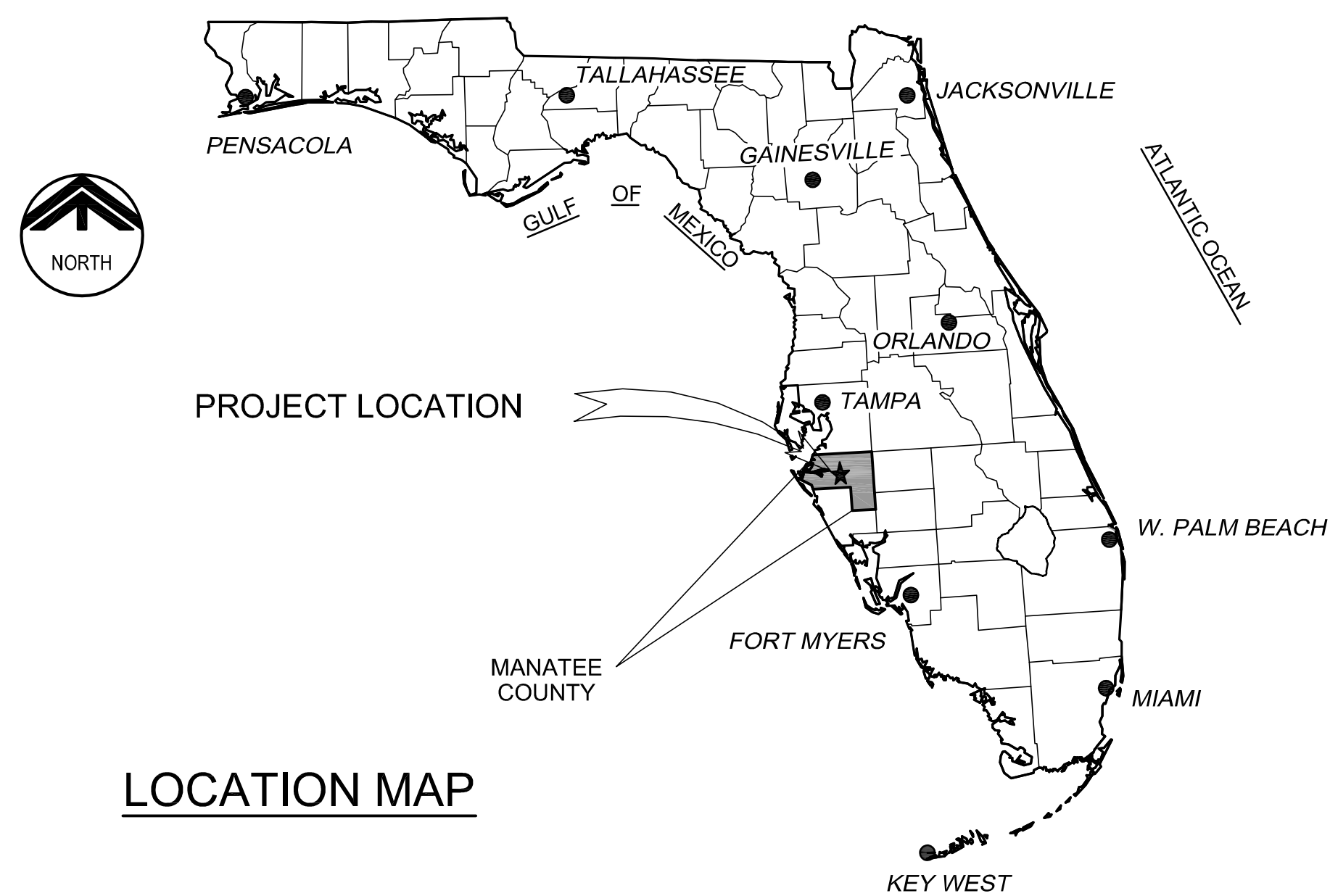


# MANATEE COUNTY GOVERNMENT PUBLIC WORKS DEPARTMENT (MANATEE COUNTY, FLORIDA)

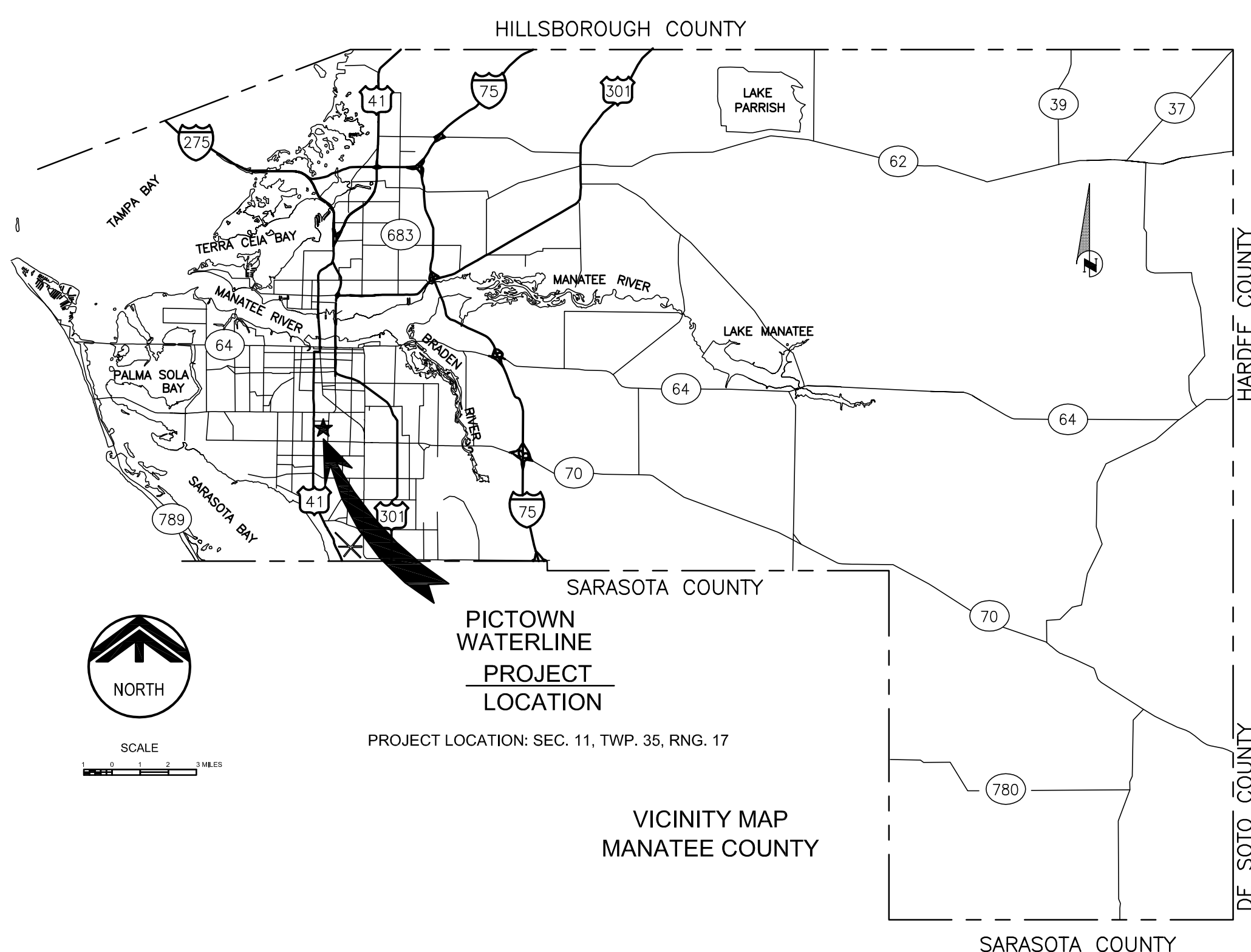
## PIC TOWN WATERLINE REPLACEMENT (PHASE II)

MANATEE COUNTY PROJECT NO. 6074870

OCTOBER 2009

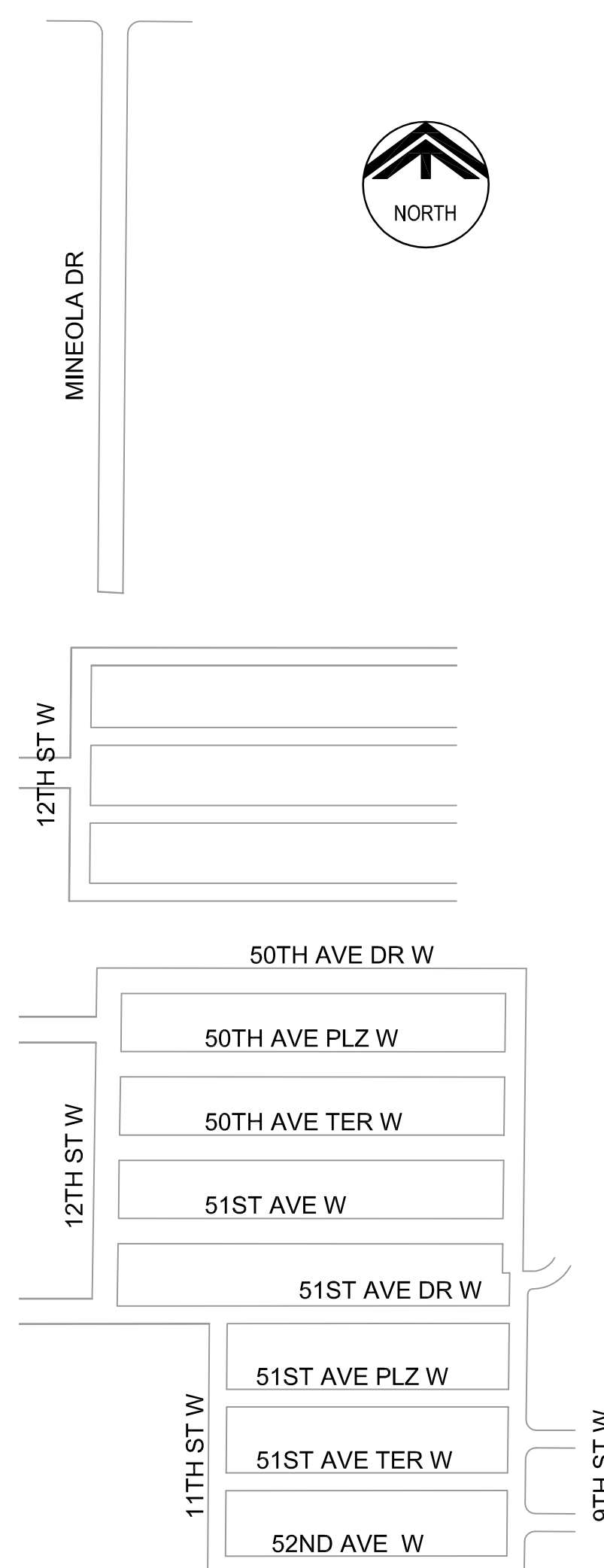


LOCATION MAP



PROJECT LOCATION: SEC. 11, TWP. 35, RNG. 17

VICINITY MAP  
MANATEE COUNTY



CAROLLO ENGINEERS P.C. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD AND REQUIRES DESIGN CHANGES IN ORDER FOR CONSTRUCTION TO PROCEED, NOTIFY THE ENGINEER IMMEDIATELY.

ENGINEER OF RECORD  
ROBERT S. CUSHING  
STATE OF FLORIDA No. 57828



401 NORTH CATTLEMEN ROAD, SUITE 306  
SARASOTA, FLORIDA 34232  
PHONE: (941) 371-9832 FAX: (941) 371-9873  
CA 00008571

GENERAL	
1	G-01 COVER SHEET
2	G-02 GENERAL NOTES
3	G-05 KEY PLAN
CIVIL	
4	P-06 WATERLINE PLAN
5	P-07 WATERLINE PLAN
6	P-08 WATERLINE PLAN
7	P-09 WATERLINE PLAN
8	P-10 WATERLINE PLAN
9	P-11 WATERLINE PLAN
10	P-12 WATERLINE PLAN
TYPICAL DETAILS	
11	T-01 WATERLINE DETAILS
12	T-02 EROSION CONTROL DETAILS
13	T-03 TYPICAL DETAILS

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**GENERAL NOTES:**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS AND ALL GOVERNING FEDERAL, STATE AND LOCAL AGENCIES.
- EXISTING UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN LOCATED FROM THE BEST AVAILABLE SURVEY DATA AND RECORDS AND THEIR LOCATIONS MUST ONLY BE CONSIDERED AS APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE PLANS AND ANY OTHER UTILITIES WHICH MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION. CALL FLORIDA SUNSHINE STATE ONE CALL CENTER AT 1-800-432-4770. ALL COORDINATION AND REQUIRED UTILITY COMPANY TEMPORARY PROTECTION SHALL ALL BE AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE UNINTERRUPTION OF SERVICE AND REPLACEMENT OF DAMAGED UTILITIES. UTILITY COMPANIES WITH LOCATED FACILITIES WITHIN THE PROJECT AREA INCLUDE: TECO/PEOPLES GAS CO., VERIZON FLORIDA INC., FLORIDA POWER & LIGHT, BRIGHTHOUSE NETWORKS, MANATEE COUNTY.
- A HORIZONTAL SPACING OF 10 FEET EDGE TO EDGE SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND ANY SANITARY SEWER MAINS. IN THE EVENT OF A CROSSING, A VERTICAL SEPARATION OF NOT LESS THAN 6 INCHES ABOVE AND 12 INCHES BELOW SHALL BE MAINTAINED.
- THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY AND SHALL PROVIDE ALL NECESSARY SHEETING, SHORING AND BRACING TO PROTECT ADJACENT STRUCTURES, UTILITIES AND PAVEMENT OR TO MINIMIZE TRENCH WIDTH ALL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE HAY BALES AND/OR SILT FENCES AROUND THE CONSTRUCTION ACTIVITY AS NECESSARY TO PREVENT THE TRANSPORTATION OF SEDIMENTS DOWNSTREAM INTO STREETS, STORM SEWERS, OPEN DITCHES, LAKES, RETENTION PONDS, PRIVATE PROPERTY, ETC. AND SHALL PERFORM ALL NECESSARY INSPECTIONS AND MAINTENANCE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL GOVERNING AGENCY REQUIREMENTS.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S CONSTRUCTION MANAGER REGARDING ANY CONFLICTS OR DISCREPANCIES ARISING DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES, STRUCTURES OR UTILITIES CAUSED BY CONSTRUCTION OPERATIONS WHICH HAVE BEEN PREVIOUSLY LOCATED BY THEIR RESPECTIVE OWNERS.
- CONNECTIONS TO EXISTING FACILITIES SHALL BE DONE IN THE PRESENCE OF THE UTILITY OWNER AND THE ENGINEER. THE CONTRACTOR SHALL GIVE AT LEAST 2 WEEKS NOTICE TO ALL PARTIES CONCERNED PRIOR TO BEGINNING WORK.
- ALL ADDITIONAL EXCAVATION AND DEMOLITION MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT, 90-96, LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990 AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 CFR 1926.650, SUBPART P AS AMENDED. THE CONTRACTOR SHALL INCLUDE IN THE TOTAL BID PRICE ALL COSTS OF COMPLIANCE WITH THESE REGULATIONS.
- ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGED ITEMS SUCH AS DRIVEWAYS, MAILBOXES, STREET SIGNS, FENCES, ETC. AS DEEMED NECESSARY BY THE COUNTY AUTHORITY AND/OR ENGINEER.
- VERTICAL CONTROL FOR THIS PROJECT WAS ESTABLISHED BY A MINIMUM OF TWO REFERENCE BENCHMARKS DESCRIBED ON THE "THE NATIONAL GEODETIC VERTICAL DATUM OF 1929", (NGVD '29)
- THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ALL APPLICABLE PERMITS.
- ALL FITTINGS USED ON THIS PROJECT SHALL BE DUCTILE IRON UNLESS OTHERWISE SHOWN. ALL MECHANICAL JOINT FITTINGS AND VALVES ARE TO BE RESTRAINED USING THE "MEGA-LUG" SYSTEM OR EQUAL.
- THE EXHAUST SYSTEM OF ALL GASOLINE AND DIESEL ENGINES SHALL BE EQUIPPED WITH MUFFLERS THAT MEET THE EQUIPMENT MANUFACTURER'S REQUIREMENTS FOR NOISE SUPPRESSION. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER DUE TO RESIDENTIAL COMPLAINTS, INSTALL NOISE ABATEMENT Baffles POSITIONED TO BREAK LINE-OF-SITE FROM THE NOISE SOURCE TO AFFECTED RESIDENCES AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR'S WORK SHALL BE SCHEDULED BETWEEN 7:00 AM AND 5:30 PM WITH A MAXIMUM OF 10 HOURS PER DAY AND 5 DAYS PER WEEK. SHOULD THE CONTRACTOR REQUIRE MORE WORK HOURS TO MAINTAIN THE CONTRACT SCHEDULE, A REQUEST SHALL BE SUBMITTED IN WRITING TO THE ENGINEER STATING THE REASON WHY AND HOW MANY ADDITIONAL HOUR ARE NEEDED. ALSO, THE CONTRACTOR SHALL REQUEST IN WRITING TO THE ENGINEER WITH A MINIMUM OF 72 HOURS ADVANCE NOTICE OF ANY PLANS FOR WORKING ON ANY WEEKEND DAYS OR OBSERVED NATIONAL HOLIDAYS. SHOULD THE ENGINEER APPROVE THE REQUEST FOR ADDITIONAL HOURS, THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR ACTUAL COSTS FOR RESIDENT INSPECTION INCURRED DURING THE ADDITIONAL HOURS APPROVED. THE HOURLY RATE FOR THESE ADDITIONAL HOURS WILL BE \$90.00 PER HOUR.
- THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING: "STATE OF FLORIDA MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS", "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", MANATEE COUNTY STANDARDS, APPLICABLE FDOT 600 SERIES STANDARD INDEXES FOR TRAFFIC CONTROL THROUGH WORK ZONES AND "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP). THE TCP SHALL BE PREPARED IN CONFORMANCE WITH AND IN THE FORM OUTLINED IN THE CURRENT VERSION OF THE "ROADWAY PLANS PREPARATION MANUAL". THE PLAN SHALL INDICATE A TCP FOR EACH PHASE OF THE CONTRACTOR'S ACTIVITY.
- THE CONTRACTOR SHALL FULLY IMPLEMENT THE TCP PRIOR TO COMMENCEMENT OF ANY POTENTIAL TRAFFIC DISTURBING ACTIVITIES. IN NO CASE SHALL THE CONTRACTOR BEGIN WORK USING THE TCP UNTIL SUCH PLAN HAS BEEN APPROVED IN WRITING BY MANATEE COUNTY AND THE PROJECT ENGINEER. EXCEPT IN AN EMERGENCY, NO CHANGES TO THE APPROVED PLAN WILL BE ALLOWED UNTIL WRITTEN APPROVAL TO CHANGE SUCH PLAN HAS BEEN RECEIVED. THE TCP SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.
- THE CONTRACTOR SHALL PROVIDE PROPER WARNING SIGNS, BARRICADES, TEMPORARY FENCING AND OTHER APPROPRIATE SAFETY DEVICES DURING THE EXECUTION OF THE WORK TO PROVIDE PUBLIC PROTECTION AND SAFETY.
- MAINTENANCE OF TRAFFIC SIGNS AND OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED BY THE CONTRACTOR DURING CONSTRUCTION AS REQUIRED BY THE F.D.O.T.
- THE CONTRACTOR SHALL PROVIDE ACCESS FOR TRAFFIC AT ALL TIMES DURING CONSTRUCTION.
- NOTIFY THE ENGINEER 48 HOURS PRIOR TO COMMENCEMENT OF OPEN-CUTTING ANY COUNTY ROAD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TO THE ENGINEER, A SILTATION/EROSION PLAN MEETING ALL REQUIREMENTS OF FDOT INDEX NO.'S 102 AND 103 FOR APPROVAL AND INSTALLATION PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE AND SCHEDULE TIE-INS TO MINIMIZE DOWNTIME.
- THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL CLEARED VEGETATION WITHIN 5 DAYS OF CLEARING AND GRUBBING WORK.
- ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY/FDOT RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO REFERENCE AND RESTORE PROPERTY CORNER MONUMENTS, PINS, AND LANDMARKS THAT MAY BE DISTURBED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED STORM WATER STRUCTURES, PIPING, ENTRANCE PIPE AND HEADWALLS WHETHER SHOWN ON THE PLANS OR NOT. THE HEADWALLS SHALL BE REPLACED IN ACCORDANCE WITH F.D.O.T. STANDARDS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH IN THE FIELD THE RIGHT-OF WAY LINES, BASELINES, BENCH MARKS (ELEV.), CENTER LINES, AND STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.
- FIELD DEFLECTIONS FOR THE PIPELINES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS. OTHERWISE APPROPRIATE FITTING SHALL, AT NO ADDITIONAL COST, BE USED. CONTRACTOR SHALL DETERMINE AND PROVIDE FITTINGS AS REQUIRED FOR DEFLECTIONS BASED UPON FIELD CONDITIONS WHERE SPECIFIC FITTING REQUIREMENTS ARE NOT IDENTIFIED.
- RESTORATION SHALL INCLUDE AT A MINIMUM, SOLID SODDING FOR ALL UNPAVED AREAS DISTURBED BY THE CONTRACTOR'S OPERATION WITHIN THE ROAD RIGHT-OF-WAYS.
- ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM ROAD PAVEMENTS, DRIVEWAYS, SIDEWALKS AND DRAINAGE SWALES AND EXISTING PATTERNS RESTORED AT THE COMPLETION OF WORK EACH DAY.
- ALL FILL AND ROAD MATERIALS EXCAVATED SHALL BE DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS.
- NOTIFY PROPERTY OWNER AND ENGINEER 72 HOURS IN ADVANCE OF ALL PLANNED UTILITY INTERRUPTION OR DRIVEWAY CUTS.
- ALL DRIVEWAYS, SIDEWALKS AND OTHER RIGHT-OF-WAY OR EASEMENT ENCROACHMENTS SHALL BE RESTORED EQUAL TO OR BETTER THAN EXISTING CONDITIONS. COMMERCIAL DRIVEWAYS SHALL REMAIN OPERATIVE DURING NORMAL BUSINESS HOURS UNLESS A DETOUR IS PROVIDED AND APPROVED BY THE ENGINEER.
- ALL BURIED DIP SHALL BE ENCASED IN POLYETHYLENE SLEEVES PER AWWA-C105.
- ALL ABANDONED EXISTING WATERLINE TO BE LEFT IN PLACE AND GROUT FILLED AFTER NEW WATERLINE IS TESTED AND PLACED INTO SERVICE.
- ALL TRENCHING FOR NEW WATERLINES SHALL BE PER MANATEE COUNTY AS NOTED BELOW  
 - UNDER UNIMPROVED SURFACE   
 - WITHIN ASPHALT   
 - WITHIN CONCRETE PAVEMENT   
 - WITHIN CONCRETE DRIVEWAY 
- WATER PIPELINES INSTALLED UNDER EXISTING PAVEMENT, CONCRETE ROADS OR PARKING LOTS SHALL BE DUCTILE IRON WITH TYPE "K" COPPER OR 316 SS SCHEDULE 40 SERVICES.
- DUCTILE IRON PIPE SHALL CONFORM TO AWWA C110 AND AWWA C151 AND SHALL BE PRESSURE CLASS 350.
- ALL DUCTILE IRON PIPE SHALL HAVE A STANDARD 1 MIL ASPHALTIC COATING PER AWWA C151 ON THE EXTERIOR AND SHALL HAVE A STANDARD THICKNESS CEMENT LINING ON THE INSIDE IN ACCORDANCE WITH AWWA C104. ALL DUCTILE OR GRAY IRON FITTINGS SHALL HAVE STANDARD THICKNESS CEMENT LININGS ON THE INSIDE PER AWWA C104 AND AN ASPHALTIC EXTERIOR COATING OR A FACTORY APPLIED FUSION BONDED EPOXY COATING BOTH INSIDE AND OUTSIDE IN ACCORDANCE WITH AWWA C550.
- ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED.
- THRUST RESTRAINT DEVICES FOR DUCTILE IRON PIPE SHALL BE EITHER CAST-IN-PLACE CONCRETE THRUST BLOCKS OR OTHER APPROVED RESTRAINED JOINT DEVICES. CAST-IN-PLACE CONCRETE FOR THRUST BLOCKS SHALL HAVE A 28-DAY STRENGTH OF 3000 PSI.
- POLYVINYL CHLORIDE (PVC) PRESSURE PIPE SHALL BE CLASS 235 DR18, MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL HAVE CAST IRON PIPE EQUIVALENT (CI) OUTSIDE DIAMETERS. EACH LENGTH OF PIPE SHALL BE HYDROSTATICALLY TESTED TO FOUR (4X) TIMES ITS PRESSURE CLASS BY THE MANUFACTURER IN ACCORDANCE WITH AWWA C900.
- STANDARD PVC PRESSURE PIPE JOINTS SHALL BE BELL AND SPIGOT PUSH-ON TYPE WITH ELECTROSTATIC RING SEALS. RING SEAL GASKETS SHALL CONFORM TO ASTM F477 AND SHALL BE EPDM RUBBER.
- THRUST RESTRAINT DEVICES FOR PVC PIPE AND FITTINGS SHALL BE EITHER CONCRETE THRUST BLOCKS OR RESTRAINING GLANDS.
- ALL FITTINGS FOR PVC PIPE SHALL BE DUCTILE OR GRAY IRON WITH MECHANICAL JOINTS AND SHALL CONFORM TO AWWA C110 OR AWWA C153.
- ALL WATER PIPELINES INSTALLED IN TRENCHES SHALL HAVE A CONTINUOUS, NO.10 GAUGE SOLID COPPER WIRE ATTACHED TO THE PIPE WITH MINIMUM 30-MILS POLYETHYLENE INSULATION RATED UF OR USE. THE WIRE INSULATION SHALL BE COLOR CODED BLUE, LAID ON TOP OF THE PIPE AND SECURED IN PLACE AT EVERY JOINT AND AT 5-FOOT INTERVALS.
- ALL WATER PIPELINES INSTALLED IN TRENCHES SHALL BE MARKED WITH WARNING TAPE BURIED DIRECTLY OVER THE PIPE CONTINUOUSLY. 3-INCH WIDE WARNING TAPE SHALL BE PLACED 12-INCHES BELOW FINISHED GRADE OR 6-INCH WIDE WARNING TAPE SHALL BE PLACED BETWEEN 12 AND 24-INCHES BELOW FINISHED GRADE.

