

# WESTERN PULASKI COUNTY WATER DISTRICT WATER SYSTEM IMPROVEMENTS & REPLACEMENTS CONTRACT NO. 2A HEARTLAND DRIVE/SLATE BRANCH ROAD/OAK HILL ROAD PULASKI COUNTY, KENTUCKY

## LOCATION MAP

### TABLE OF CONTENTS

COVER  
GENERAL NOTES  
LOCATION MAP  
AERIAL PLAN SHEETS  
MISCELLANEOUS DETAILS  
EROSION CONTROL DETAILS

G-1  
LM-1  
1  
MD-1 - MD-2  
EC-1

### WESTERN PULASKI COUNTY WATER DISTRICT

DON CALDER, CHAIRMAN

AMY POLSTON                      JOEL WILSON  
STEVE DAVIS                      RANDALL WILSON

OFFICE MANAGER - TAMMY VAUGHT  
UTILITIES MANAGER - JOE McCLENDON

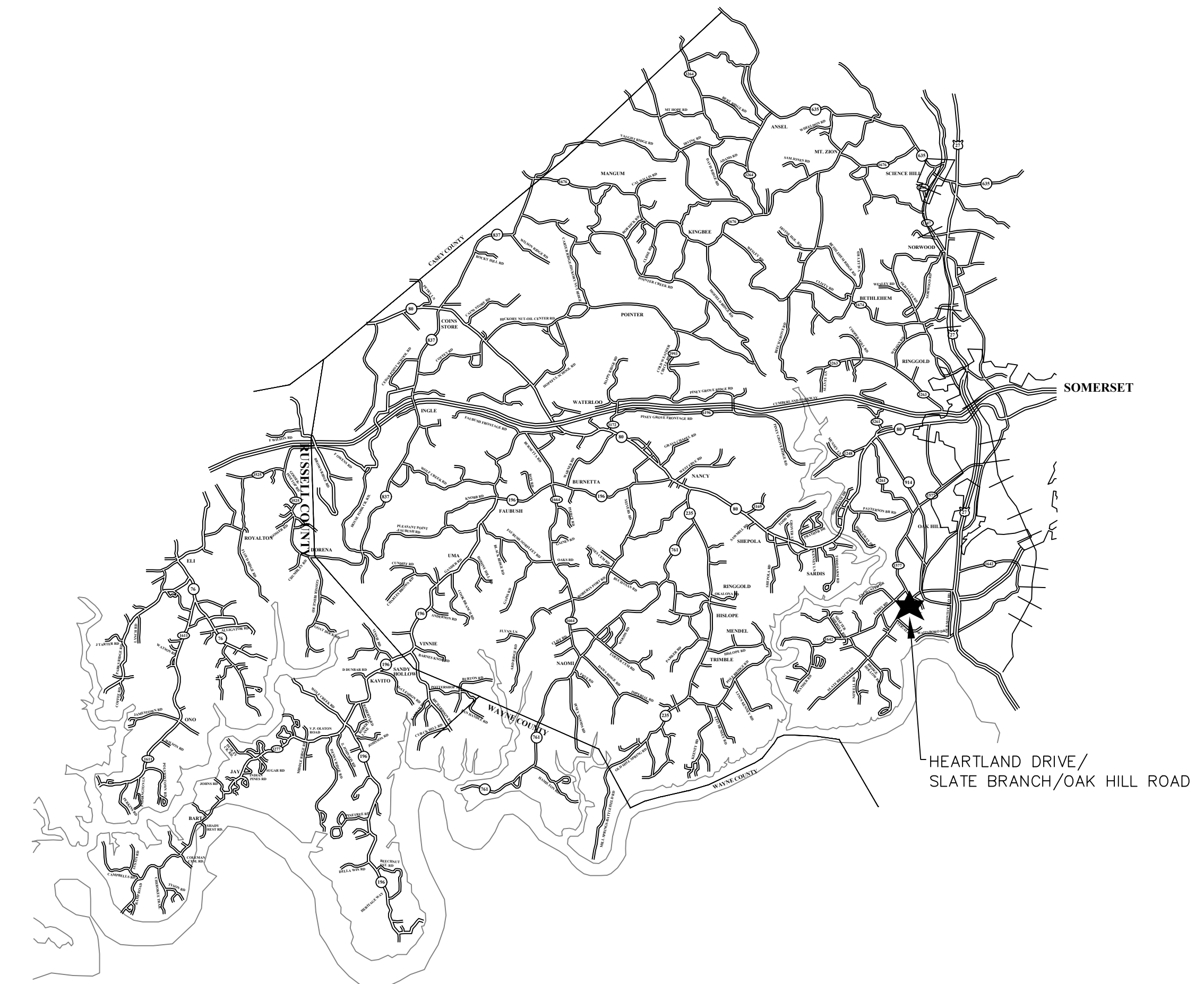
ATTORNEY - JOHN PRUITT

SEPTEMBER 2019

**THIS PROJECT FUNDED BY:**  
COMMONWEALTH OF KENTUCKY  
DRINKING WATER STATE REVOLVING FUND (SRF) FUND F  
LOAN NO. F16-003

**M**  
**Monarch Engineering, Inc.**

556 CARLTON DRIVE  
LAWRENCEBURG, KY 40342





# GENERAL NOTES TO CONTRACTOR

- BEFORE CONSTRUCTION BEGINS NEAR OR THROUGH EXISTING UTILITIES (i.e. GAS CO., TELEPHONE CO., CABLE CO., ETC.) EACH UTILITY COMPANY SHALL BE NOTIFIED. A REQUEST FOR THE EXACT LOCATION OF THE UTILITY SHALL BE MADE, AND PERMISSION TO PROCEED WITH CONSTRUCTION OBTAINED.
- BEFORE CONSTRUCTION BEGINS THROUGH ANY PROPERTY, THE CONTRACTOR SHALL MAKE HIMSELF AWARE OF THE EXACT LOCATION OF CONSTRUCTION THROUGH THE PROPERTY AND THE BOUNDS OF THE PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS.
- THE CONTRACTOR SHALL HAVE ON HAND AT THE JOB SITE 22, 45, AND 90 DEGREE BENDS TO ALLOW FOR THEIR USE WHERE WESTERN PULASKI COUNTY WATER DISTRICT REQUESTS INSTALLATION AS NECESSARY.
- PIPE JOINT DEFLECTION IS NOT TO EXCEED MANUFACTURER'S ALLOWABLE LIMITS.
- CONNECTING NEW LINES TO EXISTING LINES OR TO WORK IN THEIR CONTRACTS IS SUBSIDIARY TO THE CONTRACT. IT INCLUDES FITTINGS, SLEEVES, ETC., BUT DOES NOT INCLUDE GATE VALVES, WHICH ARE EXTRA PAY ITEM.
- THE CONTRACTOR SHALL FREE BORE ALL ASPHALT AND CONCRETE RESIDENTIAL DRIVEWAYS IN DIRT AND OPEN CUT IN ROCK AS DIRECTED BY THE WESTERN PULASKI COUNTY WATER DISTRICT AND ENGINEER. THE CONTRACTOR SHALL EXCAVATE FROM EITHER SIDE OF ALL FENCES TO AVOID CUTTING. FENCE CUTTING AND REPAIR SHALL BE LIMITED TO UNIQUE CONDITIONS WHERE APPROVED BY WESTERN PULASKI COUNTY WATER DISTRICT.
- ALL STREAM AND RIVER CROSSINGS GREATER THAN 15 FEET WIDE SHALL HAVE GATE VALVES INSTALLED ON EACH SIDE OF THE CROSSING. THE VALVE ON THE SOURCE SIDE SHALL HAVE A BYPASS SERVICE METER INSTALLED FOR LEAK DETECTION.
- ALL WATER LINES WITHIN 200 FEET RADIUS OF UNDERGROUND STORAGE TANKS (KRS-224.6-100), PETROLEUM STORAGE TANKS (KRS-224.60-115) AND ASSOCIATED PUMPS AND LINES SHALL BE DUCTILE IRON PIPE WITH PETROLEUM RESISTANT JOINTS AND ALL SERVICE LINE SHALL BE COPPER.
- WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS ABOVE OR BELOW THE SEWER AT CROSSINGS, ONE FULL LENGTH OF THE WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.
- WATER MAINS INSTALLED PARALLEL TO SEWERS SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER MAIN.
- THE CONTRACTOR SHALL NOT BE ALLOWED TO MAINTAIN PERSONNEL RESIDENCY FOR ANY EMPLOYEE ON THE CONSTRUCTION SITE.
- WHEN WORKING ALONG THE COMMONWEALTH OF KENTUCKY RIGHT OF WAY, THE CONTRACTOR SHALL BE ADVISED THAT THE WATER LINES SHALL NOT BE PLACED IN FILL AREAS.
- WHEN PERFORMING WORK ALONG OR ACROSS ANY PUBLIC ROADWAY, THE CONTRACTOR SHALL POST WARNING SIGNS PAINTED ORANGE AND THEY SHALL BE FOUR (4) FEET BY FOUR (4) FEET MOUNTED ON POSTS IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE SIGNS SHALL BE AS FOLLOWS:
  - 1) CAUTION PIPELINE CONSTRUCTION 1500 FEET
  - 2) CAUTION PIPELINE CONSTRUCTION 1000 FEET
  - 3) CAUTION PIPELINE CONSTRUCTION 500 FEET
- THE CONTRACTOR SHALL MAINTAIN TWO (2) FLAG MEN AT ALL TIMES WHERE MACHINERY IS IN OPERATION WHEN WORKING THE FLOW OF TRAFFIC WILL BE DISTURBED. THERE IS NO EXCEPTION TO THIS REQUIREMENT. THE USE OF RADIOS WILL BE REQUIRED WHEN VISUAL CONTACT BETWEEN THE FLAG MEN DOES NOT EXIST.
- ALL SIGNS, BARRICADES, LIGHTS AND TRAFFIC CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- AT THE COMPLETION OF EACH WORK DAY, THE CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AND INSTALL ALL TRAFFIC CONTROL SIGNS, BARRICADES AND LIGHTS IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ENTIRE ROADWAY FREE AND CLEAR AT THE END OF EACH WORKING DAY. NO EQUIPMENT SHALL BE LEFT ON OR PARKED ALONG THE ROAD RIGHT OF WAY.
- ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT OF WAY, ADJOINING PROPERTY AND WATER WAYS.

# WATER LINE GENERAL NOTES

1. ALL WATER LINES SHALL BE POLYVINYL CHLORIDE PIPE (PVC) CONFORMING TO ASTM SPECIFICATIONS D-1784 FOR MATERIAL AND SHALL BE CLASS 250 (SDR 17) OR CLASS 200 (SDR 21) AS SHOWN ON THE DRAWINGS. ALL JOINTS SHALL BE SLIP-TYPE WITH RUBBER GASKETS CONFORMING TO ASTM-1869.
2. FITTINGS SHALL BE DUCTILE IRON CLASS 250 IN ACCORDANCE WITH AWWA C111-71 (ANSI A21.10).
3. ALL VALVES SHALL CONFORM TO AWWA C500.
4. CONSTRUCTION PRACTICES AND PROCEDURES SHALL CONFORM TO CURRENT AWWA STANDARDS AND BE APPROVED BY THE WESTERN PULASKI COUNTY WATER DISTRICT.
5. AFTER INSTALLATION, WATER LINES SHALL BE DISINFECTED WITH A CHLORINE SOLUTION IN SUCH AMOUNTS AS TO PRODUCE A CONCENTRATION OF AT LEAST FIFTY (50) PPM AND A RESIDUAL OF AT LEAST TWENTY-FIVE (25) PPM AT THE END OF THE 24 HOURS AND FOLLOWED BY THROUGH FLUSHING.
6. MINIMUM COVER OF WATER LINES SHALL BE 30 INCHES. WATER LINE WITHIN COMMONWEALTH OF KENTUCKY RIGHT-OF-WAYS SHALL HAVE A MINIMUM COVER OF 42-INCHES.
7. CONTRACTOR SHALL FULLY COMPLY WITH ALL LOCAL, STATE AND FEDERAL SAFETY AND ENVIRONMENTAL REGULATIONS GOVERNING UTILITY CONSTRUCTION.
8. ALL WATER LINE CROSSING PAVED SURFACE SHALL BE BACKFILLED FULL DEPTH WITH COMPACTED CRUSHED STONE.
9. EXISTING AND PROPOSED WATER MAIN LOCATIONS SHALL BE VERIFIED BY WESTERN PULASKI COUNTY WATER DISTRICT PRIOR TO CONSTRUCTION.
10. ALL PIPE AND FITTINGS SHALL HAVE A MINIMUM OF 6-INCHES OF BEDDING OF DIRT UNDER AND ON BOTH SIDES OF PIPE UNLESS OTHERWISE SPECIFIED. ALL PIPE AND FITTING SHALL BE BACK-FILLED WITH DIRT UNLESS OTHERWISE SPECIFIED.
11. ALL FITTINGS: 90° BENDS, TEES, ETC., SHALL BE BLOCK WITH A MINIMUM OF 12-INCHES POURED CONCRETE AGAINST UNDISTURBED SOIL.
12. ALL GATE VALVES SHALL TURN RIGHT TO CLOSE AND TURN LEFT TO OPEN.
13. ALL VALVES SHALL BE C.I. VALVE BOXES EXTENDING 2-INCHES ABOVE SURFACE.
14. ALL FLUSH HYDRANTS SHALL BE STANDARD 2-WAY 5 1/4-INCHES BREAKAWAY TYPE WITH A MINIMUM 3 1/2- FEET BURY AND TURN LEFT TO OPEN AND RIGHT TO CLOSE.
15. ALL PROPOSED WATER LINES SHALL HAVE A #12 COATED TRACER WIRE.
16. ALL FLUSH HYDRANTS, WATER VALVES AND FITTINGS SHALL HAVE RESTRAINER GLANDS.
17. ALL WATER LINES SHALL BE PRESSURE TESTED TO 150 PSI FOR A MINIMUM OF FOUR (4) HOURS.
18. CONTRACTOR SHALL PROVIDE BACTERIAL SAMPLE RESULTS OF PROPOSED WATER LINES TO THE WESTERN PULASKI COUNTY WATER DISTRICT.

