WATER SYSTEM IMPROVEMENTS

CONTRACT 1 - WATER MAIN IMPROVEMENTS
FOR THE

CHAIRMAN

ARTIE GIBSON

WATER SUPERVISOR

CHAD LINKOUS

BOARD MEMBERS

BRENDA MURPHY
RUSTY DUNN
BEVERLY CARPENTER
BILLY BARNETT

LEVEE ROAD WATER ASSOCIATION
MONTGOMERY COUNTY, KENTUCKY

AUGUST 2020

BID DOCUMENTS

PROJECT NO. 19002

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

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GENERAL NOTES

- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND THE ENGINEER TWO WORKING DAYS (MINIMUM) BEFORE BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH CITY, COUNTY AND STATE REQUIREMENTS.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION.
- EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED. THEREFORE, DUCTILE IRON PIPE, FITTINGS, GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF LINES WITH CATHODIC PROTECTION SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT. MATERIALS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AWWA'S LATEST REVISION.
- ALL CONSTRUCTION AND INSTALLATION OF MATERIALS BEING USED SHALL BE IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SUBSTITUTIONS AND DEVIATION SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
- SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES HAVE BEEN SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH A REPRESENTATIVE WHEN WORKING NEAR EXISTING UTILITIES.
- THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND ALL OTHER UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS OF UTILITIES AND OTHER IMPROVEMENTS DAMAGED DURING CONSTRUCTION.
- UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INCLUDED BUT NOT LIMITED TO ARE: TEES, BENDS, PLUGS, REDUCERS, CROSSES, COUPLINGS, ETC. CONTRACTORS SHALL INCLUDE THE COST OF THESE ITEMS IN THE BID PRICE FOR THE PIPE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY REMOVAL/RELOCATION OF TRAILERS, BUILDINGS, FENCES, TREES, SHRUBS, ETC. AND REPLACEMENT OF SAID ITEMS AFTER CONSTRUCTION ACTIVITIES.
- CONTRACTOR IS TO COORDINATE WITH THE PROPERTY OWNERS AS TO WHETHER OR NOT TEMPORARY FENCING IS REQUIRED AND CONSTRUCT IF NECESSARY.
- ALL PIPING SHALL HAVE 36" MINIMUM COVER.
- WHERE UNSTABLE MATERIAL IS ENCOUNTERED OR WHERE THE DEPTH OF EXCAVATION IN EARTH EXCEEDS FIVE (5) FEET, THE SIDES OF THE TRENCH OR EXCAVATION SHALL BE SUPPORTED BY SUBSTANTIAL SHEETING, BRACING, SHORING OR THE TRENCH SIDES SLOPED. SLOPING THE SIDES OF THE DITCH WILL NOT NOT BE PERMITTED IN STREETS, ROADS, NARROW RIGHTS-OF-WAY OR OTHER CONSTRICTED AREAS UNLESS OTHER WISE SPECIFIED. THE STANDARDS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND THE KENTUCKY LABOR CABINET SHALL BE FOLLOWED.
- ALL EXCAVATION IS UNCLASSIFIED. COMPENSATION FOR ALL EXCAVATION SHALL BE INCLUDED IN LUMP SUM BID.
- REGRADE OF SITE SHALL BE SUCH THAT DRAINAGE IS AWAY FROM ALL STRUCTURES.
- BACKFILL AROUND ALL STRUCTURES SHALL BE SUFFICIENTLY COMPACTED TO PRECLUDE SETTLEMENT AND PONDING OF WATER AROUND STRUCTURES AND GRADED TO DIVERT RUNOFF AWAY FROM THE STRUCTURES.
- DIMENSIONS, DETAILS AND REINFORCEMENT MAY VARY WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN AND MAINTAIN ON SITE, APPROVED SHOP DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- ALL VALVES & HYDRANTS SHALL BE LOCATED AT THE BACKSIDE OF THE DITCHLINE.
- FINAL LOCATION OF SERVICES, VALVES, & HYDRANT ORIENTATION ARE TO BE FIELD LOCATED DURING CONSTRUCTION & APPROVED BY THE ENGINEER.
- AT THE CONTRACTORS OPTION, CLASS 350 DUCTILE IRON PIPE MAY BE SUSTITUTED FOR ANY PIPE PARTICULARLY SPECIFIED, BUT AT NO ADDITIONAL COST TO THE OWNER.
- NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS BID PRICE.
- ROCK SOUNDINGS WERE NOT PERFORMED BY THE ENGINEER, THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO DETERMINE SUBSURFACE CONDITIONS.
- CONTRACTOR TO DIG/EXPOSE EXISTING WATER MAIN FAR ENOUGH AHEAD OF NEW WATER MAIN CONSTRUCTION TO AVOID DAMAGE TO EXISTING WATER MAIN AND/OR INTERRUPTION OF EXISTING CUSTOMER SERVICES.
- ALL NEW SERVICE LINE FROM THE NEW MAIN TO THE SETTERS SHALL BE CLASS 250 3/4" PE CTS TUBING UNLESS SHOWN DIFFERENTLY ON THE PLANS
- THE MAXIMUM ALLOWABLE LENGTH OF SERVICE LINE FROM THE WATER MAIN TO THE CUSTOMER'S METER SERVICE SHALL BE AS FOLLOWS:

SERVICE LINE DIAMETER	MAXIMUM LENGTH
3/4 INCH	100 FEET
1 INCH	150 FEET
1-1/2 INCH	200 FEET
2 INCH	250 FEET

- CONNECTIONS TO EXISTING DISTRIBUTION SYSTEM SHALL BE MADE AS FOLLOWS:
  - A. CONNECT TO EXISTING (SIZE) W.M. (WET TAP) - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS, VALVES AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN UNDER PRESSURE.
  - B. CONNECT TO EXISTING (SIZE) W.M. - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN. VALVES ARE A SEPARATE PAY ITEM.
- NO BLASTING WILL BE PERMITTED ON THIS PROJECT
- GRIP RINGS SHALL BE INSTALLED ON ALL FITTINGS
- ALL NEW METERS SHALL BE 5/8" X 3/4"
- CONTRACTOR SHALL FREEBORE ALL BITUMINOUS AND/OR CONCRETE DRIVEWAYS AND INCLUDE IN THE BID PRICE FOR THE PIPE.

GENERAL NOTES (CONTINUED)

- NEW LINE AND EXISTING LINES MUST REMAIN IN SERVICE UNTIL ALL METERS ASSEMBLED HAVE BEEN REPLACED AND RECONNECTED TO THE NEW LINE
- NO METERS CAN BE RECONNECTED TO THE NEW WATER MAIN UNTIL TESTING, STERILIZATION AND SAMPLING HAS BEEN SUCCESSFULLY COMPLETED
- COPIES OF ALL BACTIE RESULTS MUST BE PROVIDED TO THE ENGINEER PRIOR TO RECONNECTS OF ANY METER.
- A NO. 12 AWG INSULATED COPPER LOCATOR WIRE SHALL BE PLACED IN THE TRENCH SIX INCHES ABOVE ALL PLASTIC LINES. THE INSULATION SHALL BE BLUE FOR WATER. THE WIRE SHALL BE LOOPED INTO ALL VALVE BOXES W/ ENOUGH SLACK TO ALLOW ACCESS TO THE LOOPS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PLUMBING PERMITS NECESSARY TO RELOCATE OR RECONNECT ANY CUSTOMERS METER SERVICE OR SERVICE LINE. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES AND EMPLOY THE NECESSARY LICENSED PLUMBER.

FINAL CLEANUP AND RESTORATION

UNLESS SPECIFICALLY APPROVED BY THE OWNER AND ENGINEER, CLEANUP OF DISTURBED AREAS SHALL BE KEPT CURRENT WITH CONSTRUCTION AND RESTORATION EFFORTS BY THE CONTRACTOR INITIATED NO LONGER THAN SEVEN (7) DAYS AFTER THE TRENCH EXCAVATION WORK HAS STARTED. ALL EXCAVATED MATERIAL NOT REQUIRED FOR BACKFILLING OF THE TRENCH AND ANY LARGE ROCKS, STONES OR DEBRIS SHALL BE REMOVED FROM THE SITE, AND SHALL NOT BE A BURDEN TO THE PROPERTY OWNER(S) AND/OR ADJACENT PROPERTIES. THE CONTRACTOR MAY WINDROW OR TRACK-IN THE EXCAVATED MATERIAL OVER THE TRENCH PRIOR TO FINAL CLEANUP TO ALLOW FOR AND TO ASSIST IN THE INITIAL SETTLEMENT OF THE TRENCH. ALL DISTURBED AREAS MUST BE SEEDED AT LEAST WITH A TEMPORARY SEED MIX IF FOR SOME REASON THE AREA CANNOT BE PERMANENTLY SEEDED WITHIN TWO (2) WEEKS.