- IN THE EVENT THAT THE PROPOSED FACILITIES ARE INSTALLED ON THE HORIZONTAL DIRECTIONAL DRILL (HDD) METHOD, THE CONSTRUCTED PIPE, INCLUDING BUT NOT LIMITED TO, THE CONNECTIONS BETWEEN HDD SEGMENTS NEAR ENTRY/EXIT PITS, SHALL NOT CONTAIN ISOLATED HIGH POINTS WHERE AIR MAY BECOME TRAPPED.
- ALL PROPOSED FACILITIES SHALL HAVE A MINIMUM DEPTH OF COVER OF 36-INCHES.
- SURVEY DATA PROVIDED BY HYATT SURVEY SERVICES, INC.
- HORIZONTAL DATUM WAS BASED ON NORTH AMERICAN DATUM (NAD) OF 1983 (1990 ADJUSTMENT, FLORIDA STATE PLANE, WEST ZONE).
- CONTRACTOR SHALL RESTORE EACH STREET WITHIN THREE (3) WEEKS OF STARTING WORK ON THAT STREET.

ESTIMATED QUANTITIES		
DESCRIPTION	UNIT	QUANTITY
ASPHALT PAVEMENT REPLACEMENT	SF	4,880
ASPHALT DRIVEWAY REPLACEMENT	SF	40
CONCRETE DRIVEWAY REPLACEMENT	SF	3,510
SODDING	SF	10,740
SINGLE PE SERVICE CONNECTION (SHORT SIDE)	EA	10
DOUBLE PE SERVICE CONNECTION (SHORT SIDE)	EA	48
SINGLE COPPER SERVICE CONNECTION (LONG SIDE)	EA	10
DOUBLE COPPER SERVICE CONNECTION (LONG SIDE)	EA	54
6 INCH DIMJ GATE VALVE & BOX	EA	19
8 INCH DIMJ GATE VALVE & BOX	EA	1
6 INCH DR 18 C-900 PVC (DIRECT BURY)	LF	4,180
6 INCH CL 350 DIP MJ/RJ (DIRECT BURY)	LF	1,190
DR 18 C-900 PVC (DIRECT BURY)	LF	1,240
HYDRANT ASSEMBLY	EA	14

Last Opened By: 10-26-09 11:42am DPerry

REV	DATE	BY	DESCRIPTION


DESIGNED JMS	PROJECT ENGINEER
DRAWN DVP	
CHECKED JMF	
DATE OCTOBER 2009	

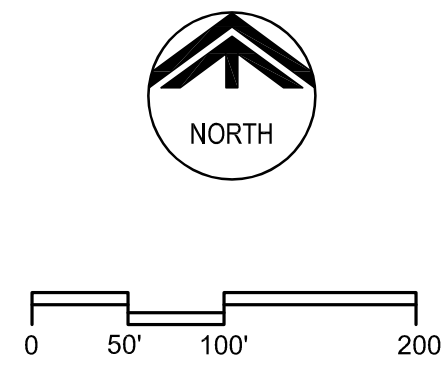
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401 NORTH CATTLEMEN ROAD, SUITE 306  
SARASOTA, FL 34232  
PHONE: (941) 371-9832 FAX: (941) 371-9873  
CA 00008571

MANATEE COUNTY	
PIC TOWN WATERLINE REPLACEMENT (PHASE II)	
GENERAL NOTES	

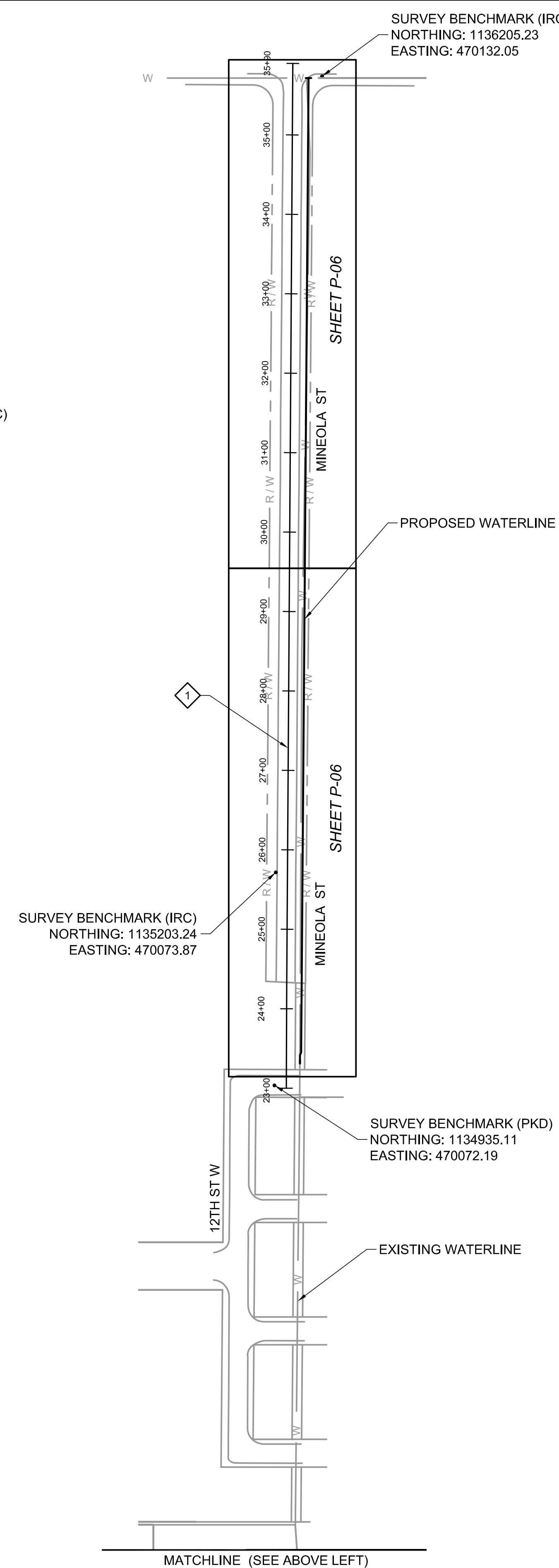
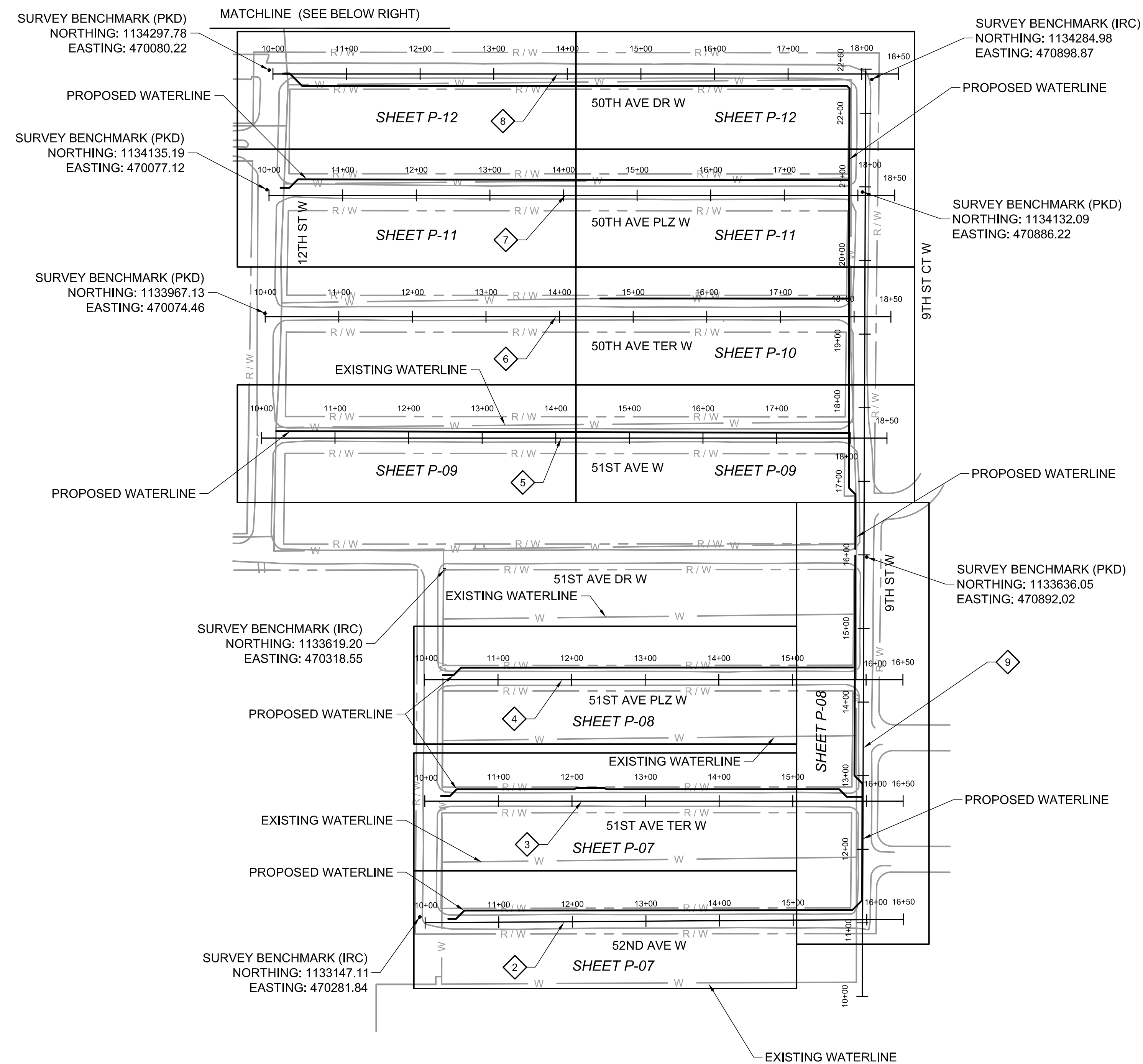
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0  1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 7880E.10 DRAWING NO. G-02 SHEET NO. 2 OF 13
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SURVEY BENCHMARK (IRC)  
NORTHING: 1136205.23  
EASTING: 470132.05

**LEGEND**

- 1 ALIGNMENT C = MINEOLA ST
- 2 ALIGNMENT N = 52ND AVE W
- 3 ALIGNMENT M = 51ST AVE TER W
- 4 ALIGNMENT L = 51ST AVE PLZ W
- 5 ALIGNMENT K = 51ST AVE W
- 6 ALIGNMENT J = 50TH AVE TER W
- 7 ALIGNMENT I = 50TH AVE PLZ W
- 8 ALIGNMENT H = 50TH AVE DR W
- 9 ALIGNMENT O = 9TH ST W / 9TH ST CT W



Last Opened by: 10-26-09 11:42am DPerry

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

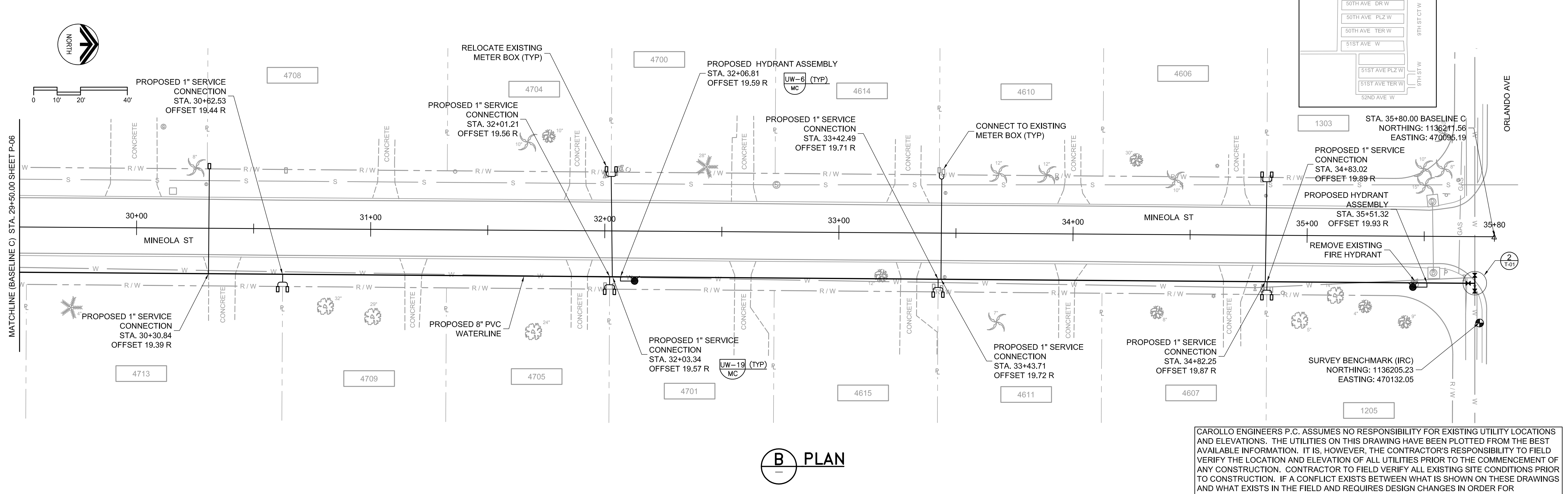
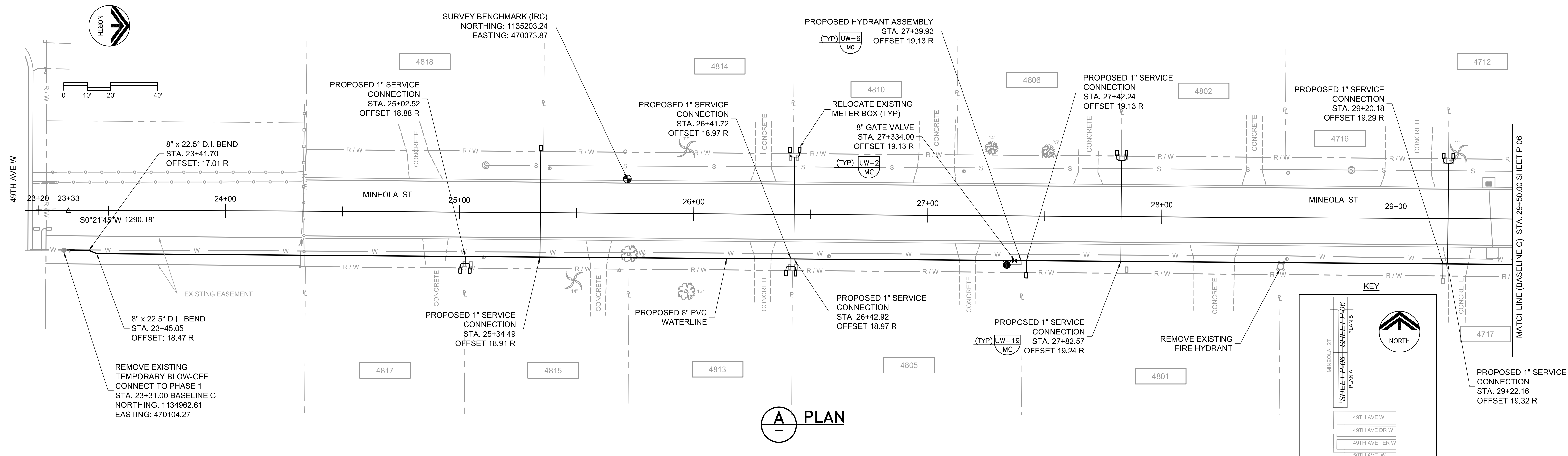
REV	DATE	BY	DESCRIPTION

