

CONSTRUCTION PLANS

for

INDIAN RIVER COUNTY NORTH COUNTY WATER & SEWER SYSTEM PHASE 2

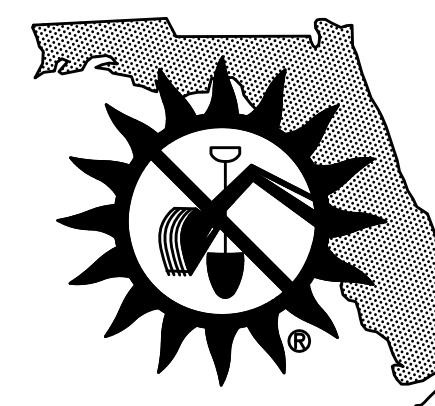
INDIAN RIVER COUNTY, FLORIDA
OCTOBER, 2020

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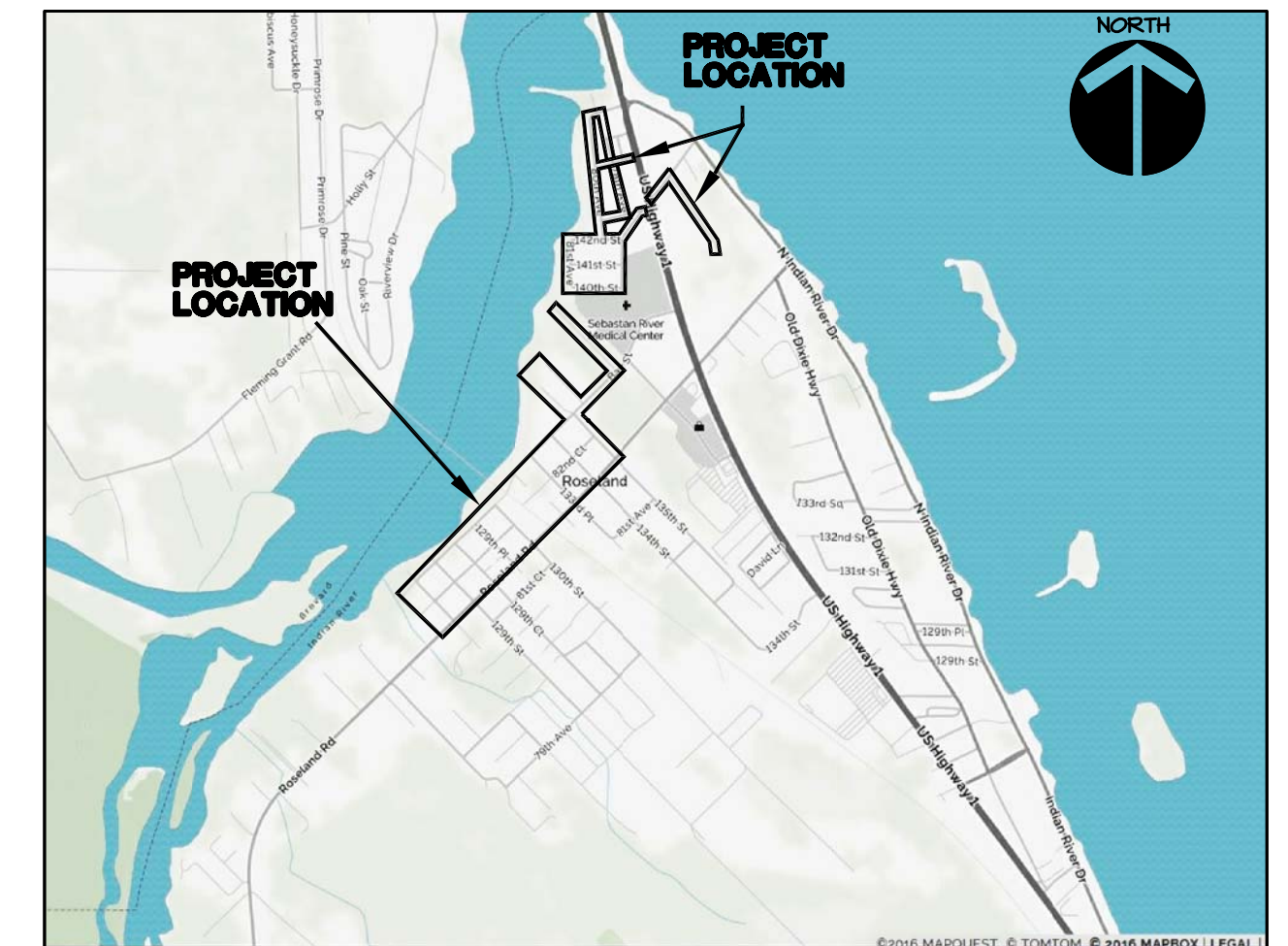


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VICINITY MAP (NOT TO SCALE)



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Ph. (772) 226-1834

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FOR BIDDING PURPOSES ONLY

INDIAN RIVER COUNTY NORTH COUNTY
WATER & SEWER SYSTEM - PHASE 2

M M **MASTELLER & MOLER, INC.**
CONSULTING ENGINEERS

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NO.	DATE	DESCRIPTION	DR/APP
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12/01/2020

EARL H. MASTELLER, P.E. FL#26658

GENERAL NOTES

- ALL WORK SHALL BE COMPLETED IN CONFORMANCE AS APPLICABLE WITH FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURE.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
- ALL DIMENSIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND IF ANY DISCREPANCIES ARE DISCOVERED, THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH UTILITY COMPANIES PRIOR TO START OF CONSTRUCTION IN ORDER TO PREVENT DAMAGE TO EXISTING UTILITIES AND THE ADJUSTMENT AND/OR RELOCATION OF SAME IF REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED ROAD CROSSING PERMITS.
- CONTRACTOR IS ADVISED TO FAMILIARIZE HIMSELF WITH THE OVERALL SCOPE OF WORK TO BE PERFORMED PRIOR TO SUBMITTING A BID.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF ANY CHANGES OR DEVIATIONS FROM THE ORIGINAL PLANS PRIOR TO CONSTRUCTION OF SAID CHANGE OR DEVIATION.
- THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES AND UTILITIES. ANY DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INSURANCE AND BONDS REQUESTED BY THE OWNER FOR THIS PROJECT.
- THE OWNER WILL PROVIDE THE SELECTED CONTRACTOR WITH COPIES OF ALL PERMITS RECEIVED FOR THE PROJECT.
- ANY FEDERAL DATUM MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE THE PROJECT ENGINEER SHOULD NOTIFY:

GEODETTIC INFORMATION CENTER
 ATTN: MARK MAINTENANCE SECTION
 ATTN: NCG-162
 6001 EXECUTIVE BLVD.
 ROCKVILLE, MARYLAND 20852
 TELEPHONE NO. (301) 443-8319

- THE ELEVATIONS AS SHOWN ON THESE PLANS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES OR UNDERGROUND UTILITIES.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE PROJECT ENGINEER SHOULD BE NOTIFIED IMMEDIATELY IN ORDER THAT THE COUNTY MAY HAVE A SURVEYOR REFERENCE SAID POINT PRIOR TO DISTURBANCE. ALSO, ALL GPS CONTROL POINTS ARE TO BE PROTECTED. IF DESTROYED DURING CONSTRUCTION, IT WILL BE THE CONTRACTOR RESPONSIBILITIES TO REPLACE THE GPS CONTROL POINTS AT THEIR EXPENSE.
- THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF APPROVED CONSTRUCTION PLANS, SPECIFICATIONS AND ANY SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
- NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

EROSION CONTROL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION CONTROL WITHIN BEST MANAGEMENT PRACTICES FOR THE DURATION OF THE PROJECT UNTIL SUCH TIME AS THE PROJECT HAS BEEN CERTIFIED AS COMPLETE.
- THE CONTRACTOR SHALL SEED & MULCH OR SOO ALL OPEN SPACE AREAS TO BE GRASSED IMMEDIATELY FOLLOWING FINAL GRADING AND COMPLETION OF ALL UNDERGROUND UTILITIES.
- SILT FENCES SHALL BE INSTALLED ALONG LIMITS OF CONSTRUCTION.
- SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IMMEDIATELY IF DAMAGED.
- ALL SIDE SLOPES OF STORMWATER MANAGEMENT AREAS SHALL BE SODDED ON COMPLETION OF FINAL GRADING.
- ALL INLETS SHALL BE PROTECTED FROM COLLECTION OF ERODED MATERIALS BY INSTALLATION OF TEMPORARY FILTER FABRIC AND/OR HAYBALES.
- FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED WITHIN ALL WATER BODIES DOWNSTREAM OF CONSTRUCTION ACTIVITIES WHERE PROTECTION AGAINST TURBID WATER DISCHARGE MAY OCCUR.
- ALL DISTURBED AREAS WITHIN RIGHTS-OF-WAY SHALL BE SODDED WITHIN THREE DAYS OF FINAL GRADING.

CONSTRUCTION STAKEOUT NOTIFICATION

SOME CONSTRUCTION ELEMENTS DEPICTED ON THESE PLANS ARE DRAWN NOT TO SCALE IN ORDER TO PROVIDE CLARITY AS TO THE SCOPE OF WORK. THESE ELEMENTS INCLUDE BUT NOT BE LIMITED TO CURBS, MANHOLES, VALVES, METERS & FIRE HYDRANTS, ETC. THE CONTRACTOR IS ADVISED TO UTILIZE BOTH THE PLAN VIEW AND DETAILS TO ACCURATELY CONSTRUCT ALL PROPOSED IMPROVEMENTS.

UTILITIES NOTES:

- ALL UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH INDIAN RIVER COUNTY UTILITIES STANDARDS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER, ENGINEER AT (772) 567-5300 AND UTILITIES DEPARTMENT A MINIMUM OF (48) HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ALL POTABLE WATER PIPING, JOINTING AND PACKING MATERIALS, INTERNAL COATING AND LININGS, FITTINGS, SPECIALS, AND APPURTENANCES USED IN THIS PROJECT SHALL BE IN CONFORMANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE CONFORMING TO NSF REQUIREMENTS AS APPLICABLE.
- ALL PIPE AND PIPE FITTINGS AS WELL AS SOLDER AND FLUX INSTALLED OR USED UNDER THE CONSTRUCTION OF THIS PROJECT ARE TO COMPLY WITH F.A.C. 62-555.322 WITH REGARD TO LEAD.
- ALL WATER SERVICE LINES INSTALLED UNDER THIS PROJECT ARE TO COMPLY WITH AWWA C900.

- ALL PE-XA TUBING 3" AND SMALLER FOR WATER MAINS SHALL BE THICKNESS SDR-9 MEETING AWWA C904
- ALL PVC PIPE 4"-12" IN DIAMETER FOR WATER MAINS SHALL BE THICKNESS CLASS DR-18 MEETING AWWA C900-97, OR LATEST REVISION, OR C909-98, OR LATEST REVISION.
- ALL PVC PIPE 14"-36" IN DIAMETER FOR WATER MAINS SHALL BE THICKNESS CLASS DR-18 MEETING AWWA C900-97 AND ASTM D1784, OR LATEST REVISIONS.
- DIP FOR WATER MAINS SHALL BE PRESSURE CLASS 350 MEETING AWWA SPECIFICATION C150 (A 21.50-06) OR LATEST REVISION.
- ALL PVC PIPE FOR GRAVITY SEWER MAINS SHALL BE EXTRA STRENGTH PVC PIPE AND SHALL CONFORM TO THE LATEST ASTM DESIGNATION D3034-SDR26 AND SHALL BE PAINTED GREEN OR APPROVED EQUAL.
- ALL PVC PIPE FOR SEWAGE FORCE MAIN 4" - 12" DIAMETER SHALL BE C900 OR C909, LATEST REVISIONS AND SHALL BE BROWN OR GREEN OR APPROVED EQUAL.
- PVC PIPE FOR REUSE FORCE MAIN 4" - 12" DIAMETER SHALL BE C900 OR C909, LATEST REVISIONS AND SHALL BE PURPLE OR APPROVED EQUAL.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
- ALL GENERAL CONSTRUCTION, MATERIAL TESTING AND METHODS OF INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF INDIAN RIVER COUNTY UTILITIES.
- POTABLE WATER PIPE AND PIPE FITTINGS INSTALLED WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(2)(B)3, F.A.C. USING BLUE AS THE PREDOMINANT COLOR.
- DIMENSIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND IF ANY DISCREPANCIES ARE DISCOVERED, THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH UTILITY COMPANIES PRIOR TO START OF CONSTRUCTION IN ORDER TO PREVENT DAMAGE TO EXISTING UTILITIES AND THE ADJUSTMENT AND/OR RELOCATION OF SAME IF REQUIRED.
- CONTRACTOR SHALL OBTAIN A COPY OF THE F.D.E.P. WATER & WASTEWATER PERMITS AND PERFORM SAMPLING & TESTING IN CONFORMANCE WITH THE PERMIT CONDITIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED ROAD CROSSING PERMITS.
- CONTRACTOR IS ADVISED TO FAMILIARIZE HIMSELF WITH THE OVERALL SCOPE OF WORK TO BE PERFORMED PRIOR TO SUBMITTING A BID.
- WATER MAIN AND FORCE MAINS SHALL BE INSTALLED WITH 36" MINIMUM COVER AND SHALL BE CONSTRUCTED SO AS TO AVOID EXISTING AND KNOWN FUTURE UTILITY LOCATIONS.
- ALL WORK SHALL BE COMPLETED IN CONFORMANCE AS APPLICABLE WITH FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION AND THE STANDARDS OF THE UTILITY OWNER.
- WATERMAIN & FORCEMAIN PIPES INSTALLED UNDER PAVEMENT SHALL BE D.I.P. WITH 36" MIN. COVER (42" MIN. COVER FOR P.V.C. PIPE).
- BENDS SHALL BE INSTALLED ON WATER MAINS AS NECESSARY TO AVOID CONFLICT WITH PROPOSED OR EXISTING STRUCTURES AT NO ADDITIONAL COST TO OWNER.
- ALL CONSTRUCTION SHALL COMPLY WITH THE STANDARDS AND SPECIFICATIONS OF THE UTILITY OWNER. SHOP DRAWINGS FOR ALL SEWER AND WATER APPURTENANCES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
- PRESSURE AND BACTERIOLOGICAL TESTING FOR WATER MAINS, TWIN/FILTRATION/EXFILTRATION TESTS FOR GRAVITY SEWER AND PRESSURE TEST FOR FORCE MAINS, SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND COORDINATED WITH THE OWNER, ENGINEER AND UTILITY OWNER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL TEST RESULTS.
- THE CONTRACTOR SHALL SUPPLY THE OWNER AND ENGINEER WITH TWO COPIES OF AS-CONSTRUCTED INFORMATION SHOWING THE CONSTRUCTED LOCATION OF ALL MAINS, FITTINGS, VALVES, LATERALS (AT THE MAIN AND TERMINAL POINT), MANHOLES AND OTHER WATER AND SEWER APPURTENANCES. THE FORMAT SHALL BE APPROVED BY THE OWNER AND/OR UTILITY PRIOR TO SUBMISSION.
- WATER MAINS AND FORCE MAIN SHALL BE FLUSHED AT A MINIMUM VELOCITY OF 2.5 FPS PRIOR TO PRESSURE TESTING AND DISINFECTION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF ANY CHANGES OR DEVIATIONS FROM THE ORIGINAL PLANS PRIOR TO CONSTRUCTION OF SAID CHANGE OR DEVIATION.
- THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES AND UTILITIES. ANY DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- LATERALS AND CLEANOUTS SHALL BE INSTALLED AS REQUIRED BY APPLICABLE PLUMBING CODES.
- INSPECTION OR FAILURE TO INSPECT ANY MATERIALS OR WORKMANSHIP BY THE UTILITY OWNER OR OTHER AGENCIES SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH APPLICABLE PLANS, SPECIFICATIONS AND LAWS.
- THE CONTRACTOR SHALL OBTAIN A CURRENT COPY OF THE UTILITY OWNER CONSTRUCTION SPECIFICATIONS FOR WATER DISTRIBUTION AND SEWAGE COLLECTION FACILITIES PRIOR TO BIDDING THE UTILITY WORK. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE UTILITY'S SPECIFICATIONS AND THE ENGINEER'S SPECIFICATIONS, THE UTILITY'S SPECIFICATIONS SHALL SUPERSEDE.
- TRACE WIRE SHALL BE INSTALLED OVER ALL WATER MAINS AND SEWAGE FORCE MAINS. #10 MULTIPLE-STRAND CONDUCTOR COPPER TRACE WIRE SHALL BE AFFIXED TO THE TOP OF PIPE. SEE TRACE WIRE DETAIL FOR SPECIFICATIONS.
- USE POTABLE WATER FOR PRESSURE TESTS.
- POTABLE WATER MAINS SHALL BE CONSTRUCTED OF P.V.C. PIPE UNLESS NOTED OTHERWISE.
- FORCE MAIN SHALL BE PRESSURE TESTED THE SAME AS WATER MAINS, EXCEPT THAT TEST PRESSURE SHALL AVERAGE NO LESS THAN 100 PSI.
- THE CONTRACTOR SHALL DISINFECT THE NEW WATER SYSTEM IN CONFORMANCE WITH AWWA-C651 SPECIFICATIONS AND THE NOTES THIS SHEET. A

- WATER SYSTEM PRESSURE TESTS SHALL BE COMPLETED IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE. FOR TWO (2) HOURS IN DURATION AS ACCEPTABLE TO UTILITY OWNER, AT AN AVERAGE PRESSURE OF 150 PSI. ALLOWABLE LEAKAGE WILL BE COMPUTED BASED ON AWWA C600 FOR DIP AND AWWA C605 FOR PVC.
- $$L = \frac{NDP \cdot 12}{7400}$$
 WHERE: L = LEAKAGE ALLOWABLE (GPH)
 N = NUMBER OF JOINTS
 D = NOMINAL DIAMETER (INCHES)
 P = AVERAGE PRESSURE (PSI)
- PRESSURE TESTING FOR PVC PIPE SHALL BE BASED ON AWWA STANDARD C605.
- A CONTINUOUS AND UNIFORM BEDDING WILL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE. BACKFILL OVER ANY WATER MAIN, FORCE MAIN AND SANITARY SEWER THAT IS TO BE INSTALLED UNDER PAVING, IS TO BE COMPACTED IN 12" LIFTS MAXIMUM TO A MINIMUM OF 95% MAXIMUM DENSITY WITH A MECHANICAL TAMPER OR OTHER MEANS ACCEPTABLE TO THE OWNER AND/OR ENGINEER. UNSUITABLY SIZED STONES (AS DESCRIBED IN AWWA STANDARDS) SHALL BE REMOVED FROM THE TRENCH FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF THE PIPE. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH COMPACTION TEST RESULTS AT 400' INTERVALS AT HIS EXPENSE BASED ON AASHTO T-180 SPECIFICATIONS.
 - AT ALL INSTANCES WHERE WATER MAINS CROSS ABOVE OR BELOW REUSE MAINS, STORM CULVERTS, SANITARY SEWER, OR SANITARY SEWER FORCE MAIN, THE CONTRACTOR IS TO PROVIDE "AS-BUILT" INFORMATION TO THE ENGINEER DETAILING THE VERTICAL CLEARANCE OBTAINED.
 - WATER MAINS SHALL BE LAID AT LEAST 7 FEET (EDGE TO EDGE) FROM ANY EXISTING OR PROPOSED STORM SEWER, SANITARY SEWER, OR SANITARY SEWER FORCE MAIN. WATER MAINS CROSSING SEWERS OR STORM PIPES SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF 18 INCHES AND SHALL BE LAID SO THAT ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED AT THE CROSSING. WATER MAINS SHALL NEITHER PASS THROUGH NOR CONTACT SEWER MANHOLES.

- *NOTE:
PLEASE NOTE IN THE EVENT THAT F.D.E.P. AND CITY OF INDIAN RIVER COUNTY STANDARDS CONFLICT, THE MORE STRINGENT STANDARD SHALL APPLY.
- WATER MAINS CROSSING ANY UTILITIES WILL BE LAID SO THAT ONE FULL LENGTH OF WATER MAIN WILL BE CENTERED AT THE CROSSING.
 - WATER MAINS CROSSING ABOVE OR BELOW REUSE MAINS, STORM CULVERTS, SANITARY SEWER, OR SANITARY SEWER FORCE MAIN, THE CONTRACTOR IS TO PROVIDE "AS-BUILT" INFORMATION TO THE ENGINEER DETAILING THE VERTICAL CLEARANCE OBTAINED.
 - WATER MAINS SHALL BE LAID AT LEAST 7 FEET (EDGE TO EDGE) FROM ANY EXISTING OR PROPOSED STORM SEWER, SANITARY SEWER, OR SANITARY SEWER FORCE MAIN. WATER MAINS CROSSING SEWERS OR STORM PIPES SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF 18 INCHES AND SHALL BE LAID SO THAT ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED AT THE CROSSING.

PAVING / DRAINAGE NOTES

- ALL STORMWATER PIPES SHALL BE REINFORCED CONCRETE PIPE (RCP), CAP, CLASS III OR ADS PIPE (MANNINGS "n" = 0.012) AS NOTED ON THE PLANS AND IN ACCORDANCE WITH THE SPECIFICATIONS.
- INLETS SHALL BE PRE-CAST IN CONFORMANCE WITH F.D.O.T. STANDARD SPECIFICATIONS WITH 28 DAY 4000 PSI CONCRETE.
- ALL BACKFILL OVER STORM PIPES UNDER PLANNED PAVEMENT AREAS SHALL BE COMPACTED PER F.D.O.T. STANDARD SPECIFICATIONS, SECTION 125.8.3., TO 98% OF THE MAXIMUM DENSITY PER AASHTO T-180.
- ADJUSTMENT OF INLET TOPS SHALL BE INCLUDED IN THE CONTRACTOR'S BID. NO CLAIM SHALL BE MADE AGAINST THE OWNER AND/OR ENGINEER IN THE EVENT ADJUSTMENTS ARE NECESSARY.
- CONTRACTOR SHALL COORDINATE CONNECTIONS TO EXISTING STORM DRAINAGE FACILITIES AND SHALL VERIFY LOCATION AND ELEVATION OF SAID FACILITIES PRIOR TO THE START OF CONSTRUCTION. ANY FACILITIES DISTURBED SHALL BE REPAIRED TO EQUAL OR BETTER THAN EXISTING CONDITIONS.
- THE OWNER RESERVES THE RIGHT TO REQUEST FROM THE CONTRACTOR ASPHALTIC CONCRETE SURFACE COURSE MIX CERTIFICATIONS TO ASSURE COMPLIANCE WITH F.D.O.T. SPECIFICATIONS.
- EXTRA BASE MATERIAL SHALL BE REQUIRED AT GROSS CULVERTS WHEN COVER DIMENSION IS LESS THAN 12" BELOW BOTTOM OF BASE (F.D.O.T. INDEX NO. 205).
- ALL DISTURBED STRIPING AND SIGNAGE TO BE REPLACED. STRIPING TO BE THERMOPLASTIC CONFORMING TO F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

MAINTENANCE OF TRAFFIC NOTES

- THE CONTRACTOR SHALL NOTIFY TRAFFIC ENGINEERING AT (772) 226-1326, 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL STAND MOUNTED ADVANCE CONSTRUCTION SIGNING IN ACCORDANCE WITH F.D.O.T. STANDARD INDEX 602 FOR ANY WORK LESS THAN 15 FEET FROM THE EDGE OF PAVEMENT.
- THERE SHALL BE NO EXCAVATIONS LEFT OPEN WHEN WORK IS NOT ACTIVELY BEING PERFORMED.
- TRAFFIC SHALL BE RESTRICTED TO A SINGLE LANE WHEN ANY WORK ENCLOSES THE AREA BETWEEN THE CENTERLINE AND 2 FEET OUTSIDE THE EDGE OF PAVEMENT. ONE-LANE CLOSURES SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARD INDEX 603. TRAFFIC ENGINEERING SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY LANE CLOSINGS.
- ALL CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED A MINIMUM OF 15 FEET FROM THE EDGE OF PAVEMENT AND SHALL BE PROTECTED BY TYPE II BARRICADES WITH FLASHING LIGHTS.
- CONSTRUCTION FENCING USED IN THE WORK AREA TO PROTECT EQUIPMENT OR EXCAVATIONS SHALL NOT BLOCK SIGHT DISTANCE NEAR INTERSECTIONS OR DRIVEWAYS.
- ACCESS TO PROPERTY OWNERS AS WELL AS EMERGENCY ACCESS SHALL BE MAINTAINED AT ALL TIMES.
- WORK IN THE RIGHT-OF-WAY SHALL BE CONDUCTED IN ACCORDANCE WITH F.D.O.T. STANDARDS AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL REMAIN OPEN AT ALL TIMES.

FDEP SEPARATION NOTES:

- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL SEPARATION DISTANCE OF AT LEAST SEVEN FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY, OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER, NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING AN EXISTING OR PROPOSED GRAVITY, OR PRESSURE-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. AT THE UTILITY CROSSING DESCRIBED ABOVE, ON FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWER, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C.

62-555.340 Disinfection and Bacteriological Evaluation of Public Water System Components.

- (2) BACTERIOLOGICAL EVALUATIONS TO VERIFY PROPER DISINFECTION OF TREATMENT OR STORAGE FACILITIES AND WATER MAINS SHALL BE CONDUCTED AS SET FORTH IN PARAGRAPHS (A) THROUGH (C) BELOW. THE TOTAL RESIDUAL CHLORINE MEASUREMENTS REQUIRED UNDER PARAGRAPH (A) MAY BE PERFORMED BY ANY AUTHORIZED REPRESENTATIVE OF THE SUPPLIER OF WATER OR PERSON CONSTRUCTING OR ALTERING THE TREATMENT OR STORAGE FACILITIES OR WATER MAINS BUT SHALL BE PERFORMED FOLLOWING THE APPROPRIATE PROCEDURES IN THE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARD OPERATING PROCEDURES FOR FIELD ACTIVITIES, DEP-SOP-001/01, AS INCORPORATED INTO RULE 62-160.800, F.A.C. THE TOTAL COLIFORM ANALYSES REQUIRED UNDER PARAGRAPH (A) SHALL BE PERFORMED BY A LABORATORY OF THE DEPARTMENT OF HEALTH (DOH) OR A LABORATORY CERTIFIED BY THE DOH TO PERFORM BACTERIOLOGICAL ANALYSES OF DRINKING WATER AND SHALL BE PERFORMED USING AN APPROPRIATE METHOD REFERENCED IN SUBSECTION 62-550.550(1), F.A.C.
- (A) AFTER REDUCING THE TOTAL CHLORINE RESIDUAL IN THE FACILITIES OR MAINS TO NO MORE THAN FOUR MILLIGRAMS PER LITER, A TOTAL OF AT LEAST TWO SAMPLES - EACH TAKEN ON A SEPARATE DAY AND TAKEN AT LEAST SIX HOURS APART FROM THE OTHER SAMPLE(S) - SHALL BE COLLECTED AT EACH OF THE LOCATIONS INDICATED IN THE APPLICABLE AWWA STANDARD REFERENCED IN SUBSECTION (1) ABOVE, AND THE SAMPLES SHALL BE ANALYZED FOR TOTAL RESIDUAL CHLORINE AND FOR THE PRESENCE OF TOTAL COLIFORM.
- (B) IF ANY SAMPLE CONTAINS MORE THAN FOUR MILLIGRAMS PER LITER OF TOTAL CHLORINE, THE SAMPLE SHALL BE CONSIDERED INVALID. IF ANY SAMPLE SHOWS THE PRESENCE OF TOTAL COLIFORM, THE FACILITIES OR MAINS SHALL BE REDISINFECTED AS NECESSARY IN ACCORDANCE WITH SUBSECTION (1) ABOVE AND RESAMPLED IN ACCORDANCE WITH PARAGRAPH (A) ABOVE UNTIL TWO CONSECUTIVE SAMPLES AT EACH SAMPLING LOCATION SHOW THE ABSENCE OF TOTAL COLIFORM.
- (C) BACTERIOLOGICAL TEST RESULTS SHALL BE CONSIDERED UNACCEPTABLE IF THE TESTS WERE COMPLETED MORE THAN 60 DAYS BEFORE THE DEPARTMENT RECEIVED THE RESULTS.

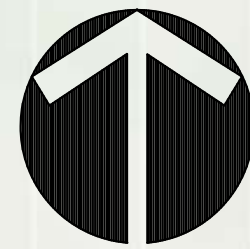
- (5) WHEN TAKING WATER MAINS OUT OF OPERATION FOR REPAIR OR REHABILITATION THAT MIGHT LEAD TO CONTAMINATION OF WATER, THE MAINS MAY BE RETURNED TO OPERATION WITHOUT THE DEPARTMENT'S APPROVAL AFTER DISINFECTION AND BEFORE COMPLETION OF A BACTERIOLOGICAL EVALUATION IN ORDER TO MINIMIZE THE TIME CUSTOMERS ARE WITHOUT WATER. AN ADVISORY OR A PRECAUTIONARY "BOIL WATER" NOTICE SHALL BE ISSUED IF DEEMED NECESSARY BY THE SUPPLIER OF WATER OR IF RECOMMENDED IN THE DEPARTMENT OF HEALTH'S "GUIDELINES FOR THE ISSUANCE OF PRECAUTIONARY BOIL WATER NOTICES" AS ADOPTED IN RULE 62-555.335, F.A.C. A BACTERIOLOGICAL EVALUATION STILL MUST BE SATISFACTORILY COMPLETED IN ACCORDANCE WITH SUBSECTION (2) ABOVE AFTER THE MAINS ARE RETURNED TO OPERATION. IF ANY BACTERIOLOGICAL SAMPLE SHOWS THE PRESENCE OF TOTAL COLIFORM, THE SUPPLIER OF WATER SHALL TELEPHONE AND SPEAK DIRECTLY TO A PERSON AT THE APPROPRIATE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) DISTRICT OFFICE OR APPROVED COUNTY HEALTH DEPARTMENT (ACHD) AS SOON AS POSSIBLE, BUT NEVER LATER THAN NOON OF THE NEXT BUSINESS DAY. OTHERWISE, THE RESULTS OF THE BACTERIOLOGICAL EVALUATION SHALL BE SUBMITTED TO THE APPROPRIATE DEP DISTRICT OFFICE OR ACHD ALONG WITH THE NEXT MONTHLY OPERATION REPORT(S) REQUIRED UNDER PARAGRAPH 62-555.350(12)(B), F.A.C. OR IF NO MONTHLY OPERATION REPORT IS REQUIRED UNDER PARAGRAPH 62-555.350(12)(B), F.A.C., WITHIN TEN DAYS AFTER THE END OF THE MONTH DURING WHICH THE BACTERIOLOGICAL EVALUATION WAS COMPLETED.

LEGEND

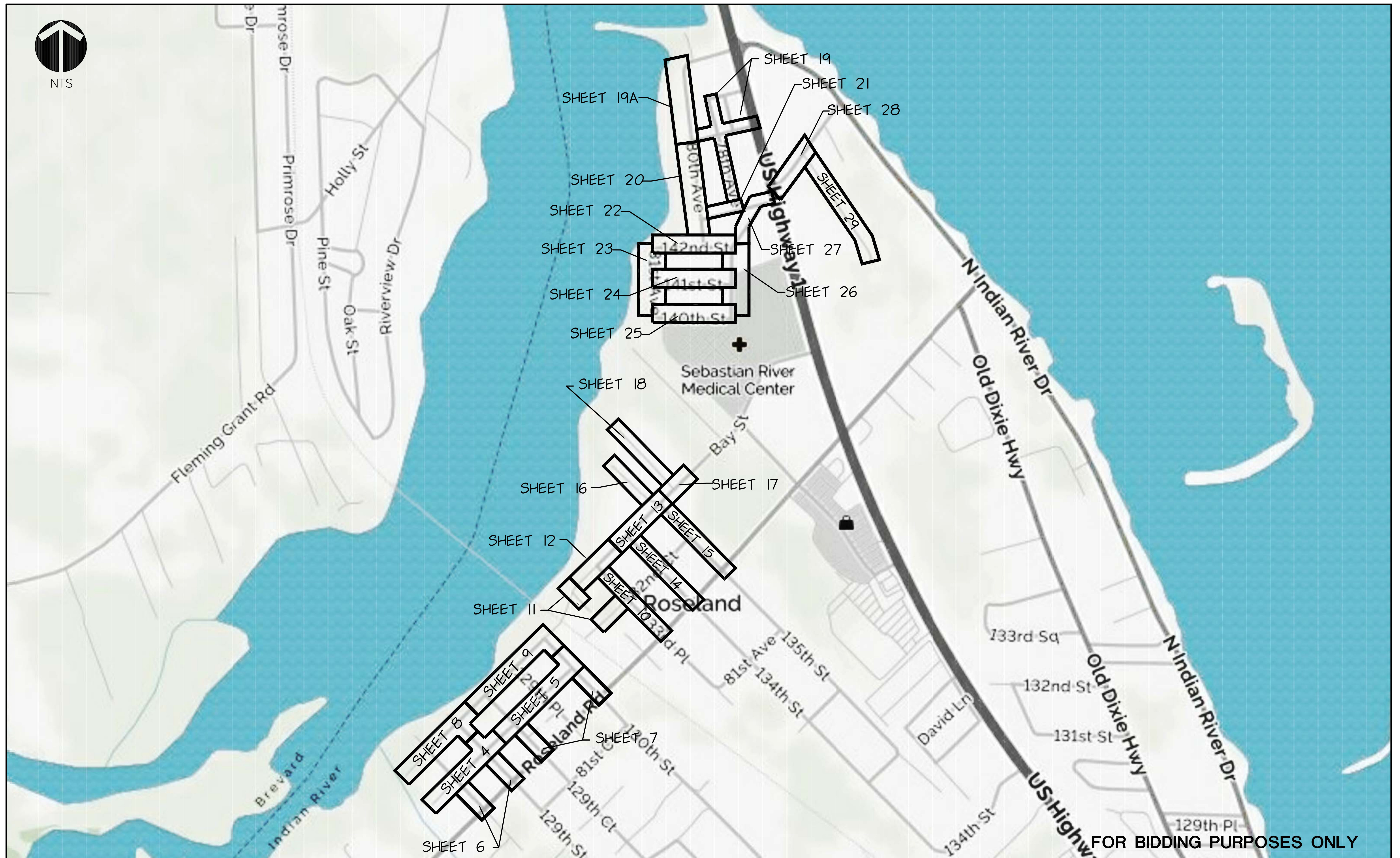
DESCRIPTION	EXISTING	PROPOSED
BLOCK NUMBER	Ⓐ	Ⓐ
BUILDING OR STRUCTURE		
CENTERLINE		
HEAD WALL		
CURB		
CUT AND PATCH		
EASMENT LINE		
FENCE (AS INDICATED)		
LOT LINE		
LOT NUMBER	2	②
PHASE LINE		
PROPERTY LINE		
RAILROAD TRACKS		
RIGHT-OF-WAY LINE		
SIGN (POST MOUNTED)		
TRAFFIC FLOW ARROW		
ASPHALT DRIVE	AD	
GRAVEL DRIVE	GD	
CONCRETE DRIVE	CD	
EDGE OF PAVEMENT		
MAILBOX/NEWSPAPER BOX		
TREE		
BENCH MARK		
CONCRETE FLUME		
CONCRETE MITER END		
CONTOURS		
CURB INLET		
DRAINAGE FLOW ARROW		
FINISH FLOOR	F.F.=20.00	F.F.=20.00
INLET		
SOIL BORING LOCATION AND NUMBER		
SPOT ELEVATION		
STORM DRAIN PIPE		
STORM MANHOLE		
STRUCTURE NUMBER	S-1	S-1
SWALE		
BASIN DIVIDE		
SILT FENCE		
CLEAN OUT		
UNDERDRAIN		
DITCH BLOCK		
P/UG, BLOW-OFF & TERMINAL RESTRAINTS		
REDUCER		
FIRE HYDRANT W/ GATE VALVE VALVE BOX, HYDRANT TEE & RESTRAINTS		
GATE VALVE & BOX		
WATERMAIN W/ 3' COVER TYPICAL		
1"Ø SERVICE LATERAL W/ METER BOX		
1-1/2"Ø SERVICE LATERAL W/ (2) METER BOXS		
RESTRAINED JOINT TEE		
RESTRAINED BEND		
TELEPHONE JUNCTION BOX		
TELEPHONE LINE	TELE	TELE
UNDERGROUND ELECTRIC LINE	ELEC	ELEC
OVERHEAD WIRE	OH	OH
LIGHT POLE		
WATER WELL		
POWER POLE		
GUY WIRE		
TV CABLE BOX		
GAS MAIN	GAS	GAS
UNDERGROUND CABLE TV	CATV	CATV

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MASTELLER & MOLER, INC. CONSULTING ENGINEERS				INDIAN RIVER COUNTY NORTH COUNTY WATER & SEWER SYSTEM PHASE 2 CONSTRUCTION NOTES				*Title to all documents which bear the copyright of Masteller & Moler, Inc. is vested solely in Masteller & Moler, Inc. These documents are provided to the owner solely in connection with this project. Any other use or reuse of these documents or any reproduction, display, sale, or other disposition of these documents by anyone is expressly prohibited without consent of Masteller & Moler, Inc. pursuant to the Federal Copyright Law. ©2020, MASTELLER & MOLER, INC.	
		CERTIFICATE OF AUTHORIZATION NUMBER 4204 1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32960 (772) 567-5300 / FAX (772) 794-1106		DRAWN SCG DESIGNED EHM CHECKED EHM DATE 10/22/2018 SCALE NTS SHEET 2 OF 37 DWG NO 1422		12/01/2020 EARL H. MASTELLER, P.E. FL#26658			
		REVISIONS							
NO.	DATE	DESCRIPTION	DR/APP						



NTS



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NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

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CONSULTING ENGINEERS
 CERTIFICATE OF AUTHORIZATION NUMBER 4204
 1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32960
 (772) 567-5300 / FAX (772) 794-1106

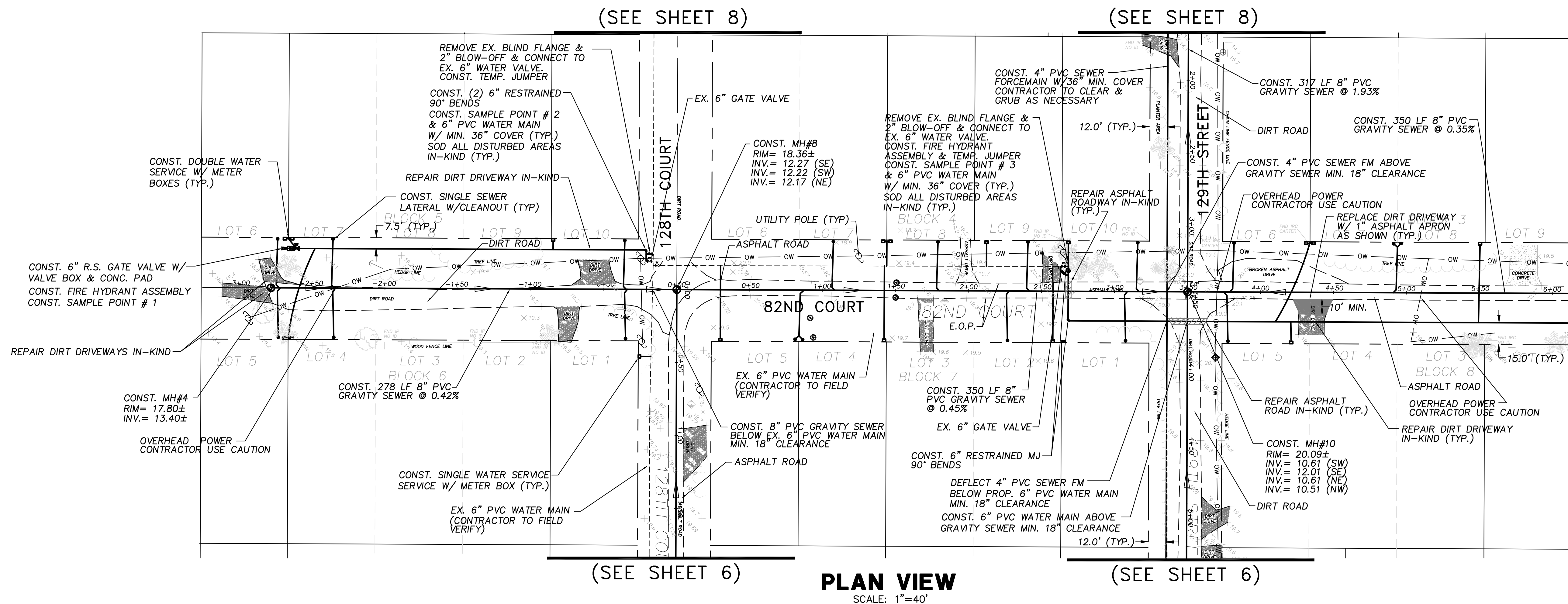
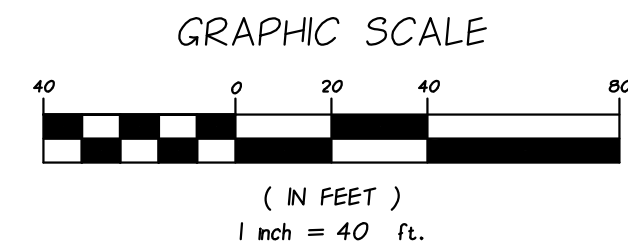
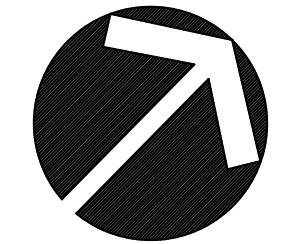
INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
KEY MAP

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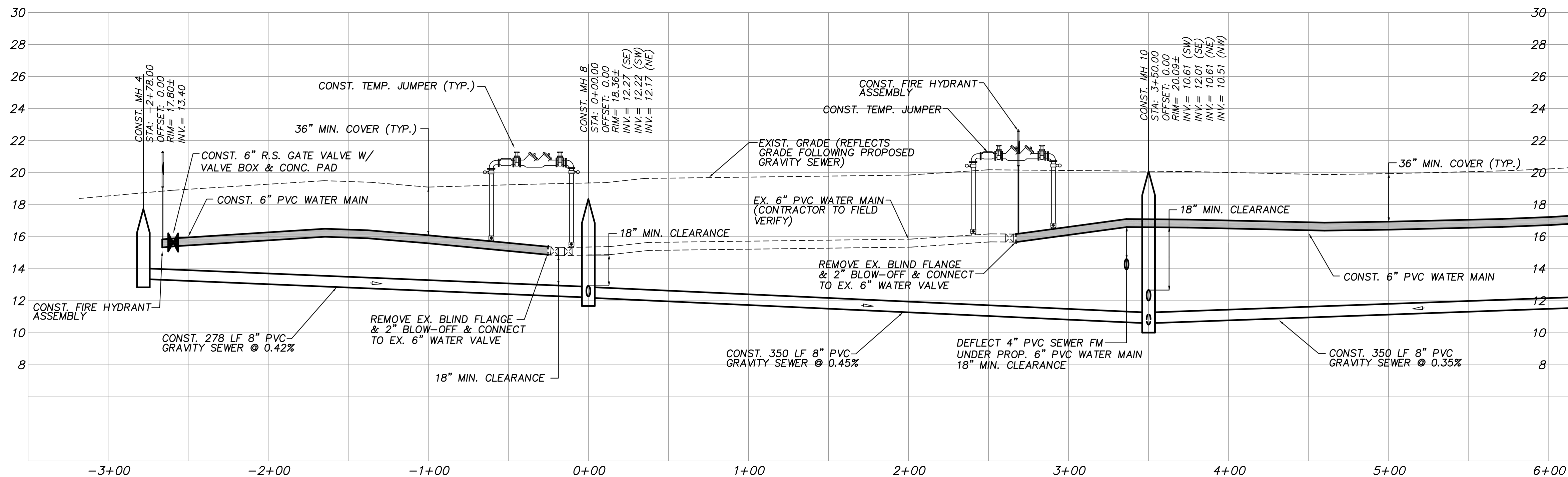
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DRAWN	SCG
DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	NTS
SHEET	3 OF 37
DWG NO	1422

12/01/2020
 EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

MATCHLINE: STA: 6+00 (SEE SHEET 5)

NOTES:
SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS
PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH
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FOR ROAD AND BRIDGE CONSTRUCTION.

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CERTIFICATE OF AUTHORIZATION NUMBER 4204

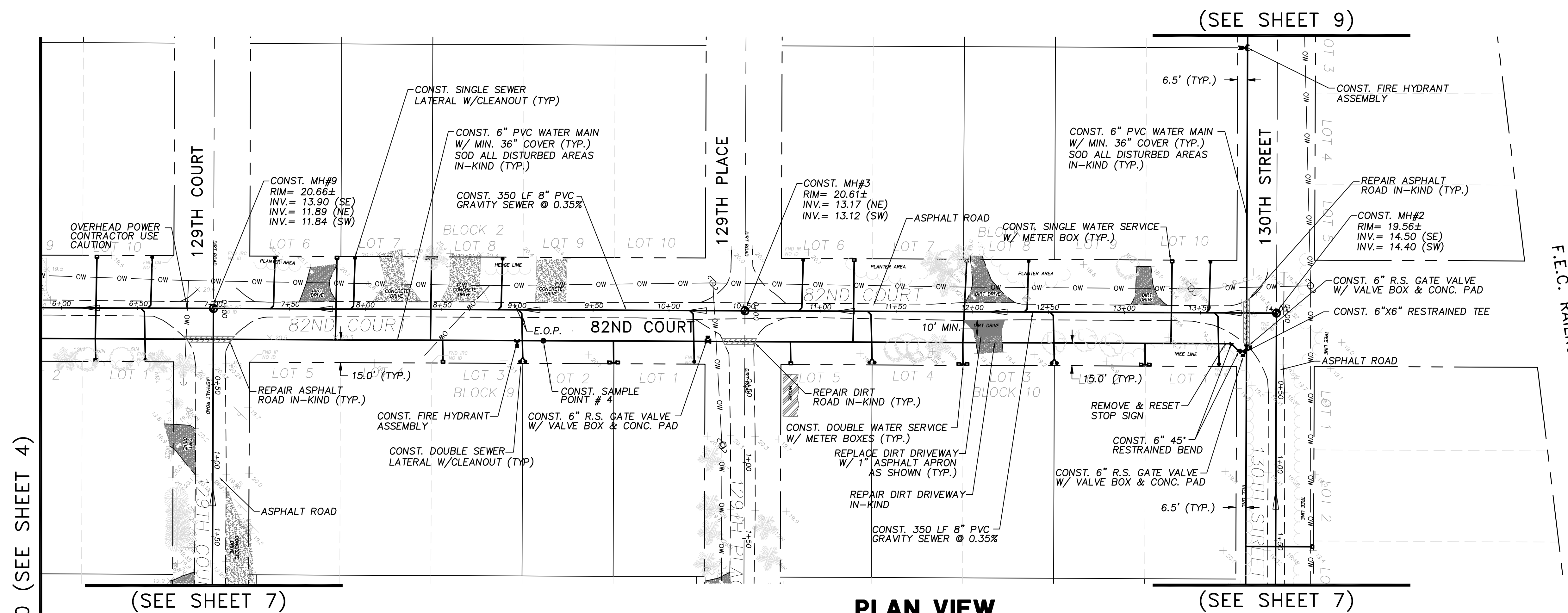
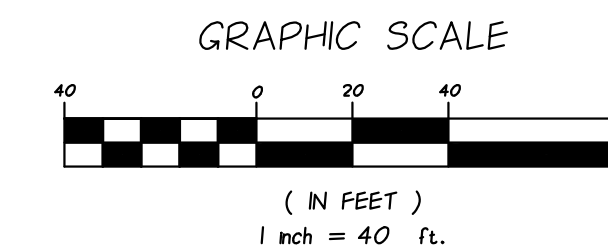
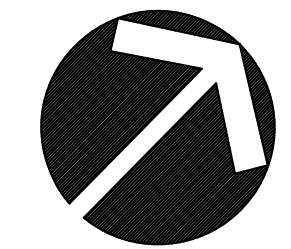
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
82ND COURT PLAN AND PROFILES**

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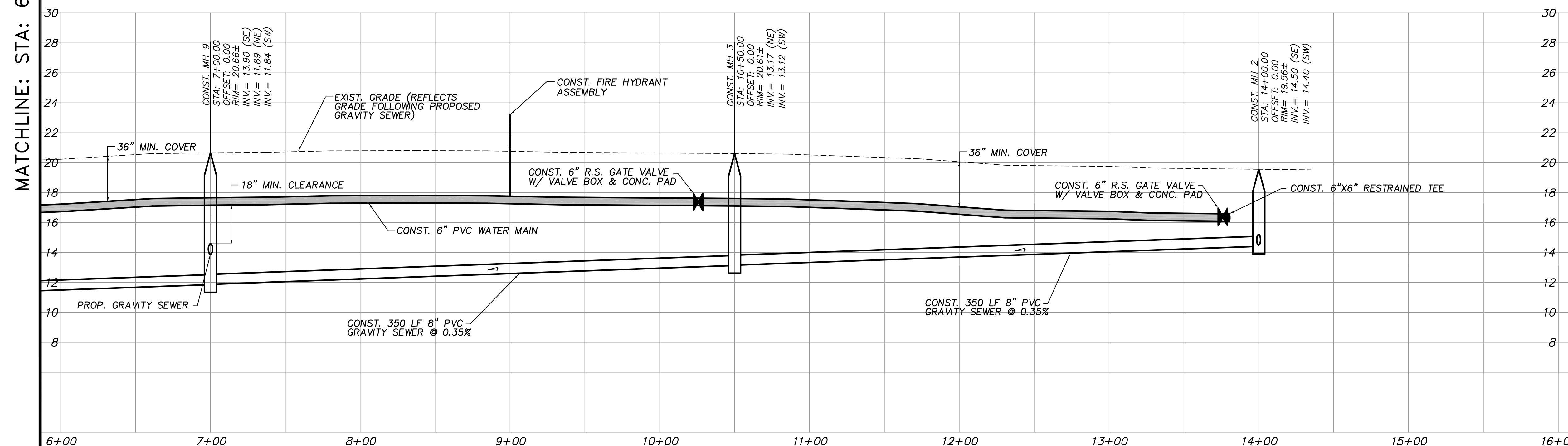
DRAWN	SCG
DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	4 of 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW

SCALE: 1"=40'



PROFILE VIEW

HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

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NOTES:

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REVISIONS			

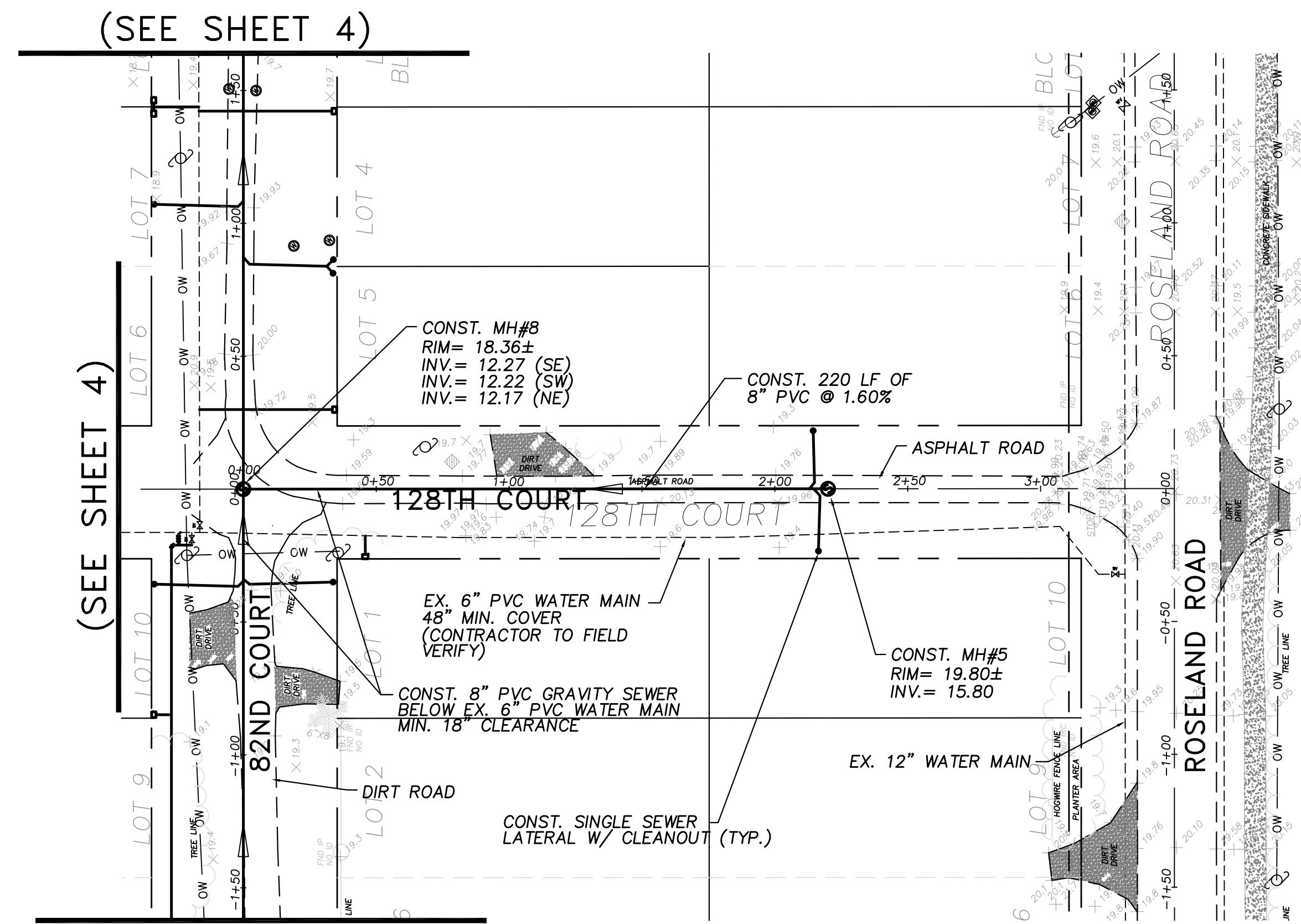
M M MASTELLER & MOLER, INC.
CONSULTING ENGINEERS
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(772) 567-5300 / FAX (772) 794-1106
CERTIFICATE OF AUTHORIZATION NUMBER 4204

INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
82ND COURT PLAN AND PROFILES