## OWNER

WESTERN PULASKI COUNTY WATER DISTRICT  
 1059 WEST HIGHWAY 80  
 SOMERSET, KY 42503  
 (606) 679-1569

## LINE/CABLE LOCATION SERVICES



BEFORE-U-DIG (BUD)  
 (800) 752-6007

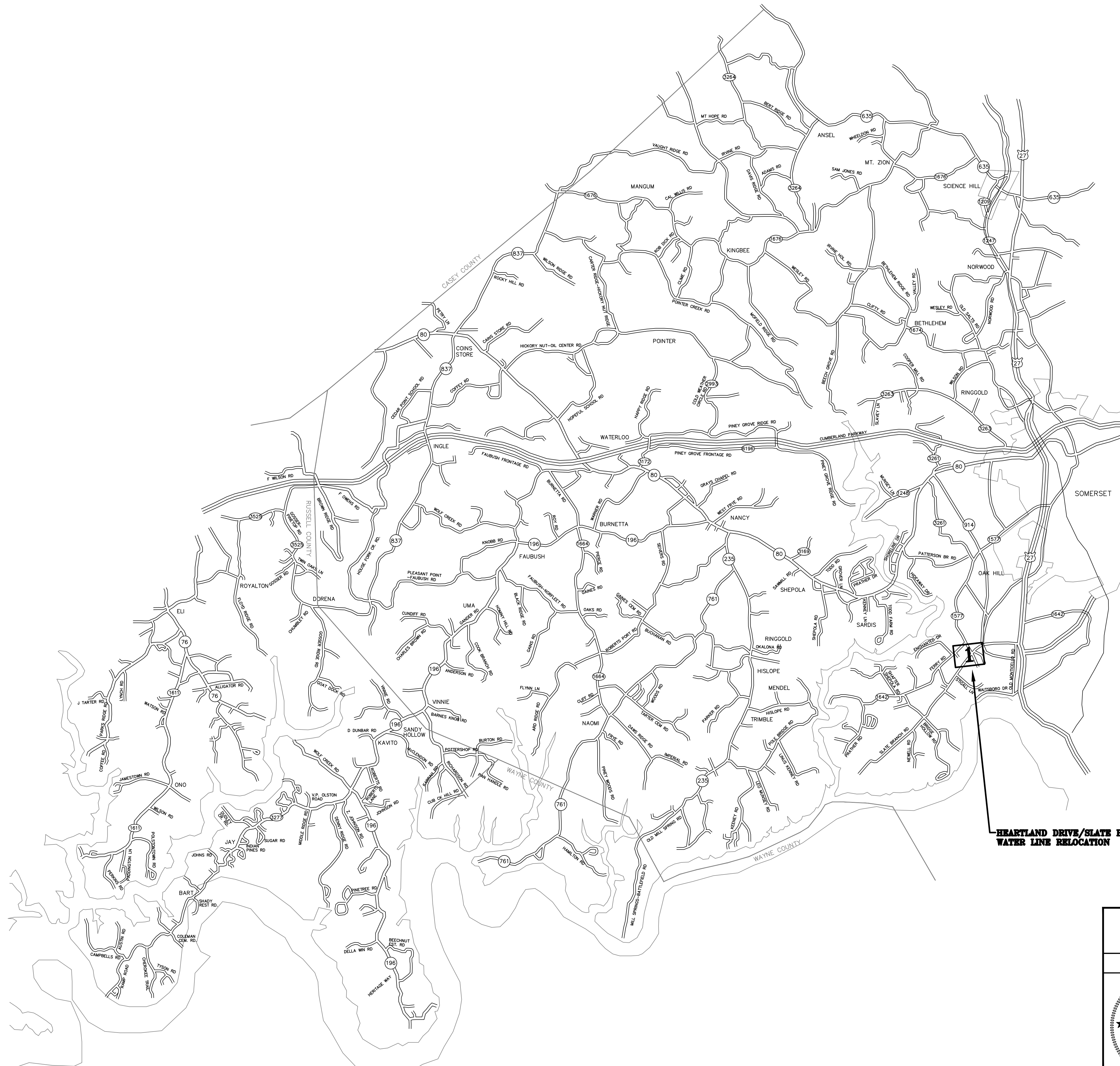
NOTE:  
 KENTUCKY STATUTES (KRS 367.4901 THROUGH 367.4917) REQUIRE THAT ALL EXCAVATORS PLANNING EXCAVATION OR DEMOLITION WORK SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA AND/OR AN UNDERGROUND PROTECTION SERVICE SUCH AS BUD (800-752-6007) AT LEAST TWO (2) WORKING DAYS BEFORE COMMENCING WORK TO ALERT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

WATER SYSTEM EXTENSIONS & IMPROVEMENTS  
 WESTERN PULASKI COUNTY WATER DISTRICT  
 PULASKI COUNTY, KENTUCKY

### GENERAL NOTES

	<b>Monarch Engineering, Inc.</b> 556 CARLTON DRIVE LAWRENCEBURG, KY 40342		SHEET <b>G-1</b>	
	DRAWN BY: JRC	DATE: SEPT 2019		REVISED
	CHECKED BY: DSB	SCALE: N.T.S.		
	CHECKED BY: DMB	PROJECT: 1928		

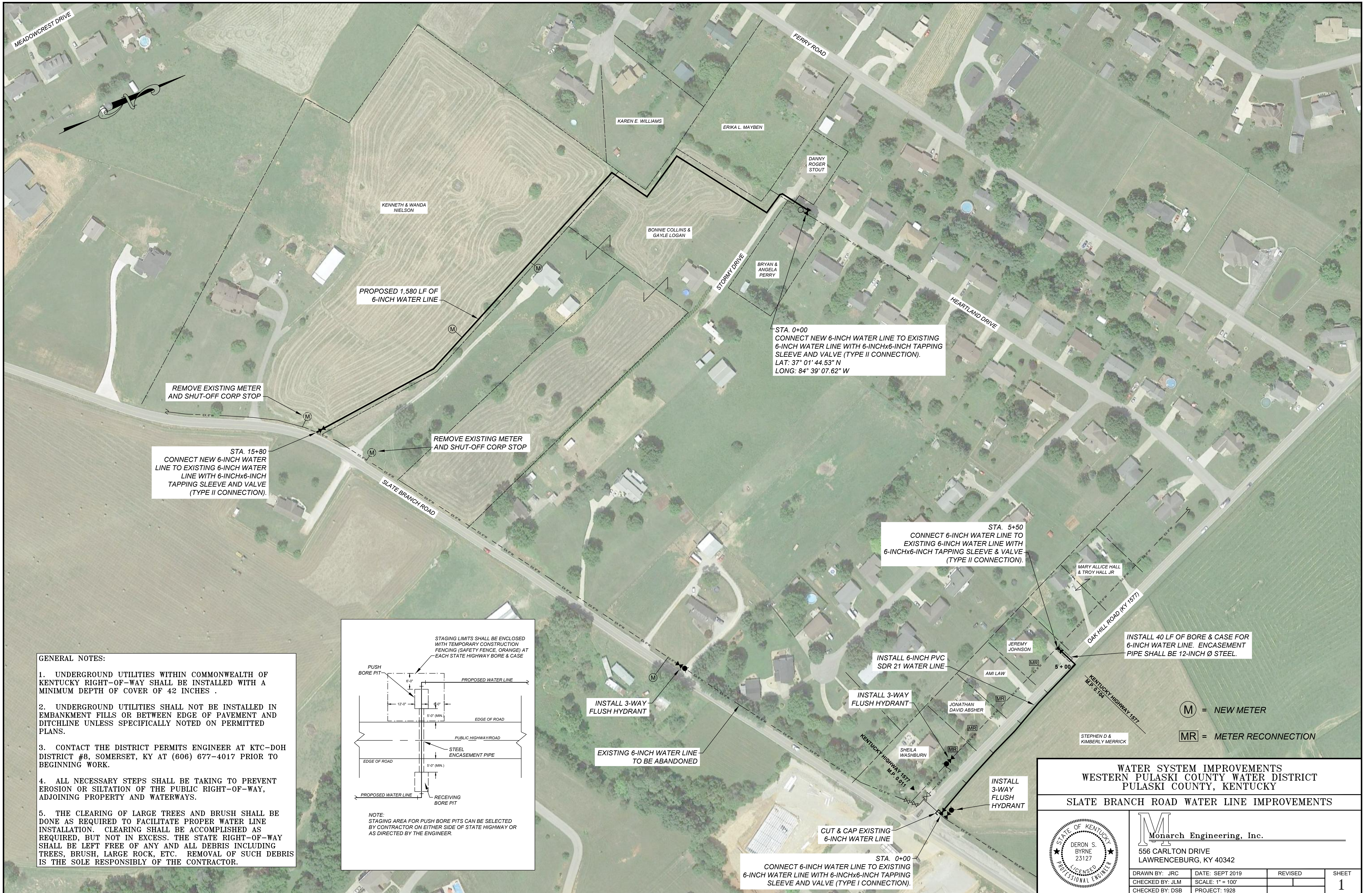




**HEARTLAND DRIVE/SLATE BRANCH/OAK HILL ROAD  
WATER LINE RELOCATION**

WATER LINE EXTENSION WESTERN PULASKI COUNTY WATER DISTRICT PULASKI COUNTY, KENTUCKY			
LOCATION MAP			
	556 CARLTON DRIVE LAWRENCEBURG, KY 40342		
DRAWN BY: JRC CHECKED BY: DSB CHECKED BY: DMB	DATE: SEPT 2019 SCALE: 1"=100' PROJECT: 1928	REVISED	SHEET <b>LM-1</b>





STA. 0+00  
 CONNECT NEW 6-INCH WATER LINE TO EXISTING 6-INCH WATER LINE WITH 6-INCHx6-INCH TAPPING SLEEVE AND VALVE (TYPE II CONNECTION).  
 LAT: 37° 01' 44.53" N  
 LONG: 84° 39' 07.62" W

REMOVE EXISTING METER AND SHUT-OFF CORP STOP

STA. 15+80  
 CONNECT NEW 6-INCH WATER LINE TO EXISTING 6-INCH WATER LINE WITH 6-INCHx6-INCH TAPPING SLEEVE AND VALVE (TYPE II CONNECTION).

REMOVE EXISTING METER AND SHUT-OFF CORP STOP

STA. 5+50  
 CONNECT 6-INCH WATER LINE TO EXISTING 6-INCH WATER LINE WITH 6-INCHx6-INCH TAPPING SLEEVE & VALVE (TYPE II CONNECTION).

INSTALL 40 LF OF BORE & CASE FOR 6-INCH WATER LINE. ENCASEMENT PIPE SHALL BE 12-INCH Ø STEEL.

