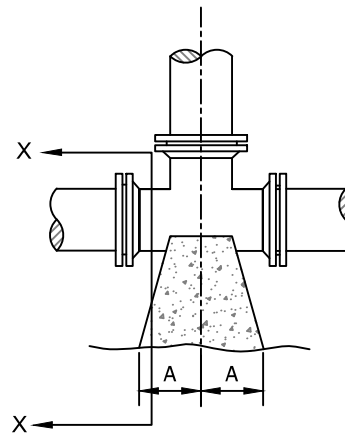
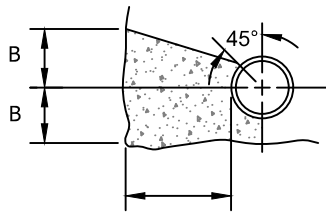


PLAN- BENDS

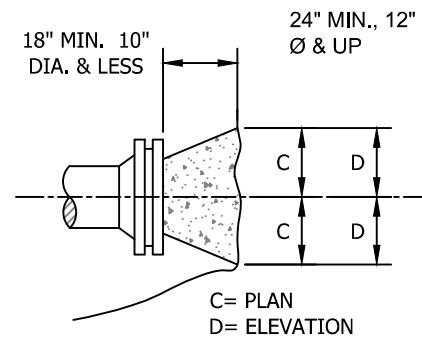


PLAN -TEES



18" MIN.-10" DIA. OR LESS
24" MIN.-12" DIA. OR GREATER

SECTION X-X
BENDS & TEES



PLAN & ELEVATION
PLUGS

PIPE SIZE	90° BEND		45° BEND		22-1/2° BEND		11-1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	18"	12"	10"	13"	7"	10"	7"	10"	12"	14"	13"	6"
6"	18"	12"	10"	13"	7"	10"	7"	10"	12"	14"	19"	9"
8"	24"	18"	13"	18"	10"	12"	10"	12"	16"	18"	25"	11"
10"	28"	22"	15"	22"	12"	15"	12"	15"	20"	22"	31"	14"
12"	32"	28"	19"	28"	14"	18"	14"	18"	22"	28"	37"	17"
16"	54"	38"	30"	36"	18"	36"	18"	36"	36"	42"	54"	24"

2000 PSF SOIL (SAND & GRAVEL WITH CLAY)

NOTES:

1. BASED ON 200 PSI STATIC PRESSURE PLUS AWWA WATER HAMMER ALLOWANCE.
2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
3. THRUST BLOCKS TO BE USED AT ALL LINES OPERATING UNDER PRESSURE.
4. KEEP ALL PIPING JOINTS CLEAR OF CONCRETE THRUST BLOCKS.
5. WRAP ALL FITTINGS IN PLASTIC.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

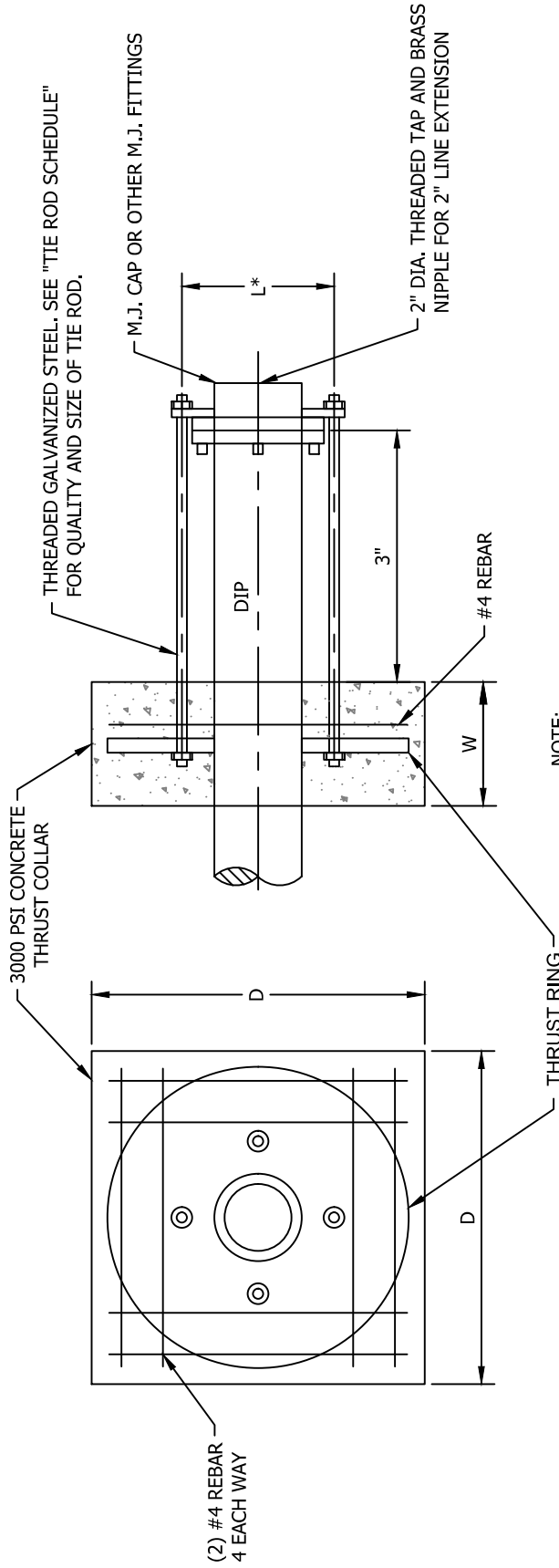
EFFECTIVE: OCTOBER 2024

THRUST
BLOCKING

STD. NO.

1000.01

NOT TO SCALE



NOTE:
THRUST COLLAR SHALL BE FORMED USING 1/2" EXTERIOR PLYWOOD AS PER COLLAR DIMENSION SHOWN

TIE ROD SCHEDULE		
PIPE DIAM.	QUAN.	SIZE
0'-4"	2	0'-0 5/8"
0'-6"	2	0'-0 3/4"
0'-8"	2	0'-0 3/4"
1'-0"	4	0'-0 3/4"
1'-4"	4	0'-0 7/8"
1'-8"	4	0'-1"
2'-0"	4	0'-1 1/4"
2'-6"	4	0'-1 1/2"

* CONTRACTOR VERIFY DISTANCE W/COLLAR SUPPLIERS.

COLLAR DIMENSIONS				
SIZE LINE	MIN. W	MIN. D	PLATE DIAM.	
0'-4"	0'-6"	L+8"	L+2"	
0'-6"	0'-9"	L+9"	L+3"	
0'-8"	1'-0"	L+9"	L+3"	
1'-0"	1'-6"	L+9"	L+3"	
1'-4"	1'-6"	L+9"	L+3"	
1'-8"	20"?	L+9"	L+3"	
2'-0"	24"?	L+10"	L+4"	
2'-6"	2'-0"	L+11"	L+5"	

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

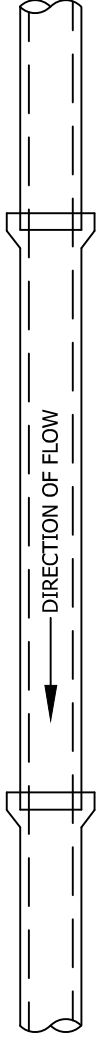
STD. NO.

1000.02

NOT TO SCALE

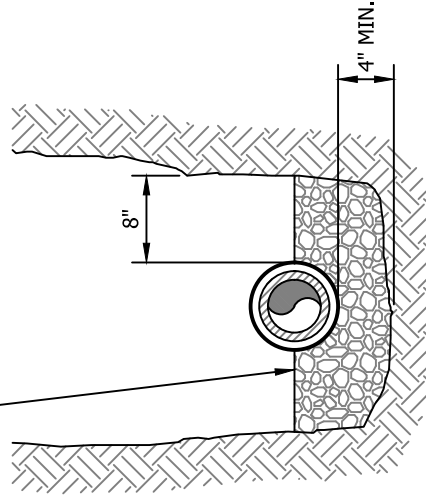


THRUST COLLAR

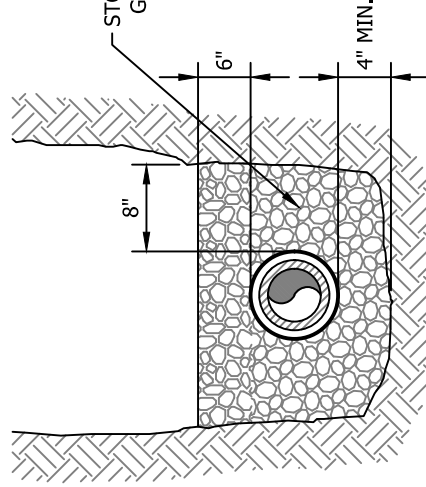


START LAYING AT LOW END AND BUILD AGAINST DIRECTION OF FLOW

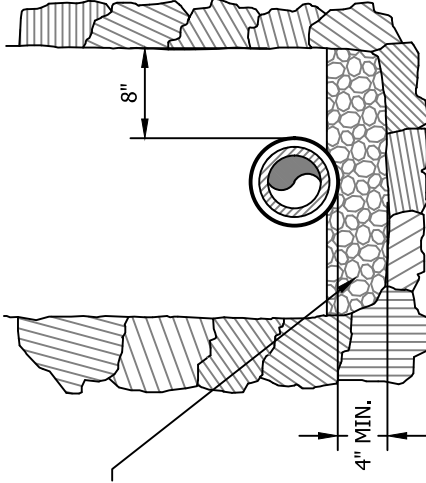
BRING STONE TO
SPRINGLINE
(MIDDLE OF PVC)



P.V.C. PIPE
NORMAL CONDITIONS



P.V.C. PIPE
WET CONDITIONS



D.I.P. IN ROCK
WET CONDITIONS



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

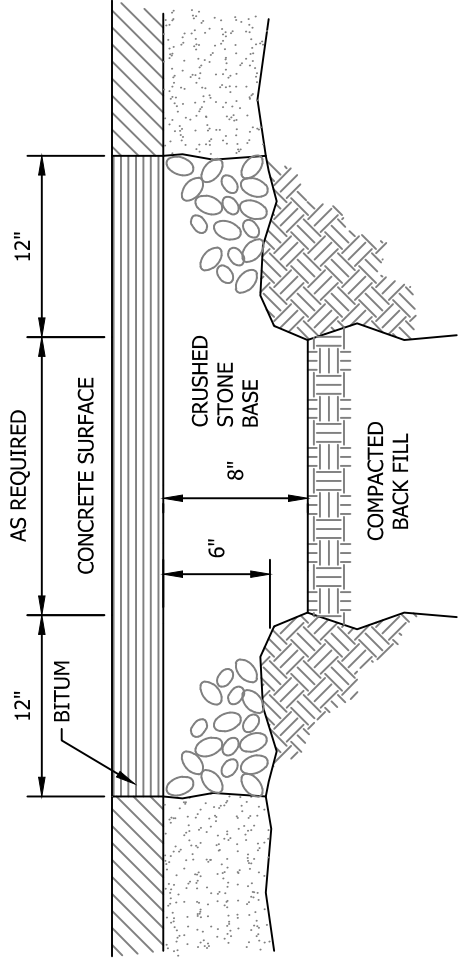
EFFECTIVE: OCTOBER 2024

STANDARD TRENCHING DETAIL (GRAVITY SEWER)

STD. NO.

1000.03

NOT TO SCALE



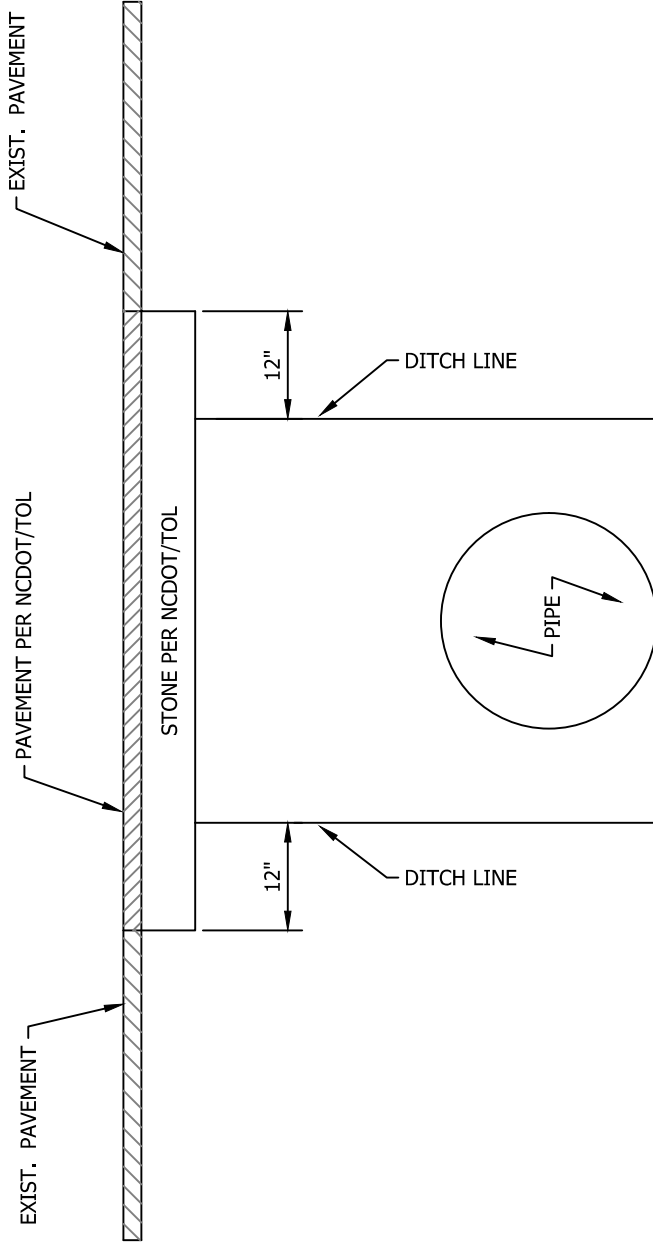
USE MATERIALS PER NCDOT REQUIREMENTS ON NCDOT DRIVEWAYS AND ROADWAYS.
 USE MATERIALS PER TOWN OF LELAND REQUIREMENTS ON TOWN OF LELAND DRIVEWAYS AND ROADWAYS.

STD. NO.
1000.04
 NOT TO SCALE

PAVEMENT REPAIR

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024





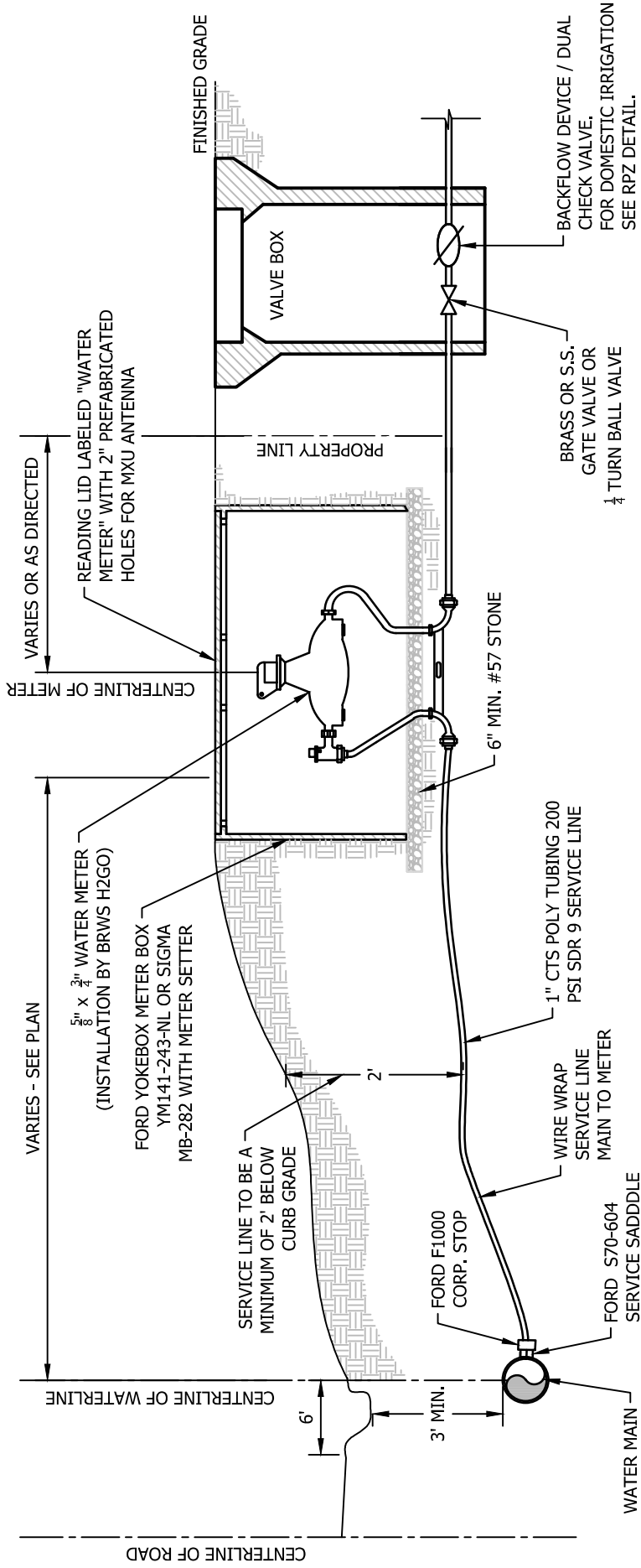
- NOTES:**
1. REFERENCE SPECIFICATIONS FOR BACKFILLING AND COMPACTION REQUIREMENTS.
 2. CUT-BACK TO BE PERFORMED AFTER TRENCH BACKFILLING AND COMPACTION.
 3. NEW PAVEMENT TO MEET ALL NCDOT OR TOWN OF LELAND (TOL) REQUIREMENTS. CONFIRM ROADWAY OWNER PRIOR TO CONSTRUCTION.