DEPARTMENT OF HIGHWAYS - GENERAL NOTES

- ALL EFFECTED KYTC DITCHLINES SHALL REMAIN FREE OF EXCESS SILT OR EROSION AND CONSTRUCTED TO THE NORMAL TYPICAL SECTION OF THE ROADWAY WITH A MINIMUM DEPTH OF 18 INCHES FROM THE SHOULDER BREAK POINT.
- ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT-OF-WAY, ADJOINING PROPERTY AND WATERWAYS.
- ALL VALVES TO BE FLUSH W/ EXISTING GRADE.
- ALL WATER LINE LOCATED WITHIN STATE HIGHWAY R.O.W. SHALL BE CONSTRUCTED OUT AND AROUND THE END OF ALL EXISTING CULVERTS AND HEADWALLS.
- UNDERGROUND UTILITIES INSTALLED INSIDE STATE RIGHT-OF-WAY SHALL BE LOCATED WITHIN 3-5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY UNLESS OTHERWISE SHOWN ON THE PLANS.
- UNDERGROUND UTILITIES SHOWN MORE THAN 5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY SHALL BE INSTALLED WITH A MINIMUM DEPTH OF COVER OF 42 INCHES WITH PRIOR APPROVAL ON A CASE BY CASE BASIS.
- UNDERGROUND UTILITIES CROSSING ANY ENTRANCE OR CROSSROAD PAVED WITH CONCRETE OR ASPHALT SURFACE INSIDE STATE RIGHT-OF-WAY SHALL BE INSTALLED BY BORING UNLESS WRITTEN PERMITTION TO OPEN CUT IS OBTAINED FROM THE PROPERTY OWNER AND APPROVED BY THE KYTC DISTRICT PERMITS ENGINEER.
- UNDERGROUND UTILITIES SHALL NOT BE INSTALLED IN EMBANKMENT FILLS OR BETWEEN EDGE OF PAVEMENT AND DITCHLINE UNLESS SPECIFICALLY NOTED ON PERMITTED PLANS.
- FIRE HYDRANTS OR UTILITY SERVICE BOXES SHALL BE LOCATED WITHIN 2 FEET FROM THE EDGE OF RIGHT-OF-WAY LINE, OR OFF RIGHT-OF-WAY.

SHEET LOCATION MAP

LEGEND

EXISTING	PROPOSED	DESCRIPTION
PVC	PVC	POLYVINYL CHLORIDE
DIP	DIP	DUCTILE IRON PIPE
WM	WM	WATER MAIN
		HYDRANT ASSEMBLY
		FLUSHING/BLOWOFF ASSEMBLY
		AIR RELEASE VALVE (ARV)
		GATE VALVE (GV)
		WATER MAIN (WM)
		SPECIAL CROSSING OR CASING PIPE
	(TO BE ABANDONED)	WATER MAIN TO BE ABANDONED
		RIGHT-OF-WAY LINE
		CENTERLINE
		PROPERTY LINE
OWNER	OWNER	EASEMENT ACQUIRED
		AUTOFLUSH HYDRANT
		FLUSHING HYDRANT
		VALVE INSERTION

INDEX OF DRAWINGS

UTILITIES

BUD - Before You Dig
1-800-752-6007
or DIAL 811

NOTE:

IN ACCORDANCE WITH KENTUCKY STATE LAW, ANY ACTIVITY THAT RESULTS IN MOVEMENT, PLACEMENT, BORING, PROBING OR DIGGING IN OR ON THE GROUND SHALL CONTACT THE ONE CALL CENTER FOR UNDERGROUND UTILITY LOCATIONS.

WATER ASSOCIATION

LEVEE ROAD WATER ASSOCIATION

PHONE: (859) 498-6980

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NO.	DATE	REVISIONS	BY

DATE:	AUGUST 2020
PROJECT MGR:	TLH
DRAWN BY:	MAU
CHECKED BY:	RCC
SCALE:	AS NOTED

KENTUCKY ENGINEERING GROUP, PLLC
P.O. Box 1034
VERSAILLES, KENTUCKY 40383

LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

SHEET LOCATION MAP, LEGEND, UTILITIES and INDEX OF DRAWINGS

STATE OF KENTUCKY MARK A. UPTON 21... LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 19002

SHEET NO. G-01

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KENTUCKY ENGINEERING GROUP, PLLC

LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

WATER MAIN IMPROVEMENTS
VARIOUS LOCATIONS
AREAS 1-6

COMMONWEALTH OF KENTUCKY
MARK K. UPTON
21214
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
C-01

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KENTUCKY ENGINEERING GROUP, PLLC

LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

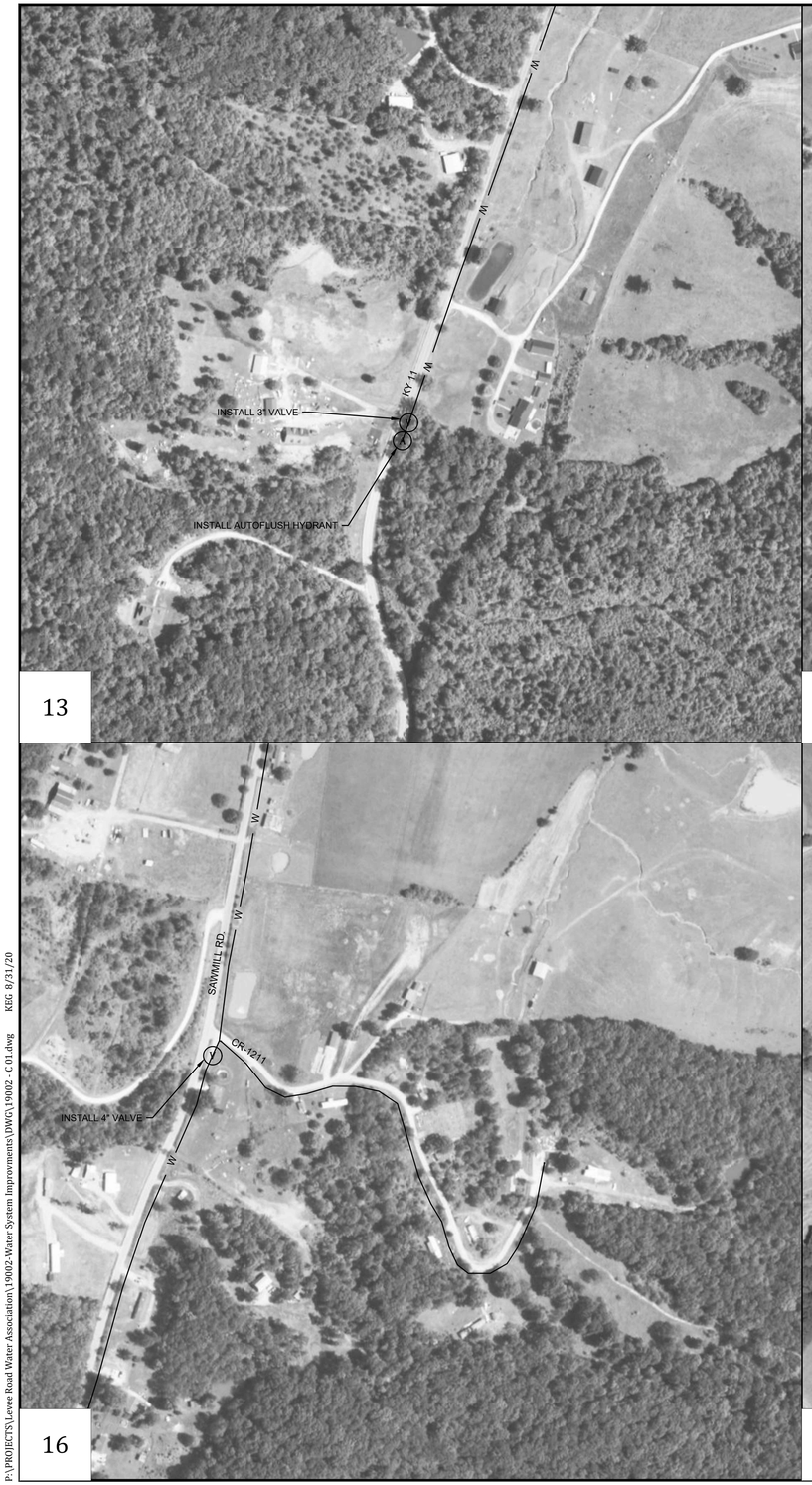
WATER MAIN IMPROVEMENTS
VARIOUS LOCATIONS
AREAS 7-12

