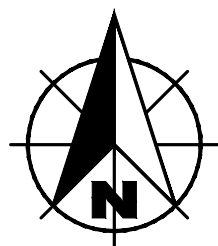
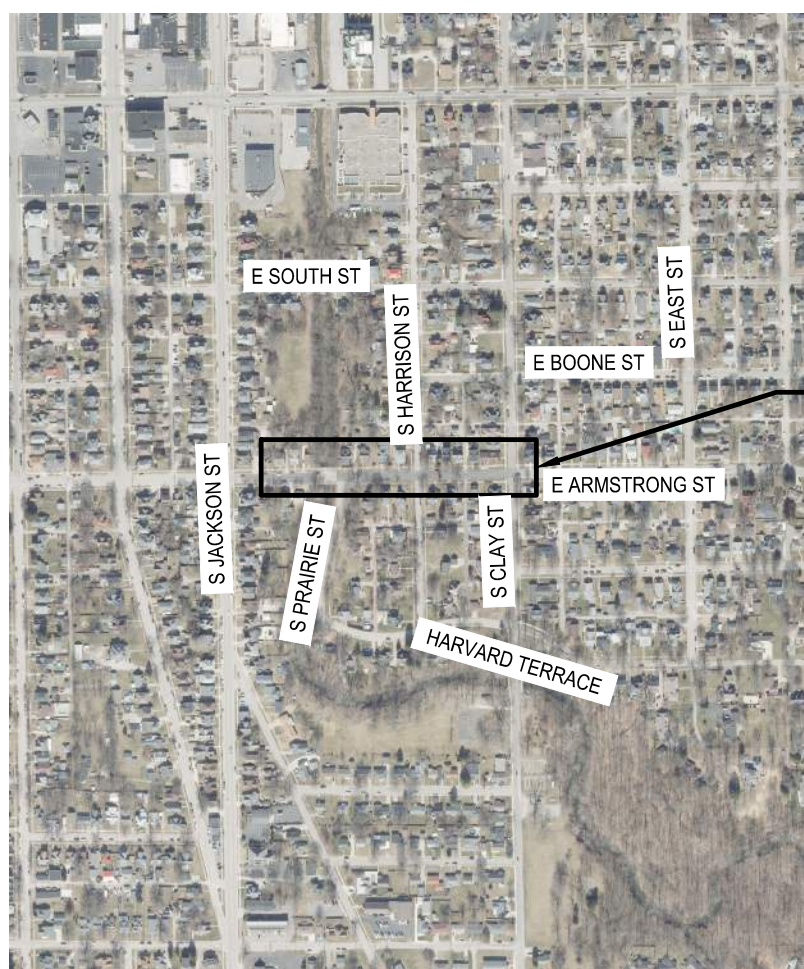


ARMSTRONG STREET WATER MAIN REPLACEMENT

FOR THE

FRANKFORT MUNICIPAL UTILITIES

FRANKFORT, INDIANA

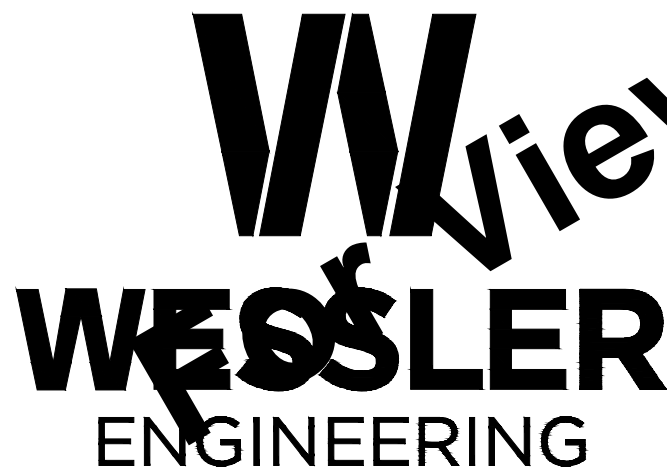


PROJECT LOCATION

FRANKFORT, IN
VICINITY MAP
SCALE: NONE



STATE LOCATION MAP
SCALE: NONE



More than a Project™
INDIANAPOLIS
6219 South East Street
Indianapolis, Indiana 46227
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PROJECT NO. 185616.04.023

DRAWINGS PREPARED FOR:

UTILITIES SERVICE BOARD

KENT BREWER, CHAIRMAN
MIKE KELLEY, VICE CHAIRMAN
RICK GUNYON, MEMBER
MIKE REEDER, MEMBER
KRISTA STILLWELL, MEMBER

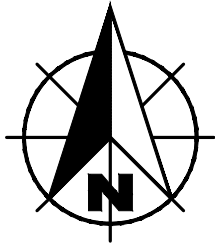
MARCH 2025



Andrew D. Gordon

ANDREW D. GORDON
REGISTERED ENGINEER STATE OF INDIANA NO. 10809017

Drawing: X:\Frankfort\185616-023-Armstrong\DWG\Sheets\185616-023-GS.dwg | Layout: 102 | Plotted: 03/11/25 @ 03:00:14 | LastSavedBy: MasoriF



HORIZONTAL AND VERTICAL CONTROL INFORMATION

NOTES:

1. A FIELD SURVEY WAS PERFORMED IN JUNE 2023.
2. BEARINGS, DISTANCES, AND COORDINATES ARE BASED UPON INDIANA STATE PLANE, WEST ZONE, NAD 83 AND ARE REPORTED IN U.S. SURVEY FEET.
3. CONTROL POINTS WERE SET USING GPS.
4. ELEVATIONS ARE BASED UPON NAVD 88 DATUM ON A GPS OBSERVATION OF "CGS" BENCHMARK "FRANKFORT RM 1 1934" (1934) BELOW WITH A ELEVATION TRANSFER TO CONTROL POINT NO. 5.
5. A LEVEL LOOP WAS PERFORMED ONSITE FOR AND BETWEEN CONTROL POINTS AND TBM(S).

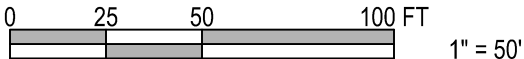
BENCHMARK DESCRIPTION:

1. BENCHMARK - FRANKFORT RM 1 (P101092) - IN FRANKFORT, AT THE CLINTON COUNTY FAIR GROUND, 14.5 FEET SOUTH OF THE NORTHEAST CORNER OF THE FAIR GROUND FENCE; 79 FEET EAST OF THE EAST RAIL OF THE FAIR GROUND TRACK; ABOUT 0.5 FEET WEST OF THE EAST BOUNDARY FENCE; 1.5 FEET NORTH OF A WHITE WOODEN WITNESS POST AND 1.5 FEET NORTH OF A CONCRETE POST PROJECTING 1" ABOVE THE GROUND; A STANDARD DISK, STAMPED "FRANKFORT RM 1 1934" EL 866.00 FEET.
2. BENCHMARK - TBM NO. 11 - CUT TRIANGLE FOUND SOUTHEAST CORNER OF EAST ARMSTRONG BRIDGE OVER PRAIRIE CREEK. EL 866.08 FEET.

CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP 5	1831811.10	3112730.69	844.86	5/8" REBAR
CP 6	1831752.94	3112934.15	845.86	5/8" REBAR
CP 7	1831816.75	3113044.42	850.53	5/8" REBAR
CP 8	1831777.89	3113191.66	856.44	5/8" REBAR
CP 9	1831823.06	3113395.33	857.85	5/8" REBAR
CP 10	1831784.83	3113513.92	858.44	5/8" REBAR

DRAWING INDEX	
SHEET NO.	DESCRIPTION
GENERAL	
01	COVER SHEET
02	LOCATION PLAN AND SCOPE OF WORK PLAN AND DRAWING INDEX
03	SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
SITE	
04	NEW WATER MAIN PLAN AND PROFILE
05	NEW WATER MAIN PLAN AND PROFILE
MISCELLANEOUS DETAILS	
06 - 07	MISCELLANEOUS DETAILS
08	EROSION CONTROL DETAILS

LOCATION AND SCOPE OF WORK PLAN



<div>SCALE VERIFICATION</div> <div>BAR IS ONE INCH LONG ON ORIGINAL DRAWING</div> <div><div></div></div>	DRAWN BY	MTF	NO.	DATE	INITIALS	REVISION DESCRIPTIONS		<div></div> <div><div>W</div><div>WESSLER</div><div>ENGINEERING</div><div>More than a Project™</div></div>	ARMSTRONG STREET WATER MAIN REPLACEMENT			
	CHECKED BY	TMG							FRANKFORT MUNICIPAL UTILITIES FRANKFORT, INDIANA			
	APPROVED BY	ADG							LOCATION PLAN AND SCOPE OF WORK PLAN AND DRAWING INDEX			
	ISSUE DATE											
	MARCH 2025											
	PROJECT NUMBER											
	185616.04.023											

EXISTING FEATURES LEGEND					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		CISTERN		EASEMENT - CONSTRUCTION/PERMANENT
	TEMPORARY BENCH MARK		ELECTRIC METER		LOT BOUNDARY
	SOIL BORING LOCATION		AIR CONDITIONING UNIT		PROPERTY BOUNDARY
	SECTION CORNER		UTILITY RISER (DEFINED BY UTILITY)		RIGHT-OF-WAY - TEMPORARY/PERMANENT
	DRILL HOLE IN CONCRETE/HARRISON MONUMENT		UTILITY PEDESTAL (DEFINED BY UTILITY)		SECTION BOUNDARY
	CONTROL POINT (SET/FOUND)		UTILITY MARKER (DEFINED BY UTILITY)		WETLANDS
	MAGNETIC NAIL (SET/FOUND)		JOINT POWER/TELEPHONE POLE		CONTOUR - INTERMEDIATE ELEVATION
	BOAT SPIKE (SET/FOUND)		LIGHT POLE		CONTOUR - INDEX ELEVATION
	PK NAIL (SET/FOUND)		LIGHT ON POWER POLE		OVERHEAD ELECTRIC
	RAILROAD SPIKE (SET/FOUND)		LIGHT ON JOINT POLE		OVERHEAD CABLE TV
	R/W MARKER - CONCRETE/GRANITE/STONE		POWER POLE		OVERHEAD TELEPHONE
	IRON PIPE/IRON PIN/REBAR (WITH DIAMETER)		TELEPHONE POLE		UNDERGROUND CABLE TV
	BRASS PLUG		LAMP POST		UNDERGROUND ELECTRIC
	CABLE TV MANHOLE		GUY ANCHOR		UNDERGROUND FIBER OPTIC
	ELECTRIC MANHOLE		GUY POLE OR STUB		GAS MAIN
	GAS MANHOLE		CONTROLLER CABINET		DIGESTER GAS
	OTHER MANHOLE		FLAG POLE		PETROLEUM MAIN
	TELEPHONE MANHOLE		POST		UNDERGROUND TELEPHONE
	TELEPHONE VAULT		GROUND LIGHT		WATER MAIN
	TRAFFIC MANHOLE		MAILBOX		WATER SERVICE
	TRAFFIC HANDHOLE		DOUBLE/MULTIPLE MAILBOX		FORCEMAIN
	WATER MANHOLE		MAST ARM POLE		GRAVITY SEWER PIPE
	AIR RELEASE VALVE		TRAFFIC SIGNAL STRAIN POLE		PLANT CHLORINE PIPE
	SANITARY SEWER MANHOLE		SIGNAL LOOP DETECTOR BOX		TOP OF BANK/TOE OF SLOPE
	DRAINAGE/STORM SEWER MANHOLE		SIGNAL LOOP DETECTOR LOOP		CENTERLINE OF DITCH/SWALE/STREAM
	SANITARY SEWER CLEANOUT		SIGN - SINGLE POST		FENCE - FIELD
	SEPTIC TANK		SIGN - DOUBLE POST		FENCE - METAL
	VALVE VAULT		SIGN - RAILROAD SIGNAL		FENCE - WOOD
	BEEHIVE INLET		SIGN - RAILROAD CROSSING		GUARDRAIL
	CURB INLET		BUSH		STREAM
	DROP INLET		STUMP		TREE/BRUSH LINE
	CATCH BASIN		TREE - CONIFEROUS		
	DOWNSPOUT		TREE - DECIDUOUS		
	GAS METER		ROCK OUTCROP		
	GAS VALVE		SATELLITE		
	GAS SERVICE VALVE		SPRINKLER CONTROL VALVE		
	PETROLEUM VALVE		WATER METER		
	PETROLEUM SHUTOFF VALVE		WATER VALVE		
	GAS STATION MONITORING WELL		WATER SERVICE VALVE		
	GAS STATION FILL CAP		WET WELL		
	NATURAL GAS WELL/STORAGE WELL		WET WELL		
	SPRINKLER HEAD		HYDRANT		
	YARD HYDRANT		PROCESS VALVE		

TABLE OF ABBREVIATIONS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	IPS	IRON PIPE SIZE
ALUM	ALUMINUM	ISPC	INDIANA STATE PLANE COORDINATE
APP	APPARENT	LB	POUND(S)
APPROX	APPROXIMATE(LY)	LF	LINEAR FEET
ASPH	ASPHALT	LN	LANE
ASSOC	ASSOCIATES	LS	LIFT STATION
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MA EX	MATCH EXISTING
AVE	AVENUE	MJ	MECHANICAL JOINT
AVG	AVERAGE	MATL	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BLVD	BOULEVARD	MH	MANHOLE
BM	BENCHMARK	MIN	MINIMUM
CO	CLEANOUT	MISC	MISCELLANEOUS
CI	CAST IRON	MNFR	MANUFACTURER
CL	CENTER LINE	N	NORTHING, NORTH
CMA	COLD MIX ASPHALT	NGS	NATIONAL GEODETIC SURVEY
CMP	CORRUGATED METAL PIPE	NO.	NUMBER
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
CONC	CONCRETE	OD	OUTSIDE DIAMETER
CONT	CONTINUOUS	PC	POINT OF CURVE (BEGIN CURVE)
CNR	CORNER	POLY	POLYETHYLENE
CP	CONTROL POINT	PI	POINT OF INTERSECTION
CPP	CORRUGATED PLASTIC PIPE	POT	POINT ON TANGENT
CR STN	CRUSHED STONE	PT	POINT OF TANGENT (END OF CURVE)
CYD	CUBIC YARD	PSI	POUNDS PER SQUARE INCH
D	DEPTH	PT	POINT
DI	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
DI MJ	DUCTILE IRON MECHANICAL JOINT	R	RAILROAD
DBL	DOUBLE	ROW	RIGHT-OF-WAY
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE	RD	ROAD
DIPS	DUCTILE IRON PIPE SIZE	S	SOUTH
DR	DRIVE	SR	STATE ROUTE
E	EASTING, EAST	SST	STAINLESS STEEL
EF	EACH FACE	SVA	SERVICE VALVE ASSEMBLY
EW	EACH WAY	SB	SOIL BORING
EA	EACH	SCHED	SCHEDULE
EJ	EAST - JAPAN IRON WORKS	SDR	STANDARD DIMENSION RATIO
EL	ELEVATION	SECT	SECTION
EX	EXISTING	SF	SQUARE FEET
EXP	EXPANSION	SHT	SHEET
FF	FINISH FLOOR ELEVATION	SPECS	SPECIFICATION(S)
FM	FORCE MAIN	SQ	SQUARE
FND	FOUND	SRF	STATE REVOLVING FUND
FT	FEET	ST	STREET
FTG	FOOTING	STA	STATION
GALV	GALVANIZED	SYD	SQUARE YARD
GPS	GLOBAL POSITIONING SYSTEM	TBM	TEMPORARY BENCHMARK
HMA	HOT MIX ASPHALT	TC	TOP OF CASTING
HDPE	HIGH DENSITY POLYETHYLENE	TYP	TYPICAL
HORIZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
ID	INSIDE DIAMETER	USGS	US GEOLOGICAL SURVEY
IE	INVERT ELEVATION	VERT	VERTICAL
INC	INCORPORATED	VLV	VALVE
INDOT	INDIANA DEPARTMENT OF TRANSPORTATION	W	WIDTH, WEST
INSTR	INSTRUMENT	WSE	WATER SURFACE ELEVATION
INV	INVERT	YR	YEAR

*NOTE: THIS TABLE IS A LISTING OF TYPICAL ABBREVIATIONS AND MAY NOT INCLUDE ALL ABBREVIATIONS FOUND WITHIN THIS PLAN SET. IF A QUESTION ARISES ON THE MEANING OF AN ABBREVIATION NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION.