INSTALL 6-INCH PVC SDR 21 WATER LINE

INSTALL 3-WAY FLUSH HYDRANT

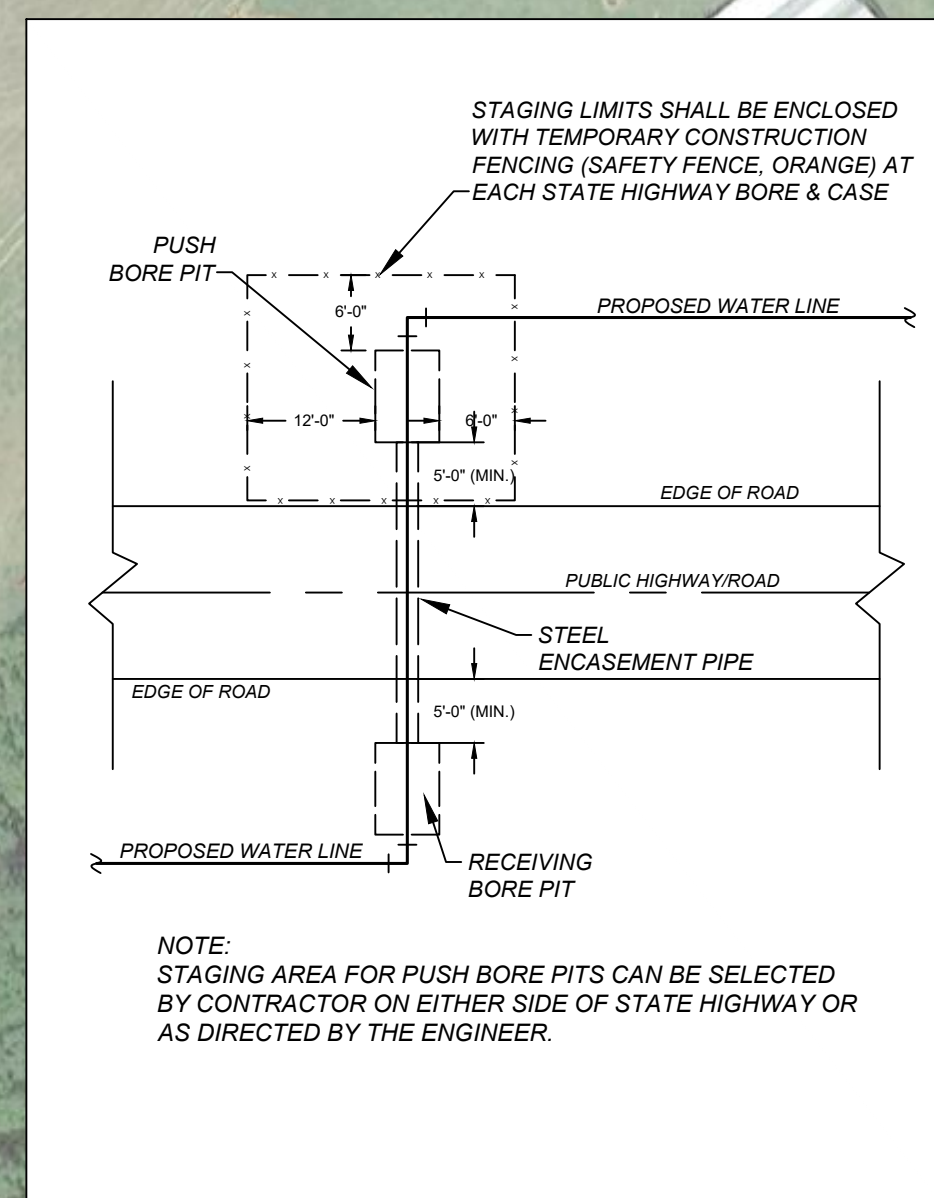
INSTALL 3-WAY FLUSH HYDRANT

EXISTING 6-INCH WATER LINE TO BE ABANDONED

INSTALL 3-WAY FLUSH HYDRANT

STA. 0+00  
 CONNECT 6-INCH WATER LINE TO EXISTING 6-INCH WATER LINE WITH 6-INCHx6-INCH TAPPING SLEEVE AND VALVE (TYPE I CONNECTION).

- GENERAL NOTES:**
- UNDERGROUND UTILITIES WITHIN COMMONWEALTH OF KENTUCKY RIGHT-OF-WAY SHALL BE INSTALLED WITH A MINIMUM DEPTH OF COVER OF 42 INCHES .
  - UNDERGROUND UTILITIES SHALL NOT BE INSTALLED IN EMBANKMENT FILLS OR BETWEEN EDGE OF PAVEMENT AND DITCHLINE UNLESS SPECIFICALLY NOTED ON PERMITTED PLANS.
  - CONTACT THE DISTRICT PERMITS ENGINEER AT KTC-DOH DISTRICT #8, SOMERSET, KY AT (606) 677-4017 PRIOR TO BEGINNING WORK.
  - ALL NECESSARY STEPS SHALL BE TAKING TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT-OF-WAY, ADJOINING PROPERTY AND WATERWAYS.
  - THE CLEARING OF LARGE TREES AND BRUSH SHALL BE DONE AS REQUIRED TO FACILITATE PROPER WATER LINE INSTALLATION. CLEARING SHALL BE ACCOMPLISHED AS REQUIRED, BUT NOT IN EXCESS. THE STATE RIGHT-OF-WAY SHALL BE LEFT FREE OF ANY AND ALL DEBRIS INCLUDING TREES, BRUSH, LARGE ROCK, ETC. REMOVAL OF SUCH DEBRIS IS THE SOLE RESPONSIBLY OF THE CONTRACTOR.



(M) = NEW METER  
 (MR) = METER RECONNECTION

**WATER SYSTEM IMPROVEMENTS**  
**WESTERN PULASKI COUNTY WATER DISTRICT**  
**PULASKI COUNTY, KENTUCKY**

**SLATE BRANCH ROAD WATER LINE IMPROVEMENTS**

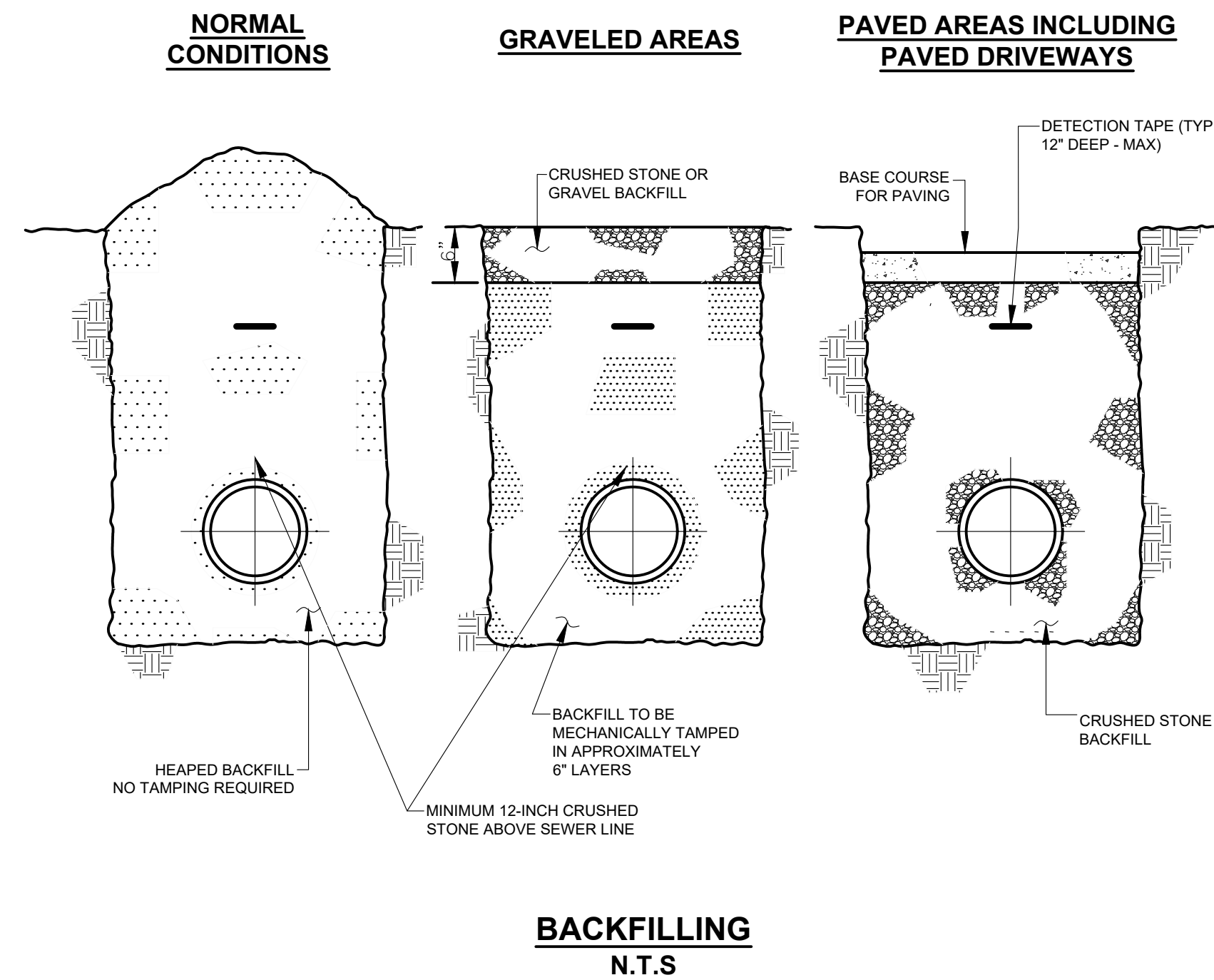
DERON S. BYRNE  
 23127  
 LICENSED PROFESSIONAL ENGINEER

**Monarch Engineering, Inc.**  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

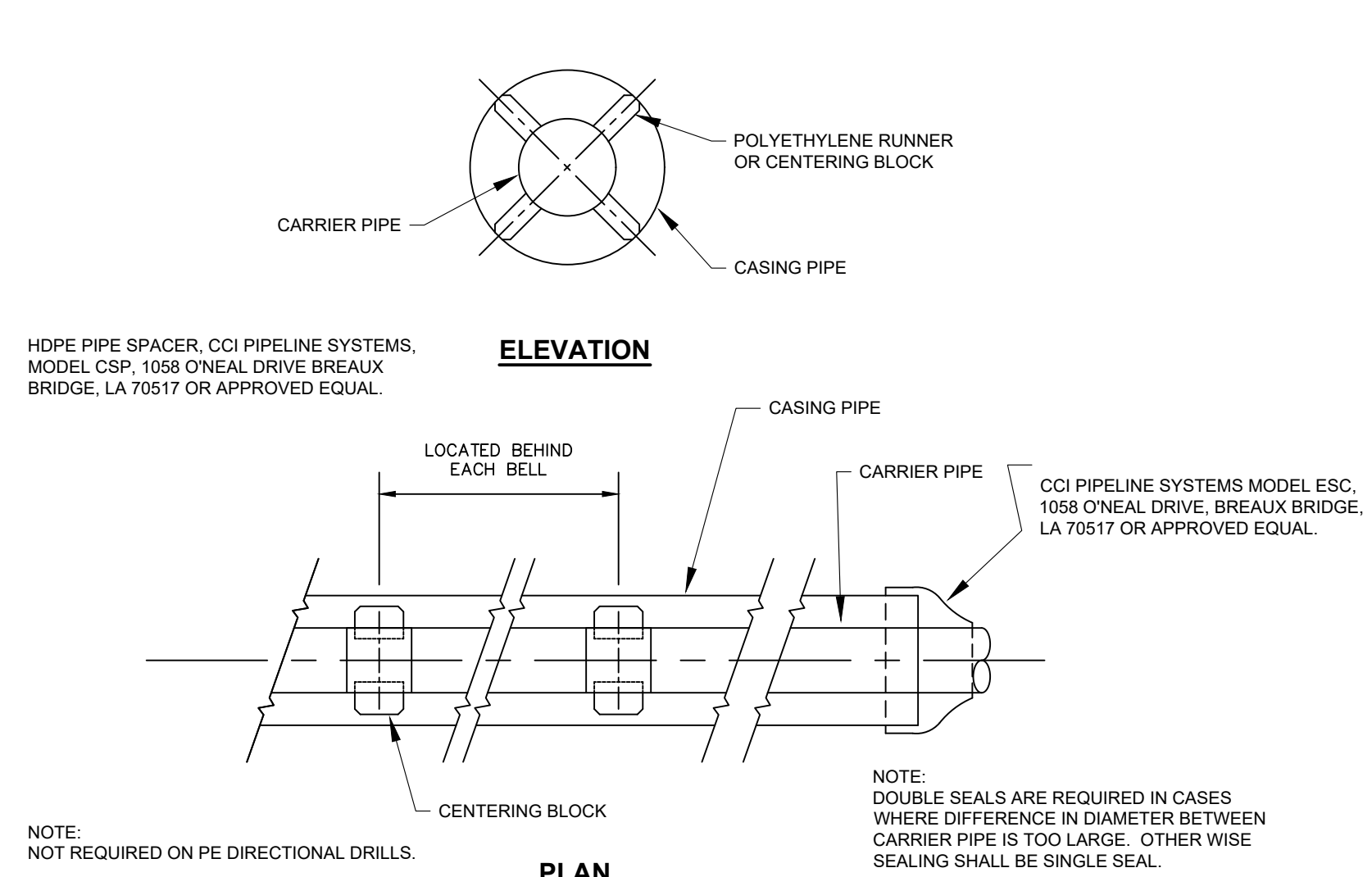
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CHECKED BY: DSB	PROJECT: 1928	