**carollo**  
Engineers...Working Wonders With Water™  
401 NORTH CATTLEMEN ROAD, SUITE 306  
SARASOTA, FL 34232  
PHONE: (941) 371-9832 FAX: (941) 371-9873  
CA 00008571

MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
KEY PLAN

VERIFY SCALES	JOB NO. 7880E.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. <b>G-03</b>
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. <b>3 OF 13</b>





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DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

REV	DATE	BY	DESCRIPTION


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MANATEE COUNTY  
PIC TOWN WATERLINE REPLACEMENT (PHASE II)

WATERLINE PLAN  
BASELINE C STA. 23+20.00 TO 35+80.00

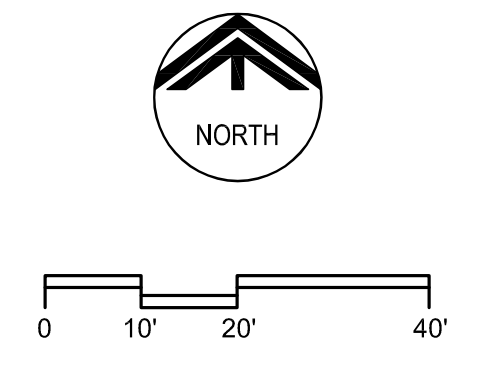
VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING

0 1" SCALE BAR

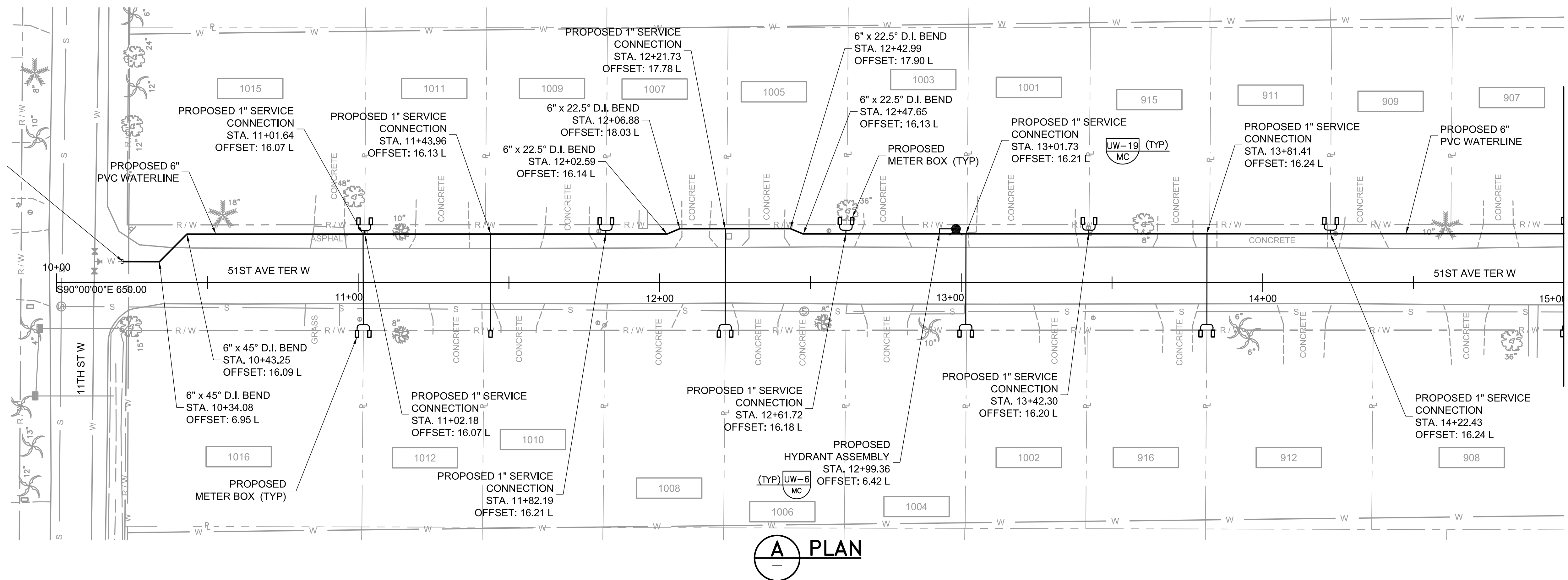
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JOB NO. 7880E.10  
DRAWING NO. P-06  
SHEET NO. 4 OF 13

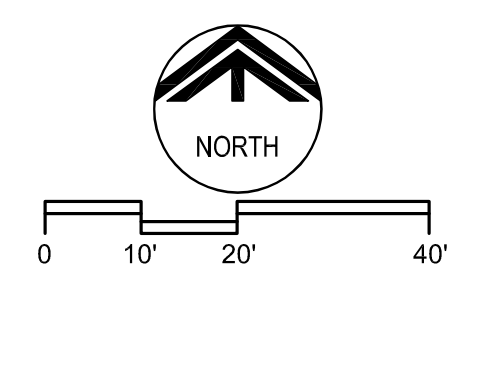




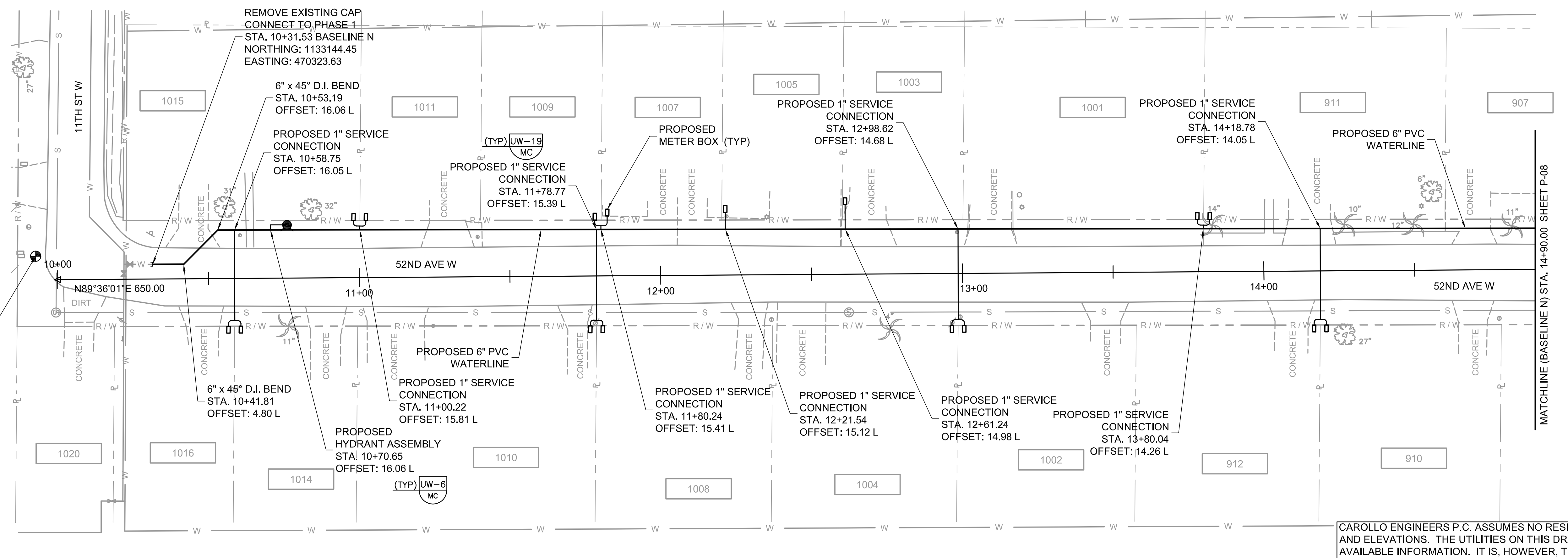
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EASTING: 470313.73



(A) PLAN

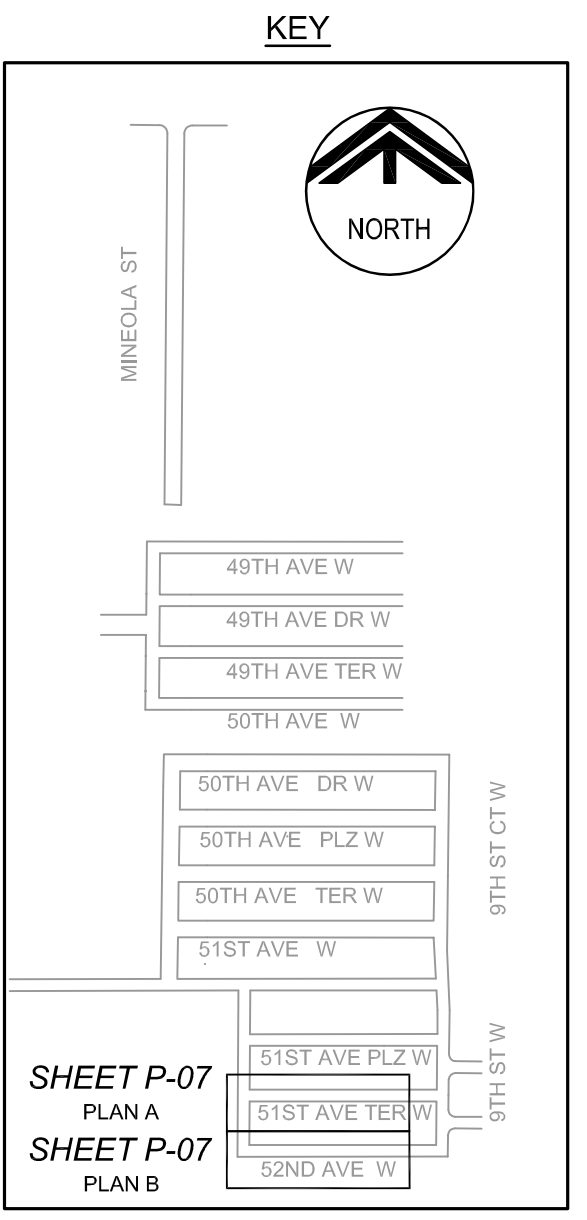


SURVEY BENCHMARK (IRC)  
NORTHING: 1133147.11  
EASTING: 470284.84



(B) PLAN

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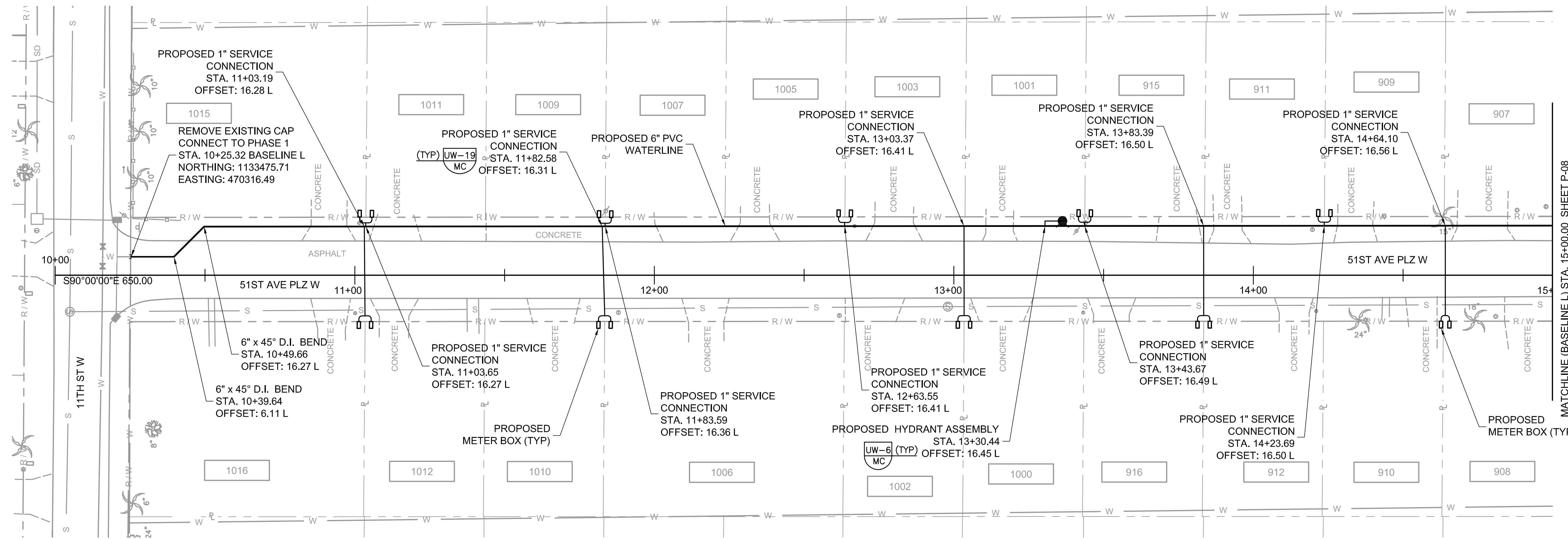
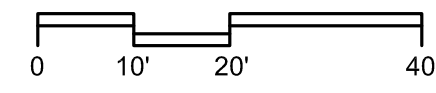
DESIGNED JMS	PROJECT ENGINEER
DRAWN DVP	
CHECKED JMF	
DATE OCTOBER 2009	
REV	DATE
BY	DESCRIPTION

DATE OCTOBER 2009	PROJECT ENGINEER
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401 NORTH CATTLEMEN ROAD, SUITE 306  
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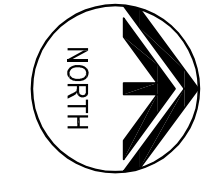
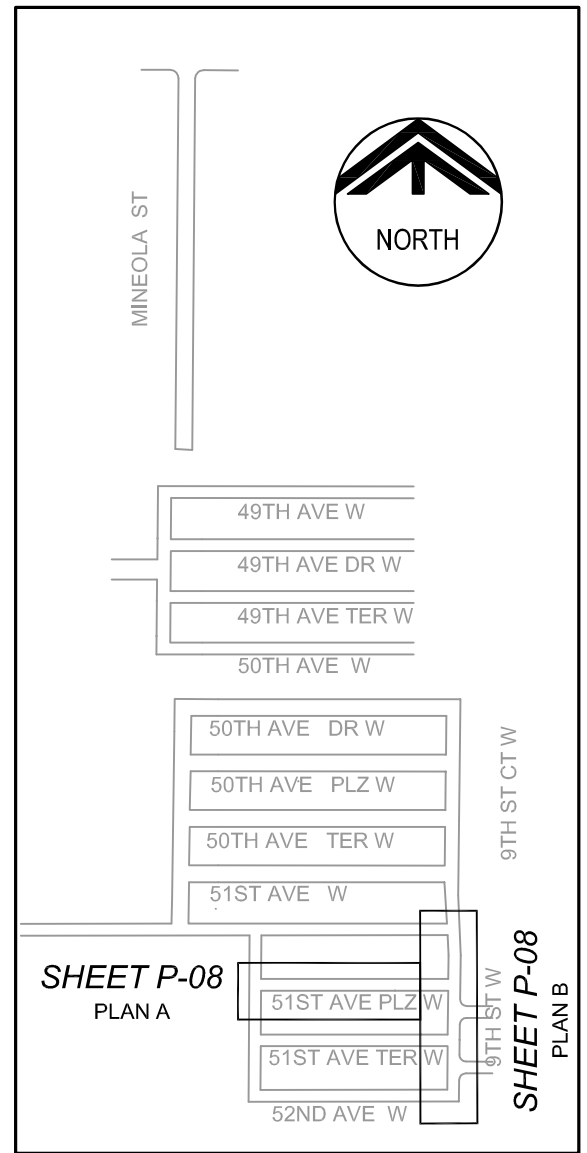
MANATEE COUNTY  
PIC TOWN WATERLINE REPLACEMENT (PHASE II)  
WATERLINE PLAN  
BASELINE M STA. 10+00.00 TO 15+00.00 (51ST AVE TER W)  
BASELINE N STA. 10+00.00 TO 14+90.00 (52ND AVE W)

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
JOB NO. 7880E.10  
DRAWING NO. P-07  
SHEET NO. 5 OF 13

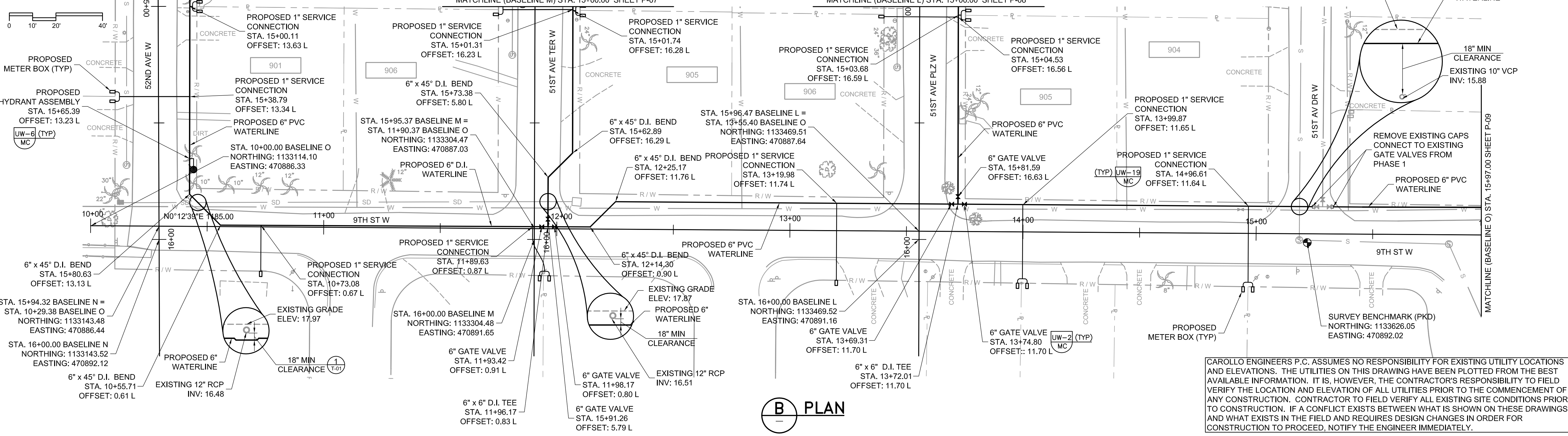


**A PLAN**

KEY



MATCHLINE (BASELINE N) STA. 14+90.00 SHEET P-07



**B PLAN**

CAROLLO ENGINEERS P.C. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD AND REQUIRES DESIGN CHANGES IN ORDER FOR CONSTRUCTION TO PROCEED, NOTIFY THE ENGINEER IMMEDIATELY.

