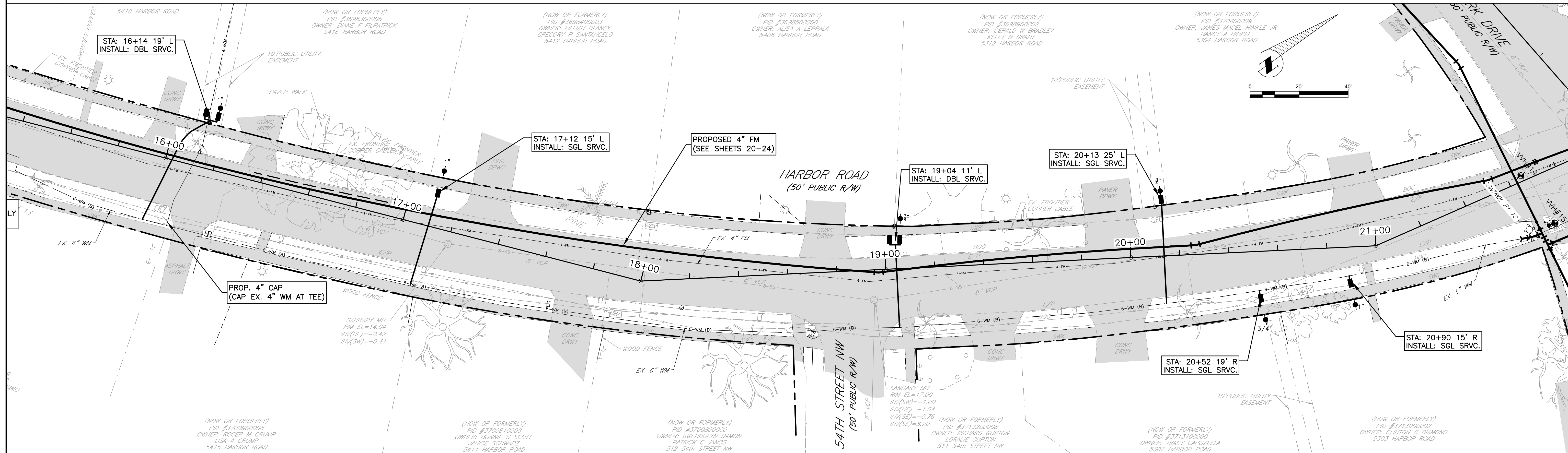
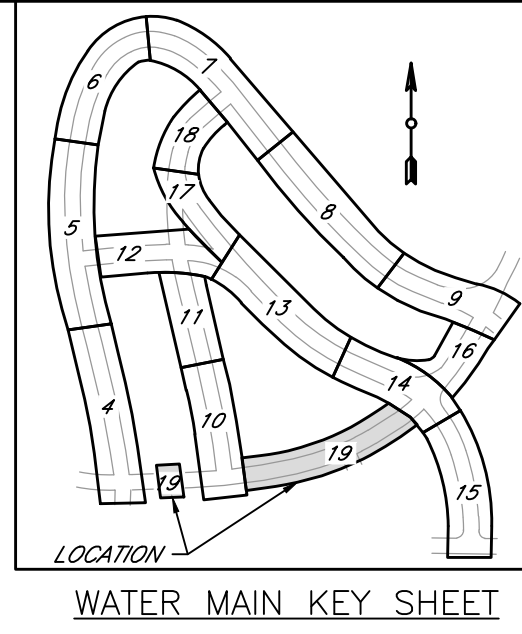
CONSTRUCTION NOTES (APPLICABLE TO ALL PLAN AND PROFILE SHEETS):

- LOCATION OF SEWER SERVICE LATERALS ARE APPROXIMATE. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL SEWER SERVICE LATERAL LOCATIONS BOTH HORIZONTALLY AND VERTICALLY ALONG THE PROPOSED WATER MAIN ALIGNMENT AND MARK THEIR LOCATION (HORIZ. & VERT.) ON THE PLANS AND NOTIFY THE COUNTY OF ANY CONFLICTS WITH THE PLAN ELEVATIONS IMMEDIATELY. 4-INCH MIN. VERTICAL CLEARANCE IS REQUIRED FROM THE WATER MAIN, IF ABOVE LATERAL. THE REDLINE DRAWINGS SHALL BE SUBMITTED TO THE COUNTY FOR RECORD. ALL SEWER SERVICE LATERALS SHALL BE REFLECTED IN THE RECORD DRAWINGS OF THE PROJECT.
THE VERTICAL ALIGNMENT OF THE WATER MAIN MAY BE SLIGHTLY VARIED BY ALLOWABLE JOINT DEFLECTIONS BASED ON THE PIPE MANUFACTURER'S RECOMMENDATIONS. FITTINGS SHALL NOT BE USED TO DEFLECT AROUND THE SEWER LATERALS.
- LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY LOCATIONS BOTH HORIZONTALLY AND VERTICALLY ALONG THE PROPOSED WATER MAIN ALIGNMENT AND MARK THEIR LOCATION (HORIZ. & VERT.) ON THE PLANS AND NOTIFY THE COUNTY OF ANY CONFLICTS WITH THE PLAN ELEVATIONS IMMEDIATELY. 6-INCH MIN. VERTICAL CLEARANCE IS REQUIRED FROM THE WATER MAIN. THE REDLINE DRAWINGS SHALL BE SUBMITTED TO THE COUNTY FOR RECORD. ALL EXISTING UTILITIES SHALL BE REFLECTED IN THE RECORD DRAWINGS OF THE PROJECT.
THE VERTICAL ALIGNMENT OF THE WATER MAIN MAY BE SLIGHTLY VARIED BY ALLOWABLE JOINT DEFLECTIONS BASED ON THE PIPE MANUFACTURER'S RECOMMENDATIONS. FITTINGS SHALL NOT BE USED TO DEFLECT AROUND THE EXISTING UTILITIES.
IF A CONFLICT CANNOT BE AVOIDED BY UTILIZING PIPE JOINT DEFLECTIONS, THEN THE EXISTING UTILITIES SHALL BE RELOCATED TO ALLOW CLEARANCE FOR THE WATER MAIN TO PASS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE EXISTING UTILITY PRIOR TO RELOCATION.
- ALL WORK SHALL MEET MANATEE COUNTY UTILITY STANDARDS AND THE FLORIDA BUILDING CODE. WORK ON PRIVATE PROPERTY SHALL BE PERFORMED BY A LICENSED PLUMBER REGISTERED IN MANATEE COUNTY.
- WATER CONNECTIONS TO THE EXISTING RESIDENCES ARE UNKNOWN. THE CONTRACTOR/PLUMBER MAY SHIFT LOCATIONS OF THE PROPOSED WATER METER TO OPPOSITE PROPERTY CORNER TO CREATE A MORE EFFICIENT ALIGNMENT TO THE EXISTING WATER SERVICE CONNECTION AT THE RESIDENCE. THE CONTRACTOR/PLUMBER SHALL NOTIFY THE COUNTY PRIOR TO SHIFTING LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL WATER SERVICE LINE INSTALLATIONS WITH THE UTILITY DEPARTMENT (JAMES LEE @ 941-792-8811 x5055) PRIOR TO INSTALLATION. THE CONTRACTOR SHALL INSTALL 3/4-INCH REDUCED PRESSURE (RPZ) OR DOUBLE CHECK (DC) BACKFLOW PREVENTION ASSEMBLIES (BPA'S) AND VACUUM BREAKERS ON ALL EXTERIOR HOSE BIBBS, UNLESS OTHERWISE NOTED. SOME LOTS WILL RECEIVE 1-INCH RPZ OR DC BPA.

- WATER SERVICE TAPS SHALL NOT BE LOCATED UNDER DRIVEWAYS.
- INSTALLATION OF THE PROPOSED PIPE SHALL BE AS SHOWN IN THE PLAN AND PROFILE VIEWS. THE DEPTH OF BURY OR TOP OF PIPE ELEVATION ARE TO BE AS INDICATED BY THE ELEVATION GRID, UNLESS OTHERWISE STATED ON THE PLANS BY ELEVATION CALLOUTS OR SPOT GRADES. IT IS EXPECTED THE INSTALLATION OF THE PIPE OR APPURTENANCES SHALL MATCH THE ELEVATIONS SHOWN IN THE CONSTRUCTION PLANS.
- ALL NECESSARY DEVIATIONS BEYOND THE ACCEPTED TOLERANCES WILL NOT BE ACCEPTED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE COUNTY.
- INSTALLATION VERTICAL AND HORIZONTAL TOLERANCES SHALL BE AS STATED IN THE SPECIFICATION DOCUMENT, SECTION 02617, 1.01.J. PIPE PLACED OUT OF TOLERANCE IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO THE COUNTY.
- NEW METER BOXES ARE GENERALLY REQUIRED. HOWEVER, ALL EXISTING, UNDAMAGED, ROME 1910 CAST IRON METER BOXES MAY BE REUSED. REPLACE ALL OTHERS WITH CURRENT STANDARD.
- CONTRACTOR SHALL EXPOSE AND SURVEY THE EXISTING TOP OF "PIPE" ELEVATION AT ALL PROPOSED UTILITY CROSSINGS. THIS INFORMATION SHALL BE PROVIDED ON THE RECORD DRAWINGS.
- CONTRACTOR SHALL USE A TAPE MEASURE AND PROVIDE PHOTOGRAPHIC EVIDENCE THAT ALL MINIMUM REQUIRED VERTICAL DISTANCES HAVE BEEN PROVIDED. THESE PHOTOS SHALL BECOME PART OF THE PROJECT FILE. PHOTOS SHALL BE LABELED WITH THE BASELINE STATION NUMBERING AND UPLOADED TO EBUILDER WITHIN 1 TO 2 DAYS OF THE CROSSING INSTALLATIONS. THIS REQUIREMENTS SHALL APPLY TO ALL CROSSINGS.
- ALL PROPOSED AIR RELEASE VALVES (ARV) SHALL BE INSTALLED AFTER THE FIRST DRAFT OF THE RECORD DRAWINGS ARE REVIEWED TO ENSURE THE ARVS ARE INSTALLED AT THE ACTUAL HIGH POINTS OF THE NEW INSTALLED MAINS.
- CONTRACTOR SHALL NOT USE LEVERAGE OR MECHANICAL MEANS TO ALIGN THE PIPE AND/OR FITTINGS FOR ATTACHMENT. THE PIPE SHALL NOT BE "SPRING-LOADED".
- PAVING LIMITS ARE APPROXIMATE AND SUBJECT TO THE DIRECTION OF THE COUNTY FIELD REPRESENTATIVE.
- ALL DISTURBED EX. DRAINAGE DITCHES/SWALES SHALL BE RE-GRADED TO ORIGINAL CONDITION TO PROVIDE POSITIVE DRAINAGE.
- ALL COST TO RESTORE PROPERTY IN THE ROW DURING PIPE INSTALLATION SHALL BE INCLUDED IN THE COST OF THE PIPE BID ITEM, IF NOT SPECIFICALLY ADDRESSED BY OTHER BID ITEMS.
- CONTRACTOR SHALL SELECT EQUIPMENT THAT WILL NOT AFFECT ADJACENT PAVEMENT NOT SPECIFIED IN THE PLANS TO BE MILLED AND RESURFACED. ANY SCOURING, SCRAPS OR GOUGING OF ADJACENT PAVEMENT WILL REQUIRE MILLING AND RESURFACING AND WILL BE AT THE CONTRACTOR'S EXPENSE.



METER BOX AND BPA	INSTALLATION INSTRUCTIONS
	INSTALL NEW METER BOX
	INSTALL NEW METER BOX AND RPZ BPA
	REUSE EX. METER BOX AND INSTALL RPZ BPA
	REUSE EX. METER BOX AND DC/RPZ BPA

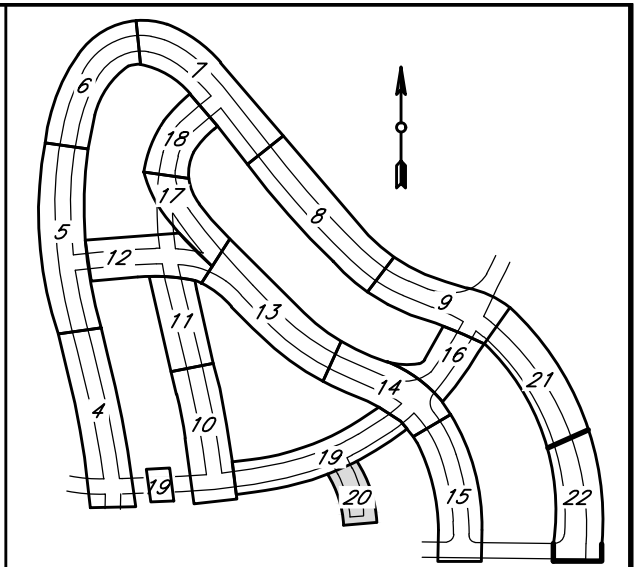


NO.	REVISION DESCRIPTION	BY	DATE

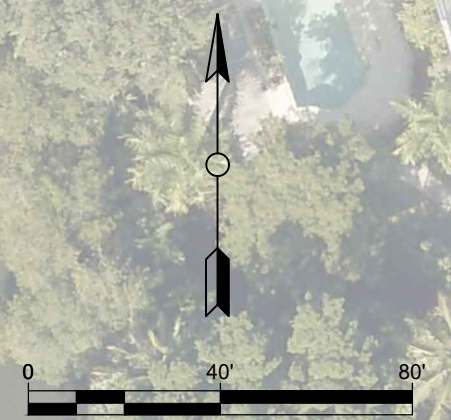
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HARBOR ROAD STA 16+00 TO 21+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY DATE	
DESIGNED	SAC 02-2021	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	
		Signature & Date



WATER MAIN KEY SHEET



NOTES:

1. ALL EXISTING UTILITIES SHOWN ARE PER GIS AND HAVE NOT BEEN FIELD VERIFIED.
2. ALL NEW METERS TO BE INSTALLED IN THE RIGHT-OF-WAY, IN FRONT OF THE SIDEWALK. BPA SHALL BE INSTALLED IN PRIVATE PROPERTY
3. ALL SANITARY MANHOLE INVERTS DETERMINED FROM AS-BUILTS.



METER BOX AND BPA	INSTALLATION INSTRUCTIONS
	INSTALL NEW METER BOX
	INSTALL NEW METER BOX AND RPZ BPA
	REUSE EX. METER BOX AND INSTALL RPZ BPA
	REUSE EX. METER BOX AND DC/RPZ BPA

NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS

WATER & FORCE MAIN REPLACEMENT

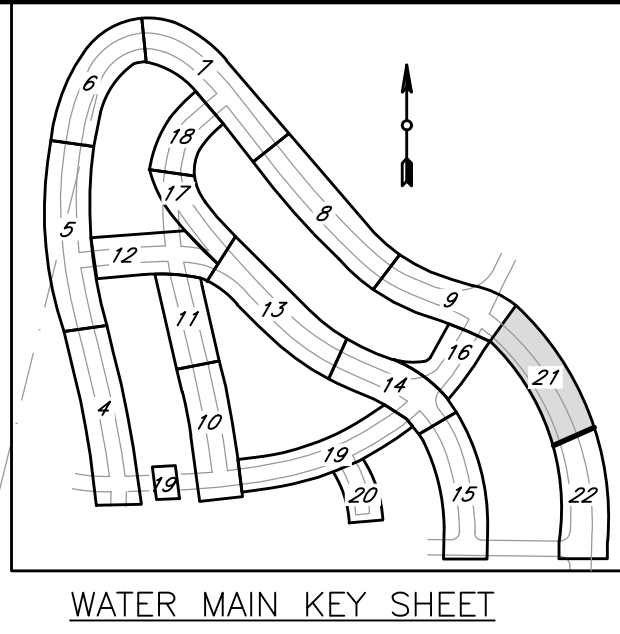
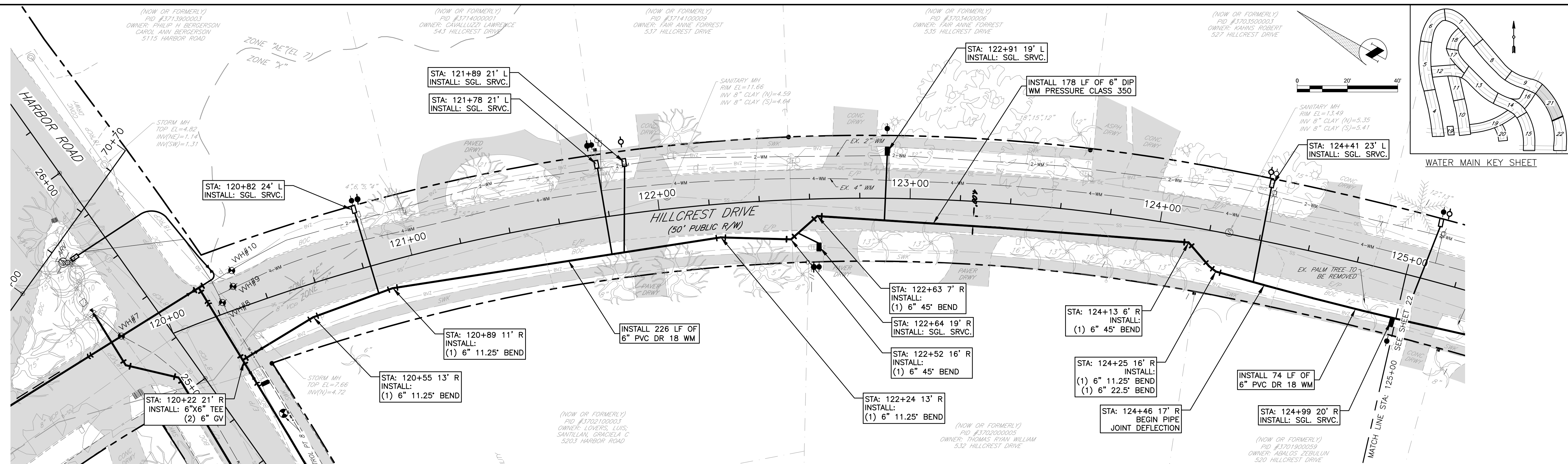
ADDITIONAL SERVICE CONNECTIONS



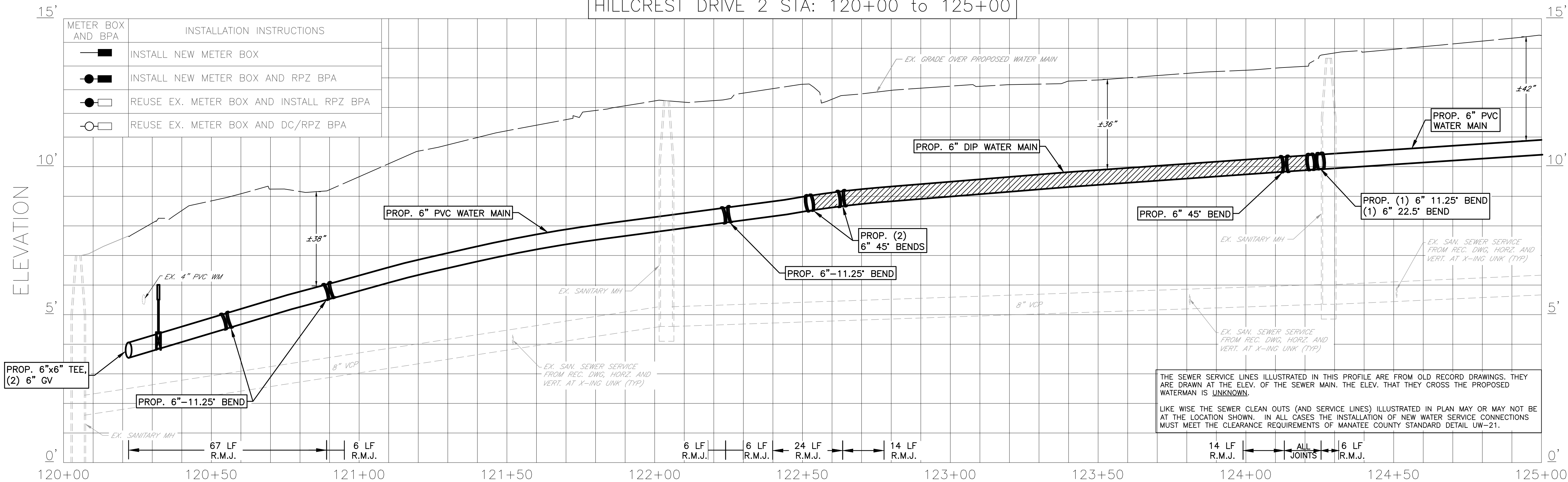
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SURVEY #	-	
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 40'	
BY DATE		
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

LORENZO DUARTE
 FLORIDA P.E. # 79285

 Signature & Date
 SHEET 20 OF 37



HILLCREST DRIVE 2 STA: 120+00 TO 125+00



THE SEWER SERVICE LINES ILLUSTRATED IN THIS PROFILE ARE FROM OLD RECORD DRAWINGS. THEY ARE DRAWN AT THE ELEV. OF THE SEWER MAIN. THE ELEV. THAT THEY CROSS THE PROPOSED WATERMAIN IS UNKNOWN.

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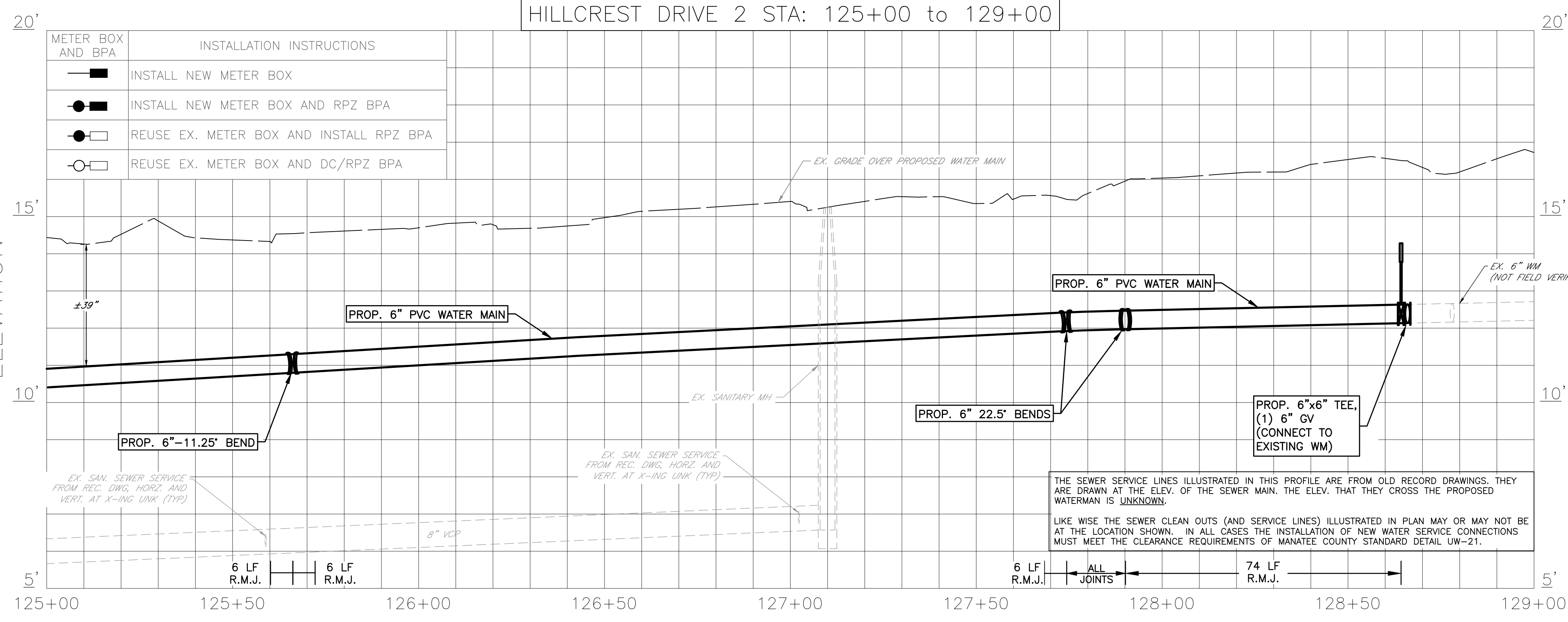
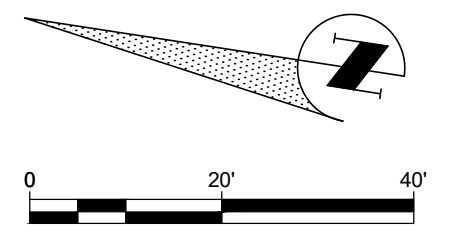
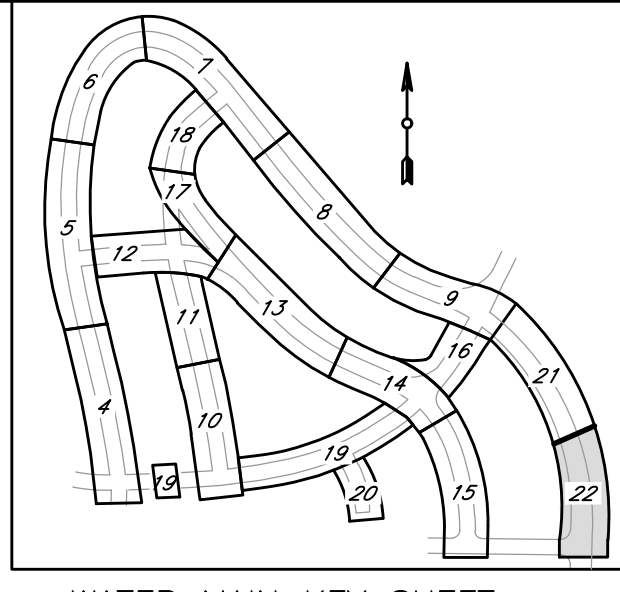
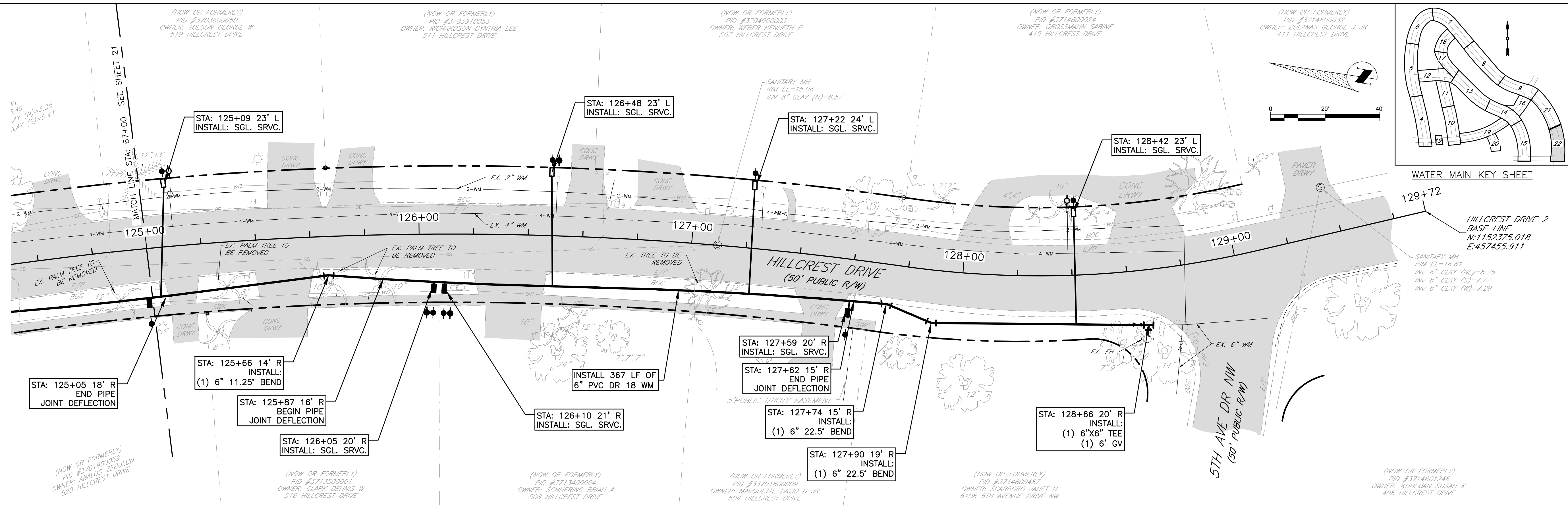
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
HILLCREST DRIVE STA 120+00 TO 125+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
	BY	DATE
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23
Signature & Date		SHEET 21 OF 37

R:\UTIL Eng Design\PROJ\Wtr Main - Proj\Wtr-main - Hillcrest Hills.dwg, 21, 5/18/2024, 12:28 PM, Lorenzo Duarte, 1:1, ANSI Full (read 0 0x4.00 x 22.00 inches), 10-2016(15)



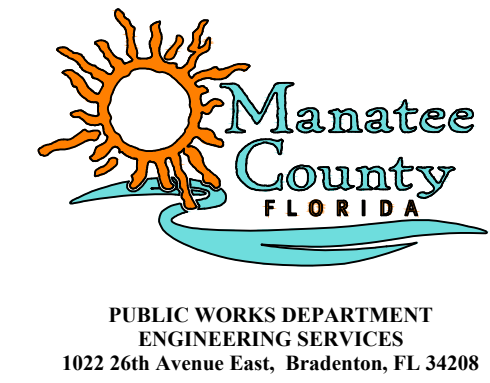
METER BOX AND BPA	INSTALLATION INSTRUCTIONS
	INSTALL NEW METER BOX
	INSTALL NEW METER BOX AND RPZ BPA
	REUSE EX. METER BOX AND INSTALL RPZ BPA
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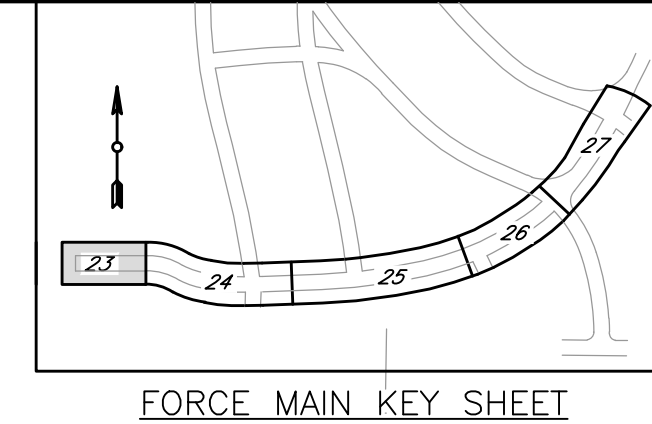
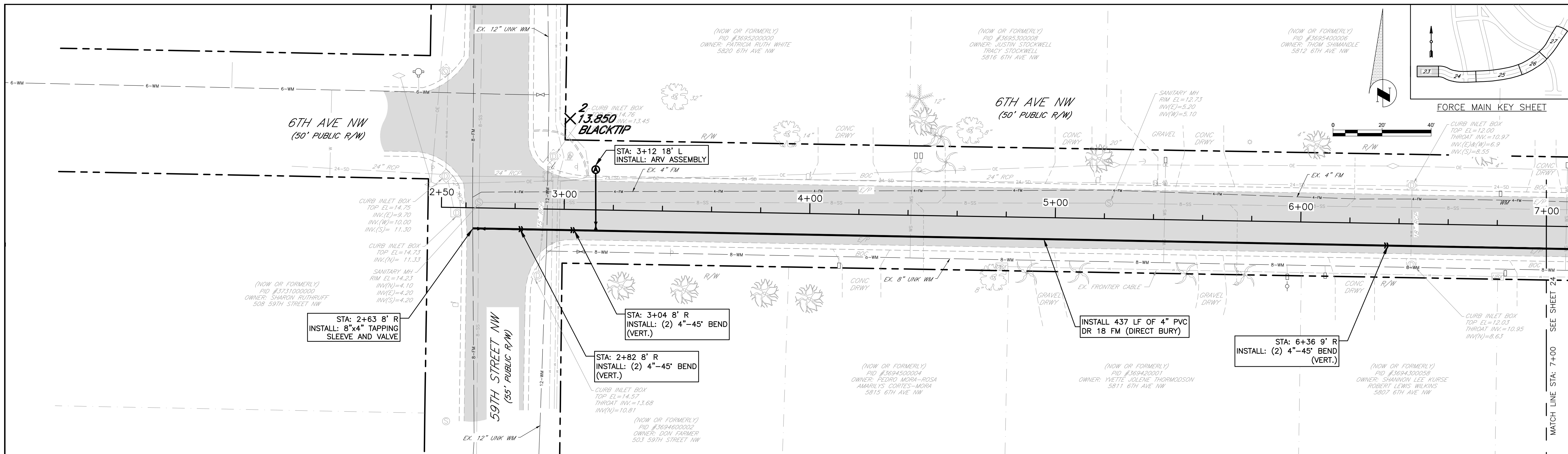
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HILLCREST DRIVE STA 125+00 TO 129+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	SHEET 22 OF 37

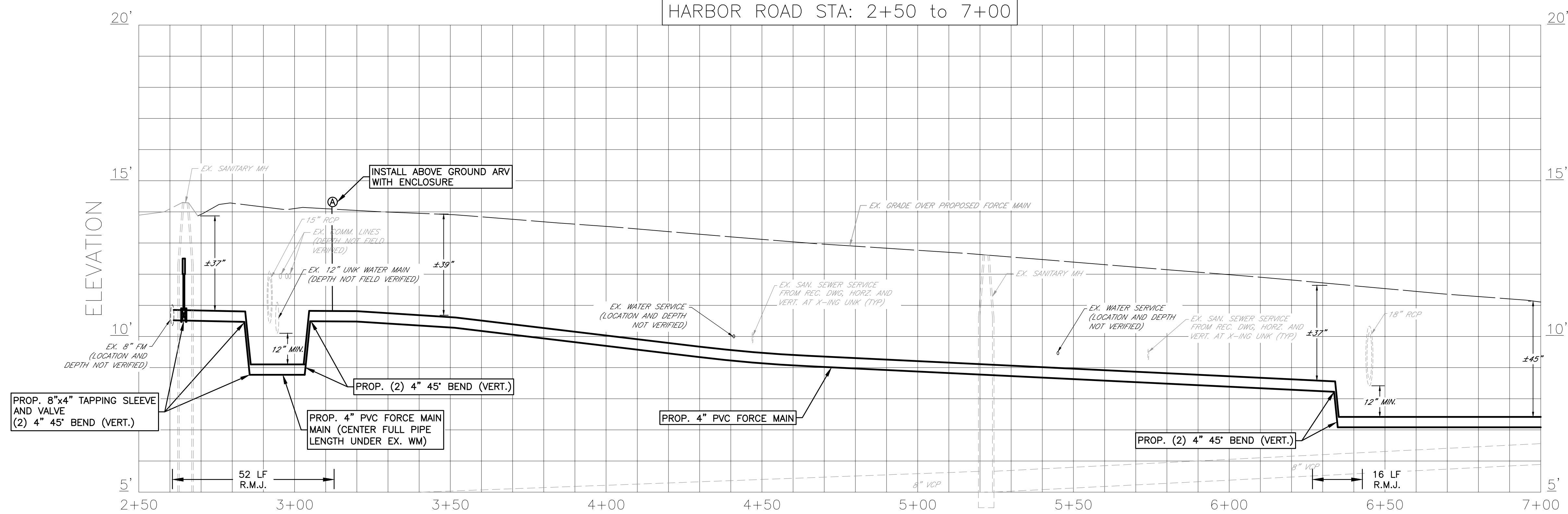
I:\Users\eng_design\prow\wtr_line Proj\Harbor Hills\wg22_5\18/2024_1227 PM Lorenzo Duarte_111_AWSI full based D (43.00 x 22.00 inches)_MC-20181518



HARBOR ROAD STA: 2+50 TO 7+00

CONSTRUCTION NOTES (APPLICABLE TO ALL PLAN AND PROFILE SHEETS):

- SEE SHEET 19 FOR CONSTRUCTION NOTES THAT ARE APPLICABLE TO ALL PLAN AND PROFILE SHEETS.
- LOCATION OF SEWER SERVICE LATERALS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION BOTH HORIZONTALLY AND VERTICALLY. WITH COUNTY APPROVAL, THE FORCE MAIN MAY BE ADJUSTED AS NECESSARY TO AVOID CONFLICTS. DAMAGE CAUSED TO SEWER LATERALS DURING INSTALLATION OF FORCE MAIN BY NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE. 12-INCH MIN. VERTICAL CLEARANCE IS REQUIRED FROM THE WATER MAIN.
- CONTRACTOR SHALL DETERMINE AND NOTIFY COUNTY OF THE OPTIMAL DEPTH TO AVOID SEWER LATERALS AND ELIMINATE THE NEED FOR EXCESSIVE FITTINGS FOR DEFLECTIONS.
- ALL NECESSARY DEVIATIONS BEYOND THE ACCEPTED TOLERANCES WILL NOT BE ACCEPTED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE COUNTY.
- INSTALLATION VERTICAL AND HORIZONTAL TOLERANCES SHALL BE AS STATED IN THE SPECIFICATION DOCUMENT, SECTION 02617, 1.01.J. PIPE PLACED OUT OF TOLERANCE IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO THE COUNTY.
- PROPOSED AIR RELEASE VALVES (ARV) SHALL BE INSTALLED AFTER THE FIRST DRAFT OF THE RECORD DRAWINGS ARE REVIEWED TO ENSURE THE ARVS ARE INSTALLED AT THE ACTUAL HIGH POINTS OF THE NEW INSTALLED MAINS.
- CONTRACTOR WILL NEED TO CLOSELY COORDINATE WITH PROJECT MANAGEMENT & HOMEOWNERS AS TO PROVIDE CONTINUOUS ACCESS AND RESTORATION NEEDS.

