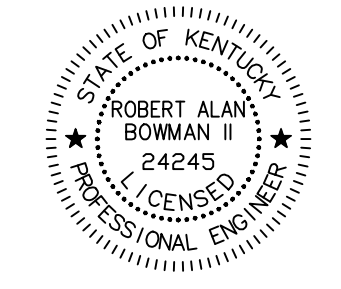


CONTRACT NO.
371-20-01
2020



June 29, 2020

ESTILL COUNTY WATER DISTRICT #1
PHASE II SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION
ESTILL COUNTY, KENTUCKY

ESTILL COUNTY WATER DISTRICT #1 PHASE II SYSTEM IMPROVEMENTS ZONE METER AND RIVER CROSSING INSTALLATION

ESTILL COUNTY, KENTUCKY
APRIL 2020

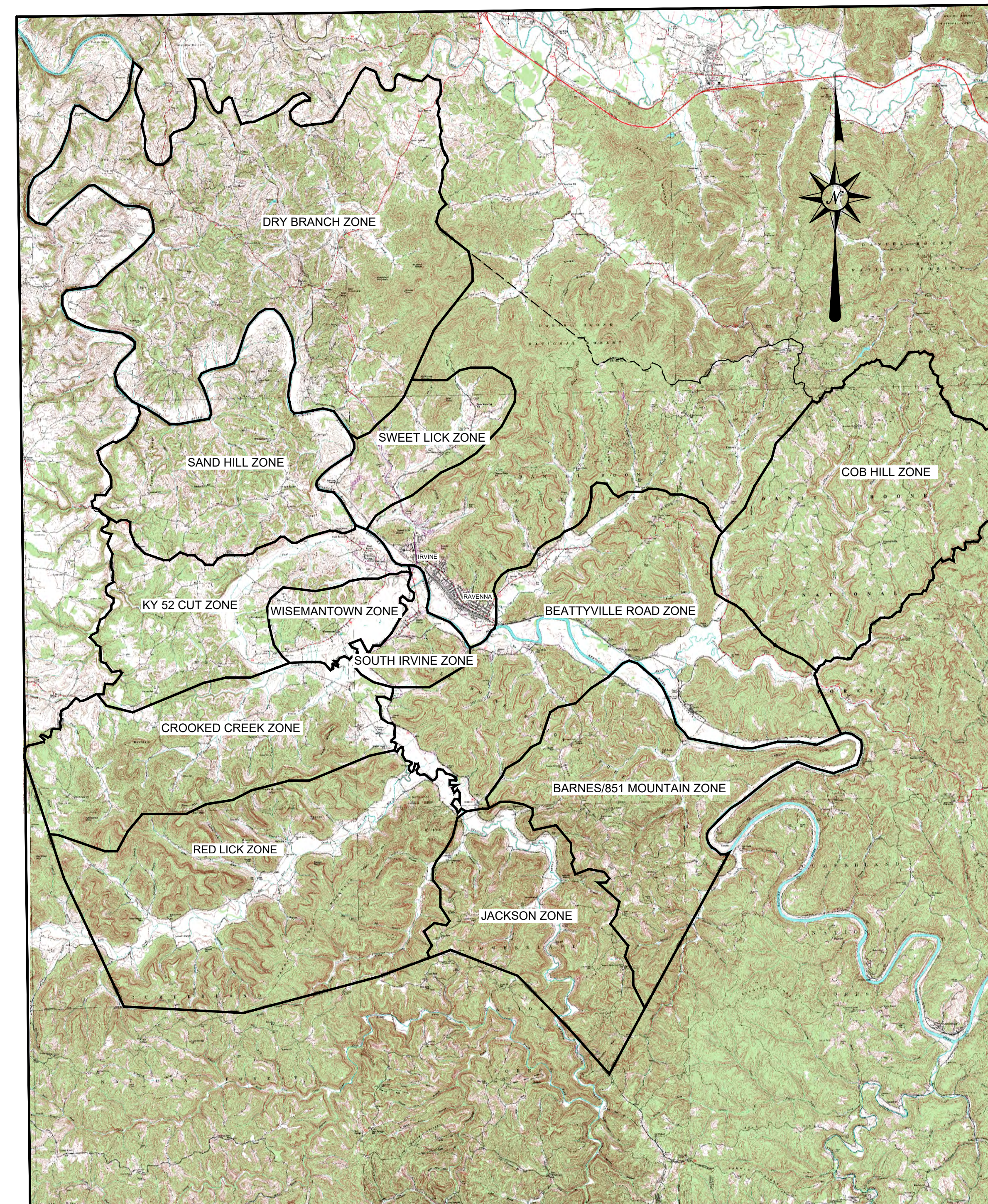
CONSTRUCTED 2022 BY:
ROE ENTERPRISES INC.
DBA: SWARTZ PIPELINE CONTRACTING
PO BOX 44
OLYMPIA, KENTUCKY 40358
PH: 606-674-3125



Estill County Water District
Serving Estill County Since 1964

COMPLETE DRAWING SET INCLUDES

DESCRIPTION	SHEET NO.
PROJECT MAP, VICINITY MAP, LEGEND & GENERAL NOTES	1
STREAM CROSSINGS	2
STREAM CROSSING PROFILES	3
KENTUCKY RIVER CROSSING	4
KENTUCKY RIVER CROSSING PROFILE	5
ZONE METERS	6-10
ZONE METER DETAIL & MISCELLANEOUS DETAILS	D1-D2
ELECTRICAL SHEETS	E1-E2



RECORD DRAWINGS

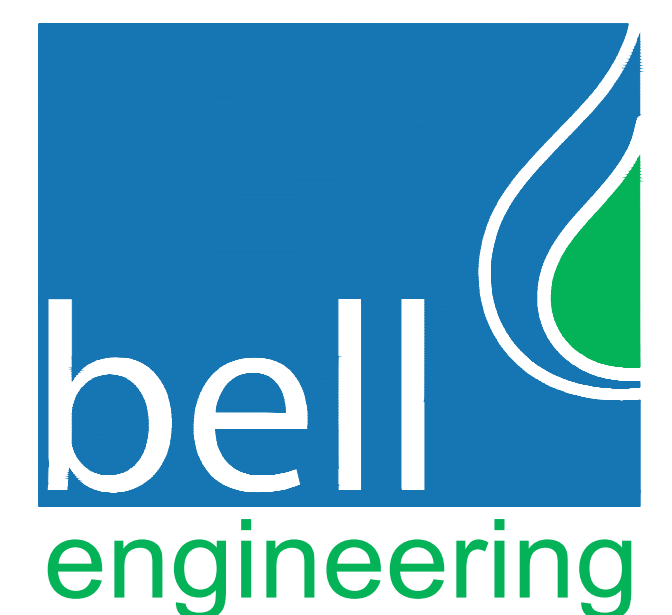
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ZONE MAP
NOT TO SCALE

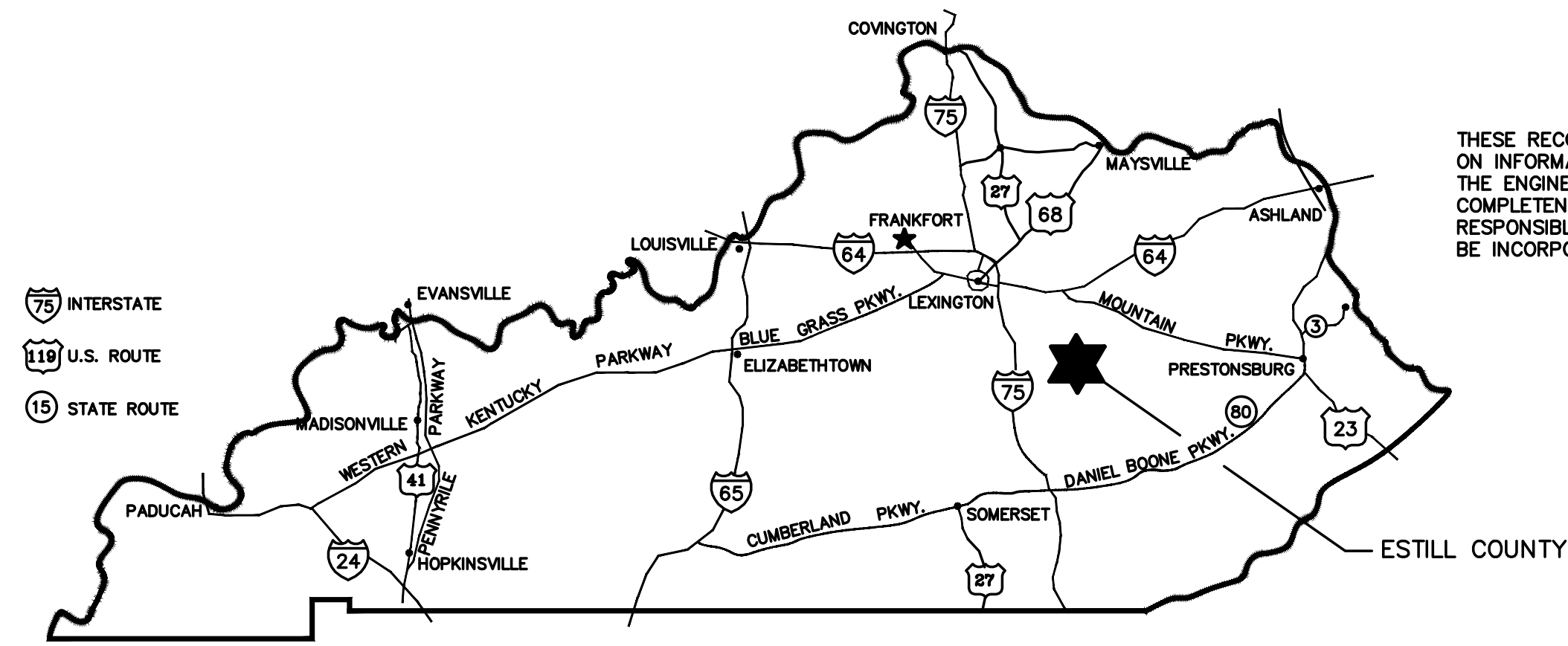
FACSIMILES OF LICENSED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR SEALS, IF AFFIXED TO THIS DOCUMENT, SHALL BE CONSIDERED LEGITIMATE ONLY IF SIGNED AND DATED BY THE REGISTRANT.

BUD NOTE:
KENTUCKY STATUTES (KRS 367.4901 THROUGH 367.4917) REQUIRE THAT ALL EXCAVATORS PLANNING EXCAVATION OR DEMOLITION WORK SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA AND/OR AN UNDERGROUND PROTECTION SERVICE SUCH AS BUD (1-800-752-6007 OR 811) AT LEAST TWO (2) WORKING DAYS BEFORE COMMENCING WORK TO ALERT UTILITY COMPANIES IN THE AREA WITH UNDERGROUND FACILITIES OF THE PLANNED EXCAVATION OR DEMOLITION ACTIVITIES.

- CLIENT REVIEW
- BELL (QA) REVIEW
- DIVISION OF WATER REVIEW
- HBC REVIEW
- BID DOCUMENTS
- RECORD DRAWINGS



2480 fortune drive, suite 350
lexington, kentucky 40509
P: 859-278-5412 | F: 859-278-2911
www.hkbell.com



WATER MAIN LEGEND

EXISTING	PROPOSED
W—W—W	W—W—W
S—S—S	S—S—S
FM—FM—FM	FM—FM—FM
G—G—G	G—G—G
	◡ DIMJ BEND (INCLUDED IN UNIT PRICE OF PIPE)
	— SLEEVE
●	○ WATER VALVE
⦿	⦿ FLUSHING HYDRANT
⊕	⊕ TEST METER ASSEMBLY
⦿	⦿ WATER LINE MARKER
⊕	⊕ WATER METER ASSEMBLY
⊕	⊕ WATER METER ASSEMBLY W/ (PRESSURE REDUCER)
⊕	⊕ GAS VALVE
⊕	⊕ GAS METER ASSEMBLY
⊕	⊕ GRINDER STATION W/ CLEANOUT
—	— CROSS DRAIN PIPE
—	— COVER (CASING) PIPE

VICINITY MAP NOT TO SCALE

KENTUCKY TRANSPORTATION CABINET DISTRICT 10 GENERAL NOTES:

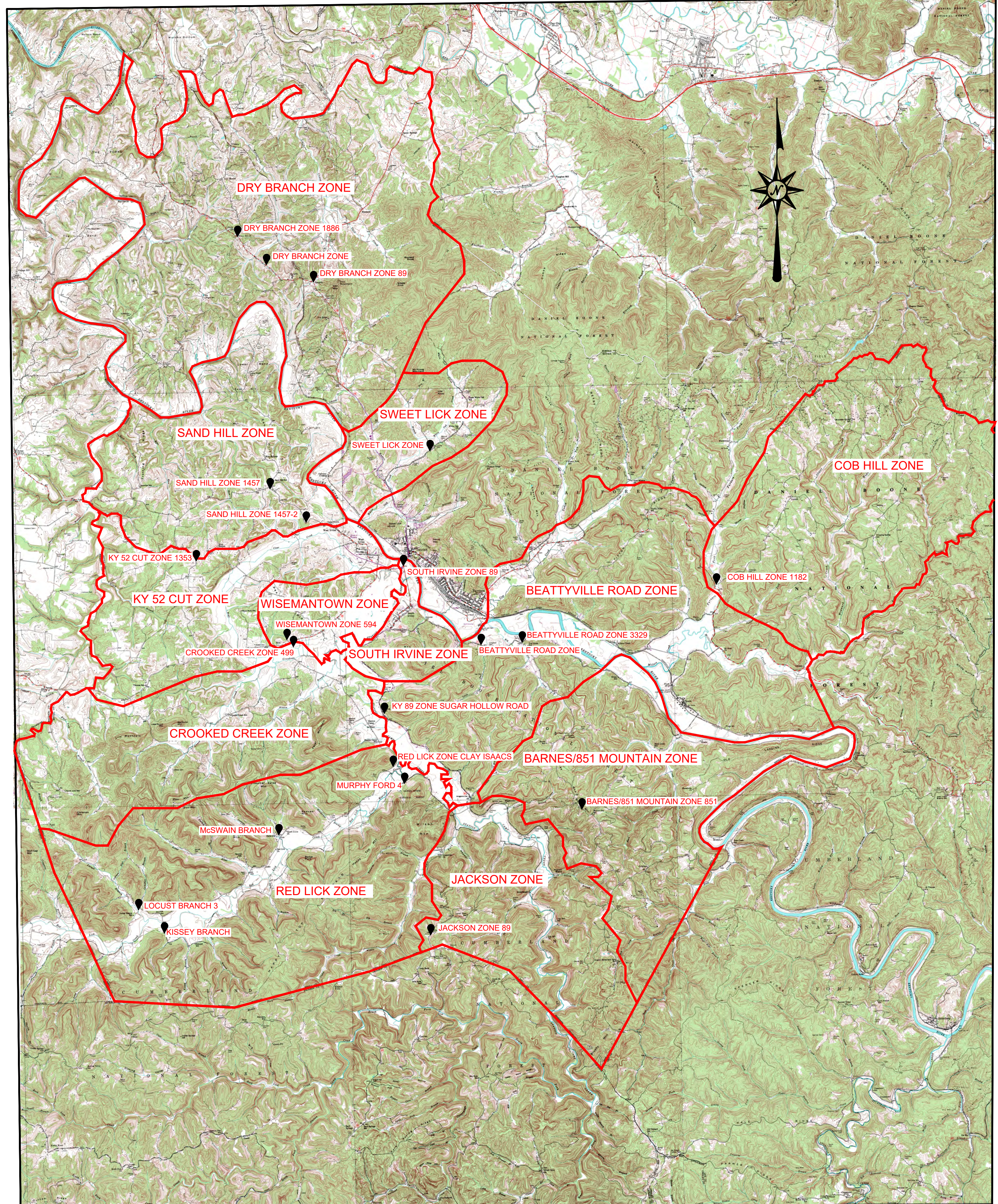
- EFFORTS HAVE BEEN MADE TO INDICATE LOCATIONS OF SOME EXISTING STRUCTURES, PIPING AND UTILITIES. HOWEVER, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND OTHER EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN INFORMATION DEPICTED BY THE CONSTRUCTION DRAWINGS AND ACTUAL FIELD CONDITIONS, WHICH WOULD SIGNIFICANTLY ALTER THE DESIGN INTENT OF CONSTRUCTION DRAWINGS PRIOR TO COMMENCING HIS CONSTRUCTION OPERATIONS. DIMENSIONS OF EXISTING STRUCTURES AND/OR SITE RESTRICTIONS ARE APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND CONFIRM ALL DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES AND TOPOGRAPHY IN THE FIELD NECESSARY FOR HIS CONSTRUCTION OPERATION.
- THE CONTRACTOR SHALL USE ALL POSSIBLE CARE DURING EXCAVATION ON THE PROJECT SO AS NOT TO DISTURB OR DAMAGE ANY EXISTING UTILITY OR STRUCTURE NOT SCHEDULED FOR DEMOLITION WHETHER DEPICTED OR NOT IN THE CONSTRUCTION DRAWINGS. ANY DAMAGE TO THE ABOVE MENTIONED ITEMS CAUSED DIRECTLY OR INDIRECTLY BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER TO A CONDITION EQUAL TO THAT WHICH EXISTED PRIOR TO BEING DAMAGED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL EXISTING UTILITY OWNERS AND HAVE THEM FIELD LOCATE THEIR EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT AND OBTAIN THE PERMISSION OF EXISTING UTILITY OWNERS 48 HOURS (MIN.) PRIOR TO ANY CONSTRUCTION ACTIVITY INTERRUPTING OPERATION OF SAID UTILITY.
- UNLESS OTHERWISE NOTED, ALL BURIED PIPES SHALL HAVE 36" (MIN.) COVER AS MEASURED FROM FINISHED GRADE TO THE OUTSIDE SURFACE OF THE PIPE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO WORK ALL APPLICABLE DRAWINGS AND THE APPROPRIATE SPECIFICATIONS. A UNIT, ANY DIMENSIONS, DELETIONS, OR CONFLICTS ARISING AS A RESULT OF FAILURE TO INCORPORATE ALL DRAWINGS AND SPECIFICATIONS WHICH APPLY SHALL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- PRIOR TO BEGINNING OF WORK ON KENTUCKY TRANSPORTATION CABINET RIGHT-OF-WAY THE CONTRACTOR SHALL HAVE COMPLETED THE KENTUCKY TRANSPORTATION CABINET'S WORK ZONE TRAFFIC CONTROL EMPLOYEE QUALIFICATION PROGRAM. INDIVIDUALS PERFORMING FLAGGING OPERATIONS ON ANY KENTUCKY ROADWAY MUST BE QUALIFIED AND CERTIFIED BY THE KENTUCKY TRANSPORTATION CABINET. INDIVIDUALS WHO PLACE, MONITOR AND MAINTAIN TRAFFIC CONTROL DEVICES ON PUBLIC ROADWAYS IN KENTUCKY SHALL HAVE SUCCESSFULLY COMPLETED THE WORK ZONE TRAFFIC CONTROL TECHNICIAN PROGRAM. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PREPARING AND IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE INDIVIDUALS RESPONSIBLE FOR THIS WORK SHALL HAVE SUCCESSFULLY COMPLETED THE WORK ZONE TRAFFIC CONTROL SUPERVISOR PROGRAM. FOR MORE INFORMATION ON THE WORK ZONE TRAFFIC CONTROL EMPLOYEE QUALIFICATION PROGRAM AS PRESENTED BY THE TECHNOLOGY TRANSPORTATION CENTER, KENTUCKY TRANSPORTATION CENTER, UNIVERSITY OF KENTUCKY CALL THE CENTER'S TOLL FREE NUMBER 1-800-432-0719 OR CONTACT THE DEPARTMENT OF HIGHWAYS, DISTRICT 10, JACKSON, KENTUCKY PHONE (606) 666-8841