DESIGNED JMS	PROJECT ENGINEER
DRAWN DVP	
CHECKED JMF	
DATE OCTOBER 2009	
REV	DATE
BY	DESCRIPTION

DESIGNED JMS	PROJECT ENGINEER
DRAWN DVP	
CHECKED JMF	
DATE OCTOBER 2009	
REV	DATE
BY	DESCRIPTION

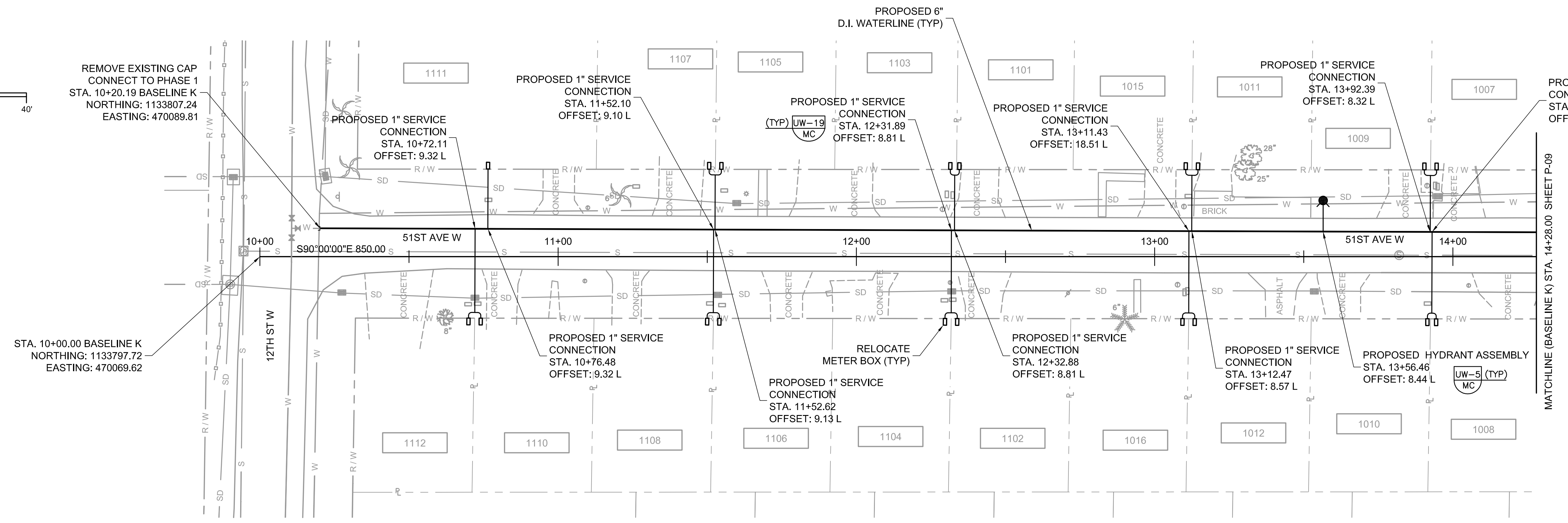
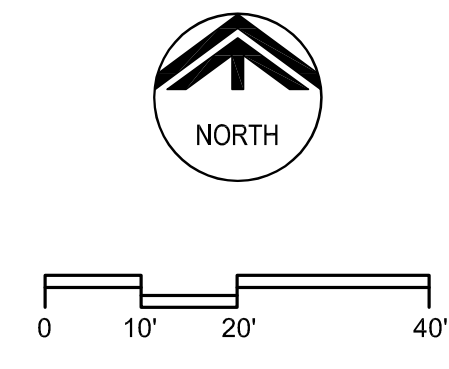
401 NORTH CATTLEMEN ROAD, SUITE 306  
SARASOTA, FL 34232  
PHONE: (941) 371-9832 FAX: (941) 371-9873  
CA 00008571

MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
WATERLINE PLAN  
BASELINE L STA. 10+00.00 TO 16+00.00 (51ST AVE PLZ W)  
BASELINE M STA. 15+00.00 TO 16+00.00 (51ST AVE TER W)  
BASELINE N STA. 14+90.00 TO 16+00.00 (52ND AVE W)  
BASELINE O STA. 10+00.00 TO 15+97.00 (9TH ST W)

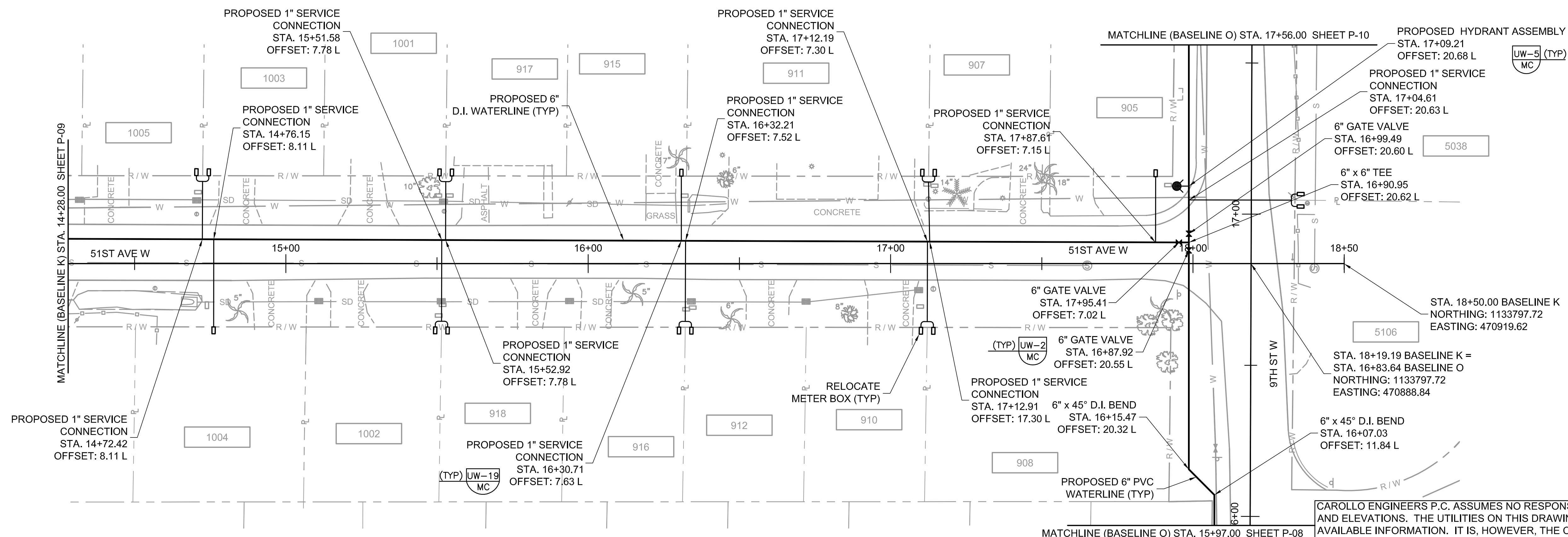
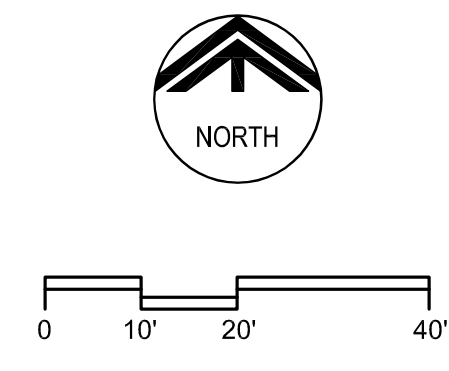
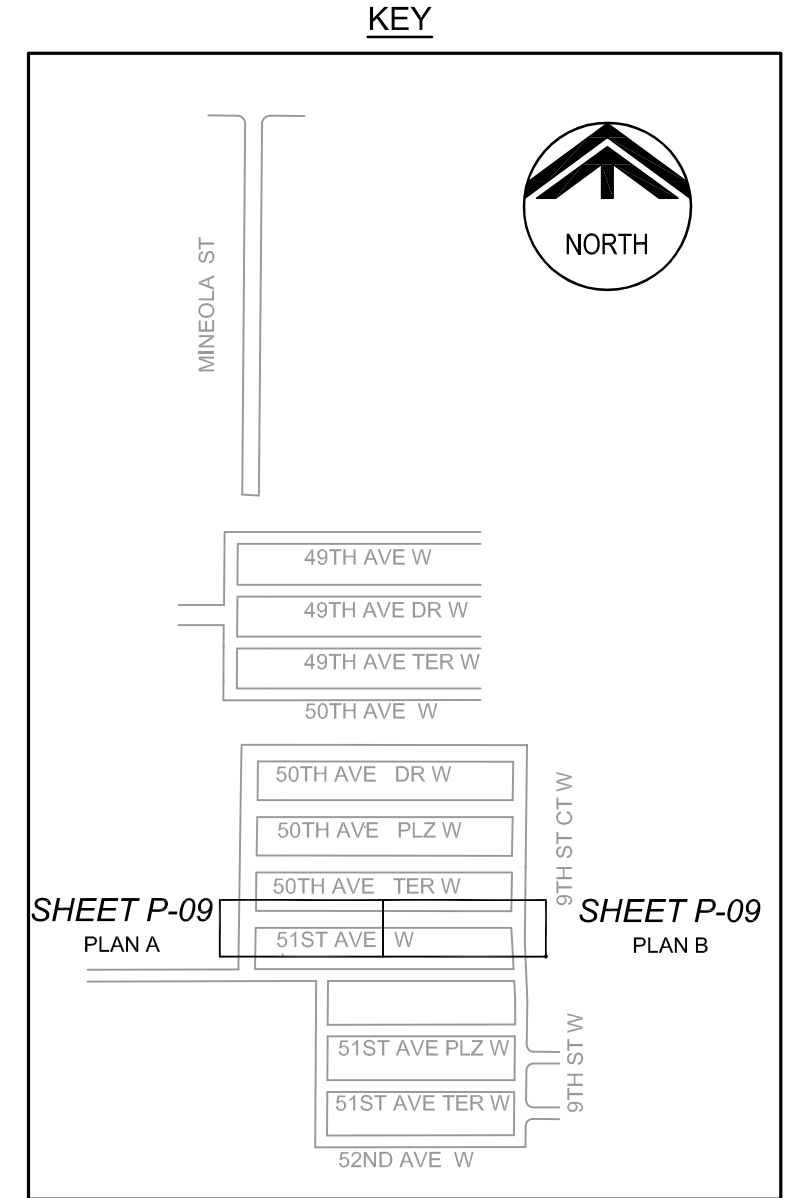
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING	JOB NO. 7880E.10
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DRAWING NO. P-08
	SHEET NO. 6 OF 13

FILENAME: Last Saved By: SMF\_DENL 10-26-09 08:42am C:\Documents and Settings\DPerry\Desktop\Pic Town\7880E10-01-P-08 XREFS: 7880E10-01-010-200; 7880E10-01-010-900; 3624bdr2; 7880E10-01-010-100 Pic Town (Map); Mineola\_SL (11x17); Pic Town (Map);





**A PLAN**



**B PLAN**

CAROLLO ENGINEERS P.C. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD AND REQUIRES DESIGN CHANGES IN ORDER FOR CONSTRUCTION TO PROCEED, NOTIFY THE ENGINEER IMMEDIATELY.

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

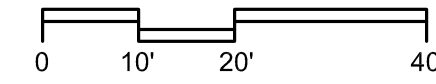
REV	DATE	BY	DESCRIPTION

**carollo**  
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 401 NORTH CATTLEMEN ROAD, SUITE 306  
 SARASOTA, FL 34232  
 PHONE: (941) 371-9832 FAX: (941) 371-9873  
 CA 00008571

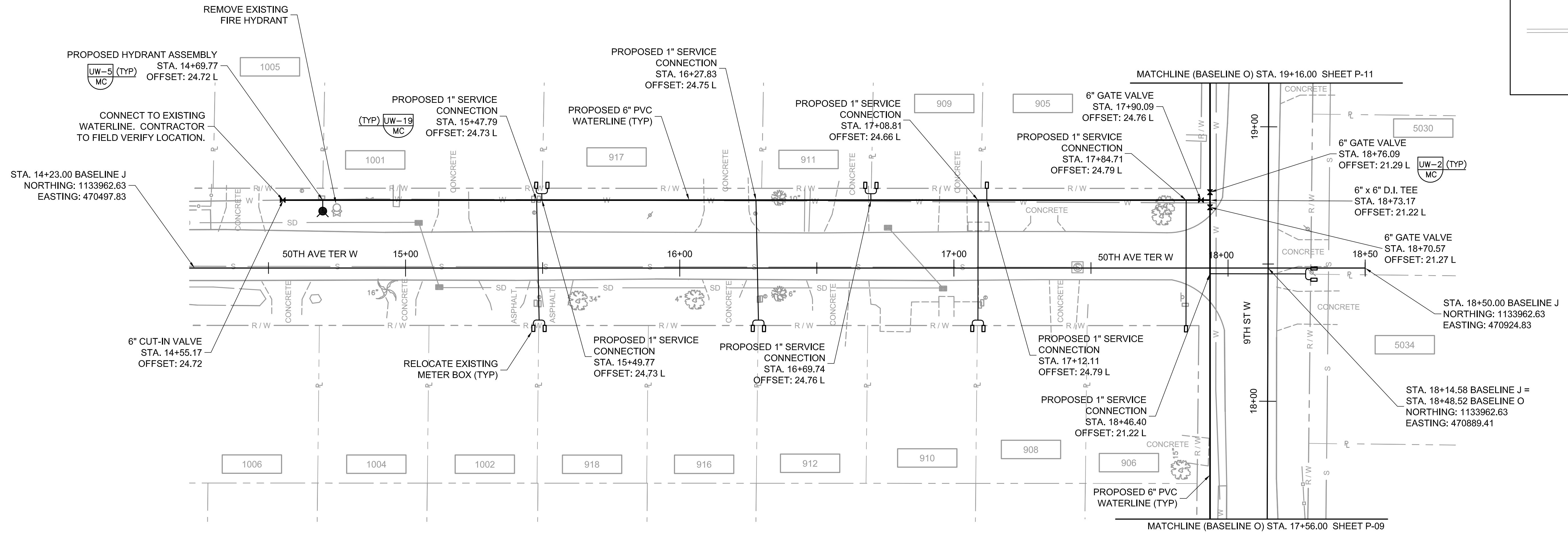
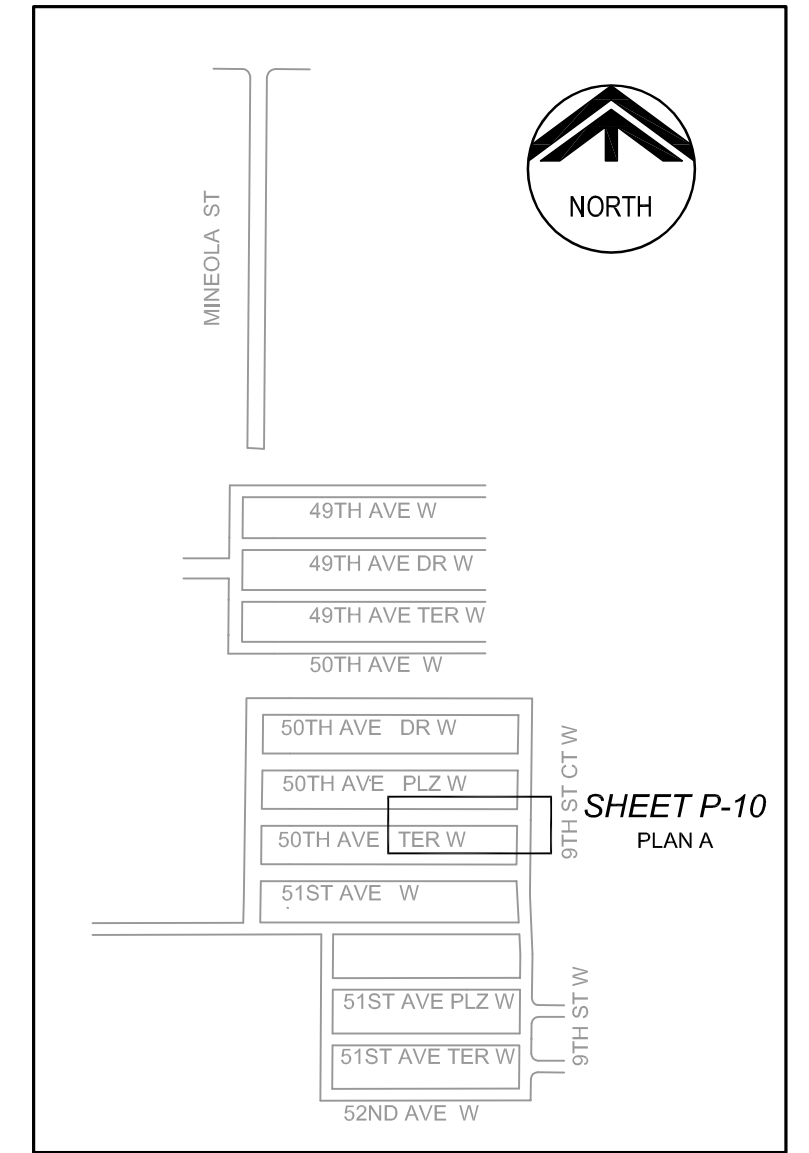
MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
 WATERLINE PLAN  
 BASELINE K STA. 10+00.00 TO 18+50.00 (51ST AVE W)  
 BASELINE O STA. 15+97.00 TO 17+56.00 (9TH ST W)

VERIFY SCALES	JOB NO. 7880E.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. P-09
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 7 OF 13





KEY



**A** PLAN

CAROLLO ENGINEERS P.C. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD AND REQUIRES DESIGN CHANGES IN ORDER FOR CONSTRUCTION TO PROCEED, NOTIFY THE ENGINEER IMMEDIATELY.