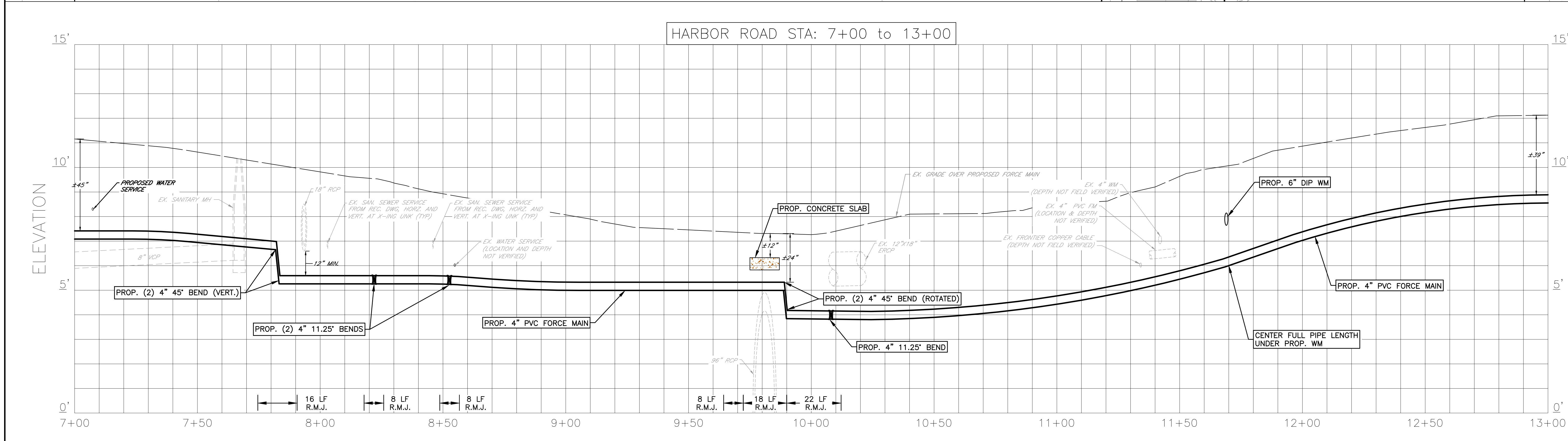
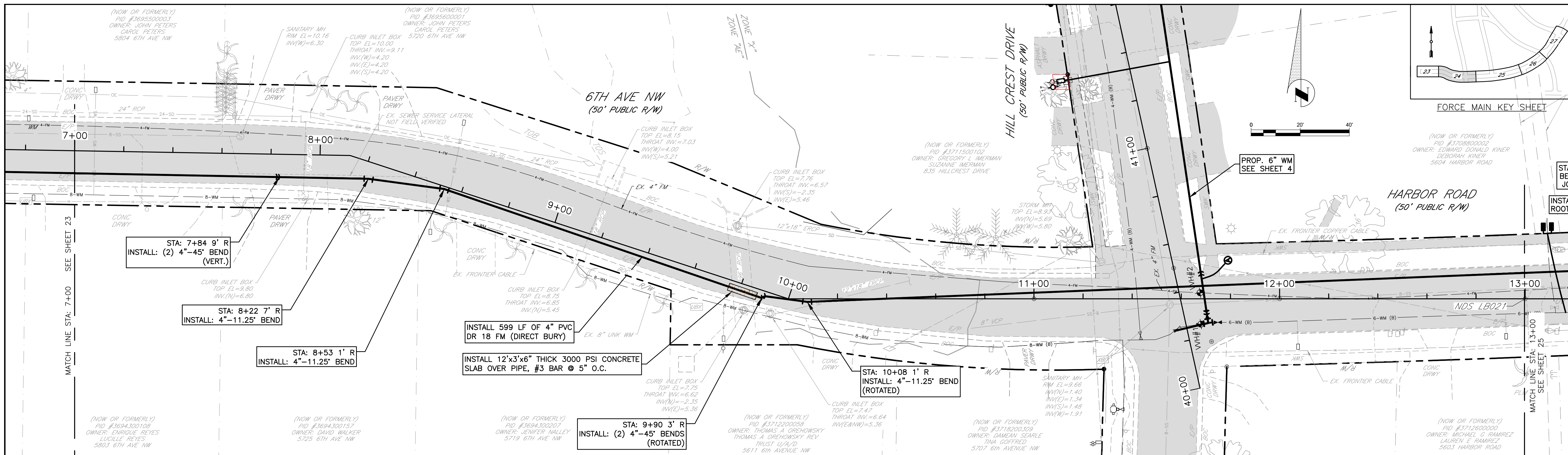


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT 6TH AVE NW STA 2+50 TO 7+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY SAC DATE 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	Signature & Date
CHECKED	LD 07-13-23	



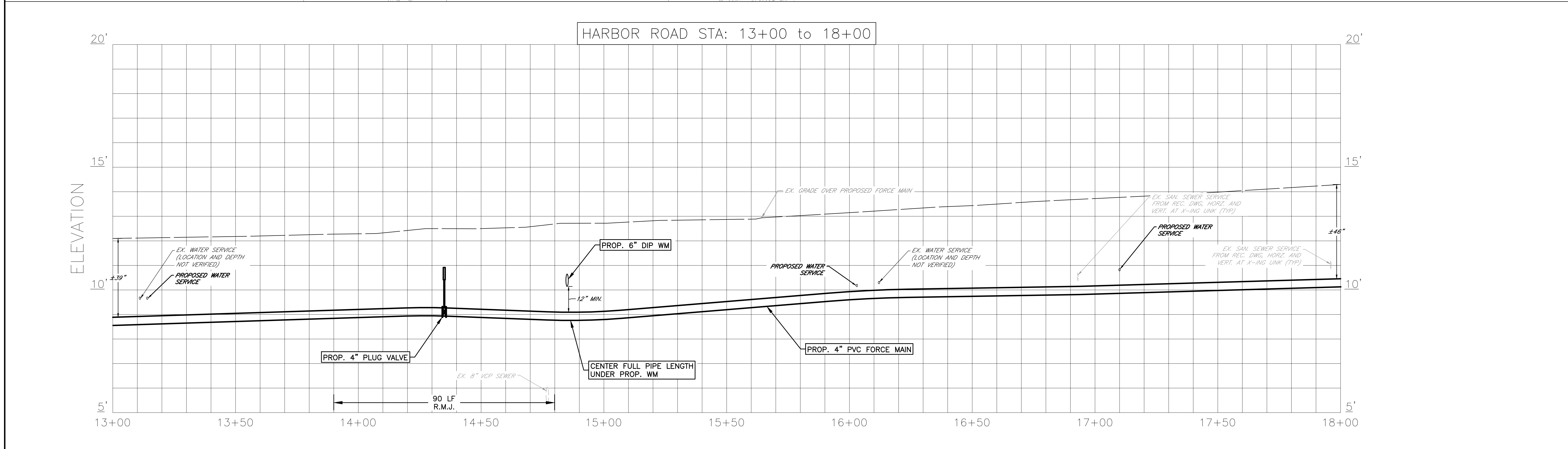
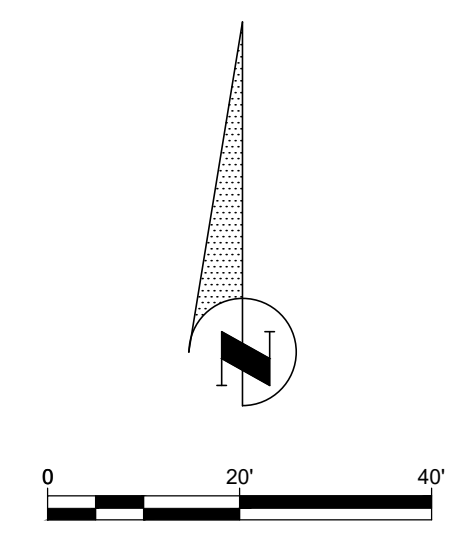
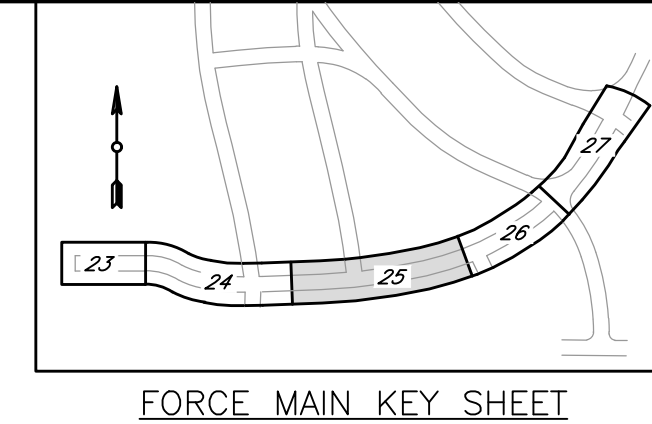
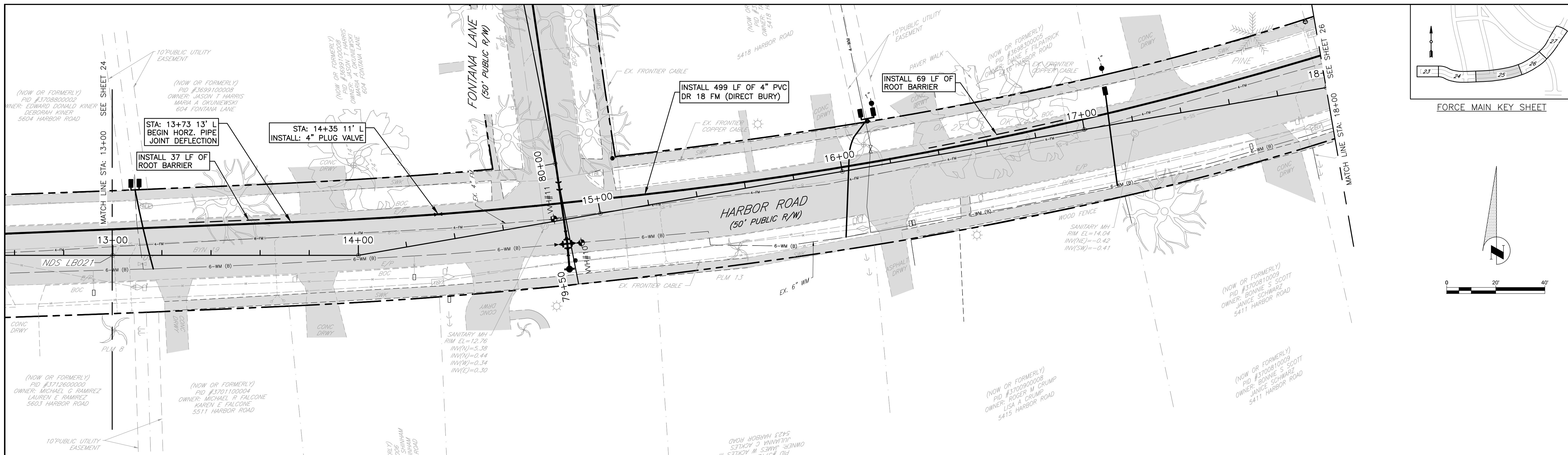
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HARBOR ROAD STA 7+00 TO 13+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date

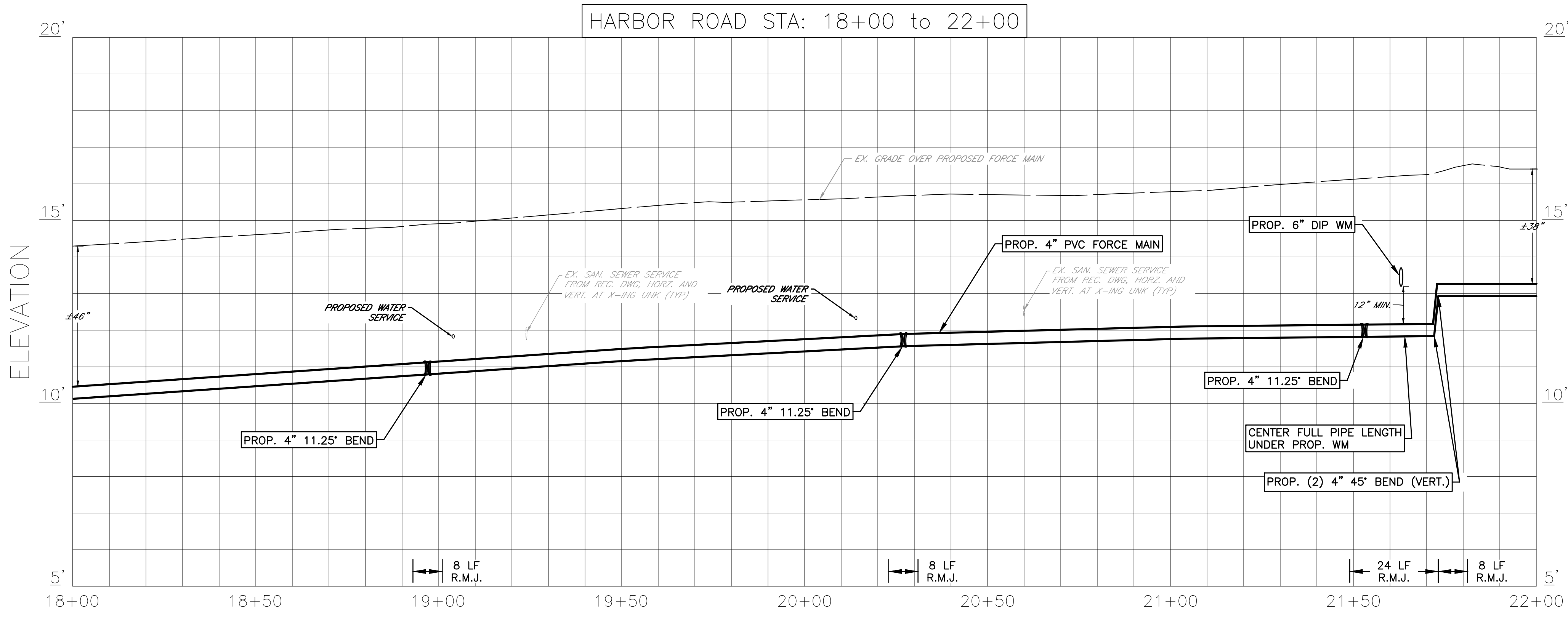
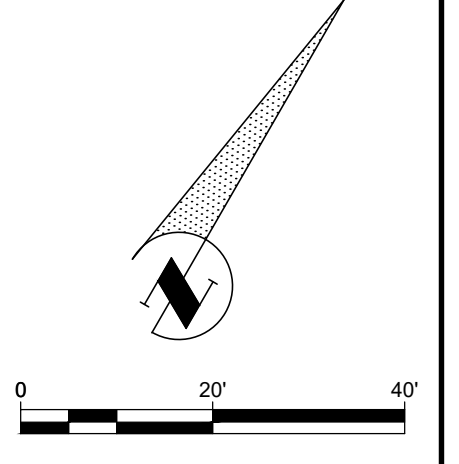
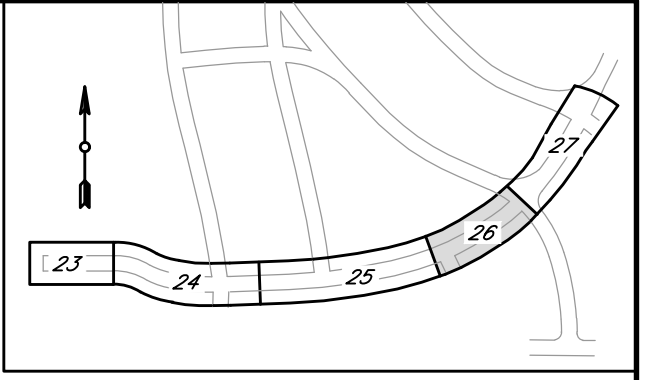
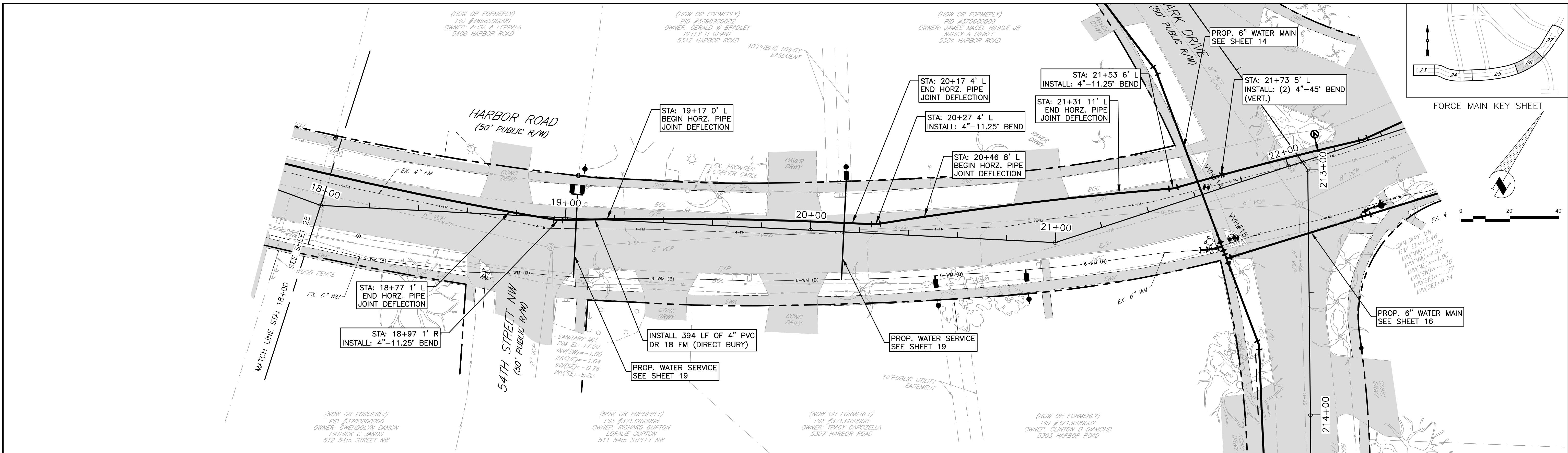


NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HARBOR ROAD STA 13+00 TO 18+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
SURVEYED	BY: SAC DATE: 02-20-21	Signature & Date
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	

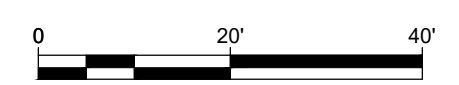
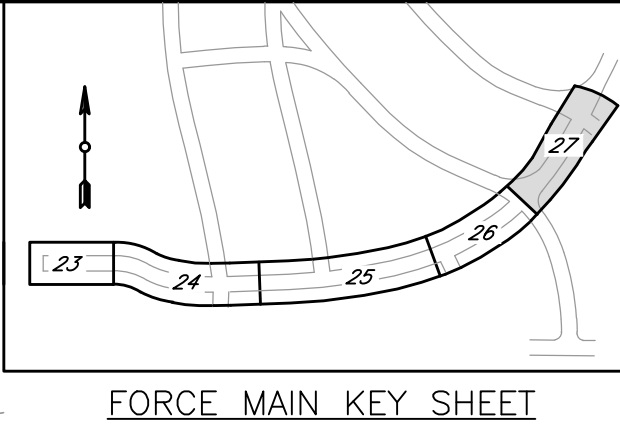
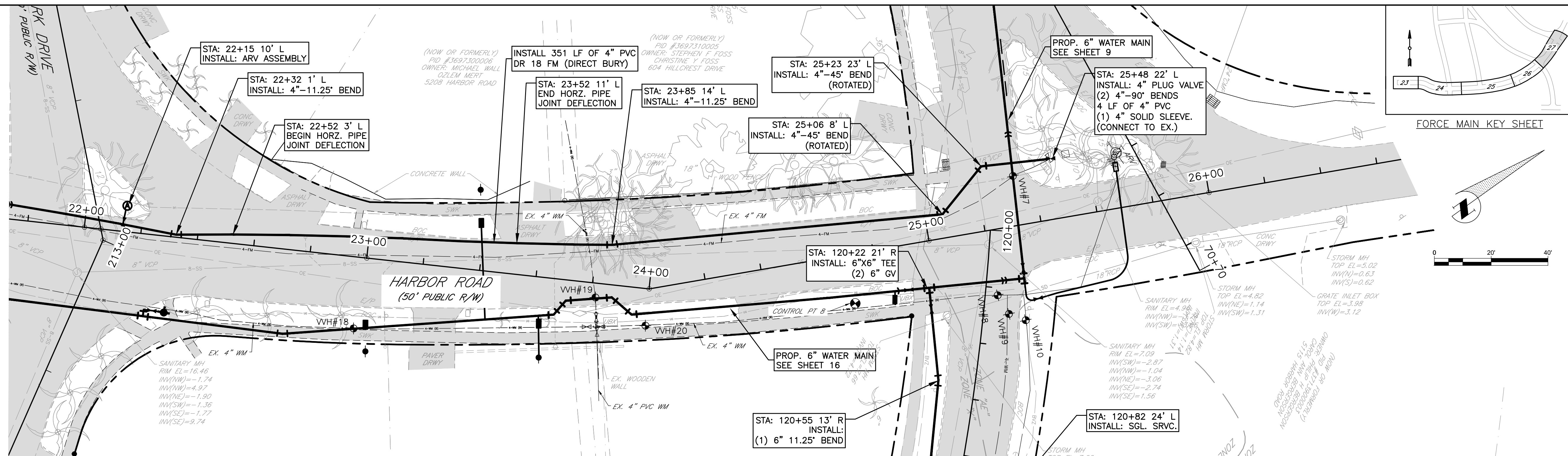


NO.	REVISION DESCRIPTION	BY	DATE

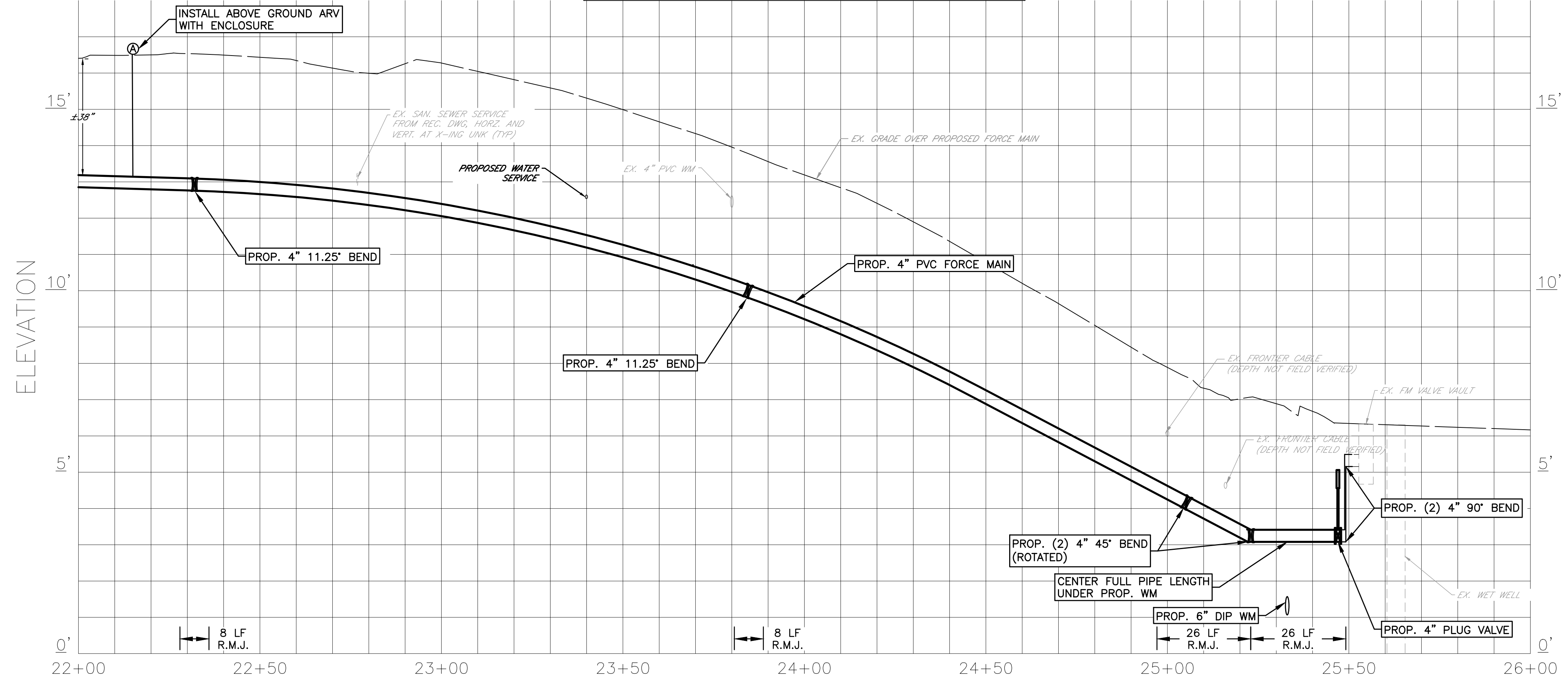
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HARBOR ROAD STA 18+00 TO 22+00



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	Signature & Date
SURVEYED	SAC 02-2021	
DESIGNED	LD 06-18-21	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	



HARBOR ROAD STA: 22+00 TO 26+00



NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT HARBOR ROAD STA 22+00 TO 26+00

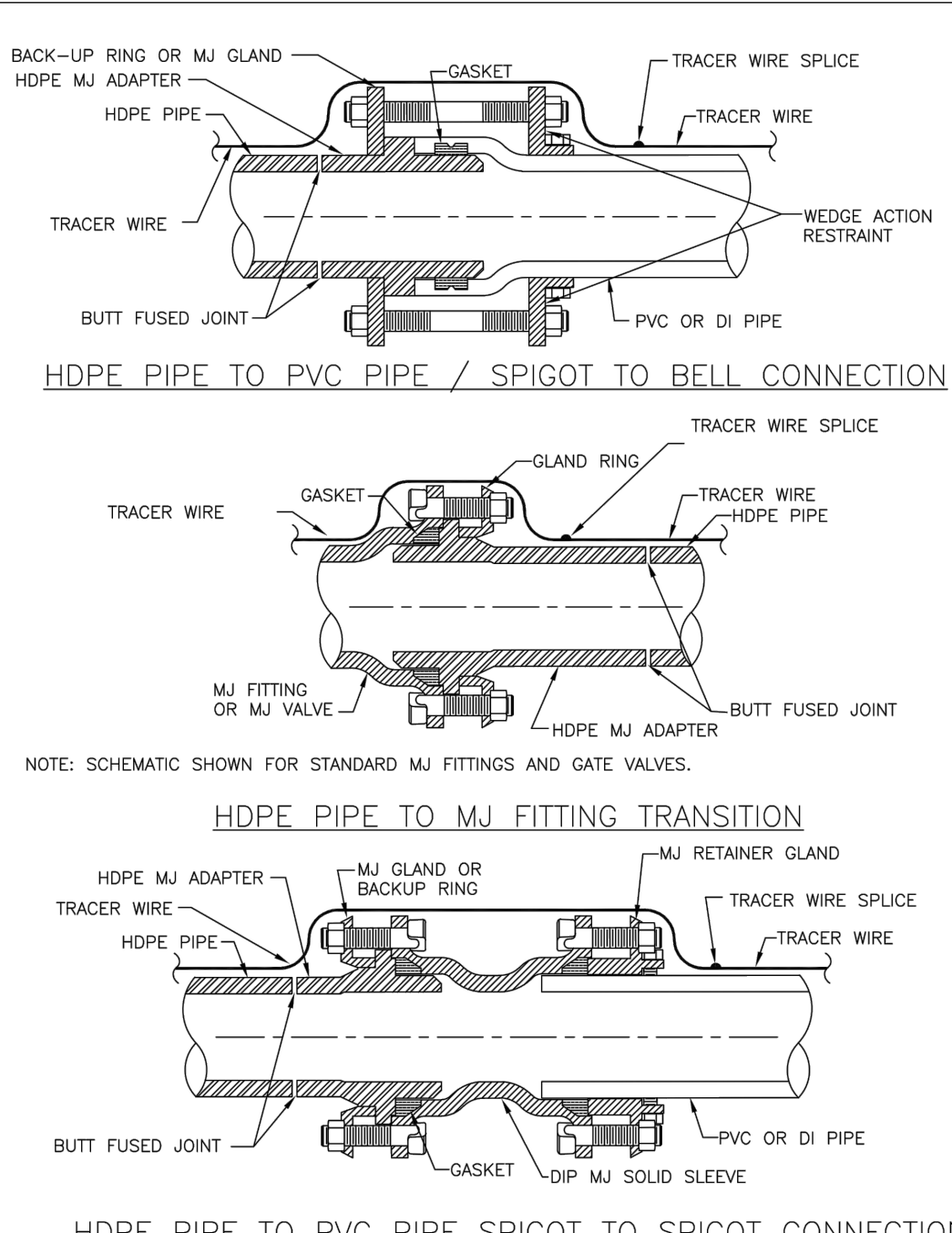
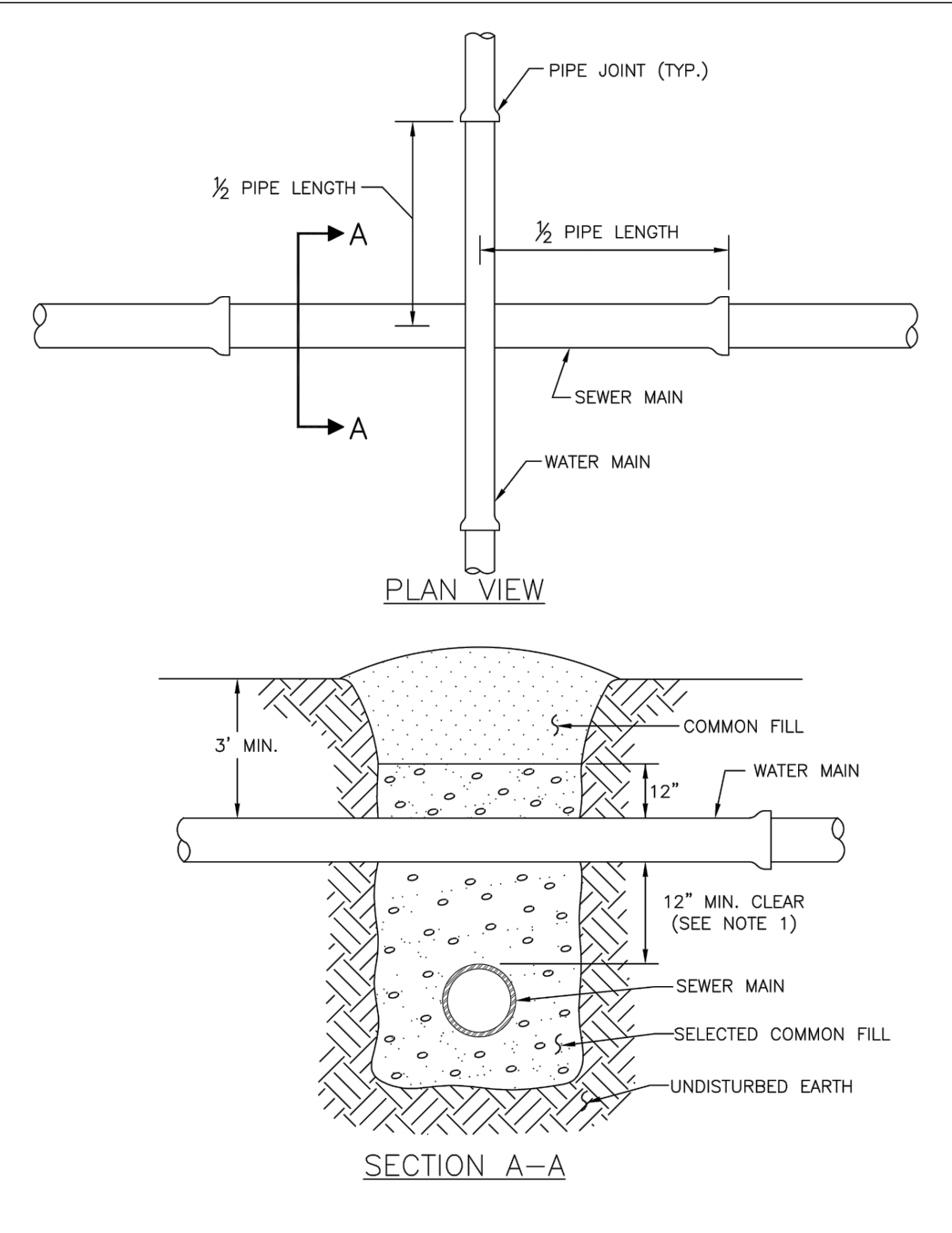


PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 20'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

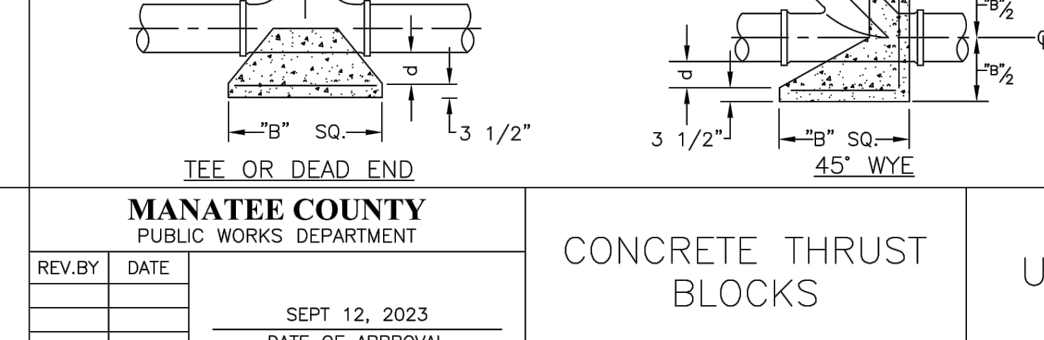
Signature & Date

SHEET 27 OF 37

P:\CADD\Eng Design\PROJ\DWG\LINE\Proj\WMP-Harbor Hills Replacement\DWG\WMP-Harbor Hills Replacement.dwg, 27, 5/18/2024, 1:27 PM, Lorenzo Duarte, 1:1, ANSI full bleed D (34.00 x 22.00 inches), 10'-20'(5)S18



PIPE SIZE (N.)	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
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
6	2.2	5 1/4	1.6	3 3/4	1.2	3 3/4	0.8	3 3/4	1.9	4 1/2	1.6	3 3/4
8	2.9	7	2.1	5	1.5	3 3/4	1.1	3 3/4	2.4	5 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 3/4	3.0	7 1/4	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
14	4.9	11 3/4	3.6	8 3/4	2.6	6 1/4	1.8	4 1/2	4.1	9 3/4	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
18	6.2	15	4.6	11	3.3	8	2.3	5 1/2	5.2	12 1/4	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 1/4
24	8.2	19 3/4	6.0	14 1/2	4.3	10 1/4	3.1	7 1/2	6.9	16 1/2	5.8	14
30	10.1	24 1/4	7.5	18 1/2	5.3	12 3/4	3.8	9	8.5	20 1/2	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 1/4	8.6	20 3/4



MAIN PIPE SIZE	HORIZ. BENDS			TEES		REDUCERS		PLUGS & VALVES	
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH
24	90	38	18	X16	109	X10	112	X10	112
20	78	32	16	X12	90	X8	93	X8	93
16	66	27	13	X10	77	X8	81	X8	81
12	52	22	10	X8	64	X6	67	X6	67
10	44	18	9	X6	54	X5	57	X5	57
8	37	15	7	X4	45	X4	47	X4	47
6	29	12	6	X3	36	X3	37	X3	37
4	21	8	4	X2	27	X2	28	X2	28