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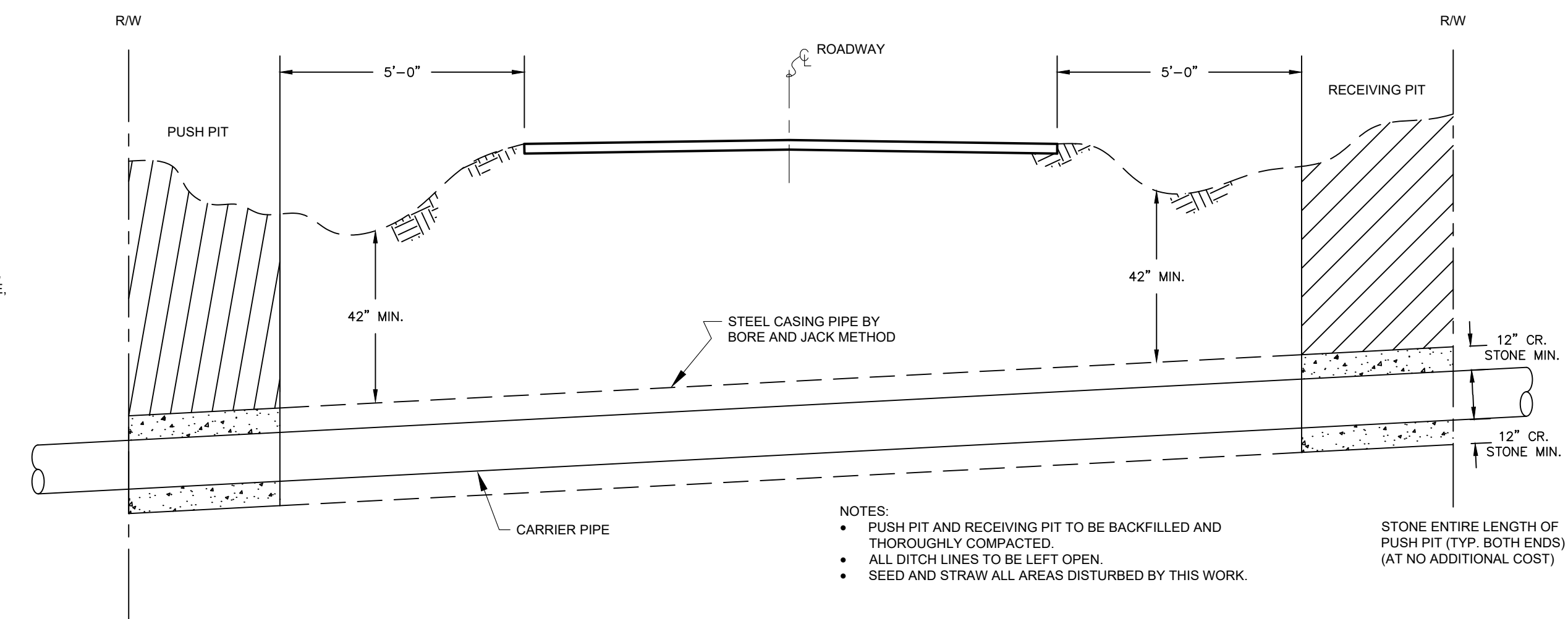