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

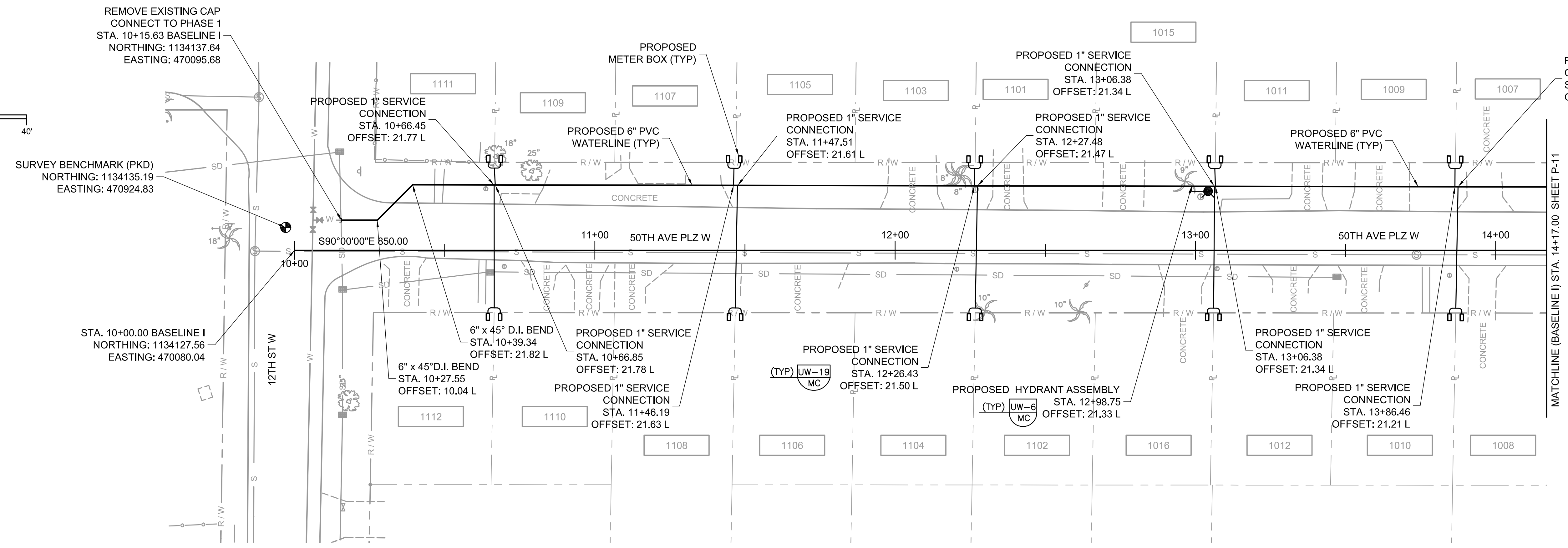
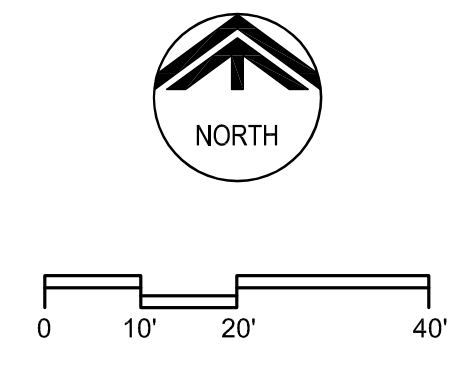
REV	DATE	BY	DESCRIPTION

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 CA 00008571

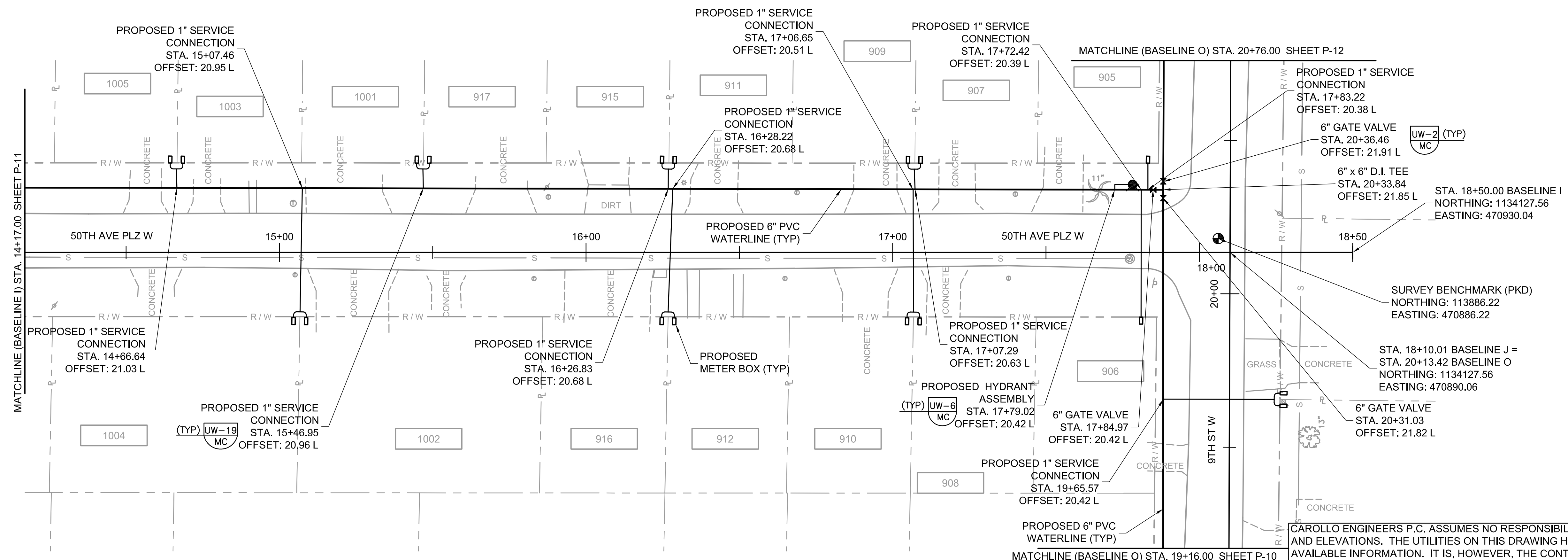
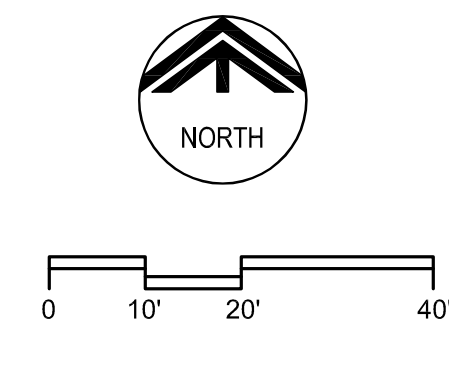
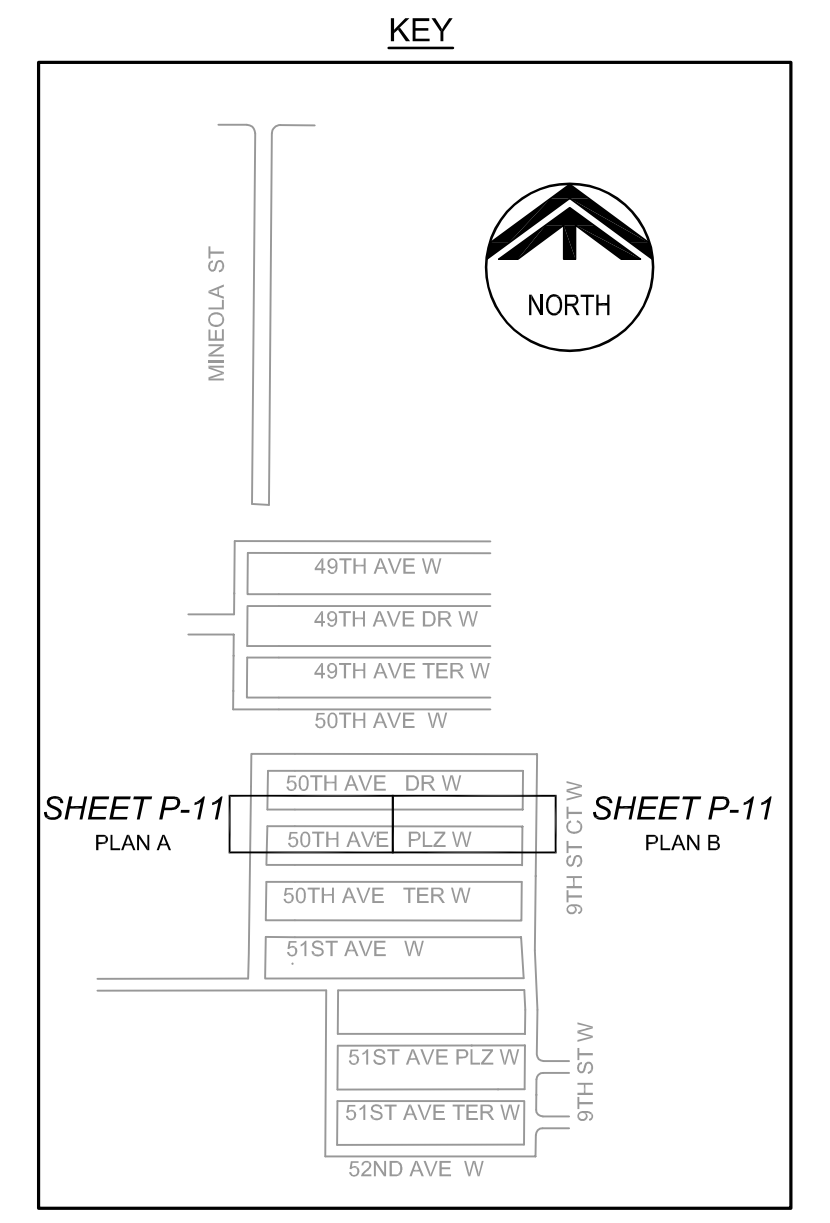
MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
 WATERLINE PLAN  
 BASELINE J STA. 14+23.00 TO 18+50.00 (50TH AVE TER W)  
 BASELINE O STA. 17+56.00 TO 19+16.00 (9TH ST W)

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7880E.10  
 DRAWING NO. **P-10**  
 SHEET NO. **8 OF 13**



**A PLAN**



**B PLAN**

CAROLLO ENGINEERS P.C. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD AND REQUIRES DESIGN CHANGES IN ORDER FOR CONSTRUCTION TO PROCEED, NOTIFY THE ENGINEER IMMEDIATELY.

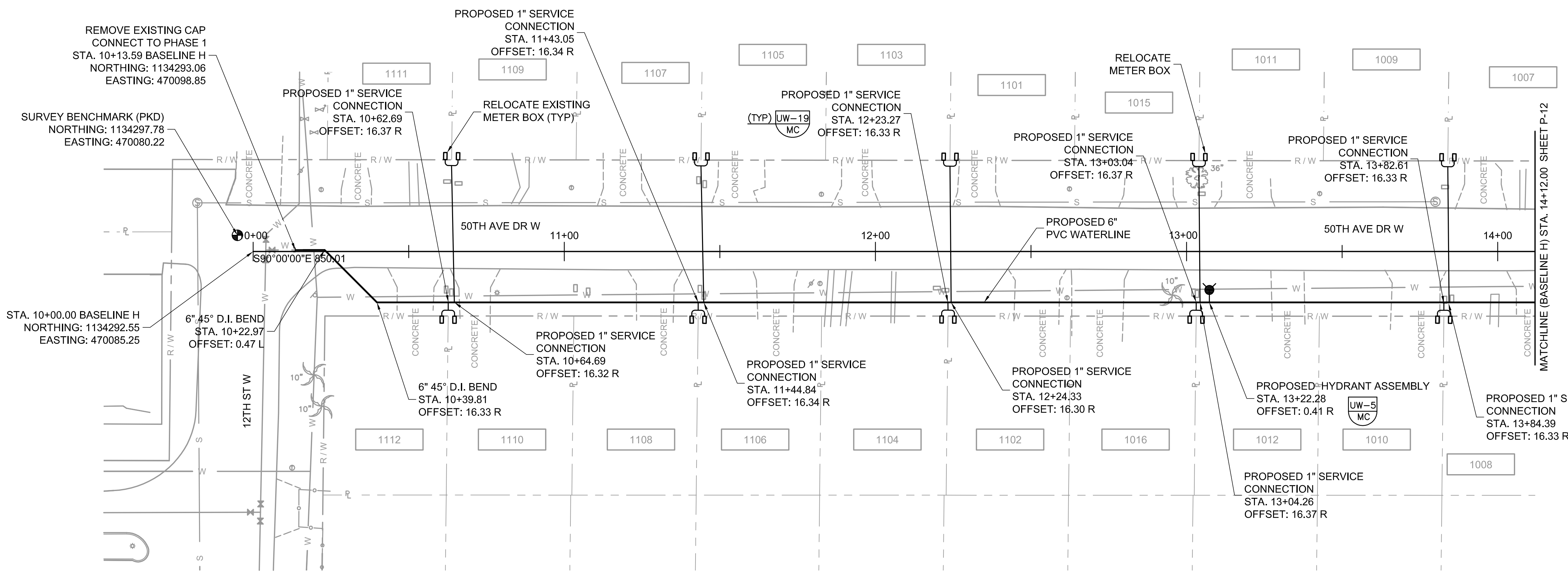
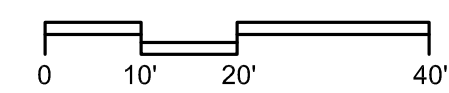
DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

REV	DATE	BY	DESCRIPTION

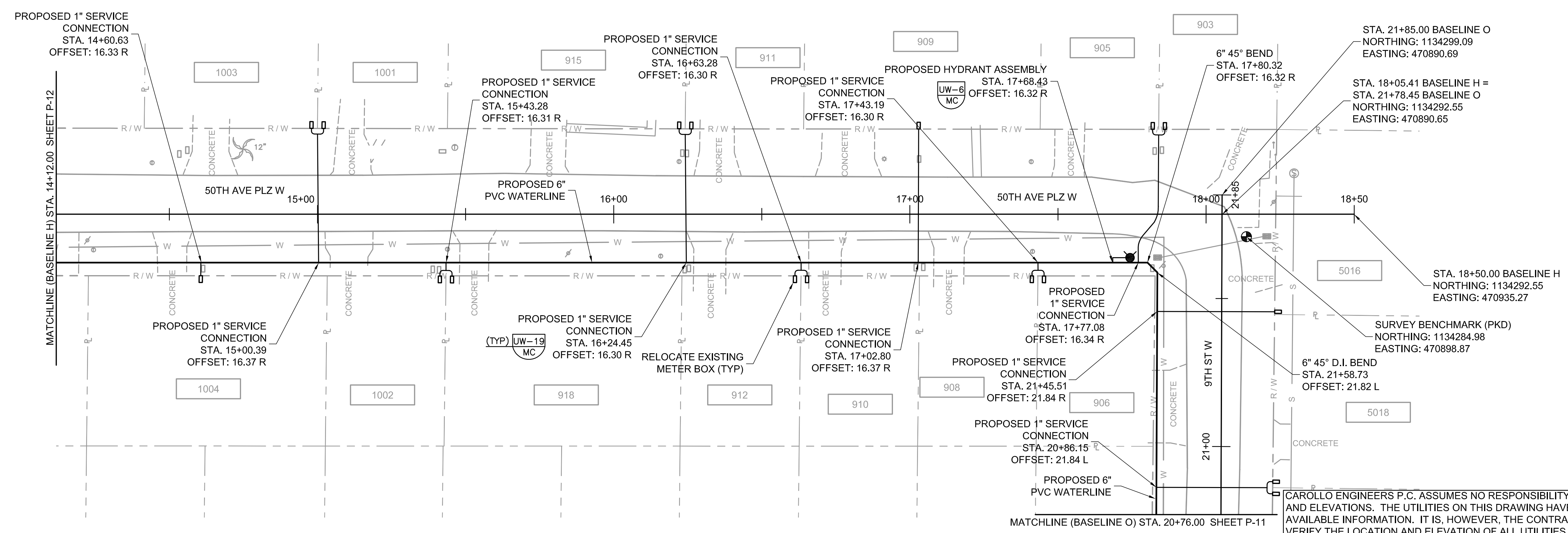
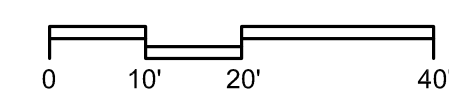
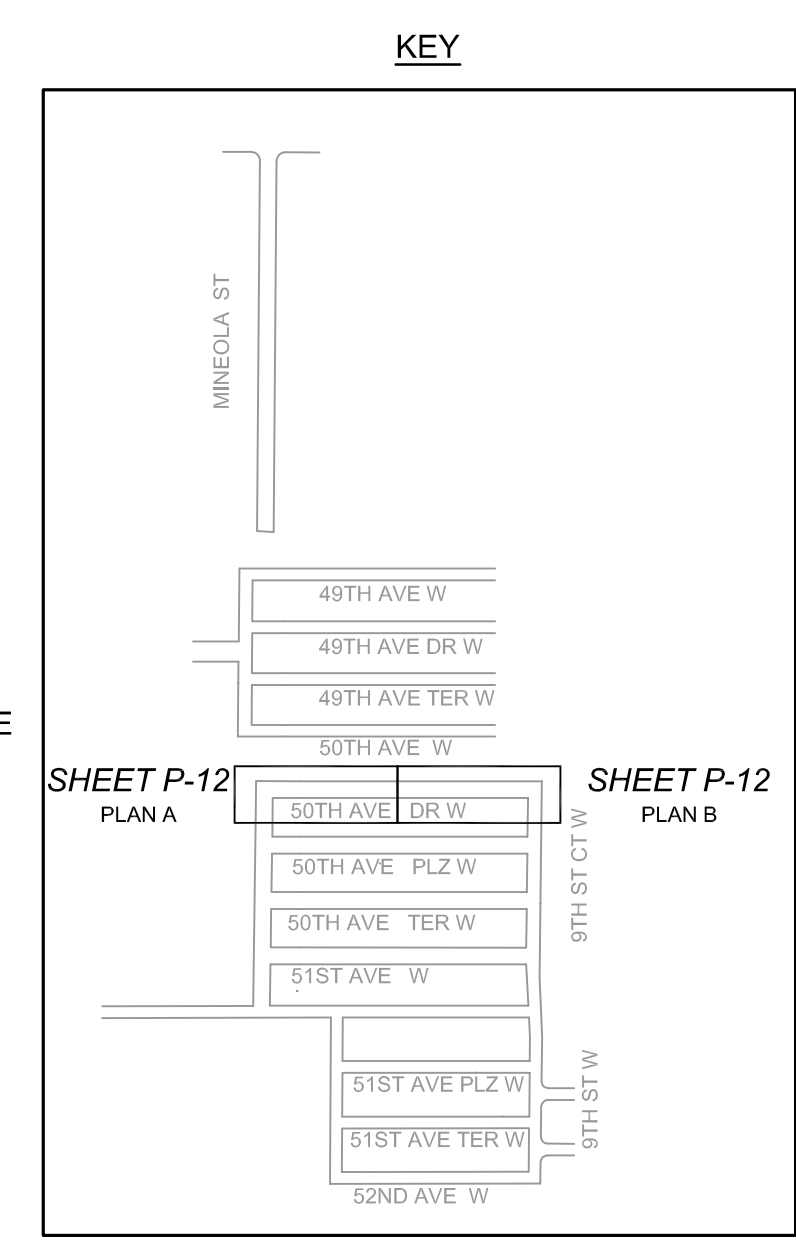
**carollo**  
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 SARASOTA, FL 34232  
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 CA 00008571

MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
 WATERLINE PLAN  
 BASELINE I STA. 10+00.00 TO 18+50.00 (50TH AVE PLZ W)  
 BASELINE O STA. 19+16.00 TO 20+76.00 (9TH ST W)

VERIFY SCALES	JOB NO. 7880E.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. P-11
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 9 OF 13



**A PLAN**



**B PLAN**

CAROLLO ENGINEERS P.C. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD AND REQUIRES DESIGN CHANGES IN ORDER FOR CONSTRUCTION TO PROCEED, NOTIFY THE ENGINEER IMMEDIATELY.