STD. NO.
1000.05
 NOT TO SCALE

PIPE INSTALLATION PAVEMENT REPAIR

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024





NOTES:

1. CONTRACTOR SHALL PLACE WATER METER BOX IN NON-TRAFFIC AREA AT LOCATION SPECIFIED BY BRWS H2GO.
2. ALL BRASS OR STAINLESS STEEL FITTINGS FROM METER SETTER TO / INCLUDING DUAL CHECK VALVE.
3. NO COUPLINGS BETWEEN MAIN LINE AND METER SETTER.



**BRUNSWICK REGIONAL
WATER AND SEWER H2GO**

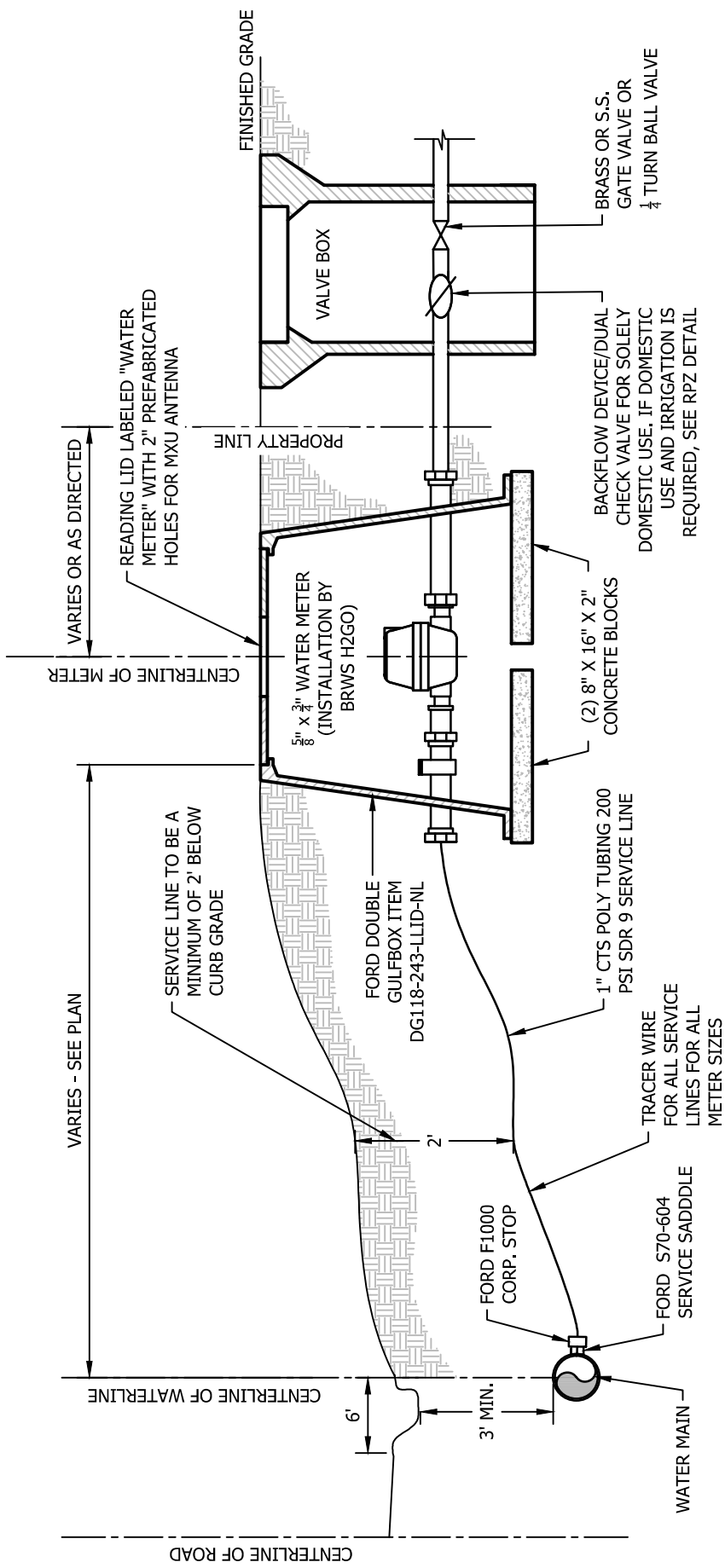
EFFECTIVE: OCTOBER 2024

FORD YOKEBOX 3/4" WATER SERVICE

STD. NO.


2000.01

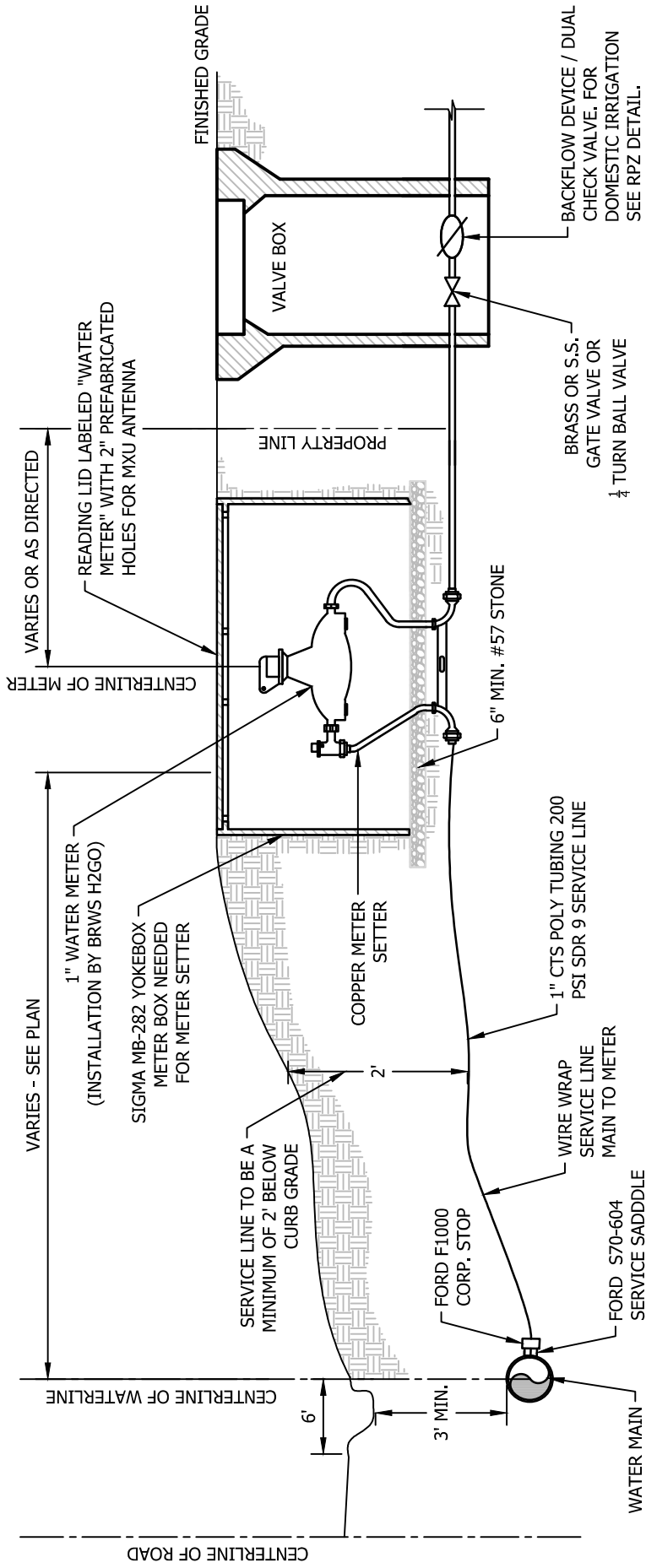
NOT TO SCALE



NOTE:

1. CONTRACTOR SHALL PLACE WATER METER BOX IN NON-TRAFFIC AREA AT LOCATION SPECIFIED BY BRWS H2GO.
2. ALL BRASS OR STAINLESS STEEL FITTINGS FROM METER SETTER TO / INCLUDING DUAL CHECK VALVE.
3. NO COUPLINGS BETWEEN MAIN LINE AND METER.

	BRUNSWICK REGIONAL WATER AND SEWER H2GO <small>EFFECTIVE: OCTOBER 2024</small>	FORD DOUBLE GULFBBOX 3/4" WATER SERVICE <small>(DOMESTIC AND IRRIGATION)</small>	STD. NO. 2000.02 NOT TO SCALE



NOTES:

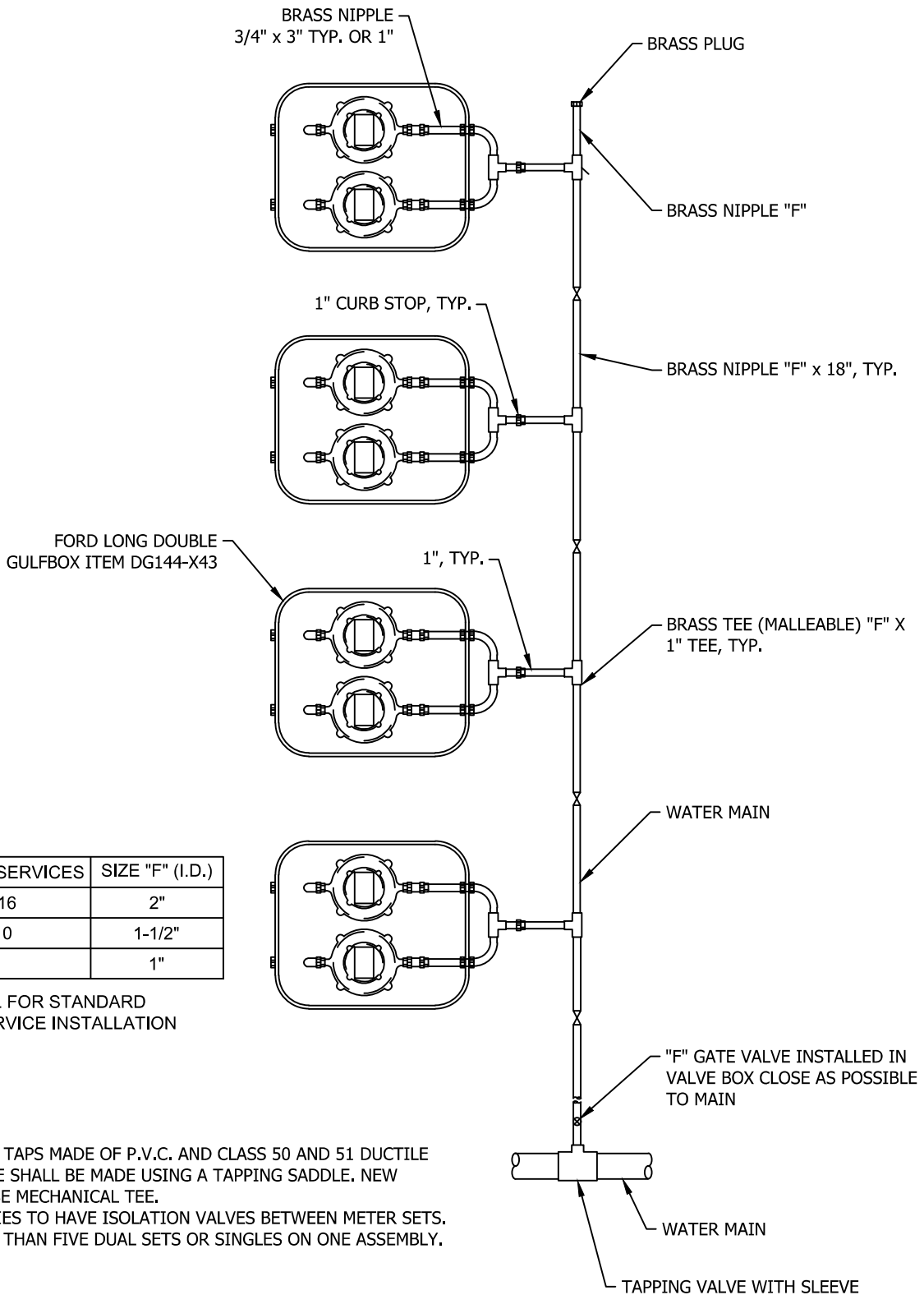
1. CONTRACTOR SHALL PLACE WATER METER BOX IN NON-TRAFFIC AREA AT LOCATION SPECIFIED BY BRWS H2GO.
2. ALL BRASS OR STAINLESS STEEL FITTINGS FROM METER SETTER TO / INCLUDING DUAL CHECK VALVE.

STD. NO.
2000.03
 NOT TO SCALE

1" WATER SERVICE

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024





METERED SERVICES	SIZE "F" (I.D.)
11-16	2"
3-10	1-1/2"
2	1"

SEE DETAIL FOR STANDARD WATER SERVICE INSTALLATION

NOTES:

1. EXISTING TAPS MADE OF P.V.C. AND CLASS 50 AND 51 DUCTILE IRON PIPE SHALL BE MADE USING A TAPPING SADDLE. NEW MAINS USE MECHANICAL TEE.
2. ASSEMBLIES TO HAVE ISOLATION VALVES BETWEEN METER SETS.
3. NO MORE THAN FIVE DUAL SETS OR SINGLES ON ONE ASSEMBLY.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

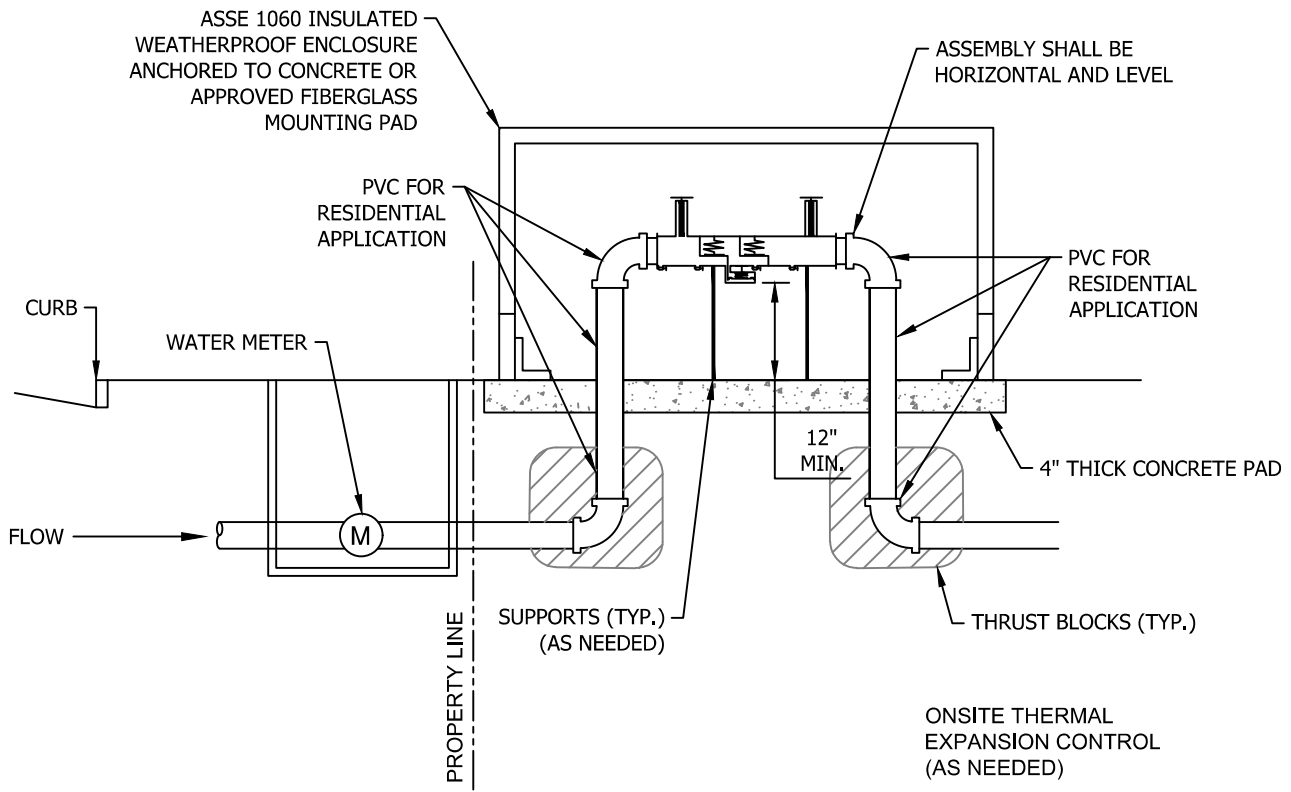
EFFECTIVE: OCTOBER 2024

STANDARD GANG METER ASSEMBLY

STD. NO.