STATE OF KENTUCKY
MARK A. UPTON
9/2/20
LICENSED
PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
C-02

BID DOCUMENTS



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GENERAL NOTES:
1. CONTRACTOR SHALL MAKE TWO 4" DRY CONNECTIONS AT THE END OF EACH DISTRIBUTION SYSTEM. THE COST OF THESE CONNECTIONS SHALL BE INCLUDED IN THE MASTER METER VAULT PRICE.
2. NEW WATER MAIN AND MASTER METER VALVE VAULT SHALL BE INSTALLED AT THE BACK OF THE RIGHT OF WAY BEHIND THE DITCHLINE.

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LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

WATER MAIN IMPROVEMENTS
VARIOUS LOCATIONS
AREAS 13-18

COMMONWEALTH OF KENTUCKY
MARK A. UPTON
21411
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
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LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

WATER MAIN IMPROVEMENTS
VARIOUS LOCATIONS
AREAS 19-22

STATE OF KENTUCKY
MARK A. UPTON
21214
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
C-04

BID DOCUMENTS

GENERAL NOTES:

1. ALL WATER MAIN THIS SHEET SHALL BE PVC CLASS 250 SDR 17.
2. RECONNECT ALL EXISTING METERS TO THE NEW WATER MAIN WITH NEW SERVICE TUBING FROM THE NEW MAIN TO THE EXISTING METER.
3. ALL WATER MAIN THIS SHEET SHALL BE INSTALLED APPROXIMATELY 5 FEET FROM EXISTING WATER MAIN UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL SPOT EXISTING WATERMAIN AHEAD OF CONTRUCTION IN ORDER TO AVOID CONFLICTS
5. CONTRACTOR SHALL AVOID DISTURBANCE TO HEADWALLS / CROSS DRAINS ALONG KY HIGHWAY RIGHT OF WAY.
6. ALL WATER MAIN ON THIS SHEET SHALL HAVE CLASS 1 MATERIAL BEDDING AND INITIAL BACKFILL REGARDLESS OF TRENCH MATERIAL.

WET TAP EXISTING WATER MAIN WITH 6X6 TAPPING SLEEVE AND VALVE AND 6X8 REDUCER

CUT AND CAP EXISTING 6" WATER MAIN.

DIRECTIONAL DRILL UNDER CREEK APPROXIMATELY 50 LF 8" HDPE (BORE 1 ON THE BID FORM)

EX. 6" PVC (TO BE ABANDONED)

6" PVC W.M.

KY 11

MATCHLINE - STA. 35+50
SEE SHEET 6

DOUBLE METER

11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+

100 0 100 200
SCALE: 1"=100'

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KENTUCKY ENGINEERING GROUP, PLLC

LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

LEVEE ROAD WATER MAIN REPLACEMENT

STATE OF KENTUCKY
MARK K. UPTON
21214
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
C-05

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2. RECONNECT ALL EXISTING METERS TO THE NEW WATER MAIN WITH NEW SERVICE TUBING FROM THE NEW MAIN TO THE EXISTING METER.
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KENTUCKY ENGINEERING GROUP, PLLC

LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

LEVEE ROAD WATER MAIN REPLACEMENT

STATE OF KENTUCKY
MARK A. UPTON
19214
LICENSED
PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
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LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

CREEK CROSSING REPLACEMENTS VARIOUS LOCATIONS AREAS 24-29

STATE OF KENTUCKY
MARK A. UPTON
24214
LICENSED
PROFESSIONAL ENGINEER

PROJECT NO.
19002

SHEET NO.
C-07

BID DOCUMENTS

A1

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A3

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A6

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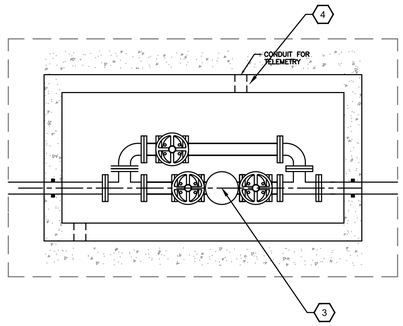
LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

FLUSHING HYDRANTS
VARIOUS LOCATIONS
AREAS A1-A6

COMMONWEALTH OF KENTUCKY
MARK A. UPTON
LICENSED
PROFESSIONAL ENGINEER

PROJECT NO.
19002

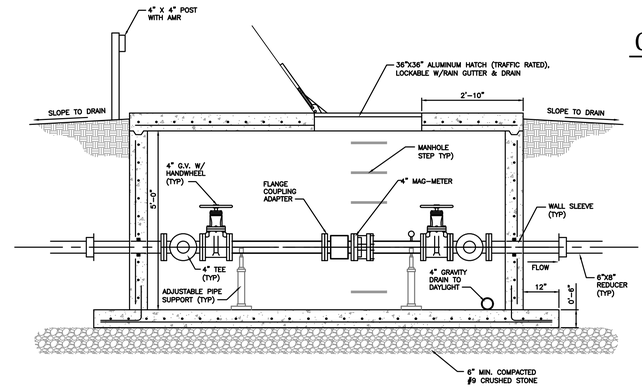
SHEET NO.
C-08



PLAN - CREAM ALLEY VALVE PIT SCALE: 1/2" = 1'-0"

REFERENCE NOTES:

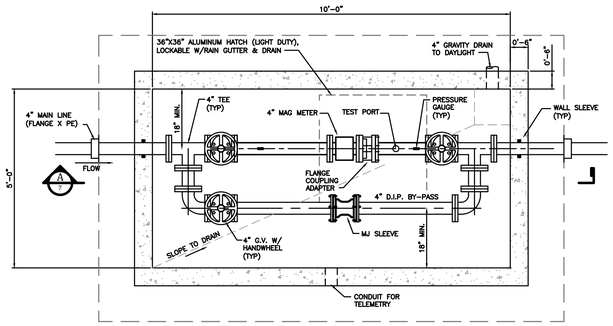
1. REPLACE EXISTING 2" PRV
2. REPLACE EXISTING 3" GATE VALVE
3. REPLACE EXISTING ELECTRIC CONTROL VALVE
4. RUN NEW COMMUNICATION CABLE TO NEW RTU



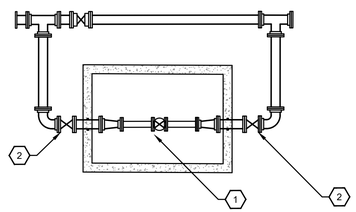
SECTION A SCALE: 1/2"=1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL SET VAULT IN PLACE AND CONNECT TO NEW WATER MAIN.
2. ACCESS HATCHES SHALL BE LIGHT DUTY ALUMINUM HINGED LID WITH LOCK.
3. VALVE VAULT SHALL BE A PRECAST CONCRETE VAULT.
   CONCRETE: 4500 PSI @ 28 DAYS
   REINFORCED W/#5 BAR @ 6" E.W.
   TOP OF VAULT TO BE EDGED, BRUSHED
   AND SEALED WITH CONCEAL. ALL
   HATCHES 1" ABOVE CONCRETE.
4. ADJUSTABLE PIPE SUPPORT STANCHIONS SHALL BE INSTALLED AT EACH FLANGE AND VALVE. SUPPORTS WILL ALSO BE INSTALLED IN OTHER LOCATIONS AS NECESSARY.
5. METER MUST BE SET IN A HORIZONTAL POSITION AND HAVE AT LEAST 10 DIAMETERS OF STRAIGHT PIPE AT INLET END.
6. STEPS SHALL BE VINYL COATED AND COMPLY WITH STD. NO. 1910.27 AND SHALL BE LOCATED TO PERMIT EASY ACCESS FROM VAULT HATCH.
7. 4" DRAIN PIPE TO DITCH LINE IF POSSIBLE. BED DRAIN IN +/- 1 C.Y. OF #57 STONE IF NO STORM DRAIN AVAILABLE. OMIT DRAIN IF WATER TABLE IS ABOVE FLOOR LEVEL.
8. METER MUST BE A "COMPOUND METER" OR APPROVED EQUAL BY THE ENGINEER.
9. COMPOUND METER SHALL HAVE AUTOMATED METERREADING CAPABILITIES.