MAIN PIPE SIZE	HORIZ. BENDS			TEES		REDUCERS		PLUGS & VALVES	
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH
36	142	59	28	X36	394	X24	400	X24	400
30	124	51	25	X30	334	X20	340	X20	340
24	106	44	21	X24	284	X16	290	X16	290
20	92	38	18	X20	244	X12	250	X12	250
16	77	32	15	X16	204	X10	210	X10	210
12	61	25	12	X12	164	X8	170	X8	170
10	52	22	10	X10	144	X8	150	X8	150
8	44	18	9	X8	124	X6	130	X6	130
6	34	14	7	X6	94	X4	100	X4	100
4	24	10	5	X4	64	X3	70	X3	70

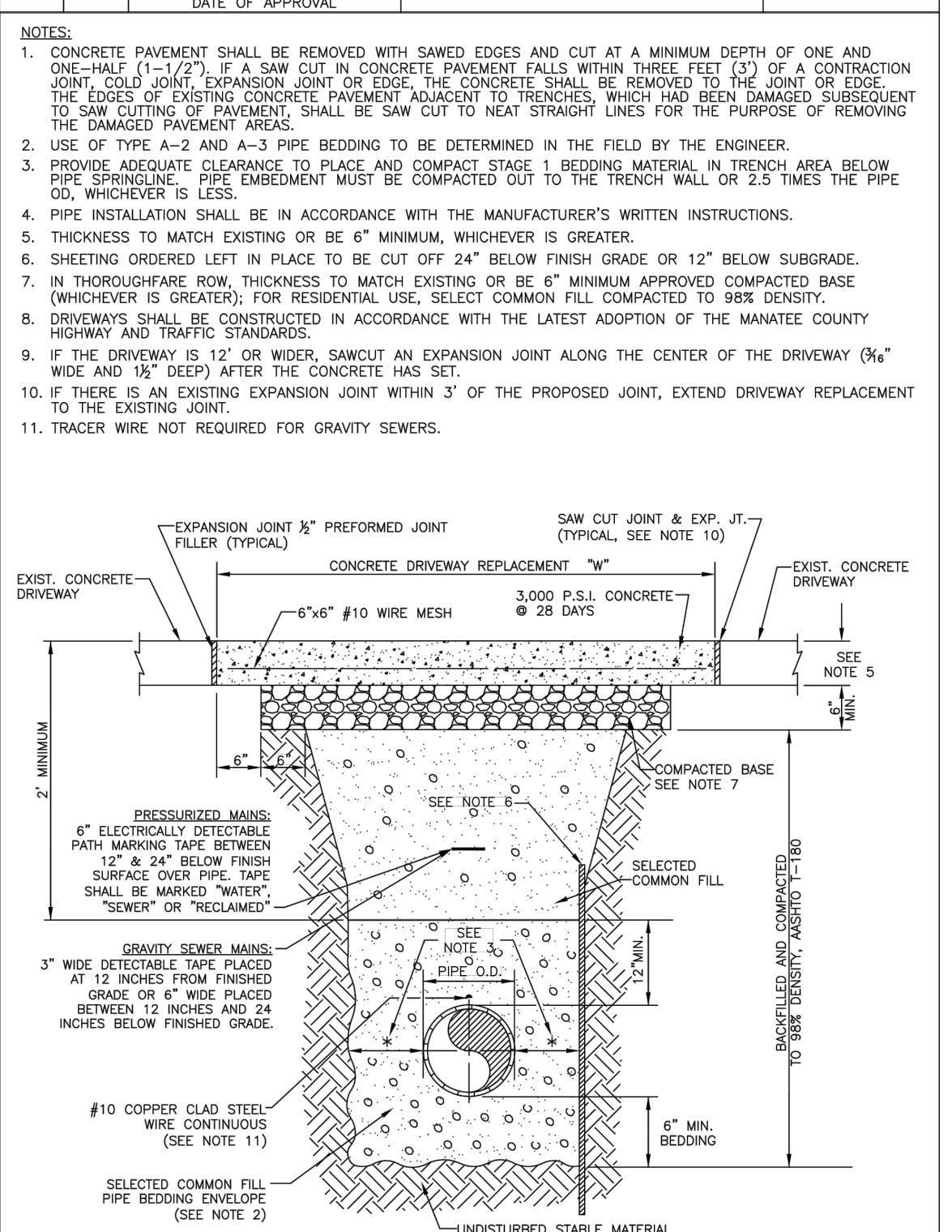
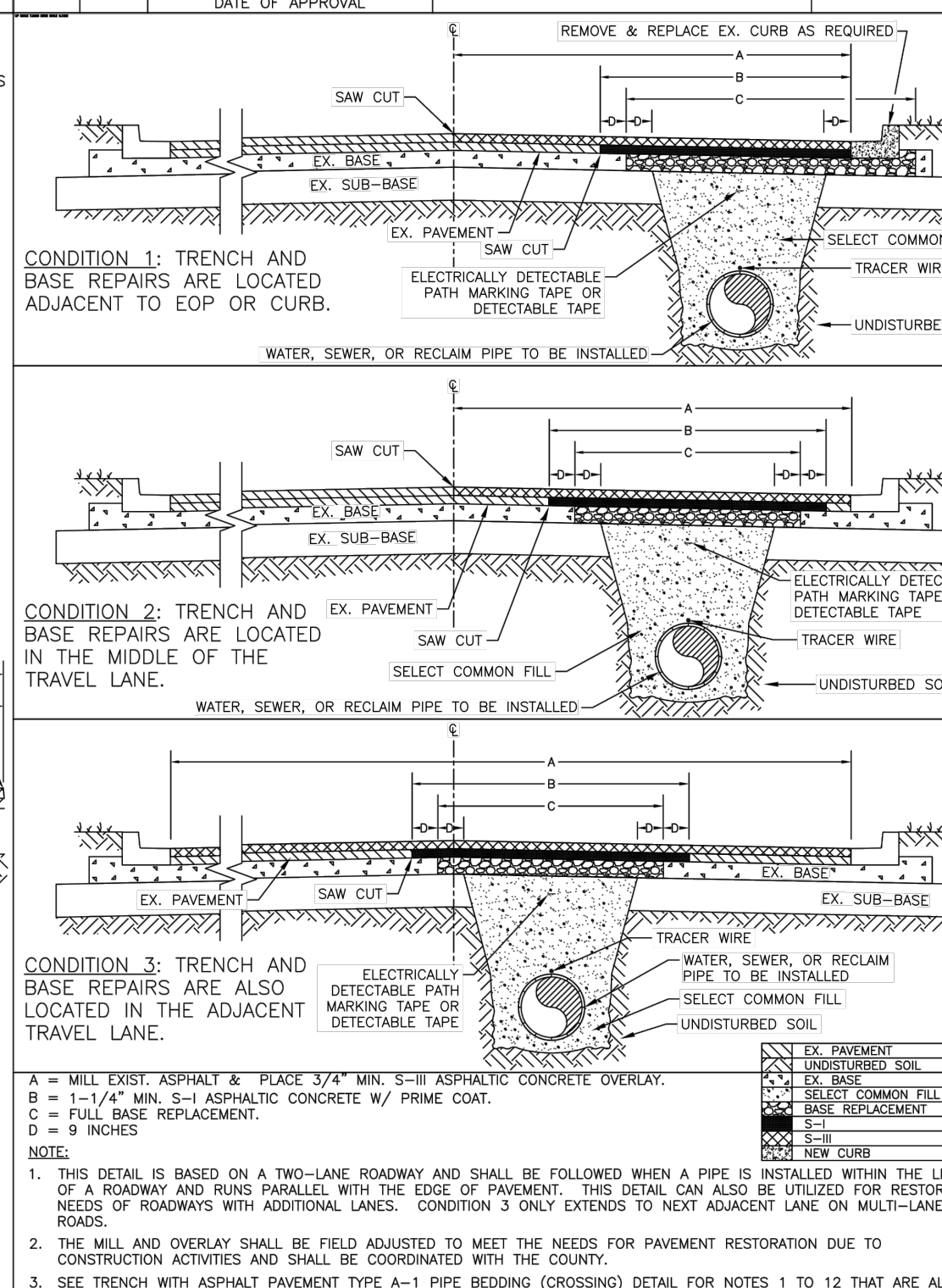
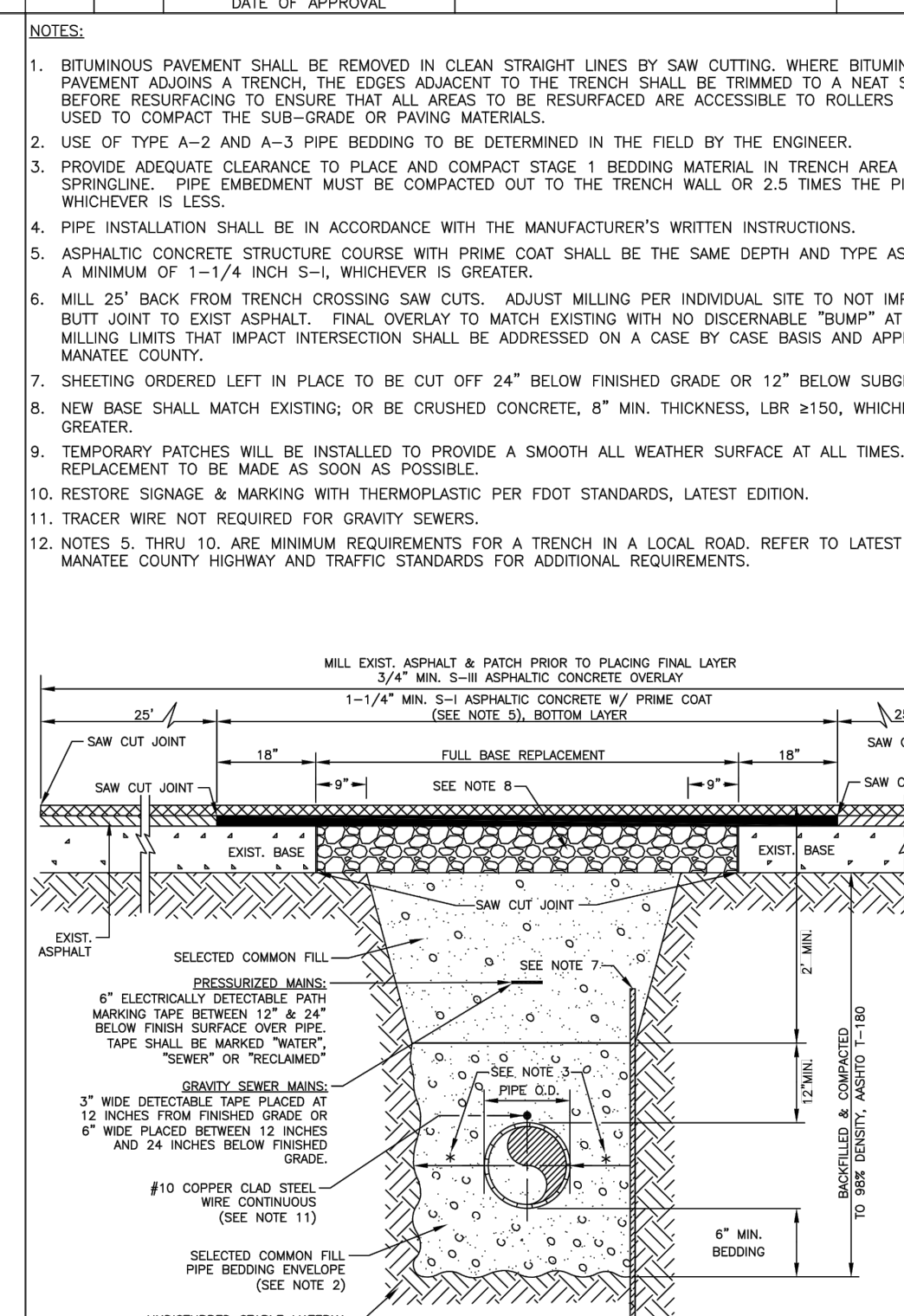
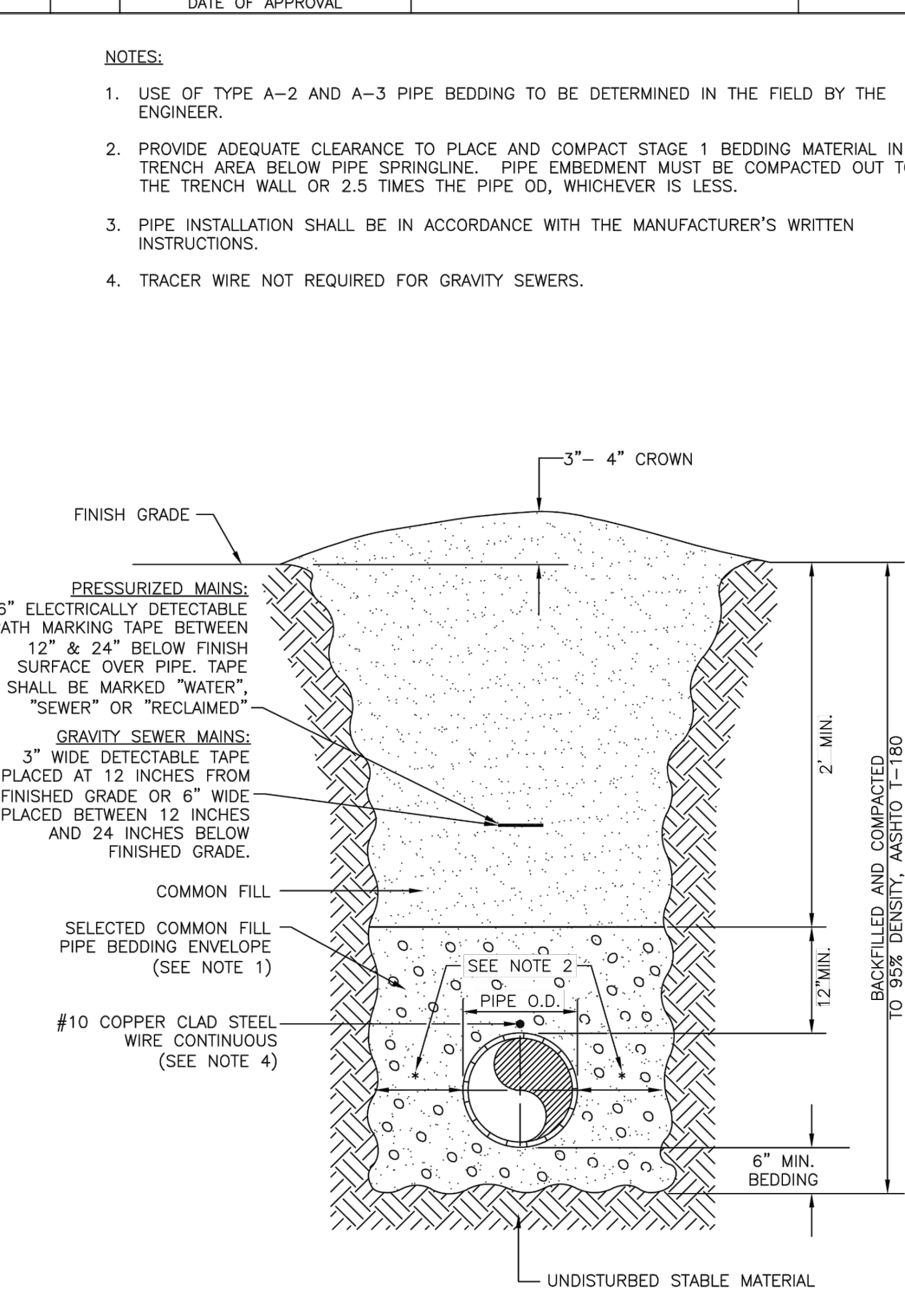
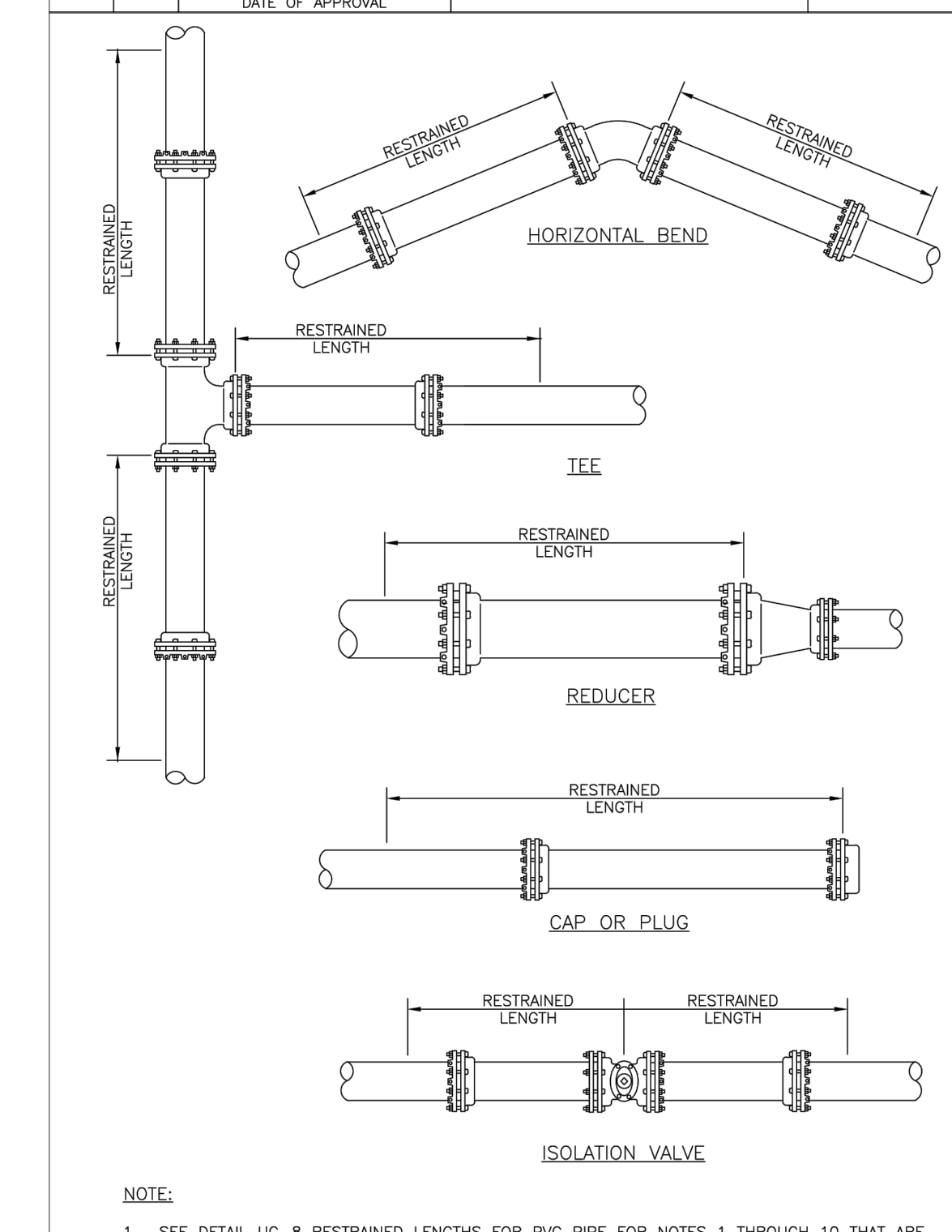
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	TYPICAL NEW WATER & SEWER LINE CROSSING	UG-2
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	HDPE TO PVC OR DI PIPE ADAPTER	UG-6
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	CONCRETE THRUST BLOCKS	UG-7
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	RESTRAINED LENGTHS FOR PVC PIPE	UG-8
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	RESTRAINED LENGTHS FOR DIP	UG-9
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	



MANATEE COUNTY PUBLIC WORKS DEPARTMENT	RESTRAINED LENGTHS FOR PIPE	UG-10
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	UG-11
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING (CROSSING)	UG-12
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING (LONGITUDINAL)	UG-13
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING	UG-15
REV. BY	DATE	DATE OF APPROVAL
	SEPT 12, 2023	

NO.	REVISION DESCRIPTION	BY	DATE

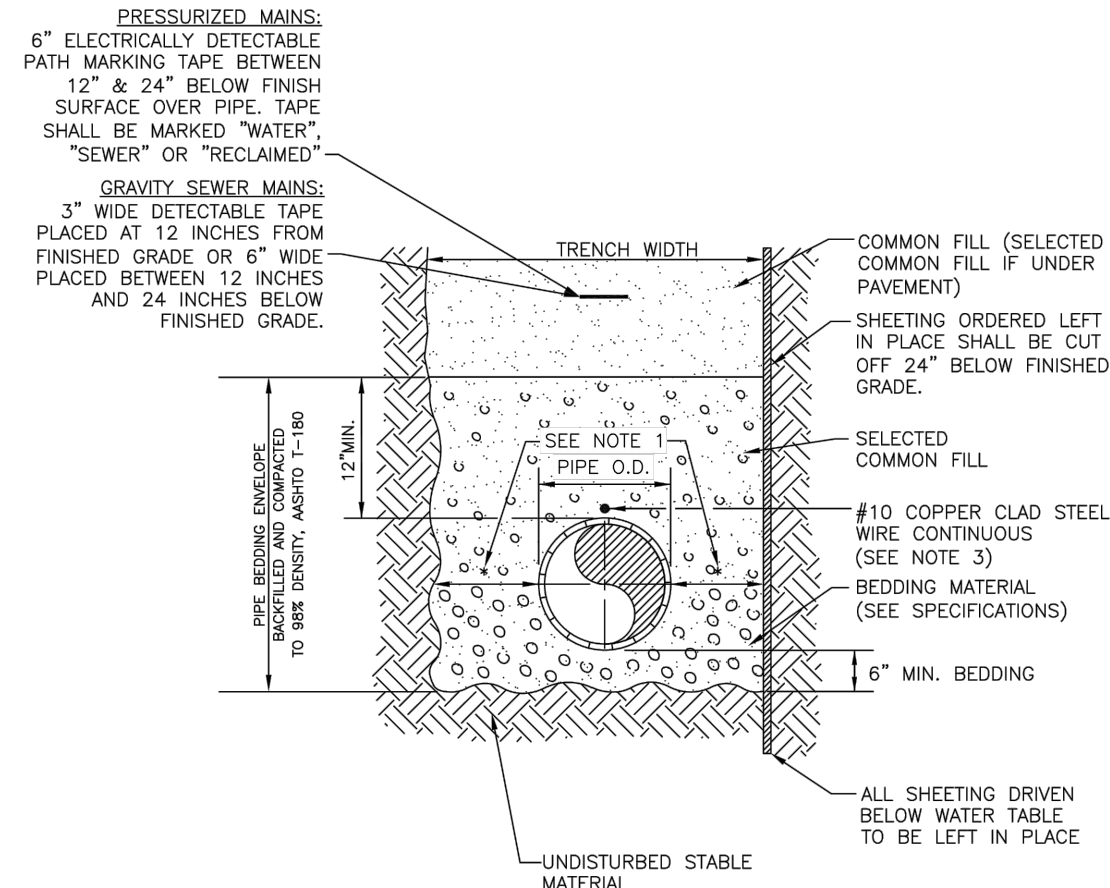
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT DETAILS



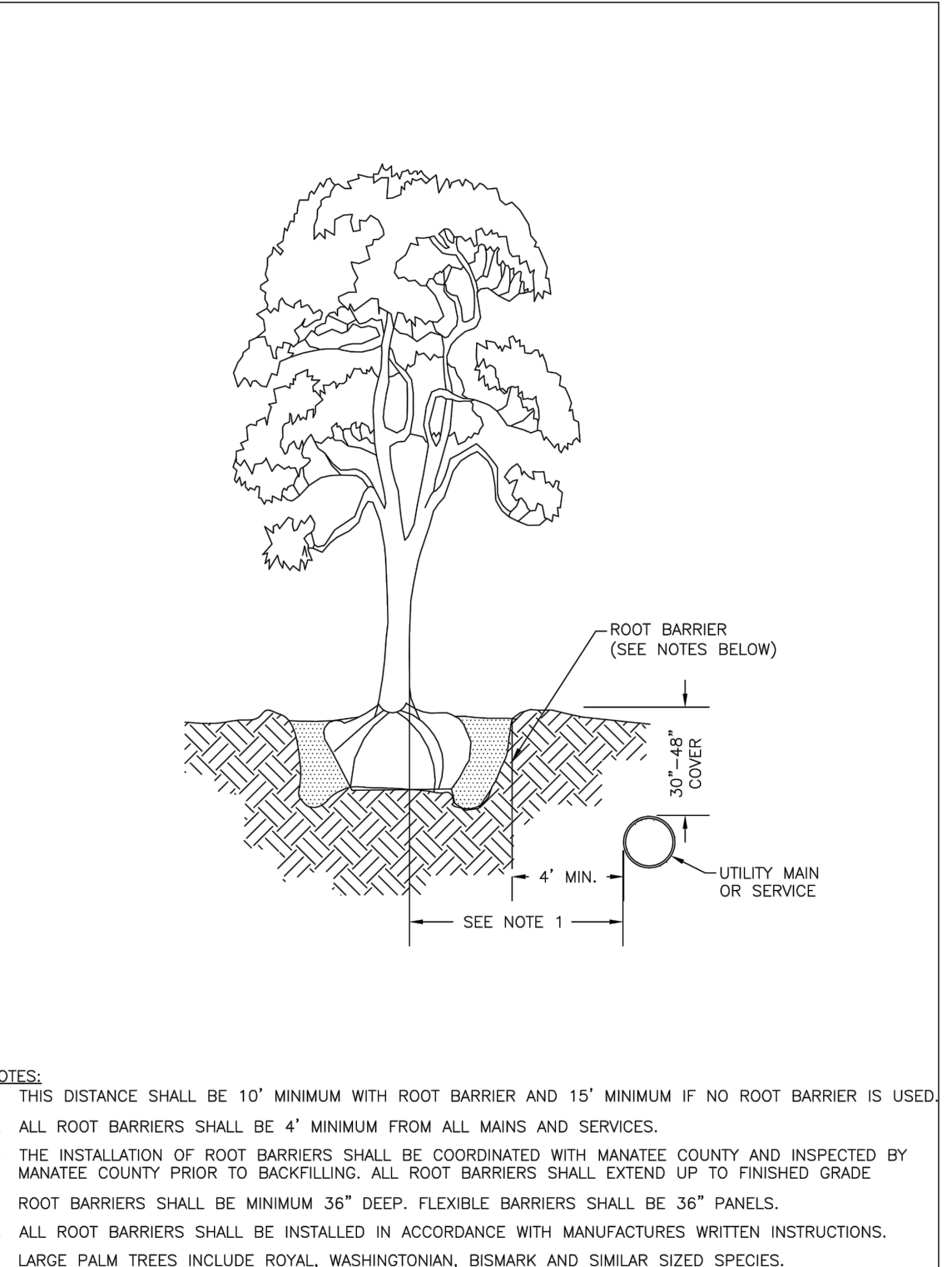
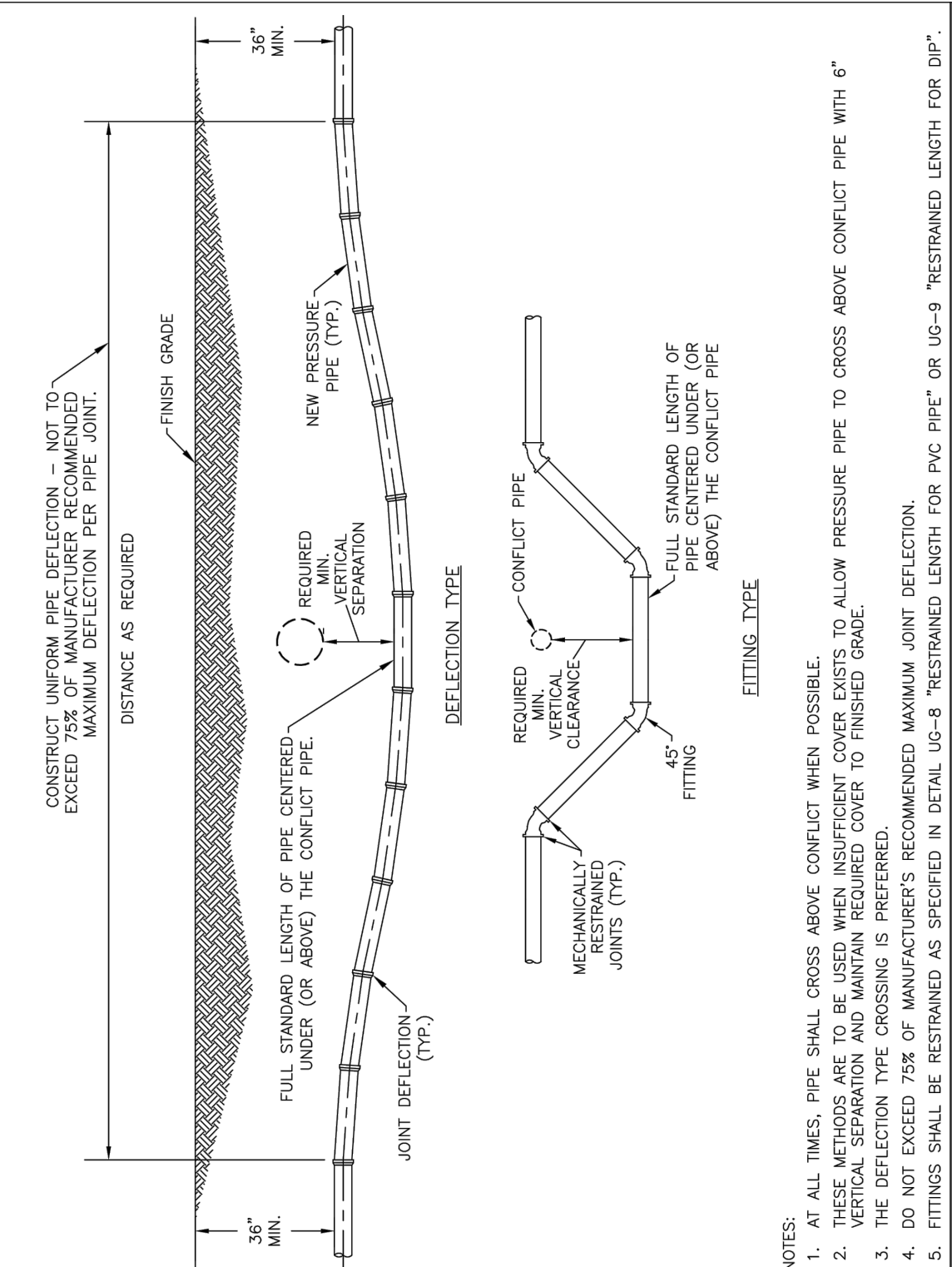
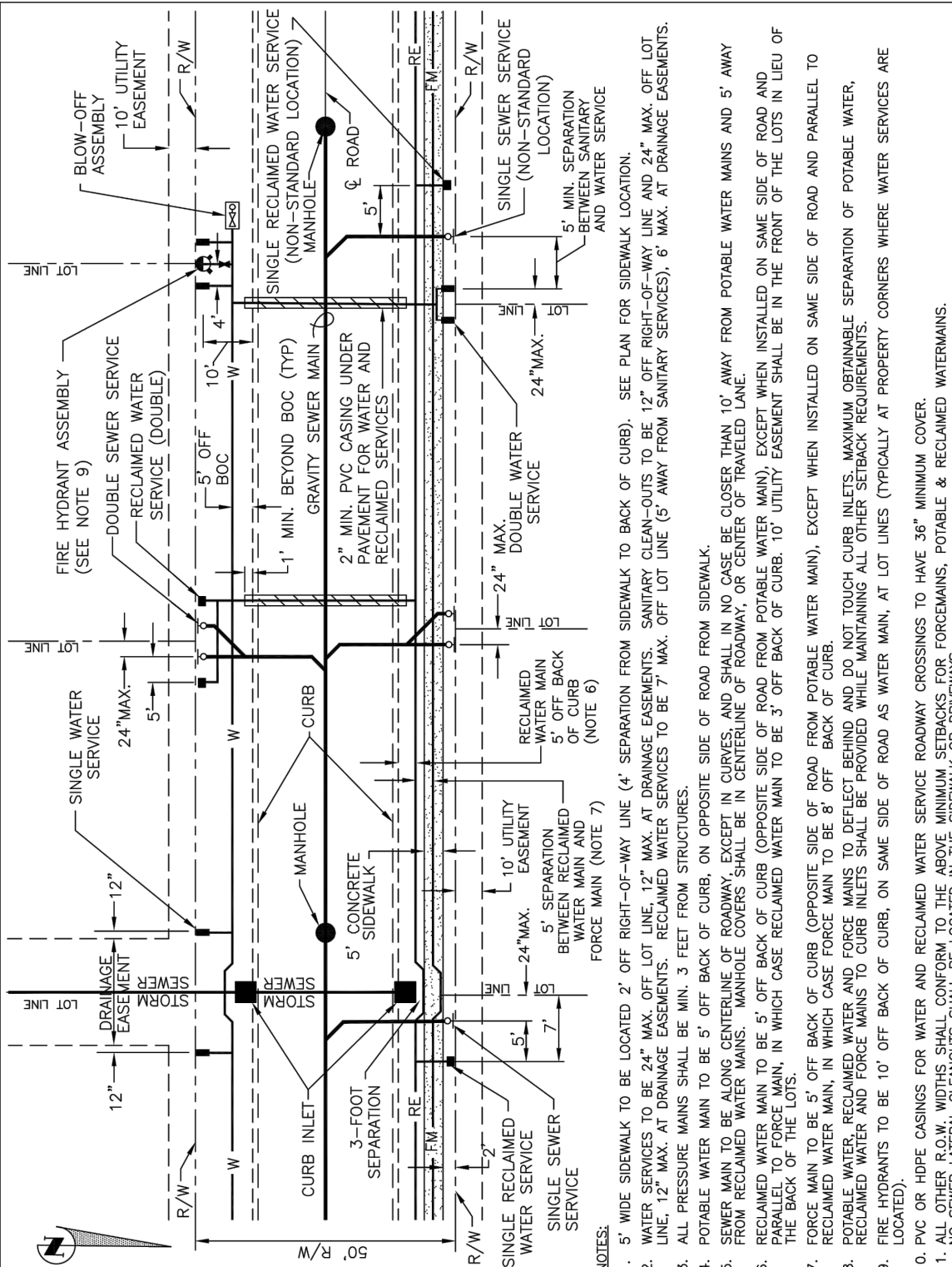
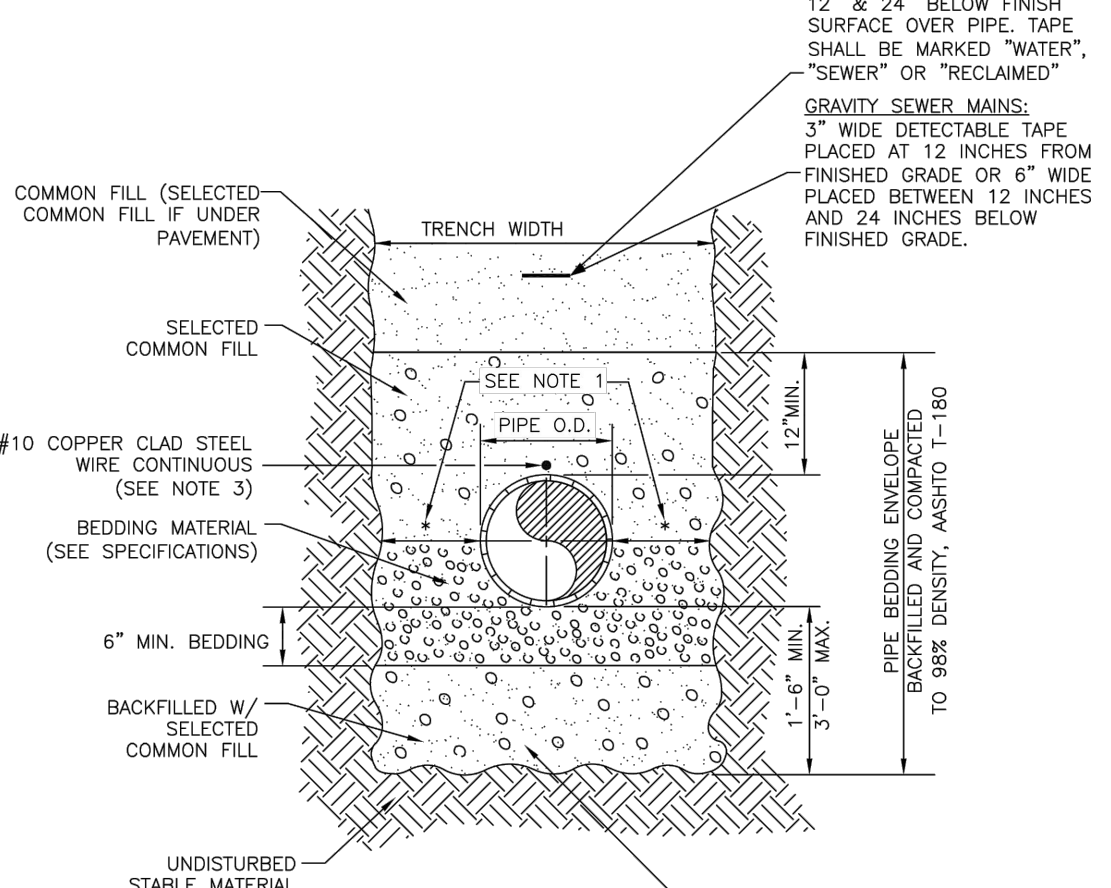
PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date

