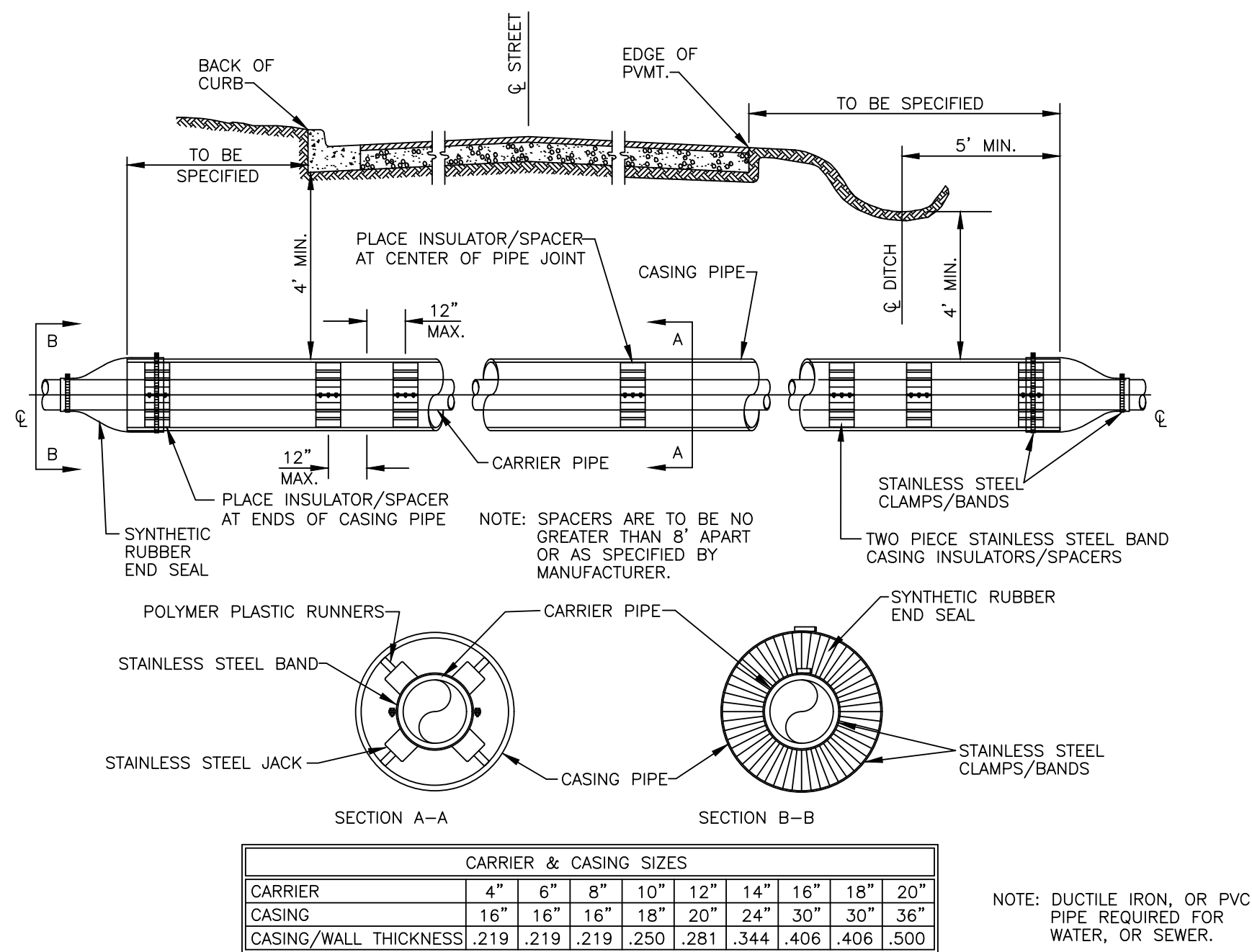


ENCASEMENT DETAIL



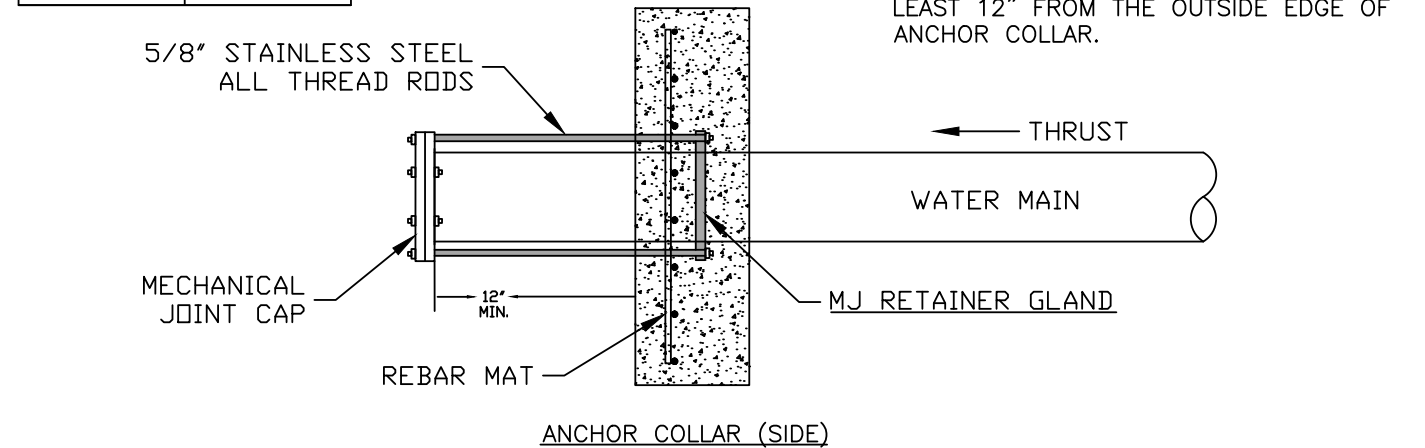
*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

ANCHOR COLLAR SPECIFICATIONS

PIPE SIZE	ANCHOR COLLAR SCHEDULE					REINFORCING BARS	
	W	H	T	M		"A" BARS	"B" BARS
6"	1.5"	2.0"	1.0"	M.J. RETAINER GLAND		#6@6"	#6@6"
8"	1.5"	2.5"	1.0"	M.J. RETAINER GLAND		#6@6"	#6@6"
12"	2.0"	4.0"	1.5"	M.J. RETAINER GLAND		#6@6"	#6@6"
16"	3.0"	4.5"	1.5"	M.J. RETAINER GLAND		#6@6"	#6@6"
20"	3.0"	5.0"	2.0"	M.J. RETAINER GLAND		#6@6"	#6@6"
24"	3.5"	5.5"	2.0"	M.J. RETAINER GLAND		#7@6"	#7@10"
30"	6.5"	6.0"	2.5"	M.J. RETAINER GLAND		#6@6"	#7@10"
36"	7.0"	7.0"	2.5"	M.J. RETAINER GLAND		#6@6"	#7@10"

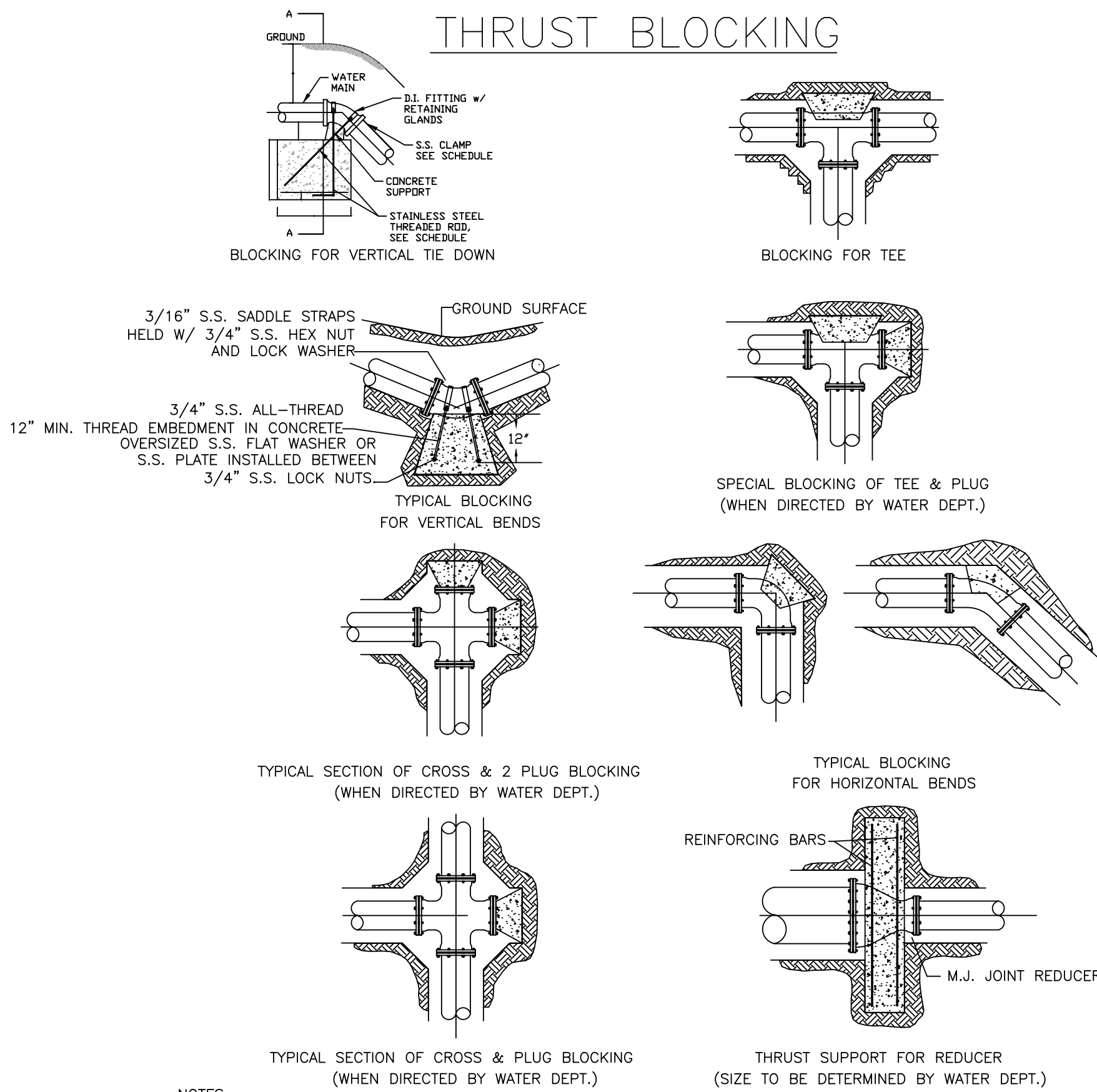
ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8



NOTE:
ALL-THREAD STEEL RODS SHALL BE
5/8" STAINLESS STEEL WITH STAINLESS
STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

THRUST BLOCKING



- NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
 2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
 3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
 4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE.
 5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
 6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
 7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
 8. 12" OF ALL THREAD EMBEDDED IN CONCRETE
 9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

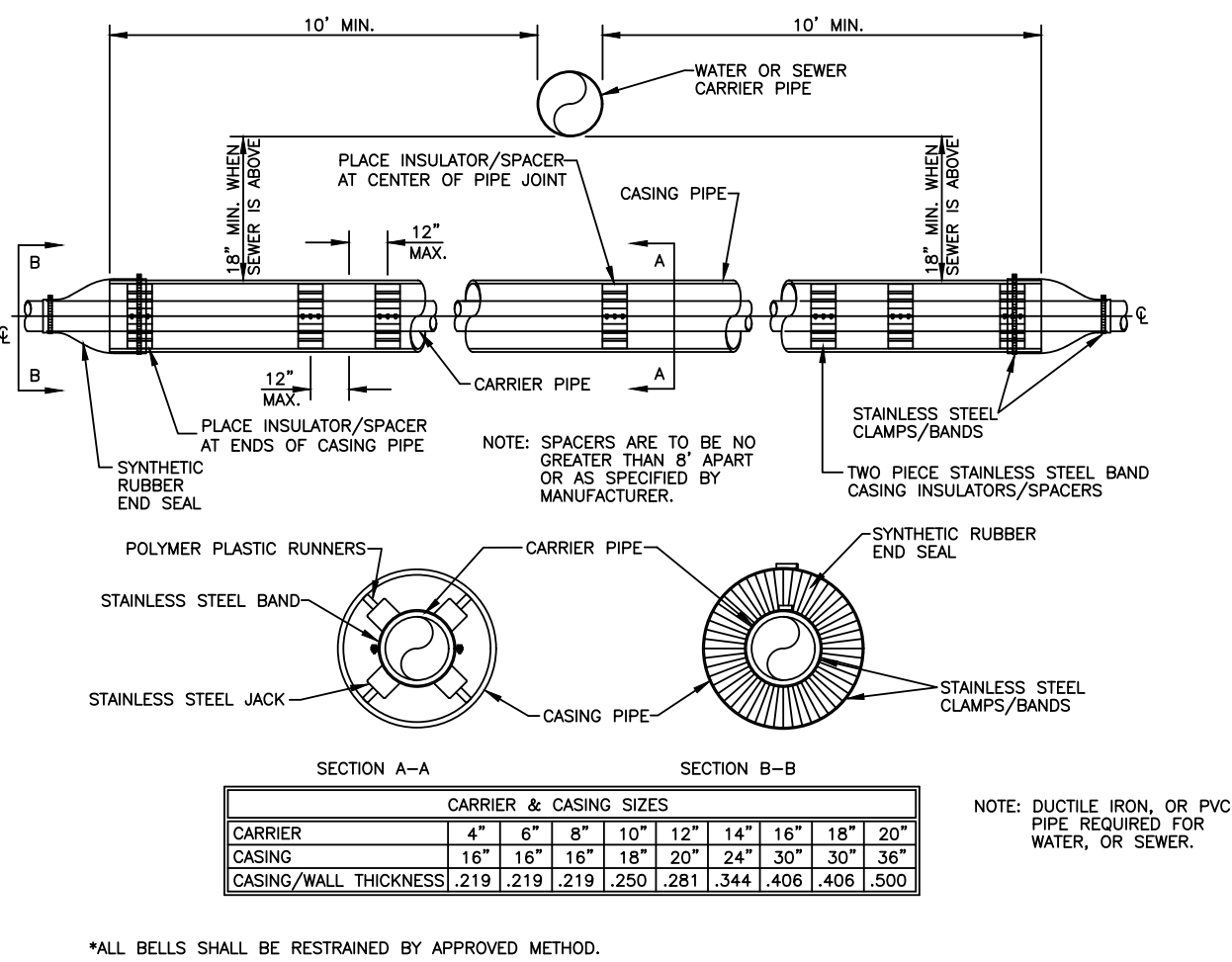
REACTION BACKING TABLE

PIPE SIZE	BLOCKING SCHEDULE				
	BENDS				ROD DIA.
	45'	22 1/2'	11 1/4'		
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	3/4 IN.
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	
	C (FT.)	5.00'	4.00'	3.00'	
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	3/4 IN.
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	
	C (FT.)	6.00'	5.00'	4.00'	
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	1 IN.
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	
	C (FT.)	8.00'	6.50'	5.00'	
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	1 1/4 IN.
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	
	C (FT.)	9.50'	7.50'	6.00'	

- NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
 2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
 3. WRAP ALL FITTINGS WITH POLY WRAP.
 4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
 5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
 6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
 7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

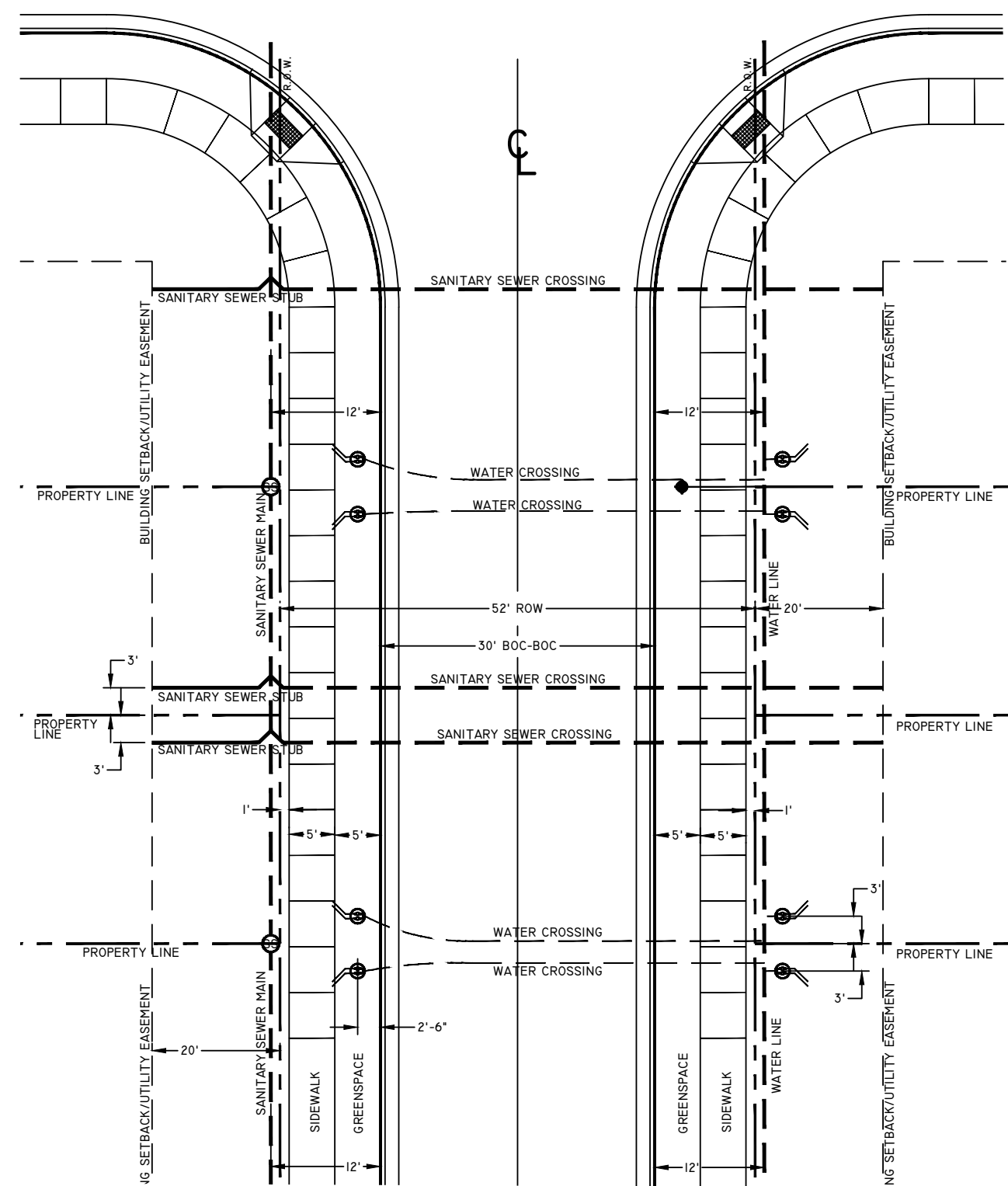
ENCASEMENT CROSSING DETAIL



*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

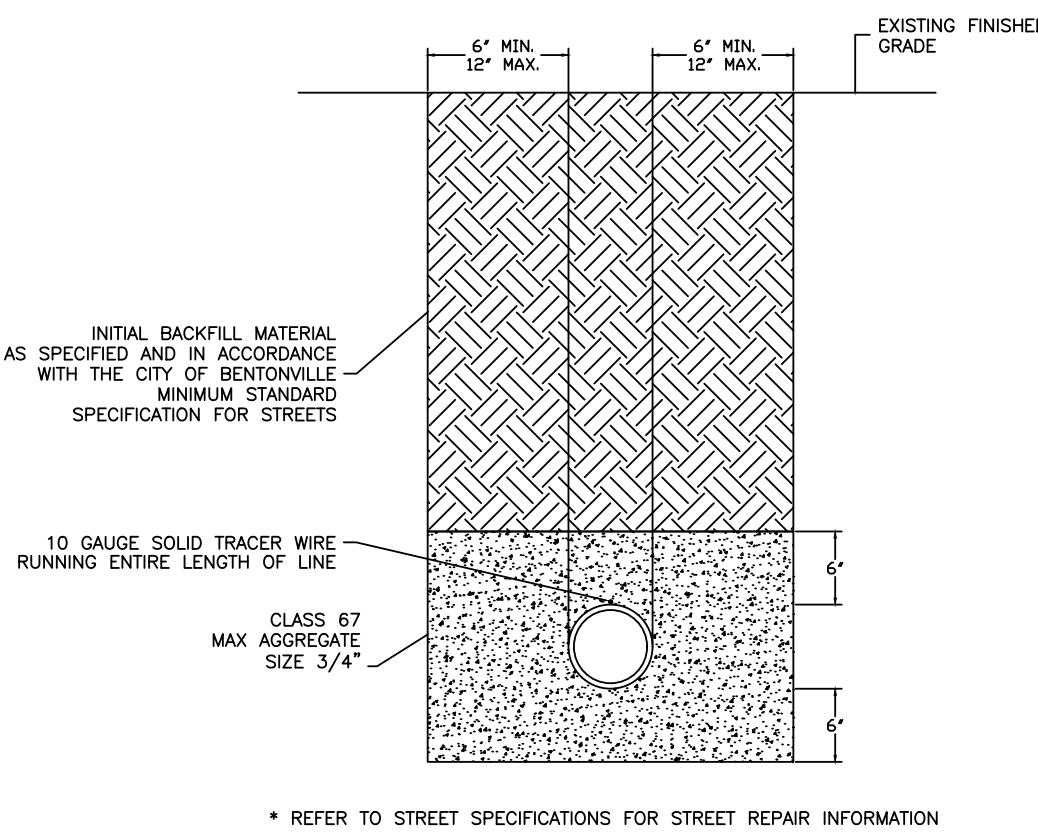
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07