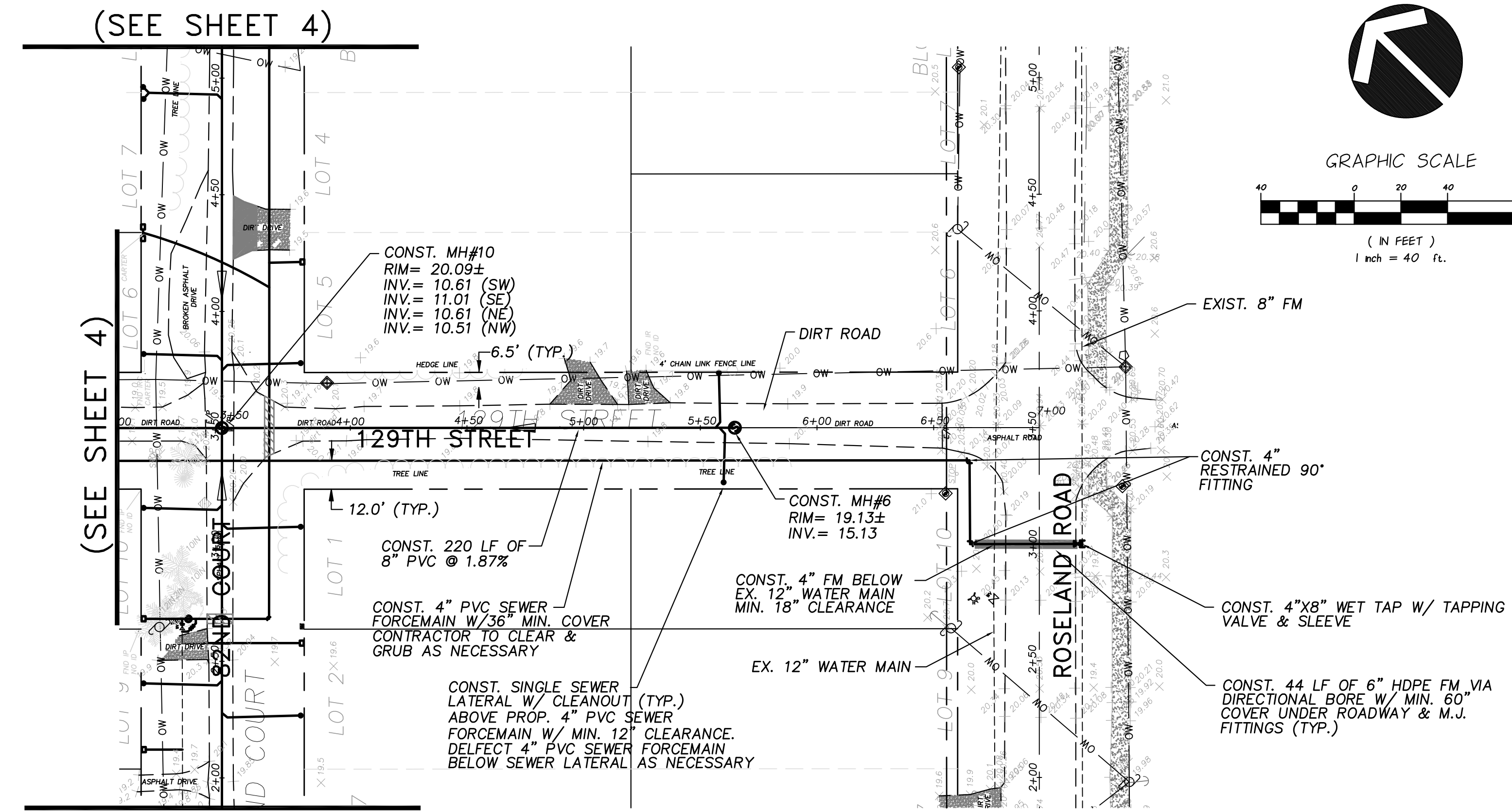
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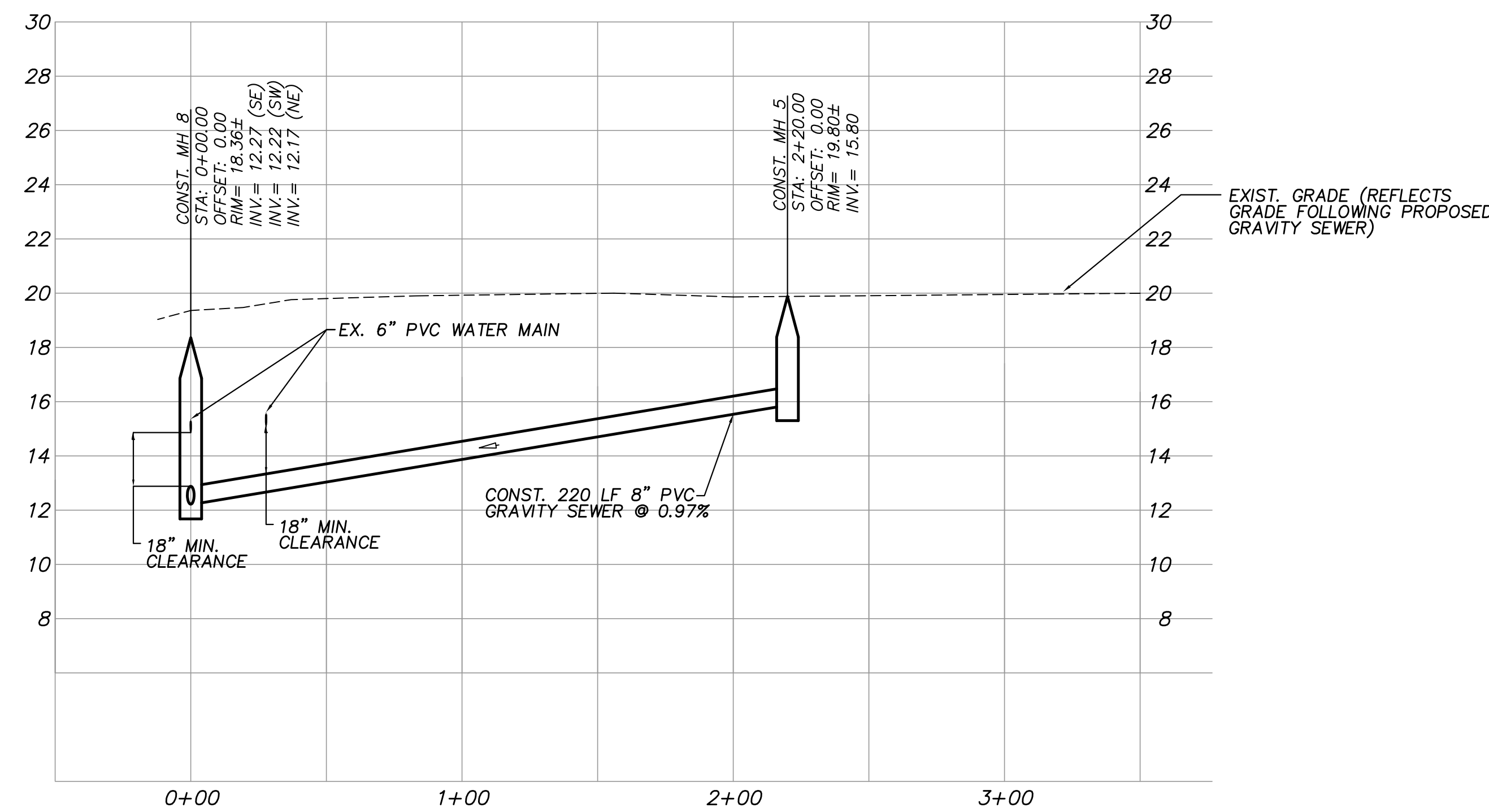
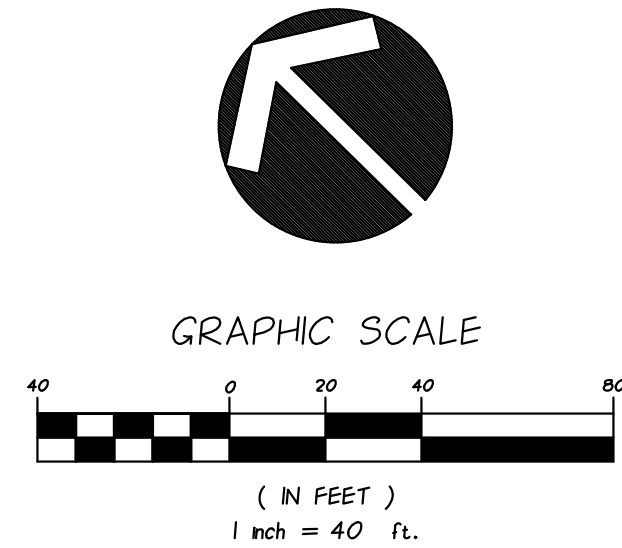
DRAWN	SCG
DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	5 of 37
DWG NO	1422
12/01/2020	
EARL H. MASTELLER, P.E. FL#26658	



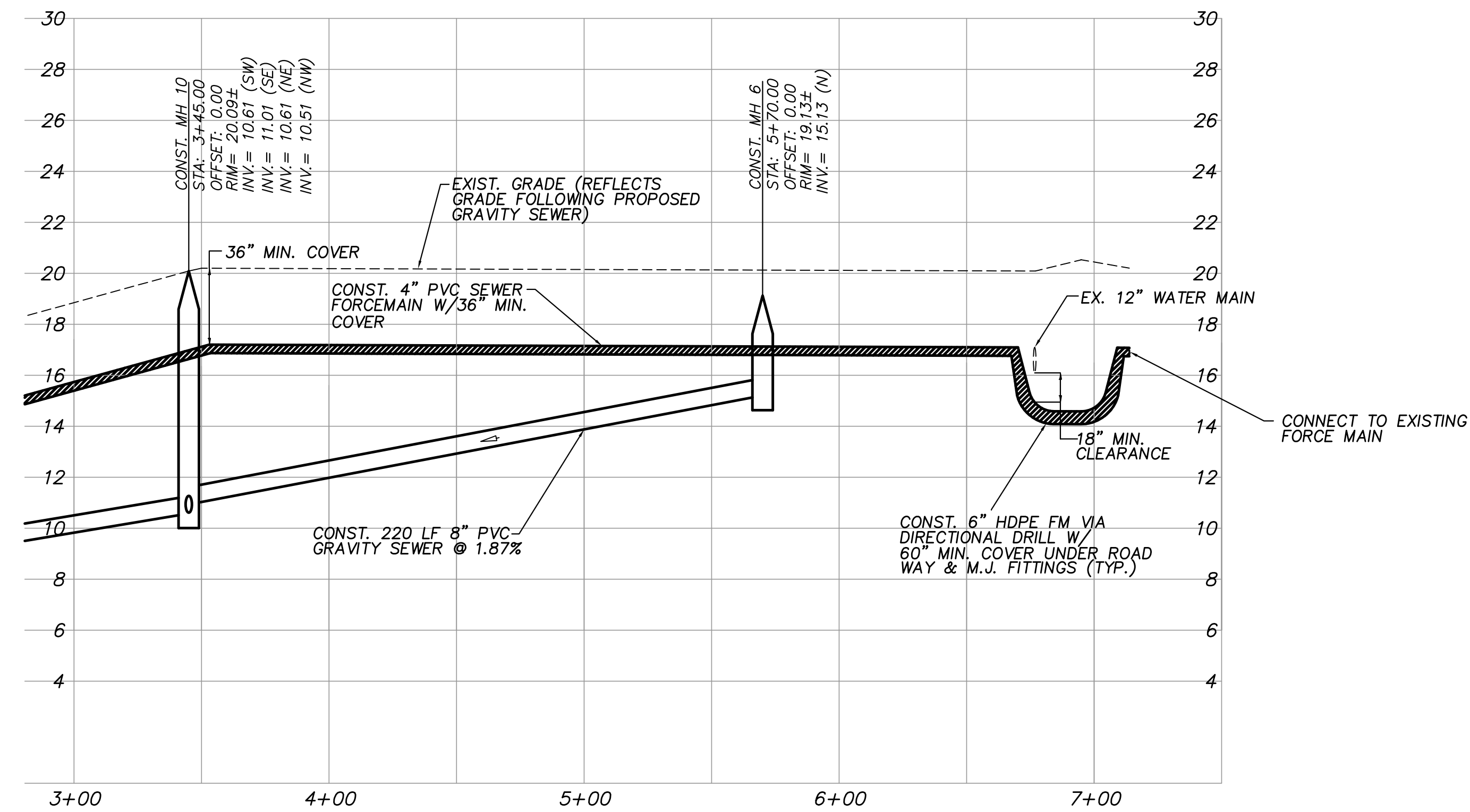
(SEE SHEET 4) **PLAN VIEW**
SCALE: 1"=40'



(SEE SHEET 4) **PLAN VIEW**
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:

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REVISIONS			

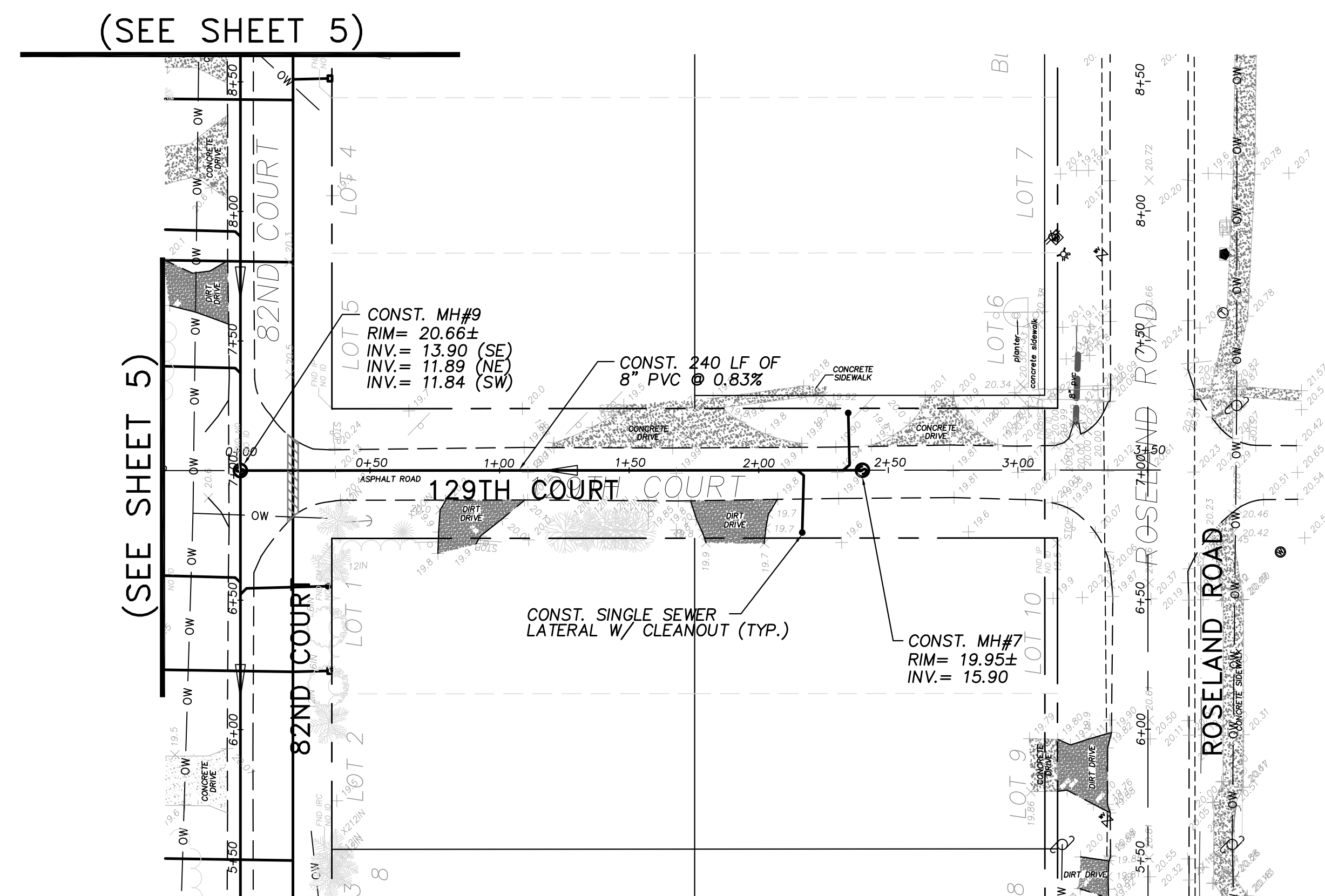
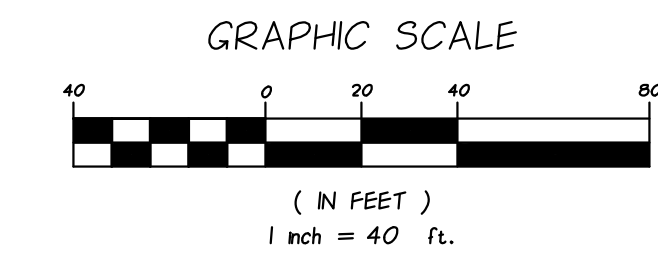
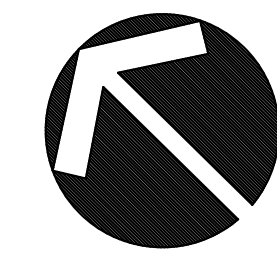
M MASTELLER & MOLER, INC.
CONSULTING ENGINEERS
CERTIFICATE OF AUTHORIZATION NUMBER 4204
1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32960
(772) 567-5300 / FAX (772) 794-1106

**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
128TH CT & 129TH ST PLAN & PROFILES**

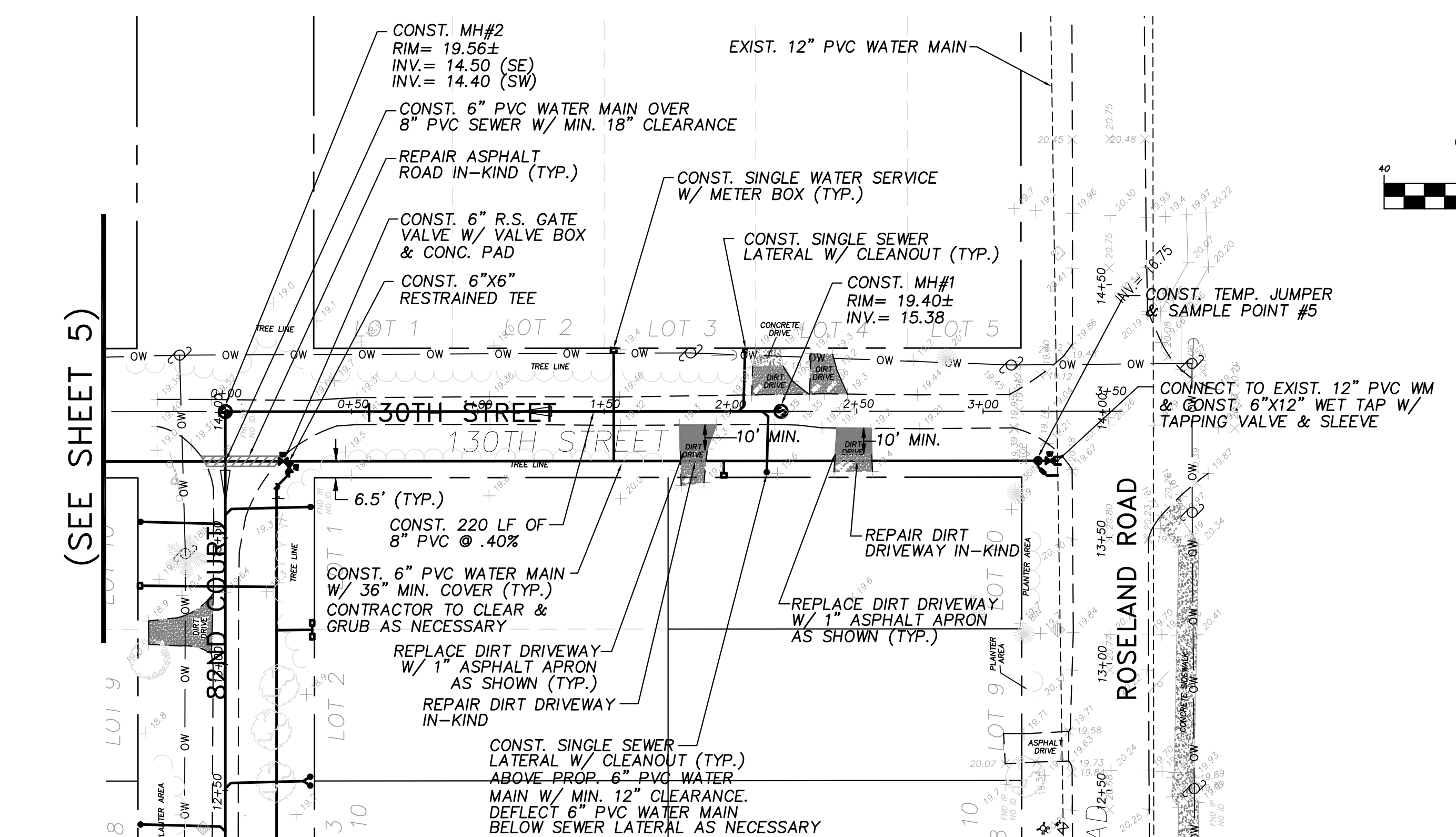
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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	6 OF 37
DWG NO	1422

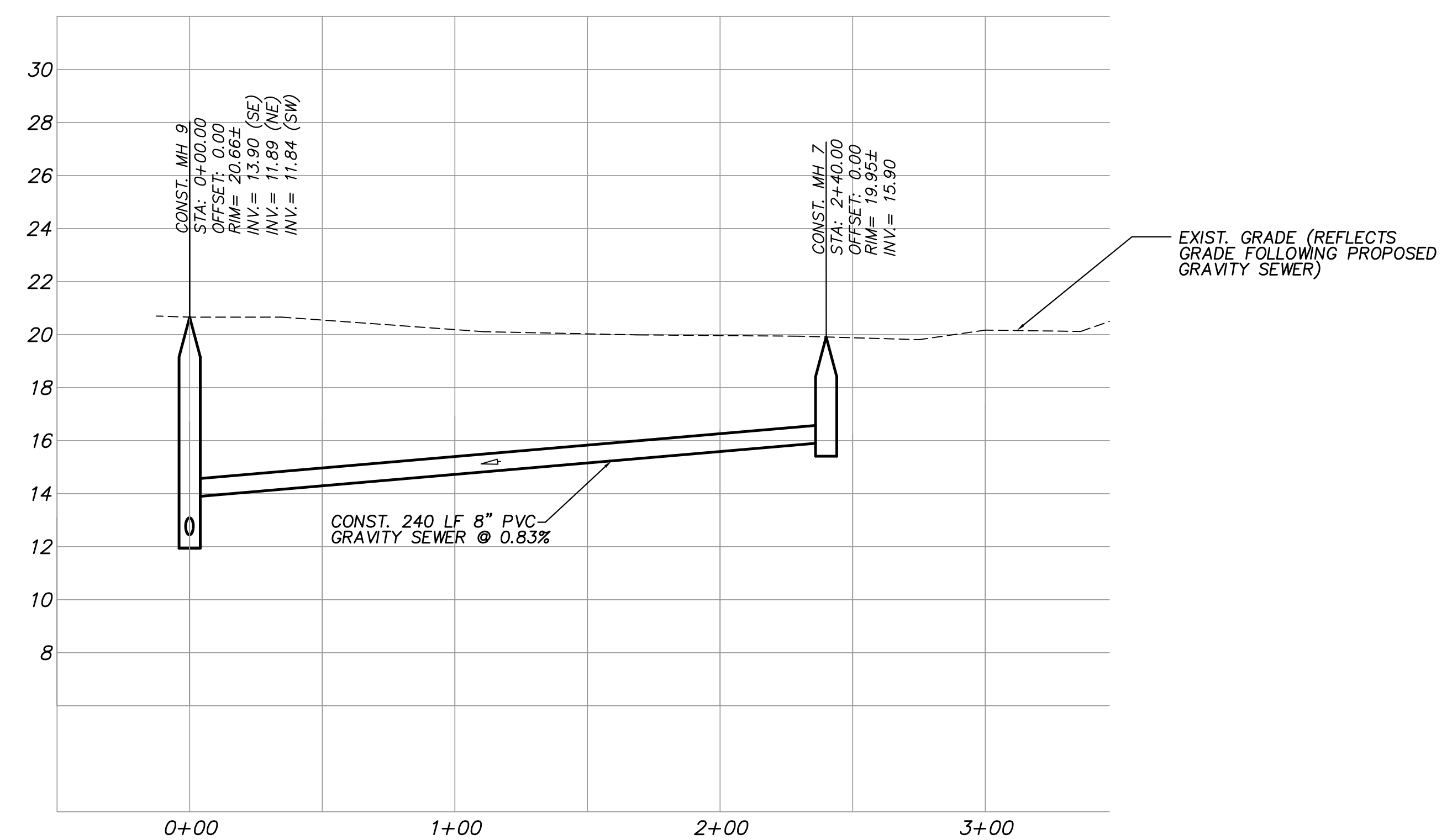
12/01/2020
EARL H. MASTELLER, P.E. FL#26658



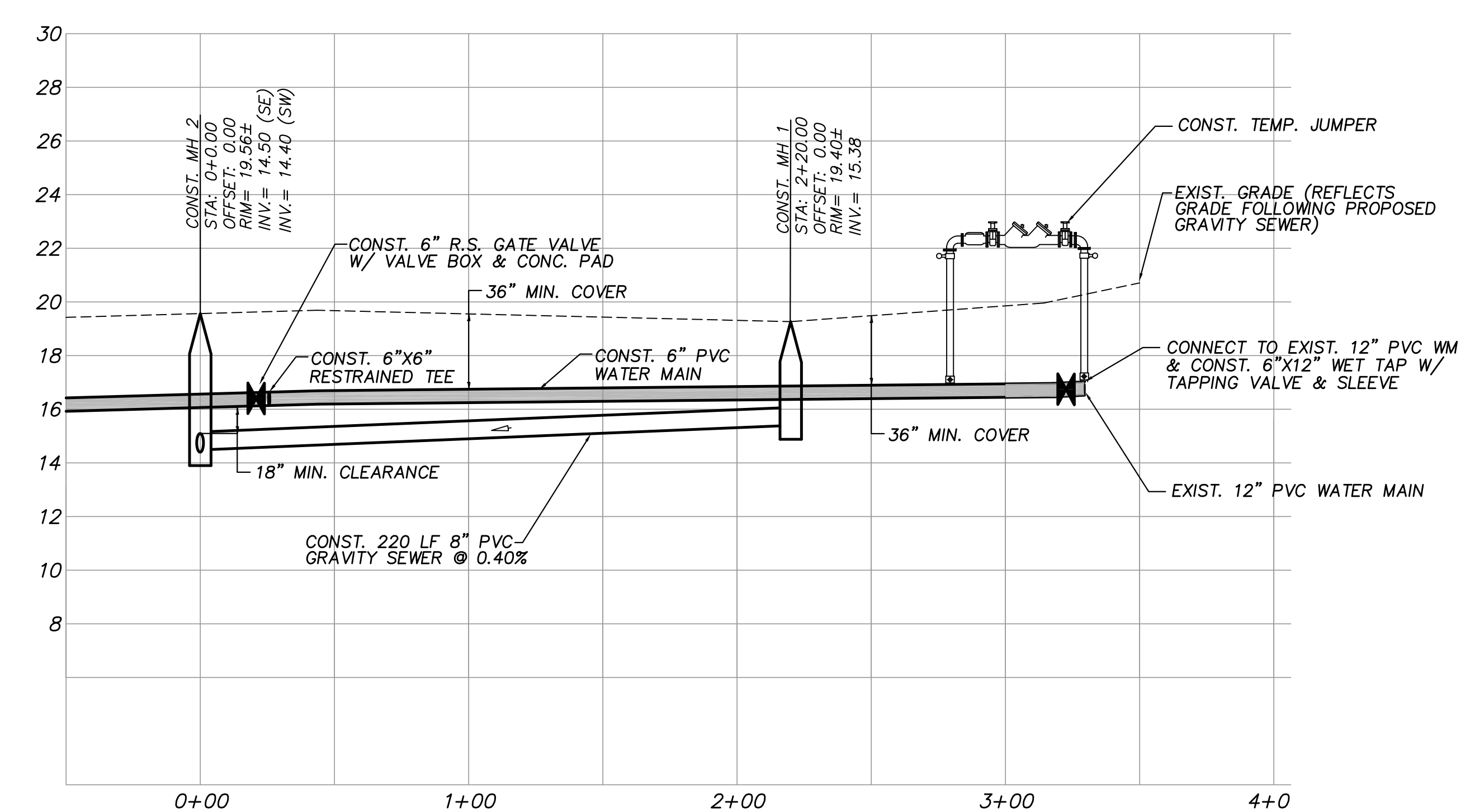
PLAN VIEW
SCALE: 1"=40'



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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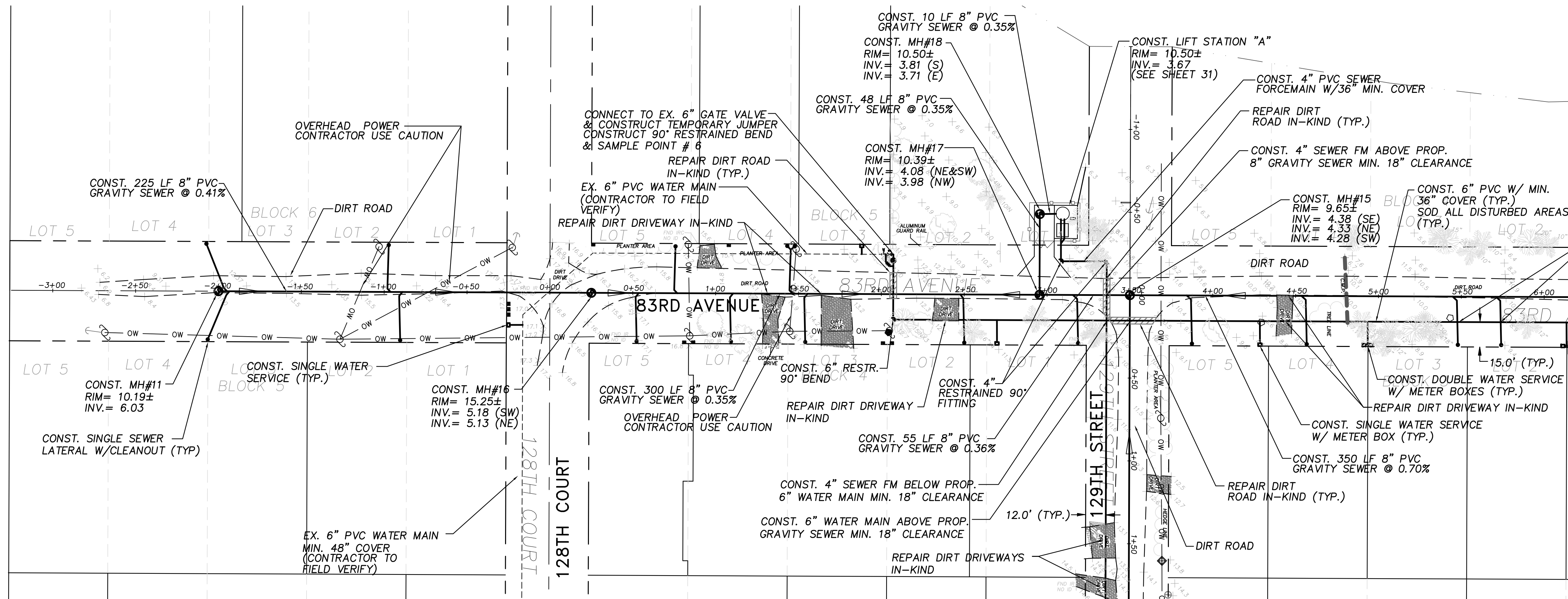
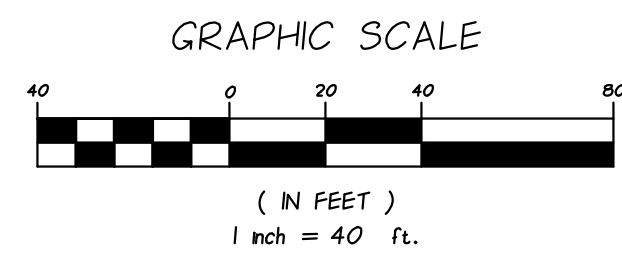
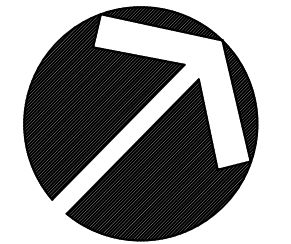
M M MASTELLER & MOLER, INC.
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INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
129TH CT & 130TH ST PLAN & PROFILES

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CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	7 of 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658

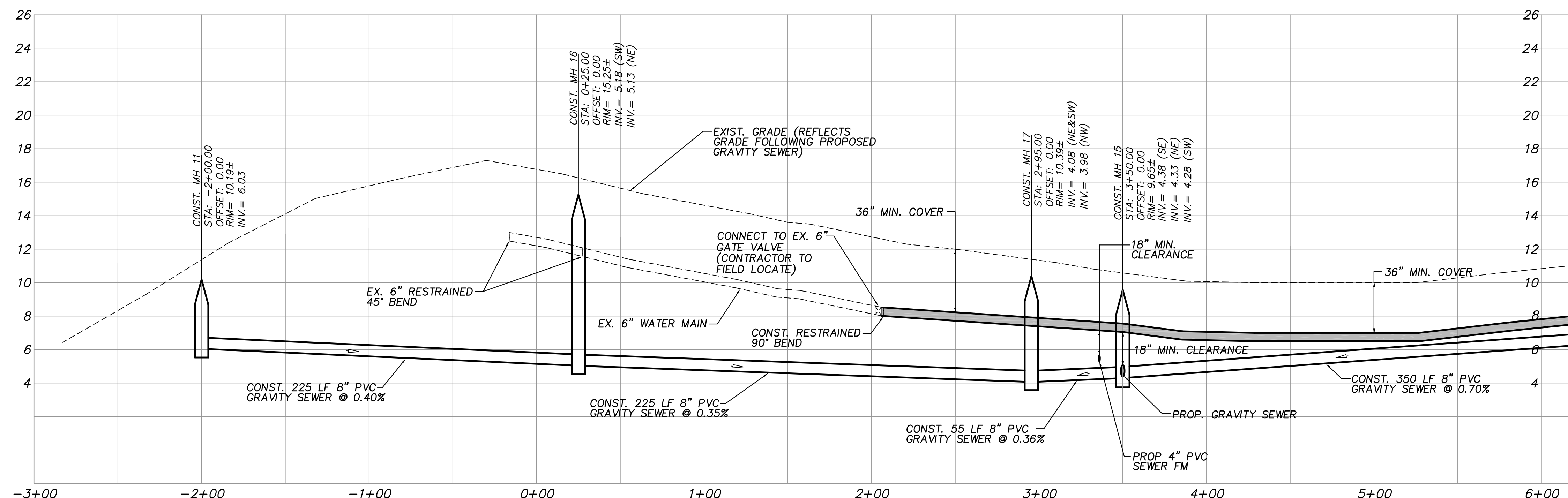


(SEE SHEET 4)

PLAN VIEW
SCALE: 1"=40'

(SEE SHEET 4)

MATCHLINE: STA: 6+00 (SEE SHEET 9)



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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REVISIONS			

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CONSULTING ENGINEERS
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(772) 567-5300 / FAX (772) 794-1106
CERTIFICATE OF AUTHORIZATION NUMBER 4204

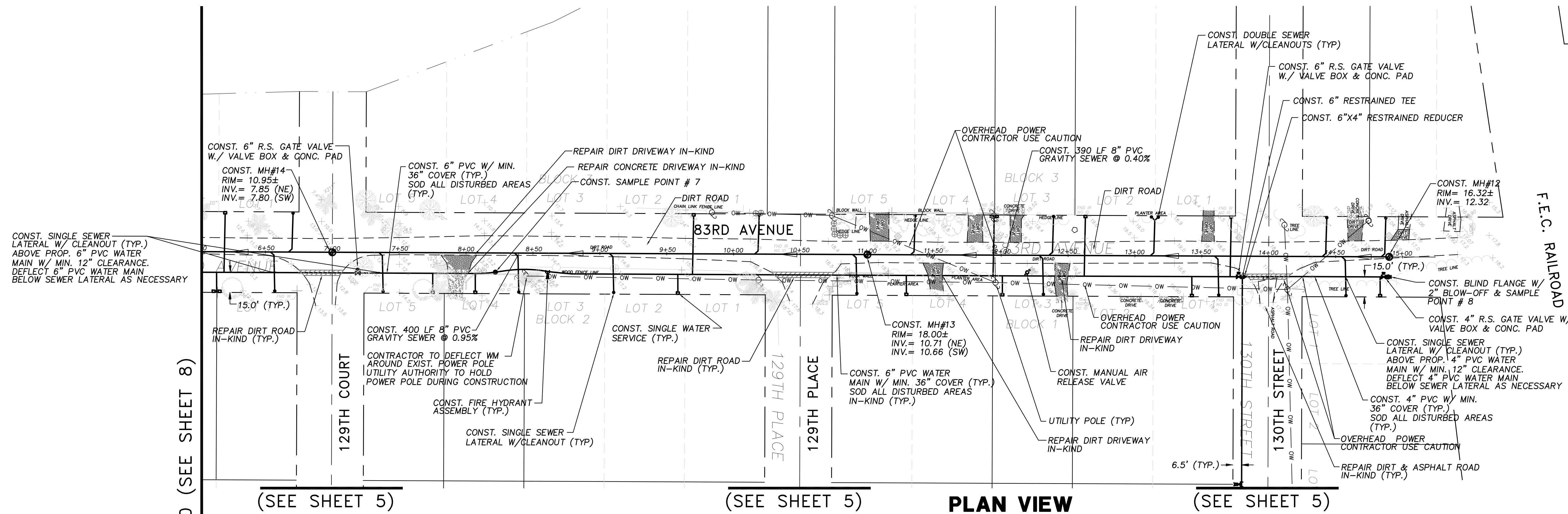
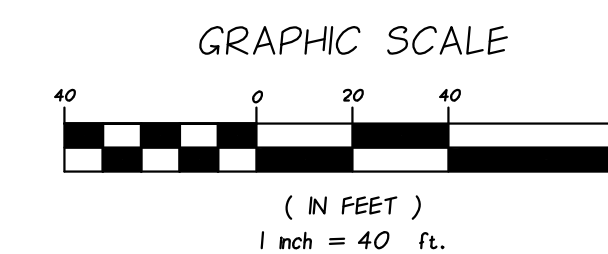
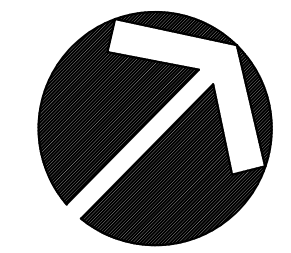
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
83RD AVENUE PLAN AND PROFILES**

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DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	8 OF 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



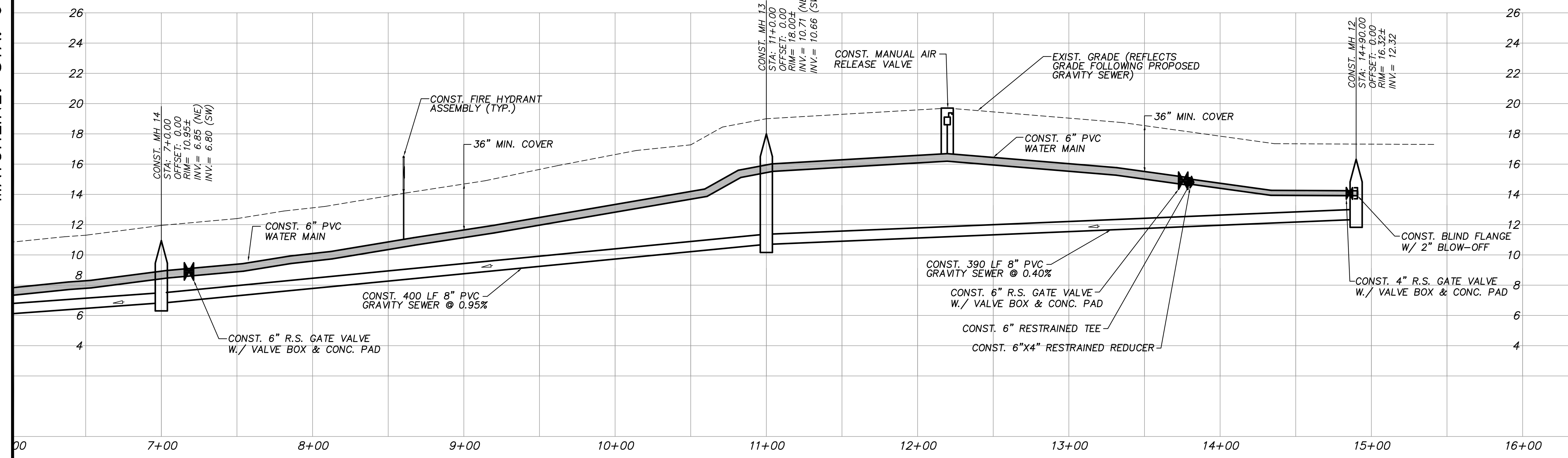
PLAN VIEW
SCALE: 1"=40'

MATCHLINE: STA: 6+00 (SEE SHEET 8)

(SEE SHEET 5)

(SEE SHEET 5)

(SEE SHEET 5)



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

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NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

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CONSULTING ENGINEERS
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960
(772) 567-5300 / FAX (772) 794-1106
CERTIFICATE OF AUTHORIZATION NUMBER 4204

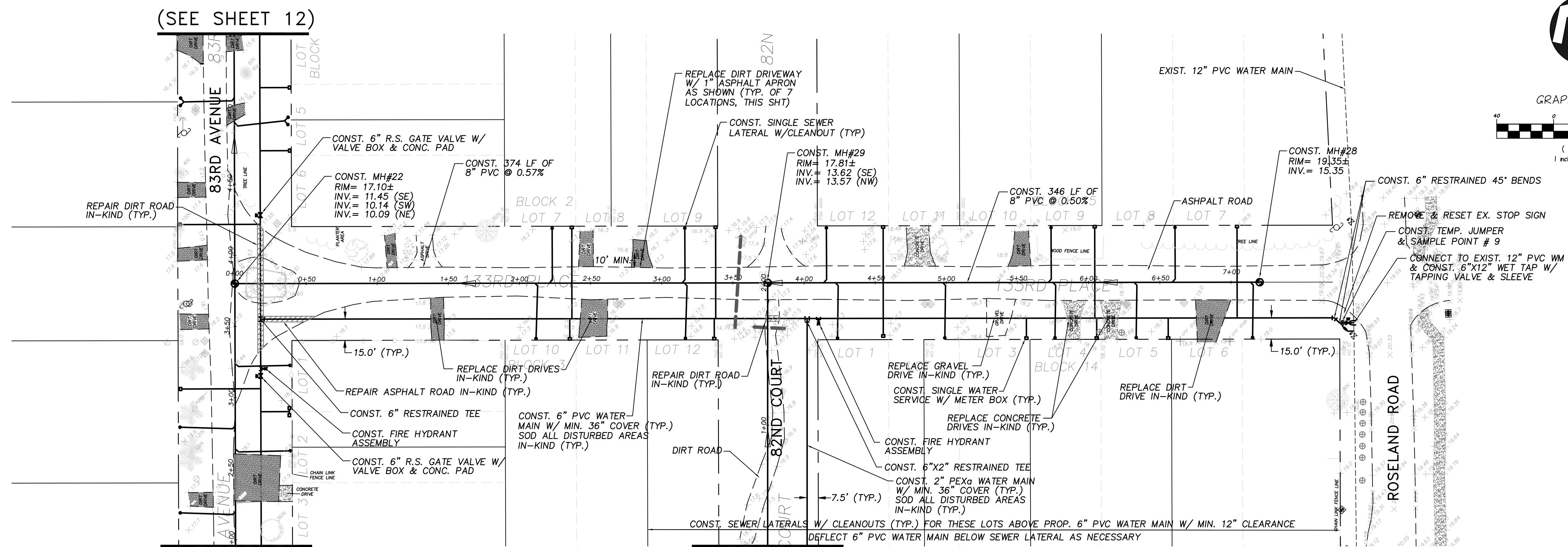
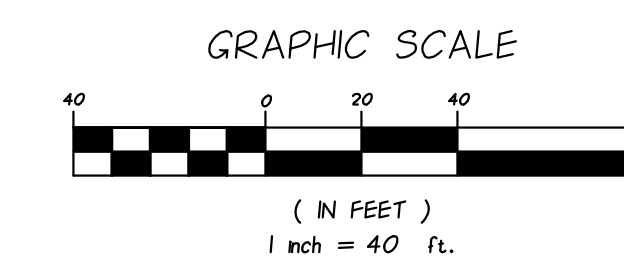
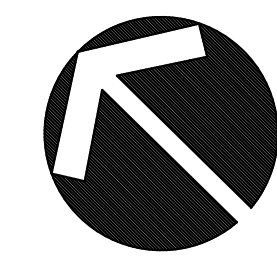
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
83RD AVENUE PLAN AND PROFILES**

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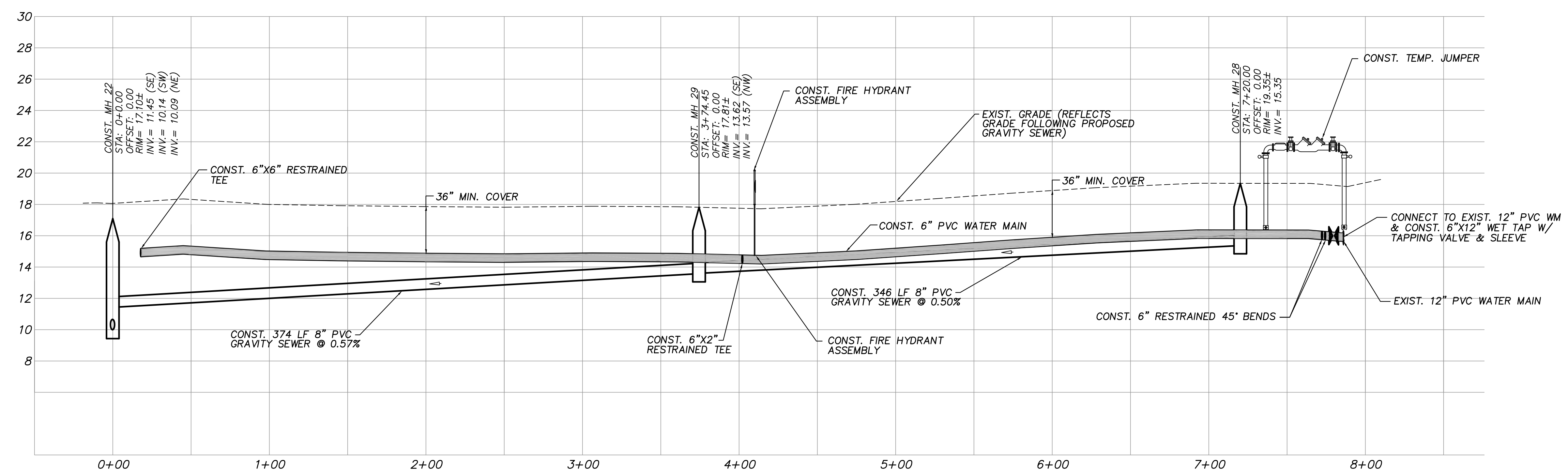
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SHEET	9 OF 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



(SEE SHEET 11) **PLAN VIEW**
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS
PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH
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ALL DISTURBED STRIPING AND SIGNAGE TO BE REPLACED. STRIPING
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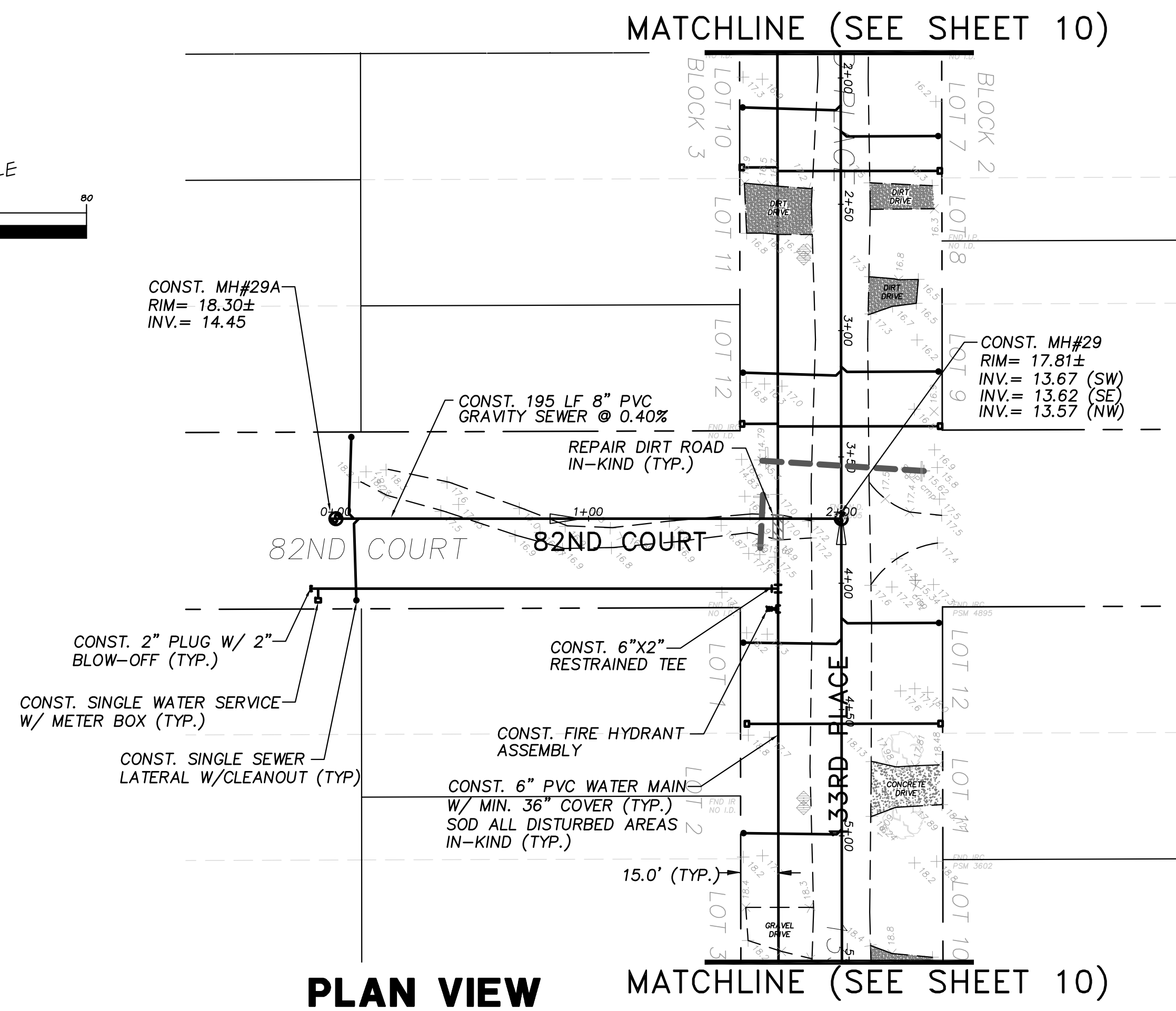
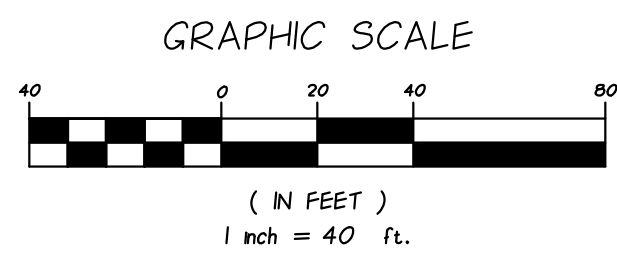
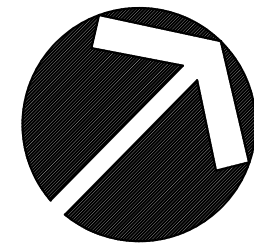
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
133RD PLACE PLAN AND PROFILES**

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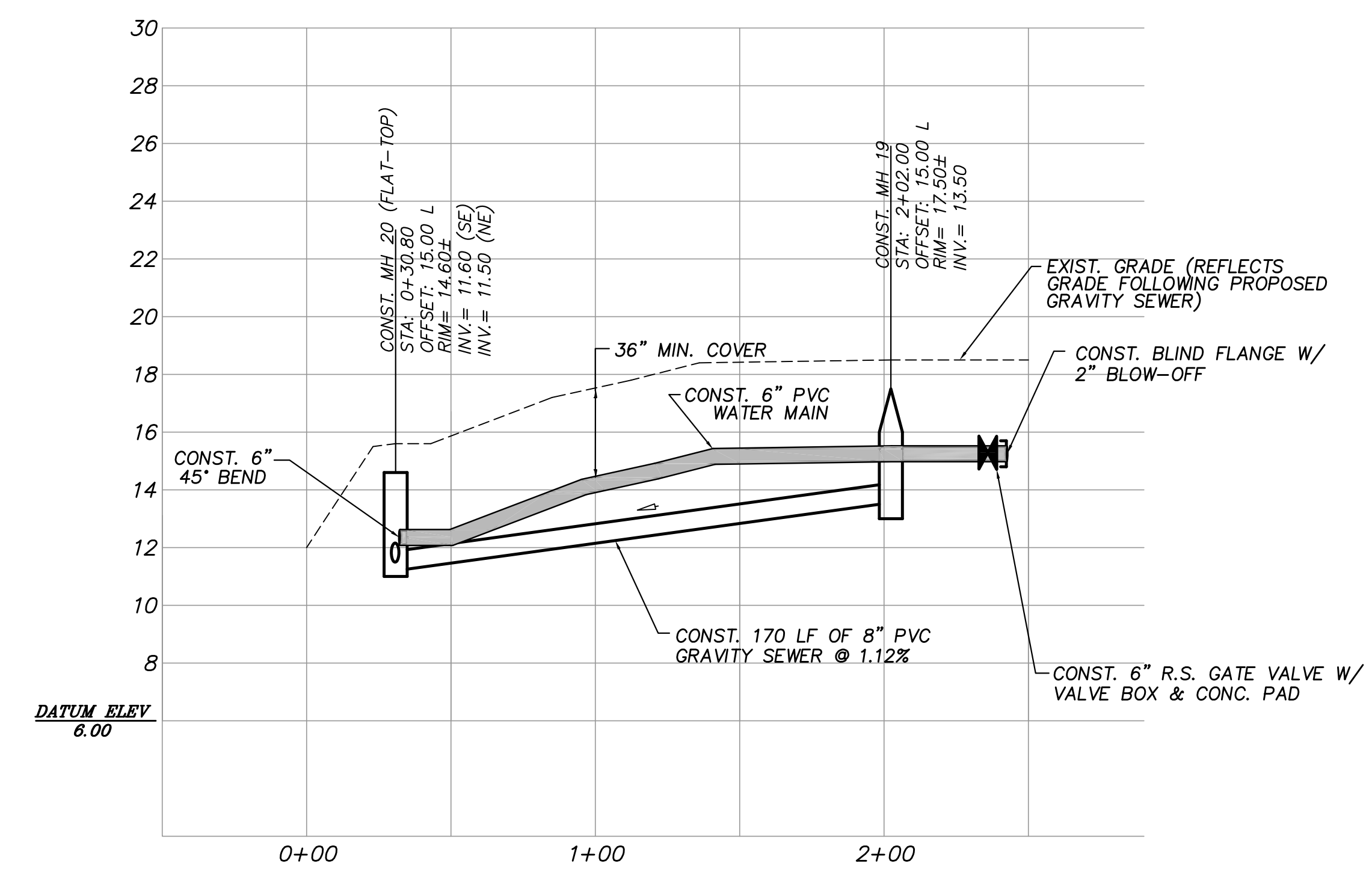
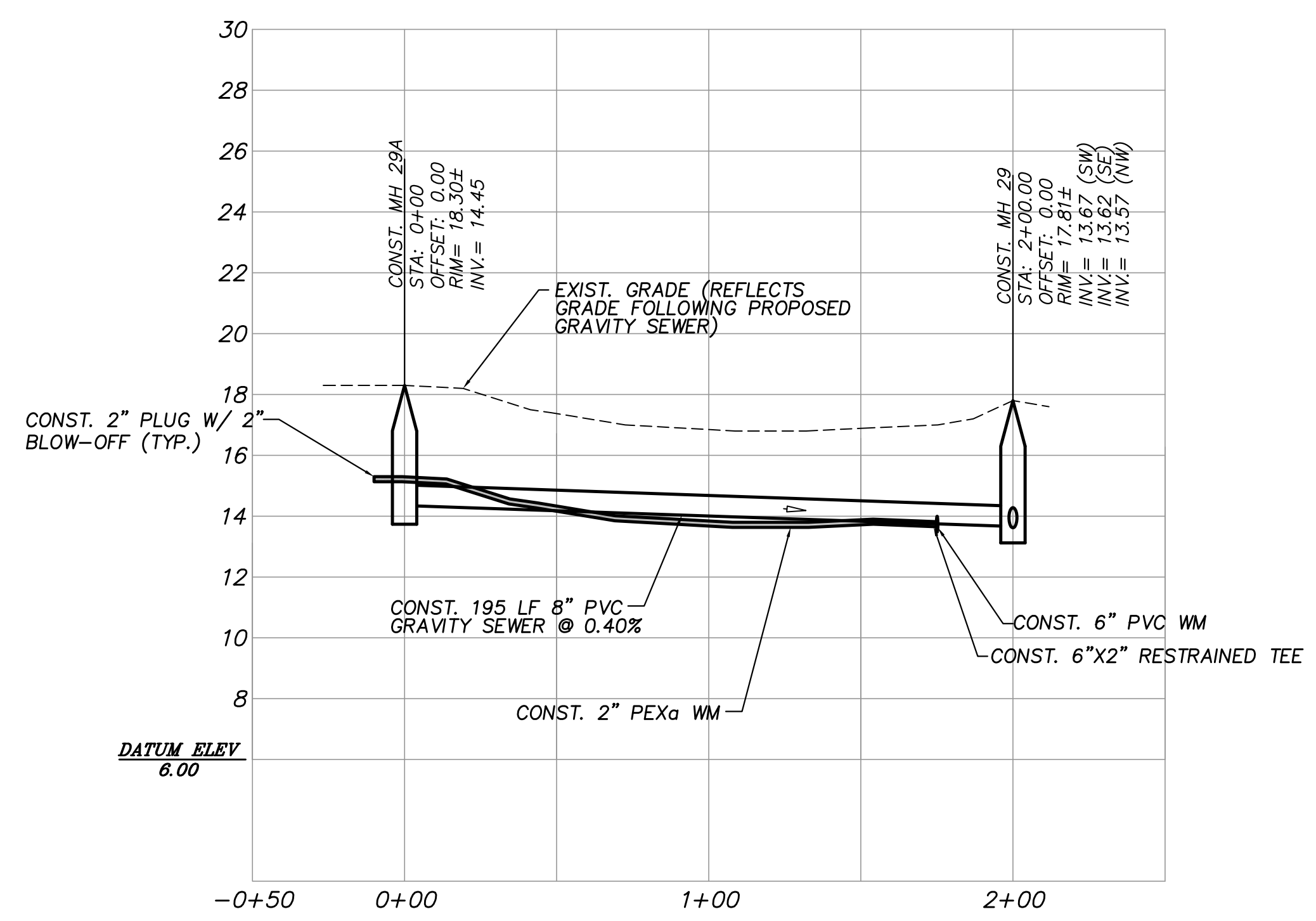
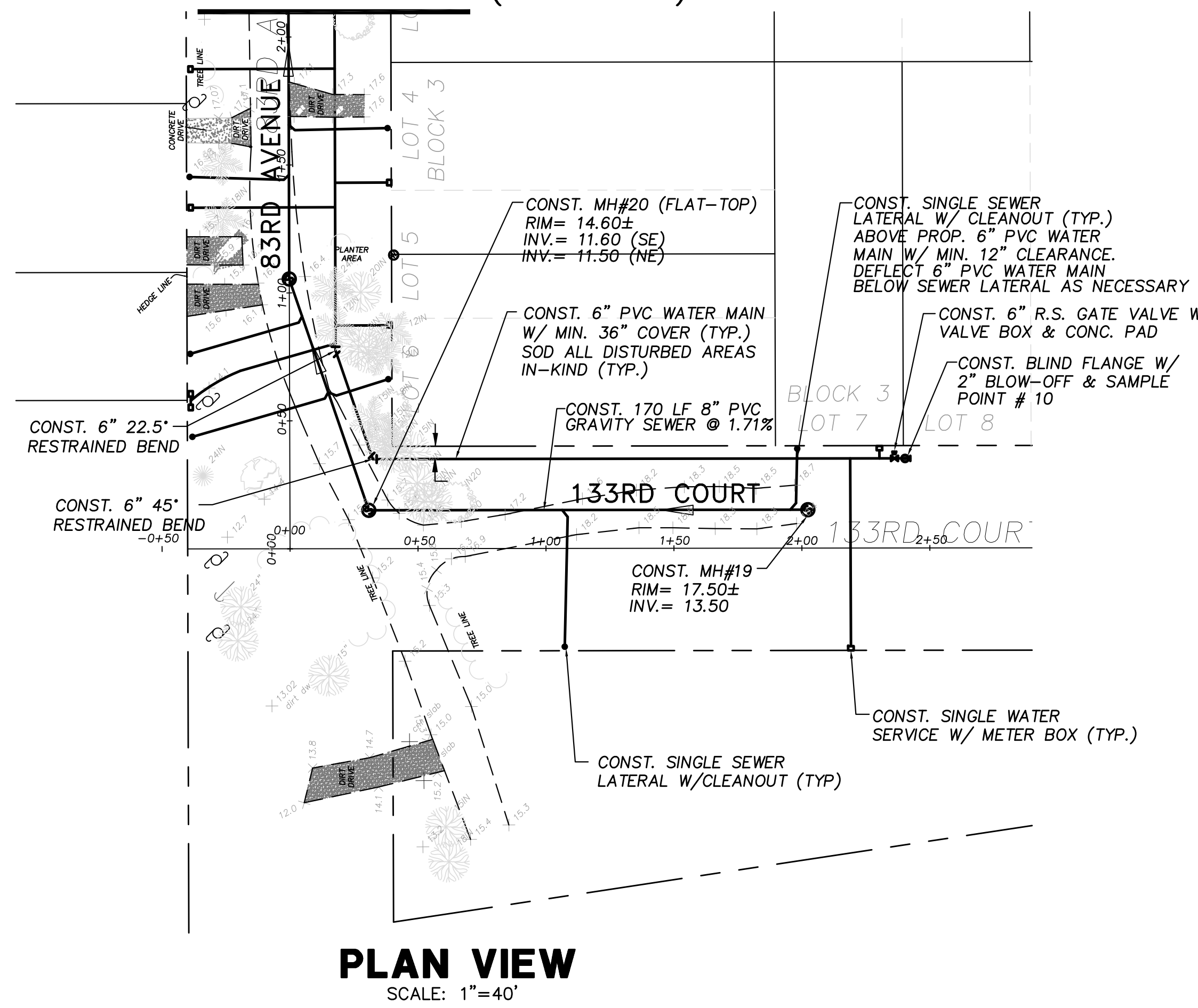
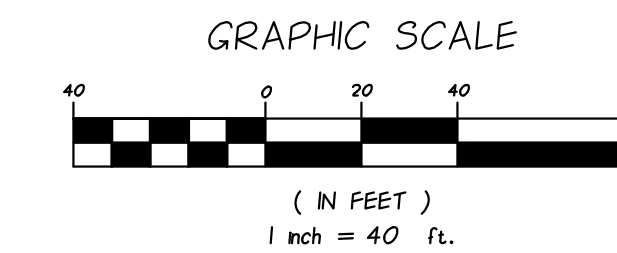
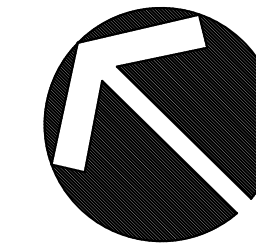
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SHEET	10 OF 37
DWG NO	1422