- NOTES:**
- 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.
 - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



- NOTES:**
- 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.
 - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



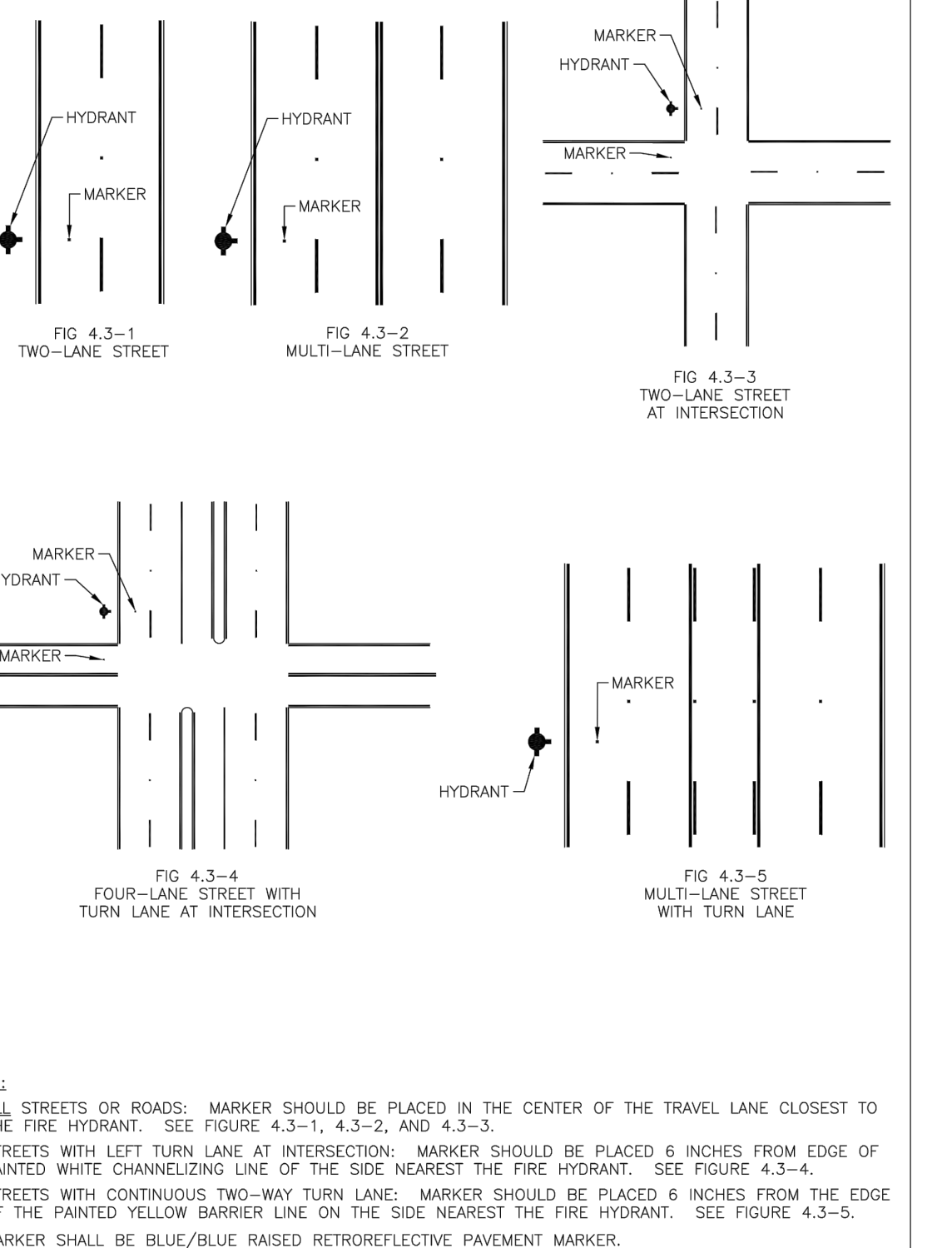
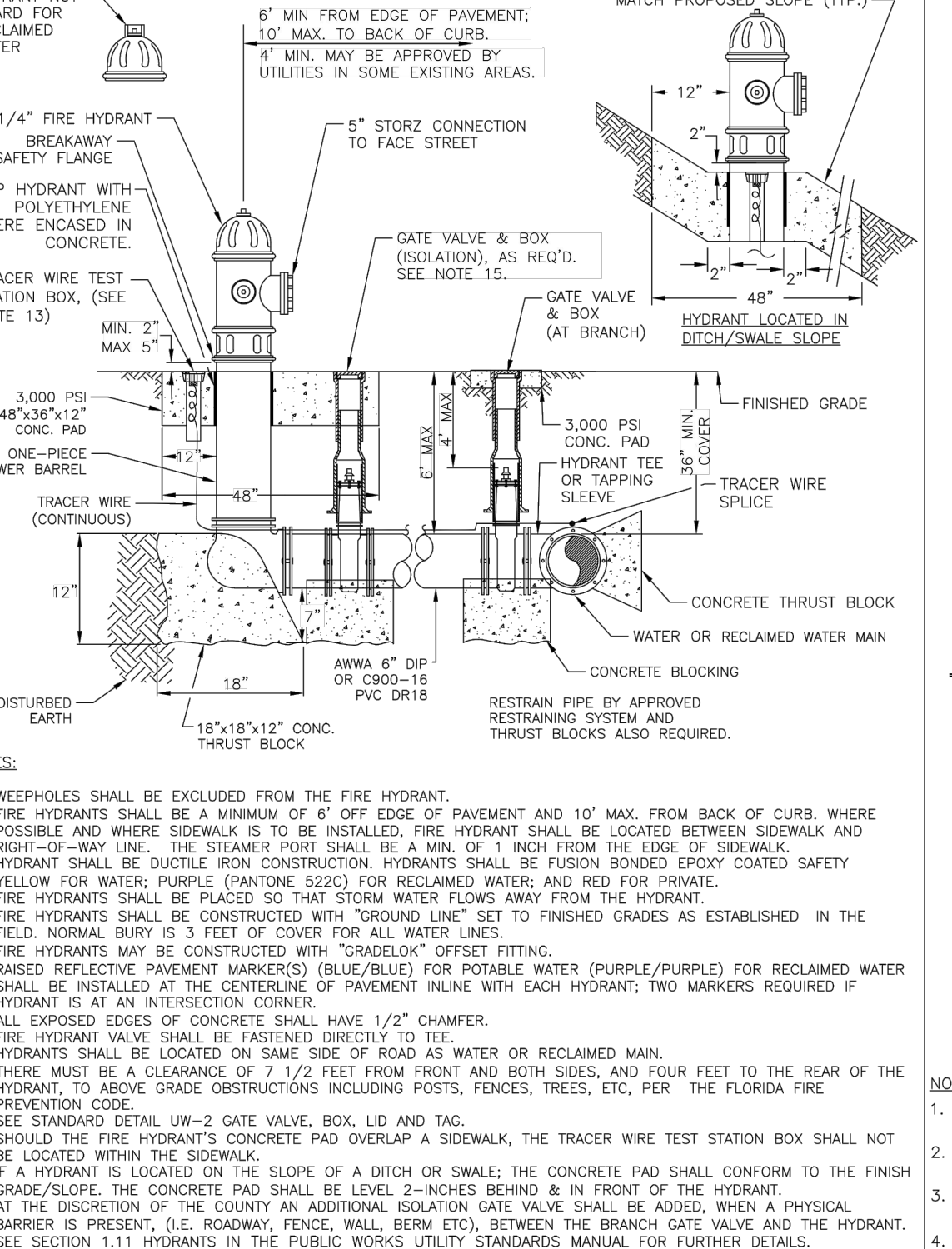
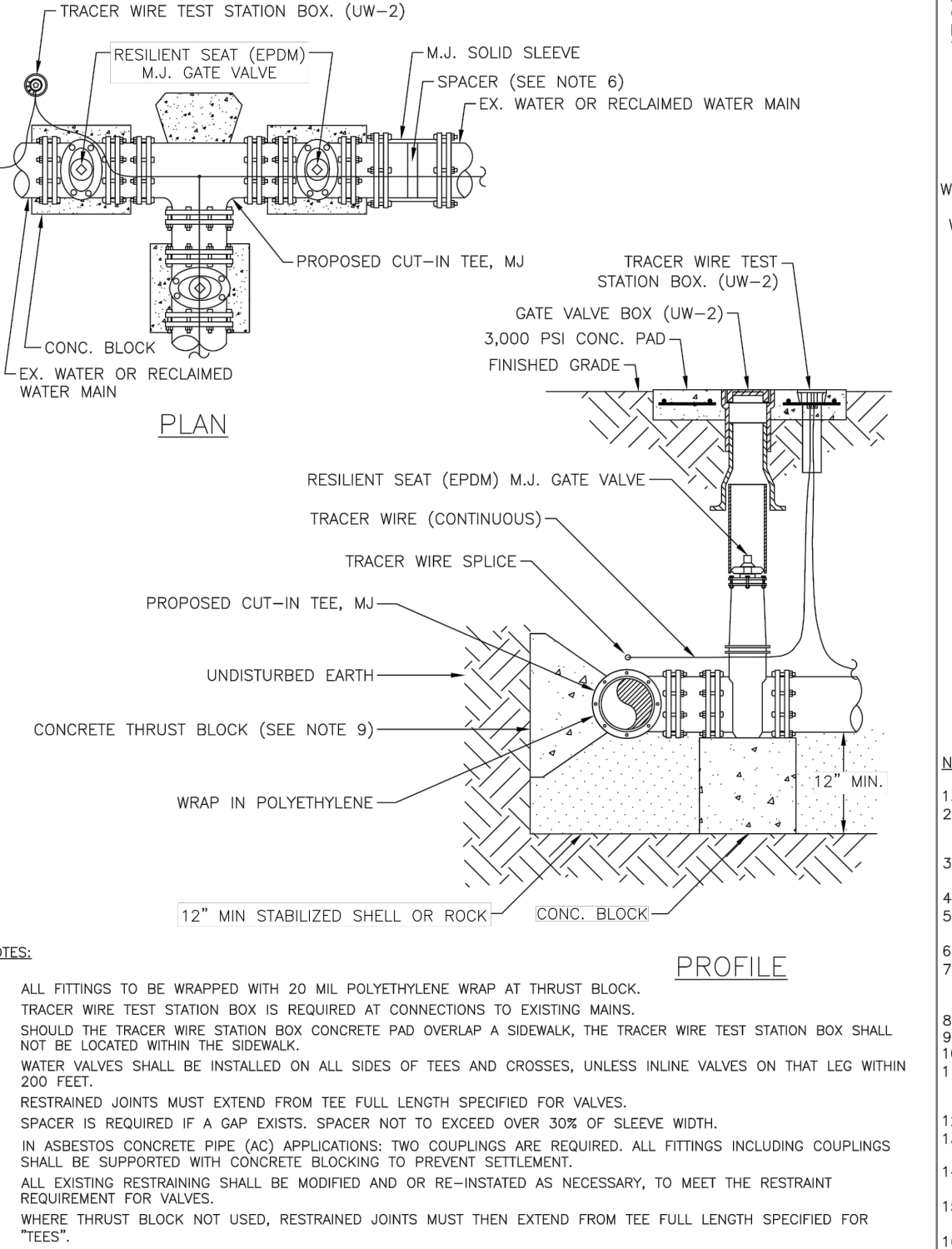
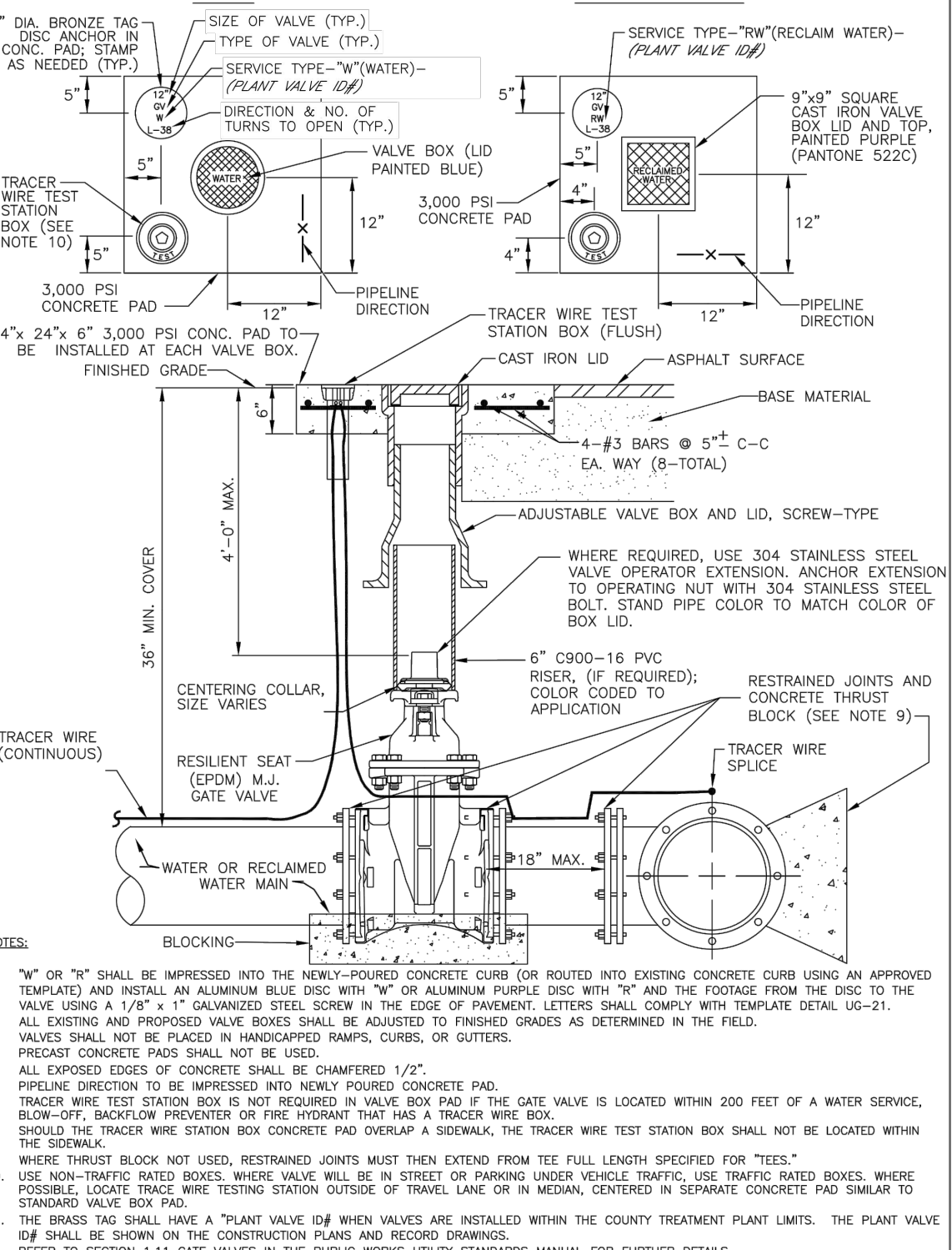
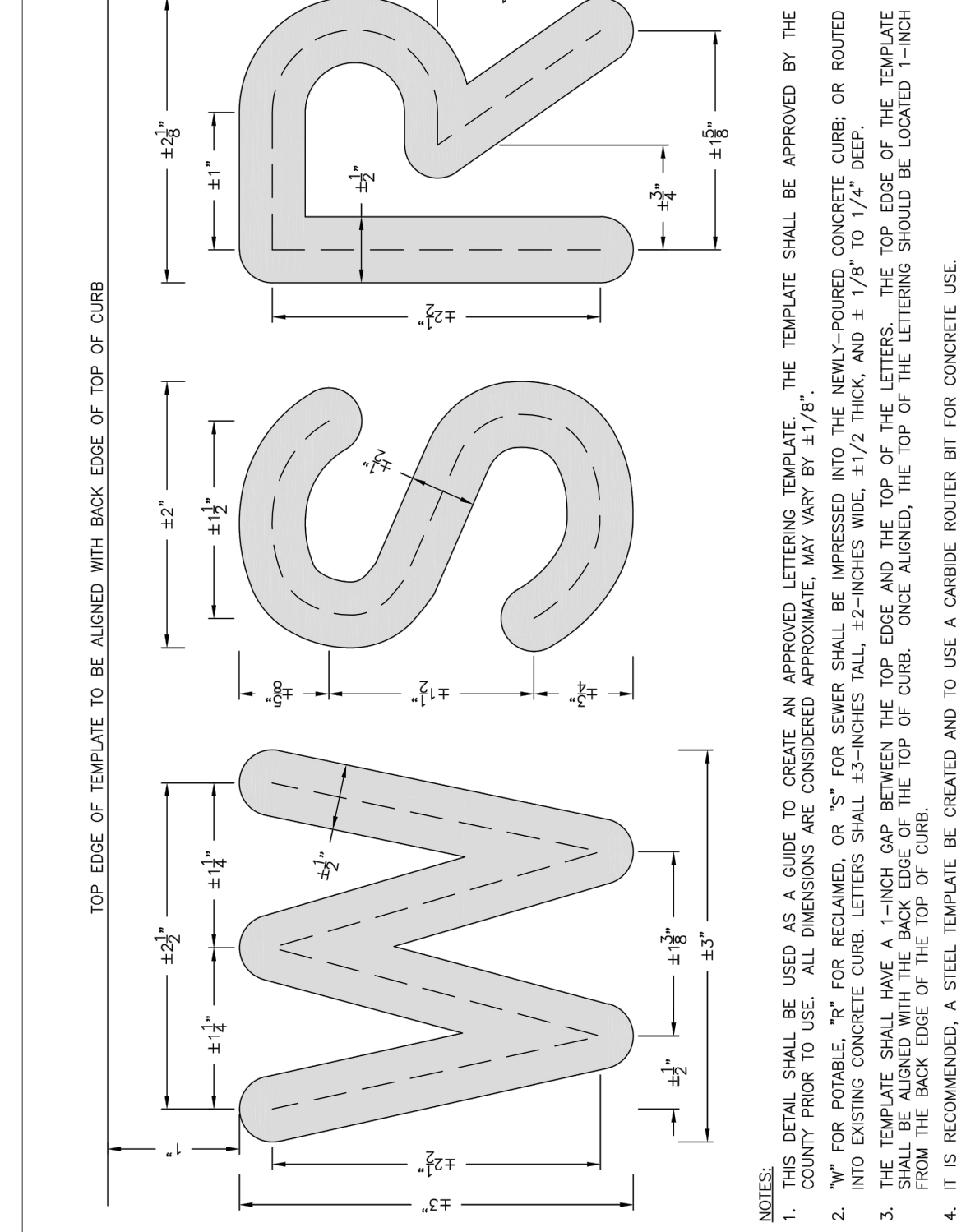
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH TYPE A-2 PIPE BEDDING	UG-16
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH TYPE A-3 PIPE BEDDING	UG-17
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		UTILITY LAYOUT FOR 50' R/W	UG-18
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		PRESSURE PIPE DEFLECTION AT UTILITY CROSSING	UG-19
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYP. CANOPY TREE, PALM, OR EXOTIC TREE WITH ROOT BARRIER	UG-20
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CURB MARKINGS LETTERING TEMPLATE	UG-21
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		GATE VALVE, BOX, LID AND TAG	UW-2
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CUT-IN TEE	UW-4
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		FIRE HYDRANT ASSEMBLY	UW-5
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		HYDRANT LOCATION MARKERS - BLUE (RPMs)	UW-6
REV. BY	DATE	DATE OF APPROVAL	
		SEPT 12, 2023	

NO.	REVISION DESCRIPTION	BY	DATE

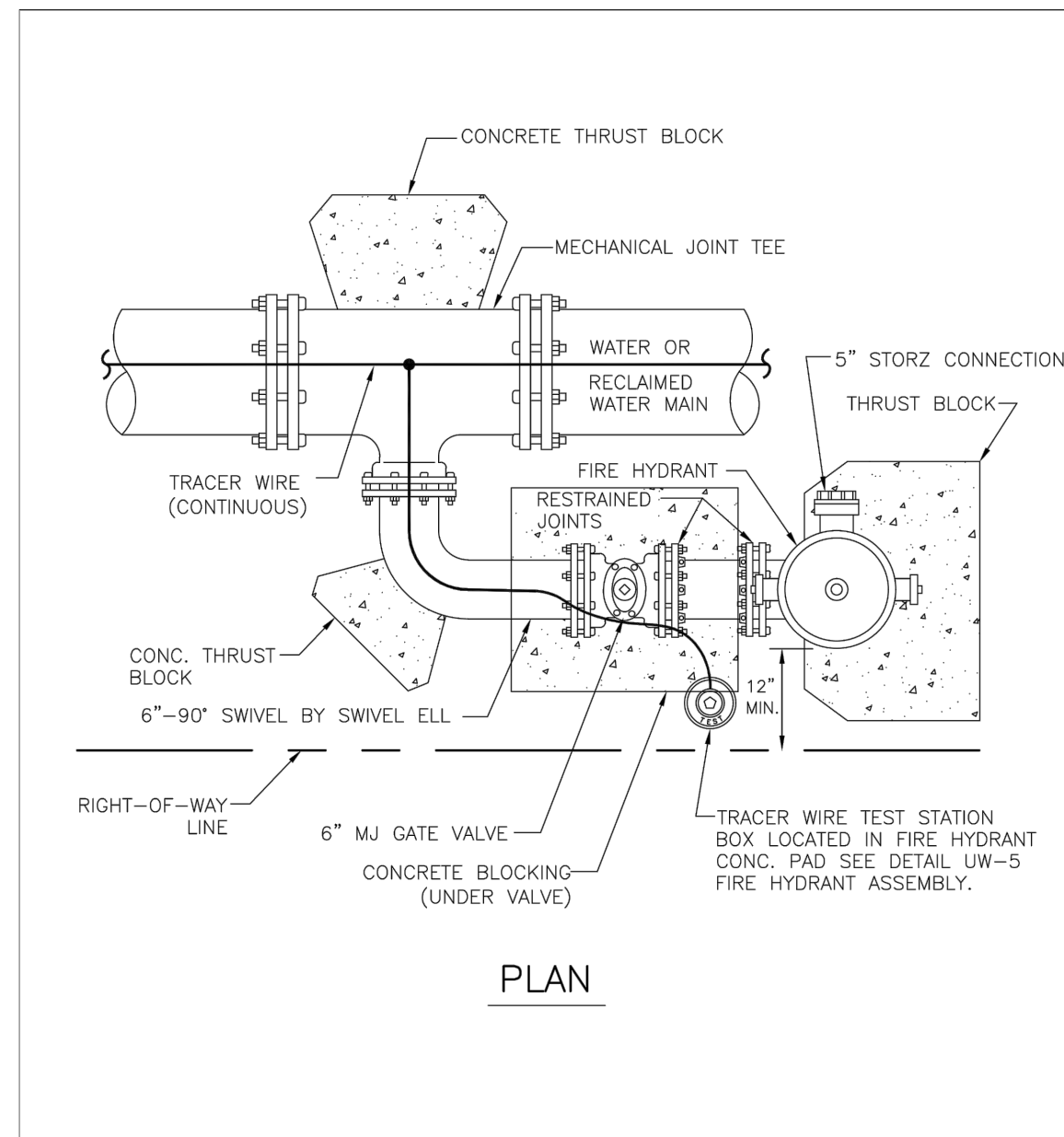
HARBOR HILLS WATER & FORCE MAIN REPLACEMENT DETAILS



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

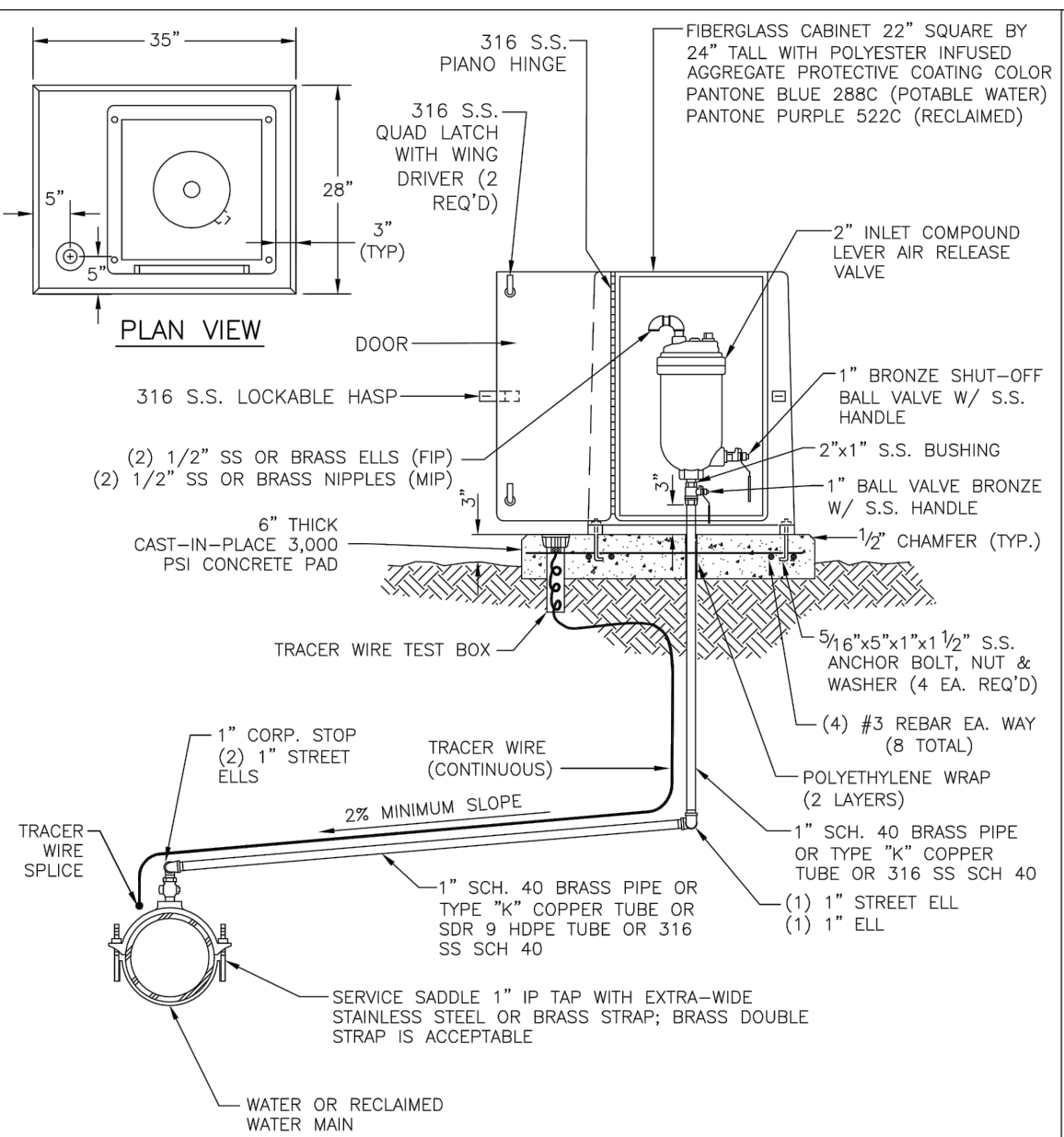
PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	BY DATE	
DESIGNED	SAC 02-2021	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	

Signature & Date
SHEET 29 OF 37



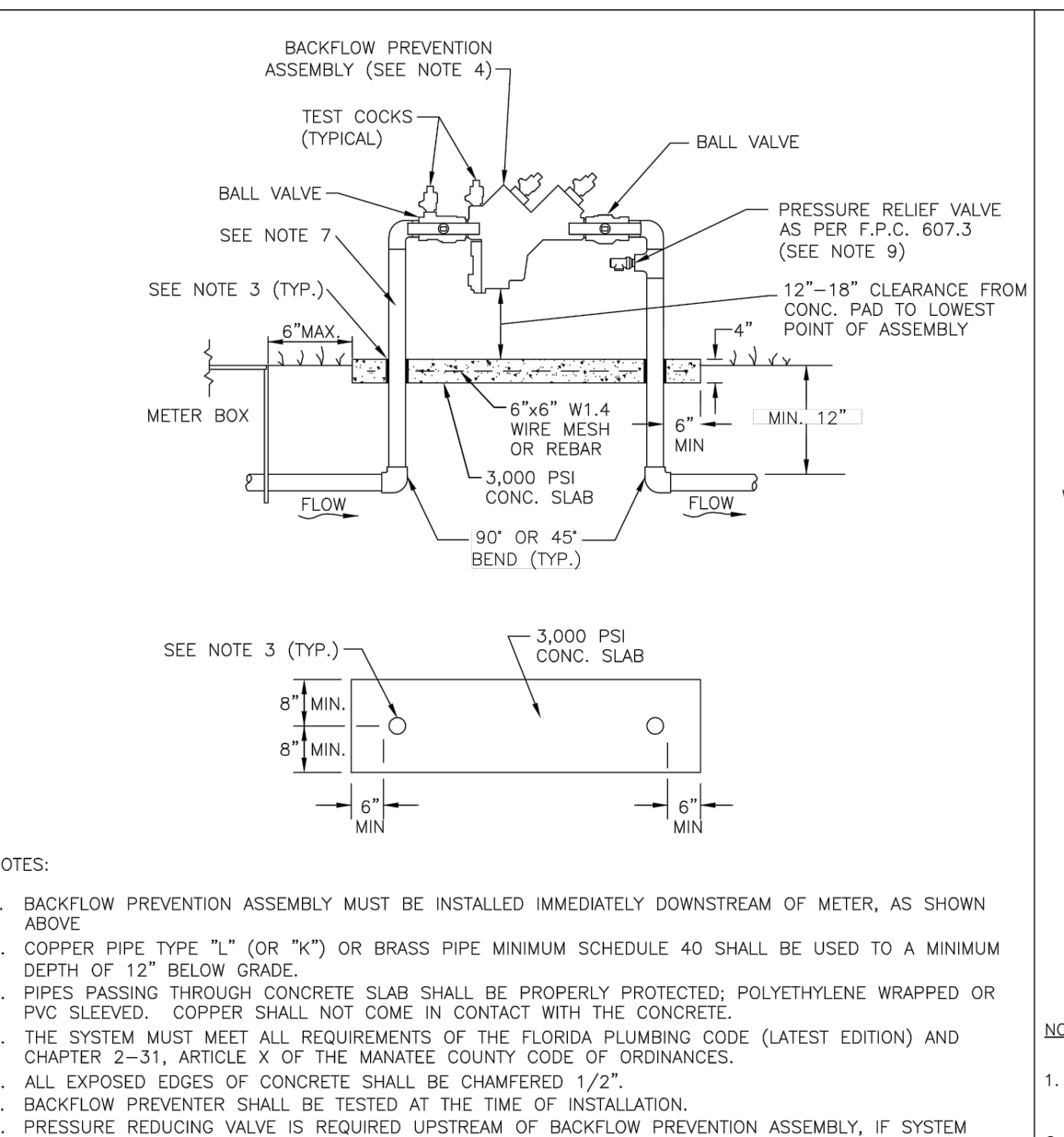
- NOTES:
- THIS DETAIL FOR USE ONLY WHEN THE WATER MAIN IS LOCATED TOO CLOSE TO THE RIGHT-OF-WAY LINE TO USE THE FIRE HYDRANT ASSEMBLY.
 - SEE STANDARD DETAIL UW-2 GATE VALVE, BOX, LID AND TAG.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		FIRE HYDRANT WITH LOCKED 90° BEND	UW-7
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



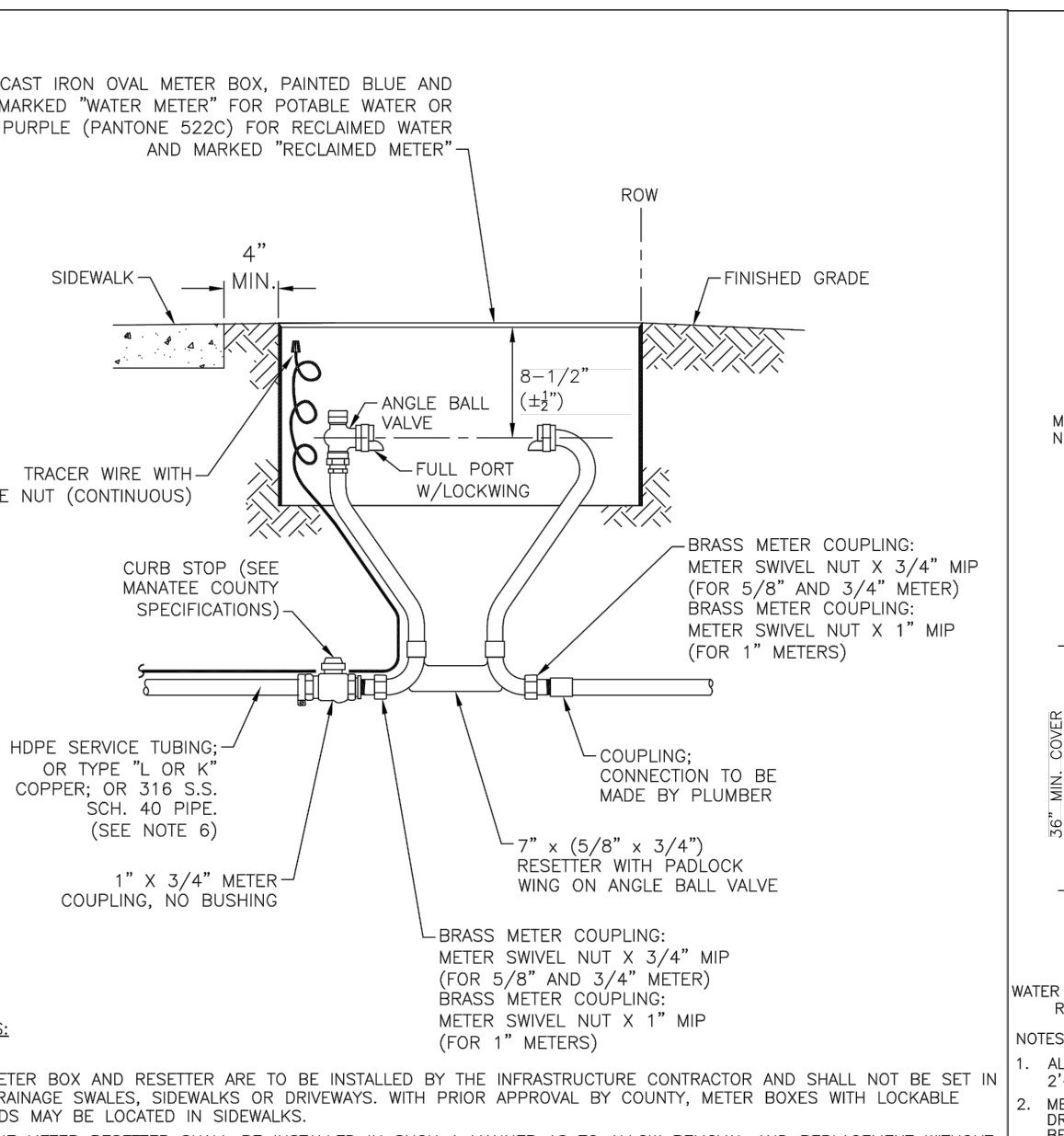
- NOTES:
- AIR RELEASE VALVES TO BE INSTALLED AT HIGH POINTS ALONG THE CONSTRUCTED MAINS, WHERE AIR COULD BE TRAPPED.
 - ARY VENT ORIFICE TO BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION FOR WATER MAIN SIZE.
 - ALL INCIDENTAL FITTINGS AND HARDWARE TO BE STAINLESS STEEL, BRASS OR COPPER.
 - ALL PIPE THREADS TO BE SEALED AIR TIGHT.
 - VENT PIPE TO BE LAID ACCURATELY ON SLOPE, WITHOUT HIGH OR LOW POINTS.
 - ARY SHALL BE INSTALLED MINIMUM 6 FT FROM EDGE OF PAVEMENT; 10 FT MAXIMUM FROM BACK OF CURB; 4 FT MIN. MAY BE APPROVED BY UTILITIES IN SOME EXISTING AREAS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		ABOVE-GROUND AIR RELEASE VALVE ASSY. FOR 12-INCH AND SMALLER WATER MAINS	UW-10
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