GENERAL NOTES:

- MINIMUM COVER OVER WATER PIPE TO BE 42" IN HIGHWAY RIGHT-OF-WAY ONLY, 36" OF COVER WILL BE MAINTAINED IN ALL OTHER AREAS UNLESS OTHERWISE NOTED.
- MINIMUM COVER OVER VALVE NUT TO BE 12" (NO PAYMENT FOR EXTRA DEPTH TRENCH). MAXIMUM COVER OVER VALVE NUTS TO BE 30" (NO EXTRA PAYMENT FOR REQUIRED EXTENSIONS).
- CONCRETE BLOCKING OF FITTINGS REQUIRED AT NO EXTRA COST.
- THE CONTRACTOR WILL HAVE THE OPTION OF USING FITTINGS OR EXTRA DEPTH TRENCHING AT ALL LOCATIONS WHERE VERTICAL BENDS ARE SHOWN. EITHER METHOD WILL BE AT NO EXTRA COST ABOVE THAT BID FOR FURNISHING, TRENCHING, LAYING AND BACKFILLING PIPE AND FITTINGS, AND WILL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- INSTALL NEW MAIN UNDER EXISTING WATER LINES AND GAS LINES, EXCEPT AS OTHERWISE NOTED OR DETERMINED IN THE FIELD. (NO PAYMENT FOR EXTRA DEPTH TRENCH.)
- ANY SALVAGED MATERIALS WHICH HAVE NOT BEEN SPECIFIED TO BE REUSED WILL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AND PLACED AT AN OWNER DESIGNATED AREA AT NO EXTRA COST.
- DISTANCES SHOWN ALONG THE PIPELINE ARE HORIZONTAL DISTANCES (NOT SLOPE DISTANCES). PAYMENT FOR PIPE WILL BE FOR LENGTHS ACTUALLY INSTALLED AND MEASURED ALONG THE GROUND SURFACE IN THE FIELD. COUNTING INDIVIDUAL PIPES INSTALLED WILL NOT BE ALLOWED. LENGTHS AND QUANTITIES WILL BE AGREED ON DAILY BY THE RPR & CONTRACTOR.
- DIRECTIONAL BORING:** STATIONS SHOWN FOR DIRECTIONAL BORES ARE APPROXIMATE MINIMUM HORIZONTAL DISTANCES. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING VERTICAL AND HORIZONTAL DISTANCES FOR TOTAL BORE LENGTH. CONTRACTOR MAY NEED TO LENGTHEN THE DIRECTIONAL BORES TO MEET REQUIRED APPROACH AND DEPARTURE ANGLES OF EQUIPMENT BEING USED AT NO ADDITIONAL COST TO THE OWNER. EACH BORE SHALL INCLUDE TRANSITION COUPLINGS, BUTT FUSED PER DETAIL. ALL OF WHICH SHALL BE INCLUDED IN CONTRACTOR'S LUMP SUM BID FOR EACH DIRECTIONAL BORE.
- WATER LINE MARKERS WILL BE LOCATED AS DIRECTED BY THE ENGINEER.
- TUNNELING UNDER SIDEWALKS, CURBS, ETC., WHERE POSSIBLE WILL BE REQUIRED AT NO EXTRA COST OVER THAT FOR FURNISHING AND LAYING PIPE.
- ALL TIE-IN LOCATIONS WILL BE UNCOVERED PRIOR TO CONSTRUCTION TO MAINTAIN PROPER ALIGNMENT AND ELEVATION OF NEW CONNECTIONS.
- CONTRACTOR WILL INVENTORY REQUIRED MATERIALS, TRENCH DEWATERING EQUIPMENT, AND ASSEMBLY IF NECESSARY ALL REQUIRED FITTINGS PRIOR TO CUT-INS OR TIE-INS TO INSURE MINIMUM DOWN TIME FOR CONNECTION.
- SURFACE DRAINAGE WILL BE MAINTAINED ON A DAY-BY-DAY BASIS.
- THE CONTRACTOR WILL BE REQUIRED TO DISPOSE OF ALL EXCESS EXCAVATED MATERIAL FROM WATER MAIN AND SERVICE LINE CONSTRUCTION AT NO EXTRA COST.
- LOCATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE ONLY. EXACT LOCATIONS MUST BE DETERMINED BY THE CONTRACTOR BEFORE EXCAVATION FOR NEW FACILITIES. OTHER UTILITIES MAY EXIST WHICH ARE NOT SHOWN. THE CONTRACTOR WILL INVESTIGATE ALL AREAS FOR THE PRESENCE OF EXISTING UTILITIES PRIOR TO ANY EXCAVATION.
- MAINTAIN 10 FT. SEPARATION BETWEEN WATER MAINS AND SEWER MAINS WHEN LOCATED PARALLEL TO EACH OTHER, AND 18 INCHES VERTICAL SEPARATION AT WATER MAIN AND SEWER CROSSINGS.
- ALL DUCTILE IRON PIPE TO BE CLASS 350.
- ALL DUCTILE IRON RESTRAINED JOINT (D.I.R.J.) PIPE TO BE CLASS 350.
- ALL PVC PIPE TO BE C900, DR14 UNLESS OTHERWISE SHOWN OR NOTED.
- DURING CONSTRUCTION OF STREAM CROSSINGS, NO MATERIAL MAY BE PLACED IN THE STREAM OR IN THE FLOOD PLAN OF THE STREAM TO FORM CONSTRUCTION PADS, COFFER DAMS, OR ACCESS ROADS.
- CONTRACTOR TO SUBMIT DETAIL OF ANY OVER-BENDS OR UNDERBENDS TO THE ENGINEER FOR REVIEW IF WARRANTED BY ACTUAL FIELD CONDITIONS. ANY EXTRA ALL THREAD RODS, WEG-A-LUGS OR CONCRETE REQUIRED TO BE AT "NO ADDITIONAL COST." (TYPICAL ALL LOCATIONS)

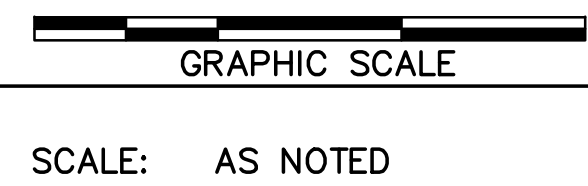
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PROJECT MAP NOT TO SCALE

DESIGNER	BAS	DATE	BY	REVISION
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APPROVED	SHC			



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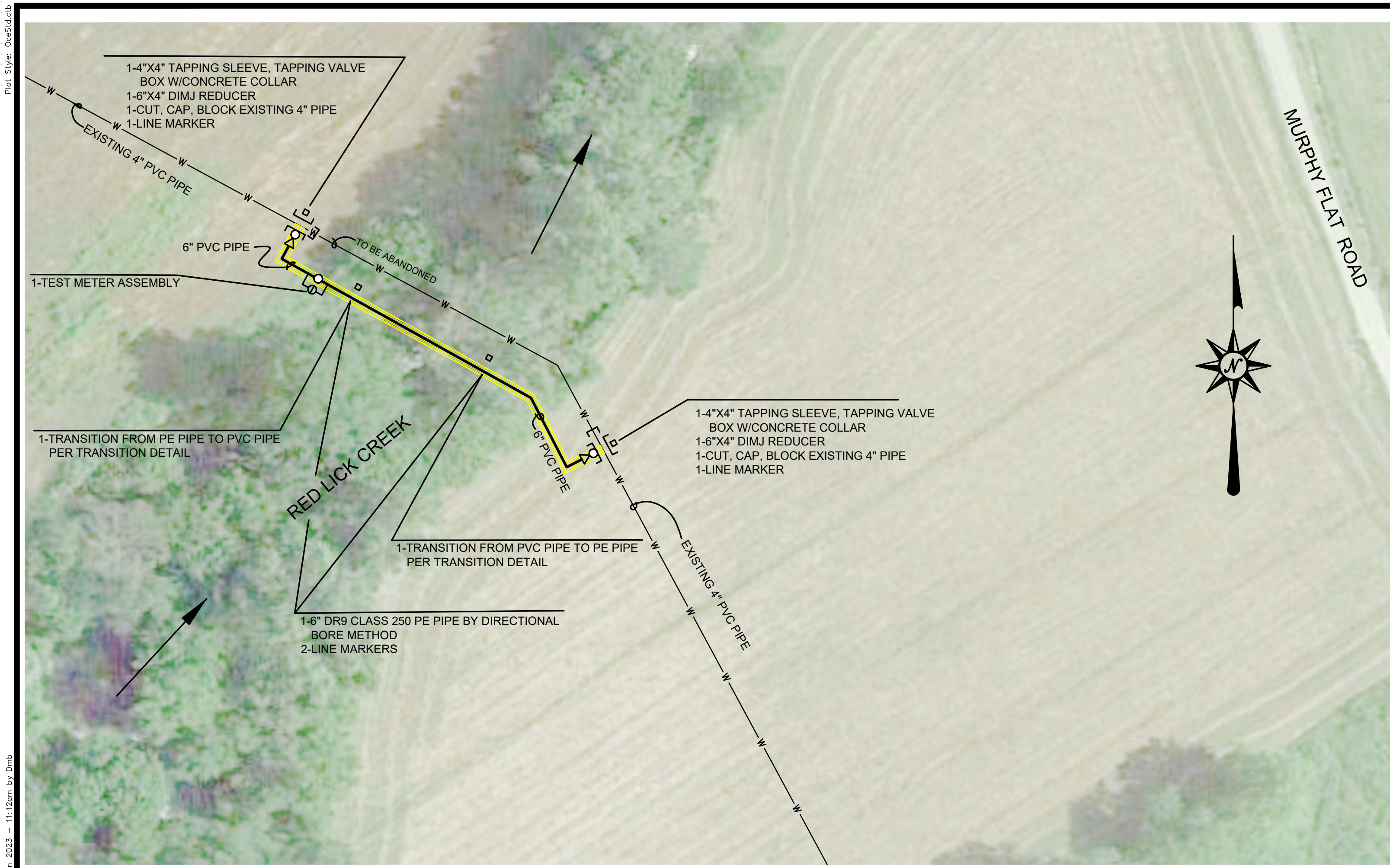
June 29, 2023

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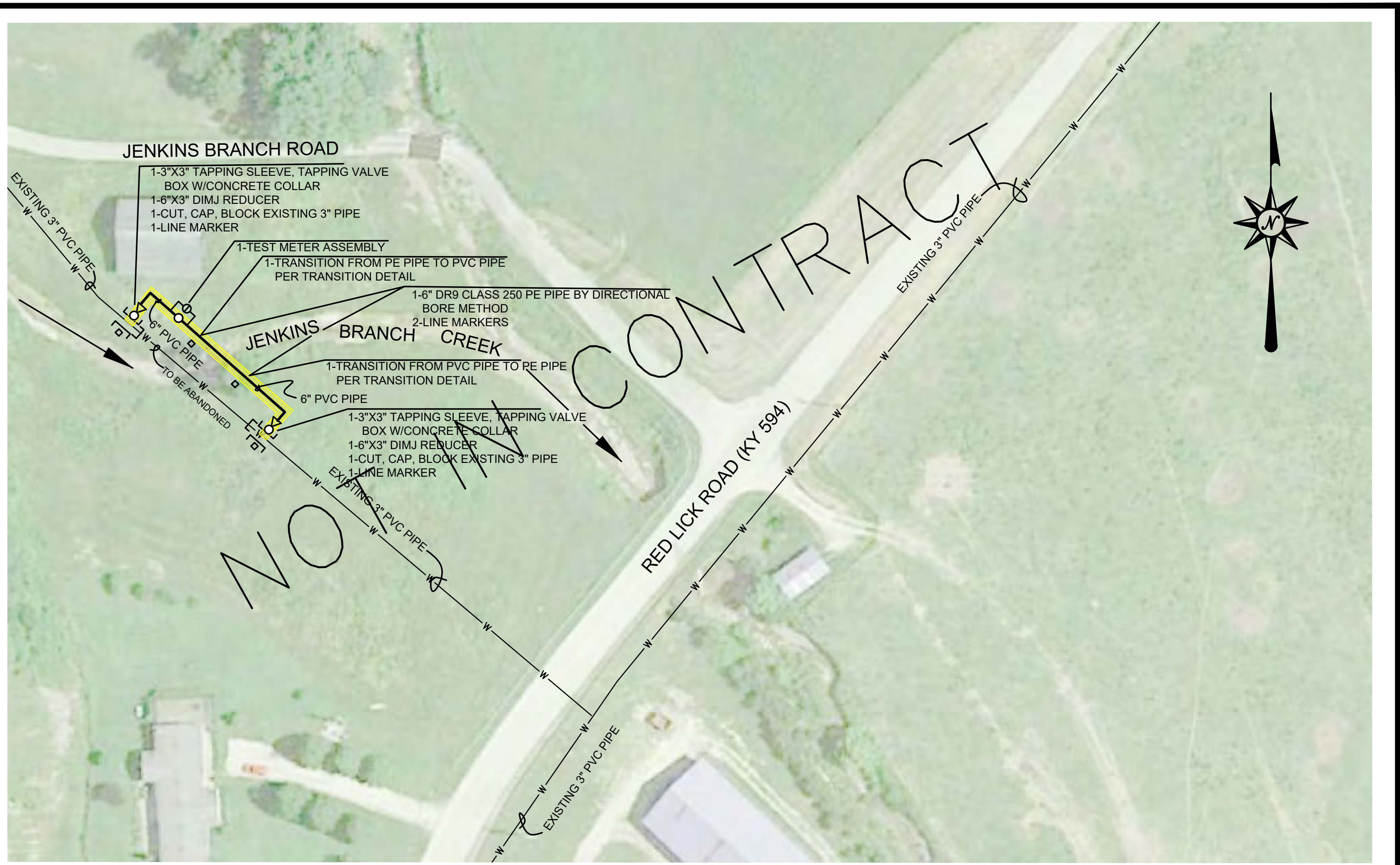
PHASE 11 SYSTEM IMPROVEMENTS ZONE METER & RIVER CROSSING INSTALLATION ESTILL COUNTY WATER DISTRICT #1 ESTILL COUNTY, KENTUCKY

PROJECT MAP, VICINITY MAP, LEGEND AND GENERAL NOTES

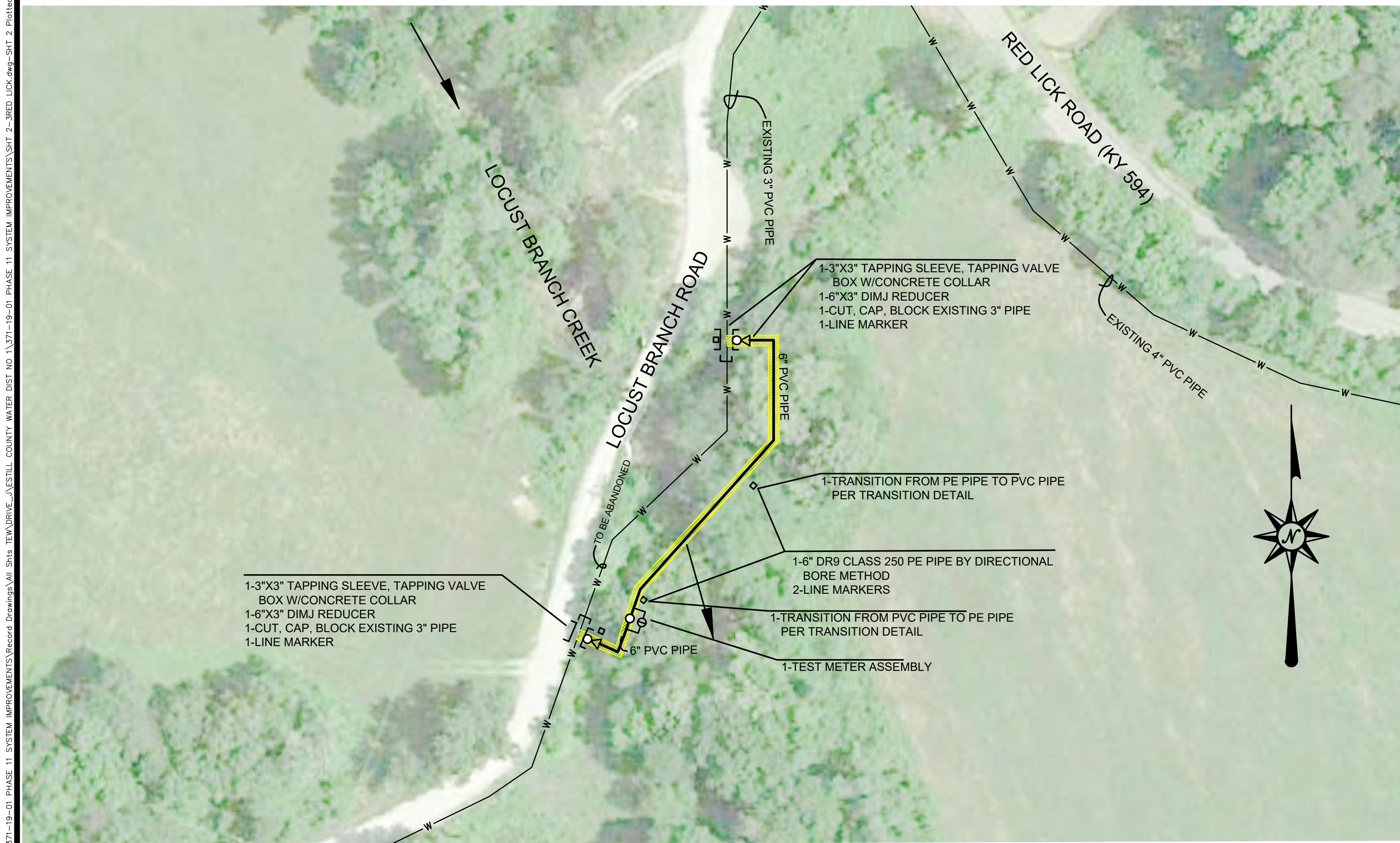
DIVISION	CONTRACT NO.	DATE	SHEET NO.
-	371-20-01	APRIL 2020	1 OF 10