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MATCHLINE STA. 2+00 (SHEET 12)



NOTES:
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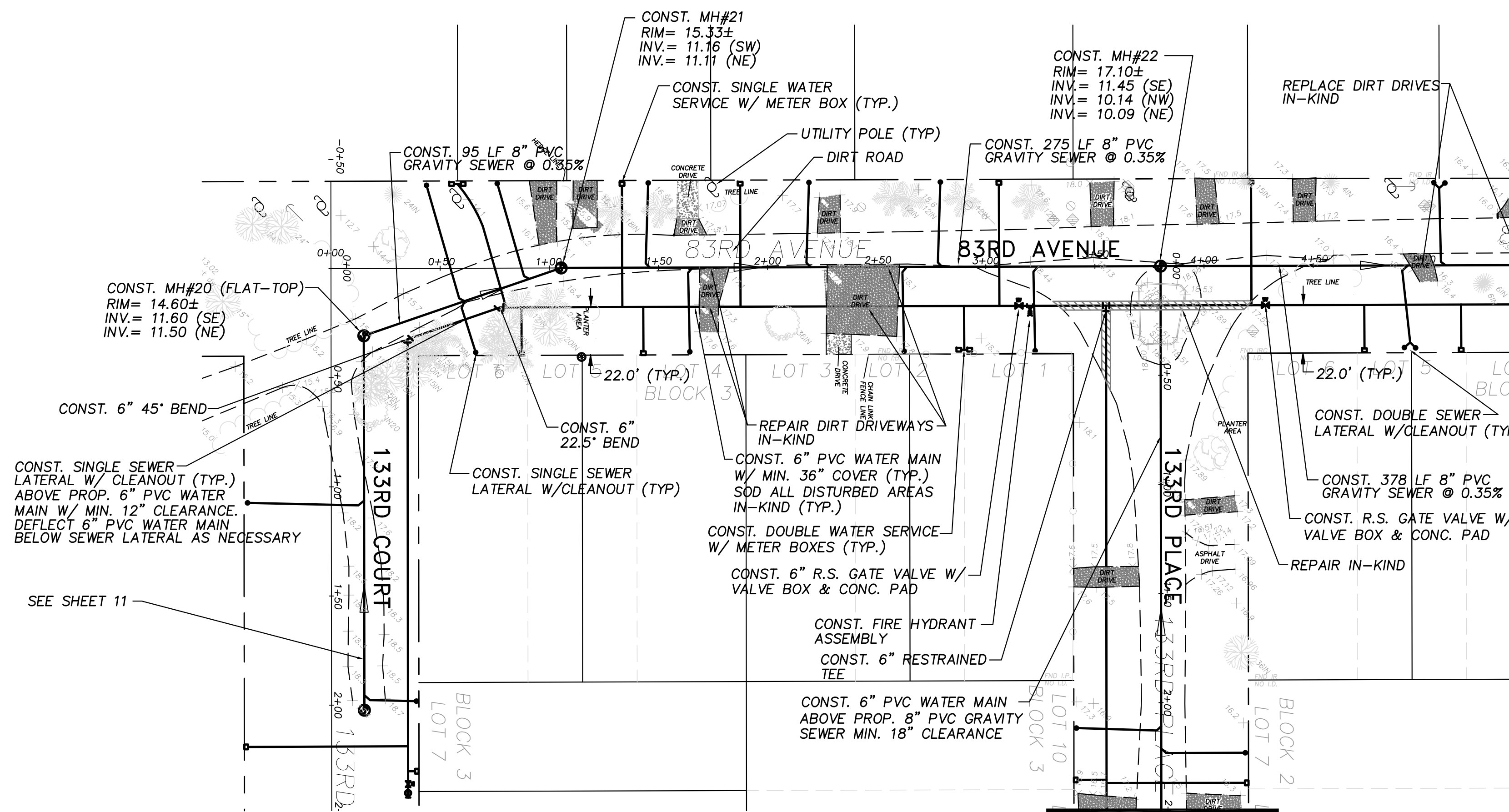
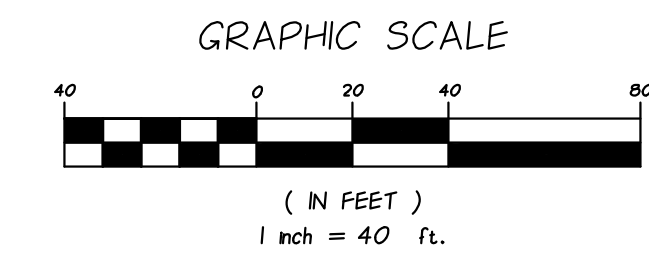
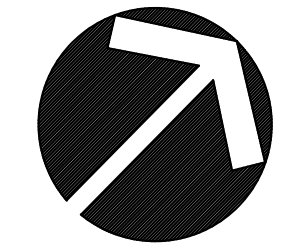
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PHASE 2
82ND CT & 133RD CT PLAN & PROFILES**

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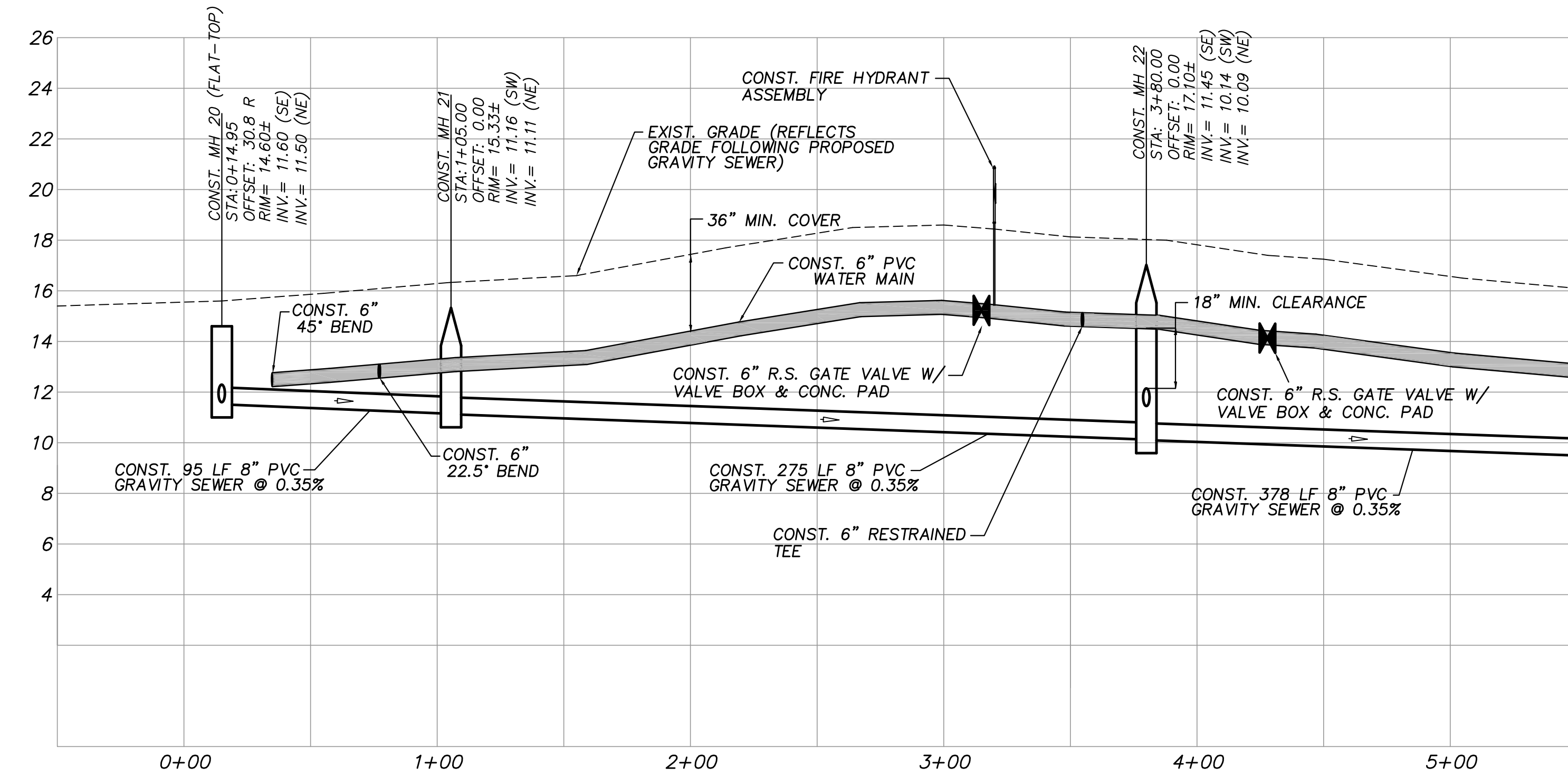
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DWG NO	1422

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PLAN VIEW (SEE SHEET 10)
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

MATCHLINE: STA: 5+50 (SEE SHEET 13)

NOTES:
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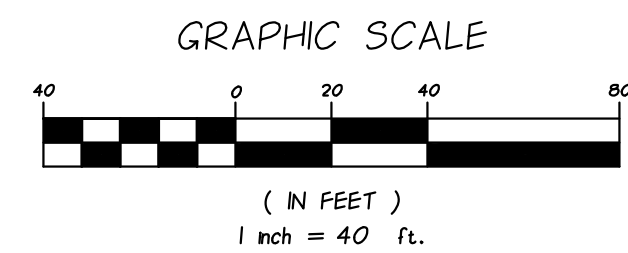
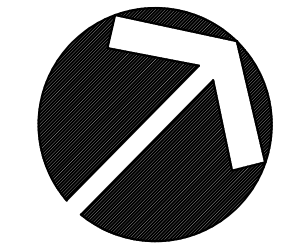
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NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
83RD AVENUE PLAN AND PROFILES**

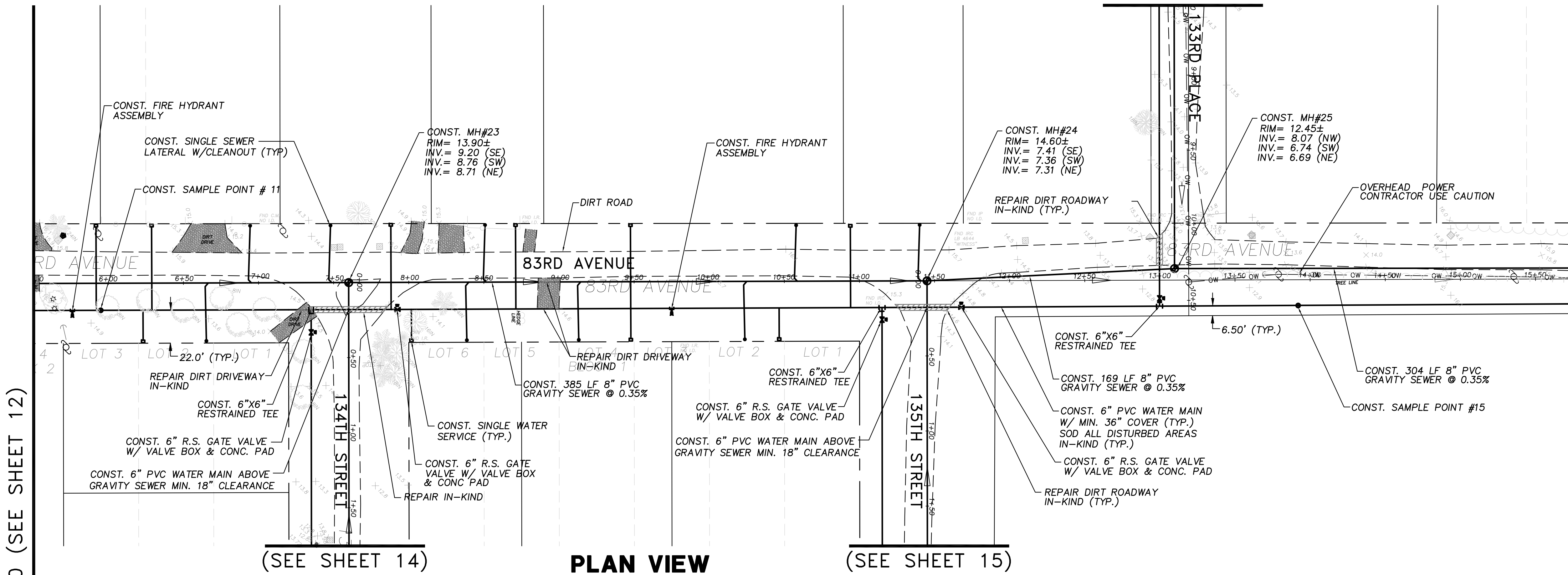
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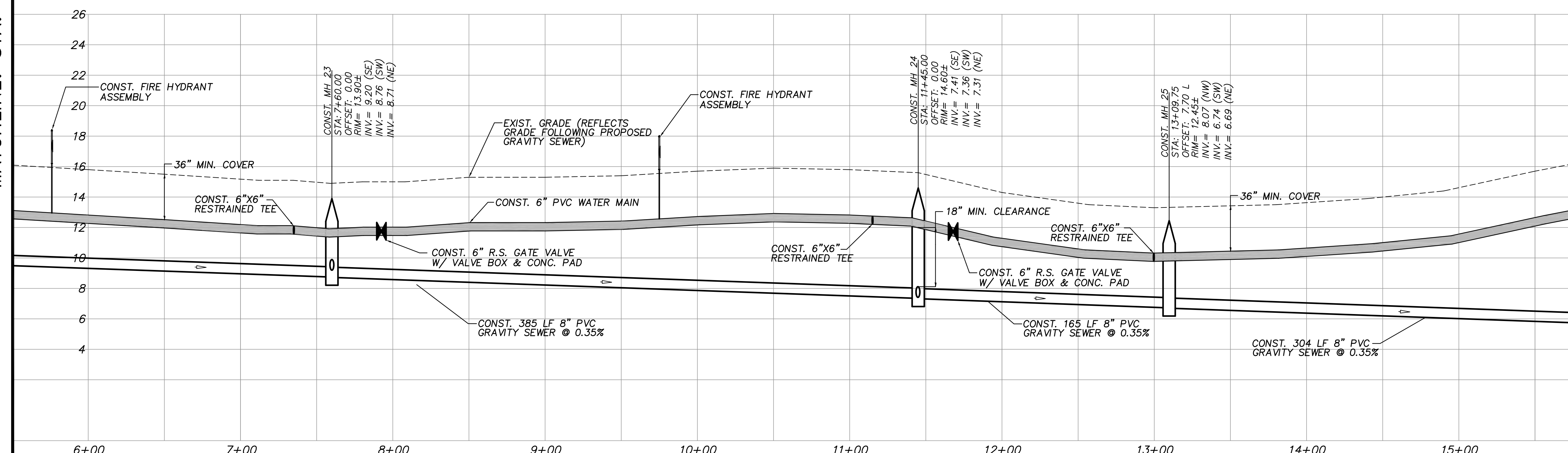


(SEE SHEET 16)



MATCHLINE: STA: 5+50 (SEE SHEET 12)

MATCHLINE: STA: 15+75 (SEE SHEET 17)



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**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
83RD AVENUE PLAN AND PROFILES**

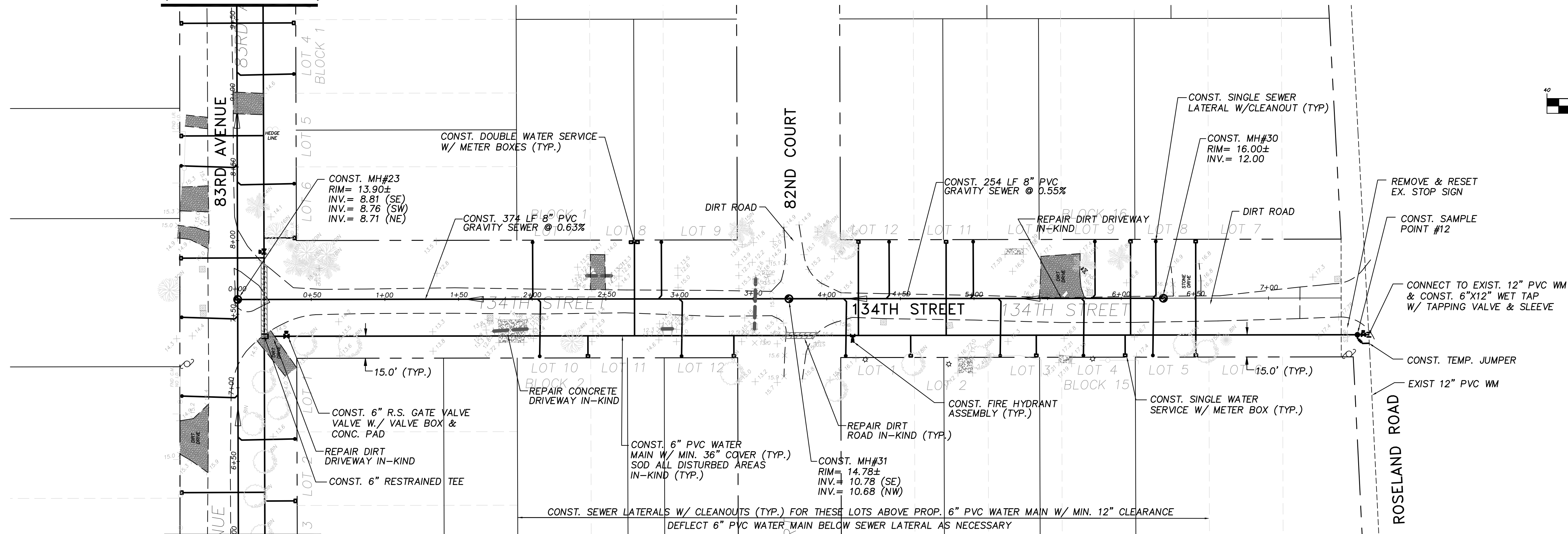
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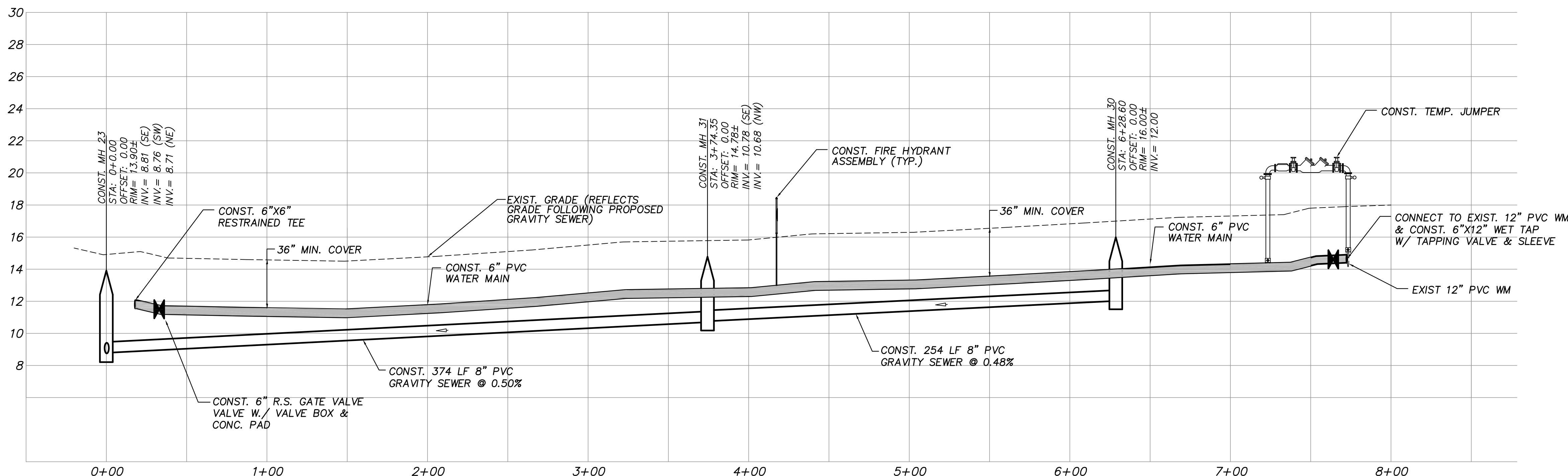
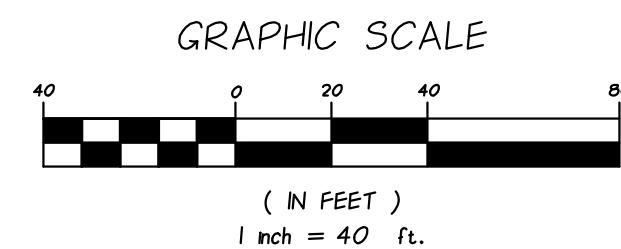
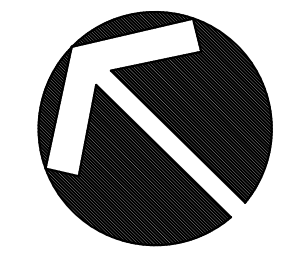
(SEE SHEET 13)



(SEE SHEET 13)

PLAN VIEW

SCALE: 1"=40'



PROFILE VIEW

HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:

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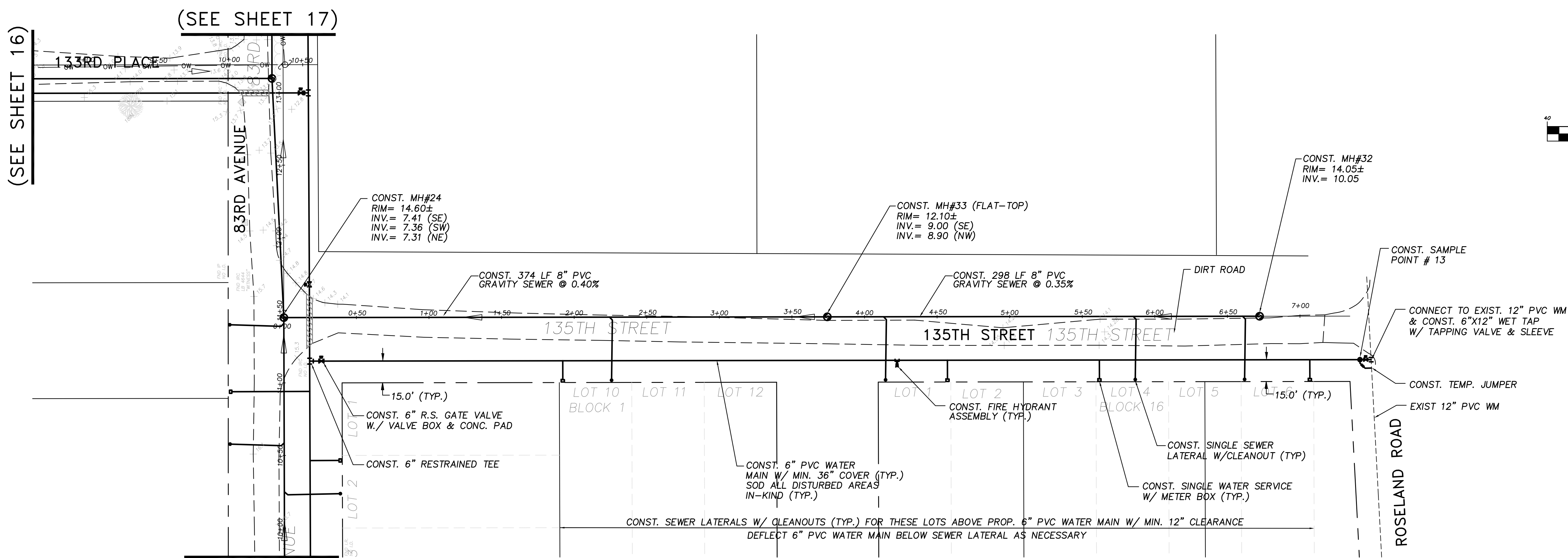
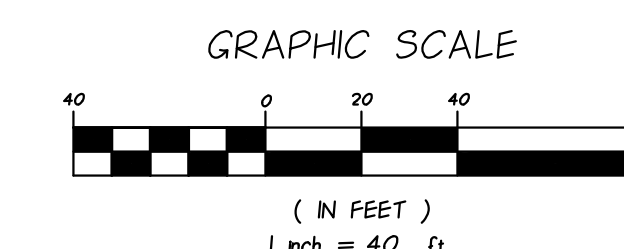
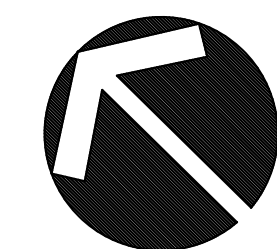
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NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
134TH STREET PLAN AND PROFILES**

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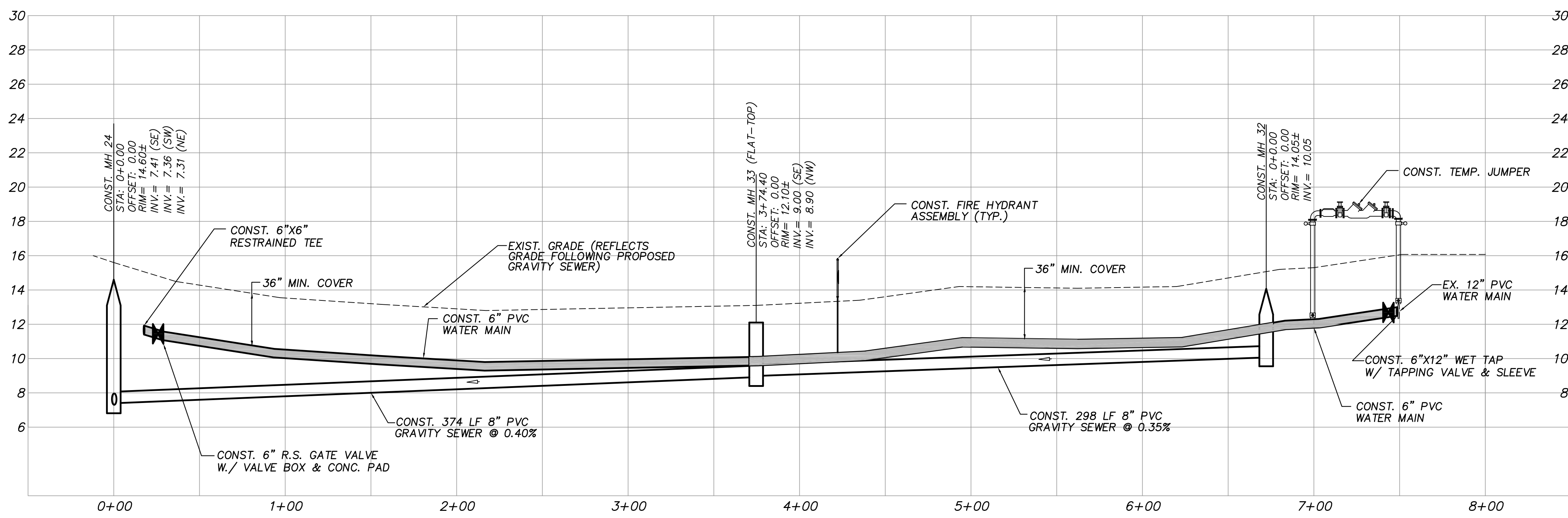
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DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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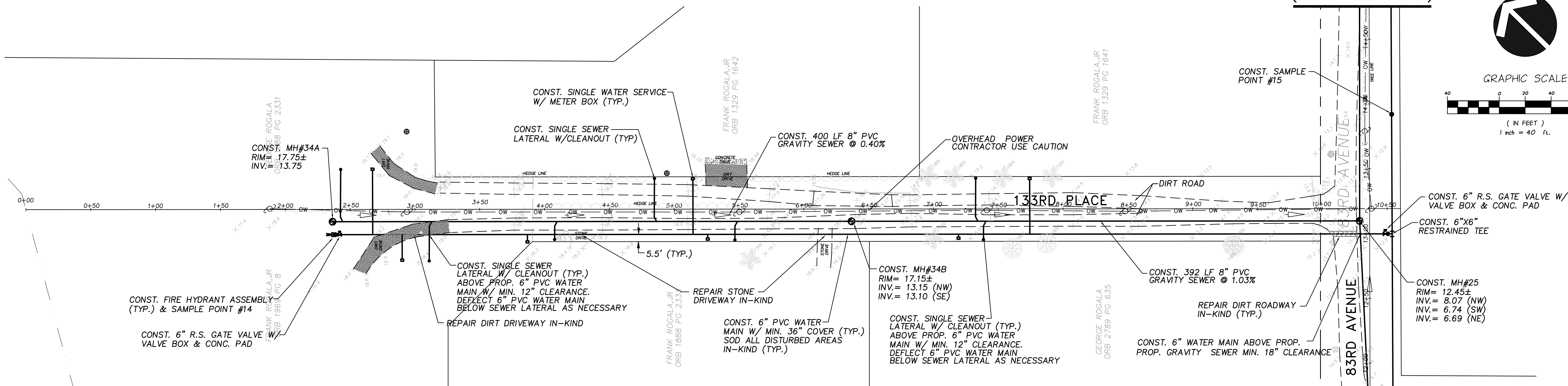
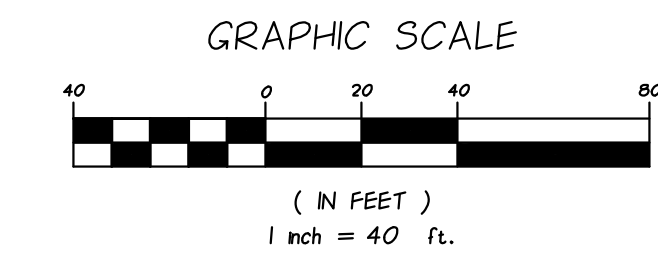
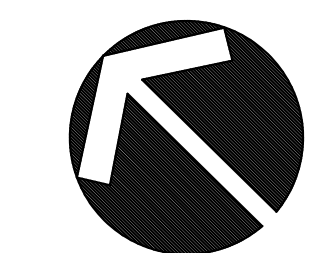
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PHASE 2
135TH STREET PLAN AND PROFILES

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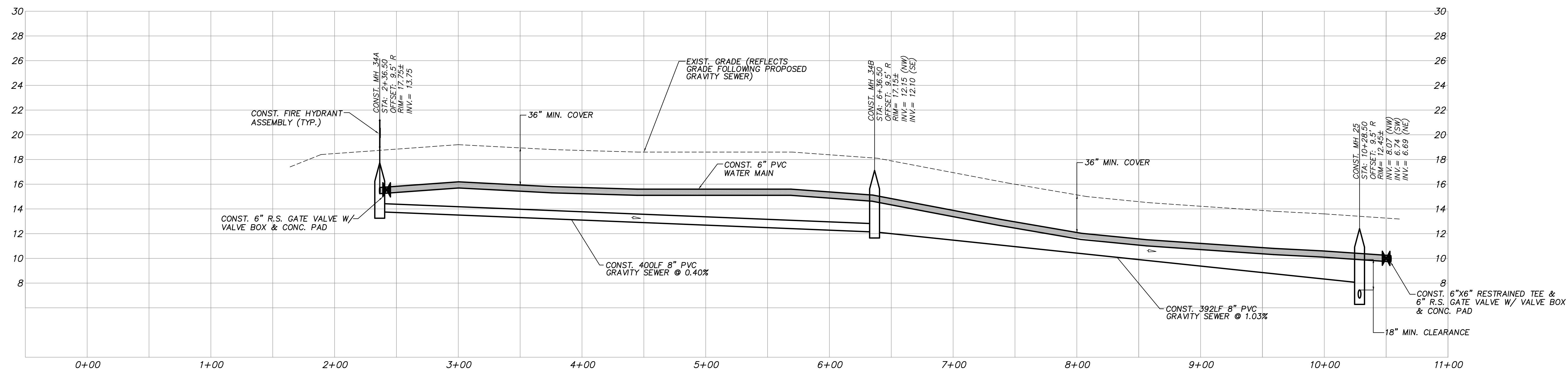
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(SEE SHEET 17)



PLAN VIEW
SCALE: 1"=40'

(SEE SHEET 13)



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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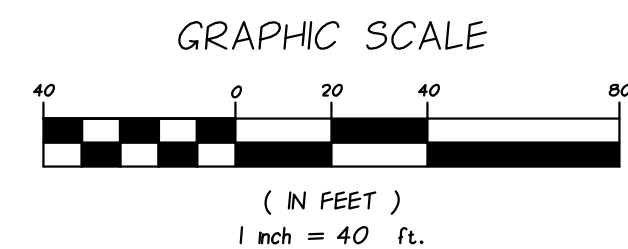
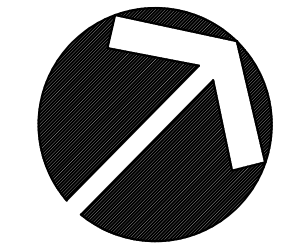
**INDIAN RIVER COUNTY
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PHASE 2
133RD PLACE PLAN AND PROFILES**

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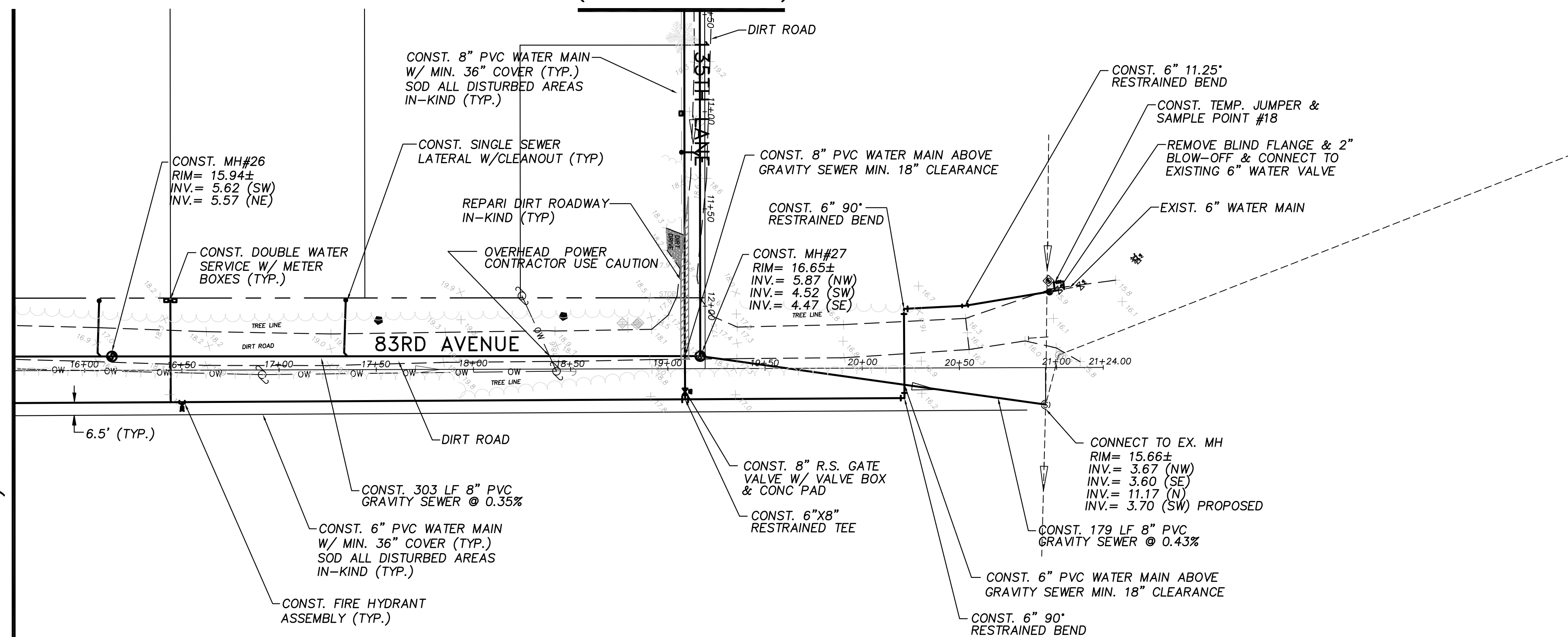
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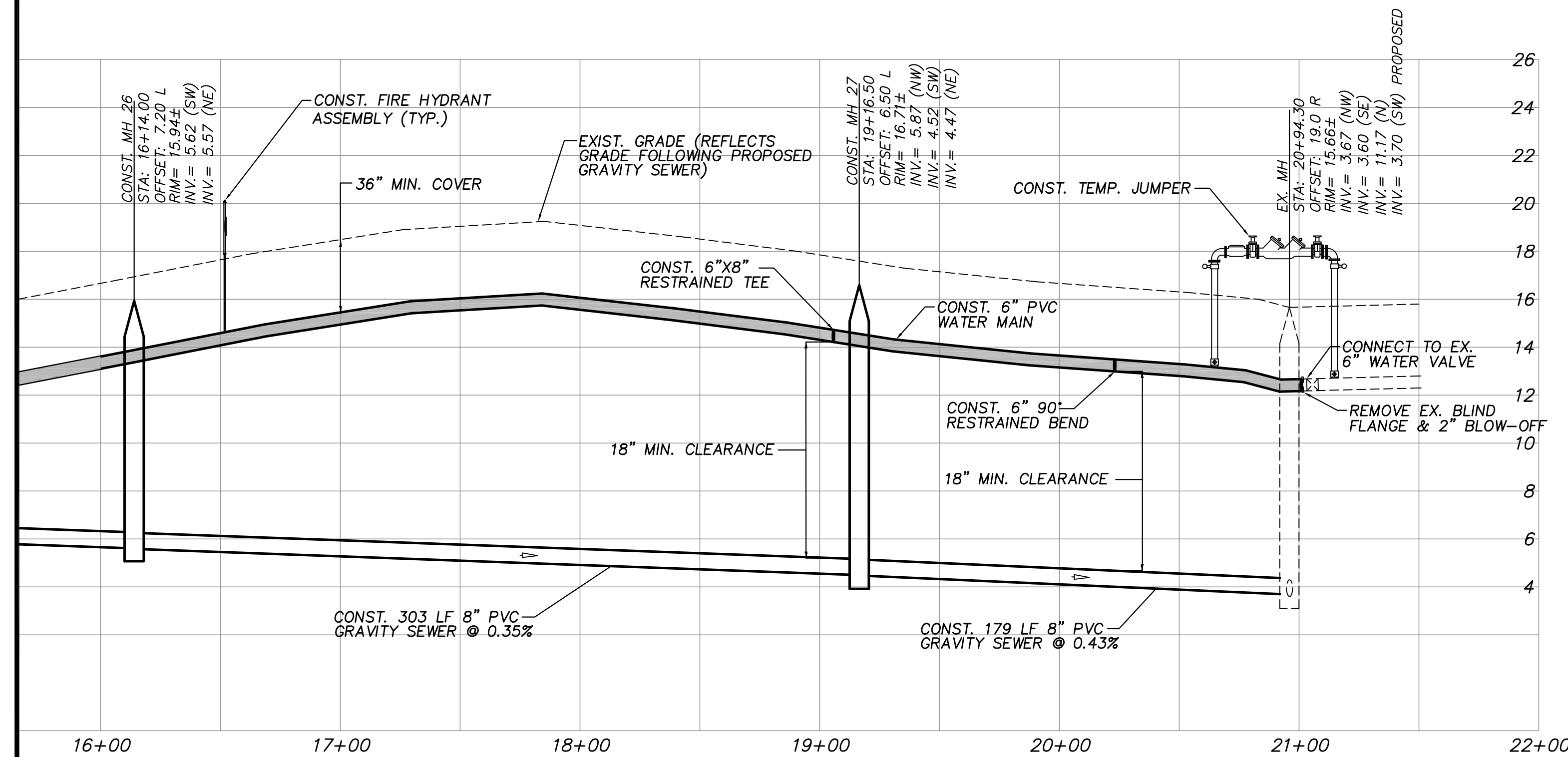


(SEE SHEET 18)

MATCHLINE: STA: 15+75 (SEE SHEET 13)



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:

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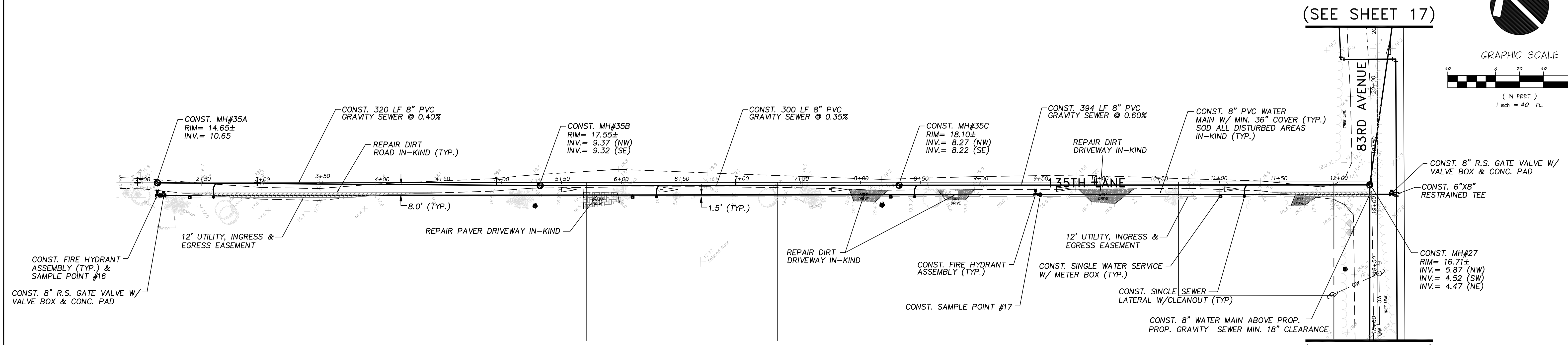
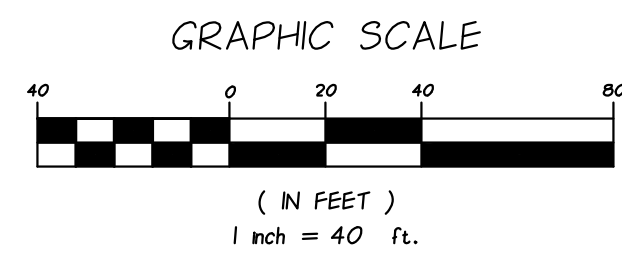
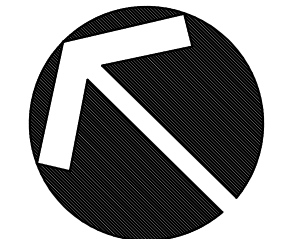
**INDIAN RIVER COUNTY
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83RD AVENUE PLAN AND PROFILES**

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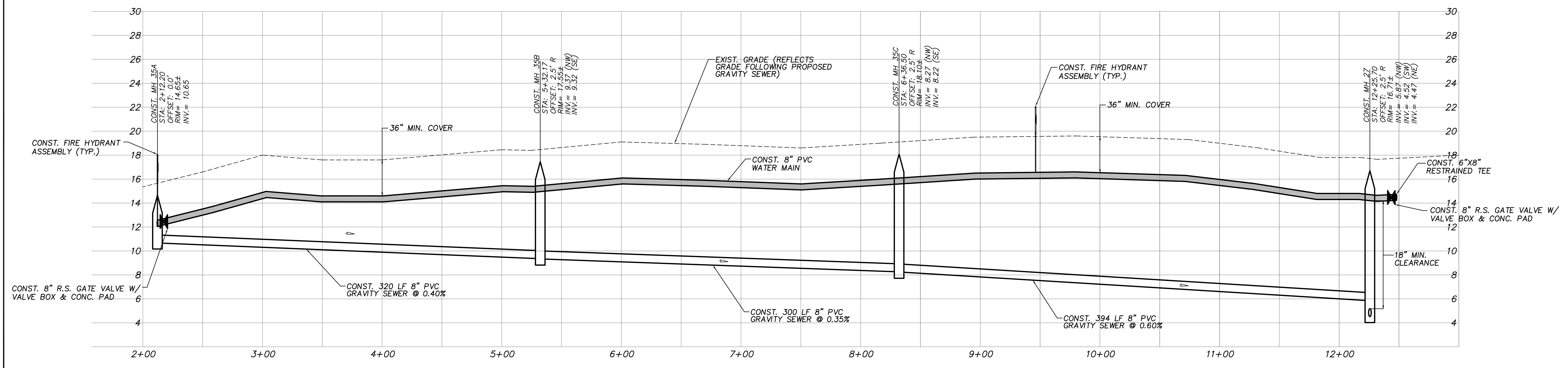
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DWG NO	1422

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PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH
MINIMUM 12" CLEARANCE.
ALL WORK WITHIN ASPHALT ROADWAYS/DRIVES CONTRACTOR IS TO SAWCUT
EXISTING ASPHALT AS NECESSARY FOR GRAVITY SEWER CONSTRUCTION AND
RESTORE ROADWAY PER DETAILS SHEETS 30-33.
ALL DISTURBED STRIPING AND SIGNAGE TO BE REPLACED. STRIPING
TO BE THERMOPLASTIC CONFORMING TO F.D.O.T. STANDARD SPECIFICATIONS
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NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

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CONSULTING ENGINEERS
1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960
(772) 567-5300 / FAX (772) 794-1106
CERTIFICATE OF AUTHORIZATION NUMBER 4204

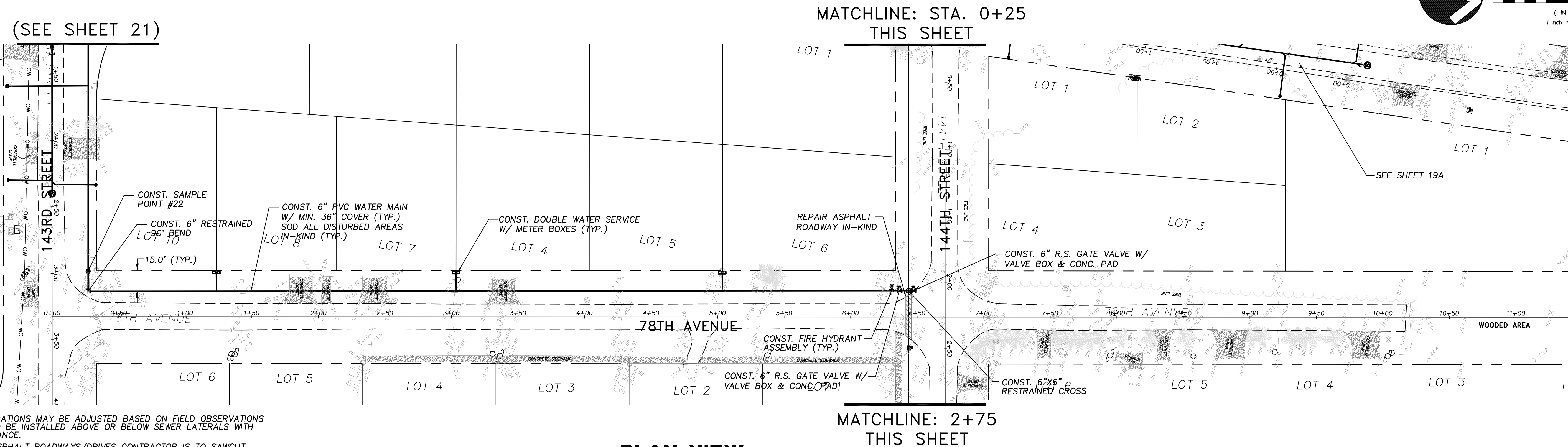
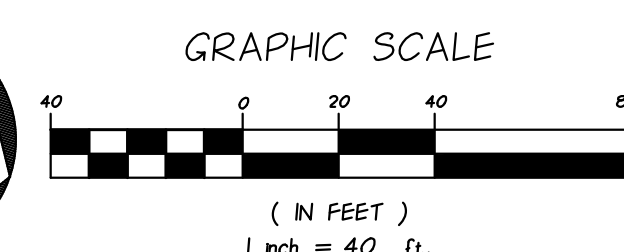
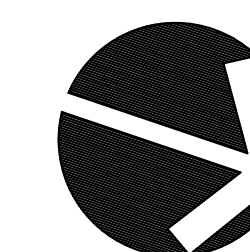
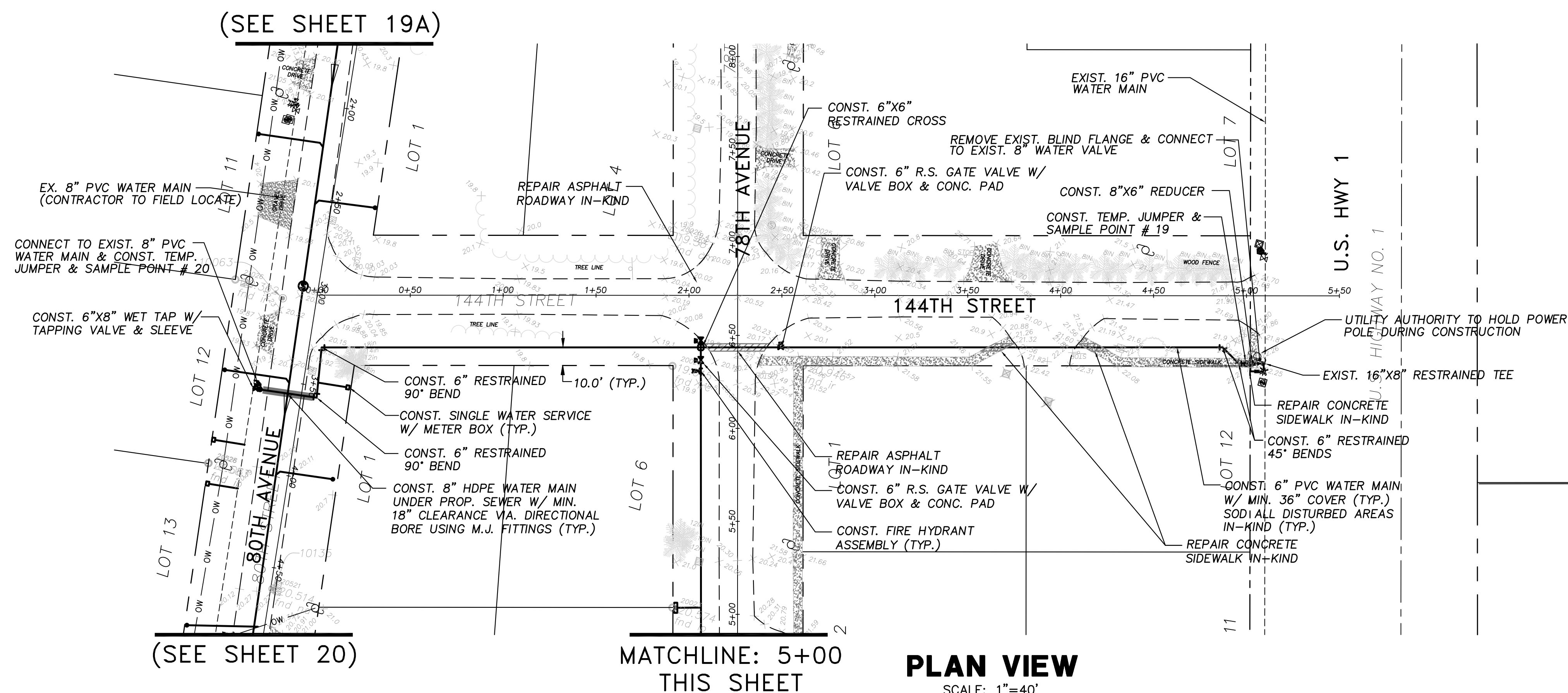
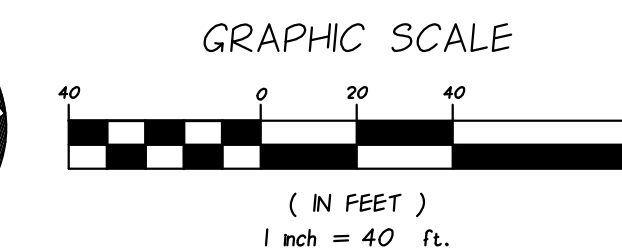
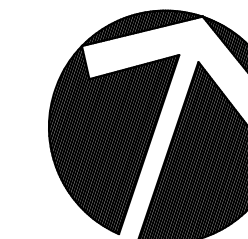
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
135TH LANE PLAN AND PROFILES**

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DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	18 OF 37
DWG NO.	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



NOTES:

- SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS. PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH MINIMUM 12" CLEARANCE.
- ALL WORK WITHIN ASPHALT ROADWAYS/DRIVES CONTRACTOR IS TO SAWCUT EXISTING ASPHALT AS NECESSARY FOR GRAVITY SEWER CONSTRUCTION AND RESTORE ROADWAY PER DETAILS SHEETS 30-33.
- ALL DISTURBED STRIPING AND SIGNAGE TO BE REPLACED. STRIPING TO BE THERMOPLASTIC CONFORMING TO F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

