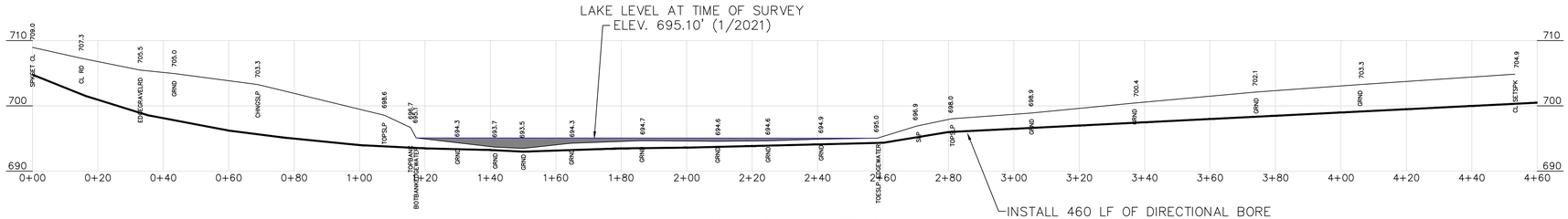
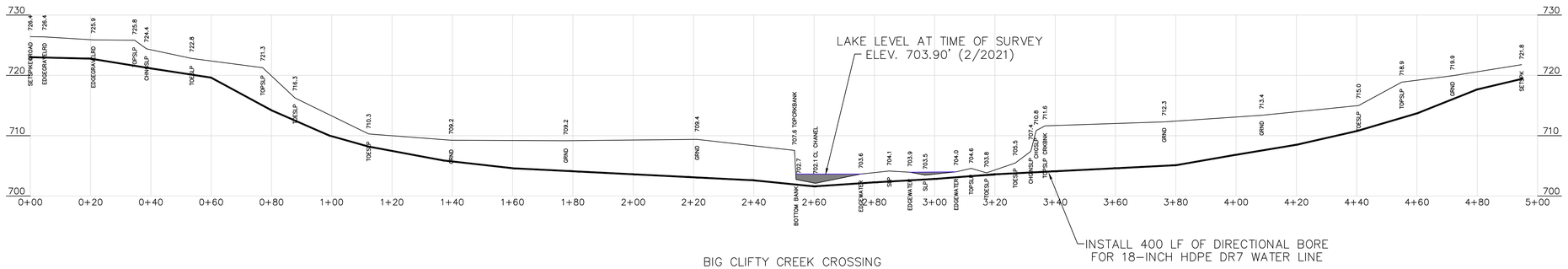
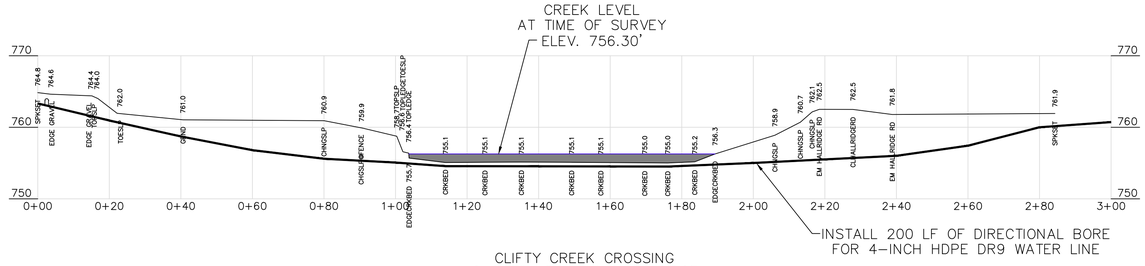


FISHING CREEK CROSSING
@ OIL CENTER ROAD
BY DIRECTIONAL BORE METHOD
(SEE PLAN SHEET NO. 7)

LAKE CUMBERLAND
NORMAL POOL = 723.00'
WINTER POOL = 673.00'
FLOOD POOL = 760.00'



BIG CLIFTY CREEK CROSSING
@ END OF RINGGOLD ROAD
BY DIRECTIONAL BORE METHOD
(SEE PLAN SHEET NO. 9)



CLIFTY CREEK CROSSING
@ CLIFTY ROAD & HALL RIDGE
BY DIRECTIONAL BORE METHOD
(SEE PLAN SHEET NO. 11)