2000.05

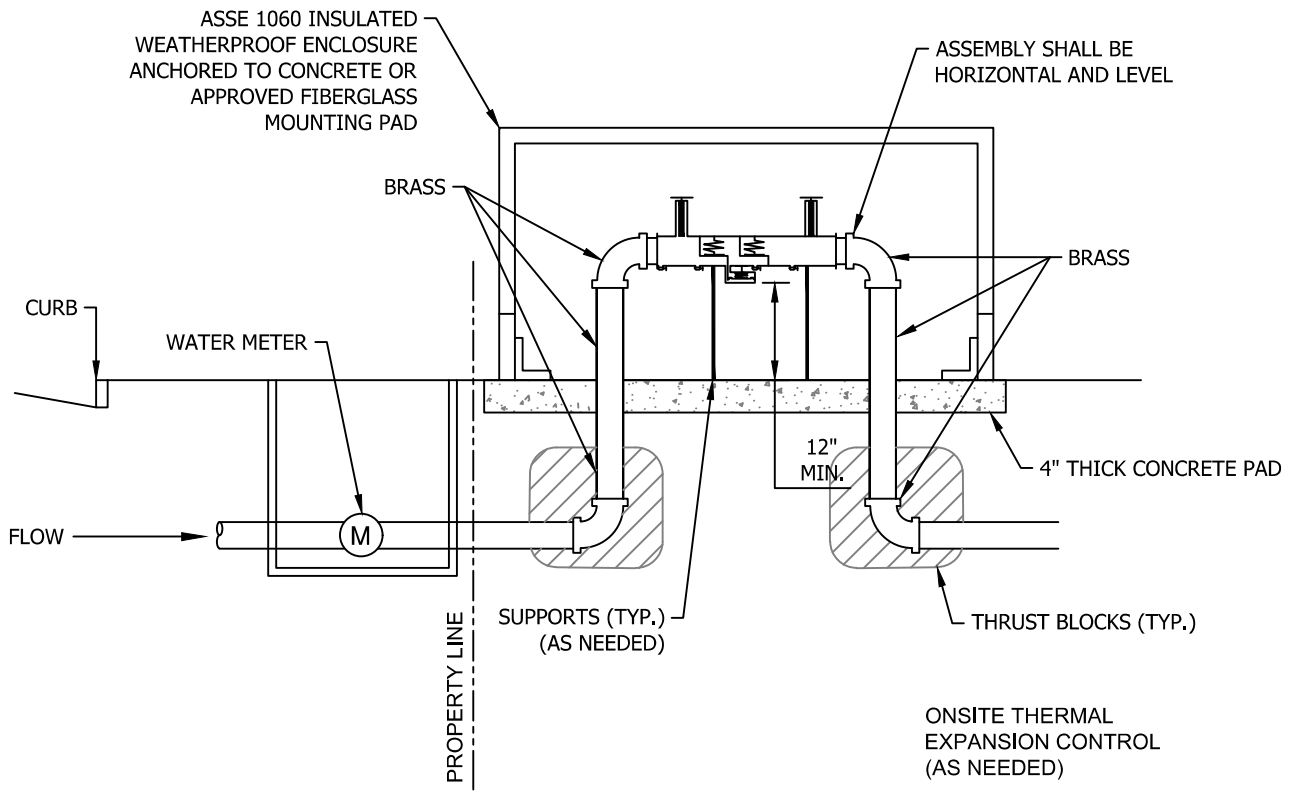
NOT TO SCALE



NOTES:

1. ALL BACKFLOW DEVICES TO COMPLY WITH USC STANDARDS AND AWWA C511 DESIGN REQUIREMENTS.
2. ASSEMBLY SHALL BE LOCATED AS CLOSE TO THE SERVICE CONNECTION AS POSSIBLE WITH NO CONNECTIONS BETWEEN THE WATER METER AND THE BACKFLOW PREVENTION ASSEMBLY.
3. ALL PIPING SHOULD BE HYDRAULICALLY CALCULATED BY WATER USER FOR ONSITE USAGE
4. BACKFLOW PREVENTION ASSEMBLIES ARE TO BE USED WITHIN THEIR RATED OPERATING CONDITIONS.
 - 4.1. PRESSURE: BACKFLOW PREVENTION ASSEMBLIES TYPICALLY HAVE MAXIMUM WORKING WATER PRESSURES (MWWP) OF 150 PSI (1034 KPa) OR 175 PSI (1206 KPa). ASSEMBLIES ARE DESIGNED TO OPERATE CONTINUOUSLY AT THIS PRESSURE, WHICH IS IDENTIFIED ON THE ASSEMBLY.
 - 4.2. TEMPERATURE: BACKFLOW PREVENTION ASSEMBLIES ARE DESIGNED TO OPERATE CONTINUOUSLY AT THEIR MAXIMUM WORKING WATER TEMPERATURE (MWWT), WHICH IS IDENTIFIED ON THE ASSEMBLY.
 - 4.3. RATE OF FLOW: BACKFLOW PREVENTION ASSEMBLIES ARE DESIGNED TO OPERATE CONTINUOUSLY UP TO THEIR RATED FLOW (i.e. GALLONS PER MINUTE - GPM; OR LITERS PER SECOND - L/S).
5. NO VERTICAL ASSEMBLIES WILL BE ACCEPTED.

	BRUNSWICK REGIONAL WATER AND SEWER H2GO	RPZ DETAIL 3/4" OR 1"	STD. NO.
	EFFECTIVE: OCTOBER 2024		2000.06
			NOT TO SCALE



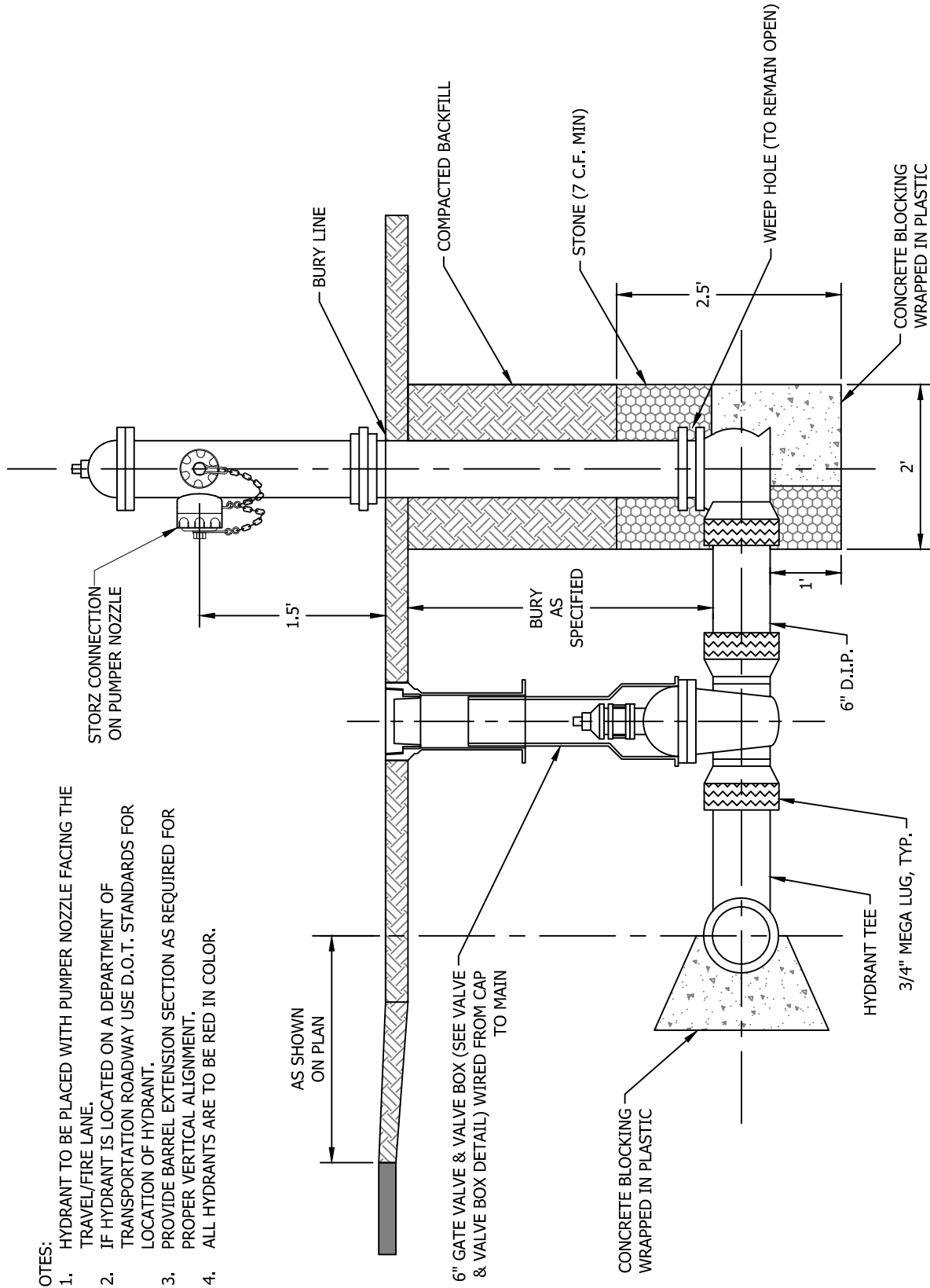
NOTES:

1. ALL BACKFLOW DEVICES TO COMPLY WITH USC STANDARDS AND AWWA C511 DESIGN REQUIREMENTS.
2. ASSEMBLY SHALL BE LOCATED AS CLOSE TO THE SERVICE CONNECTION AS POSSIBLE WITH NO CONNECTIONS BETWEEN THE WATER METER AND THE BACKFLOW PREVENTION ASSEMBLY.
3. ALL PIPING SHOULD BE HYDRAULICALLY CALCULATED BY WATER USER FOR ONSITE USAGE.
4. BACKFLOW PREVENTION ASSEMBLIES ARE TO BE USED WITHIN THEIR RATED OPERATING CONDITIONS.
 - 4.1. PRESSURE: BACKFLOW PREVENTION ASSEMBLIES TYPICALLY HAVE MAXIMUM WORKING WATER PRESSURES (MWWP) OF 150 PSI (1034 KPa) OR 175 PSI (1206 KPa). ASSEMBLIES ARE DESIGNED TO OPERATE CONTINUOUSLY AT THIS PRESSURE, WHICH IS IDENTIFIED ON THE ASSEMBLY.
 - 4.2. TEMPERATURE: BACKFLOW PREVENTION ASSEMBLIES ARE DESIGNED TO OPERATE CONTINUOUSLY AT THEIR MAXIMUM WORKING WATER TEMPERATURE (MWWT), WHICH IS IDENTIFIED ON THE ASSEMBLY.
 - 4.3. RATE OF FLOW: BACKFLOW PREVENTION ASSEMBLIES ARE DESIGNED TO OPERATE CONTINUOUSLY UP TO THEIR RATED FLOW (i.e. GALLONS PER MINUTE - GPM; OR LITERS PER SECOND - L/S).
5. NO VERTICAL ASSEMBLIES WILL BE ACCEPTED.

	BRUNSWICK REGIONAL WATER AND SEWER H2GO	RPZ DETAIL 2" + UP	STD. NO.
	EFFECTIVE: OCTOBER 2024		2000.07
			NOT TO SCALE

NOTES:

1. HYDRANT TO BE PLACED WITH PUMPER NOZZLE FACING THE TRAVEL/FIRE LANE.
2. IF HYDRANT IS LOCATED ON A DEPARTMENT OF TRANSPORTATION ROADWAY USE D.O.T. STANDARDS FOR LOCATION OF HYDRANT.
3. PROVIDE BARREL EXTENSION SECTION AS REQUIRED FOR PROPER VERTICAL ALIGNMENT.
4. ALL HYDRANTS ARE TO BE RED IN COLOR.



STD. NO.
2000.08
 NOT TO SCALE

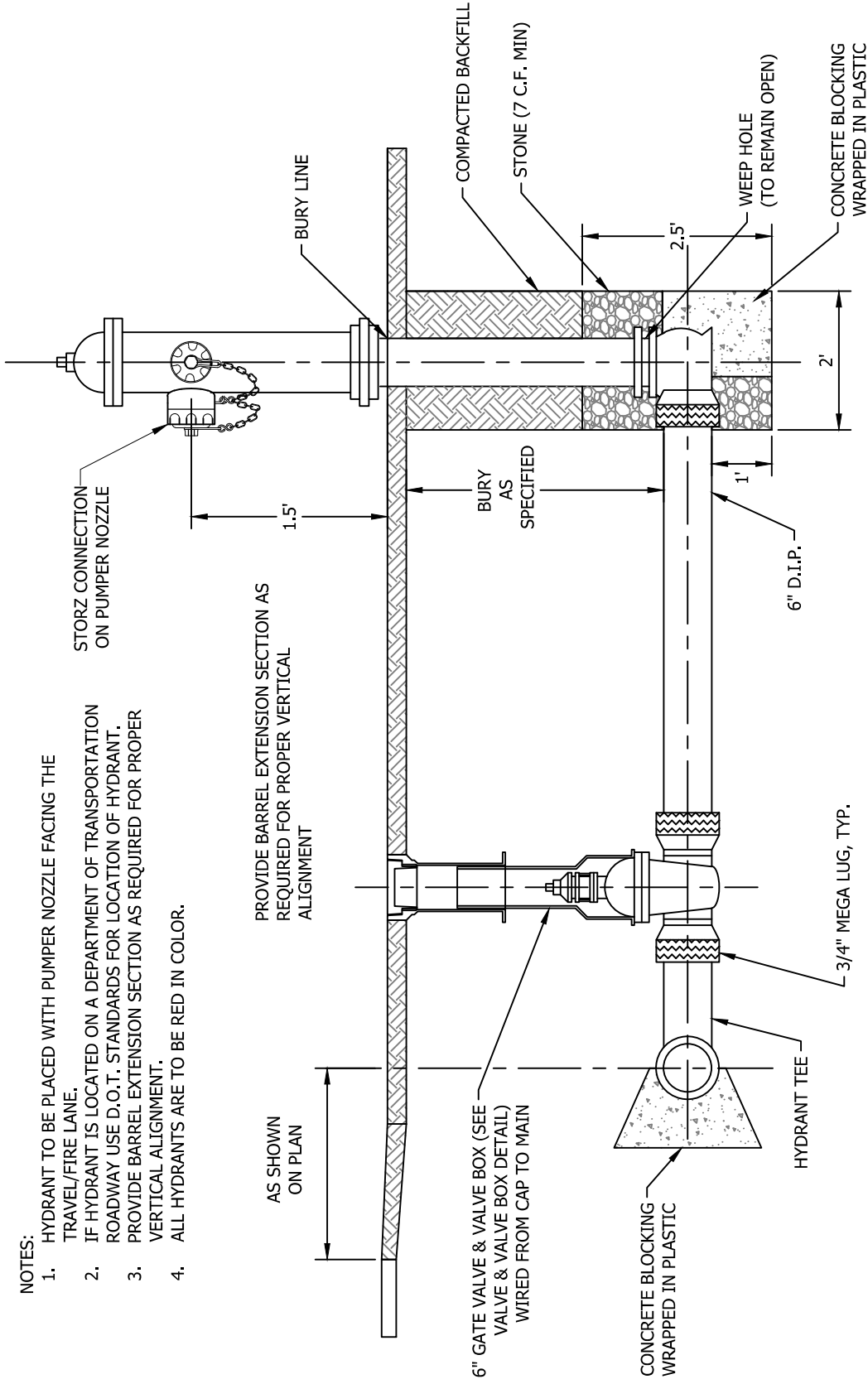
FIRE HYDRANT ASSEMBLY

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024



NOTES:

1. HYDRANT TO BE PLACED WITH PUMPER NOZZLE FACING THE TRAVEL/FIRE LANE.
2. IF HYDRANT IS LOCATED ON A DEPARTMENT OF TRANSPORTATION ROADWAY USE D.O.T. STANDARDS FOR LOCATION OF HYDRANT.
3. PROVIDE BARREL EXTENSION SECTION AS REQUIRED FOR PROPER VERTICAL ALIGNMENT.
4. ALL HYDRANTS ARE TO BE RED IN COLOR.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

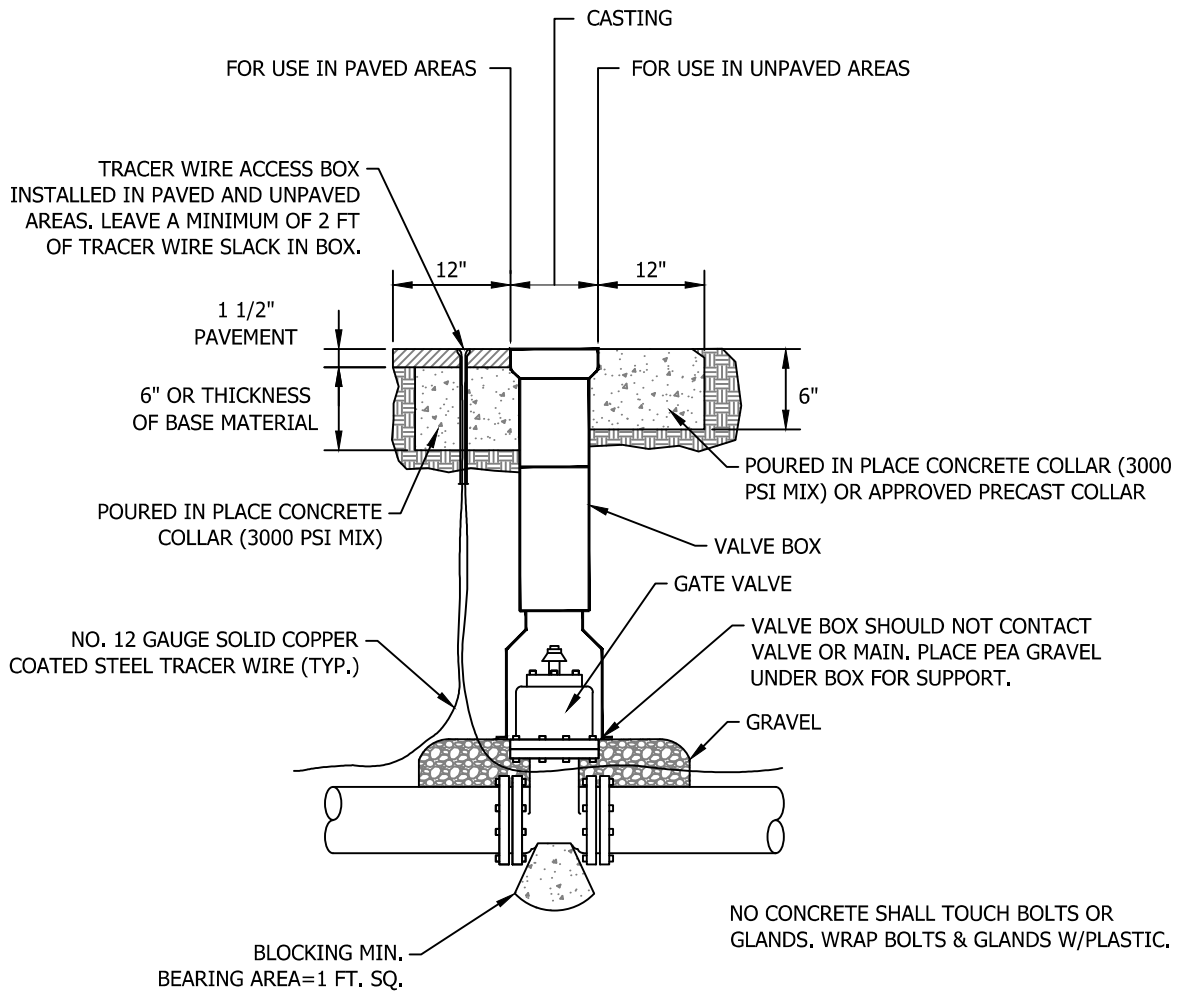
FIRE HYDRANT ASSEMBLY
(FAR SIDE)

STD. NO.

2000.09

NOT TO SCALE





NOTES:

1. 2" GATE VALVES SHALL F.I.P. THREADS. CONNECTION TO THE PIPE SHALL BE MADE WITH BRASS NIPPLE AND SCH. 40 PVC F.I.P.T. X SLIP ADAPTERS.
2. GATE VALVES GREATER THAN 2" SHALL BE MECHANICAL JOINT.
3. TRACER WIRE ACCESS BOX SHALL BE VALVCO TYPE OR APPROVED EQUAL.
4. FASTEN TRACER WIRE TO PIPE WITH ZIP TIES AROUND THE CIRCUMFERENCE OF PIPE AT 10' INTERVALS (TYP.).



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

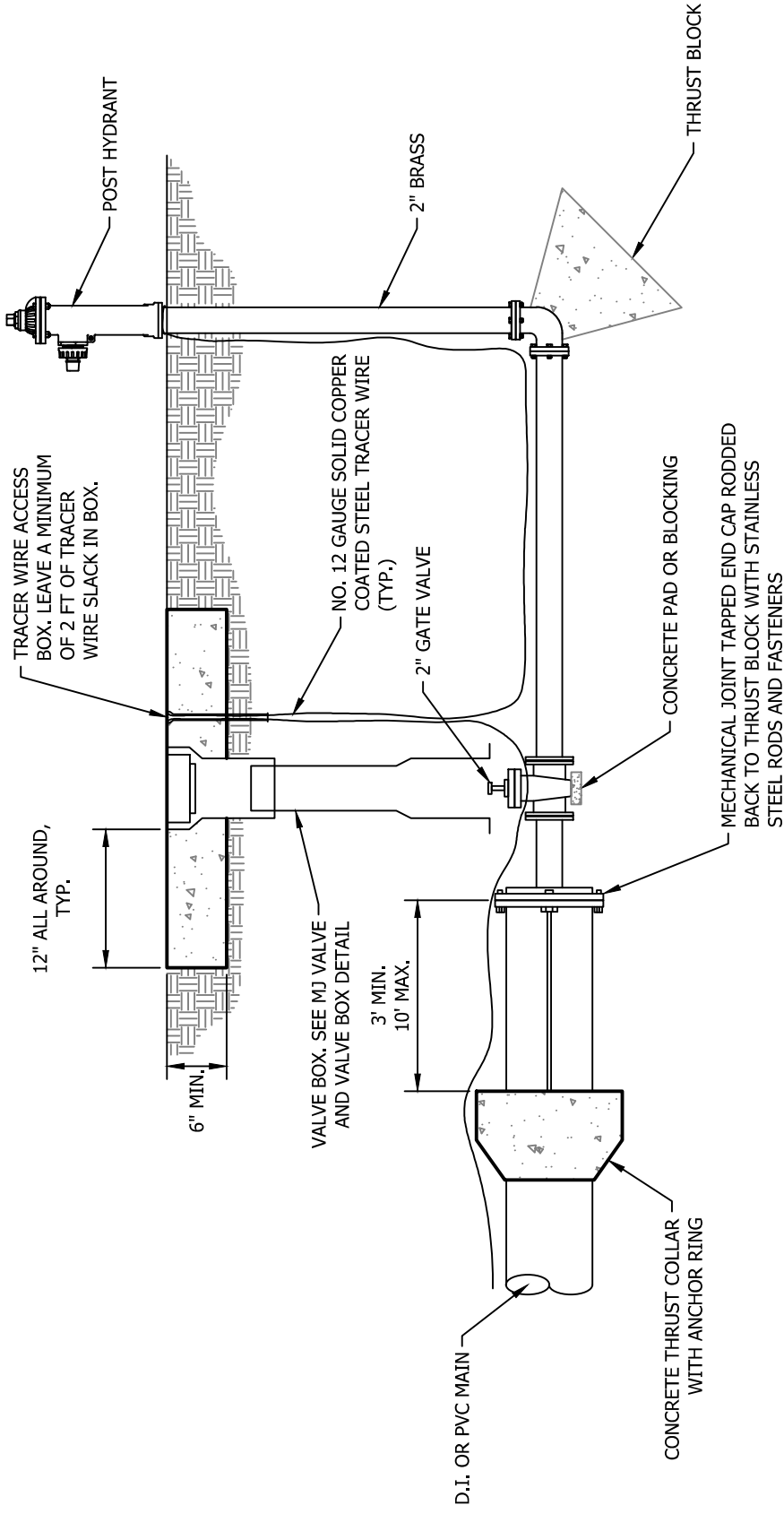
EFFECTIVE: OCTOBER 2024

M.J. VALVE AND
VALVE BOX

STD. NO.

2000.10

NOT TO SCALE



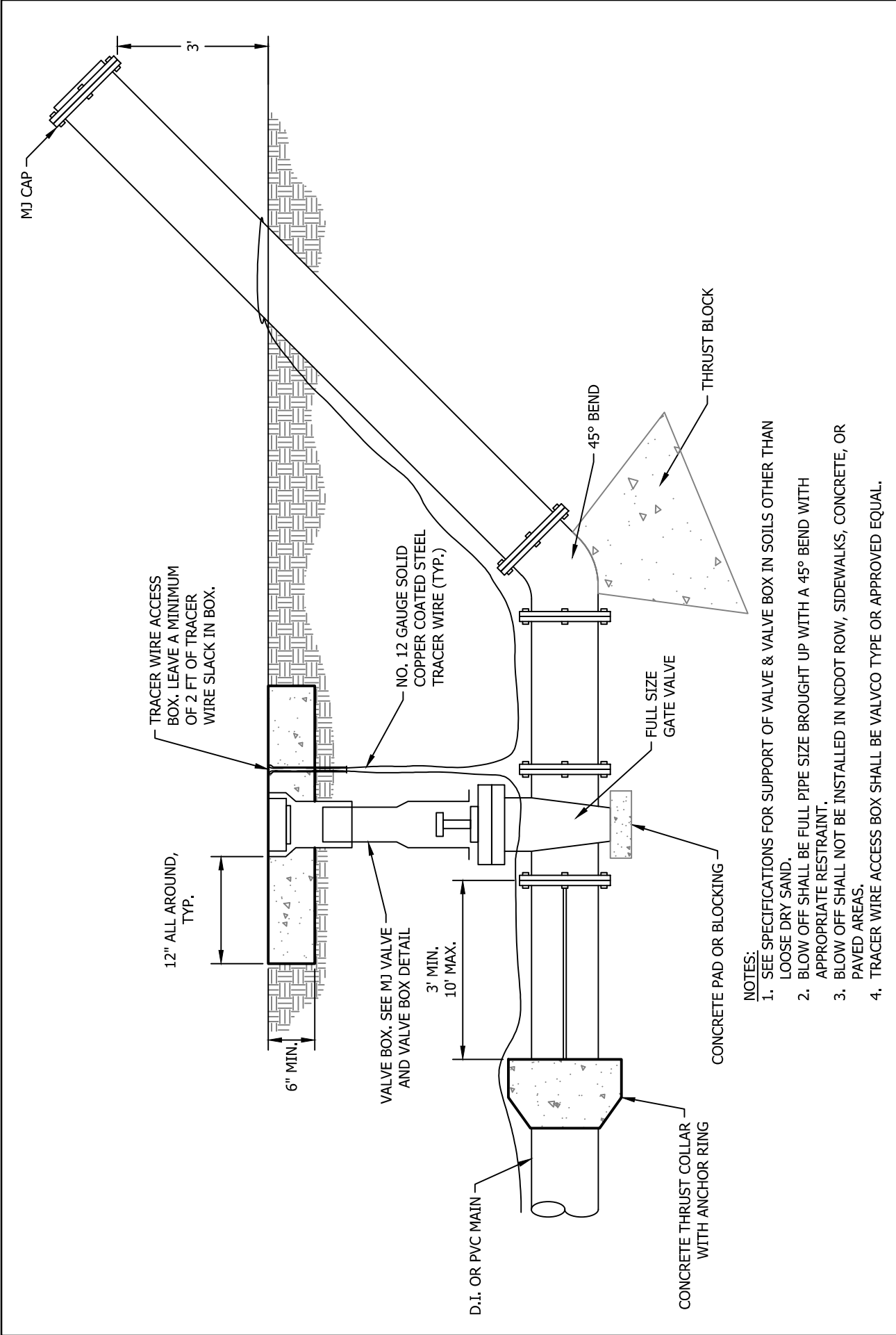
- NOTES:
1. SEE SPECIFICATIONS FOR SUPPORT OF VALVE & VALVE BOX IN SOILS OTHER THAN LOOSE DRY SAND.
 2. ASSEMBLIES TO BE #2 ECLIPSE POST HYDRANT.
 3. HYDRANT SHALL NOT BE INSTALLED IN SIDEWALKS, CONCRETE, OR PAVED AREAS.
 4. TRACER WIRE ACCESS BOX SHALL BE VALVCO TYPE OR APPROVED EQUAL.

STD. NO.
2000.11
 NOT TO SCALE

2" HYDRANT BLOWOFF ASSEMBLY

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024





- NOTES:
1. SEE SPECIFICATIONS FOR SUPPORT OF VALVE & VALVE BOX IN SOILS OTHER THAN LOOSE DRY SAND.
 2. BLOW OFF SHALL BE FULL PIPE SIZE BROUGHT UP WITH A 45° BEND WITH APPROPRIATE RESTRAINT.
 3. BLOW OFF SHALL NOT BE INSTALLED IN NCDOT ROW, SIDEWALKS, CONCRETE, OR PAVED AREAS.
 4. TRACER WIRE ACCESS BOX SHALL BE VALVCO TYPE OR APPROVED EQUAL.