UTILITY CONTACTS

WATER

FRANKFORT WATER WORKS
2105 W ARMSTRONG ROAD
FRANKFORT, INDIANA 46041
765-654-5556

GAS

CENTER POINT ENERGY
16000 ALLISONVILLE RD
NOBLESVILLE, INDIANA 46061
765-449-5673
ATTN: STEVEN NEAL

SEWER

CITY OF FRANKFORT
300 N COLUMBIA STREET
FRANKFORT, INDIANA 46041
765-654-8343

ELECTRIC

CITY OF FRANKFORT LIGHT & POWER
1000 WASHINGTON AVENUE
FRANKFORT, INDIANA 46041
765-659-3362

TELEPHONE





SBC
1450 WASHINGTON AVENUE
FRANKFORT, INDIANA 46041
800-382-5544

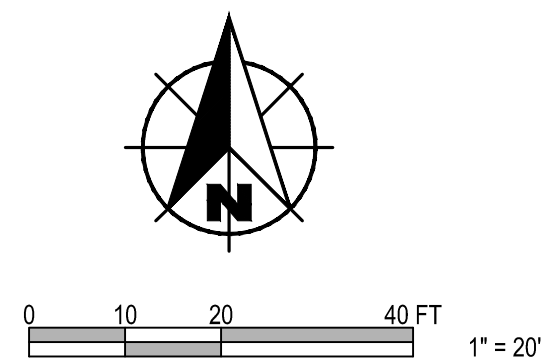
GENERAL NOTES:

1. NOTIFY THE ENGINEER IF ANY CONFLICTING INFORMATION BECOMES APPARENT IN THE CONTRACT DOCUMENTS AS SOON AS POSSIBLE AND PRIOR TO THE COMMENCEMENT OF ANY WORK IN THE VICINITY OF OR RELATIVE TO THE APPARENT CONFLICT SO THAT CLARIFICATION MAY OCCUR PRIOR TO CONSTRUCTION.
2. ANY ALTERATIONS TO THESE DRAWINGS NOT AUTHORIZED BY WESSLER ENGINEERING AND NOT IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND RECORDS ON FILE AT WESSLER ENGINEERING SHALL RELIEVE WESSLER ENGINEERING OF ANY RESPONSIBILITY FOR THE ACCURACY OF THE DRAWINGS.
3. USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO STATE, COUNTY, MUNICIPAL, AND PRIVATE PROPERTY. REPAIR ALL DAMAGES AS A RESULT OF OPERATIONS, INCLUDING DAMAGE TO DRAINAGE STRUCTURES, FIELD TILES, PUBLIC/PRIVATE ROADS, AND LANDSCAPING (INCLUDING FENCING). REPAIR AND REPLACE DAMAGED ITEMS AT NO ADDITIONAL COST TO THE OWNER. PERFORM ALL REPAIR AND REPLACEMENT WORK TO THE SATISFACTION OF THE PERMITTING AGENCY, THE OWNER AND THE ENGINEER.
4. TAKE CARE TO AVOID DAMAGE TO PAVED AREAS WHICH ARE NOT SPECIFICALLY CALLED OUT FOR REPAIR OR REPLACEMENT. REPAIR, OR REPLACE ALL SUCH PAVEMENTS WHICH ARE DAMAGED BY CONSTRUCTION ACTIVITIES AND CONSTRUCTION TRAFFIC AT NO ADDITIONAL COST TO THE OWNER.
5. OBTAIN ALL TEMPORARY EASEMENTS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
6. COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS. APPLICABLE PERMITS ISSUED TO THE OWNER WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT ALL APPLICABLE PERMITTING AGENCIES WITHIN THE TIME PERIOD SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING OF CONSTRUCTION.
7. ALL EXISTING AND NEW UTILITY INFORMATION, INCLUDING BUT NOT LIMITED TO LOCATION, SIZE AND INVERT ELEVATION, IS SHOWN BASED UPON AVAILABLE INFORMATION. THE ENGINEER DOES NOT GUARANTEE OR ASSUME SUCH INFORMATION TO BE TRUE, ACCURATE, OR EXCLUSIVE OR EVEN APPROXIMATE. CONTACT THE INDIANA UNDERGROUND PLANT PROTECTION SERVICE (UPPS) AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY TO LOCATE NON-MEMBER UTILITIES DIRECTLY.
8. DETERMINE WHICH UTILITIES MAY CONFLICT WITH WORK AND VERIFY THEIR LOCATION, SIZE AND ELEVATION PRIOR TO CONSTRUCTION AND DETERMINE IF THERE ARE ANY DISCREPANCIES OR CONFLICTS. IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED, NOTIFY THE ENGINEER AS SOON AS POSSIBLE.
9. EXISTING UTILITY SERVICE LINES WITH INDIVIDUAL CUSTOMERS MAY NOT BE SHOWN ON THE DRAWINGS. ASSUME THAT UNDERGROUND SERVICE LINES FOR ALL UTILITIES EXIST TO EACH PROPERTY ALONG THE ROUTE OF THE PLANNED IMPROVEMENTS.
10. COORDINATE ALL WORK WITH THE RESPECTIVE UTILITIES. SCHEDULE WORK ACCORDINGLY, AND NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY.
11. COORDINATE ALL PLANNED UTILITY SERVICE INTERRUPTIONS WITH THE RESPECTIVE UTILITIES AND THE UTILITY AFFECTED CUSTOMERS. SERVICE INTERRUPTIONS SHOULD NOT LAST MORE THAN FOUR (4) HOURS. GIVE WRITTEN NOTICE TO ALL AFFECTED UTILITY CUSTOMERS AND PROPERTY OWNERS AT LEAST TWENTY-FOUR (24) HOURS BUT NOT MORE THAN SEVENTY-TWO (72) HOURS PRIOR TO ANY PLANNED INTERRUPTION OF UTILITY SERVICE.
12. USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO EXISTING UTILITIES. REPAIR OR REPLACE ALL PUBLIC AND PRIVATE FACILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS. BRACE AND PROTECT ALL UTILITY POLES AND EXISTING STRUCTURES ADJACENT TO NEW EXCAVATIONS. UTILITY POLE BRACING SHALL BE AS DIRECTED BY THE GOVERNING UTILITY.
13. MAINTAIN EXISTING STORMWATER DRAINAGE FOR THE ENTIRE DURATION OF THE PROJECT.
14. DO NOT DISTURB EXISTING MANHOLES OR INLETS, UNLESS NOTED OTHERWISE.
15. ALL EQUIPMENT, APPURTENANCES AND PIPING REMOVED AS PART OF THE DEMOLITION SHALL FIRST BE OFFERED TO THE OWNER FOR SALVAGE. DELIVER SALVAGED ITEMS SELECTED BY OWNER TO A LOCATION DESIGNATED BY THE OWNER OR ENGINEER. IN THE EVENT THE OWNER DOES NOT ELECT TO KEEP THE REMOVED ITEMS, REMOVE SUCH ITEMS FROM THE SITE AND DISPOSE OF AT A LOCATION APPROVED FOR SUCH DISPOSAL AT THE CONTRACTOR'S EXPENSE.
17. COORDINATE STAGING AREA LOCATIONS WITH THE OWNER.
18. ALL CONSTRUCTION TRAFFIC SHALL USE MAJOR ROADS. NO CONSTRUCTION TRAFFIC SHALL USE LOCAL STREETS FOR INDIRECT ACCESS.
19. TO CONTROL DUST, REMOVE SOIL FROM STREETS USED BY CONSTRUCTION TRAFFIC DAILY, VACUUM AND WATER AS NECESSARY AND/OR AS DIRECTED BY THE OWNER.
20. NORTHING AND EASTING INFORMATION IS GIVEN AT CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
21. PLACE NO. 8 CRUSHED AGGREGATE BETWEEN PIPES AT ALL PIPE CROSSINGS TO PREVENT PIPE SETTLEMENT UNLESS SHOWN OTHERWISE.
22. VERIFY EXISTING SEWER INVERTS AND LOCATIONS PRIOR TO CONSTRUCTION AND DETERMINE IF THERE ARE ANY DISCREPANCIES OR CONFLICTS.
23. RESET ALL MAILBOXES AND SIGNS DISTURBED BY CONSTRUCTION ACTIVITIES.
24. IF REQUIRED, PLACE TEMPORARY OVERNIGHT AGGREGATE WEDGES AT DRIVEWAYS TO ALLOW PROPERTY OWNER ACCESS.

*NOTE: THIS TABLE IS A LISTING OF TYPICAL ABBREVIATIONS AND MAY NOT INCLUDE ALL EXISTING SYMBOLS FOUND WITHIN THIS PLAN SET. IF A QUESTION ARISES ON THE MEANING OF ANY SYMBOL NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION. THE SYMBOLS ARE NOT TO SCALE.



<div>SCALE VERIFICATION</div> <div>BAR IS ONE INCH LONG ON ORIGINAL DRAWING</div> <div></div>	DRAWN BY	MTF	NO.	DATE	INITIALS	REVISION DESCRIPTIONS		<div>WESSLER ENGINEERING <i>More than a Project™</i></div>	ARMSTRONG STREET WATER MAIN REPLACEMENT		
	CHECKED BY	TMG							FRANKFORT MUNICIPAL UTILITIES FRANKFORT, INDIANA		
	APPROVED BY	ADG							SYMBOLS, ABBREVIATIONS AND GENERAL NOTES		
	ISSUE DATE										
	MARCH 2025										
	PROJECT NUMBER										
	185616.04.023										



1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN TO PROVIDE ADEQUATE CONTROL FOR THE CONSTRUCTION AREA.
2. CONTRACTOR TO LOCATE AND FIELD VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO INSTALLATION.

S	3/4" NEW SERVICE LINE, CURB STOP, METER PIT, AND RECONNECT TO EXISTING SERVICE LINE. REMOVE EXISTING METER PIT FRAME AND LID.
S ₁	1" NEW SERVICE LINE, CURB STOP, DOUBLE METER PIT, AND RECONNECT TO EXISTING TWO SERVICES. REMOVE EXISTING METER PIT FRAMES AND LIDS.
X	POTENTIAL CONFLICT FIELD VERIFY PRIOR TO CONSTRUCTION
P	BORE PIT
RH	REMOVE EXISTING HYDRANT, CLOSE EXISTING AUXILIARY VALVE AND REMOVE VALVE BOX AND LID. IF AUXILIARY VALVE IS NOT PRESENT, CAP EXISTING HYDRANT LEAD.
CV	CLOSE EXISTING VALVE AND REMOVE EXISTING VALVE BOX AND LID
F1	CONCRETE DRIVEWAY REPAIR
F2	CONCRETE SIDEWALK REPAIR
CG	CONCRETE CURB AND GUTTER REPAIR
D	ASPHALT PAVEMENT REPAIR
IP	INLET PROTECTION

CONCRETE DRIVEWAY REPAIR

CONCRETE SIDEWALK REPAIR

CONCRETE CURB AND GUTTER REPAIR

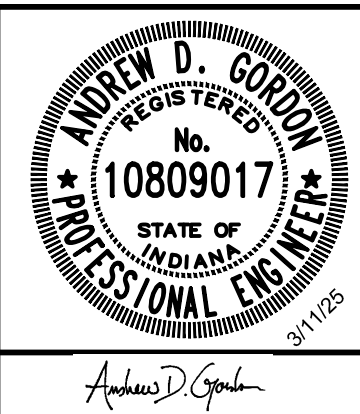
ASPHALT PAVEMENT REPAIR

INLET PROTECTION

SCALE: 1" = 20'