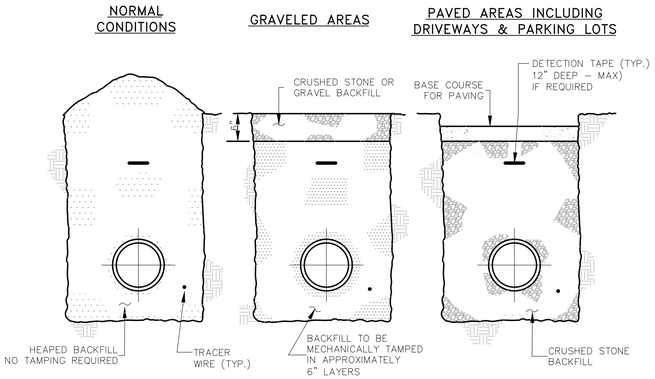
Monarch Engineering, Inc.
556 CARLTON DRIVE
LAWRENCEBURG, KY 40342

DESCRIPTION:
WATER SYSTEM IMPROVEMENTS
CREEK CROSSINGS PROFILES

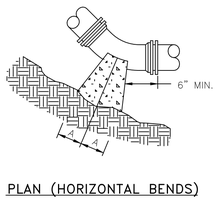
CUSTOMER:
WESTERN PULASKI COUNTY WATER DISTRICT
PULASKI COUNTY, KENTUCKY

PROJECT NO. 2028
DATE: NOV 2020
DRAWN BY: JRC
CHECKED BY: DSB
CHECKED BY: JLM
SCALE: VERT. 1"=10'
HORT. 1"=20'

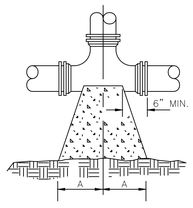
SHEET:
P–1



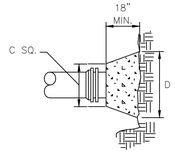
BACKFILLING



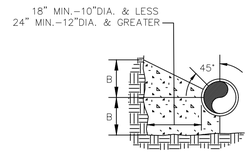
PLAN (HORIZONTAL BENDS)



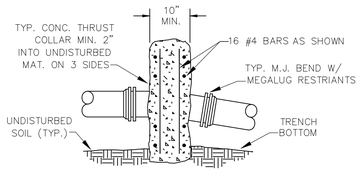
PLAN (TEES)



PLAN (PLUGS & CAPS)



SECTION (HORIZONTAL BENDS & TEES)



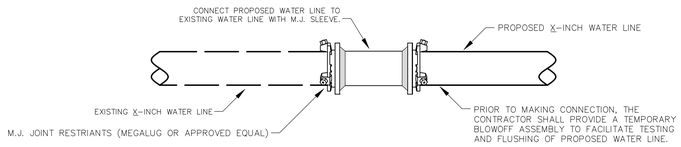
SECTION (VERTICAL BENDS)

DIMENSION CHART												
PIPE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
SIZE	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

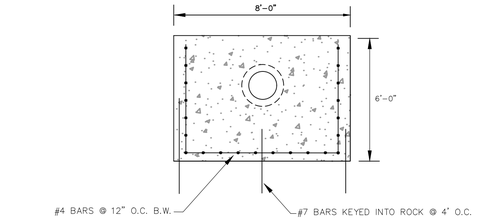
NOTES:

1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4" BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
3. GLANDS & BOLTS SHALL REMAIN ACCESSIBLE AND MUST BE PROTECTED FROM CONCRETE BY PLASTIC SHEETING OR OTHERWISE.
4. ALL THRUST BLOCK & SUPPORT CONCRETE SHALL BE 3000 PSI READY MIX
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.
6. DESIGN CRITERIA:
   LINE PRESSURE = 200 psi
   SOIL BEARING CAPACITY = 2000 psf
   FACTOR OF SAFETY = 1.5