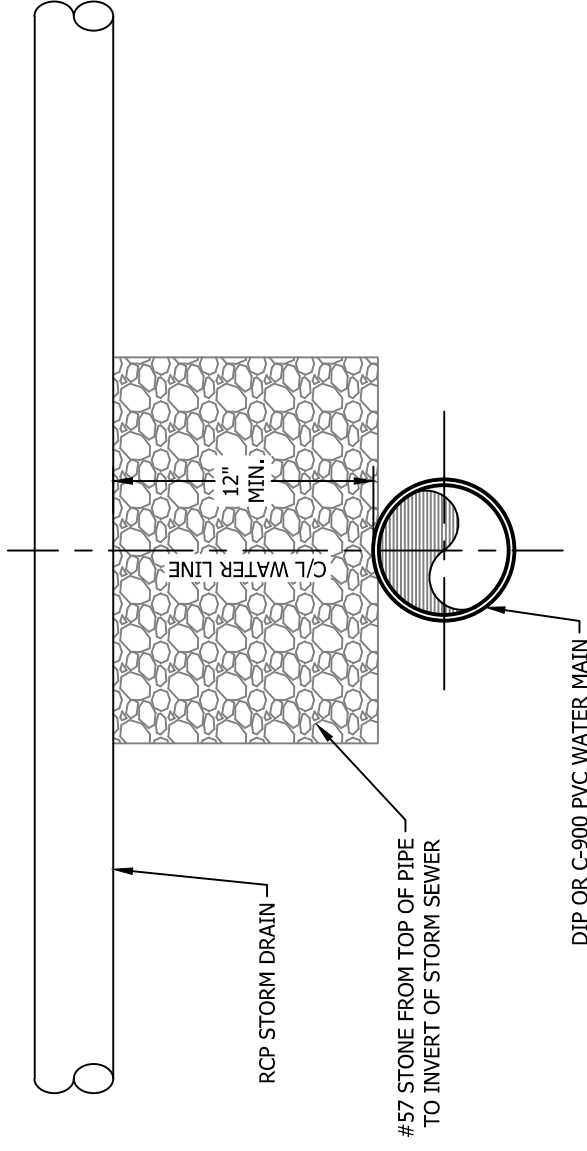
STD. NO.	2000.12
NOT TO SCALE	

TEMPORARY BLOWOFF

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024



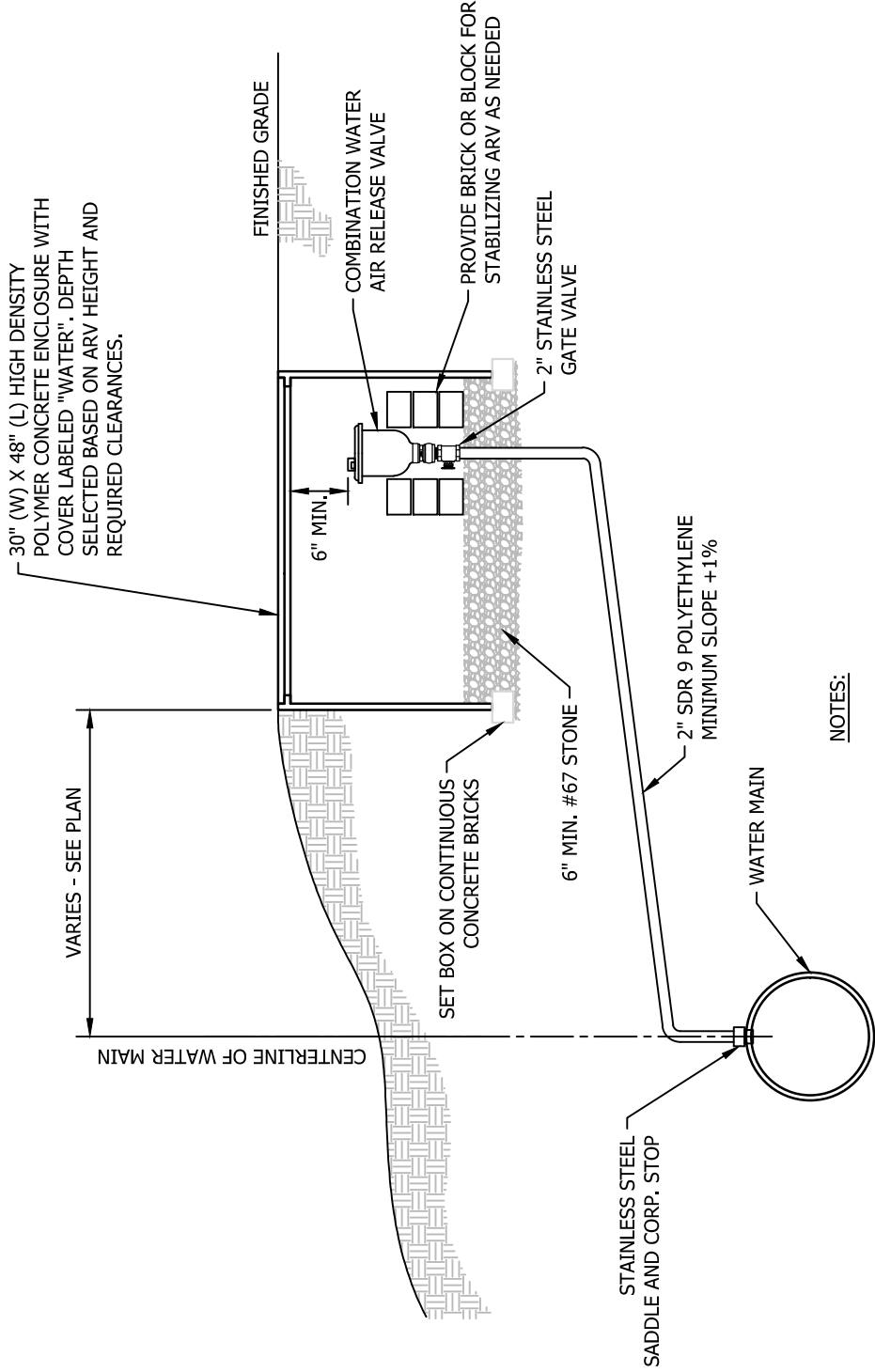


BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024

WATER & STORM DRAIN INTERSECTION

STD. NO.
 2000.13
 NOT TO SCALE





NOTES:

1. ROTATION AND LOCATION OF BOX TO BE APPROVED BY BRWS H2GO.
2. ARV ASSEMBLIES INSTALLED IN ROAD RIGHT-OF-WAY MUST BE FLUSH WITH EXISTING SHOULDER GRADE.
3. ARV ASSEMBLY SHOULD BE OFFSET TO ONE SIDE OF BOX AS SHOWN TO ALLOW EASIER ACCESS FOR OPERATION AND MAINTENANCE.
4. 2" STAINLESS STEEL NIPPLES AND COUPLINGS SHALL BE USED IF NEEDED.

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

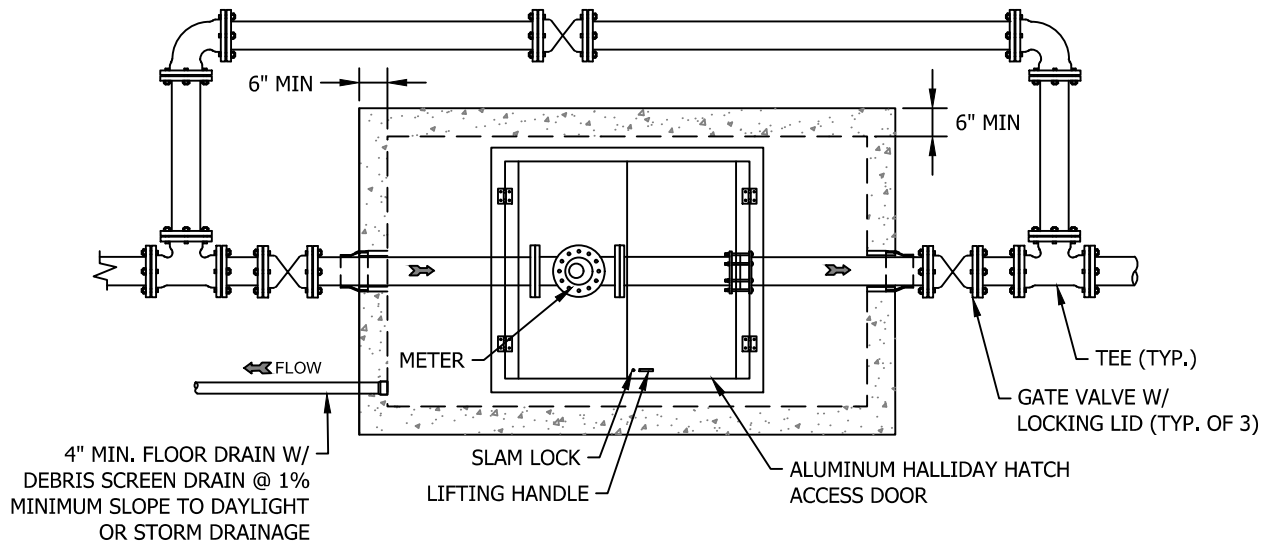
STD. NO.

2000.14

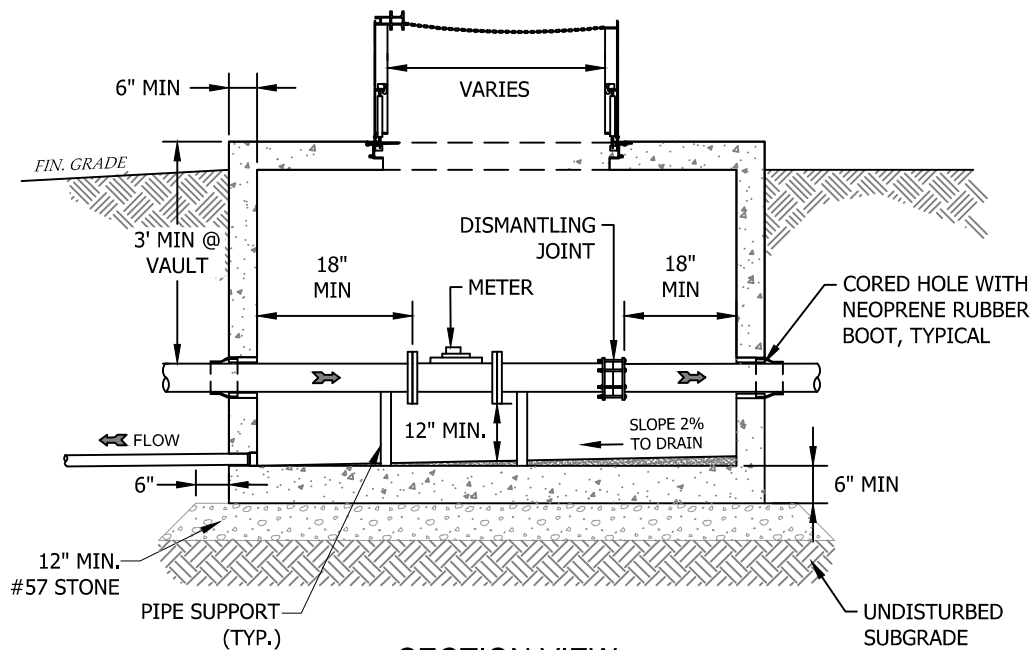
NOT TO SCALE

OFFSET COMBINATION POTABLE WATER AIR RELEASE VALVE





PLAN VIEW



SECTION VIEW

NOTES:

1. ALL PIPING SHOWN TO BE DUCTILE IRON.
2. ALL METER VAULTS AND ACCESS DOORS WITHIN THE ROAD RIGHTS-OF-WAY SHALL MEET HS-20 LOADING REQUIREMENTS.
3. TO ENSURE POSITIVE DRAINAGE, THE VAULT SHALL BE TIED INTO THE EXISTING STORM DRAINAGE SYSTEM, IF POSITIVE DRAINAGE IS UNOBTAINABLE, A SUMP PUMP SHALL BE LOCATED AND OPERATED IN THE VAULT.
4. SEPARATE STRAINER SHALL BE REQUIRED IF PROPOSED METER DOES NOT HAVE AN INTEGRAL STRAINER.
5. ACCESS HATCH SHALL BE SIZED TO ACCOMMODATE METER WITH A MINIMUM CLEARANCE OF 6" ON ALL SIDES.

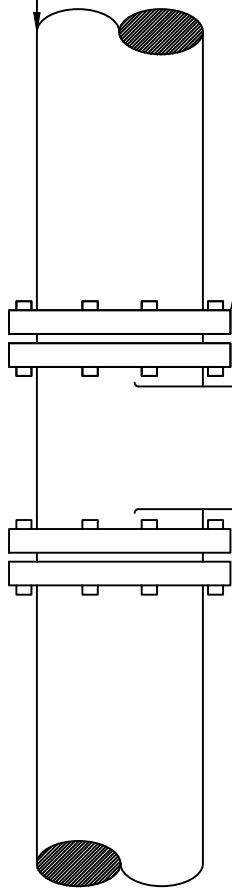


BRUNSWICK REGIONAL
WATER AND SEWER H2GO
EFFECTIVE: OCTOBER 2024

WATER METER VAULT WITH
BYPASS (3" AND GREATER)

STD. NO.
2000.15
NOT TO SCALE

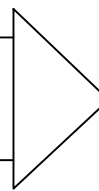
H2GO
WATER MAIN



H2GO TEE OR TAPPING
SLEEVE AND VALVE

H2GO
WATER MAIN

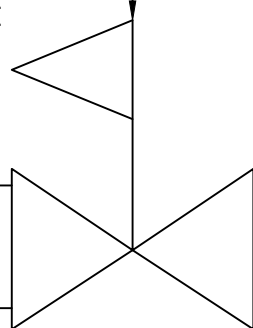
H2GO FIRE LINE
ISOLATION
VALVE



PRIVATE WATER
MAIN

H2GO MAINTAINS FIRE LINE
ISOLATION VALVE. PRIVATE
MAINTENANCE BEGINS
AFTER VALVE.

PRIVATE POST
INDICATOR
VALVE



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

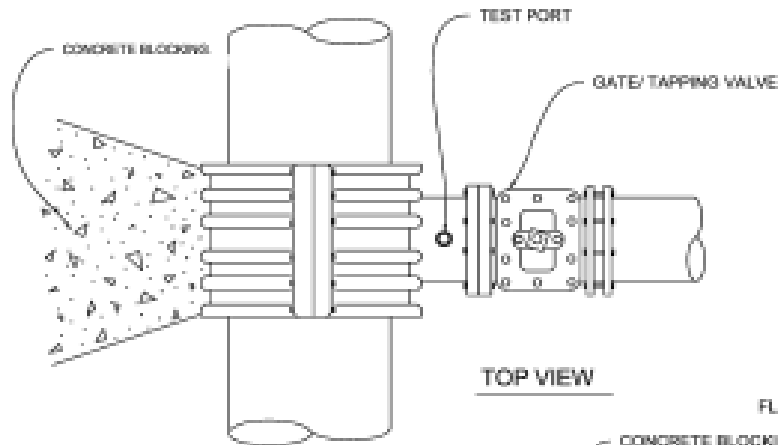
EFFECTIVE: OCTOBER 2024

FIRE LINE ISOLATION VALVE

STD. NO.

2000.16

NOT TO SCALE



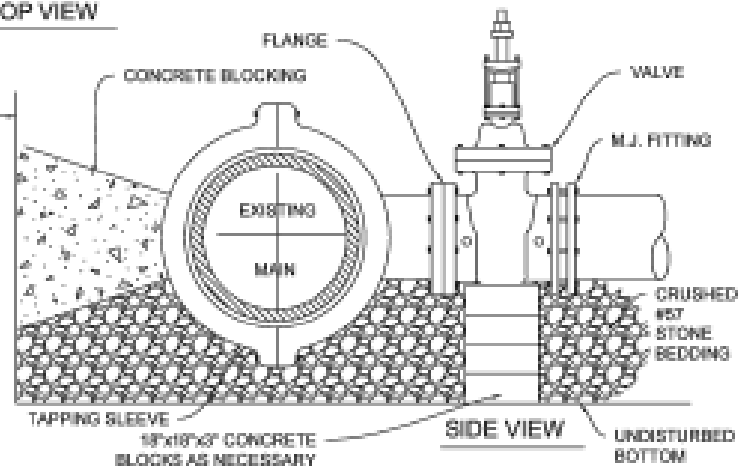
NOTES:

1. 3000 PSI SOLID CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
2. ALL FITTINGS SHALL BE COVERED WITH 10 MIL. POLYETHYLENE SHEETS PRIOR TO POURING CONCRETE BLOCKING.
3. PIPES SHALL BE SUPPORTED EITHER SIDE OF SADDLE LOCATION WITH CONCRETE ENCASEMENT PRIOR TO INSTALLING SLEEVE.

NOTES:

1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. TEST PRESSURE SHALL NOT BE APPLIED FOR A MINIMUM OF 7 DAYS AFTER THRUST BLOCK PLACEMENT.
3. TAPPING SLEEVE & VALVE TO BE HYDROSTATICALLY TESTED AT 150 PSI FOR 15 MINUTES WITH ZERO PRESSURE LOSS.
4. TAPPING SLEEVES SHALL BE STAINLESS STEEL BODY, MECHANICAL JOINT, DESIGNED AND MANUFACTURED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND MEET AWWA STANDARDS.