**BACKFILLING**  
N.T.S

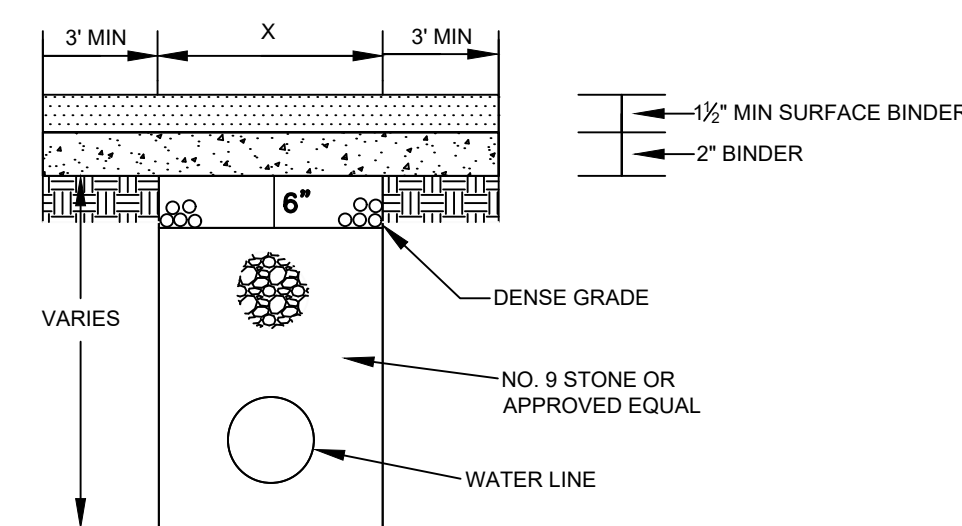


**CARRIER PIPE POSITIONING IN CASING PIPE**  
N.T.S

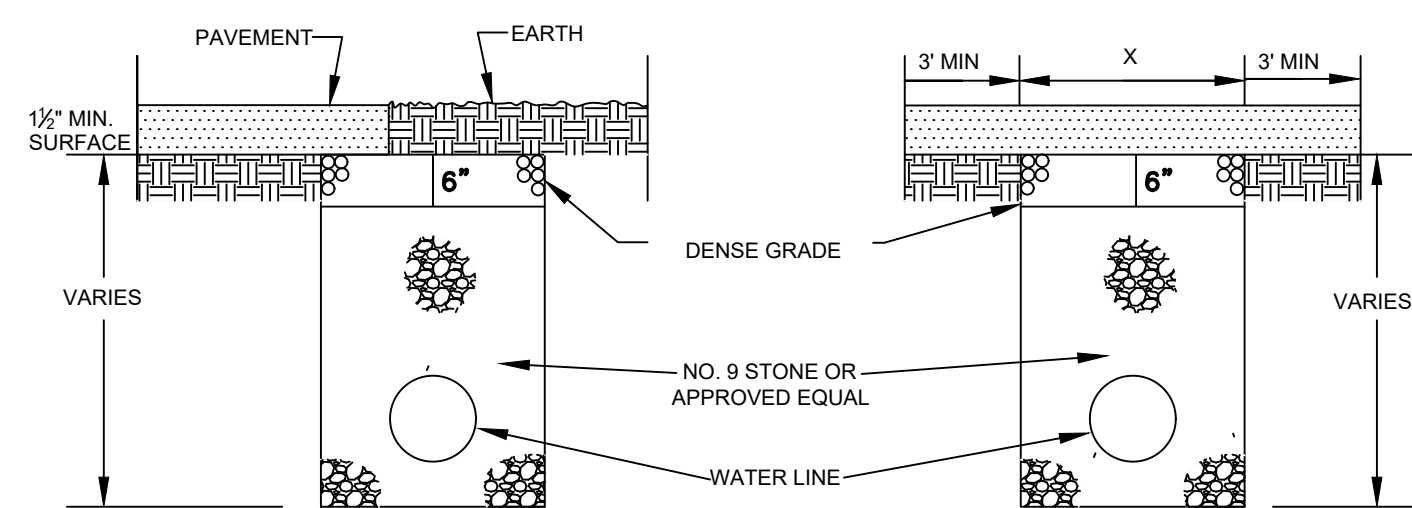


**STATE HIGHWAY ENCASED BORE CROSSING**  
N.T.S

**REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND DEPTH AS EXISTING PAVEMENT**



**BITUMINOUS SURFACE 2\"/>**

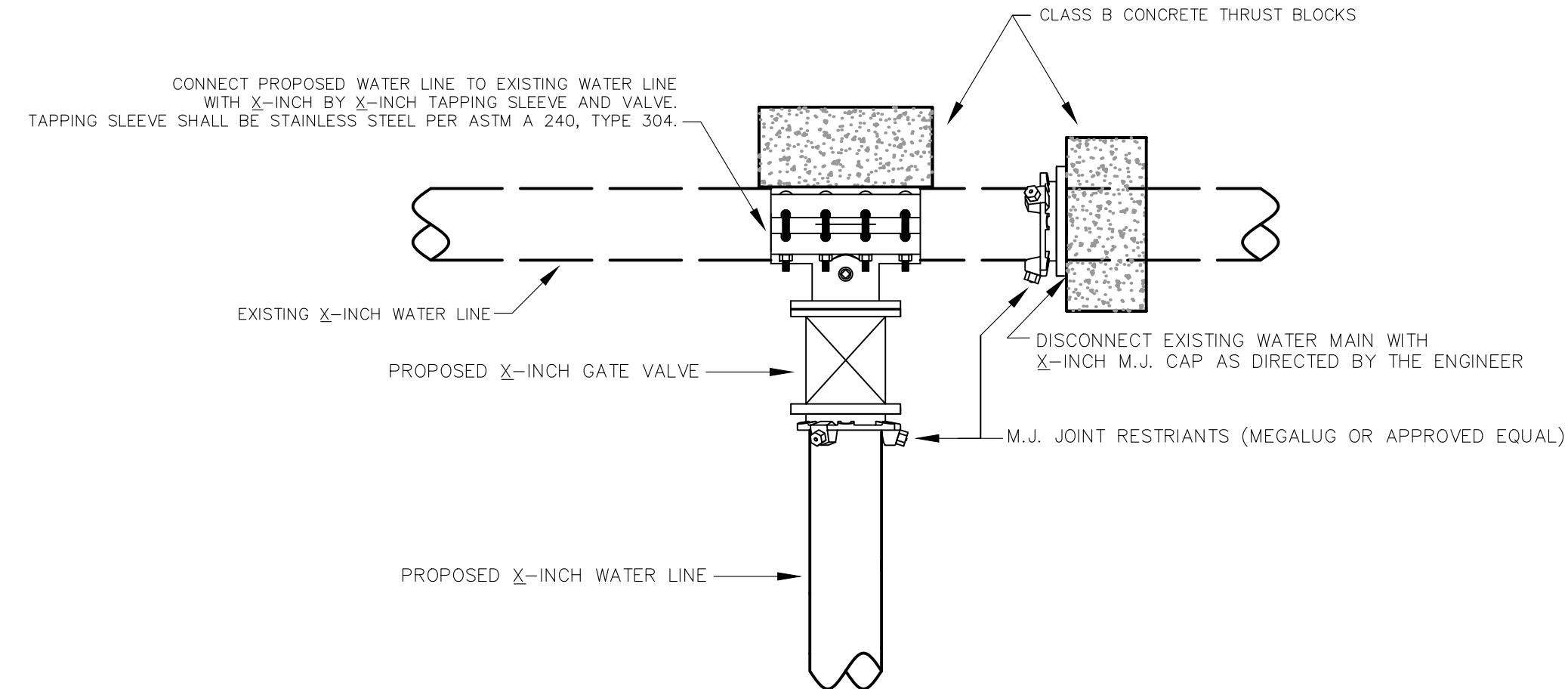


**PARTIAL PAVEMENT REPLACEMENT**

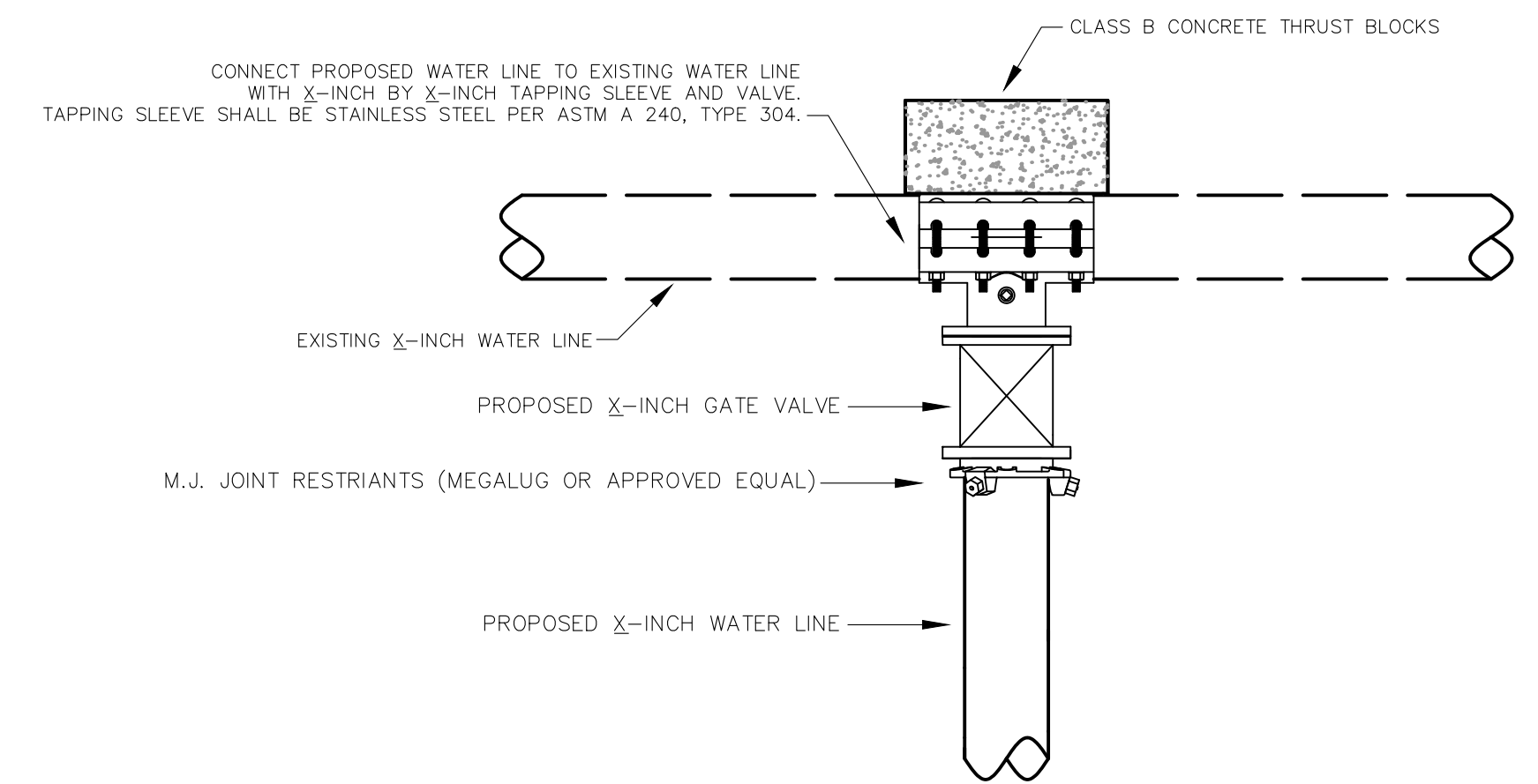
**BITUMINOUS SURFACE LESS THAN 2\"/>**

**ANY TRENCH THAT DISTURBS PAVEMENT SHALL BE BACKFILLED WITH STONE**

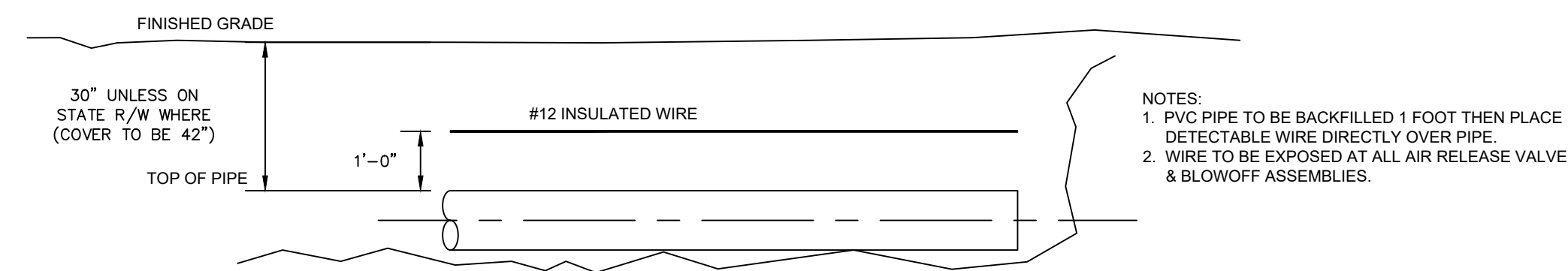
**BITUMINOUS PAVEMENT REPLACEMENT**  
N.T.S



**TYPE I CONNECTION**  
N.T.S

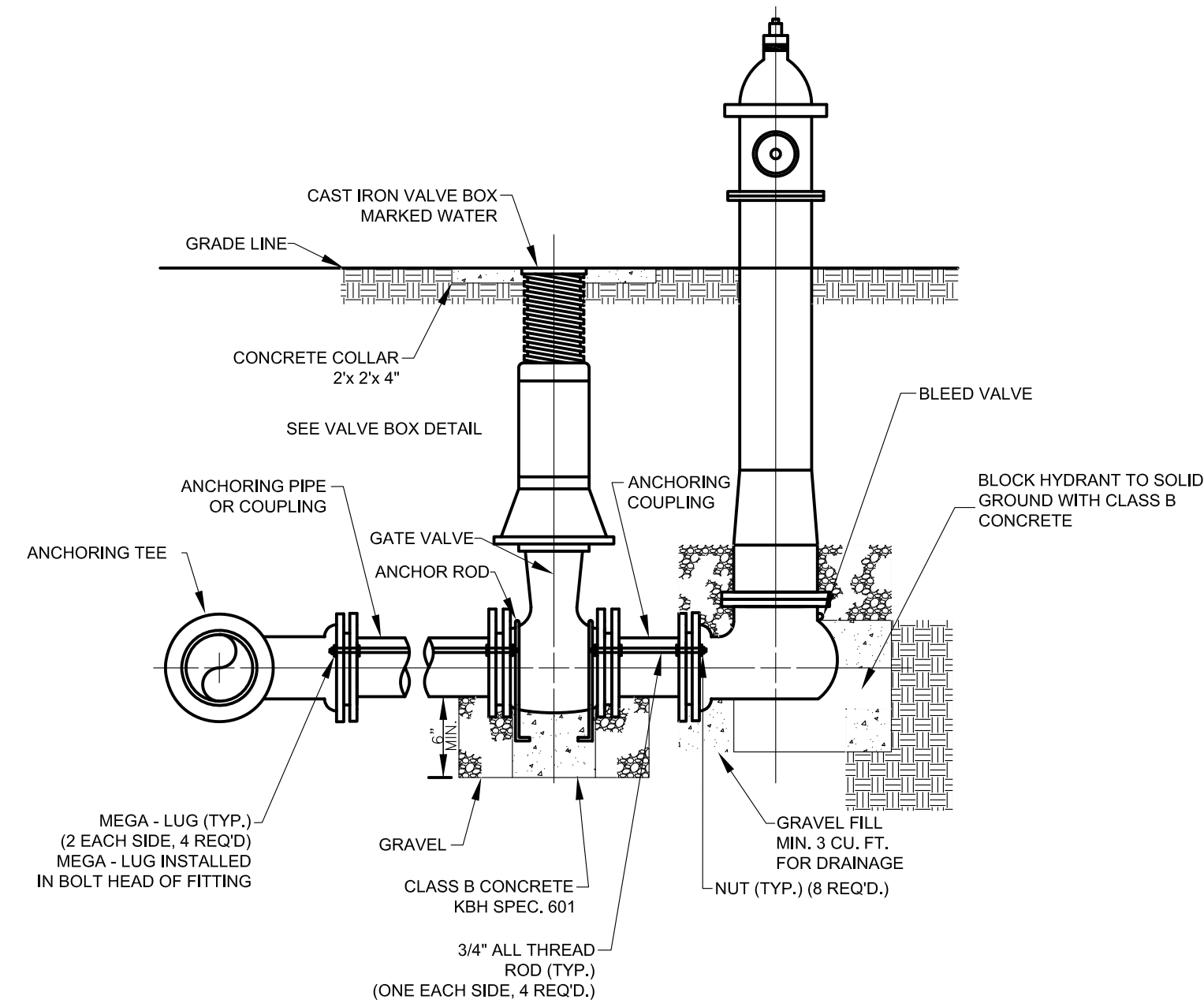


**TYPE II CONNECTION**  
N.T.S



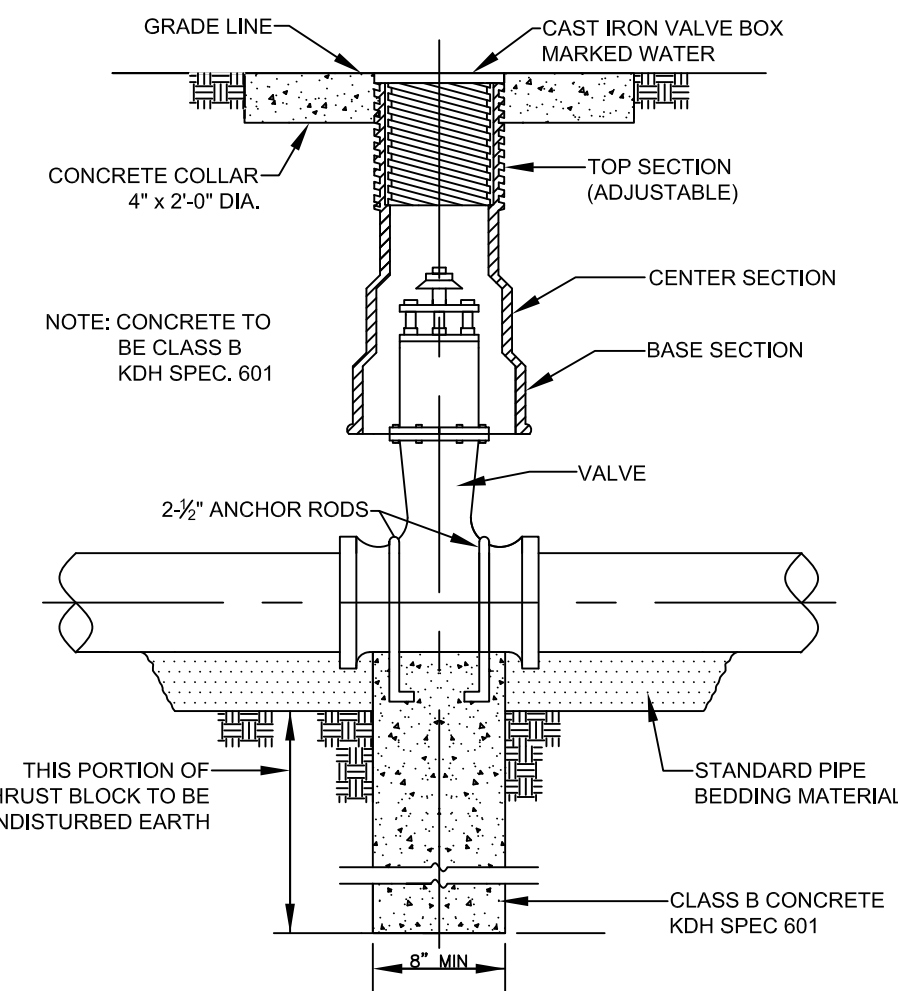
**DETECTABLE WIRE INSTALLATION**  
N.T.S

<b>WESTERN PULASKI COUNTY WATER DISTRICT PULASKI COUNTY, KENTUCKY WATER LINE EXTENSIONS &amp; REPLACEMENTS</b>				
<b>MISCELLANEOUS DRAWINGS</b>				
	Monarch Engineering, Inc. 556 CARLTON DRIVE LAWRENCEBURG, KY 40342			
	DRAWN BY: JRC	DATE: SEPT 2019	REVISION:	SHEET
	CHECKED BY: DSB	SCALE: N.T.S.		<b>MD-1</b>