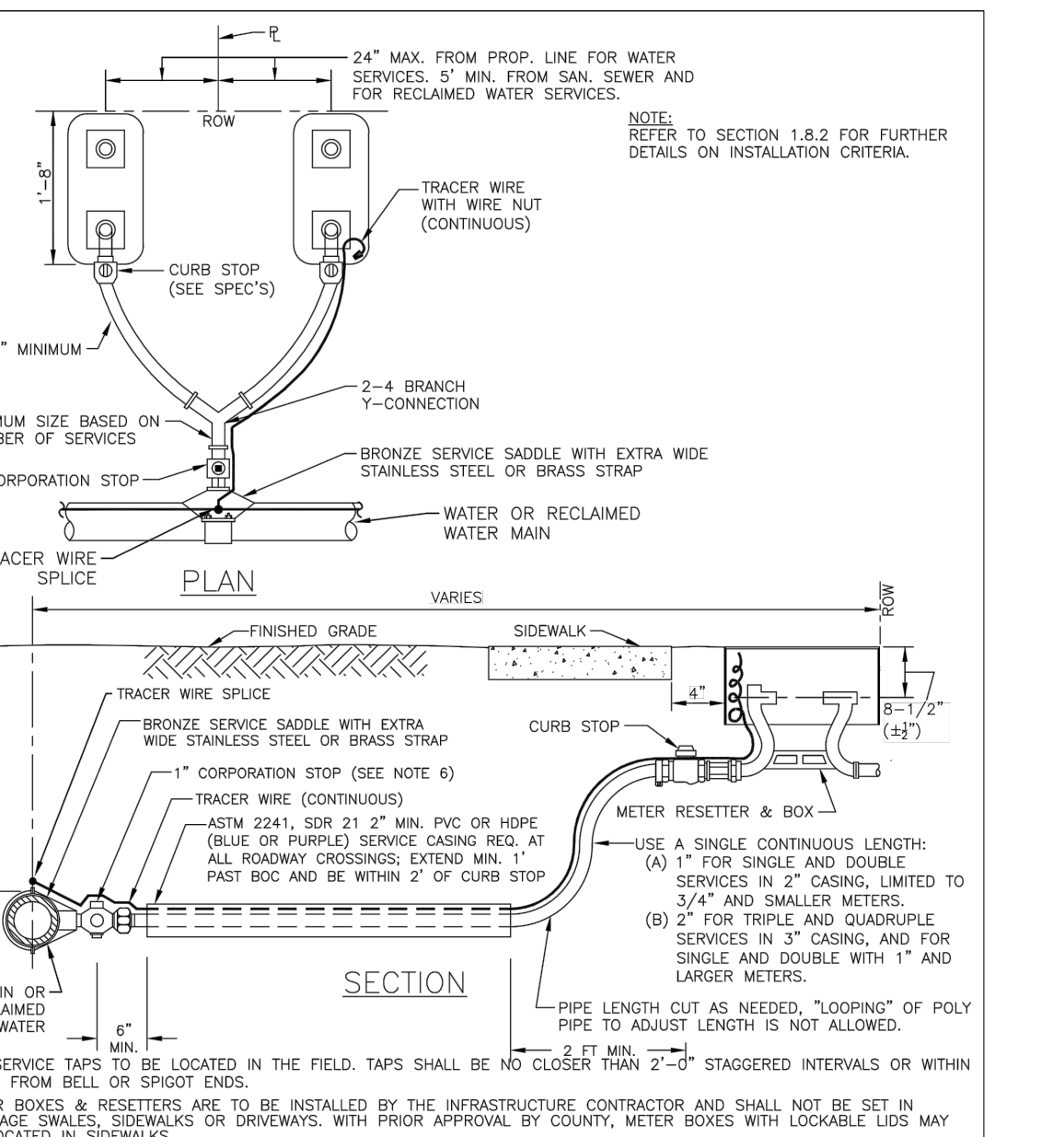
- NOTES:
- BACKFLOW PREVENTION ASSEMBLY MUST BE INSTALLED IMMEDIATELY DOWNSTREAM OF METER, AS SHOWN ABOVE.
 - COPPER PIPE TYPE "L" (OR "K") OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
 - PIPES PASSING THROUGH CONCRETE SLAB SHALL BE PROPERLY PROTECTED; POLYETHYLENE WRAPPED OR PVC SLEEVED. COPPER SHALL NOT COME IN CONTACT WITH THE CONCRETE.
 - THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND CHAPTER 2-31, ARTICLE X OF THE MANATEE COUNTY CODE OF ORDINANCES.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 - BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
 - PRESSURE REDUCING VALVE IS REQUIRED UPSTREAM OF BACKFLOW PREVENTION ASSEMBLY, IF SYSTEM PRESSURE EXCEEDS 80 PSI.
 - 3" MINIMUM CLEARANCE FROM LANDSCAPING PLANTS AND 10' MIN. CLEARANCE FROM TREES TO EDGE OF CONCRETE SLAB AND CLEAR OPENING FOR ACCESS FROM STREET.
 - PRESSURE RELIEF VALVE IS REQUIRED ON ALL 3/4" & 1" BACKFLOW PREVENTION ASSEMBLIES. IN ADDITION, THE BUILDING DEPARTMENT MAY REQUIRE APPROVED DEVICE FOR THERMAL EXPANSION CONTROL DOWNSTREAM OF THE ASSEMBLY.
 - FITTINGS AND CONNECTIONS FOR ABOVE-GROUND INSTALLATIONS SHALL NOT ALLOW ANY MOVEMENT OR ROTATION OF BACKFLOW PREVENTION ASSEMBLY.
 - REFER TO DETAIL UW-21 OR UW-22 WATER METER & BACKFLOW PREVENTER FOR LIFT STATIONS FOR WATER SERVICE AT SEWAGE PUMPING STATION.
 - BACKFLOW PREVENTION ASSEMBLIES USED FOR POTABLE APPLICATIONS SHALL BE LEAD FREE AS DEFINED IN THE REDUCTION OF LEAD IN DRINKING WATER ACT, SECTION 1417 OF THE SAFE DRINKING WATER ACT, 42 U.S.C. 300g-6, AS MAY BE AMENDED, AND IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		3/4" & 1" BACKFLOW PREVENTION ASSEMBLY	UW-13
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



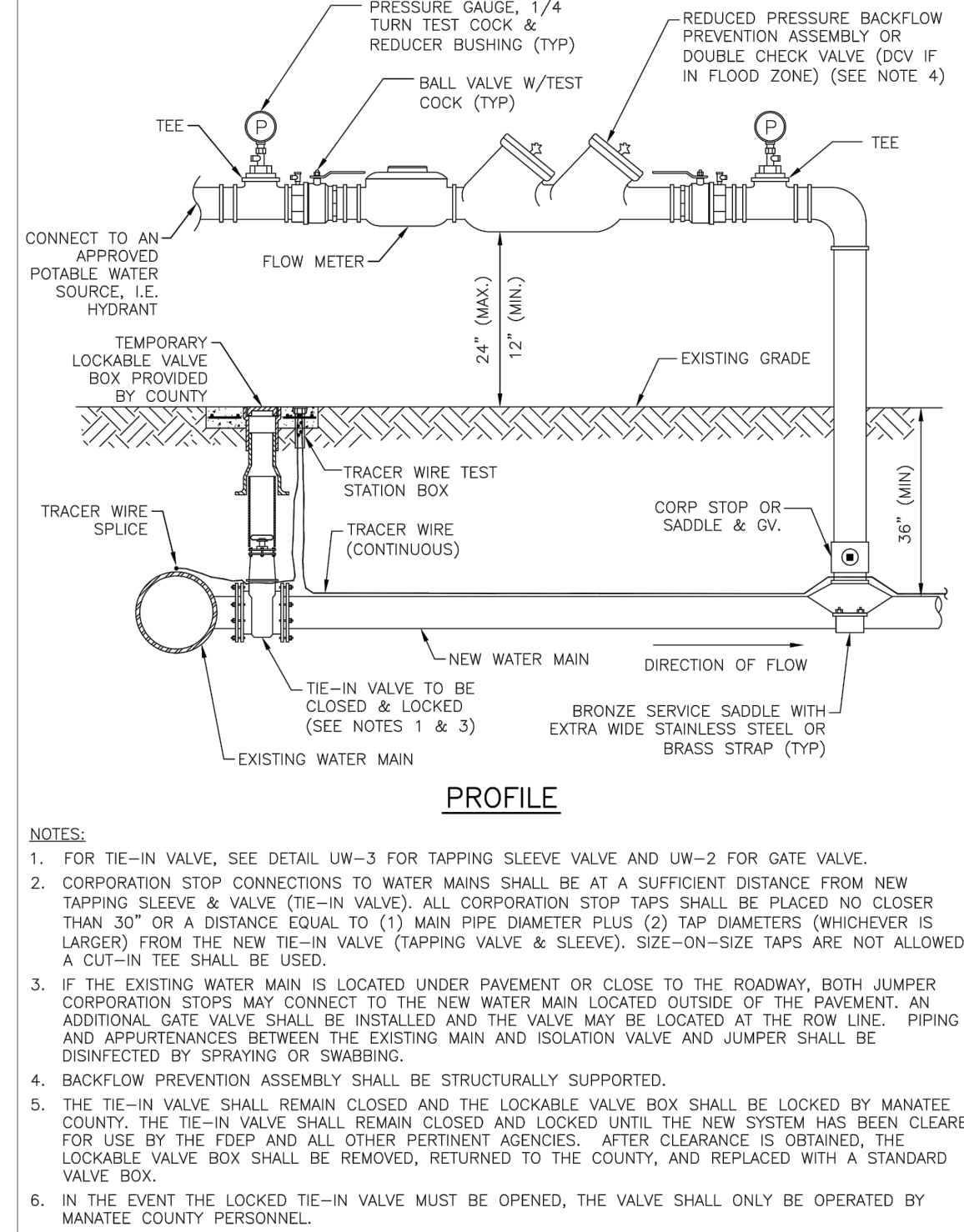
- NOTES:
- METER BOX AND RESETTER ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS. WITH PRIOR APPROVAL BY COUNTY, METER BOXES WITH LOCKABLE LIDS MAY BE LOCATED IN SIDEWALKS.
 - THE METER RESETTER SHALL BE INSTALLED IN SUCH A MANNER AS TO ALLOW REMOVAL AND REPLACEMENT WITHOUT DISTURBING THE STRUCTURAL INTEGRITY OF THE PIPING SYSTEM, THE SHUTOFF VALVES, OR THE RESETTER.
 - FOR COMPLETE SERVICE CONNECTION ASSEMBLY, SEE DETAIL UW-23 TYPICAL SERVICE CONNECTION.
 - WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK AND THE 1/8" IS ONE FOOT (CUL-DE-SAC W/ MEDIAN) A 10-FOOT-WIDE PUBLIC UTILITY EASEMENT SHALL BE LOCATED IN THE FRONT OF THE LOTS, ADJACENT TO THE ROW.
 - 3" MINIMUM CLEARANCE FROM LANDSCAPING PLANTS AND 10' MIN. CLEARANCE FROM TREES TO EDGE OF METER, CLEAR ACCESS OPENING TO STREET.
 - SERVICE TUBING SHALL NOT BE CRIMPED OR KINKED TO RE-ADJUST CURB STOP LOCATION.
 - "W" OR "R" SHALL BE IMPRESSED INTO THE NEWLY-Poured CONCRETE CURB (OR ROUTED INTO EXISTING CONCRETE CURB USING AN APPROVED TEMPLATE) AND INSTALL AN ALUMINUM BLUE DISC WITH "W" OR ALUMINUM PURPLE DISC WITH "R" AND THE FOOTING FROM THE DISC TO THE METER BOX USING A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT. LETTERS SHALL COMPLY WITH TEMPLATE DETAIL UW-21.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		METER BOX ASSEMBLY FOR 5/8" & 3/4" 3/4"; AND 1" METERS	UW-20
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		

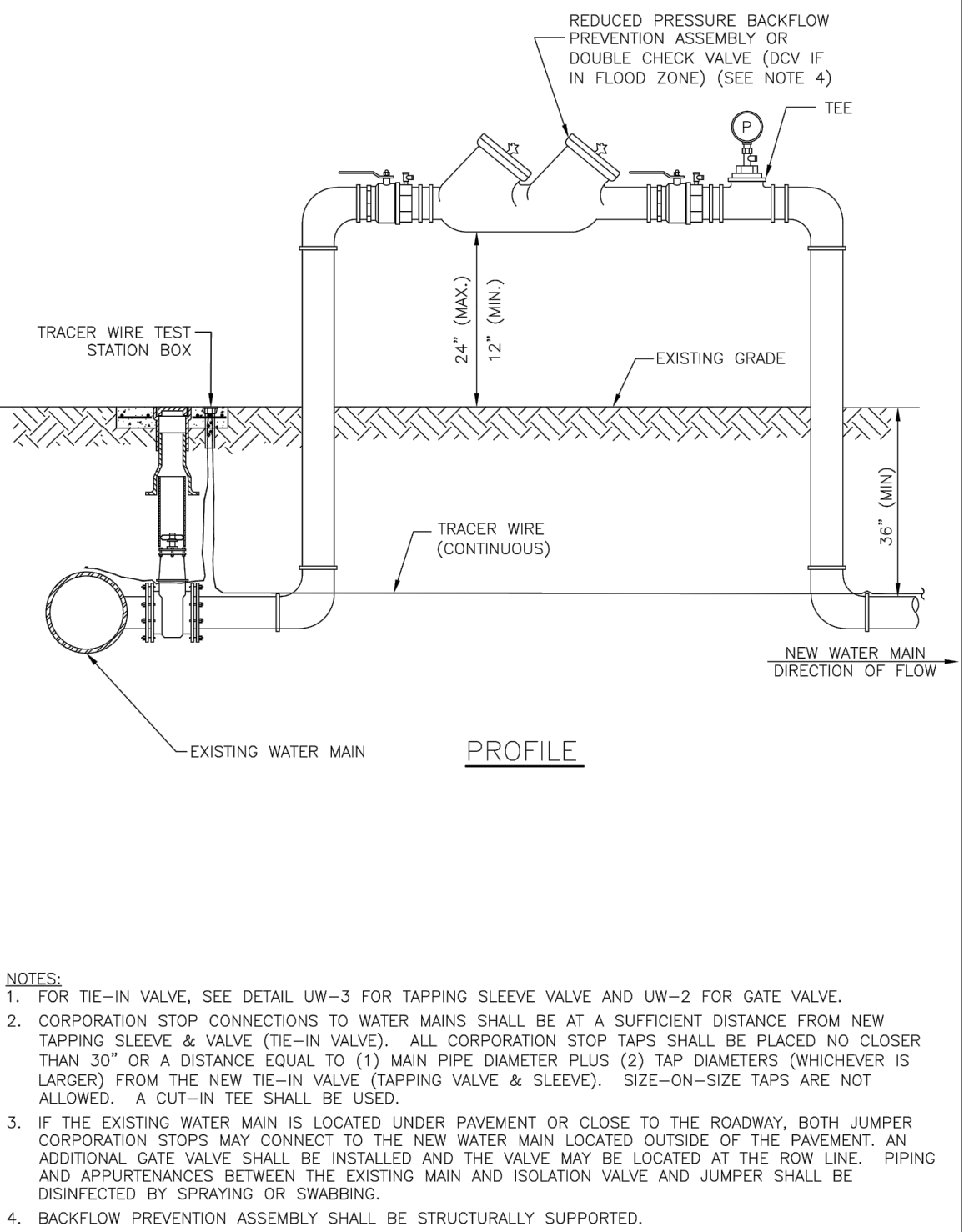


- NOTES:
- ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL OR SPOUT ENDS.
 - METER BOXES & RESETTERS ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND SHALL NOT BE SET IN DRAINAGE SWALES, SIDEWALKS OR DRIVEWAYS. WITH PRIOR APPROVAL BY COUNTY, METER BOXES WITH LOCKABLE LIDS MAY BE LOCATED IN SIDEWALKS.
 - "W" OR "R" SHALL BE IMPRESSED INTO THE NEWLY Poured CONCRETE CURB (OR ROUTED INTO EXISTING CONCRETE CURB USING AN APPROVED TEMPLATE) AND INSTALL AN ALUMINUM BLUE DISC WITH "W" OR ALUMINUM PURPLE DISC WITH "R" AND THE FOOTAGE FROM THE DISC TO THE METER USING A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT. LETTERS SHALL COMPLY WITH TEMPLATE DETAIL UW-21.
 - COLOR CODED TRACER WIRE SHALL BE INSTALLED WITH WATER AND RECLAIMED MAIN AND ALL SERVICES. SERVICE WIRE SHALL BE CONNECTED TO THE TRACER WIRE ALONG THE MAIN ON DOUBLE SERVICES, WHEN SECOND METER IS OVER 8 FT APART. TWO TRACER WIRES SHALL BE INSTALLED ONE FOR EACH METER.
 - WATER AND RECLAIMED WATER SERVICE LINES TO BE 5" MINIMUM FROM SEWER SERVICE PIPES.
 - FOR 2" SERVICES, REPLACE CORPORATION STOP WITH A 2" RESILIENT WEDGE FIP GATE VALVE W/ BOX, LID & TAG.
 - WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK AND THE ROW IS ONE FOOT (CUL-DE-SAC W/ MEDIAN) A 10-FOOT-WIDE PUBLIC UTILITY EASEMENT SHALL BE LOCATED IN THE FRONT OF THE LOTS, ADJACENT TO THE ROW.
 - TEMPORARY RESIDENTIAL USE CAN BE PROVIDED BY CONTACTING THE UTILITY CUSTOMER SERVICE. SEE DETAIL UW-21.
 - SERVICE TUBING SHALL NOT BE CRIMPED OR KINKED TO RE-ADJUST CURB STOP LOCATION.

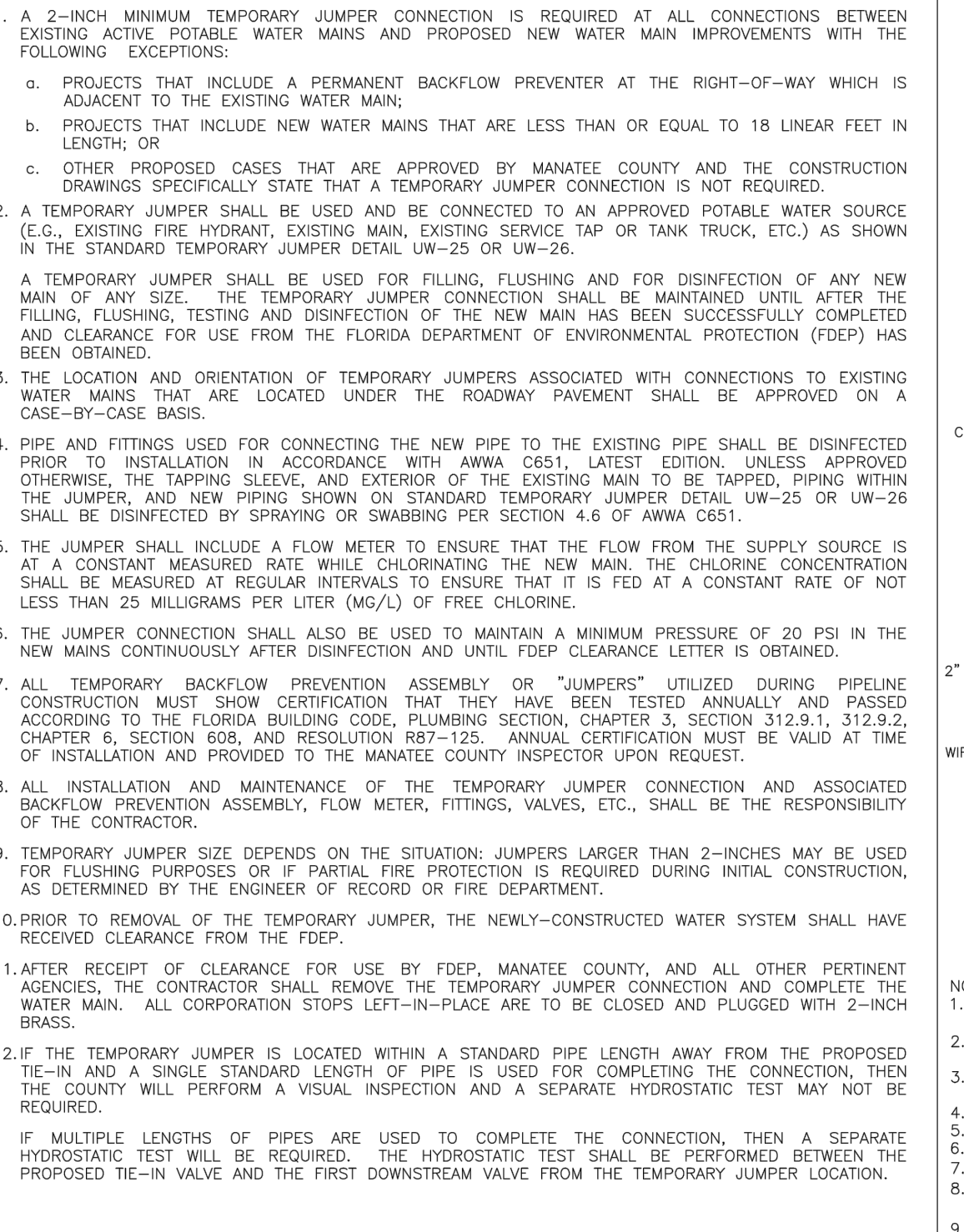
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL SERVICE CONNECTION	UW-23
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



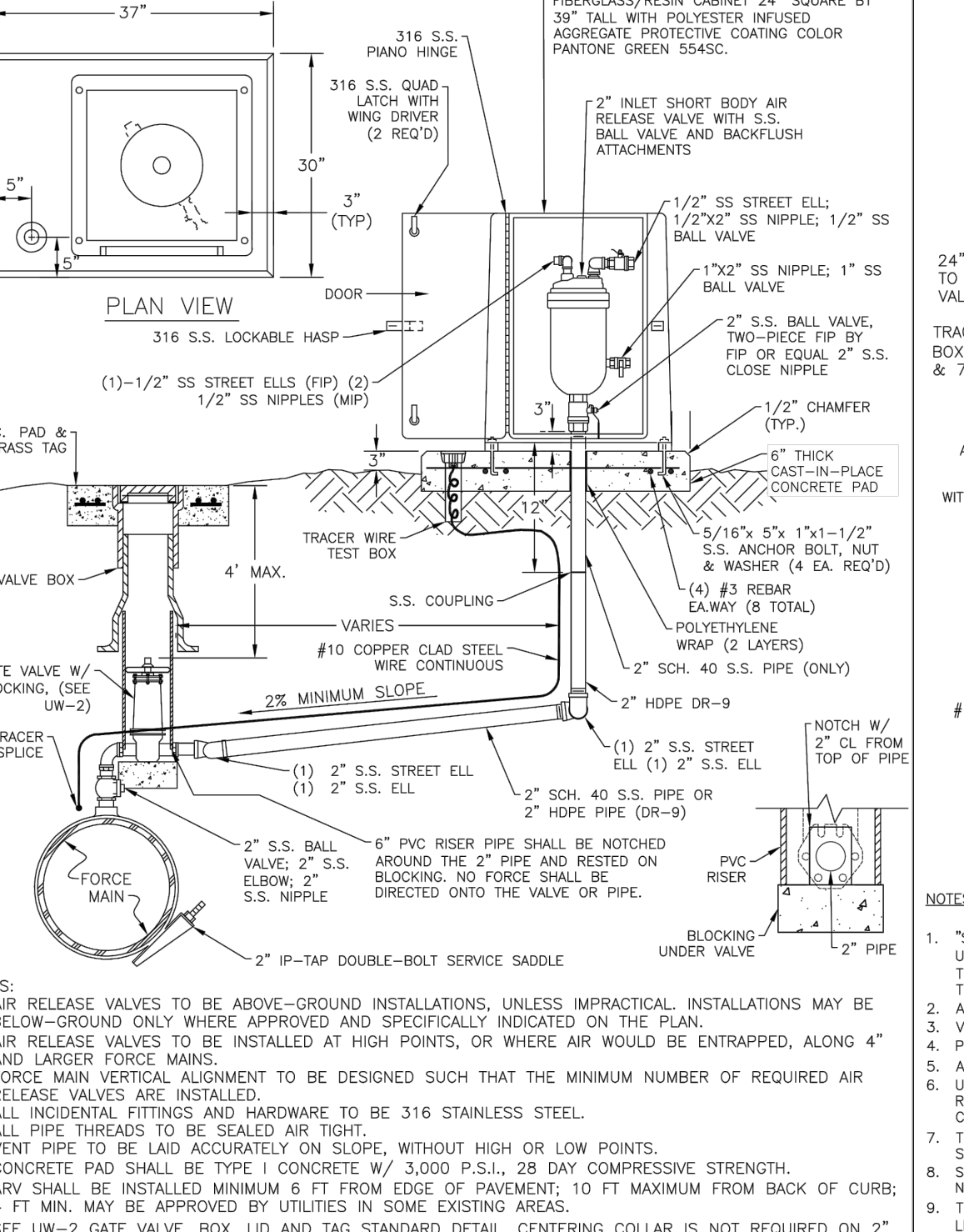
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TEMPORARY JUMPER CONNECTION-HYDRANT AVAILABLE	UW-25
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



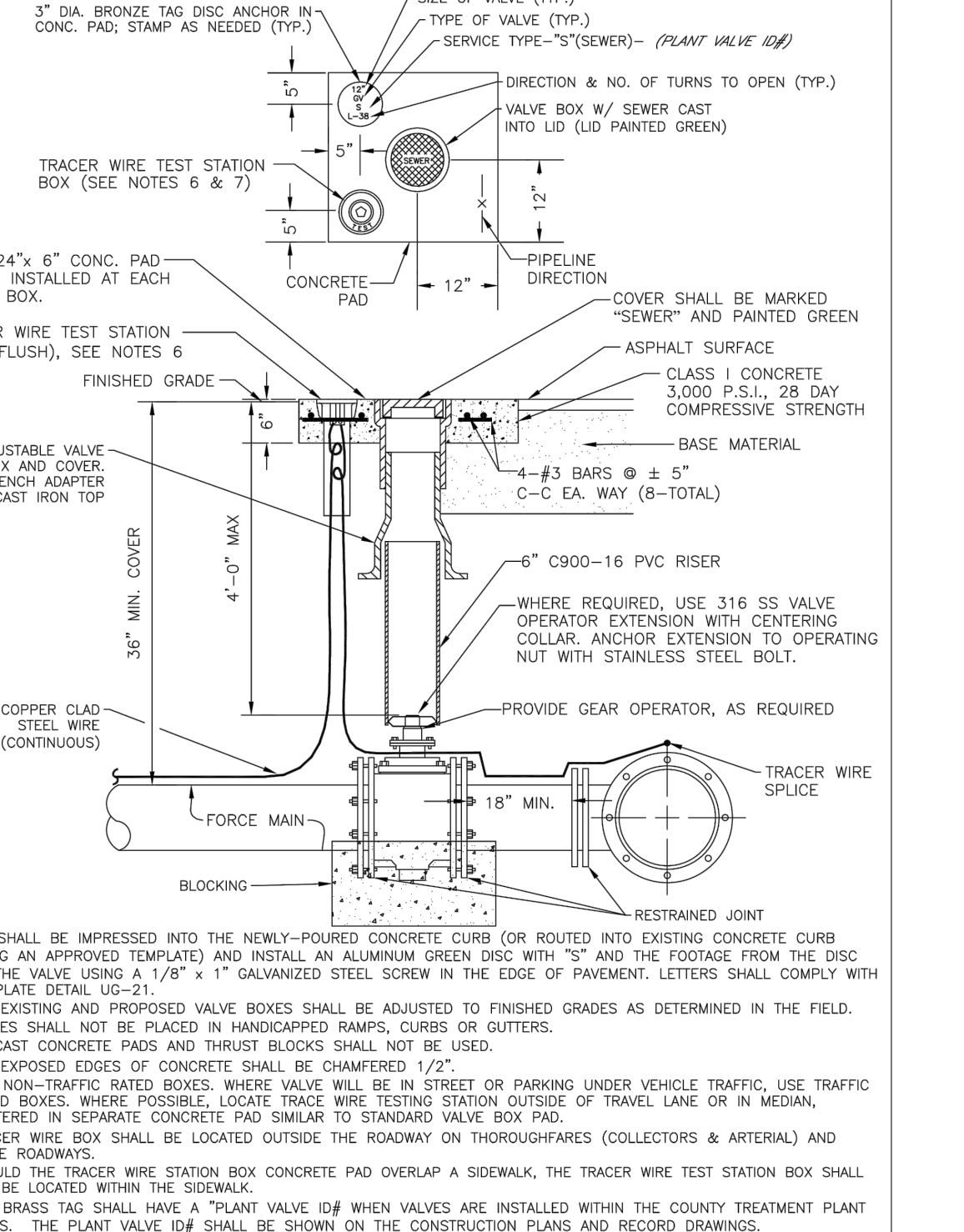
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TEMPORARY JUMPER CONNECTION - NO HYDRANT AVAILABLE	UW-26
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TEMPORARY JUMPER CONNECTION NOTES	UW-27
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		ABOVE-GROUND AIR RELEASE VALVE ASSY. FOR FORCE MAINS	UW-28
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		VALVE, BOX, COVER AND TAG	UW-14
REV. BY	DATE		
	SEPT 12, 2023		
	DATE OF APPROVAL		

NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS

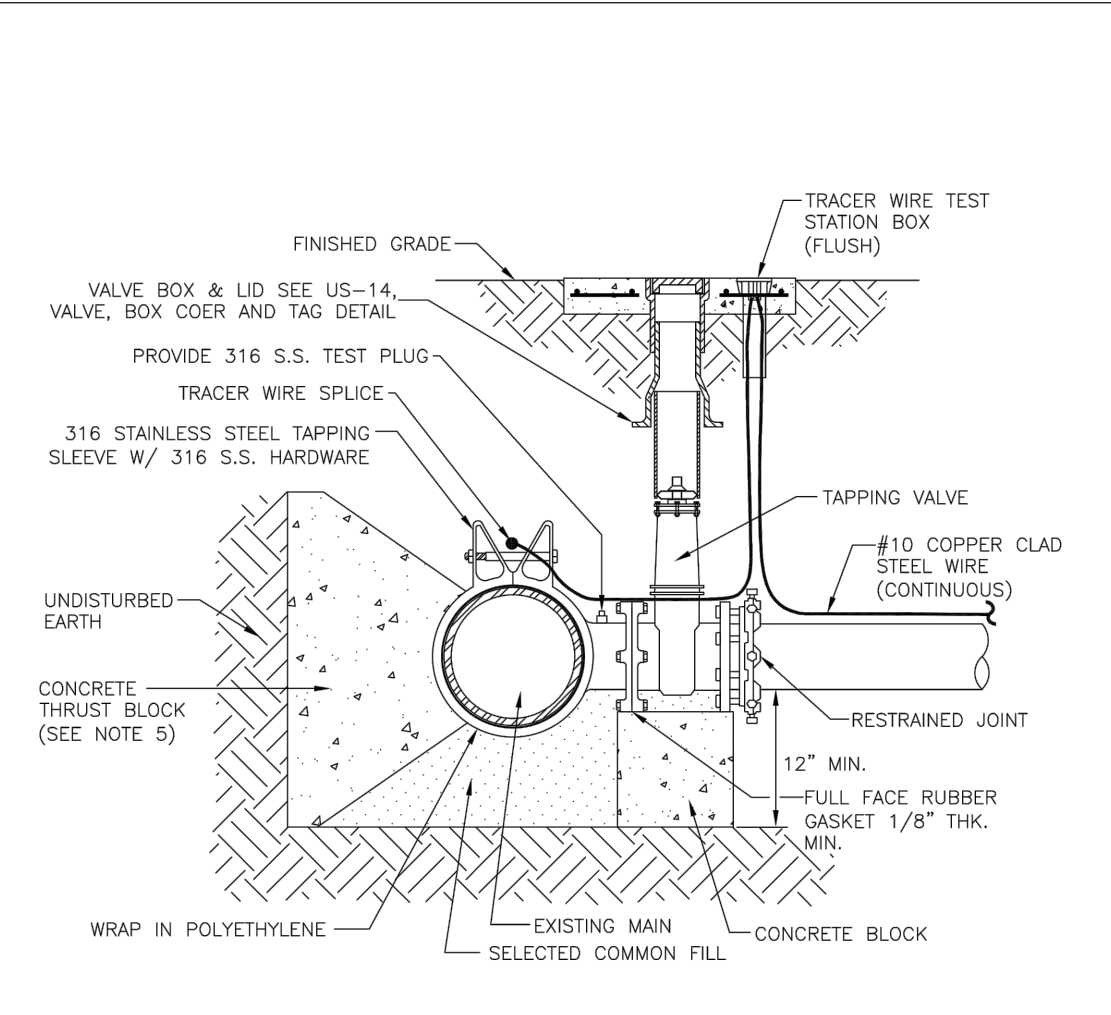
WATER & FORCE MAIN REPLACEMENT

DETAILS

PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

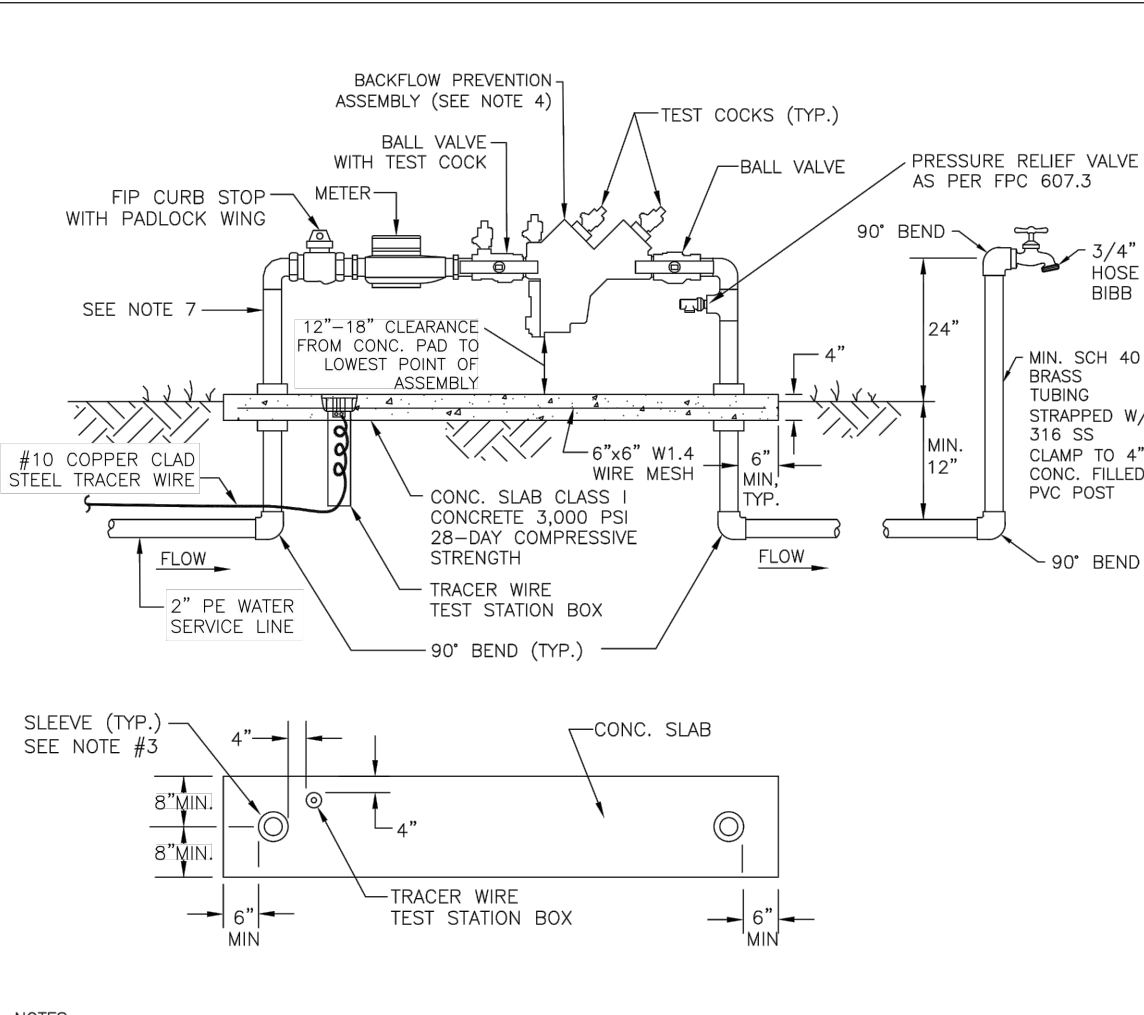
Signature & Date

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



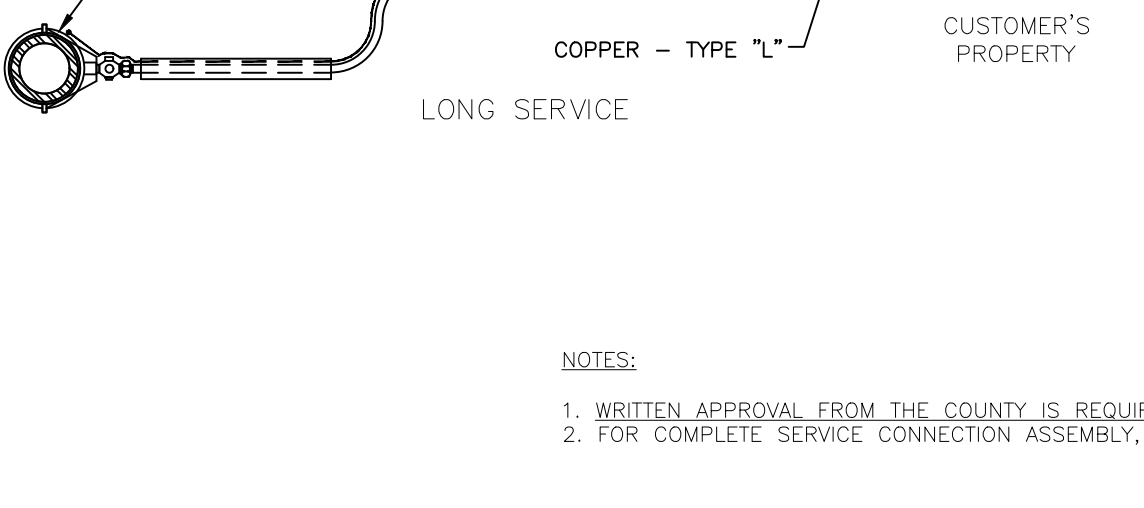
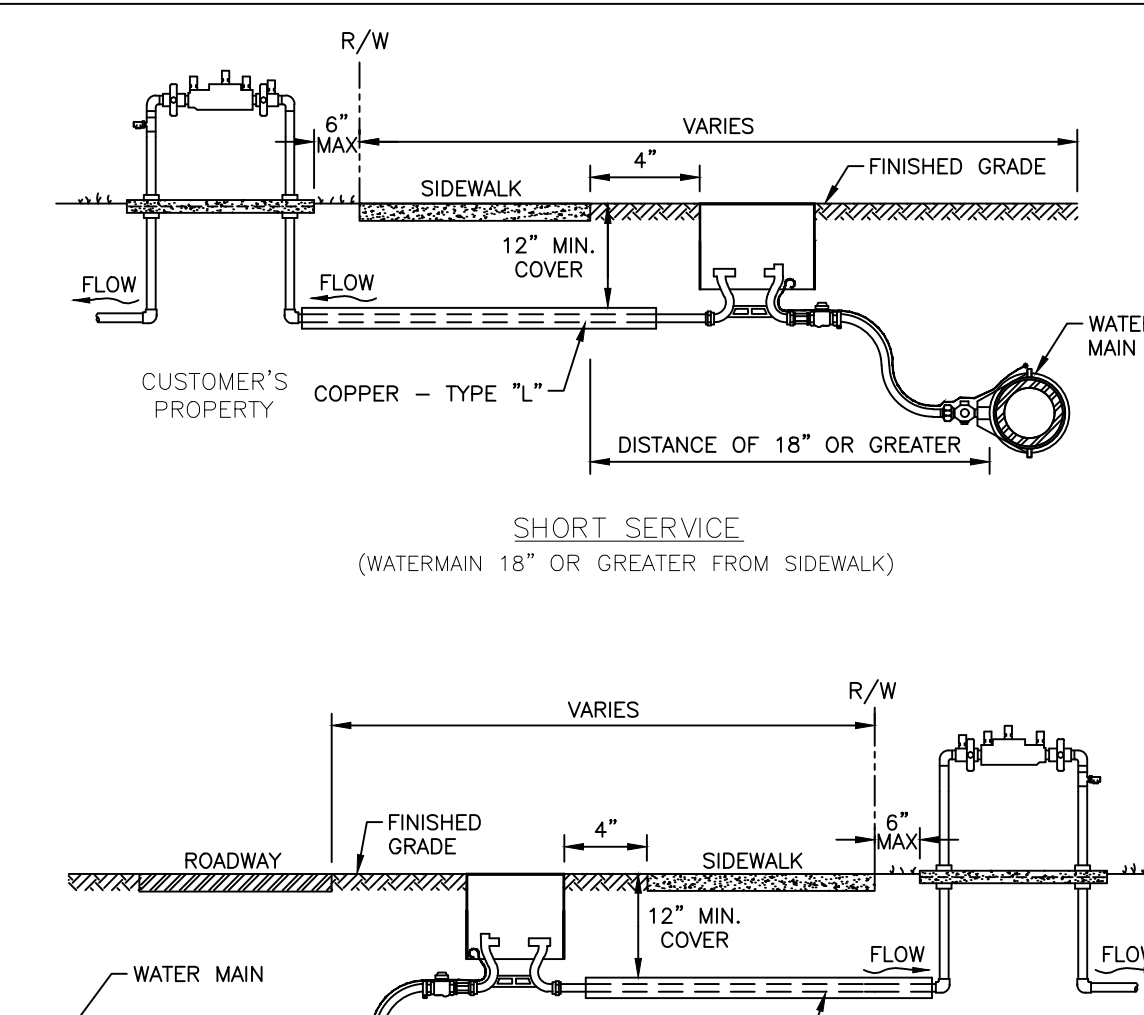
- NOTES:**
- PRIOR TO TAPPING, CONTRACTOR TO DEMONSTRATE 60 MINUTE HYDROSTATIC TEST OF THE TAPPING SLEEVE AND VALVE WITH NO LOSS OF 150 PSI FOR FORCE MAIN.
 - ALL FITTINGS TO BE WRAPPED WITH 20 MIL POLYETHYLENE PLASTIC SHEETING AT THRUST BLOCK.
 - ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS GREATER) FROM A JOINT OR FITTING.
 - CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK IN AND A BACK-HOE TO LOWER TAPPING MACHINE INTO THE HOLE.
 - WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR TEES.
 - TRACER WIRE TEST STATION BOX IS REQUIRED AT CONNECTIONS TO EXISTING MAINS.
 - SHOULD THE TRACER WIRE STATION BOX CONCRETE PAD OVERLAP A SIDEWALK, THE TRACER WIRE TEST STATION BOX SHALL NOT BE LOCATED WITHIN THE SIDEWALK.
 - SEE SECTION 1.11 TAPPING SLEEVES AND VALVES IN THE PUBLIC WORKS UTILITY STANDARDS MANUAL FOR FURTHER DETAILS.
 - "S" SHALL BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB (OR ROUTED INTO EXISTING CONCRETE CURB USING AN APPROVED TEMPLATE) AND INSTALL AN ALUMINUM GREEN DISC WITH "S" AND THE FOOTAGE FROM THE DISC TO THE VALVE USING A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT. LETTERS SHALL COMPLY WITH TEMPLATE DETAIL UG-21.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TAPPING SLEEVE AND VALVE (FORCE MAINS)	US-15
REV. BY	DATE	SEPT 12, 2023 DATE OF APPROVAL	

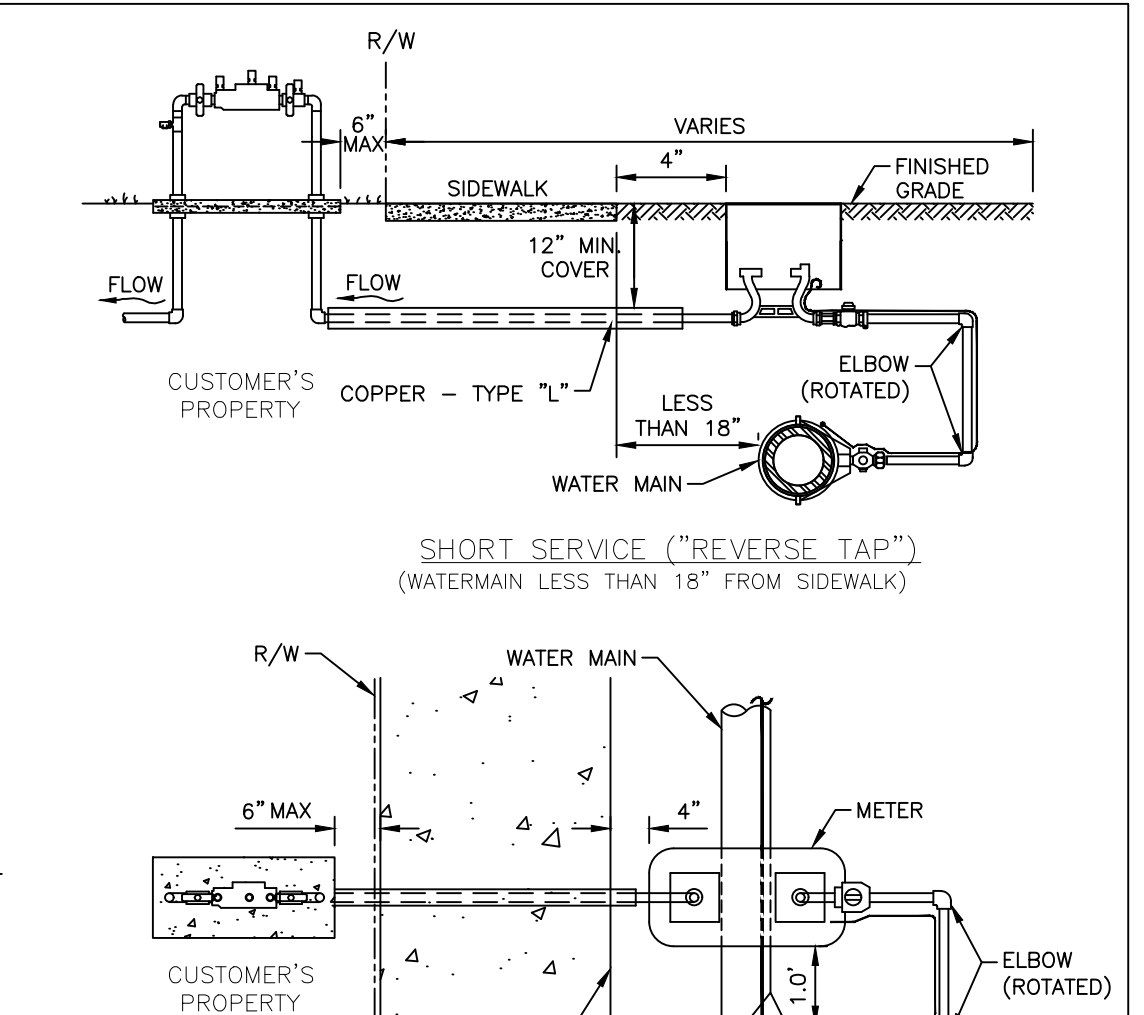


- NOTES:**
- BACKFLOW PREVENTION ASSEMBLY DEVICE MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
 - COPPER PIPE TYPE ("K" OR "L") OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
 - PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
 - THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND CHAPTER 2-31, ARTICLE X OF THE MANATEE COUNTY CODE OF ORDINANCES.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 - BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
 - PRESSURE REDUCING VALVE REQUIRED UPSTREAM OF BACKFLOW PREVENTION ASSEMBLY, IF SYSTEM PRESSURE EXCEEDS 80 PSI.
 - 3" MIN. CLEARANCE FROM LANDSCAPING PLANTS AND 10' MIN. CLEARANCE FROM TREES TO EDGE OF CONCRETE SLAB AND CLEAR OPENING FOR ACCESS FROM STREET.
 - THE WATER METER AND BACKFLOW PREVENTION ASSEMBLY SHALL BE LOCATED AT THE ROW LINE. THE BACKFLOW PREVENTION ASSEMBLY FOR PRIVATE LIFT STATIONS SHALL BE LOCATED ADJACENT TO THE ROW LINE OR WITHIN AN EASEMENT OUTSIDE OF THE FENCING.
 - SATELLITE LIFT STATIONS SHALL HAVE A 2" WATER SERVICE LINE, A 5/8-INCH WATER METER, AND A 3/4-INCH REDUCED PRESSURE (RP2) BACKFLOW PREVENTION ASSEMBLY, AND A SEPARATE POST MOUNTED HOSE BIBB. STATIONS WITH WET WELL DIAMETERS 10 FEET AND LARGER SHALL HAVE A 2-INCH METER AND RP2 BACKFLOW PREVENTION ASSEMBLY, AND AN ADDITIONAL 2" ALUMINUM QUICK CONNECT HOSE CONNECTION. SEE DETAILS US-22. ALL ITEMS SHALL BE FIELD LOCATED WITH COUNTY PERSONNEL.
 - BACKFLOW PREVENTION ASSEMBLIES USED FOR POTABLE APPLICATIONS SHALL BE LEAD FREE AS DEFINED IN THE REDUCTION OF LEAD IN DRINKING WATER ACT, SECTION 1417 OF THE SAFE DRINKING WATER ACT, 42 U.S.C. 300g-6, AS MAY BE AMENDED, AND IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		5/8" WATER METER & BACKFLOW PREVENTION ASSEMBLY FOR LIFT STATIONS	US-21
REV. BY	DATE	SEPT 12, 2023 DATE OF APPROVAL	

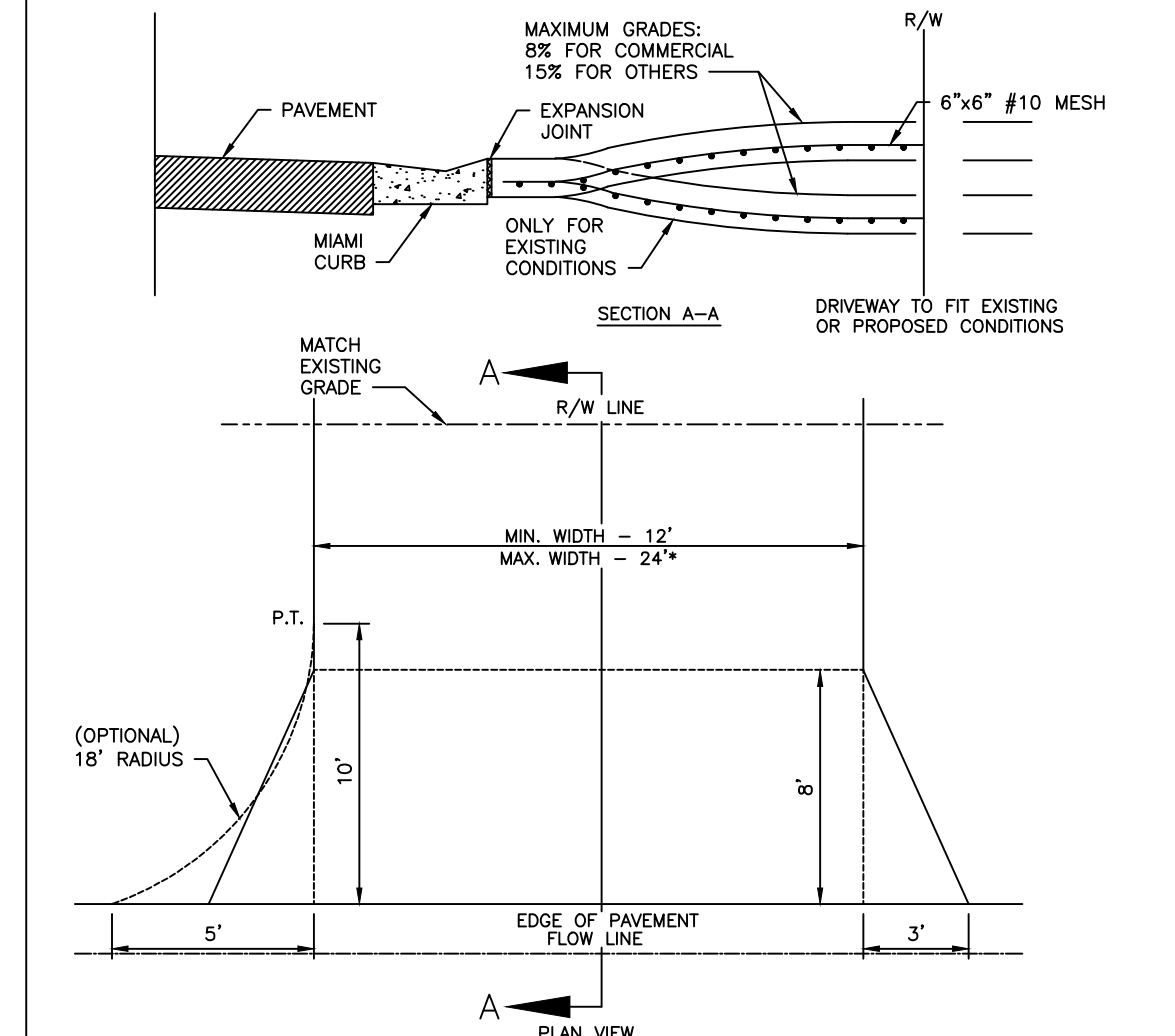


MANATEE COUNTY PUBLIC WORKS DEPARTMENT		BACK OF SIDEWALK SERVICE CONNECTION N.T.S.	
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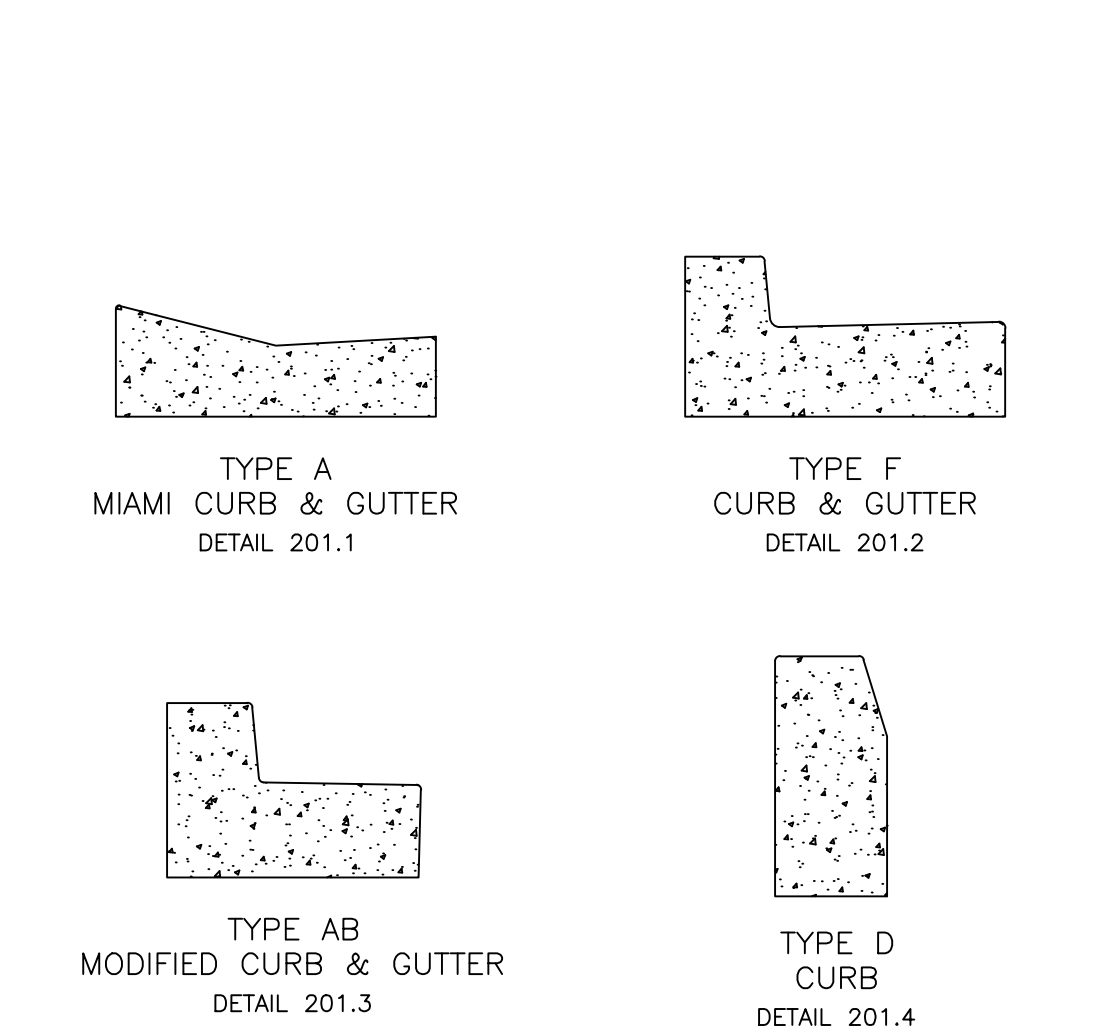
- NOTES:**
- WRITTEN APPROVAL FROM THE COUNTY IS REQUIRED FOR USING A "REVERSE TAP" CONNECTION.
 - FOR COMPLETE SERVICE CONNECTION ASSEMBLY, SEE DETAILS UW-13, UW-18 AND UW-21.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		URBAN DRIVES	101.3
REV. BY	DATE	4/26/22 DATE OF B.O.C.C. APPROVAL	



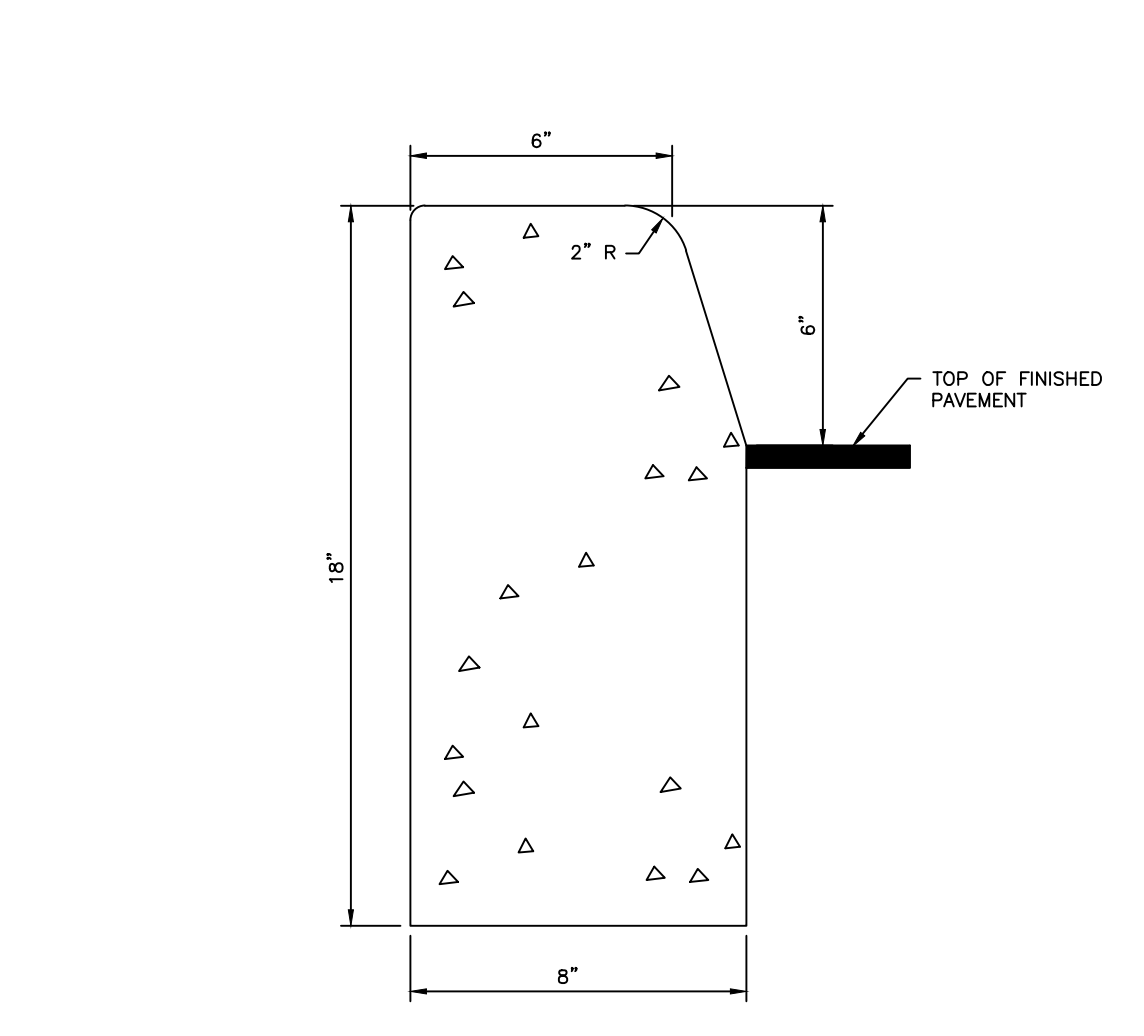
- * FOR DRIVEWAYS THAT CAN DEMONSTRATE THE NEED FOR ADDITIONAL WIDTH, THE WIDTH MAY NOT BE GREATER THAN THE LESSER OF:**
- 30' TOTAL AT THE RIGHT-OF-WAY LINE.
 - 30% OF THE FRONT FOOTAGE AS DEFINED ON THE SURVEY (OR FIELD MEASUREMENTS, 36' MAX).
- NOTES:**
- DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED.
 - DRIVEWAY SHALL BE 6" REINFORCED CONCRETE (3000 PSI AT 28 DAYS) WITH 6"x6" #10 WIRE MESH FROM BACK OF CURB TO RIGHT-OF-WAY LINE.
 - MAINTAIN EXISTING DRAINAGE FLOWLINE.
 - USE 3"x8" FLARE OR 18" RADIUS WITH CURB TRANSITION (TRANSITION FROM TYPE F CURB TO MIAMI CURB). SEE DETAIL 101.4. NO CHANGE WITH 3' VALLEY CROSSINGS.
 - EXPANSION JOINT SHALL BE 1/2" PREFORMED JOINT FILLER OR APPROVED ALTERNATE.
 - SAWCUT (1/4" THICKNESS MINIMUM) ON 10' CENTERS. IF DRIVE IS WIDER THAN 12', ADD JOINTS AT 10' CENTERS.
 - LATERAL ALIGNMENT 45 DEGREES FOR DOUBLE DRIVE PER LOT, 90 DEGREES FOR SINGLE DRIVE, OFF CENTER LINE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		URBAN DRIVES	101.3
REV. BY	DATE	4/26/22 DATE OF B.O.C.C. APPROVAL	



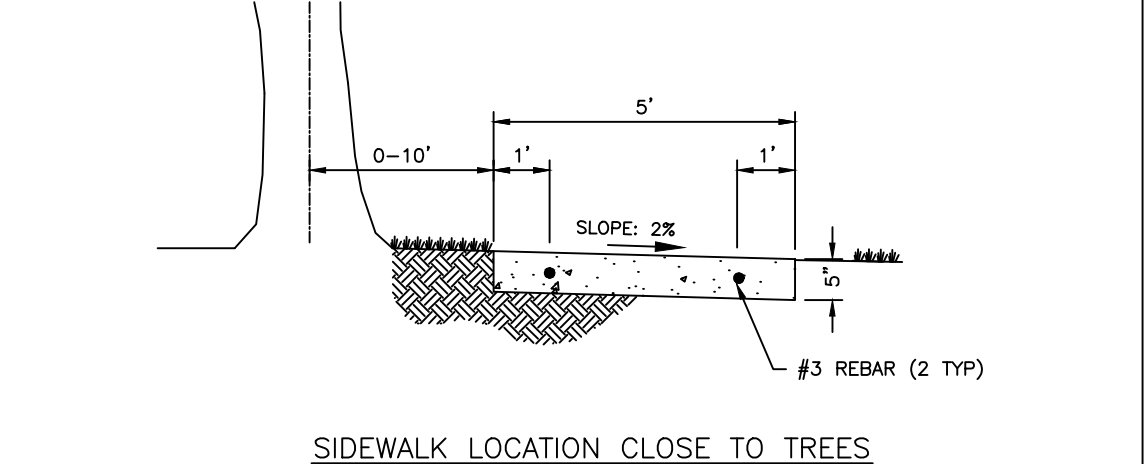
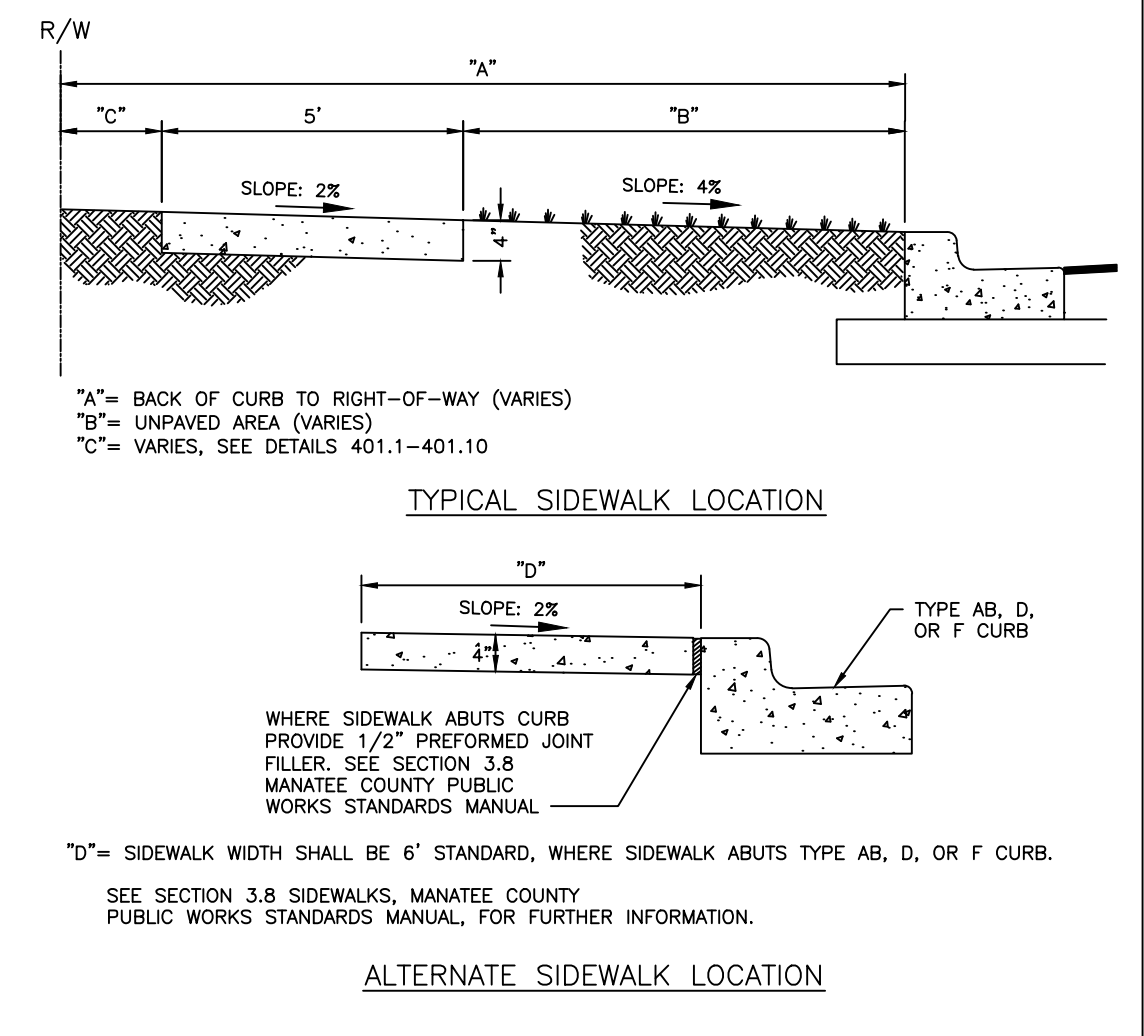
- NOTES:**
- ALL CURB AND GUTTER SHALL HAVE A 1/8" TO 1/4" CONTRACTION JOINT AT 10' CENTERS.
 - ALL CURB AND GUTTER SHALL BE CONSTRUCTED IN COMPLIANCE WITH FDOT STANDARD PLANS, INDEX NO. 520-001, LATEST EDITION.
 - TOP OF FINISHED PAVEMENT SHALL BE 1/4" ABOVE LIP OF GUTTER ON THE LOW SIDE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CURB & GUTTER CONTROL SHEET	201.0
REV. BY	DATE	4/26/22 DATE OF APPROVAL	

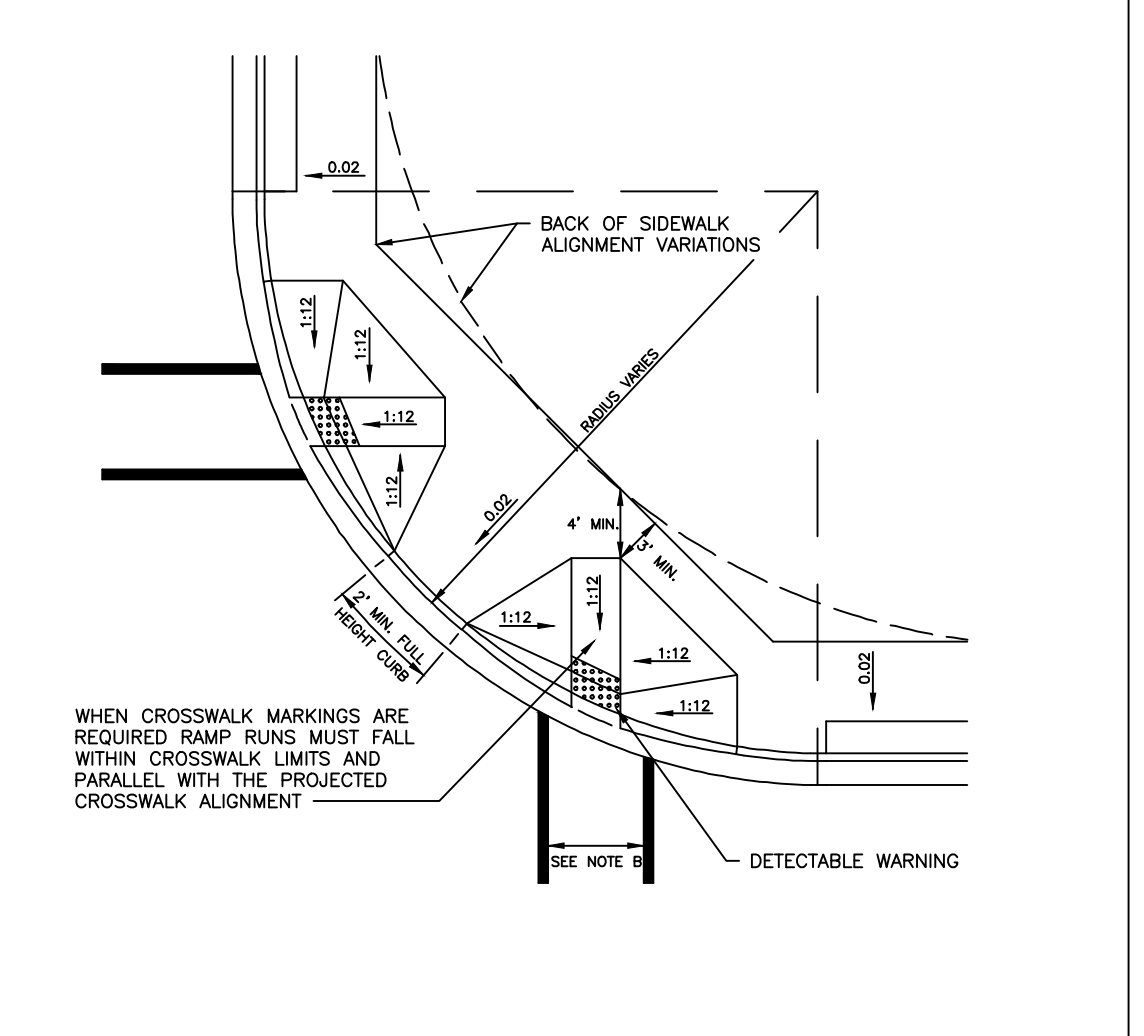


- NOTES:**
- CLASS 1 CONCRETE 3,000 PSI AT 28 DAYS.
 - CURB AND GUTTER SHALL MEET FDOT STANDARD SPECIFICATIONS AND FDOT STANDARD PLANS, INDEX 520-001, LATEST EDITION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPE D CURB	201.4
REV. BY	DATE	4/26/22 DATE OF B.O.C.C. APPROVAL	