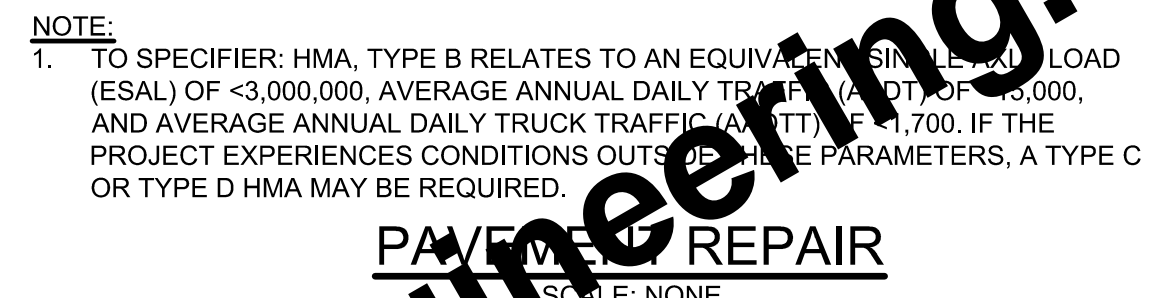
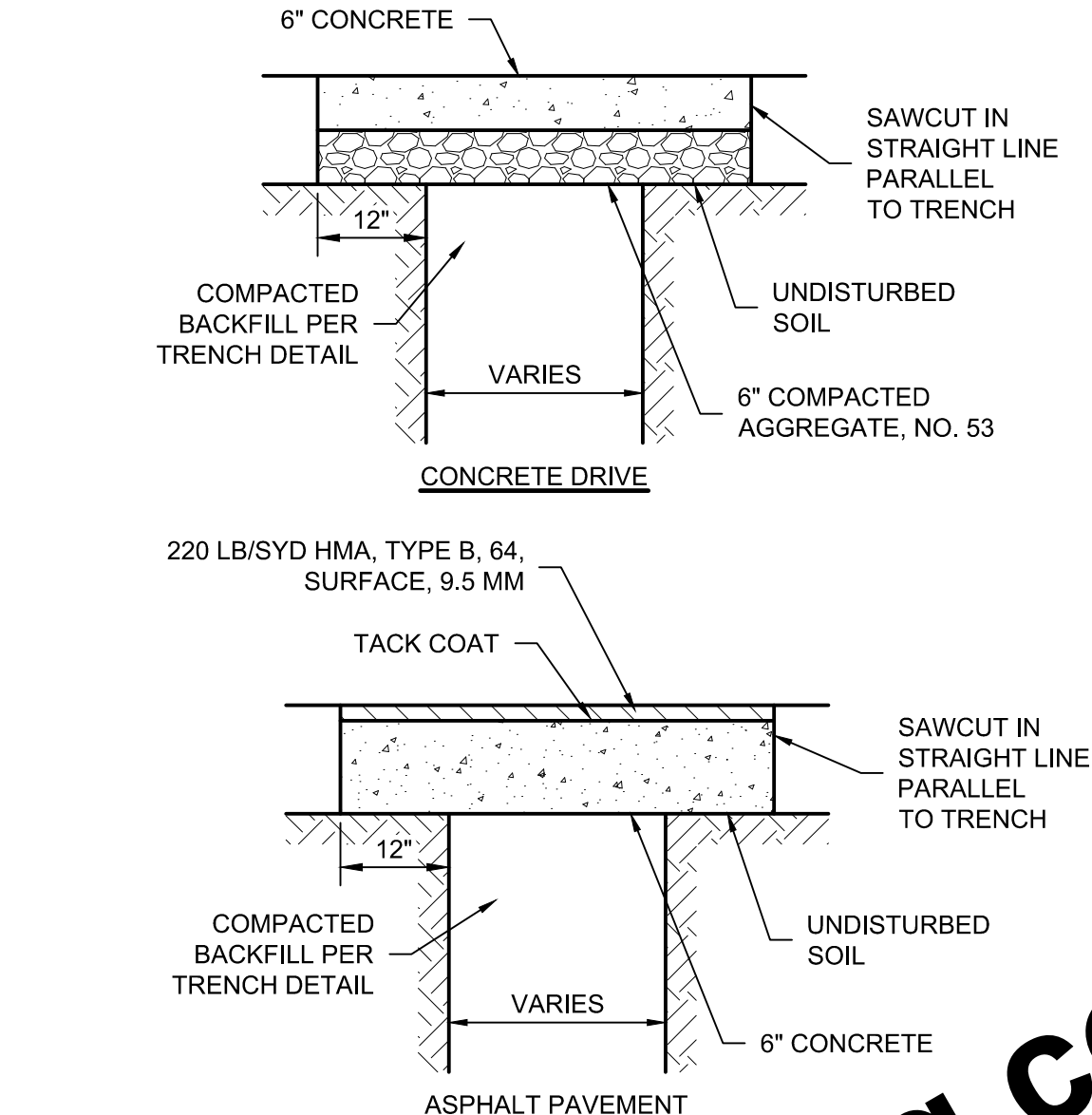
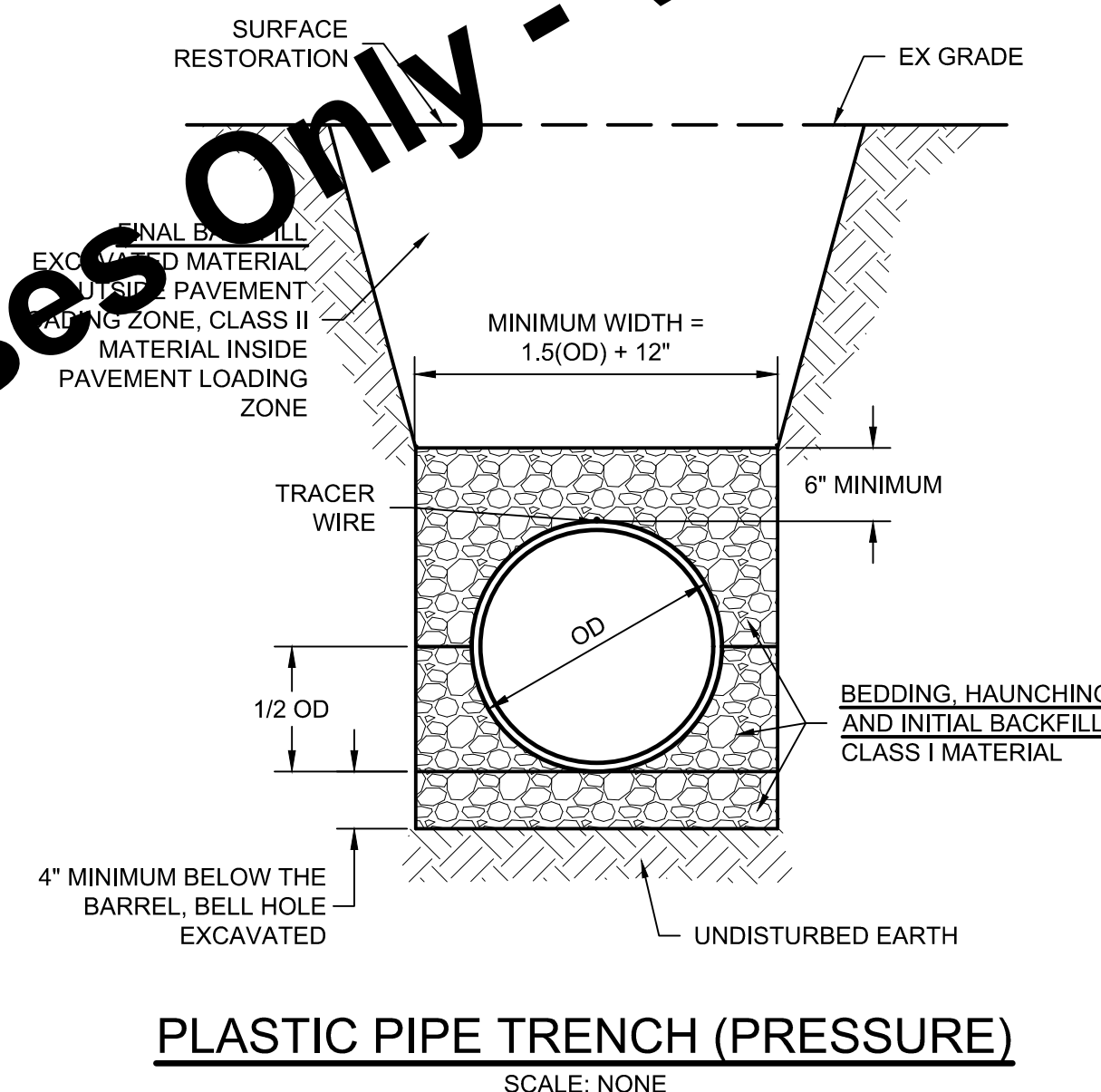
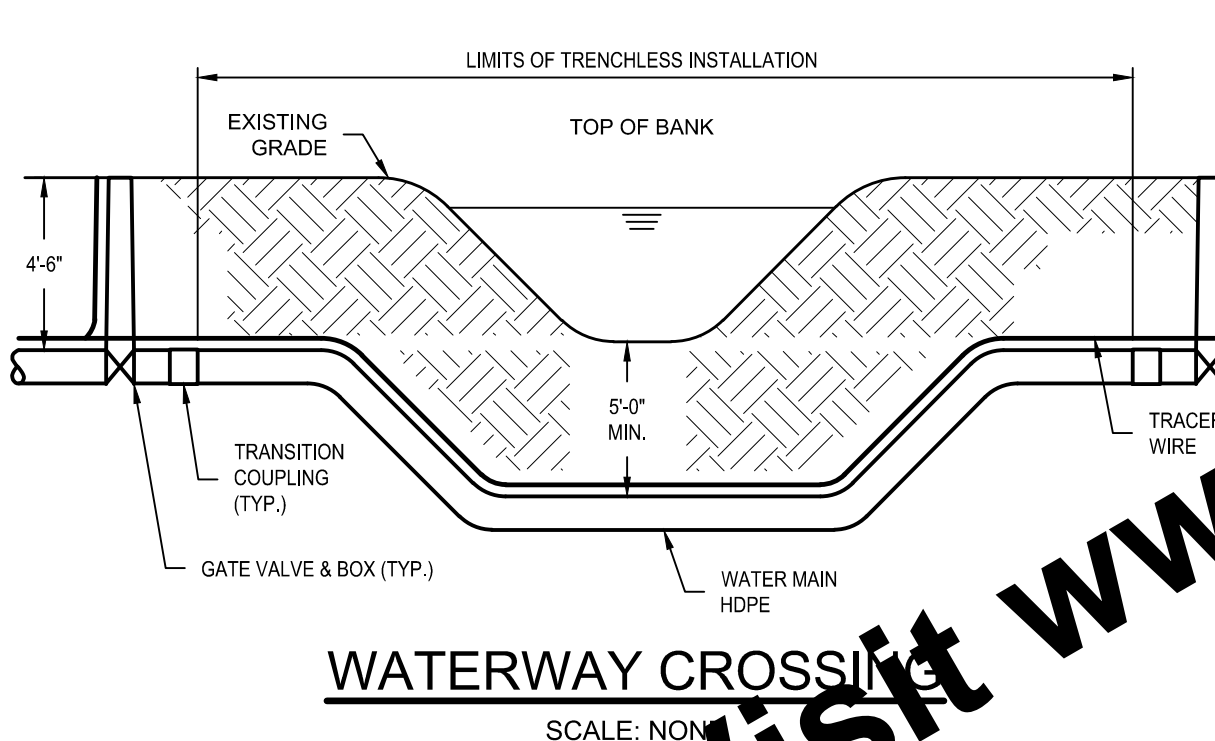
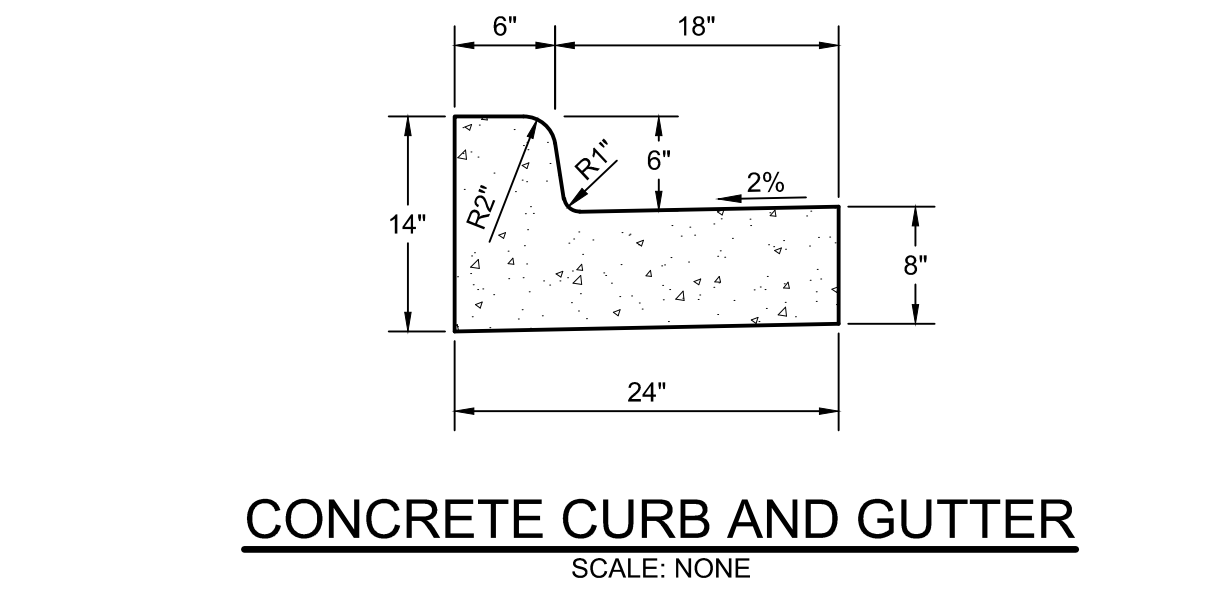
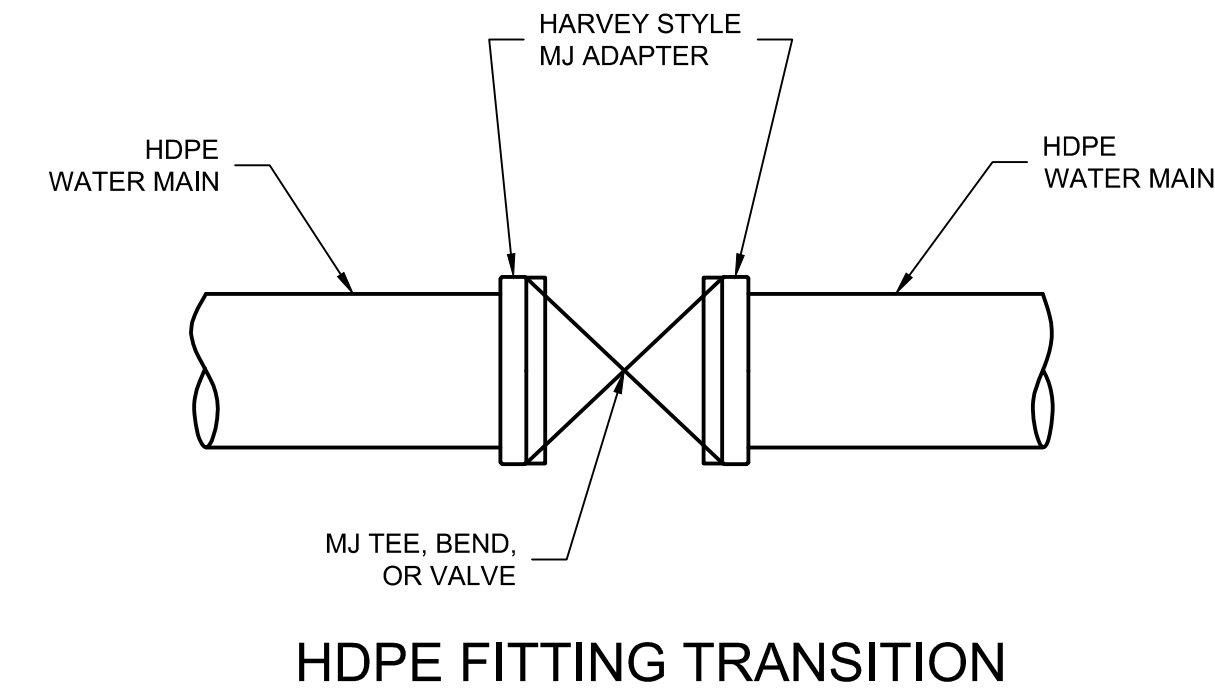
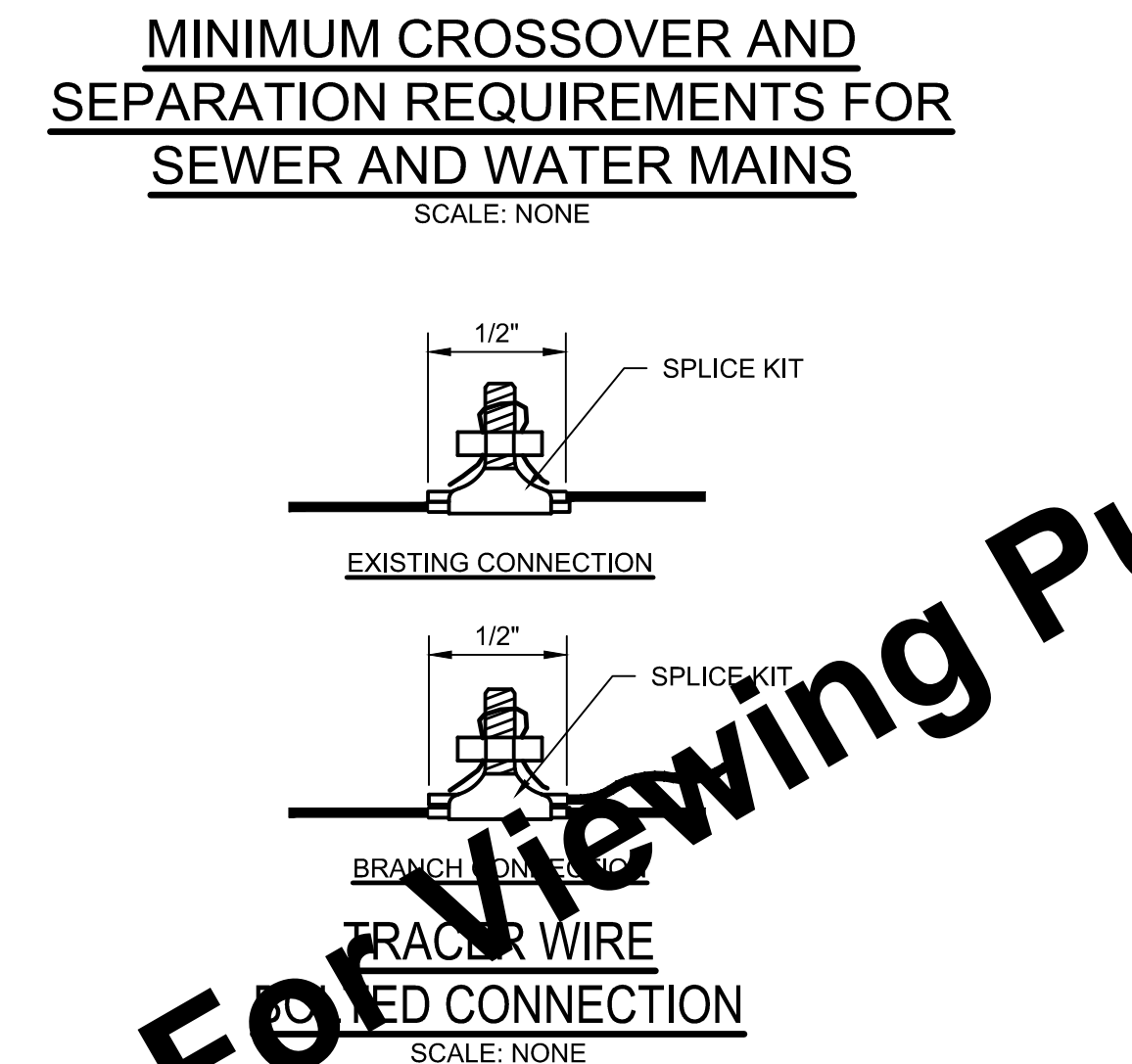
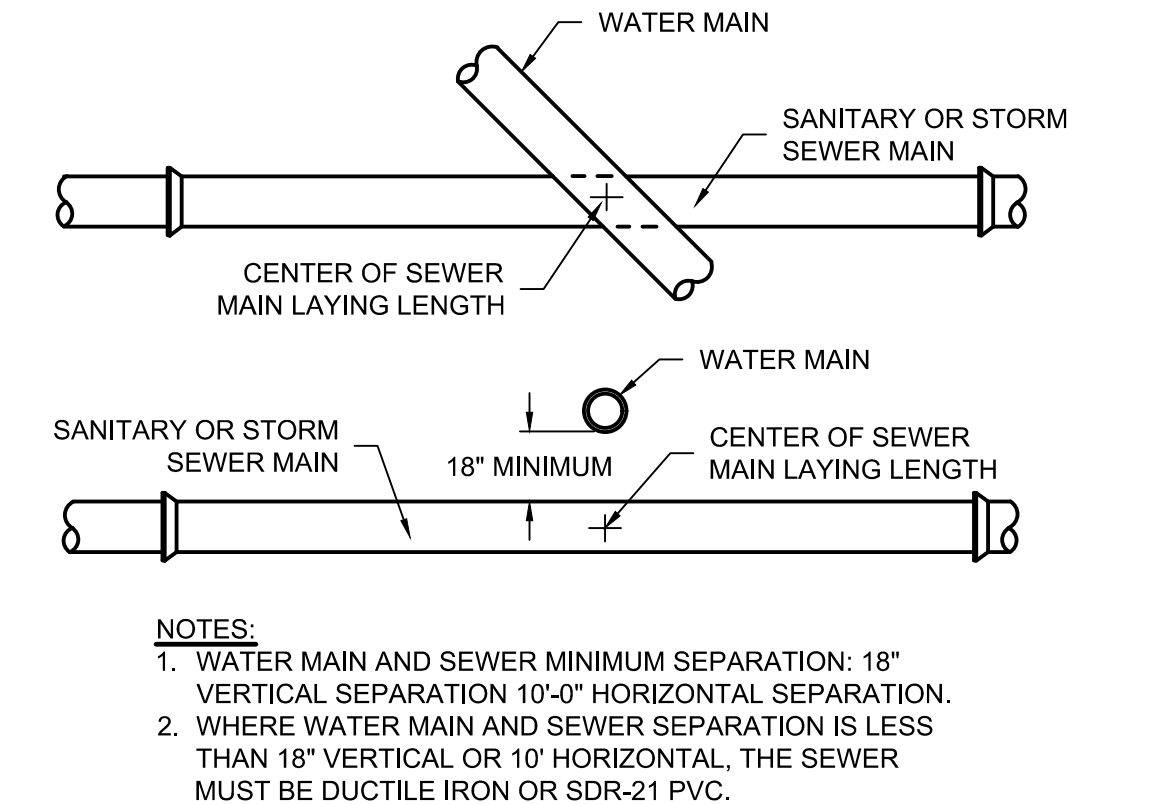
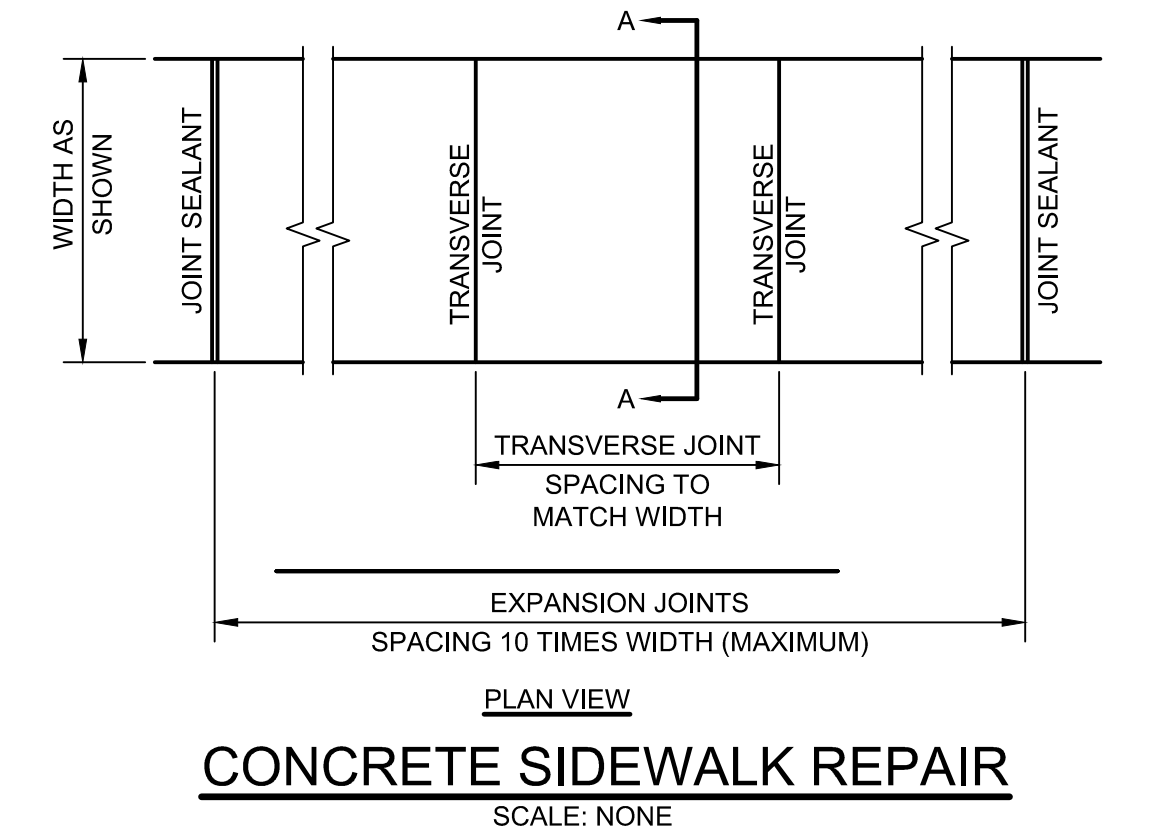
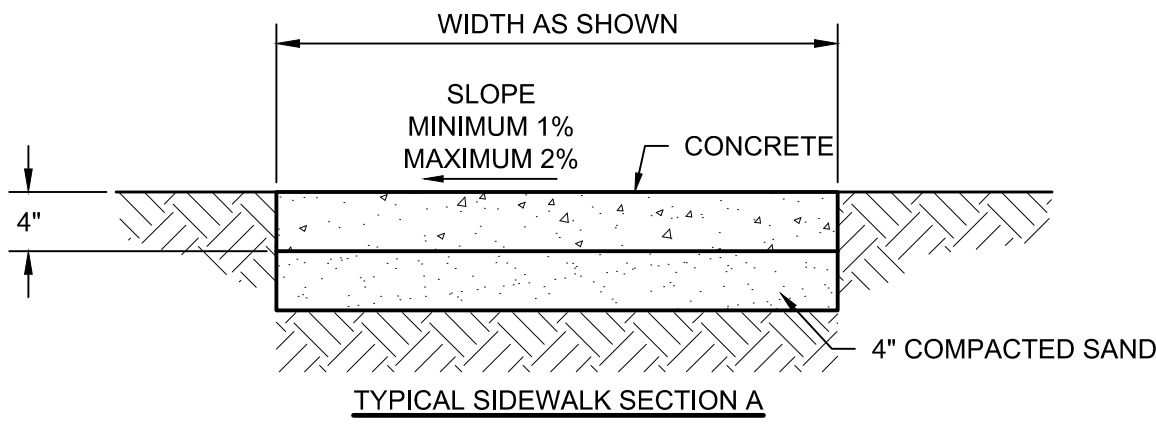
Andrew D. Gordon
REGISTERED
No. 10809017
STATE OF INDIANA
PROFESSIONAL ENGINEER
3/11/25