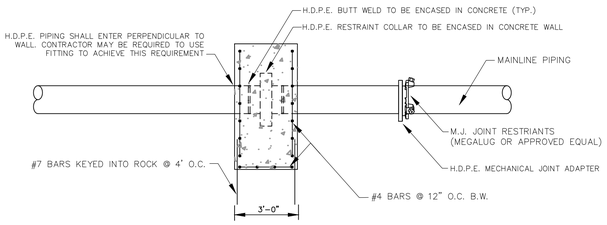
THRUST BLOCK DETAILS



DIRECT CONNECTION

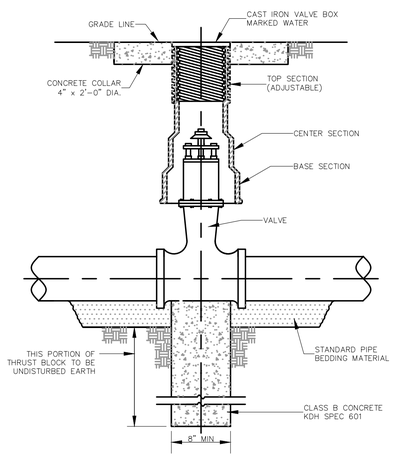


SECTION



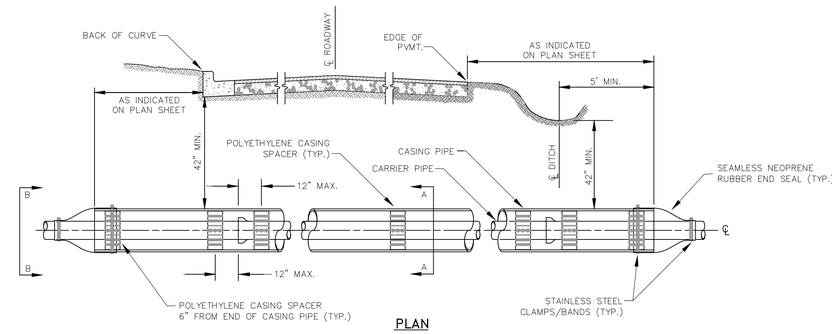
SECTION

HDPE RESTRAINT WALL



NOTE: SEE SPECIFICATION FOR PIPING MATERIALS AND PIPING JOINTS

GATE VALVE



PLAN

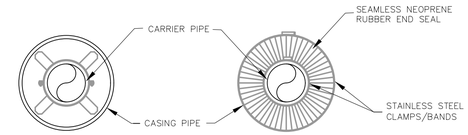
NOTES:

A MINIMUM OF THREE CASING SPACERS ARE REQUIRED PER JOINT; ONE EACH AT THE SPIGOT, MIDDLE & BELL.

ALL D.I. PIPE JOINTS WITHIN THE CASING PIPE SHALL BE EQUIPPED WITH A MECHANICAL JOINT RESTRAINT DEVICE.

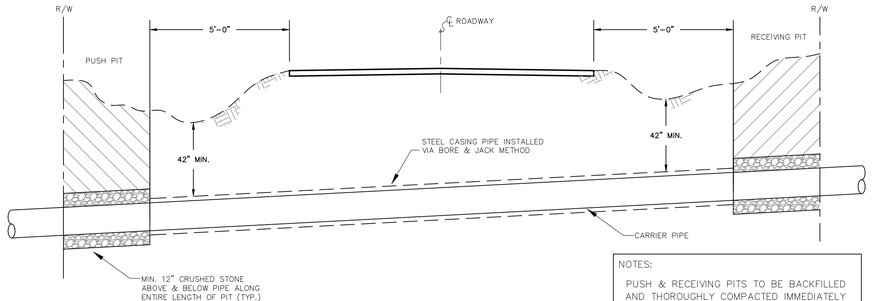
CASING SPACERS SHALL BE AS MANUFACTURED BY CCI PIPELINE SYSTEMS, MODEL CSP, OR APPROVED EQUAL.

END SEALS SHALL BE AS MANUFACTURED BY CCI PIPELINE SYSTEMS, MODEL ESC, OR APPROVED EQUAL.



SECTION A-A SECTION B-B

ENCASEMENT PIPE DETAILS



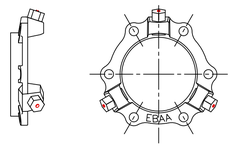
NOTES:

PUSH & RECEIVING PITS TO BE BACKFILLED AND THOROUGHLY COMPACTED IMMEDIATELY FOLLOWING INSTALLATION.