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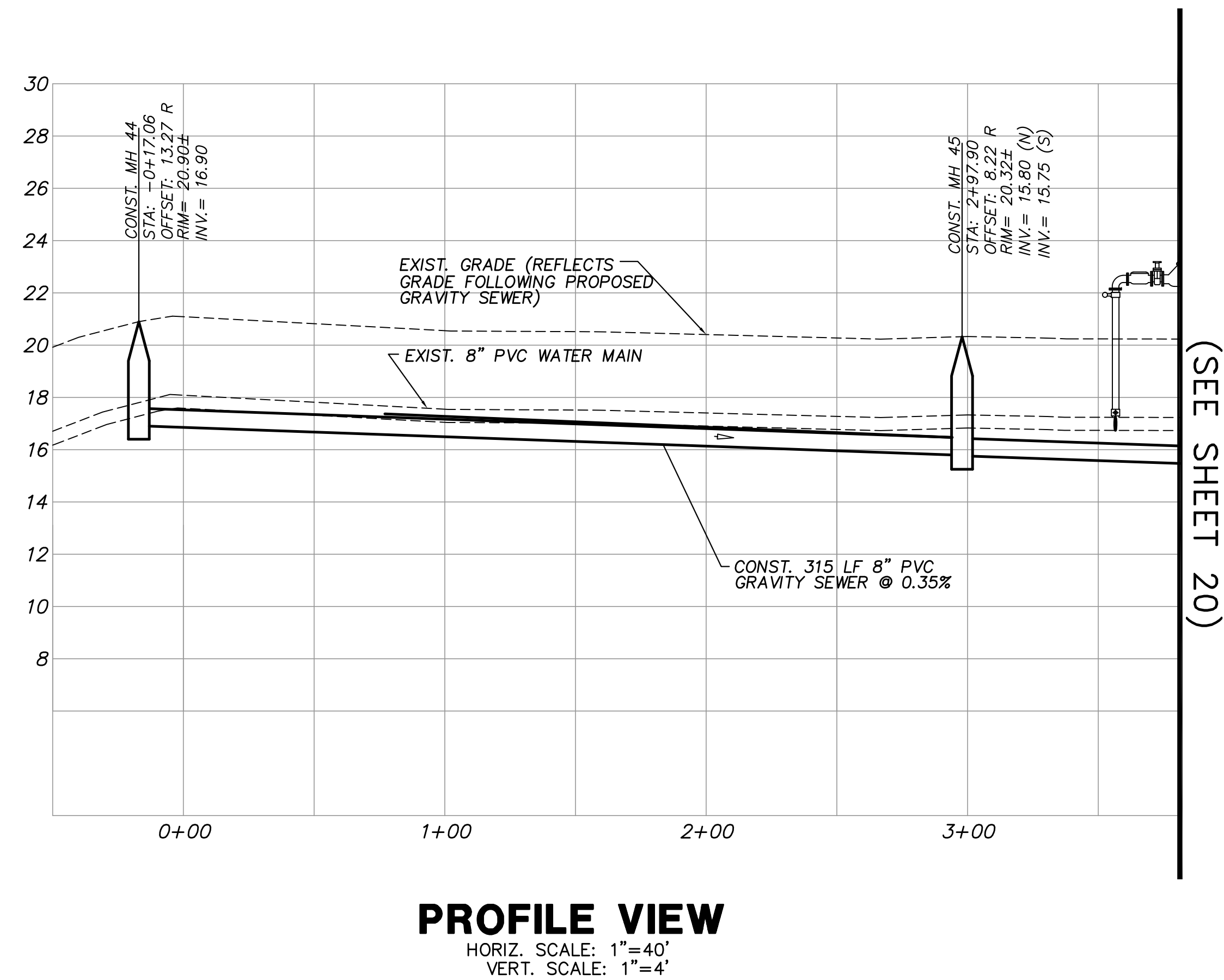
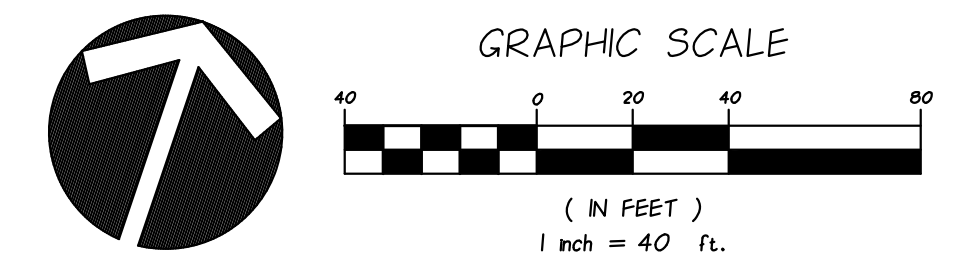
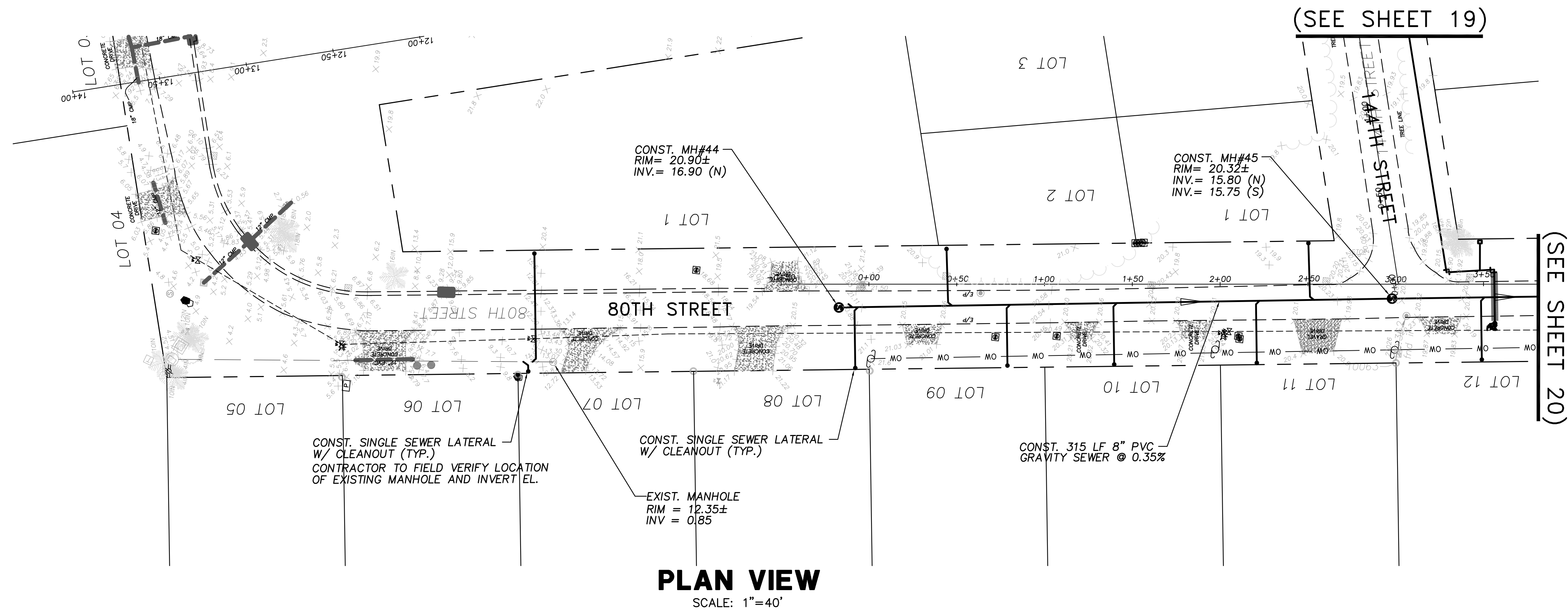
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
144TH STREET & 78TH AVENUE PLAN**

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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	19 OF 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



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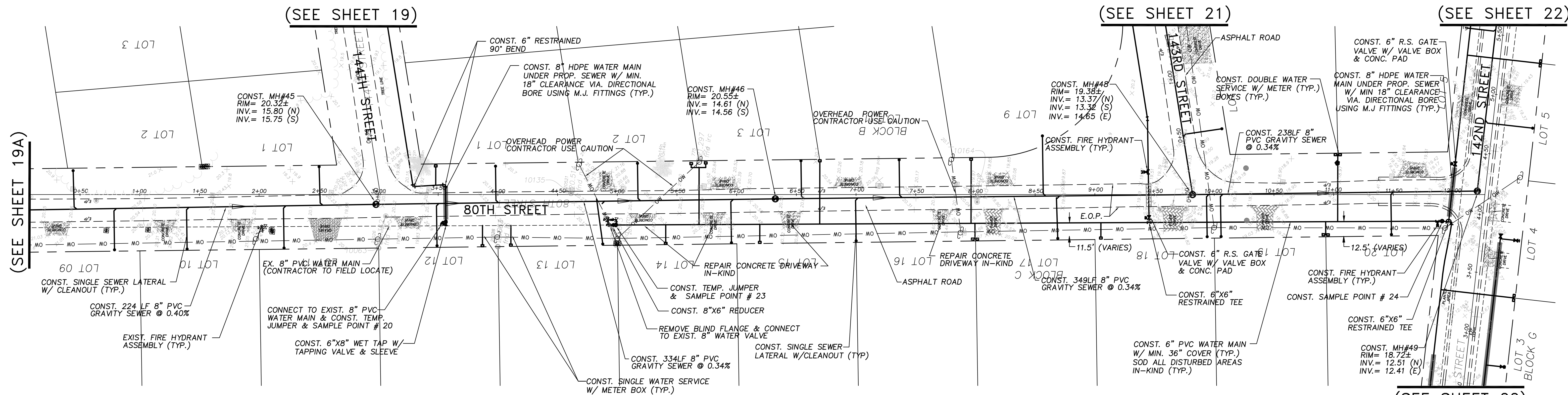
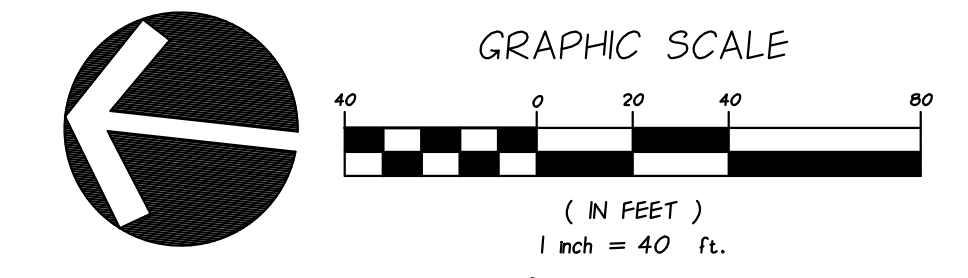
**INDIAN RIVER COUNTY
 NORTH COUNTY WATER & SEWER SYSTEM
 PHASE 2
 80TH AVE PLAN & PROFILES**

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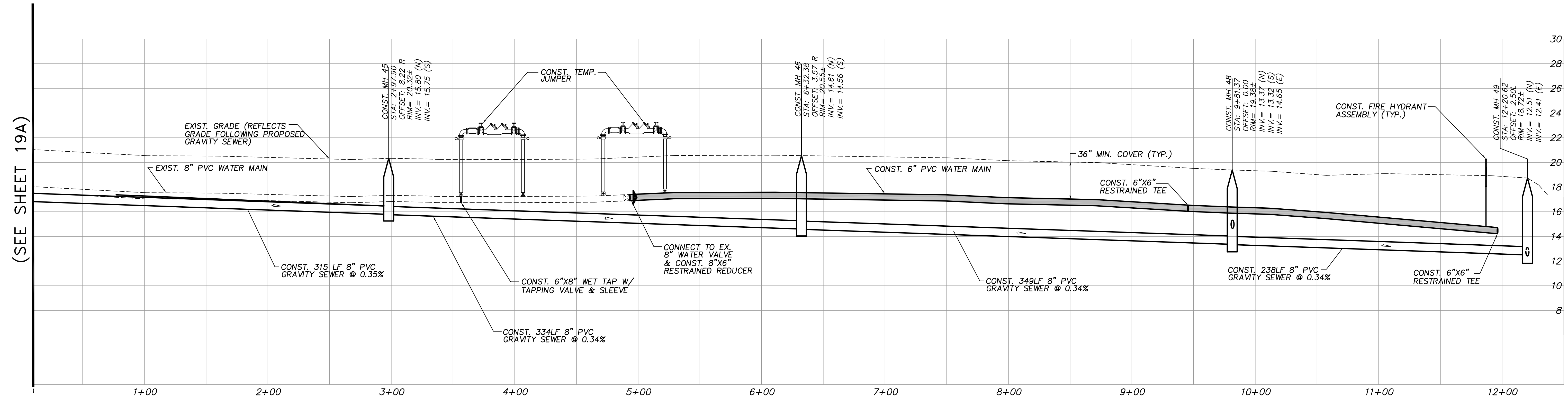
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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	19A OF 37
DWG NO	1422

12/01/2020
 EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS
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REVISIONS			

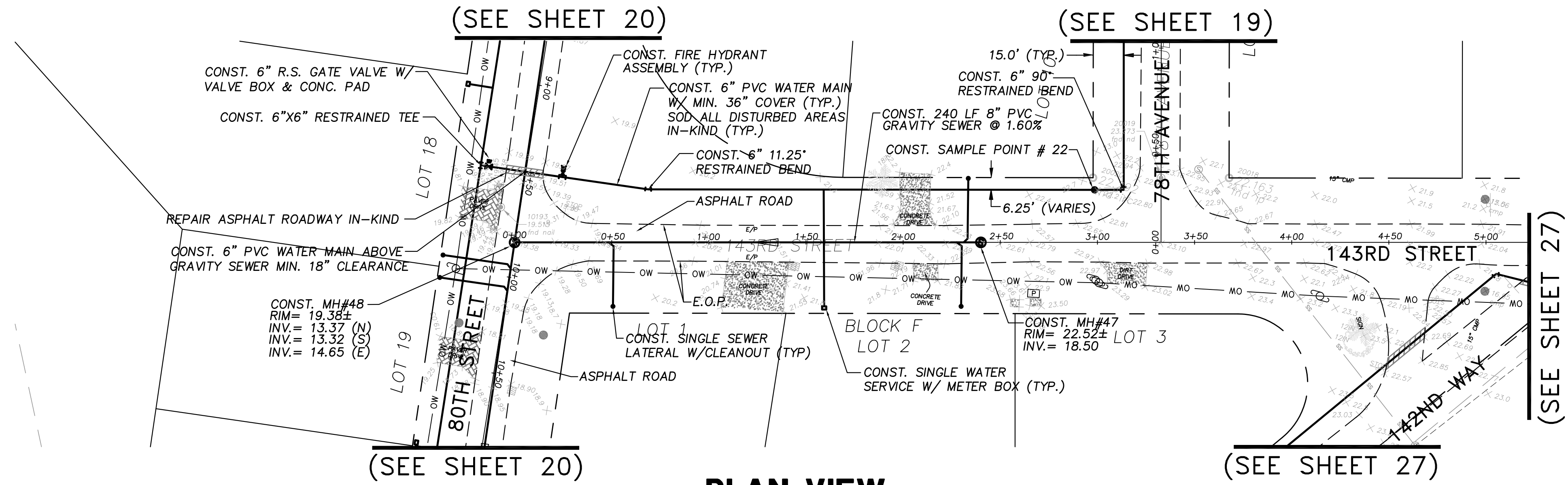
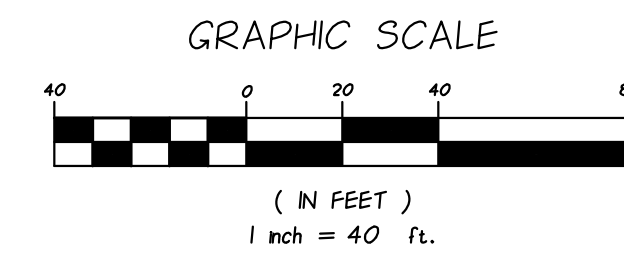
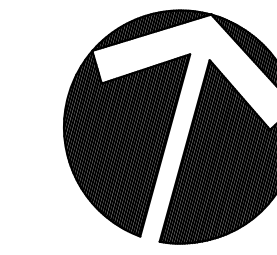
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**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
80TH STREET PLAN AND PROFILES**

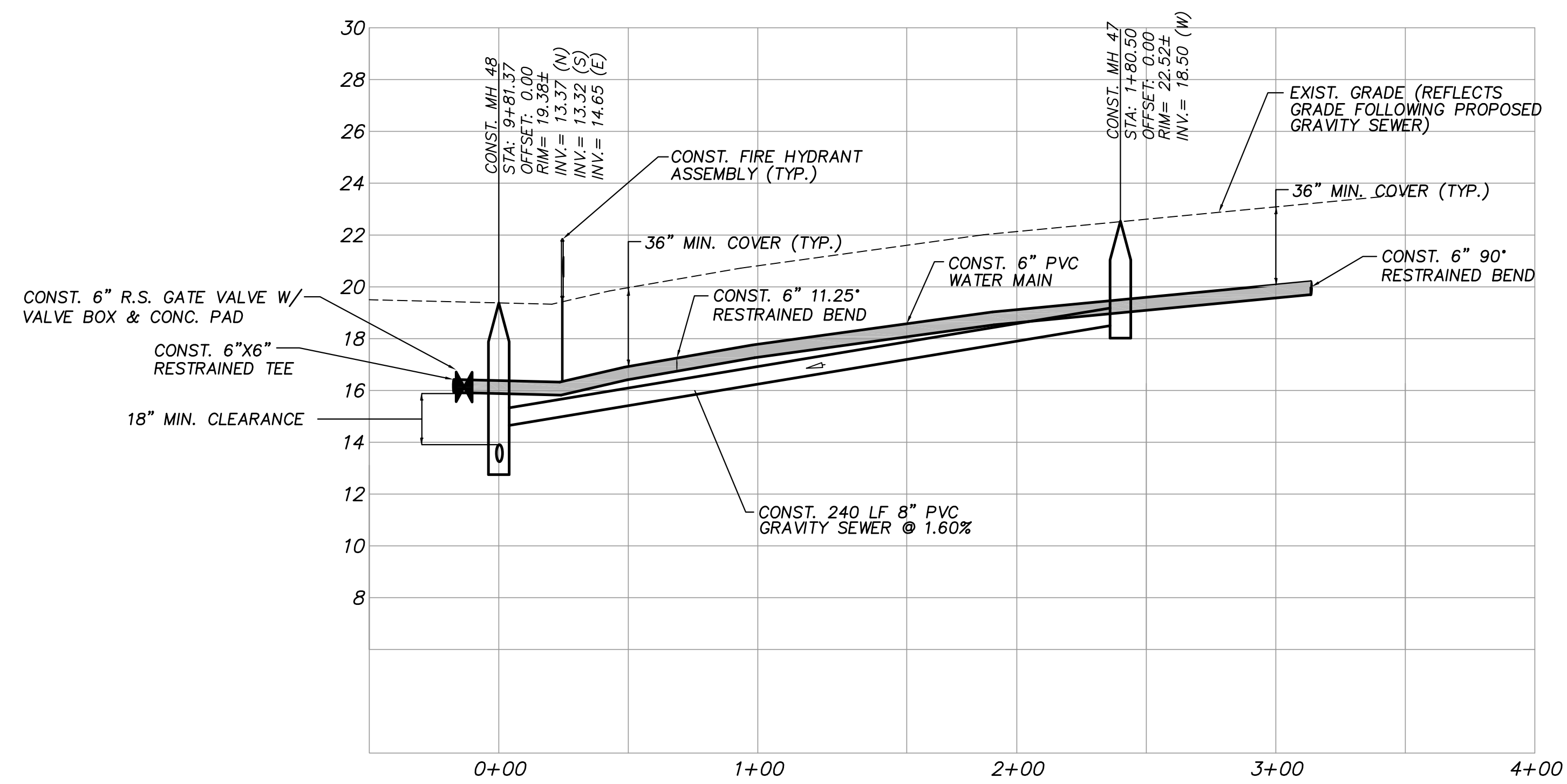
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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	20 OF 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS. PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH MINIMUM 12" CLEARANCE.
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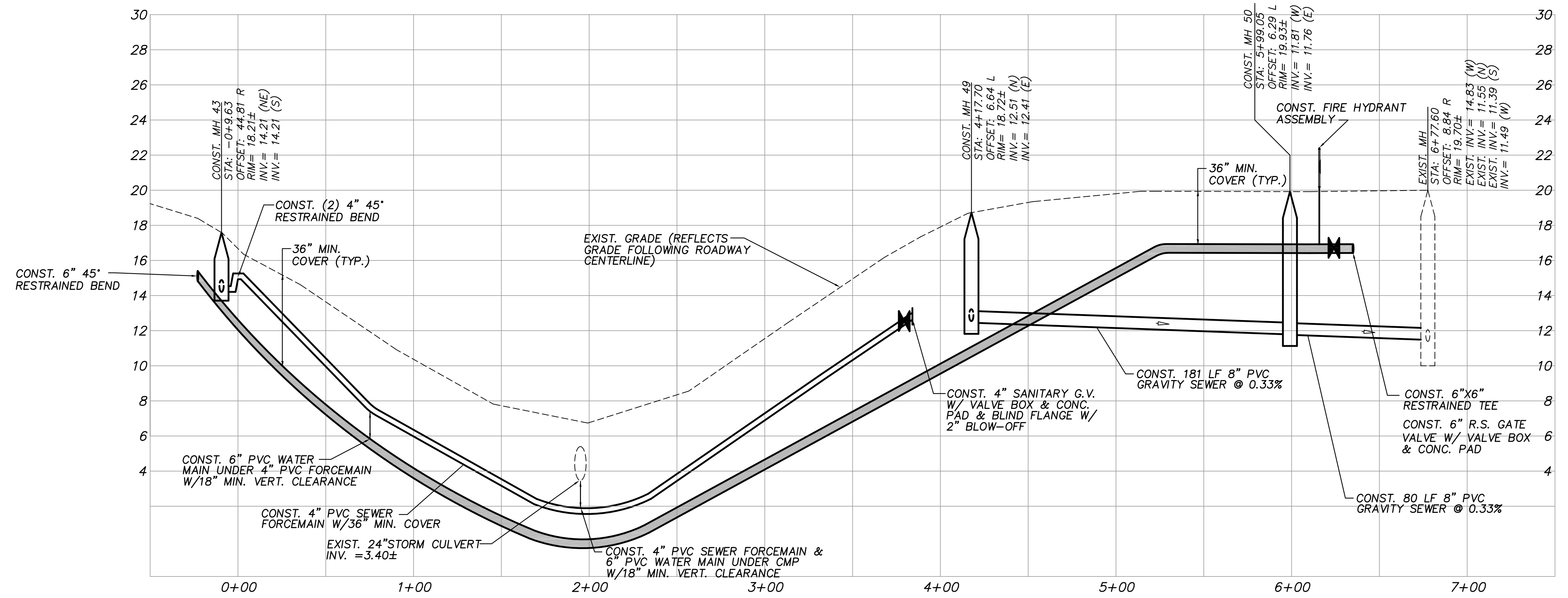
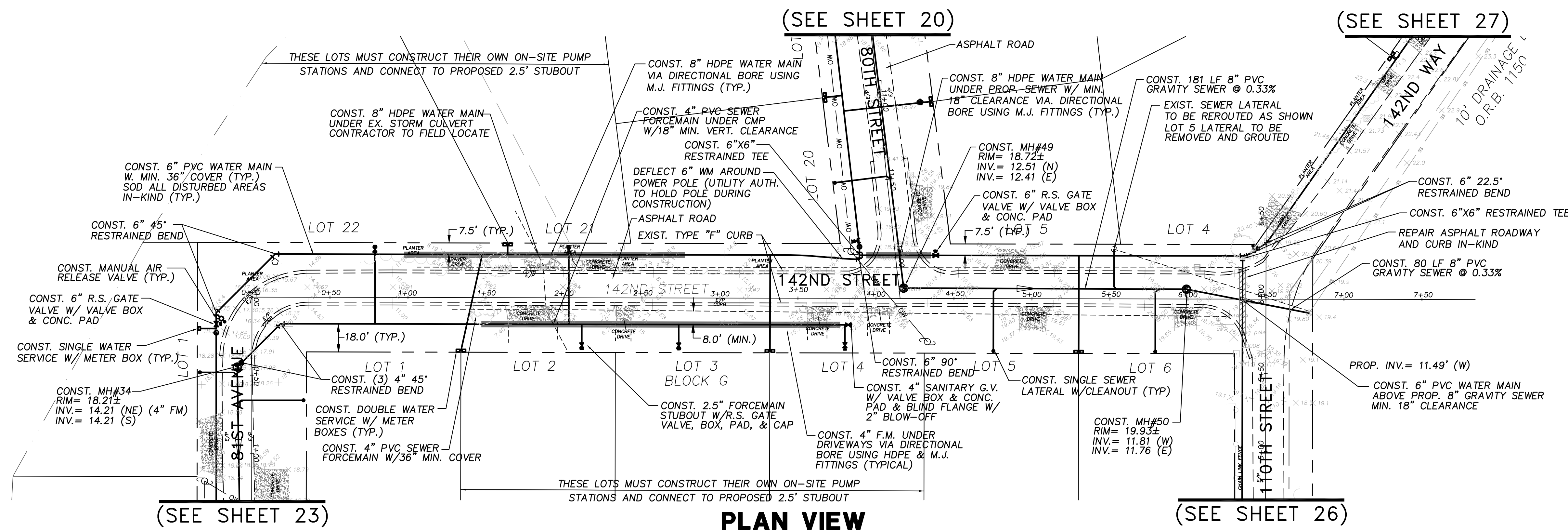
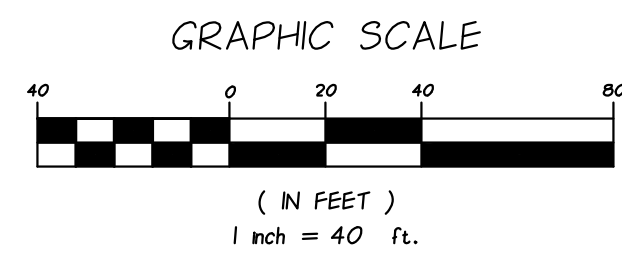
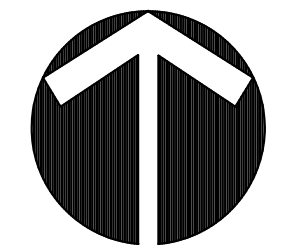
NO.	DATE	DESCRIPTION	DR/APP
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**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
143RD STREET PLAN AND PROFILES**

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DESIGNED	SCG
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	21 OF 37
DWG NO.	1422
12/01/2020	
EARL H. MASTELLER, P.E. FL#26658	



NOTES:

- MANHOLE 34 TO BE LINED (SEE SHEET 30)
- SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH MINIMUM 12" CLEARANCE.
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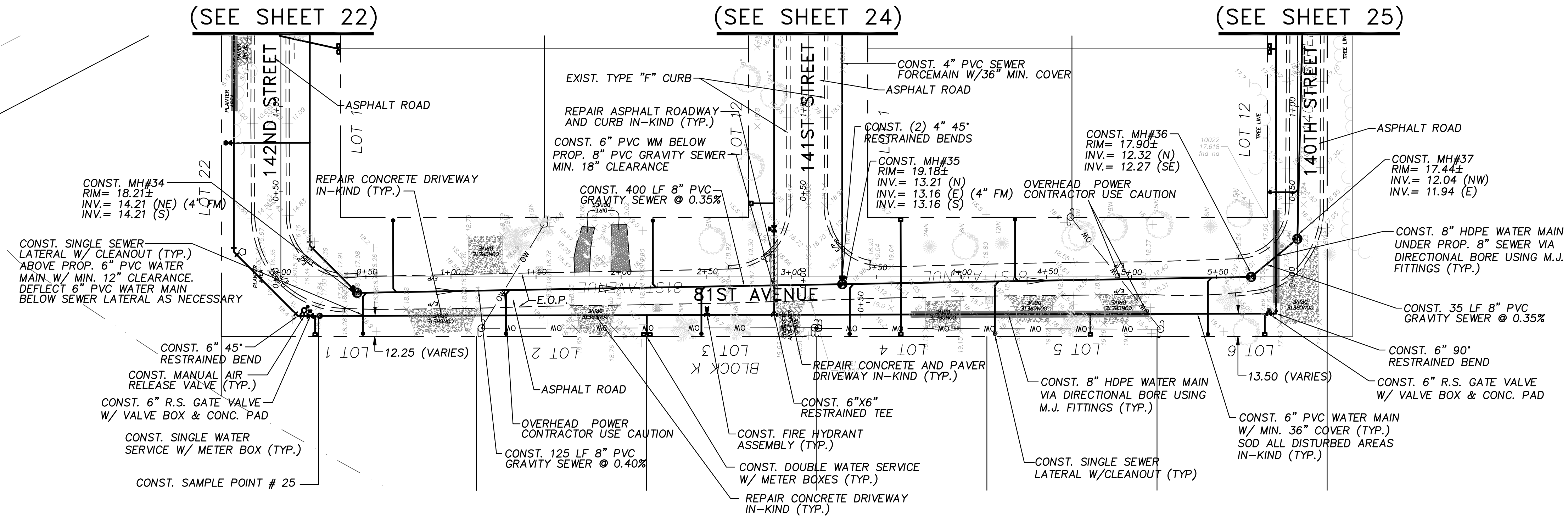
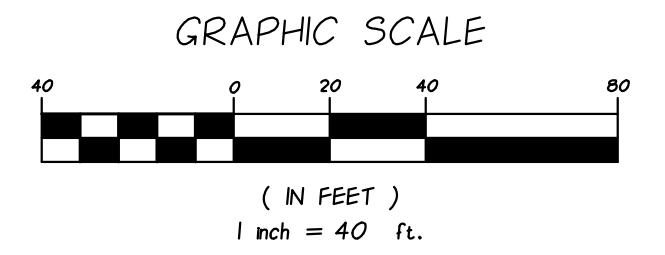
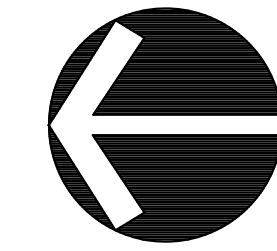
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
142ND STREET PLAN AND PROFILES**

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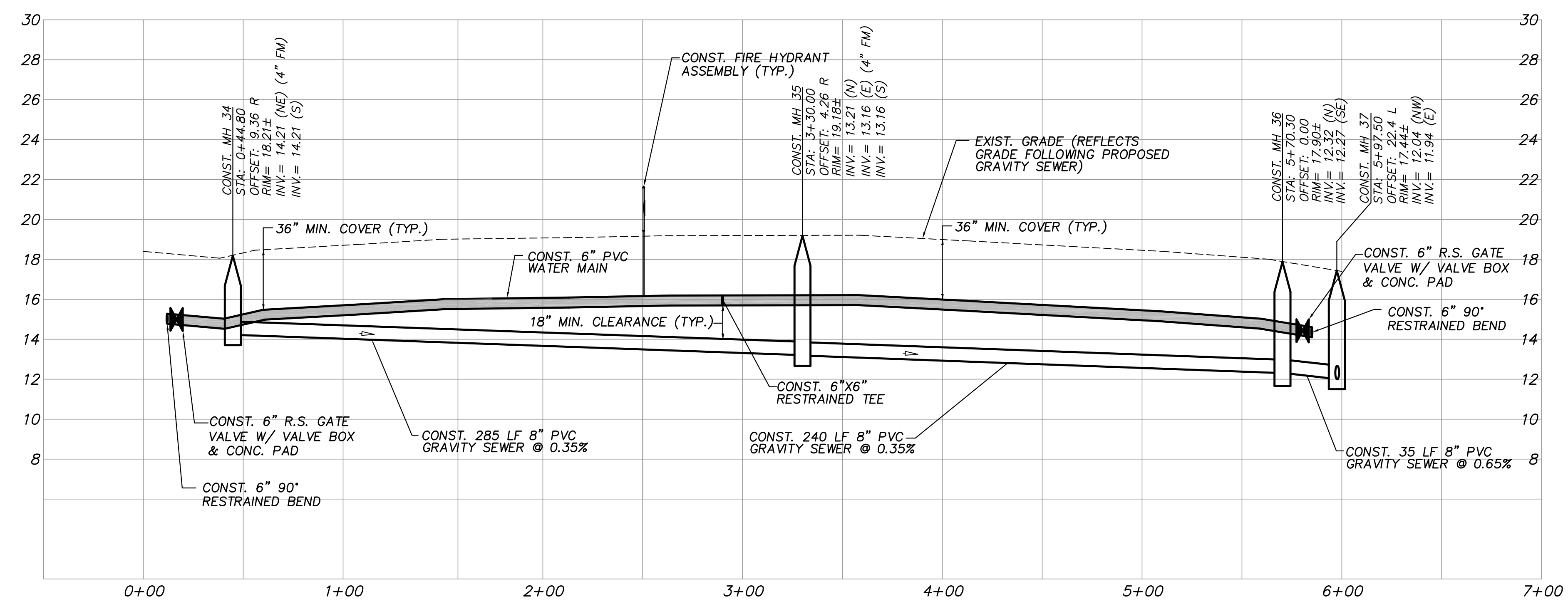
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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	22 OF 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
MANHOLES 34, 35, 36, & 37 TO BE LINED (SEE SHEET 30)
SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS
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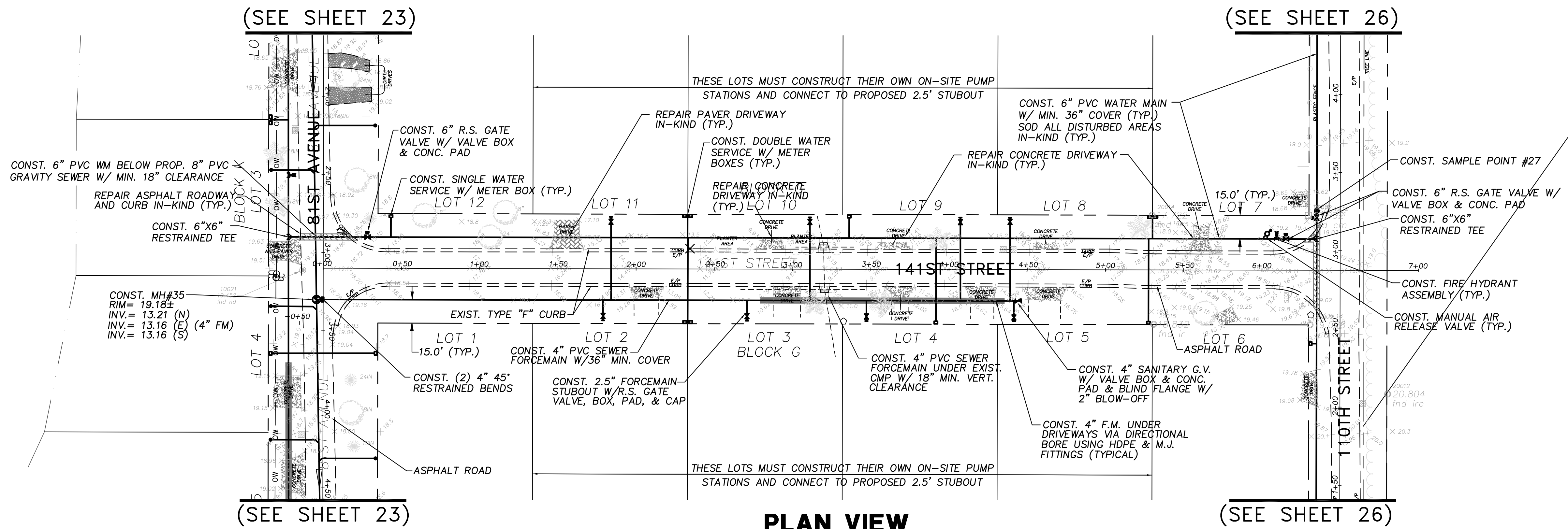
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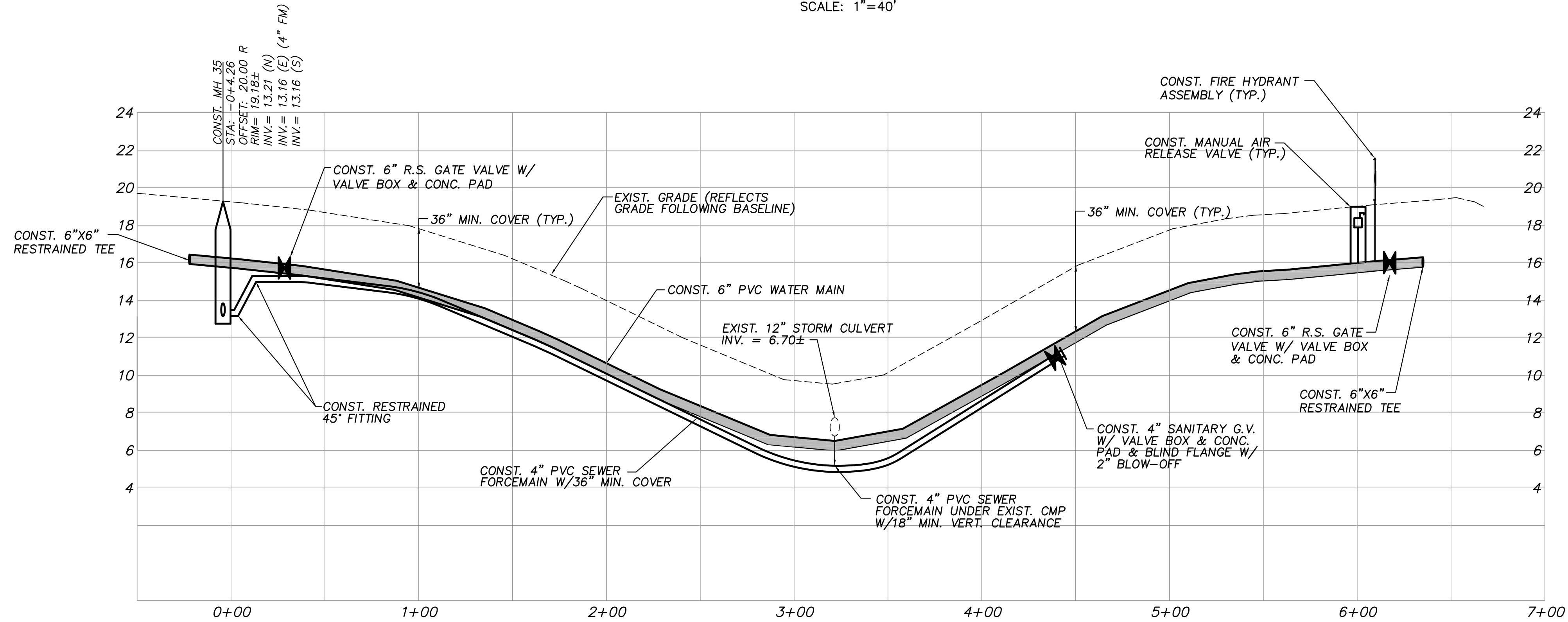
INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
81ST AVENUE PLAN AND PROFILES

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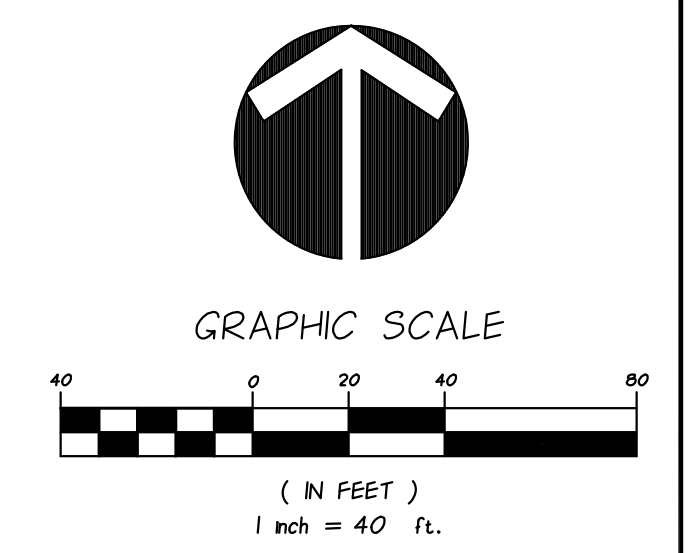


PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
 MANHOLE 35 TO BE LINED (SEE SHEET 30)
 SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS
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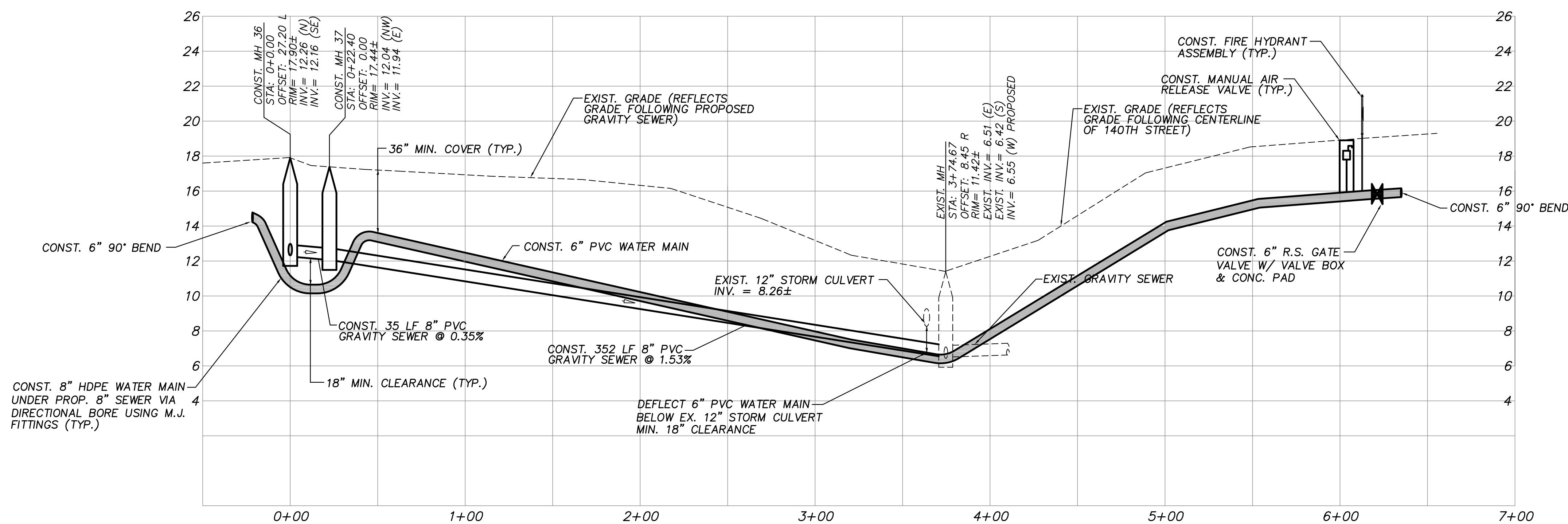
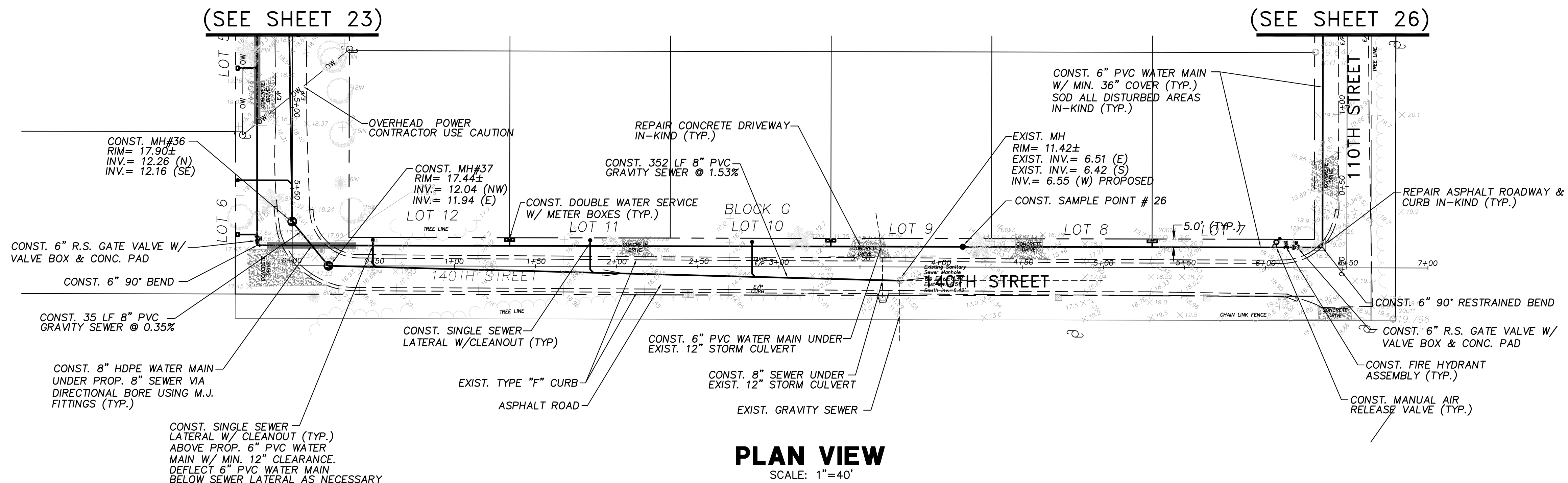
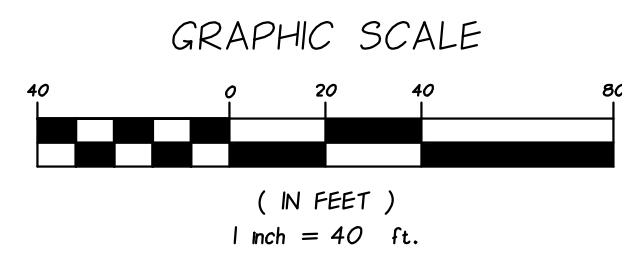
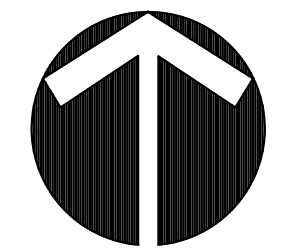
**INDIAN RIVER COUNTY
 NORTH COUNTY WATER & SEWER SYSTEM
 PHASE 2
 141ST STREET PLAN AND PROFILES**

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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	24 of 37
DWG NO	1422

12/01/2020
 EARL H. MASTELLER, P.E. FL#26658



NOTES:

- MANHOLES 36, 37, & NEXT THREE (3) DOWNSTREAM EXISTING MANHOLES TO BE LINED DOWNSTREAM MANHOLES REQUIRING LINING TO BE SPECIFIED IN THE FIELD BY IRC/DUS (SEE SHEET 30)
- SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH MINIMUM 12" CLEARANCE.
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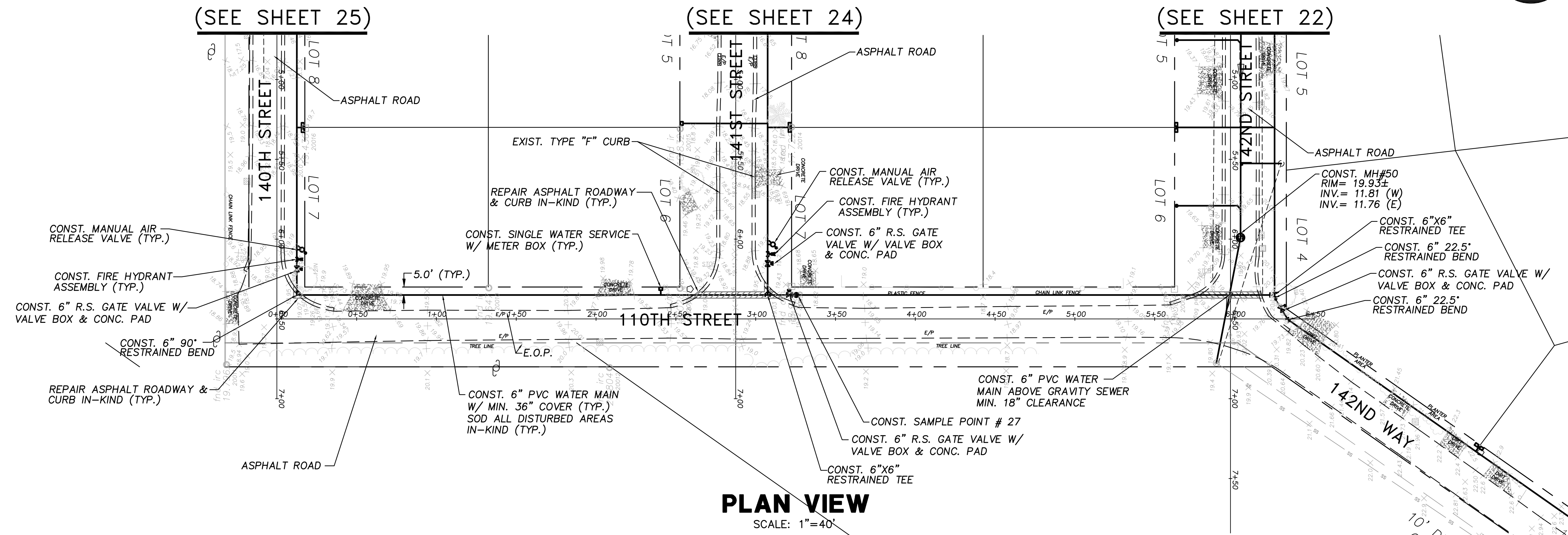
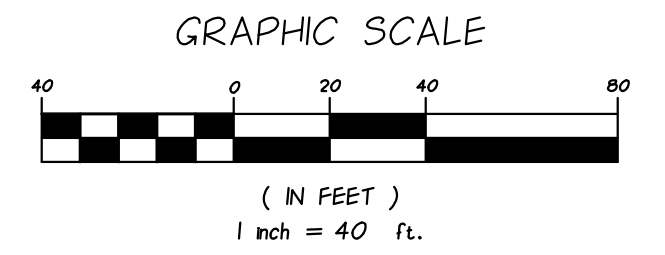
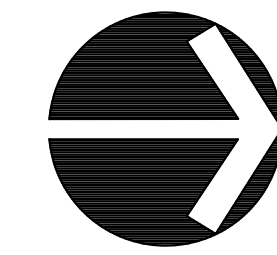
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
140TH STREET PLAN AND PROFILES**

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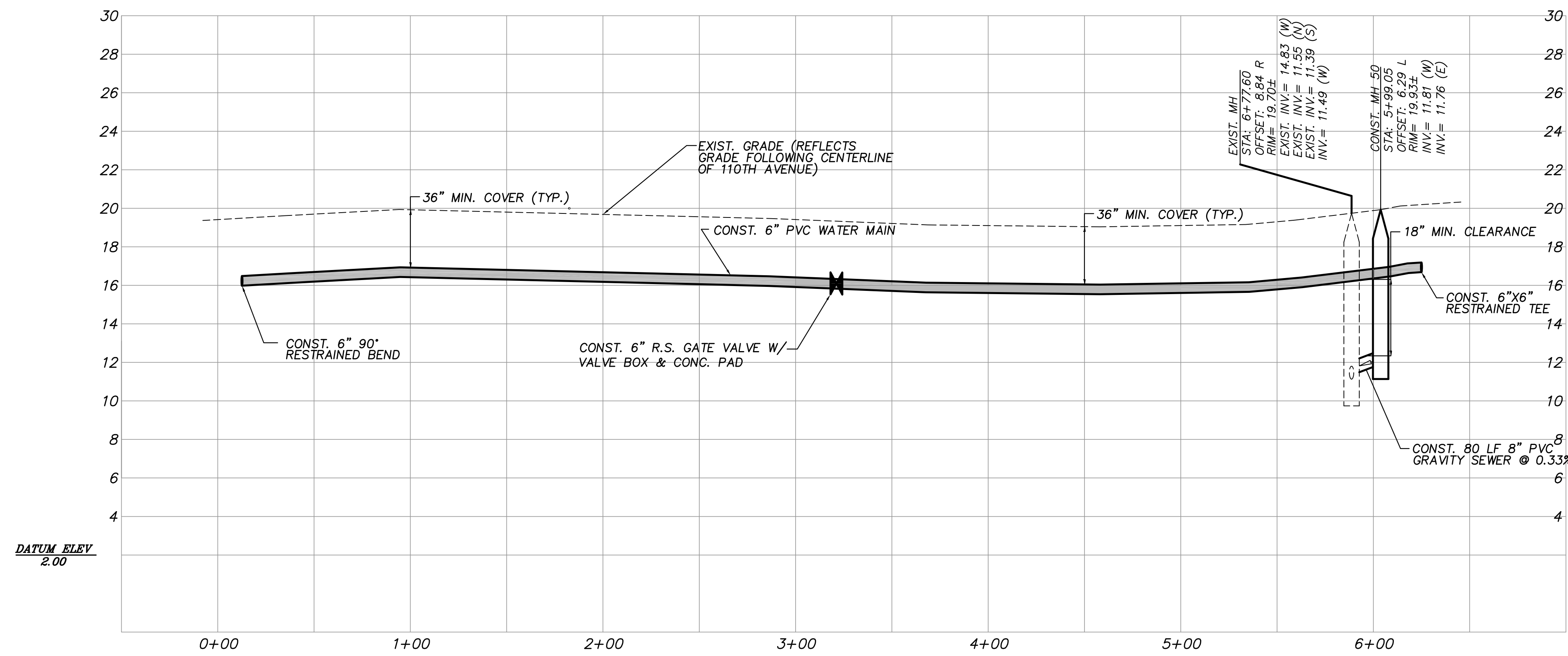
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DESIGNED	EHM
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DATE	10/22/2018
SCALE	AS SHOWN
SHEET	25 of 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:

- SEWER LATERAL LOCATIONS MAY BE ADJUSTED BASED ON FIELD OBSERVATIONS
- PRESSURE MAINS TO BE INSTALLED ABOVE OR BELOW SEWER LATERALS WITH MINIMUM 12" CLEARANCE.
- ALL WORK WITHIN ASPHALT ROADWAYS/DRIVES CONTRACTOR IS TO SAWCUT EXISTING ASPHALT AS NECESSARY FOR GRAVITY SEWER CONSTRUCTION AND RESTORE ROADWAY PER DETAILS SHEETS 30-33.
- ALL DISTURBED STRIPING AND SIGNAGE TO BE REPLACED. STRIPING TO BE THERMOPLASTIC CONFORMING TO F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

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CONSULTING ENGINEERS
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CERTIFICATE OF AUTHORIZATION NUMBER 4204

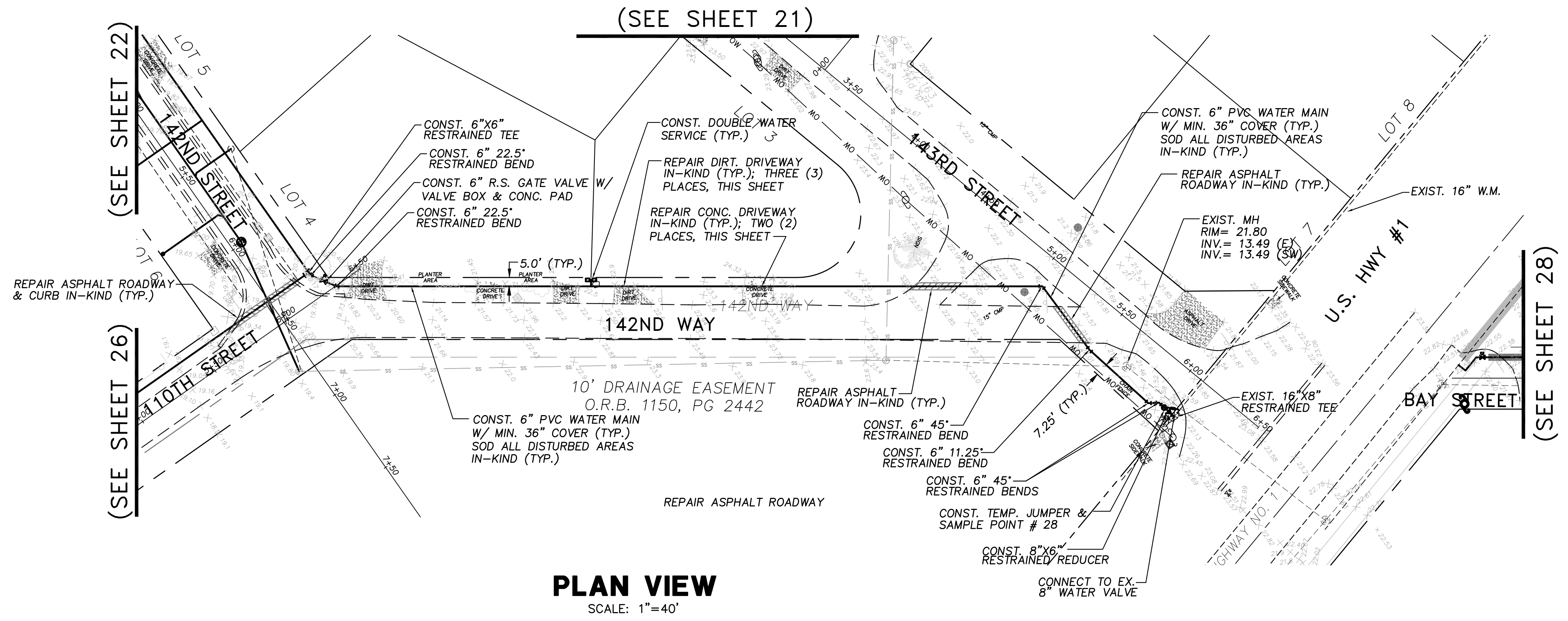
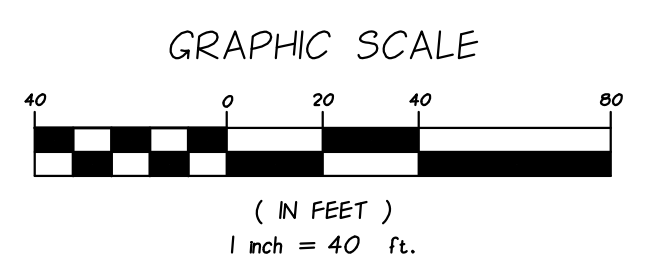
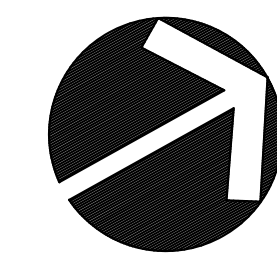
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
110TH STREET PLAN AND PROFILES**