PLAN - MASTER METER VALVE VAULT SCALE: 1/2" = 1'-0"



PLAN - KIDDVILLE PRV STATION SCALE: 1/2" = 1'-0"

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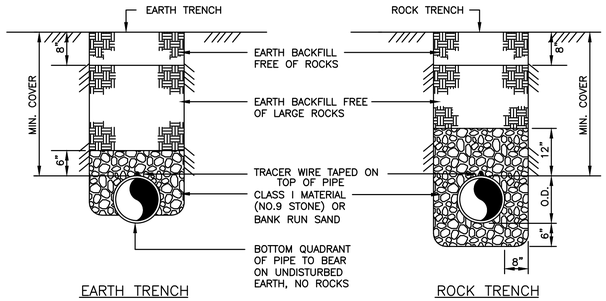
LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

KIDDVILLE PRV, CREAM ALLEY ROAD VAULT, AND MASTER METER VAULT

STATE OF KENTUCKY — MARK A. UPTON — 21214 — LICENSED PROFESSIONAL ENGINEER — 8/31/20

PROJECT NO. 19002

SHEET NO. C-09



EARTH TRENCH ROCK TRENCH

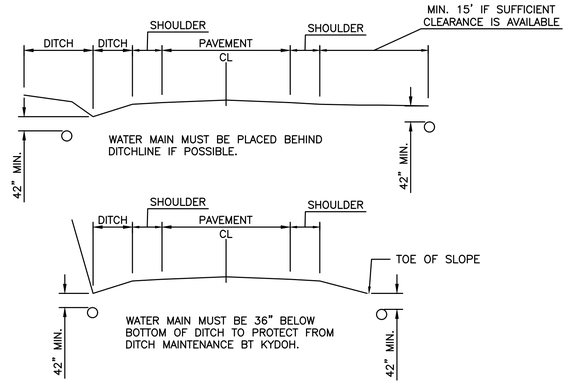
TYPICAL - BEDDING AND BACKFILL

NOT TO SCALE

NOTES:

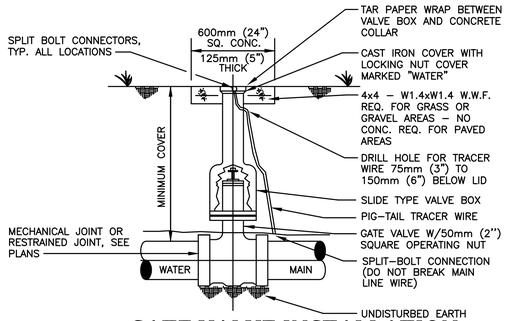
1. REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND THICKNESS (2" MIN.) AS EXISTING PAVEMENT.
2. IF ROCK IS ENCOUNTERED, A MINIMUM OF 6" NO. 9 CRUSHED STONE MUST BE PLACED UNDER THE ENCASEMENT PIPE.
3. X = MAX. WIDTH OF TRENCH AT SURFACE UNDER NORMAL CONDITIONS (36" + PIPE O.D.)
4. FROM POINTS "A" TO NEAREST JOINT OR BREAK IN PAVEMENT MUST BE AT LEAST 6' OR MORE. IF LESS THAN 6' REMOVE PAVEMENT TO JOINT OR BREAK AND REPLACE ENTIRE SLAB.
5. NO. 610 CRUSHED STONE MAY BE SUBSTITUTED FOR MECHANICALLY TAMPED EARTH BACKFILL WITH PRIOR APPROVAL OF THE ENGINEER.
6. 1' SAW CUT OUTSIDE OF TRENCH LINES, BITUMINOUS PATCH PLACED IN 2" LIFTS WITH TACK COAT ON EACH SIDE, EACH LIFT COMPACTED WITH SMALL ROLLER.

NOTE:
ALL WATER LINES CONSTRUCTED WITHIN 3' OF A COUNTY ROAD SHALL BE BACKFILLED WITH DGA TO FULL DEPTH.



TYPICAL CONSTRUCTION ON KYDOH RIGHTS OF WAYS

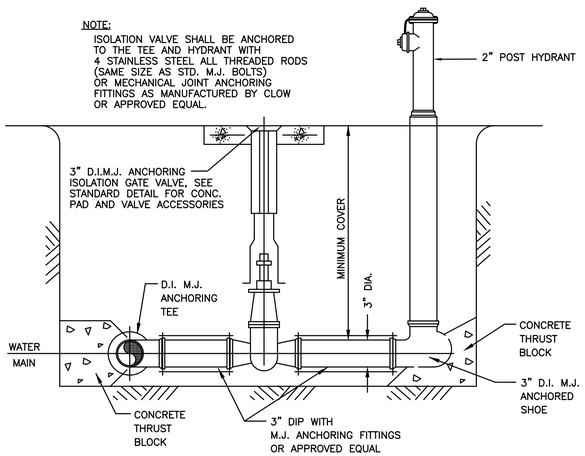
NOT TO SCALE



GATE VALVE INSTALLATION

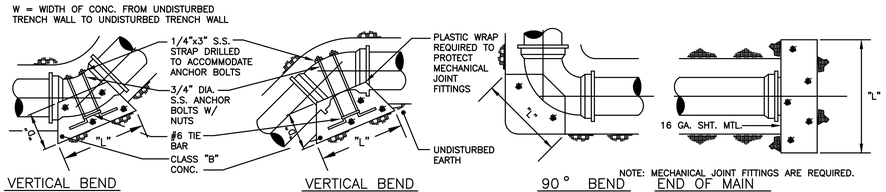
NOT TO SCALE

NOTE:
ISOLATION VALVE SHALL BE ANCHORED TO THE TEE AND HYDRANT WITH 4 STAINLESS STEEL ALL THREADED RODS (SAME SIZE AS STD. M.J. BOLTS) OR MECHANICAL JOINT ANCHORING FITTINGS AS MANUFACTURED BY CLOW OR APPROVED EQUAL.



BLOWOFF ASSEMBLY

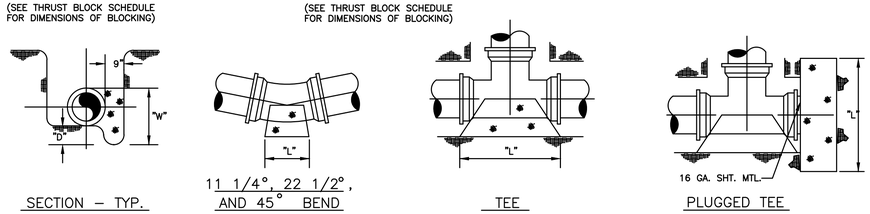
NOT TO SCALE



VERTICAL BEND (SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)

VERTICAL BEND (SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)

90 ° BEND END OF MAIN



SECTION – TYP.