ALL HIGHWAY DITCHLINES TO REMAIN FREE AND CLEAR FOLLOWING INSTALLATION.

GROUND COVER SHALL BE RESTORED IN ALL DISTURBED AREAS VIA SEED AND STRAW AS SOON AS POSSIBLE.

STATE HIGHWAY ENCASED BORE CROSSING



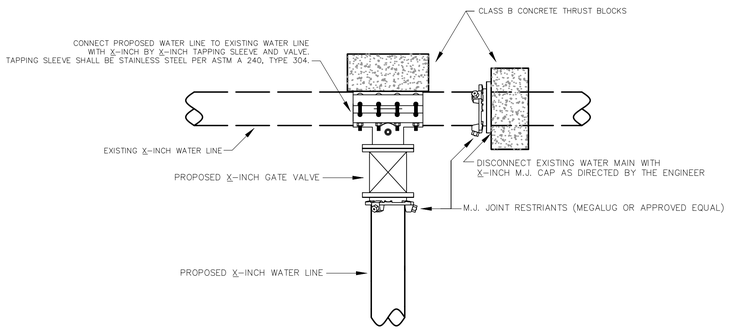
SIDE VIEW FRONT VIEW

NOTE:
WATER WORKING PRESSURE 250 PSI MIN.

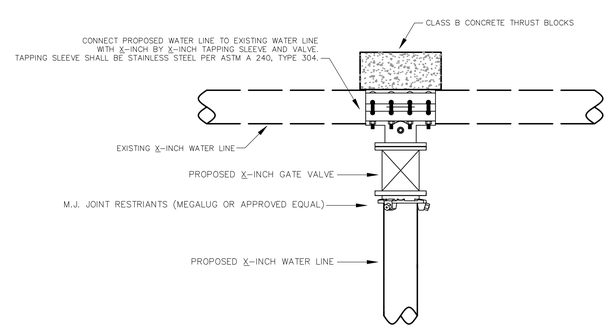
SIZES 3" - 48"

PRODUCT OF EBAA IRON, INC. OR APPROVED EQUAL.

MEGA LUG JOINT RESTRAINT



TYPE I CONNECTION



TYPE II CONNECTION

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

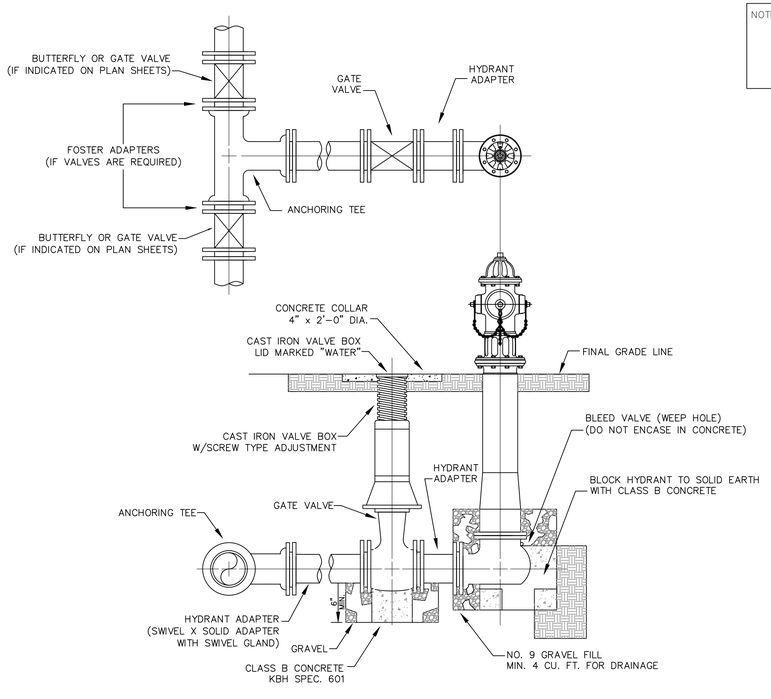
DESCRIPTION: STANDARD DETAIL DRAWINGS

CUSTOMER: WESTERN PULASKI COUNTY WATER DISTRICT
PULASKI COUNTY, KENTUCKY

PROJECT NO.	2028
DATE:	MAY 2021
DRAWN BY:	JRC
CHECKED BY:	DSB
CHECKED BY:	JLM
SCALE:	N.T.S.