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		SIDEWALK REQUIREMENTS	301.0
REV. BY	DATE	4/26/22 DATE OF B.O.C.C. APPROVAL	



- NOTES:**
- CURB RAMP ARE TO BE LOCATED AS SHOWN ON THE PLANS.
 - CROSSWALK WIDTHS AND CONFIGURATION VARY; MUST CONFORM TO FDOT STANDARD PLANS, INDEX 711-001, LATEST EDITION.
 - FOR COMPLETE DETECTABLE WARNING AND CURB RAMP DETAILS, SEE FDOT STANDARD PLANS, INDEX 522-002, LATEST EDITION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CURB RAMP	302.0
REV. BY	DATE	4/26/22 DATE OF B.O.C.C. APPROVAL	

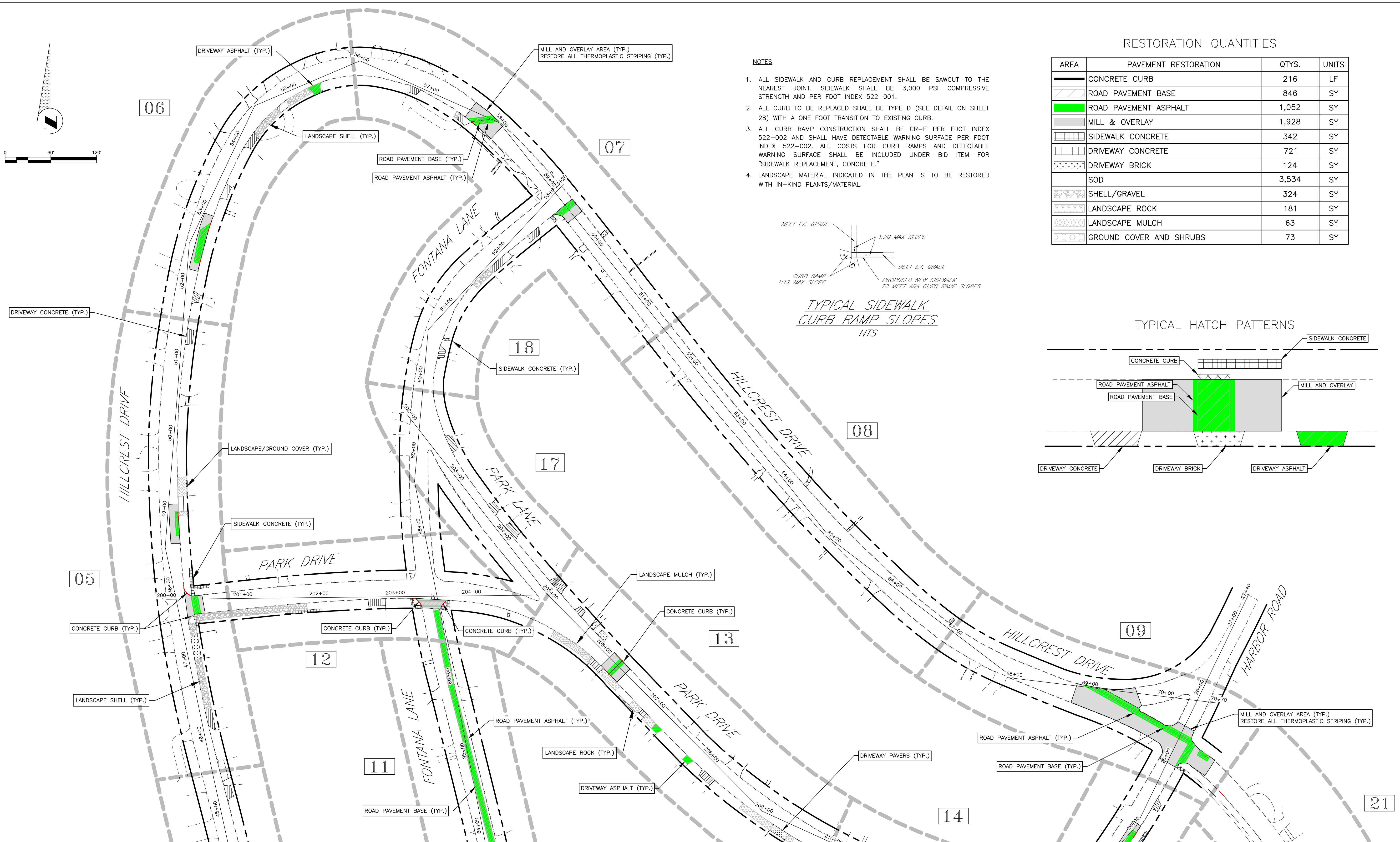
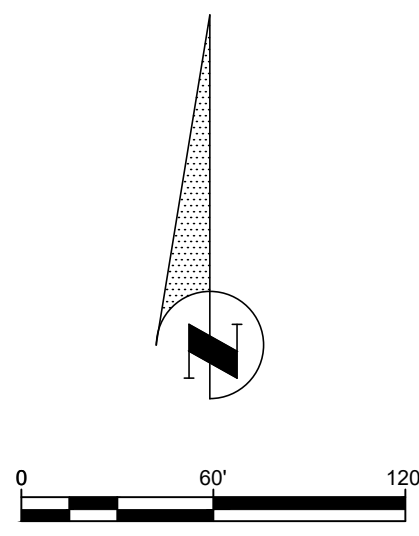
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT DETAILS



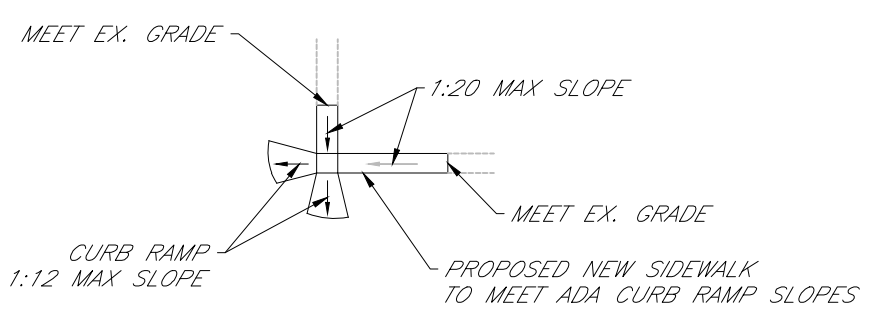
PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	BY SAC	DATE 02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date



NOTES

1. ALL SIDEWALK AND CURB REPLACEMENT SHALL BE SAWCUT TO THE NEAREST JOINT. SIDEWALK SHALL BE 3,000 PSI COMPRESSIVE STRENGTH AND PER FDOT INDEX 522-001.
2. ALL CURB TO BE REPLACED SHALL BE TYPE D (SEE DETAIL ON SHEET 28) WITH A ONE FOOT TRANSITION TO EXISTING CURB.
3. ALL CURB RAMP CONSTRUCTION SHALL BE CR-E PER FDOT INDEX 522-002 AND SHALL HAVE DETECTABLE WARNING SURFACE PER FDOT INDEX 522-002. ALL COSTS FOR CURB RAMPS AND DETECTABLE WARNING SURFACE SHALL BE INCLUDED UNDER BID ITEM FOR "SIDEWALK REPLACEMENT, CONCRETE."
4. LANDSCAPE MATERIAL INDICATED IN THE PLAN IS TO BE RESTORED WITH IN-KIND PLANTS/MATERIAL.

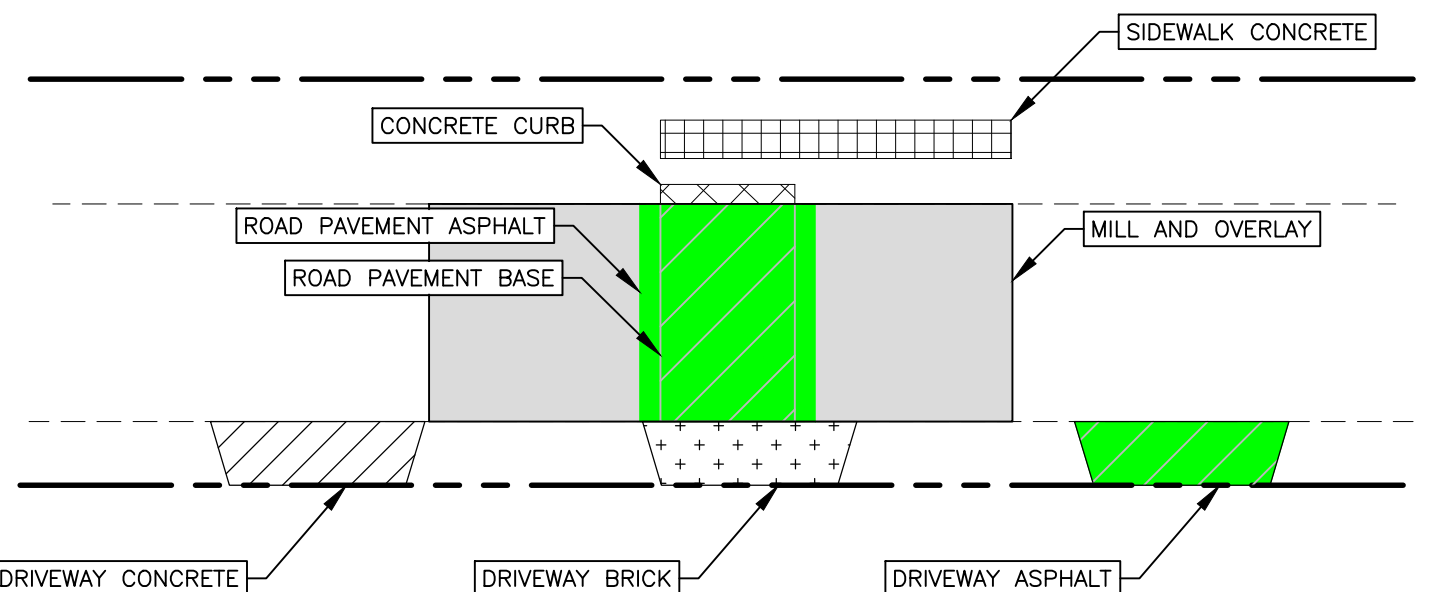


TYPICAL SIDEWALK CURB RAMP SLOPES
NTS

RESTORATION QUANTITIES

AREA	PAVEMENT RESTORATION	QTYS.	UNITS
[Hatched]	CONCRETE CURB	216	LF
[Hatched]	ROAD PAVEMENT BASE	846	SY
[Green]	ROAD PAVEMENT ASPHALT	1,052	SY
[Hatched]	MILL & OVERLAY	1,928	SY
[Hatched]	SIDEWALK CONCRETE	342	SY
[Hatched]	DRIVEWAY CONCRETE	721	SY
[Hatched]	DRIVEWAY BRICK	124	SY
[Hatched]	SOD	3,534	SY
[Hatched]	SHELL/GRAVEL	324	SY
[Hatched]	LANDSCAPE ROCK	181	SY
[Hatched]	LANDSCAPE MULCH	63	SY
[Hatched]	GROUND COVER AND SHRUBS	73	SY

TYPICAL HATCH PATTERNS



NO.	REVISION DESCRIPTION	BY	DATE

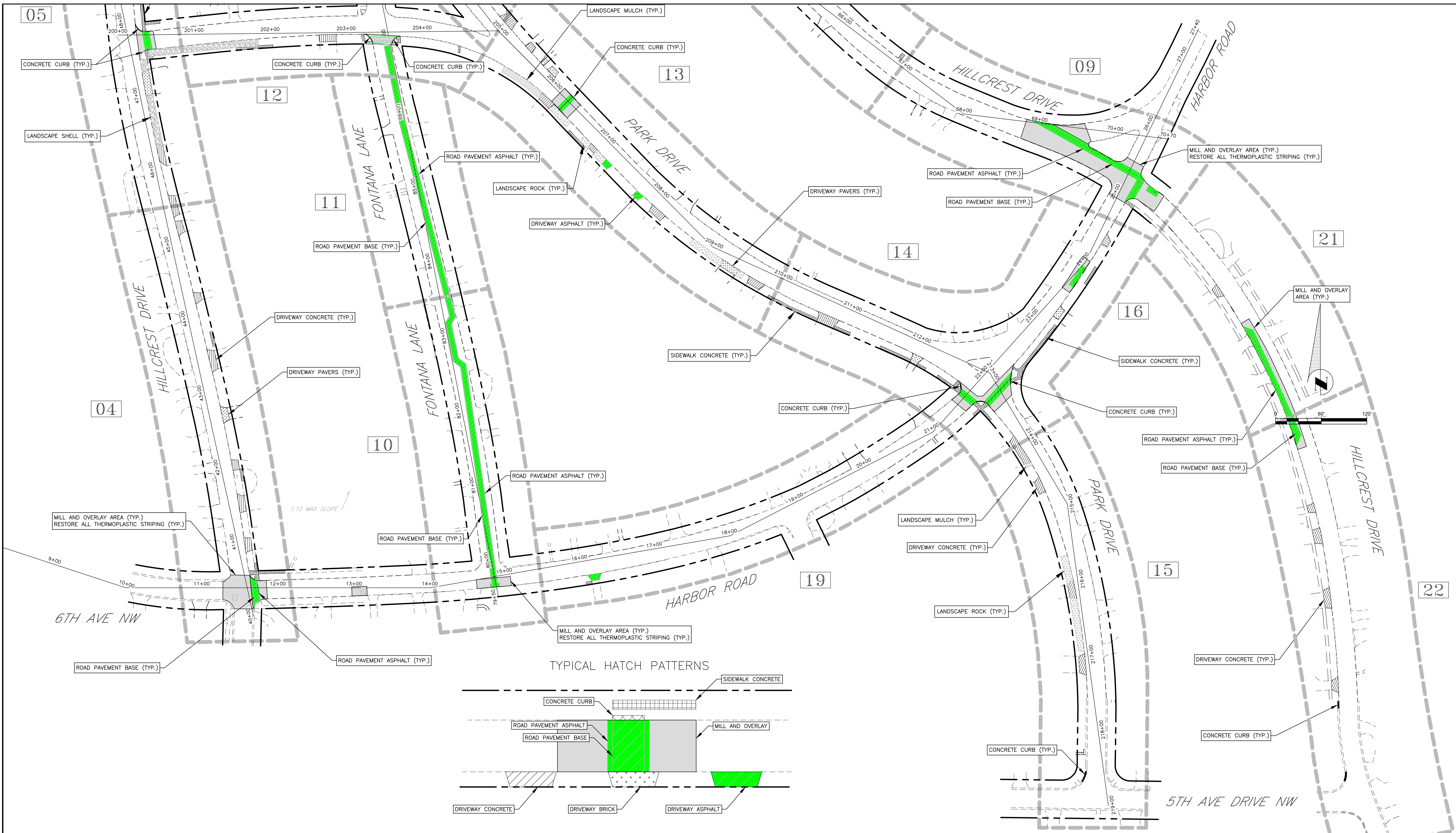
**HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
RESTORATION PLAN - WATER MAIN**



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 60'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date
SHEET 32 OF 37

\P\2018\Eng Design\PROJ\WIP\Harbor Hills Replacement\DWG\WIP\Harbor Hills Restoration.dwg, 32, 5/18/2024, 1:28 PM, Lorenzo Duarte, 1:1, ANSI Full Sheet D (34.00 x 22.00 inches), MC-2018(5)B



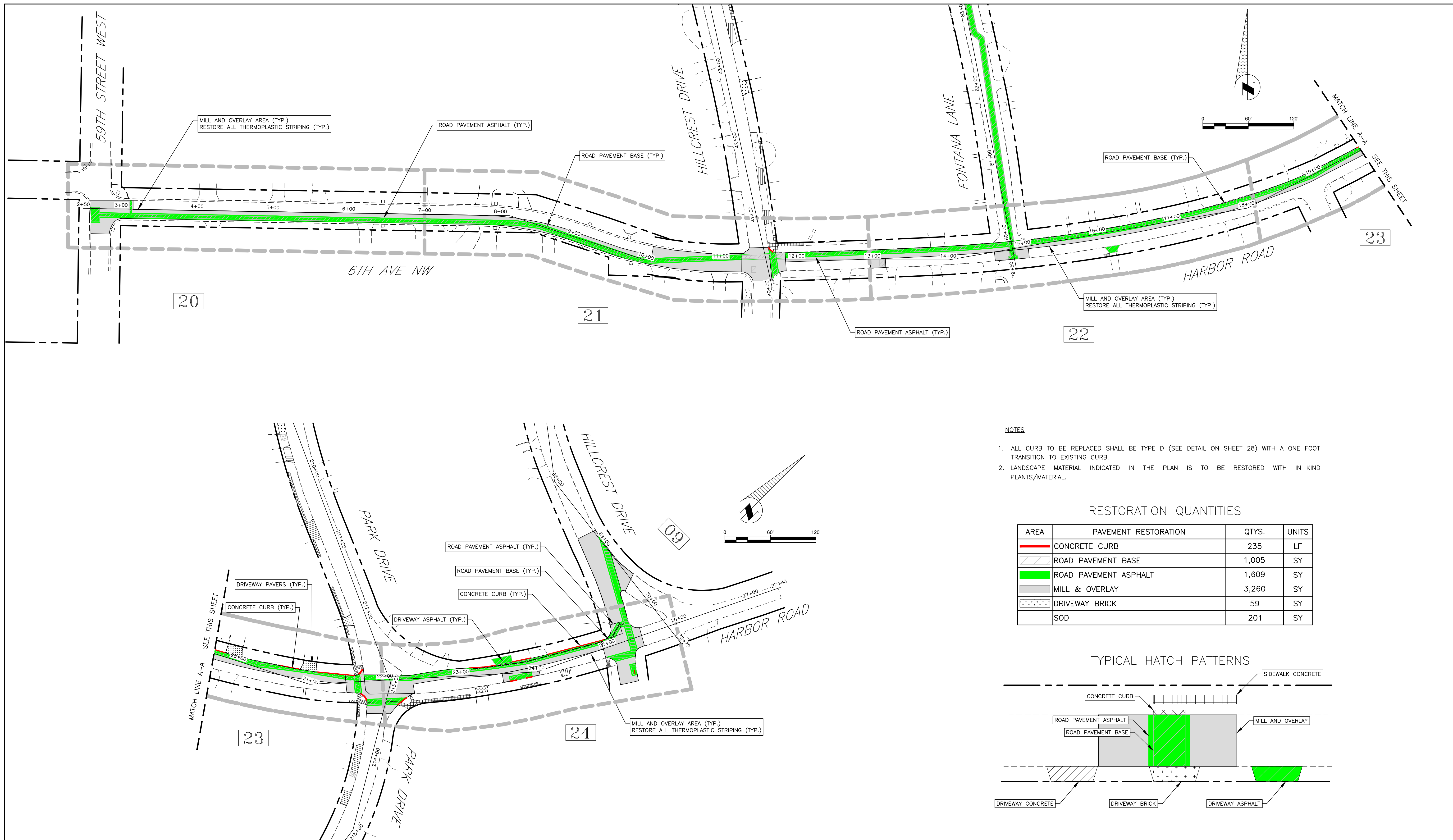
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT RESTORATION PLAN - WATER MAIN



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 60'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23
		Signature & Date
		SHEET 33 OF 37

P:\City Eng Design\PROJ\WTR Main Replacement\DWG\WTR Main Replacement Harbor Hills Restoration.dwg, 33, 5/18/2024, 1:29 PM, Lorenzo Duarte, 1:1, ANSI Full Sheet D (34.00 x 22.00 inches), MC-2016518



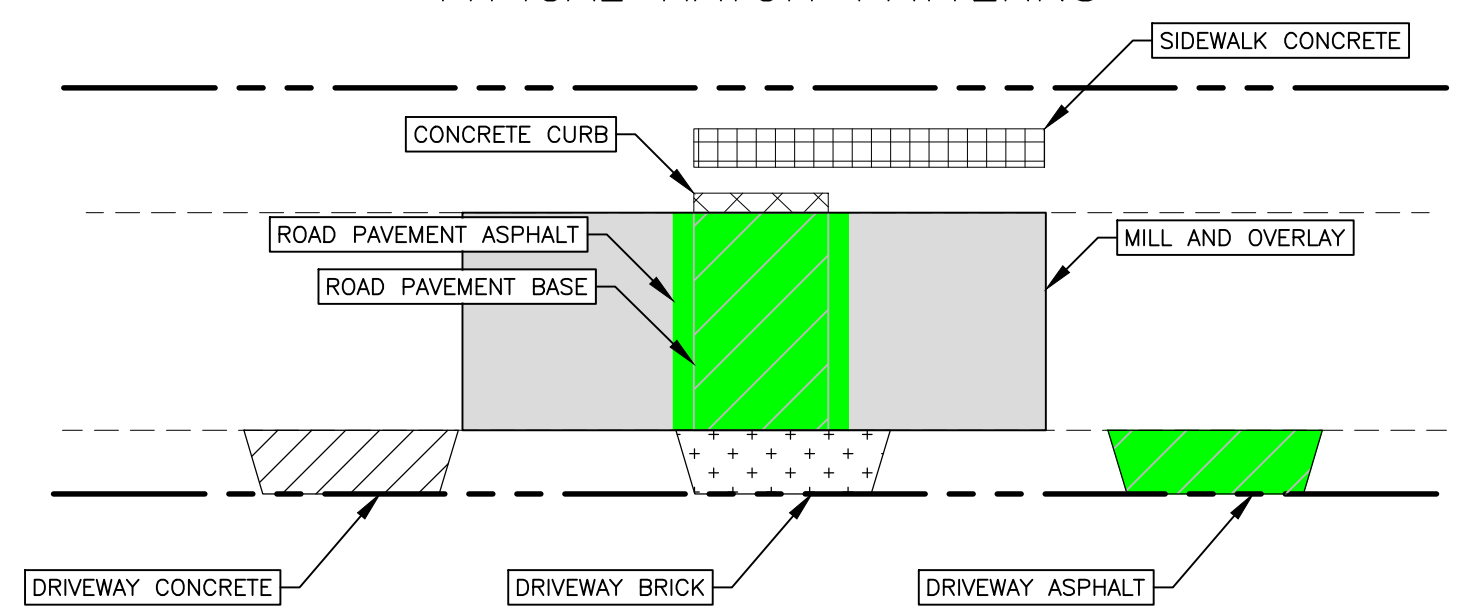
NOTES

1. ALL CURB TO BE REPLACED SHALL BE TYPE D (SEE DETAIL ON SHEET 28) WITH A ONE FOOT TRANSITION TO EXISTING CURB.
2. LANDSCAPE MATERIAL INDICATED IN THE PLAN IS TO BE RESTORED WITH IN-KIND PLANTS/MATERIAL.

RESTORATION QUANTITIES

AREA	PAVEMENT RESTORATION	QTYS.	UNITS
	CONCRETE CURB	235	LF
	ROAD PAVEMENT BASE	1,005	SY
	ROAD PAVEMENT ASPHALT	1,609	SY
	MILL & OVERLAY	3,260	SY
	DRIVEWAY BRICK	59	SY
	SOD	201	SY

TYPICAL HATCH PATTERNS



NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
RESTORATION PLAN - FORCE MAIN



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	1" = 60'	
BY	DATE	
SURVEYED	SAC	02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date
SHEET 34 OF 37

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THE INFORMATION BELOW IS EXTRACTED FROM THE SURVEYORS REPORT PREPARED FOR MANATEE COUNTY BY GEORGE F. YOUNG, INC., FOR THE PURPOSE OF CONSTRUCTION. THE FULL SURVEYORS REPORT AND CAD DELIVERABLES ARE AVAILABLE UPON REQUEST, FROM THE MANATEE COUNTY, PUBLIC WORKS DEPARTMENT, UTILITY ENGINEERING DIVISION.

- THIS IS NOT A BOUNDARY SURVEY, THIS SURVEY IS A GRAPHIC DEPICTION OF THE CURRENT TOPOGRAPHIC CONDITIONS.
- LOT LINES AND RIGHT-OF-WAY LINES SHOWN ARE APPARENT, THEY ARE FOR INFORMATIONAL PURPOSES ONLY.
- THERE MAY BE ADDITIONAL EASEMENTS, RESERVATIONS, RESTRICTIONS AND/OR OTHER MATTERS OF RECORD AFFECTING THIS PROPERTY THAT ARE NOT SHOWN HEREON THAT MAY (OR MAY NOT) BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. THE UNDERSIGNED HAS NOT PERFORMED AN INDEPENDENT SEARCH FOR ADDITIONAL RECORDS.
- THIS MAP IS INTENDED TO BE DISPLAYED AT A SCALE OF 1" = 30' OR SMALLER.
- THE PRINTED DIMENSIONS SHOWN ON THIS SURVEY SUPERSEDE ANY SCALED DIMENSIONS; THERE MAY BE ITEMS DRAWN OUT OF SCALE TO GRAPHICALLY SHOW THEIR LOCATION.
- THIS SURVEY HAS BEEN EXCLUSIVELY PREPARED FOR THE NAMED ENTITIES SHOWN HEREON AND IS NOT TRANSFERABLE. NO OTHER PERSON OR ENTITY IS ENTITLED TO RELY UPON AND/OR RE-USE THIS SURVEY FOR ANY PURPOSE WITHOUT THE EXPRESSED, WRITTEN CONSENT OF GEORGE F. YOUNG, INC. AND THE UNDERSIGNED PROFESSIONAL SURVEYOR AND MAPPER.
- UNAUTHORIZED COPIES AND/OR REPRODUCTIONS VIA ANY MEDIUM OF THIS SURVEY OR ANY PORTIONS THEREOF ARE EXPRESSLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF GEORGE F. YOUNG, INC. AND THE UNDERSIGNED PROFESSIONAL SURVEYOR AND MAPPER.
- ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES ARE PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
- THIS SURVEY IS VALID AS TO THE LAST DATE OF FIELD SURVEY AND NOT THE SIGNATURE DATE (IF ANY).
- THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA PROFESSIONAL SURVEYOR AND MAPPER.
- ELEVATIONS SHOWN ARE BASED ON MANATEE COUNTY BENCH MARK "BLACK TIP" (PID #BBHB38), WITH A PUBLISHED ELEVATION OF 13.85' NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND "SQUID" (PID #BBCJ93), WITH A PUBLISHED ELEVATION OF 12.99' (NAVD88). CONTROL POINTS ARE PUBLISHED WITH THE NATIONAL GEODETIC SERVICE (NGS).
- 0.00' NAVD88 = +0.91' NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29). CONVERSION CALCULATED USING NATIONAL SERVICE COORDINATE CONVERSION AND TRANSFORMATION TOOL (NCAT).
- PROPERTY IS LOCATED IN FLOOD ZONE "X" AND ZONE "AE" (EL 7 FEET). PER FLOOD INSURANCE RATE MAP 12081C0163E, EFFECTIVE DATE MARCH 17, 2014. THE BASE FLOOD ELEVATION SHOULD BE VERIFIED BEFORE ANY DESIGN OR CONSTRUCTION BEGINS.
- THIS SURVEY SHOWS VISIBLE, ABOVE GROUND FEATURES. NO UNDERGROUND FEATURES, INCLUDING BUT NOT LIMITED TO FOUNDATIONS, STRUCTURES, INSTALLATIONS, OR IMPROVEMENTS HAVE BEEN LOCATED, EXCEPT AS SHOWN HEREON.
- ALL TREE SPECIES SHOWN HEREON (IF ANY), ARE FOR INFORMATIONAL PURPOSES ONLY AND ANY TREE SPECIES THAT MAY BE CRITICAL SHOULD BE VERIFIED BY A CERTIFIED ARBORIST.
- GEORGE F. YOUNG, INC. AND THE UNDERSIGNED MAKE NO REPRESENTATIONS OR GUARANTEES PERTAINING TO EASEMENTS, RIGHTS-OF-WAY, SET BACK LINES, RESERVATIONS AND/OR AGREEMENTS.
- ALL UTILITY POLES ARE WOOD WITH APPARENT ELECTRIC AND CABLE SERVICE.

PREPARED FOR AND CERTIFIED TO:
MANATEE COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA
SURVEYOR AND MAPPER IN RESPONSIBLE CHARGE:
RESPECTFULLY SUBMITTED, AND CERTIFIED BY:
GEORGE F. YOUNG, INC.

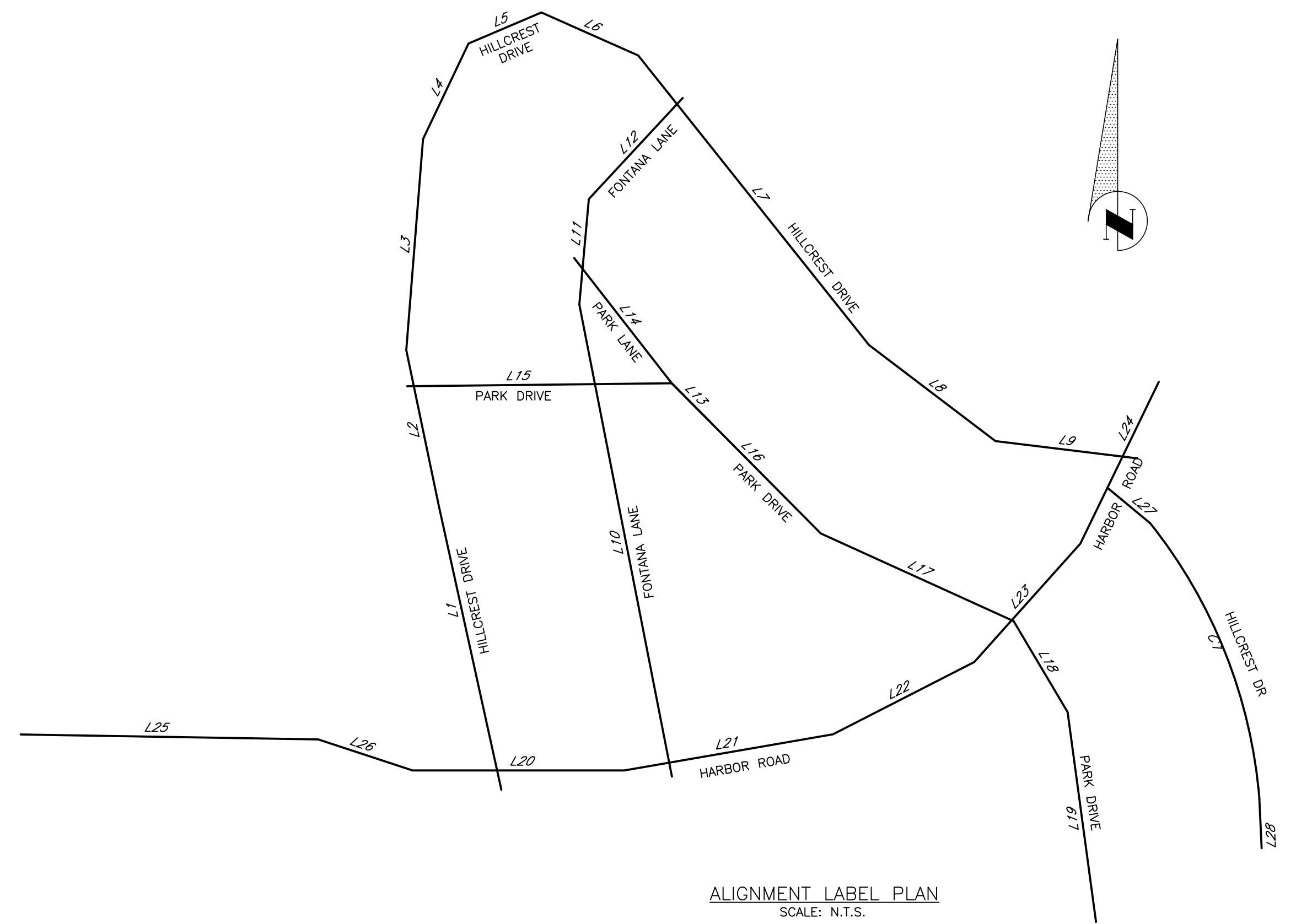
SHANE A. CHRISTY, P.S.M. #7100
NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

HILLCREST DRIVE, FONTANA LANE, PARK DRIVE AND PARK LANE ALIGNMENTS WERE EXTENDED IN THE CAD FILE BY THE UTILITY DESIGNER IN ORDER TO PROVIDE PROFILE GRADE LINES AND CALL OUT STATIONING. THESE EXTENSIONS WERE NOT GENERATED BY THE SURVEYOR AND ARE NOT MONUMENTED IN THE FIELD. THE ALIGNMENTS NOW EXTEND BEYOND THE SURVEYORS CALL OUT "END OF SURVEY".