11 1/4°, 22 1/2°, AND 45° BEND

TEE

PLUGGED TEE

* ALL FITTINGS SHALL INCLUDE GRIP RINGS

THRUST BLOCK SCHEDULE – CLASS 200 PVC

SOIL TYPE – SAND & GRAVEL
BEARING STRENGTH = 3000 PSF

PIPE SIZE	90° BEND					45° BEND					22 ½° BEND					11 ¼° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	1.78	0.07	12"	16"	16"	1.00	0.04	12"	12"	12"	0.50	0.02	12"	12"	6"	0.25	0.01	6"	6"	6"	1.50	0.06	12"	18"	12"
6"	4.00	0.15	12"	24"	24"	2.25	0.08	12"	18"	18"	1.33	0.05	12"	16"	12"	0.56	0.01	6"	8"	8"	3.00	0.11	12"	24"	18"
8"	7.50	0.42	18"	36"	30"	4.00	0.22	18"	24"	24"	2.00	0.11	18"	18"	16"	1.00	0.04	12"	12"	12"	5.00	0.28	18'	30"	24"
10"	11.67	0.65	18"	42"	40"	6.25	0.35	18"	30"	30"	3.33	0.19	18"	24"	20"	2.00	0.07	12"	18"	16"	8.75	0.49	18"	42"	30"
12"	16.00	0.89	18"	48"	48"	9.00	0.50	18"	36"	36"	5.00	0.28	18"	30"	24"	2.22	0.08	12"	20"	16"	14.00	0.78	18"	48"	42"
14"	22.50	1.67	24"	60"	54"	12.25	0.91	24"	42"	42"	6.25	0.46	24"	30"	30"	3.33	0.19	18"	24"	20"	17.50	1.30	24"	60"	42"
16"	30.00	2.22	24"	72"	60"	16.00	1.19	24"	48"	48"	9.00	0.67	24"	36"	36"	4.00	0.22	18"	24"	24"	20.00	1.48	24"	60"	48"

THRUST BLOCK SCHEDULE – CLASS 250 PVC

SOIL TYPE – SAND & GRAVEL
BEARING STRENGTH = 3000 PSF

PIPE SIZE	90° BEND					45° BEND					22 ½° BEND					11 ¼° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	2.667	.10	12	24	16	1.500	.06	12	18	12	.750	.03	12	12	9	.500	.01	6	12	6	1.667	.06	12	24	10
6"	5.000	.19	12	36	20	3.000	.11	12	24	18	1.500	.06	12	18	12	.750	.01	6	12	9	4.000	.15	12	24	24
8"	9.000	.50	18	36	36	5.000	.28	18	36	20	3.000	.17	18	24	18	1.500	.06	12	18	12	7.000	.39	18	42	24
10"	9.255	.78	18	48	42	7.500	.42	18	36	30	4.167	.23	18	30	20	2.250	.08	12	18	18	10.500	.58	18	42	36
12"	13.327	1.11	18	60	48	12.000	.67	18	48	36	6.000	.33	18	36	24	3.000	.11	12	24	18	14.000	.78	18	48	42
14"	18.139	2.00	24	72	54	15.750	1.17	24	54	42	7.500	.56	24	36	30	4.000	.22	18	24	24	20.000	1.48	24	60	48
16"	23.692	2.65	24	78	66	20.000	1.48	24	60	48	10.500	.78	24	42	36	5.000	.28	18	30	24	27.000	2.00	24	72	54

THRUST BLOCK SCHEDULE – CLASS 350 D.I.P.

SOIL TYPE – SAND & GRAVEL
BEARING STRENGTH = 3000 PSF

PIPE SIZE	90° BEND					45° BEND					22 ½° BEND					11 ¼° BEND					TEE & DEAD ENDS				
	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L	BEARING AREA	YDS OF CONCRETE	D	W	L
4"	3.750	.21	18	30	18	1.750	.10	18	18	14	1.000	.06	18	12	12	.500	.02	12	12	6	2.250	.13	18	18	18
6"	7.000	.39	18	42	24	3.750	.21	18	30	18	2.000	.11	18	24	12	1.000	.04	12	12	12	5.000	.28	18	30	24
8"	12.250	.91	24	42	42	7.500	.56	24	36	30	4.000	.30	24	24	24	2.000	.11	18	24	12	9.000	.67	24	36	36
10"	20.000	1.48	24	60	48	10.500	.78	24	42	36	6.000	.44	24	36	24	3.000	.17	18	24	18	14.000	1.04	24	48	42
12"	30.000	2.78	30	72	60	15.750	1.46	30	54	42	7.500	.69	30	36	30	4.000	.30	24	24	24	20.000	1.85	30	60	48
14"	39.000	4.33	36	78	72	20.000	2.22	36	60	48	10.500	1.17	36	42	36	6.000	.56	30	36	24	27.500	3.06	36	66	60
16"	49.000	6.35	42	84	84	27.500	3.56	42	66	60	14.000	1.81	42	48	42	7.500	.83	36	36	30	37.750	4.63	42	78	66

WATER MAIN THRUST BLOCKS

(SEE THRUST BLOCK SCHEDULE FOR DIMENSIONS OF BLOCKING)

NOT TO SCALE

BID DOCUMENTS

P:\PROJECTS\Levee Road Water Association\19002-Water System Improvments\DWG\19002-SD-01.dwg KEG 8/31/20

NO.	DATE	REVISIONS	BY

DATE:	AUGUST 2020
PROJECT MGR:	TLH
DRAWN BY:	MAU
CHECKED BY:	RCC
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

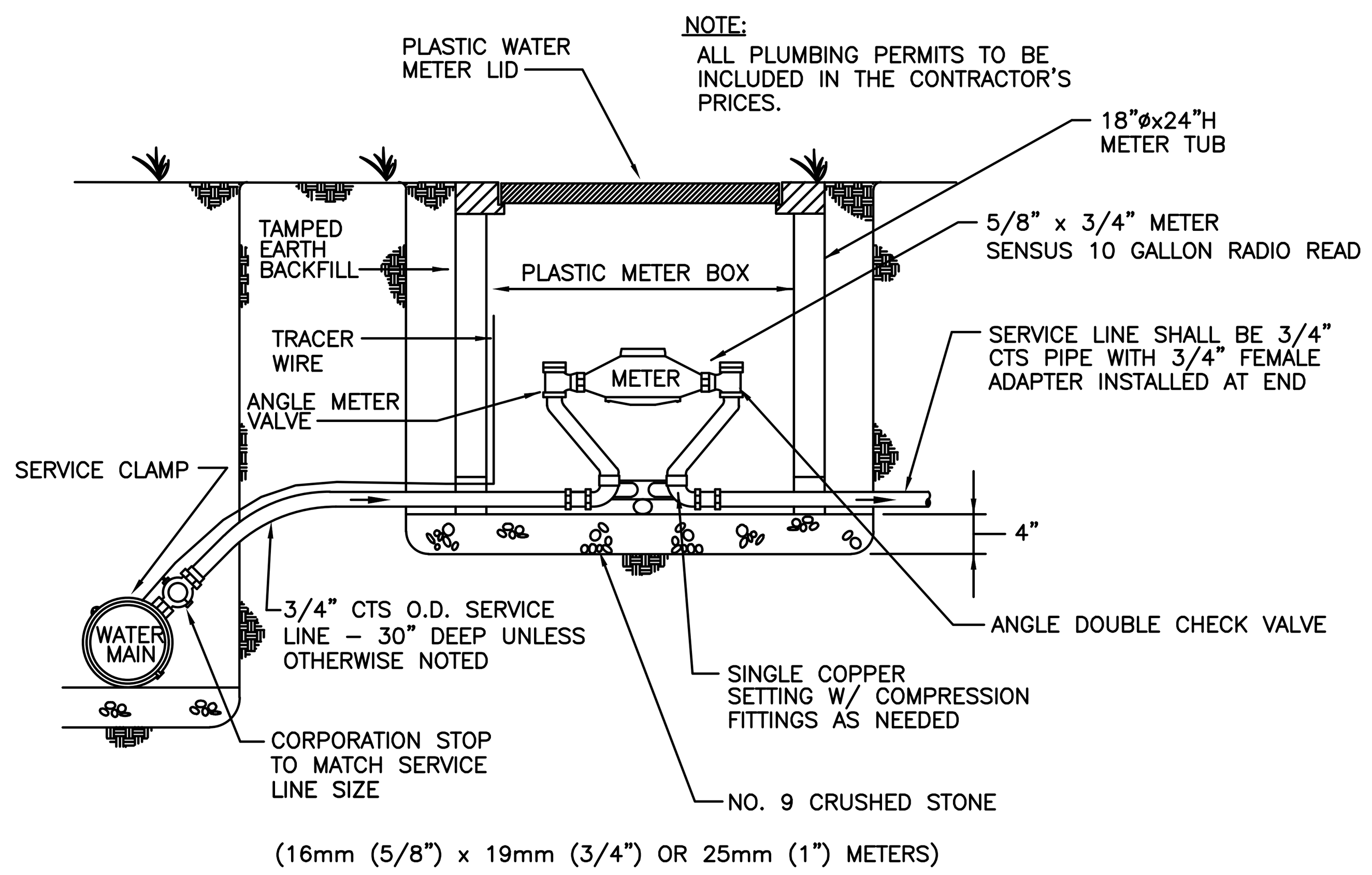
LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