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WATER/SEWER DETAILS



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REVISIONS:

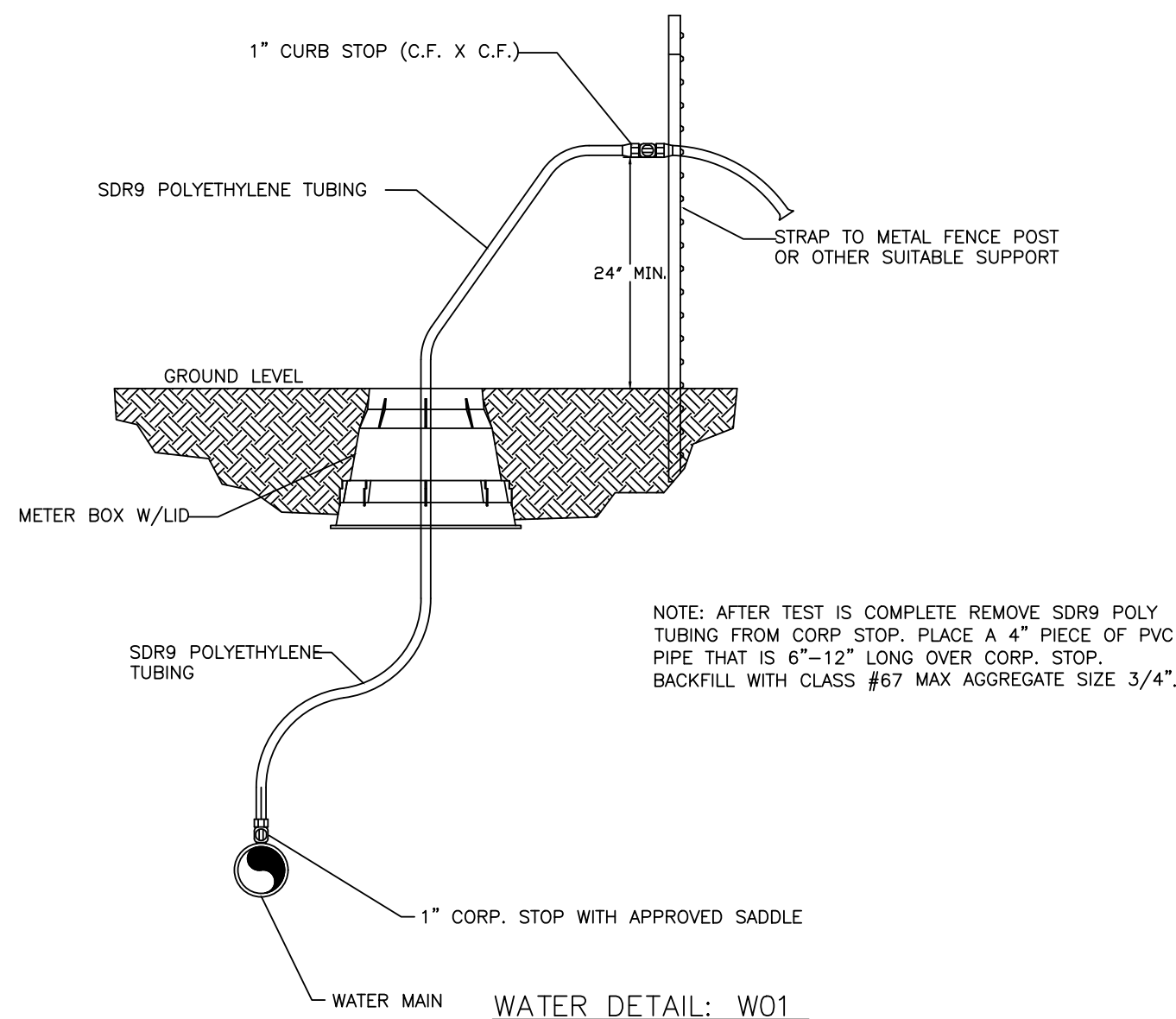
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

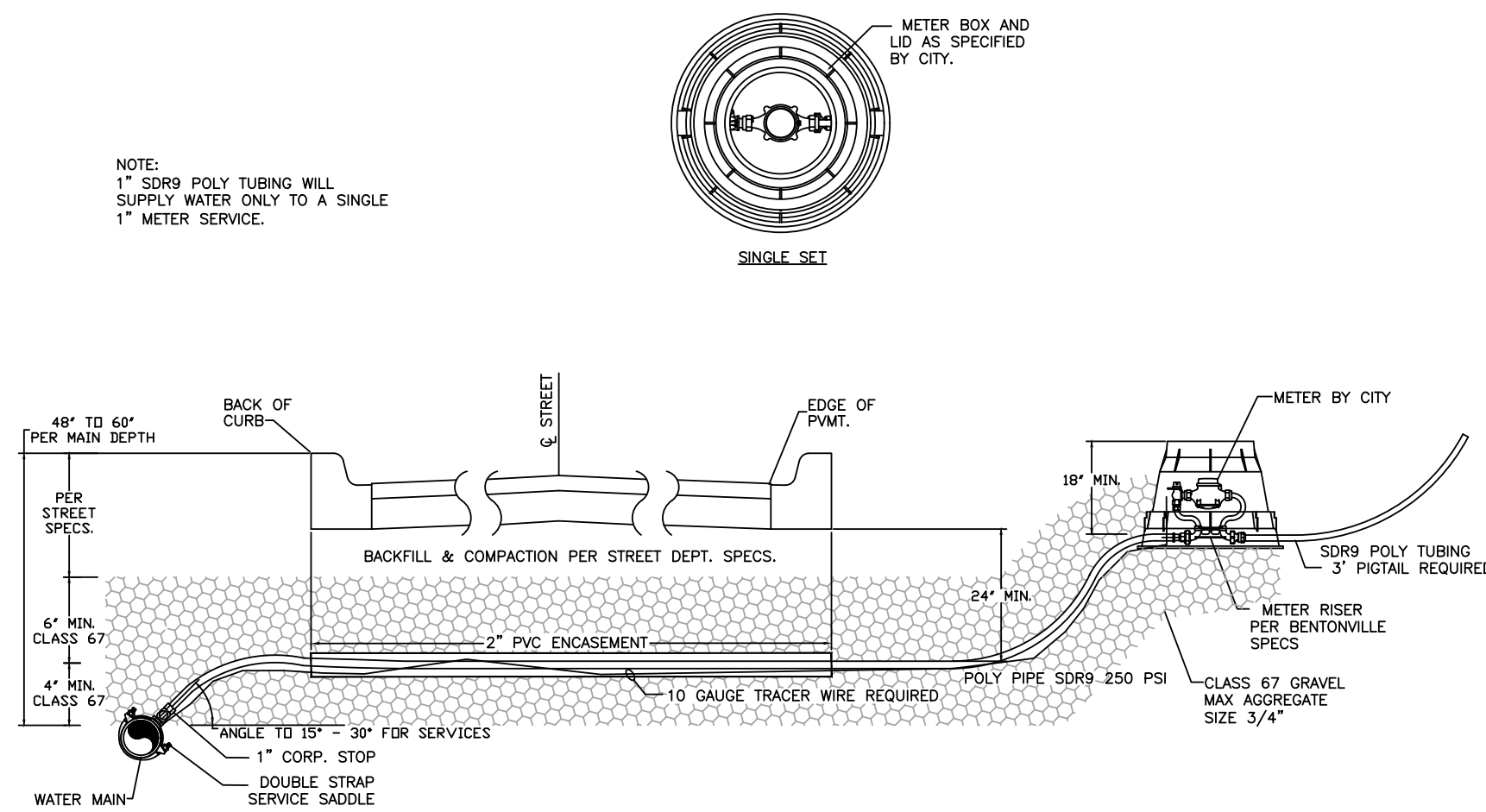
SHEET NUMBER: 1 OF 1

TEMPORARY 1" BLOW OFF ASSEMBLY
SAMPLE POINTS



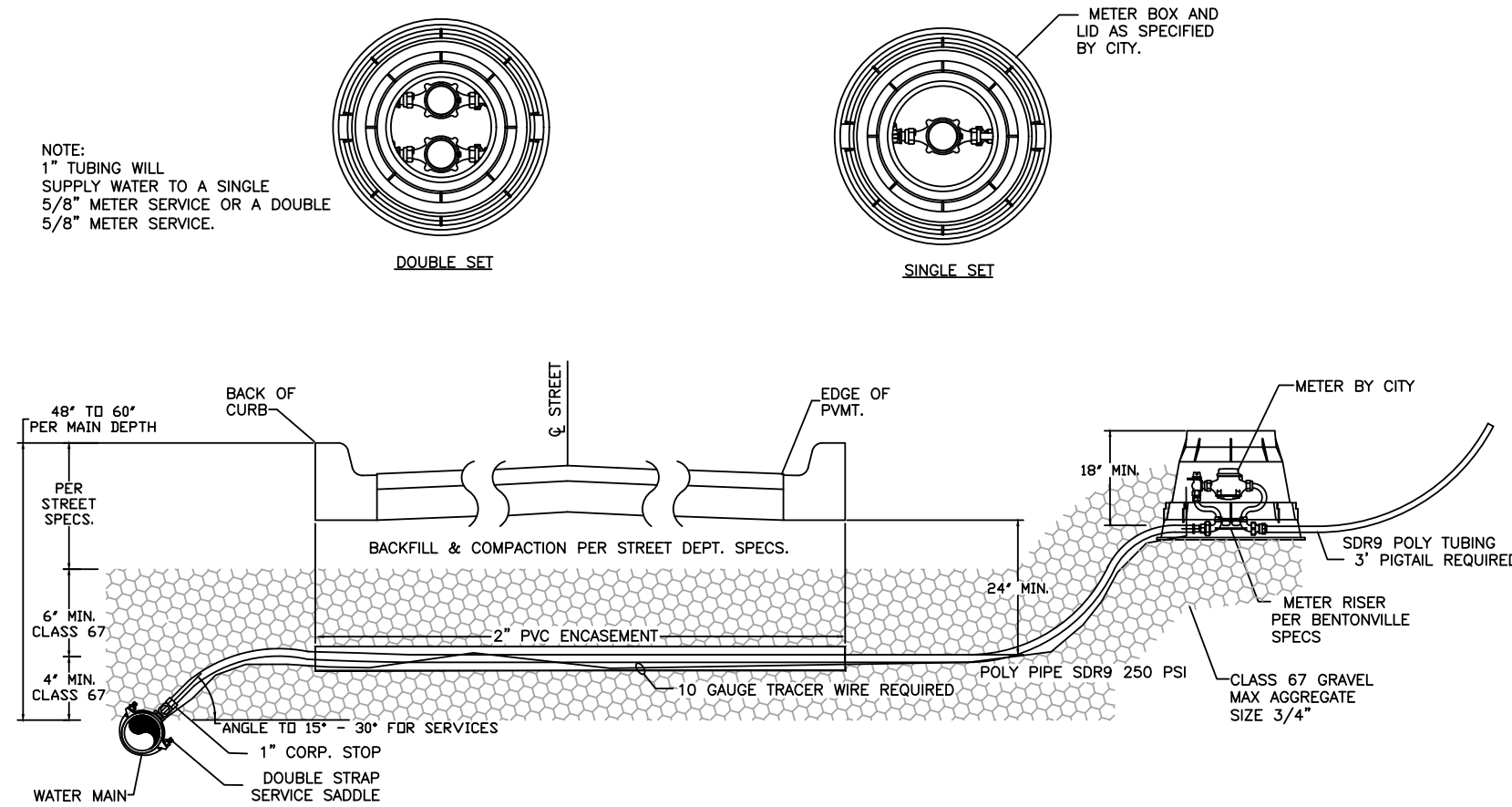
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



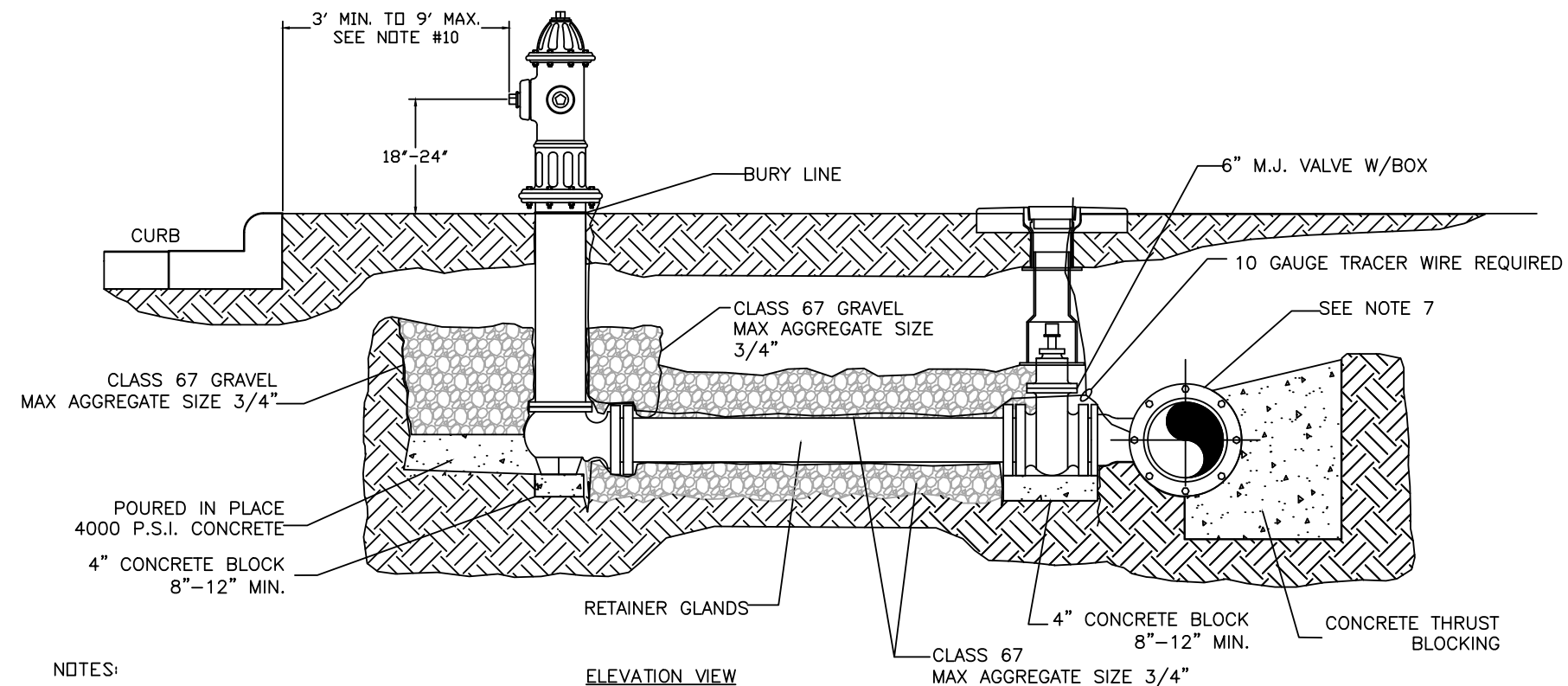
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