TOP VIEW



5 TAPPING SLEEVE AND VALVE

NTS



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

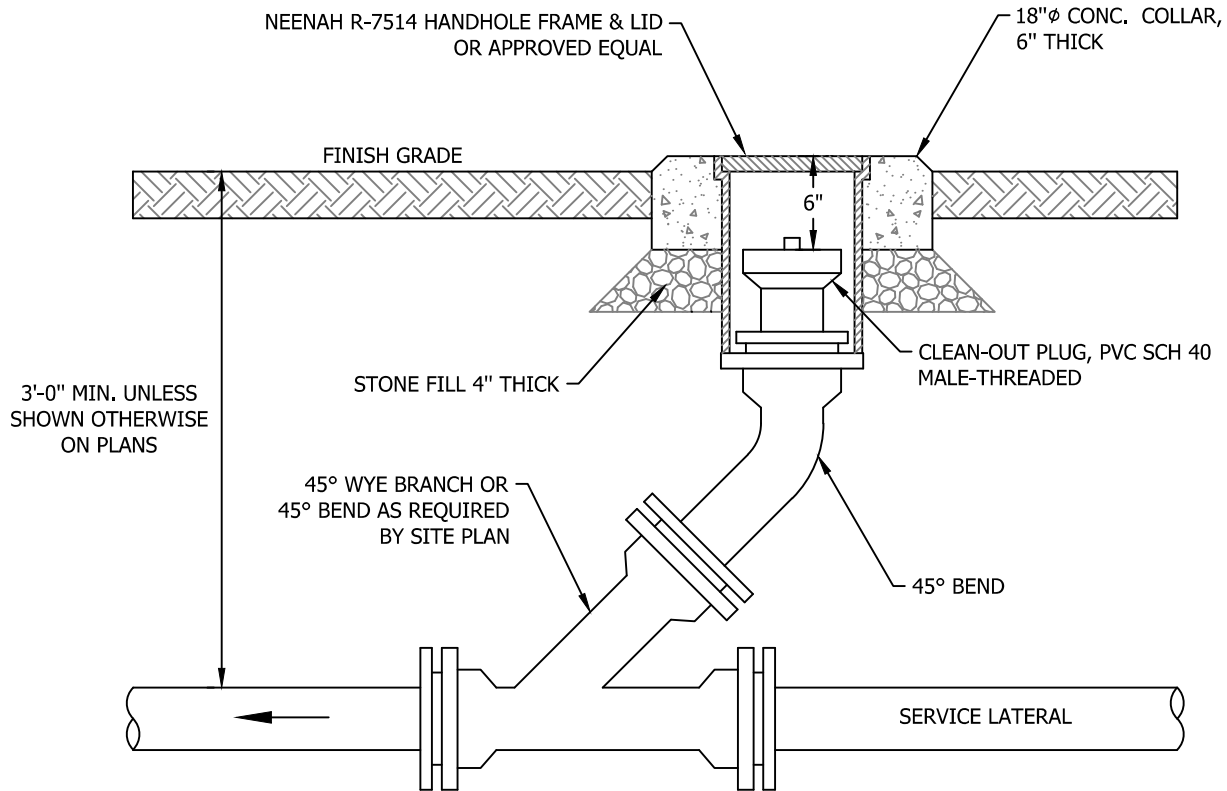
EFFECTIVE: March 2025

TAPPING SADDLE AND VALVE

STD. NO.

2000.17

SHEET OF



NOTES:

1. CLEAN-OUT PIPE AND FITTINGS SHALL BE THE SAME DIAMETER AND MATERIAL AS THE SERVICE LATERAL.
2. PROVIDE CLEAN-OUTS WHERE INDICATED ON THE PLANS.
3. D.I.P. CLEAN-OUTS SHALL HAVE BRONZE-THREADED CLEAN-OUT PLUG.
4. WHERE CLEAN-OUTS ARE INSTALLED ON PIPING UNDER PRESSURE, ALL JOINTS SHALL HAVE RETAINER GLANDS OR OTHER APPROVED METHOD OF RESTRAINT. ALL RISER PIPE, FITTINGS AND CLEAN-OUT PLUG SHALL BE WATERTIGHT AND RATED FOR THE PRESSURES PRESENT AT THE PARTICULAR POINT OF INSTALLATION.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

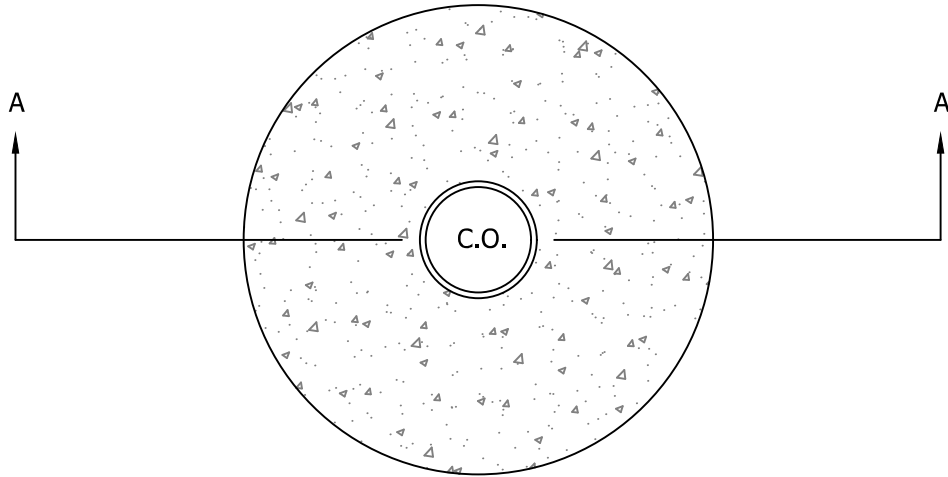
EFFECTIVE: OCTOBER 2024

SANITARY SEWER SERVICE
LATERAL CLEANOUT

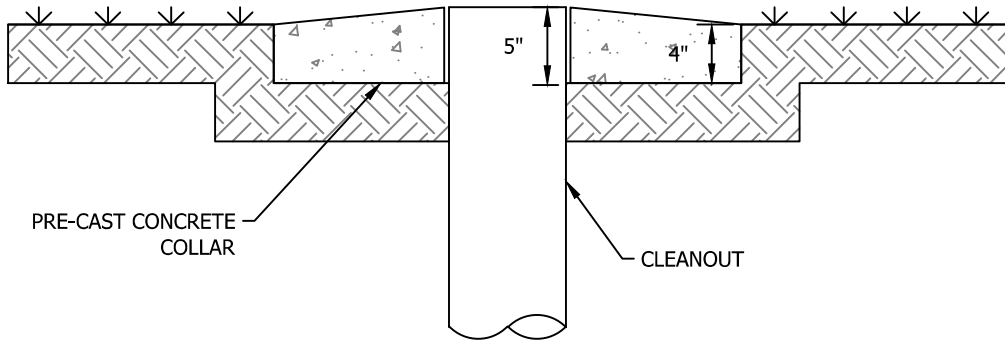
STD. NO.

3000.01

NOT TO SCALE



PLAN



SECTION A-A



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

CLEANOUT PAD

STD. NO.

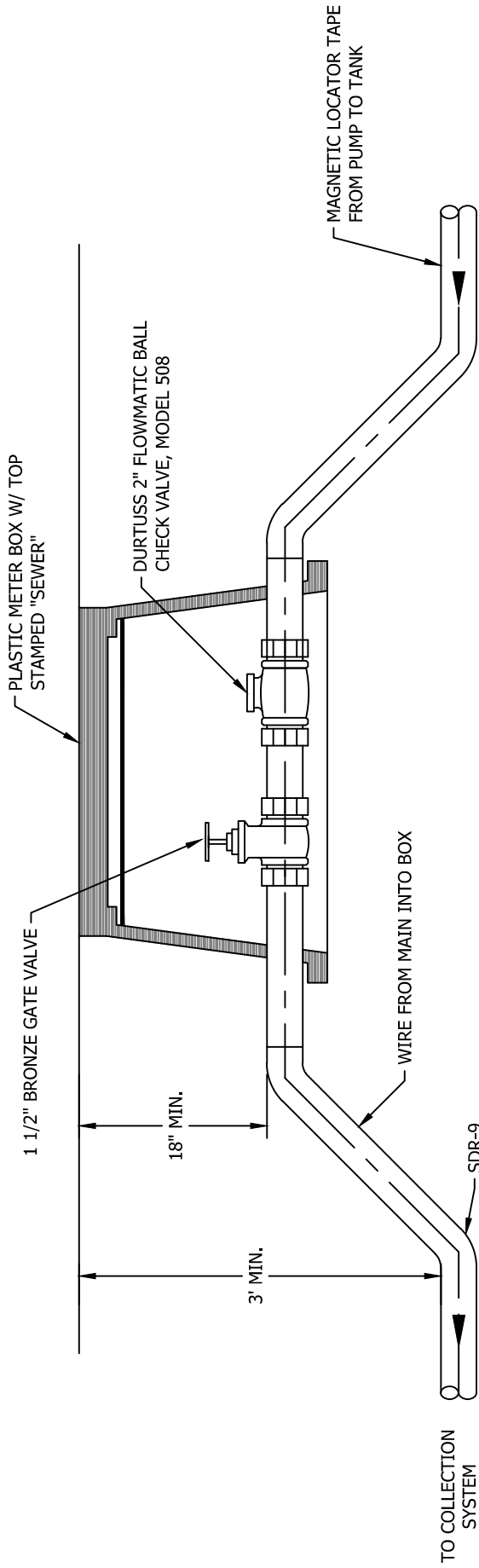
3000.02

NOT TO SCALE

PRESSURE SEWER SERVICE NOTES:
 WET TAPPING: SERVICE SADDLES FOR WET TAPPING OF PRESSURE SEWER LINES SHALL BE FORD SERIES FS202, OR APPROVED EQUAL SADDLE WITH STAINLESS STEEL BAND. OUTLET THREADS SHALL BE IRON PIPE SIZE. VALVING MECHANISM SHALL BE FORD CORPORATION STOP SERIES FB500, OR APPROVED EQUAL CORPORATION STOP WITH INLET AND OUTLET BEING MALE IRON PIPE THREADS. CONNECTION BETWEEN THE CORPORATION STOP AND SERVICE LINE SHALL BE ACCOMPLISHED USING A SCH. 40 PVC IRON PIPE THREAD BY SLIP COUPLING. SERVICE LINE SHALL BE SDR-9 OR SCH. 40 PIPE. WHERE CONNECTION IS TO BE MADE TO 2" PRESSURE SEWER LINE, SAID CONNECTION MAY BE MADE BY CUTTING INTO THE LINE AND INSERTING A 2" SCH. 40 TEE IF SAID CONNECTION CAN BE MADE WHILE TAKING THE LINE OUT OF SERVICE FOR NO MORE THAN 15 MINUTES.

PROXIMITY TO WATER SUPPLY LINES:
 WHERE SEWER SERVICES CROSS WATER SUPPLY LINES, THE SEWER SHALL BE INSTALLED A MINIMUM OF 18" BELOW THE WATER LINE. (CONVERSELY, WHERE WATER SERVICE LINES CROSS SEWER MAINS, THE WATER LINE SHALL BE INSTALLED A MINIMUM OF 18" ABOVE THE SEWER MAIN AS NOTED ON THE "WATER DISTRIBUTION SYSTEM DETAIL SHEET.")

SPECIAL NOTE:
 THE SERVICE FOR ANY PLATTED LOT SHALL BE INSTALLED AT THE TIME PRESSURE SEWER MAIN SERVING THE LOT IS CONSTRUCTED. WET TAPPING FOR SERVICES SHALL BE ALLOWED ONLY FOR AREAS WHERE LOTS WERE NOT PLATTED AT THE TIME ADJACENT SEWER MAINS WERE CONSTRUCTED. WHEN ANY SERVICE TAP IS MADE, THE VALVE BOX, GATE VALVE, AND METER BOX SHALL BE INSTALLED, AND THE SERVICE LINE SHALL BE CONTINUED AT LEAST TO THE RIGHT-OF-WAY LINE.



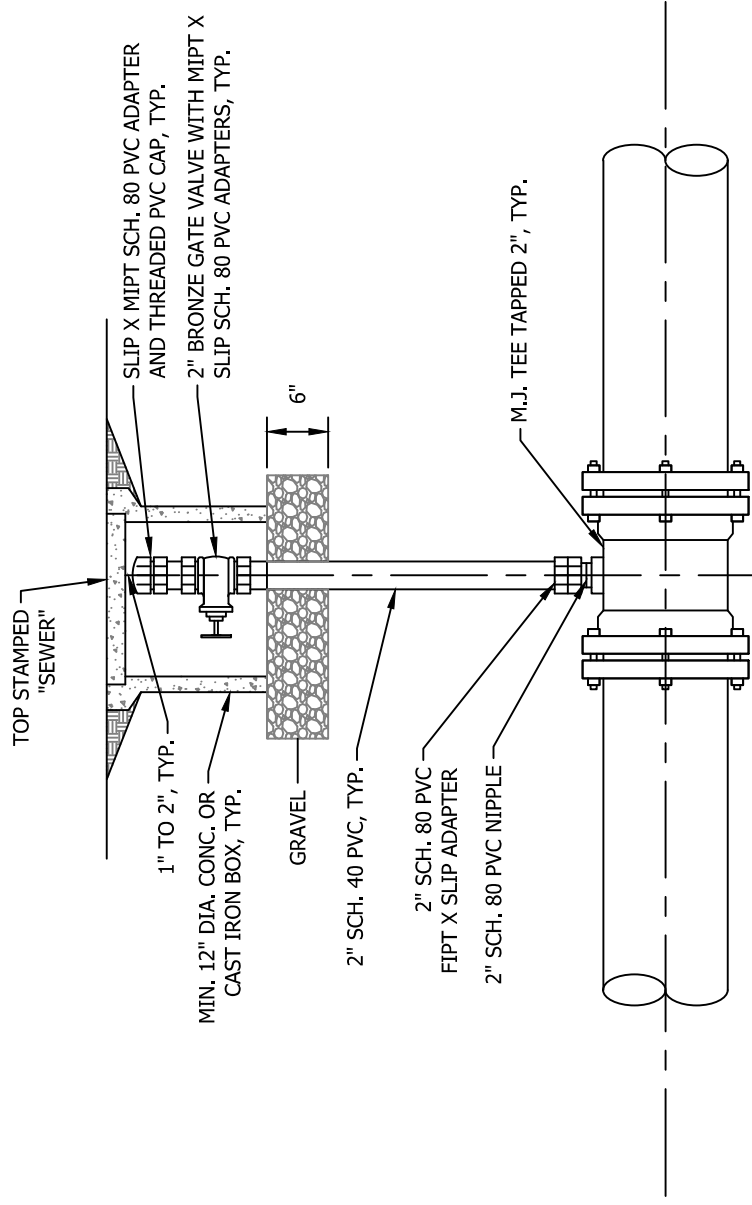
NOTE:
 PIPE AND FITTINGS TO BE 1 1/2" SDR-9 OR SCH. 40 PVC UNLESS OTHERWISE NOTED. SCH. 80 PVC ADAPTERS SHALL BE PROVIDED AT EACH END OF VALVES.

**BRUNSWICK REGIONAL
 WATER AND SEWER H2GO**
 EFFECTIVE: OCTOBER 2024

STD. NO.
3000.03
 NOT TO SCALE

SERVICE LINE VALVE BOX





NOTES:

1. SLOPE FINISH GRADE TO DRAIN AWAY FROM BOX.
2. WHERE PRESSURE SEWER IS 3" OR LARGER TEE SHALL BE M.J. WITH 2" TAP.
3. 2" SCH. 80 PVC TEE MAY BE USED FOR 2" PRESSURE SEWER.
3. IN LINE CLEANOUT SHALL BE LOCATED APPROXIMATELY 2' FROM ADJACENT GATE VALVE.