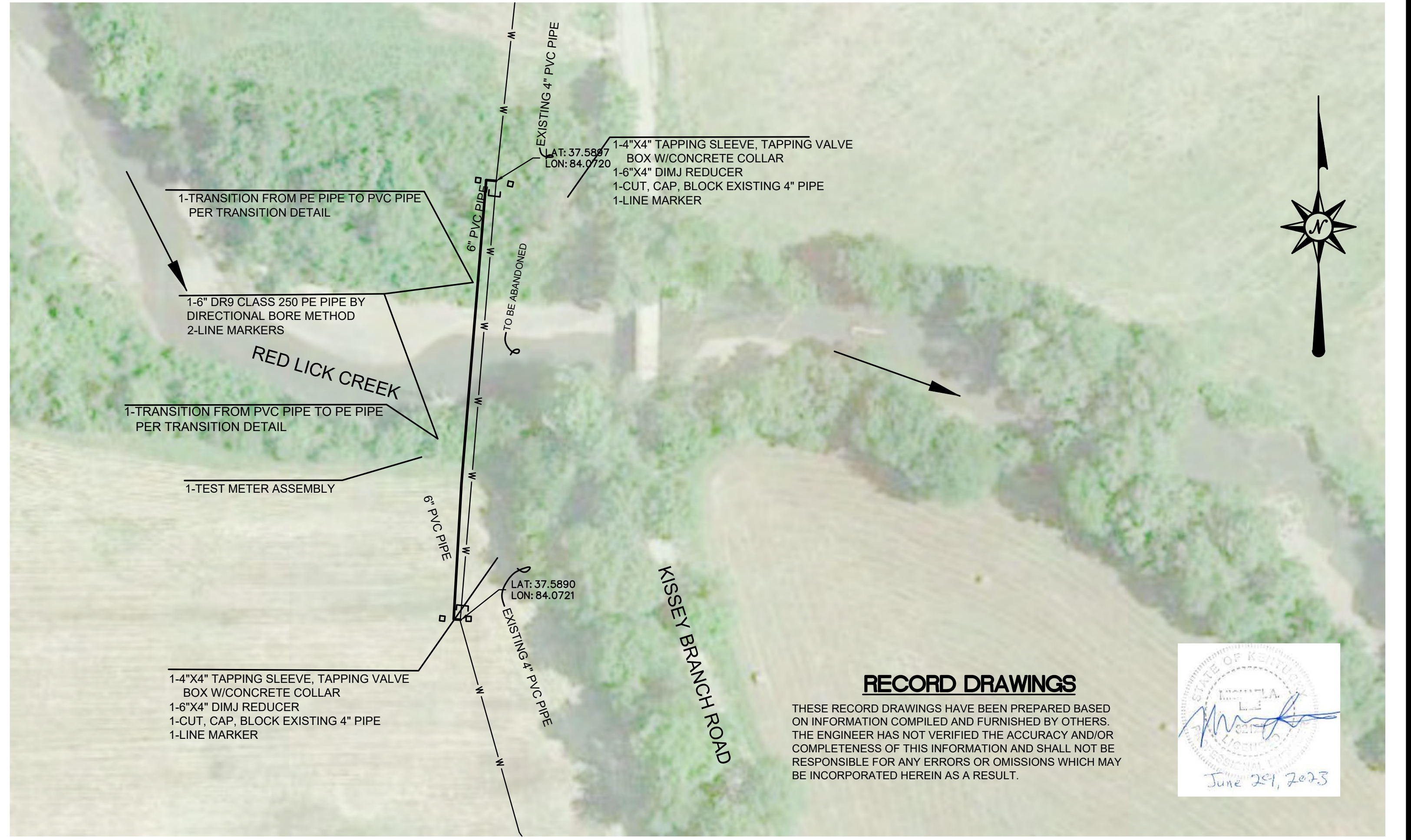
MURPHY FORD 4
SCALE: 1"=50'



McSWAIN BRANCH 3
SCALE: 1"=50'

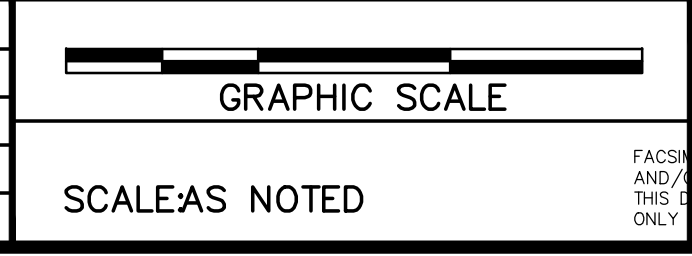


LOCUST BRANCH 3
SCALE: 1"=50'

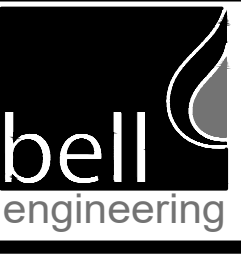
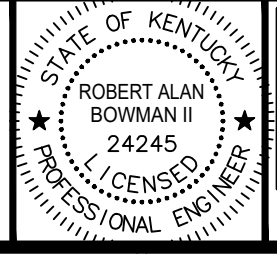


KISSEY BRANCH
SCALE: 1"=50'

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PHASE 11 SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION
ESTILL COUNTY WATER DISTRICT #1
ESTILL COUNTY, KENTUCKY

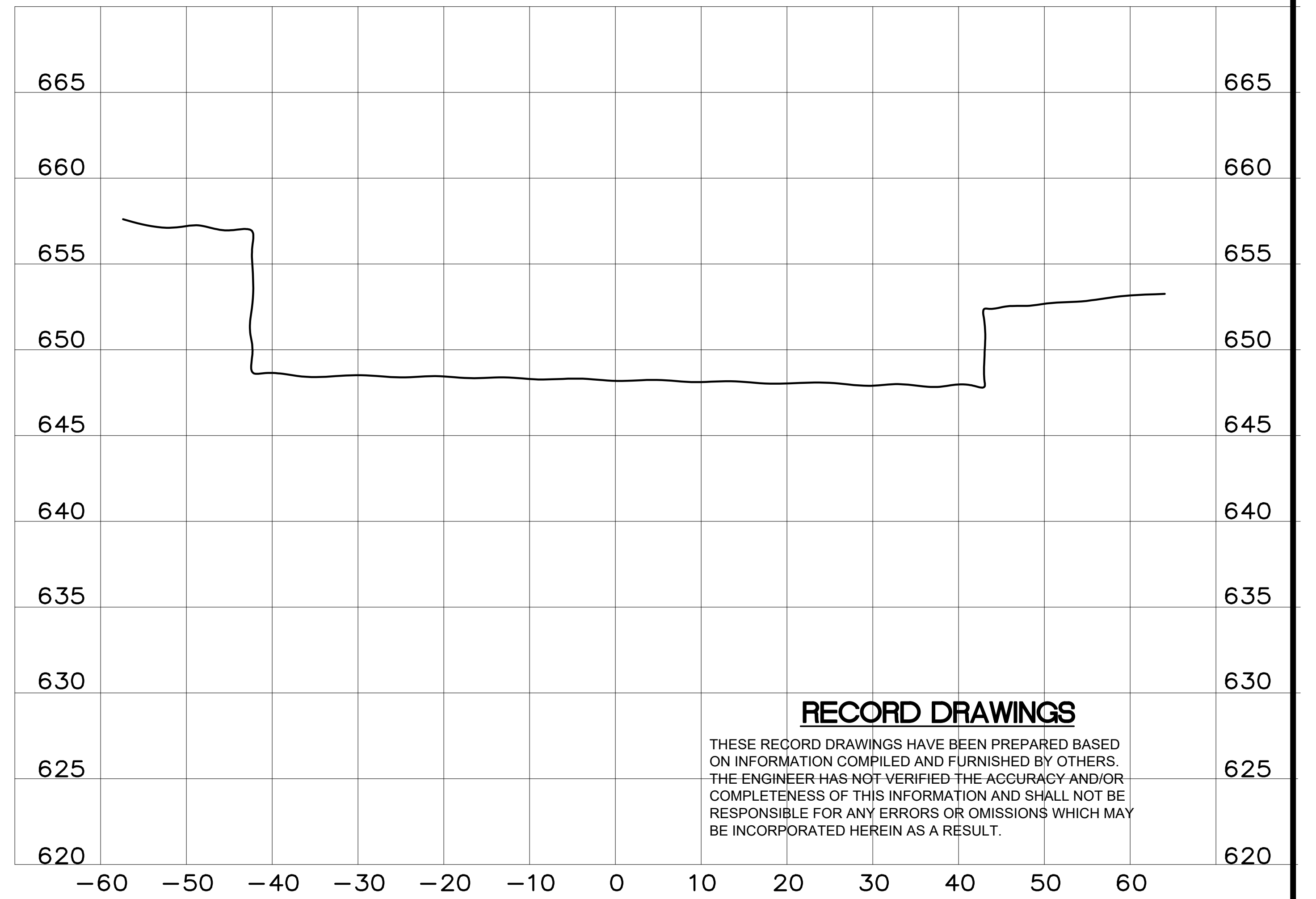
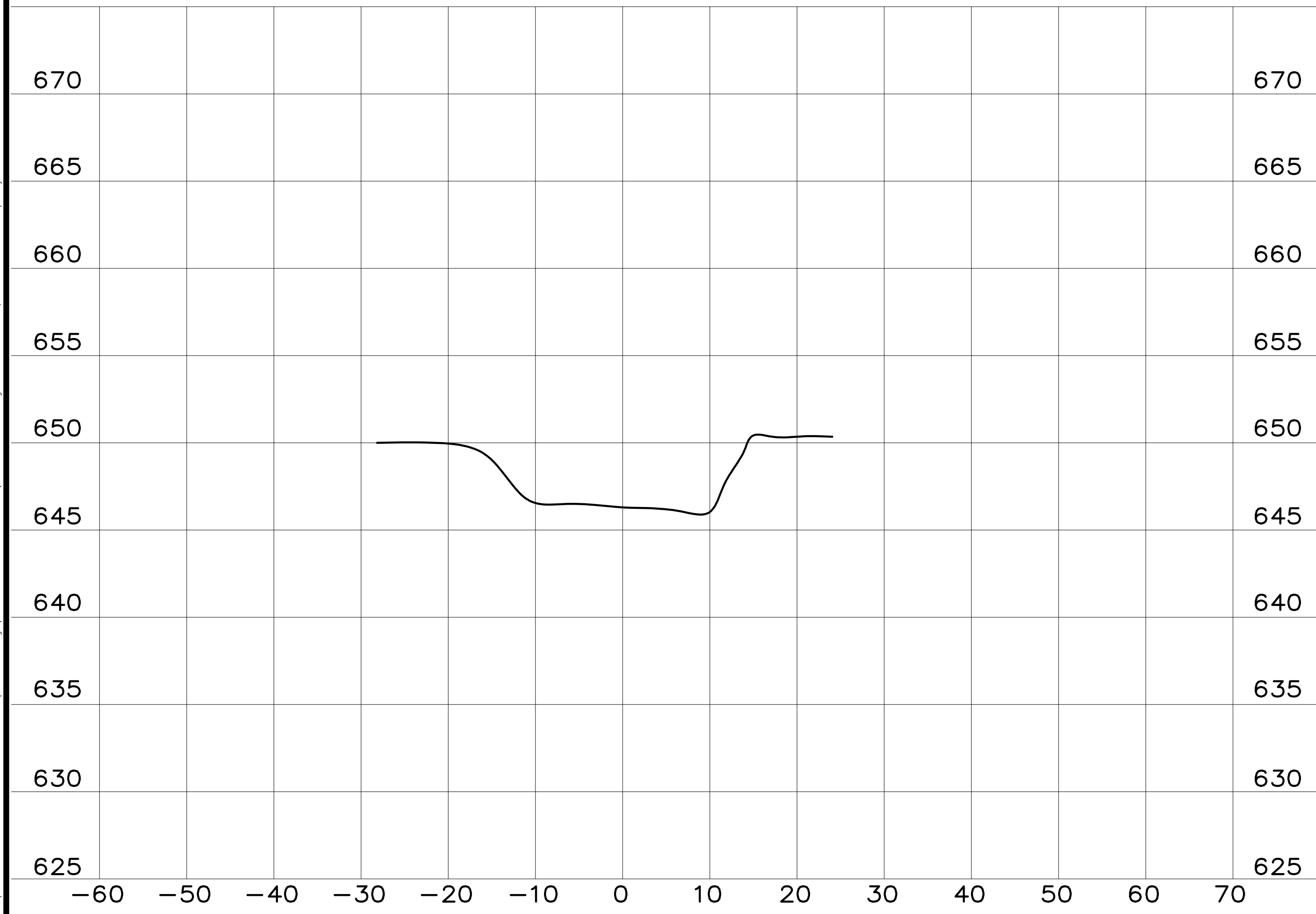
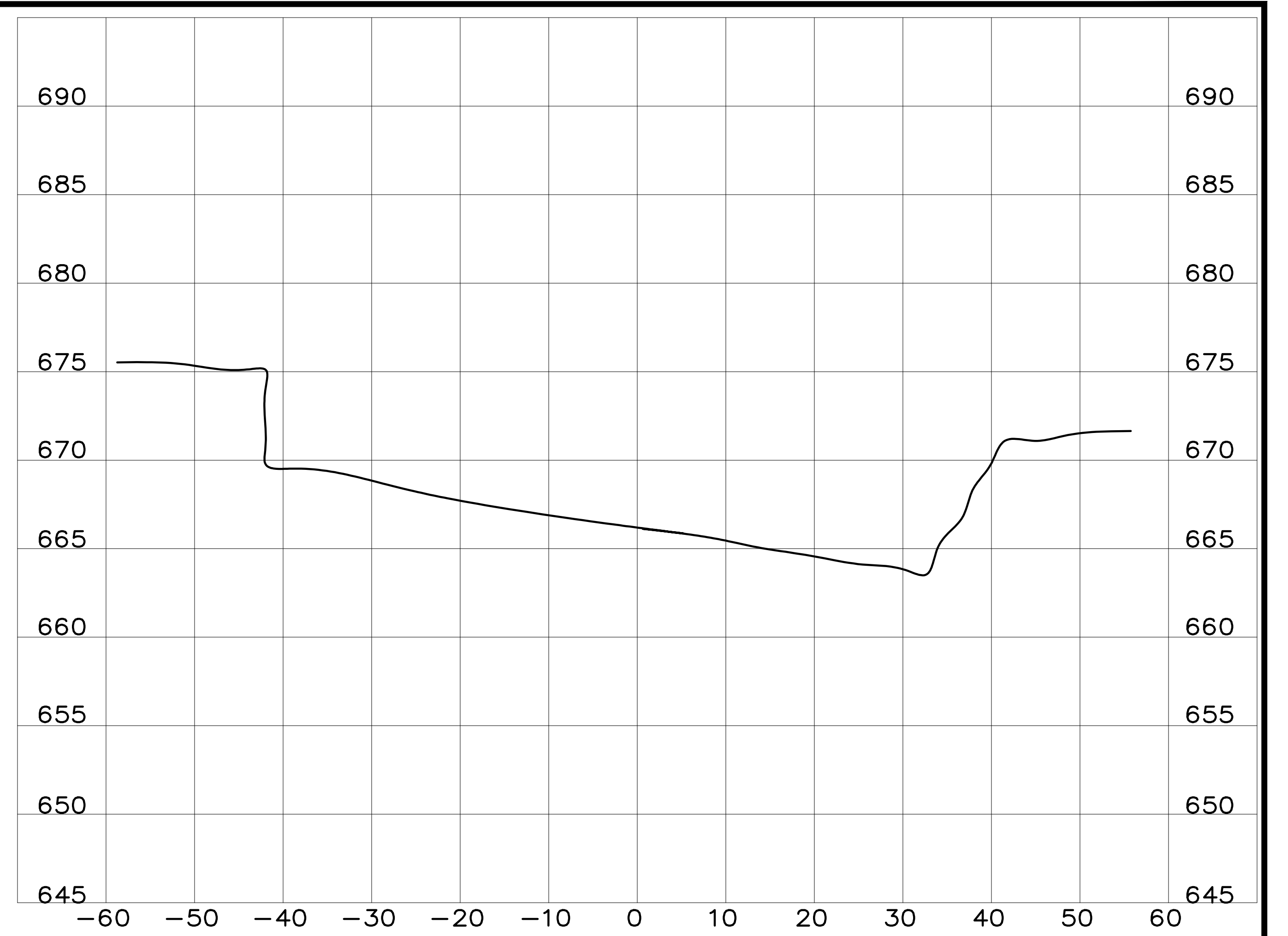
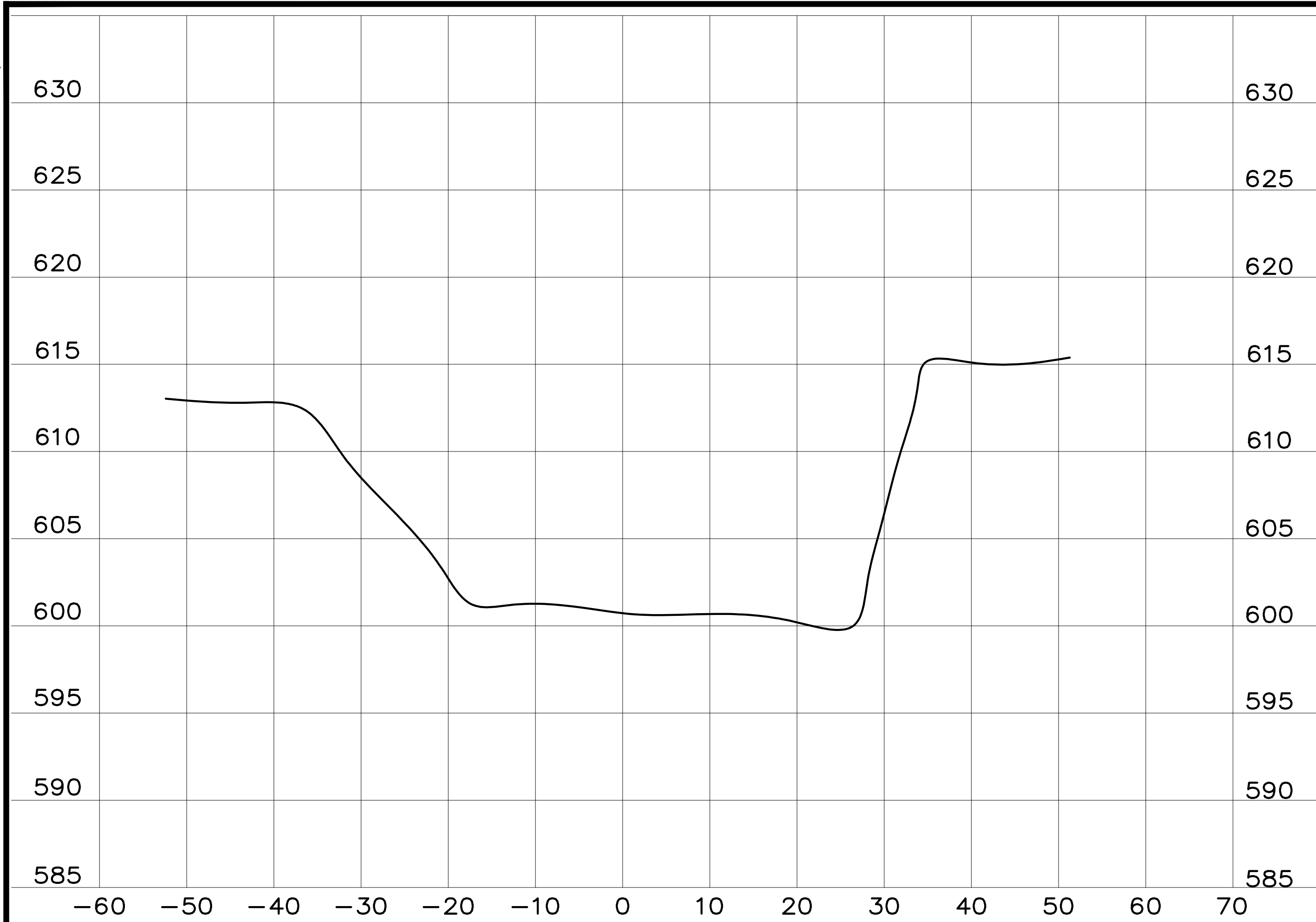
DIVISION -
CONTRACT NO. 371-20-01
DATE APRIL 2020
SHEET NO. 2 OF 10



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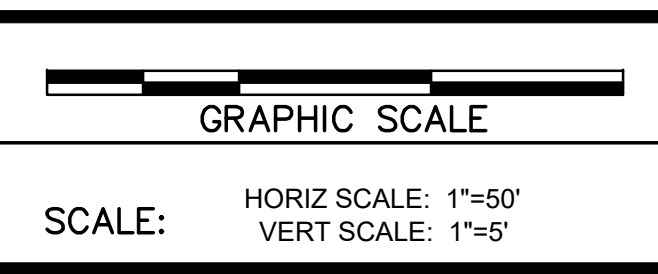
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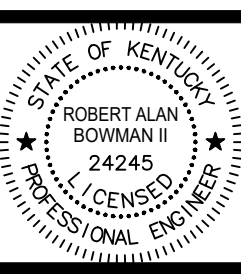
June 29, 2023