FIRE HYDRANT DETAIL W/
RETAINER GLANDS

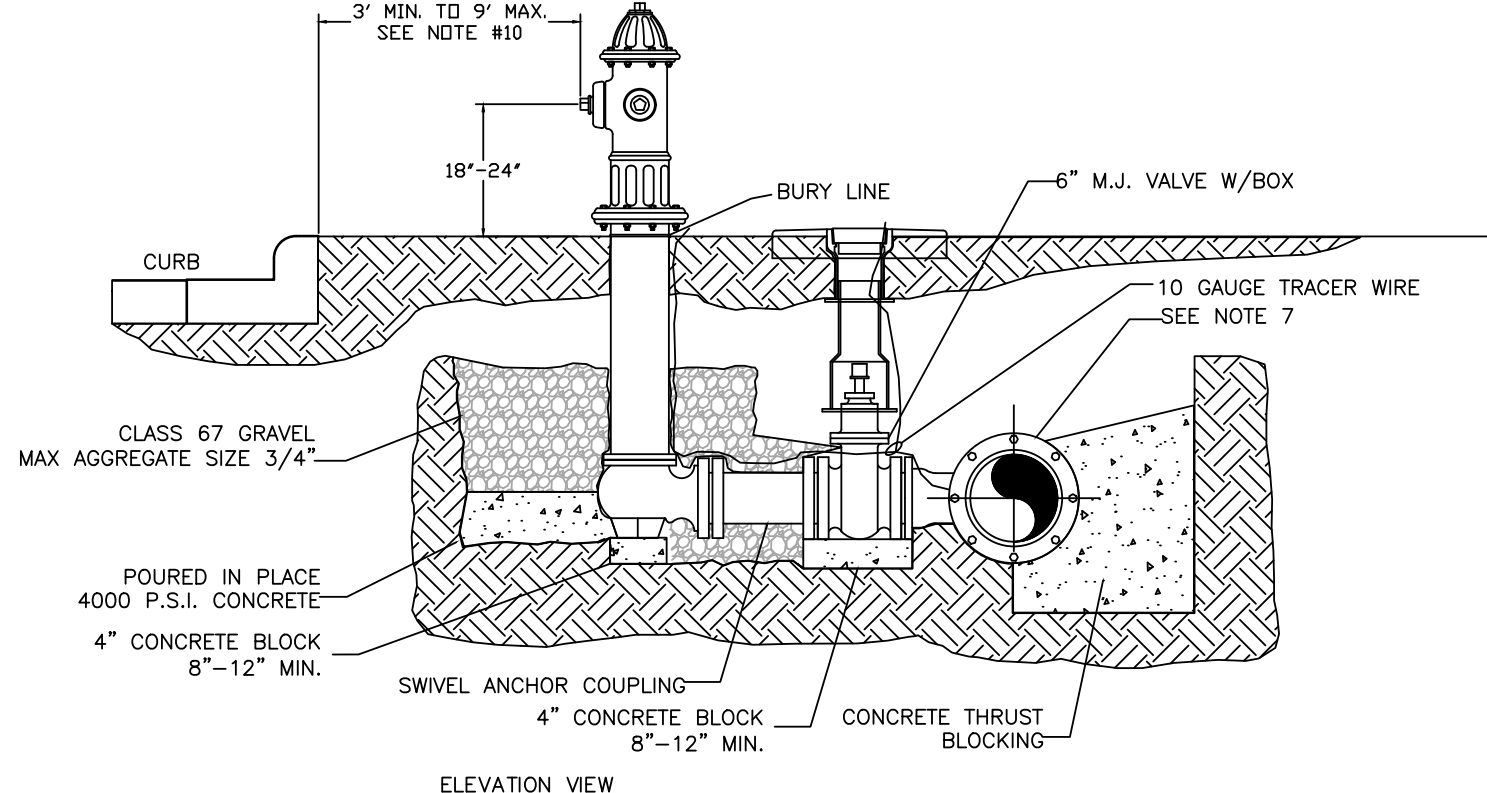


ELEVATION VIEW

- NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
 2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
 3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
 4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
 5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
 6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
 7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS).
 8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
 9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
 10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING

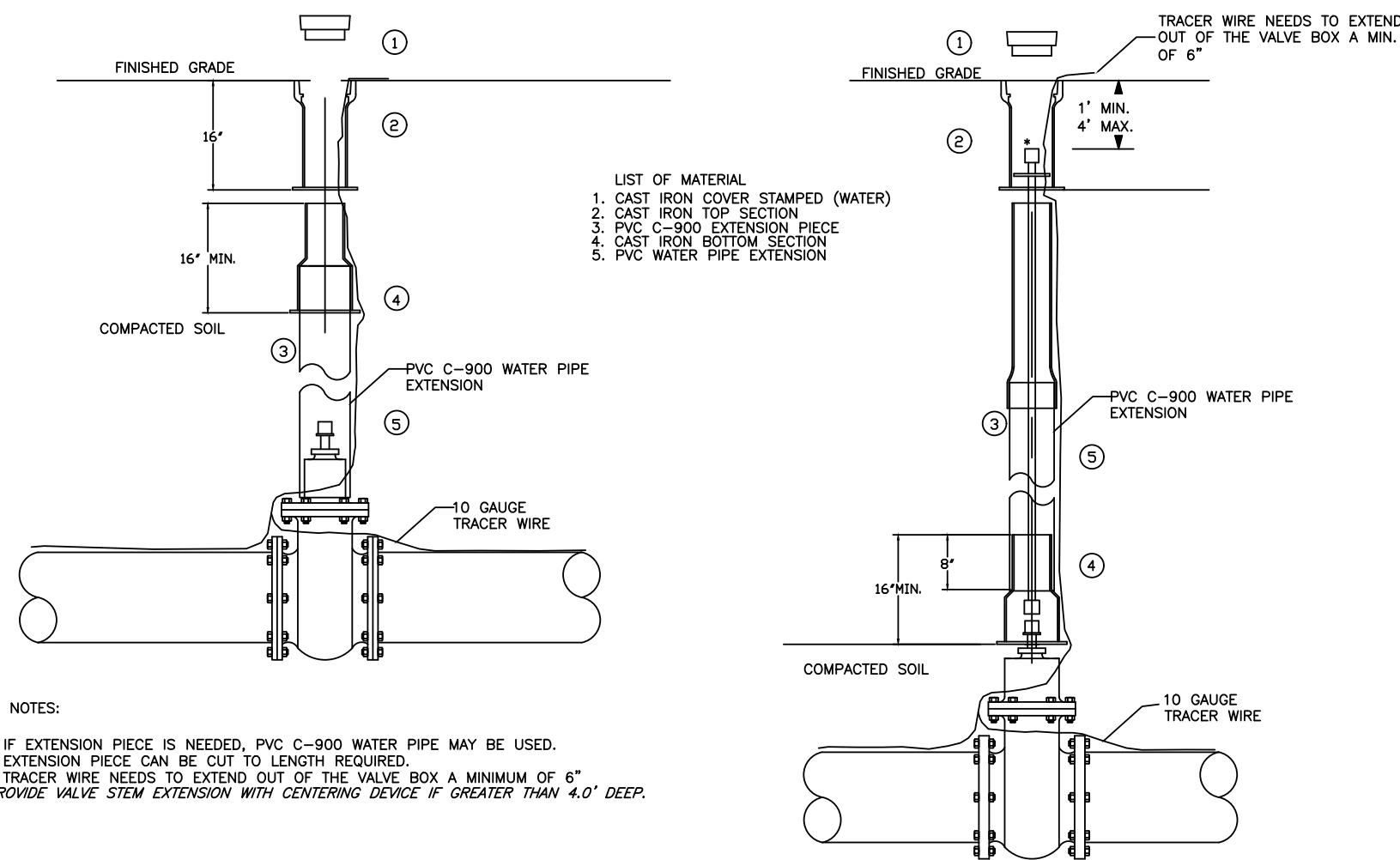


ELEVATION VIEW

- NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
 2. M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
 3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
 4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
 5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
 6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
 7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS).
 8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
 9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
 10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W05

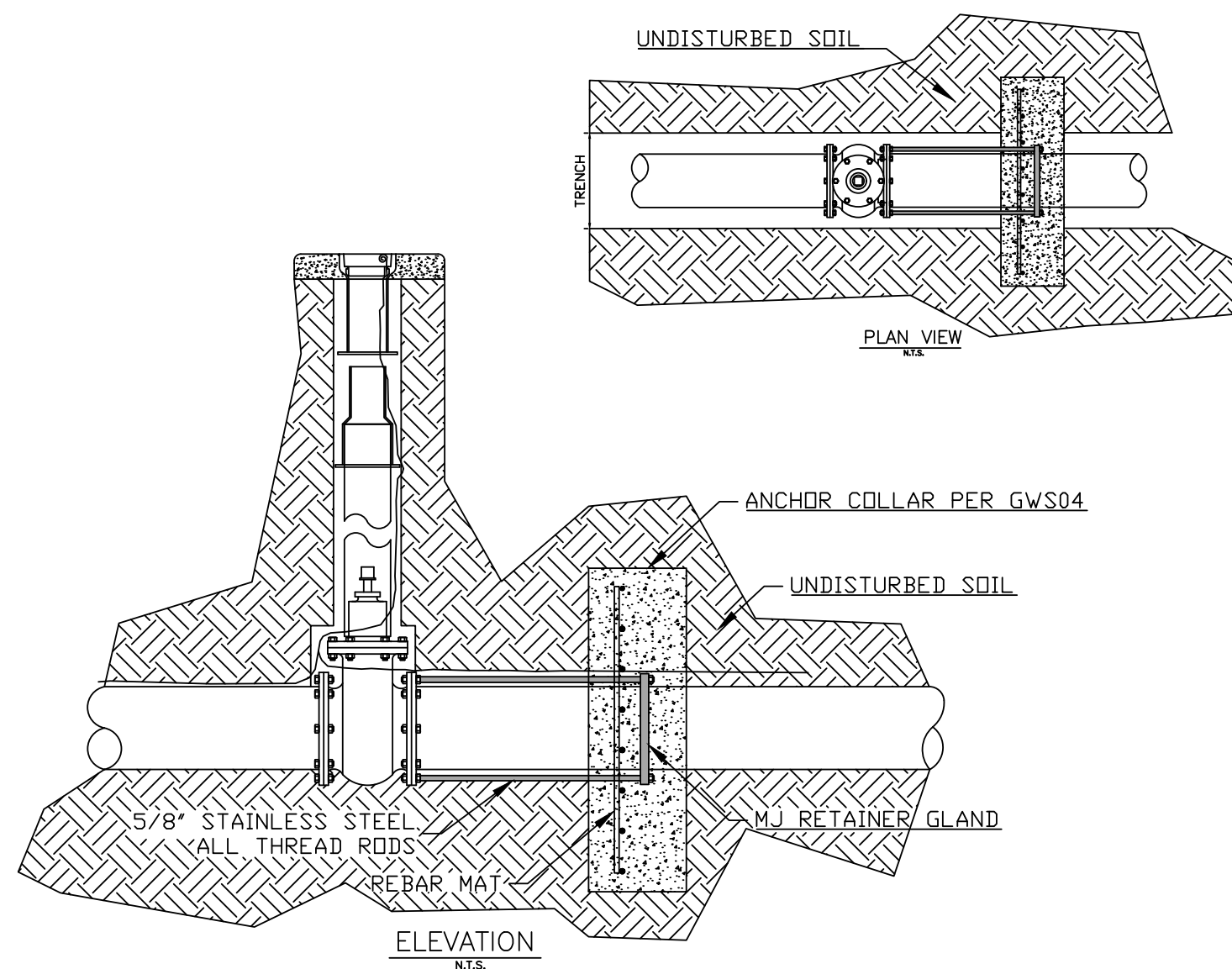
VALVE BOX VALVE STEM & TRACER
WIRE INSTALLATION



- LIST OF MATERIAL
1. CAST IRON COVER STAMPED (WATER)
 2. CAST IRON TOP SECTION
 3. CAST IRON VALVE STEM
 4. CAST IRON BOTTOM SECTION
 5. PVC WATER PIPE EXTENSION

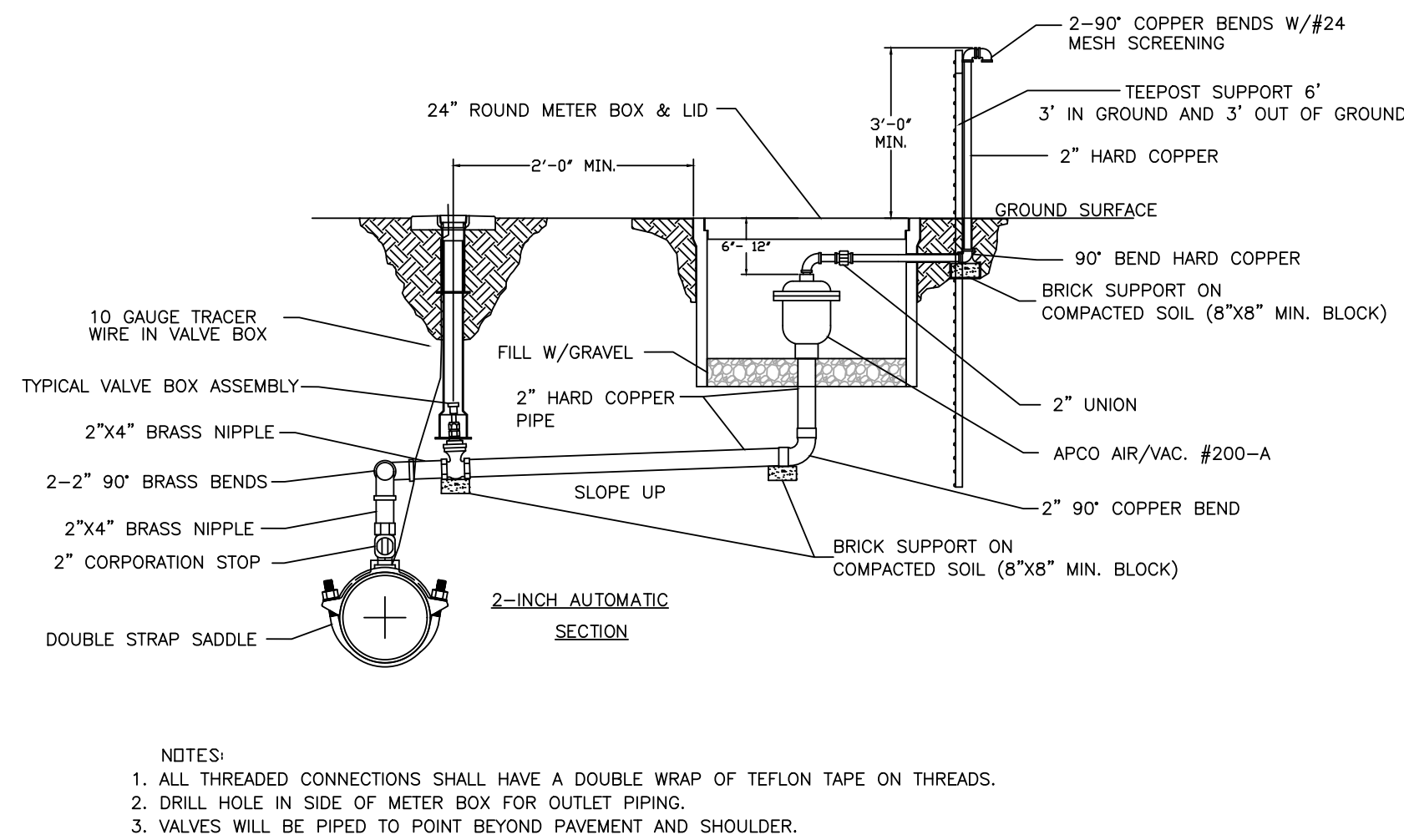
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



WATER DETAIL: W09



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04/01/2021

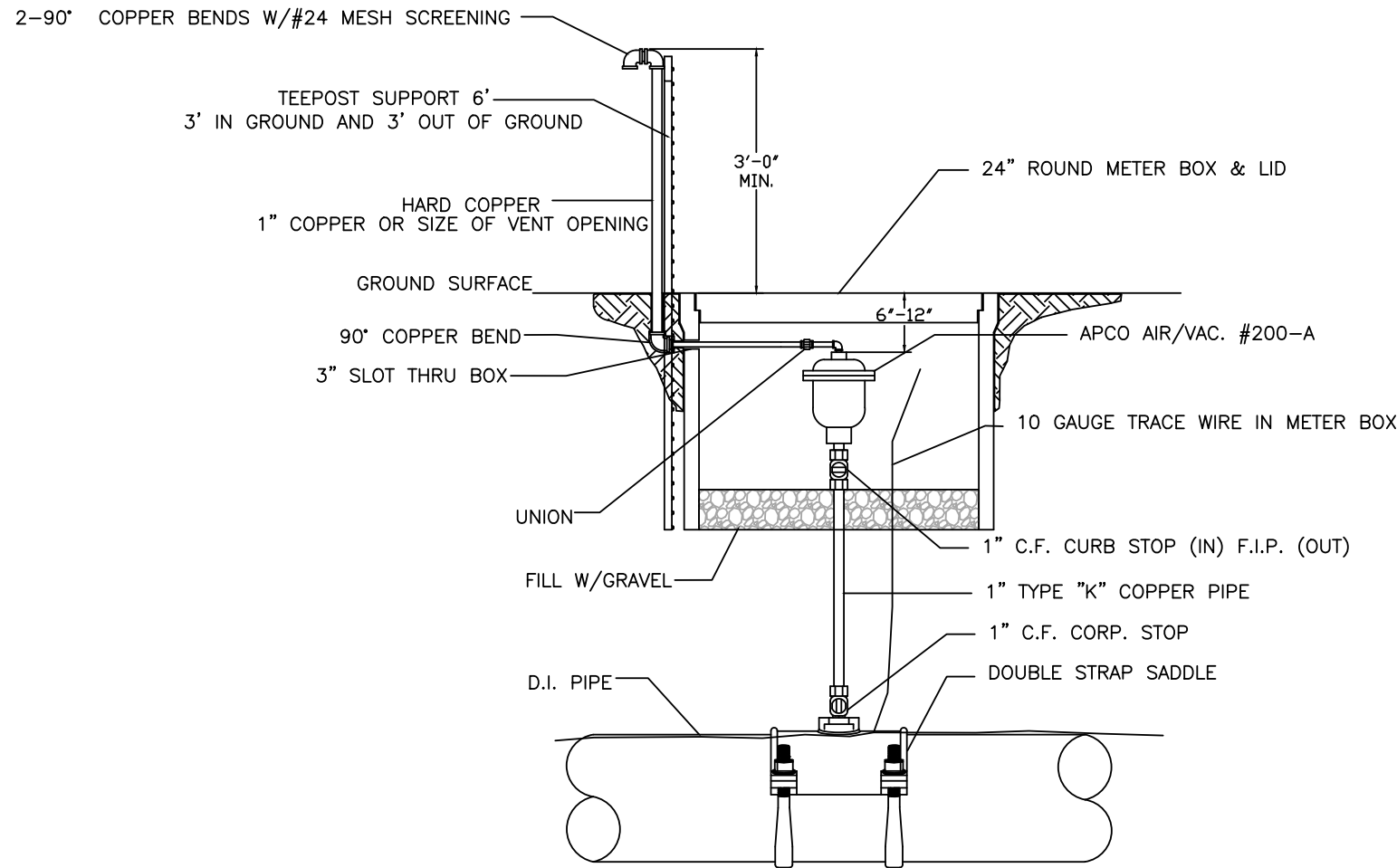
NOTES:

DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

SHEET NUMBER: 1 OF 2

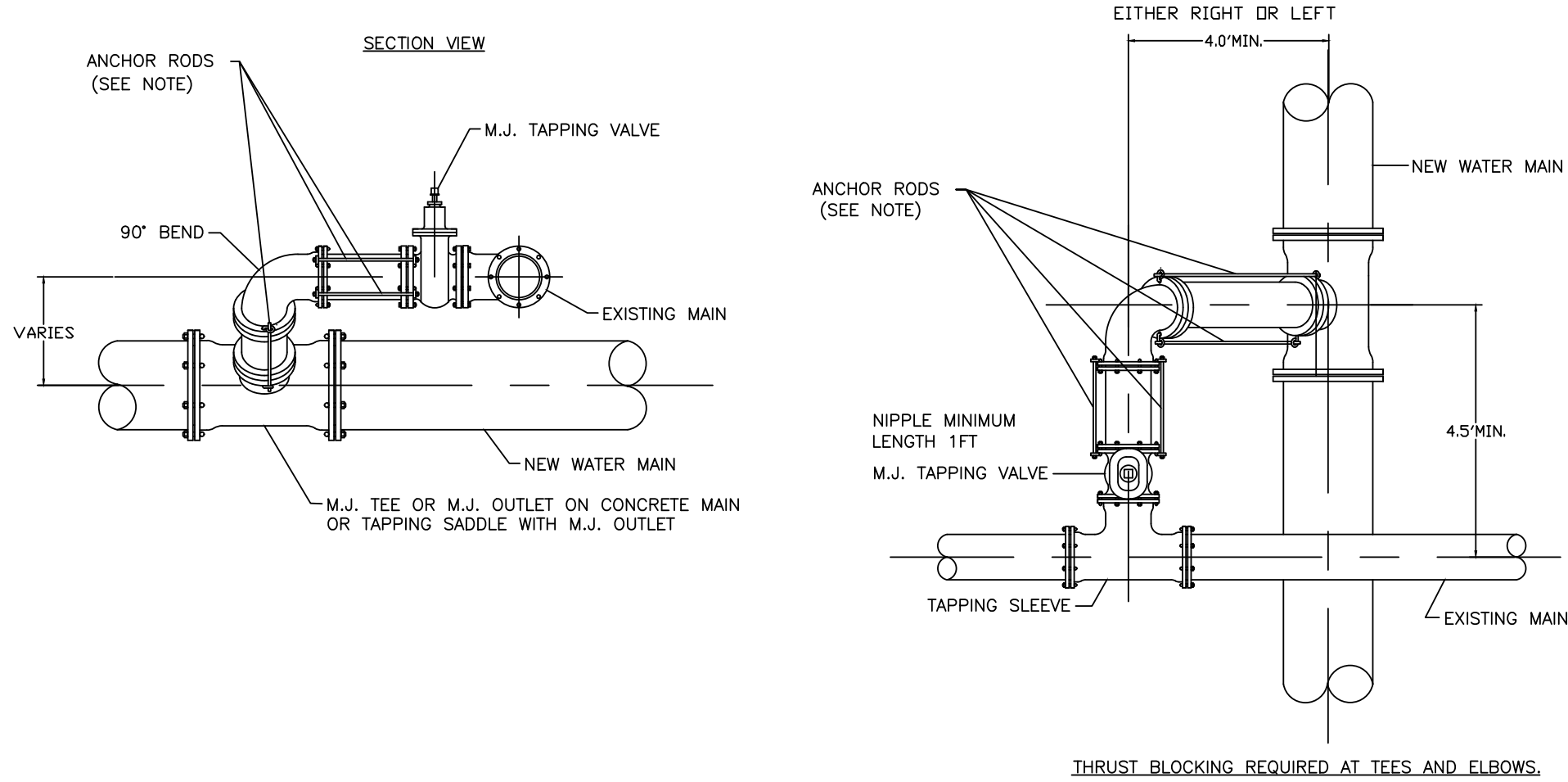
1" COMBINATION AIR/VACUUM VALVE DETAIL



- NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
 2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
 3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN

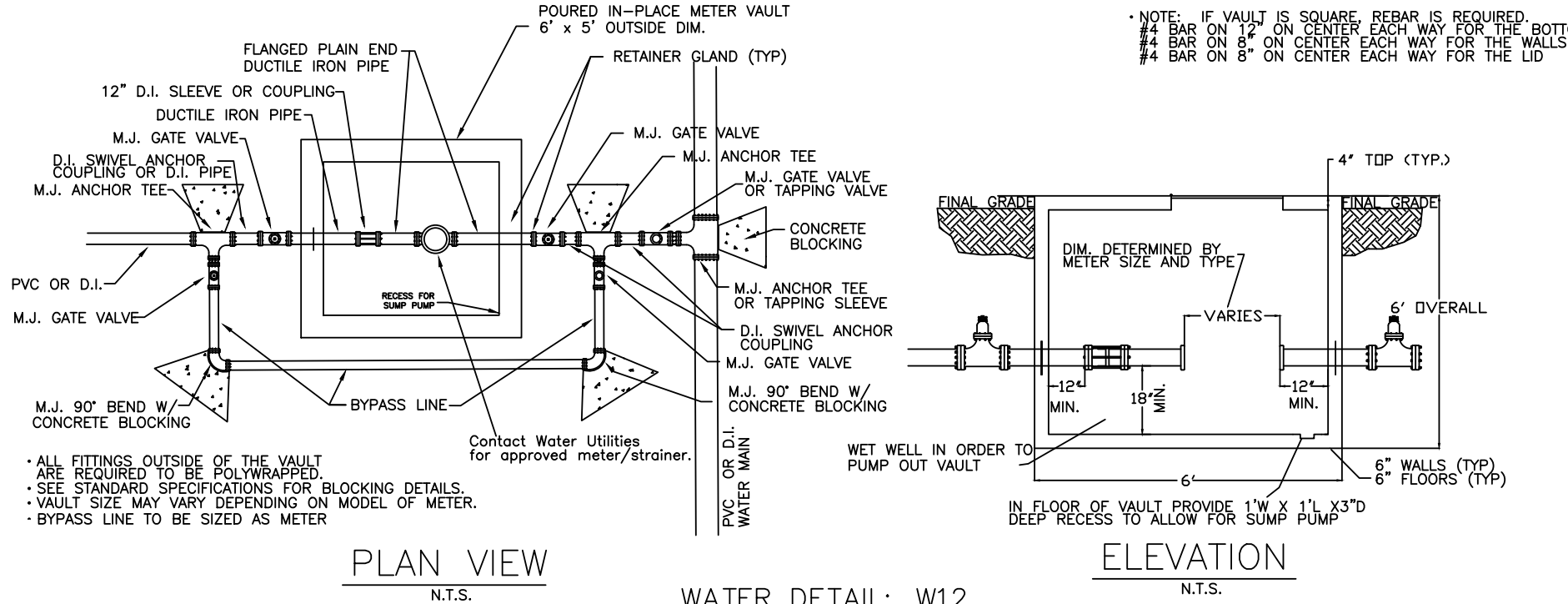
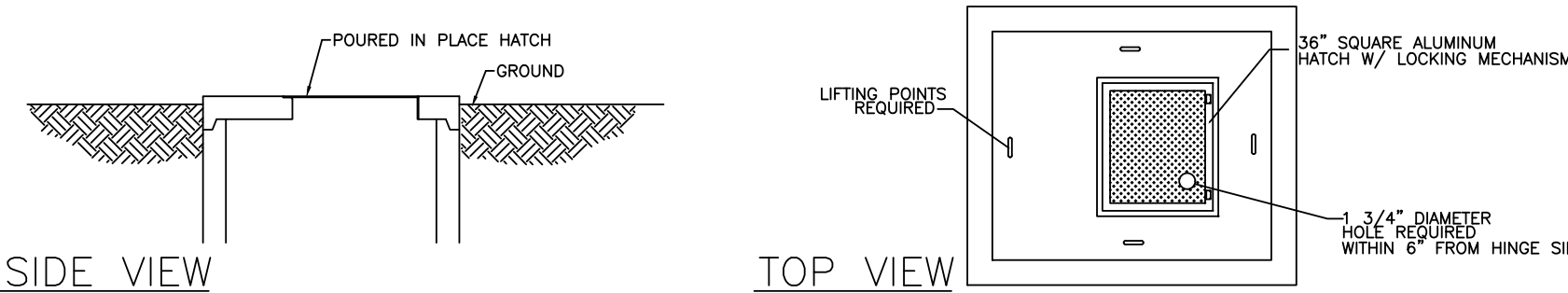


- NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
 2. DIMENSIONS SHOWN ARE RECOMMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
 3. PROVIDE STAINLESS STEEL ALL THROUGHOUT 5/8" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
 4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
 5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
 6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

WATER DETAIL: W11



(DIMENSIONS MAY VARY FOR METER SIZE)

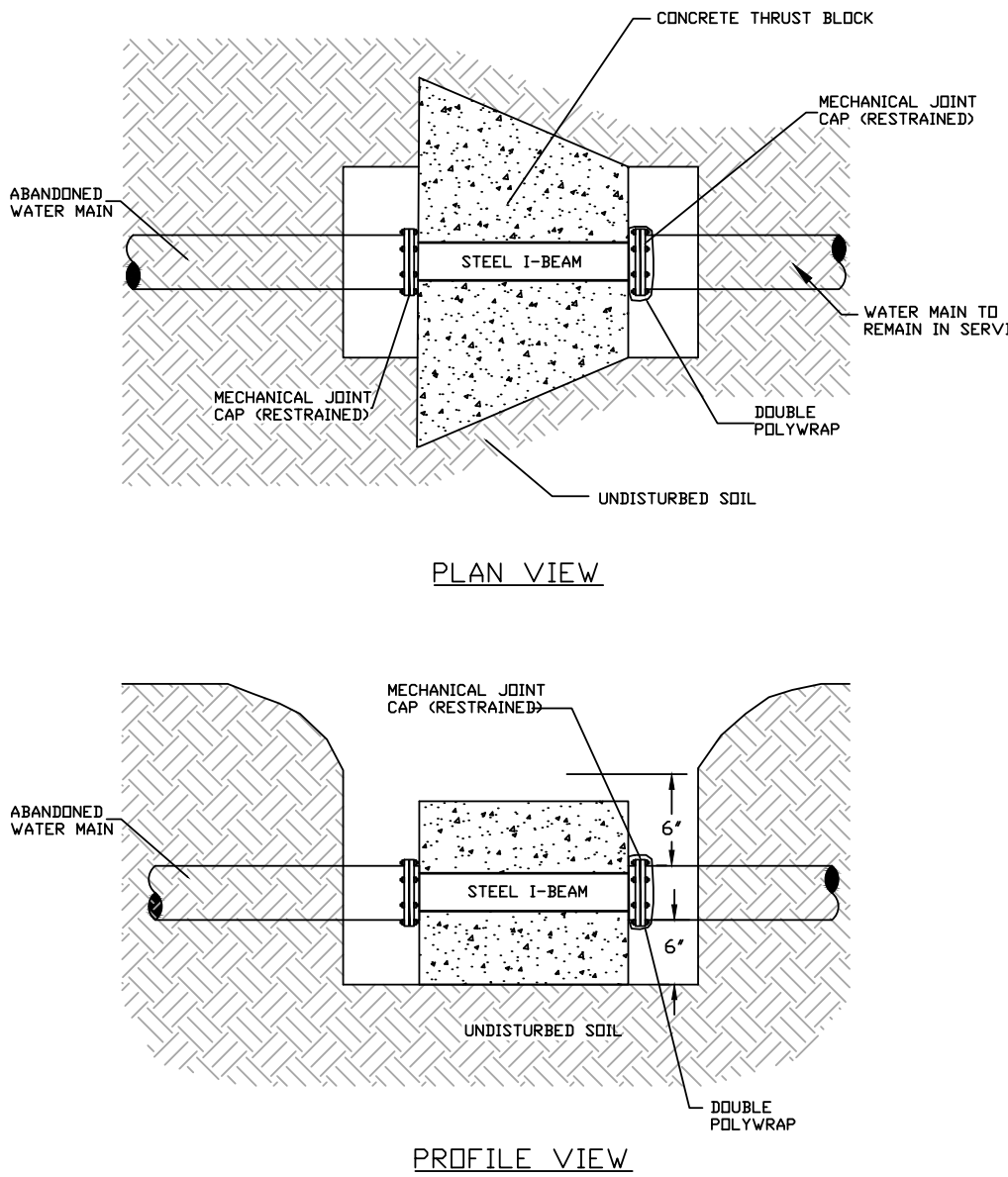


- ALL FITTINGS OUTSIDE OF THE VAULT ARE REQUIRED TO BE POLYWRAPPED.
- SEE STANDARD SPECIFICATIONS FOR BLOCKING DETAILS.
- VAULT SIZE MAY VARY DEPENDING ON MODEL OF METER
- BYPASS LINE TO BE SIZED AS METER