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

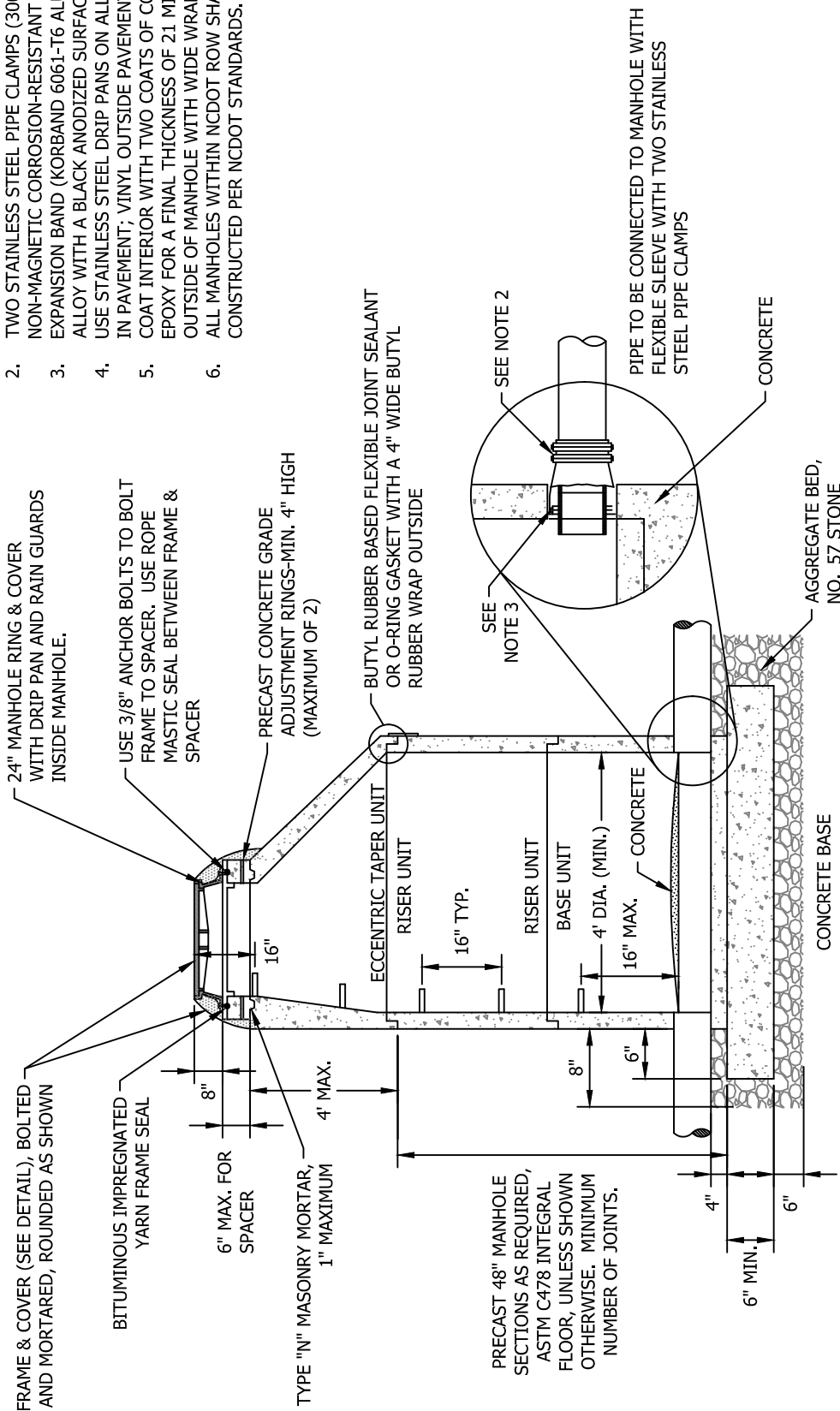
EFFECTIVE: OCTOBER 2024

**IN-LINE PRESSURE SEWER
CLEANOUT**

STD. NO.
3000.04
NOT TO SCALE



- NOTES:**
1. NEOPRENE BOOT, KOR-N-SEAL OR EQUAL, TO BE USED ON ALL PRECAST MANHOLES WITH ALL TYPES OF PIPES.
 2. TWO STAINLESS STEEL PIPE CLAMPS (300-SERIES NON-MAGNETIC CORROSION-RESISTANT STEEL), EXPANSION BAND (KORBAND 6061-T6 ALUMINIUM ALLOY WITH A BLACK ANODIZED SURFACE
 3. USE STAINLESS STEEL DRIP PANS ON ALL MANHOLES IN PAVEMENT; VINYL OUTSIDE PAVEMENT.
 4. COAT INTERIOR WITH TWO COATS OF COAL TAR EPOXY FOR A FINAL THICKNESS OF 21 MILS. WRAP OUTSIDE OF MANHOLE WITH WIDE WRAP MASTIC.
 5. ALL MANHOLES WITHIN NCDOT ROW SHALL BE CONSTRUCTED PER NCDOT STANDARDS.

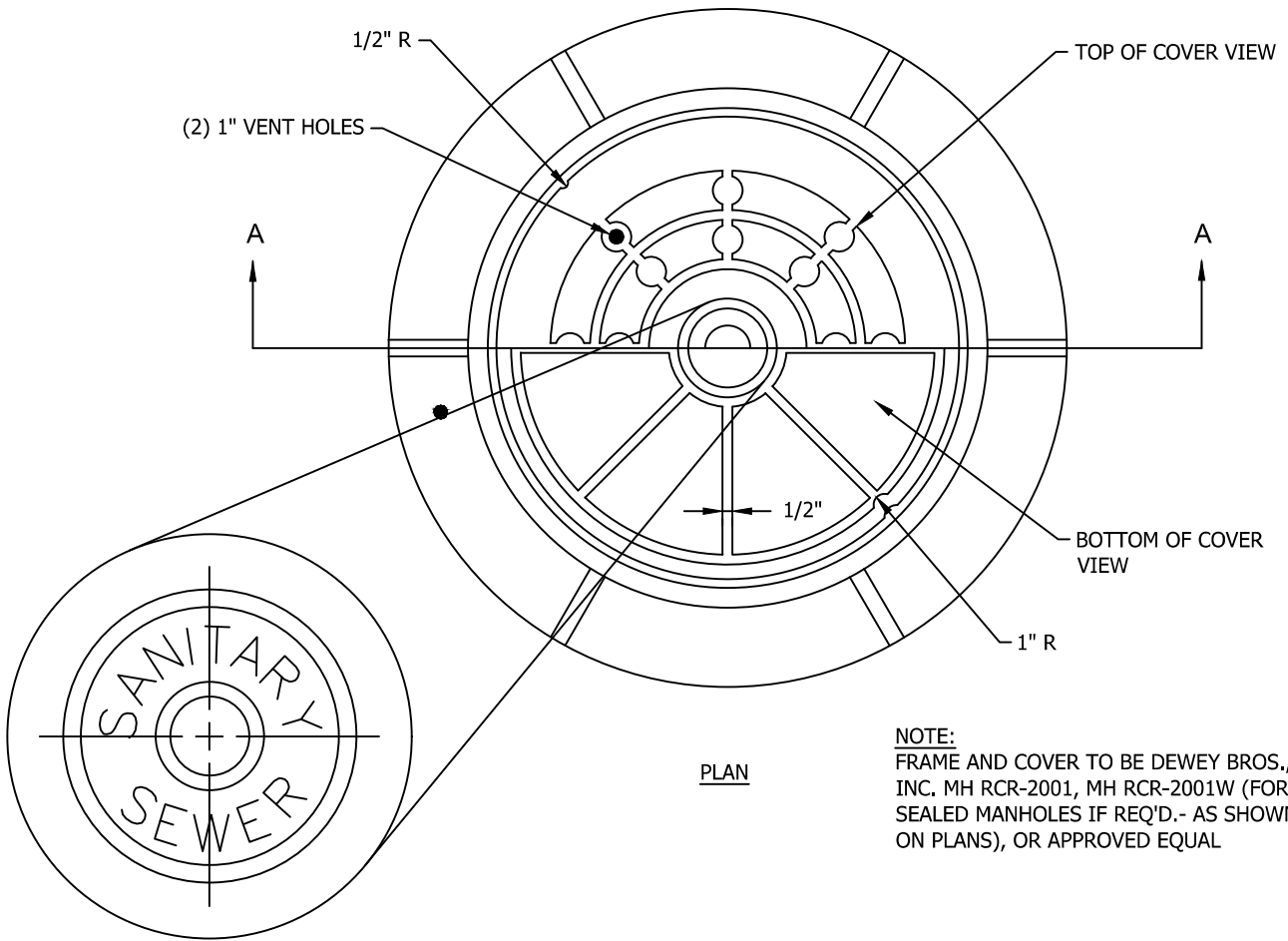


STD. NO.
3000.05
 NOT TO SCALE

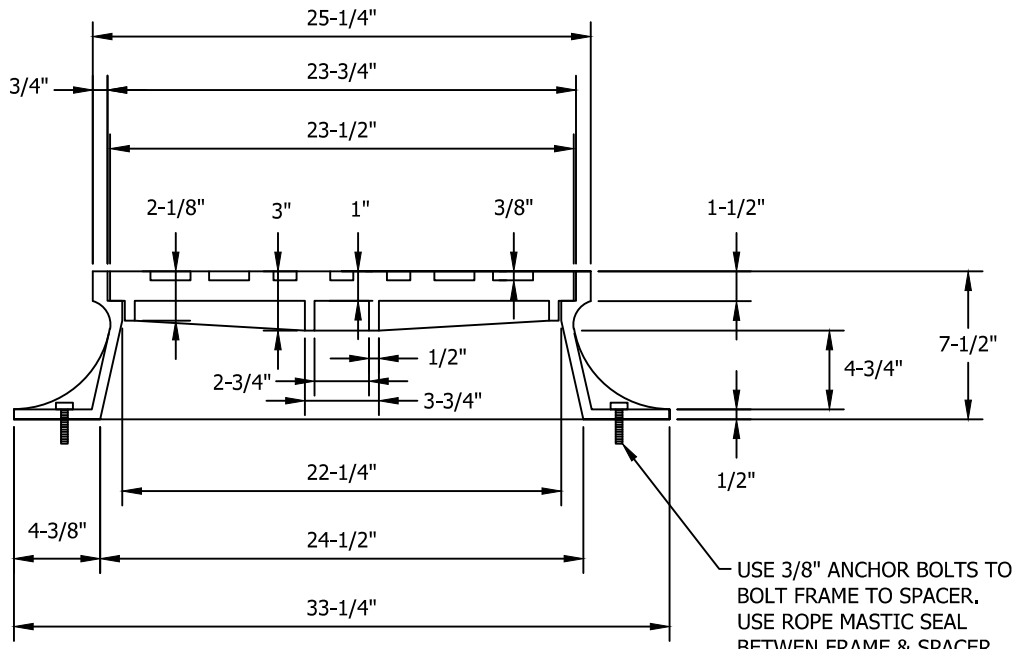
TYPICAL PRECAST MANHOLE

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024





NOTE:
 FRAME AND COVER TO BE DEWEY BROS.,
 INC. MH RCR-2001, MH RCR-2001W (FOR
 SEALED MANHOLES IF REQ'D.- AS SHOWN
 ON PLANS), OR APPROVED EQUAL



SECTION A-A



BRUNSWICK REGIONAL
 WATER AND SEWER H2GO

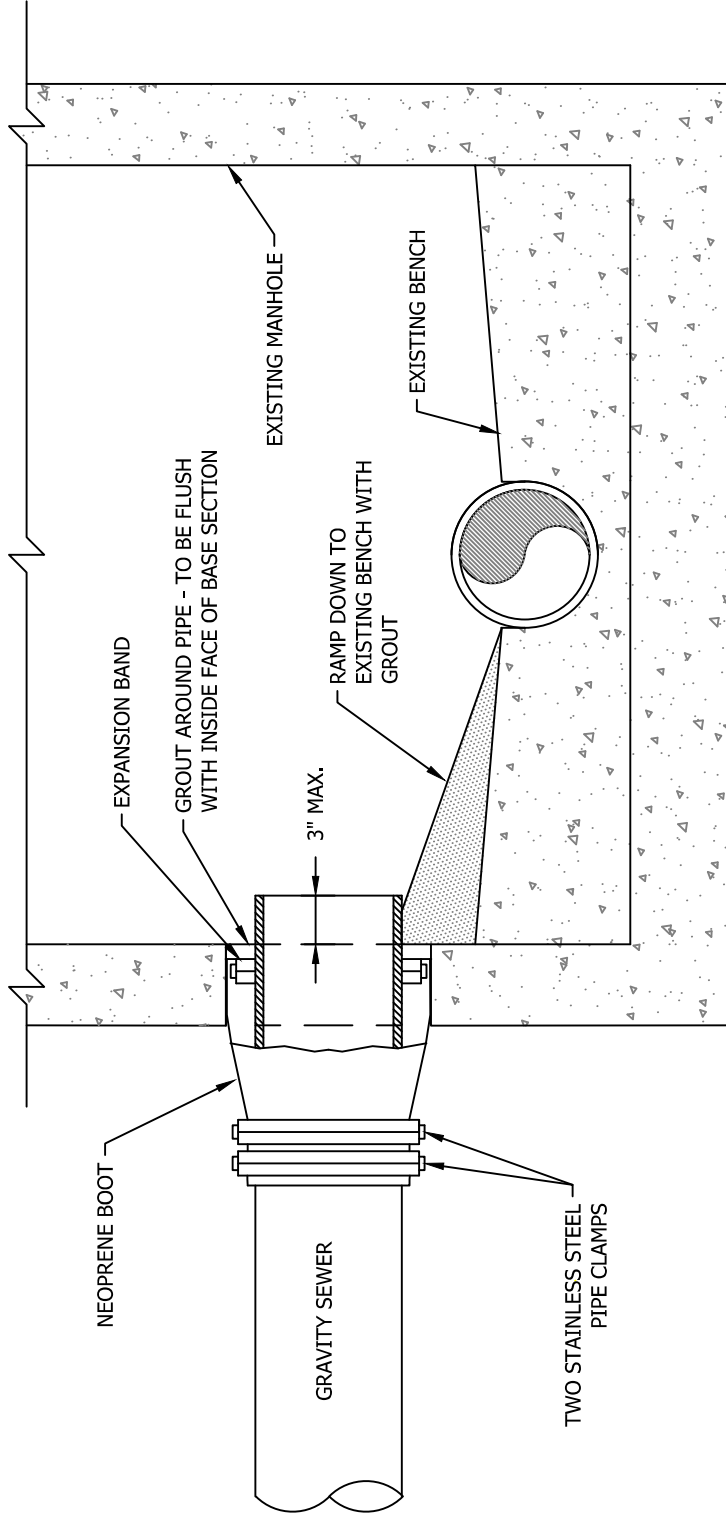
EFFECTIVE: OCTOBER 2024

STANDARD MH
 FRAME AND COVER

STD. NO.

3000.06

NOT TO SCALE



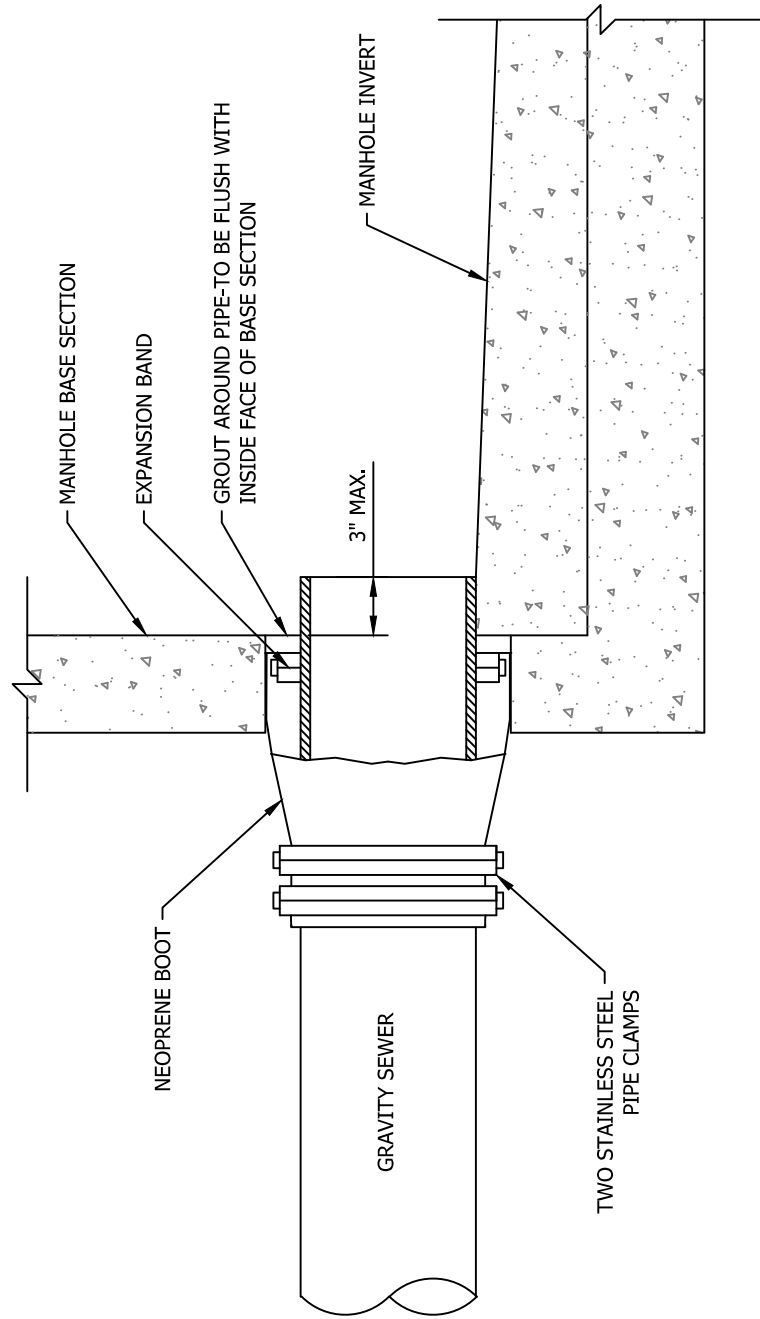
NOTES:
 1. MATERIAL SPECIFICATIONS: NEOPRENE BOOT - ASTM C-923; PIPE CLAMP & EXPANSION CLAMP - STAINLESS STEEL, ASTM C-923.

