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SERVING DEVELOPERS, INDUSTRY, BUSINESS AND GOVERNMENT BY PROVIDING PROVEN SOLUTIONS SINCE 1976

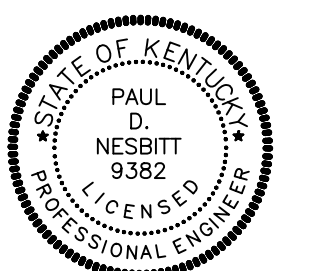
BREATHITT COUNTY WATER DISTRICT

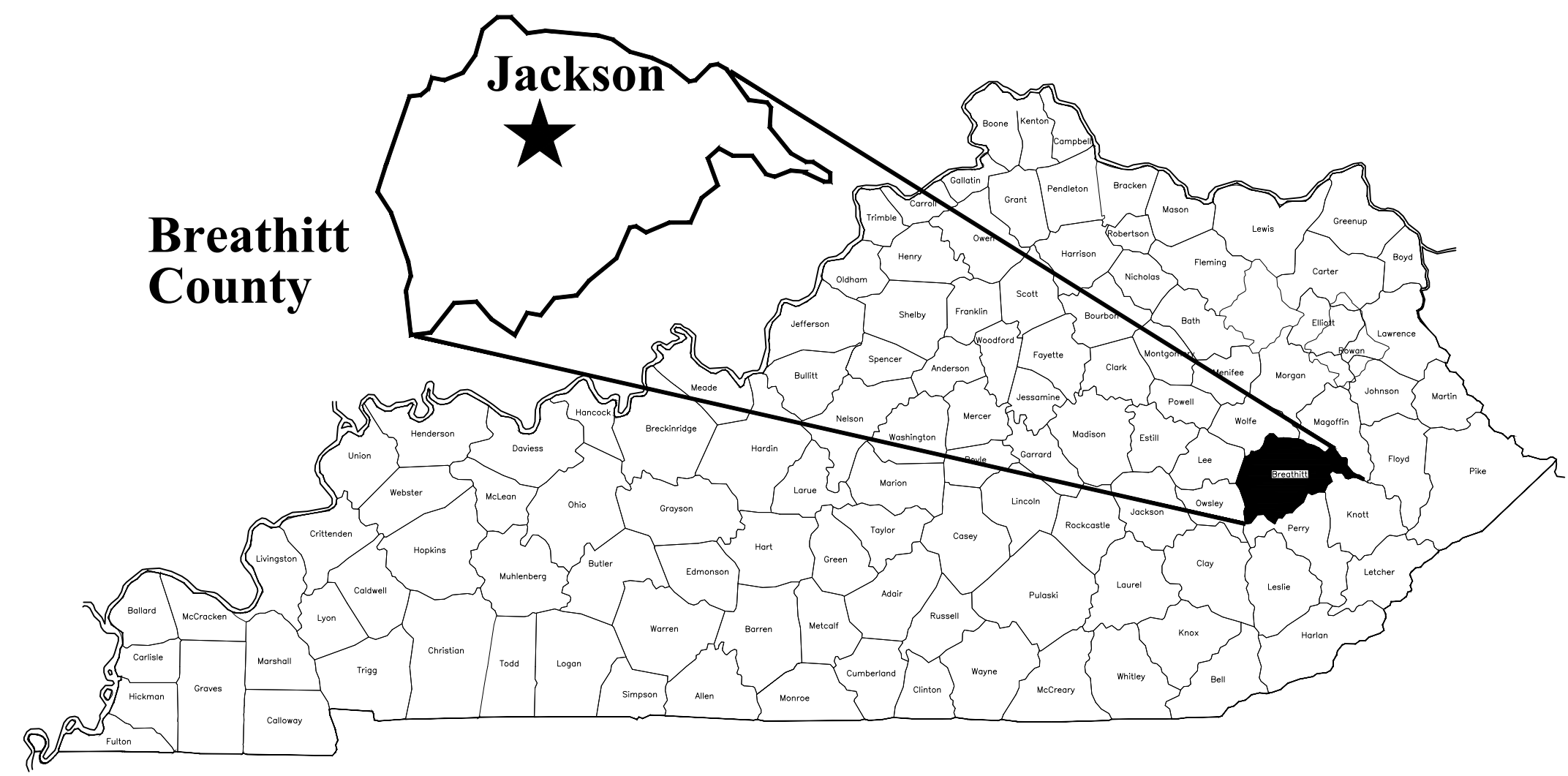
WATERLINE EXTENSION PROJECT CONTRACT 1 - WATERLINES

NOVEMBER 2019

WATER COMMISSIONERS

**BOBBY THORPE JR - CHAIRMAN
SAMMIE TURNER - VICE CHAIRMAN
EVA FUGATE - SECRETARY
CHERYL CAMPBELL - TREASURER
DAVID INGRAM - MEMBER**



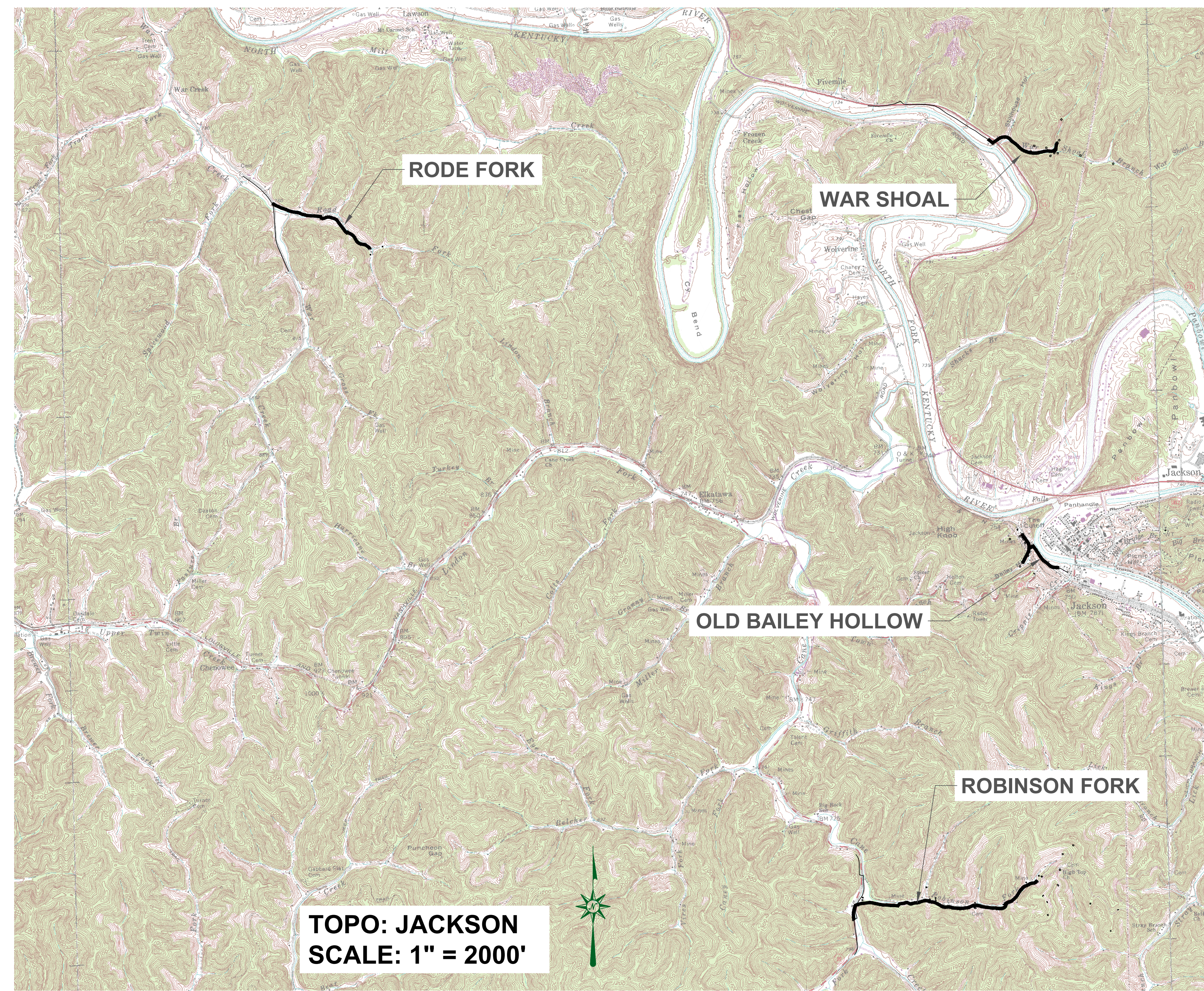


KENTUCKY

ABBREVIATIONS					
A.F.F.	ABOVE FINISHED FLOOR	EXT	EXTERIOR	PRV	PRESSURE RELIEF VALVE
ALUM	ALUMINUM	F.D	FLOOR DRAIN	PRESS	PRESSURE
APPROX.	APPROXIMATE	F.F.	FINISHED FLOOR	REDUC	REDUCING
BIT	BITUMINOUS	FLC	FLANGE	REDU	REDUCER
BLDG	BUILDING	FL	FENCELINE	REINF.	REINFORCING
BLK	BLOCK	FLOC	FLOCCULATOR	REFRIG.	REFRIGERATOR
B.M.	BENCH MARK	GD	GRADE	RM	ROOM
B'FLY	BUTTERFLY	DIP	DUCTILE IRON PIPE	SAN	SANITARY
BOTT	BOTTOM	H.B.	HOSE BIBB	SCH.	SCHEDULE
CHEM	CHEMICAL	H	HEIGHT	SECT	SECTION
CAST IRON	CAST IRON	H.W.	HOT WATER	SED	SEDIMENTATION
C.I.S.P.	CAST IRON SOIL PIPE	INFL	INFLUENT	SEWER	SEWER
C	CENTERLINE	INV.	INVERT	SHT	SHEET
CONC.	CONCRETE	LAV	LAVATORY	SOL	SOLUTION
CHLOR	CHLORINE	L	LENGTH	SPEC'S.	SPECIFICATION'S
CL	CLEARANCE	LOAD'G	LOADING	SQ.	SQUARE
C.W.	COLD WATER	LNG	LONG	S.S.	STAINLESS STEEL
CU	COPPER	MH	MANHOLE	ST	STEEL TUBE
C.O.	CLEANOUT	M.J.	MECHANICAL JOINT	STL	STEEL
CONT	CONTINUATION	MIN.	MINIMUM	STN.	STAINLESS
DGA	DENSE GRADED AGGREGATE	MTD.	MOUNTED	SURF	SURFACE
D.I.	DUCTILE IRON	MAX.	MAXIMUM	SVCS	SERVICES
DISCH	DISCHARGE	NO.	NUMBER	T	THICK
D.I.M.J.	DUCTILE IRON MECHANICAL JOINT	NRS	NONRISING STEM	T.O.C.	TOP OF CONCRETE
D.I.P.E.	DUCTILE IRON PLAIN END	N.T.S.	NOT TO SCALE	TYP.	TYPICAL
D.I.P.	DUCTILE IRON PIPE	O.C.	ON CENTER	TRANS	TRANSITION
DEMO	DEMOLITION	O.D.	OVERALL DIMENSION	VAC	VACUUM
DIAG	DIAGONAL	OPER	OPERATOR	VAL	VALVE
EFFL	EFFLUENT	OP'NG	OPENING	VENT	VENT THRU ROOF
E.F.	EACH FACE	PE	POLYETHYLENE	VERT	VERTICAL
ELC	ELECTRICAL	P.L.N.	PLAIN END	WD	WOOD
EL	ELEVATION	PL	PLATE	W.C.	WATER CLOSET
EQUIP	EQUIPMENT	PROP	PROPOSED	W	WITH
E.W.	EACH WAY	PVC	POLYVINYL CHLORIDE	W/L	WATER LEVEL
EXIST	EXISTING	PRV	PRESSURE RELIEF VALVE	W.S.E.	WATER SURFACE ELEVATION
		PRESS	PRESSURE	WWF	WOVEN WIRE FENCE

SHEET INDEX

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- C-2 ROBINSON FORK STA. 0+00 TO 60+00
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- C-5 WAR SHOAL STA. 0+00 TO 28+12
- C-6 OLD BAILEY HOLLOW
- C-7 CSX RAILROAD CROSSING DETAILS
- C-8 CSX RAILROAD CROSSING DETAILS 2
- D-1 DIRECTIONAL DRILLING DETAILS
- D-2 STANDARD DETAILS 1
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TOPO: JACKSON
SCALE: 1" = 2000'

GENERAL NOTES:

- DIMENSIONS OF EXISTING STRUCTURES, EQUIPMENT, ETC. SHALL BE FIELD CONFIRMED BY THE CONTRACTOR. WHERE CRITICAL DIMENSIONS FOR INSTALLATION OF PROPOSED EQUIPMENT ARE INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL CONFIRM THESE DIMENSIONS FOR ACTUAL EQUIPMENT FURNISHED. ALL KNOWN DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- THE CONTRACTOR SHALL USE ALL POSSIBLE CARE DURING EXCAVATION ON THIS PROJECT SO AS NOT TO DISTURB ANY EXISTING UTILITY WHETHER SHOWN ON PLANS OR NOT. ANY UTILITY DISTURBED OR DAMAGED BY THE CONTRACTOR DURING HIS CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITY TO THE AREA WITHIN EXISTING EASEMENTS AND CONSTRUCTION LIMITS, UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.
- THE CONTRACTOR WILL BE SOLELY LIABLE FOR ANY WORK HE PERFORMS OUTSIDE OF LEGAL EASEMENTS OR CONSTRUCTION LIMITS.
- THE CONTRACTOR MUST CONTACT ALL UTILITY OWNERS AND HAVE THEM FIELD LOCATE THEIR EXISTING LINES PRIOR TO ANY CONSTRUCTION ACTIVITY.
- EFFORTS HAVE BEEN MADE TO INDICATE ACCURATE 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 THE 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 THIS 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 AFORE 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 OR BETTER THAN THAT WHICH EXISTED PRIOR TO BEING DAMAGED.
- 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 30" (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 AS A UNIT. ANY OMISSIONS, 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 ADDED COST TO THE OWNER.

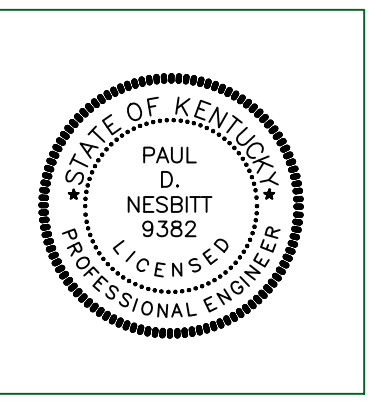
CONSTRUCTION ON STATE RIGHT-OF-WAY NOTES:

- WATER MAIN/SEWER LINES TO BE CONSTRUCTED WITHIN THE KENTUCKY TRANSPORTATION CABINET RIGHT-OF-WAY. TRENCHES SHALL BE OF A DEPTH SUFFICIENT TO PROVIDE A MINIMUM COVER OF 42" FROM THE EXISTING GROUND SURFACE TO THE TOP OF THE PIPE AND BE LOCATED APPROXIMATELY AS SHOWN UNLESS OTHERWISE NOTED. SEE INDIVIDUAL SHEETS FOR DETAILS.
- ALL BORES UNDER STATE HIGHWAYS RIGHT-OF-WAY SHALL BE A MINIMUM OF 42" DEPTH UNDER BOTTOM OF DITCH LINE TO TOP OF THE PROPOSED BORE AND/OR CASING PIPE ON BOTH SIDES OF THE HIGHWAY.
- ROCK BLASTING: THERE SHALL BE NO BLASTING WITHIN STATE RIGHT-OF-WAY WITHOUT WRITTEN CONSENT FROM THE KENTUCKY TRANSPORTATION CABINET.
- PROTECTION OF EXISTING PAVING: CARE SHALL BE TAKEN BY THE CONTRACTOR TO AVOID CRACKING OR BREAKING THE BITUMINOUS PAVING. ALL DAMAGE TO THE EXISTING PAVING CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER. PAVING PROTECTION SHALL BE ACCOMPLISHED BY THE USE OF RUBBER AND STREET PADDED MACHINERY OR OTHER APPROVED EQUIPMENT WELL SUITED FOR THIS TYPE OF CONSTRUCTION.
- BANK AND DITCH PROTECTION EXCAVATION: DURING CONSTRUCTION, ALL EMBANKMENTS, REFILLS AND EXCAVATIONS SHALL BE KEPT SHAPED AND DRAINED BY THE CONTRACTOR. DITCHES AND DRAINS ALONG THE HIGHWAYS SHALL BE MAINTAINED IN SUCH A MANNER AS TO DRAIN EFFECTIVELY AT ALL TIMES.
- PRIVATE ENTRANCE ROAD: ALL ROADWAYS AND DRIVEWAYS WITHIN THE WORK LIMITS OF STATE RIGHT-OF-WAYS SHALL BE REFILLED TO THE NATURAL SURFACE OF THE GROUND WITH APPROX. MATERIAL. THE MATERIAL SHALL BE PLACED AND COMPACTED TO A SMOOTHNESS SUITABLE FOR TRAFFIC. THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR MAINTAINING THESE ROADWAYS UNTIL THE RESTORATION IS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL NOTE THAT ALL PRIVATE BUSINESSES AND RESIDENCES ALONG THE ROUTE OF THE PROPOSED WATER MAIN/SEWER LINE CONSTRUCTION MUST HAVE ACCESS TO THEIR PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
- PROTECTION OF EXISTING DRAINAGE CULVERTS: ALL LOCATIONS WHERE THE PROPOSED WATER MAIN/SEWER LINE IS PARALLEL WITH OR CROSSING AN EXISTING STORM SEWER, THE COST OF RELAYING EXISTING CULVERT PIPES OR THE EXTRA DEPTH REQUIRED TO AVOID THE EXISTING CULVERT IS CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND IS NOT A PAY ITEM.
- SOME EXISTING UTILITIES HAVE NOT BEEN SHOWN: THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE REPRESENTATIVES OF THE VARIOUS UTILITIES WHEN WORKING NEAR ANY EXISTING UTILITY. NO ADDITIONAL PAYMENT TO THE CONTRACTOR WILL BE MADE FOR EXTRA DEPTH REQUIRED TO AVOID ANY EXISTING UTILITY.