PLAN VIEW

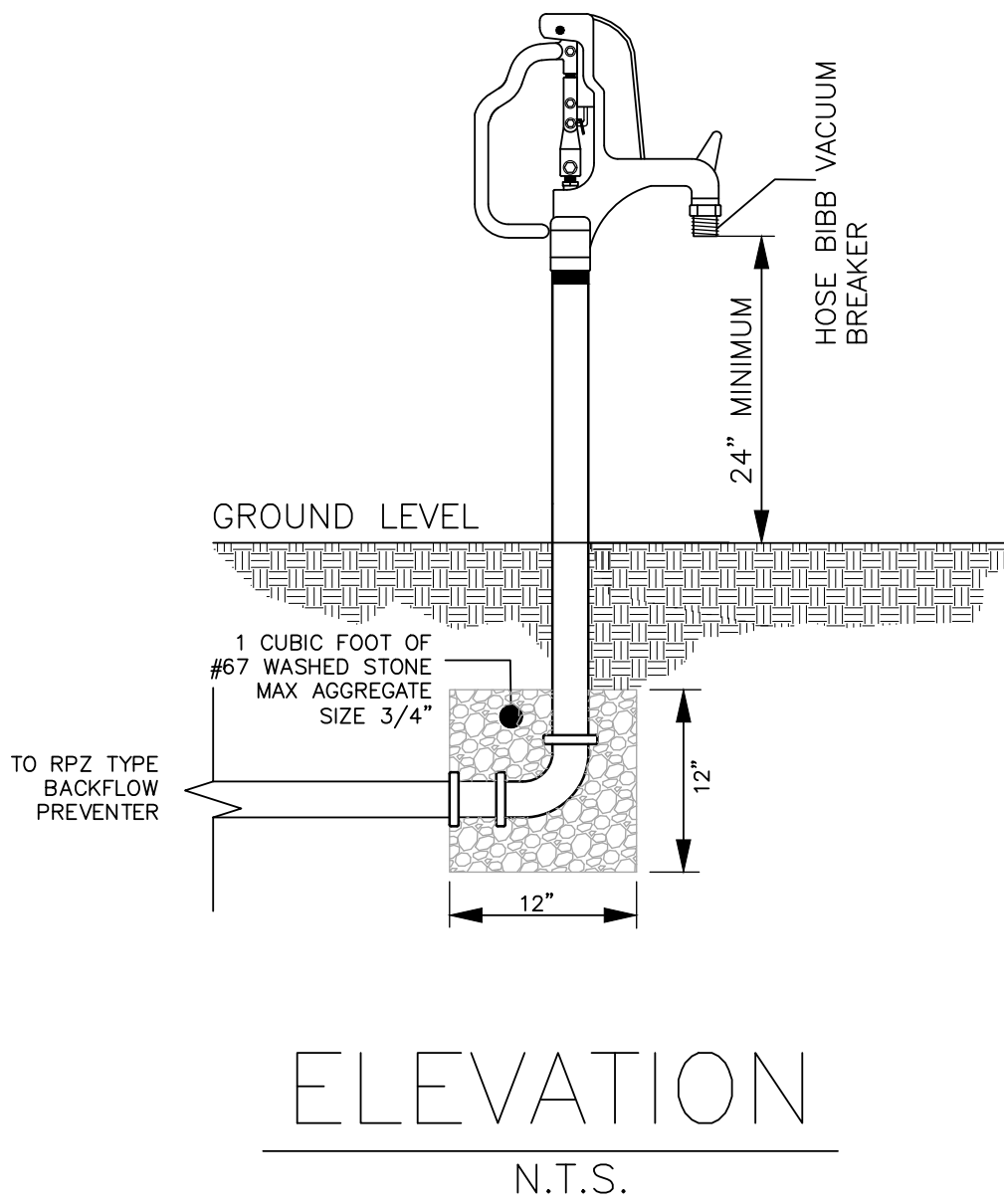
WATER DETAIL: W12

CUT/CAP DETAIL



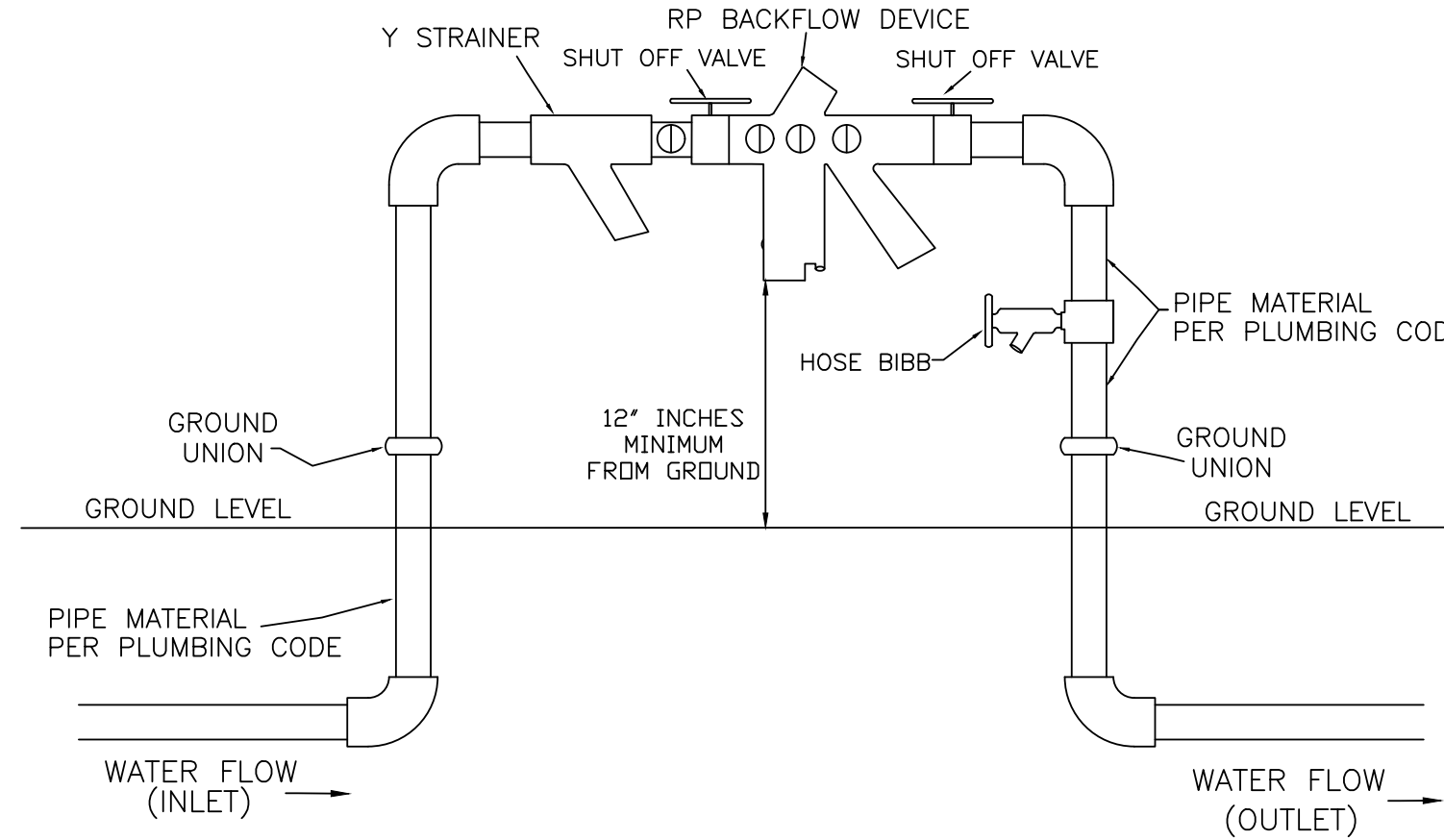
WATER DETAIL: W1.3

FROST FREE HOSE BIBB WITH VACUUM BREAKER



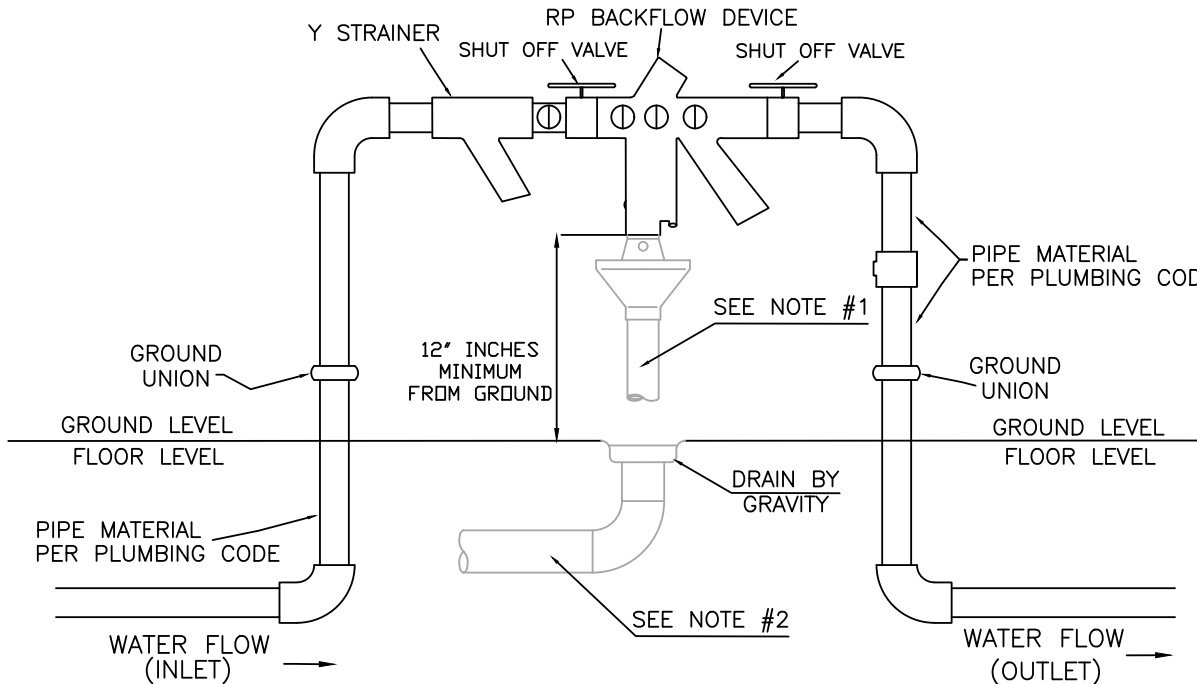
WATER DETAIL: W14

REDUCED PRESSURE (RP)
IRRIGATION ONLY



WATER DETAIL: W15

REDUCED PRESSURE (RP)
IRRIGATION ONLY



INDOOR APPLICATION ONLY NOTES

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16



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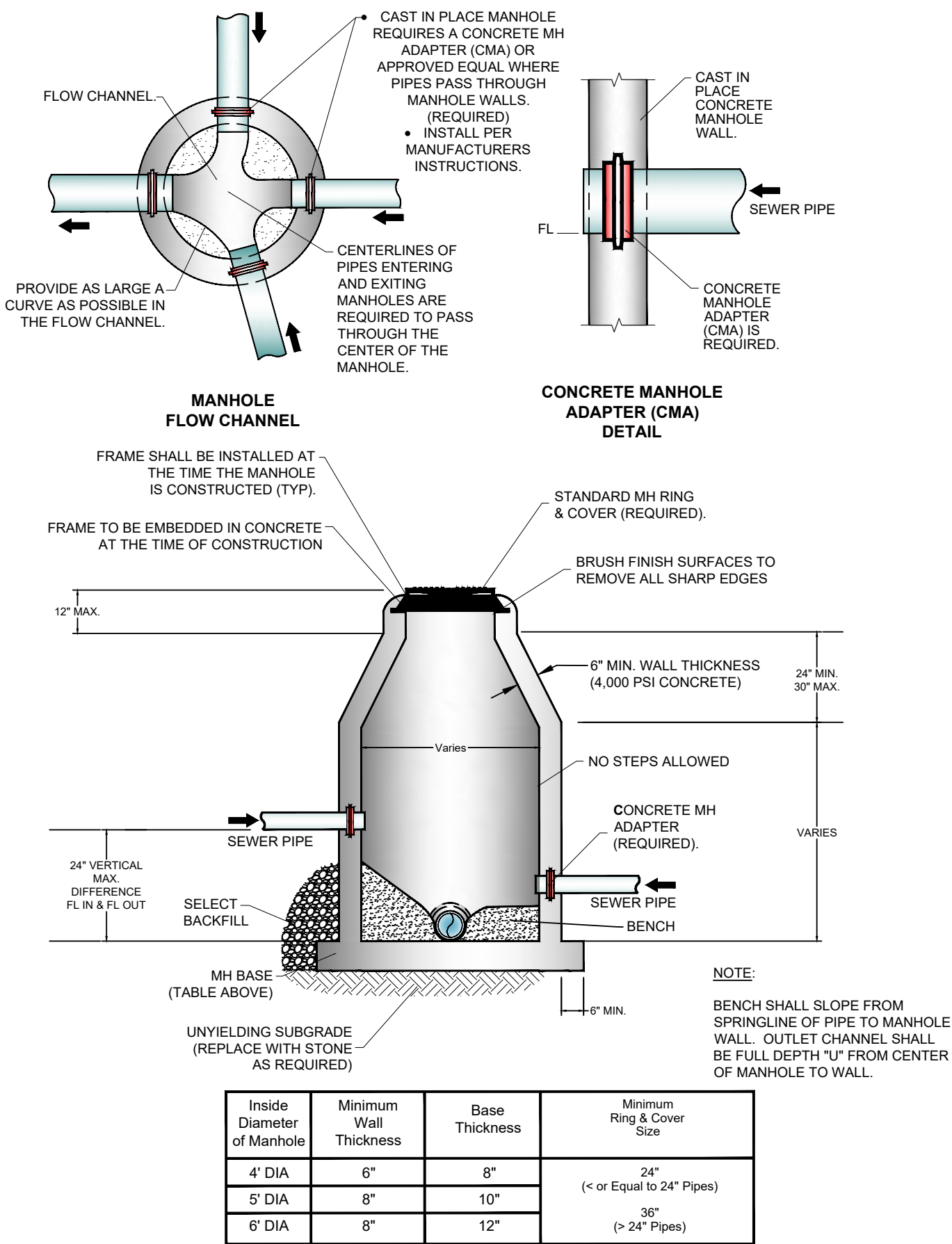
Adopted by City Council 06/22/2021
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Approved by Dept. of Health
04/01/2021

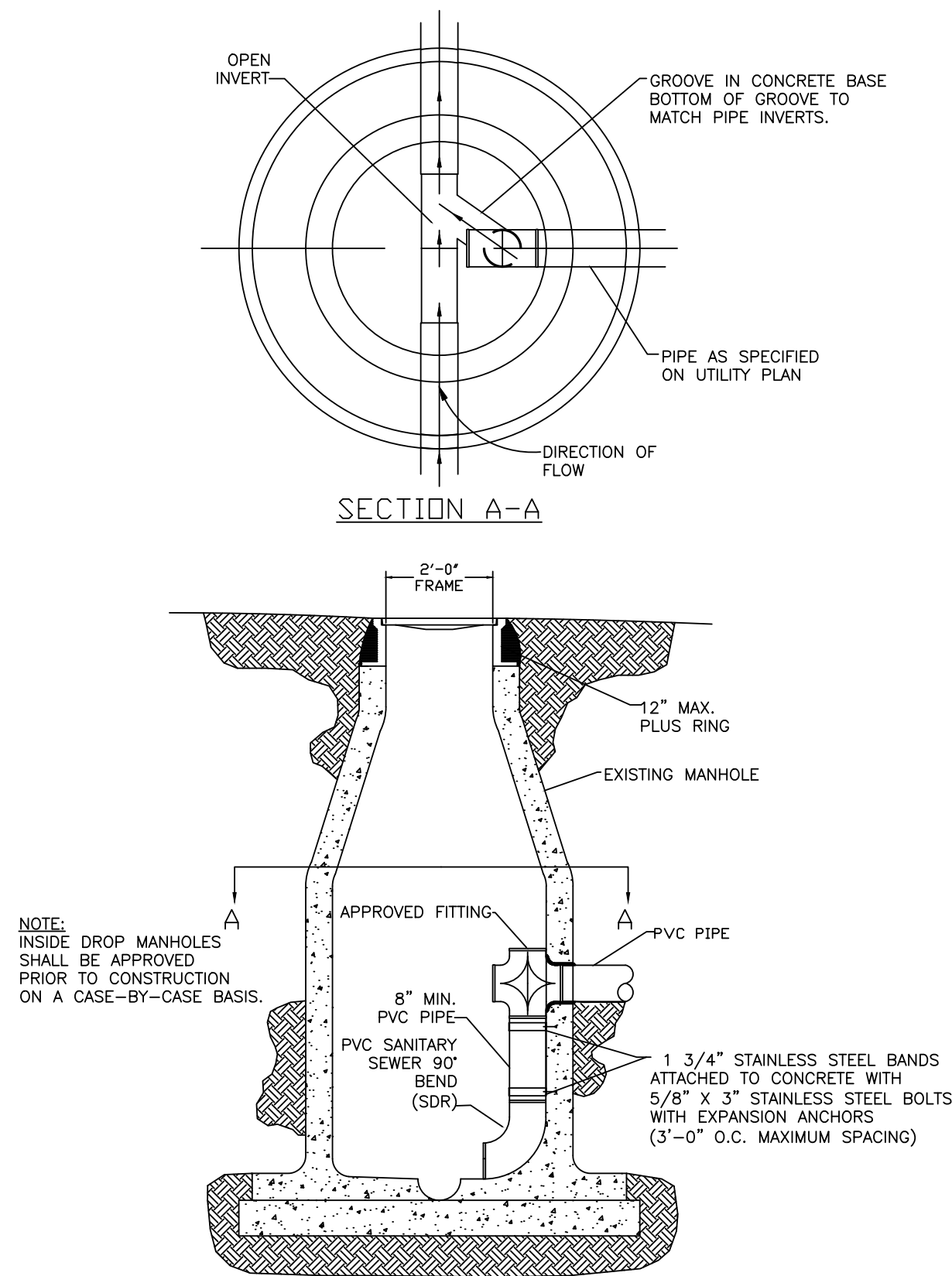
NOTES:

DRAWN BY:	JI	DATE:	03/16/202
APPROVED BY:	PN	DATE:	03/16/202
SHEET NUMBER:	2	OF	2

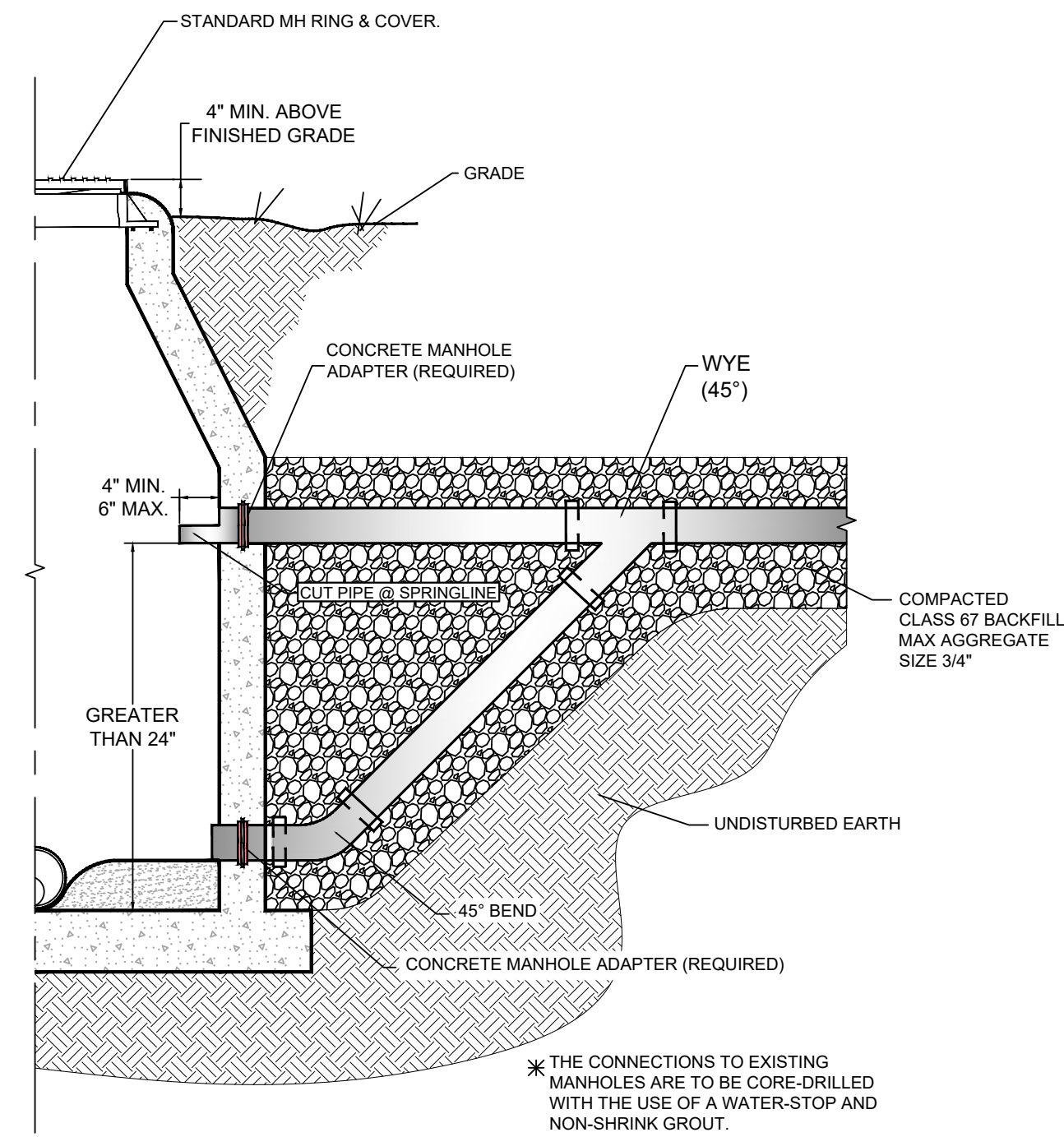
SANITARY SEWER
CAST IN PLACE MANHOLE



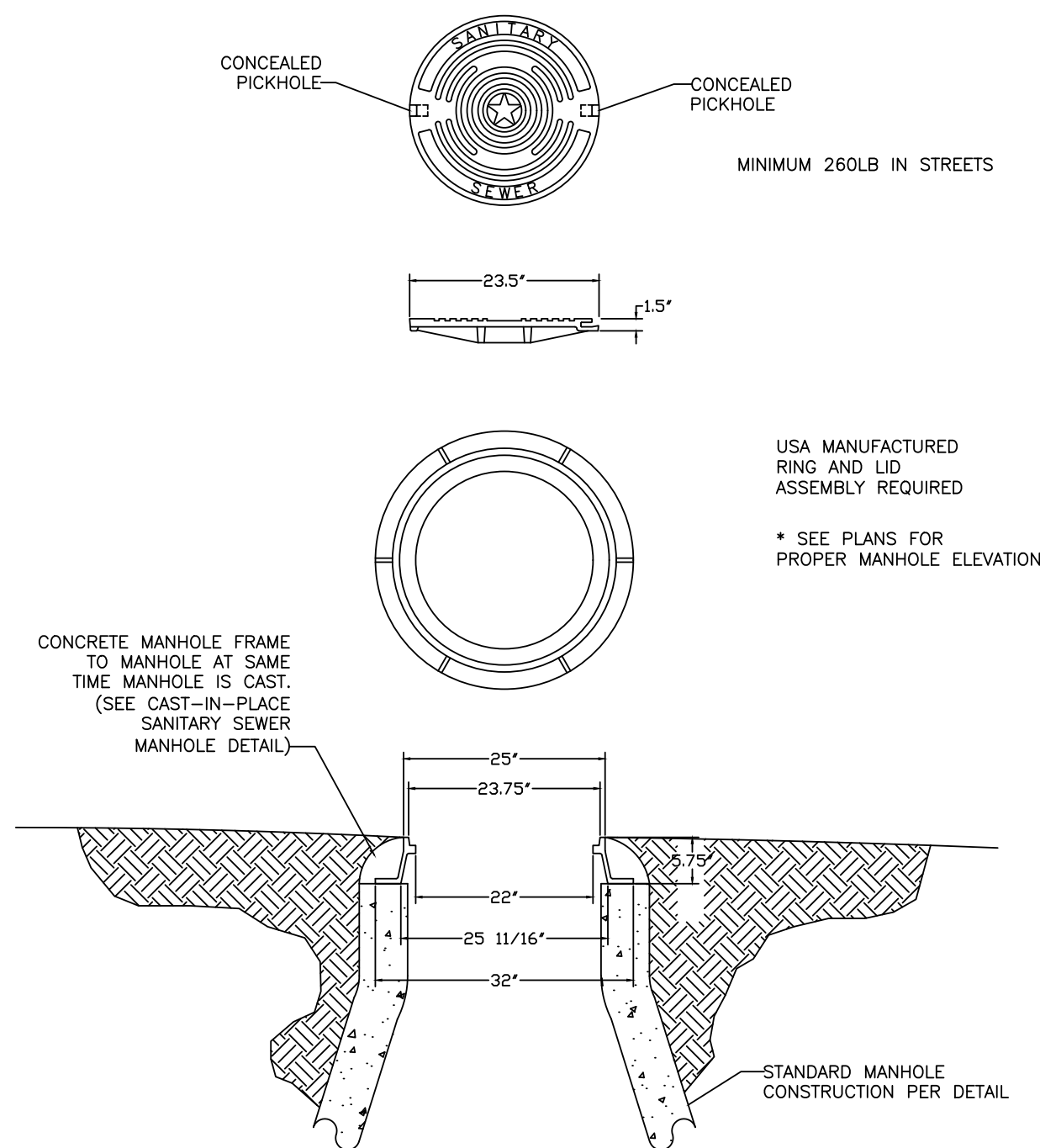
SANITARY SEWER
INTERIOR DROP MANHOLE



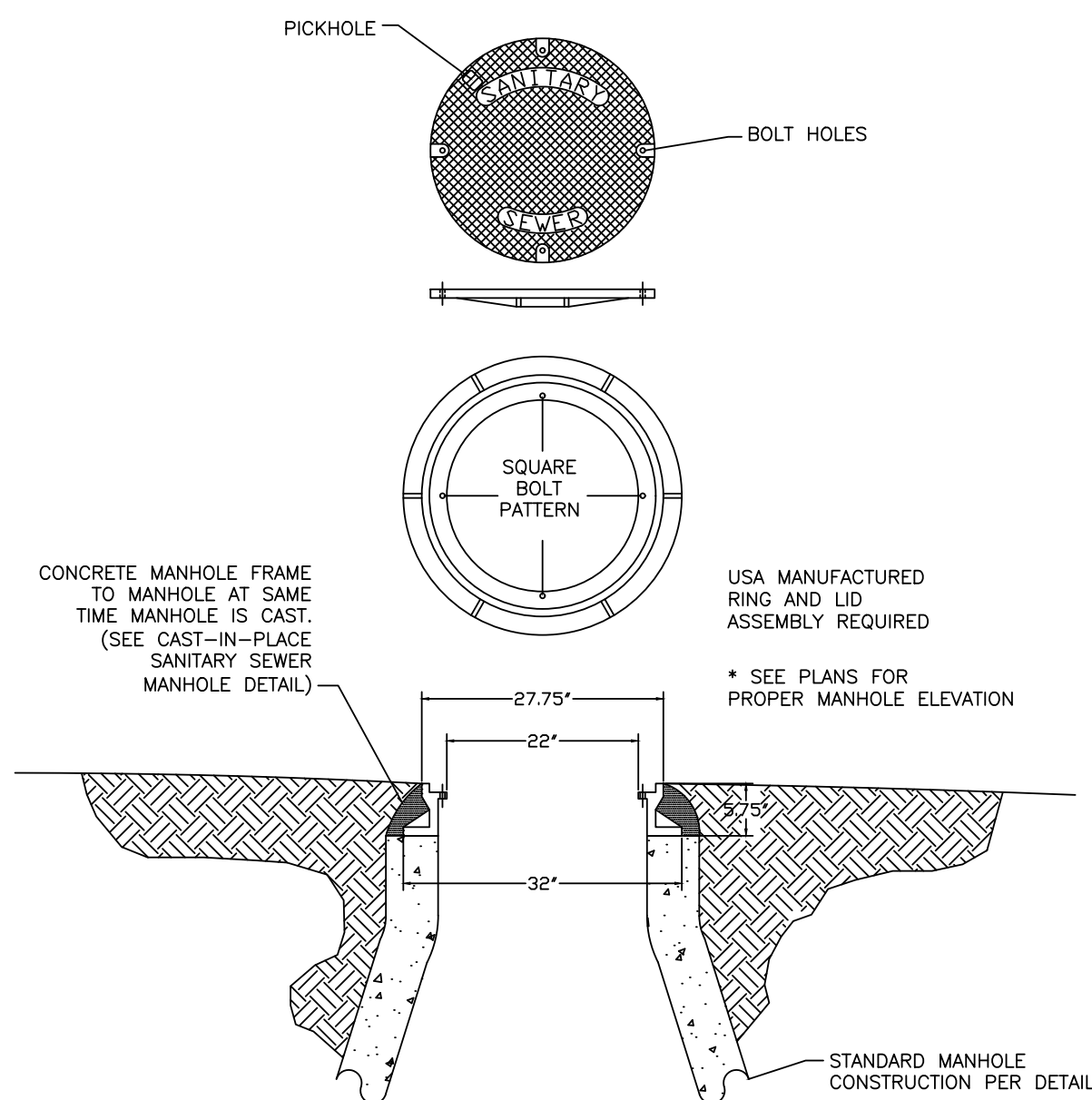
SANITARY SEWER
EXTERIOR DROP MANHOLE



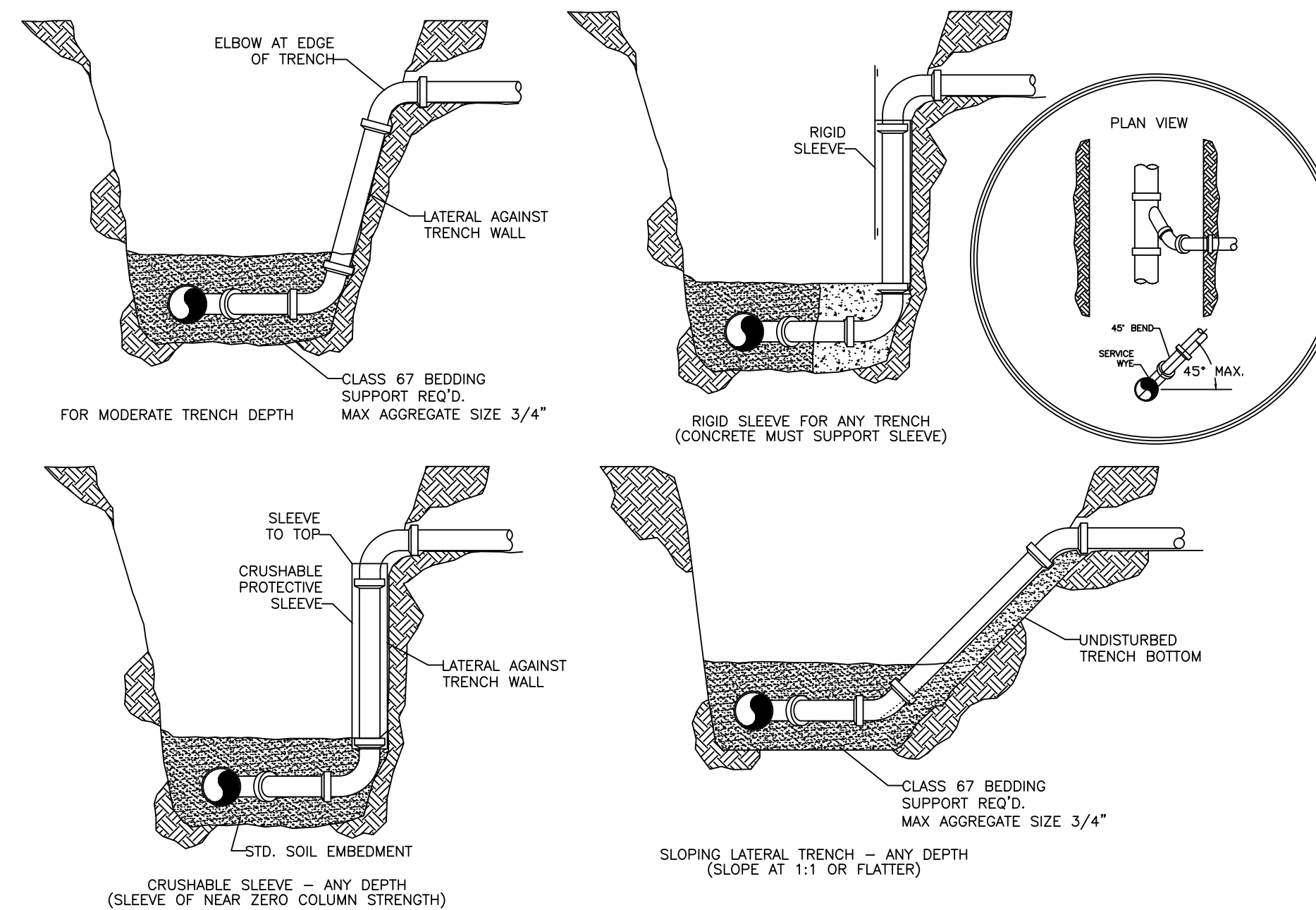
HEAVY DUTY MANHOLE
LID & FRAME



WATER TIGHT BOLTED MANHOLE
LID & FRAME



SANITARY SEWER
SERVICE WYE



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SAN. SEWER
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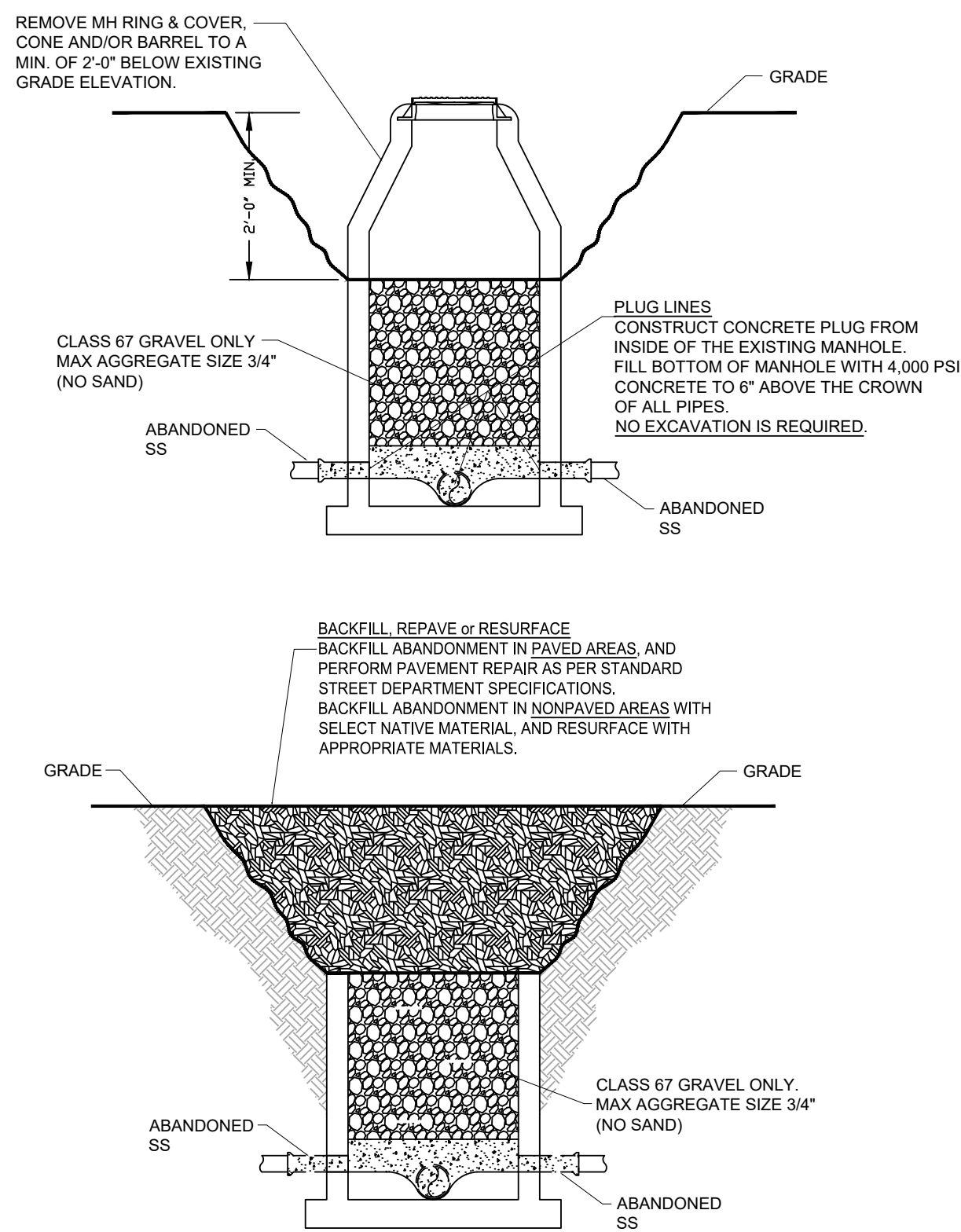
NOTES:

DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

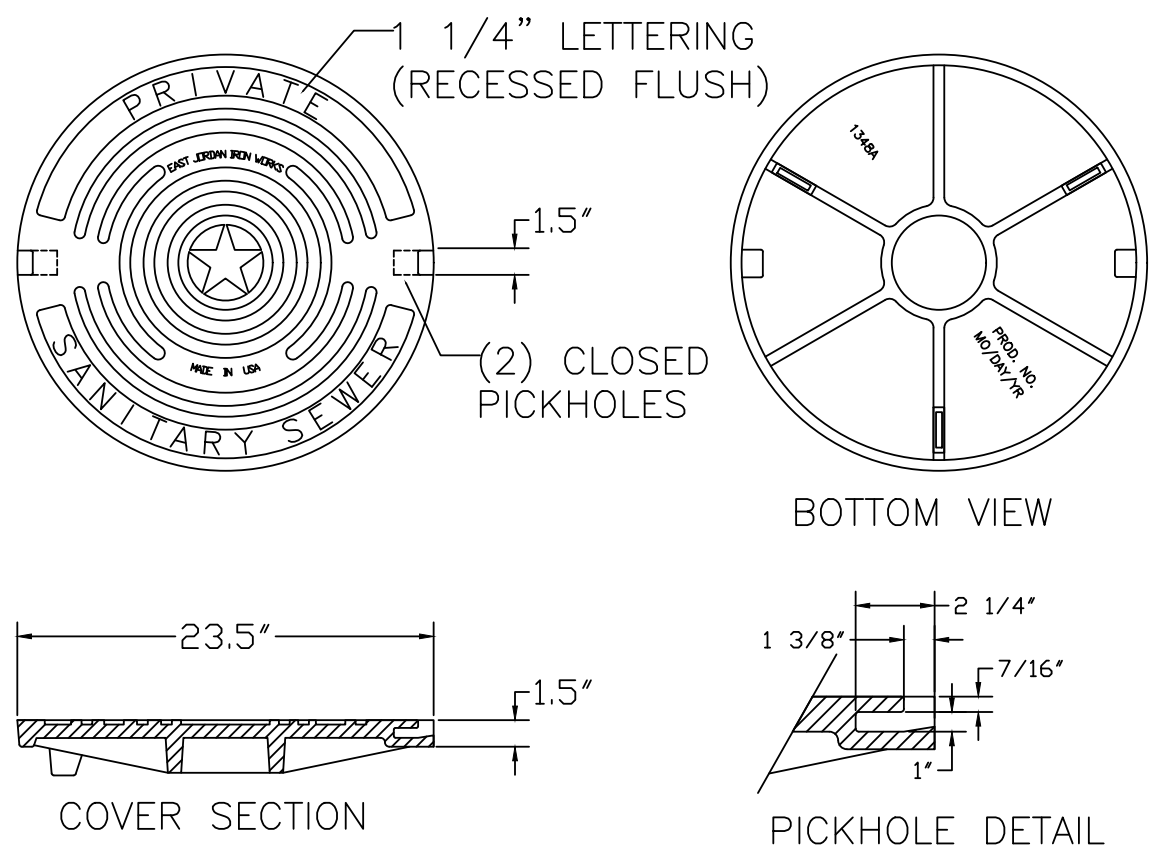
SHEET NUMBER: 1 OF 2

SANITARY SEWER MANHOLE
ABANDONMENT



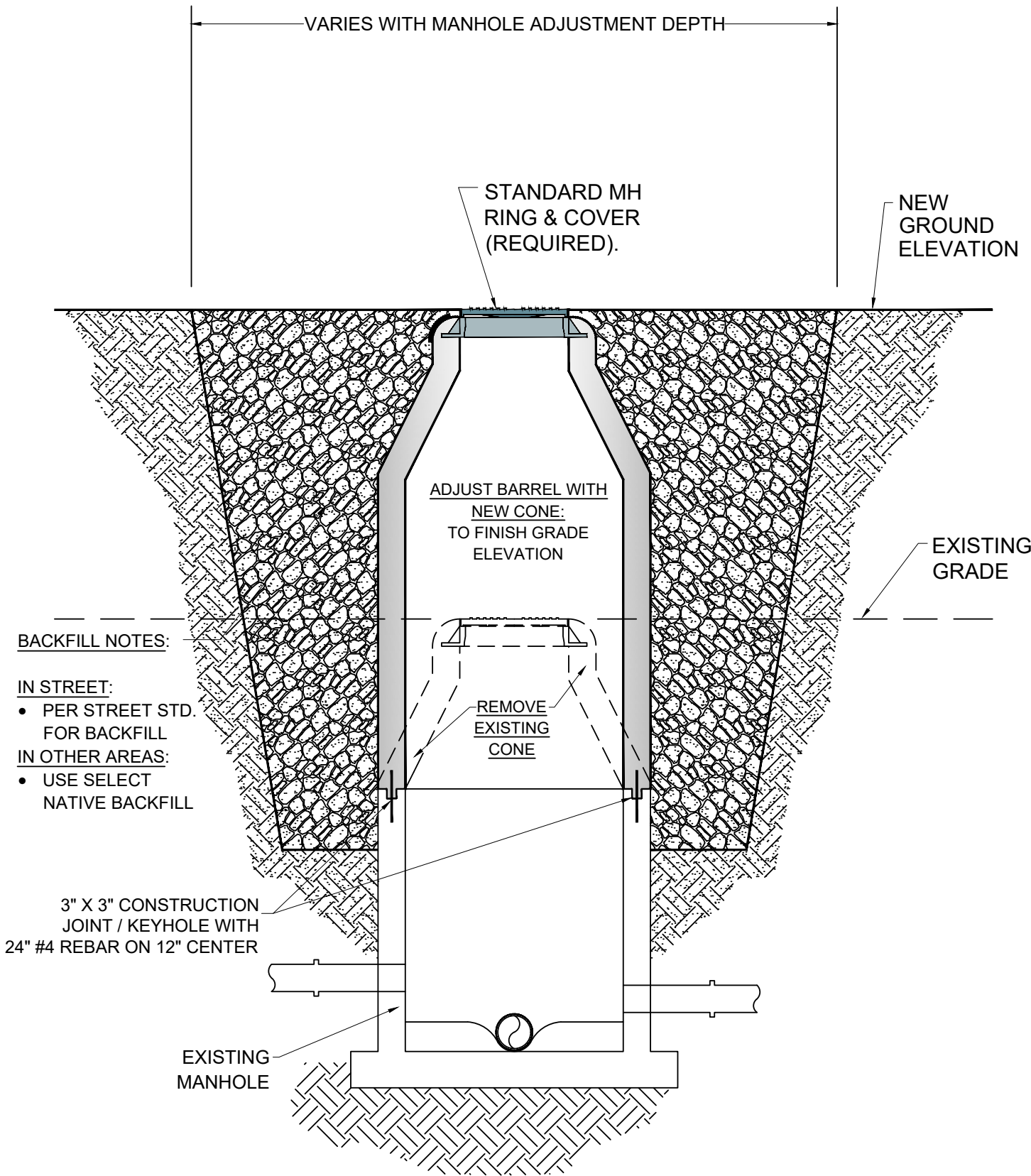
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE
RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE
ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09