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CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	26 OF 37
DWG NO	1422

12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'

NOTES:

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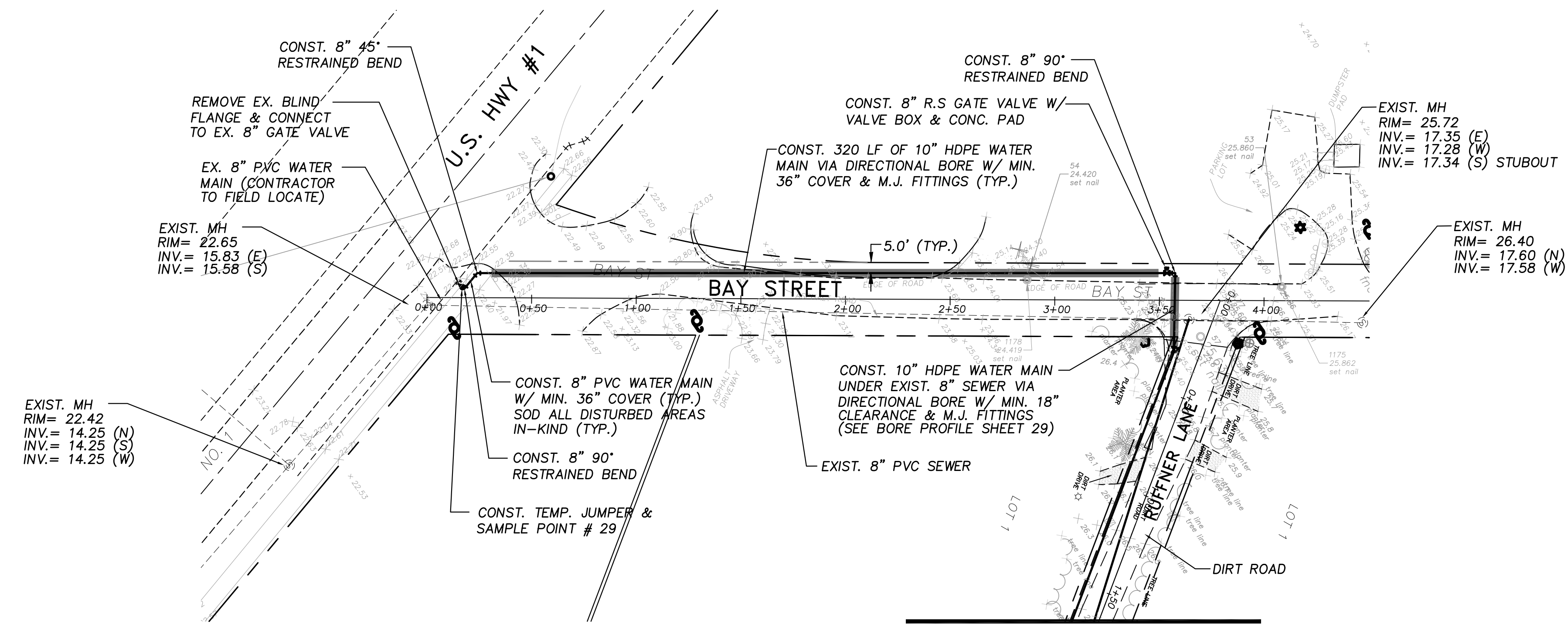
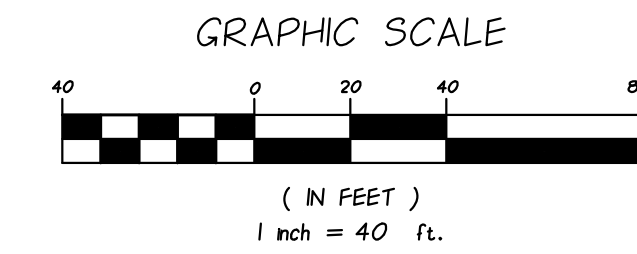
**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
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142ND WAY & 143RD STREET PLAN**

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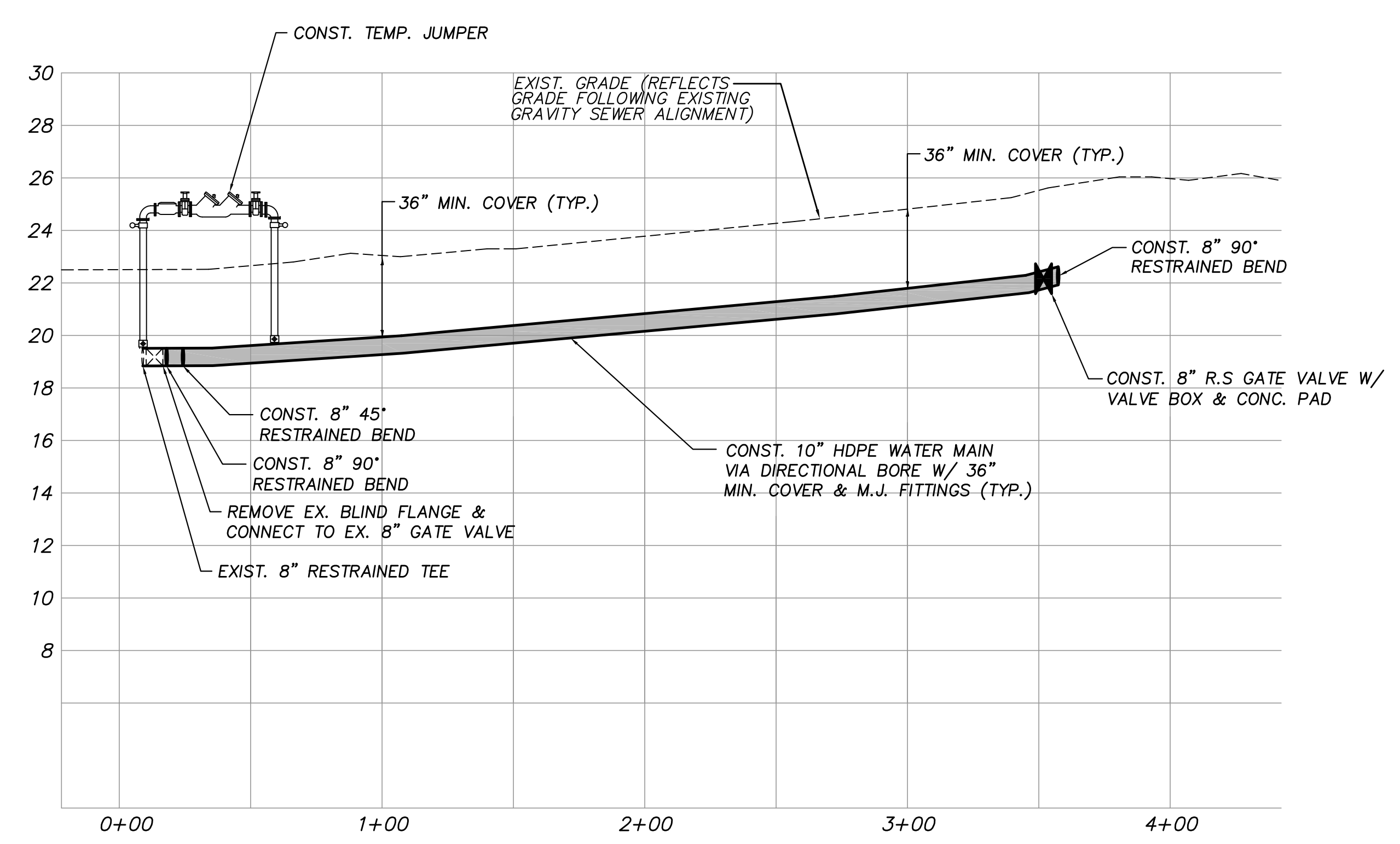
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SHEET	27 of 37
DWG NO	1422



PLAN VIEW
SCALE: 1"=40'



BORE PROFILE
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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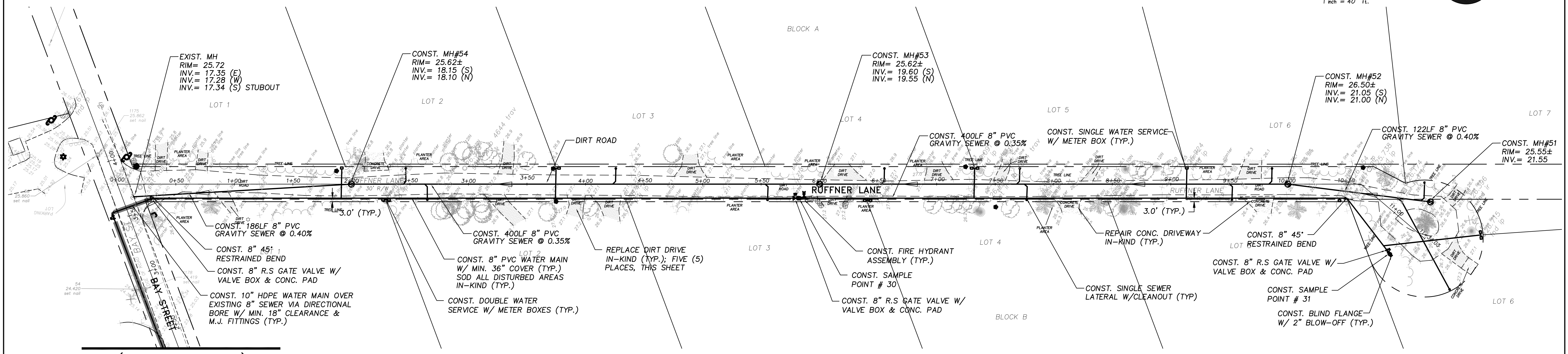
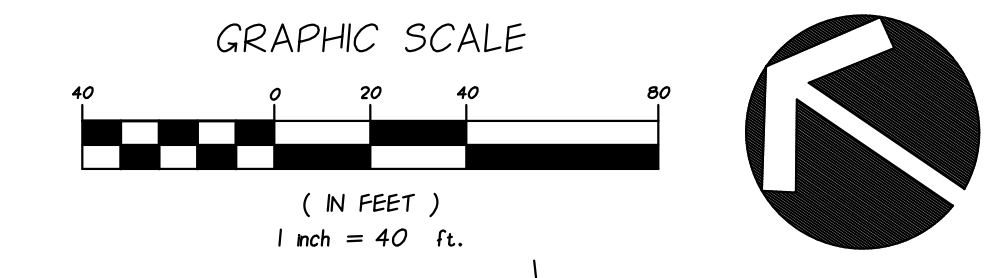
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**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
BAY STREET PLAN & PROFILE**

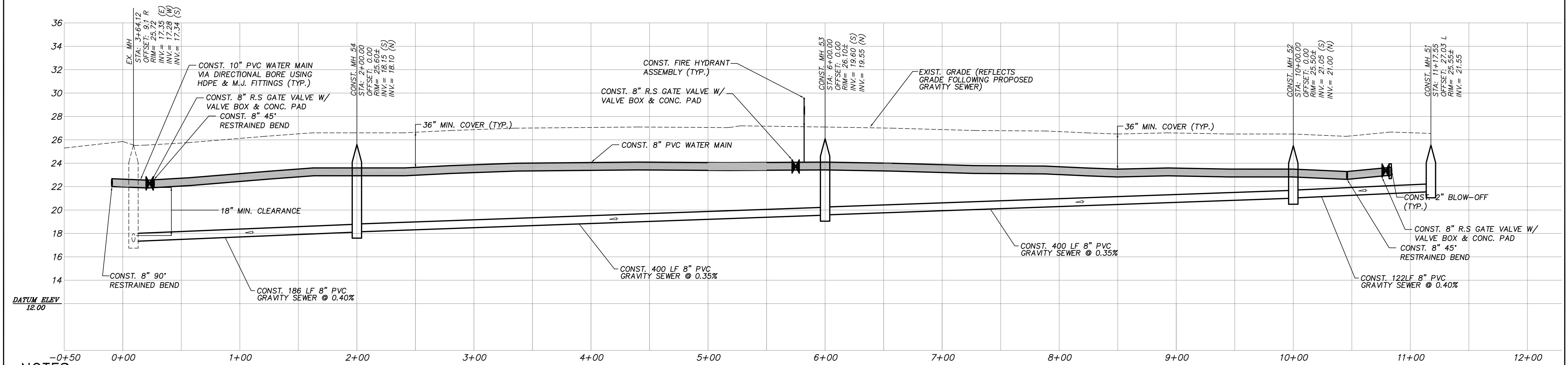
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12/01/2020
EARL H. MASTELLER, P.E. FL#26658



PLAN VIEW
SCALE: 1"=40'



PROFILE VIEW
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=4'

NOTES:
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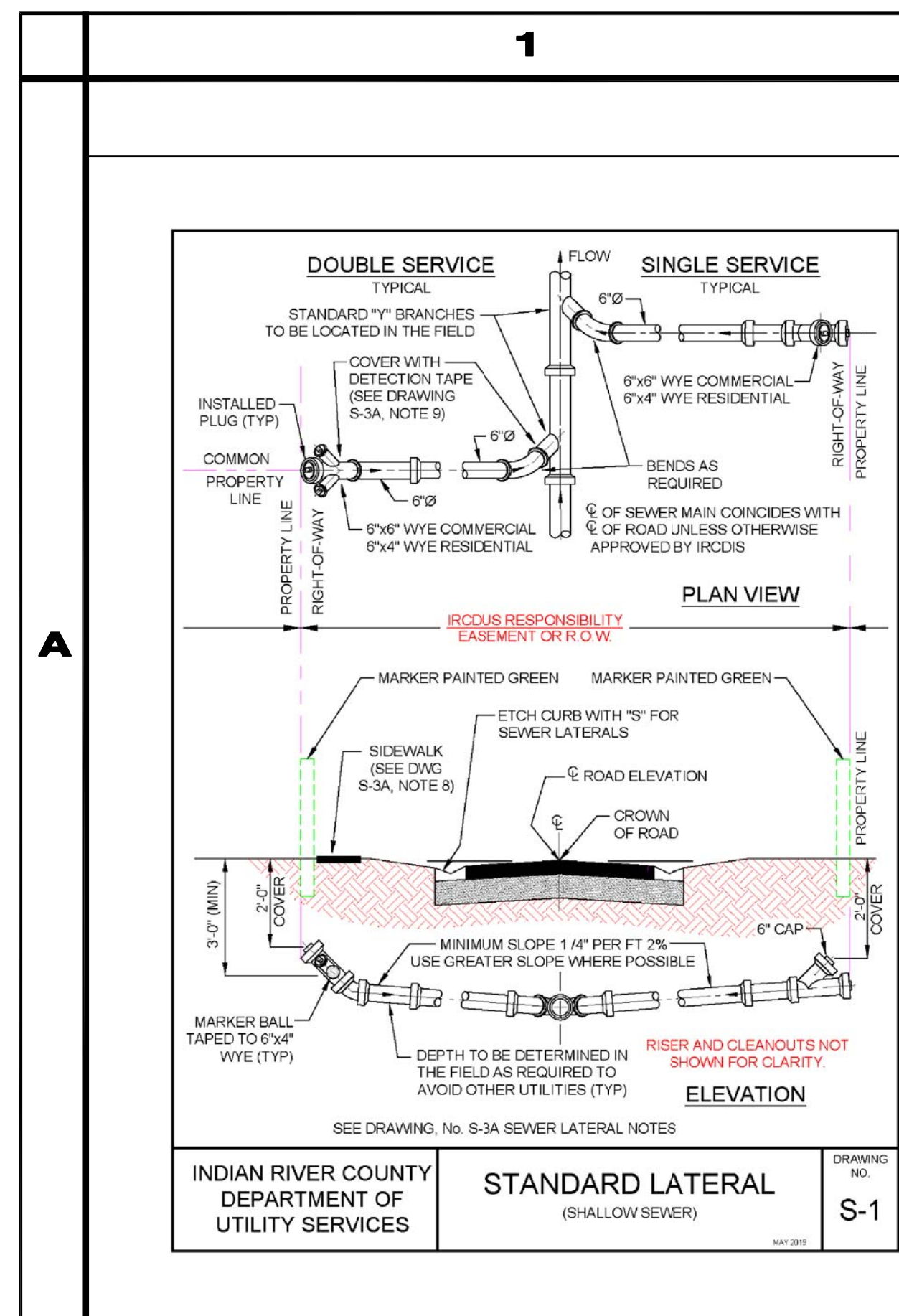
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**INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
RUFFNER LANE**

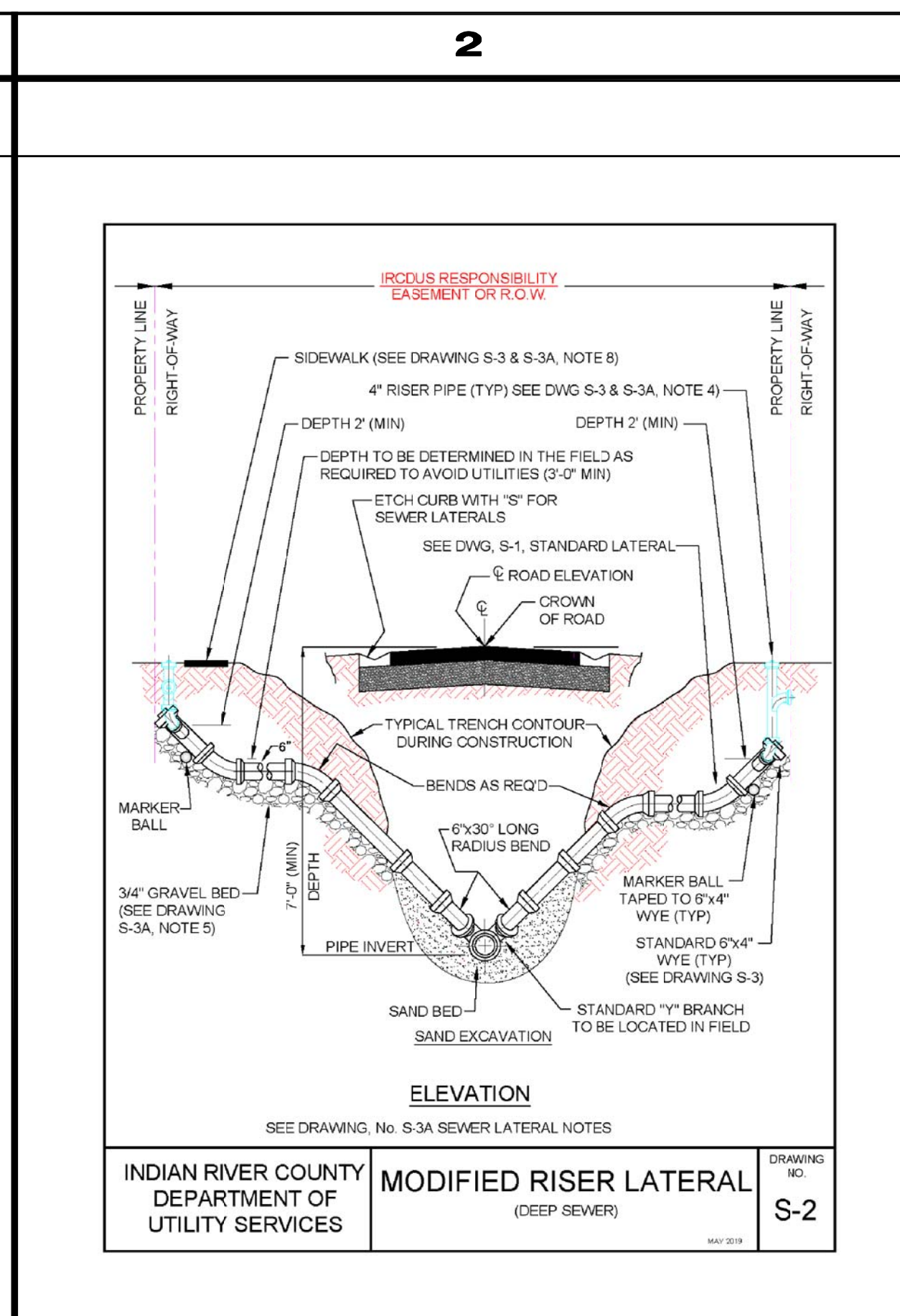
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DWG NO	1422

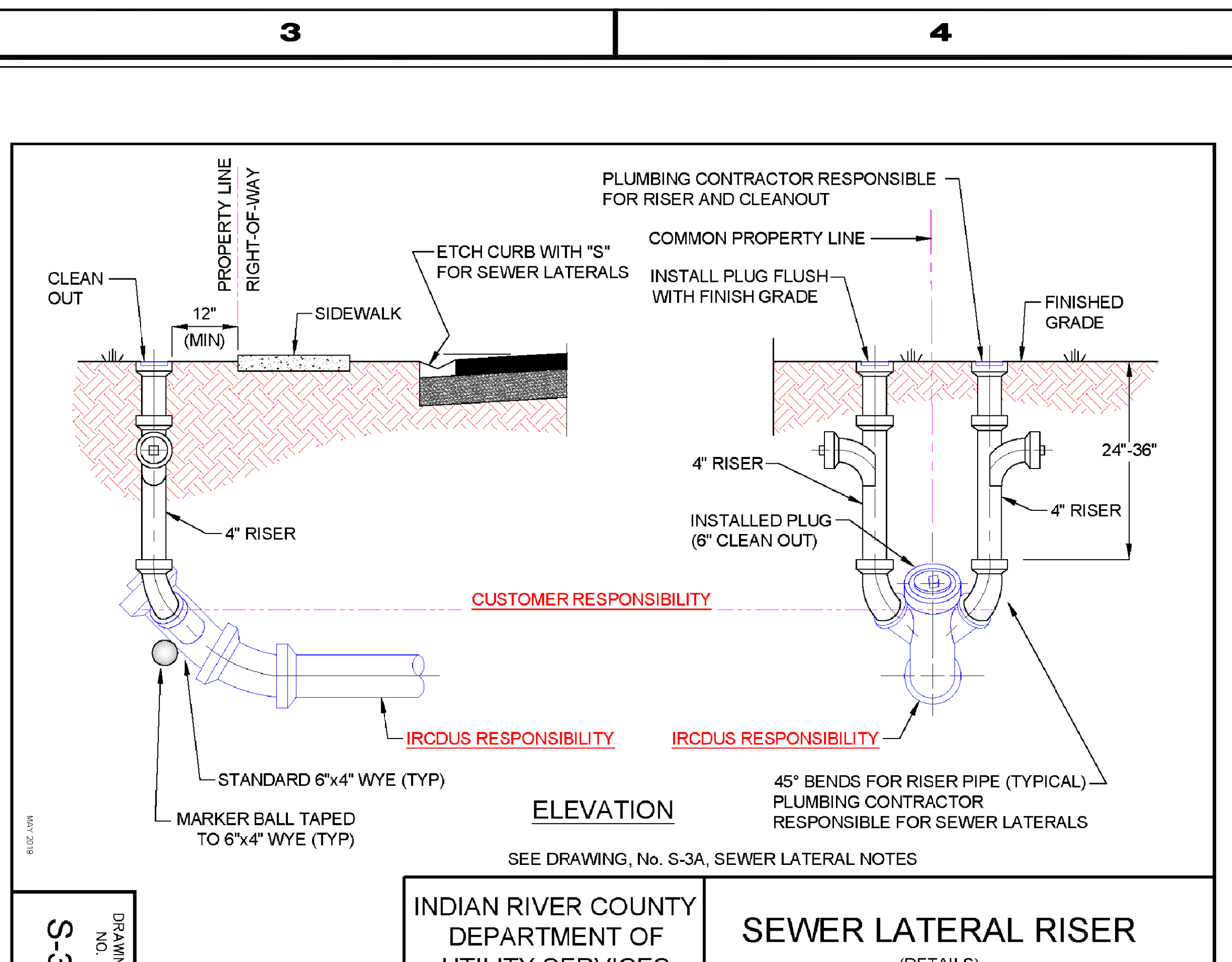
12/01/2020
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INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
STANDARD LATERAL (SHALLOW SEWER)
DRAWING NO. S-1



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MODIFIED RISER LATERAL (DEEP SEWER)
DRAWING NO. S-2



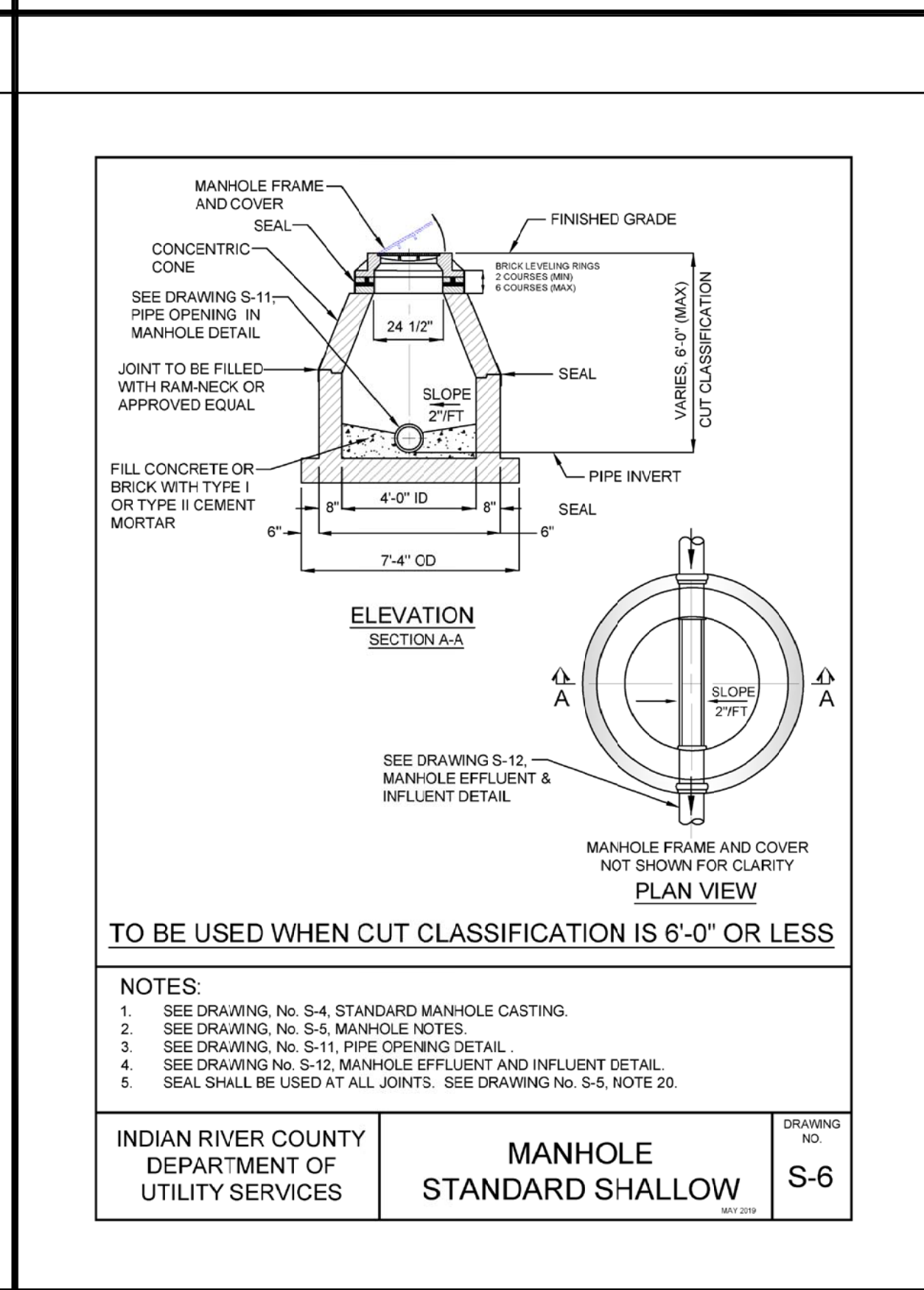
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
SEWER LATERAL RISER (DETAILS)
DRAWING NO. S-3

- NOTES:**
- ALL SEWER LATERALS (SINGLE OR DOUBLE) SHALL HAVE A RISER PIPE WITH BENDS AS REQUIRED FOR SERVICE CONNECTIONS AND WITH A 4" CLEANOUT AT GRADE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR RISER PIPE WITH BEND FOR SERVICE CONNECTION AND FOR SETTING 4" SEWER CLEANOUT TO FINISH GRADE PRIOR TO CONNECTION.
 - SANITARY SEWER LATERAL LATERALS SHALL BE A MINIMUM OF 6" IN DIAMETER.
 - GRAVEL (3/4") BEDDING SHALL BE USED FOR EXCAVATION ON ROCK SAND BEDDING SHALL BE USED FOR EXCAVATION IN SAND. (SEE DRAWING No. S-2, MODIFIED SEWER LATERAL, DEEP SEWER.)
 - GRAVEL (3/4") BED SHALL CONTINUE UNDER AND PARALLEL TO SEWER LATERAL PIPE INTO UNDISTURBED SOIL AT THE PROPERTY LINE. (SEE DRAWING No. S-2, MODIFIED SEWER LATERAL, DEEP SEWER.)
 - FOR RISERS AND CLEANOUTS SEE DRAWING No. S-3, SEWER LATERAL RISER.
 - FOR CUTTING IN SEWER LATERAL CLEANOUT TO FINISH GRADE SEE DRAWING No. S-3, SEWER LATERAL RISER.
 - RISERS AND CLEANOUT SHALL NOT BE CONSTRUCTED WITHIN 12" OF SIDEWALK.
 - MAGNETIC DETECTION TAPE SHALL BE INSTALLED OVER TOP OF ALL SEWER MAINS AND SERVICE LATERALS.
 - ELECTRONIC MARKER BALLS, 4", SHALL BE TAPED TO 6"x4" WYE, 24" BELOW FINISHED GRADE.
 - ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

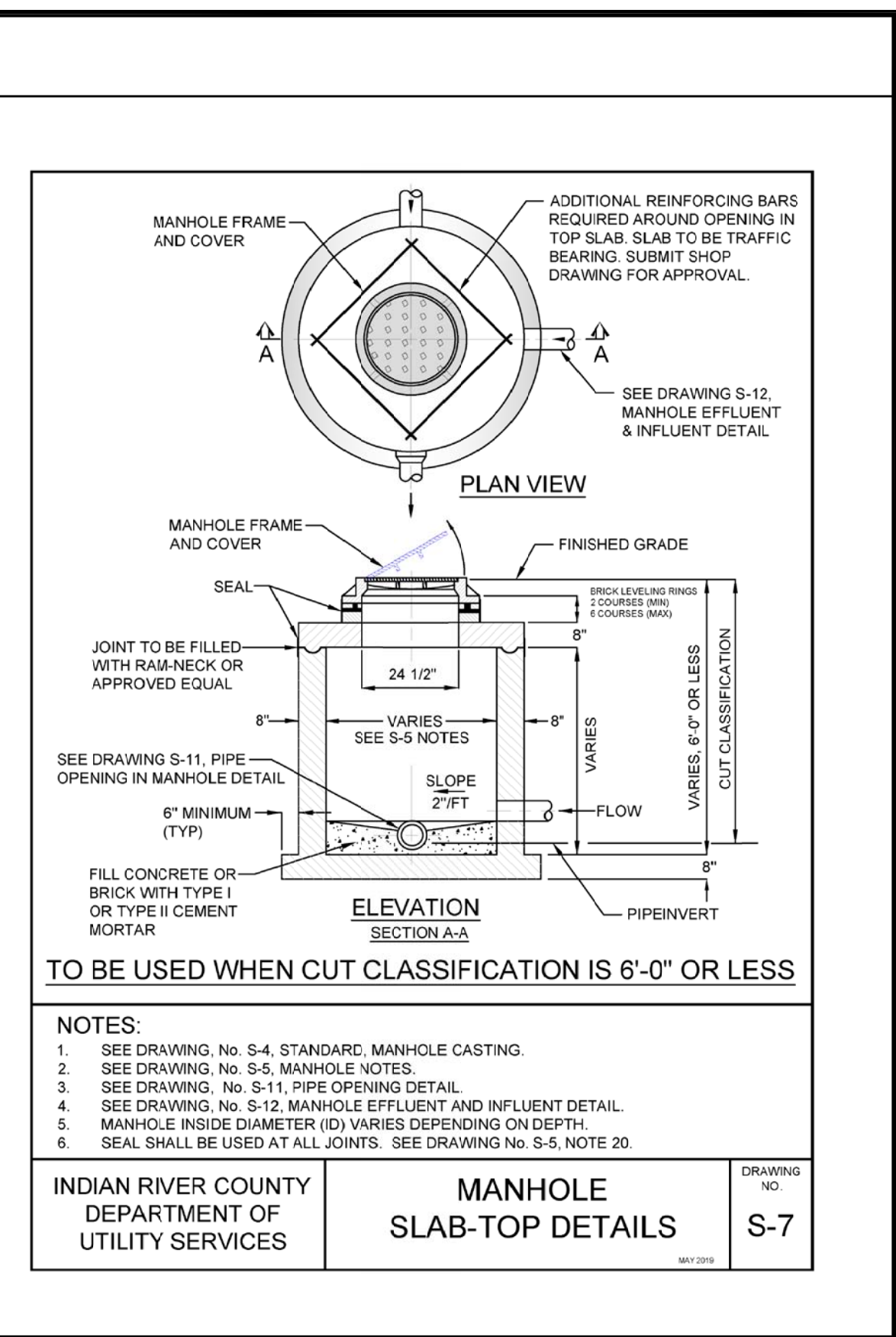
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
STANDARD LATERAL NOTES
DRAWING NO. S-3 A

- MANHOLE NOTES**
- REINFORCING AREA OF 0.20 SQ. IN./FT. FOR WALL SECTION, MINIMUM TO MEET OR EXCEED A 5 T.M.A. 185.
 - ALL CEMENT MORTAR TO BE TYPE I OR TYPE II.
 - ALL CEMENT FOR PRECAST MANHOLES TO BE MINIMUM 3,000 P.S.I. TO MEET OR EXCEED A 5 T.M.A. 187.
 - BOTTOMS AND CHANNELS OF ALL MANHOLES TO BE A MINIMUM OF 2,500 P.S.I. FILL CONCRETE SHALL BE FINISHED SMOOTH WITH STEEL TROWEL.
 - CONCRETE MANHOLES TO HAVE A MINIMUM WALL THICKNESS OF 6".
 - INSIDE AND OUTSIDE OF MANHOLE SHALL BE COATED WITH TWO COATS OF EW-1 WATER BASED EPOXY BLACK WITH THE IRCDUS INSPECTOR PRESENT.
 - CHANNELS TO BE FORMED IN ALL MANHOLES TO ACCEPT TV CAMERA.
 - ORIENT ECCENTRIC CONE AS REQUIRED BY IRCDUS INSPECTOR IN FIELD.
 - BOTTOM SECTION TO BE MONOLITHIC POUR EXCEPT WHERE DROP CONNECTION REQUIRED.
 - CONNECTIONS TO EXISTING MANHOLE AND LIFT STATION WET WELL STRUCTURES SHALL BE BY MEANS OF BORING A PENETRATION IN THE STRUCTURE, RATHER THAN PUNCHING. THE CONTRACTOR SHALL TAKE POSITIVE MEASURES TO PREVENT ANY CONCRETE OR CONSTRUCTION DEBRIS FROM ENTERING THE WASTEWATER SYSTEM.
 - BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL MANHOLES.
 - NO. 48 BARS, 7" O.C. REQUIRED EACH WAY IN SLAB (TOP AND BOTTOM).
 - 2 COURSES BRICK MINIMUM, 6 COURSES MAXIMUM REQUIRED BETWEEN ALL PRECAST MANHOLE TOPS AND CASINGS.
 - 3" 4" CRUSHED STONE FOUNDATION FOR A MINIMUM DEPTH OF 12" SHALL BE PROVIDED AS REQUIRED BY IRCDUS.
 - MANHOLE LID SHALL BE TRAFFIC BEARING (H-20) LOADING.
 - SEWER PIPE INVERTS AT BOTTOM OF MANHOLES SHALL HAVE AN INVERT ELEVATION DIFFERENTIAL OF 0.1 FEET FOR A CHANGE IN DIRECTION AND 0.25 FEET FOR A STRAIGHT RUN.
 - A WATERTIGHT RAIN GUARD BOOT, TO BE PER IRCDUS APPROVED MANUFACTURER'S PRODUCT LIST, SHALL BE PROVIDED FOR ALL MANHOLE FRAME/COVERS.
 - MATERIALS FOR LINING MANHOLES, WHERE REQUIRED, TO BE PER IRCDUS APPROVED MANUFACTURER'S PRODUCT LIST. MANHOLE LINERS SHALL BE INSTALLED ON ALL MANHOLES RECEIVING PUMPED SEWAGE, PLUS 5 MANHOLES IN EACH DIRECTION. (AS DIRECTED BY IRCDUS.)
 - PUMP OUT MANHOLE SHALL BE LOCATED WITHIN 20' OF LIFT STATION AND CONSTRUCTED OUT OF RIGHT-OF-WAY.
 - ALL EXISTING MANHOLES, LIFT STATION WET WELLS, VALVE VAULTS, JOINTS AND COURSES OF BRICK SHALL BE SEALED.
 - SLOPES ON ALL CHANNEL BOTTOMS TO BE EQUAL TO SLOPES OF PIPE ENTERING AND EXITING MANHOLE.
 - DIAMETERS OF MANHOLES SHALL BE:
- | | | |
|------------------|---------------|------------------|
| DEPTH OF MANHOLE | LESS THAN 10' | GREATER THAN 10' |
| DIAMETER | 4' | 5' |

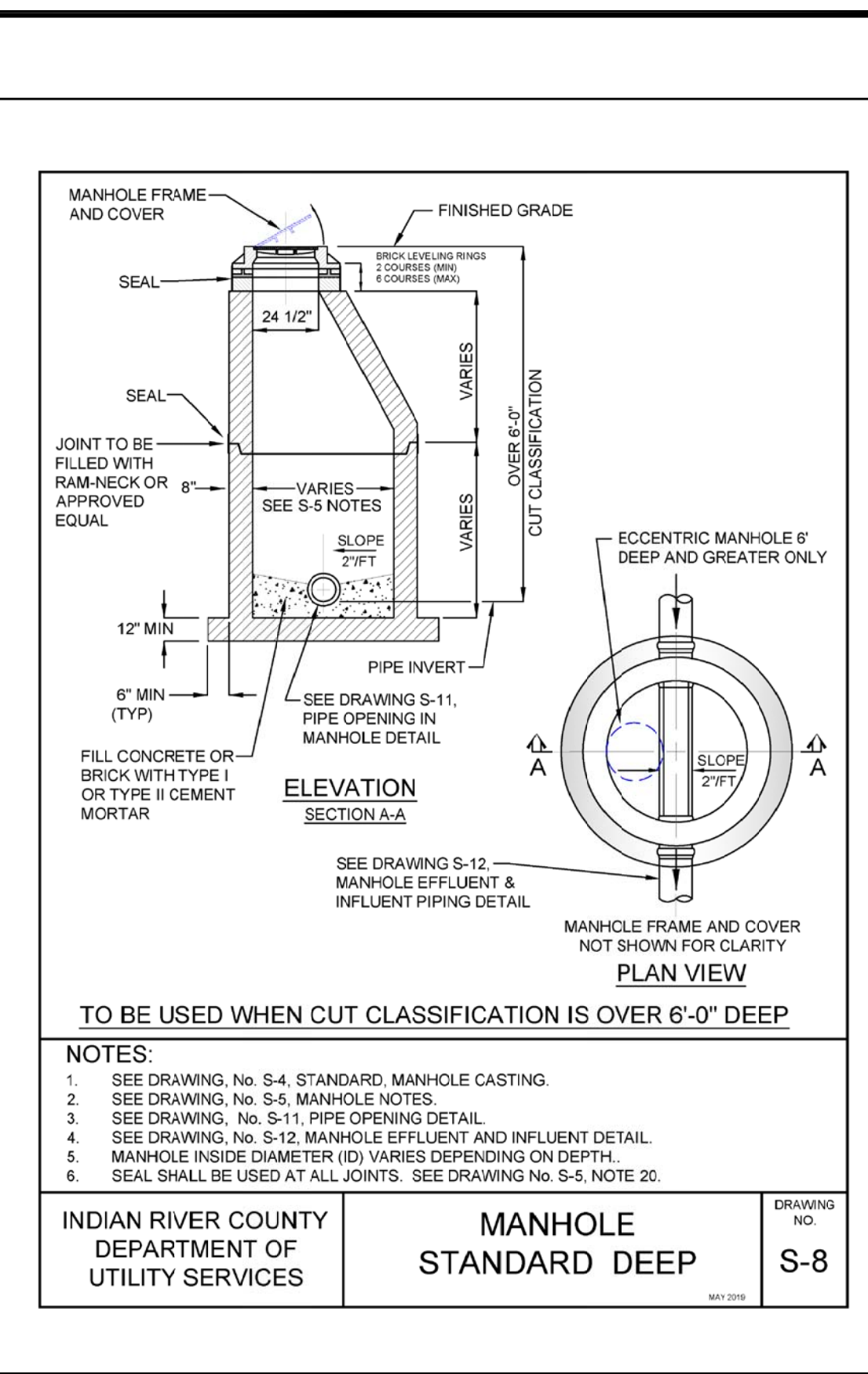
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MANHOLE NOTES
DRAWING NO. S-5



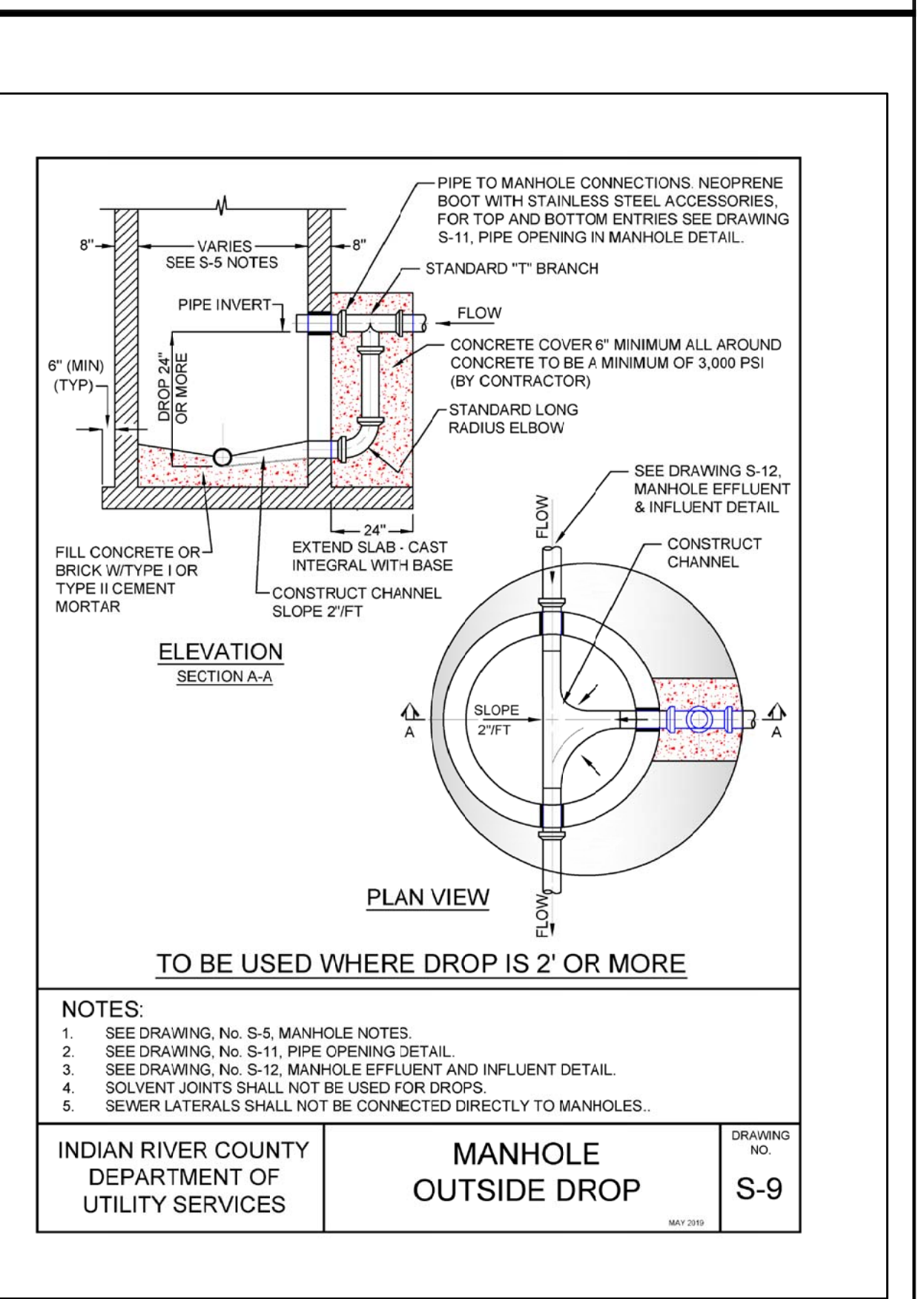
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MANHOLE STANDARD SHALLOW
DRAWING NO. S-6



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MANHOLE SLAB-TOP DETAILS
DRAWING NO. S-7



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MANHOLE STANDARD DEEP
DRAWING NO. S-8



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MANHOLE OUTSIDE DROP
DRAWING NO. S-9

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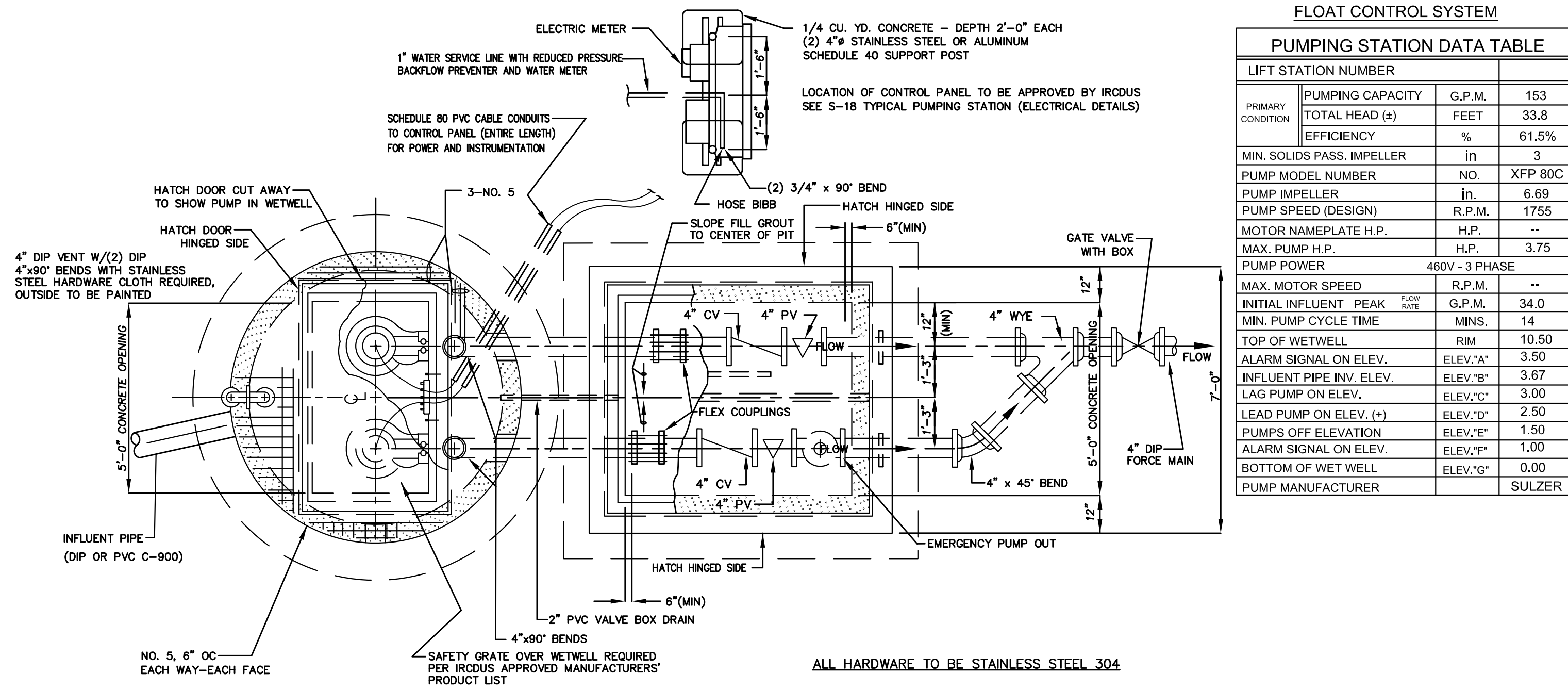
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INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
SANITARY SEWER DETAILS

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
EARL H. MASTELLER, P.E. FL#26658

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWN: SCG
DESIGNED: EHM
CHECKED: EHM
DATE: 10/22/2018
SCALE: AS SHOWN
SHEET: 30 OF 37
DWG NO: 1422

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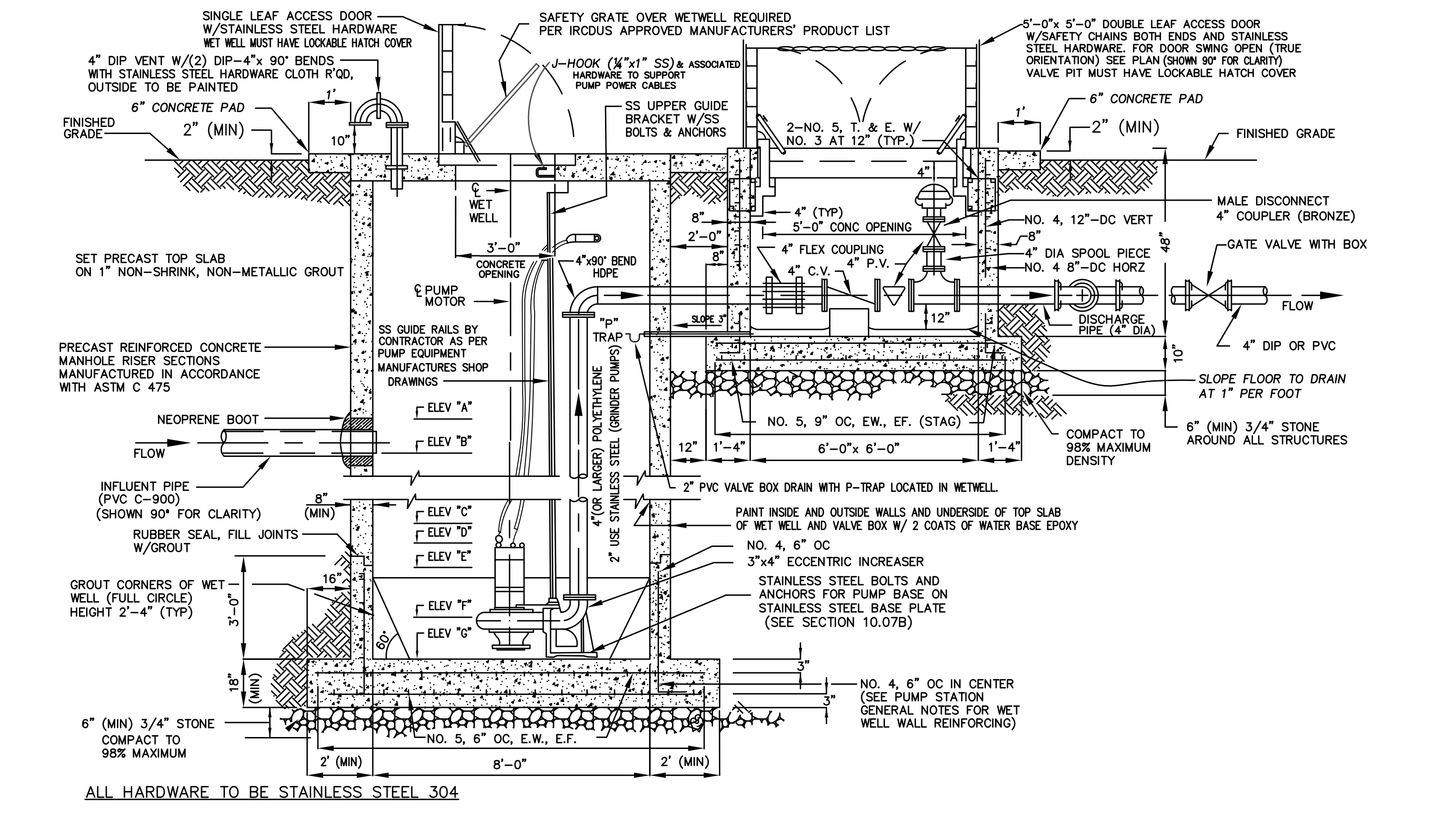


FLOAT CONTROL SYSTEM

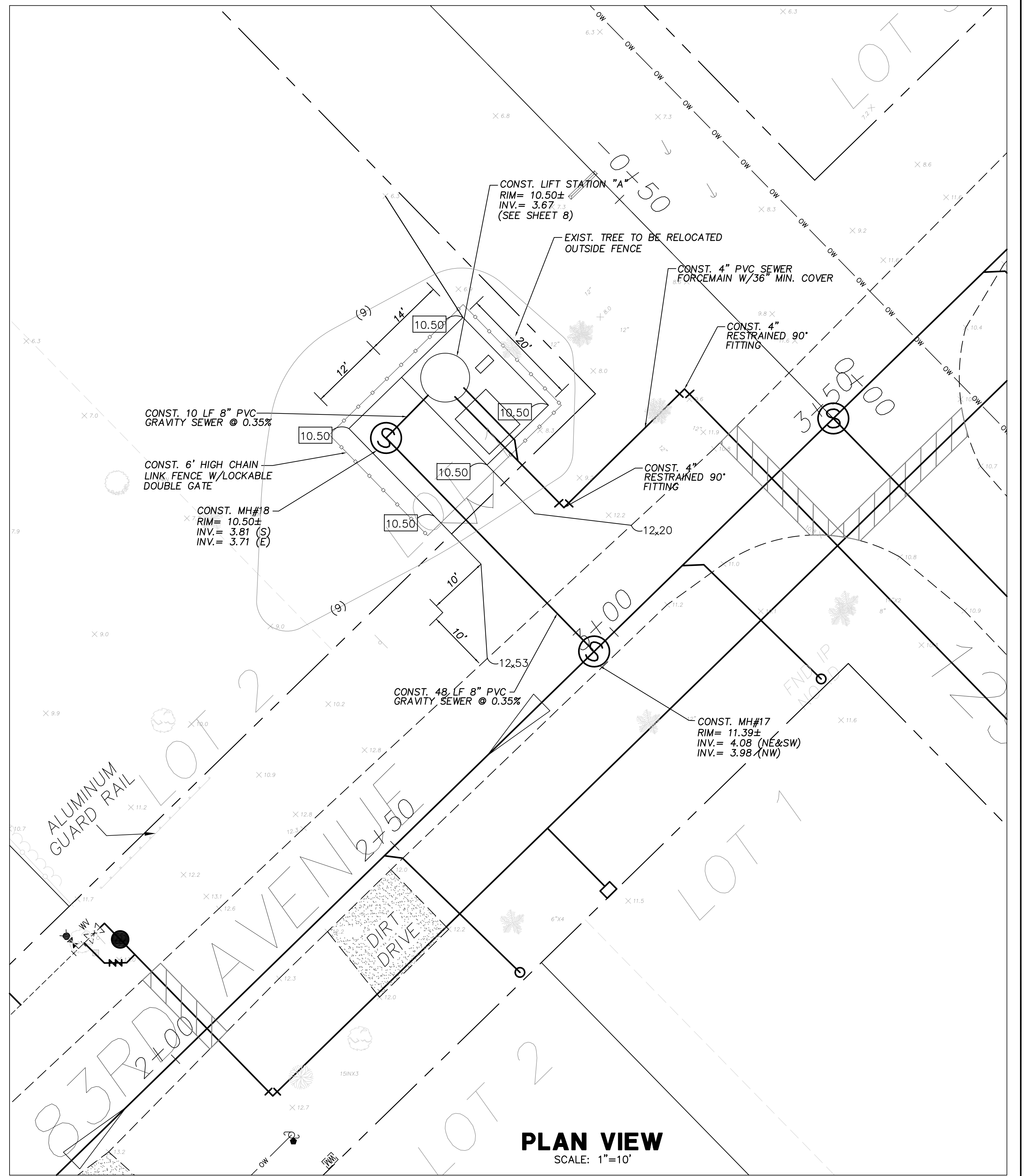
PUMPING STATION DATA TABLE

LIFT STATION NUMBER		
PRIMARY CONDITION	PUMPING CAPACITY	G.P.M. 153
	TOTAL HEAD (±)	FEET 33.8
	EFFICIENCY	% 61.5%
	MIN. SOLIDS PASS, IMPELLER	IN 3
	PUMP MODEL NUMBER	NO. XFP 80C
	PUMP IMPELLER	IN. 6.69
	PUMP SPEED (DESIGN)	R.P.M. 1755
	MOTOR NAMEPLATE H.P.	H.P. --
	MAX. PUMP H.P.	H.P. 3.75
	PUMP POWER	460V - 3 PHASE
	MAX. MOTOR SPEED	R.P.M. --
	INITIAL INFLUENT PEAK FLOW RATE	G.P.M. 34.0
	MIN. PUMP CYCLE TIME	MINS. 14
	TOP OF WETWELL	RIM 10.50
	ALARM SIGNAL ON ELEV.	ELEV."A" 3.50
	INFLUENT PIPE INV. ELEV.	ELEV."B" 3.67
	LAG PUMP ON ELEV.	ELEV."C" 3.00
	LEAD PUMP ON ELEV. (+)	ELEV."D" 2.50
	PUMPS OFF ELEVATION	ELEV."E" 1.50
	ALARM SIGNAL ON ELEV.	ELEV."F" 1.00
	BOTTOM OF WET WELL	ELEV."G" 0.00
	PUMP MANUFACTURER	SULZER

- NOTES**
- CONTRACTOR TO CONTACT IRCUDS INSPECTOR PRIOR TO PUMP STATION CONSTRUCTION.
 - SEE NOTES AND PLAN VIEW DRAWING NO. S-16 AND S-17.
 - FOR DATA TABLE AND PUMP STATION GENERAL NOTES SEE DRAWING S-18.
 - FOR ELECTRICAL DETAILS SEE DRAWING S-18.
 - STRUCTURE DIMENSIONS MAY VARY UPON APPROVAL BY THE IRCUDS TO REFLECT COMPENSATION FOR OTHER REQUIREMENTS.
 - GATE VALVE TO BE LOCATED AT FORCE MAIN JUNCTION. STAINLESS STEEL LIFTING RAILS SHALL BE USED.
 - GRINDER PUMPS SHALL BE A MINIMUM OF 55 HORSE POWER UNLESS OTHERWISE APPROVED BY IRCUDS.
 - ELECTRICAL CONTROL PANEL SHALL CONFORM TO PUMP MANUFACTURER'S SCADA SYSTEM REQUIREMENTS.
 - SAFETY GRATE WITH STAINLESS STEEL HARDWARE SHALL COVER WETWELL.
 - LINER FOR ALL WETWELLS SHALL BE HDPE OR FIBERGLASS.
 - FOR WETWELLS GREATER THAN 12" IN DIAMETER, TOTAL DEPTH CANNOT EXCEED 22'.
 - LIFT STATION SHALL BE LOCATED IN A DEDICATED EASEMENT 20' MINIMUM SETBACK FROM HOMER, CUL DE SAC & AWAY FROM SURFACE BODY WATER.