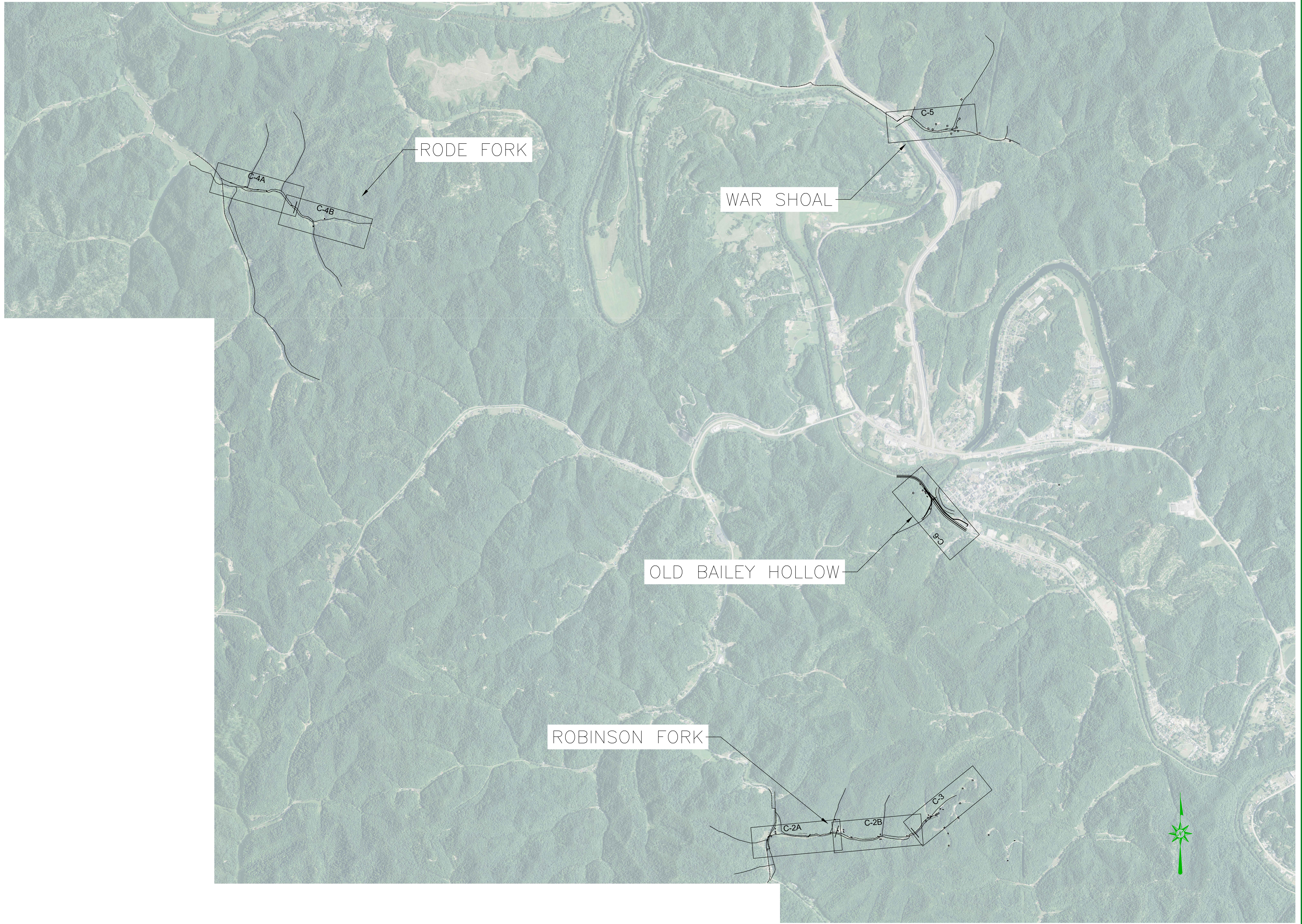
CALL THE KENTUCKY ONE CALL BEFORE DIGGING:
KENTUCKY UNDERGROUND PROTECTION, INC. 1-800-752-6007
 A FEDERAL LAW NOW IN EFFECT STATES THAT ANY PERSON WHO ENGAGES IN EXCAVATION ACTIVITIES WITHOUT FIRST USING AN AVAILABLE ONE-CALL NOTIFICATION SYSTEM TO DETERMINE LOCATIONS OF UNDERGROUND FACILITIES; OR WITHOUT HEEDING LOCATION INFORMATION OR MARKINGS AND SUBSEQUENTLY DAMAGES A PIPELINE FACILITY SHALL BE SUBJECT TO A FINE, IMPRISONMENT, OR BOTH. THE LAW ALSO STATES THAT OSHA MAY BE NOTIFIED OF ANY ACCIDENT CAUSED BY AN EXCAVATOR.
NATIONAL ONE-CALL REFERRAL NUMBER 1-800-258-0808



227 N. Upper Street
 Lexington, Kentucky
 40507-1016
 Tel (859) 233-3111
 Fax (859) 259-2717



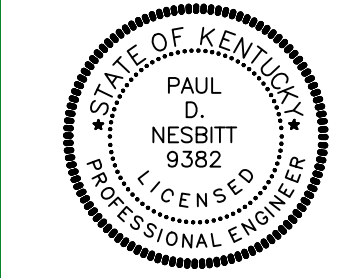
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BREATHITT COUNTY WATER DISTRICT
WATERLINE EXTENSION PROJECT

drawn by: MMS
date: 10/17/2019
job no.: 998-45
scale: 1" = 100'



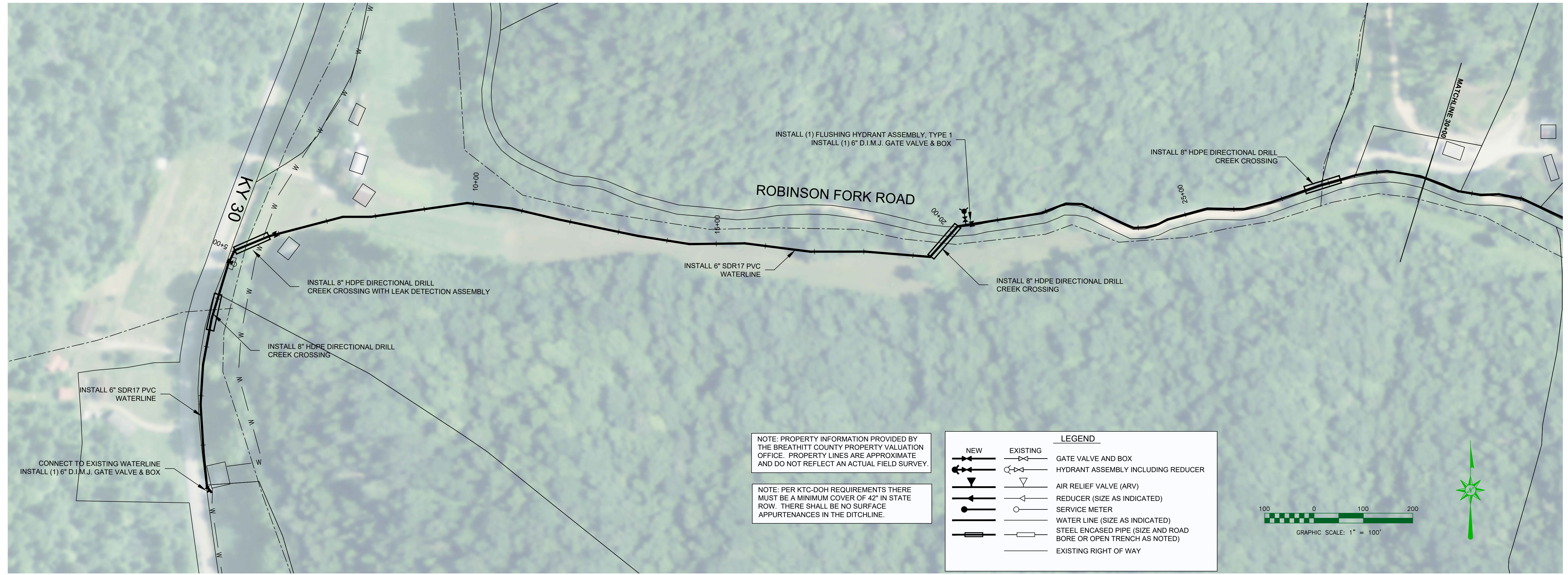
WATERLINE EXTENSION PROJECT
BREATHITT COUNTY WATER DISTRICT
1137 MAIN ST, SUITE 305
JACKSON, KY 41339

INDEX SHEET

FORMER:

sheet no.

C-1



CONNECT TO EXISTING WATERLINE
INSTALL (1) 6" D.I.M.J. GATE VALVE & BOX

INSTALL 8" HDPE DIRECTIONAL DRILL
CREEK CROSSING WITH LEAK DETECTION ASSEMBLY

INSTALL 8" HDPE DIRECTIONAL DRILL
CREEK CROSSING

INSTALL 6" SDR17 PVC
WATERLINE

INSTALL (1) FLUSHING HYDRANT ASSEMBLY, TYPE 1
INSTALL (1) 6" D.I.M.J. GATE VALVE & BOX

INSTALL 6" SDR17 PVC
WATERLINE

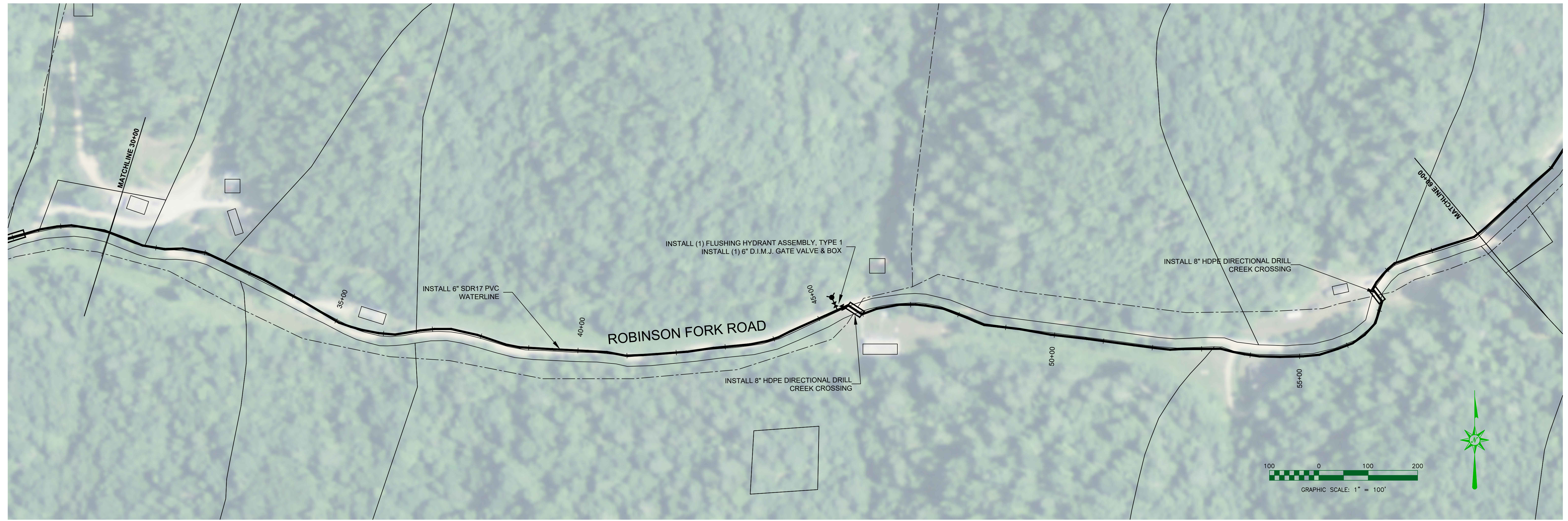
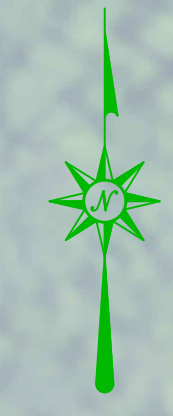
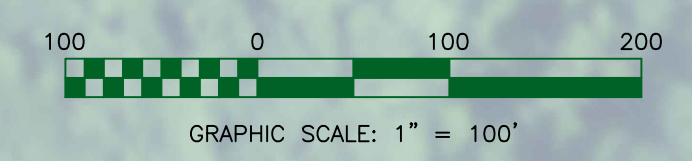
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NOTE: PROPERTY INFORMATION PROVIDED BY
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NOTE: PER KTC-DOH REQUIREMENTS THERE
MUST BE A MINIMUM COVER OF 42" IN STATE
ROW. THERE SHALL BE NO SURFACE
APPURTENANCES IN THE DITCHLINE.

LEGEND	
	NEW
	EXISTING
	GATE VALVE AND BOX
	HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)
	REDUCER (SIZE AS INDICATED)
	SERVICE METER
	WATER LINE (SIZE AS INDICATED)
	STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
	EXISTING RIGHT OF WAY

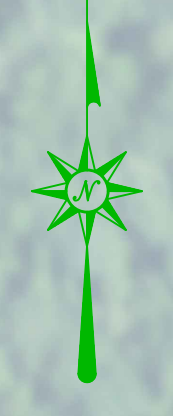
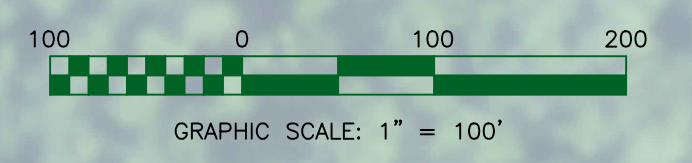


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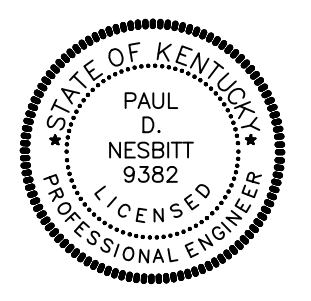
INSTALL 8" HDPE DIRECTIONAL DRILL
CREEK CROSSING

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CREEK CROSSING



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 BREATHITT COUNTY WATER DISTRICT
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 ROBINSON FORK WATERLINE STA. 0+00 - 60+00



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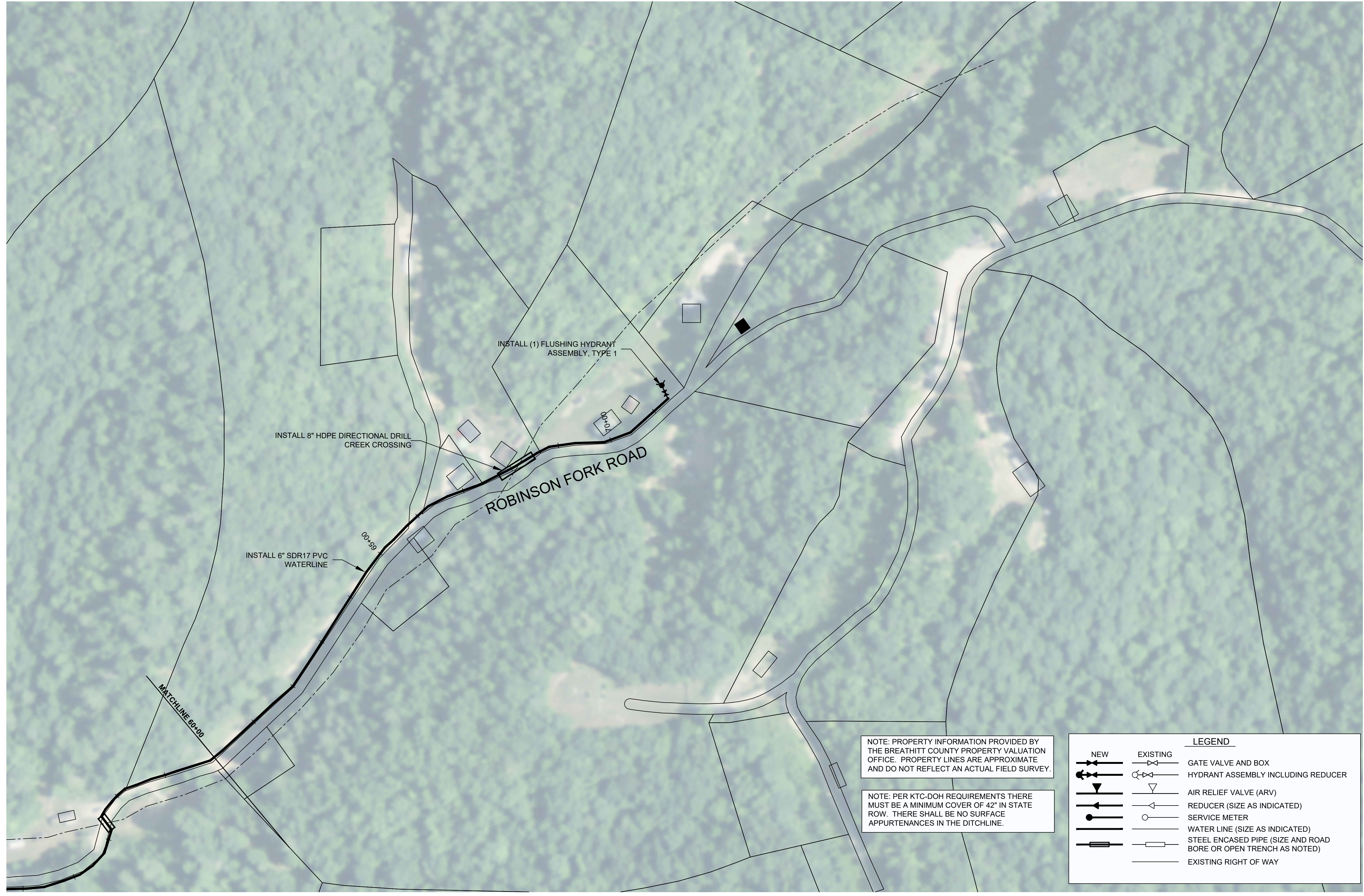
BREATHITT COUNTY WATER DISTRICT
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drawn by: MMS
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sheet no.: C-2

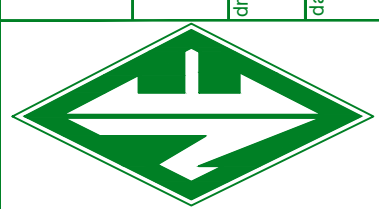
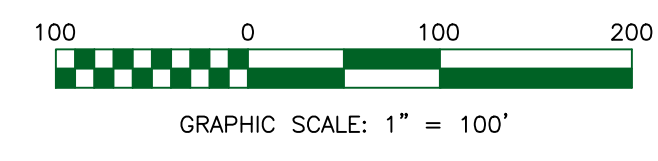
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NOTE: PER KTC-DOH REQUIREMENTS THERE MUST BE A MINIMUM COVER OF 42" IN STATE ROW. THERE SHALL BE NO SURFACE APPURTENANCES IN THE DITCHLINE.