More than a Project™

NEW WATER MAIN PLAN AND PROFILE

08

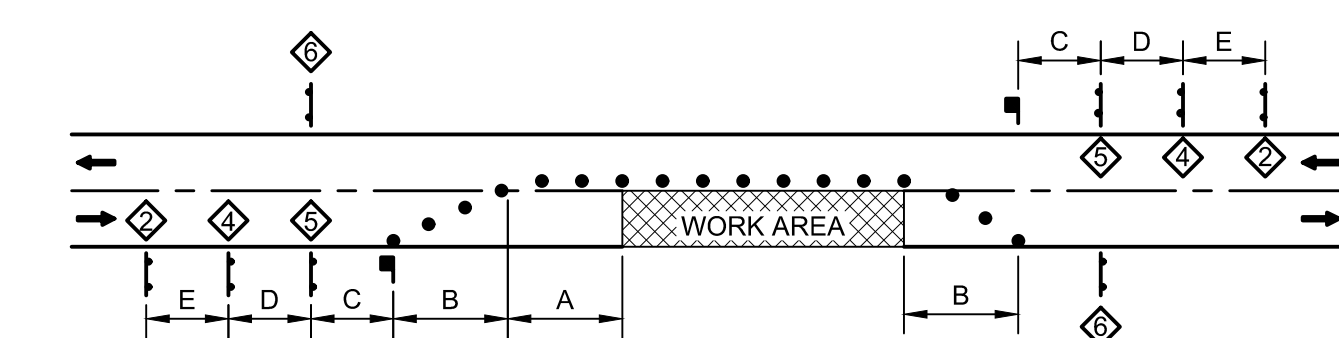


SPEED (MPH)	DISTANCE (FEET)				
	A	B	C	D	E
20 OR LESS	120	100	100	100	100
25	160	100	100	100	100
30	200	100	100	100	100
35	280	100	350	350	350
40	320	100	350	350	350
45	360	100	500	500	500
50	400	100	500	500	500
55	440	100	500	500	500
60	480	100	1,000	1,600	2,640
65	680	100	1,000	1,600	2,640
70	760	100	1,000	1,600	2,640

NOTES:
1. DISTANCES SHOWN ARE APPROXIMATE. ADJUST SIGN FOR CURVES, HILLS, INTERSECTIONS, DRIVEWAYS, ETC TO IMPROVE SIGN VISIBILITY.
2. THE SPACING OF CHANNELIZING DEVICES SHOULD BE A DISTANCE IN FEET EQUAL TO THE SPEED LIMIT IN MPH WHEN USED FOR TAPER CHANNELIZATION, AND A DISTANCE IN FEET EQUAL TO 2.0 TIMES THE SPEED LIMIT IN MPH USED FOR TANGENT CHANNELIZATION.