SHEET: SD-1

STATE OF KENTUCKY
DERON S. BYRNE
23127
LICENSED PROFESSIONAL ENGINEER

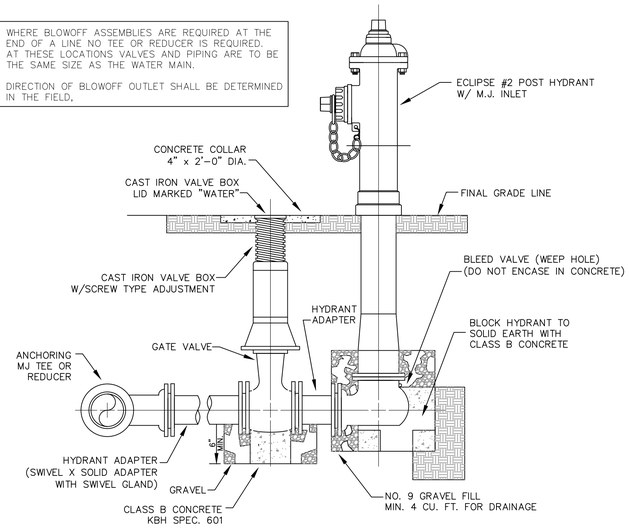


NOTE: SEE SPECIFICATIONS FOR MATERIALS

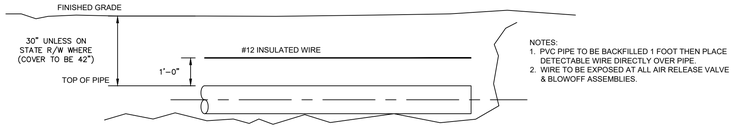
FLUSH HYDRANT ASSEMBLY

NOTE: WHERE BLOWOFF ASSEMBLIES ARE REQUIRED AT THE END OF A LINE NO TEE OR REDUCER IS REQUIRED. AT THESE LOCATIONS VALVES AND PIPING ARE TO BE THE SAME SIZE AS THE WATER MAIN.

DIRECTION OF BLOWOFF OUTLET SHALL BE DETERMINED IN THE FIELD.

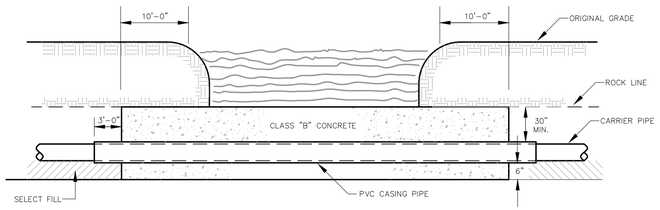


BLOWOFF ASSEMBLY

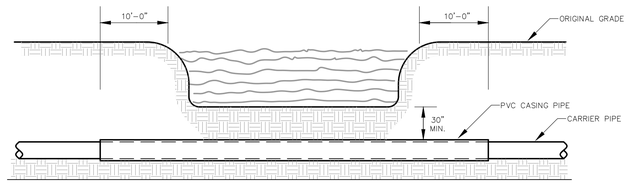


NOTES:
1. PVC PIPE TO BE BACKFILLED 1 FOOT THEN PLACE DETECTABLE WIRE DIRECTLY OVER PIPE.
2. WIRE TO BE EXPOSED AT ALL AIR RELEASE VALVE & BLOWOFF ASSEMBLIES.