STANDARD DETAILS

PROJECT NO. 19002

SHEET NO. SD-01

BID DOCUMENTS

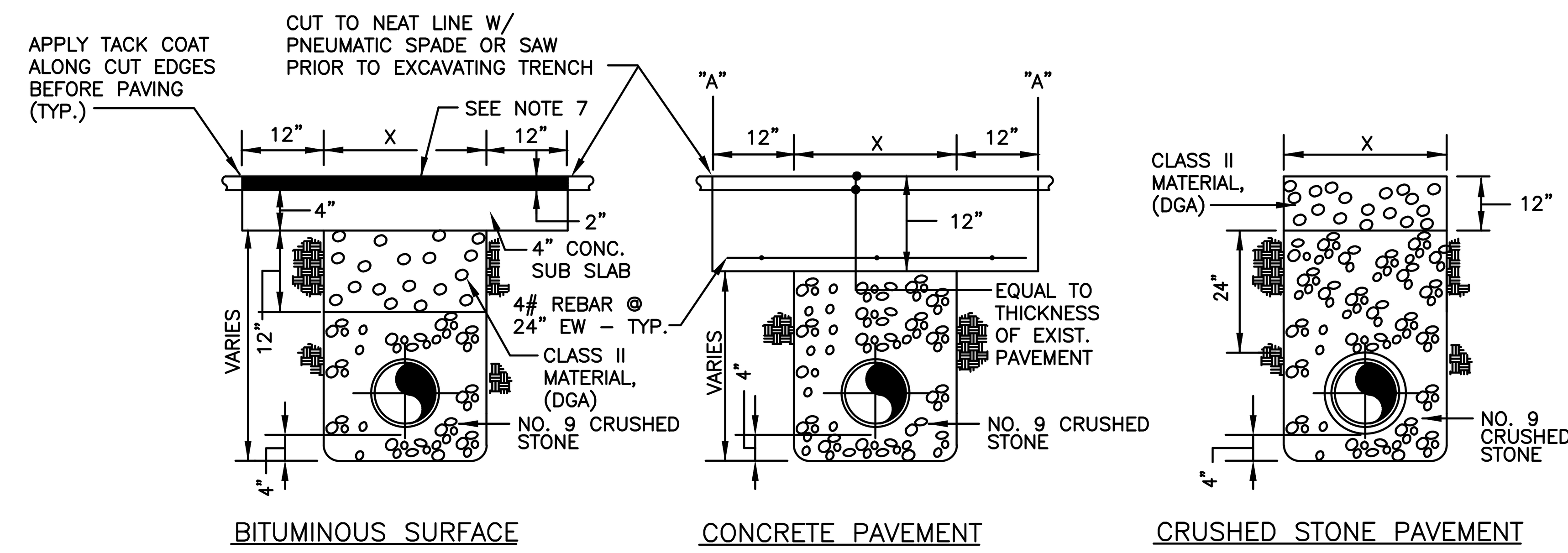


TYPICAL SERVICE CONNECTION

NOT TO SCALE

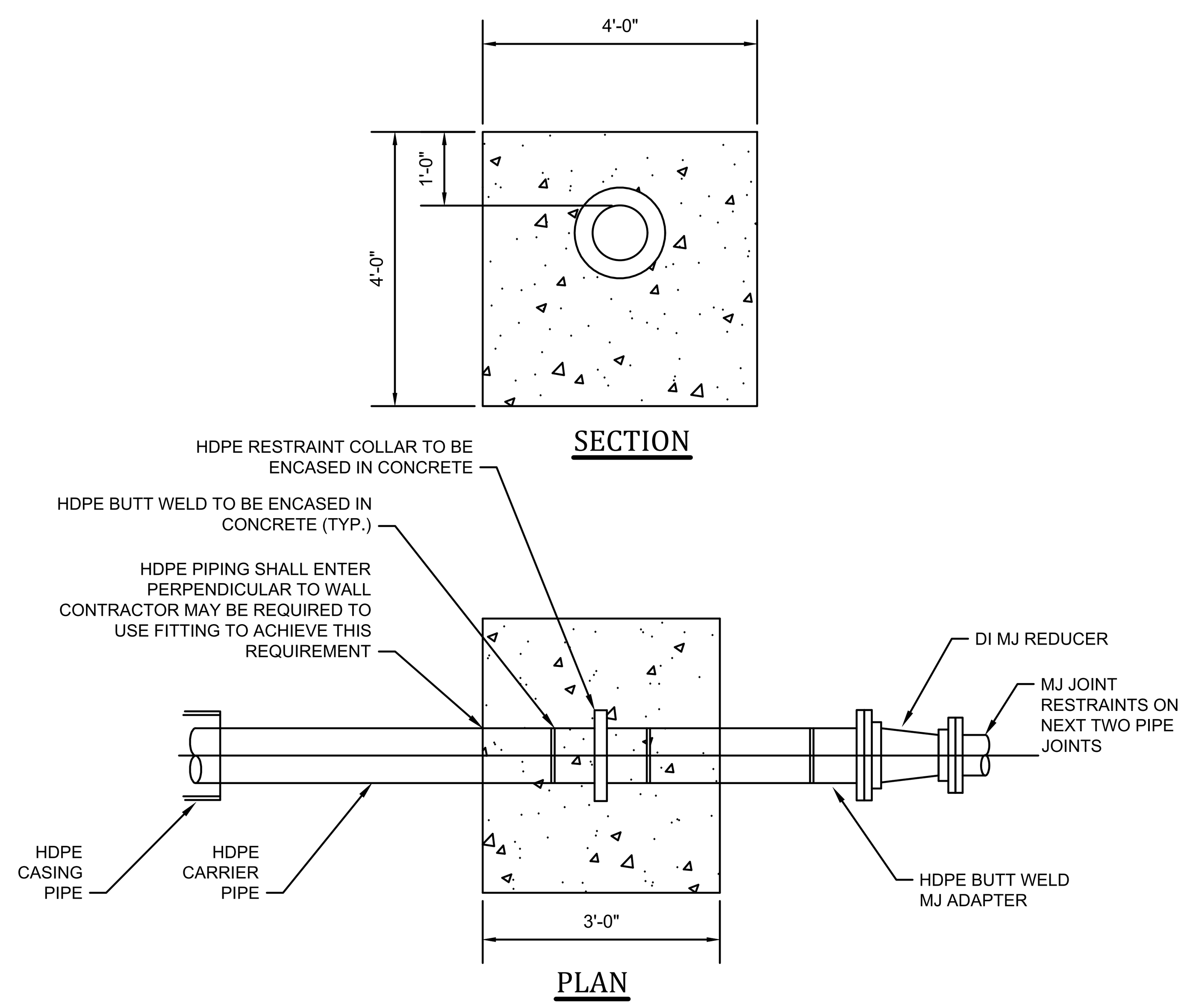
NOTES:

1. OPEN CUTS SHALL INCLUDE APPROPRIATE STEEL CASING
2. REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND THICKNESS (2" MIN.) AS EXISTING PAVEMENT.
3. IF ROCK IS ENCOUNTERED, A MINIMUM OF 6" NO. 9 CRUSHED STONE MUST BE PLACED UNDER THE ENCASEMENT PIPE.
4. X = MAX. WIDTH OF TRENCH AT SURFACE UNDER NORMAL CONDITIONS (36" + PIPE O.D.)
5. FROM POINTS "A" TO NEAREST JOINT OR BREAK IN PAVEMENT MUST BE AT LEAST 6' OR MORE. IF LESS THAN 6' REMOVE PAVEMENT TO JOINT OR BREAK AND REPLACE ENTIRE SLAB.
6. NO. 610 CRUSHED STONE MAY BE SUBSTITUTED FOR MECHANICALLY TAMPED EARTH BACKFILL WITH PRIOR APPROVAL OF THE ENGINEER.
7. 1' SAW CUT OUTSIDE OF TRENCH LINES, BITUMINOUS PATCH PLACED IN 2" LIFTS WITH TACK COAT ON EACH SIDE, EACH LIFT COMPACTED WITH SMALL ROLLER.