ADVANCE WARNING SIGN AND FLAGGER OPERATION SPACING

SCALE: NONE



TEMPORARY FLAGGER OPERATION

SCALE: NONE

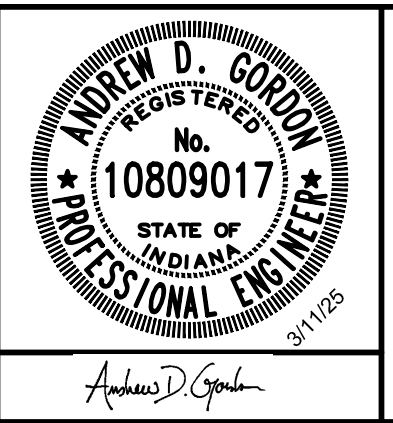
- WORK AREA(S)
- TYPE A CONSTRUCTION WARNING LIGHT
- WORKSITE ADDED PENALTY (G20-7)
- "ROAD WORK AHEAD" (W20-1) OR "UTILITY WORK AHEAD" (W21-7)
- "ROAD WORK - XXX FT" (W20-1)
- "ONE LANE ROAD AHEAD" (W20-4)
- FLAGGER SIGN (W20-7)
- "END ROAD WORK" (G20-2)
- BARRICADE TYPE IIIB
- TRAFFIC CONTROL DRUM
- TRAFFIC FLOW DIRECTION
- ROAD CLOSURE SIGN ASSEMBLY, INCLUDES R11-2, BARRICADE TYPE IIIB, AND TYPE B CONSTRUCTION WARNING LIGHT
- UNDISTRIBUTED COMPACTED AGGREGATE, NO. 53, TEMPORARY FOR ACCESS
- TEMPORARY PAVEMENT MARKING, REMOVABLE, SOLID, 4" (YELLOW)
- TEMPORARY PAVEMENT MARKING, REMOVABLE, SOLID, 4" (WHITE)
- TEMPORARY PAVEMENT MARKING, PAINT, SOLID, 4" (YELLOW)
- TEMPORARY PAVEMENT MARKING, PAINT, SOLID, 4" (WHITE)
- REMOVAL OF LINE
- FLAGGER
- SIGN, FACING LEFT
- SIGN, FACING RIGHT

TRAFFIC CONTROL LEGEND

SCALE: NONE

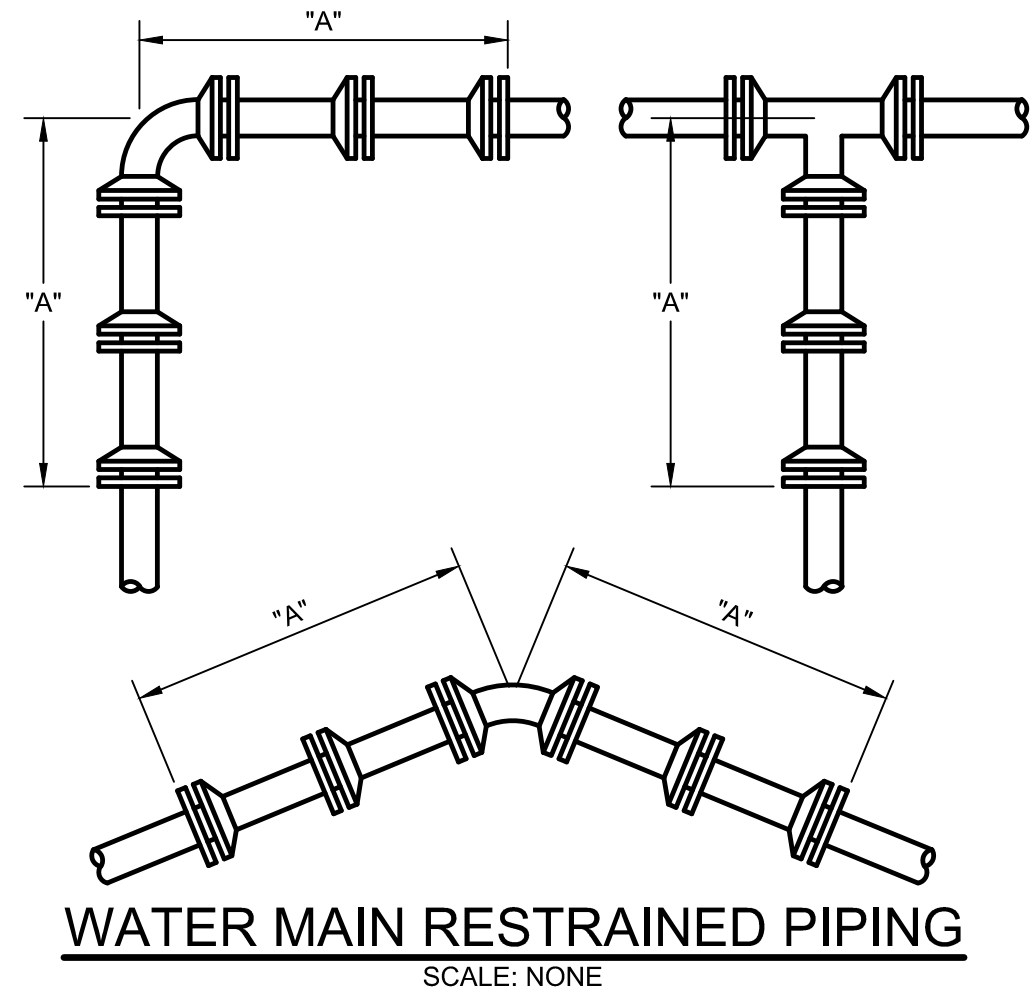
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	APPROVED BY	ADG				
	ISSUE DATE					
	MARCH 2025					
	PROJECT NUMBER					
		185616.04.023				

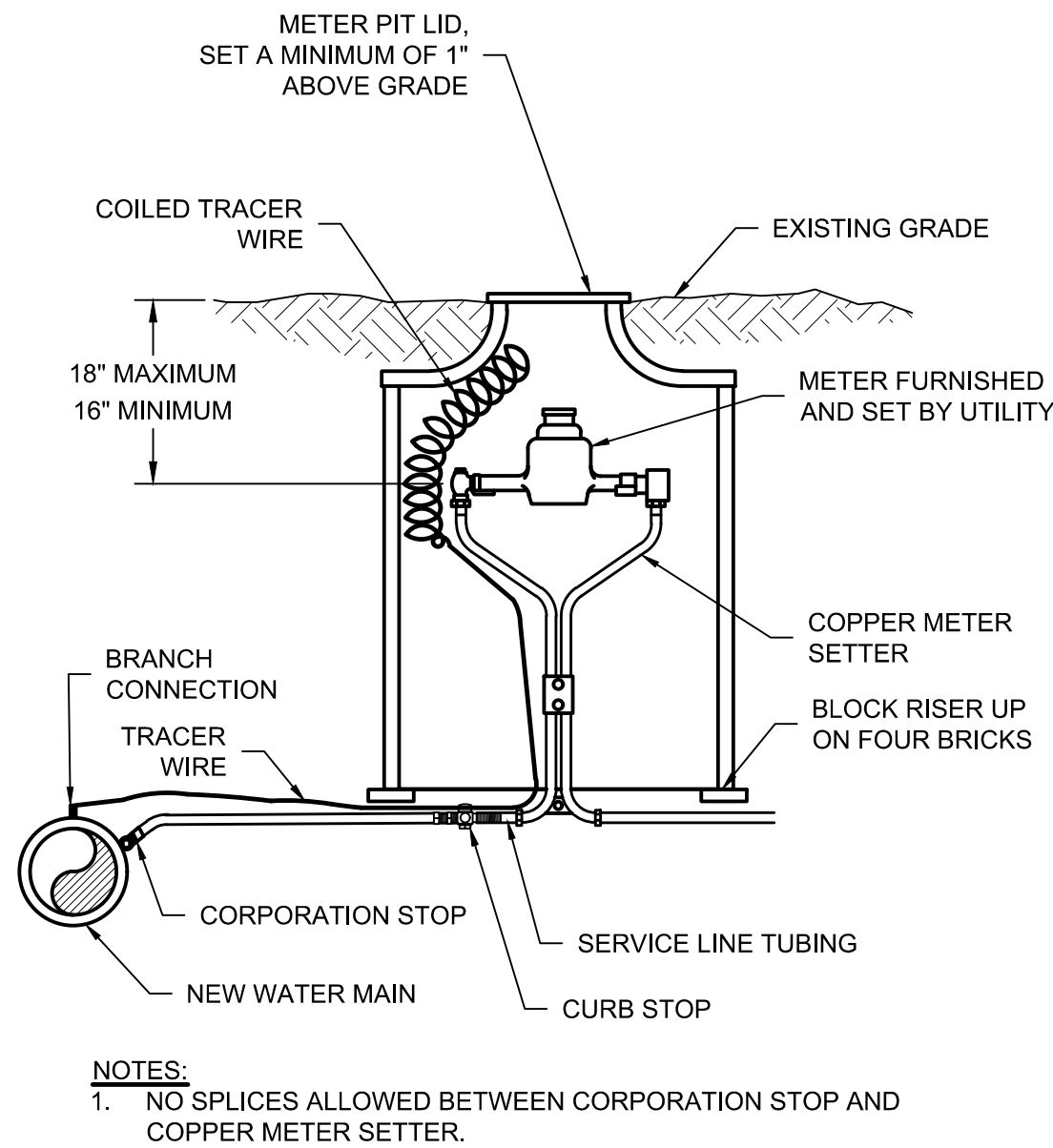


ARMSTRONG STREET WATER MAIN REPLACEMENT
FRANKFORT MUNICIPAL UTILITIES FRANKFORT, INDIANA
MISCELLANEOUS DETAILS

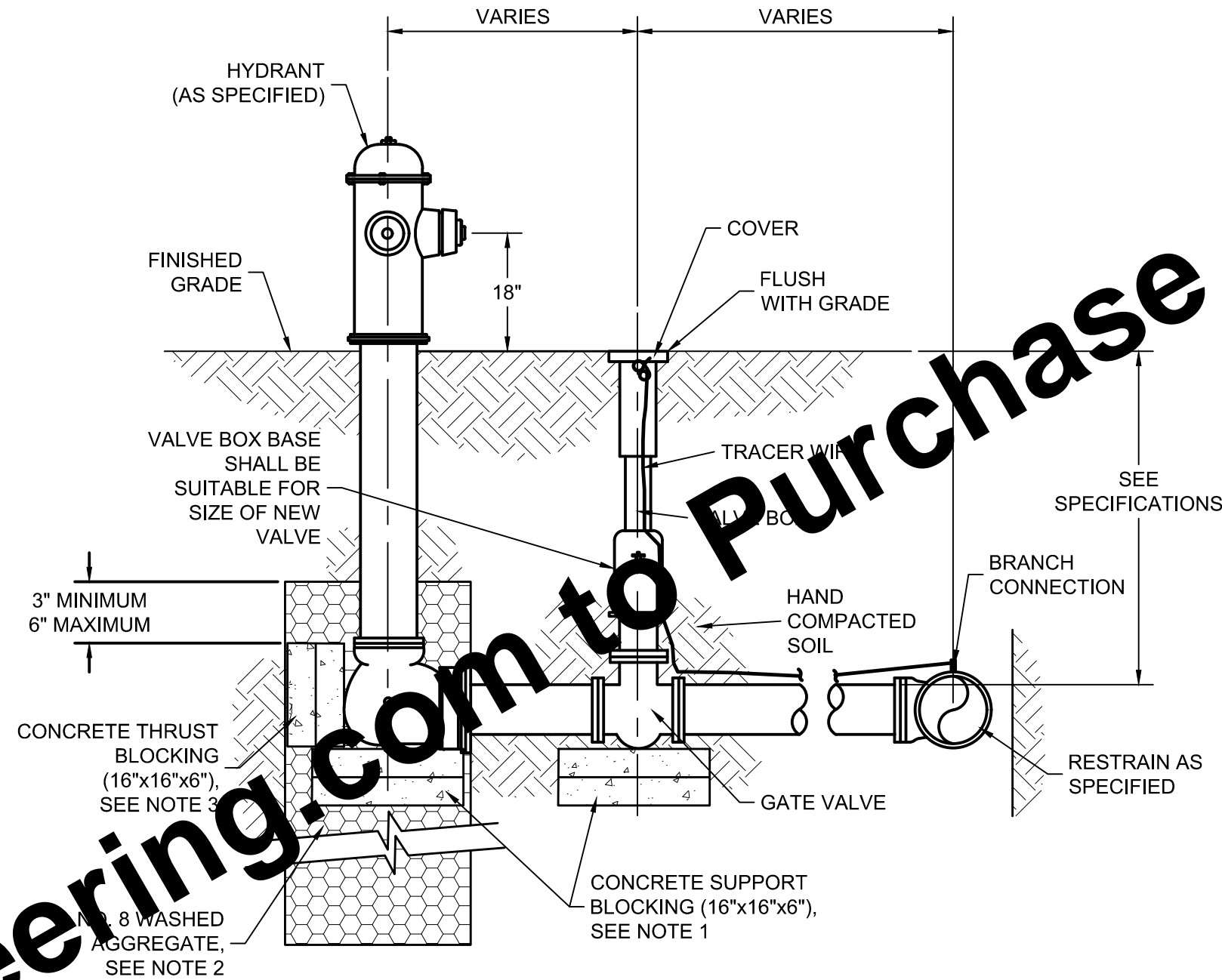
SHEET NO.
06
TOTAL SHEETS
08



Joint Restraint Table				
FEET OF RESTRAINED PIPE @ 150 PSI				
ON EACH SIDE OF FITTING				
FITTING TYPE	WATER MAIN SIZE			
	3 INCH	6 INCH	8 INCH	10 INCH
22 1/2"	3	5	7	8
45°	6	11	14	17
90°	15	25	32	39
22 1/2"	5	9	11	14
45°	11	18	23	28
MAIN SIZE x 6"	--	--	23	42
MAIN SIZE x 8"	--	--	--	24
TEE OUTLET	11	29	41	53
VALVE OR PLUG	25	43	55	68
DEAD END	25	43	55	68