LEGEND	
	NEW
	EXISTING
	GATE VALVE AND BOX
	HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)
	REDUCER (SIZE AS INDICATED)
	SERVICE METER
	WATER LINE (SIZE AS INDICATED)
	STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
	EXISTING RIGHT OF WAY

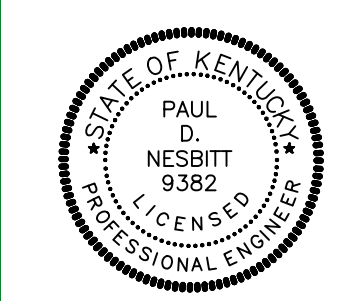


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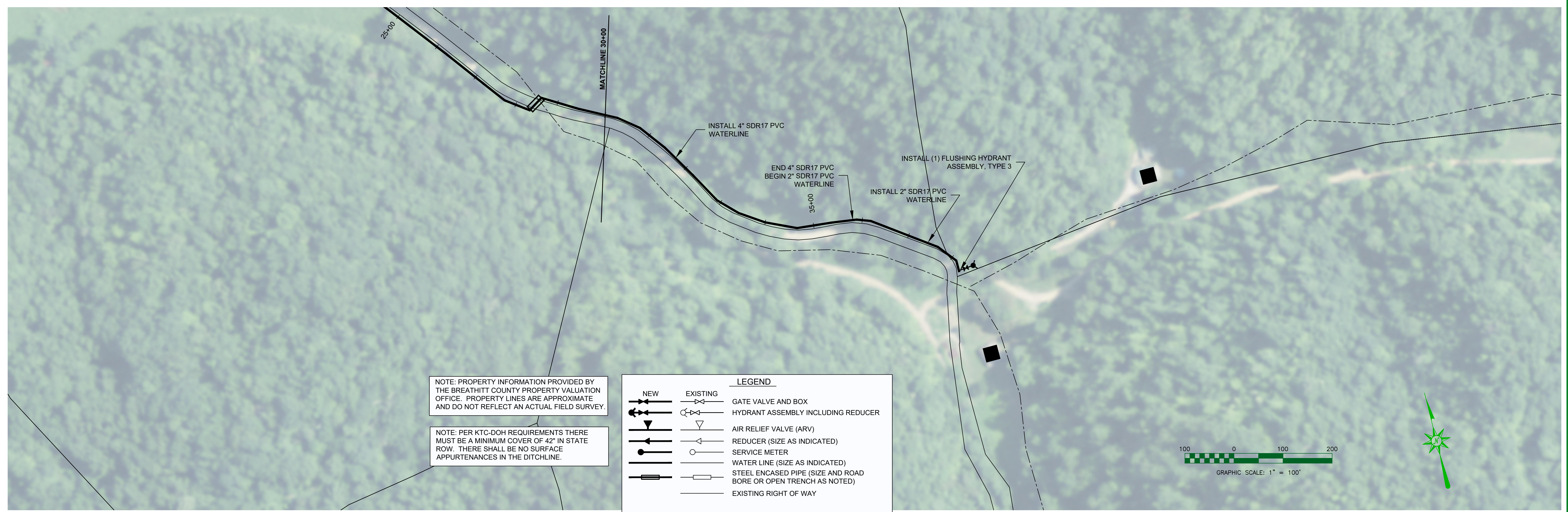


WATERLINE EXTENSION PROJECT
 BREATHITT COUNTY WATER DISTRICT
 1137 MAIN ST, SUITE 305
 JACKSON, KY 41339

ROBINSON FORK WATERLINE STA. 60+00 - 71+37

sheet no.

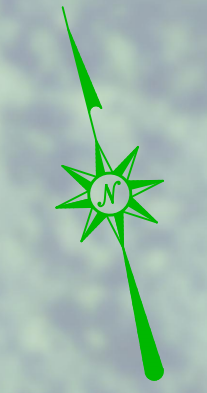
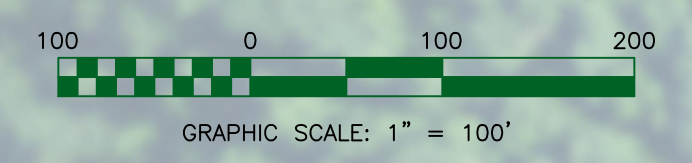
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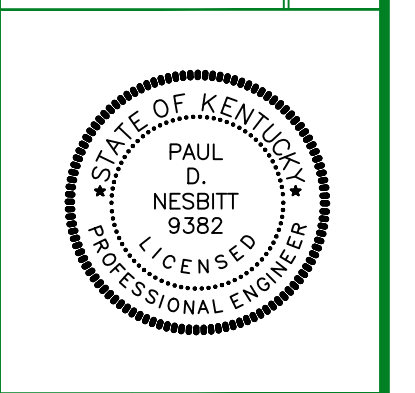
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	EXISTING WATER LINE (SIZE AS INDICATED)
	GATE VALVE AND BOX
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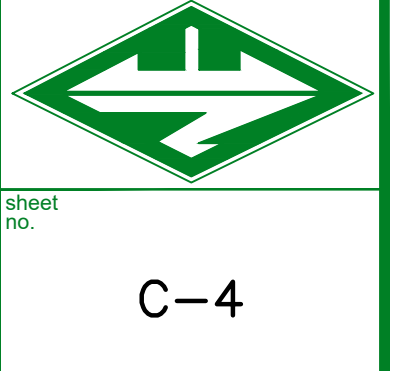
RODE FORK WATERLINE STA. 0+00 - 38+34



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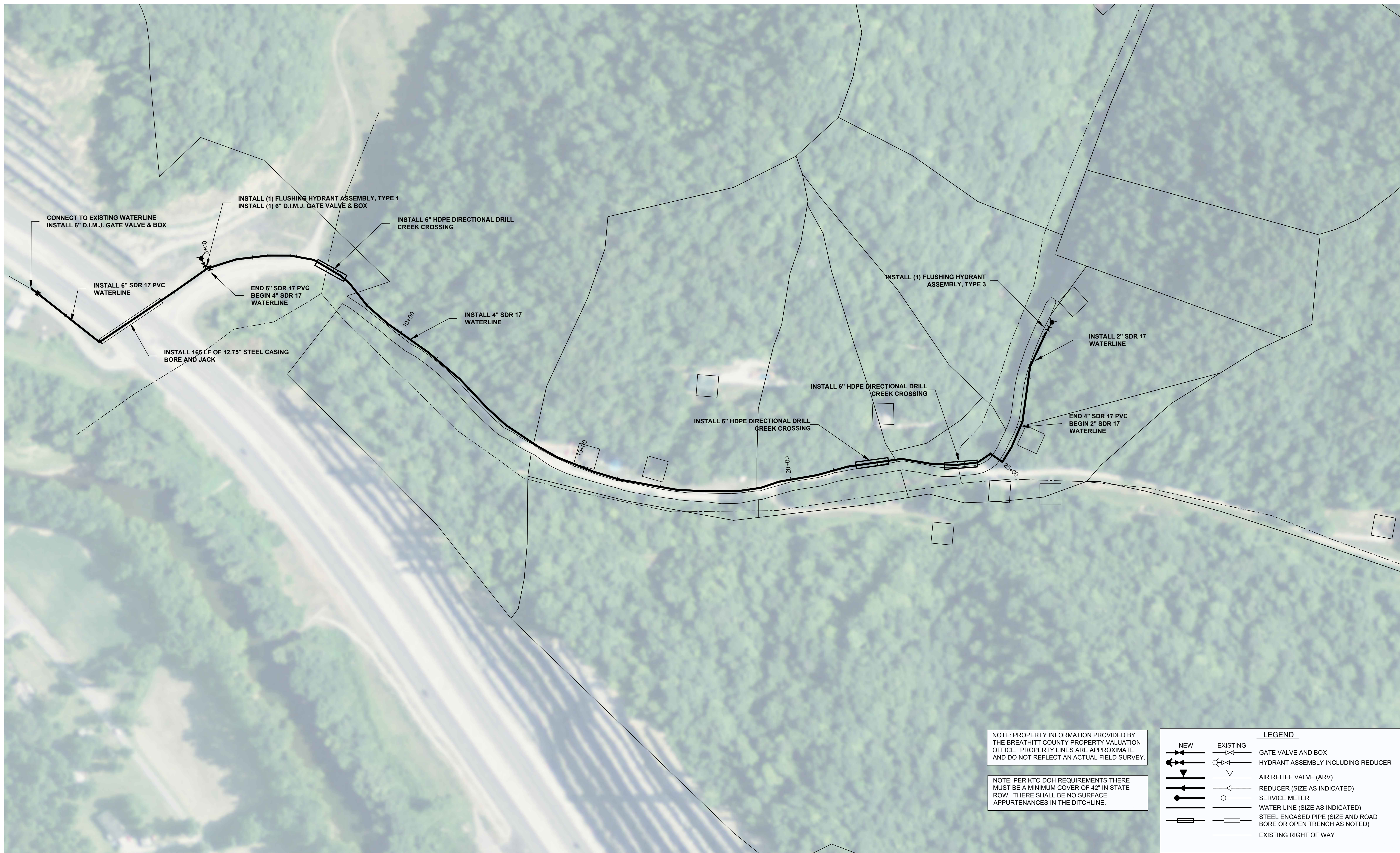
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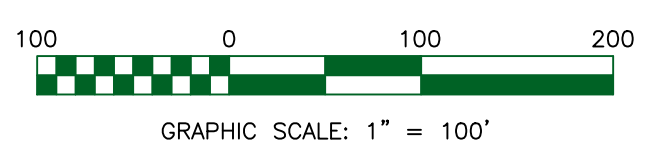
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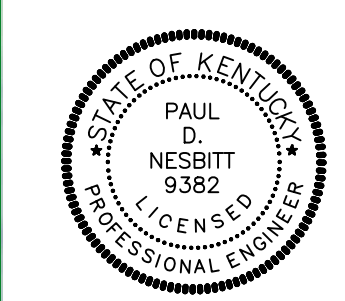
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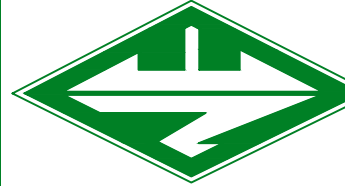


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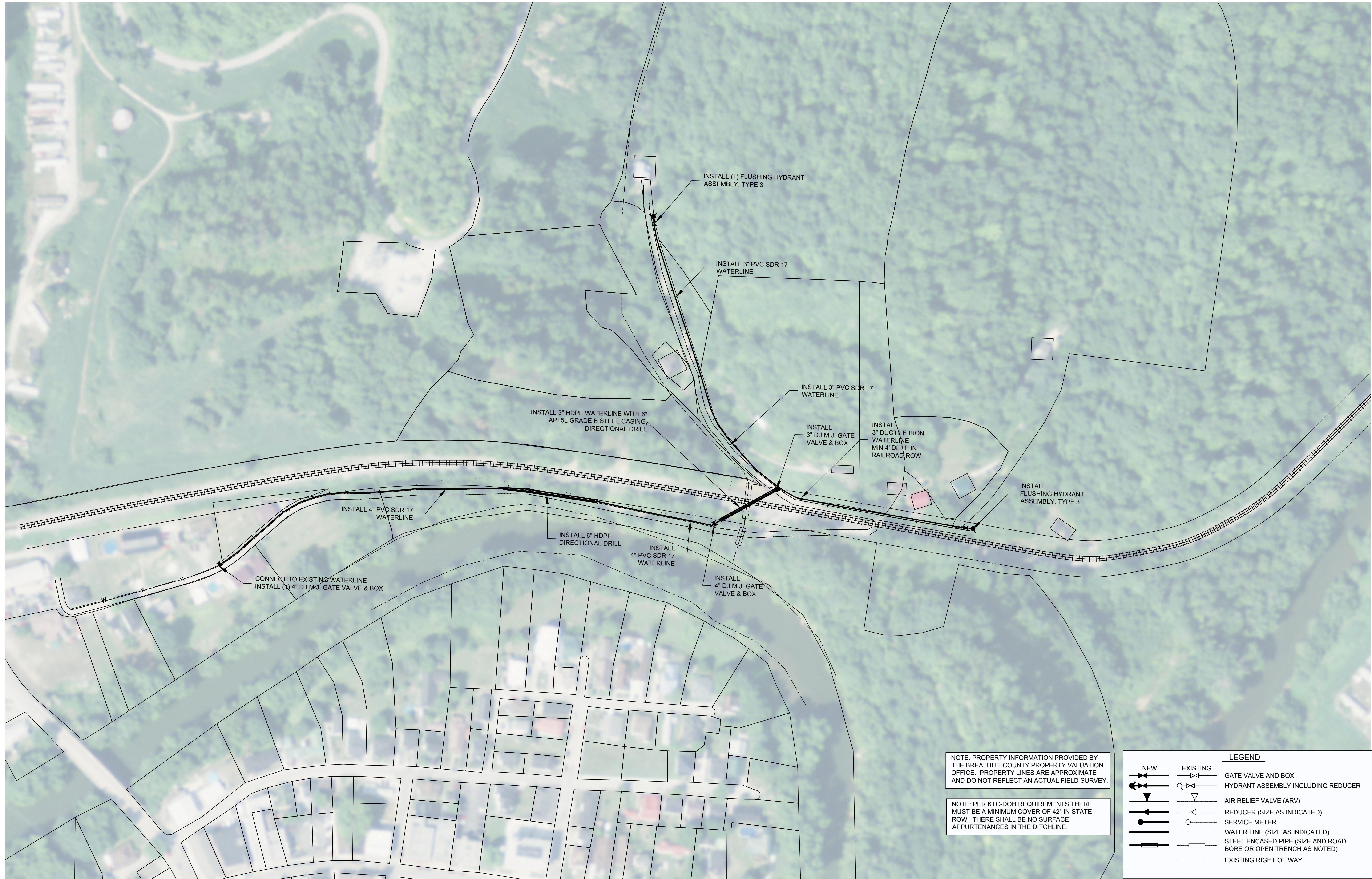


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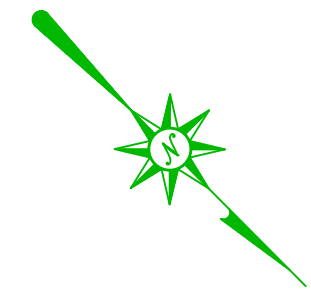
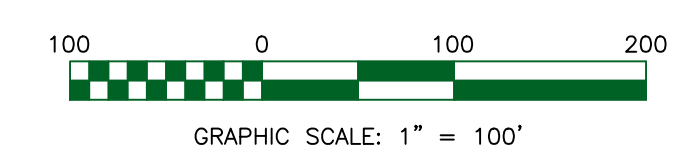
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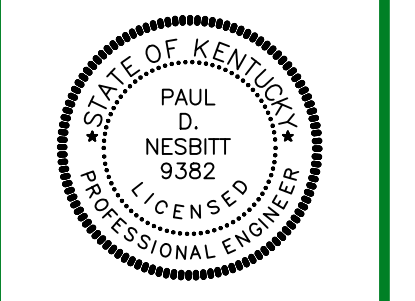
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	GATE VALVE AND BOX
	HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)
	REDUCER (SIZE AS INDICATED)
	SERVICE METER
	WATER LINE (SIZE AS INDICATED)
	STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
	EXISTING RIGHT OF WAY