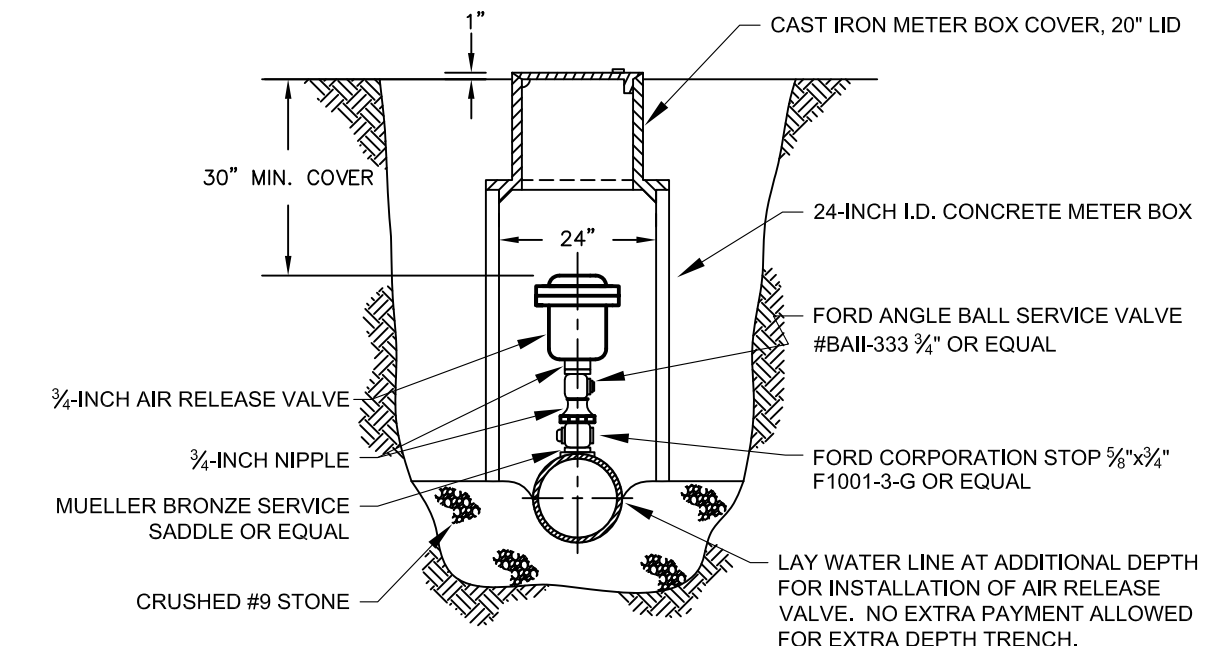
**FLUSH HYDRANT ASSEMBLY**  
N.T.S

NOTES: SEE SPECIFICATIONS FOR PIPING MATERIALS AND BLEED VALVE NOT TO BE ENCASED IN CONCRETE



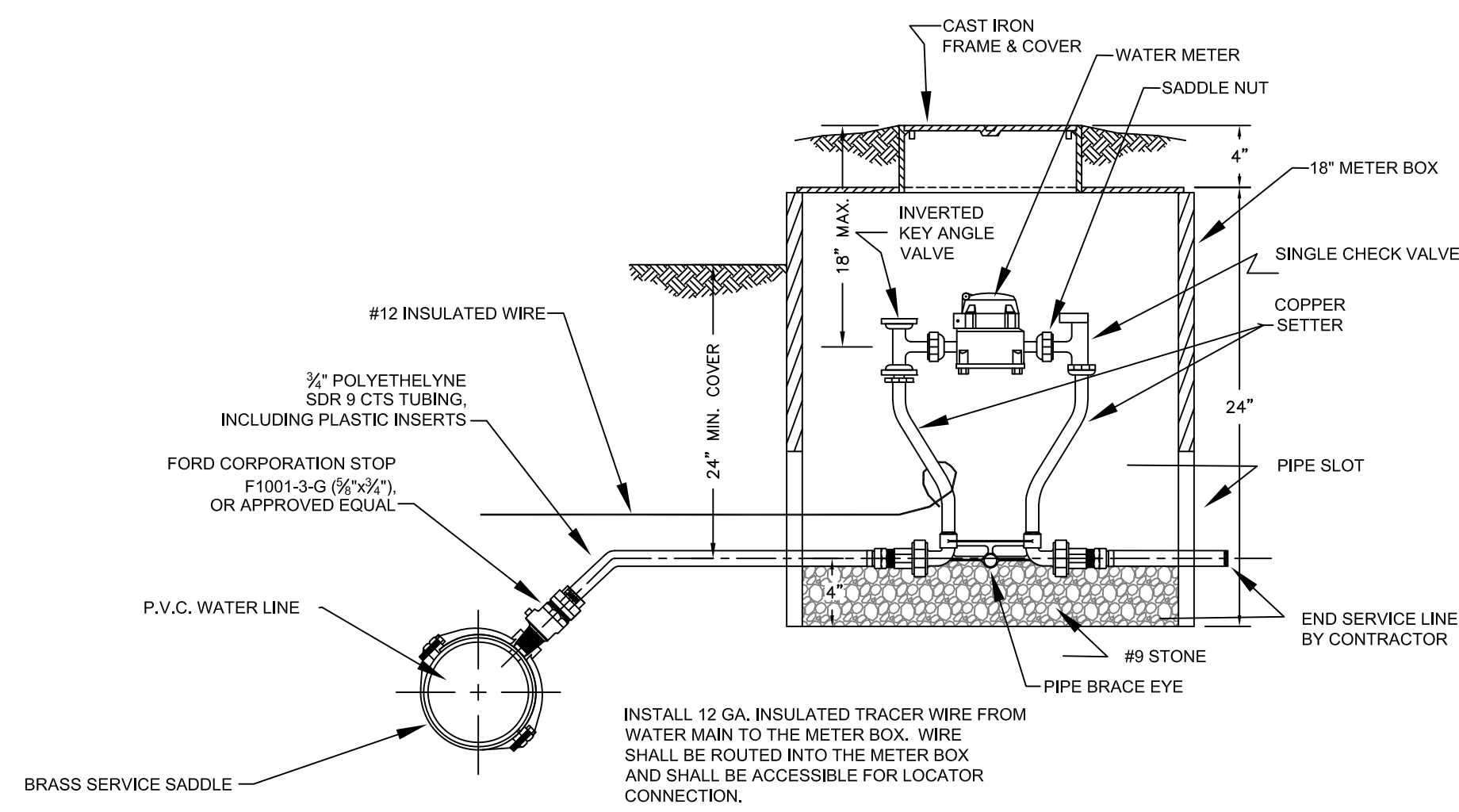
**GATE VALVE DETAIL**  
N.T.S

NOTE: SEE SPECIFICATION FOR PIPING MATERIALS AND PIPING JOINTS



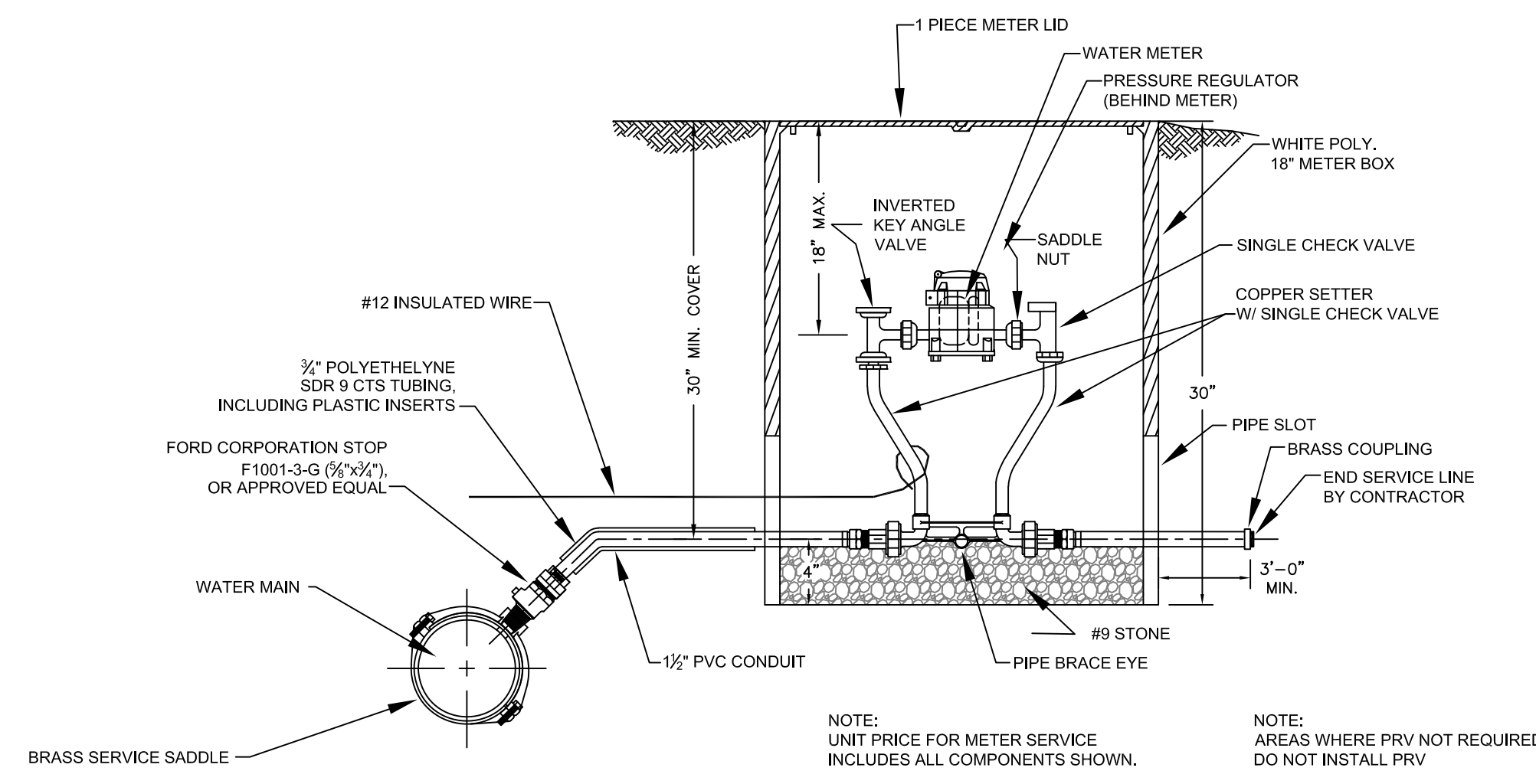
**AUTOMATIC AIR RELEASE VALVE ASSEMBLY**  
N.T.S

NOTES:  
• ALL FITTINGS SHALL BE COPPER OR BRONZE.  
• DO NOT LOCATE IN VEHICLE TRAFFIC AREA.  
• THE PRICE BID FOR THE AIR RELEASE VALVE ASSEMBLY SHALL INCLUDE THE CORPORATION STOP, CURB STOP, AIR RELEASE VALVE, METER BOX AND LID AND CONNECTION PIPING, COMPLETE.



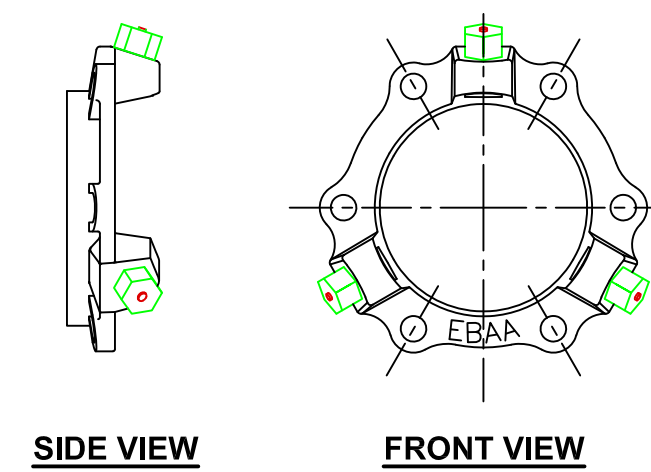
**TYPICAL NEW SERVICE AND METER DETAIL**  
N.T.S

INSTALL 12 GA. INSULATED TRACER WIRE FROM WATER MAIN TO THE METER BOX. WIRE SHALL BE ROUTED INTO THE METER BOX AND SHALL BE ACCESSIBLE FOR LOCATOR CONNECTION.  
NOTE: IF THE WATER MAIN IS FURNISHED WITH A TRACER WIRE, THE SERVICE LINE TRACER WIRE SHALL BE CONNECTED TO THE WATER MAIN TRACER WIRE AND A WATER TIGHT CONNECTION OF WIRES SHALL BE MADE.



**TYPICAL NEW SERVICE TANDEM METER SETTING WITH PRESSURE REGULATOR DETAIL**  
N.T.S

NOTE: UNIT PRICE FOR METER SERVICE INCLUDES ALL COMPONENTS SHOWN.  
NOTE: AREAS WHERE PRV NOT REQUIRED DO NOT INSTALL PRV

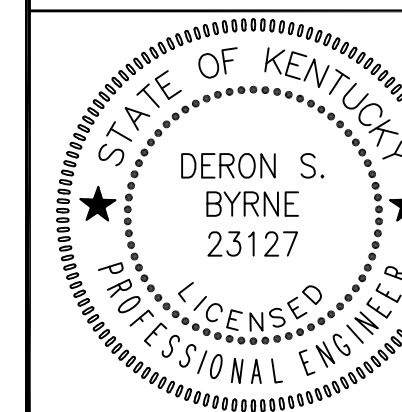


**MEGA LUG JOINT RESTRAINT**  
N.T.S

NOTE:  
WATER WORKING PRESSURE 250 PSI MIN.  
SIZES 3\" - 48\"  
PRODUCT OF EBAA IRON, INC. OR APPROVED EQUAL.