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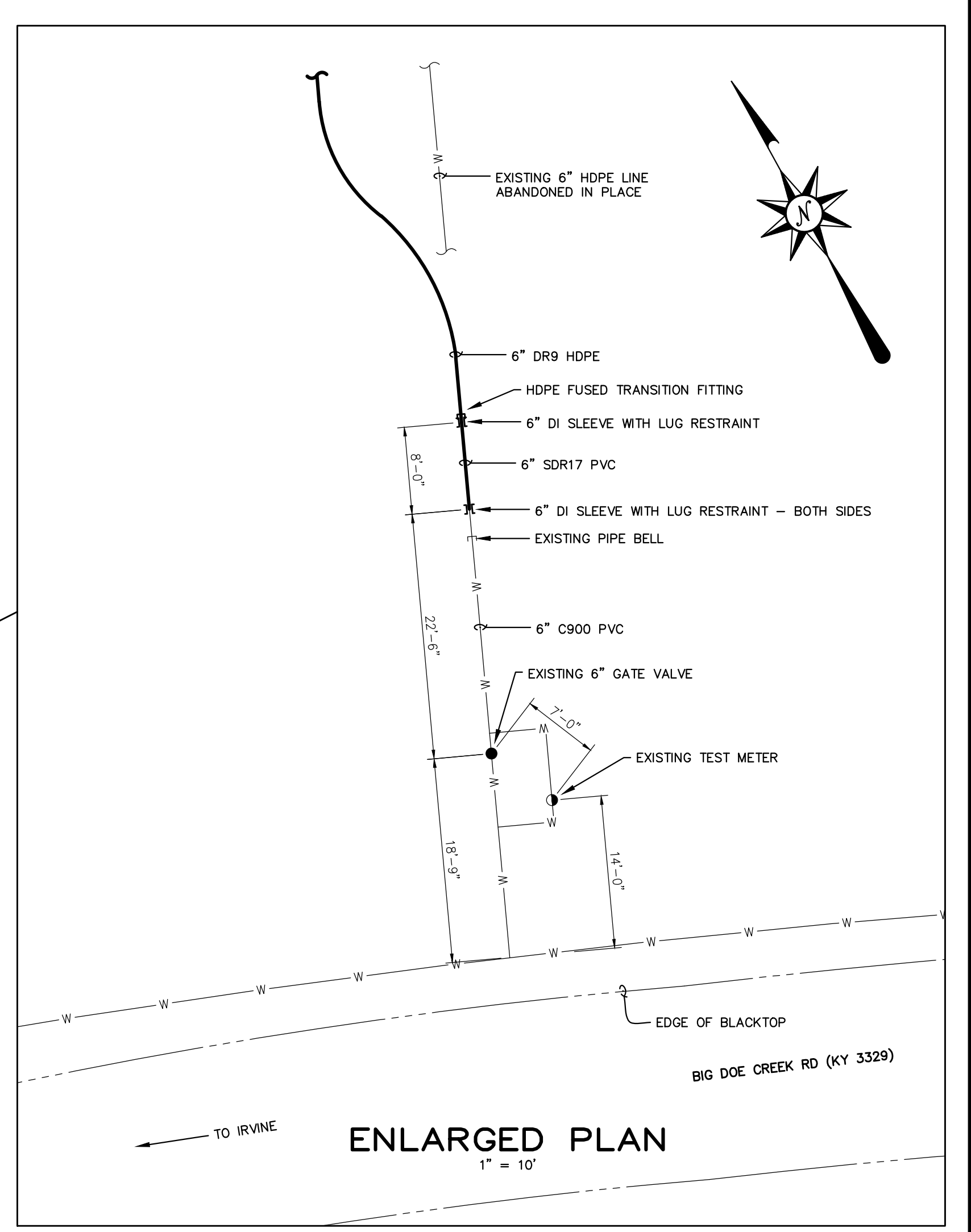
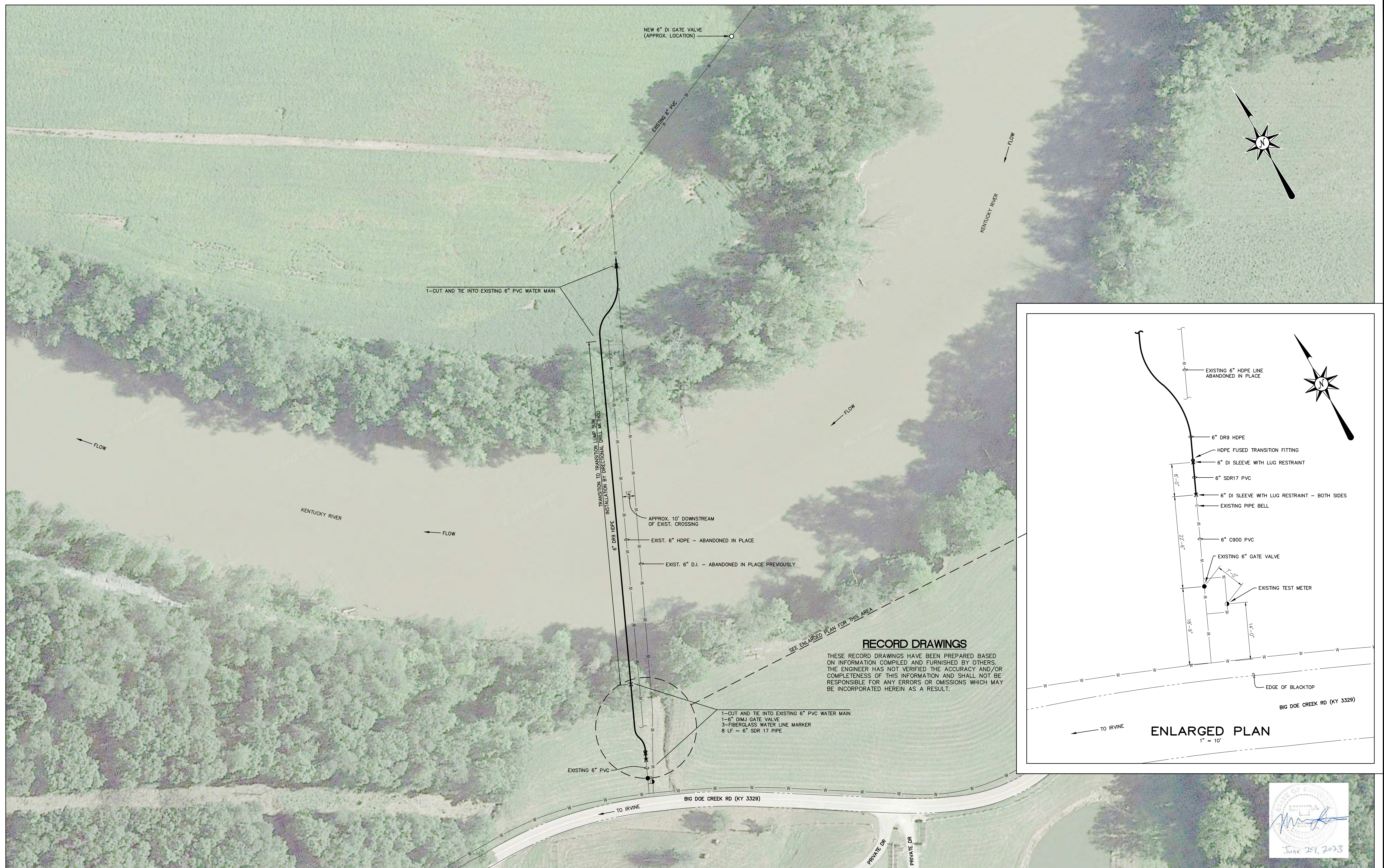


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PHASE 11 SYSTEM IMPROVEMENTS
 ZONE METER & RIVER CROSSING INSTALLATION
 ESTILL COUNTY WATER DISTRICT #1
 ESTILL COUNTY, KENTUCKY

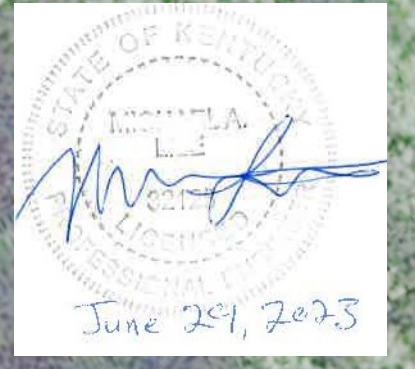
CROSSING PROFILES

DIVISION	-
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	3 OF 10

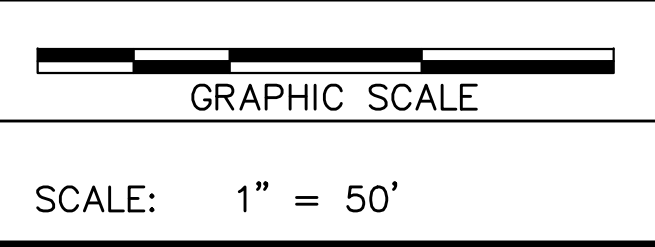


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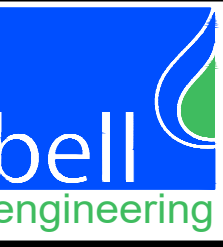
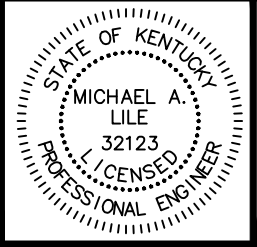
- 1-CUT AND TIE INTO EXISTING 6" PVC WATER MAIN
- 1-6" DIMJ GATE VALVE
- 3-FIBERGLASS WATER LINE MARKER
- 6 LF ~ 6" SDR 17 PIPE



DESIGNER	MAL	DATE	BY	REVISION
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CHECKED	ELL			
APPROVED	MAL			



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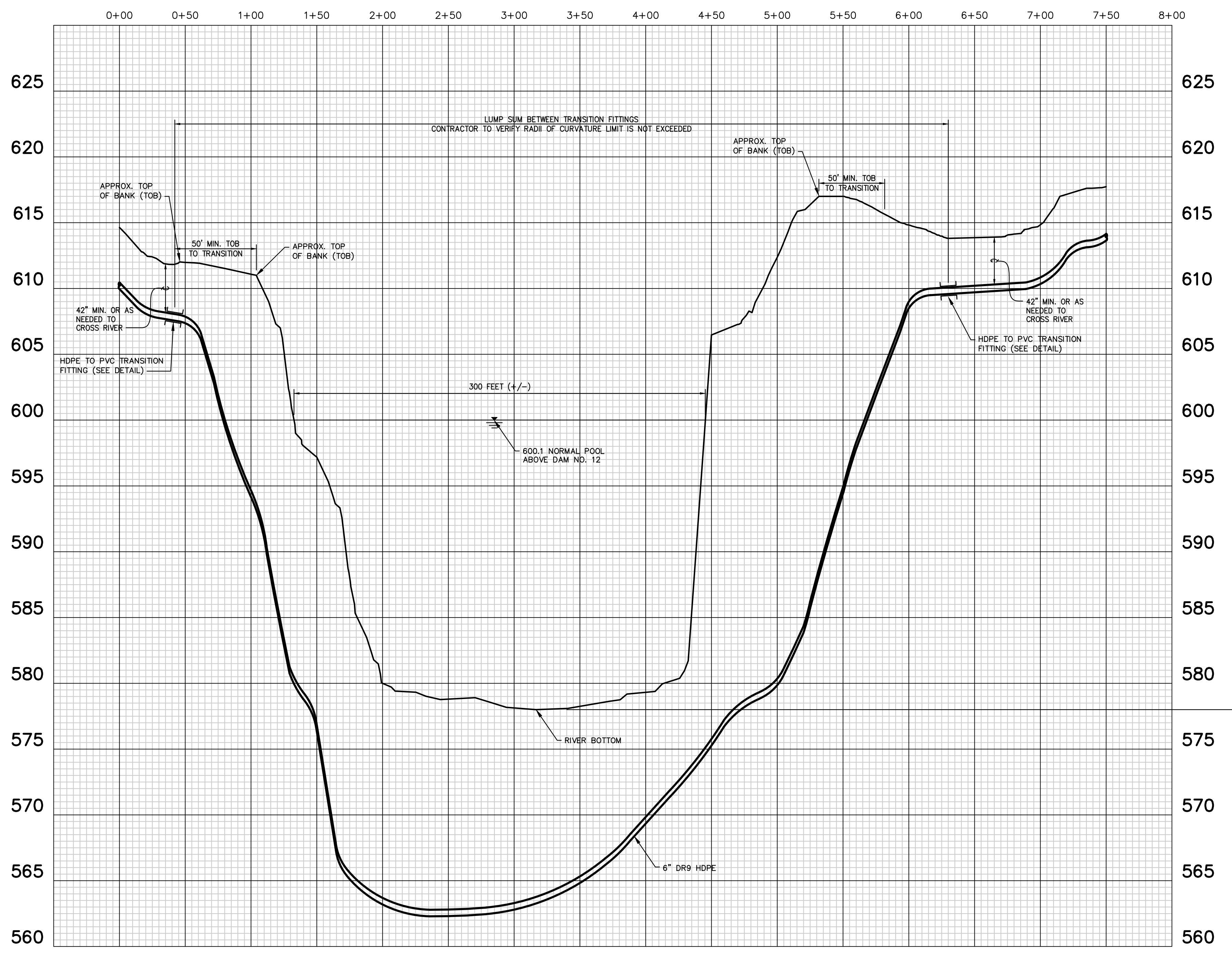
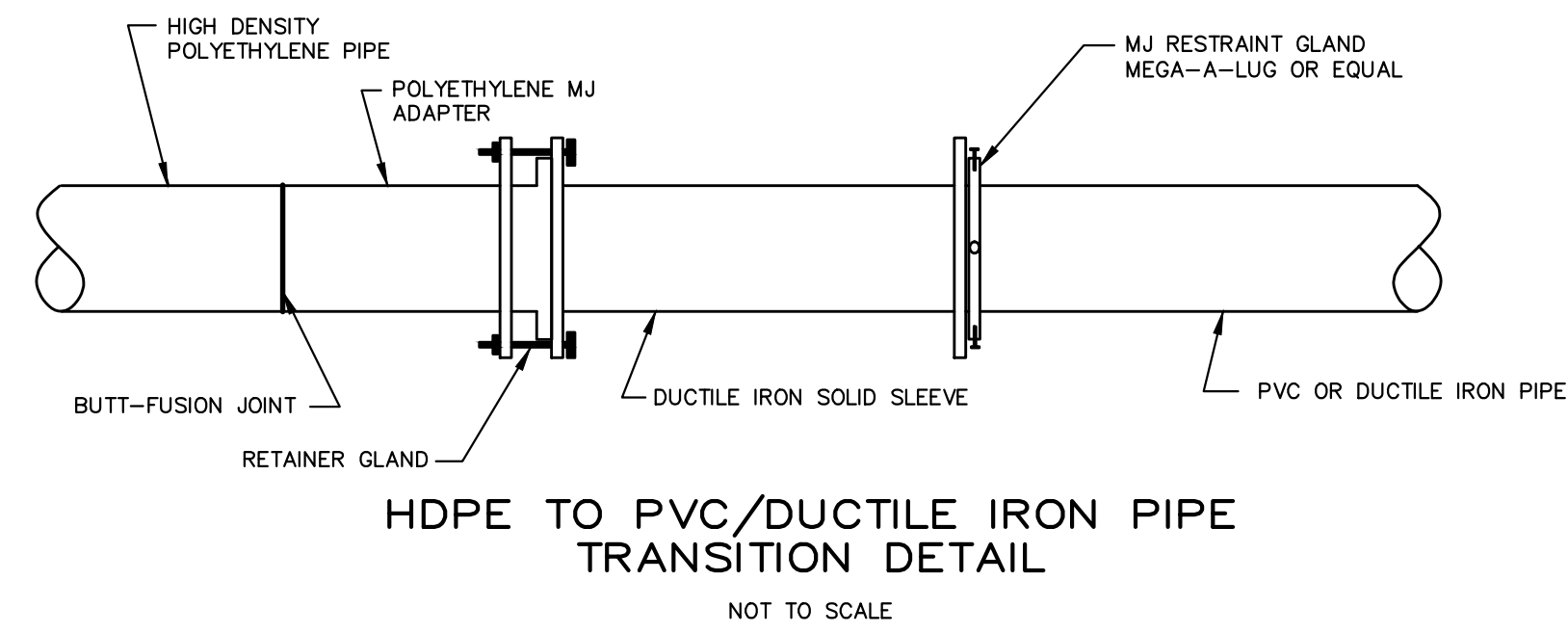


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PHASE 11 SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION
 ESTILL COUNTY WATER DISTRICT #1
 IRVINE, KENTUCKY

CHANGE ORDER NO. 3
EMERGENCY KENTUCKY RIVER CROSSING PLAN

DIVISION	
CONTRACT NO.	371-20-01
DATE	JUNE 2022
SHEET NO.	4 OF 10



- NOTE:**
- CONTRACTOR TO PROFILE RIVER CROSSING PRIOR TO BEGINNING DIRECTIONAL BORE.
 - CONTRACTOR TO PROVIDE DRILLING PLAN SHOWING RIVER PROFILE, ANTICIPATED BORE PATH, AND ANTICIPATED PULLING FORCE. CONTRACTOR TO ALSO INCLUDE DRILLING MACHINE SPECS TO VERIFY PULLING FORCE IS ADEQUATE.
 - CONTRACTOR TO TRACK DEPTH AND LOCATION OF BORE HEAD DURING INSTALLATION TO SUBMIT "RECORD DRAWINGS" TO OWNER AND ENGINEER PRIOR TO RECEIVING FINAL PAYMENT.

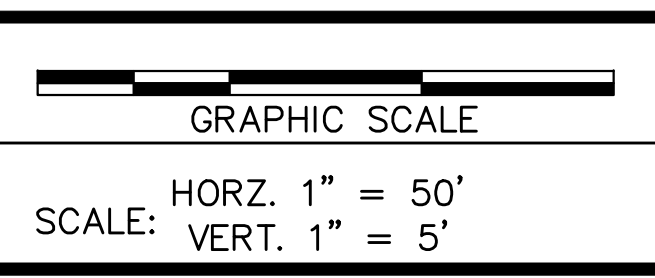
APPROX. RIVER BOTTOM
EL. 578 +/-
(FROM FEMA FIS)

NOTE:
RECORD DRAWING PROFILE WAS PREPARED FROM INFORMATION PROVIDED BY THE CONTRACTOR FROM THEIR DRILL DATA POINTS DigiTrak LWD DatoLog@DRILL REPORT.