WATERLINE EXTENSION PROJECT
BREATHITT COUNTY WATER DISTRICT
1137 MAIN ST, SUITE 305
JACKSON, KY 41339

OLD BAILEY HOLLOW WATERLINE

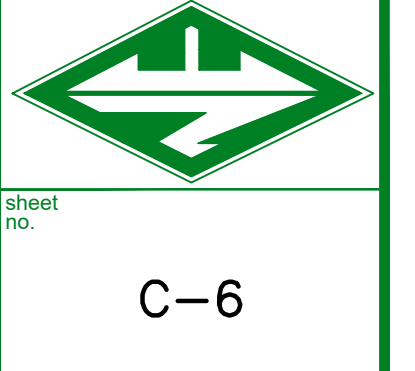


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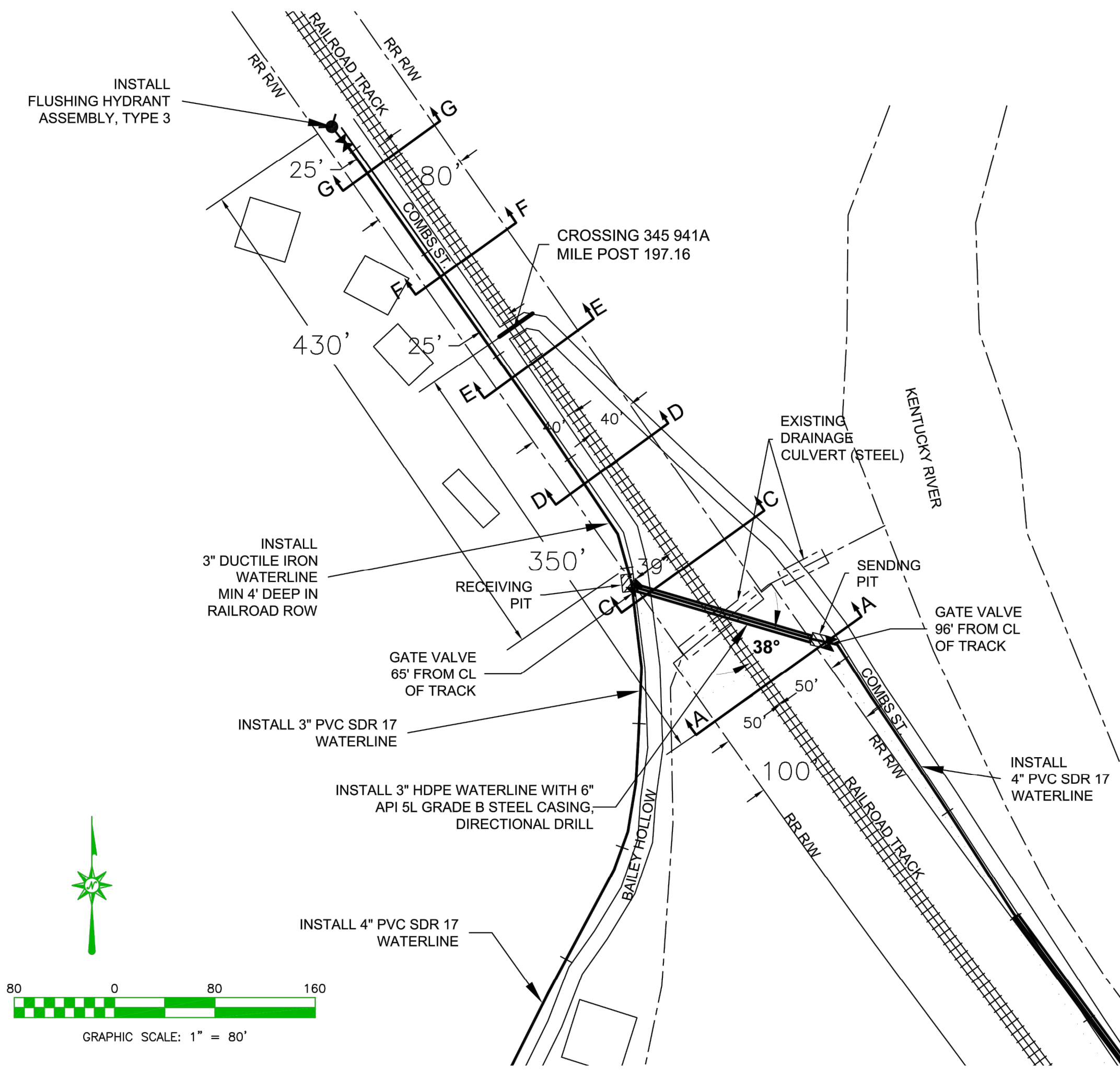
BREATHITT COUNTY WATER DISTRICT
WATERLINE EXTENSION PROJECT

drawn by: MMS
job no.: 998-45
date: 10/17/2019

1" = 100'



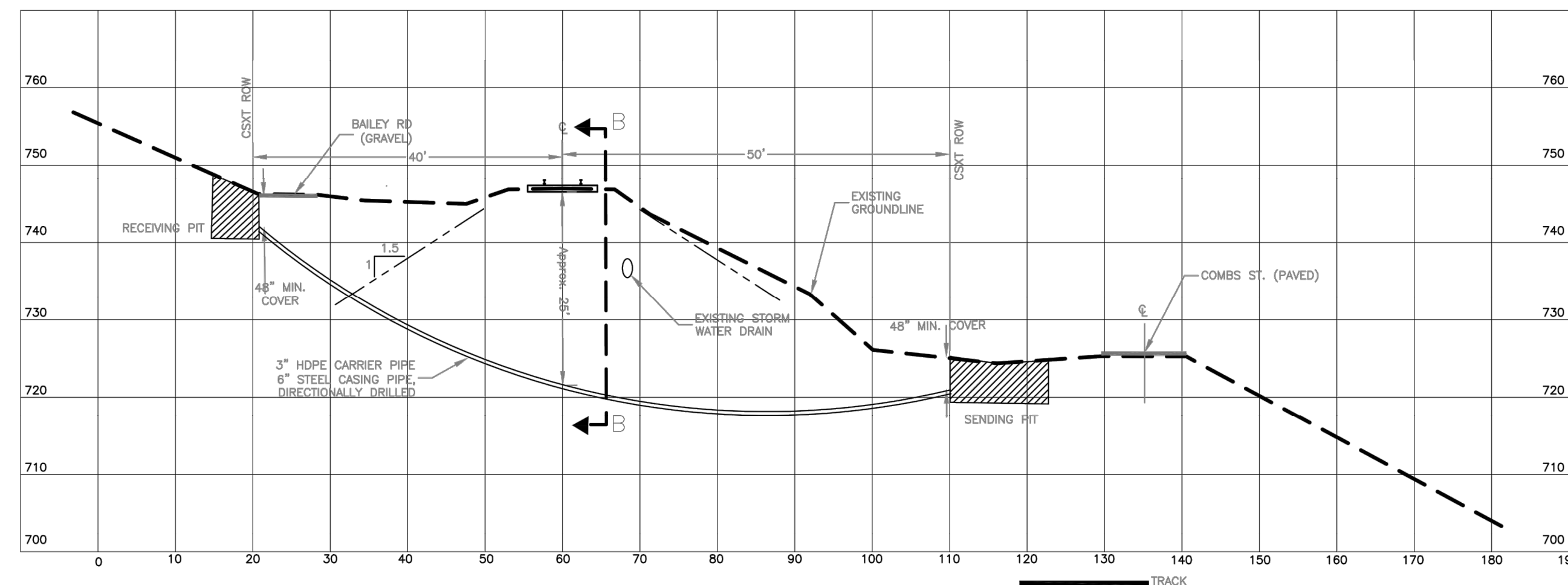
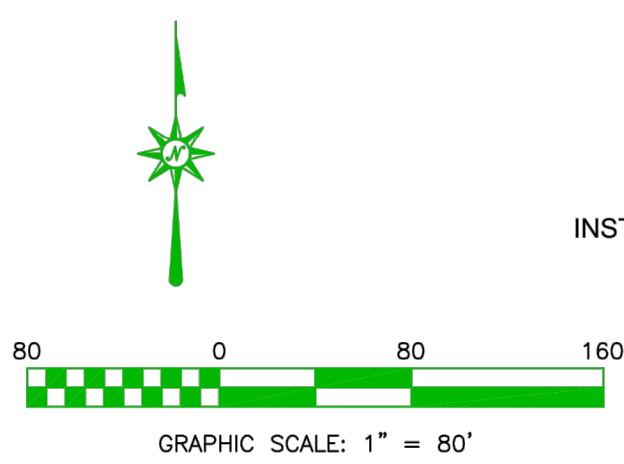
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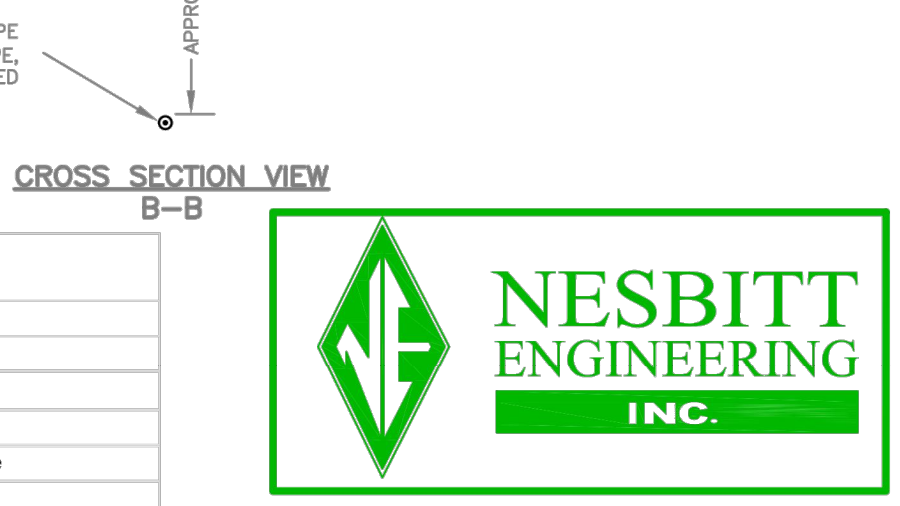
- NOTES:**
- SIGNS ARE REQUIRED TO BE PLACED AT THE INTERSECTION OF THE PIPELINE AND THE RR R/W. WHEN A PIPELINE IS PARALLEL TO THE TRACKS SIGNS ARE REQUIRED SO THAT ADJACENT SIGNS MAY BE SEEN FROM ONE ANOTHER AND NOT MORE THAN 500 FEET APART. SIGNS MUST CONTAIN THE FOLLOWING INFORMATION:
 *NAME AND ADDRESS OF OWNER
 CONTENTS OF PIPE
 PRESSURE IN PIPE
 PIPE DEPTH BELOW GRADE AT THE POINT OF THE SIGN
 EMERGENCY TELEPHONE NUMBER IN THE EVENT OF PIPE RUPTURE*
 - ALL PRESSURE PIPELINES INSTALLED BY TRENCH METHOD, WITHOUT A CASING PIPE, SHALL HAVE A WARNING TAPE PLACED DIRECTLY ABOVE THE PIPELINE, 2 FT. BELOW THE GROUND SURFACE.
 - THE TOE OF SLOPES IN EXCAVATION SHALL IN NO CASE BE UNDERCUT BY POWER SHOVELS, BULLDOZERS, GRADERS, BLASTING, OR IN ANY MANNER.
 - AVOID THE NEED FOR WORKERS TO BE IN TRENCHES WHENEVER POSSIBLE. FOR EXAMPLE, WHEN TRENCHING IN A CONDUIT SYSTEM, THE PIPE TO BE PLACED SHOULD BE ASSEMBLED ABOVE THE TRENCH AND LOWERED DOWN INTO THE TRENCH. WHEN WORKERS ARE REQUIRED TO GO INTO AN EXCAVATION, SHORING AND CONFINED SPACE REQUIREMENTS WILL GOVERN.
 - COMPACT ALL BACKFILL IN EXCAVATIONS AND TRENCHES TO 95% MAXIMUM DRY DENSITY AS DEFINED IN ASTM STANDARD D1557. USE CLEAN, SUITABLE BACKFILL MATERIAL, INSTALL IN SIX-INCH LIFTS AND COMPACT.
 - BACKFILL, COVER OR FENCE ALL EXCAVATIONS WHEN UNATTENDED. THE CSXT REPRESENTATIVE WILL APPROVE THE PROTECTION METHOD AND THE TYPE OF FENCING MATERIAL.
 - CONTRACTOR SHALL BE GOVERNED BY CSXT SR 1300-01 EXCAVATION AND TRENCHING GUIDELINES DATED 2-01-17.



TITLE: WATERLINE EXTENSION PROJECT
 LOCATION: Combs St. and Bailey Hollow in Jackson KY, Breathitt County, KY
 LATITUDE: 37° 33' 13.23" N
 LONGITUDE: 83° 23' 24.41" W
 DRAWING NO.: NEI 998.45 SHEET 1 OF 5
 DRAWING DATE: 12/27/2019 LAST REVISED: 2/28/2020
 DRAWING SCALE: As Shown



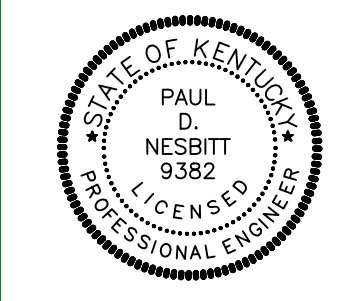
- NOTES:**
- SIGNS ARE REQUIRED TO BE PLACED AT THE INTERSECTION OF THE PIPELINE AND THE RR R/W. WHEN A PIPELINE IS PARALLEL TO THE TRACKS SIGNS ARE REQUIRED SO THAT ADJACENT SIGNS MAY BE SEEN FROM ONE ANOTHER AND NOT MORE THAN 500 FEET APART. SIGNS MUST CONTAIN THE FOLLOWING INFORMATION:
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 CONTENTS OF PIPE
 PRESSURE IN PIPE
 PIPE DEPTH BELOW GRADE AT THE POINT OF THE SIGN
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 - BACKFILL, COVER OR FENCE ALL EXCAVATIONS WHEN UNATTENDED. THE CSXT REPRESENTATIVE WILL APPROVE THE PROTECTION METHOD AND THE TYPE OF FENCING MATERIAL.
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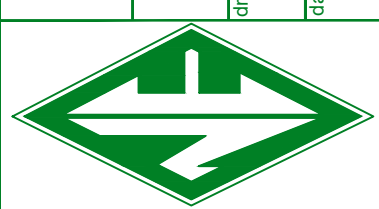
TITLE: WATERLINE EXTENSION PROJECT
 LOCATION: Combs St. and Bailey Hollow in Jackson KY, Breathitt County, KY
 LATITUDE: 37° 33' 13.23" N
 LONGITUDE: 83° 23' 24.41" W
 DRAWING NO.: NEI 998.45 SHEET 2 OF 5
 DRAWING DATE: December 27, 2019
 REVISION DATE: February 28, 2020
 DRAWING SCALE: V 1 INCHES= 15 FEET
 DRAWING SCALE: H 1 INCHES= 15 FEET

CSXT Pipeline Spec. Reference	PIPELINE CONTENT DETAILS	
	Commodity Description: POTABLE WATER	
	Maximum Operating Pressure: 100 PSI	
	Is Commodity Flammable: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	CARRIER/CASING PIPE DETAILS	
	Carrier Pipe	Casing pipe
Page 13, C); & 17, D)	Pipe Materials: HIGH DENSITY POLY ETHYLENE	STEEL
Page 13, C); & 17, D)	Material Specifications & Grade: HDPE DR-11	API-5L GRADE B
Page 13, C); & 17, D)	Specified Minimum Yield Strength: 200 PSI	35,000 PSI
	Nominal Size Outside Diameter (inches): 3.500 INCHES	6.000 INCHES
	Wall Thickness (inches): 0.318 INCHES	0.250 INCHES
Page 14, i); (D)	Type of Seam: NONE	NONE
Page 13, C); & 17, D)	Type of Joints: WELDED	WELDED
Page 16, v)	Tunnel Liner Plates Required: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	
	Cathodic Protection: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES TYPE:	
	Protective Coating: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES TYPE:	
	Temp. Track Support or Rip-Rap Req.: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES	MUST DESCRIBE & SHOW ON DRAWINGS

WATERLINE EXTENSION PROJECT
 BREATHITT COUNTY WATER DISTRICT
 1137 MAIN ST, SUITE 305
 JACKSON, KY 41339

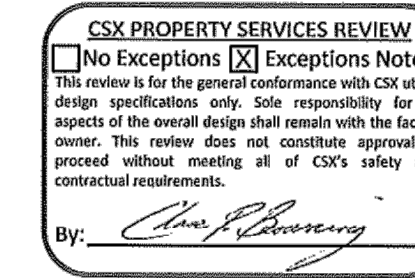


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 BREATHITT COUNTY WATER DISTRICT
 WATERLINE EXTENSION PROJECT
 job no.: 998-45
 AS SHOWN



CSX-902319 EXHIBIT A

Jackson, Breathitt Co., KY
 Northeast Region - Southern West Zone - Eastern Kentucky (EK) Subdivision
 From Mile Post OBV-197.1 To Mile Post OVB-197.2
 (Adjacent to At-Grade Public DOT # 345 941A, Combs St.)
 From Val. Sta. 9353+74 To Val. Sta. 9358+04 (GIS Map No. 23597)
 430-LF Longitudinal Occupancy Along CSXT Right-of-Way



CSX GENERAL NOTES:

1. REFER TO THE CSX PIPELINE DESIGN & CONSTRUCTION SPECIFICATIONS AND THE CSX INTERIM HDD GUIDELINES FOR ADDITIONAL INFORMATION.
2. DRILLING FLUID WITH BENTONITE ADDITIVE IS REQUIRED.
3. ONCE THE BORE ENTERS CSX PROPERTY, THE WORK MUST BE CONTINUOUS UNTIL DRILLING IS COMPLETE AND THE PIPE IS PULLED IN PLACE.
4. THE BORE MUST BE TRACKED CONSTANTLY WITH THE LOCATION AND DEPTH MARKED EVERY 10 FEET.
5. PIPELINE SHALL BE PROMINENTLY MARKED AT BOTH SIDES OF THE CSX PROPERTY LINES BY DURABLE, WEATHERPROOF SIGNS LOCATED OVER THE CENTERLINE OF THE PIPE IN ACCORDANCE WITH CSX SPECIFICATIONS.
6. DRY AND WET BORES (JETTING) ARE NOT ALLOWED.
7. TRAILING RODS MUST BE UTILIZE FOR ALL BACK REAMING.
8. IF REQUIRED, A DEWATERING PLAN IN ACCORDANCE WITH CSX SPECIFICATIONS WILL BE SUBMITTED TO THE CSX REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO ANY DEWATERING OPERATIONS.
9. BLASTING IS NOT PERMITTED UNDER OR ON CSX PROPERTY.
10. ALL PERSONNEL SHALL RECEIVE SAFETY BRIEFINGS BY A CSXT FLAGMAN OR DESIGNATED CSXT REPRESENTATIVE EACH DAY BEFORE BEGINNING WORK ON THE RIGHT OF WAY. ADDITIONAL SAFETY BRIEFINGS MAY BE REQUIRED WHEN CONDITIONS AND/OR WORK SITES ARE CHANGED.
11. AGENCY OR ITS CONTRACTOR SHALL ARRANGE AND CONDUCT ITS WORK SO THAT THERE WILL BE NO INTERFERENCE WITH CSXT OPERATIONS, INCLUDING TRAIN, SIGNAL, TELEPHONE AND TELEGRAPHIC SERVICES, OR DAMAGES TO CSXT'S PROPERTY, OR TO POLES, WIRES, AND OTHER FACILITIES OF TENANTS OF CSXT'S PROPERTY OR RIGHT-OF-WAY.
12. CONTRACTOR ACCESS WILL BE LIMITED TO THE IMMEDIATE PROJECT AREA ONLY. THE CSXT RIGHT-OF-WAY OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR CONTRACTOR ACCESS TO THE PROJECT SITE AND NO TEMPORARY AT-GRADE CROSSINGS WILL BE ALLOWED.
13. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL ACTIVE RAILROAD FACILITIES, INCLUDING ELECTRICAL, WATER LINES, SEWER LINES, COMMUNICATION AND SIGNAL LINES AS WELL AS UNDERGROUND PIPING. THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL EQUIPMENT AND MATERIAL A MINIMUM OF SIX (6) FEET FROM AFOREMENTIONED ELEVATED COMMUNICATION AND SIGNAL FACILITIES.
14. CONTRACTOR MUST CONDUCT ALL OF ITS WORK IN A SAFE MANNER. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH RULES, REGULATIONS, PROCEDURES AND SAFE PRACTICES OF CSXT, OSHA, THE FRA AND ALL OTHER GOVERNMENT AGENCIES HAVING JURISDICTION OVER THE PROJECT.
15. OWNER SHALL REIMBURSE CSXT DIRECTLY FOR ALL COSTS OF FLAGGING AND INSPECTION SERVICE THAT ARE REQUIRED ON ACCOUNT OF CONSTRUCTION WITHIN CSXT PROPERTY SHOWN IN THE PLANS, OR COVERED BY AN APPROVED PLAN REVISION, SUPPLEMENTAL AGREEMENT OR CHANGE ORDER. INSPECTION SERVICE SHALL NOT RELIEVE CONTRACTOR FROM LIABILITY FOR ITS WORK.
16. OWNER OR CONTRACTOR SHALL GIVE A MINIMUM OF 30 DAYS' ADVANCE NOTICE TO CSXT REPRESENTATIVE FOR ANTICIPATED NEED FOR FLAGGING AND INSPECTION SERVICE. NO WORK SHALL BE UNDERTAKEN UNTIL THE FLAG PERSON(S) AND INSPECTOR(S) IS/ARE AT THE JOB SITE. IF IT IS NECESSARY FOR CSXT TO ADVERTISE A FLAGGING JOB FOR BID, CSXT SHALL NOT BE LIABLE FOR THE COST OF DELAYS ATTRIBUTABLE TO OBTAINING SUCH SERVICE.
17. THE RIGHT OF WAY SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION PRIOR TO BEGINNING THE PROJECT BEFORE FINAL ACCEPTANCE WILL BE PROVIDED. PUNCH LISTS SHALL BE RESPONDED TO PRIOR TO ISSUANCE OF AN ACCEPTANCE MEMORANDUM SIGNED BY THE CSXT REPRESENTATIVE.
18. CONTRACTOR ALSO HAS THE SOLE RESPONSIBILITY OF ASCERTAINING THAT ALL OTHER UTILITIES HAVE BEEN PROPERLY LOCATED BY COMPLYING WITH THE LOCAL "CALL BEFORE YOU DIG" REGULATION(S). CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR NOTIFYING OWNERS OF ADJACENT PROPERTIES AND OF UNDERGROUND FACILITIES AND UTILITY OWNERS WHEN PROSECUTION OF THE WORK MAY AFFECT THEM, AND SHALL COOPERATE WITH THEM IN THE PROTECTION, REMOVAL, RELOCATION AND REPLACEMENT OF THEIR PROPERTY.
19. CONTRACTOR SHALL CONDUCT "PRE-DIG" MEETING PRIOR TO CONSTRUCTION WORK, WITH ALL SUBCONTRACTORS AND WORKERS TO REVIEW THE LOCATION OF ALL UTILITIES AS MARKED OUT, EXCAVATION PROCEDURES, AND TO CONFIRM THE "ONE CALL" REQUEST. THIS APPROVAL IS SUBJECT TO ANY EXISTING UTILITIES THAT MAY BE IN CONFLICT WITH THE DESIGN AND REQUIRES POTHOLING. ALL EXISTING UTILITIES ARE REQUIRED TO BE POTHOLED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL BE PERFORMED IN ACCORDANCE WITH CSX SPECIFICATIONS.
20. BEFORE EXCAVATING, ALL SIGNAL CABLES AND OTHER UTILITIES MUST BE LOCATED AND MARKED/FLAGGED. CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES TO CSX SIGNAL FACILITIES.
21. CONTRACTOR SHALL DOCUMENT AND PROVIDE TO THE CSXT ON-SITE REPRESENTATIVE THE PROFILE AND ALIGNMENT OF THE INITIAL HDD PILOT HOLE PROVIDING X-Y-Z COORDINATES AT EACH 10 FOOT (3.05 METERS) SEGMENT ALONG THE BORE WITHIN THE PLAN LIMITS. THE TOLERANCES OF THE PLAN ELEVATION AND ALIGNMENT COMPARED TO THE ACTUAL ELEVATION AND ALIGNMENT MUST BE WITHIN HALF THE DIAMETER OF THE PIPE. IF THE DIFFERENCE IS GREATER THAN HALF THE DIAMETER OF THE PIPE OR MINIMUM DEPTH REQUIREMENTS ARE INFRINGED, THEN THE OPERATIONS MUST STOP AND DETERMINE IF THE REAMER SHALL BE PULLED, SLURRY FILL THE BORE, AND RESTART THE BORE.
22. SLURRY USE IS KEPT AT A MINIMUM AND ONLY USED FOR HEAD END PRODUCT LUBRICATION AND/OR SPOILS RETURN AND TO FILL THE ANNULAR SPACE. CALCULATE ANTICIPATED SLURRY USE AND MONITOR SLURRY USE DURING THE BORE OPERATION TO DETERMINE SLURRY LOSS INTO THE SURROUNDING SOIL. A BENTONITE SLURRY (OR OTHER APPROVED ADDITIVES) IS REQUIRED AND PRESSURES MUST BE CONTROLLED FOR THE TYPE OF SOIL BEING BORED. LEAVING VOIDS OR CONTAMINANTS IN THE SOIL IS NOT PERMITTED. ALL VOIDS CREATED DURING THE BORE OPERATION MUST BE GROUTED, USING A SLURRY OTHER THAN BENTONITE REQUIRES CSXT APPROVAL.
23. HAVE A WRITTEN FRAC-OUT CONTINGENCY PLAN IN PLACE AND AT THE PROJECT SITE IN CASE OF THE RELEASE OF DRILLING FLUIDS INTO THE SURFACE ENVIRONMENT INCLUDING MATERIAL SAFETY DATA SHEET (MSDS) AND ADDITIVE DATA. THIS PLAN SHALL INCLUDE OPERATIONAL PROCEDURES AND RESPONSIBILITIES FOR THE PREVENTION, CONTAINMENT, AND CLEAN-UP OF FRAC-OUTS.

CSXT ADDITIONAL NOTES (EXCEPTIONS):

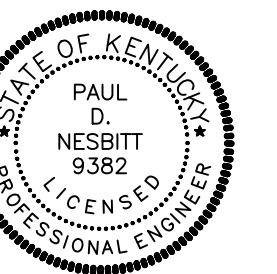
1. CSX BORE PLAN TEMPLATE AND FRACTION MITIGATION PLAN WILL BE SUBMITTED TO CSXT REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL BE GOVERNED BY THE CONSTRUCTION NOTES FOUND ON SHEET 2.

Tracking Number: 1034577

Sheet 1 of 8

WATERLINE EXTENSION PROJECT
 BREATHITT COUNTY WATER DISTRICT
 1137 MAIN ST, SUITE 305
 JACKSON, KY 41339

CSX RAILROAD CROSSING DETAILS

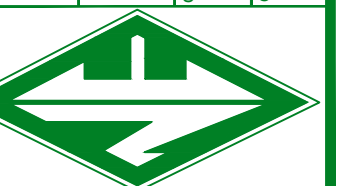


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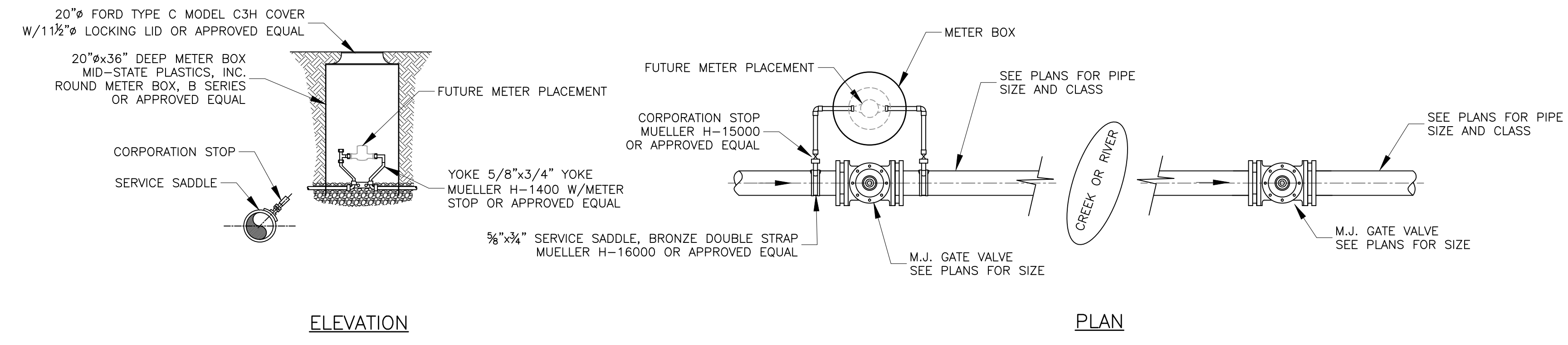
BREATHITT COUNTY WATER DISTRICT
 WATERLINE EXTENSION PROJECT

job no.: 998-45
 issue: AS SHOWN

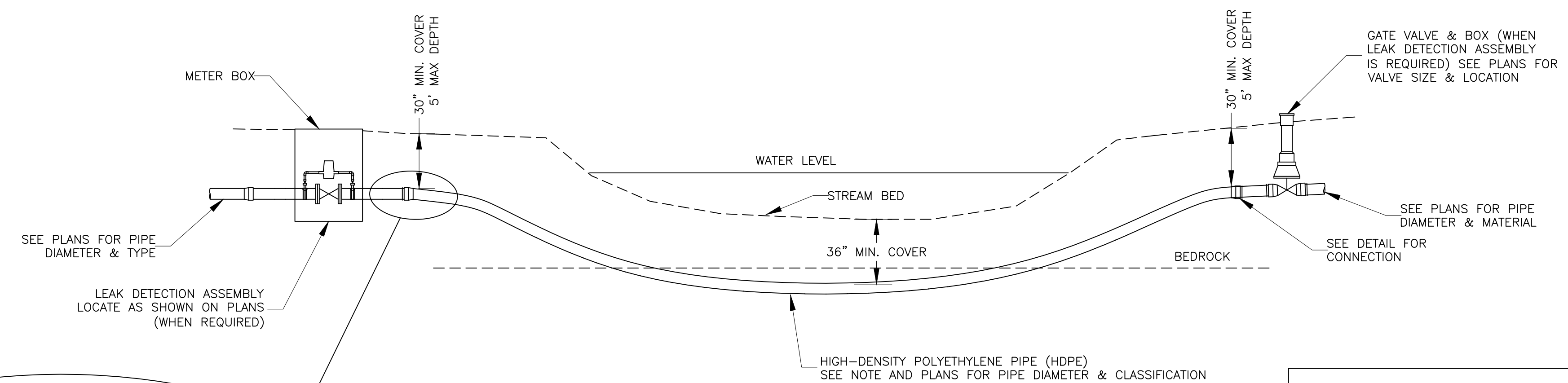
drawn by: MMS
 date: 10/17/2019



sheet no.

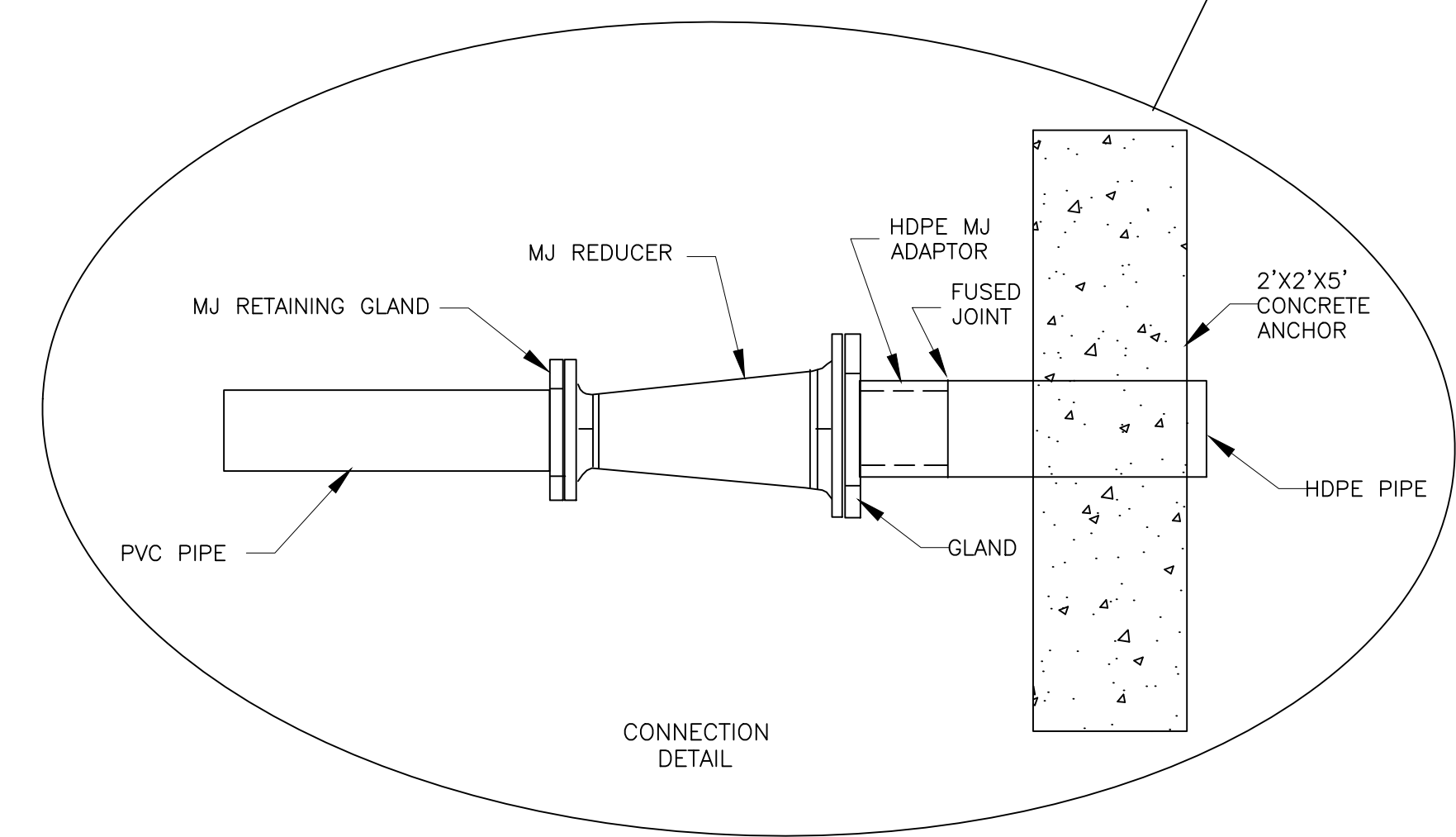


LEAK DETECTION ASSEMBLY
NOT TO SCALE



CREEK AND RIVER CROSSING
DETAILS

NOT TO SCALE



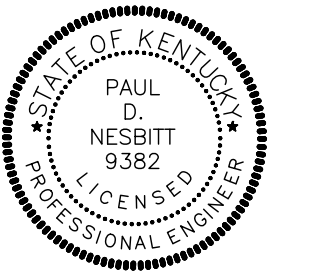
CONNECTION
DETAIL

- NOTES:
1. CONNECTION OF THE HDPE TO THE PVC OR DUCTILE IRON WATERLINE SHALL BE NO DEEPER THAN 5 FEET FROM THE GROUND ELEVATION.
 2. DIRECTIONAL BORE SHALL BE MADE IN BED ROCK WITH A MIN DEPTH OF 36".
 3. WHEN USING HDPE THE PIPE SHALL BE SIZED UP ONE PIPE SIZE TO ALLOW THE I.D. OF THE HDPE TO EQUAL THE I.D. OF THE CONNECTING WATERLINE.
 4. PIPE SHALL BE DRILLED INTO SOLID BEDROCK WITH A MIN. COVER OF 36".
 5. USE ANGLED FITTINGS AS NECESSARY TO MAKE CONNECTION BETWEEN PIPES.
 6. ALL DRILLING MUD MUST BE CAPTURED AND DISPOSED OF OFF SITE IN A PROPER MANNER.