DETECTABLE WIRE INSTALLATION

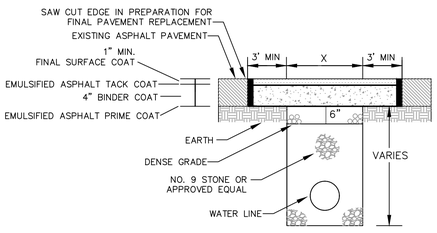


CREEK CROSSING IN ROCK

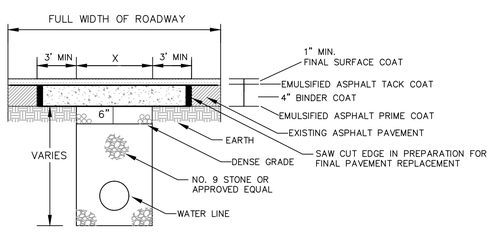


CREEK CROSSING IN SOIL

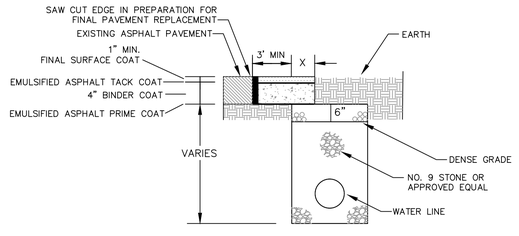
CREEK CROSSING



PAVEMENT REPLACEMENT



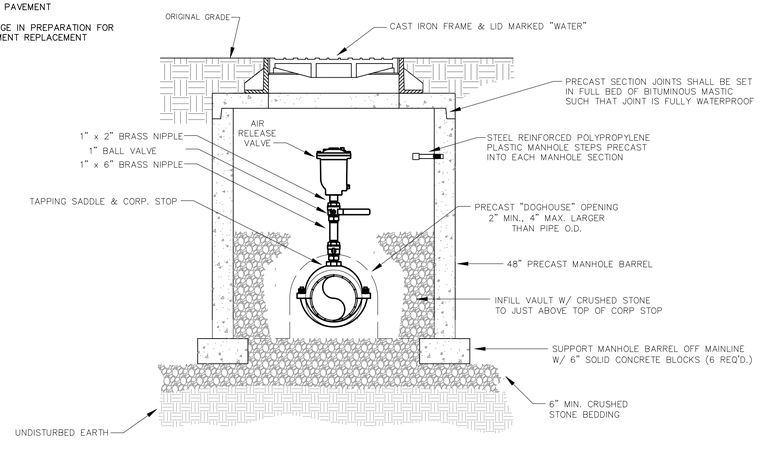
FULL WIDTH PAVEMENT REPLACEMENT



PARTIAL PAVEMENT REPLACEMENT

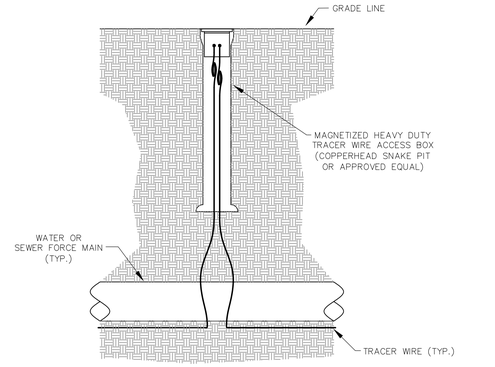
NOTES:
ANY TRENCH THAT DISTURBS PAVEMENT SHALL BE BACKFILLED WITH STONE
REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND DEPTH AS EXISTING PAVEMENT
ANY PUBLICLY TRAVELED AREA (I.E. COUNTY ROADS, BUSINESS ENTRANCES, BUSINESS AND PUBLIC PARKING LOTS, ETC.) SHALL BE TEMPORARILY RESTORED AT THE END OF EACH WORK DAY USING AN APPROVED COLD PATCH ASPHALT PAVEMENT

BITUMINOUS PAVEMENT REPLACEMENT

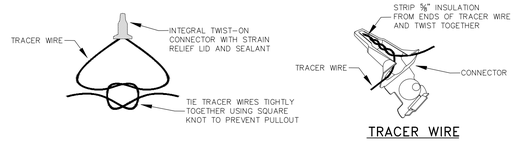


NOTE:
WHERE THE WATER LINE IS LOCATED IN A STREET OR ROAD, THE AIR RELEASE VALVE AND BOX ARE TO BE LOCATED OFF THE ROAD AS DIRECTED BY THE ENGINEER AND CONNECTED TO THE MAINLINE BY 1" P.E. SERVICE LINE. THE SERVICE LINE WILL BE A SEPARATE PAY ITEM.

AIR RELEASE VALVE



TRACER WIRE ACCESS BOX



TRACER WIRE CONNECTION

TRACER WIRE CONNECTOR DETAIL

NOTES:
FOR OPEN CUT INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER WITH 30 MIL BLUE HMWPE INSULATION. FOR TRENCHLESS INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER CLAD STEEL CORE WITH 45 MIL BLUE HDPE INSULATION.