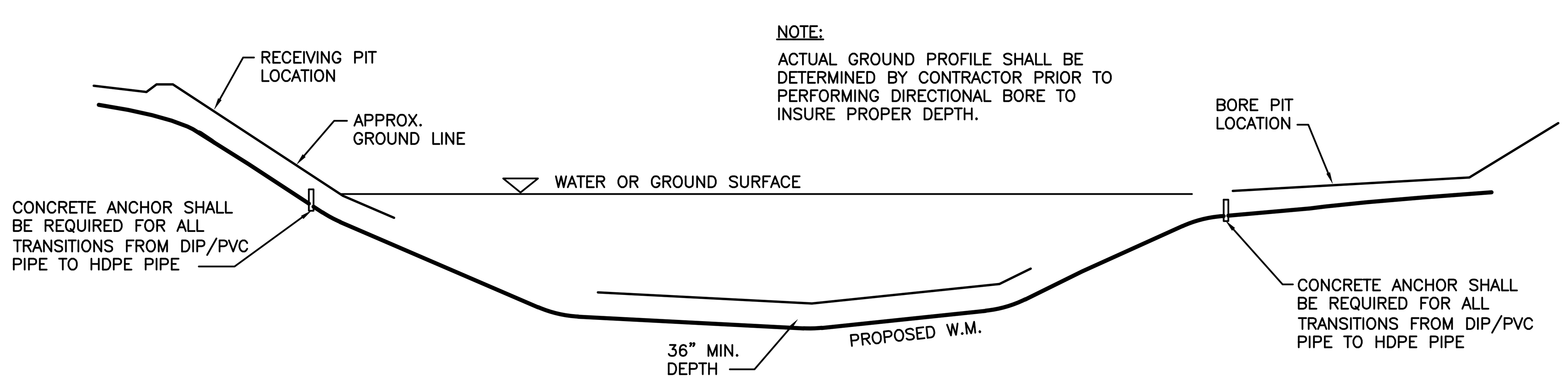
PAVEMENT REPLACEMENT

NOT TO SCALE



HDPE RESTRAINT WALL

NOT TO SCALE



TYPICAL CREEK/SURFACE DIRECTIONAL BORE DETAIL

NOT TO SCALE

P:\PROJECTS\Levee Road Water Association\19002-Water System Improvements\DWG\19002-SD-02.dwg KEG 8/31/20

NO.	DATE	REVISIONS	BY

DATE:	AUGUST 2020
PROJECT MGR:	TLH
DRAWN BY:	MAU
CHECKED BY:	RCC
SCALE:	AS NOTED

KENTUCKY ENGINEERING GROUP, PLLC
P.O. Box 1034
VERSAILLES, KENTUCKY 40383

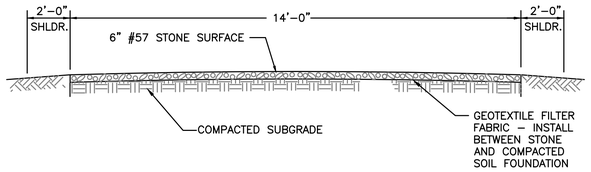
LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

STANDARD DETAILS

STATE OF KENTUCKY
MARK ... UPTON
21214
LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 19002

SHEET NO. SD-02



CONSTRUCTION ROAD STABILIZATION

NOT TO SCALE

NOTES:

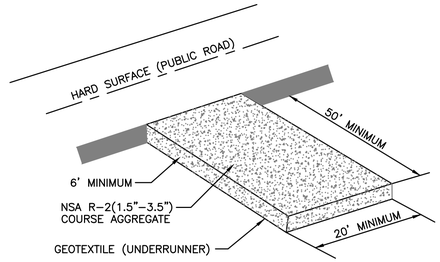
1. TREES, STUMPS, ROOTS, BRUSH, WEEDS, AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED FROM THE WORK AREA.
2. UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE ROADBED AND PARKING AREAS.
3. GRADING, SUBGRADE PREPARATION, AND COMPACTION SHALL BE DONE AS NEEDED. FILL MATERIAL SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 9 INCHES AND COMPACTED WITH THE CONTROLLED MOVEMENT OF COMPACTING AND EARTH MOVING EQUIPMENT.
4. THE ROADBED SHALL BE GRADED TO THE REQUIRED ELEVATION. SUBGRADE PREPARATION AND PLACEMENT OF THE SURFACE COURSE SHALL BE IN ACCORDANCE WITH SOUND ROADWAY CONSTRUCTION.
5. ALL CUT AND FILLS SHALL BE 2;1 OR FLATTER TO THE EXTENT POSSIBLE.
6. WATER BREAKS OR BARS MAY BE USED TO CONTROL SURFACE RUNOFF.
7. ROADS SHALL BE LAID OUT ACCORDING TO GOOD LANDSCAPE MANAGEMENT PRINCIPLES.
8. ALL ROADSIDE DITCHES, CUTS, FILLS, AND DISTURBED AREAS ADJACENT TO ROADS SHALL BE STABILIZED WITH APPROPRIATE TEMPORARY OR PERMANENT VEGETATION.

EROSION CONTROL NOTES

1. A KPDES STORMWATER PERMIT IS REQUIRED FOR THIS PROJECT. COVERAGE STARTS WHEN THE KY DIVISION OF WATER ACKNOWLEDGES RECEIPT OF A NOTICE OF INTENT FOR COVERAGE.
2. THE KPDES PERMIT REQUIRES THAT THE PERMITTEE SHALL MINIMIZE DISTURBANCE AND THE PERIOD OF TIME THAT THE DISTURBED AREA IS WITHOUT STABILIZATION PRACTICES.
3. FINAL STABILIZATION SHALL BEGIN WITHIN 14 DAYS ON AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE BEEN SUSPENDED FOR MORE THAN 180 DAYS. WHEN SNOW COVER CAUSES DELAYS, STABILIZATION SHALL BEGIN AS SOON AS POSSIBLE. STABILIZATION PRACTICES INCLUDE SEEDING, MULCHING, PLACING SOD, PLANTING TREES OR SHRUBS, AND USING GEOTEXTILE FABRICS AND OTHER APPROPRIATE MEASURES. SEEDING RATES, DATES, AND MATERIALS MAY BE OBTAINED FROM THE LOCAL NATURAL RESOURCES CONSERVATION SERVICE FIELD OFFICE.
4. FOR ALL CRITICAL AREAS (WITHIN 25' OF A STREAM), SOIL STABILIZATION TECHNIQUES SHALL BE IMPLEMENTED WITHIN 24 HOURS OR AS SOON AS PRACTICAL AFTER COMPLETION OF GRADING OR DISTURBANCE. TEMPORARY STABILIZATION PRACTICES SHALL BE INITIATED WITHIN 14 DAYS OF CESSATION OF CONSTRUCTION ACTIVITIES.
5. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE DEVELOPED AND IMPLEMENTED AS OUTLINED IN THE KPDES STORMWATER PERMIT KYR 10.
6. SEDIMENT BASINS (DEBRIS BASINS, DESILTING BASINS, OR SEDIMENT TRAPS) SHALL BE PROPERLY DESIGNED.
7. SEDIMENT BASINS (DEBRIS BASINS, DESILTING BASINS, OR SEDIMENT TRAPS) SHALL BE INSTALLED DURING THE INITIAL GRADING AT LOCATIONS THAT WILL PROVIDE THE BEST PROTECTION FROM OFF-SITE DAMAGES.
8. ALL SLOPES EXCEEDING 3:1 SHALL HAVE EXTRA SLOPE PROTECTION SUCH AS NETTING.
9. A MULTI-PURPOSE BASIN USED FOR A SEDIMENT TRAP THAT IS THEN CONVERTED TO A DETENTION/RETENTION BASIN SHALL BE DREDGED PERIODICALLY DURING CONSTRUCTION ACTIVITIES AND AFTER STABILIZATION IN ORDER TO PROVIDE ADEQUATE STORAGE.
10. INLET PROTECTION IS REQUIRED TO MINIMIZE DISCHARGE OF SEDIMENT LADEN WATER.
11. SITE PERIMETER CONTROLS ARE REQUIRED AND SHALL BE INSTALLED TO PREVENT THE DEPOSIT OF SOIL AND DEBRIS FROM GRADED SURFACES ONTO PUBLIC STREETS, INTO DRAINAGE CHANNELS OR SEWERS, OR ONTO ADJOINING LAND.
12. EROSION CONTROL MEASURES SHOWN ARE THE MINIMUM REQUIRED, CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL AND REVISE THE CONTROLS AS NEEDED.