*** DISCLAIMER ***
THE ENGINEER'S CERTIFICATION BELOW PERTAINS ONLY TO THE INFORMATION PRESENTED IN THE PUMPING STATION DATA TABLE AND THE ELEVATIONS AND PIPE SIZES DETAILED IN THE CROSS SECTION AND PLAN VIEWS. ALL ELECTRICAL DETAILS AND SCHEMATICS HAVE BEEN SHOWN FOR INFORMATIONAL PURPOSES ONLY.



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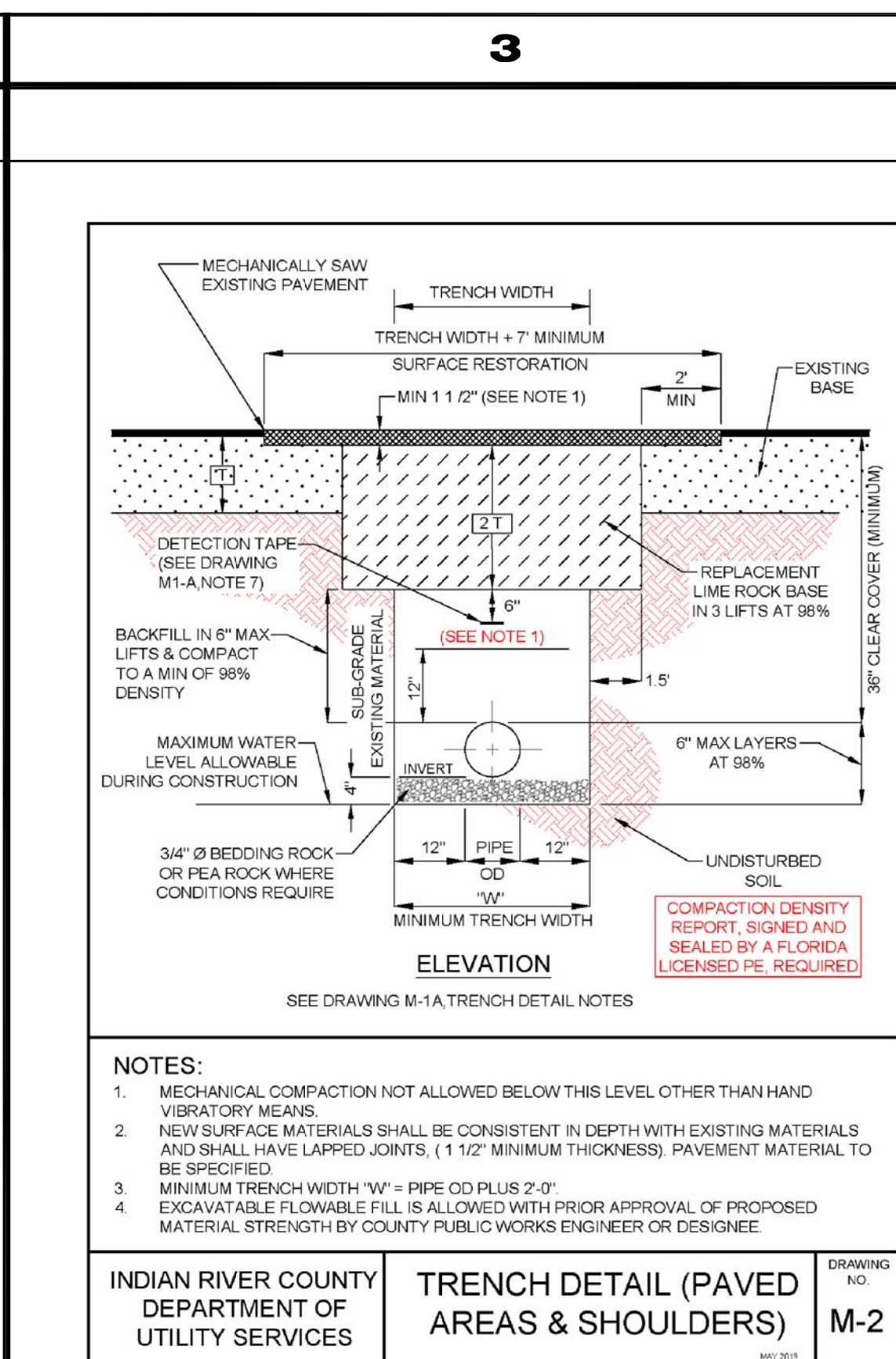
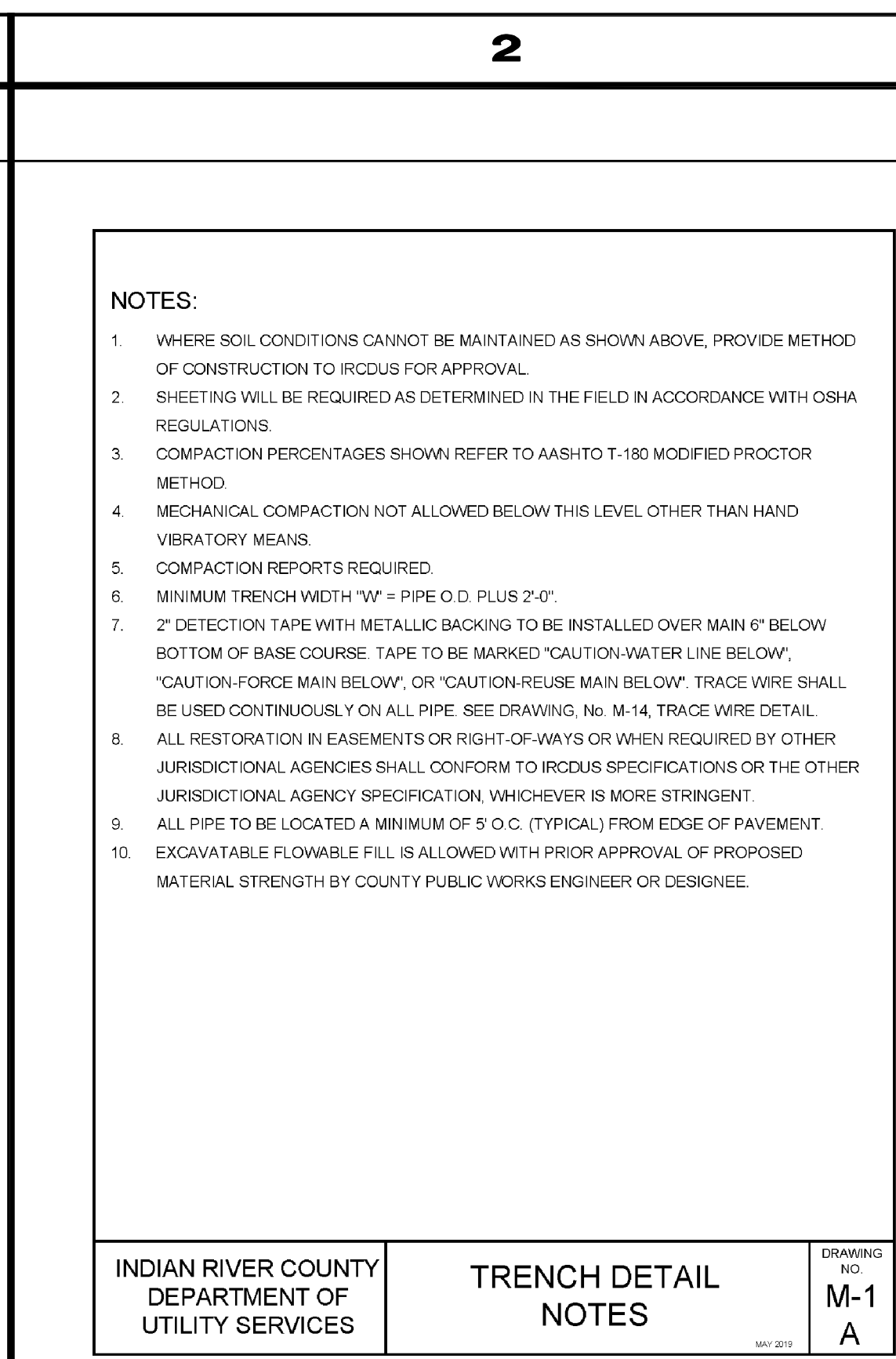
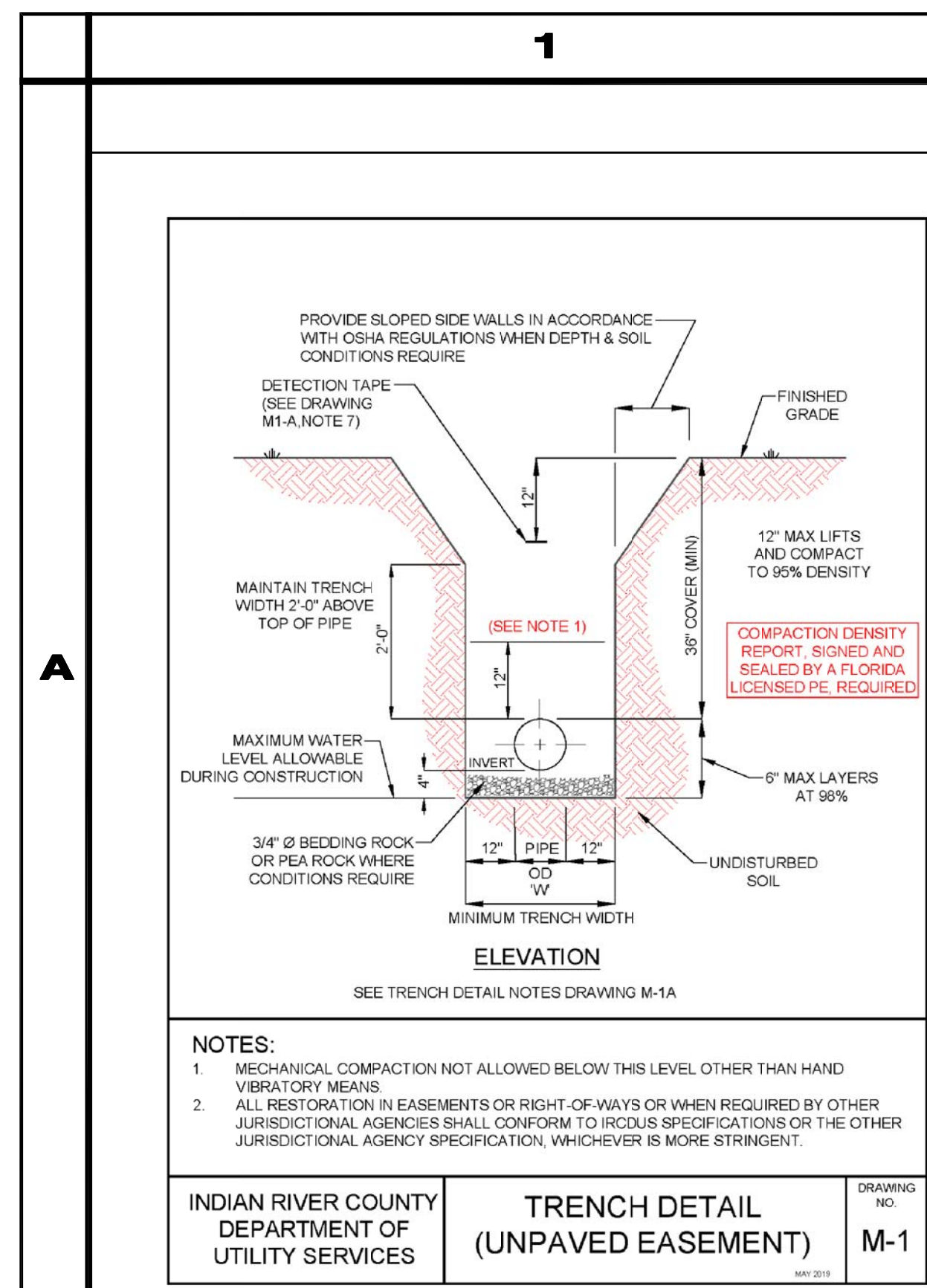
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NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
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12/01/2020
EARL H. MASTELLER, P.E. FL#26658



4

PIPE DIAMETER (INCHES)	D.I.P.				P.V.C.			
	90°	45°	22 1/2°	11 1/4°	90°	45°	22 1/2°	11 1/4°
3"	30'	15'	10'	5'	40'	20'	10'	5'
4"	35'	15'	10'	5'	55'	25'	15'	10'
6"	55'	25'	10'	5'	80'	35'	20'	10'
8"	65'	30'	15'	10'	90'	40'	20'	10'
10"	80'	35'	20'	10'	110'	50'	25'	15'
12"	95'	40'	20'	10'	130'	55'	30'	15'
16"	120'	50'	25'	15'	165'	70'	35'	20'
20"	150'	65'	30'	15'	200'	85'	40'	20'
24"	180'	70'	35'	20'	210'	90'	45'	25'
30"	190'	80'	40'	20'	250'	105'	50'	25'
36"	220'	95'	45'	25'	0	0	0	0
42"	245'	105'	50'	25'	0	0	0	0
48"	260'	120'	60'	30'	0	0	0	0

RESTRAINED LENGTHS FOR DEAD ENDS AND BRANCHES FROM TEES SHALL BE THE SAME AS FOR 90° BENDS

PIPE DIAMETER (INCHES)	RESTRAINED LENGTH IN FEET EACH SIDE FOR REDUCER									
	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
3"	0	0	0	0	0	0	0	0	0	0
4"	40'	0	0	0	0	0	0	0	0	0
6"	50'	45'	0	0	0	0	0	0	0	0
8"	75'	70'	40'	0	0	0	0	0	0	0
10"	95'	90'	70'	40'	0	0	0	0	0	0
12"	120'	115'	100'	75'	40'	0	0	0	0	0
16"	160'	155'	140'	125'	100'	0	0	0	0	0
20"	200'	195'	185'	170'	150'	75'	0	0	0	0
24"	190'	155'	150'	140'	135'	120'	90'	50'	0	0
30"	195'	190'	185'	180'	170'	160'	120'	105'	70'	0
36"	225'	220'	215'	210'	205'	195'	180'	150'	125'	70'
42"	245'	240'	235'	230'	225'	220'	205'	180'	155'	105'
48"	255'	250'	245'	240'	235'	230'	215'	195'	175'	125'

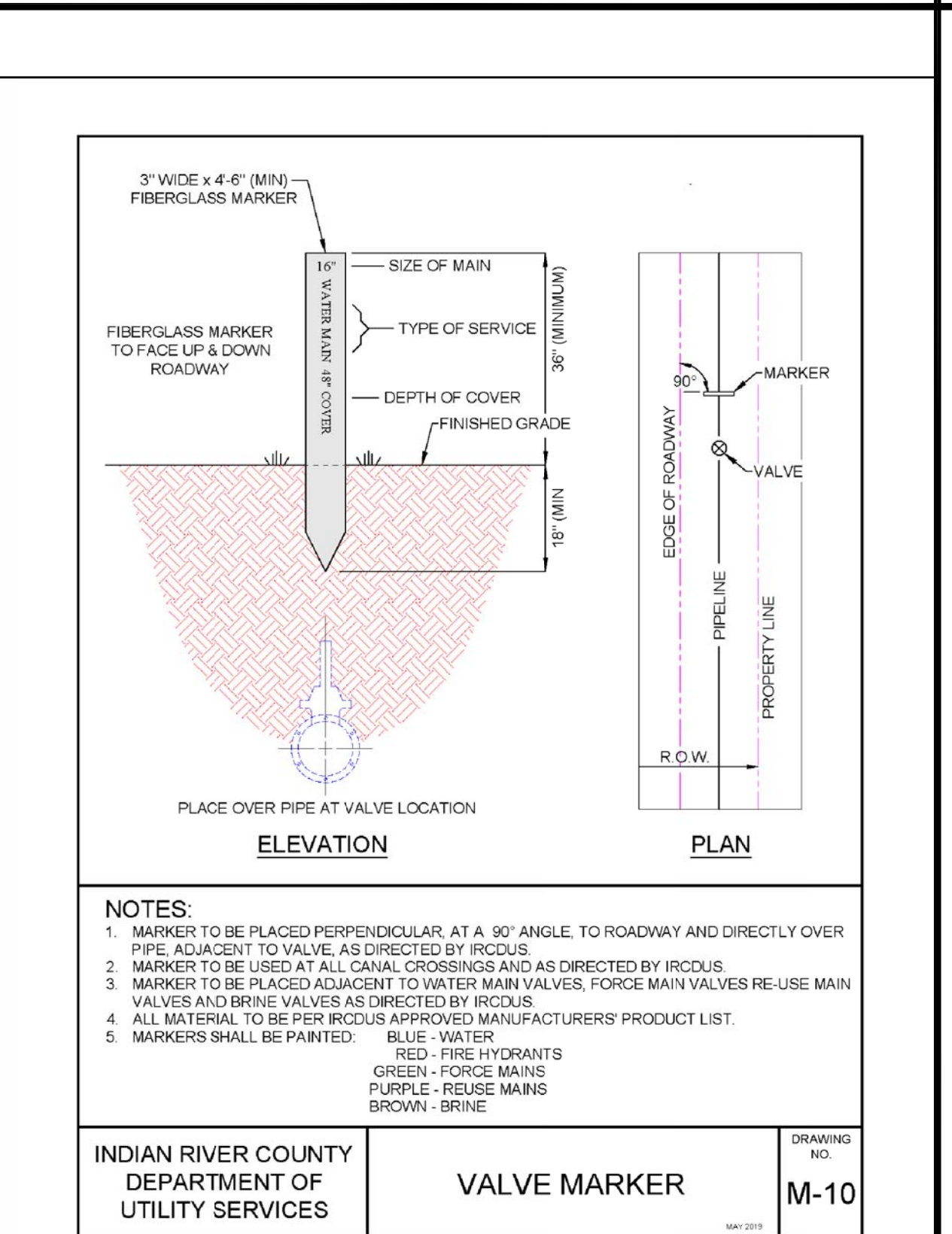
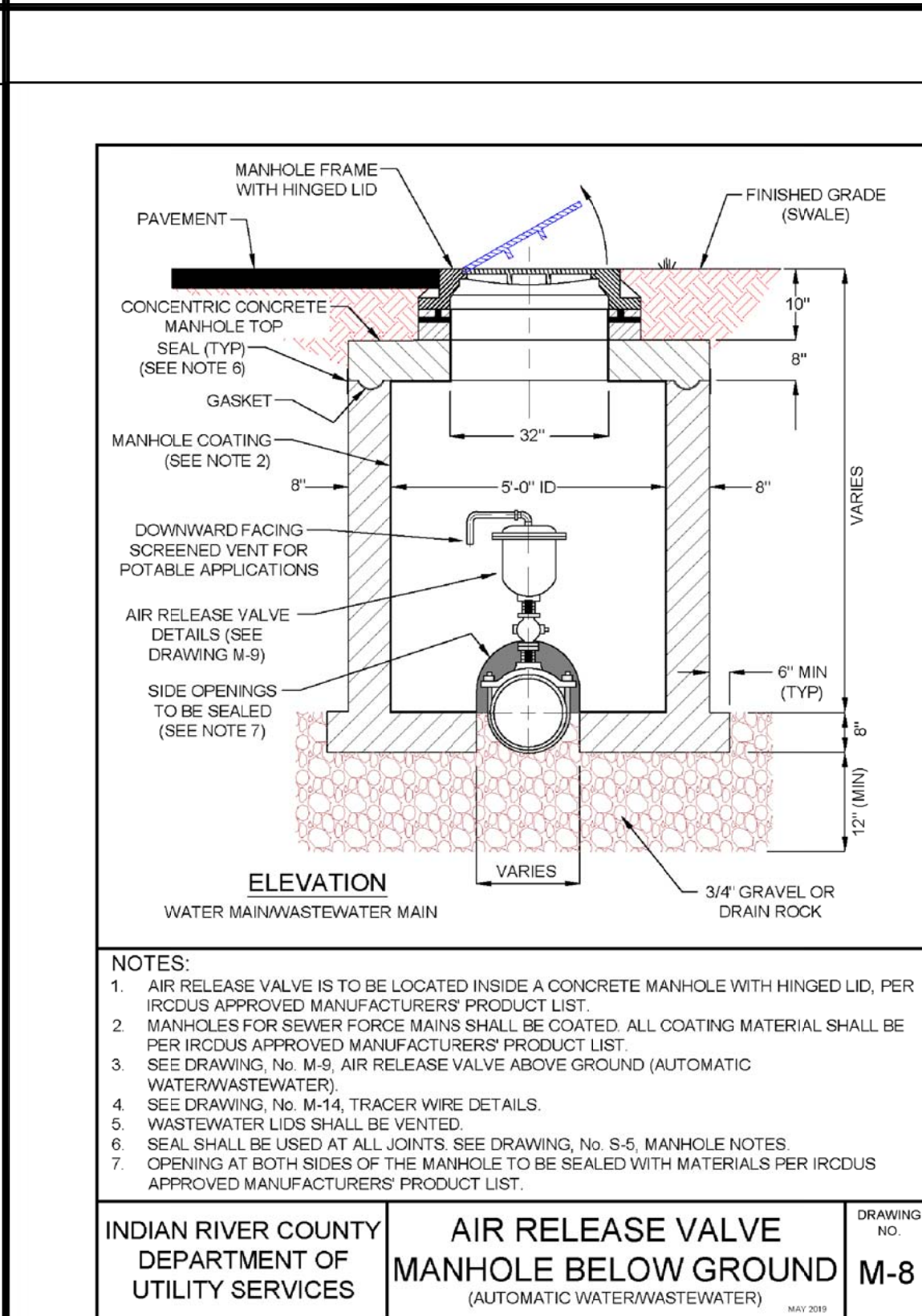
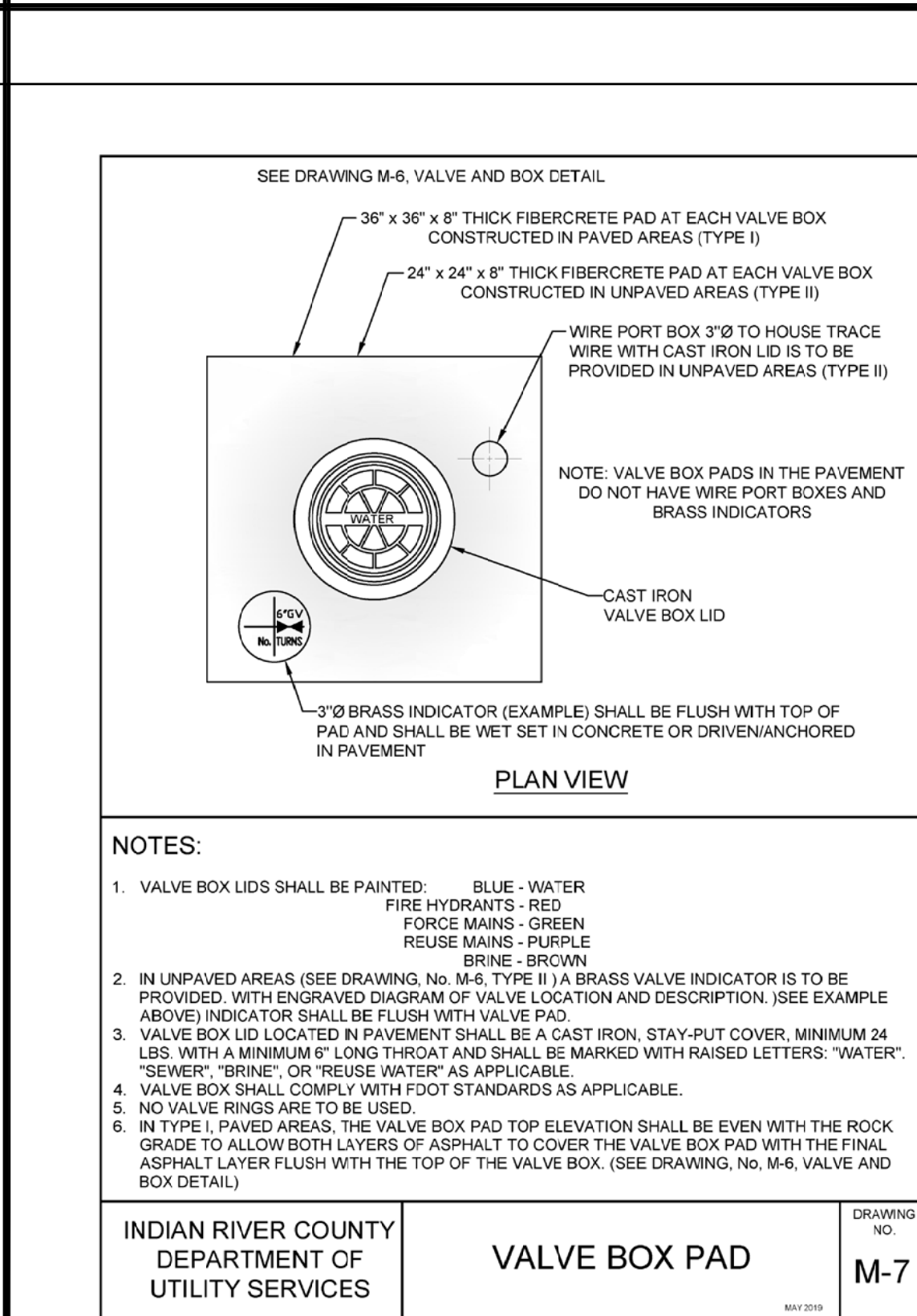
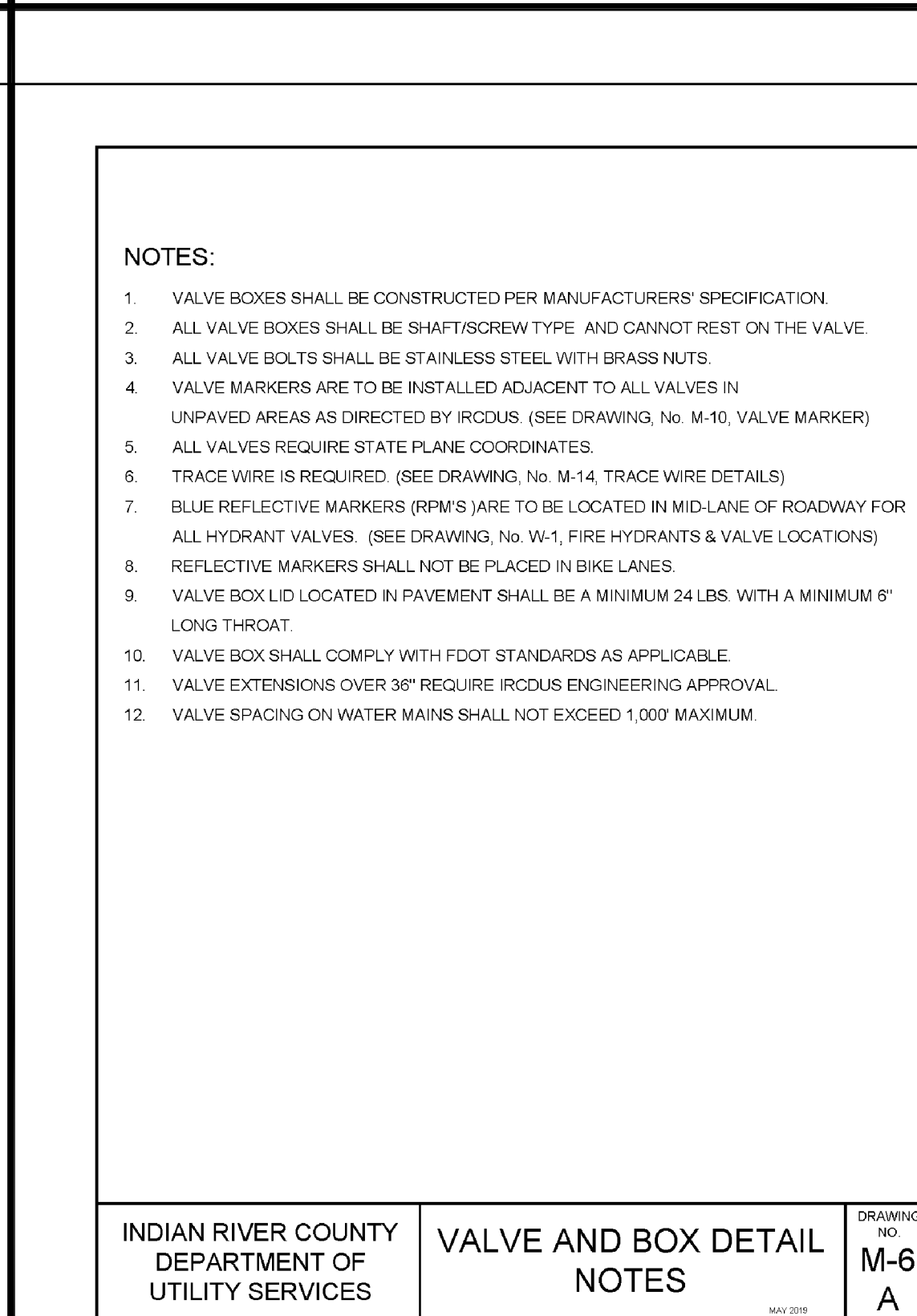
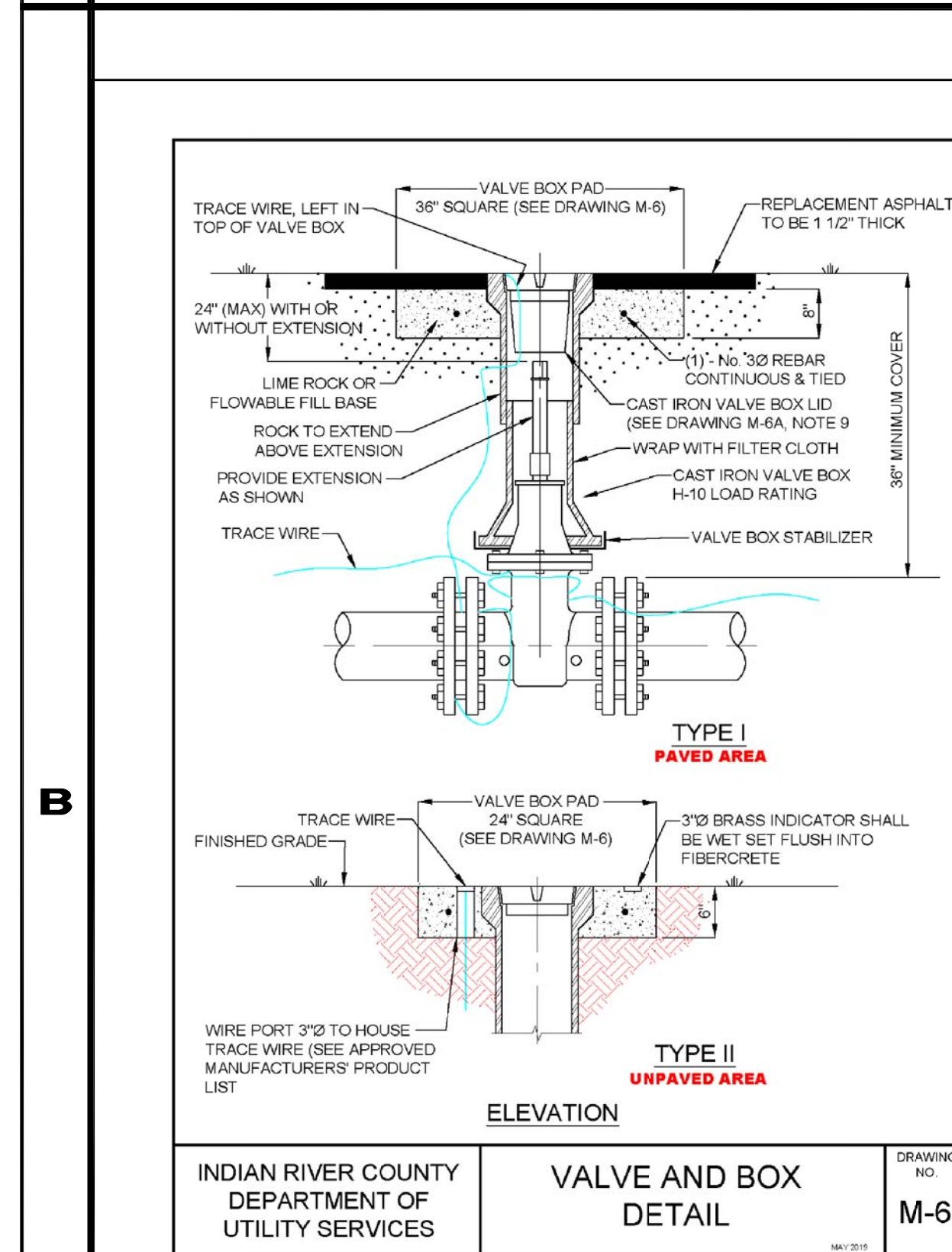
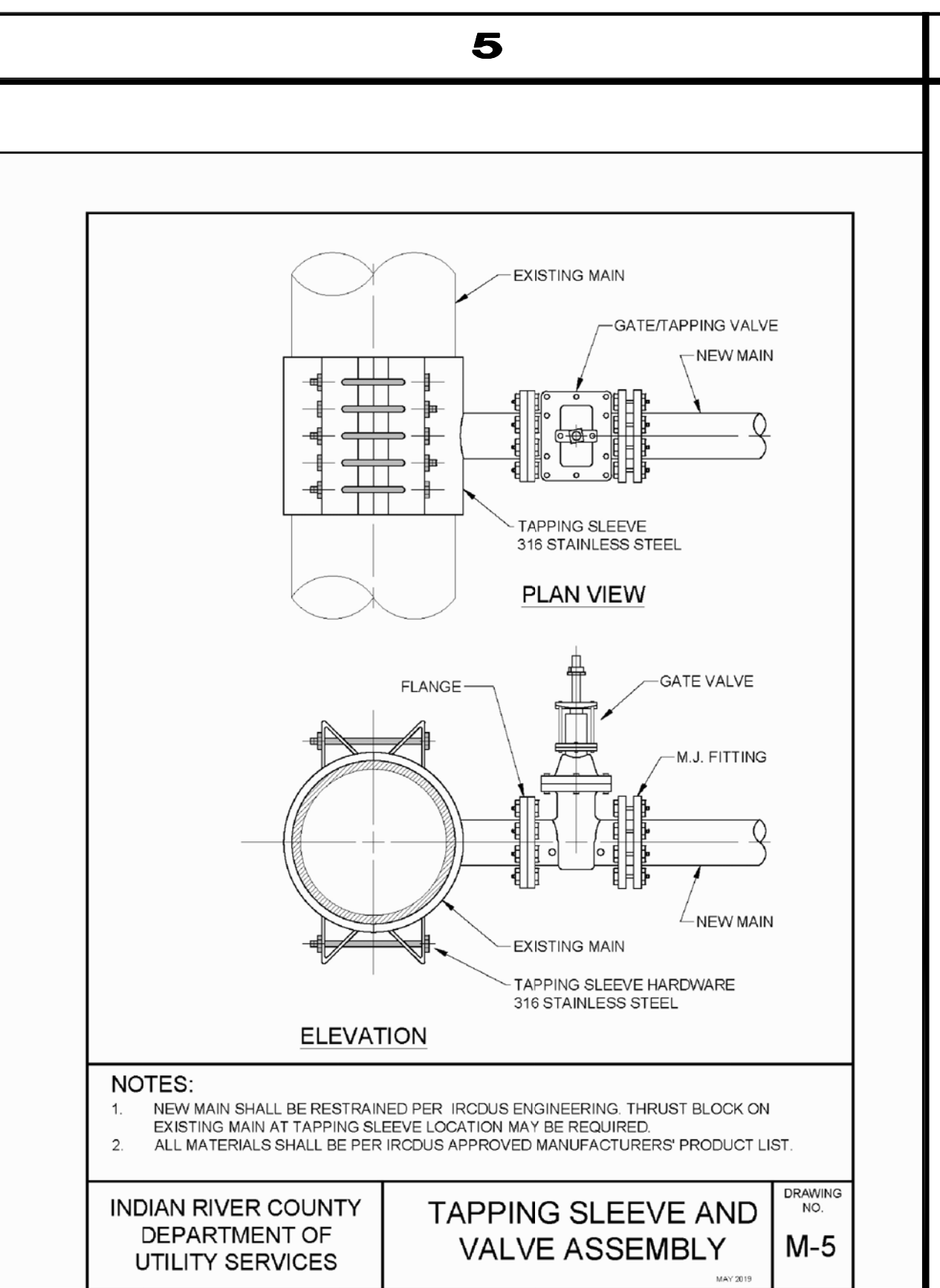
RESTRAINED LENGTHS FOR LARGER DIAMETER PIPES

ALL IN-LINE VALVES SHALL BE TREATED AS DEAD END WITH RESTRAINED PIPE JOINTS UP AND DOWN

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES

RESTRAINED PIPE LENGTHS AND SCHEDULE NOTES

DRAWING NO. M-3



FOR BIDDING PURPOSES ONLY

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CERTIFICATE OF AUTHORIZATION NUMBER 4204

INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
POTABLE WATER & CONSTRUCTION DETAILS

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DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	32 of 37
DWG NO	1422

12/01/2020

EARL H. MASTELLER, P.E. FL#26658

1

ELEVATION-SERVICE DETAIL

ELEVATION-VALVE BOX DETAIL

PLAN VIEW
SHOWING TRACE WIRE AROUND FITTINGS

NOTES:

- TRACE WIRE IS REQUIRED ON ALL PIPES REGARDLESS OF MATERIAL.
- INCLUDE ALL COST OF MATERIAL AND LABOR TO INSTALL TRACE WIRE IN PRICE OF PIPE.
- CONTRACTOR IS RESPONSIBLE FOR CONTINUITY THROUGHOUT ENTIRE PROJECT OF ALL TRACE WIRE.
- ALL CONNECTIONS SHALL BE MADE WITH DIRECT BURY CONNECTORS.
- ALL MATERIALS ARE TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST.
- COLOR OF TRACE WIRE SHALL BE: BLUE FOR WATER, GREEN FOR SEWER, AND PURPLE FOR RECLAIMED WATER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRACE WIRE DETAILS
DRAWING NO. M-14

2

AS-BUILT RECORD DRAWING 88
(EXAMPLE—LOWER RIGHT CORNER, 1" LETTERING)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING (EXAMPLE)

This represents the basic style and format for As-Built Record Drawings to be received by the Indian River County Department of Utility Services. Refer to drawings M-16 and M-17 for the minimum information requirements to be provided by the engineer of record to IRC/DUS.

3

GENERAL NOTES

- ALL AS-BUILT RECORD DRAWINGS SHALL MEET THE MINIMUM REQUIREMENTS OF THE CHAPTER AJ-17, FLORIDA ADMINISTRATION CODE PURSUANT TO SECTION 472 OF THE FLORIDA STATUTES.
- ALL AS-BUILT RECORD DRAWINGS SHALL BE IN STATE PLANE COORDINATES. STATE PLANE COORDINATES SHALL BE BASED ON THE FLORIDA STATE PLANE HORIZONTAL DATA (EAST ZONE), OR FLORIDA HIGH PRECISION GEODETIC NETWORK (SUPERSTATION) AND NAD 83/1999-FINAL ADJUSTMENT, OR THE MOST CURRENT DATUM ADOPTED BY INDIAN RIVER COUNTY.
- FLORIDA STATE PLANE HORIZONTAL DATA AND STATION OFF-SET SHALL BE TIED TO VALVES, METERS, FITTINGS, MANHOLES, BLOW-OFFS, WATER SERVICES, FIRE HYDRANTS, SERVICE SADDLES, CORP STOPS AND PIPE (PIPE AT 200' INTERVALS).
- ALL ELEVATIONS SHOWN SHALL BE BASED ON 1988 NAVD (NORTH AMERICAN VERTICAL DATUM).
- ALL AS-BUILT RECORD DRAWINGS SHALL BE TIED TO A MINIMUM OF ONE (1) PERMANENT REFERENCE MONUMENT (P.R.M.) AT THE END OF EACH PROJECT. ONE P.R.M. SHALL BE TIED TO A MINIMUM OF ONE (1) SECTION CORNER OR ONE-QUARTER (1/4) SECTION CORNER WHICH EVER IS CLOSEST TO THE PROJECT. STATE PLANE COORDINATES SHALL BE PHYSICALLY SHOWN ON THE DRAWING NEXT TO THE P.R.M. USED.
- HORIZONTAL CONTROL MONUMENTATION FOR UTILITY LINES SHALL BE A MINIMUM OF TWO (2) POINTS AT A MAXIMUM OF 1,400 FEET BETWEEN POINTS AND SHOWN ON ALL PLANS.
- VERTICAL CONTROL (WHEN REQUIRED) FOR LINEAR UTILITY LINES, SUCH AS WATER AND SEWER, SHALL HAVE A MAXIMUM OF 1,100 FEET BETWEEN EXISTING CONSTRUCTION OR ESTABLISHED BENCHMARKS.

NOTE: PRIOR TO SUBMITTING THE ELECTRONIC COPY, ONE (1) COPY OF EACH AS-BUILT SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.

AFTER ALL APPROVALS, ALL INCOMING RECORD DRAWINGS SHALL BE RECEIVED ON A CD AS AN ELECTRONIC COPY, AUTOCAD 2015 OR LATEST VERSION, WITH A TIE TO A MINIMUM OF (2) TWO STATE PLANE COORDINATES. (1) ONE (24"x36") SIGNED AND SEALED COPY OF EACH AS-BUILT SHALL BE SUBMITTED. ALL RECORD DRAWINGS SHALL STATE IN 1/2" LETTERING "RECORD DRAWING" AND THE DATUM USED (1/2" LETTERING) IN THE LOWER RIGHT HAND SIDE OF THE ORIGINAL DRAWING OR COPY ALONG WITH THE AS-BUILT DATE. ALL RECORD DRAWINGS SHALL BE IN A MINIMUM SCALE OF 1"=40'. MINIMUM TEXT SHALL BE 1/8".

AUTOCAD LAYER NAME		DATA TO BE CONTAINED IN LAYER	
WATER MAIN	WATER MAIN ONLY	WATER FITTINGS	WATER FITTINGS, METERS, VALVES, SERVICES, LATERALS, ETC.
GRAVITY SEWER	GRAVITY SEWER MAIN ONLY	SEWER FORCE MAINS	SEWER FORCE MAIN ONLY
SEWER FITTINGS	SEWER FITTINGS, MANHOLES, SERVICE LATERALS, VALVES, ETC.	R/O CONCENTRATE	MAINS, FITTINGS, VALVES, ETC.
RECLAIMED WATER	RECLAIMED WATER		

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING GENERAL NOTES
DRAWING NO. M-16

4

GENERAL NOTES
(continued)

- A MINIMUM TEXT SIZE OF 1/8" IS REQUIRED ON ALL CONSTRUCTION/ROUTE SURVEY AND RECORD DRAWINGS.
- ALL AS-BUILT RECORD DRAWINGS SHALL BE CERTIFIED BY THE PROJECT ENGINEER OR CONTRACTING SURVEYOR.
- ALL AS-BUILT RECORD DRAWINGS SHALL CLEARLY DEPICT UTILITY LINES THAT WERE CONSTRUCTED ALONG THEIR RESPECTIVE EASEMENT (IF REQUIRED). AS-BUILT RECORD DRAWINGS WILL NOT BE ACCEPTED UNLESS THE VERBAGE "PROPOSED" AND/OR "TO BE CONSTRUCTED" HAVE BEEN DELETED ON THE DRAWING. AS-BUILT RECORD DRAWINGS WITH "PROPOSED" OR "TO BE CONSTRUCTED" TERMINOLOGY WILL NOT BE ACCEPTED.
- ALL NEW UTILITY CONSTRUCTION LOCATED WITHIN THE RIGHTS-OF-WAY, EASEMENTS AND ALIKE SHALL BE TIED TO THE RESPECTIVE RIGHTS-OF-WAY, EASEMENTS, ETC. EVERY 1,000 FEET AND CHANGE OF DIRECTION.
- ALL AS-BUILT RECORD DRAWINGS SHALL BE COMPLETE AND APPROVED BEFORE COMMENCEMENT OF FIELD TEST.
- BASELINE OF CONSTRUCTION AND STATION OF ITEMS TO BE LOCATED ON THE CENTER OF THE ROADWAY, UNLESS CONDITIONS WARRANT AND APPROVED BY IRC/DUS. BASELINE STATIONING SHALL BE EVERY 100', CONTROL POINTS SET AT EVERY 500' AND ANGLE CHANGE OF DIRECTION.
- ALL NEW UTILITY CONSTRUCTION LINES ON ALL AS-BUILT RECORD DRAWINGS SHALL BE SHOWN WITH A WIDER, SOLID LINE EXISTING UTILITY LINES SHALL BE SHOWN WITH A THINNER, DASHED LINE.
- TOP OF PIPE ELEVATIONS & STATIONING TO BE TYPED, LISTED, SEALED & SUBMITTED BY THE ENGINEER FOR LOCATING THE AIR RELEASE VALVES AS CONSTRUCTION PROCEEDS.
- SHOW TOP ELEVATION OF THE UTILITY LINES THAT WERE CONSTRUCTED AND SHOW EXISTING UTILITY LINES FOR ALL UTILITY CROSSINGS.
- PUMP STATION POWER SUPPLY FROM FP&L OR COVB ELECTRIC POWER POLE OR TRANSFORMER TO THE PUMP STATION ELECTRIC PANEL SHALL BE INCLUDED ON THE AS-BUILT RECORD DRAWING.
- ALL FIRE HYDRANTS AND FIRE HYDRANT VALVES SHALL BE LOCATED BY STATE PLANE COORDINATES, STATION NUMBER AND OFFSET AND SHALL BE CLEARLY IDENTIFIED ON AS-BUILT RECORD DRAWING.
- ALL NEWLY CONSTRUCTED VALVES SHALL BE CLEARLY IDENTIFIED BY SIZE, TYPE, TOP ELEVATION AND DIRECTION/NUMBER OF TURNS TO OPEN OR CLOSE VALVE.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING GENERAL NOTES
DRAWING NO. M-16
A

B

TYP. PAVING SECTION
(N.T.S.)

STANDARD (MINIMUM) DIMENSION (UNLESS STATED OTHERWISE) SINGLE LIFT ONLY. SEE NOTE BELOW FOR MULTIPLE LIFTS.

ASPHALT SURFACE COURSE TYPE SP-125 OR SP-125 PER F.D.O.T. STANDARD SPECIFICATIONS.

TACK COAT

HOMOGENEOUS SUBGRADE MIX STABILIZED TO LIME/ROCK BEARING RATIO (LBR) OF 40 P.S.I. MIN. AND COMPACTED TO A MIN. OF 98% MAX. DENSITY.

SPECIFICATIONS:

- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET THE SPECIFICATIONS UNDER THE "STANDARD SPECIFICATIONS FOR THE ROAD AND BRIDGE CONSTRUCTION" BY THE FLORIDA DEPARTMENT OF TRANSPORTATION.
- TESTING AN INDEPENDENT TESTING FIRM SHALL BE RETAINED BY THE CONTRACTOR TO PERFORM TESTING ON THE SUBGRADE AND BASE COURSE AS FOLLOWS:
 - SUBGRADE: LBR AND DENSITY TESTING BASED ON 1 TEST PER 10,000 SF OF SUBGRADE.
 - BASE COURSE: DENSITY TEST BASED ON 1 TEST PER 10,000 SF OF BASE.
- ASPHALT: THE OWNER RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO PROVIDE CERTIFICATION INDICATING THAT ALL ASPHALT SURFACE COURSE MATERIAL HAVE PROPER COMPOSITION IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION S.S. 1191. ALL COMPACTION SHALL BE IN CONFORMANCE WITH AASHTO T-190.
- AS AN OPTION, TWO LIFTS OF ASPHALT CAN BE INSTALLED PROVIDING FOR A 1 1/4" FIRST COURSE OF SP 125 AND SECOND COURSE OF 1" SP 125 FOR A TOTAL PAVEMENT THICKNESS OF 2 1/4".

5

TYPICAL CONCRETE DRIVEWAY PAVING SECTION
(N.T.S.)

① - 6" Concrete Pavement.

② - 8" Homogeneous Subgrade Mix Stabilized to LBR 40 (Min) and Compacted to 98% Maximum Density per AASHTO T-190 (Min).

SPECIFICATIONS:

- ALL MATERIALS, CONSTRUCTION JOINT LOCATIONS, MATERIAL PLACEMENT AND FINISHING METHODS SHALL MEET THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR THE ROAD AND BRIDGE CONSTRUCTION" AND THE RECOMMENDATIONS OF THE PORTLAND CEMENT ASSOCIATION.
- ALL CONCRETE SHALL HAVE A REQUIRED MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS (AASHTO T-203).
- TESTING: AN INDEPENDENT TESTING FIRM SHALL BE RETAINED BY THE CONTRACTOR TO PERFORM TESTING AS FOLLOWS:
 - SUBGRADE: LBR AND DENSITY TESTING BASED ON 1 TEST PER 10,000 SF (MINIMUM ONE (1) TEST).
 - CONCRETE:
 - SLUMP SHALL BE TWO (2) TO FOUR (4) INCHES (AASHTO T-114).
 - AT LEAST THREE (3) COMPRESSIVE STRENGTH CYLINDER SAMPLES SHALL BE TAKEN FOR EVERY TEN THOUSAND (10,000) SQUARE FEET OF PAVEMENT.
 - COMPRESSIVE STRENGTH SHALL BE REPORTED FOR SEVEN (7), FOURTEEN (14) AND TWENTY-EIGHT (28) DAYS AFTER PLACEMENT.

6

SAW CUT/BUTT JOINT DETAIL
(N.T.S.)