TRACER WIRE SHALL BE INSTALLED WITH THE PIPE AT THE TRENCH BOTTOM. ACCESS BOXES SHALL BE INSTALLED AT EACH VALVE, HYDRANT AND AIR RELEASE VALVE. TRACER WIRE ACCESS BOXES SHALL BE SPACED NO FURTHER THAN 1000' APART. A MINIMUM OF 3 FEET OF TRACER WIRE SHOULD BE COILED UP INSIDE OF EACH ACCESS BOX.

TRACER WIRE DETAILS

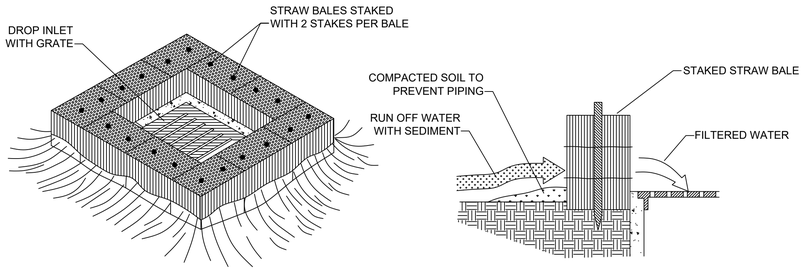
Monarch Engineering, Inc.
556 CARLTON DRIVE
LAWRENCEBURG, KY 40342

DESCRIPTION: STANDARD DETAIL DRAWINGS

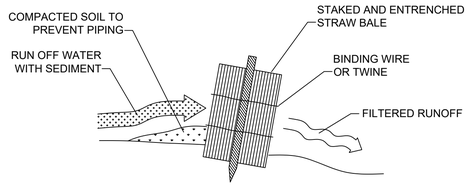
CUSTOMER: WESTERN PULASKI COUNTY WATER DISTRICT
PULASKI COUNTY, KENTUCKY

PROJECT NO. 2028
DATE: MAY 2021
DRAWN BY: JRC
CHECKED BY: DSB
CHECKED BY: JLM
SCALE: N.T.S.

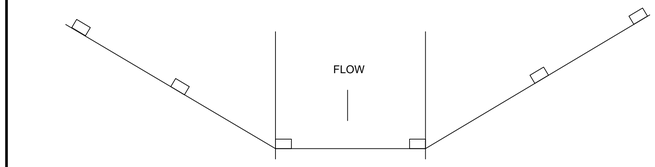
SHEET: SD-2



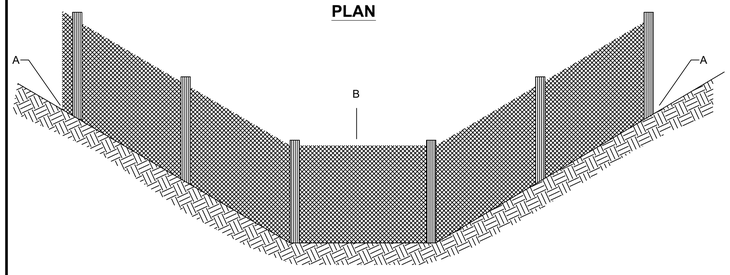
STRAW BALE DROP INLET SEDIMENT FILTER
N.T.S.



STRAW BALE INSTALLATION PROCEDURES
N.T.S.