REVISIONS:

WATERLINE EXTENSION PROJECT
BREATHITT COUNTY WATER DISTRICT
1137 Main Street
Jackson, KY 41339

DIRECTIONAL DRILLING DETAILS



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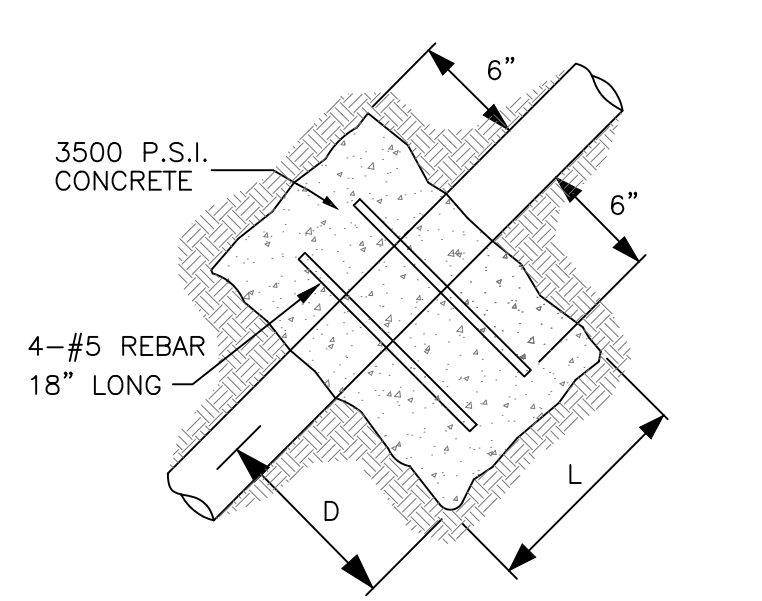
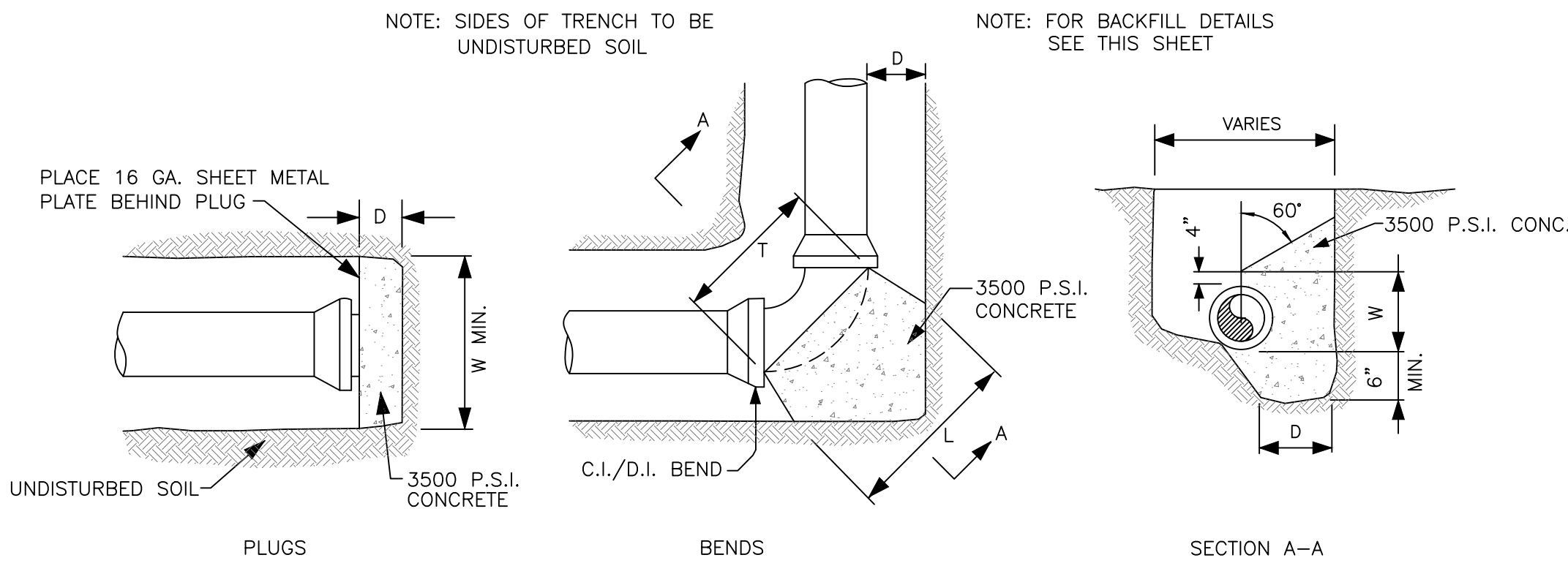
WATERLINE EXTENSION PROJECT
BREATHITT COUNTY WATER DISTRICT

SCALE: AS SHOWN
JOB NO.: 998.45
DRAWN BY: MMS
DATE: 12-1-18
DWSK/FILE NAME:



SHEET NO.

D-1

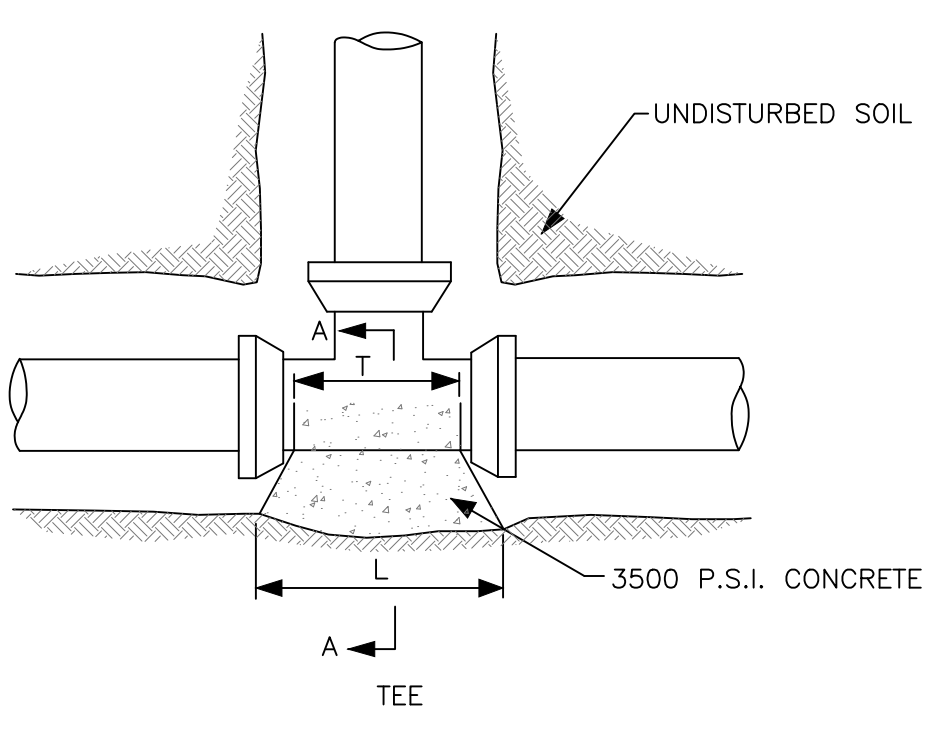
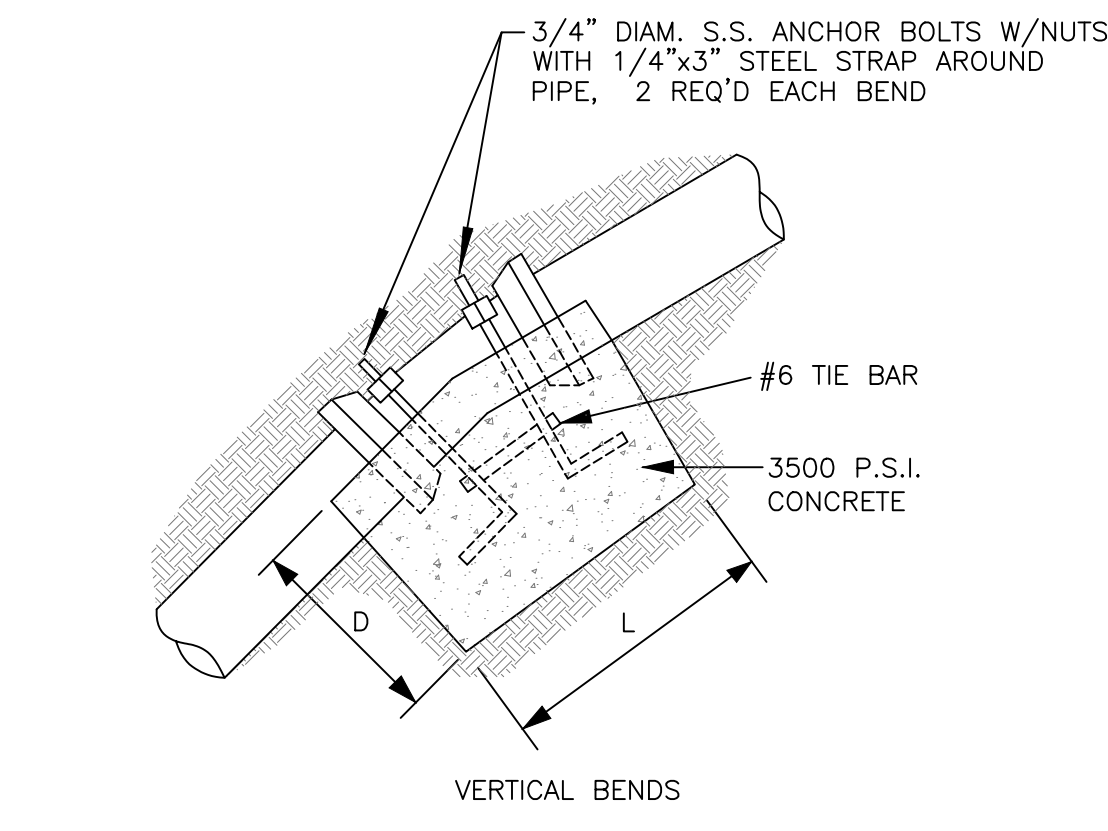


DIMENSIONS FOR THRUST AND ANCHOR BLOCKS

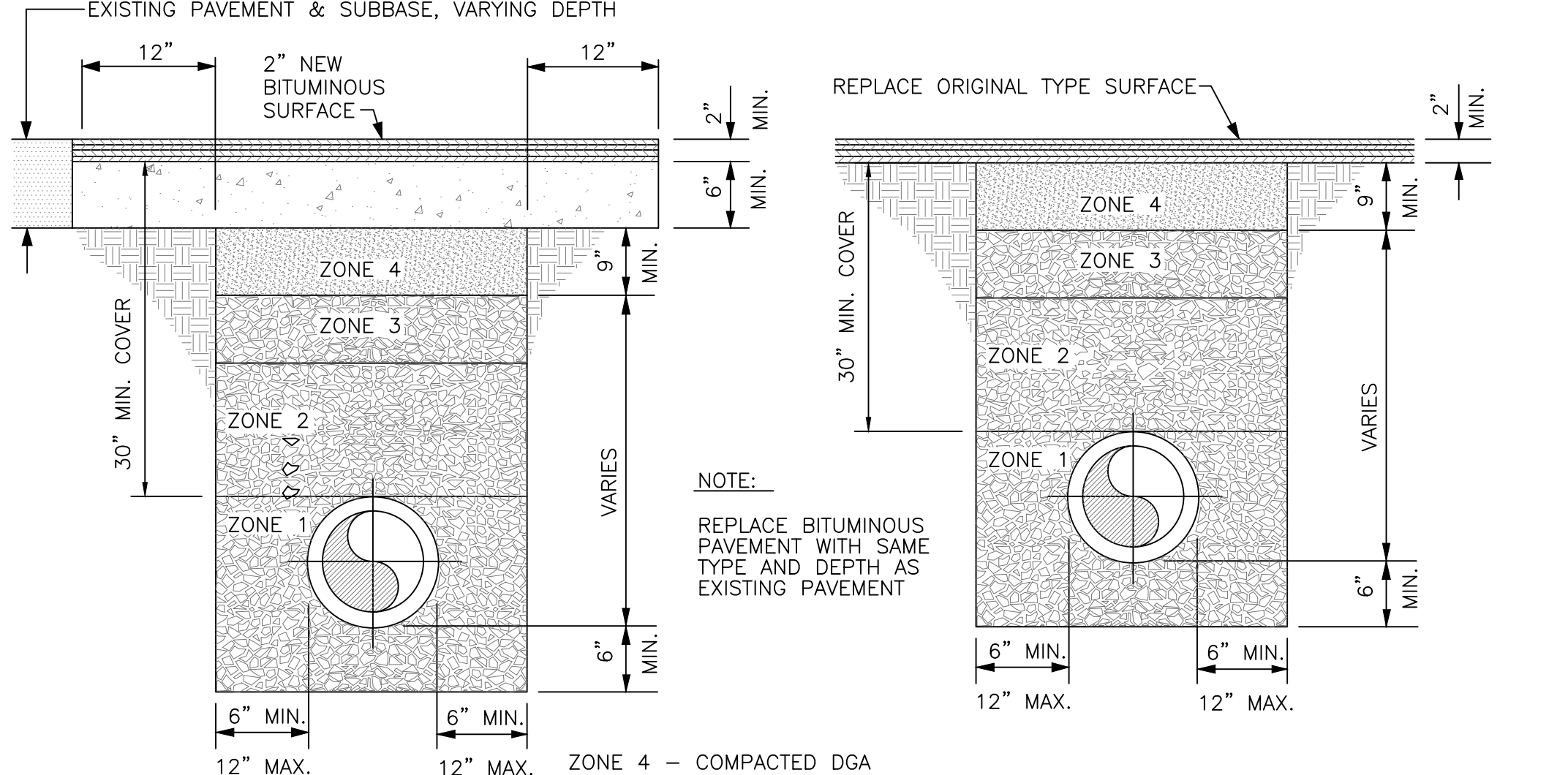
PIPE SIZE	3"	4"	6"	8"	10"	12"	14"	18"	24"
PLUGS									
D	6"	6"	6"	6"	6"	6"	6"	6"	6"
L&W	16"	18"	20"	22"	24"	26"	28"	32"	38"
EIGHT BEND (45°), 1/16 BEND (22-1/2°)									
D	6"	6"	6"	6"	6"	6"	6"	6"	6"
L	14"	16"	18"	20"	22"	24"	26"	30"	36"
T	12"	14"	16"	18"	20"	22"	24"	28"	34"
W	6"	8"	12"	14"	16"	18"	20"	24"	30"
QUARTER BEND (90°)									
D	6"	6"	8"	10"	10"	10"	12"	12"	14"
L	18"	21"	24"	27"	30"	33"	36"	38"	44"
T	12"	14"	16"	18"	20"	22"	24"	28"	34"
W	6"	8"	12"	16"	18"	20"	22"	26"	32"
VERTICAL BEND & STRAIGHT PIPE									
D	12"	12"	15"	15"	18"	18"	20"	24"	30"
L	18"	18"	24"	24"	30"	30"	32"	36"	42"
T	12"	14"	16"	18"	20"	22"	24"	28"	34"

NOTE: DEPTH (D) MAY NOT BE SMALLER THAN SPECIFIED TO ALLOW FOR WORKING SPACE, PIERS SHALL BE PLACED AGAINST UNDISTURBED SOIL, PLACE CONCRETE ANCHORS 25'-0" c/c.

NOTE: SEE PLAN SHEETS FOR SIZE AND LOCATION OF PIPE

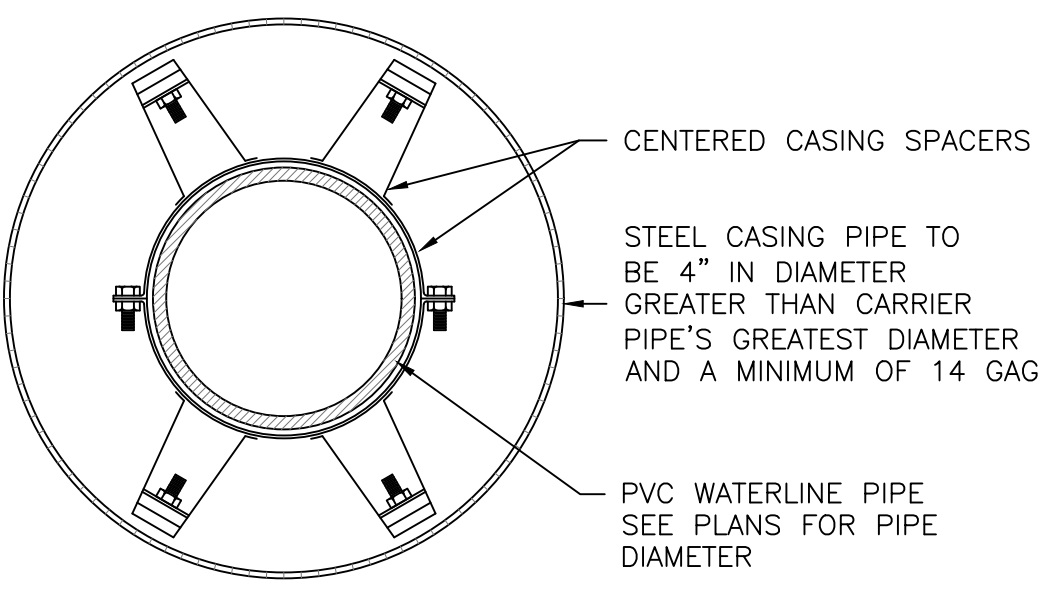


CONCRETE ANCHOR BLOCKS



ORIGINAL BITUMINOUS SURFACING OVER 2"

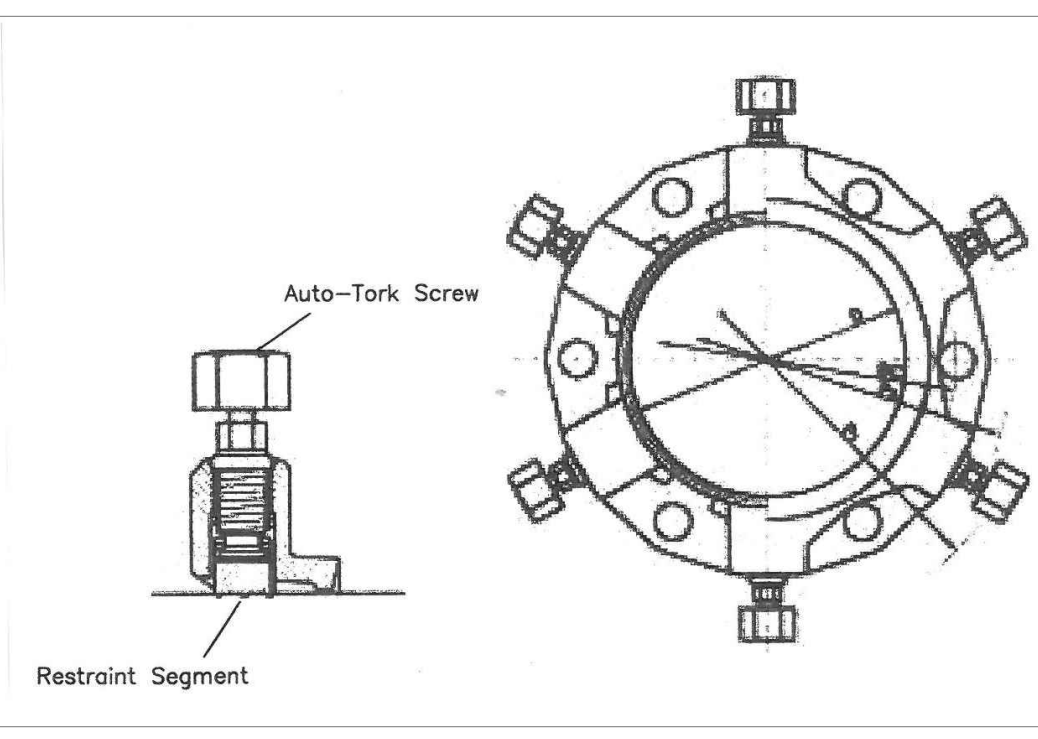
NOTE: RAILROAD BORE CASING PIPE SHALL BE A 16" DIAMETER, API 5L - GRADE B STEEL PIPE WITH A MINIMUM WALL THICKNESS OF 0.25" AS SHOWN ON THE PLANS.