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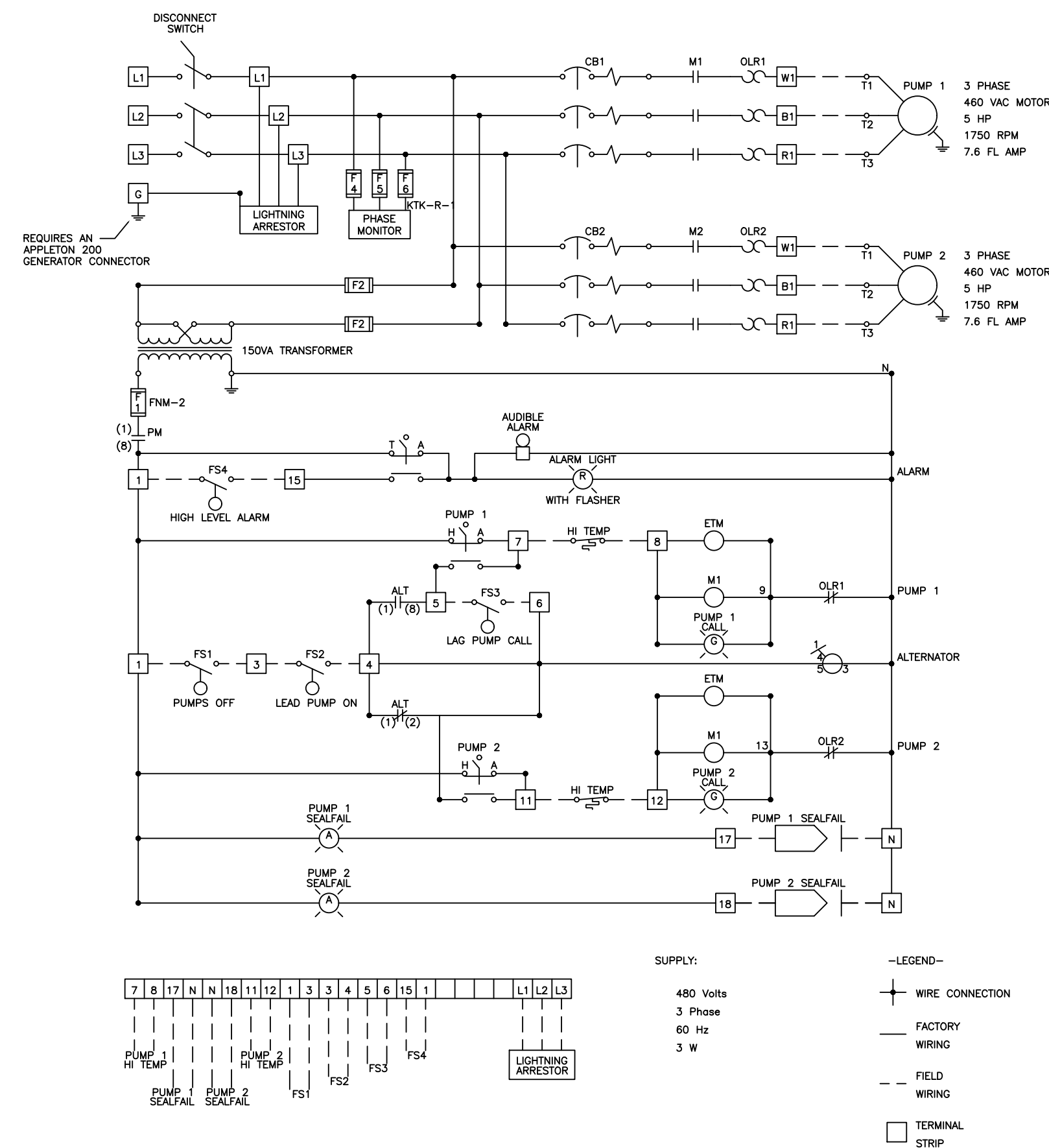
DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