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

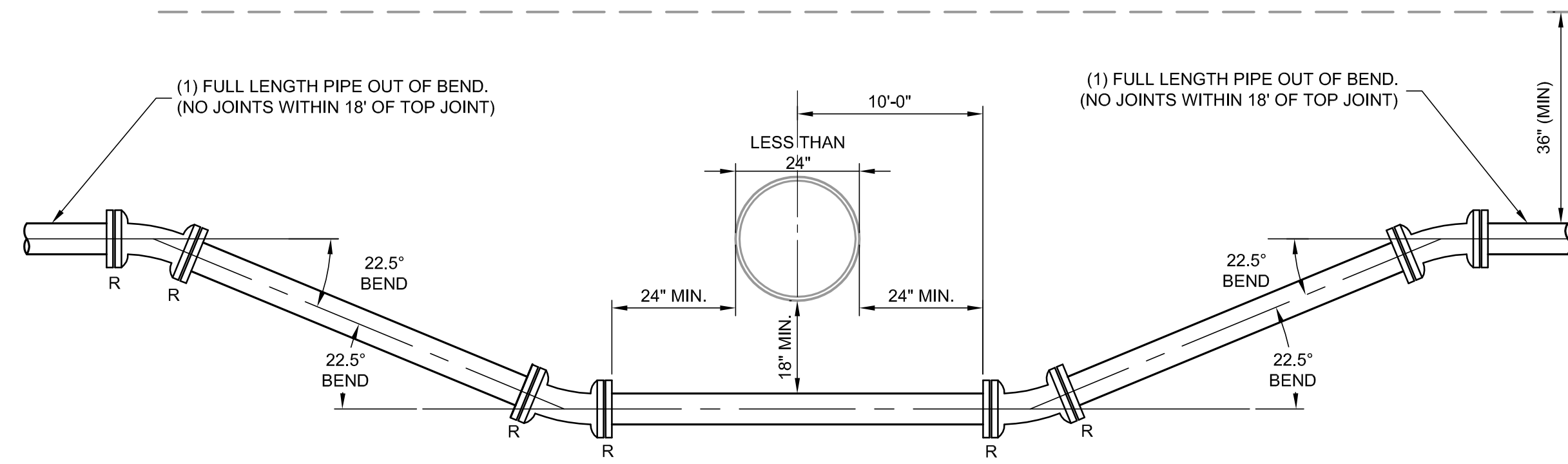
REV	DATE	BY	DESCRIPTION

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SARASOTA, FL 34232  
PHONE: (941) 371-9832 FAX: (941) 371-9873  
CA 00008571

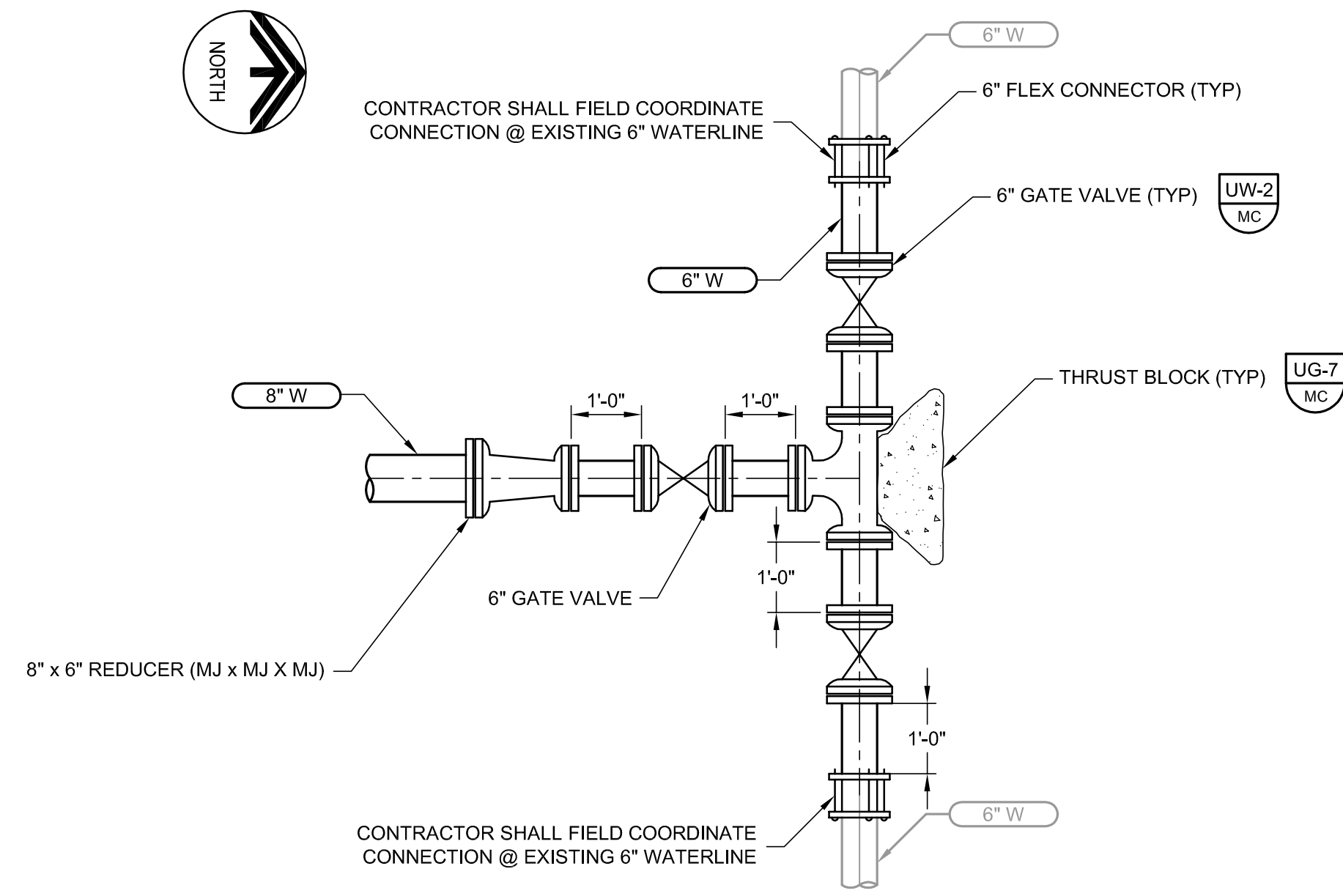
MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
WATERLINE PLAN  
BASELINE H STA. 10+00.00 TO 18+50.00 (50TH AVE DR W)  
BASELINE O STA. 20+76.00 TO 21+85.00 (9TH ST W)

VERIFY SCALES	JOB NO. 7880E.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. P-12
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 10 OF 13





**1 TYPICAL LOWERING DETAIL**  
 SCALE: 1/2" = 1'-0"  
 FILE: 7880E10-01-110-403.DWG



**2 DETAIL- NEW 8" WATERLINE TIE-IN**  
 P-06 SCALE: 1/2" = 1'-0"  
 FILE: 7880E10-01-110-403.DWG

**NOTES:**

1. CONTRACTOR SHALL NOTE THAT THE EXISTING WATERLINES MAY BE ASBESTOS CONCRETE PIPE (ACP) AND SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR ALTERING AND DISPOSING OF ACP MATERIALS.
2. FLEX TRANSITION COUPLING (A.C.P. ROUGH BARREL BY D.I.) WITH 316 STAINLESS STEEL RESTRAINING HARNESS (MINIMUM CENTER SLEEVE LENGTH OF 12").

Last Opened By: 10-26-09 11:43am DPerry

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

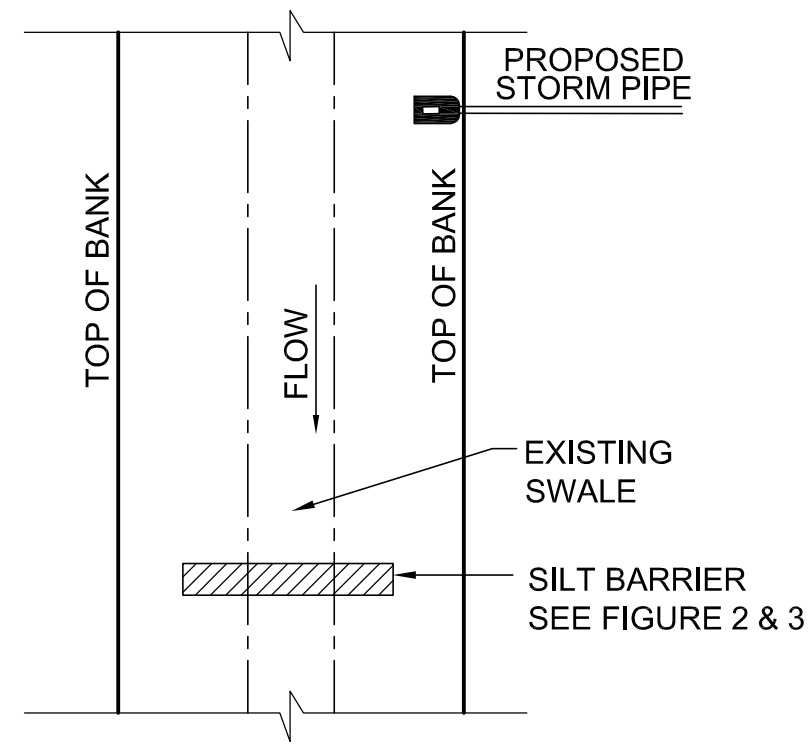
REV	DATE	BY	DESCRIPTION

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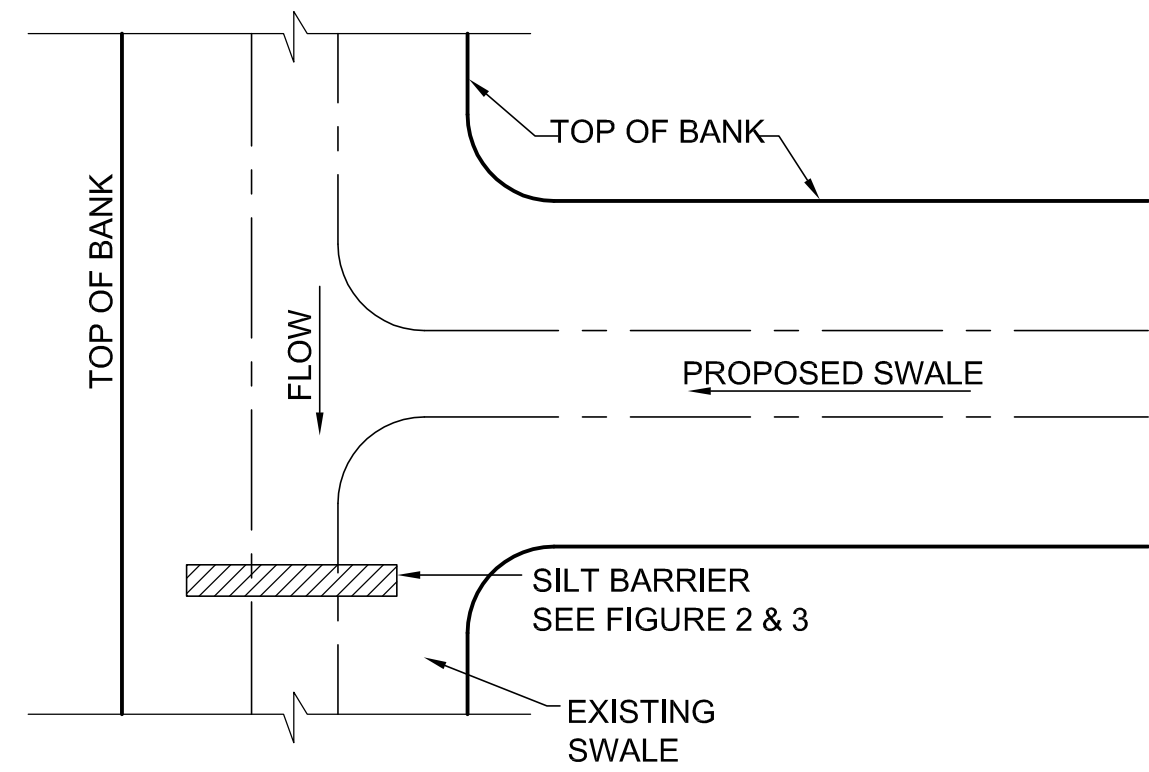
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 SARASOTA, FL 34232  
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 CA 00008571

MANATEE COUNTY  
 PIC TOWN WATERLINE REPLACEMENT (PHASE II)  
 WATERLINE DETAILS

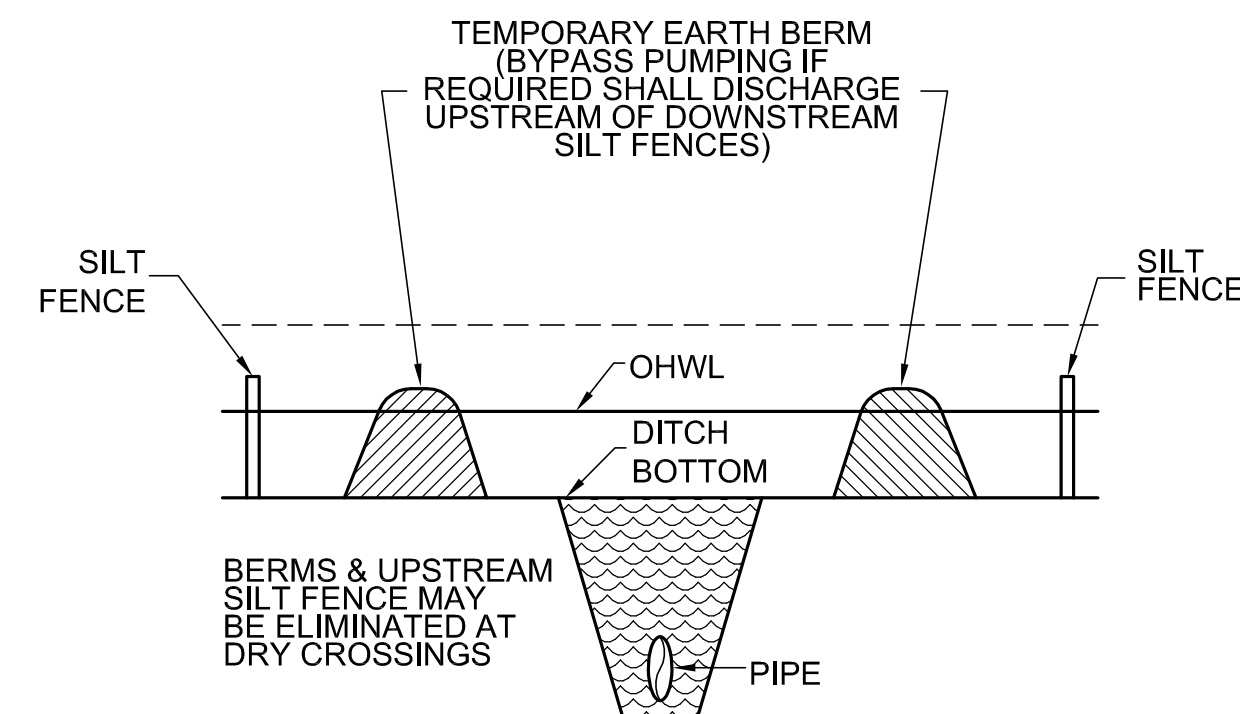
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BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. T-01
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 11 OF 13



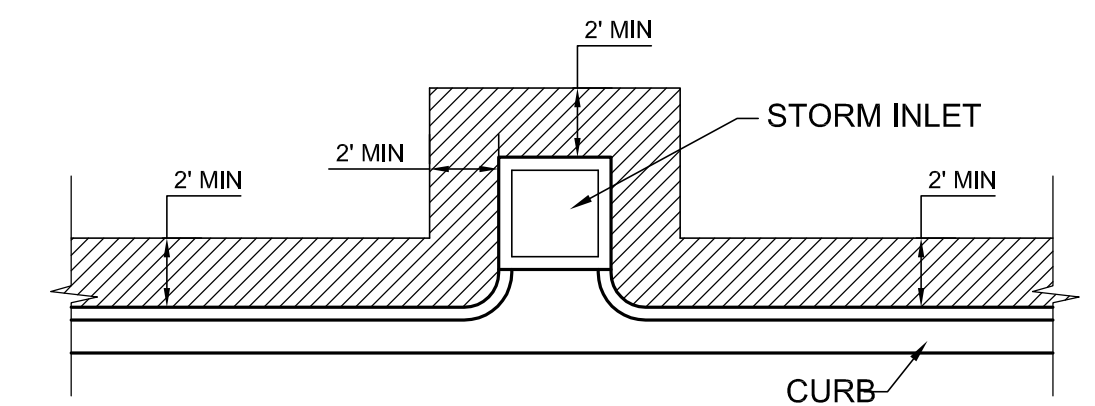
**SILT BARRIER AT CONNECTION OF STORM PIPE TO EXISTING SWALE**



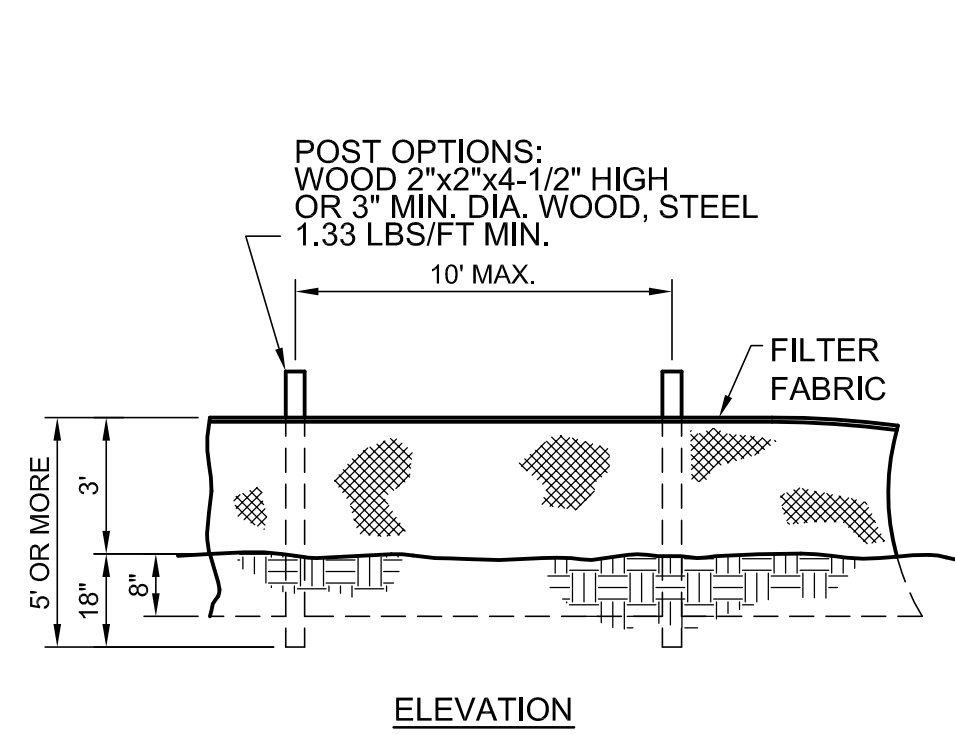
**SILT BARRIER AT CONNECTION OF SWALE TO EXISTING SWALE**



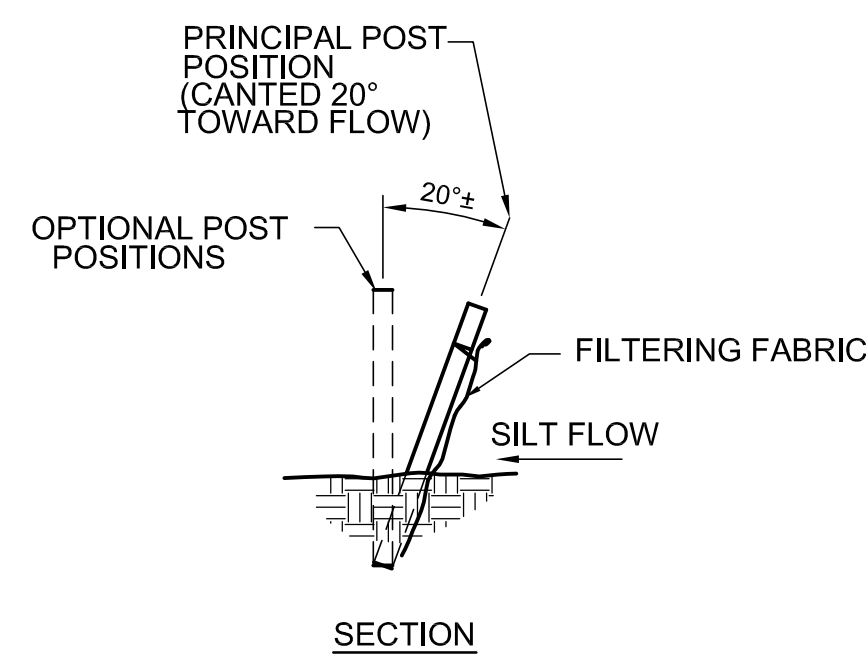
**UNDERGROUND PIPE CROSSING**



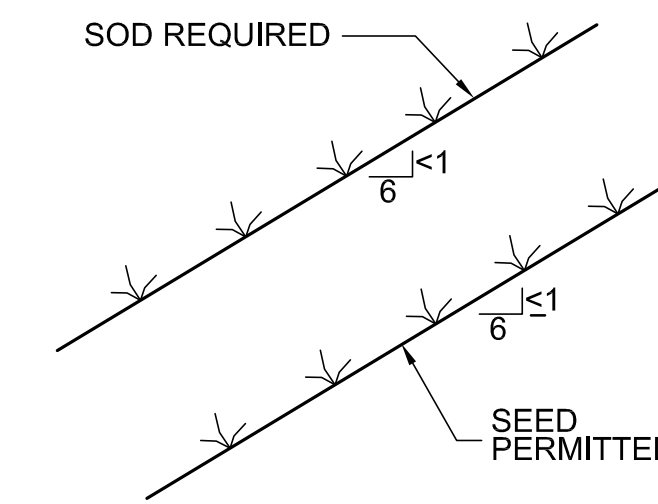
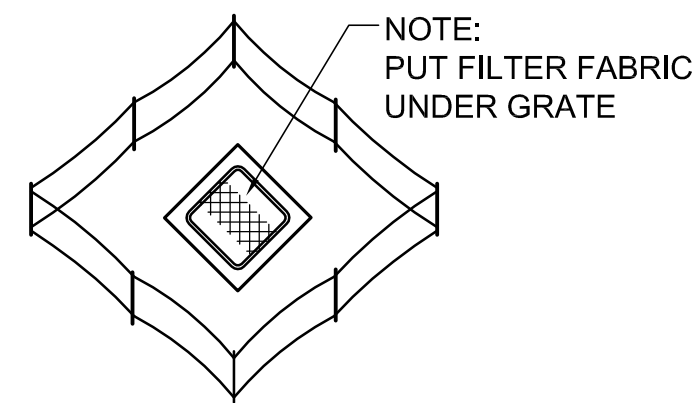
**SOD ALONG CURB AND AROUND INLET**