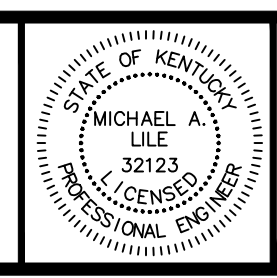
**RIVER CROSSING PROFILE
6" DR9 HDPE WATER MAIN
INSTALLED BY DIRECTIONAL BORE METHOD
(LUMP SUM)**

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APPROVED	MAL			



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**PHASE 11 SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION
ESTILL COUNTY WATER DISTRICT #1
IRVINE, KENTUCKY**

**CHANGE ORDER NO. 3
EMERGENCY KENTUCKY RIVER CROSSING
PROFILE**

DIVISION	
CONTRACT NO.	371-20-01
DATE	JUNE 2022
SHEET NO.	5 OF 10



KY 89 /KY 1886 SCALE: 1"=20'



KY 89 (IVORY HILL PUMP STATION) SCALE: 1"=20'



SUGAR HOLLOW ROAD SCALE: 1"=20'

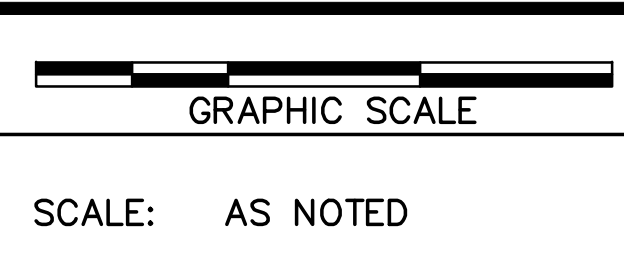


KY 89/KY82 SCALE: 1"=20'

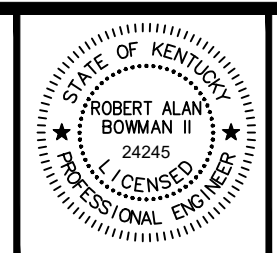
RECORD DRAWINGS
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STATE OF KENTUCKY
 PROFESSIONAL ENGINEER
 RAB
 June 29, 2023

DESIGNER	RAB	DATE	BY	REVISION
DRAWN	DMB			
CHECKED	RAB			
APPROVED	RAB			



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PHASE 11 SYSTEM IMPROVEMENTS
 ZONE METER & RIVER CROSSING INSTALLATION
 ESTILL COUNTY WATER DISTRICT #1
 IRVINE, KENTUCKY

ZONE METERS
 DRY BRANCH ZONE,
 AND KY 89 ZONE

DIVISION	-
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	6 OF 10



- 1-INSTALL PRE-ASSEMBLED COMPOUND METER SETTING (SEE DETAIL)
- 1-INSTALL TELEMTRY AND APPURTENANCES AS SPECIFIED.
- 1-INSTALL SOLAR ARRAY TO POWER TELEMTRY COMPONENTS AS SPECIFIED.

KY 1457/OPOSSUM RUN ROAD SCALE: 1"=20'



- 1-INSTALL INSERTION TYPE MAG METER ON DISCHARGE LINE TO EXISTING PUMP STATION VIA 6" X 2" TAP, INCLUDING 3/4" DIAMETER METER JAR AND LID.
- 1-UPGRADE TELEMTRY IN EXISTING PUMP STATION TO INCLUDE NEW MAG METER DEVICE.
- 1-INSTALL NECESSARY WIRING AND CONDUIT FROM MAG METER TO TELEMTRY CONTROLS INSIDE EXISTING PUMP STATION, INCLUDING CORING OF EXISTING PUMP STATION.

KY 1457 (SAND HILL PUMP STATION) SCALE: 1"=20'



- 1-INSTALL PRE-ASSEMBLED COMPOUND METER SETTING (SEE DETAIL)
- 1-INSTALL TELEMTRY AND APPURTENANCES AS SPECIFIED.
- 1-INSTALL SOLAR ARRAY TO POWER TELEMTRY COMPONENTS AS SPECIFIED.

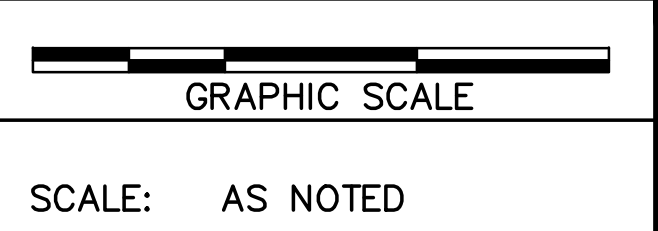
KY 52/KY1353 SCALE: 1"=20'

RECORD DRAWINGS

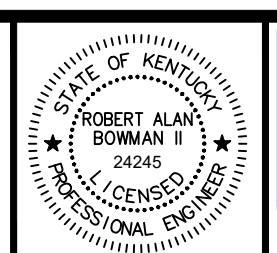
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STATE OF KENTUCKY
 ENGINEER
 L. A. [Signature]
 June 29, 2023

DESIGNER	RAB	DATE	BY	REVISION
DRAWN	DMB			
CHECKED	RAB			
APPROVED	RAB			



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PHASE 11 SYSTEM IMPROVEMENTS
 ZONE METER & RIVER CROSSING INSTALLATION
 ESTILL COUNTY WATER DISTRICT #1
 IRVINE, KENTUCKY

ZONE METERS
 SAND HILL ZONE
 AND
 KY 52 ZONE

DIVISION	-
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	7 OF 10



SWEET LICK ROAD SCALE: 1"=20'



KY 89 (NEW RIVER PUMP STATION) SCALE: 1"=20'



KY 594 (PEA RIDGE PUMP STATION) SCALE: 1"=20'



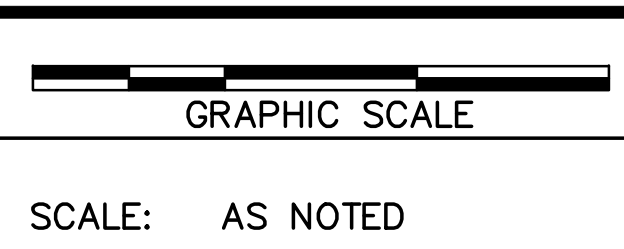
KY 499 SCALE: 1"=20'

RECORD DRAWINGS

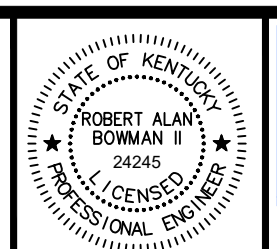
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

STATE OF KENTUCKY
 PROFESSIONAL ENGINEER
 L. E. L. L.
 June 29, 2023

DESIGNER	RAB	DATE	BY	REVISION
DRAWN	DMB			
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PHASE 11 SYSTEM IMPROVEMENTS
 ZONE METER & RIVER CROSSING INSTALLATION
 ESTILL COUNTY WATER DISTRICT #1
 IRVINE, KENTUCKY

ZONE METERS
 SWEET LICK ROAD,
 SOUTH IRVINE ZONE, WISEMANTOWN ZONE
 AND CROOKED CREEK ZONE

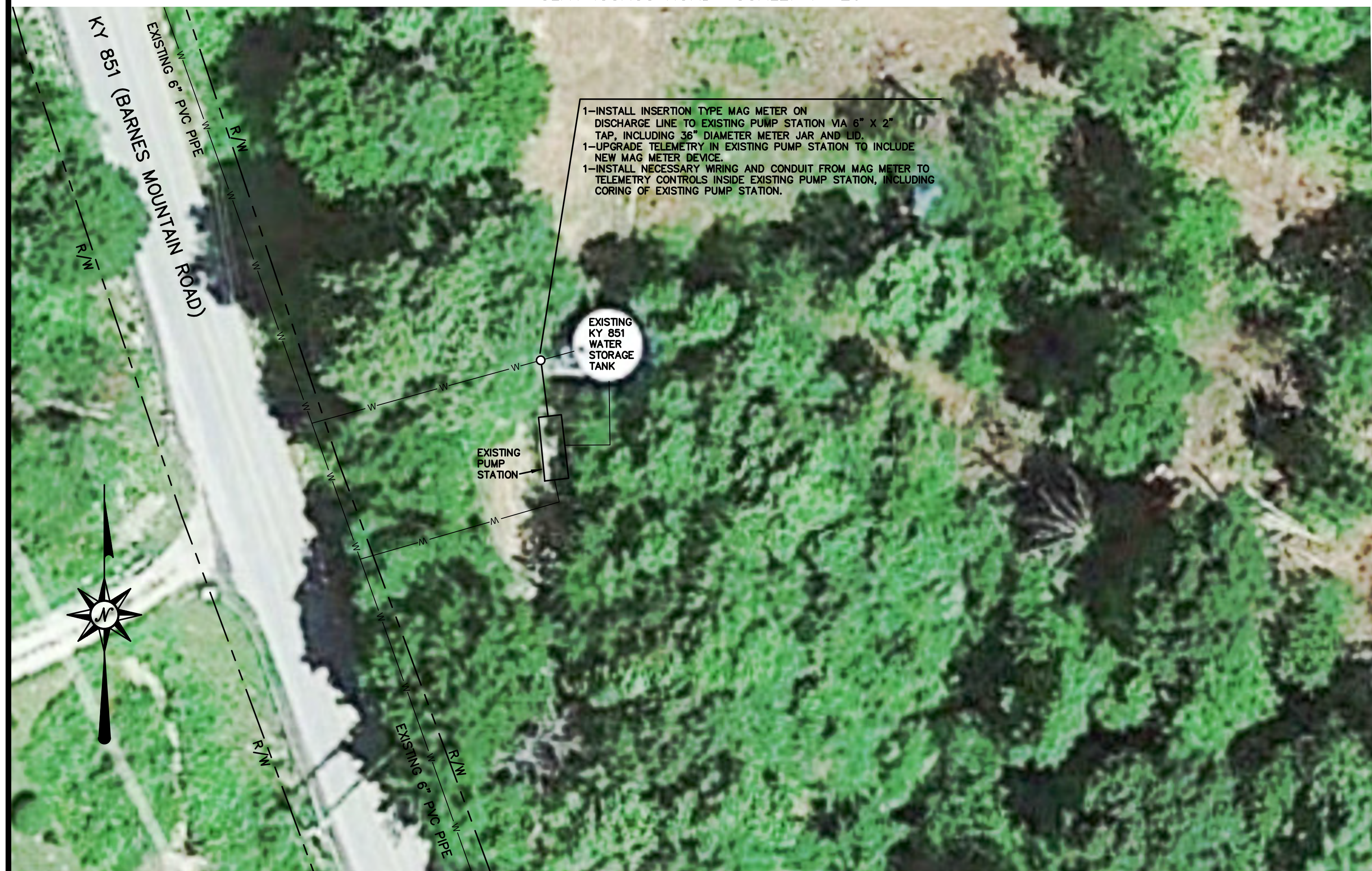
DIVISION	-
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	8 OF 10



CLAY ISSACS ROAD SCALE: 1"=20'



KY 89 SCALE: 1"=20'



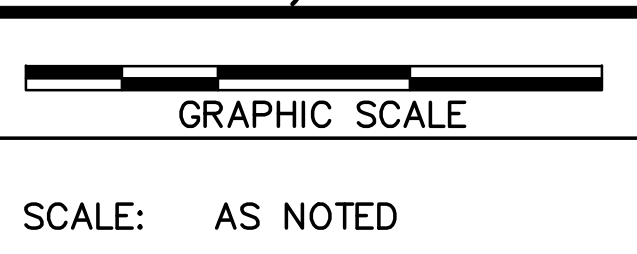
KY 851 (BARNES MOUNTAIN PUMP STATION) SCALE: 1"=20'

STATE OF KENTUCKY
 PROFESSIONAL ENGINEER
 Robert Alan Bowman II
 June 29, 2023

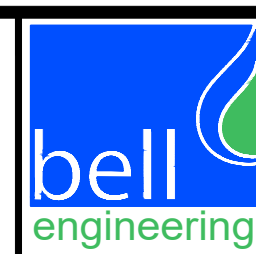
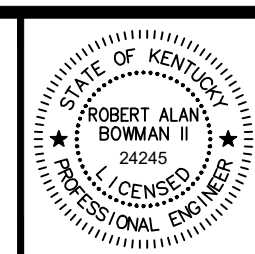
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PHASE 11 SYSTEM IMPROVEMENTS
 ZONE METER & RIVER CROSSING INSTALLATION
 ESTILL COUNTY WATER DISTRICT #1
 IRVINE, KENTUCKY

ZONE METERS
 RED LICK ZONE,
 JACKSON ZONE AND
 BARNES/851 MOUNTAIN ZONE

DIVISION	-
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	9 OF 10



KY 851/BARNES MOUNTAIN ROAD SCALE: 1"=20'



KY 851 (SOUTH IRVINE PUMP STATION) SCALE: 1"=20'



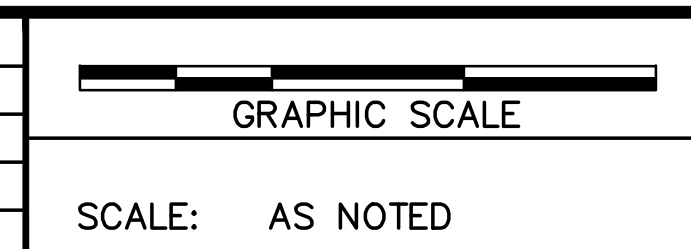
KY 1182 (COB HILL PUMP STATION) SCALE: 1"=20'


 June 29, 2023

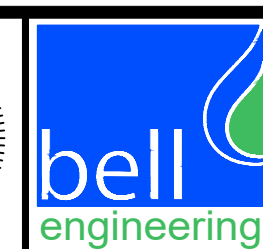
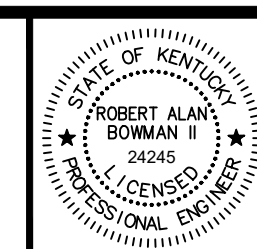
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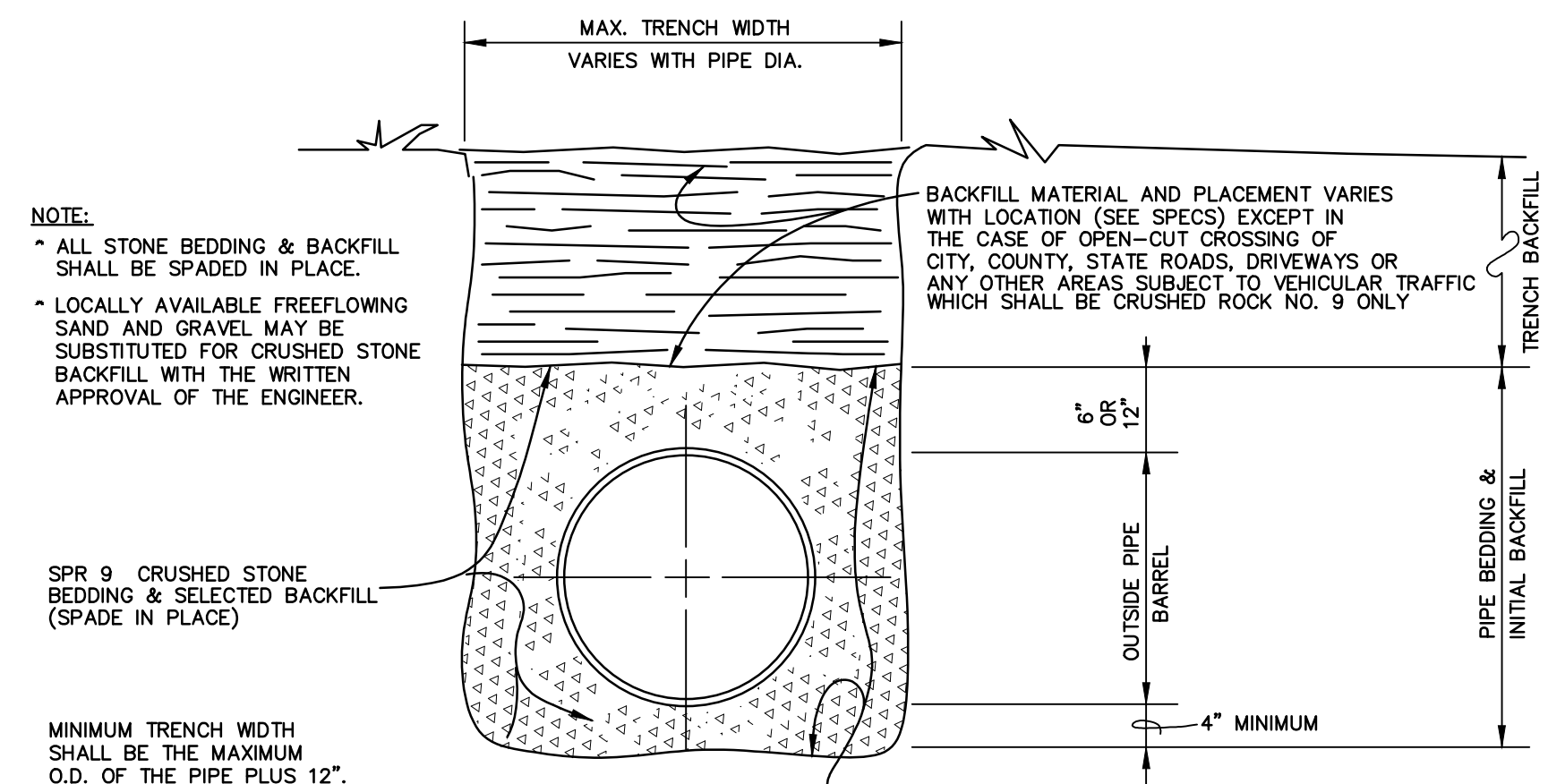
Lexington, KY (859) 278-5412
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PHASE 11 SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION)
ESTILL COUNTY WATER DISTRICT #1
IRVINE, KENTUCKY