**WESTERN PULASKI COUNTY WATER DISTRICT**  
**PULASKI COUNTY, KENTUCKY**  
**WATER LINE EXTENSIONS & REPLACEMENTS**

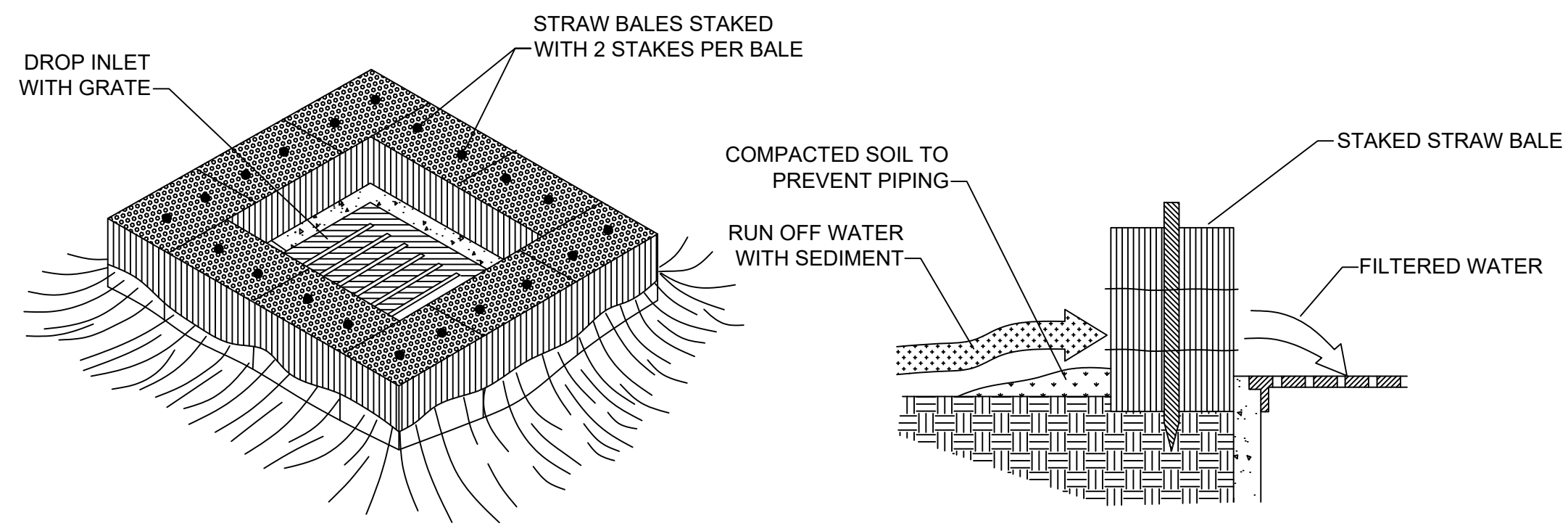
**MISCELLANEOUS DRAWINGS**



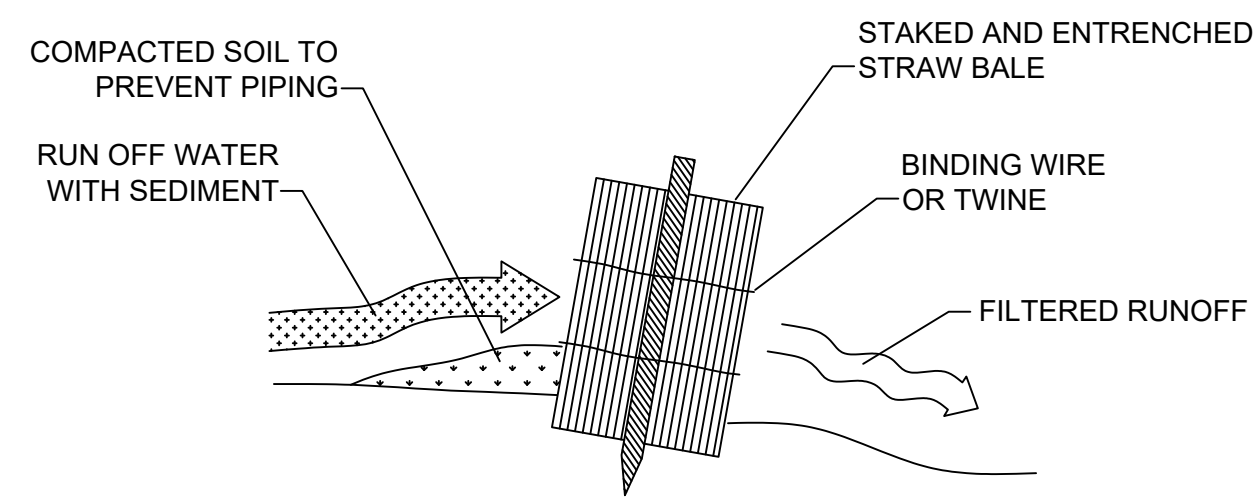
**Monarch Engineering, Inc.**  
556 CARLTON DRIVE  
LAWRENCEBURG, KY 40342

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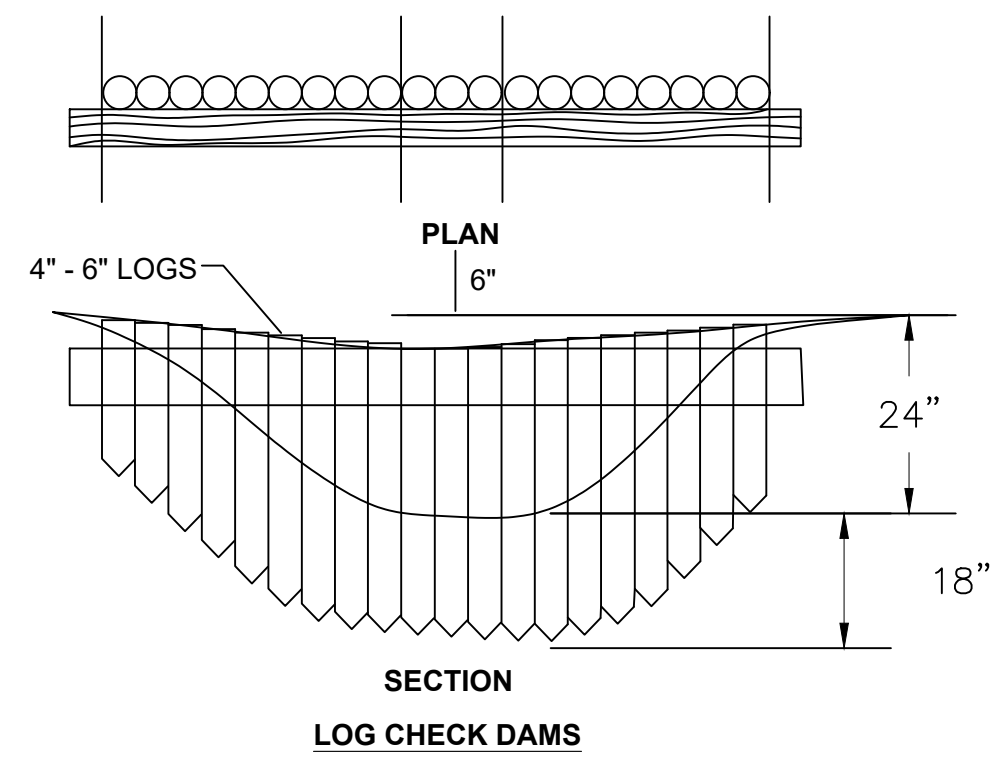




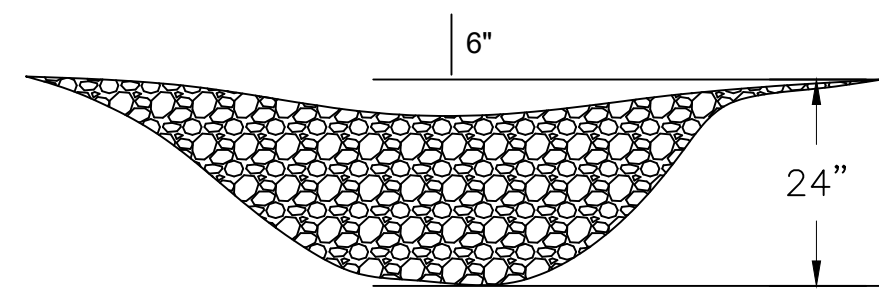
**STRAW BALE DROP INLET SEDIMENT FILTER**  
N.T.S.



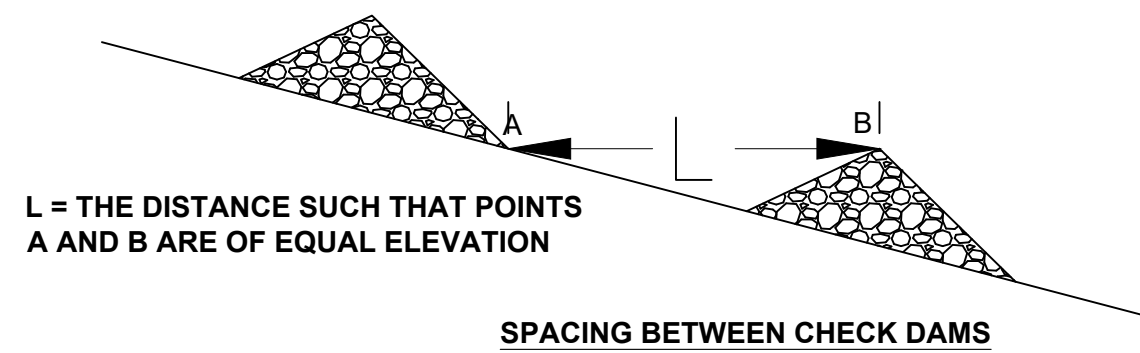
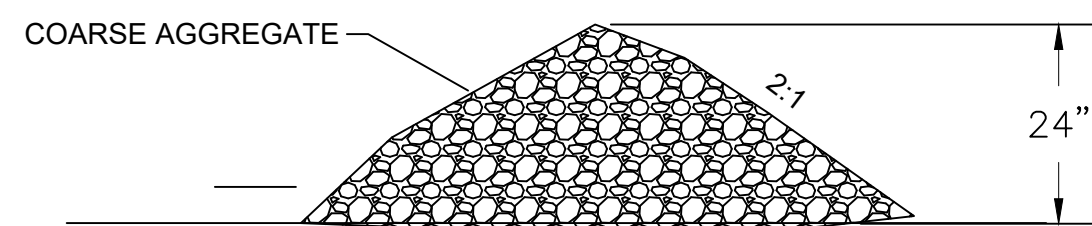
**STRAW BALE INSTALLATION PROCEDURES**  
N.T.S.