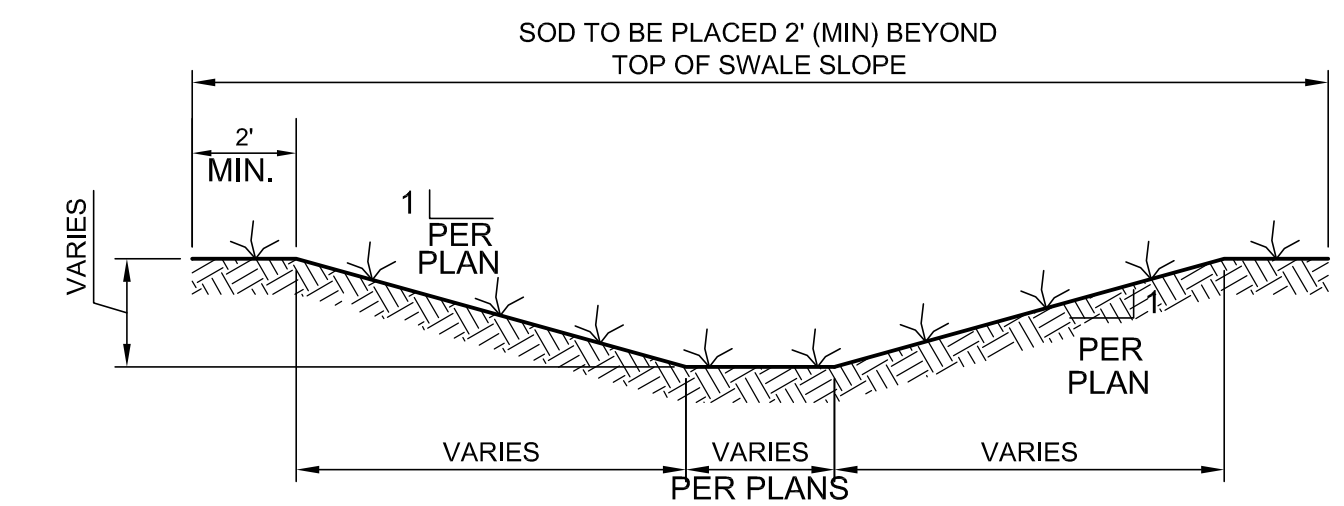
**TYPICAL SILT FENCE**



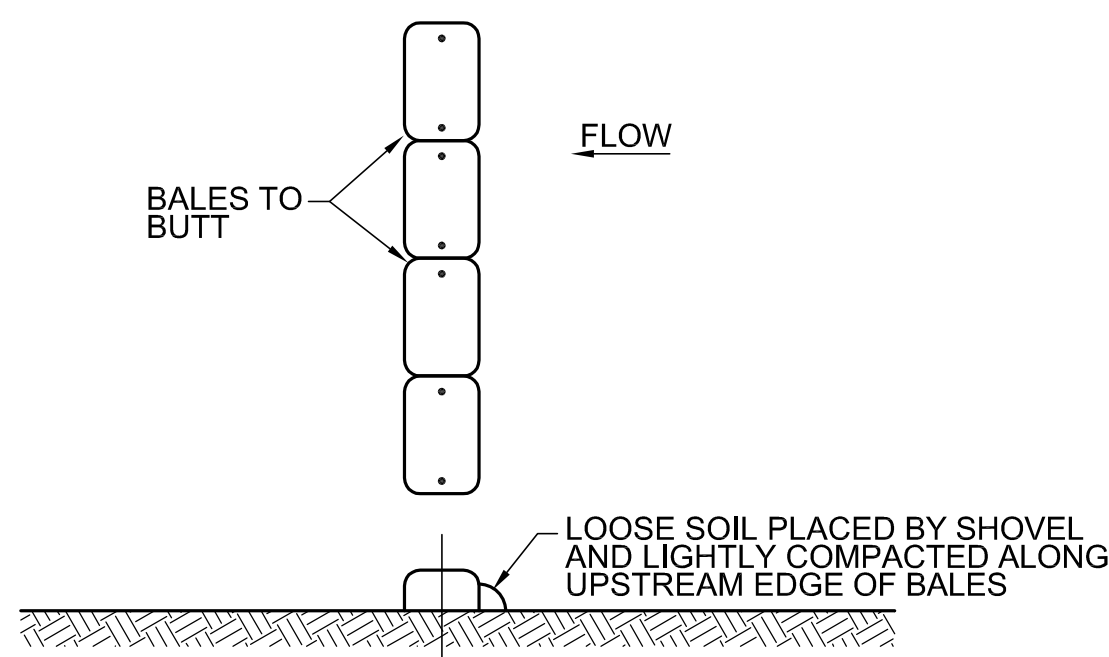
**PROTECTION AROUND DITCH BOTTOM INLETS**



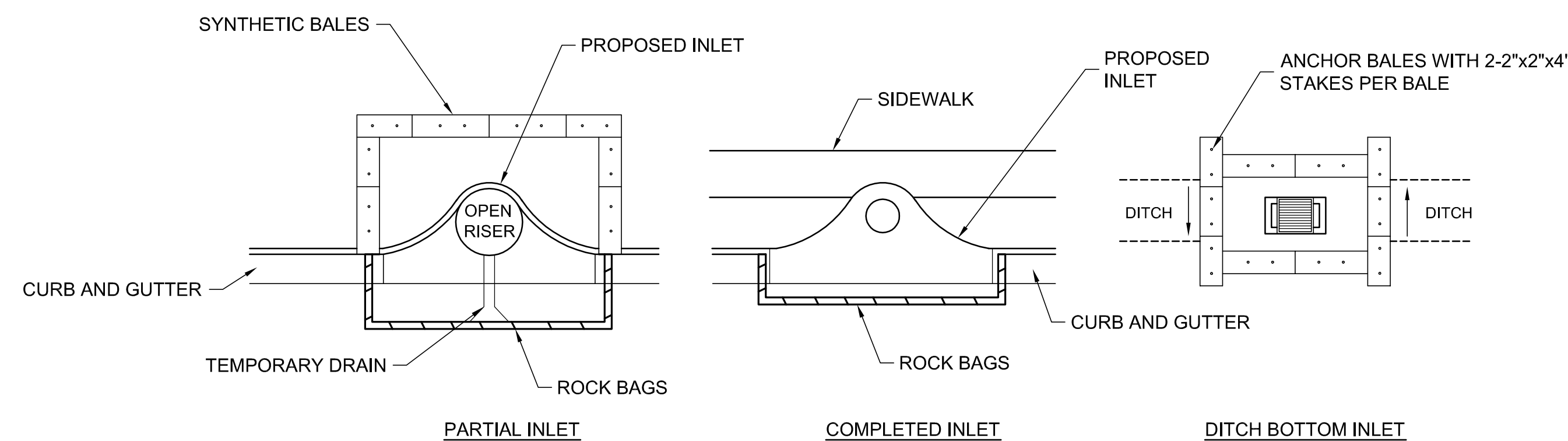
**GRASS SLOPES**



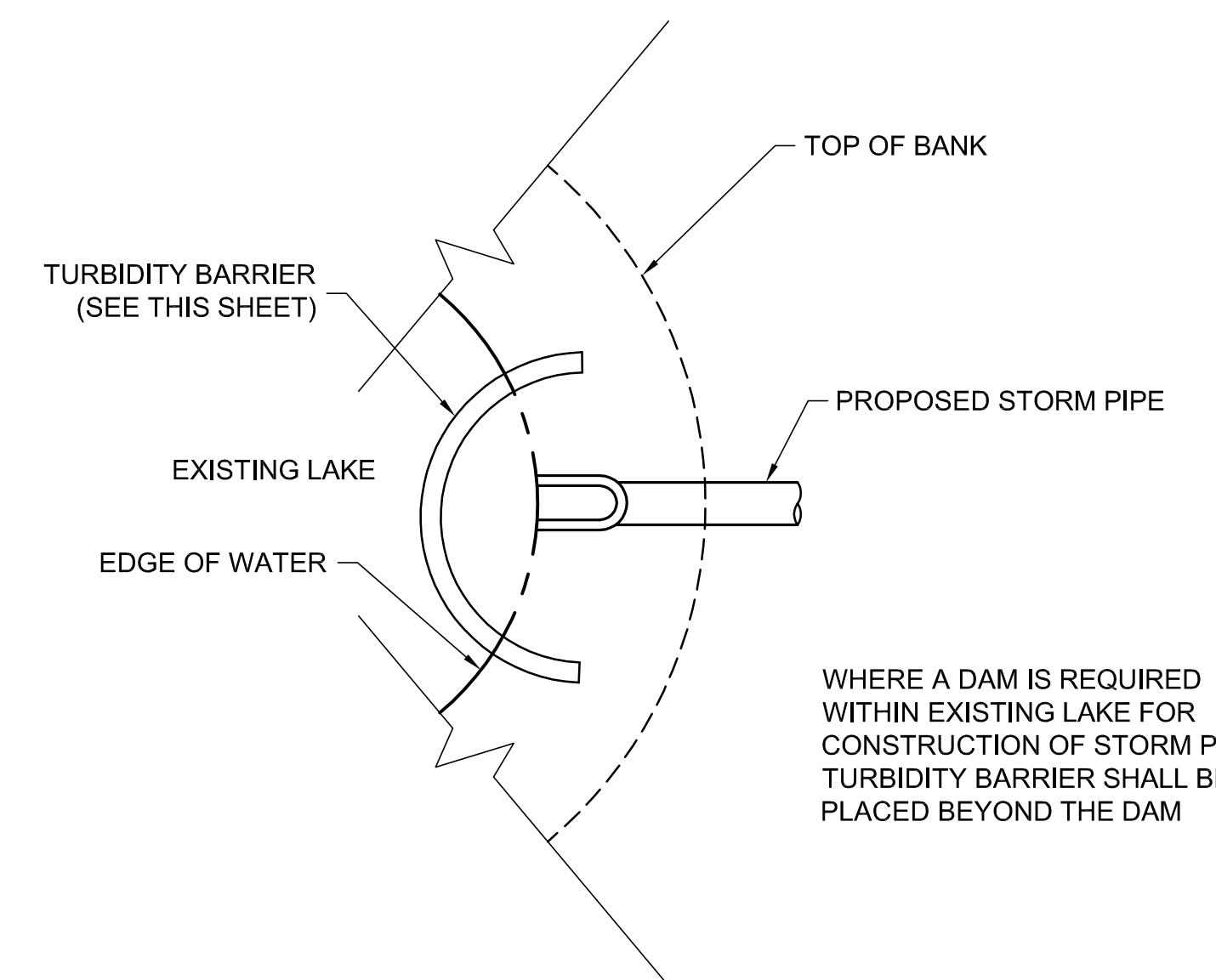
**TYPICAL SWALE SECTION**



**TYPICAL STAKED HAY BALES**



**SYNTHETIC BALE PROTECTION AROUND INLETS OF SIMILAR STRUCTURES**



**TURBIDITY BARRIER AT CONNECTION OF STORM PIPE TO EXISTING LAKE**

Last Opened By: 10-26-09 11:43am DPerry

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

REV	DATE	BY	DESCRIPTION

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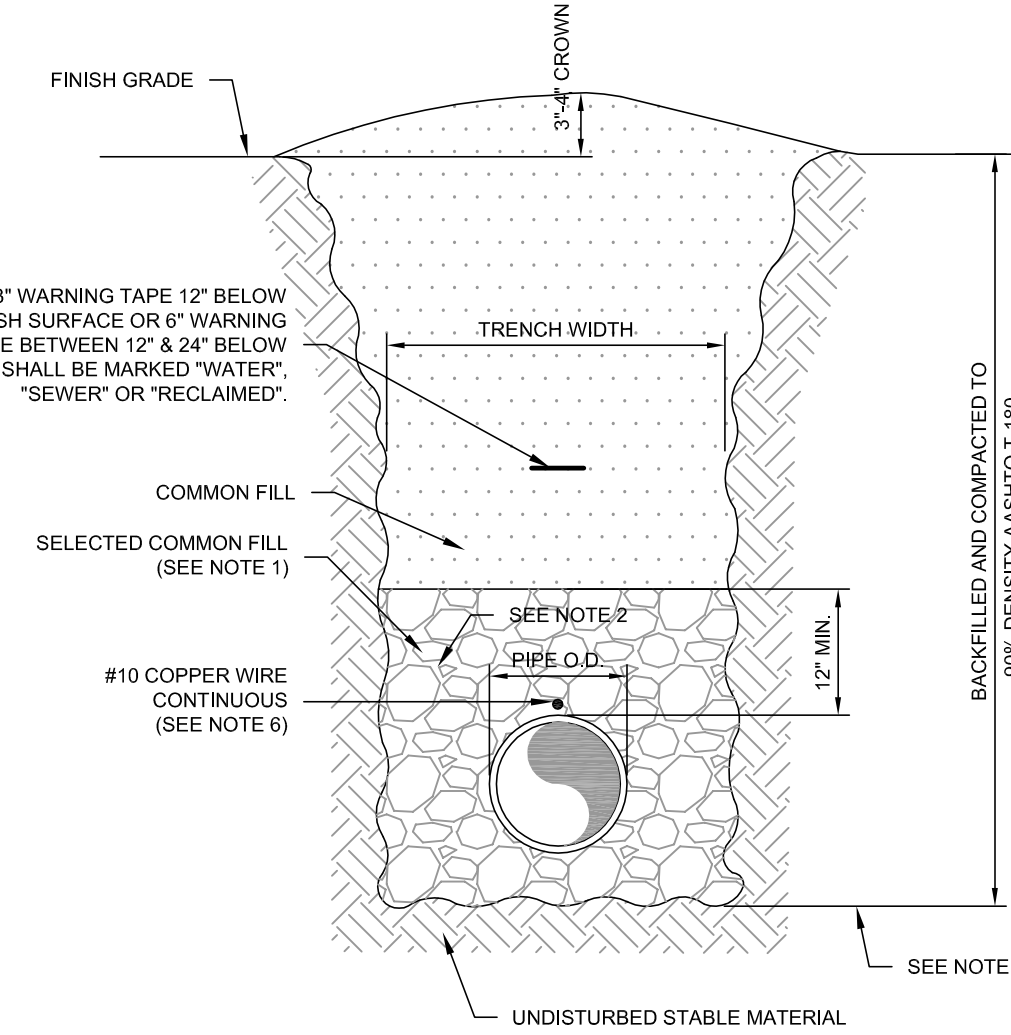
MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
 EROSION CONTROL DETAILS

**VERIFY SCALES**  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1" 1"  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7880E.10  
 DRAWING NO. T-02  
 SHEET NO. 12 OF 13

**NOTES:**

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
- 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES FOR SELECTED COMMON FILL AND NOT TO EXCEED 12 INCHES FOR COMMON FILL. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-190 DENSITY.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

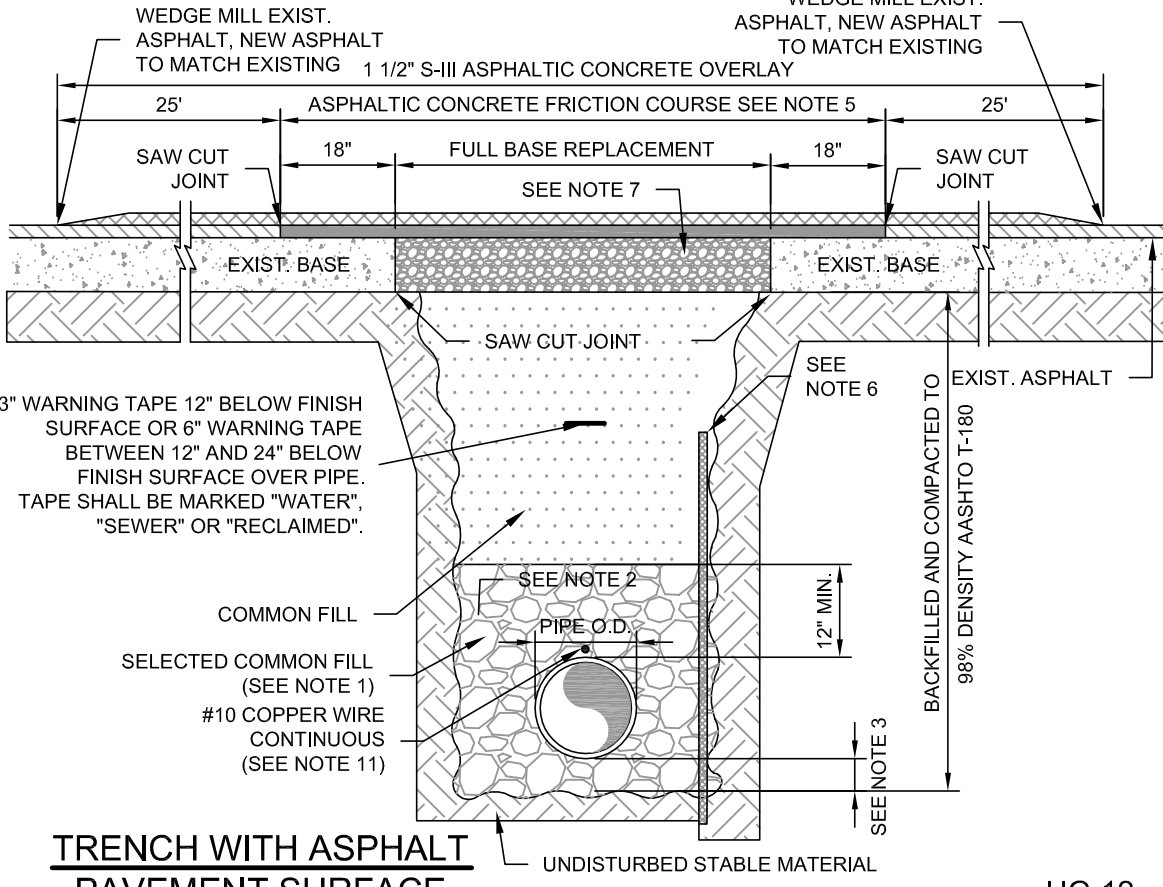


**TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING**

UG-11

**NOTES:**

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
- 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ASPHALTIC CONCRETE FRICTION COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF ONE INCH, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE, ABC-3 OR APPROVED EQUAL.
- BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6". EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-190 DENSITY.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5 THRU 11 ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.

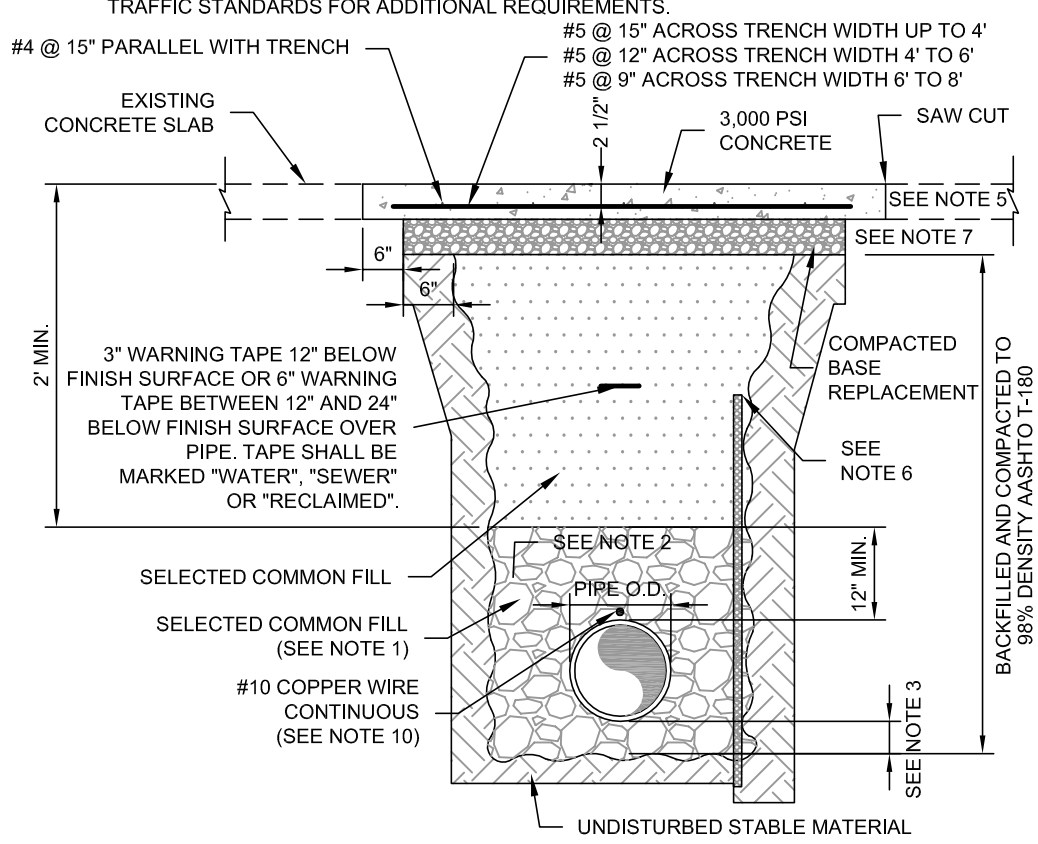


**TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING**

UG-12

**NOTES:**

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
- 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE. SAND ASPHALT BASE WILL BE AN ACCEPTABLE ALTERNATIVE.
- BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6". EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-190 DENSITY.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5 THRU 10 ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.