SHEET NUMBER: 2 OF 2

DUPLEX PUMP CONTROL PANEL

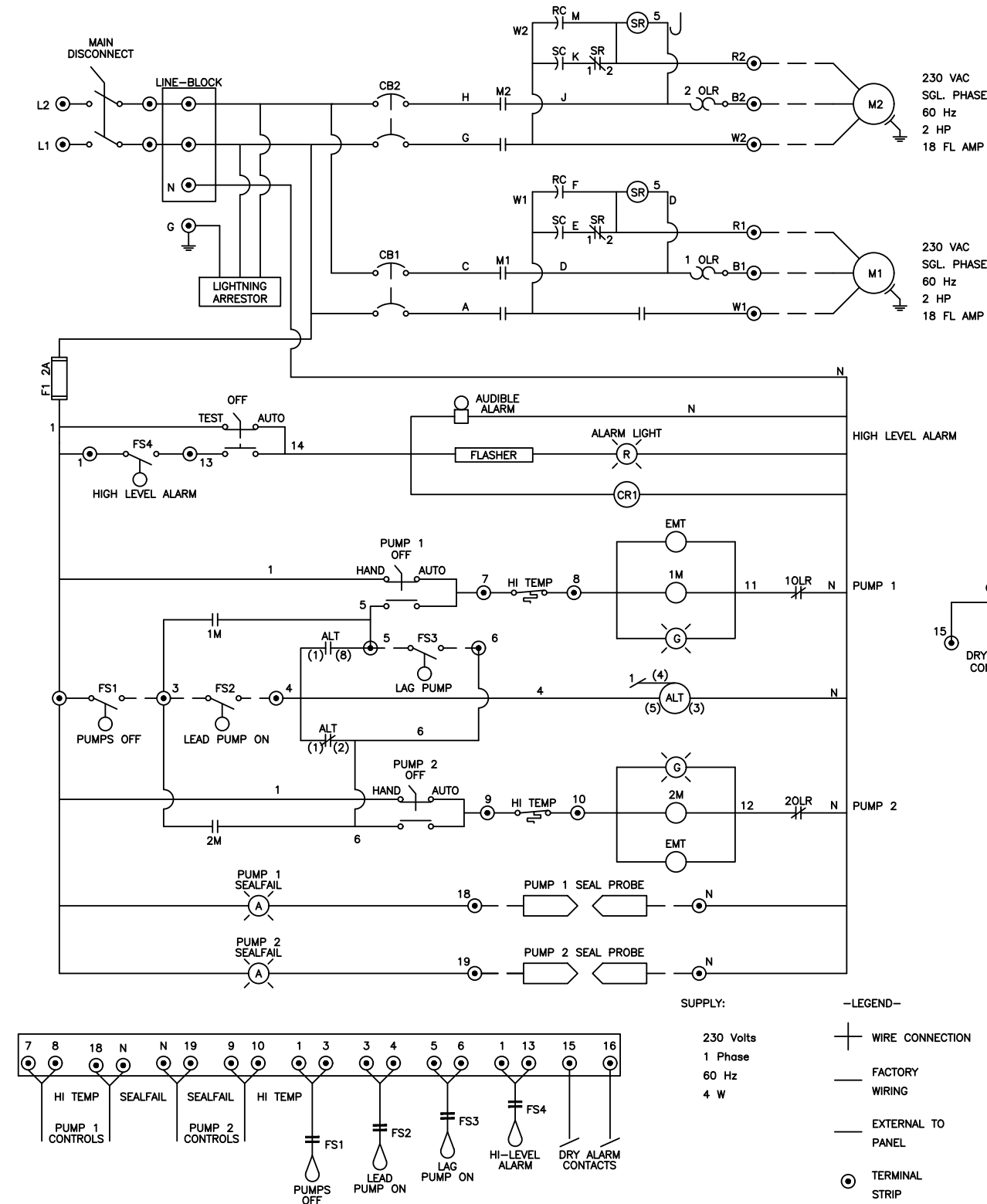
480 V / 3 PHASE



LIFT STATION DETAILS: LS01

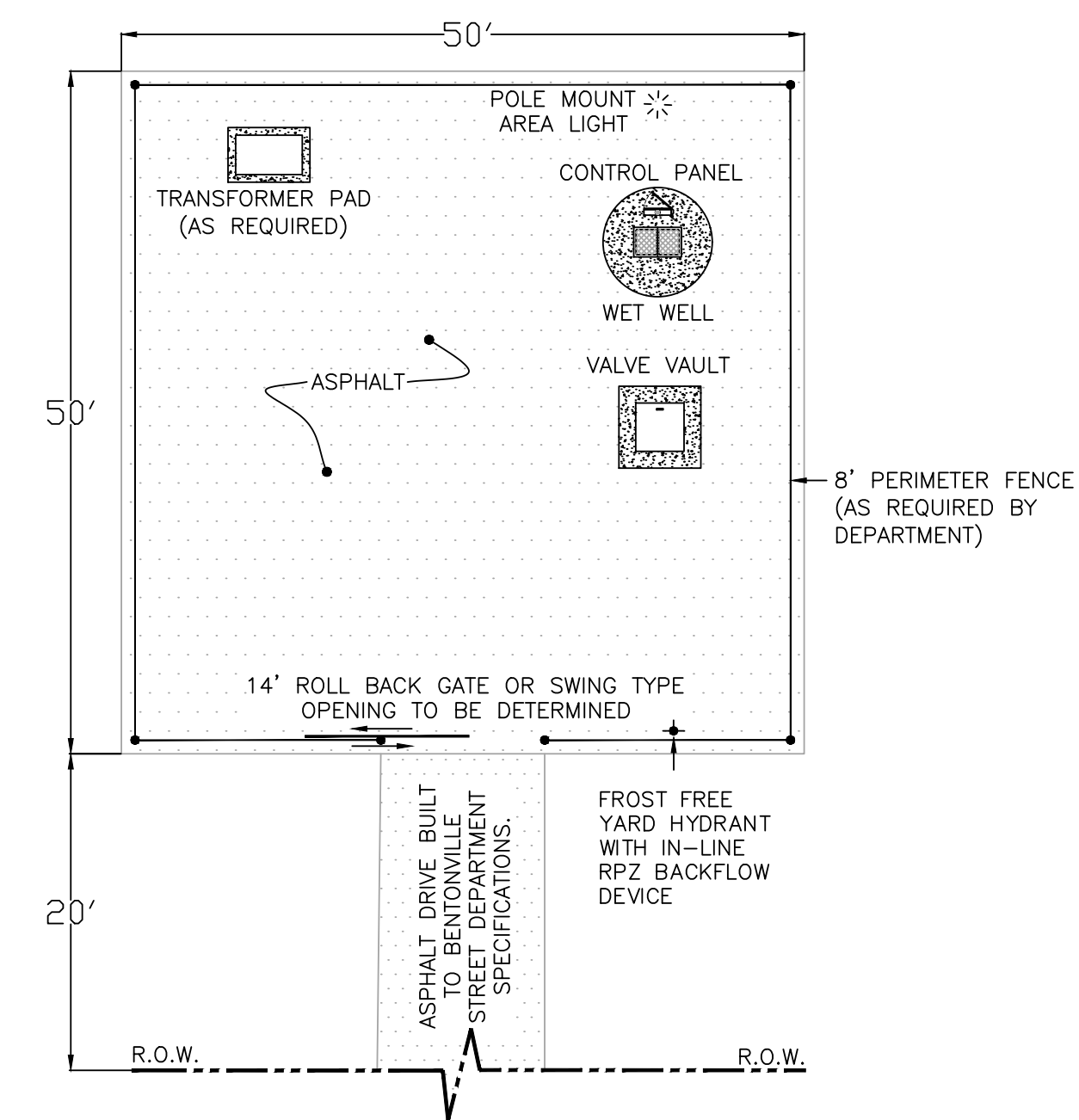
DUPLEX PUMP CONTROL PANEL

230 V / SINGLE PHASE



LIFT STATION DETAILS: LS02

LIFT STATION SITE DETAIL



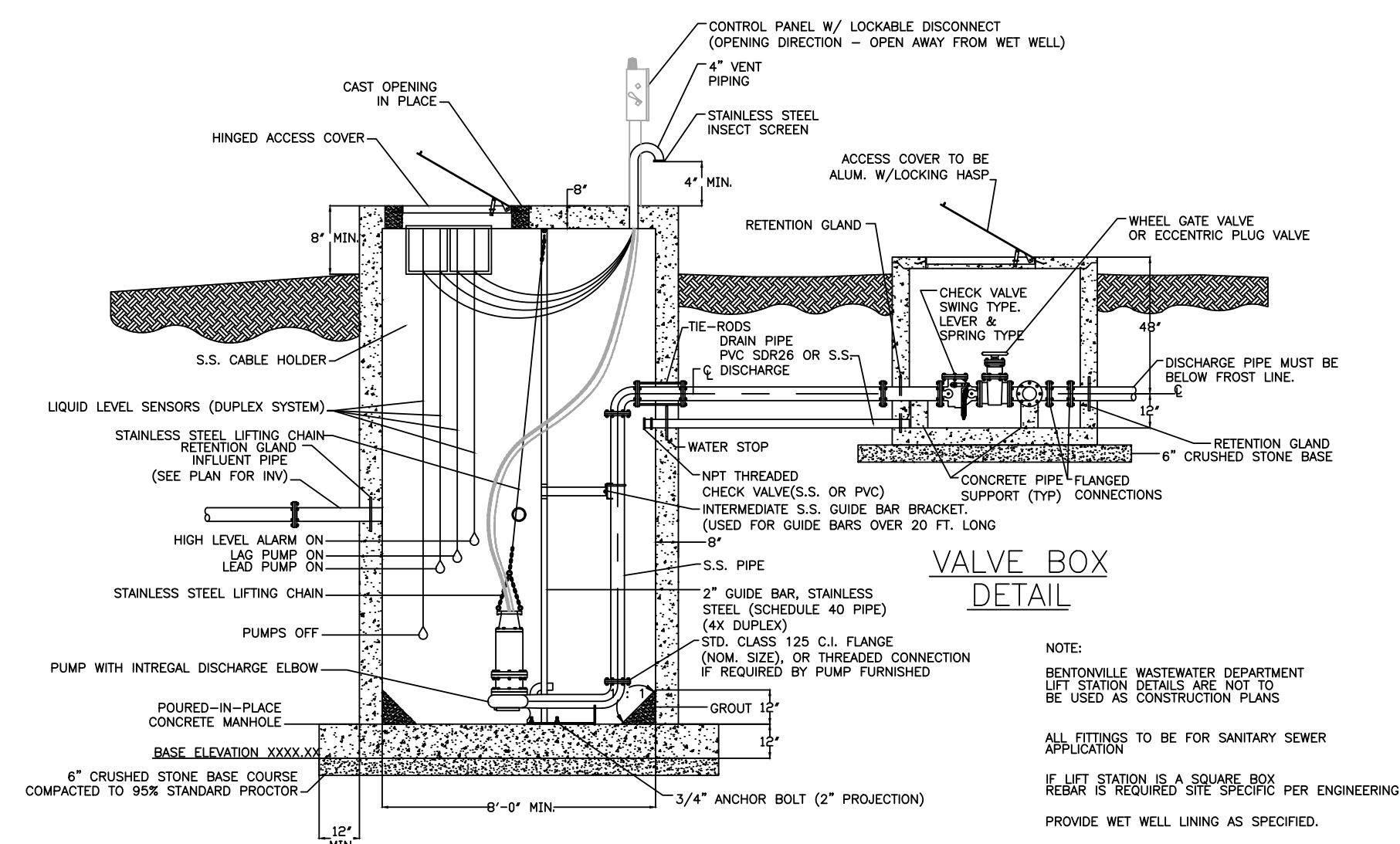
*ACTUAL SITE LAYOUT MAY VARY

BENTONVILLE WASTEWATER DEPARTMENT
LIFT STATION DETAILS ARE NOT TO
BE USED AS CONSTRUCTION PLANS

LIFT STATION DETAILS: LS03

LIFT STATION DETAIL

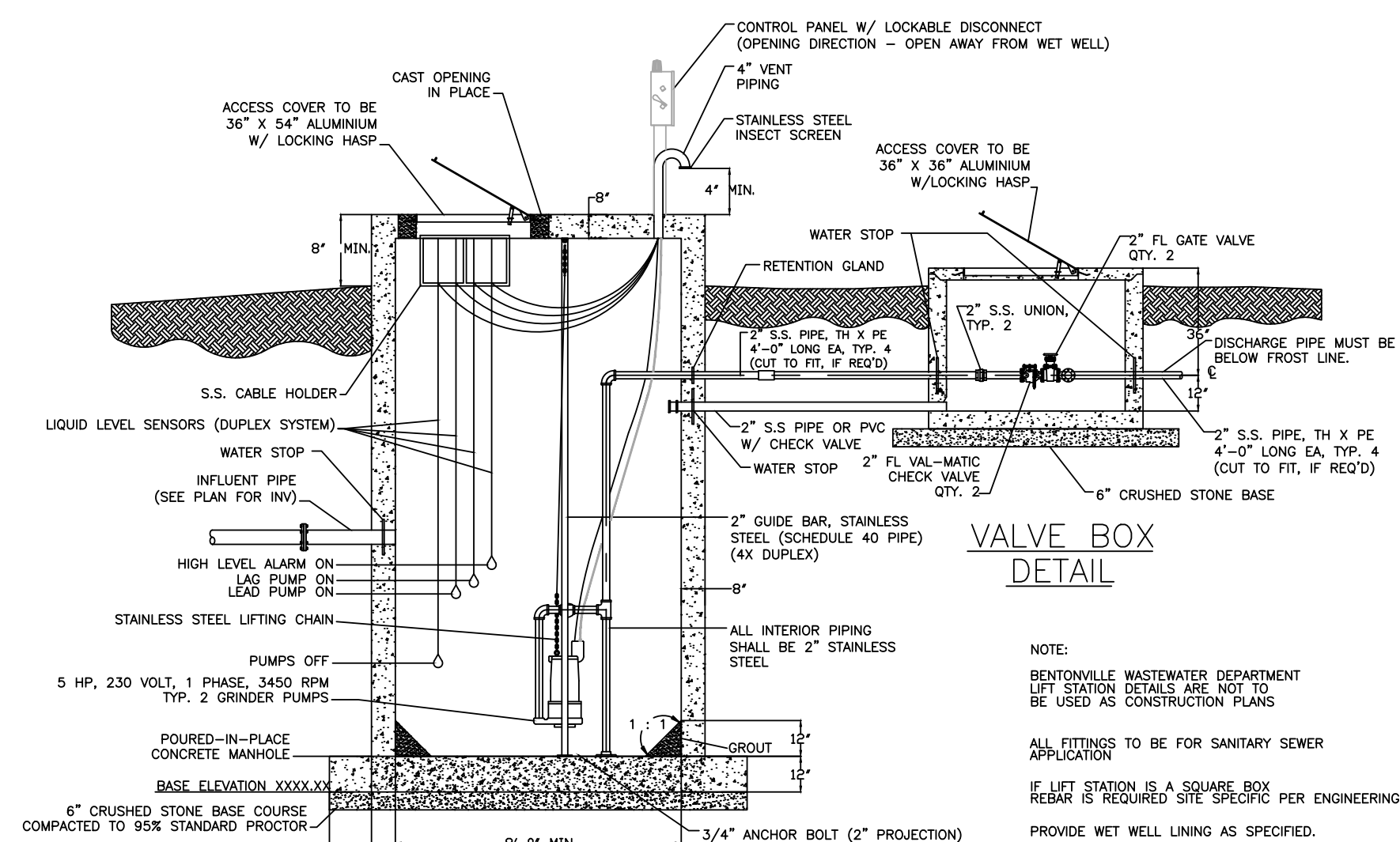
NON-CLOG PUMPS 5 HP AND UP



LIFT STATION DETAILS: LS04

LIFT STATION DETAIL

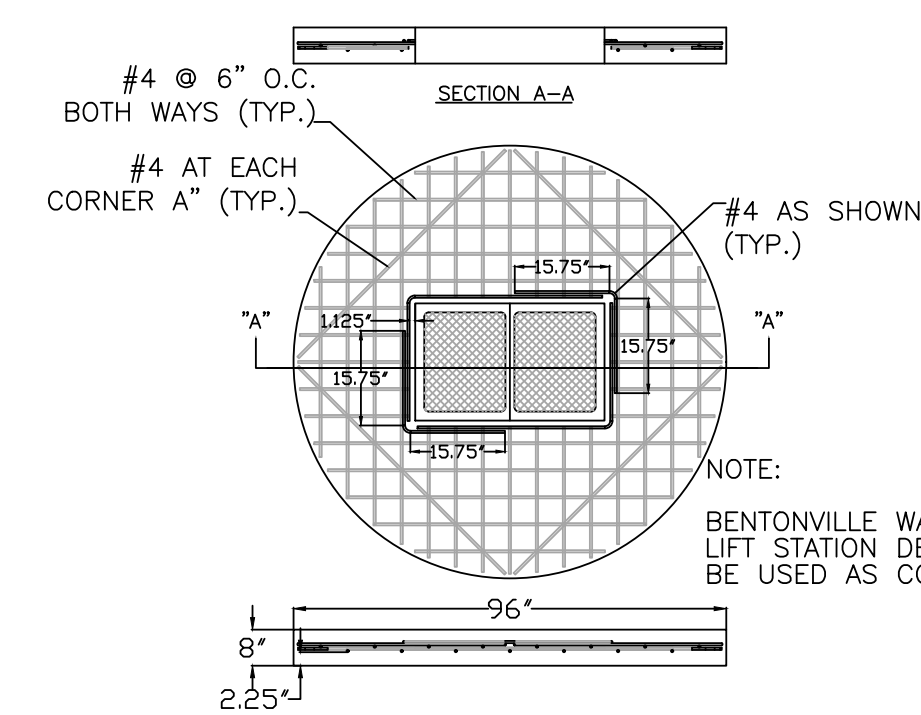
GRINDER PUMPS 5 HP AND LESS



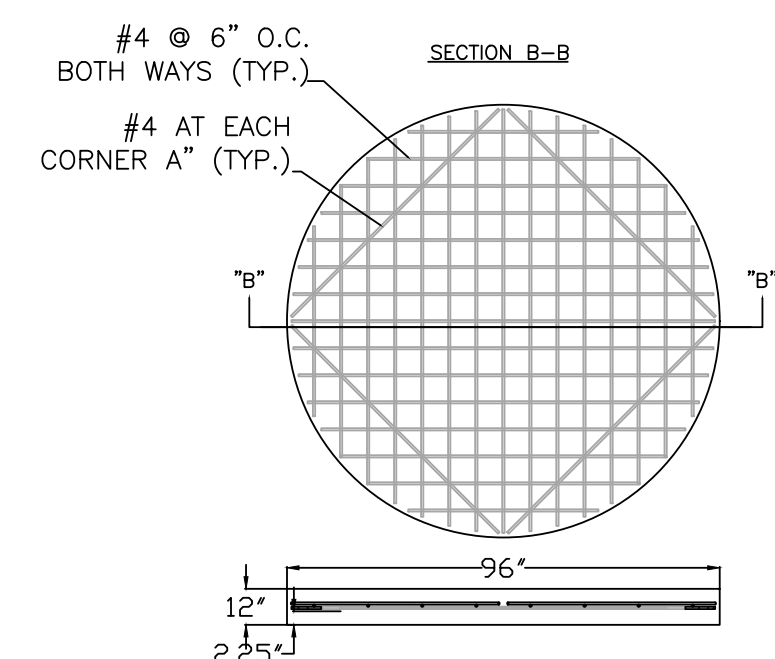
LIFT STATION DETAILS: LS05

WET WELL AND VALVE VAULT

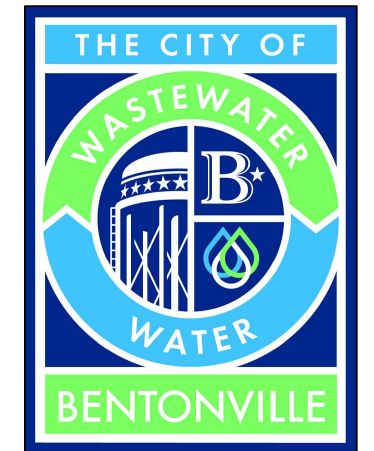
TOP SLAB REINFORCEMENT DETAIL



BOTTOM SLAB REINFORCEMENT DETAIL



LIFT STATION DETAILS: LS06



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LIFT STATION DETAILS



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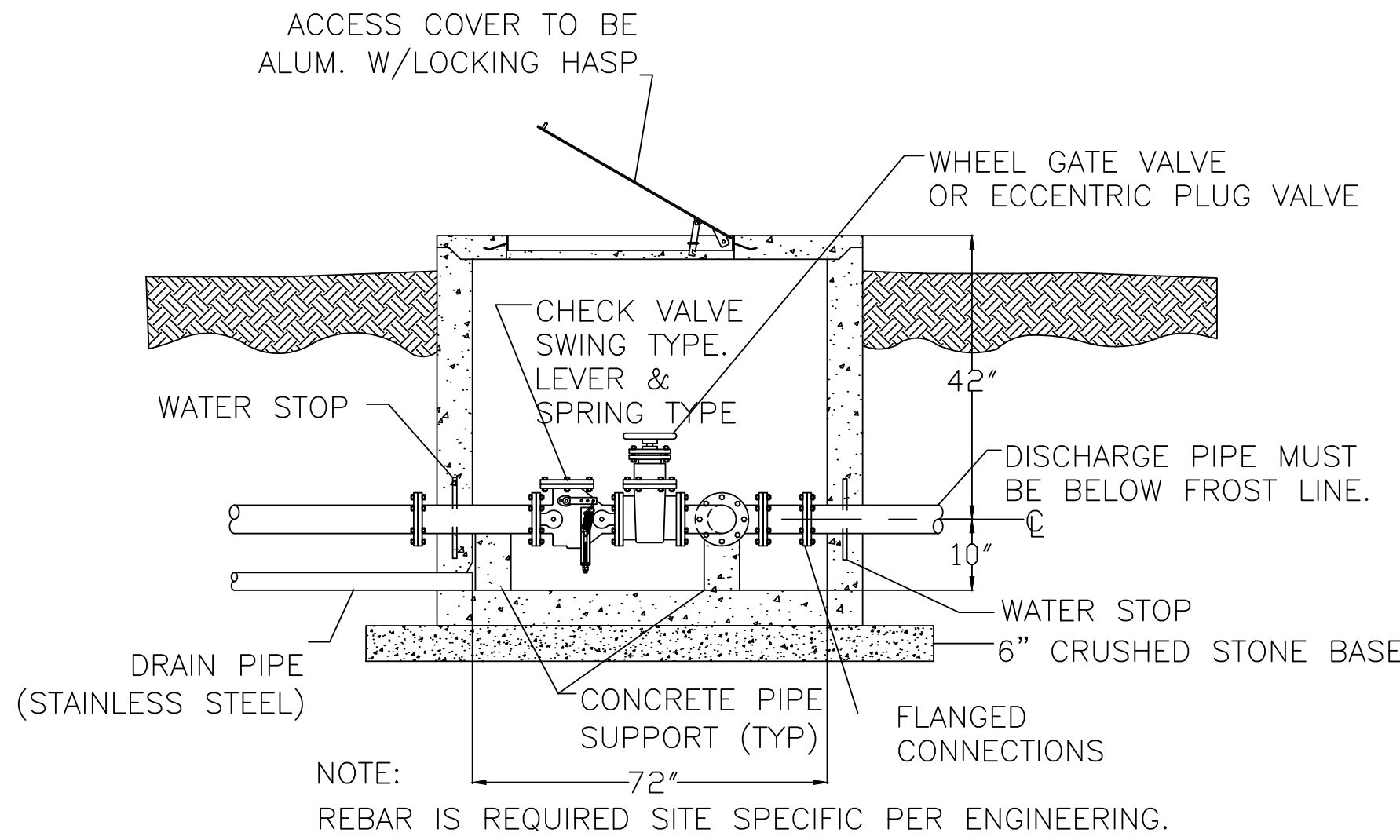
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NOTES:

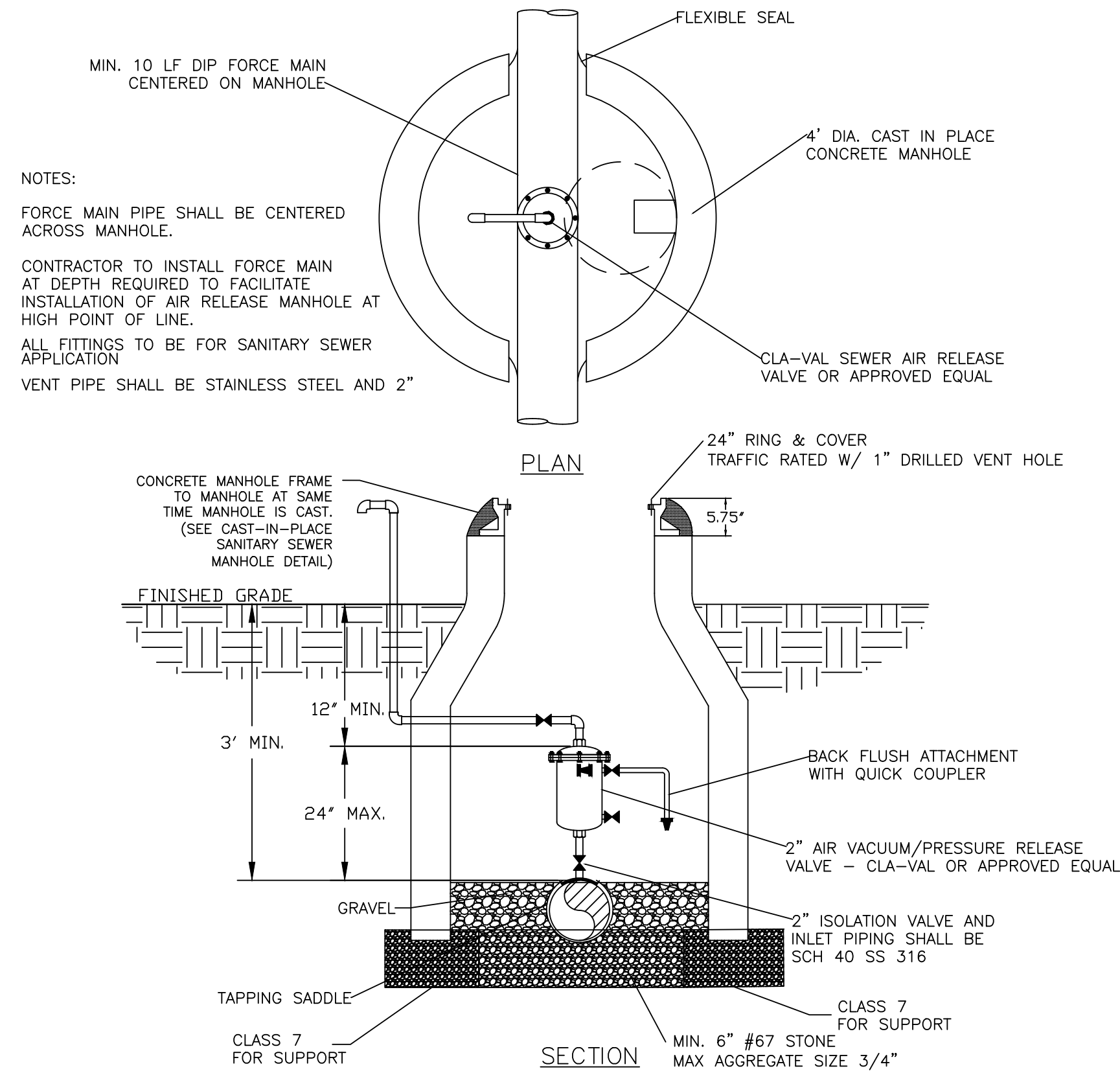
DRAWN BY: JI		DATE: 03/16/2021	
APPROVED BY: PN		DATE: 03/16/2021	
SHEET NUMBER: 1		OF 2	

LIFT STATION VALVE VAULT DETAIL



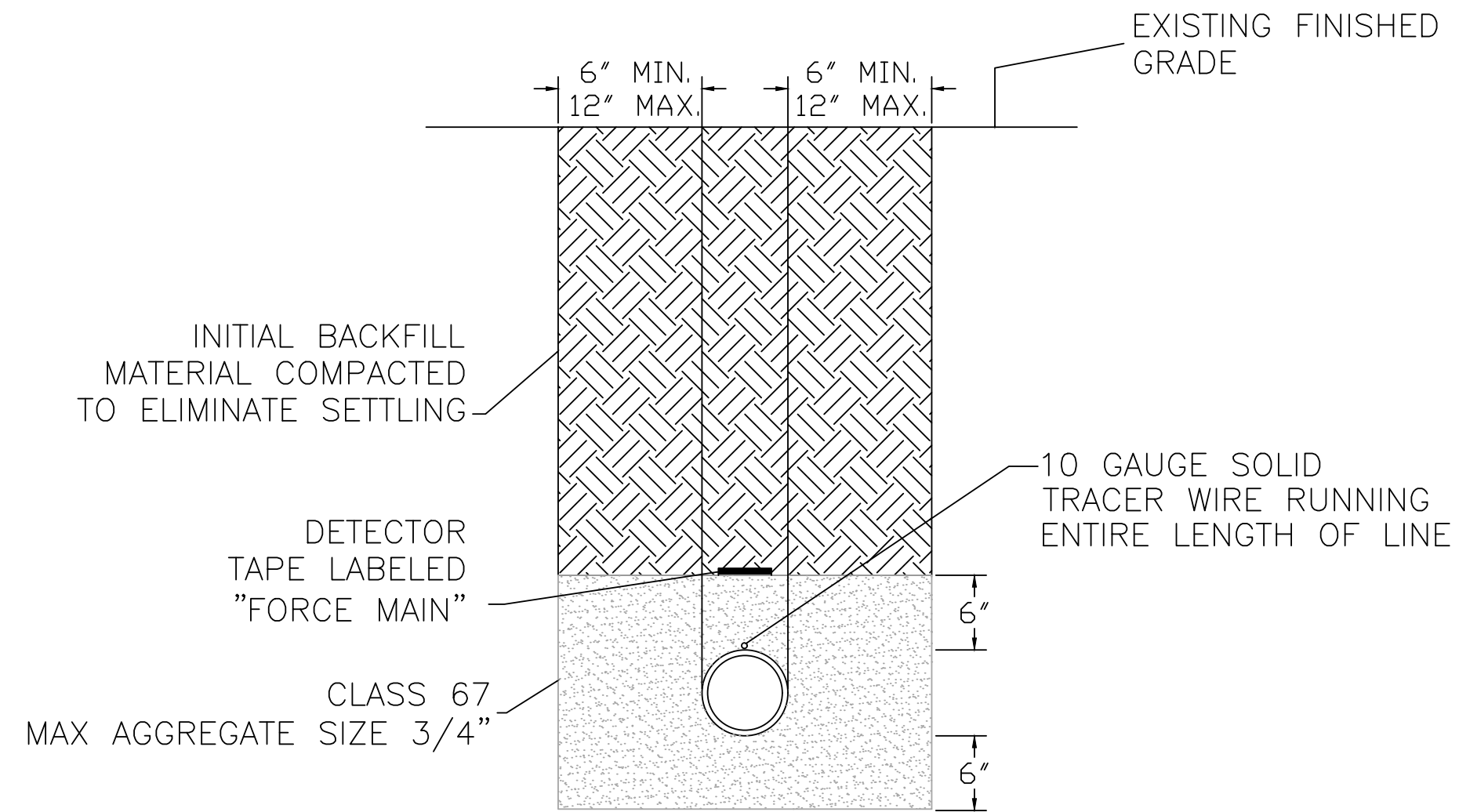
LIFT STATION DETAILS: LS07

AIR VACUUM/RELEASE
MANHOLE FOR FORCE MAIN



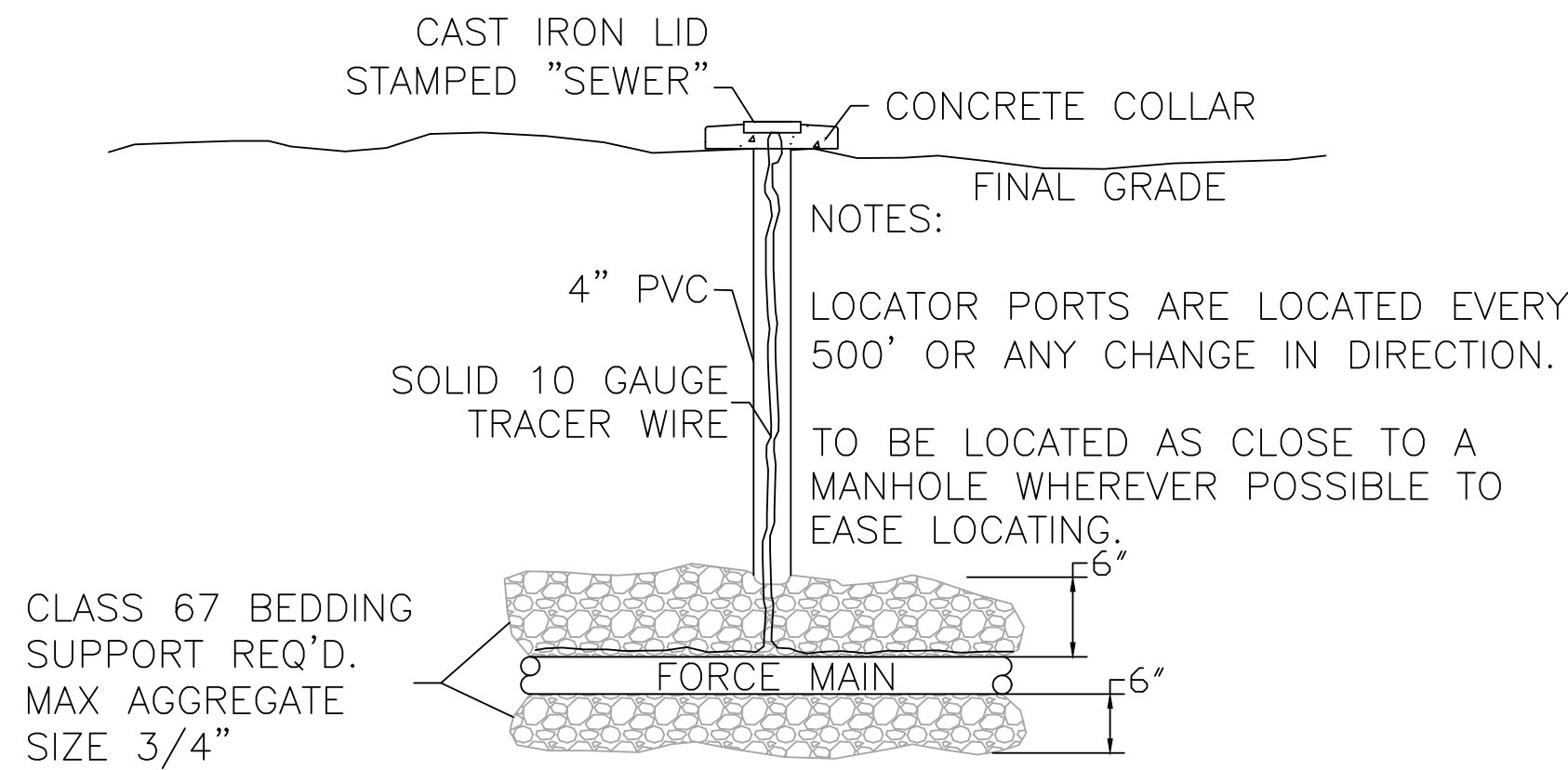
LIFT STATION DETAILS: LS08

TYPICAL BEDDING DETAIL
FOR FORCE MAIN



LIFT STATION DETAILS: LS09

TRACER WIRE PORT



LIFT STATION DETAILS: LS10



3200 SW MUNICIPAL DR.
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LIFT STATION
DETAILS



Know what's below.
Call before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

SHEET NUMBER: 2 OF 2