EXIST. PAVING

OVERLAP EXIST. BASE WITH 12" PAVING MINIMUM

NEW PAVING

EX. BASE

NEW BASE

EX. SUBGRADE

NEW SUBGRADE

RESTORATION NOTES:

- ALL RIGHTS OF WAY SHALL BE RESTORED IN LIKE OR BETTER CONDITION INCLUDING SIDEWALKS, DRIVEWAYS AND DRAINAGE.
- PAVEMENT SHALL BE SAW CUT FOR ALL TRENCHING. EXISTING ASPHALT SHALL BE REMOVED. BASE SHALL BE RECONSTRUCTED WITH REQUIRED THICKNESS & DENSITY AND ROADWAY SHALL BE REPAVED TO MEET STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE LOCATIONS
DRAWING NO. W-1

7

PLAN VIEW

INDICATE DISTANCE FROM RIGHT-OF-WAY LINE AND EDGE OF PAVEMENT (TYPICAL)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE LOCATIONS
DRAWING NO. W-1
A

8

NOTES:

- VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1000'.
- A MINIMUM COVER OF 36" IS REQUIRED ABOVE THE TOP OF ALL PIPE BELLS.
- CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF BLUE REFLECTIVE MARKERS (RPM) INDICATING A FIRE HYDRANT. BLUE REFLECTIVE MARKER SHALL BE LOCATED IN THE CENTERLINE OF THE LANE CLOSEST TO THE HYDRANT.
- DEAD END LINES, VALVES, AND HYDRANTS SHALL BE RESTRAINED.
- ALL LINES SHALL BE A MINIMUM 10' OFFSET FROM BUILDINGS.
- REFLECTIVE MARKER (RPM'S) FOR FIRE HYDRANTS SHALL BE BLUE.
- REFLECTIVE MARKERS SHALL BE AFFIXED TO PAVEMENT WITH A FDOT APPROVED PRODUCT.
- SEE DRAWINGS NO. M-16, VALVE AND BOX & M-7, VALVE BOX PAD.
- ALL FIRE HYDRANT VALVE COVERS SHALL BE PAINTED RED. ALL IN-LINE VALVE COVERS SHALL BE PAINTED BLUE.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE NOTES
DRAWING NO. W-1
A

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CERTIFICATE OF AUTHORIZATION NUMBER 4204

INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
POTABLE WATER & CONSTRUCTION DETAILS

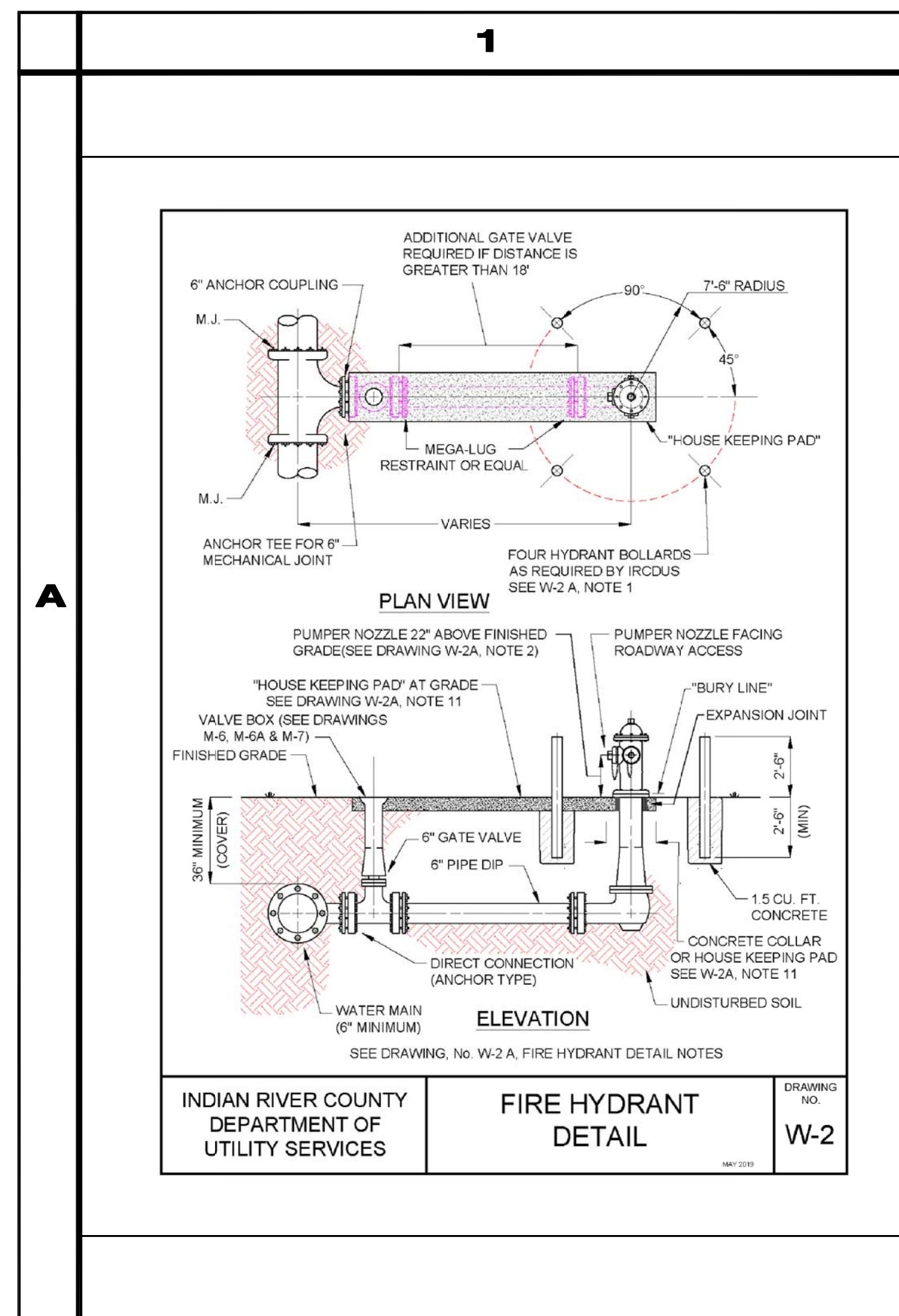
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EARL H. MASTELLER, P.E. FL#26658

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DATE	10/22/2018
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DWG NO.	1422



2

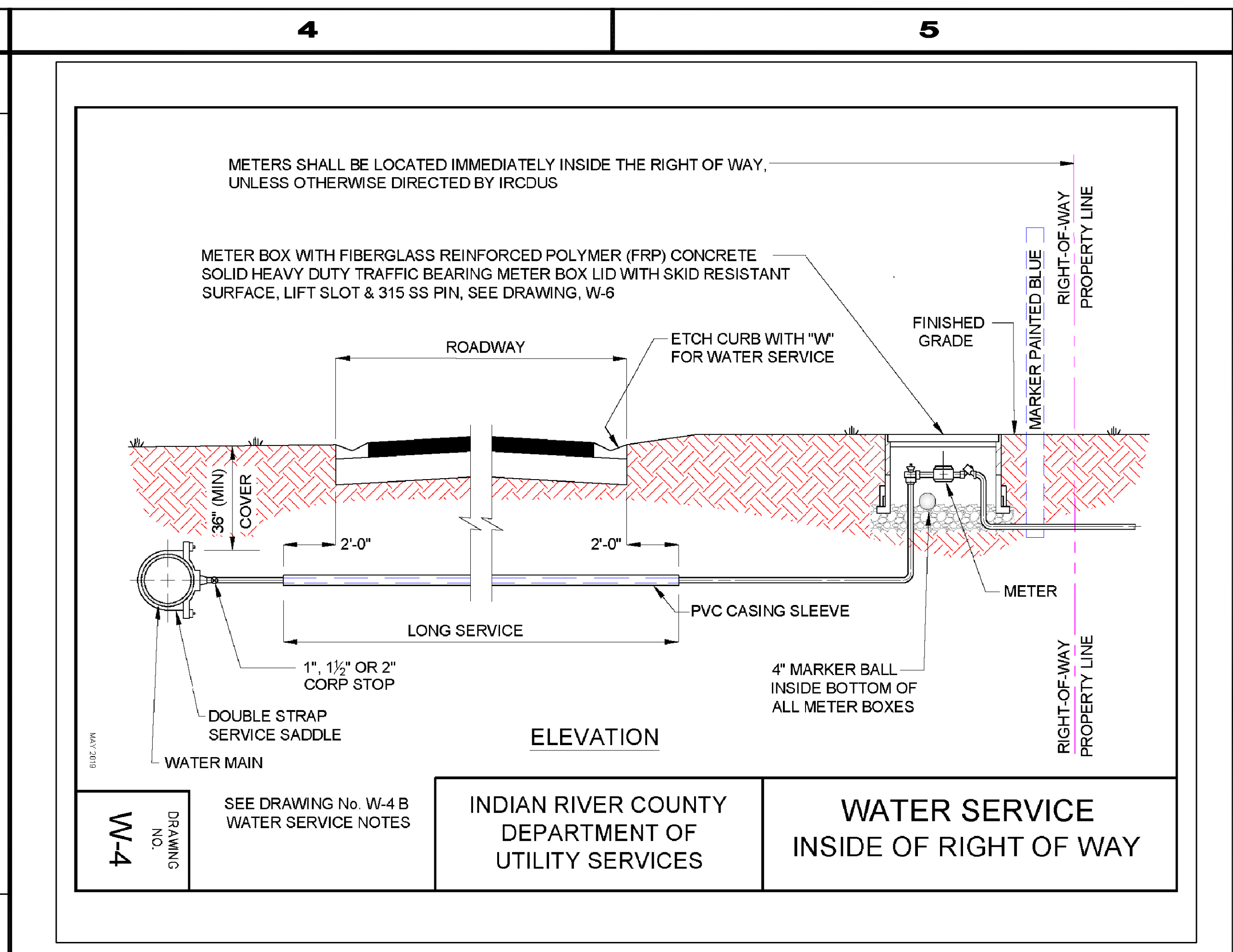
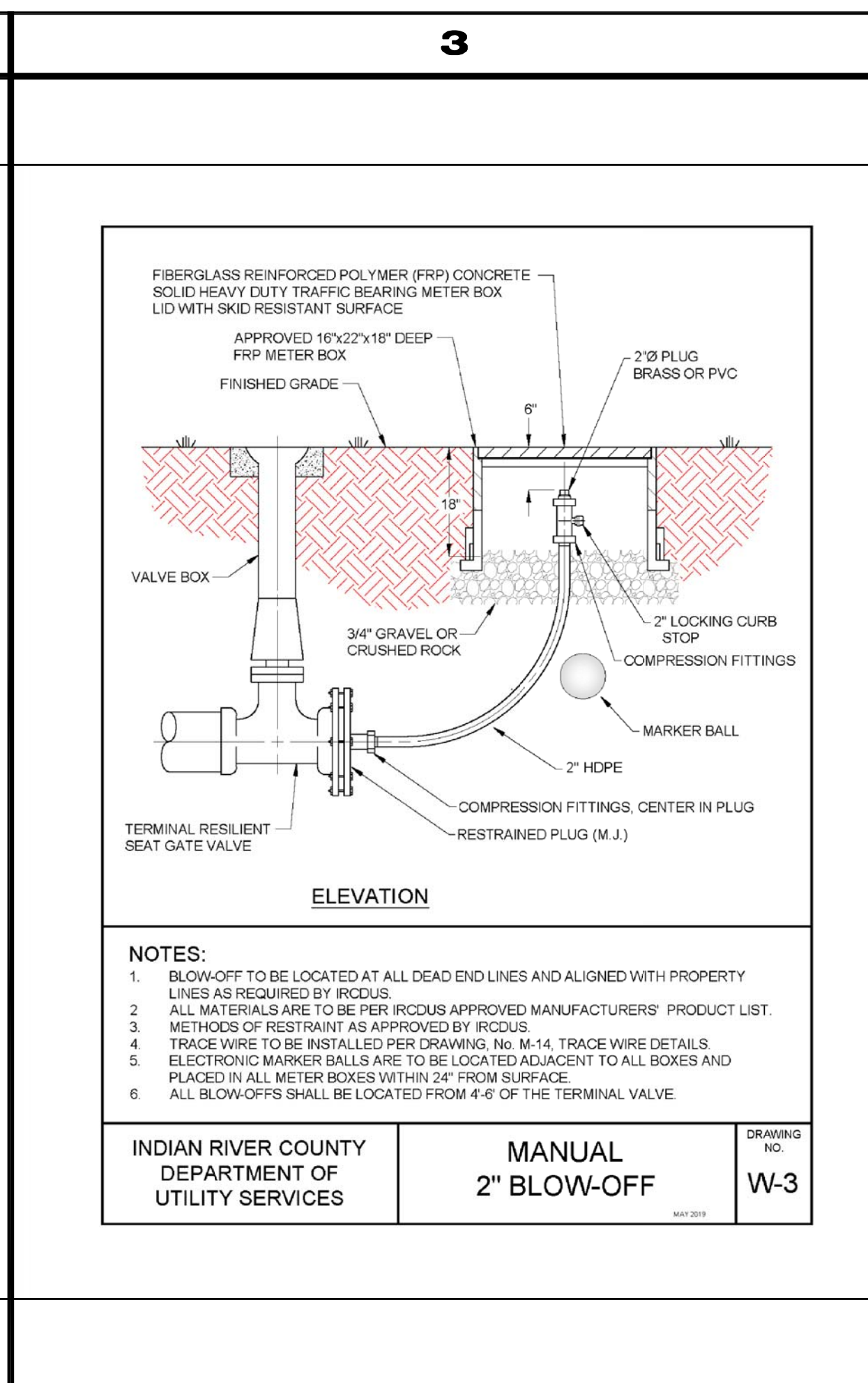
NOTES:

- HYDRANT BOLLARD TO BE 4" DIAMETER GALVANIZED STEEL OR DUCTILE IRON PIPE FILLED WITH CONCRETE WHEN REQUIRED BY IRCUDS. GUARDS TO BE PAINTED RED, SAME AS HYDRANTS AND VALVE COVER.
- THE HYDRANT SHOULD BE SET SUCH THAT THE "BURY LINE" ON THE HYDRANT BARREL IS SET AT FINISHED GRADE OR THAT THE OPERATING NUT OF THE PUMPER NOZZLE IS A MINIMUM OF 22" ABOVE FINISHED GRADE.
- ALL HYDRANTS SHALL BE TRAFFIC BREAKAWAY TYPE.
- COMPLETE ANCHORED FIRE HYDRANT ASSEMBLY MAY BE UTILIZED IN LIEU OF ABOVE.
- FIRE HYDRANT SHOULD BE LOCATED A MINIMUM 3' AND MAXIMUM 12' FROM EDGE OF PAVEMENT WHERE POSSIBLE.
- ALL MATERIALS ARE TO BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
- TRACE WIRE TO BE INSTALLED AS PER DRAWING No. M-14, TRACE WIRE DETAIL. (FOR CLARITY THE TRACE WIRE IS NOT SHOWN IN DRAWING, No. W-2, FIRE HYDRANT DETAILS).
- MAINTAIN CLEAR ZONE RADIUS OF 7'-6" AROUND HYDRANT PERPENDICULAR TO ROADWAY OR CURB FACE (EXAMPLE MUST BE CLEAR OF SIGNS, TREES, SHRUBS, TRANSFORMERS, UTILITY POLES, ETC.).
- HYDRANTS AND PROTECTION DEVICES SHALL HAVE CLEARANCES OF 7'-6" IN FRONT AND THE SIDES OF THE FIRE HYDRANT, WITH A 4' MINIMUM CLEARANCE TO THE REAR OF THE HYDRANT UNLESS THE A/HJ (AUTHORITY HAVING JURISDICTION) REQUIRES A LARGER CLEAR ZONE.
- SEE DRAWINGS, No. M-6 VALVE AND BOX DETAIL, M-8 VALVE AND BOX DETAIL NOTES AND M-7 VALVE BOX PAD.
- HOUSE KEEPING PAD IS REQUIRED. HOUSE KEEPING PAD SHALL BE 6" THICK x 2' WIDE (MINIMUM) AND LOCATED AT FINISHED GRADE. BREAKAWAY FLANGES SHALL BE 2" ABOVE HOUSEKEEPING PAD. (SEE DRAWING, No. W-2, FIRE HYDRANT DETAIL).

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES

FIRE HYDRANT DETAIL NOTES

DRAWING NO. **W-2 A**



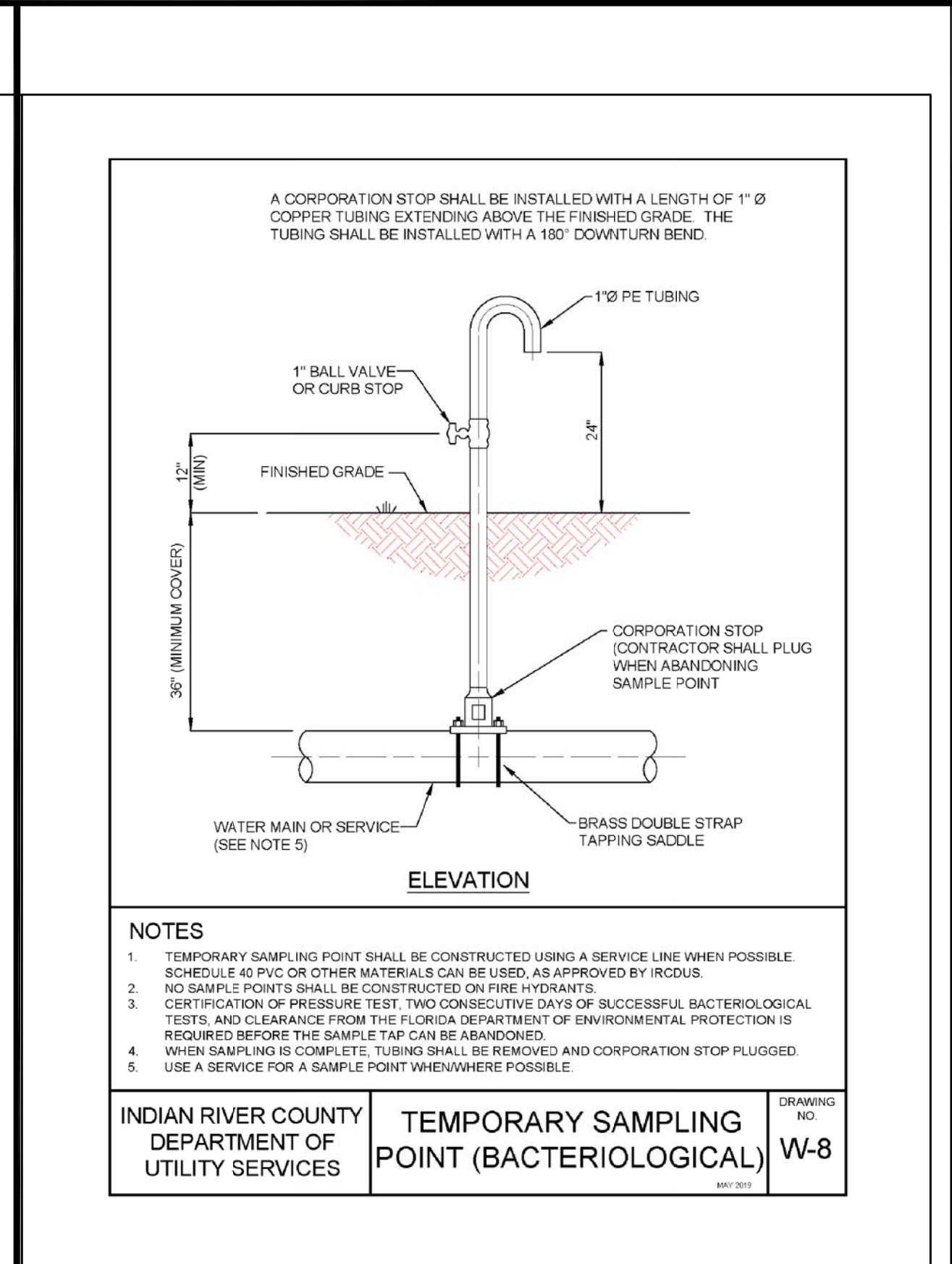
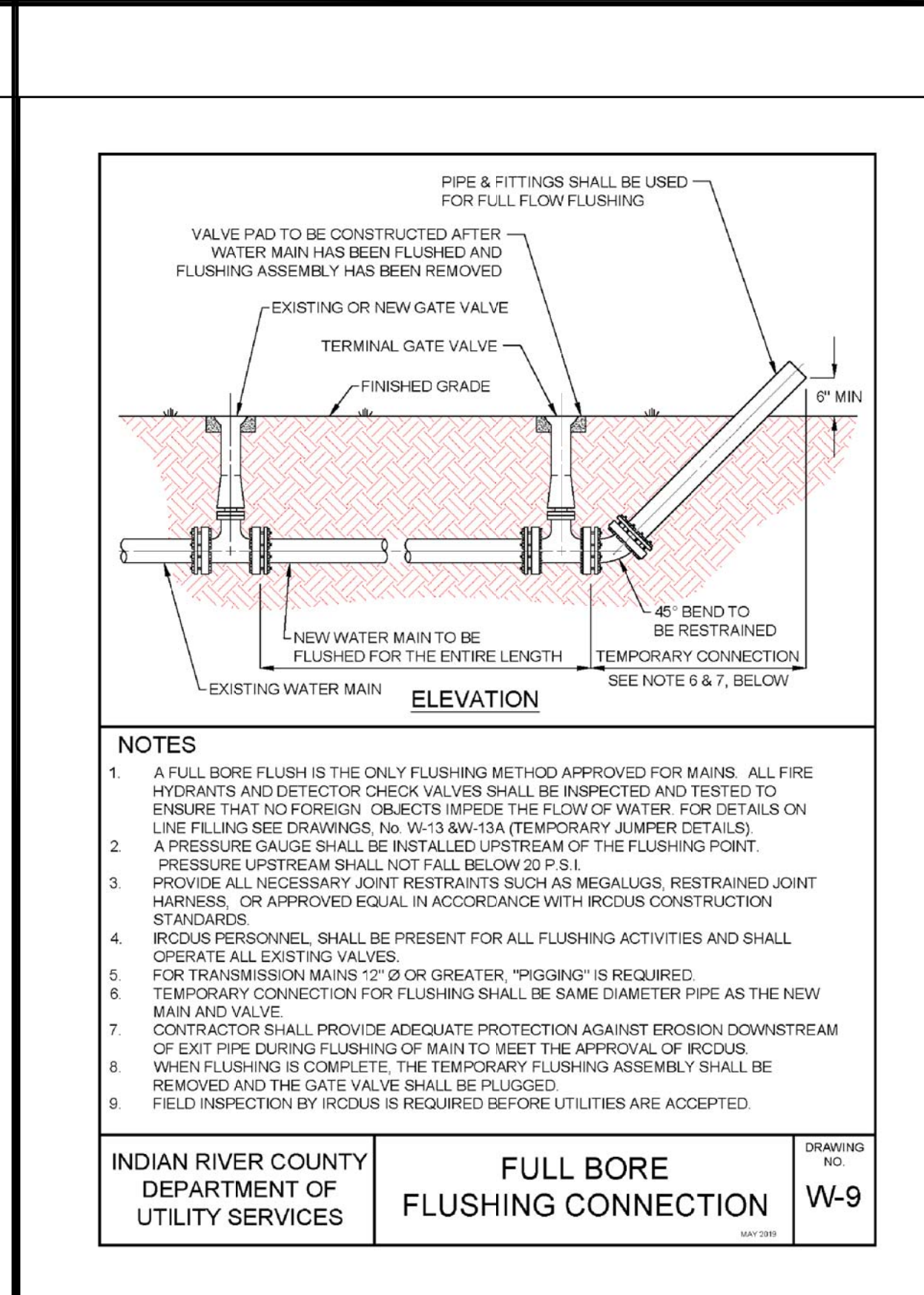
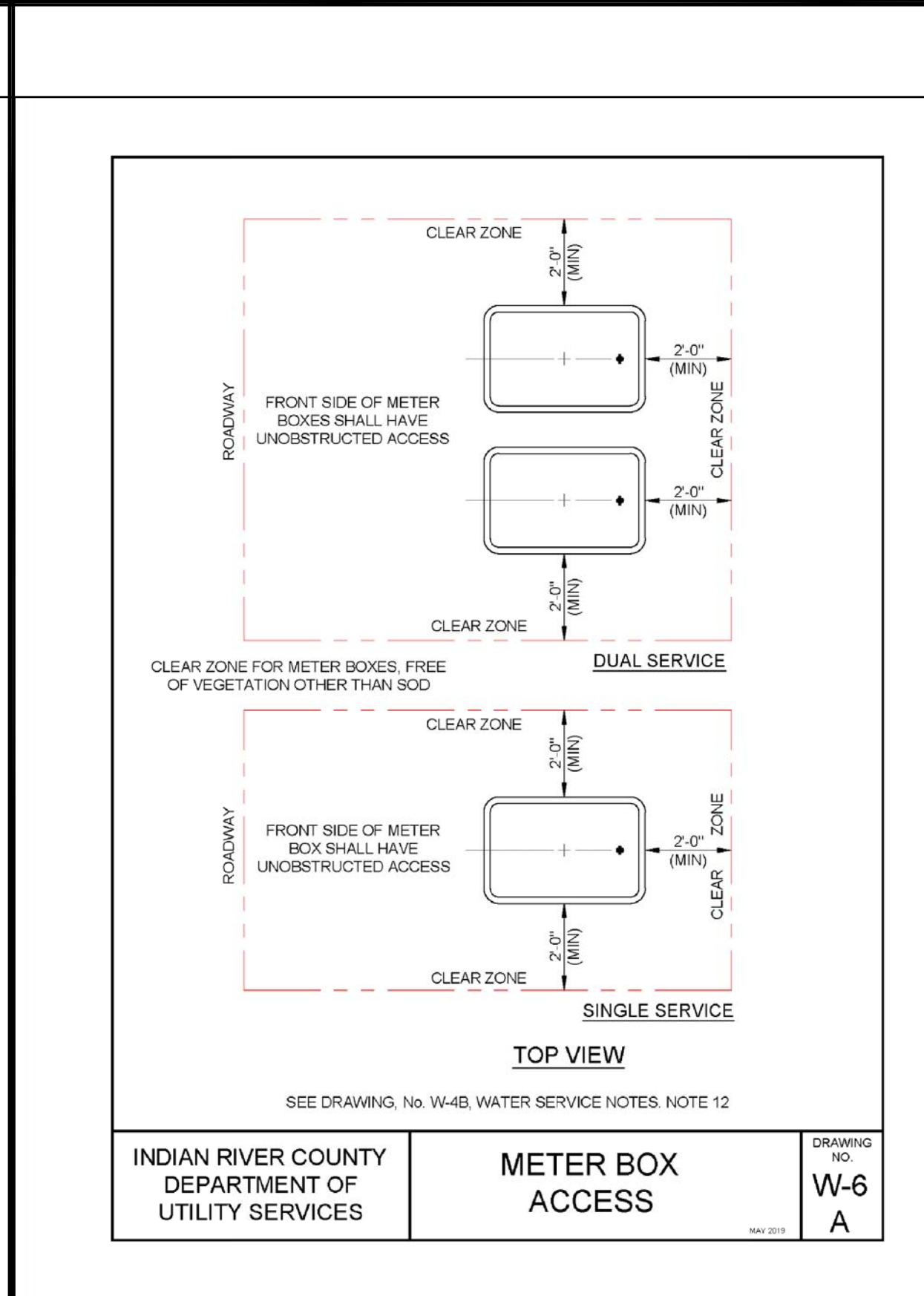
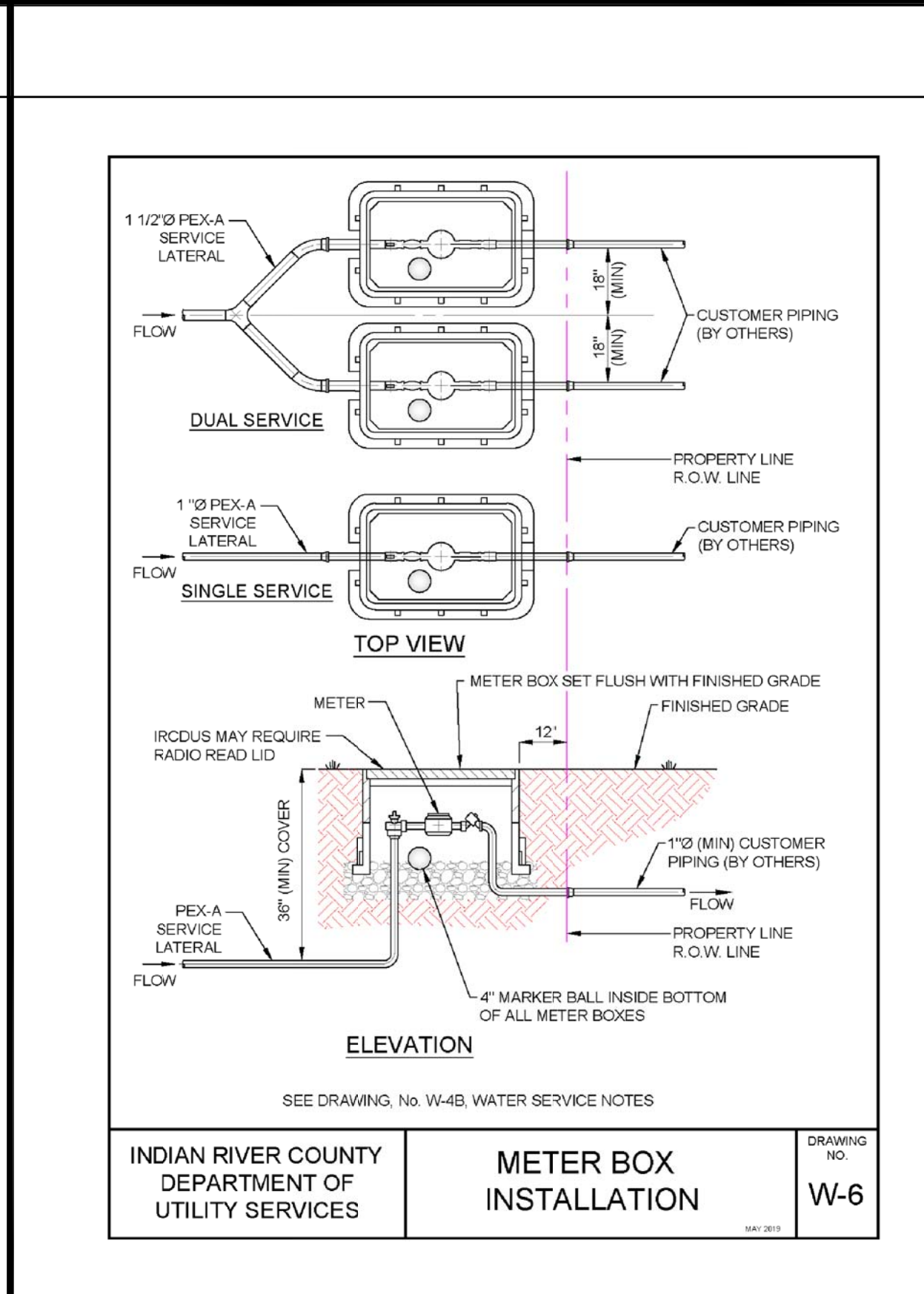
NOTES:

- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE A MINIMUM OF 18" ON CENTER.
- ALL SERVICES REQUIRE 36" MINIMUM COVER.
- MINIMUM SERVICE SIZE SHALL NOT BE LESS THAN 1" Ø. DUAL SERVICES SHALL BE A MINIMUM OF 1 1/2" Ø. TRIPLE SERVICES SHALL BE 1" Ø. QUADRUPLE SERVICES SHALL BE APPROVED BY IRCUDS.
- 1" Ø & 1 1/2" Ø LONG SERVICES REQUIRE A 2" MINIMUM I.D. CASING SLEEVE. 2" Ø LONG SERVICES REQUIRE A 3" MINIMUM CASING SLEEVE. CASING SLEEVE SHALL BE SCHEDULE 40 P.V.C.
- ALL METERS 2" Ø OR SMALLER SHALL BE SUPPLIED AND INSTALLED BY IRCUDS. ALL METERS GREATER THAN 2" Ø SHALL BE SUPPLIED AND INSTALLED BY THE DEVELOPER/PROPERTY OWNER. REFER TO APPROVED MANUFACTURERS' PRODUCT LIST FOR METERS GREATER THAN 2" Ø.
- PIN LOCKS WITH PLASTIC DUST CAPS SHALL BE PURCHASED BY THE DEVELOPER AND/OR CONTRACTOR AND SHALL BE INSTALLED ON ALL LOCKING CURB STOPS INSIDE METER BOX, SAMPLING POINTS, AND WATER SERVICE CONNECTIONS AT THE TIME OF ACTIVATING ALL WATER MAINS OR AT SUCH TIME AS DIRECTED BY IRCUDS.
- CURB STOPS SHALL BE THE SAME SIZE AS THE METERS THAT ARE INSTALLED.
- TRACE WIRE TO BE INSTALLED AS PER DRAWING, No. M-14, TRACE WIRE DETAILS.
- PLACE A 4" ELECTRONIC MARKER BALL INSIDE BOTTOM OF ALL METER BOXES.
- ALL RESIDENTIAL AND ONE ERU SERVICES SHALL BE 5/8" METERS.
- OPEN BOTTOM AND PRE-PLUMBED (ENCLOSED) METER BOXES ARE ACCEPTABLE.
- ALL METER BOXES TO BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
- AN UNOBSTRUCTED CLEAR ZONE IS REQUIRED AROUND ALL METER BOXES. (SEE DRAWING, No. W-6 A.)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES

WATER SERVICE NOTES

DRAWING NO. **W-4 B**



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NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
POTABLE WATER DETAILS**

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INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES

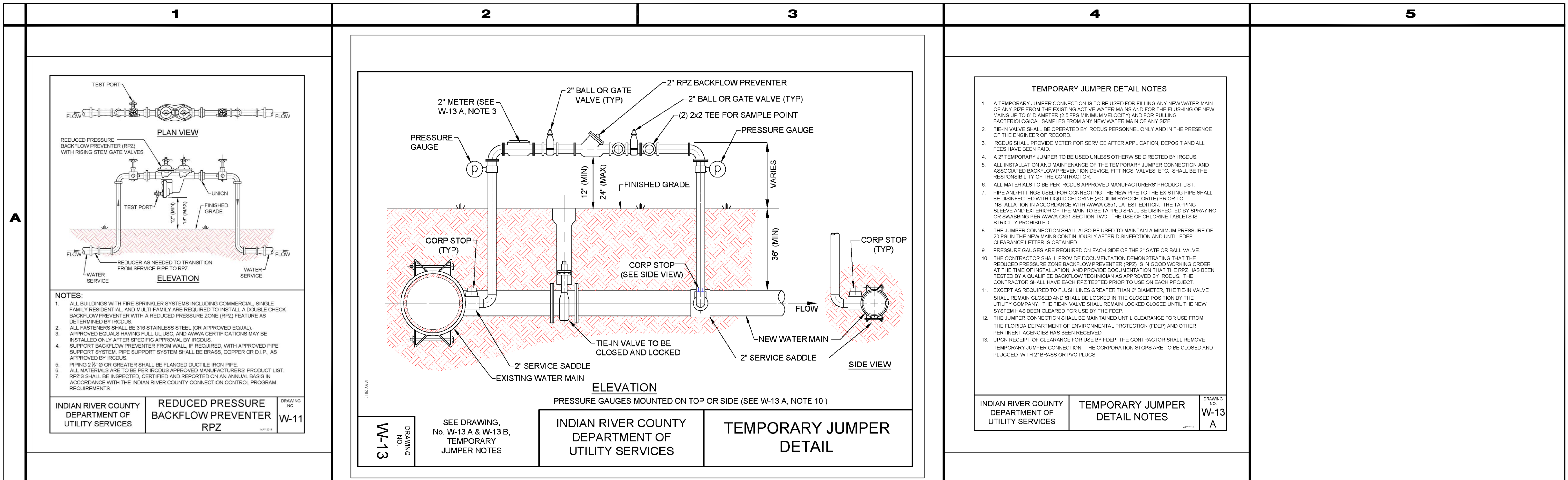
EARL H. MASTELLER, P.E. FL#26658

DATE 12/01/2020

SCALE AS SHOWN

SHEET 34 of 37

DWG NO 1422



- TEMPORARY JUMPER DETAIL NOTES**
1. A TEMPORARY JUMPER CONNECTION IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM THE EXISTING ACTIVE WATER MAINS AND FOR THE FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE.
 2. TIE-IN VALVE SHALL BE OPERATED BY IRCUDS PERSONNEL ONLY AND IN THE PRESENCE OF THE ENGINEER OF RECORD.
 3. IRCUDS SHALL PROVIDE METER FOR SERVICE AFTER APPLICATION, DEPOSIT AND ALL FEES HAVE BEEN PAID.
 4. A 2" TEMPORARY JUMPER TO BE USED UNLESS OTHERWISE DIRECTED BY IRCUDS.
 5. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE, FITTINGS, VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 6. ALL MATERIALS TO BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
 7. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED WITH LIQUID CHLORINE (SODIUM HYPOCHLORITE) PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, LATEST EDITION. THE TAPPING SLEEVE AND EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER AWWA C651 SECTION TWO. THE USE OF CHLORINE TABLETS IS STRICTLY PROHIBITED.
 8. THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI IN THE NEW MAINS CONTINUOUSLY AFTER DISINFECTION AND UNTIL FDEP CLEARANCE LETTER IS OBTAINED.
 9. PRESSURE GAUGES ARE REQUIRED ON EACH SIDE OF THE 2" GATE OR BALL VALVE.
 10. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE REDUCED PRESSURE ZONE BACKFLOW PREVENTER (RPZ) IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION, AND PROVIDE DOCUMENTATION THAT THE RPZ HAS BEEN TESTED BY A QUALIFIED BACKFLOW TECHNICIAN AS APPROVED BY IRCUDS. THE CONTRACTOR SHALL HAVE EACH RPZ TESTED PRIOR TO USE ON EACH PROJECT.
 11. EXCEPT AS REQUIRED TO FLUSH LINES GREATER THAN 6" DIAMETER, THE TIE-IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE UTILITY COMPANY. THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY THE FDEP.
 12. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED.
 13. UPON RECEIPT OF CLEARANCE FOR USE BY FDEP, THE CONTRACTOR SHALL REMOVE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS OR PVC PLUGS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 TEMPORARY JUMPER DETAIL NOTES
 DRAWING NO. W-13 A

NOTES:

1. ALL BUILDINGS WITH FIRE SPRINKLER SYSTEMS INCLUDING COMMERCIAL, SINGLE FAMILY RESIDENTIAL, AND MULTI-FAMILY ARE REQUIRED TO INSTALL A DOUBLE CHECK BACKFLOW PREVENTER WITH A REDUCED PRESSURE ZONE (RPZ) FEATURE AS DETERMINED BY IRCUDS.
2. ALL FASTENERS SHALL BE 316 STAINLESS STEEL (OR APPROVED EQUAL).
3. APPROVED EQUALS HAVING FULL UL, USC, AND AWWA CERTIFICATIONS MAY BE INSTALLED ONLY AFTER SPECIFIC APPROVAL BY IRCUDS.
4. SUPPORT BACKFLOW PREVENTER FROM WALL, IF REQUIRED, WITH APPROVED PIPE SUPPORT SYSTEM. PIPE SUPPORT SYSTEM SHALL BE BRASS, COPPER OR D.I.P., AS APPROVED BY IRCUDS.
5. PIPING 2 1/2" OR GREATER SHALL BE FLANGED DUCTILE IRON PIPE.
6. ALL MATERIALS ARE TO BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
7. RPZ'S SHALL BE INSPECTED, CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CONNECTION CONTROL PROGRAM REQUIREMENTS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 REDUCED PRESSURE BACKFLOW PREVENTER RPZ
 DRAWING NO. W-11

SEE DRAWING, No. W-13 A & W-13 B, TEMPORARY JUMPER NOTES
 INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 TEMPORARY JUMPER DETAIL

FOR BIDDING PURPOSES ONLY

NO.	DATE	DESCRIPTION	DR/APP
REVISIONS			

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 1655 27th STREET, SUITE #2, VERO BEACH, FLORIDA, 32960
 (772) 567-5300 / FAX (772) 794-1106
 CERTIFICATE OF AUTHORIZATION NUMBER 4204

INDIAN RIVER COUNTY
 NORTH COUNTY WATER & SEWER SYSTEM
 PHASE 2
POTABLE WATER DETAILS

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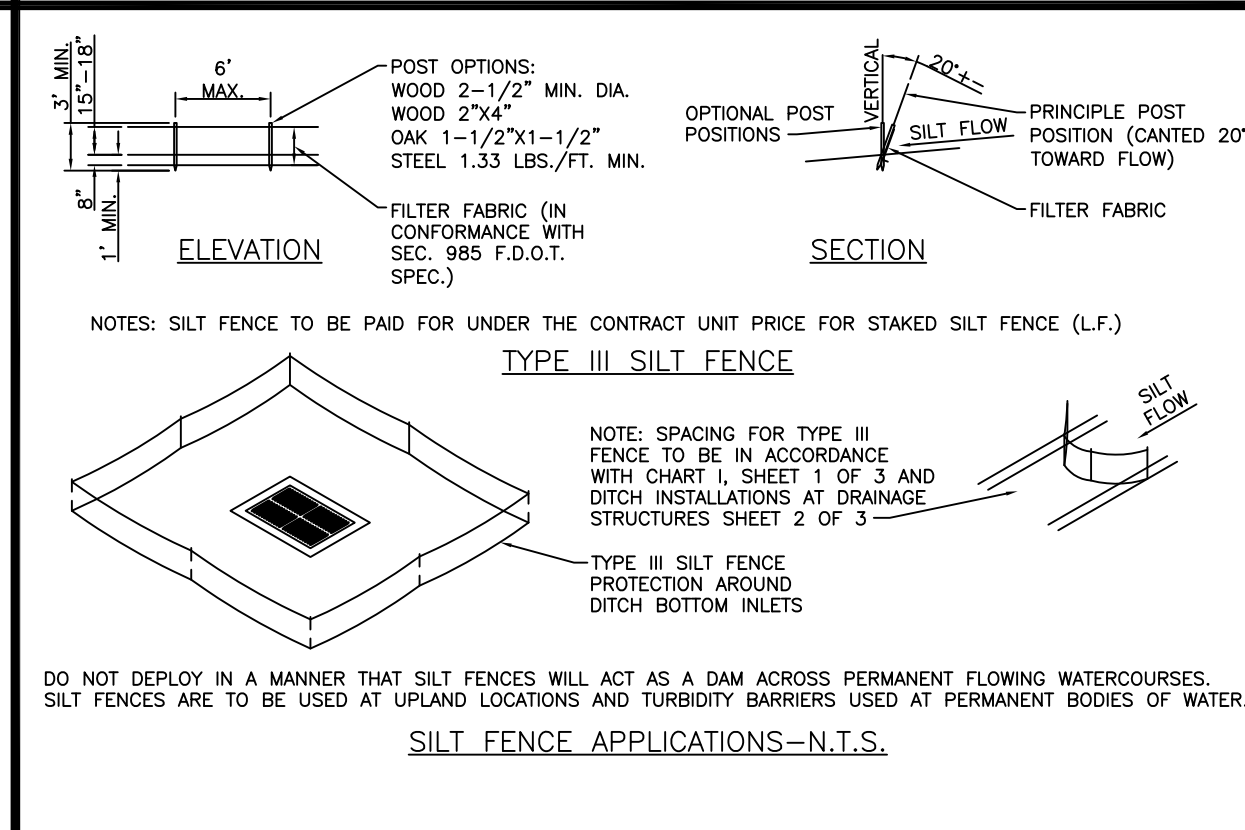
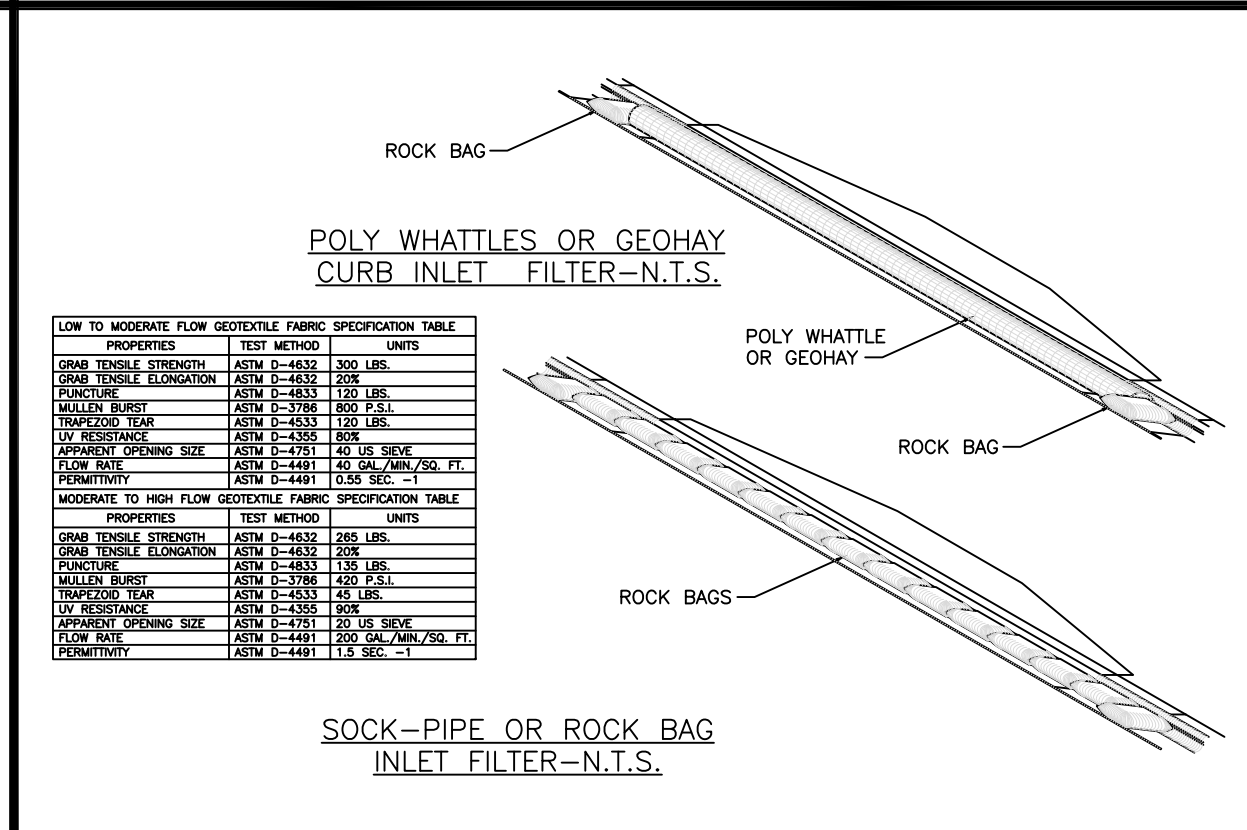
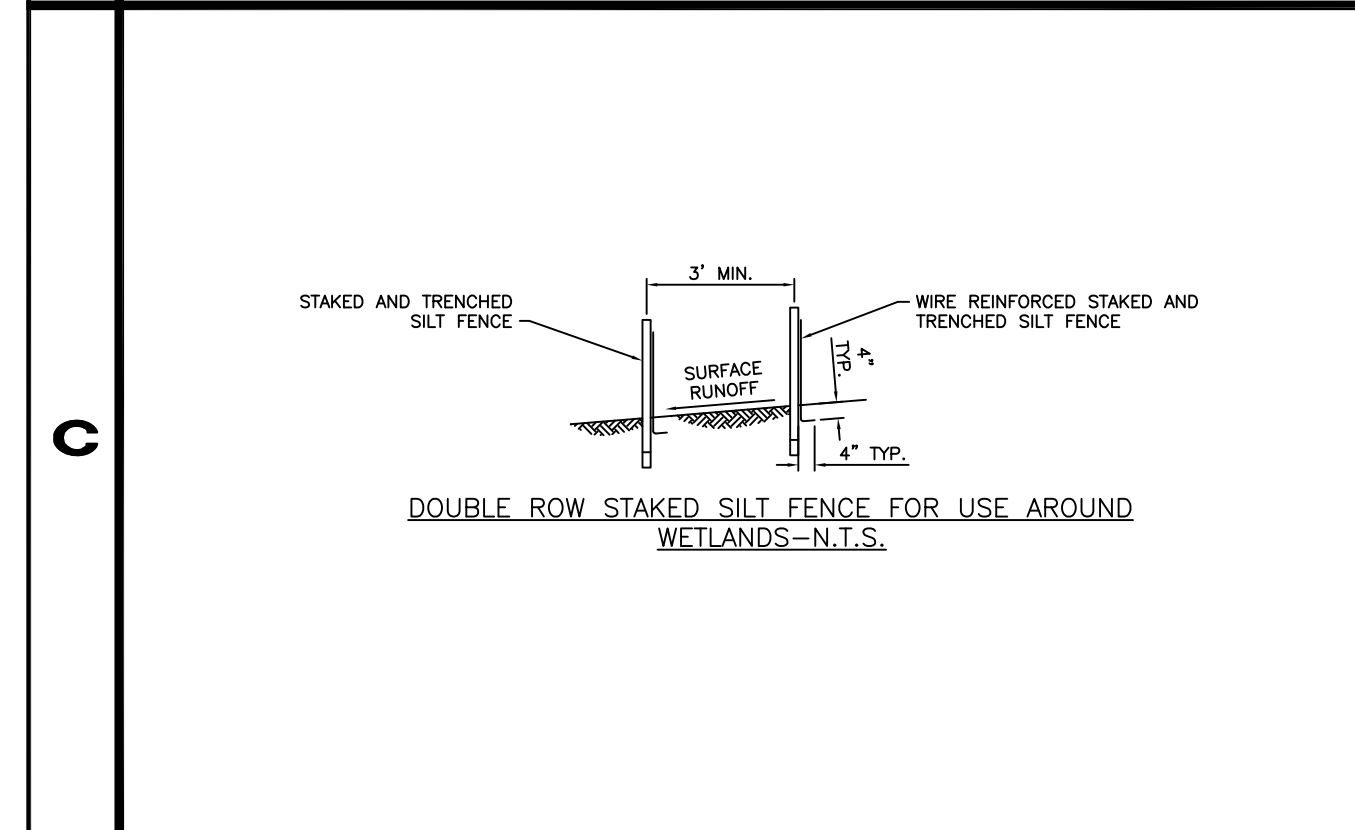
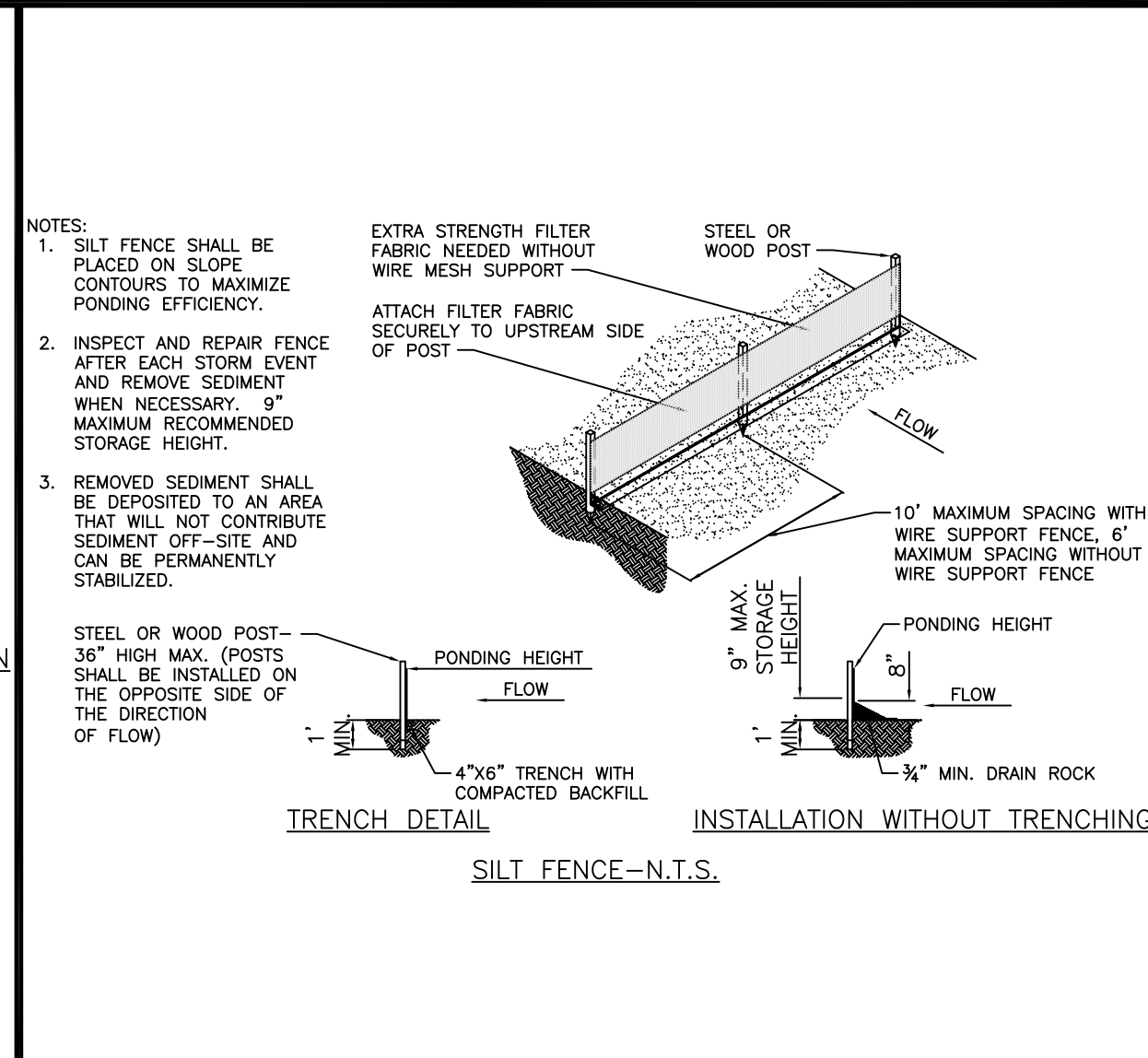
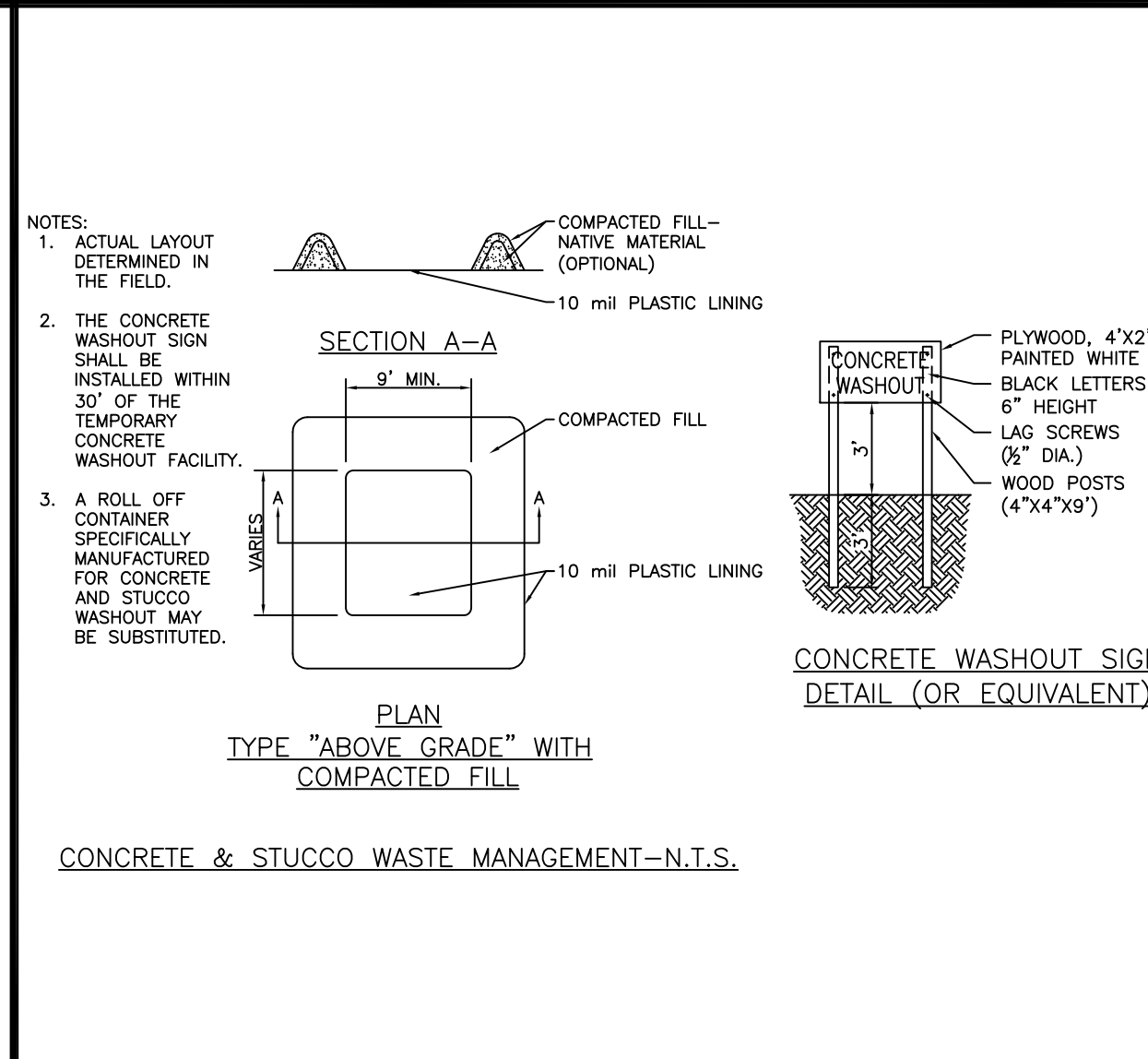
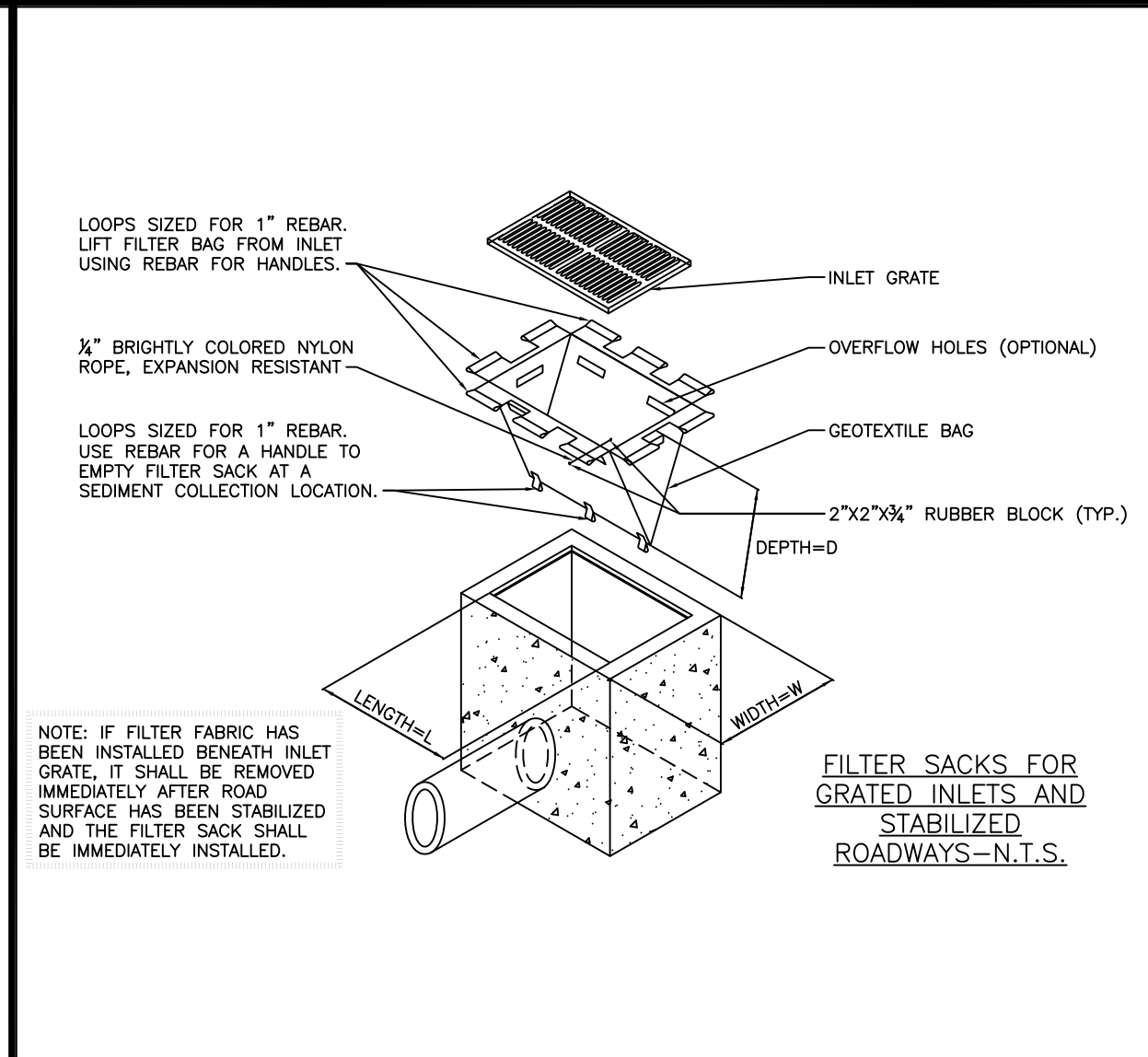
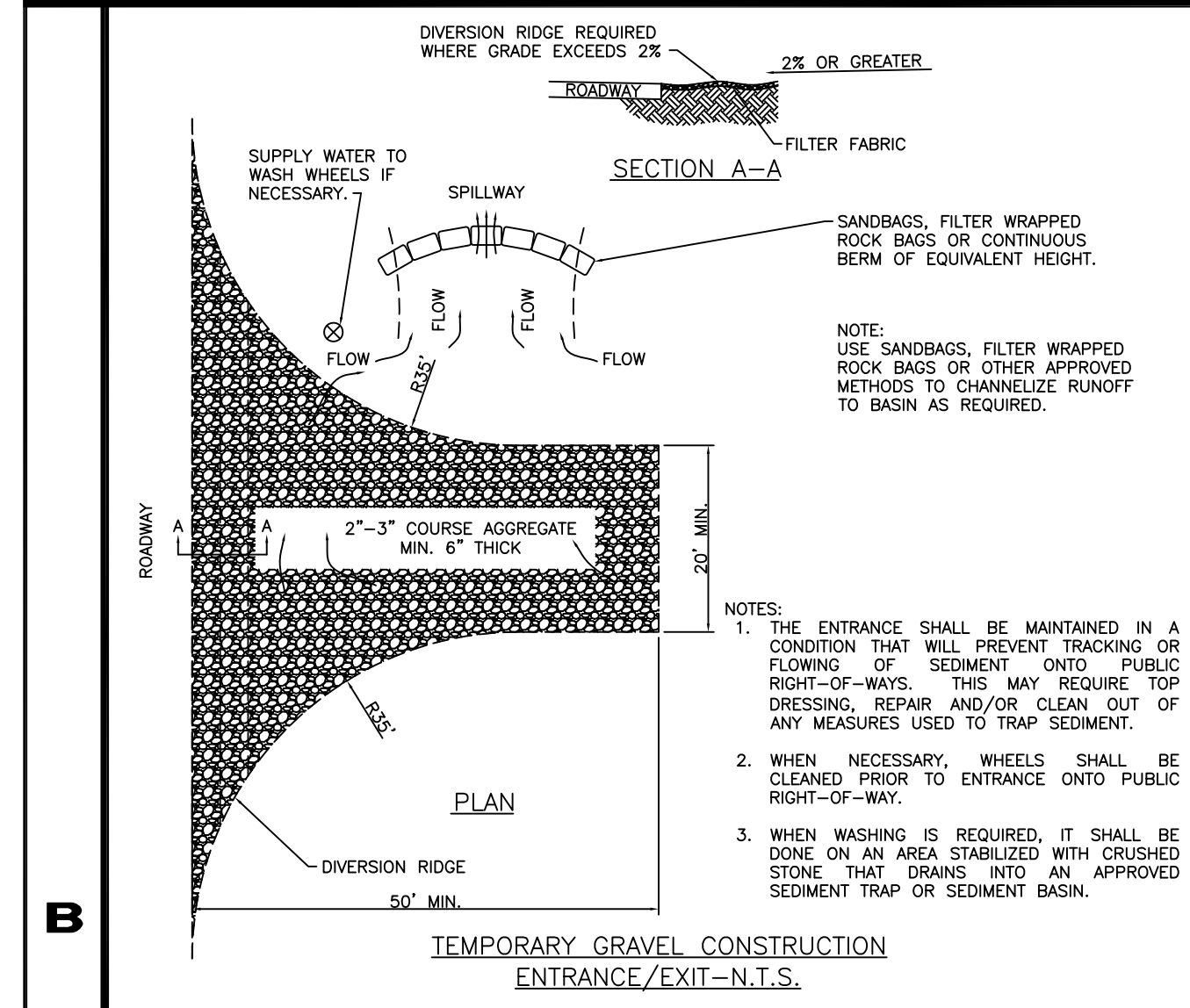
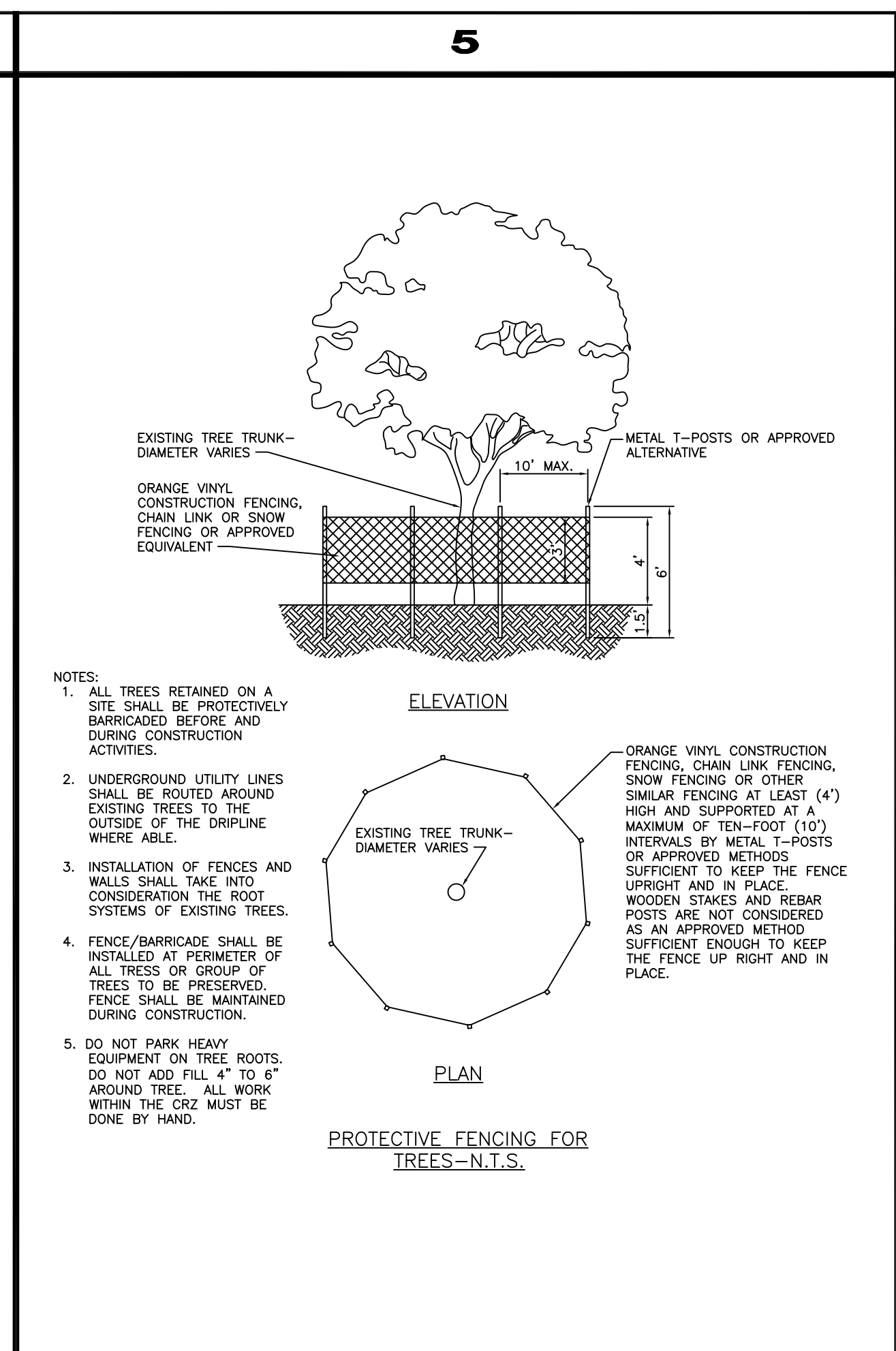
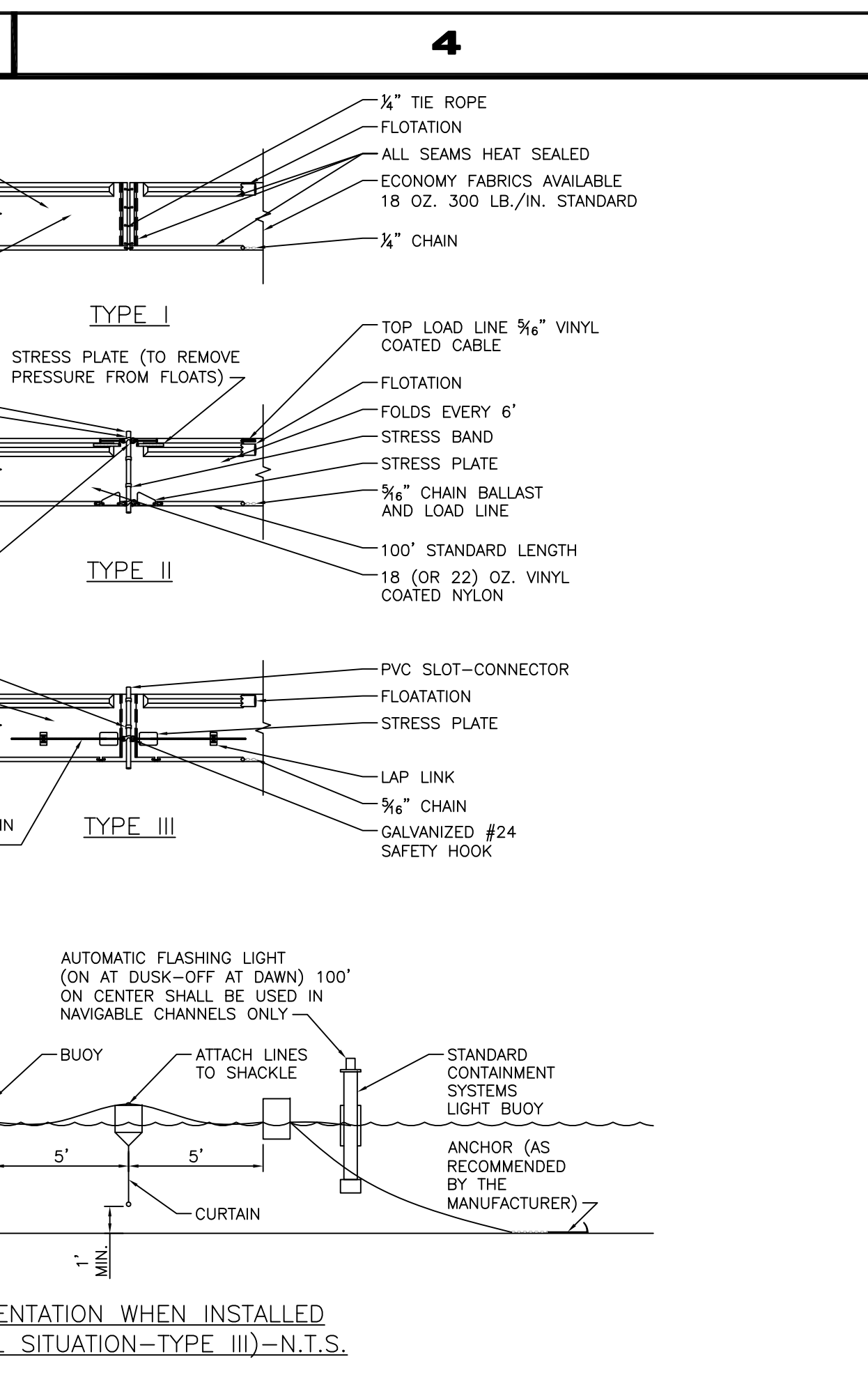
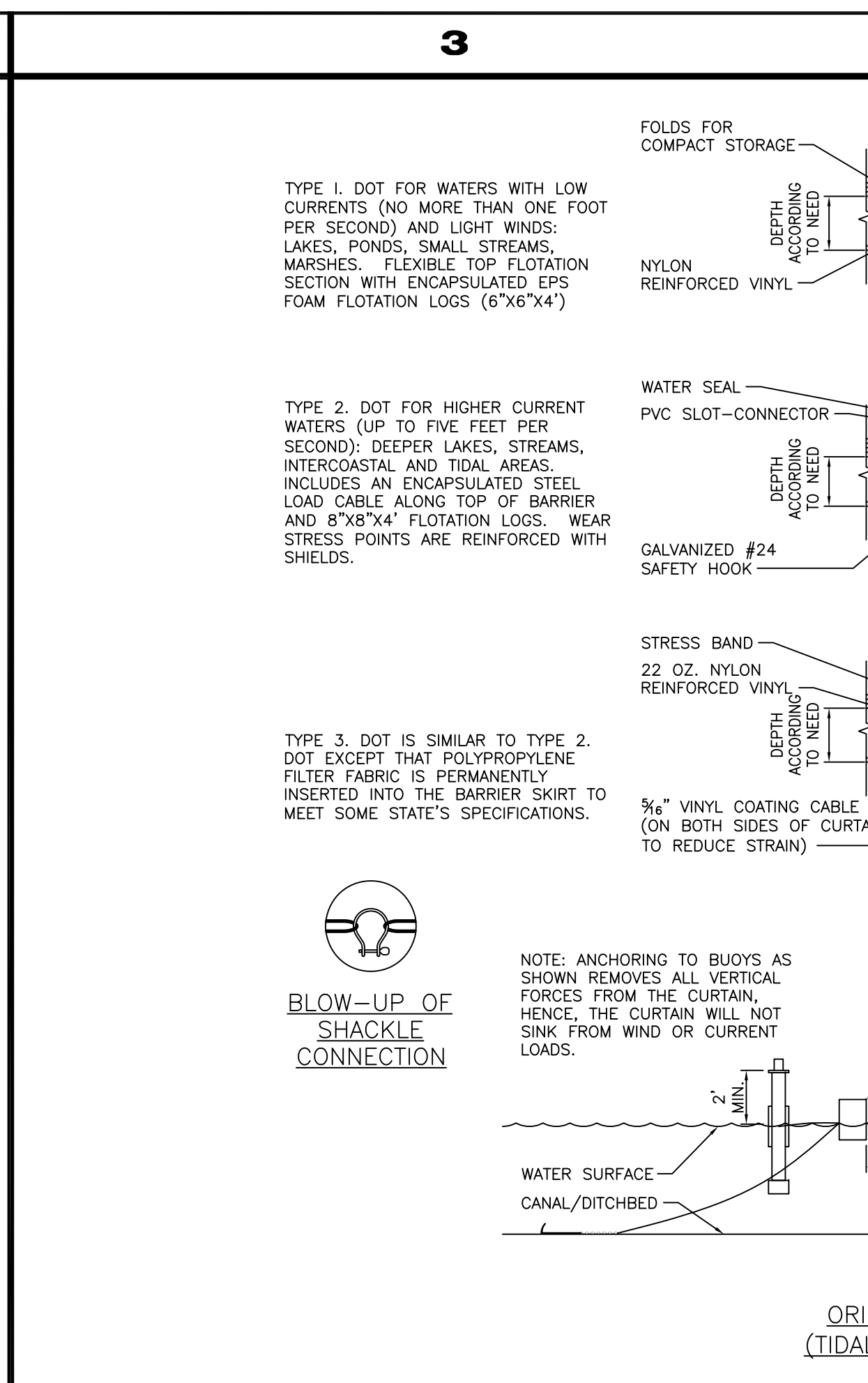
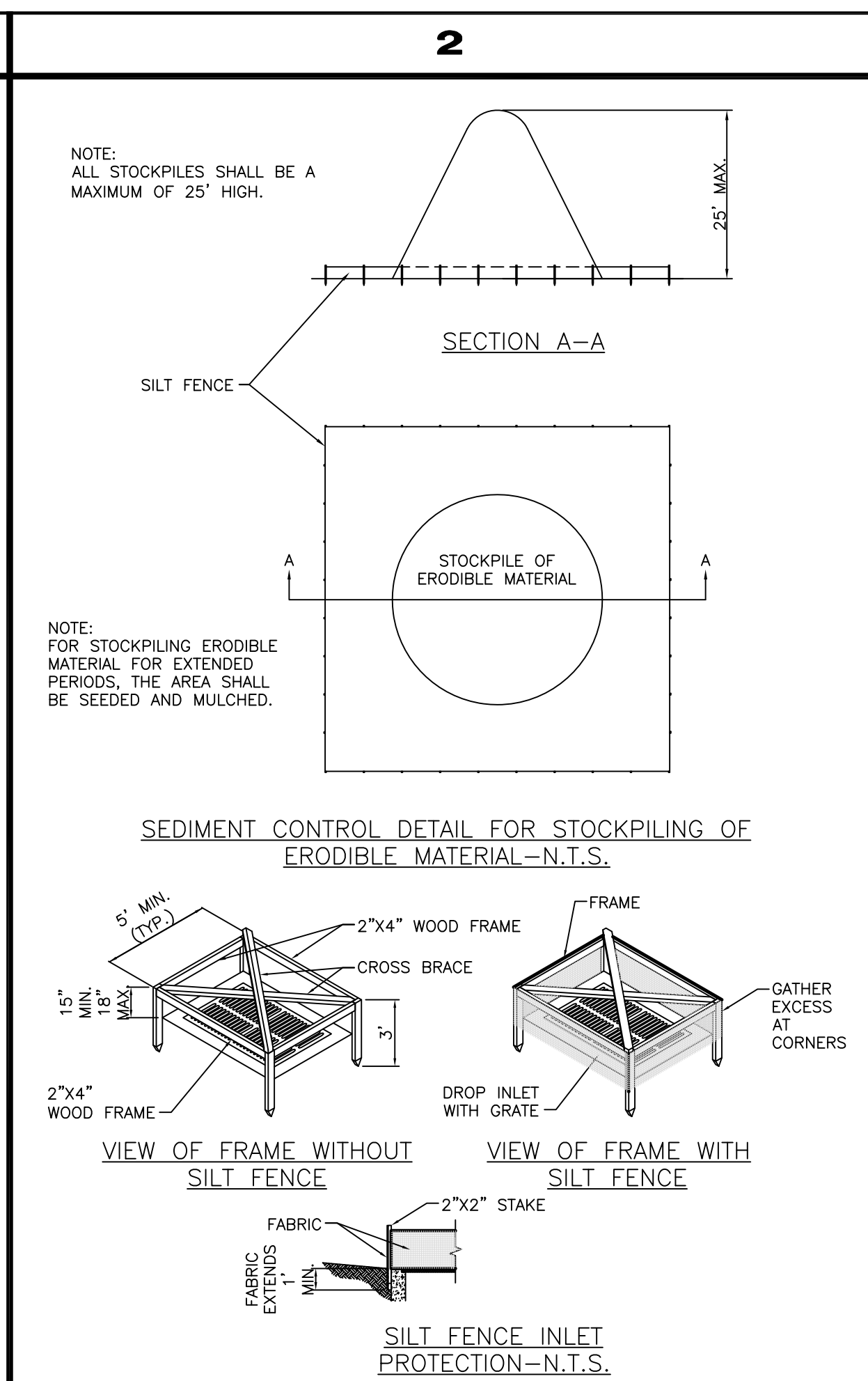
DRAWN	SCG
DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	35 of 37
DWG NO	1422