INSPECTIONS AND MAINTENANCE

1. ALL EROSION CONTROL MEASURES, DISCHARGE LOCATIONS, VEHICLE EXITS, DISTURBED AREAS OF THE SITE, AND MATERIALS STORAGE AREAS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. EACH INSPECTION MUST BE DOCUMENTED IN ACCORDANCE WITH THE KPDES GENERAL PERMIT FOR STORMWATER POINT SOURCE DISCHARGES FROM CONSTRUCTION ACTIVITIES (KYR10).
2. SEDIMENT ACCUMULATED AT THE SILT FENCES, INLET PROTECTION AREAS, AND OTHER SILT CHECK DEVICES SHOULD BE REMOVED NO LATER THAN WHEN IT REACHES 1/3 HEIGHT OF THE FENCE OR 9 INCHES MAXIMUM.
3. SEDIMENT MUST BE REMOVED FROM ANY SEDIMENT BASINS WHEN THE NO MORE THAN 1/3 VOLUME HAS BEEN FILLED WITH COLLECTED SEDIMENT.
4. ALL REQUIRED REPAIRS ARE TO BE MADE IMMEDIATELY.
5. REMOVED SEDIMENT MUST BE SPREAD AND VEGETATED OR OTHERWISE STABILIZED IN A MANNER THAT DOES NOT RESULT IN MUDDY RUNOFF TO NEARBY DITCHES AND WATERBODIES.
6. INSPECT THE CONSTRUCTION ENTRANCE DAILY TO ENSURE NO TRACKING OR DIRT ONTO LOCAL ROADWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS MUST BE REMOVED IMMEDIATELY. SEE NOTE 3 FOR HANDLING OF REMOVED SEDIMENT.
7. MAINTAIN THE ENTRANCE AS NECESSARY TO PREVENT TRACKING OF DIRT.

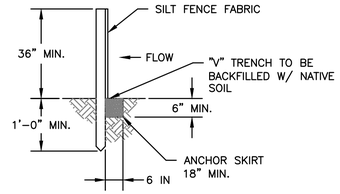


STABILIZED CONSTRUCTION ENTRANCE

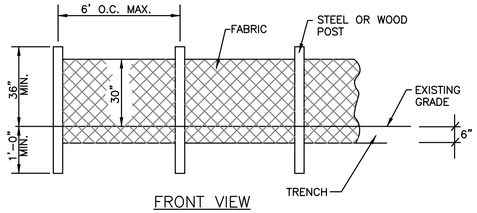
NOT TO SCALE

NOTES:

1. A STABILIZED ENTRANCE PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. GEOTEXTILE (KYTC TYPE III) SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVED SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.



TRENCH DETAIL FOR SEDIMENT FENCE



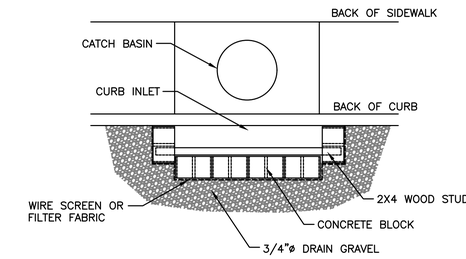
FRONT VIEW

NOTES:

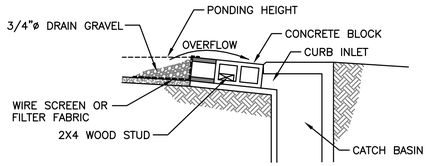
1. GEOTEXTILE FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE OF THE BARRIER. WHEN JOINTS CANNOT BE AVOID, GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTED SHALL BE AT LEAST 5 FEET IN LENGTH
3. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE AND FABRIC.
4. WOOD POSTS SHALL BE 2 INCHES BY 2 INCHES OR EQUIVALENT. STEEL POSTS SHALL BE 1/33 LBS PER LINEAR FOOT.
5. IF REQUIRED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH IN LENGTH, WIRE TIES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE
6. TURN SILT FENCE UP SLOPE AT ENDS.

SEDIMENT BARRIER

NOT TO SCALE



PLAN



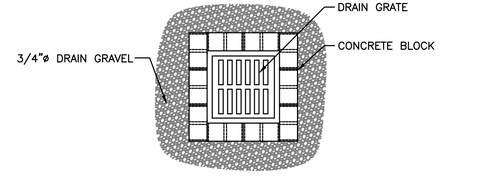
SECTION

NOTES:

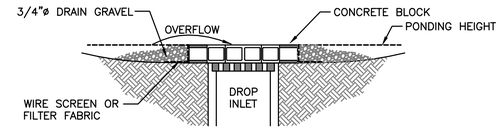
1. USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER

NOT TO SCALE



PLAN



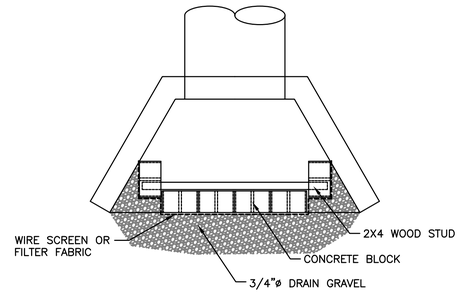
SECTION

NOTES:

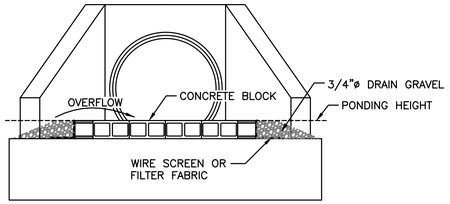
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS (LESS THAN 5% SLOPE)
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

DROP INLET SEDIMENT BARRIER

NOT TO SCALE



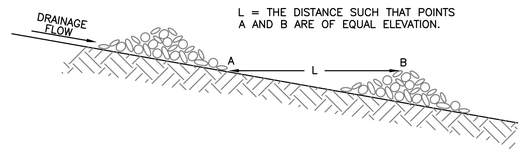
PLAN



FRONT ELEVATION

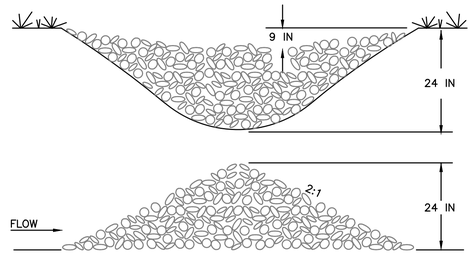
CULVERT INLET SEDIMENT BARRIER

NOT TO SCALE



CHECKDAM SPACING

N.T.S.



NOTES:

1. ROCK CHECK DAMS SHOULD BE CONSTRUCTED OF GRADED 5 TO 10 INCH STONE. MECHANICAL OR HAND PLACEMENTS SHALL BE REQUIRED TO ENSURE COMPLETE COVERAGE OF THE ENTIRE WIDTH OF DITCH OR SWALE AND THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
2. INSPECT BEHIND RIPRAP CHECKDAM DAILY AND CLEAN WHEN COLLECTED DEBRIS EXCEEDS HALF OF ITS DEPTH.

ROCK CHECK DAM

NOT TO SCALE

BID DOCUMENTS

P:\PROJECTS\Levee Road Water Association\19002-Water System Improvements\DWG\19002-SD-03.dwg KEG 8/31/20

NO.	DATE	REVISIONS	BY

DATE:	AUGUST 2020
PROJECT MGR:	TLH
DRAWN BY:	MAU
CHECKED BY:	RCC
SCALE:	AS NOTED

P.O. Box 1034
VERSAILLES, KENTUCKY 40383
KENTUCKY ENGINEERING GROUP, PLLC

LEVEE ROAD WATER ASSOCATION
CONTRACT NO. 1
WATER MAIN IMPROVEMENTS

EROSION CONTROL DETAILS

STATE OF KENTUCKY
MARK A. UPTON
LICENSED PROFESSIONAL ENGINEER
8/31/20

PROJECT NO. 19002

SHEET NO. SD-03