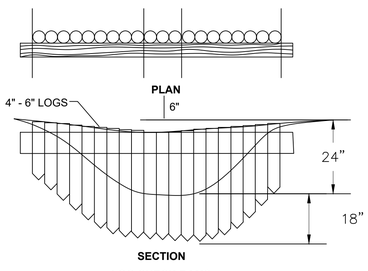
PLAN



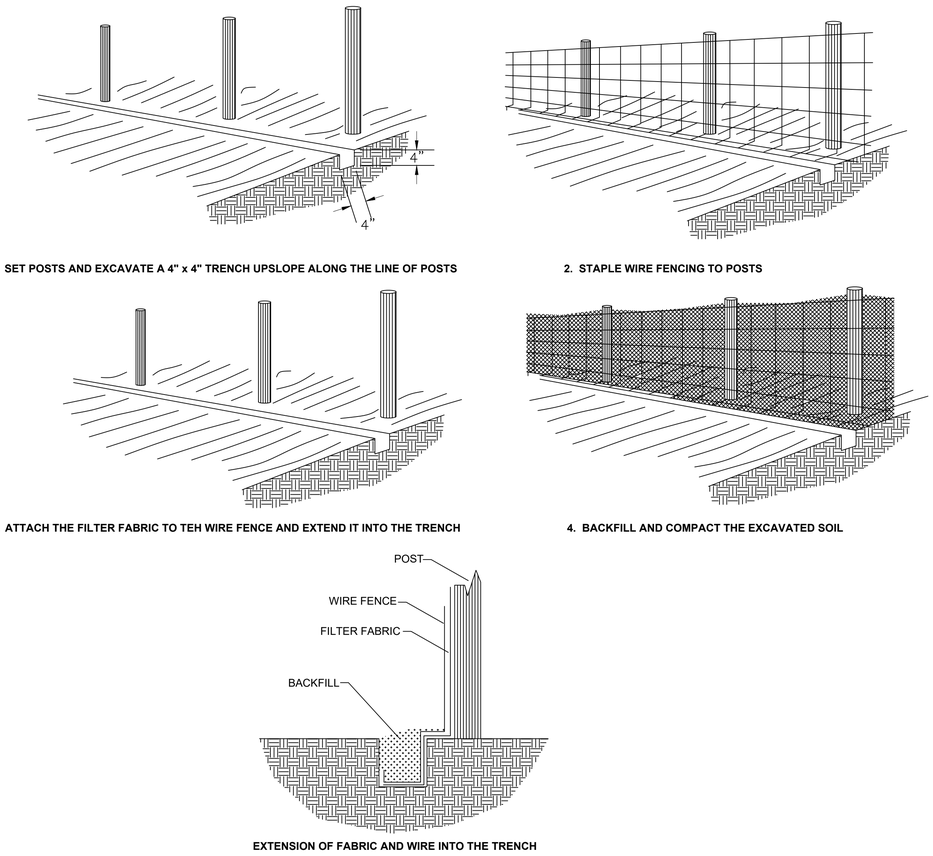
ELEVATION

POINT A SHOULD BE HIGHER THAN POINT B

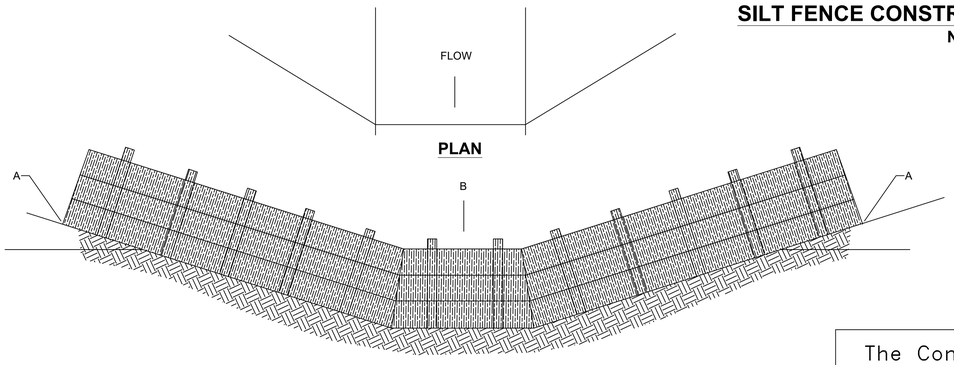
PLACEMENT OF FILTER BARRIER
N.T.S.



CHECK DAM DETAILS
N.T.S.



SILT FENCE CONSTRUCTION PROCEDURES
N.T.S.



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.

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

DESCRIPTION: EROSION CONTROL DETAILS

CUSTOMER: WESTERN PULASKI COUNTY WATER DISTRICT
PULASKI COUNTY, KENTUCKY

PROJECT NO.	2028
DATE:	MAY 2021
DRAWN BY:	JRC
CHECKED BY:	DSB
CHECKED BY:	DMB
SCALE:	AS NOTED

SHEET: EC-1