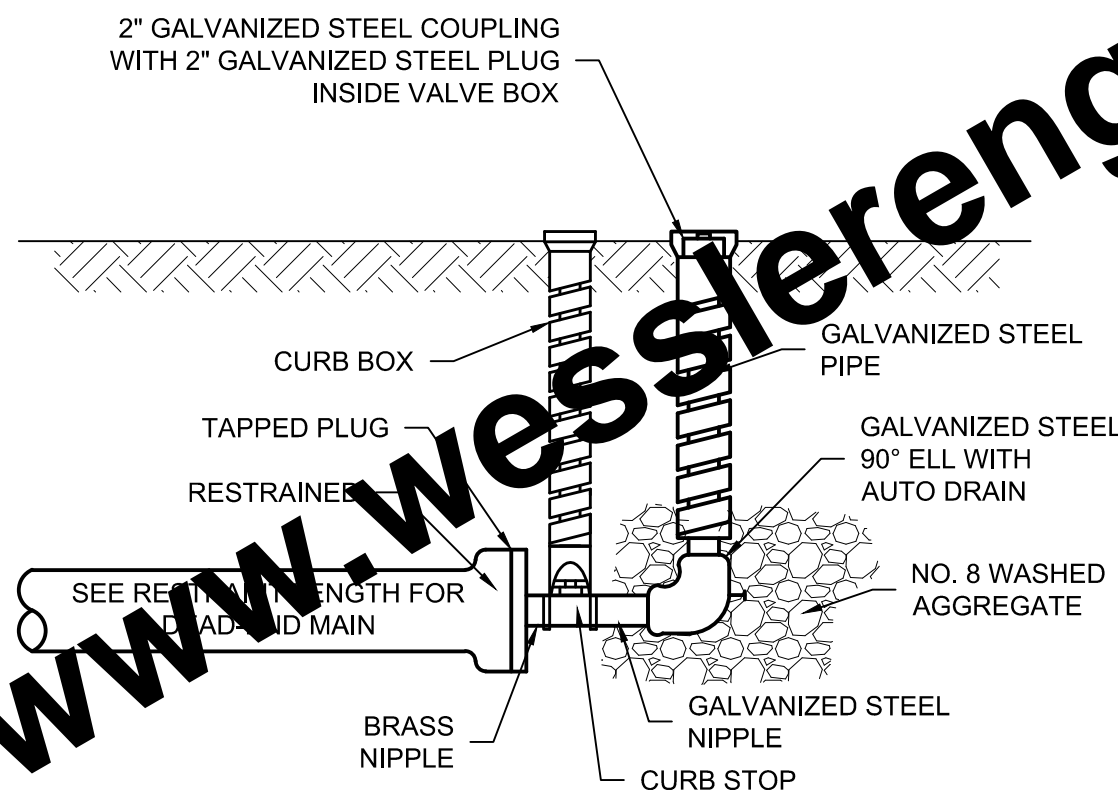


SINGLE METER PIT
SCALE: NONE

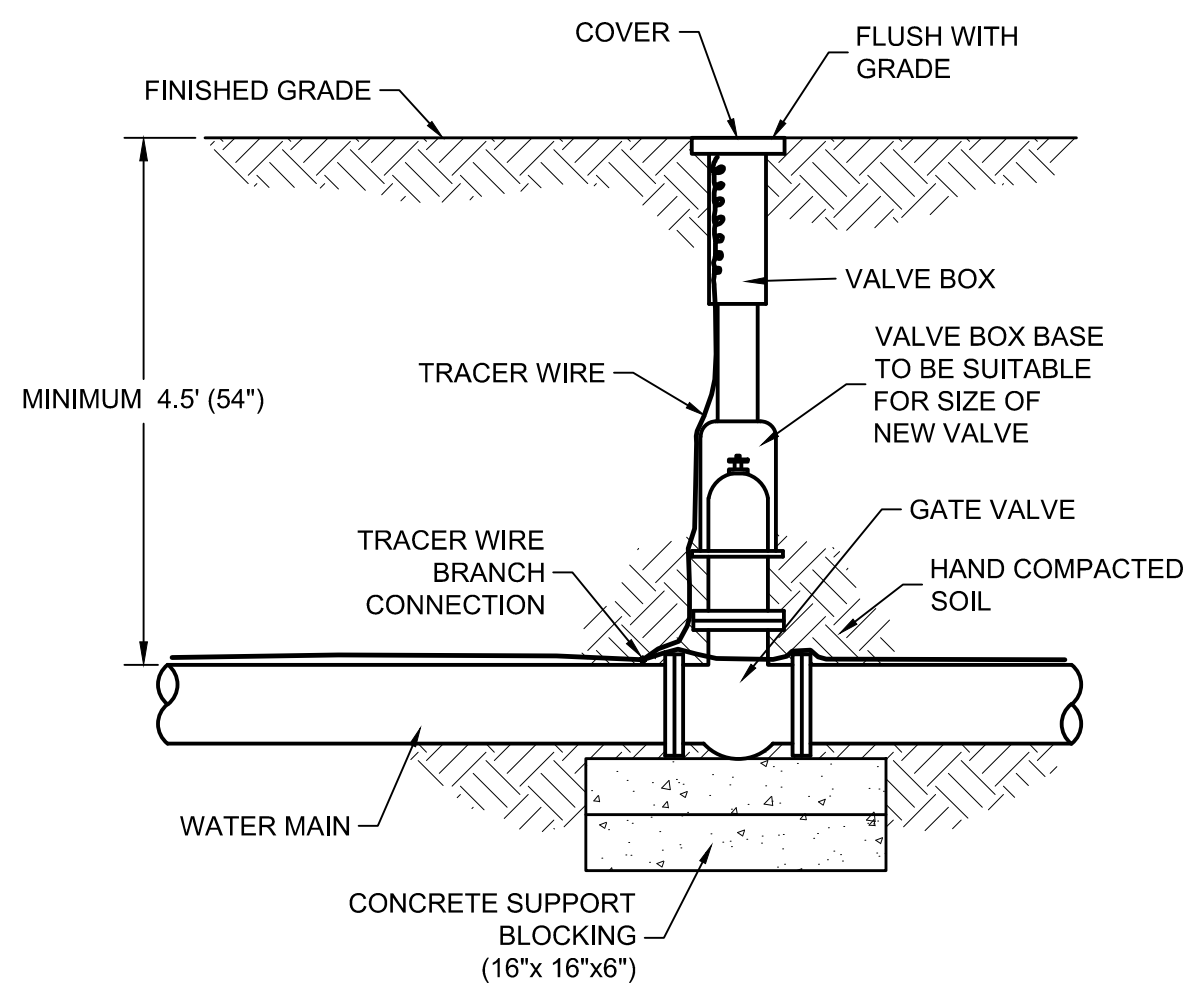


- NOTES:
1. SET HYDRANT AND VALVE ON CONCRETE SUPPORT BLOCKING.
 2. PLACE 2'x3' DEEP DRAINAGE PIT. EXTEND A MINIMUM OF 3", AND MAXIMUM OF 6", ABOVE HYDRANT BOOT.
 3. RESTRAINED FITTINGS SHALL BE USED IN ADDITION TO CONCRETE THRUST BLOCKING. RESTRAINTS MUST BE USED FROM THE DISTRIBUTION MAIN TO THE HYDRANT. PLACE CONCRETE BLOCKS BEHIND HYDRANT TO UNDISTURBED EARTH.
 4. VALVE BOX SHALL BE CENTERED AND PLUMB OVER VALVE OPERATING NUT.

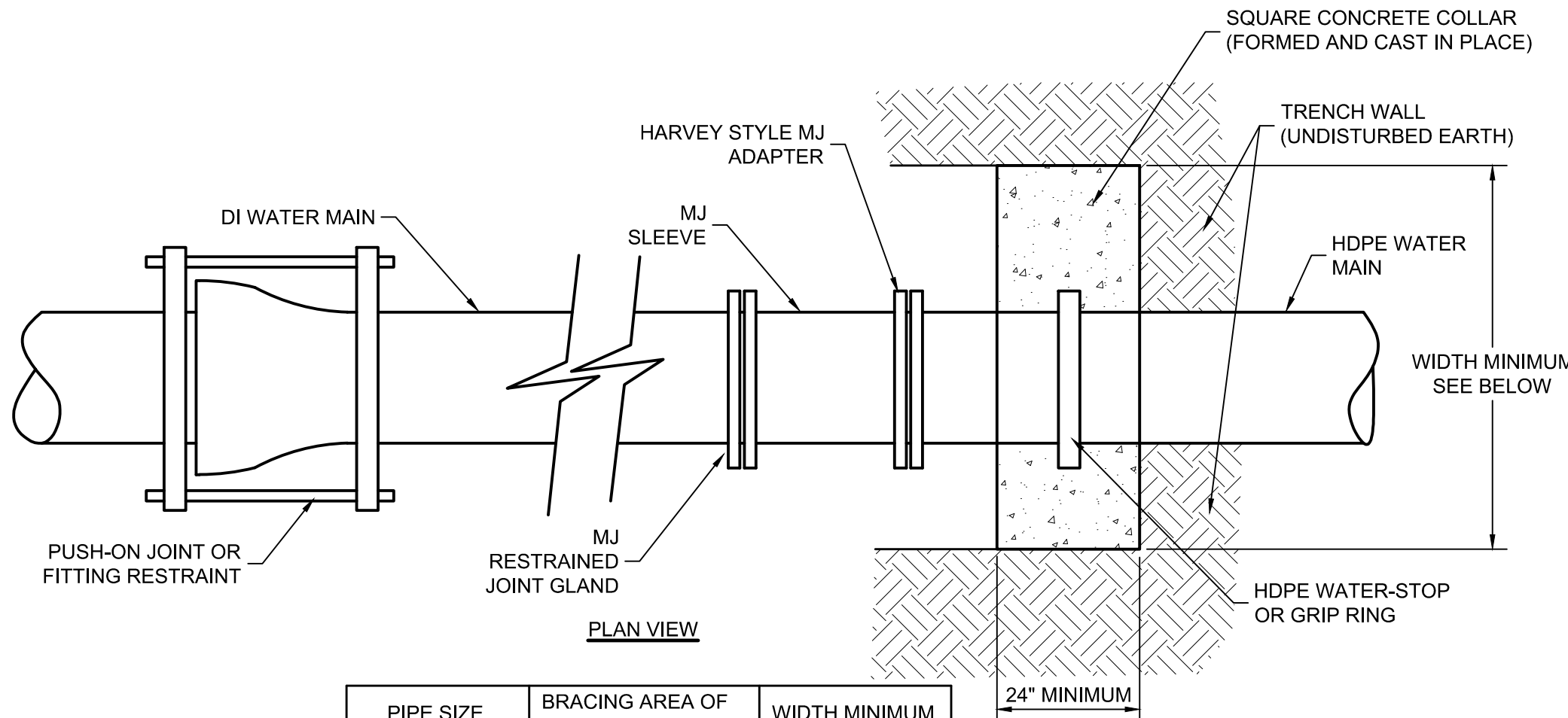
H-3 HYDRANT ASSEMBLY
SCALE: NONE



2" PERMANENT BLOW-OFF ASSEMBLY
SCALE: NONE

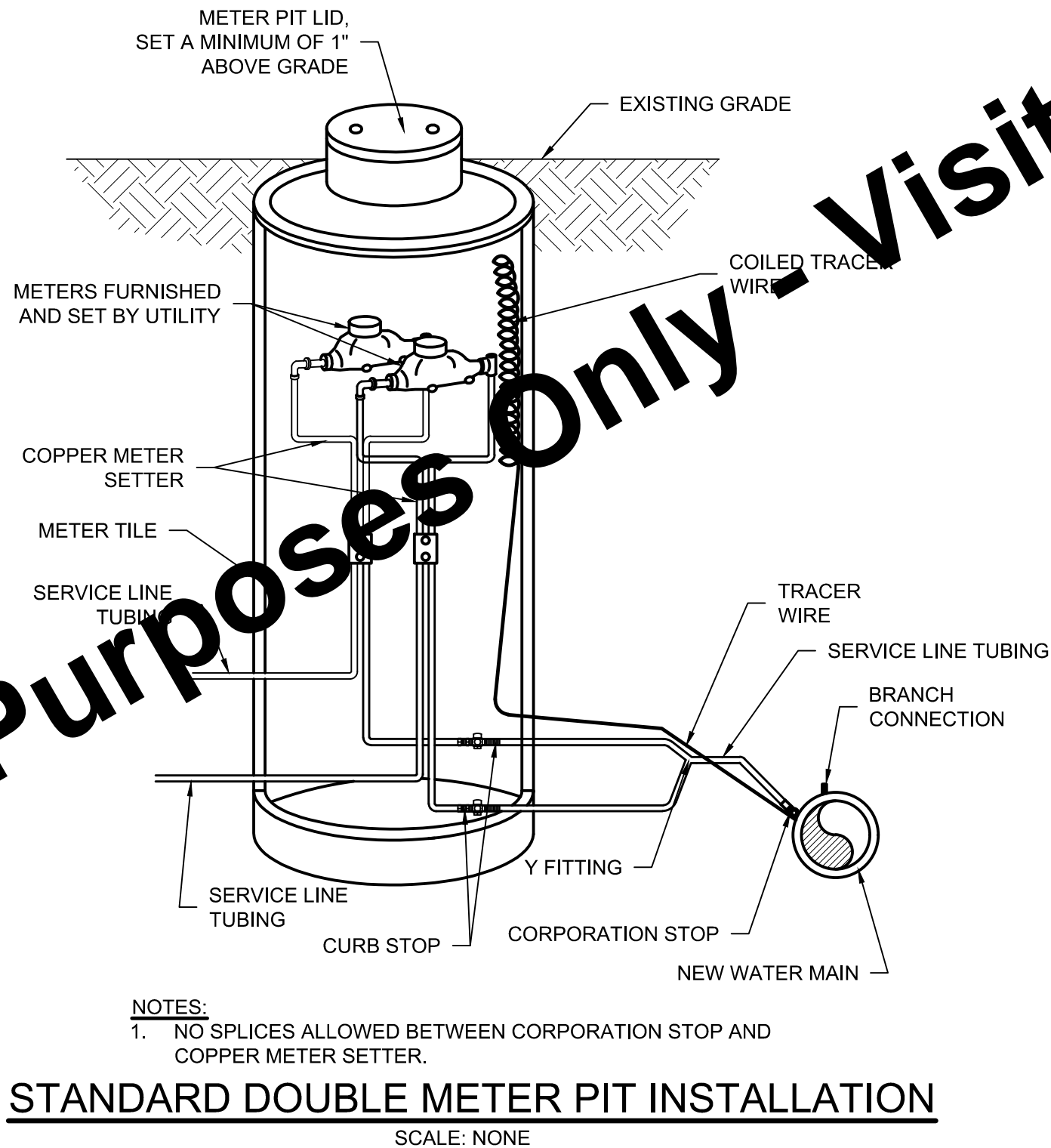


GATE VALVE
SCALE: NONE



PIPE SIZE	BRACING AREA OF CONCRETE COLLAR	WIDTH MINIMUM
4"	2.25 SF	1'-6"
6"	5 SF	3'-0"
8"	9 SF	3'-6"
10"	14 SF	3'-11"