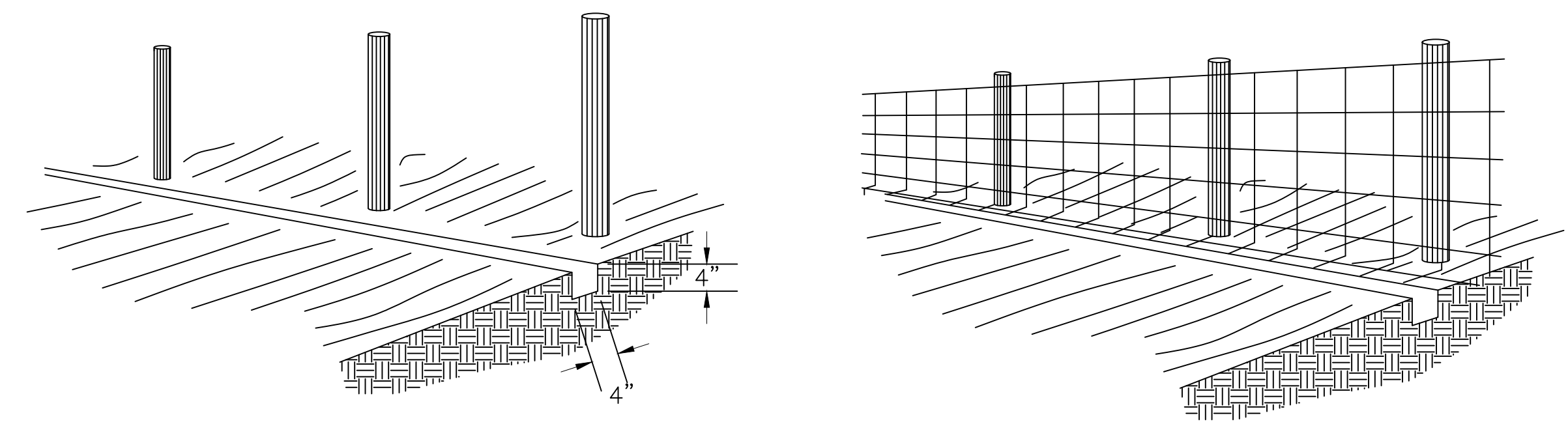
**LOG CHECK DAMS**



**ROCK CHECK DAMS**

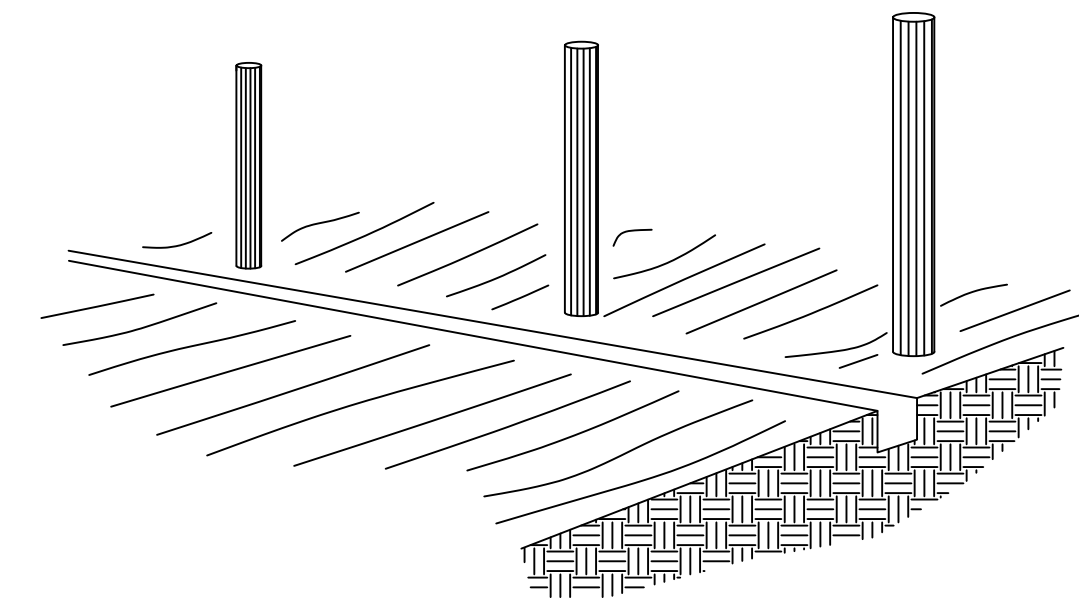


**CHECK DAM DETAILS**  
N.T.S.

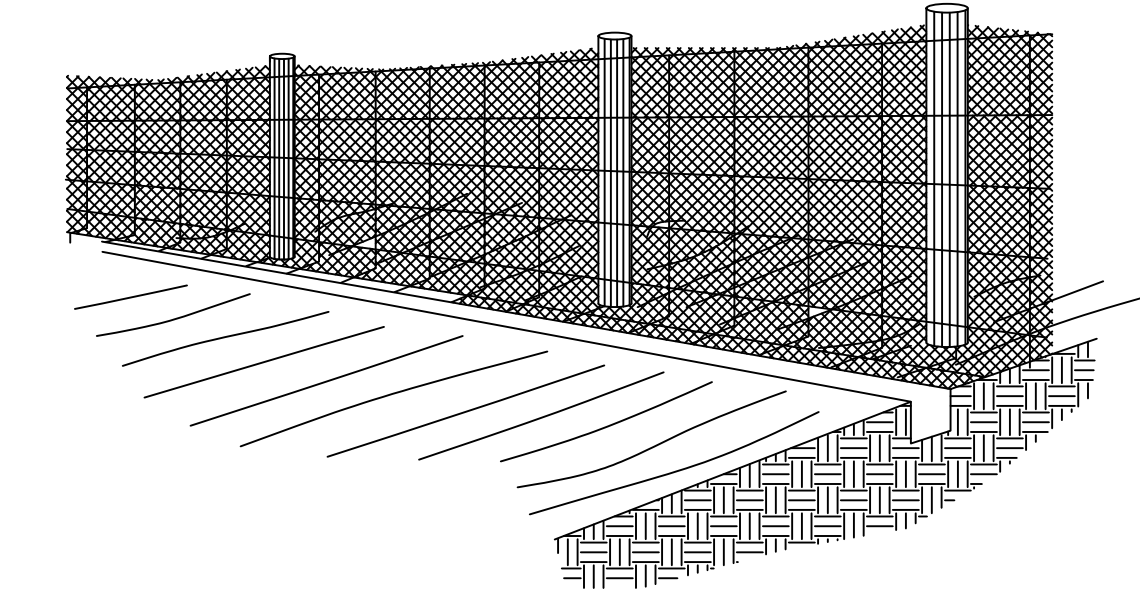


1. SET POSTS AND EXCAVATE A 4" x 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS

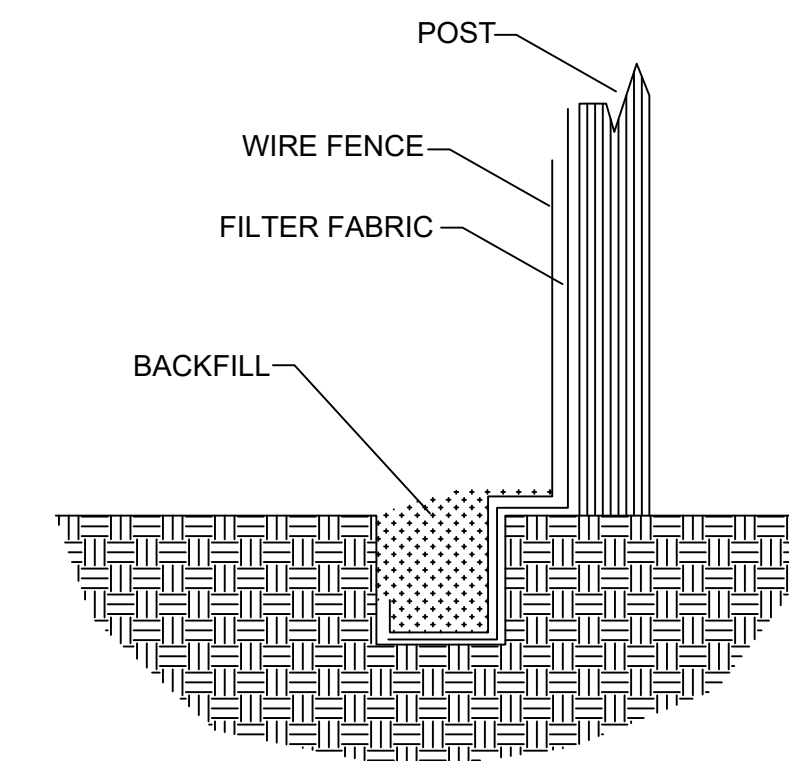
2. STAPLE WIRE FENCING TO POSTS



3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH

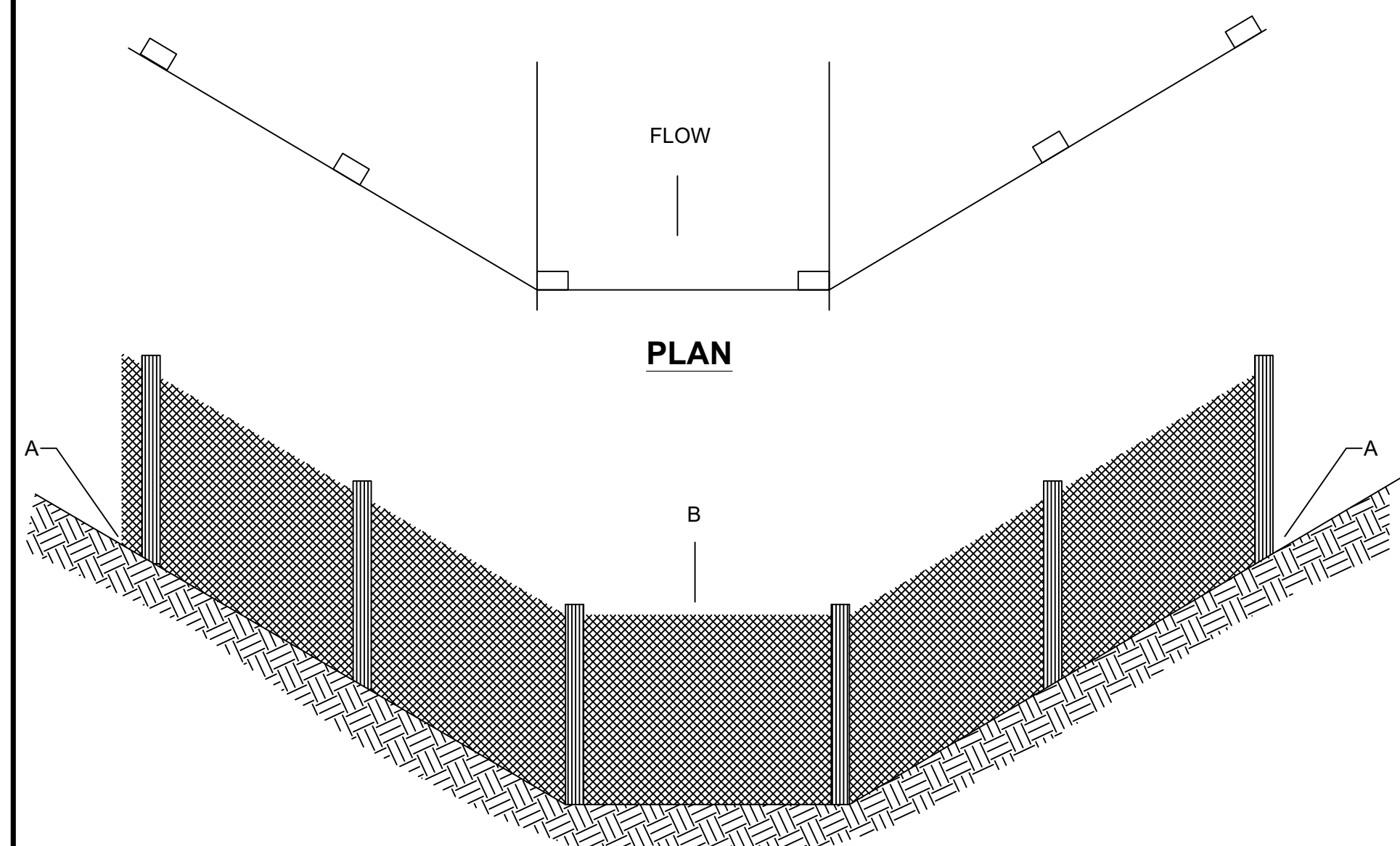


4. BACKFILL AND COMPACT THE EXCAVATED SOIL



EXTENSION OF FABRIC AND WIRE INTO THE TRENCH

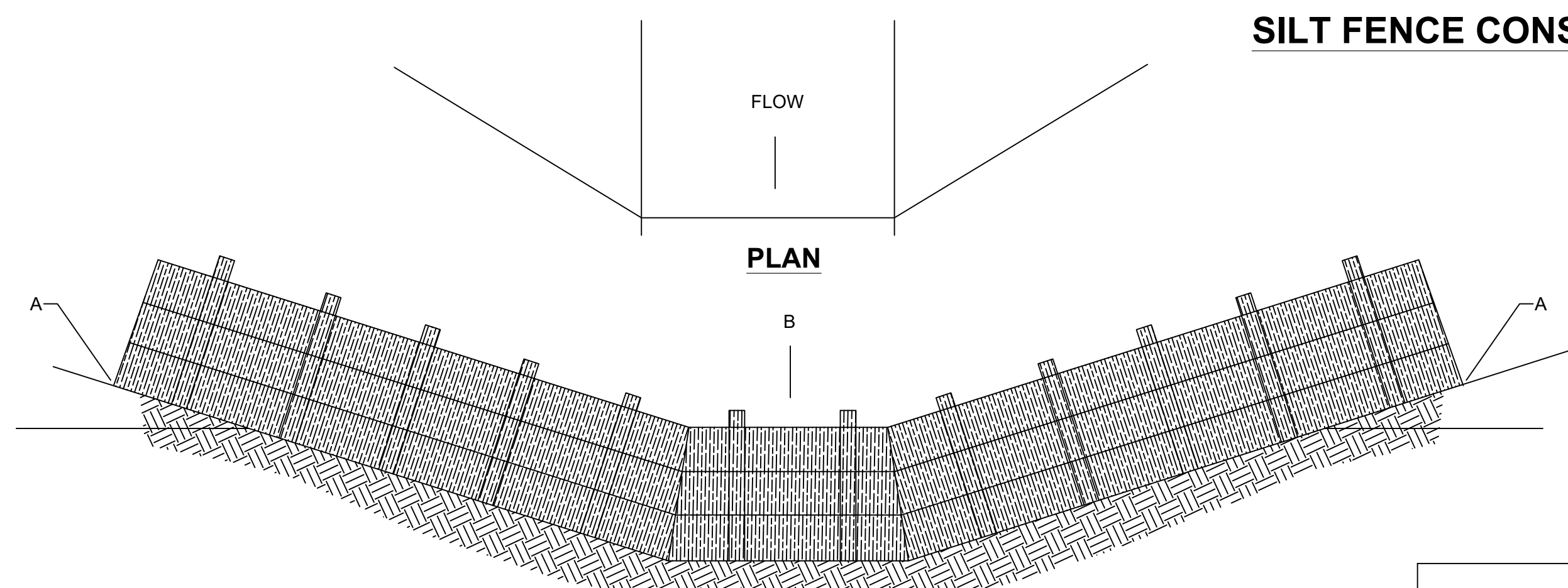
**SILT FENCE CONSTRUCTION PROCEDURES**  
N.T.S.



**ELEVATION**

POINT A SHOULD BE HIGHER THAN POINT B

**PLACEMENT OF FILTER BARRIER**  
N.T.S.



**ELEVATION**

POINT A SHOULD BE HIGHER THAN POINT B

**PLACEMENT OF STRAW BALE BARRIER**  
N.T.S.

**EROSION CONTROL DETAILS**  
N.T.S.

The Contractor shall do all work and take all measures necessary to control soil erosion resulting from construction operations, and shall prevent the flow of sediment from the construction site, and shall contain construction materials (including excavation and backfill) within their protected working area so as to prevent damage to the adjacent wetlands and water courses. The Contractor shall use any of the acceptable methods necessary to control soil erosion and prevent the flow of sediment to the maximum extent possible. These methods shall include, but not be limited to, the use of water diversion structures, diversion ditches, and settling basins.