NOTE: CARRIER PIPE SHALL BE INSTALLED WITHIN CASING PIPE USING MODEL CI POLYETHYLENE CASING SPACERS AS MANUFACTURED BY ADVANCE PRODUCT & SYSTEMS, INC. OR ENGINEER APPROVED EQUAL. SIZE AND SPACING PER MANUFACTURERS RECOMMENDATIONS.

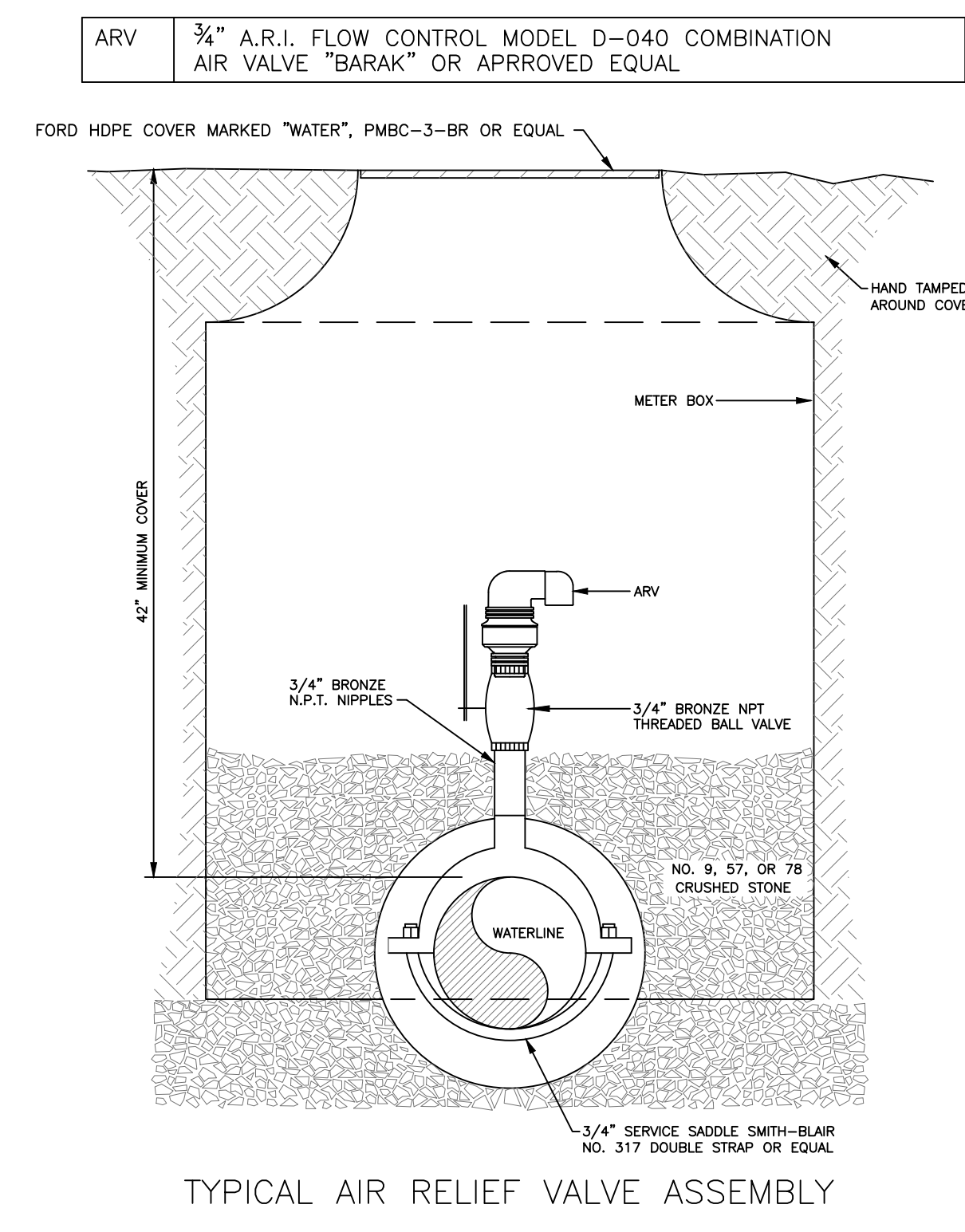
END SEALS SHALL BE MODEL AC PULL-ON OR AW WRAP-AROUND END SEALS AS MANUFACTURED BY ADVANCE PRODUCT & SYSTEMS, INC. OR ENGINEER APPROVED EQUAL.

CASING SPACER DETAIL

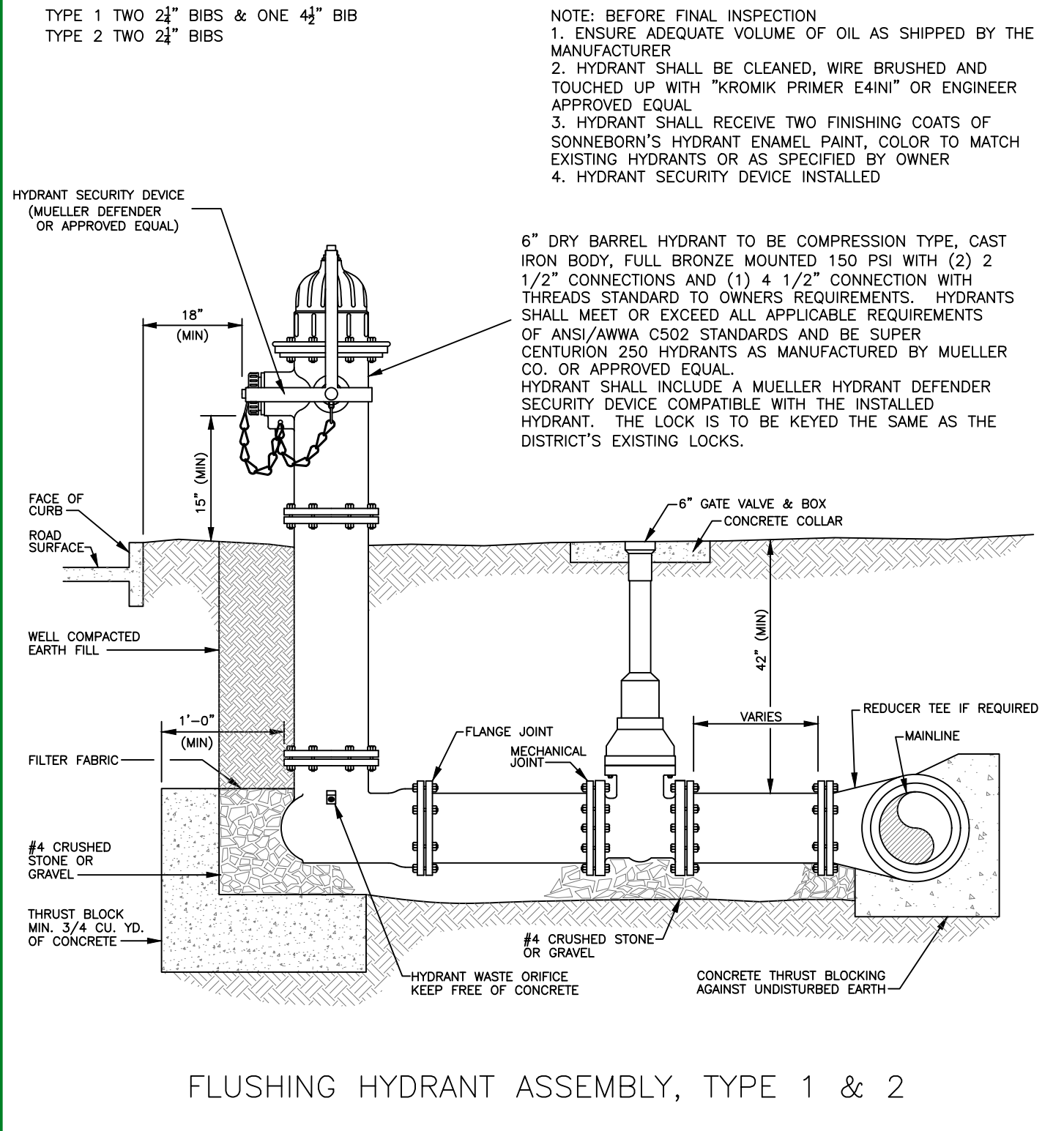


MJ Retainer Gland Joint Restraint

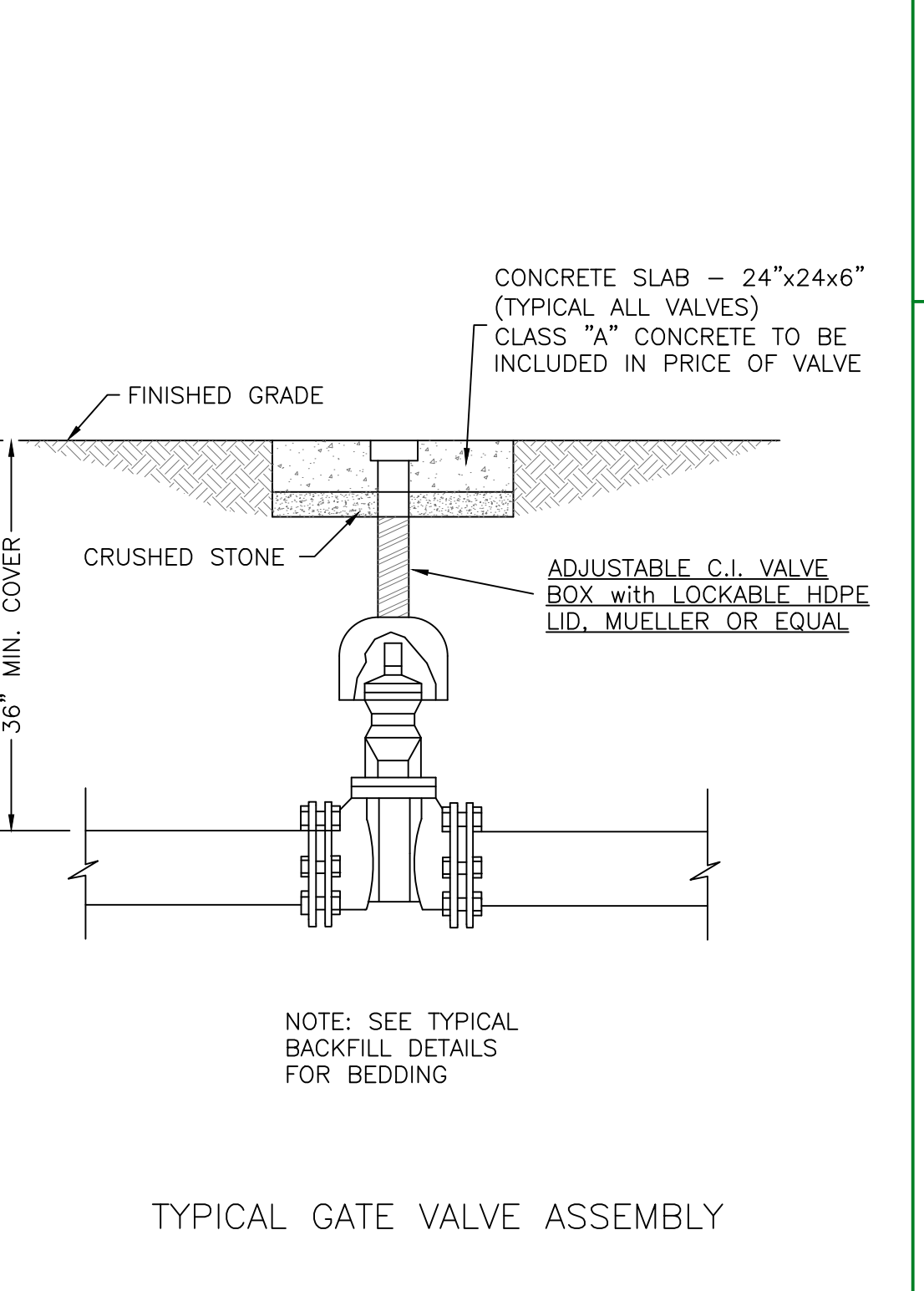
NOTE: 1. MJ RETAINER GLAND JOINT RESTRAINTS SHALL BE USED ALONG WITH CONCRETE ANCHOR BLOCKS AT ALL FITTINGS AS REQUIRED



TYPICAL AIR RELIEF VALVE ASSEMBLY



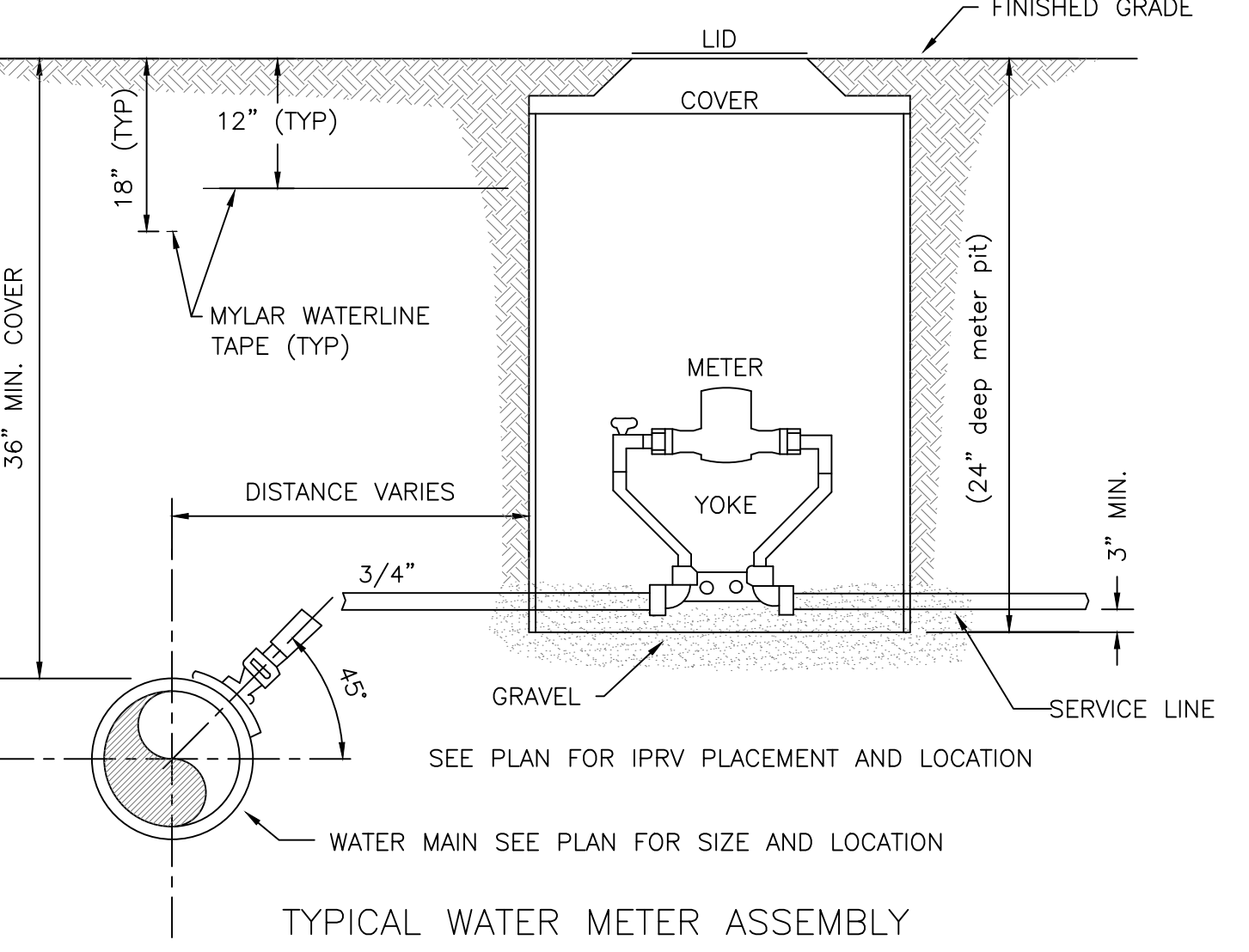
FLUSHING HYDRANT ASSEMBLY, TYPE 1 & 2



TYPICAL GATE VALVE ASSEMBLY

METER SETTING

- YOKE-5/8"x3/4" MUELLER H-1400 WITH METER STOP OR APPROVED EQUAL
 - METER BOX-18"x24" DEEP, MID-STATE PLASTICS, INC. ROUND METER BOX, B SERIES OR APPROVED EQUAL
 - COVER-18" FORD HDPE PMBC-3-BR LOCKING LID OR APPROVED EQUAL
 - METER-SEE SPECIFICATIONS
 - INDIVIDUAL PRESSURE REDUCING VALVE (PRV) WATTS MODEL 25AUB(2"), WILKENS MODEL 600 (3/4"-1") BOTH W/S.S. STRAINER, ADJUSTABLE PRESSURE RANGE 25-75 P.S.I., OUTLET PRESSURE SET AT 50 P.S.I. OR APPROVED EQUAL
 - NO PREFAB SETTER TUB ASSEMBLIES WILL BE ALLOWED.
 - CONNECT SERVICE LINES DIRECTLY TO SETTER, DO NOT USE NIPPLES ON THE SETTER.
- TIE TO WATER MAIN
GROUND KEY CORPORATION STOP-MUELLER H-15000 (3/4"x3/4") OR APPROVED EQUAL
SERVICE SADDLE-BRONZE DOUBLE STRAP MUELLER H-16000 OR APPROVED EQUAL