CONTROL POINT TABLE				
Point #	Raw Description	Elevation	Northing	Easting
5	NDS	8.90	1153431.790	455802.984
6	IRS LB021	14.35	1153933.131	455817.108
7	IRS LB021	11.09	1153972.921	456322.092
8	IRS LB021	10.74	1153526.654	456650.209
9	IRS LB021	9.80	1153200.943	457107.971
10	IRS LB021	16.68	1152959.021	456922.692
11	IRS LB021	12.92	1153459.674	456252.284
12	IRS LB021	16.14	1153734.563	456107.905
13	IRS LB021	12.94	1154148.857	456004.006

TEST HOLE DATA (GFY, JOB #19Y15606LS)		
TEST HOLE	UTILITY	DEPTH OF COVER (FEET)
VH#1	6" PVC WM (WHITE)	2.97
VH#2	4" STEEL FM	3.22
VH#3	UNK SIZE PVC SS	3.00
VH#4	6" PVC SS	2.94
VH#5	6" PVC SS	3.78
VH#6	2" PVC WM (WHITE)	2.27
VH#7	UNK SIZE STEEL FM	4.20
VH#8	4" PVC WM	2.15
VH#9	2" STEEL WM	2.09
VH#10	6" PVC WM (WHITE)	1.94
VH#11	4" DIP WM	3.47
VH#12	2" STEEL WM	1.75
VH#13	4" PVC WM	2.16
VH#14	4" DIP FM	3.51
VH#15	4" CIP WM	2.00
VH#16	6" PVC SS	3.15
VH#17	6" PVC WM (WHITE)	4.14
VH#18	4" PVC WM	1.54
VH#19	4" PVC WM	1.33
VH#20	4" PVC WM	1.14

CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C1	963.369	569.505	S21° 37' 10.81"E	457192.9376,1153184.2704	457399.7261,1152662.5056



ALIGNMENT TABLES / HORIZONTAL CONTROL							
SEGMENT	LENGTH	DIRECTION	START STATION	END STATION	START NORTHING & EASTING	END NORTHING & EASTING	ALIGNMENT
L1	550.00	N12° 24' 40.02"W	40+00.00	45+50.00	1152680.2835, 455967.6532	1153217.4261, 455849.4455	Hillcrest Drive
L2	300.00	N11° 49' 27.08"W	45+50.00	48+50.00	1153217.4261, 455849.4455	1153511.0604, 455787.9727	Hillcrest Drive
L3	400.00	N04° 31' 07.84"E	48+50.00	52+50.00	1153511.0604, 455787.9727	1153909.8169, 455819.4875	Hillcrest Drive
L4	200.00	N25° 27' 31.44"E	52+50.00	54+50.00	1153909.8169, 455819.4875	1154090.3960, 455905.4597	Hillcrest Drive
L5	150.00	N66° 53' 38.23"E	54+50.00	56+00.00	1154090.3960, 455905.4597	1154149.2611, 456043.4267	Hillcrest Drive
L6	200.00	S66° 01' 16.52"E	56+00.00	58+00.00	1154149.2611, 456043.4267	1154067.9816, 456226.1660	Hillcrest Drive
L7	700.00	S38° 32' 41.70"E	58+00.00	65+00.00	1154067.9816, 456226.1660	1153520.4976, 456662.3556	Hillcrest Drive
L8	300.00	S52° 45' 56.42"E	65+00.00	68+00.00	1153520.4976, 456662.3556	1153338.9748, 456901.2058	Hillcrest Drive
L9	270.01	S83° 02' 53.25"E	68+00.00	70+70.01	1153338.9748, 456901.2058	1153306.2935, 457169.2344	Hillcrest Drive
L10	909.30	N11° 05' 17.04"W	79+50.00	88+59.30	1152704.9904, 456289.7598	1153597.3212, 456114.8844	Fontana Lane
L11	200.00	N05° 10' 07.78"E	88+59.30	90+59.30	1153597.3212, 456114.8844	1153796.5079, 456132.9026	Fontana Lane
L12	260.70	N42° 53' 55.86"E	90+59.30	93+20.00	1153796.5079, 456132.9026	1153987.4817, 456310.3593	Fontana Lane
L13	100.02	N44° 46' 33.83"W	204+99.98	206+00.00	1153448.3201, 456289.6631	1153377.3218, 456360.1086	Park Lane
L14	299.98	N37° 55' 41.61"W	202+00.00	204+99.98	1153684.9415, 456105.2711	1153448.3201, 456289.6631	Park Lane
L15	499.98	N89° 20' 52.50"E	200+00.00	204+99.98	1153442.6299, 455789.7122	1153448.3201, 456289.6631	Park Drive
L16	400.00	S44° 46' 33.83"E	204+99.98	208+99.98	1153448.3201, 456289.6631	1153164.3741, 456571.3982	Park Drive
L17	400.00	S65° 32' 39.77"E	208+99.98	212+99.98	1153164.3741, 456571.3982	1152998.7788, 456935.5111	Park Drive
L18	200.00	S30° 37' 28.83"E	212+99.98	214+99.98	1152998.7788, 456935.5111	1152826.6743, 457037.3935	Park Drive
L19	400.00	S07° 44' 47.77"E	214+99.98	218+99.98	1152826.6743, 457037.3935	1152430.3247, 457091.3104	Park Drive
L20	400.00	N90° 00' 00.00"E	10+00.00	14+00.00	1152716.6539, 455800.0394	1152716.6539, 456200.0394	Harbor Road
L21	400.00	N80° 10' 08.83"E	14+00.00	18+00.00	1152716.6539, 456200.0394	1152784.9501, 456594.1658	Harbor Road
L22	300.00	N62° 53' 55.69"E	18+00.00	21+00.00	1152784.9501, 456594.1658	1152921.6192, 456861.2268	Harbor Road
L23	300.00	N41° 52' 57.37"E	21+00.00	24+00.00	1152921.6192, 456861.2268	1153144.9735, 457061.5087	Harbor Road
L24	340.00	N25° 52' 38.99"E	24+00.00	27+40.00	1153144.9735, 457061.5087	1153450.8814, 457209.9012	Harbor Road
L25	562.21	S89° 01' 12.39"E	2+50.00	8+12.21	1152784.6506, 455059.4273	1152775.0360, 455621.5525	Harbor Road
L26	187.79	S71° 53' 14.46"E	8+12.21	10+00.00	1152775.0360, 455621.5525	1152716.6539, 455800.0394	Harbor Road
L27	103.92	S50° 18' 42.31"E	100+00.00	101+03.92	1153250.6345, 457112.9683	1153184.2704, 457192.9376	Hillcrest Dr
L28	92.97	S02° 49' 44.55"E	106+73.42	107+66.39	1152662.5056, 457399.7261	1152569.6514, 457404.3147	Hillcrest Dr

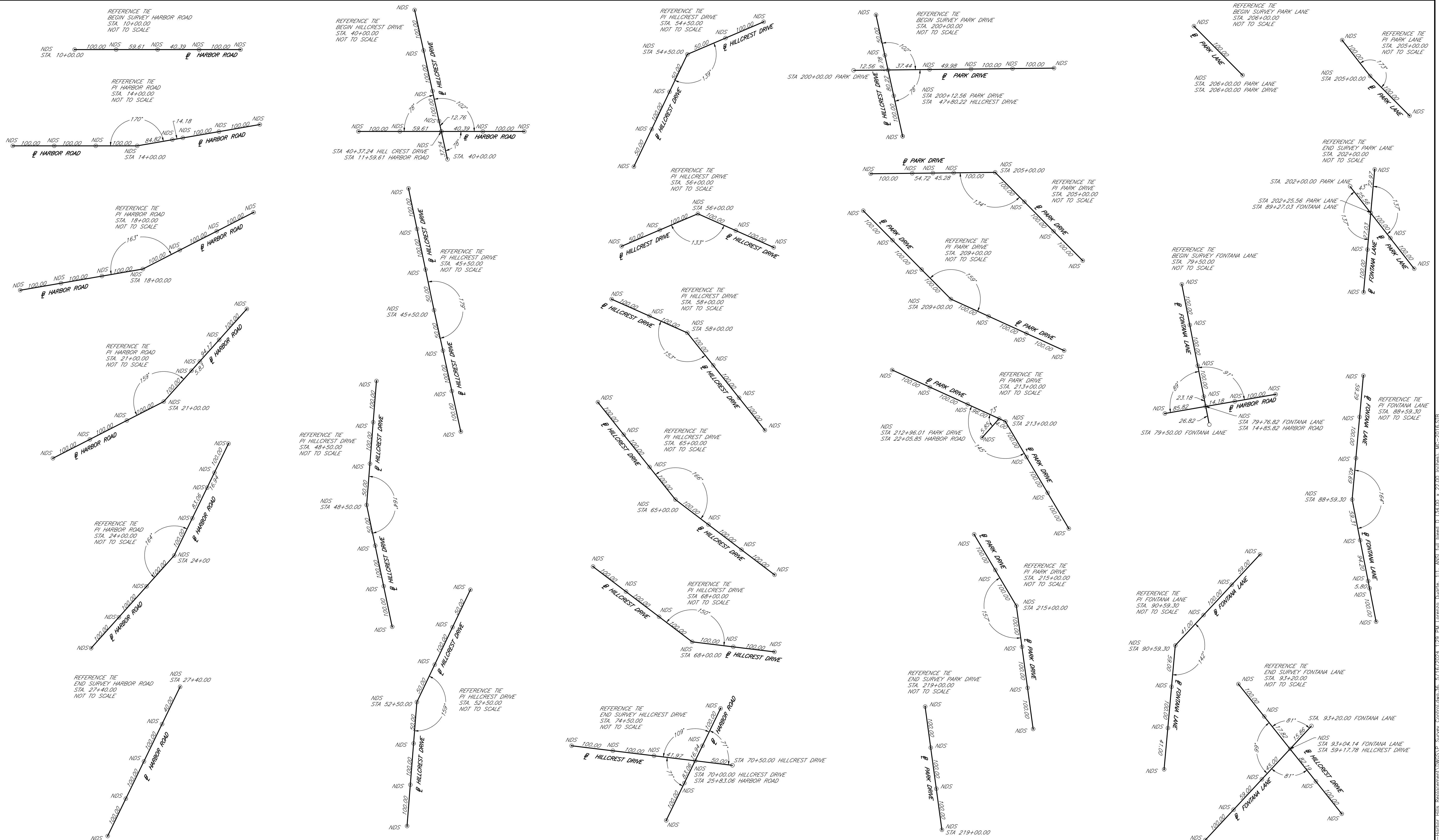
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT SURVEY CONTROL & S.U.E. TABLE



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	BY DATE	
DESIGNED	SAC 02-2021	
DRAWN	LD 06-18-21	
CHECKED	LD 07-13-23	Signature & Date

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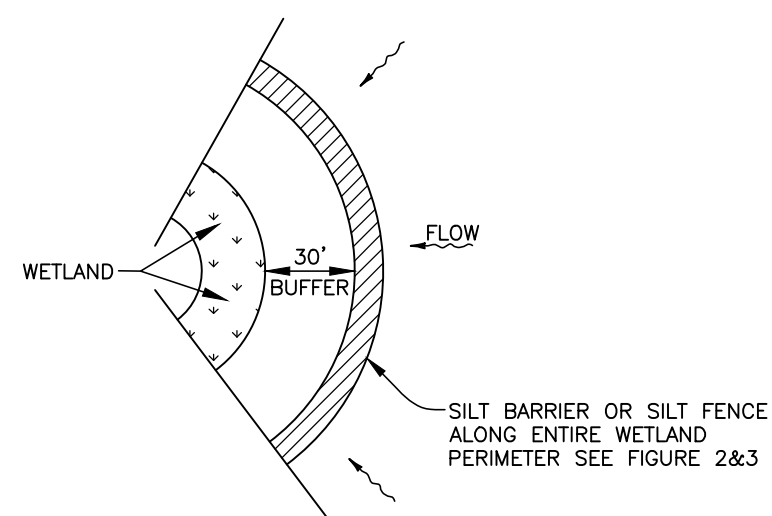
NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS WATER & FORCE MAIN REPLACEMENT BASELINE REFERENCE

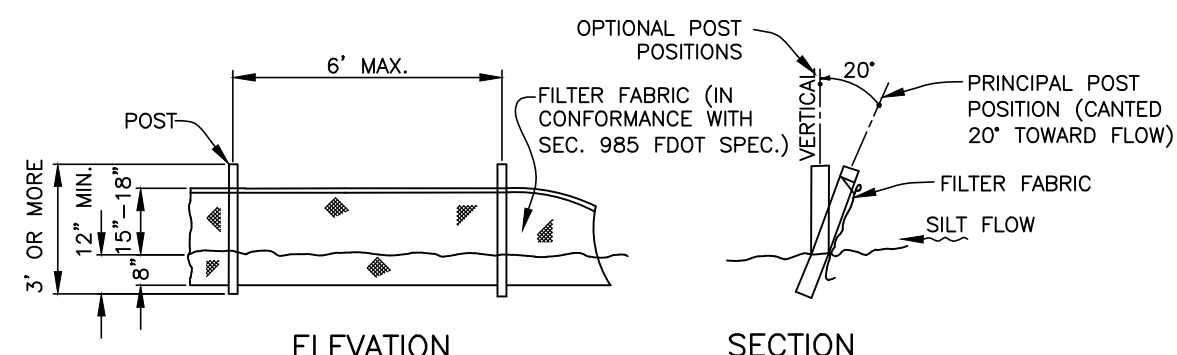


PROJECT #	6104270	LORENZO DUARTE
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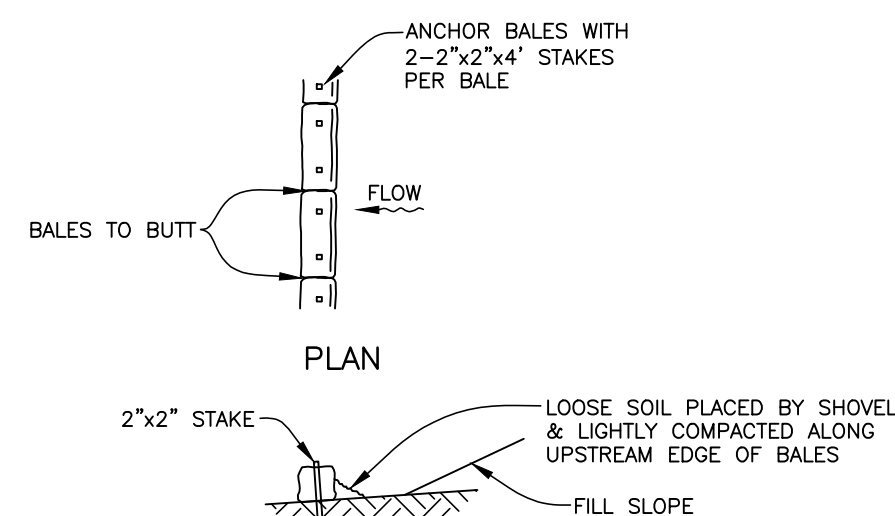
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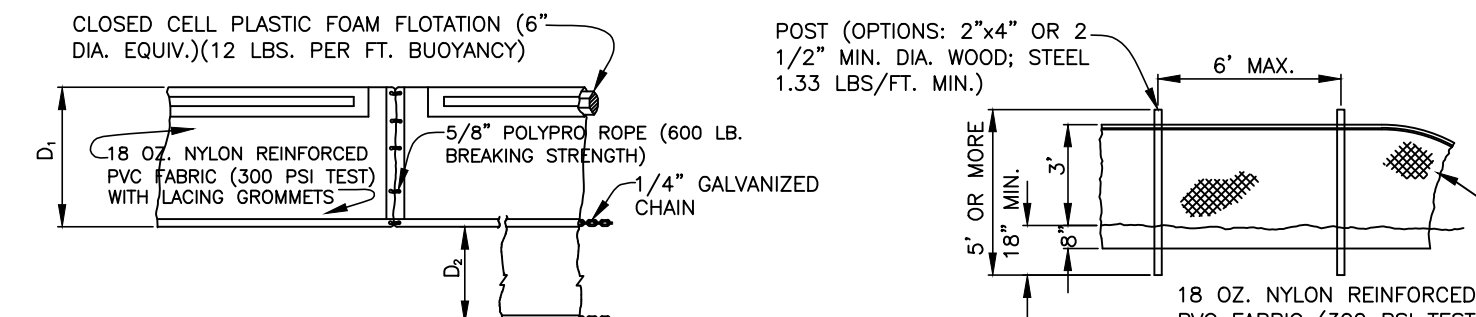
WETLAND BUFFER
FIGURE 1



TYPICAL SILT FENCE
FIGURE 2



TYPICAL BALE SILT BARRIER
FIGURE 3

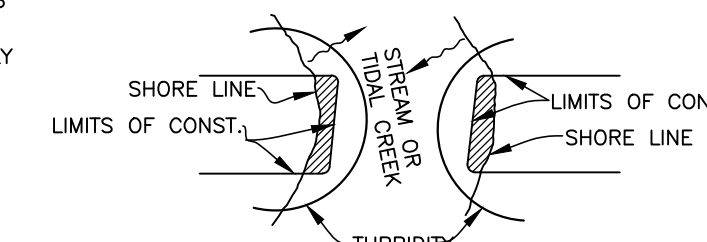


FLOATING TURBIDITY BARRIERS

STAKED TURBIDITY BARRIER

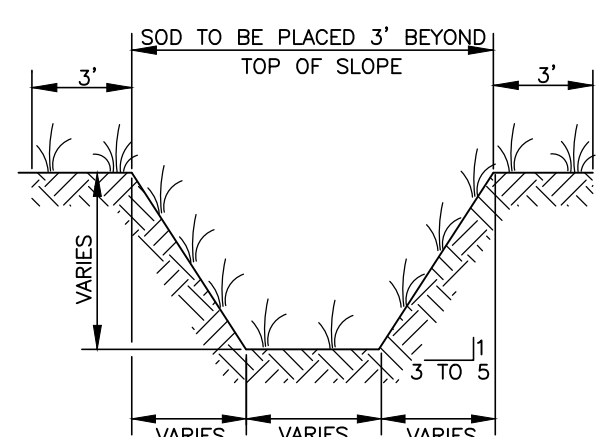
$D_1 = 5'$ STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS). $D_2 = 5'$ STD. (ADDITIONAL PANEL FOR DEPTHS > 5'). CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

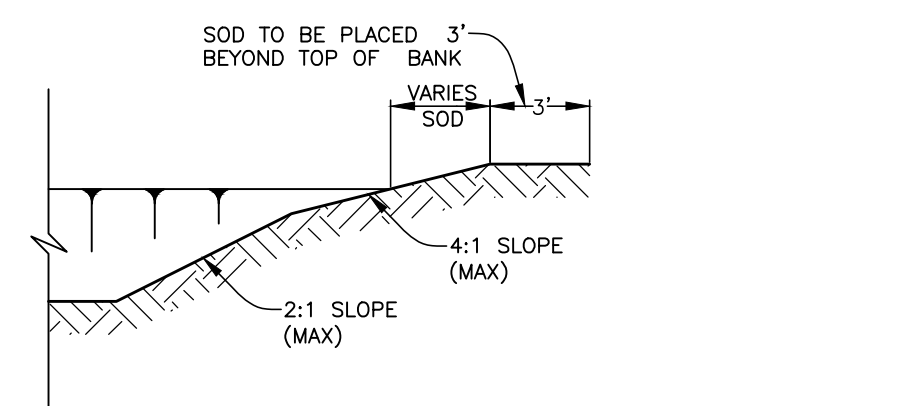


TURBIDITY BARRIERS

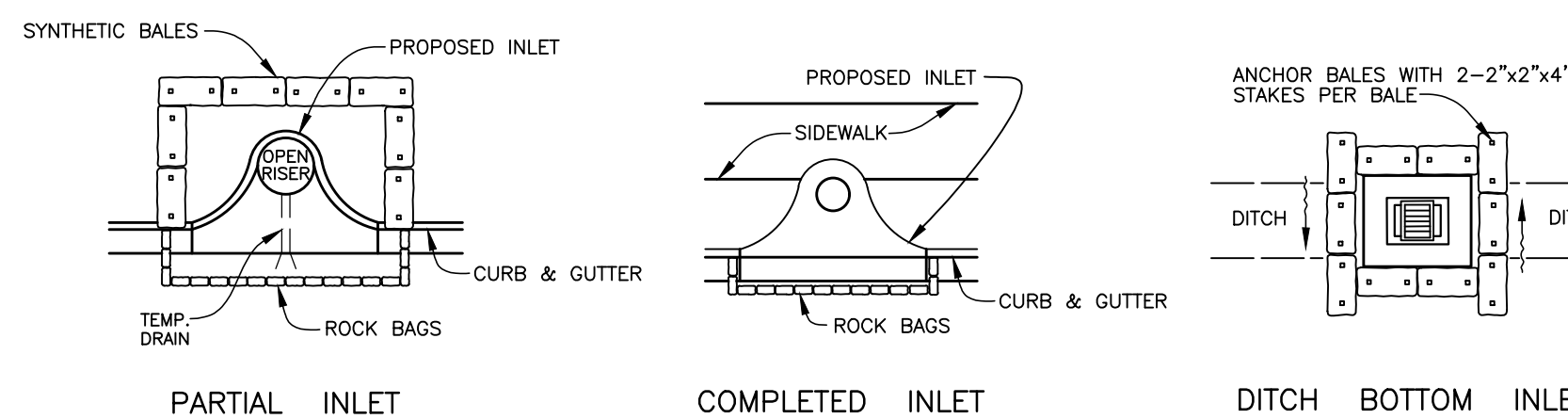
FIGURE 4



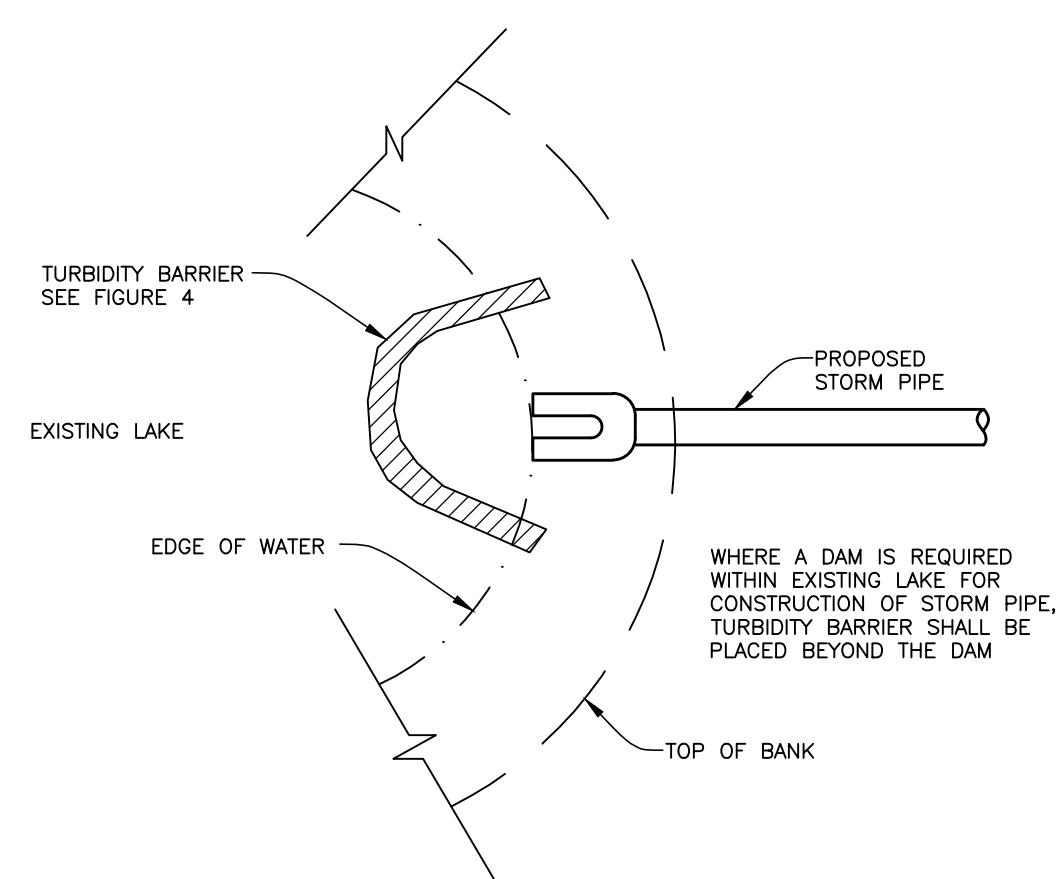
TYPICAL SWALE SECTION
FIGURE 5



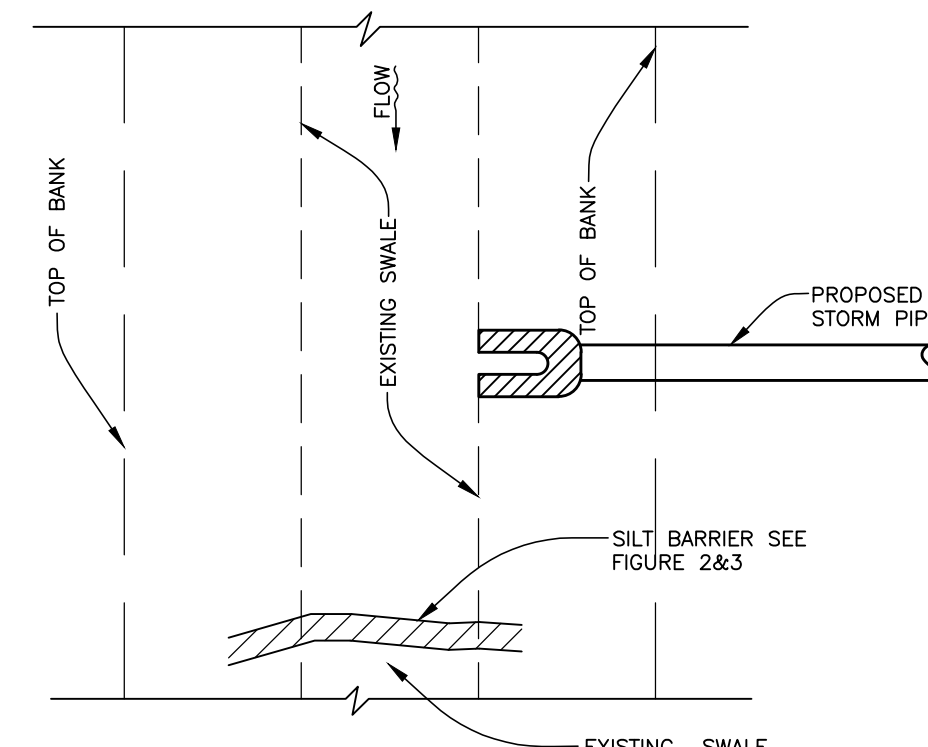
TYPICAL RETENTION/DETENTION POND SECTION
FIGURE 6



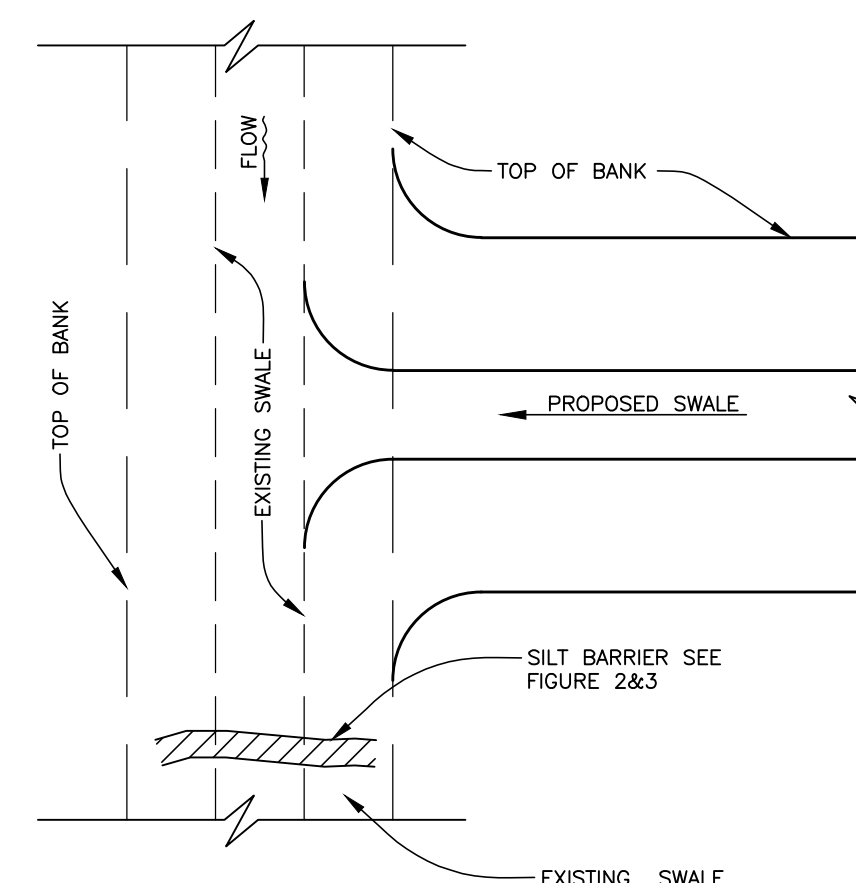
SYNTHETIC BALE PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
FIGURE 7



TURBIDITY BARRIER AT CONNECTION OF STORM PIPE TO EXISTING LAKE
FIGURE 9

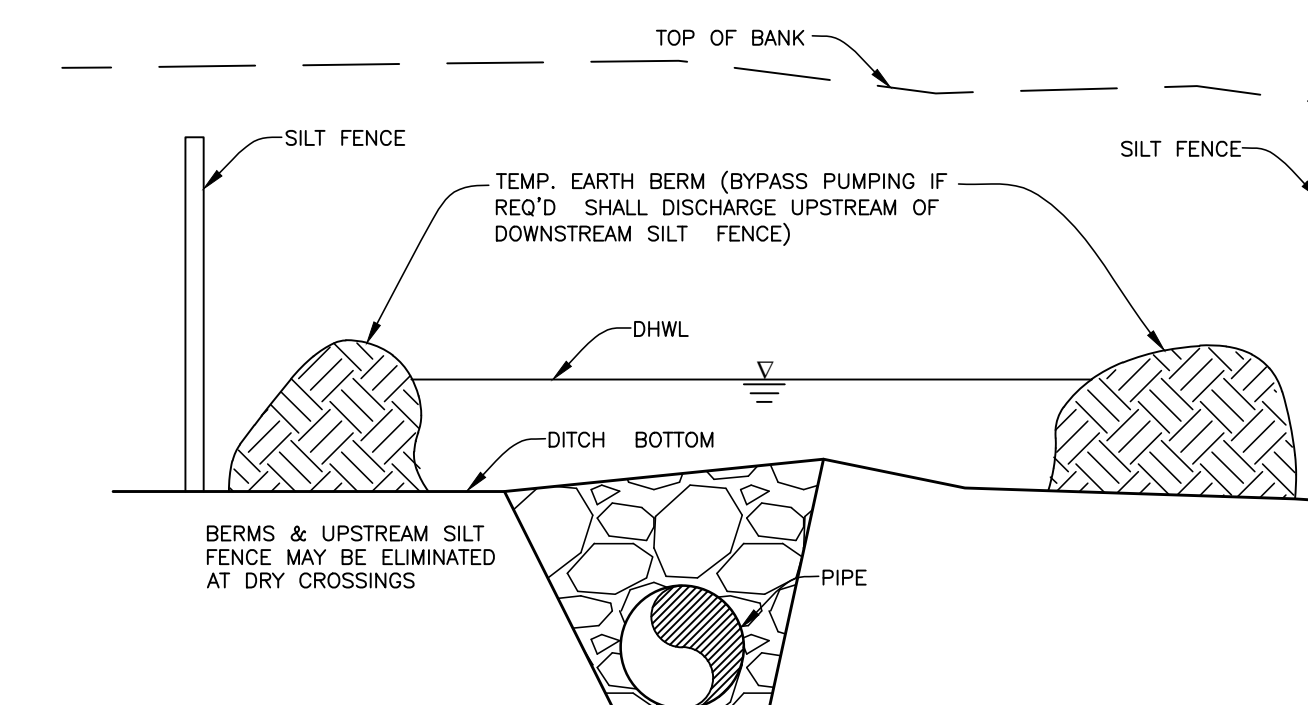


SILT BARRIER AT CONNECTION OF STORM PIPE TO EXISTING SWALE
FIGURE 10

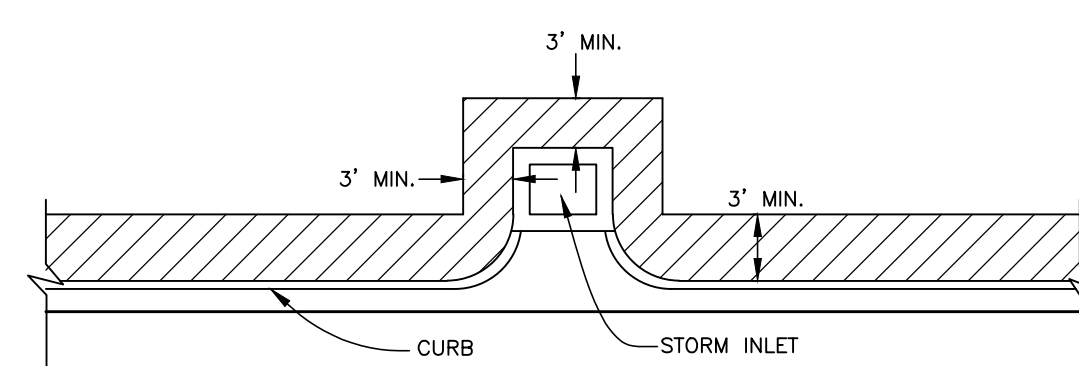


SILT BARRIER AT CONNECTION OF SWALE TO EXISTING SWALE
FIGURE 11

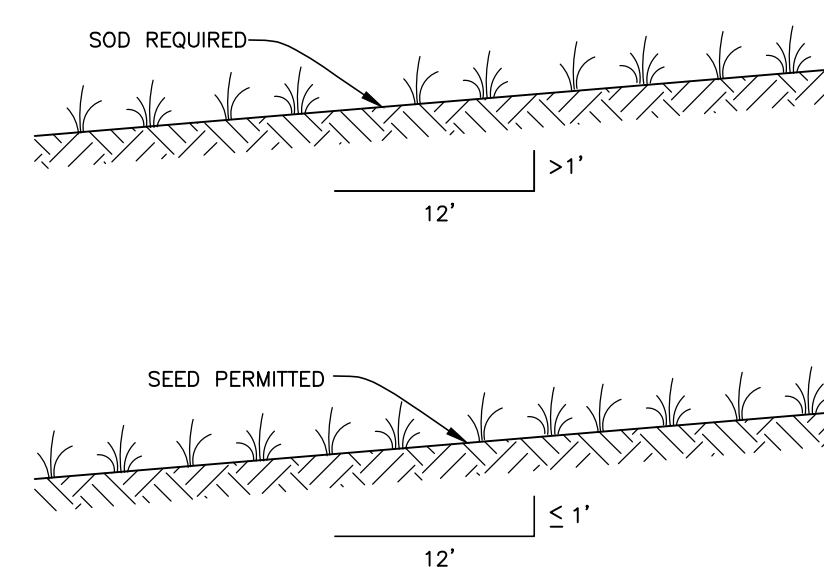
TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
STAKED SILT BARRIER OR SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
FIGURE 8



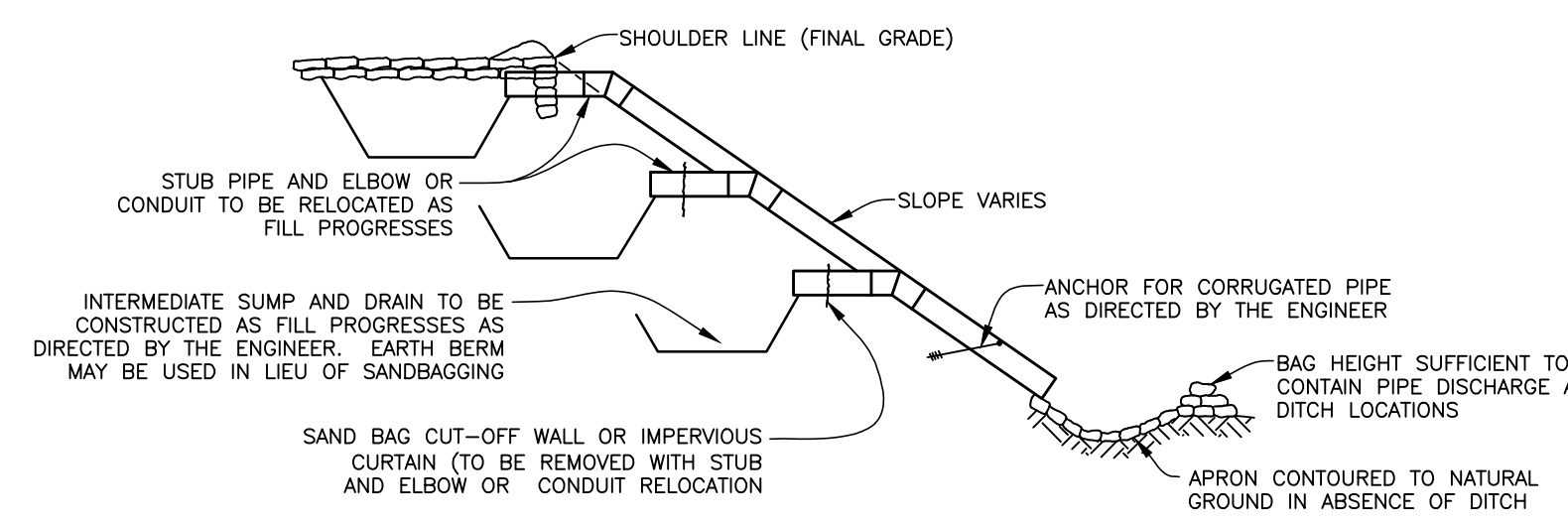
UNDERGROUND PIPE CROSSING
FIGURE 12



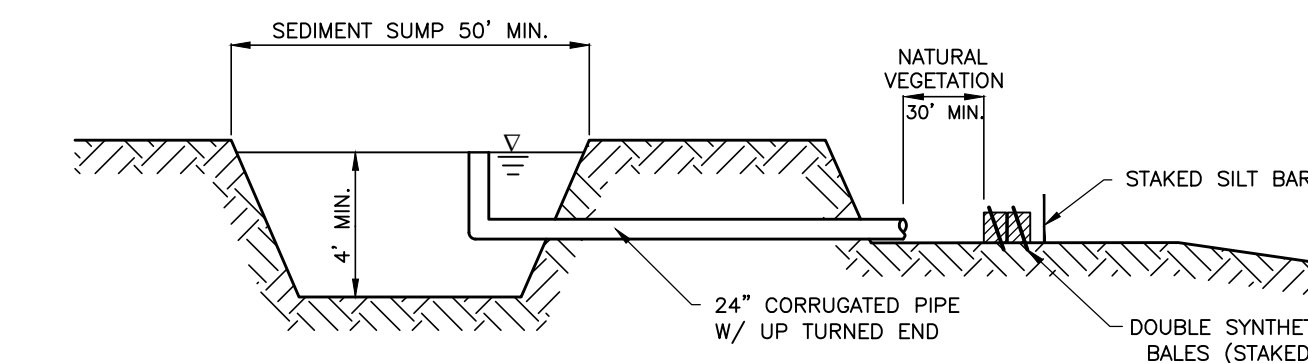
SOD ALONG CURB AND AROUND INLET
FIGURE 14



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

NO.	REVISION DESCRIPTION	BY	DATE

HARBOR HILLS
WATER & FORCE MAIN REPLACEMENT
EROSION CONTROL



PROJECT #	6104270	LORENZO DUARTE
SURVEY #	-	FLORIDA P.E. # 79285
SEC./TWN./RGE	20&29/37/17	
SCALE	N.T.S.	
SURVEYED	BY SAC	DATE 02-2021
DESIGNED	LD	06-18-21
DRAWN	LD	06-18-21
CHECKED	LD	07-13-23

Signature & Date
SHEET 37 OF 37