HDPE PIPE TRANSITION
SCALE: NONE

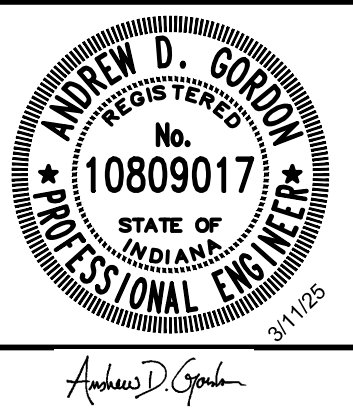


STANDARD DOUBLE METER PIT INSTALLATION
SCALE: NONE

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SCALE VERIFICATION BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	DRAWN BY	MTF	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
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	APPROVED BY	ADG				
	ISSUE DATE					
	MARCH 2025					
	PROJECT NUMBER					
	185616.04.023					

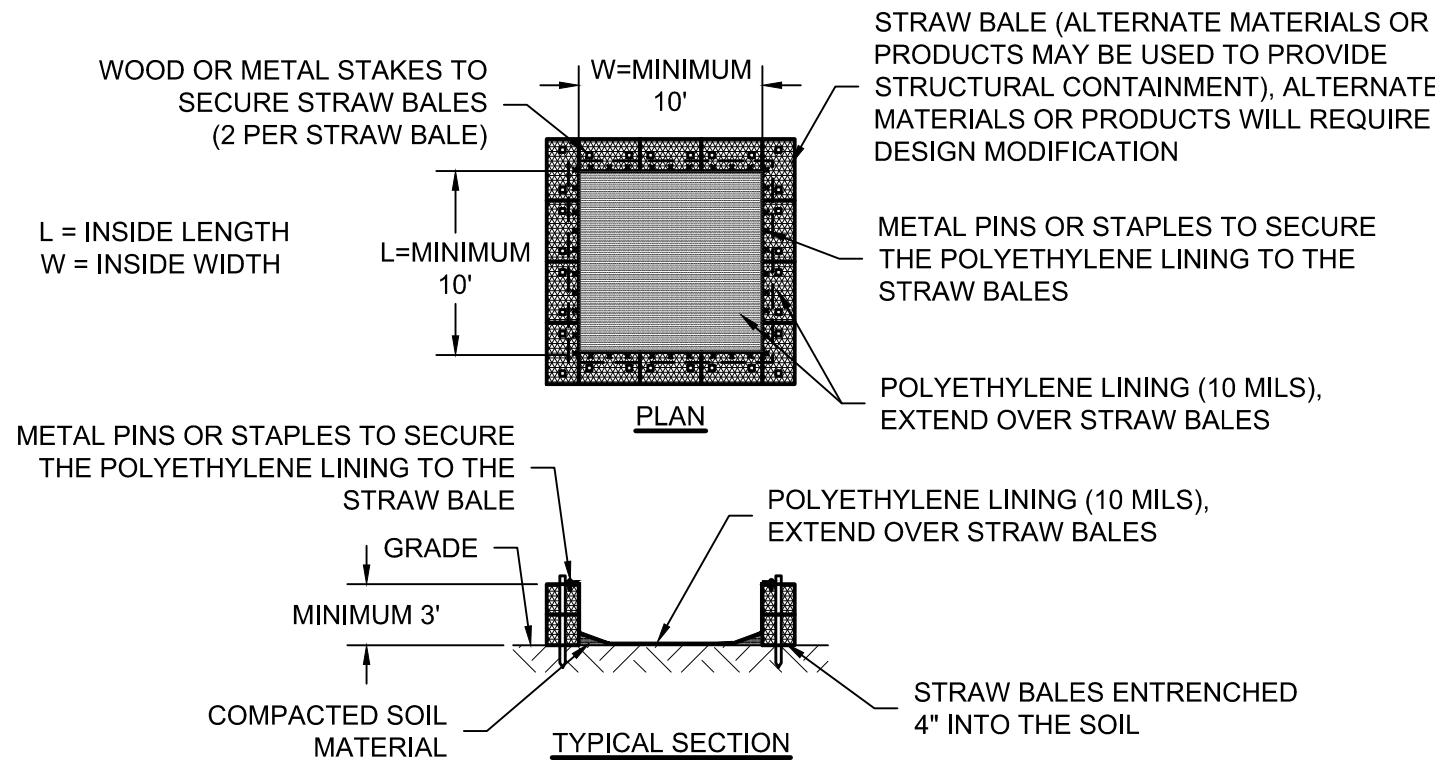


ARMSTRONG STREET WATER MAIN REPLACEMENT	
FRANKFORT MUNICIPAL UTILITIES FRANKFORT, INDIANA	
MISCELLANEOUS DETAILS	

SHEET NO.	07
TOTAL SHEETS	08

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- NOTES:**
- LOCATE WASHOUTS AT LEAST 50' FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAIN/CONVEYANCES.
- WASHOUT PROCEDURES:**
- DO NOT LEAVE EXCESS MUD IN THE CHUTES OR HOPPER AFTER POURING CONCRETE. MAKE EVERY EFFORT TO EMPTY THE CHUTE AND HOPPER AT THE POUR. THE LESS MATERIAL LEFT IN THE CHUTES AND HOPPER, THE QUICKER AND EASIER THE CLEANOUT. SMALL AMOUNTS OF EXCESS CONCRETE (NOT WASHOUT WATER) MAY BE DISPOSED OF IN AREAS THAT WILL NOT FLOW TO AN AREA THAT IS TO BE PROTECTED.
 - SCRAPE AS MUCH MATERIAL FROM THE CHUTES AS POSSIBLE BEFORE WASHING THEM. USE NON-WATER CLEANING METHODS TO MINIMIZE THE CHANCE FOR WASTE TO FLOW OFF SITE.
 - STOP WASHING OUT IN AN AREA IF YOU OBSERVE WATER RUNNING OFF THE DESIGNATED AREA OR IF THE WATER IS NOT BEING CONTAINED WITHIN THE WASHOUT AREA.
 - DO NOT BACK FLUSH EQUIPMENT AT THE PROJECT SITE.
 - DO NOT USE ADDITIVES WITH WASH WATER.
 - DO NOT WASH OUT OR DRAIN WASTE WATERS TO STORM DRAINS, WETLANDS, STREAMS, RIVERS, CREEKS, DITCHES OR STREETS.
- MAINTENANCE:**
- MAINTENANCE REQUIREMENTS PROVIDED IN SPECIFICATIONS.

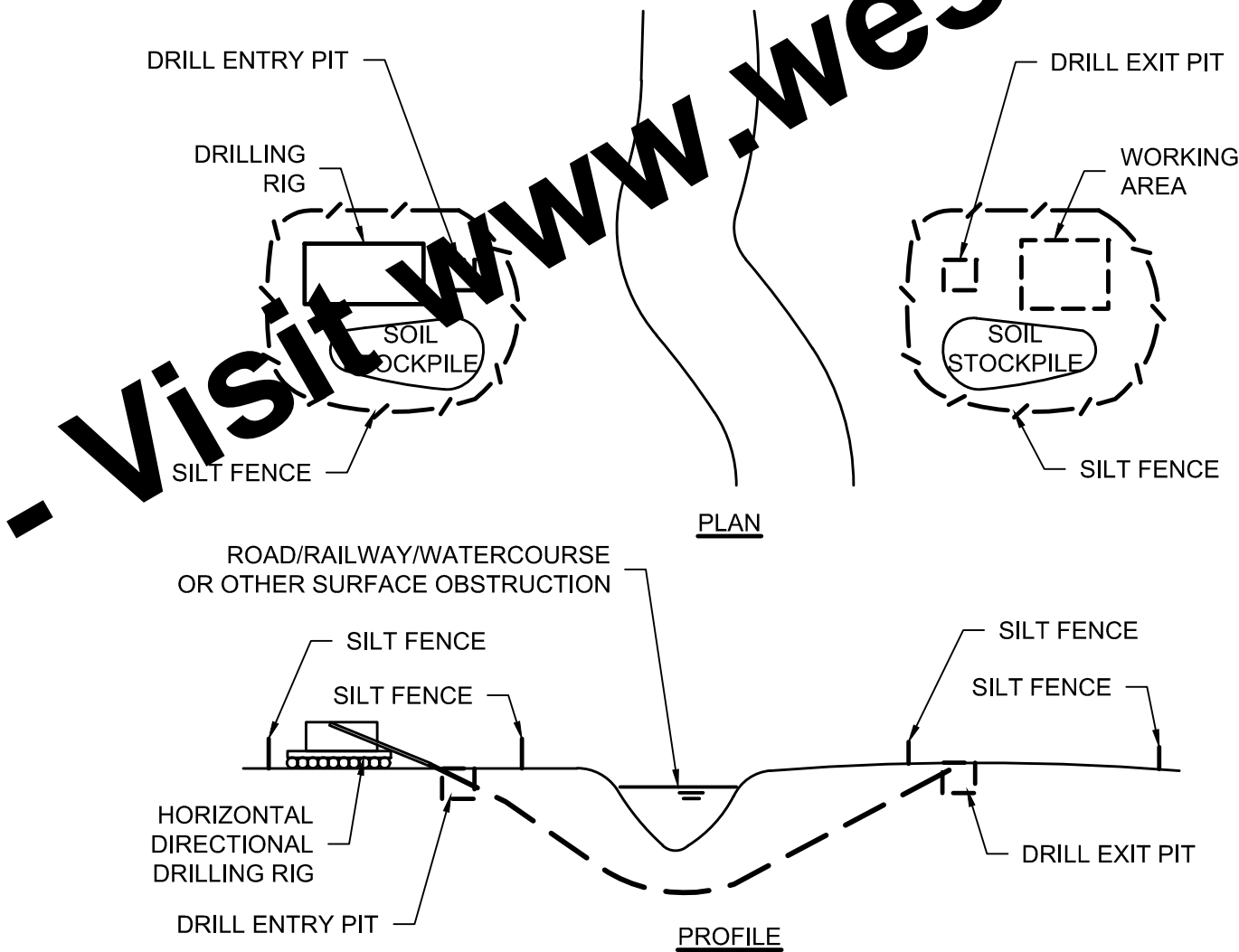
CONCRETE WASHOUT

SCALE: NONE

EROSION CONTROL SCHEDULE	
CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
REVIEW THE EROSION CONTROL SCHEDULE ON THE DRAWINGS AND REVISE AS NEEDED TO PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE FOOTPRINT OF DISTURBED UNSTABLE AREAS. SUBMIT A REVISED EROSION CONTROL SCHEDULE AS NEEDED FOR TEMPORARY AND PERMANENT EROSION CONTROL WORK AS APPLICABLE.	COMPLETE BEFORE CONSTRUCTION BEGINS.
CONSTRUCTION ACCESS - ENTRANCE TO SITE, CONSTRUCTION ROUTES, AREAS DESIGNATED FOR EQUIPMENT PARKING OR MATERIAL STAGING AND WASTE HANDLING.	THIS IS THE FIRST LAND-DISTURBING ACTIVITY. AS SOON AS CONSTRUCTION BEGINS, STABILIZE ANY BARE AREAS WITH AGGREGATE AND TEMPORARY VEGETATION.
SEDIMENT TRAPS AND BARRIERS - BASIN TRAPS, SILT FENCE AND PERIMETER PROTECTION.	AFTER CONSTRUCTION IS ACCESSED, BASINS SHALL BE INSTALLED, WITH THE ADDITION OF MORE TRAPS AND BARRIERS AS NEEDED DURING GRADING. SET UP PROTECTION FOR NATURAL FEATURES, TREES AND BUFFERS.
RUNOFF CONTROL - DIVERSIONS, PERIMETER PROTECTION, CHECK DAMS, OUTLET PROTECTION.	RUNOFF CONTROL PRACTICES SHALL BE INSTALLED AFTER THE INSTALLATION OF SEDIMENT TRAPS AND BEFORE LAND GRADING. ADDITIONAL RUNOFF CONTROL MEASURES MAY BE INSTALLED DURING GRADING.
RUNOFF CONVEYANCE SYSTEM - STABILIZE STREAM BANKS, STORM DRAINS, CHANNELS, INLET AND OUTLET PROTECTION, SLOPE DRAINS.	AS NECESSARY, STABILIZE STREAM BANKS AND SIDE SLOPES OF RUNOFF SYSTEMS AS SOON AS POSSIBLE. USE EROSION CONTROL BLANKETS OR SLOPE DRAINS TO PREVENT EROSION. INSTALL INLET PROTECTION TO PREVENT SEDIMENTS FROM ENTERING STORM DRAINAGE SYSTEMS. PROTECT STORM OUTLETS TO PREVENT EROSION.
LAND CLEARING AND GRADING - SITE PREPARATION (CUTTING, FILLING, AND GRADING, SEDIMENT TRAPS, BARRIERS, DIVERSIONS, DRAINS, SURFACE ROUGHENING).	IMPLEMENT CLEARING AND GRADING AFTER INSTALLATION OF SEDIMENT TRAPS AND EROSION CONTROL MEASURES, AND INSTALL ADDITIONAL CONTROL MEASURES AS GRADING CONTINUES. CLEAR BORROW AND DISPOSAL AREAS AS NEEDED.
SURFACE STABILIZATION - TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIPRAP, EROSION CONTROL BLANKET.	APPLY TEMPORARY OR PERMANENT STABILIZING MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS BEEN EITHER COMPLETED OR DELAYED.
CONSTRUCTION - STRUCTURES, UTILITIES, PAVING, CONCRETE WASHOUT, AND CONSTRUCTION ENTRANCES.	DURING CONSTRUCTION, INSTALL ANY EROSION AND SEDIMENTATION CONTROL MEASURES THAT ARE REQUIRED.
LANDSCAPING AND FINAL STABILIZATION - TOPSOILING, TREES AND SHRUBS, PERMANENT SEEDING, MULCHING, SODDING, RIPRAP.	THIS IS THE LAST CONSTRUCTION PHASE. STABILIZE ALL DISTURBED AREAS, INCLUDING BORROW AND SPOIL AREAS, AND REMOVE ALL TEMPORARY CONTROL MEASURES. FINAL STABILIZATION IS WHEN A UNIFORM DENSITY OF 70% VEGETATION COVER IS MET. PROVIDE NOTIFICATION TO THE OWNER WHEN THE ENTIRE SITE HAS BEEN STABILIZED AND ALL CONSTRUCTION MATERIALS, WASTES, AND EQUIPMENT HAVE BEEN REMOVED.