TYPICAL WATER METER ASSEMBLY

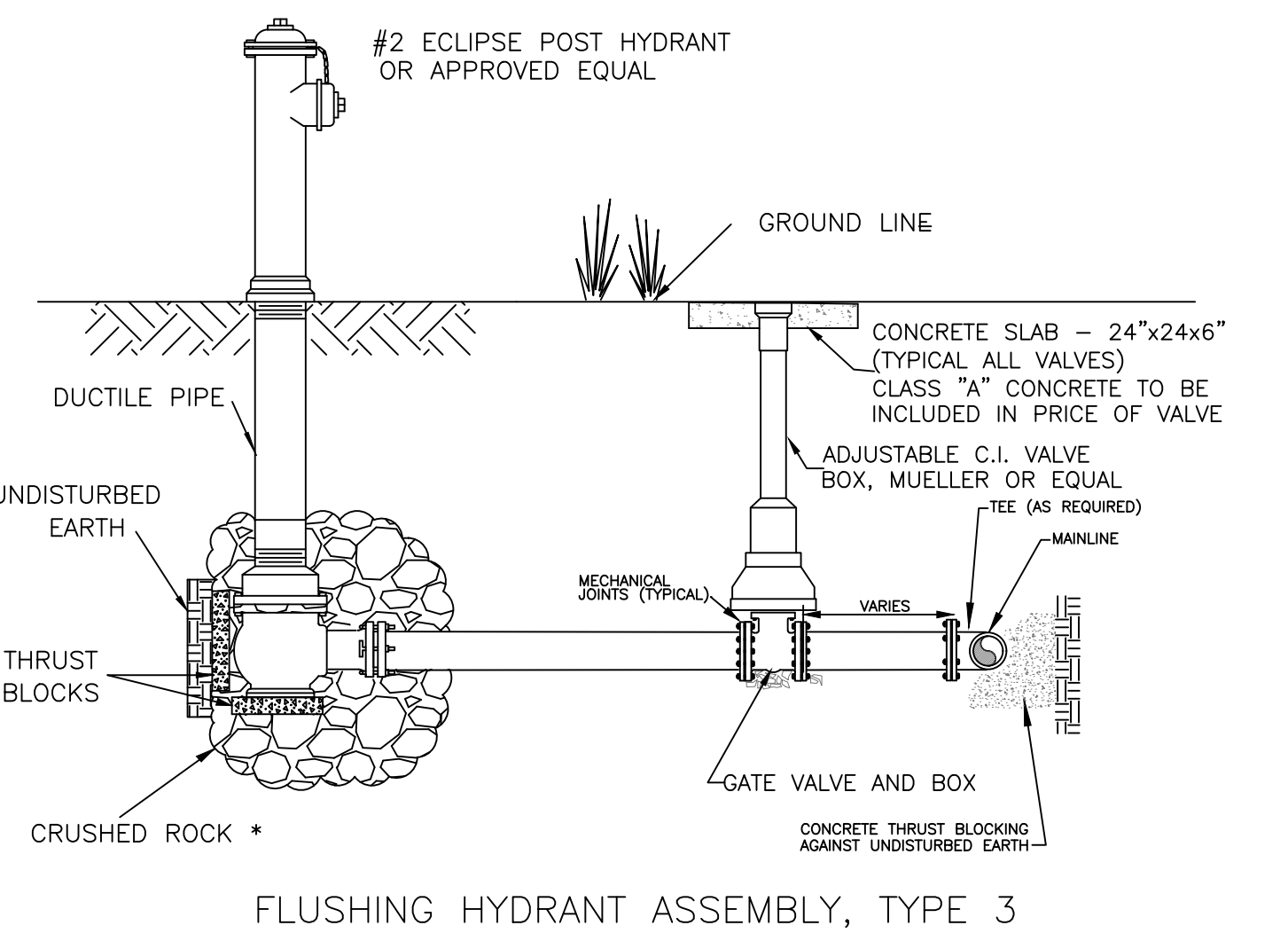
Hydrants shall be self-draining, non-freezing, compression type with 2-3/16" main valve opening. Outlet shall be 2-1/2"

Hydrants shall have a ductile iron pipe riser with a cast iron stock top, and non-turning operating rod. Principal interior operating parts shall be brass and removable from the hydrant for servicing without excavating the hydrant.

Hydrants shall be set in 4 cubic feet of crushed stone to allow for proper drainage of the hydrant. Recommendations of the AWWA should be followed when installing the hydrants.

Post hydrants shall be Eclipse No. 2 Post Hydrants as manufactured by John C. Kupferle Foundry Company, St. Louis, MO. OR APPROVED EQUAL.

HYDRANT SHALL INCLUDE A SECURITY LOCKING DEVICE COMPATIBLE WITH THE INSTALLED HYDRANT. THE LOCK IS TO BE KEYS THE SAME AS THE DISTRICT'S EXISTING LOCKS.



FLUSHING HYDRANT ASSEMBLY, TYPE 3

- NOTES:
- COVER UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
 - ZONE 4 - 6" MIN. CONSOLIDATION EARTH BACKFILL INCLUDING TOPSOIL, NO ROCK ALLOWED.
 - ZONE 3 - CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER) NO. 9, 57, OR 78 STONE MARKING TAPE SHALL BE PLACED AT THE BOTTOM OF THIS ZONE
 - ZONE 2 - FROM THE SPRINGLINE OF THE PIPE TO A DISTANCE 12 INCHES ABOVE THE PIPE. THE CONTRACTOR SHALL USE THE SAME MATERIAL AS SPECIFIED FOR BEDDING. COMPACTION IS REQUIRED IN AREAS SUBJECT TO TRAFFIC. TRACER WIRE SHALL BE LOCATED ON THE TOP OF THE PIPE.
 - ZONE 1 - BEDDING MATERIAL, IN EARTH EXCAVATION AREAS, SHALL BE CLEAN EARTH, FREE FROM ROCKS, DEBRIS OR OTHER FOREIGN MATERIAL. THE CONTRACTOR SHALL USE CRUSHED STONE, SAND OR GRAVEL AS BEDDING MATERIAL WHERE ROCK EXCAVATION IS ENCOUNTERED.

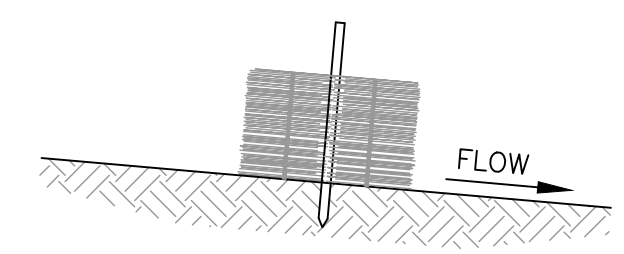
LAST PLOTTED:
LAST SAVED:

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BREATHITT COUNTY WATER DISTRICT
1137 Main Street
Jackson, KY 41339

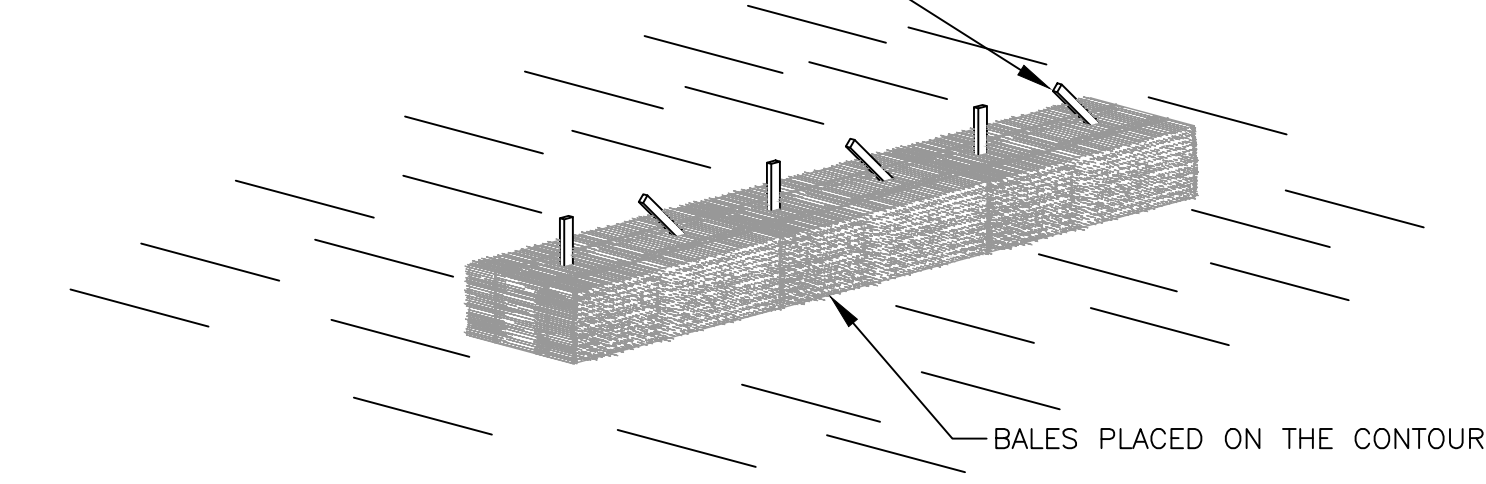
STANDARD DETAILS 1

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drawn by: mms
date: July 7, 2019
scale: NOT TO SCALE

sheet no. **D-2**



WOODEN STAKES EXTENDING 1"-6" MIN. INTO GROUND.
FIRST STAKE ANGLED TOWARD PREVIOUS LAID BALE

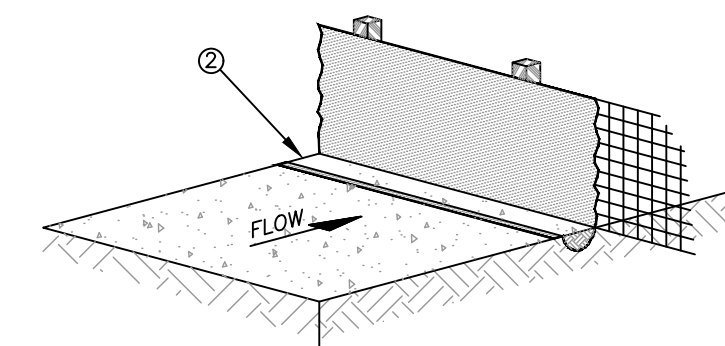


BALES PLACED ON THE CONTOUR

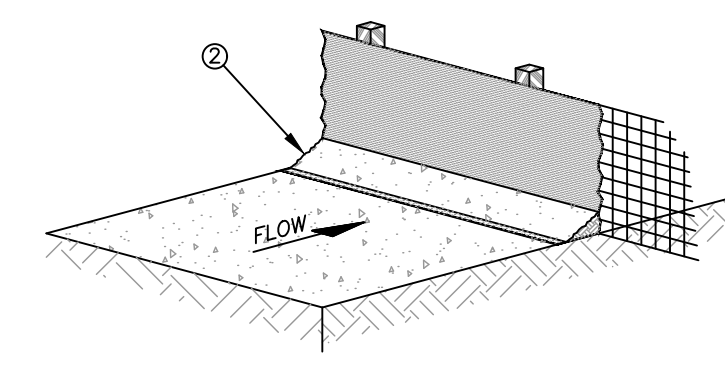
NOTE:
TEMPORARY BALE SILT CHECKS SHALL BE PLACED
WHERE NEEDED TO PROVIDE PROPER EROSION
CONTROL UNTIL REVEGETATION IS COMPLETED.

**STRAW BALE SILT CHECK
SEDIMENTATION CONTROL**

NOT TO SCALE



ALTERNATE 1

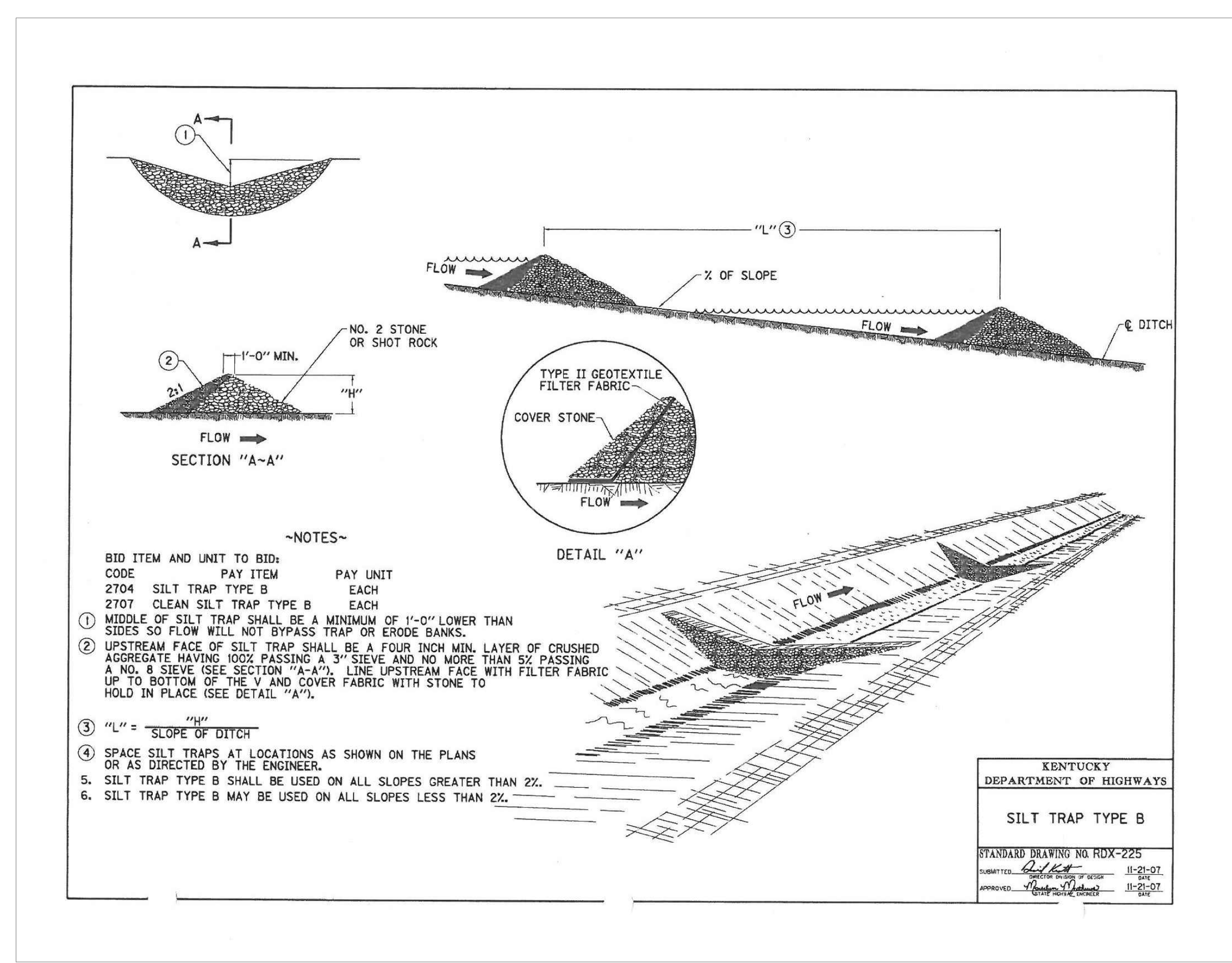


ALTERNATE 2

NOTES
1. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. THE BOTTOM 12 INCHES OF FABRIC SHALL BE BURIED IN A 6 INCH TRENCH CUT INTO THE GROUND OR COVERED BY 6 INCHES OF FILL MATERIAL, TO PREVENT SEDIMENT ESCAPING UNDER FENCE. ALL EARTHWORK SHALL BE ON THE UPSTREAM SIDE OF FENCE.

**SILT CHECK FENCE
SEDIMENTATION CONTROL**

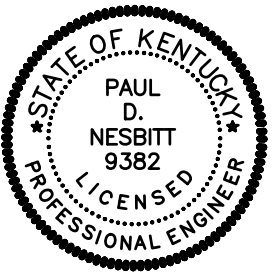
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EROSION CONTROL & MISC. DETAILS



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