12/01/2020
 EARL H. MASTELLER, P.E. FL#26658

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EROSION CONTROL NOTES

- Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land disturbing activity and shall be made functional before up-slope land disturbance takes place.
- All sediment control measures are to be adjusted to meet field conditions at the time of construction and be constructed prior to any grading or disturbance of existing surface material on balance of site. Perimeter sediment barriers shall be constructed to prevent sediment or floating on to adjacent properties.
- Permanent or temporary soil stabilization shall be applied to denuded areas within seven (7) days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be at final grade but will remain undisturbed for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left undisturbed for more than one year.
- During construction of the project, soil stock piles shall be stabilized, covered or contained with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.
- A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized.
- After any significant rainfall, sediment control structures will be inspected for integrity. Any damaged devices shall be corrected immediately.
- Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, slope drain structure or approved control.
- Sediment will be prevented from entering any storm water system, ditch or channel. All storm water inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
- When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction.
- Periodic inspection and maintenance of all sediment control structures must be provided to ensure intended purpose is accomplished. The developer, owner and/or contractor shall be continually responsible for all sediment controls. Sediment control measures shall be in working condition at the end of each working day.
- Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by tracking onto the paved surface. Where sediment is transported onto a public road surface with curbs and gutters, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual subdivision lots as well as to larger land disturbing activities.
- All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed.
- Properties and waterways downstream from construction sites shall be protected from sediment deposition and erosion at all times during construction.
- Erosion control design and construction shall follow the requirements in index numbers 101, 102 and 103 of F.D.O.T. Roadway and Traffic Design Standards and county permits.
- Contractor is responsible for all surface water discharges, rainfall run off or dewatering activities.
- Contractor must incorporate all BMP's necessary to meet or exceed state water quality and SWPPP requirements.
- The Pollution Prevention Plan is a minimum guideline only. Additional BMP's may be necessary at contractor's expense.
- NOI to be posted on site.
- Dewatering activities:
 - A - Discharge must not exceed state water quality standards.
 - B - Contractor must have a transferable SPWMD Consumptive Use permit known as a "Noticed General Permit for Short Term Construction De-Watering".
 - C - No hydraulic pumps may be used for dewatering unless approved by the water management district for that area.
 - D - No turbid discharge. Turbidity readings are required once a week and must be reported to the project Engineer.
- Failure to develop and implement a certified stormwater pollution prevention plan shall be deemed a violation of the permit and the permittee shall be subject to enforcement action. The plan shall be completed prior to the submittal of an NOI (Notice of Intent) to be covered under the permit and updated as appropriate. The plan shall also provide for compliance with the terms and schedule of the plan beginning with the initiation of the construction activities.



NOTE

- THIS PLAN SHEET SHALL NOT BE CONSIDERED A SWPPP (STORMWATER POLLUTION PREVENTION PLAN) BUT IS A PLAN REPRESENTATIVE OF THE MINIMUM REQUIRED BMP'S (BEST MANAGEMENT PRACTICES).
- THE SWPPP SHALL BE COMPLETED PRIOR TO THE SUBMITTAL OF THE NOTICE OF INTENT (NOI) TO BE COVERED UNDER THE DEPARTMENT'S GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES.

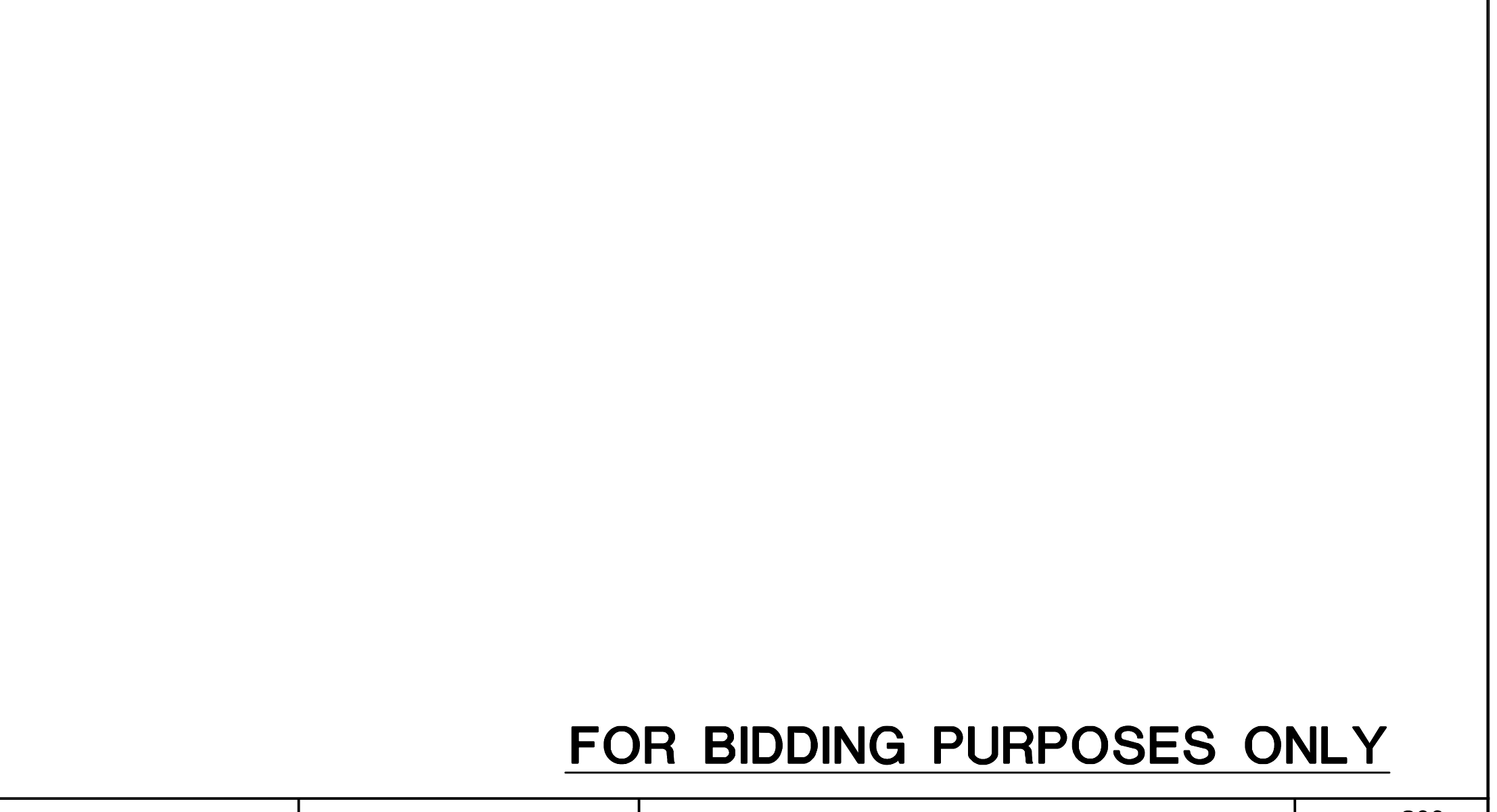
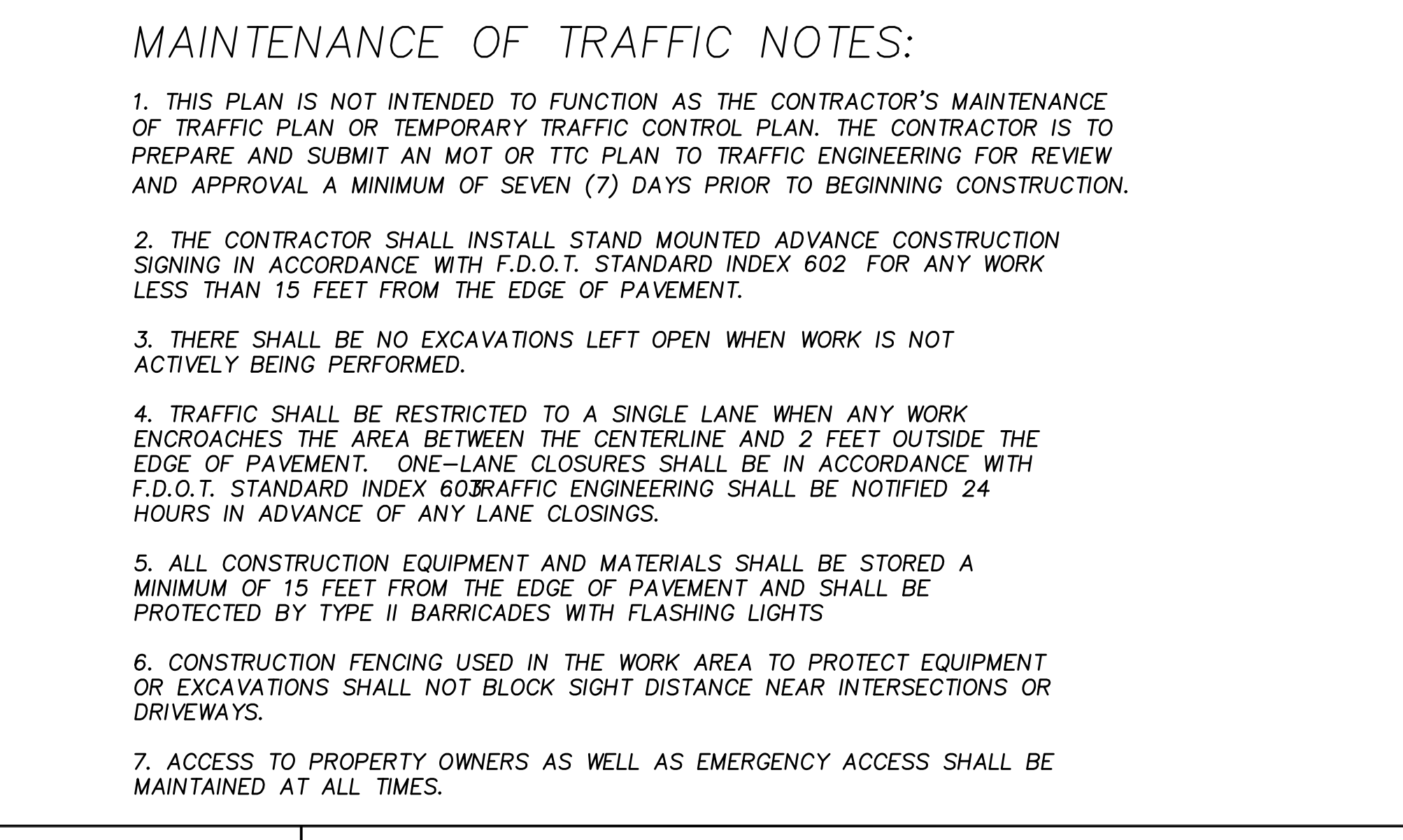
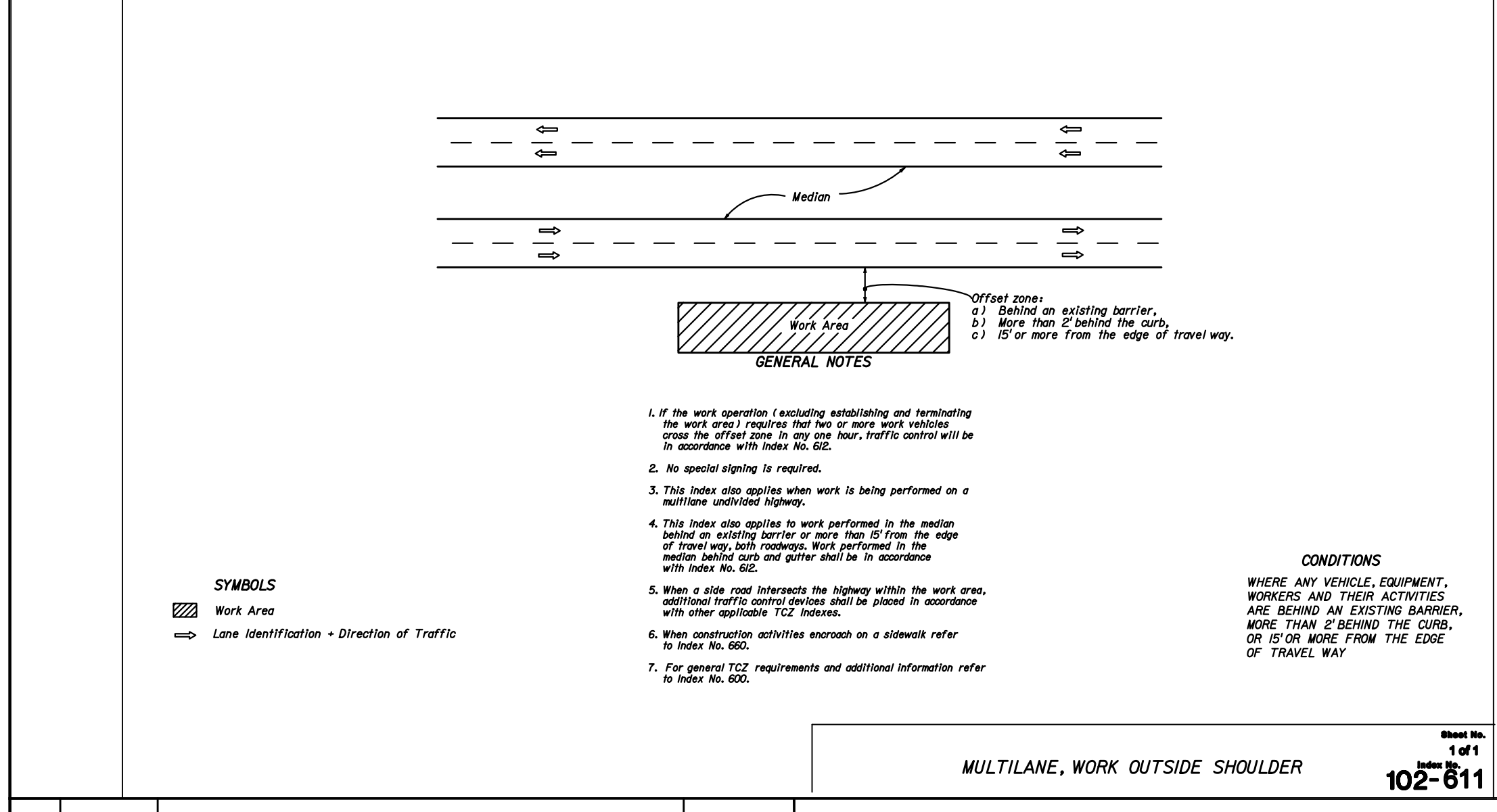
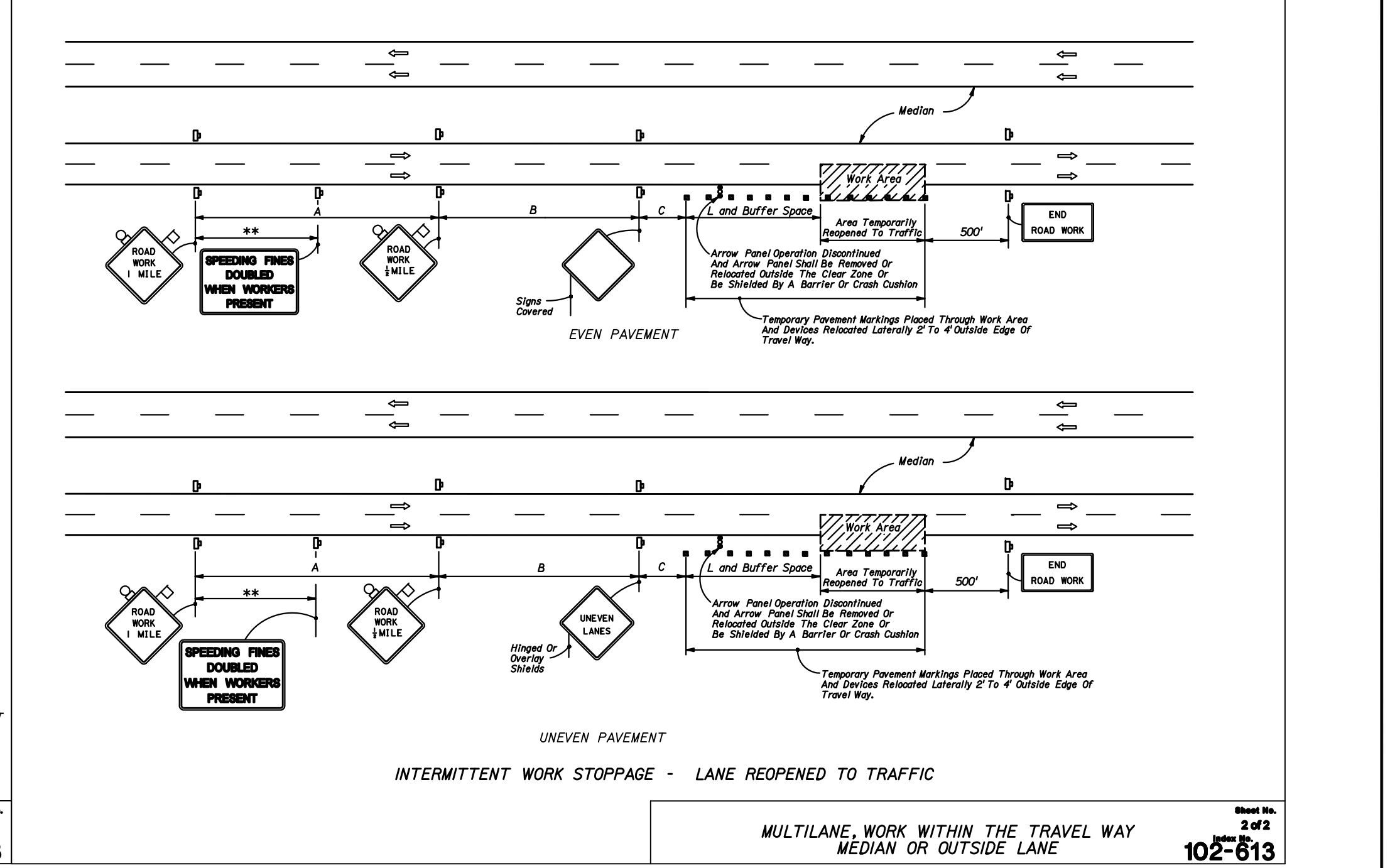
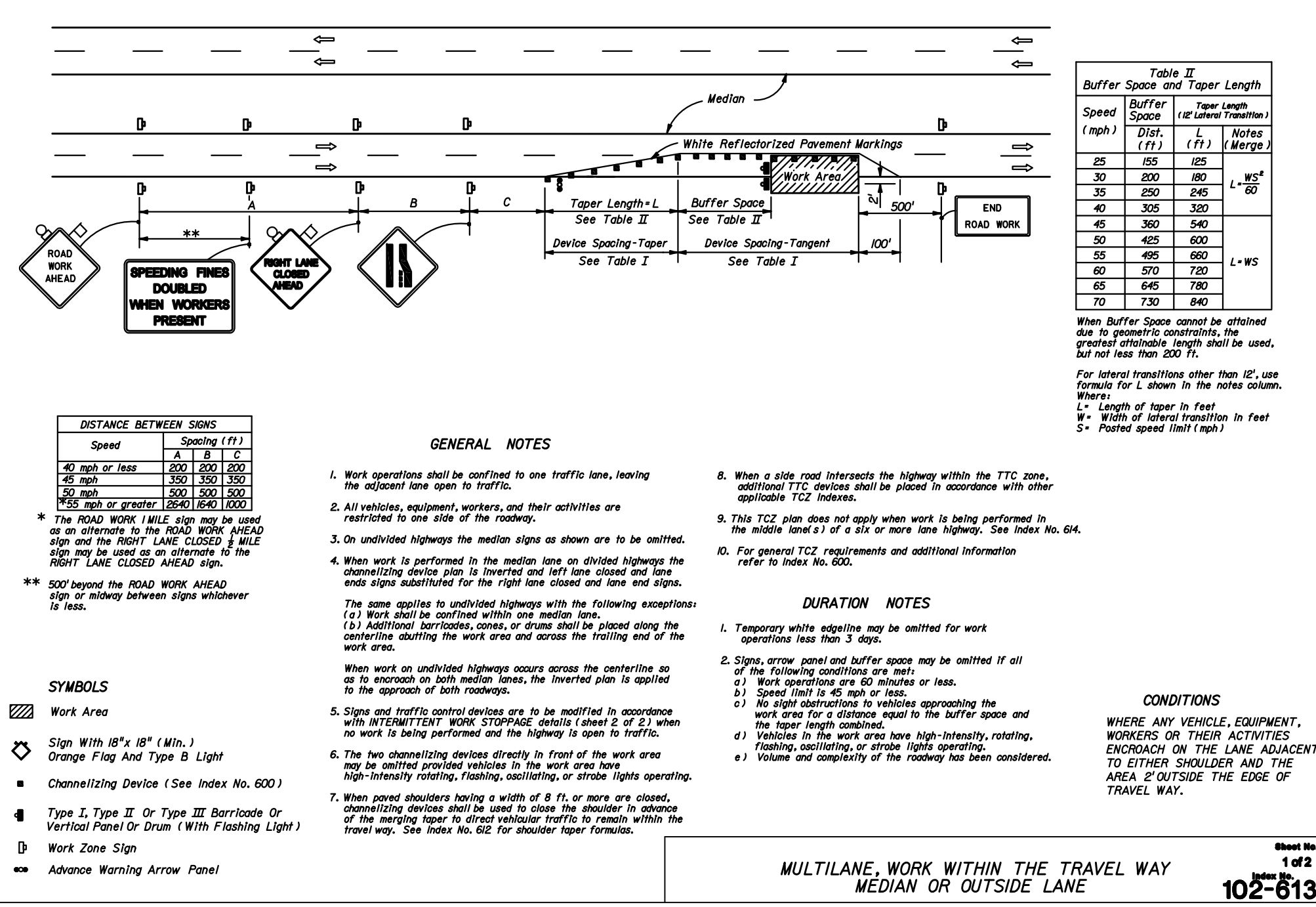
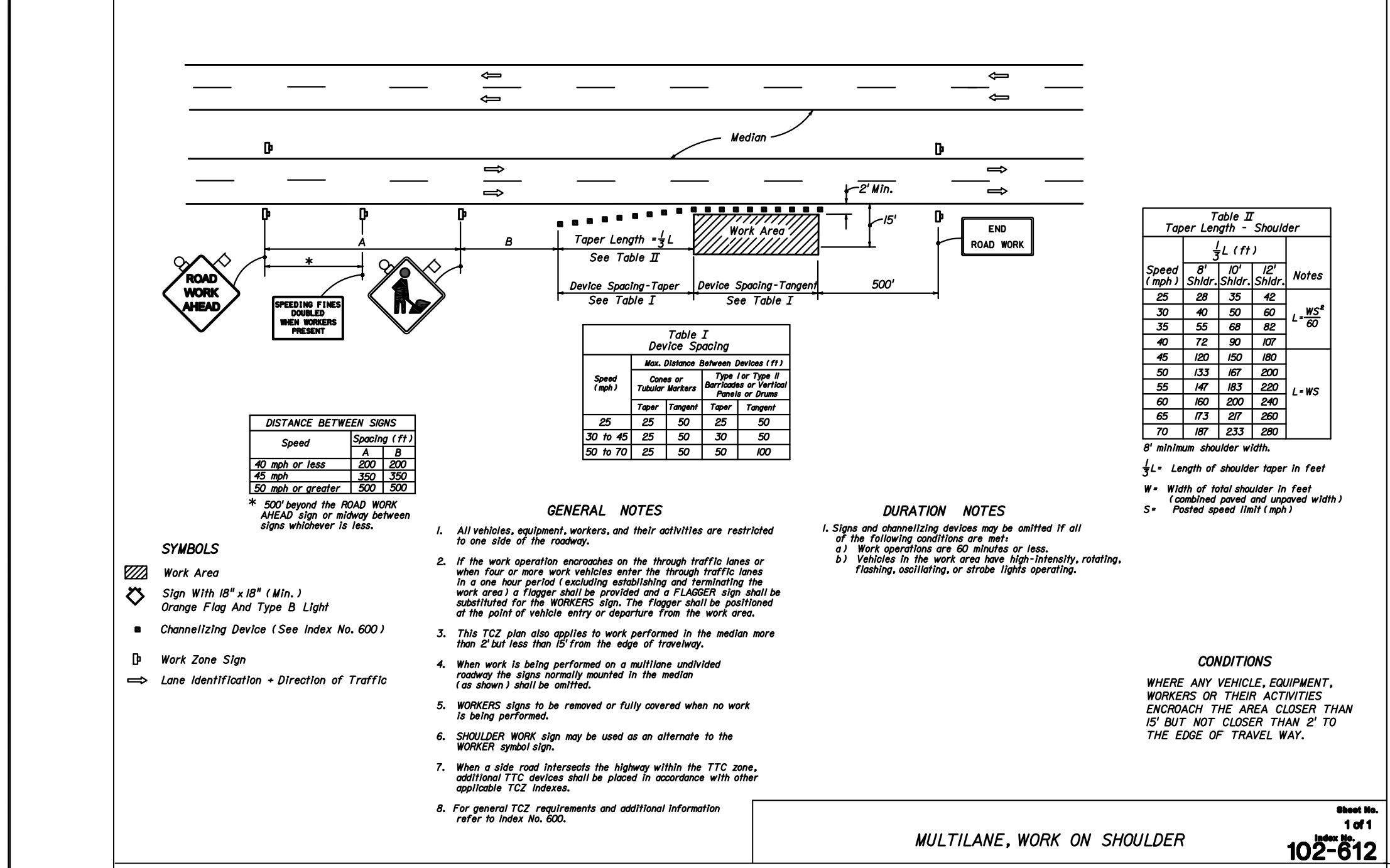
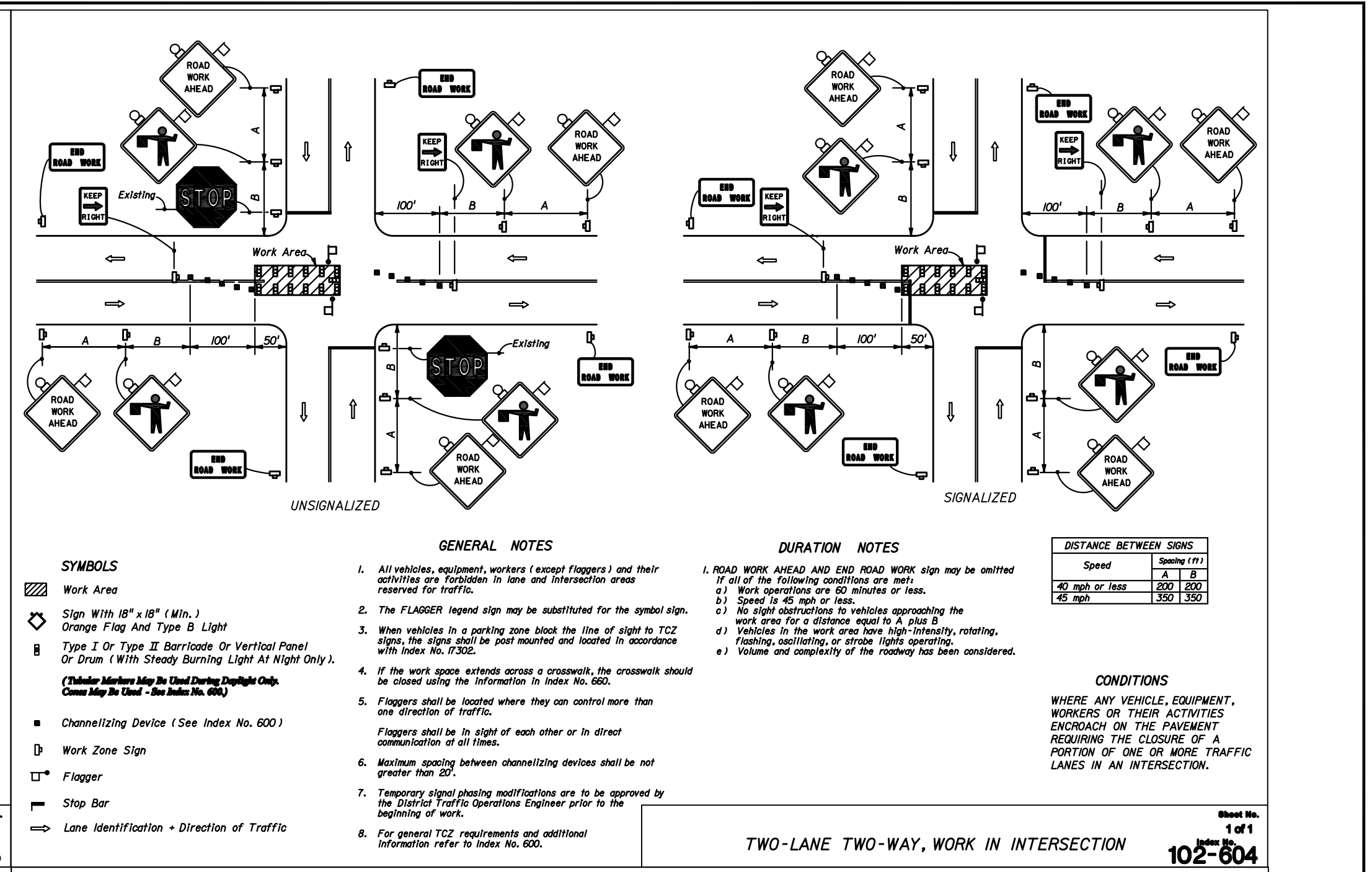
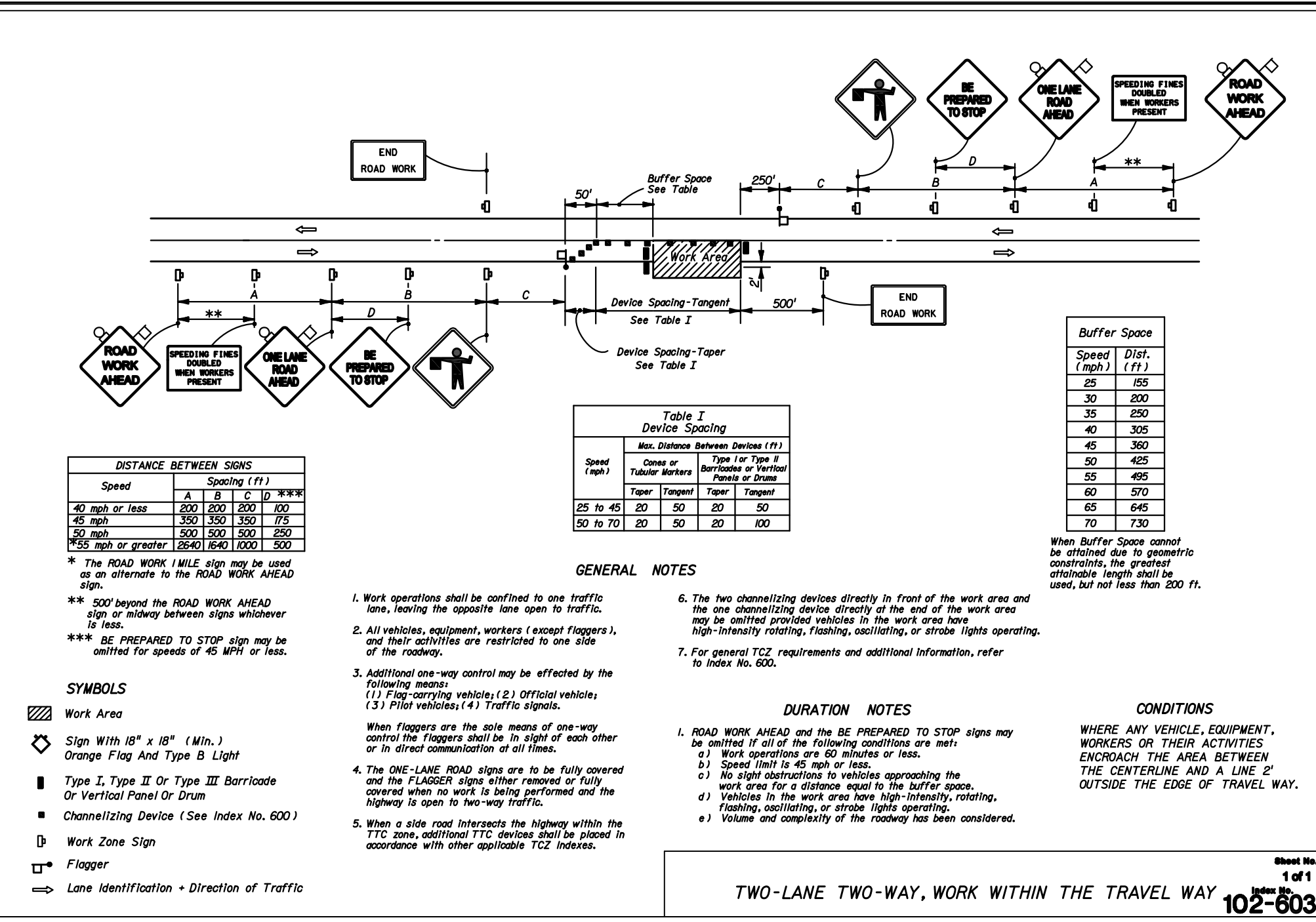
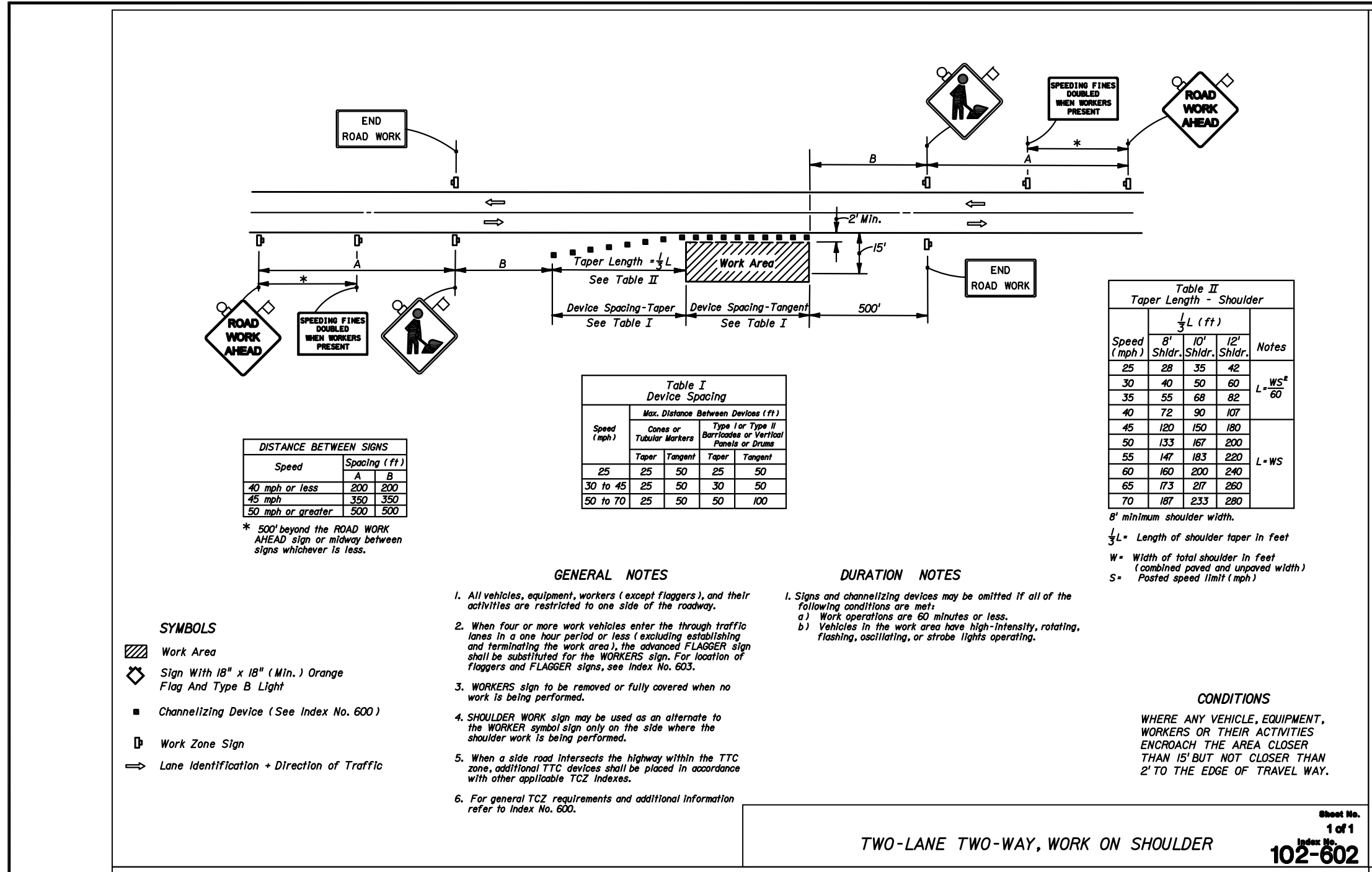
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 CERTIFICATE OF AUTHORIZATION NUMBER 4204

**INDIAN RIVER COUNTY
 NORTH COUNTY WATER & SEWER SYSTEM
 PHASE 2
 SWPPP TEMPLATE FOR MINIMUM BMP'S**

DESIGNED	SCG
CHECKED	EHM
DATE	10/22/2018
SCALE	AS SHOWN
SHEET	36 OF 37
DWG NO	1422
12/01/2020	
EARL H. MASTELLER, P.E. FL#26658	
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INDIAN RIVER COUNTY
NORTH COUNTY WATER & SEWER SYSTEM
PHASE 2
MAINTENANCE OF TRAFFIC DETAILS

FOR BIDDING PURPOSES ONLY

12/01/2020
EARL H. MASTELLER, P.E. FL#26658

DRAWN	SCG
DESIGNED	EHM
CHECKED	EHM
DATE	10/22/2018
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DWG NO	1422

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