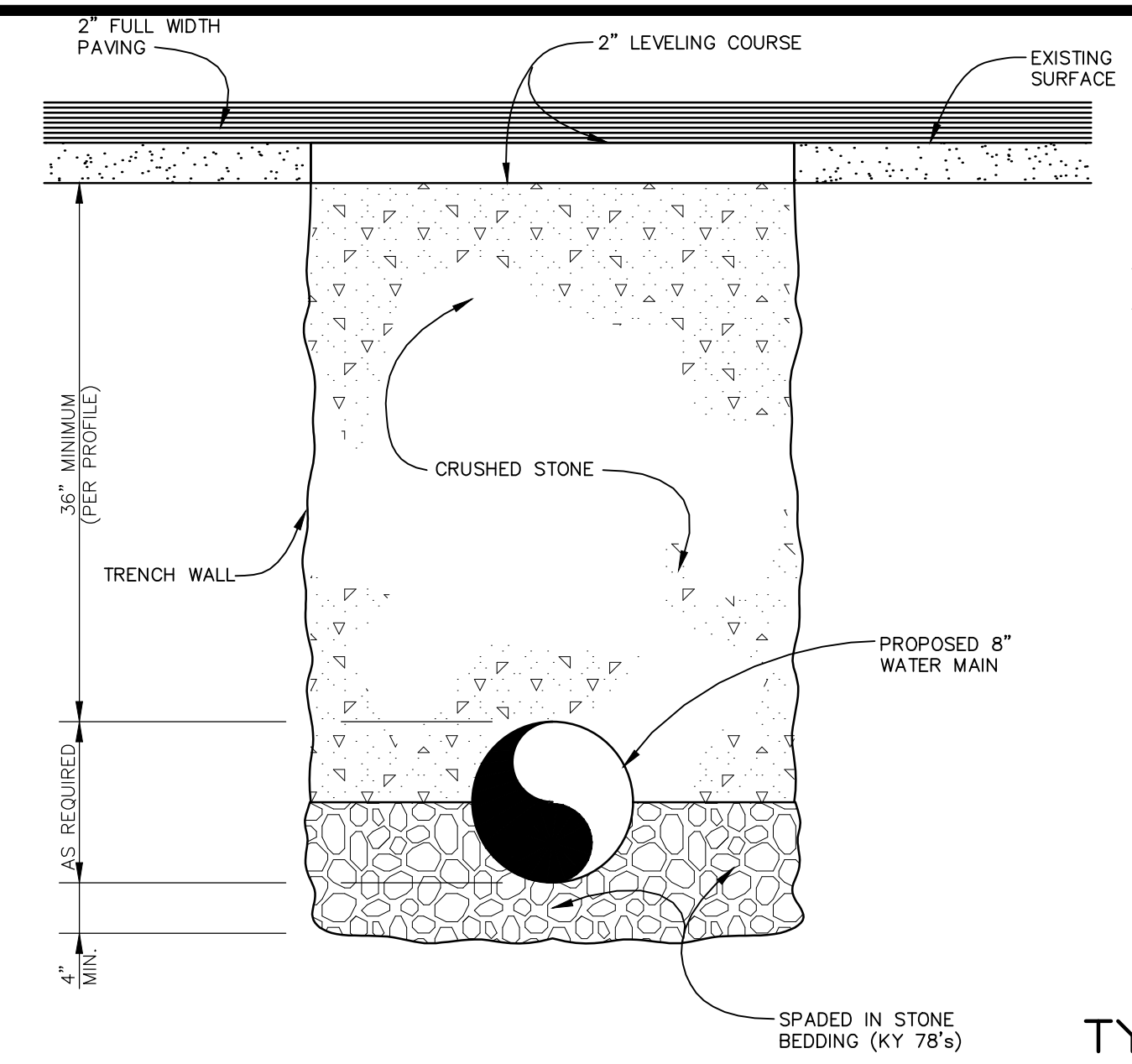
ZONE METERS
BEATTYVILLE ROAD ZONE
AND
COB HILL ZONE

DIVISION	-
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	10 OF 10

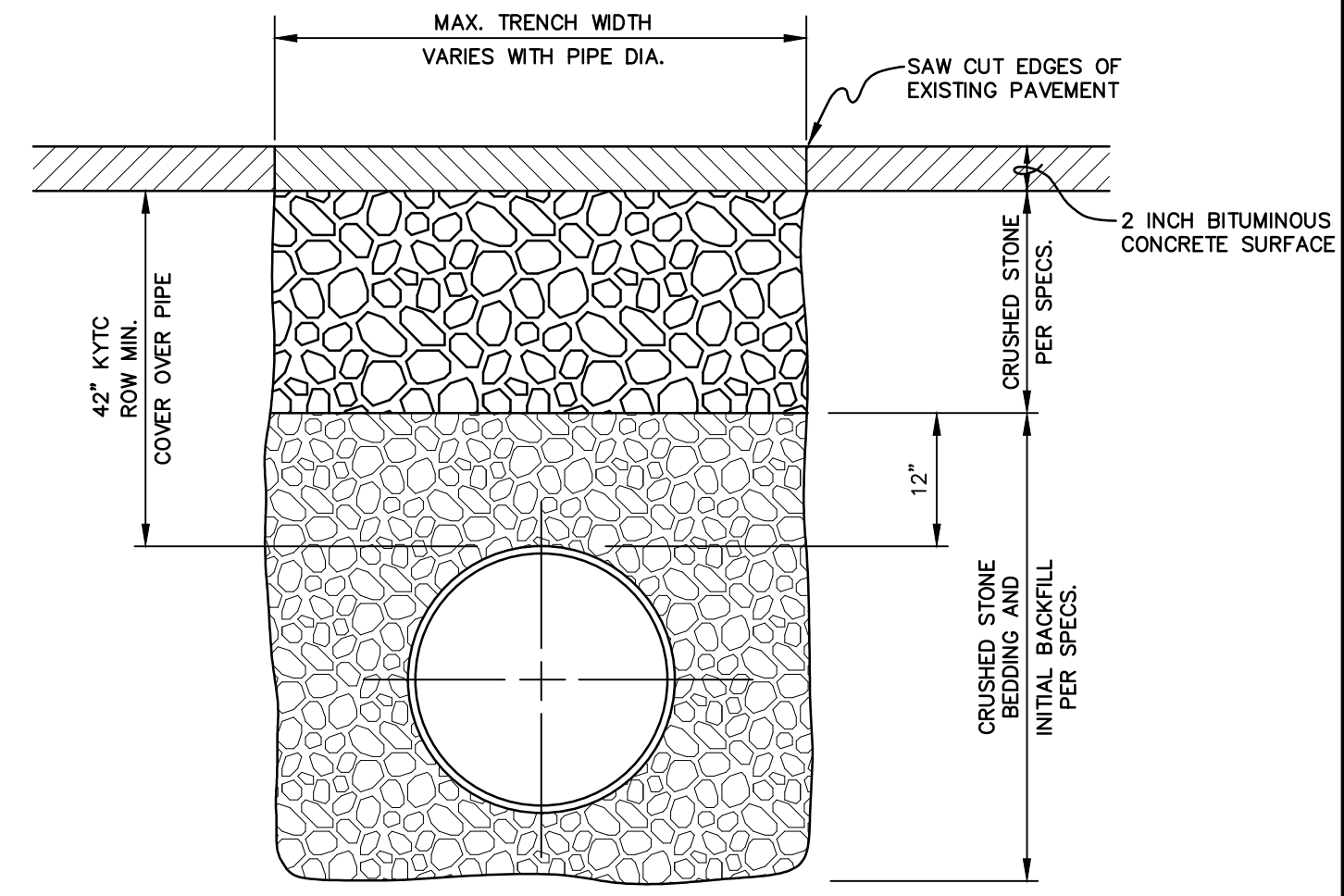
ESTILL COUNTY WATER DISTRICT NO. 1 (3/27/19-01) PHASE 11 SYSTEM IMPROVEMENTS (Revised Drawings 3/21/2023) - Standard 3/21/2023 - 4:46pm by Dmb
 PHASE 11 SYSTEM IMPROVEMENTS (Revised Drawings 3/21/2023) - Standard 3/21/2023 - 4:46pm by Dmb



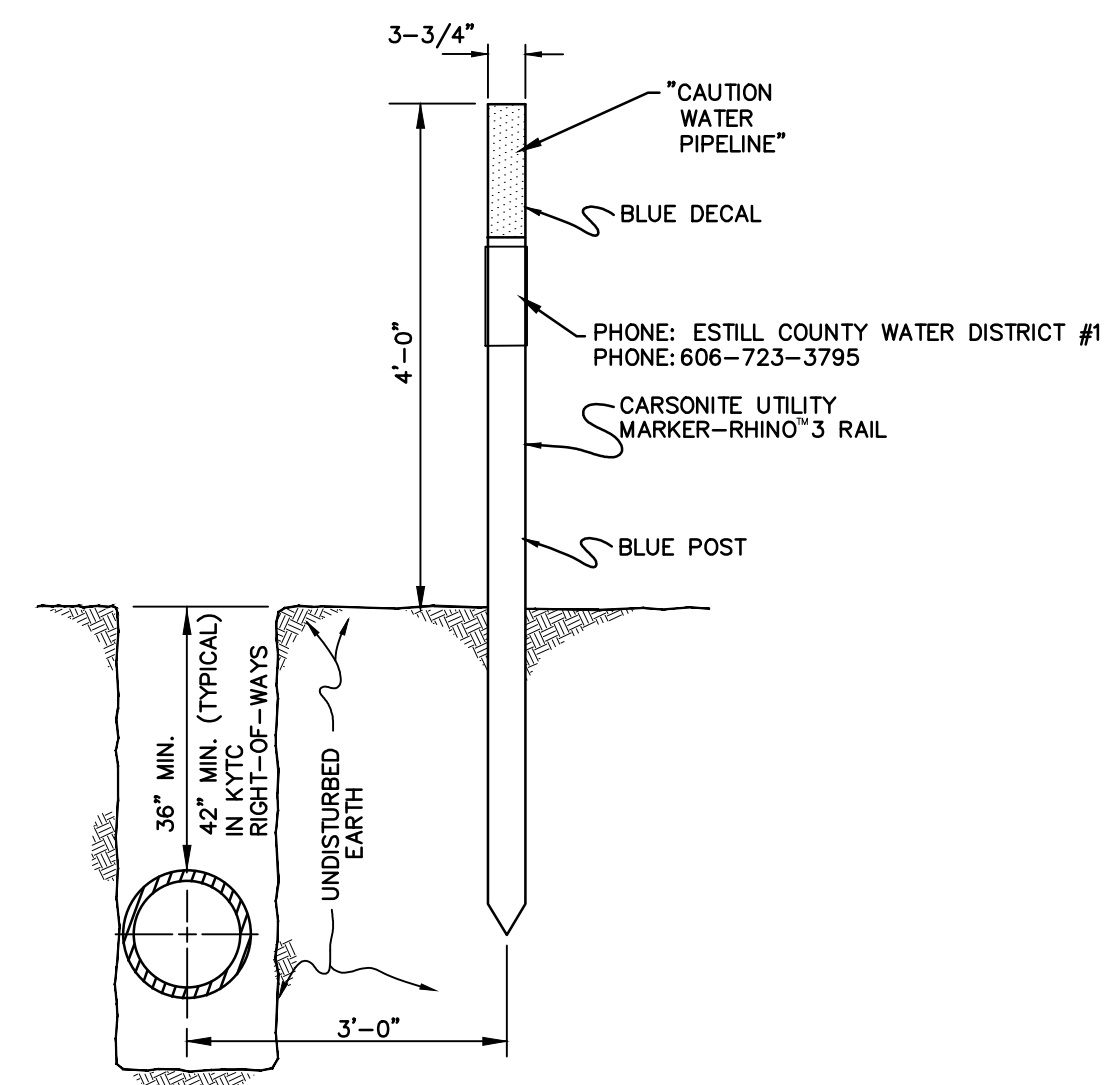
DETAIL BEDDING & BACKFILL WATER MAIN INSTALLATION
NOT TO SCALE



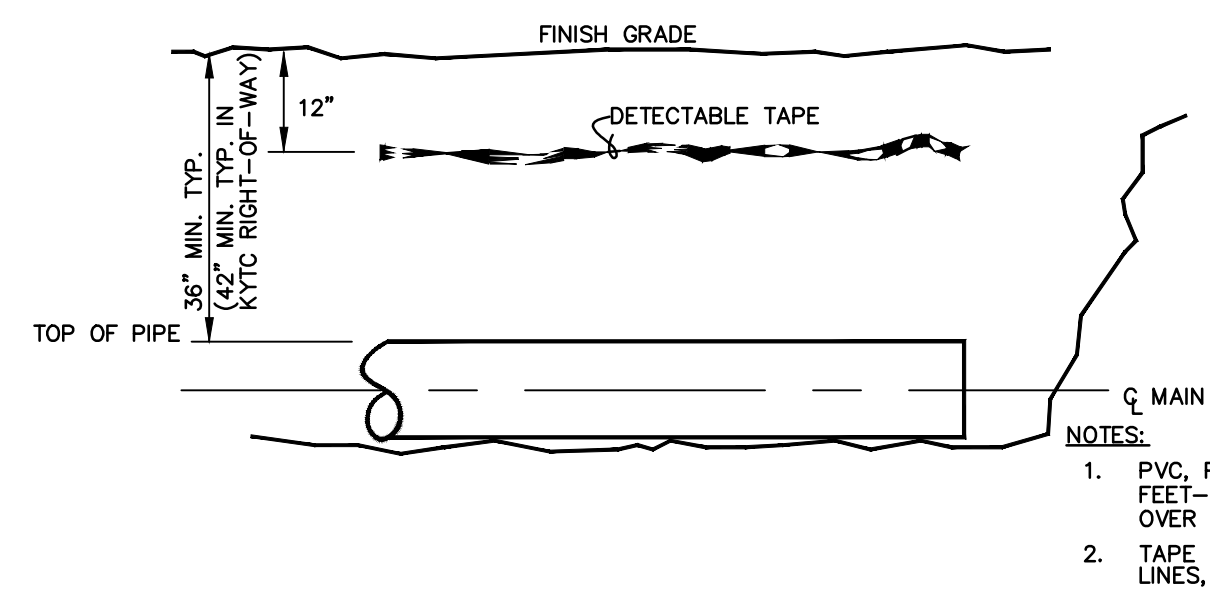
BACKFILL REQUIREMENT FOR PIPE IN PROPOSED ROAD AND EXISTING ROADWAY, NOT STATE HIGHWAY
NOT TO SCALE



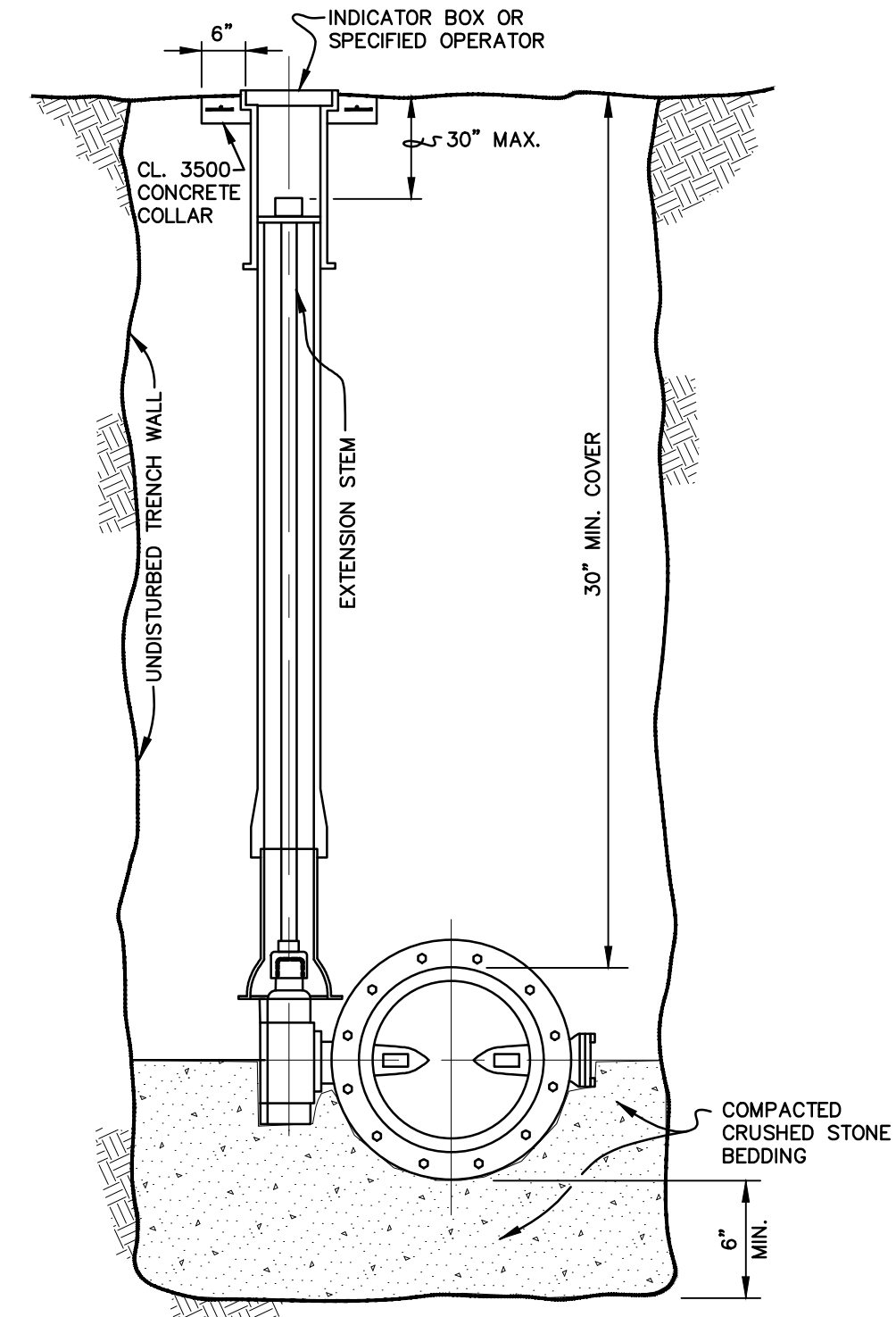
TRENCH DETAIL TYPICAL OPEN CUT CROSSING OF COUNTY ROADS, STREETS AND BITUMINOUS PAVED DRIVEWAYS
NOT TO SCALE



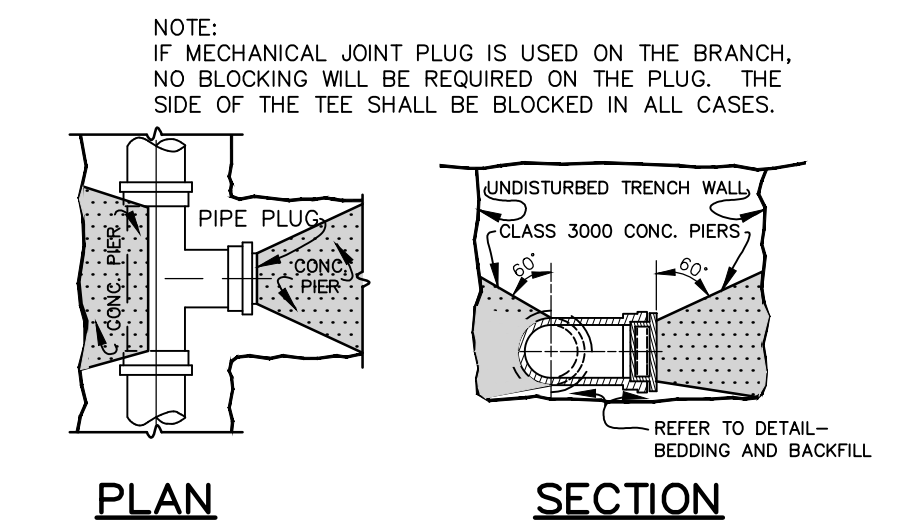
DETAIL FLEXIBLE FIBERGLASS COMPOSITION LINE MARKER
NOT TO SCALE



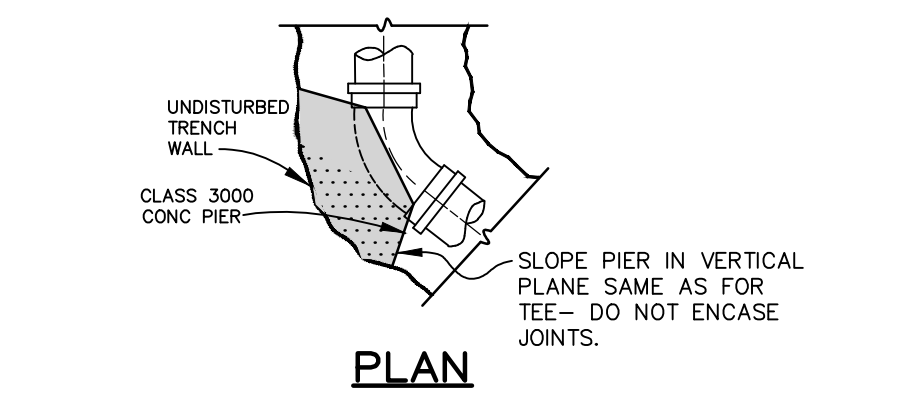
TYPICAL PVC, D.I. OR POLYETHYLENE WL WITH DETECTABLE TAPE INSTALLATION
NOT TO SCALE