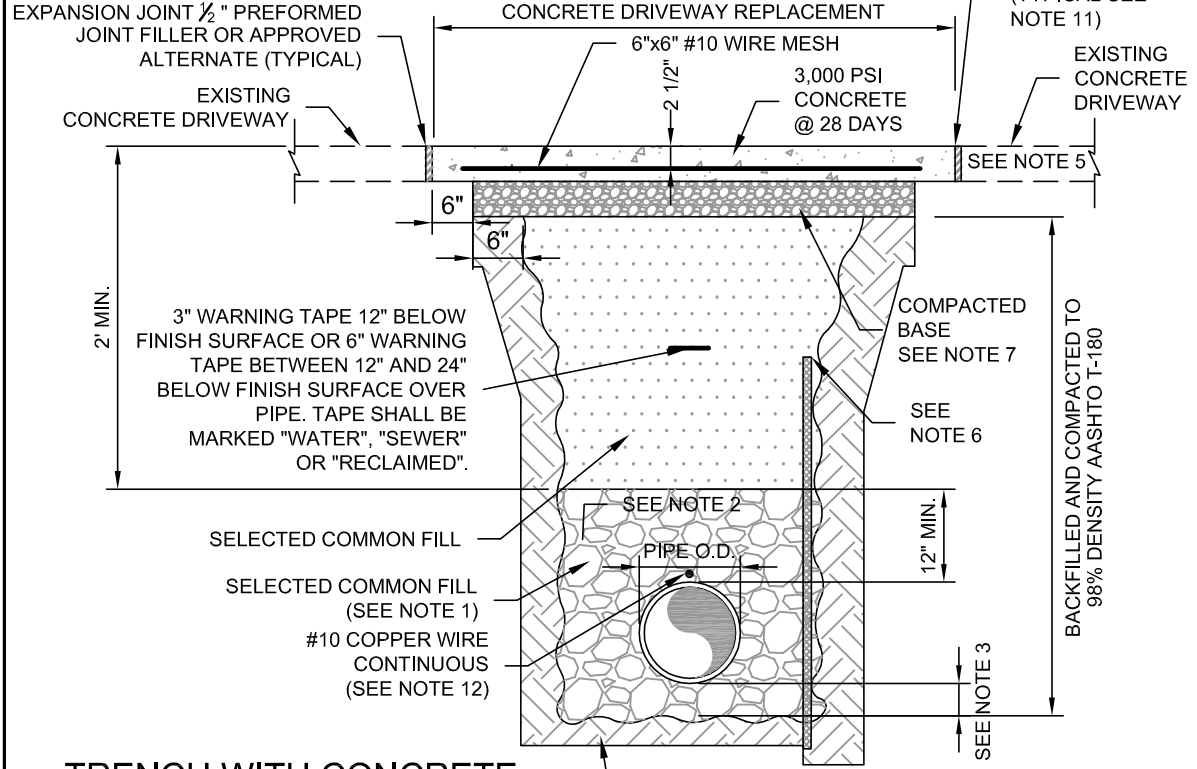


**TRENCH WITH CONCRETE PAVEMENT SURFACE TYPE A-1 PIPE BEDDING**

UG-13

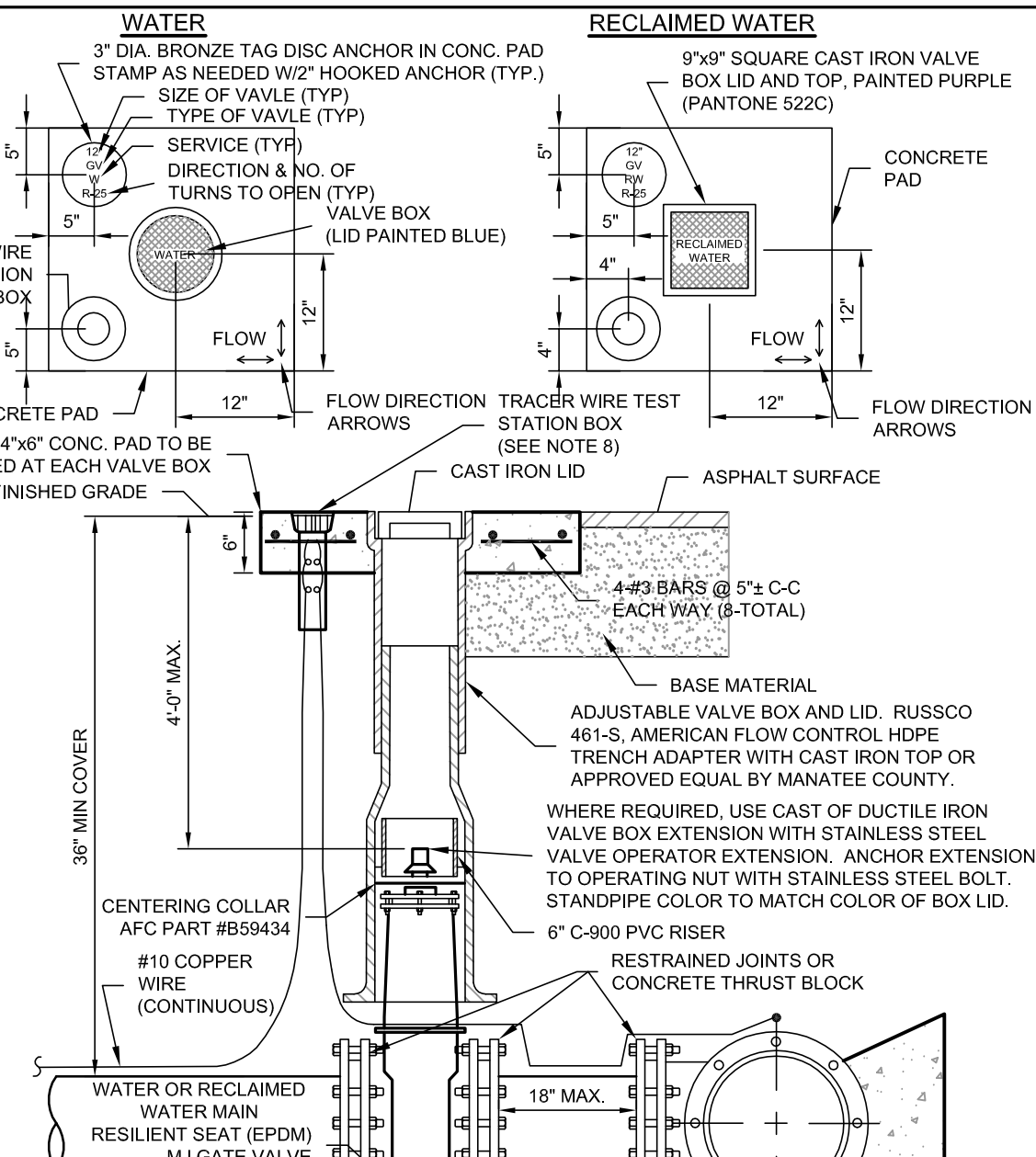
**NOTES:**

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
- 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
- BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6". EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-190 DENSITY.
- DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
- IF THE DRIVEWAY IS 12" OR WIDER, SAW CUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (1/2" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
- IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



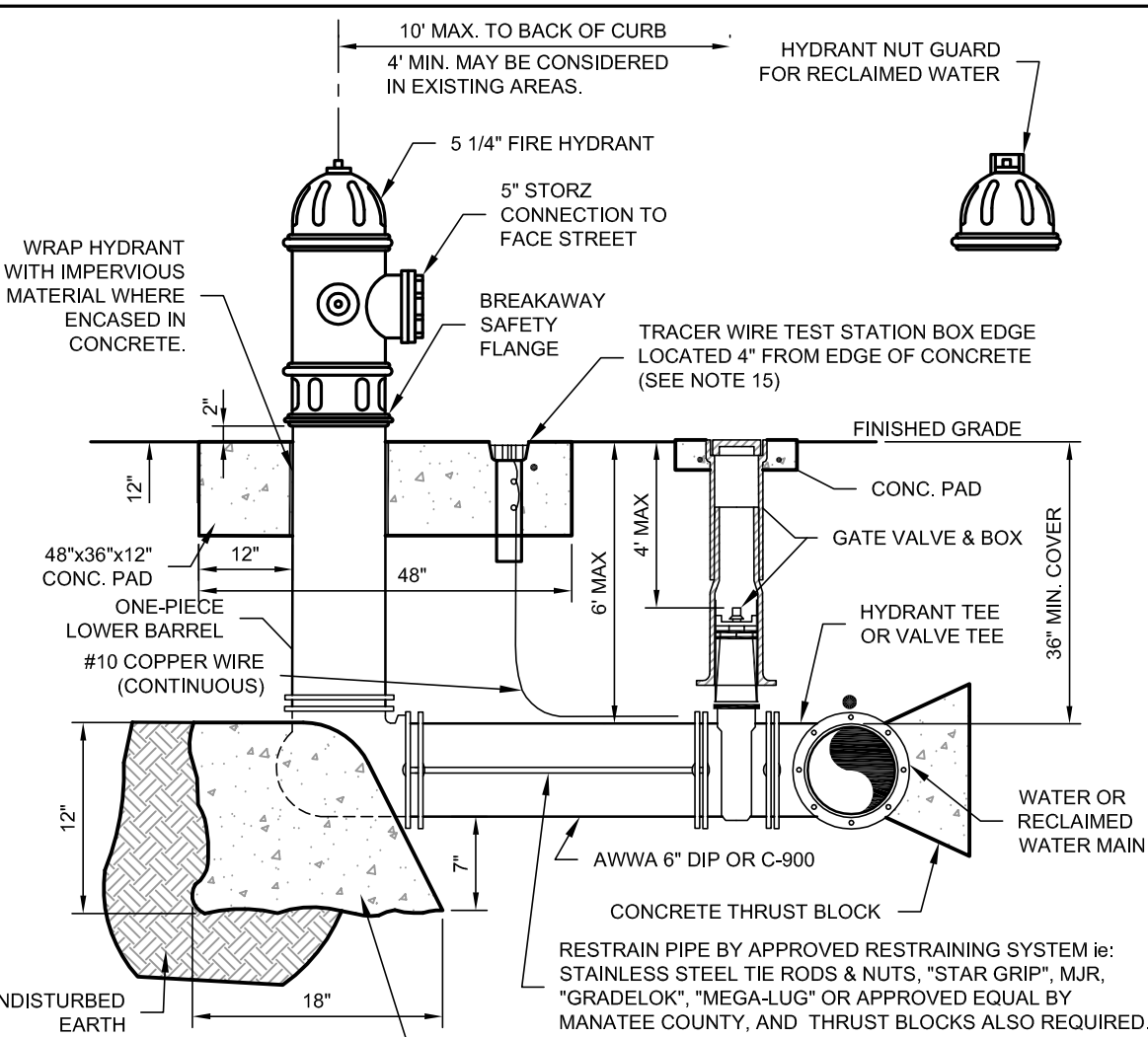
**TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING**

UG-14



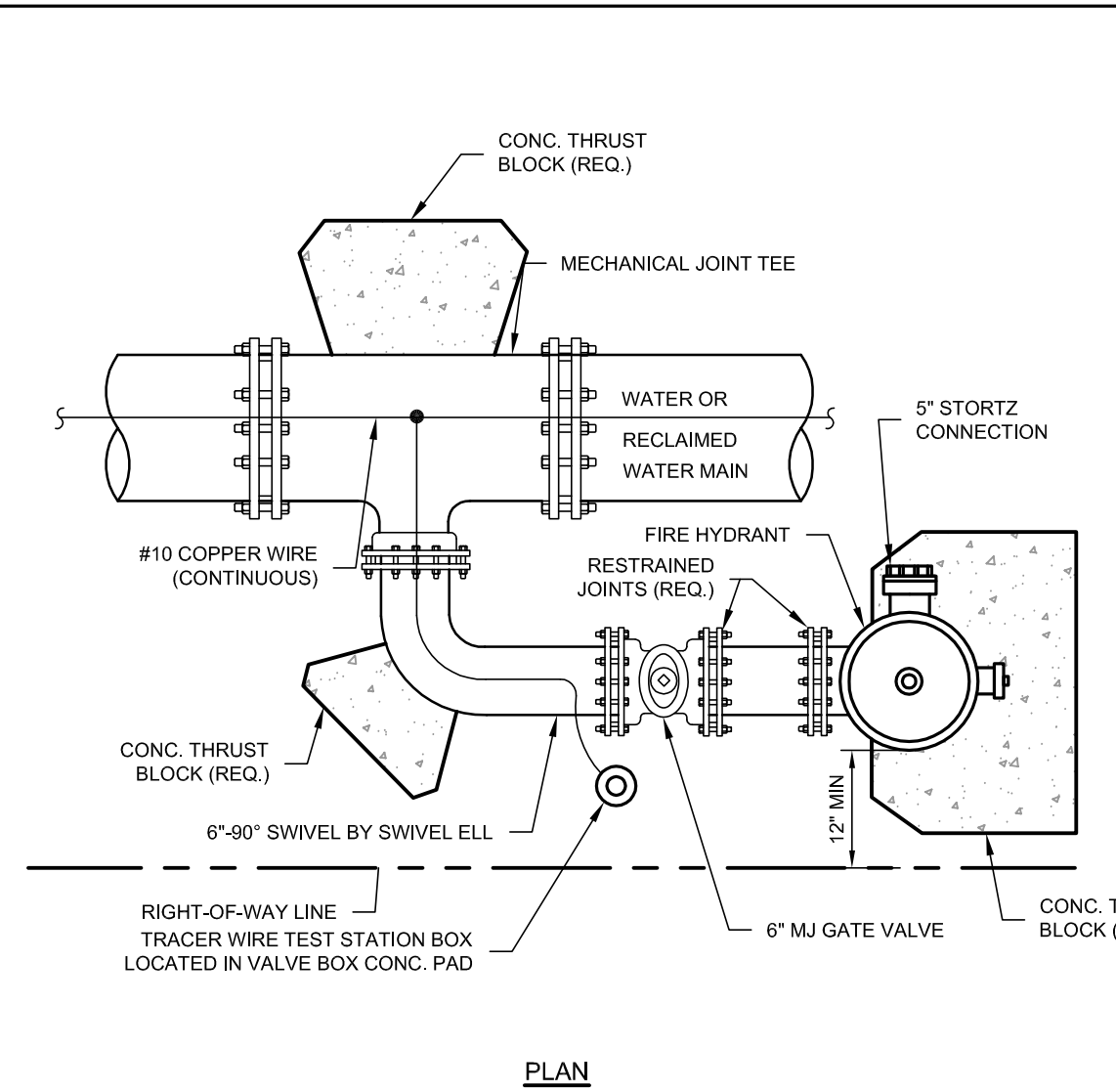
**GATE VALVE, BOX, LID AND TAG**

UW-2



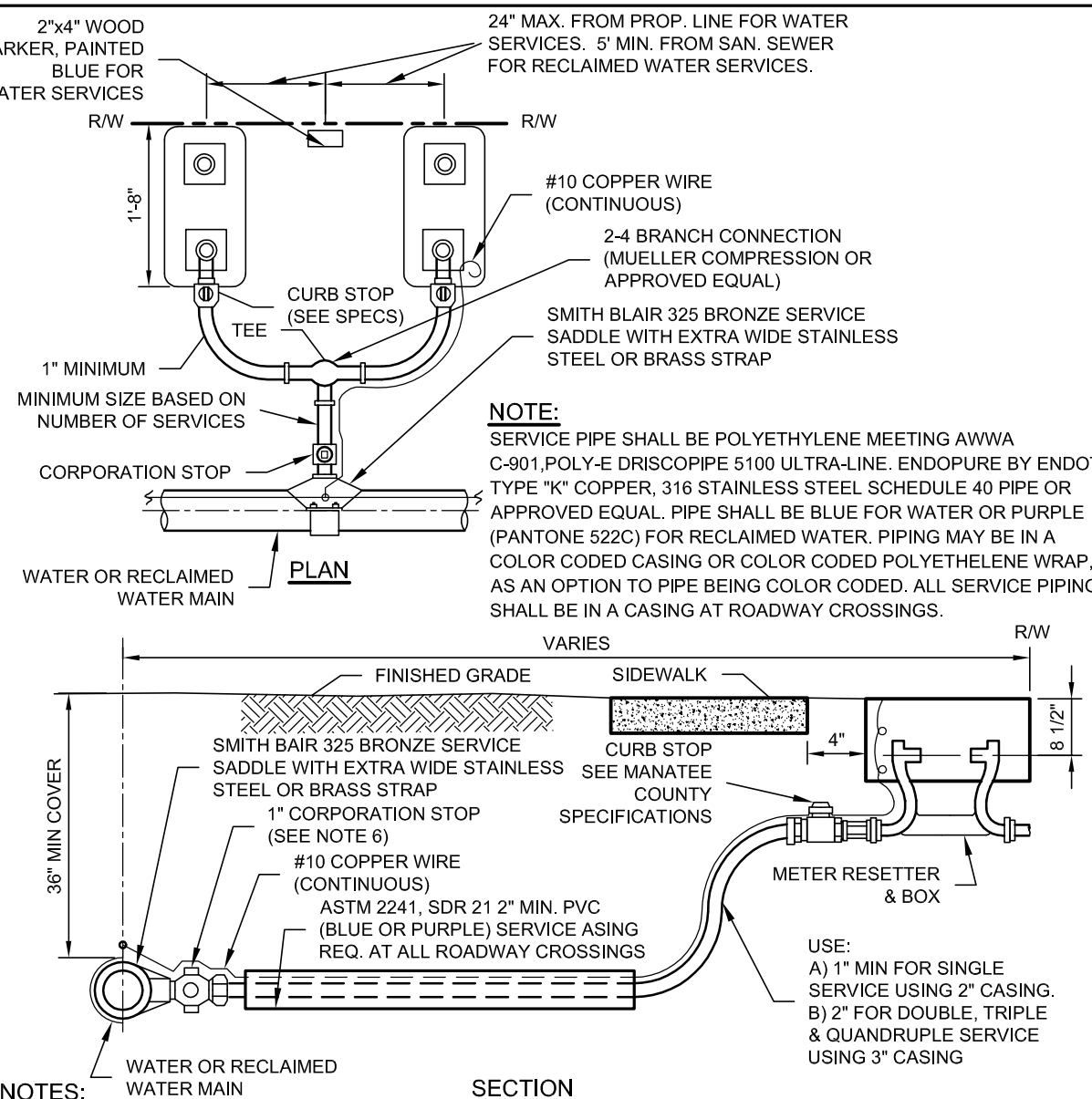
**FIRE HYDRANT ASSEMBLY**

UW-5



**FIRE HYDRANT WITH LOCKED 90° BEND**

UW-6



**TYPICAL SERVICE CONNECTION**

UW-19

REV	DATE	BY	DESCRIPTION

DESIGNED	JMS
DRAWN	DVP
CHECKED	JMF
DATE	OCTOBER 2009
PROJECT ENGINEER	

**carollo**  
 Engineers...Working Wonders With Water™  
 401 NORTH CATTLEMAN ROAD, SUITE 306  
 SARASOTA, FL 34232  
 PHONE: (941) 371-9832 FAX: (941) 371-9873  
 CA 00008571

MANATEE COUNTY  
**PIC TOWN WATERLINE REPLACEMENT (PHASE II)**  
 TYPICAL DETAILS

<b>VERIFY SCALES</b>	JOB NO. 7880E.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. T-03
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 13 OF 13