EROSION CONTROL SCHEDULE

SCALE: NONE



- NOTES:**
- INSTALL SILT FENCE PRIOR TO ANY EXCAVATION.
 - FILTER WATER FROM BORE PIT DEWATERING, AND DO NOT DIRECTLY DISCHARGE TO ANY DITCH, STREAM, WETLAND OR STORM WATER CONVEYANCE. REFER TO PUMPING BAG DETAIL.
 - PLACE SOIL STOCKPILES WITHIN THE SILT FENCE BOUNDARY.
 - SOIL FROM STOCKPILES SHALL BE USED FOR BACKFILL OR DISPOSED OF PROPERLY.
 - RESEED AND MULCH ALL DISTURBED SOIL SURFACES.
 - ENVIRONMENTAL PROTECTION TO BE PROVIDED AS NECESSARY TO CONTAIN ANY DRILLING FLUID SPILLS.
- MAINTENANCE:**
- INSPECT SILT FENCE BARRIERS AFTER EACH RAINFALL, AND REPAIR OR REPLACE IMMEDIATELY.
 - REMOVE SEDIMENT DEPOSITS FROM THE SILT FENCE AFTER STORM EVENTS.

HORIZONTAL DIRECTIONAL DRILLING

SCALE: NONE

SEASONAL SOIL PROTECTION CHART											
STABILIZATION PRACTICE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	DEC
PERMANENT SEEDING											
DORMANT SEEDING											
TEMPORARY SEEDING											
SODDING											
MULCHING											

A. = KENTUCKY BLUEGRASS 140 LB/ACRE; OR 170 LB/ACRE TALL FESCUE PLUS 30 LB/ACRE BLUEGRASS; OR APPROVED EQUAL GRASS SEED MIXTURE

B. = KENTUCKY BLUEGRASS 210 LB/ACRE; OR 90 LB/ACRE PERENNIAL RYEGRASS PLUS 135 LB/ACRE BLUEGRASS OR 250 LB/ACRE TALL FESCUE (TURF TYP) PLUS 45 LB/ACRE BLUEGRASS; OR APPROVED EQUAL GRASS SEED MIXTURE

C. = SPRING OATS 100 LB/ACRE (1" PLANTING DEPTH)

D. = WHEAT OR RYE 150 LB/ACRE (1" - 1.5" PLANTING DEPTH)

E. = ANNUAL RYEGRASS 40 LB/ACRE (1/4" PLANTING DEPTH)

F. = SOD

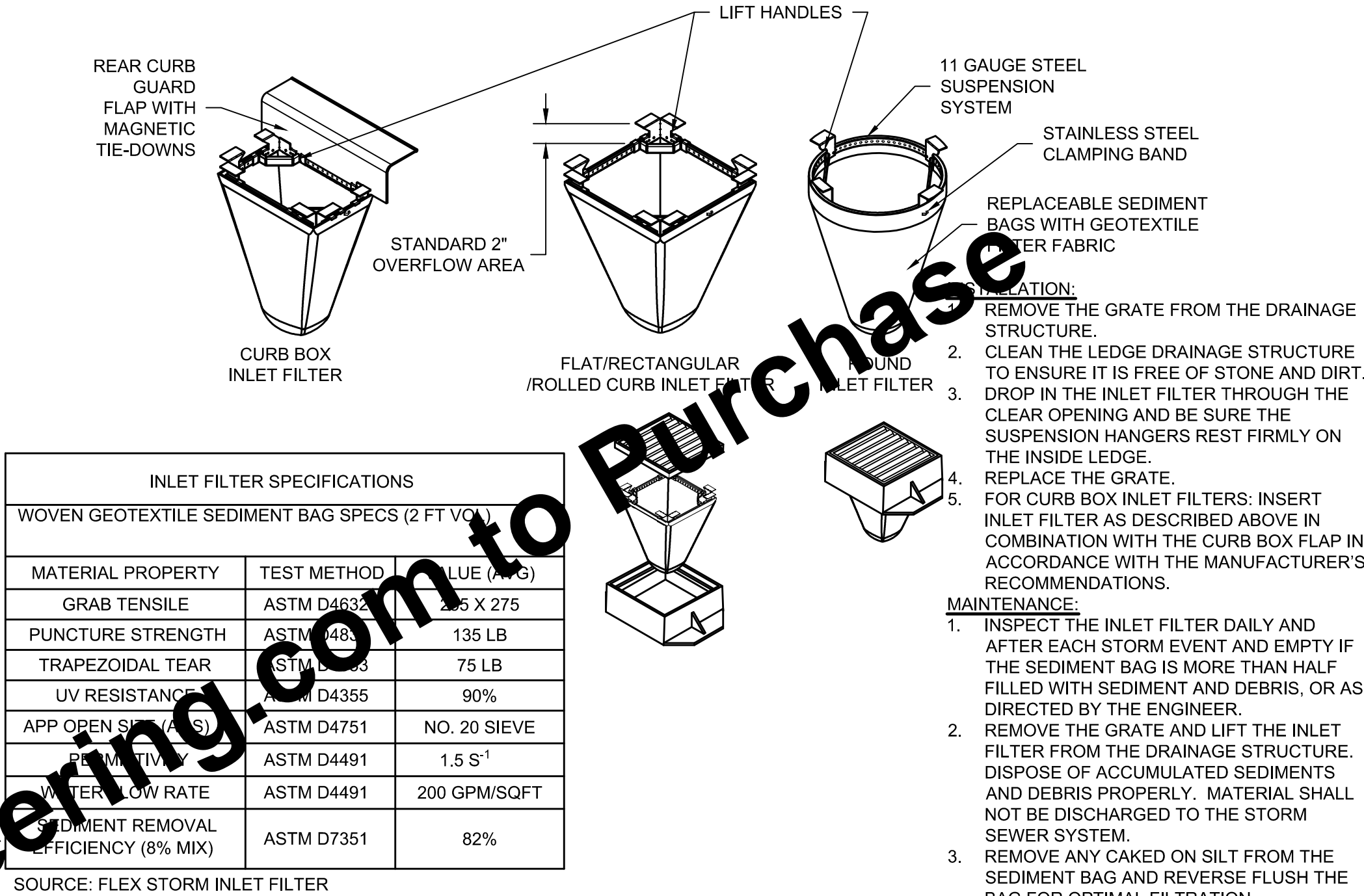
G. = ANCHORED STRAW/HAY (2 TONS/ACRE) OR WOOD FIBER/CELLULOSE (1 TON/ACRE) IS REQUIRED WITH PERMANENT SEEDING AND TEMPORARY SEEDING. ALSO REQUIRED WITH DORMANT SEEDING UNLESS SOIL IS IN FREEZE/THAW CYCLE.

NOTES:

- IRRIGATION NEEDED DURING MAY THROUGH SEPTEMBER.
- IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.
- ANCHORED MULCH IS REQUIRED FOR PERMANENT, DORMANT AND TEMPORARY SEEDING.
- OPTIMUM SEEDING DATES PROVIDED. DATES MAY BE EXTENDED OR SHORTENED BASED ON PROJECT LOCATION.
- SEED MIXTURES PROVIDED FOR LAWNS AND HIGH MAINTENANCE AREAS.
- IF CONSTRUCTION ACTIVITIES ARE LOCATED WITHIN A FLOODWAY, SEE MIXTURES CONSISTING OF TALL FESCUE SHALL NOT BE UTILIZED.

MAINTENANCE:

- INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
- CHECK FOR EROSION AND MOVEMENT OF MULCH AND REPAIR IMMEDIATELY.
- MONITOR FOR EROSION DAMAGE AND ADEQUATE COVER (70% DENSITY).
- RESEED OR APPLY MULCH WHERE NECESSARY.
- SELECT SOIL AMENDMENT MATERIALS AND RATES AS DETERMINED BY SOIL TESTS AND SITE CONDITIONS.

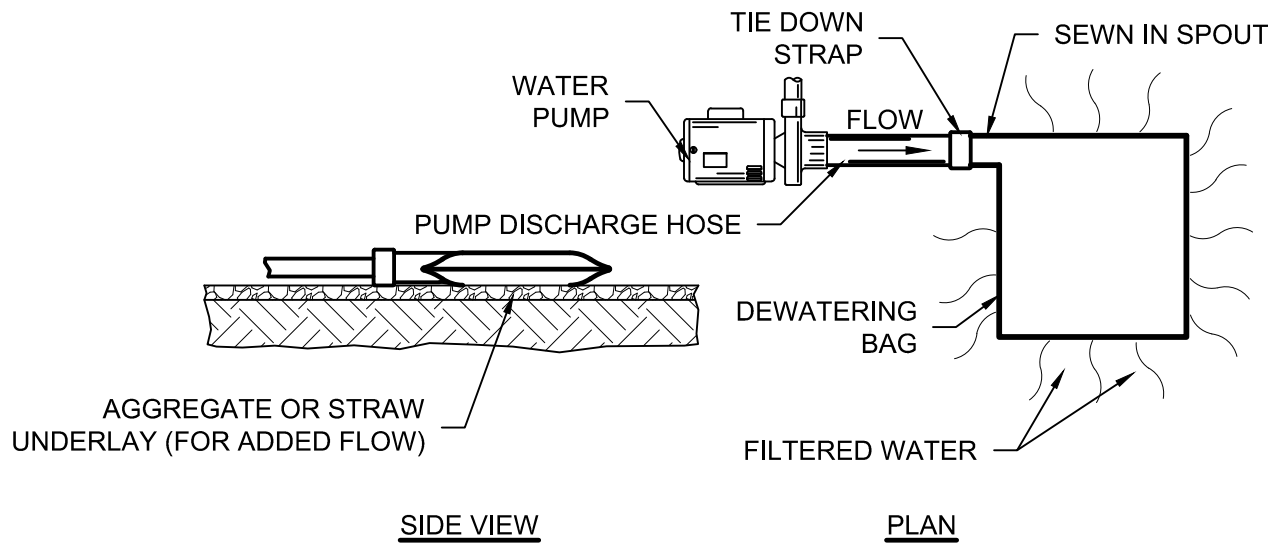


INLET FILTER SPECIFICATIONS		
WOVEN GEOTEXTILE SEDIMENT BAG SPECS (2 FT VOL)		
MATERIAL PROPERTY	TEST METHOD	VALUE (TYP)
GRAB TENSILE	ASTM D4632	205 X 275
PUNCTURE STRENGTH	ASTM D4833	135 LB
TRAPEZOIDAL TEAR	ASTM D4533	75 LB
UV RESISTANCE	ASTM D4355	90%
APP OPEN SIZE (AST)	ASTM D4751	NO. 20 SIEVE
PERMITTIVITY	ASTM D4491	1.5 S ⁻¹
WATER FLOW RATE	ASTM D4491	200 GPM/SQFT
SEDIMENT REMOVAL EFFICIENCY (8% MIX)	ASTM D7351	82%

SOURCE: FLEX STORM INLET FILTER

INLET PROTECTION

SCALE: NONE



MECHANICAL PROPERTIES	TEST METHOD	UNITS	INDUSTRY STANDARD
GRAB TENSILE STRENGTH	ASTM D4632	kN (LB)	0.9 (205) X 0.9 (205)
GRAB TENSILE ELONGATION	ASTM D4632	%	50 X 50
PUNCTURE STRENGTH	ASTM D4833	kN (LB)	0.58 (130)
MULLEN BURST STRENGTH	ASTM D3786	kPa (PSI)	2618 (380)
TRAPEZOID TEAR STRENGTH	ASTM D4533	kN (LB)	0.36 (80) X 0.36 (80)
UV RESISTANCE	ASTM D4355	%	70
APPARENT OPENING SIZE	ASTM D4751	Mm (US STD SIEVE)	0.180 (80)
FLOW RATE	ASTM D4491	1/MIN/M ² (GAL/MIN/FT ²)	3866 (95)
PERMITTIVITY	ASTM D4491	S ⁻¹	1.2

- MAINTENANCE:**
- DURING THE ACTIVE DEWATERING PROCESS, INSPECTION OF THE PUMPING BAG SHOULD BE REVIEWED FREQUENTLY. SPECIAL ATTENTION SHOULD BE PAID TO THE BUFFER AREA FOR ANY SIGN OF EROSION AND CONCENTRATION OF FLOW. OBSERVE WHERE POSSIBLE THE VISUAL QUALITY OF THE EFFLUENT AND DETERMINE IF ADDITIONAL TREATMENT CAN BE PROVIDED.
 - DISPOSE OF ACCUMULATED SEDIMENT REMOVED DURING PUMPING OPERATIONS IN CONFORMANCE WITH THE SPECIFICATIONS.
 - REPLACE THE BAG OR DISPOSE OF SILT WHEN HALF FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE TO AN IMPRACTICAL RATE.

SOURCE:
KRISTAR
DANDY DEWATERING BAG
SEDCATCH

PUMPING BAG

SCALE: NONE

ARMSTRONG STREET WATER MAIN REPLACEMENT

FRANKFORT MUNICIPAL UTILITIES
FRANKFORT, INDIANA

EROSION CONTROL DETAILS

SHEET NO.

08

TOTAL SHEETS

08



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