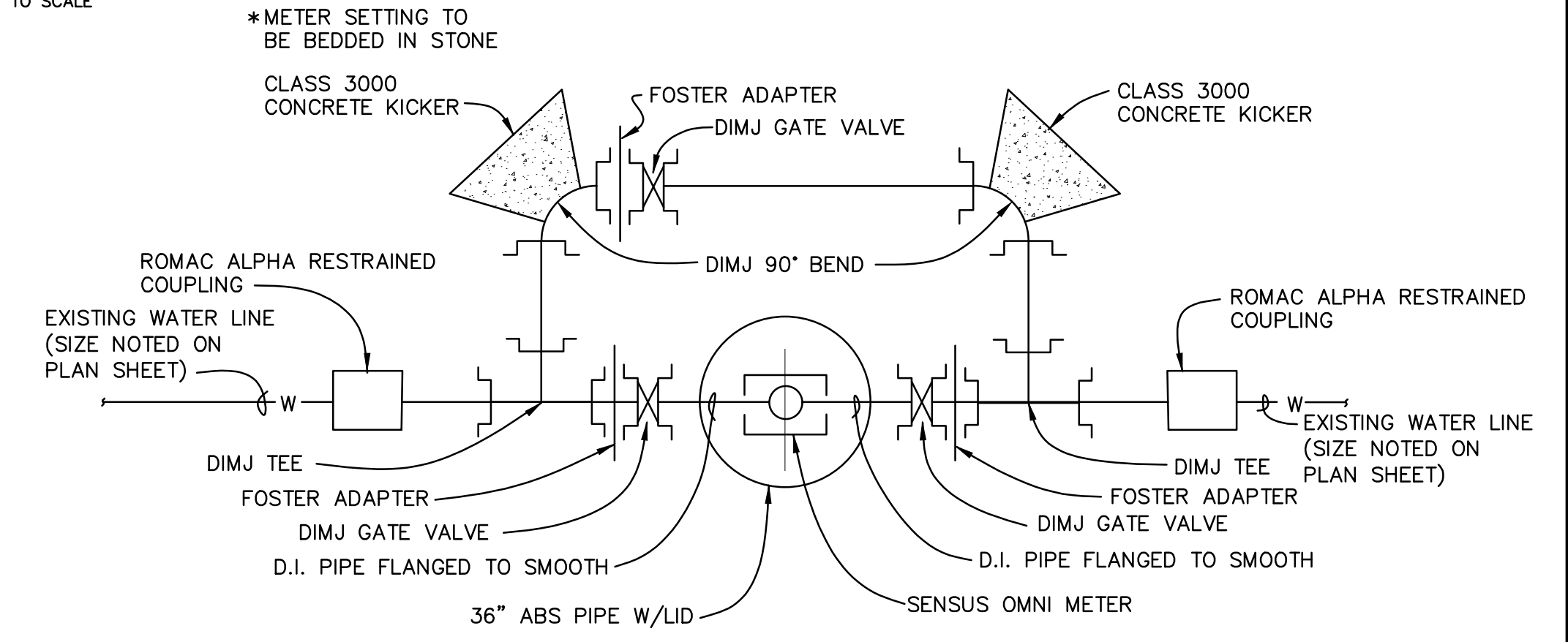
TYPICAL DETAIL OF COMPACTED CRUSHED STONE BEDDING FOR UNDERGROUND BUTTERFLY VALVES
NOT TO SCALE



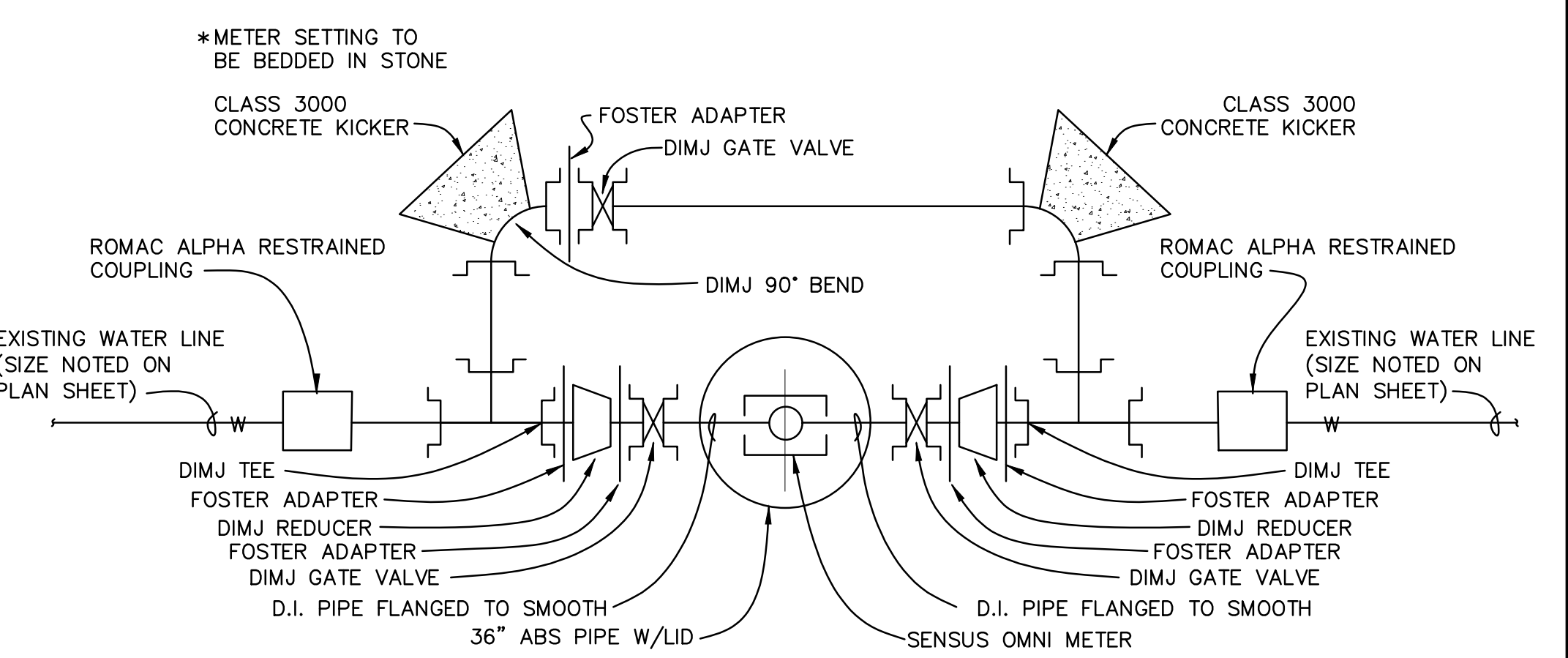
TYPICAL DETAIL OF CONCRETE BLOCKING AT TEES & PLUGS



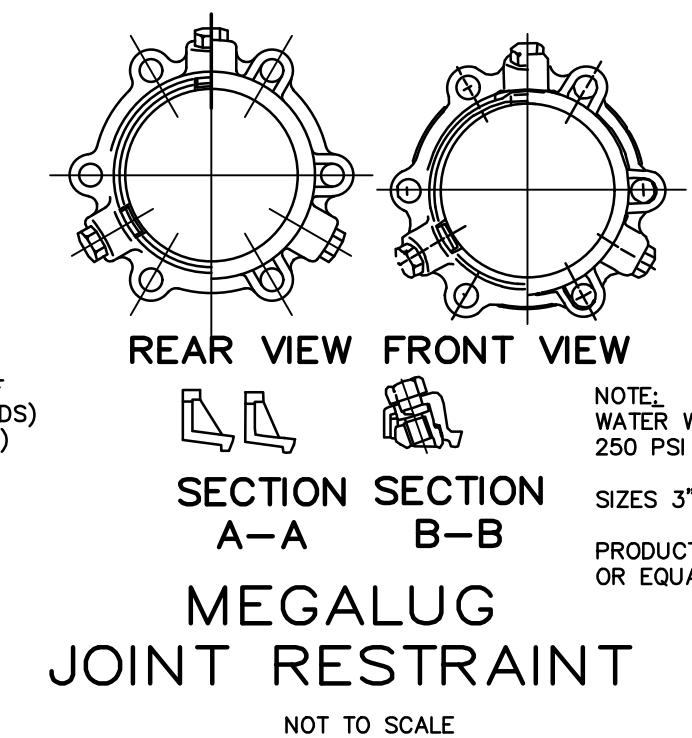
TYPICAL DETAIL OF CONCRETE BLOCKING AT HORIZONTAL BENDS
NOT TO SCALE



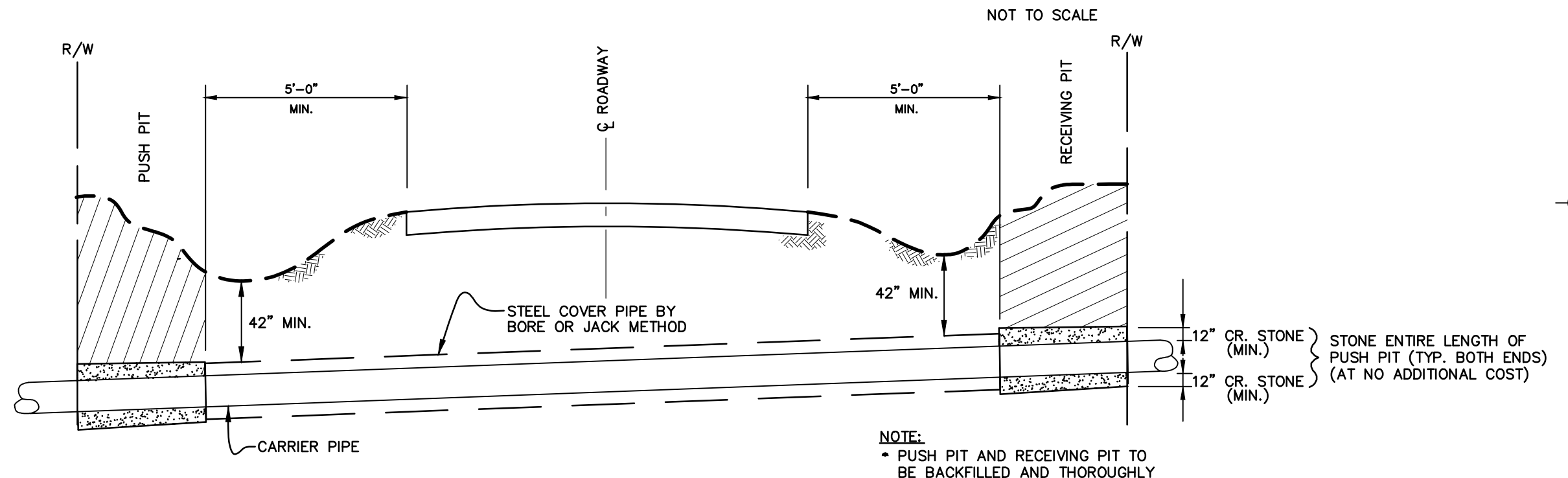
PRE-ASSEMBLED ZONE METER SETTING W/O REDUCER
NOT TO SCALE



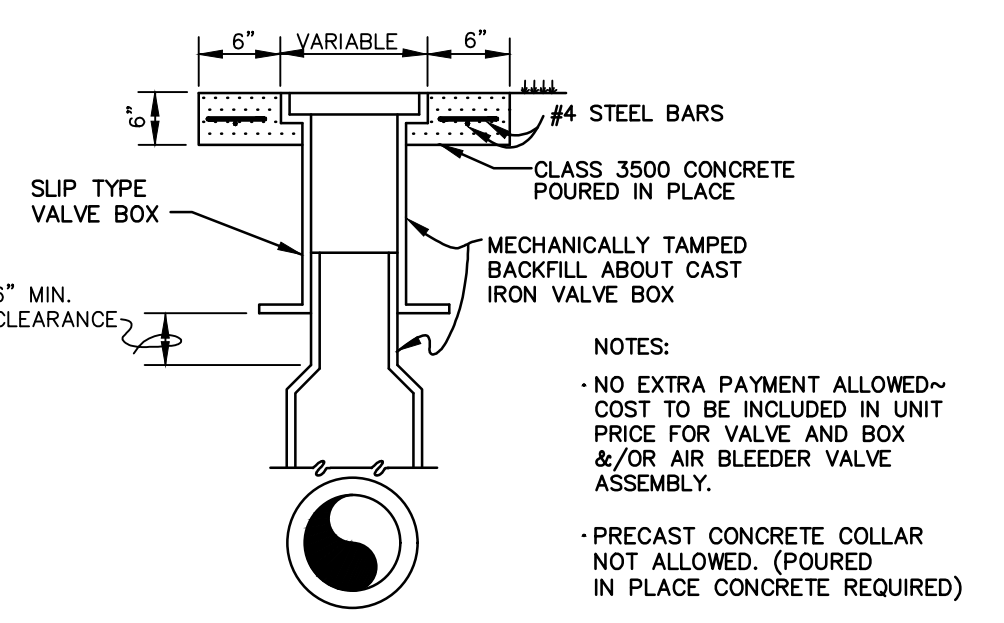
PRE-ASSEMBLED ZONE METER SETTING W/ REDUCER
NOT TO SCALE



MEGALUG JOINT RESTRAINT
NOT TO SCALE



TYPICAL HIGHWAY BORING CROSSING DETAIL
NOT TO SCALE

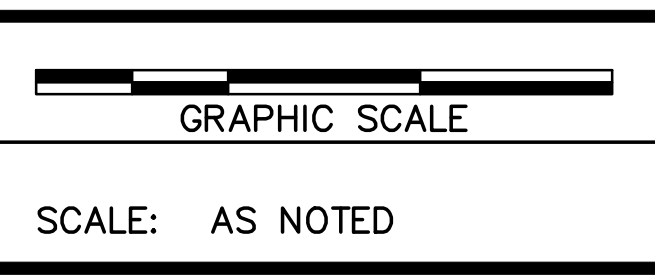


CONCRETE VALVE BOX COLLAR
(REQUIRED ON ALL VALVES)
NOT TO SCALE

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June 29, 2023

DESIGNER	RAB	DATE	BY	REVISION
DRAWN	DMB			
CHECKED	RAB			
APPROVED	SHC			



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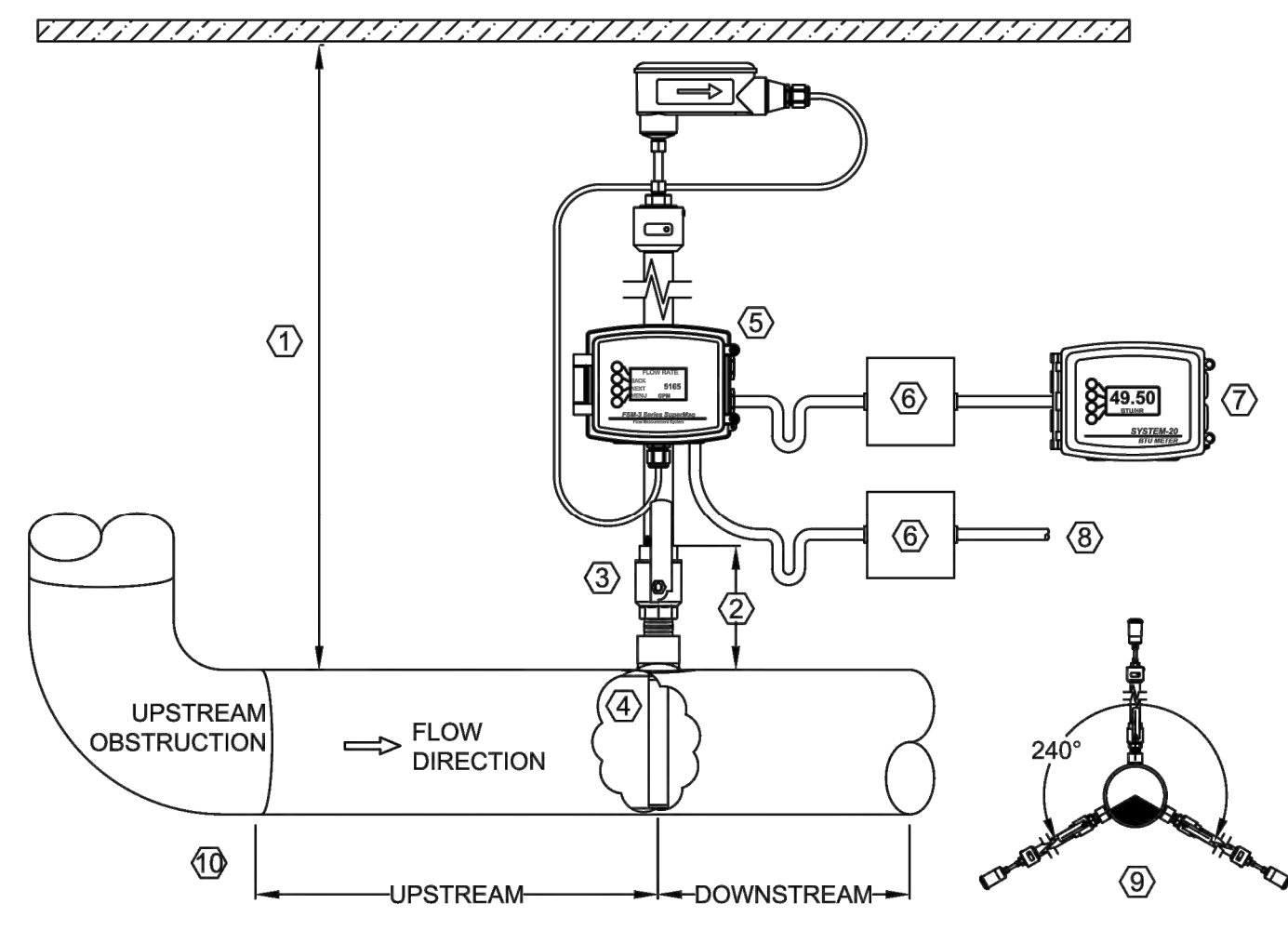
Lexington, KY (859) 278-5412
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**PHASE 11 SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION
ESTILL COUNTY WATER DISTRICT #1
ESTILL COUNTY, KENTUCKY**

ZONE METER DETAIL & MISCELLANEOUS DETAILS

DIVISION	ALL
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	D1 OF D2

FILE 5146 - 000-L-000-TEST-000
ESTILL COUNTY WATER DIST NO 1371-19-01 PHASE 11 SYSTEM IMPROVEMENTS (Record Drawings) (3/11/2023) - Standard 3/11/2023 4:47pm by Dms
June 29, 2023



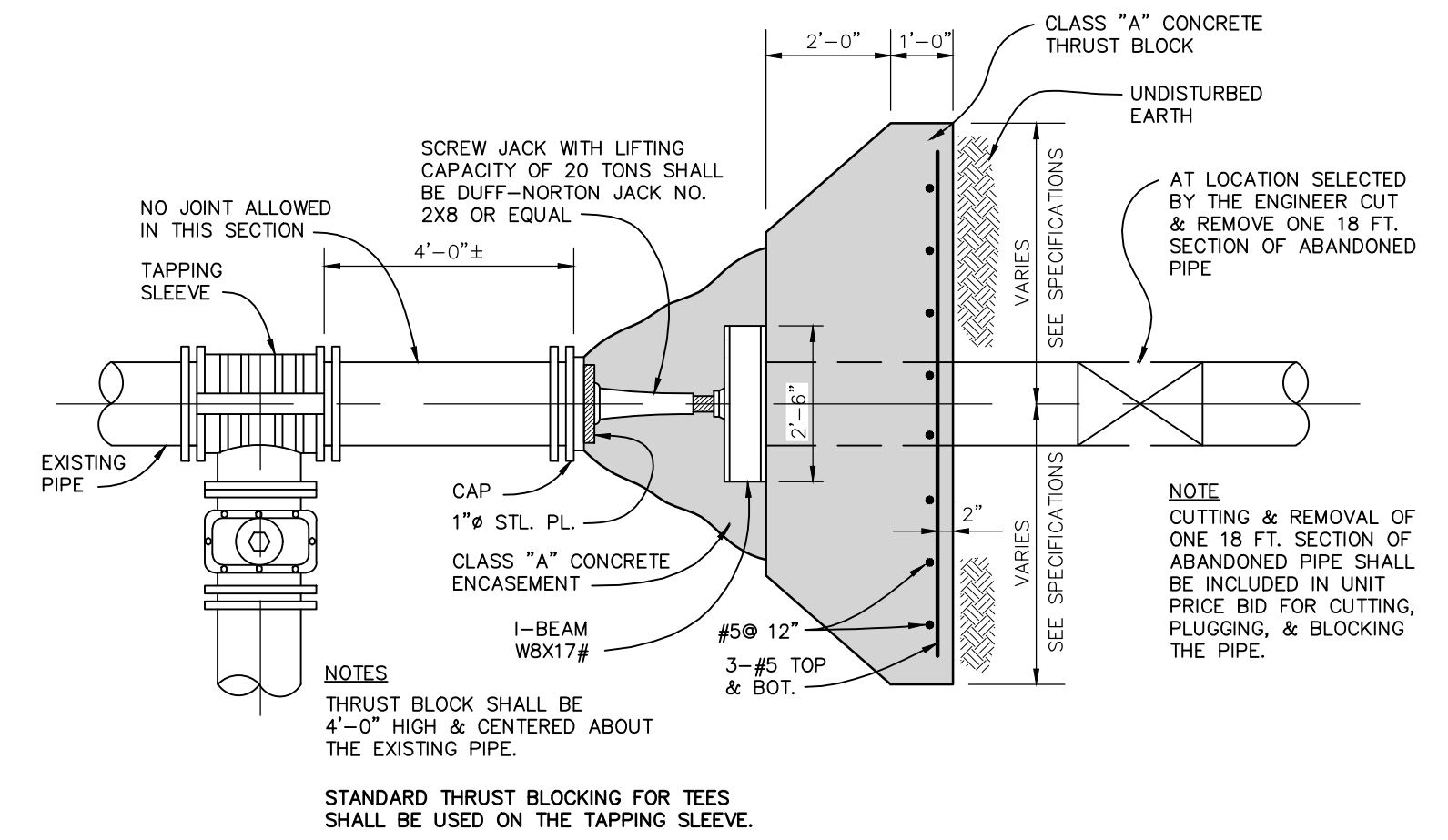
- KEYED NOTES**
- OVERHEAD CLEARANCE REQUIRED FROM THE TOP OF THE PIPE TO THE NEAREST OBSTRUCTION IS 41".
 - MAXIMUM INSTALLATION VALVE STACK HEIGHT IS 7", MEASURED TO TOP OF PIPE.
 - TYPICAL INSTALLATION KIT INCLUDES 1" NPT PIPE OUTLET AND 1" FULL PORT BALL VALVE, MIN.
 - 1" MIN DIA. ACCESS HOLE REQUIRED FOR FLOW METER INSTALLATION.
 - TRANSMITTER INSTALLED ON INTEGRAL BRACKET MOUNTED TO HOT TAP ADAPTER.
 - PROVIDE ENOUGH SLACK IN FLEXIBLE CONDUIT CONNECTION, BETWEEN FLOW METER TRANSMITTER ENCLOSURE AND FIELD JUNCTION BOX, ALLOWING FOR FLOW METER REMOVAL.
 - FLOW METER OUTPUT SIGNALS PROVIDED FOR CONNECTION TO BAS AND ONICON PERIPHERAL EQUIPMENT (OPTIONAL SYS-20 BTU METER SHOWN).
 - REFER TO FSM-3 IOM FOR INPUT POWER REQUIREMENTS.
 - LOCATE THE FLOW METER IN THE TOP 240 DEG SECTION OF A HORIZONTAL PIPE.
 - REFER TO FSM-3 IOM FOR STRAIGHT RUN RECOMMENDATIONS

OR APPROVED EQUAL

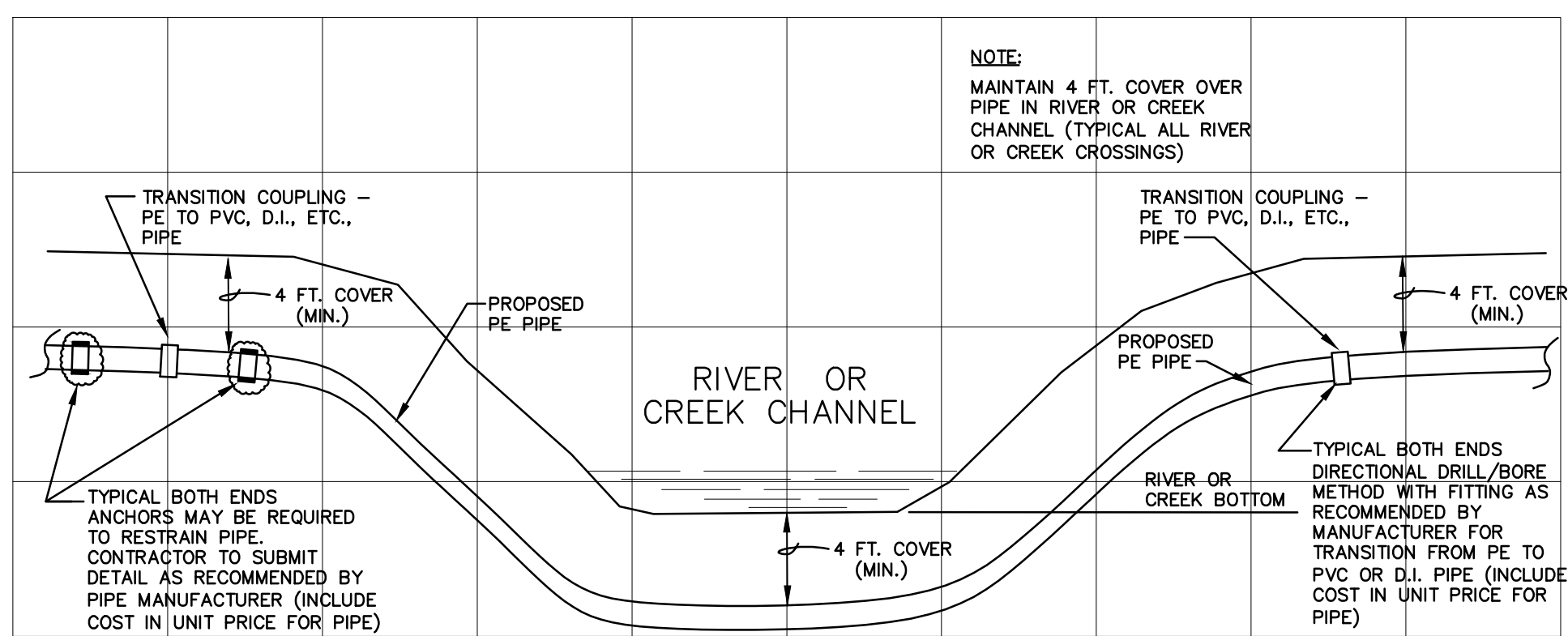
ONICON, INC
11451 BELCHER ROAD SOUTH, LARGO, FL 33773

DATE:	DRAWN BY:	SCALE:	DOC NUMBER:	REV.:
10-29-20	DLT	N.T.S.	CAD-000335	A

TITLE:
FSM-3 SERIES SUPERMAG TYPICAL INSTALLATION FOR 6" PIPE

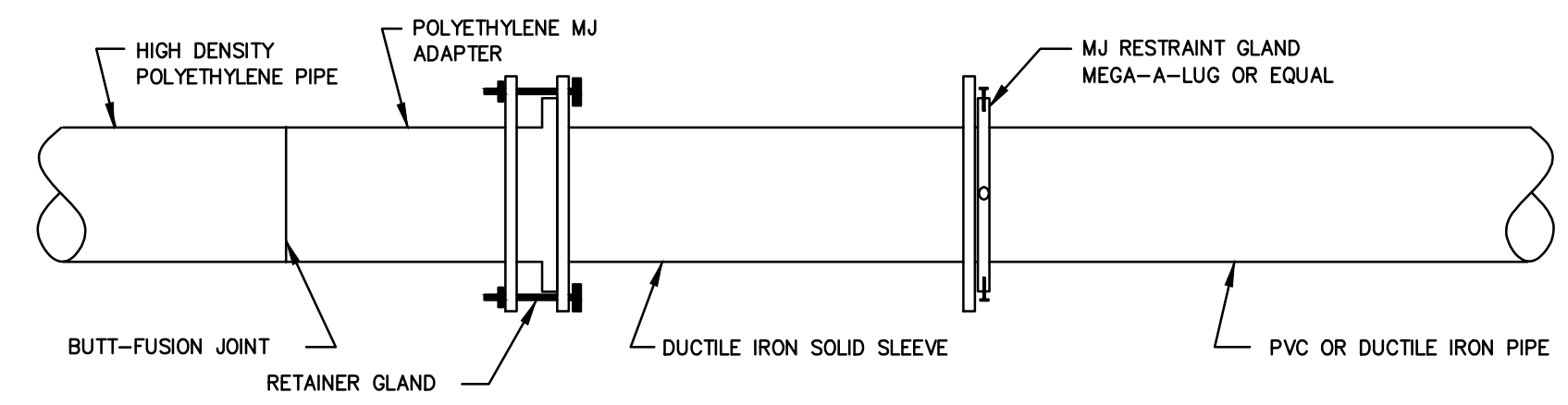


**TYPICAL DETAIL
CUTTING & BLOCKING
AT TAP INTO EXISTING LINE**
NOT TO SCALE

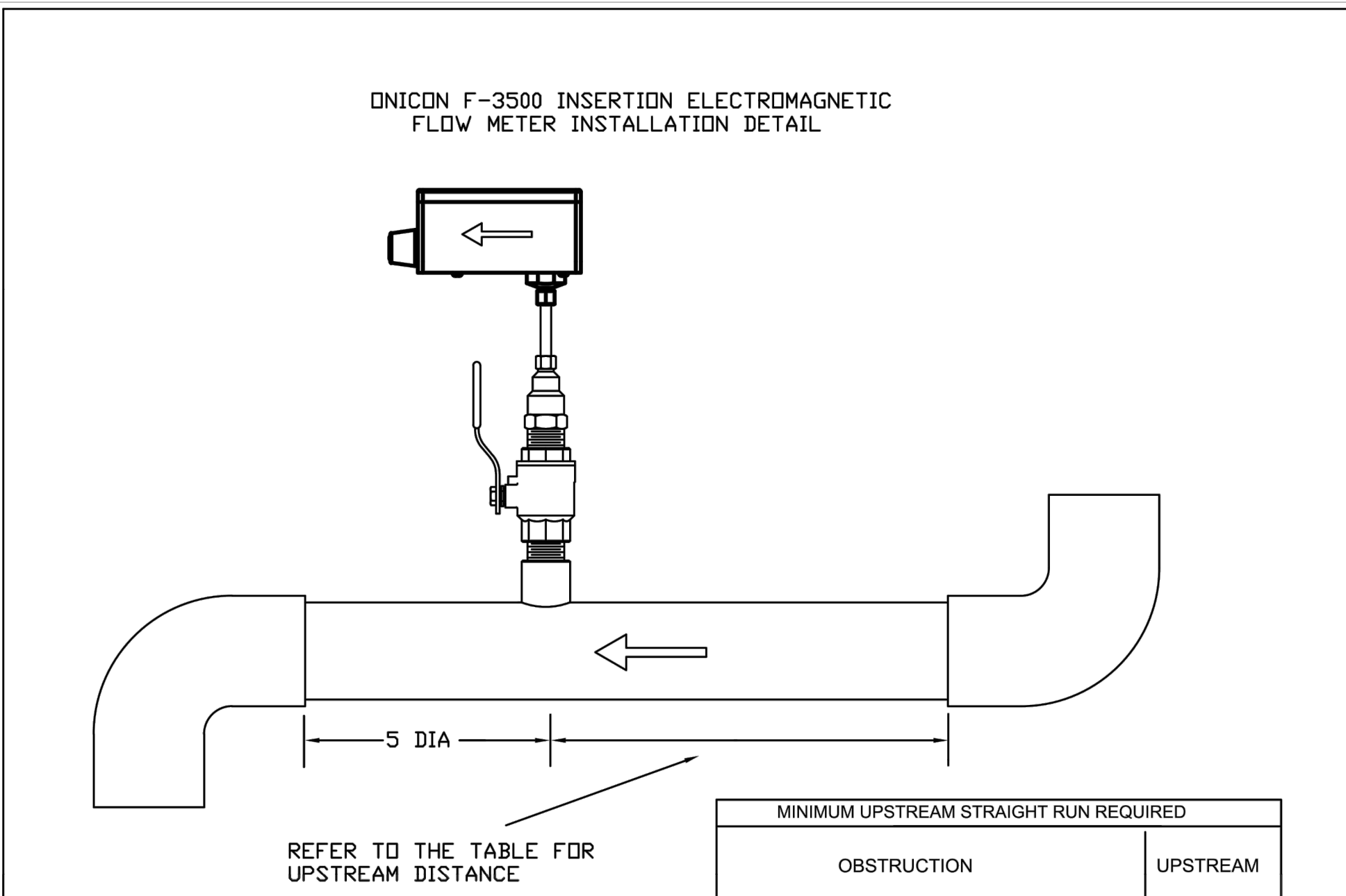


**TYPICAL SECTION
RIVER OR CREEK CROSSING
INSTALLATION BY DIRECTIONAL
DRILLING/BORE METHOD**
NOT TO SCALE

- NOTES:**
- CONTRACTOR TO INSTALL PIPE EXTRA DEPTH, AS NECESSARY TO FIRM RIVER OR CREEK CHANNEL AT NO EXTRA COST TO OWNER.
 - DURING THE CONSTRUCTION OF THE CROSSING, NO MATERIAL MAY BE PLACED IN THE STREAM OR IN THE FLOOD PLAIN OF THE STREAM TO FORM CONSTRUCTION PADS, COFFER DAMS, ACCESS ROADS, ETC.
 - THE TRENCH SHALL BE BACKFILLED AS CLOSELY AS POSSIBLE TO THE ORIGINAL CONTOUR. ALL EXCESS MATERIAL FROM CONSTRUCTION OF THE TRENCH SHALL BE DISPOSED OF OUTSIDE OF THE FLOOD PLAIN.
 - CONTRACTOR TO PROVIDE RECORD DRAWINGS OF DEPTH OF PIPE IN CROSSING.
 - ALL WORK TO BE DONE UNDER PROVISIONS OF 33 C.F.R. 330 NATIONWIDE PERMIT (NWP) NO. 12 UTILITY LINE ACTIVITIES.



**HDPE TO PVC/DUCTILE
IRON PIPE
TRANSITION DETAIL
ON DIRECTIONAL BORES**
NOT TO SCALE
(TYPICAL EACH END)



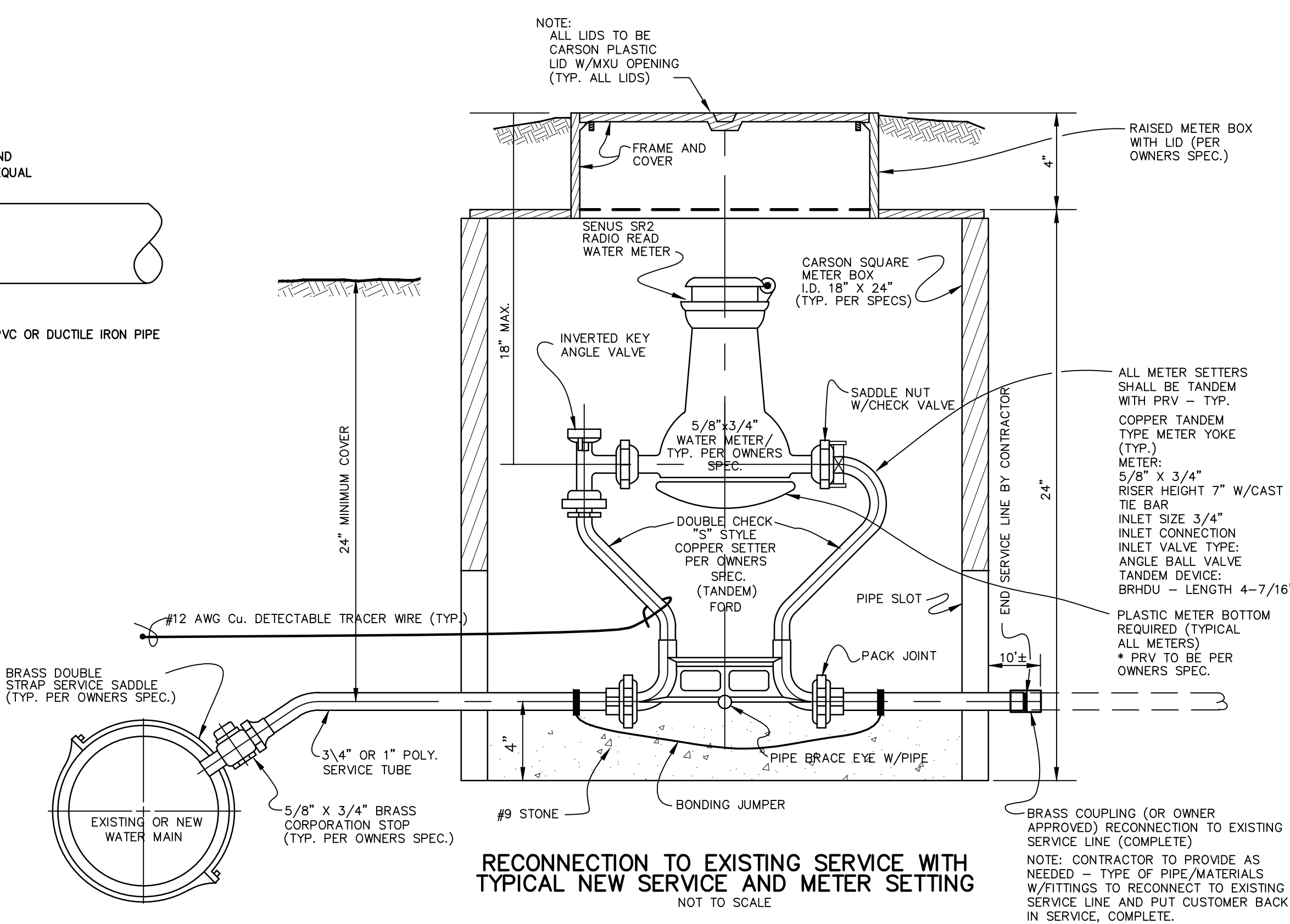
MINIMUM UPSTREAM STRAIGHT RUN REQUIRED		
OBSTRUCTION		UPSTREAM
SINGLE BEND PRECEDED BY ≥ 9 DIAMETERS OF STRAIGHT PIPE RUN		10 DIA
PIPE SIZE REDUCTION / EXPANSION IN STRAIGHT RUN		10 DIA
SINGLE BEND PRECEDED BY ≤ 9 DIAMETERS OF STRAIGHT PIPE RUN		15 DIA
OUTFLOWING TEE / PUMP OUTFLOW		20 DIA
MULTIPLE BENDS OUT OF PLANE		30 DIA
INFLOWING TEE		30 DIA
CONTROL / MODULATING VALVE		30 DIA

OR APPROVED EQUAL

ONICON, INC
11451 BELCHER ROAD SOUTH, LARGO, FL 33773

DATE:	DRAWN BY:	SCALE:	DRAWING #:
01-07-09	DBJ	N.T.S.	090107DBJ-1

TITLE:
F-3500 INSERTION ELECTROMAGNETIC FLOW METER INSTALLATION DETAIL



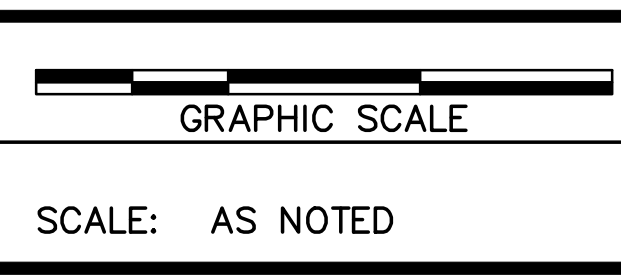
**RECONNECTION TO EXISTING SERVICE WITH
TYPICAL NEW SERVICE AND METER SETTING**
NOT TO SCALE

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[Signature]
June 29, 2023

DESIGNER	RAB	DATE	BY	REVISION
DRAWN	DMB			
CHECKED	RAB			
APPROVED	SHC			



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PHASE 11 SYSTEM IMPROVEMENTS
ZONE METER & RIVER CROSSING INSTALLATION
ESTILL COUNTY WATER DISTRICT #1
ESTILL COUNTY, KENTUCKY

ZONE METER DETAIL & MISCELLANEOUS DETAILS

DIVISION	ALL
CONTRACT NO.	371-20-01
DATE	APRIL 2020
SHEET NO.	D2 OF D2