STD. NO.
3000.07
 NOT TO SCALE

STANDARD SEWER LINE CONNECTION TO EXISTING MANHOLE

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024





NOTES:

1. MATERIAL SPECIFICATIONS: NEOPRENE BOOT - ASTM C-923; PIPE CLAMP & EXPANSION CLAMP - STAINLESS STEEL, ASTM C-923.
2. TWO PIPE CLAMPS REQUIRED FOR PIPE O.D.'S 15" AND LARGER. TORQUE PER MANUFACTURER'S SPECIFICATIONS.
3. PIPE CLAMP (300-SERIES NON-MAGNETIC CORROSION-RESISTANT STEEL)

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

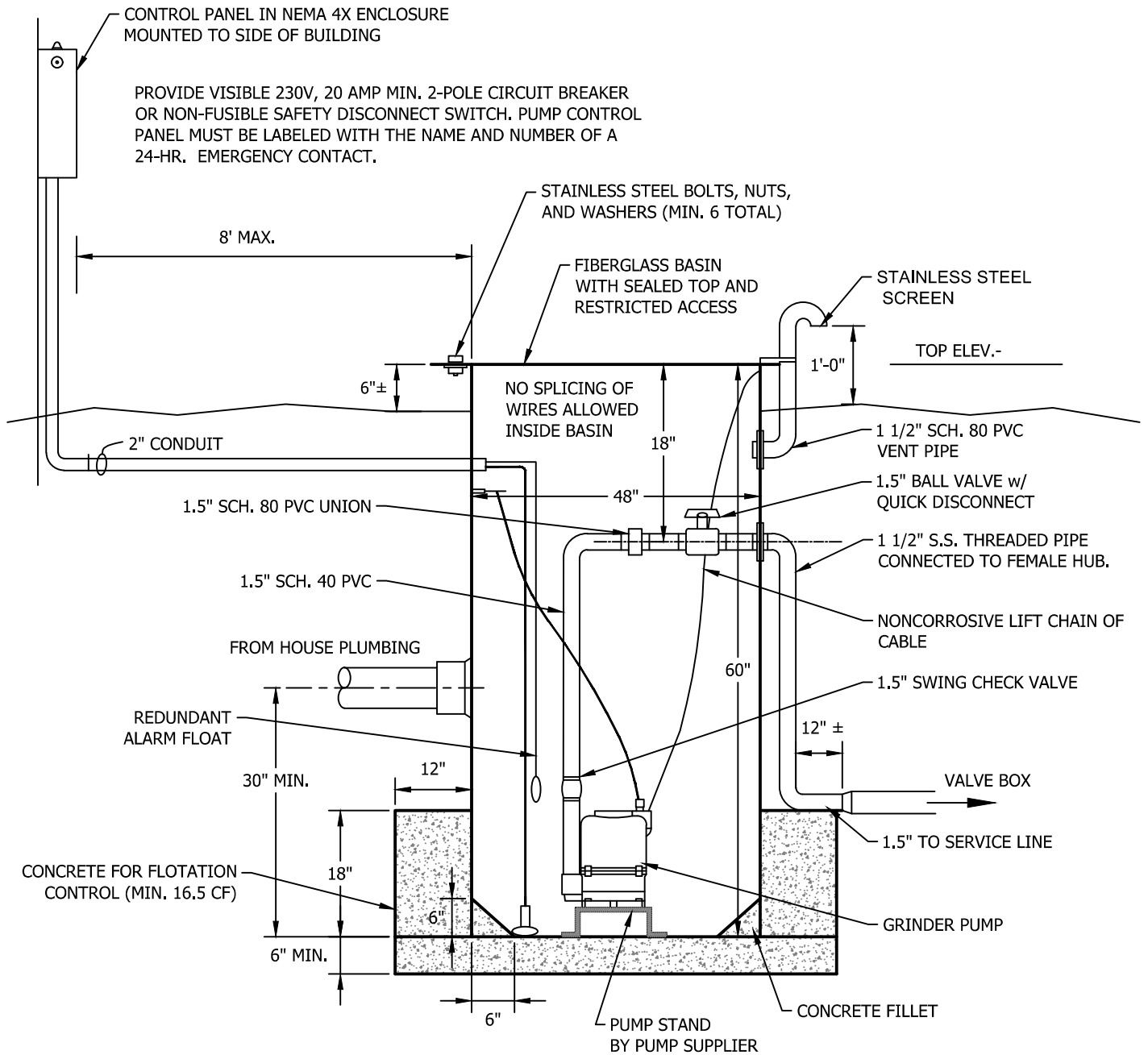


STANDARD MANHOLE BOOT

STD. NO.

3000.08

NOT TO SCALE



NOTE:

1. THE UNIT SHALL BE READILY ACCESSIBLE TO THE OWNER OR OWNER AGENT FOR EMERGENCY PURPOSES.
2. PUMP OFF LEVEL IS 12 INCHES FROM BOTTOM OF BASIN, PUMP ON LEVEL IS 20 INCHES FROM BOTTOM OF BASIN.
3. ALARM LEVEL IS 24' FROM THE BOTTOM OF THE BASIN.
4. A REDUNDANT ALARM FLOAT SHALL BE INCORPORATED INTO THE BASIN COMPONENTS.
5. TWO TYPES OF GRINDER PUMPS ARE CURRENTLY APPROVED FOR USE IN THE H2GO SERVICE AREA:
 COMPASS POINTE SERVICE AREA - ZOELLER E7020 PROGRESSING CAVITY GRINDER PUMP, SERVICE AREA OUTSIDE COMPASS POINTE - ZOELLER E7011 REVERSIBLE GRINDER PUMP.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

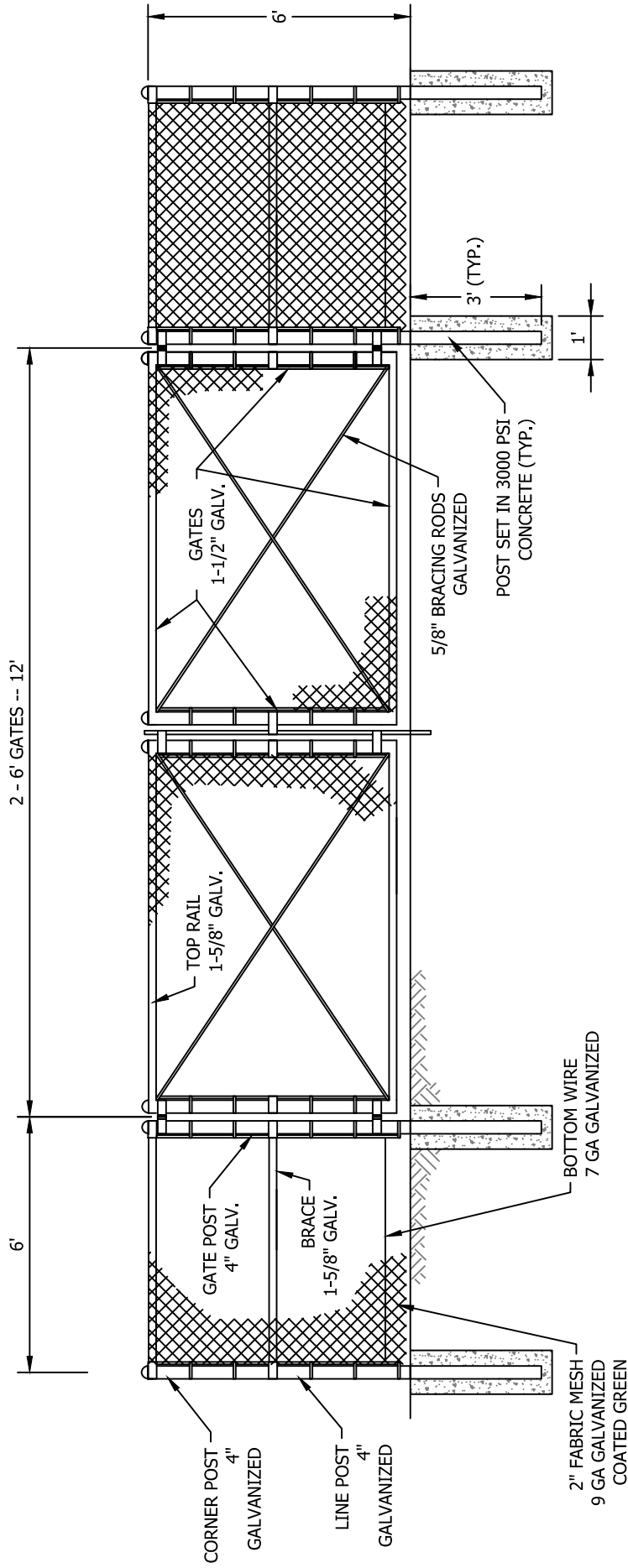
EFFECTIVE: OCTOBER 2024

HOUSE PUMPING UNIT

STD. NO.

3000.09

NOT TO SCALE



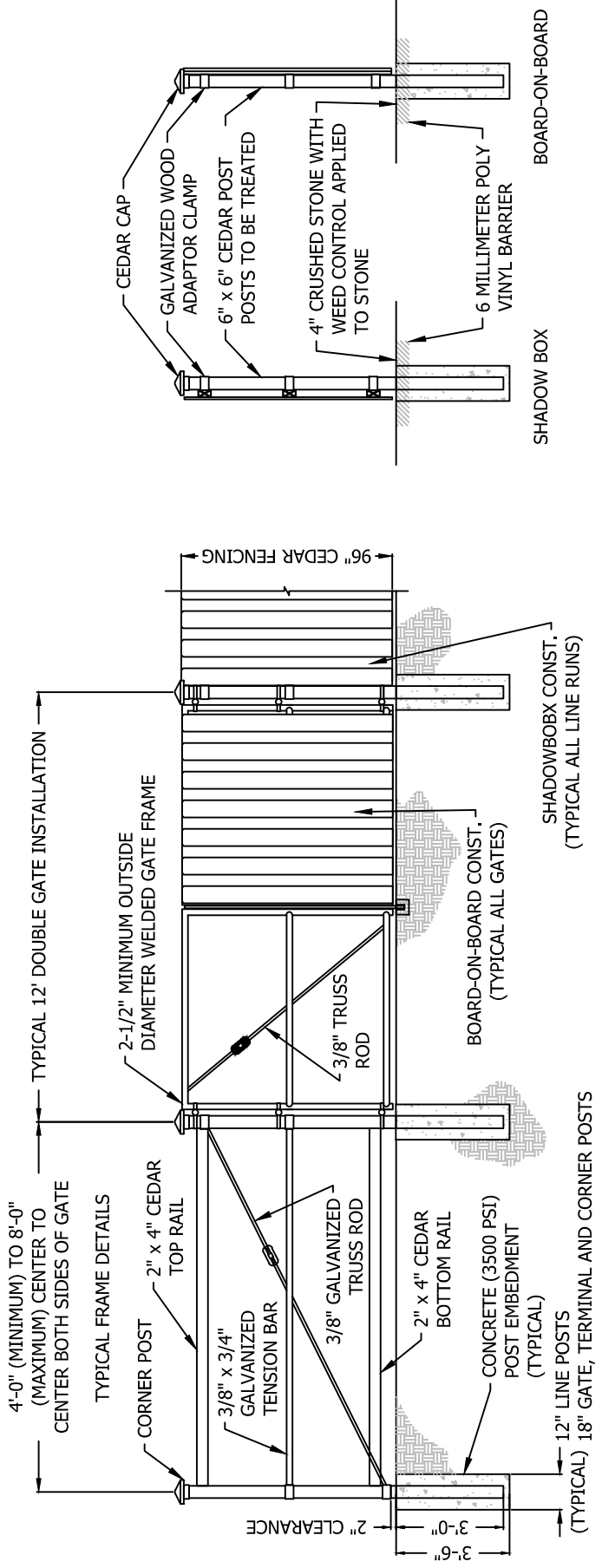
STD. NO.
3000.11
NOT TO SCALE

CHAINLINK FENCE

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024





ELEVATION

NO SCALE

SECTIONS

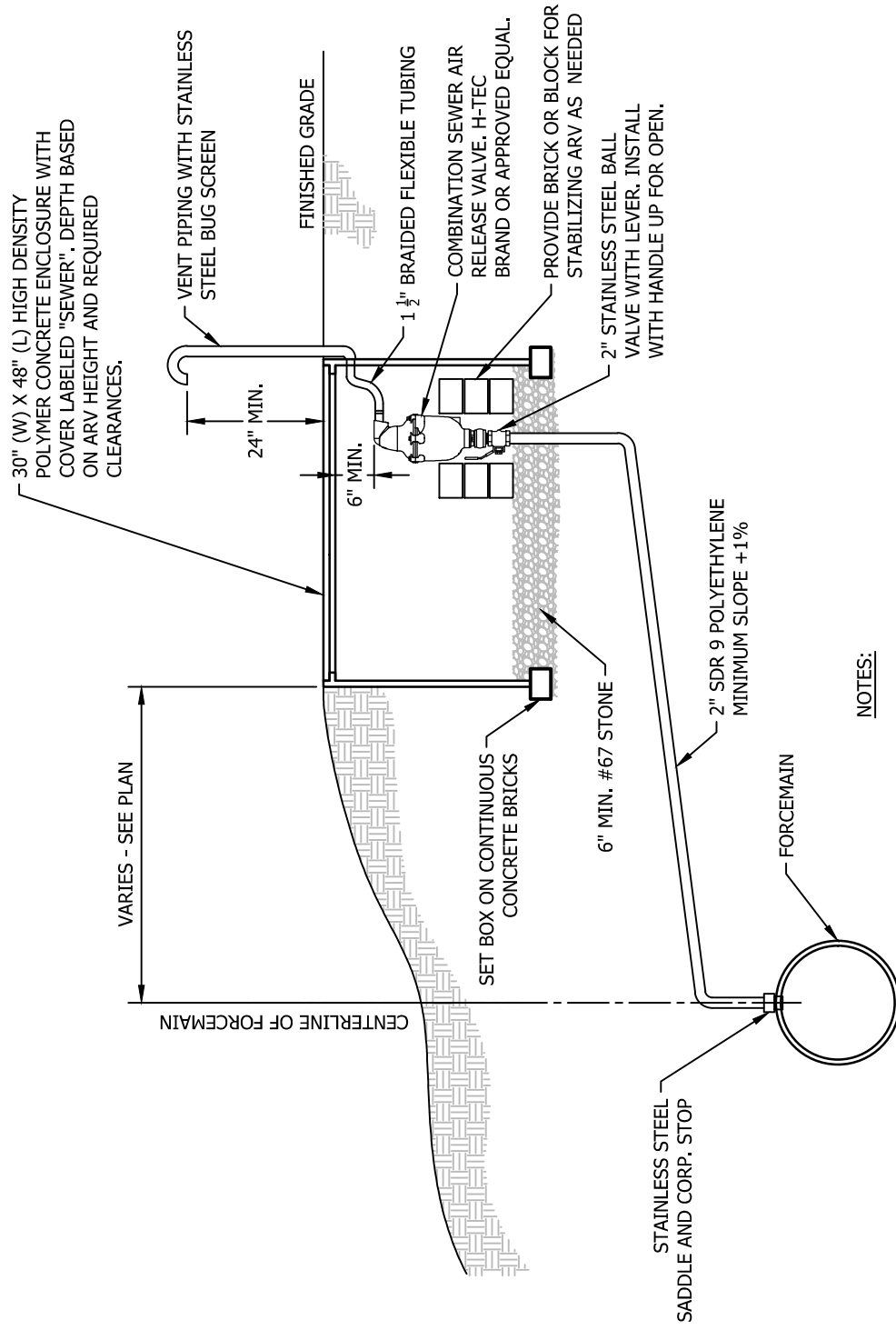
- NOTE:**
1. ALL CEDAR FENCES SHOULD BE MAINTAINED BY THE HOMEOWNERS ASSOCIATIONS.
 2. ALL LANDSCAPING TO BE MAINTAINED BY ASSOCIATION AND NOT H2GO STAFF. IF IT CANNOT BE AGREED UPON, NO LANDSCAPING SHOULD BE INSTALLED.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO
EFFECTIVE: OCTOBER 2024

CEDAR FENCE

STD. NO.
3000.12
NOT TO SCALE



NOTES:

1. ROTATION AND LOCATION OF BOX TO BE APPROVED BY BRWS H2GO.
2. ARV ASSEMBLIES INSTALLED IN ROAD RIGHT-OF-WAY MUST BE FLUSH WITH EXISTING SHOULDER GRADE.
3. ARV ASSEMBLY SHOULD BE OFFSET TO ONE SIDE OF BOX AS SHOWN TO ALLOW EASIER ACCESS FOR OPERATION AND MAINTENANCE.
4. 2" STAINLESS STEEL NIPPLES AND COUPLINGS SHALL BE USED IF NEEDED.

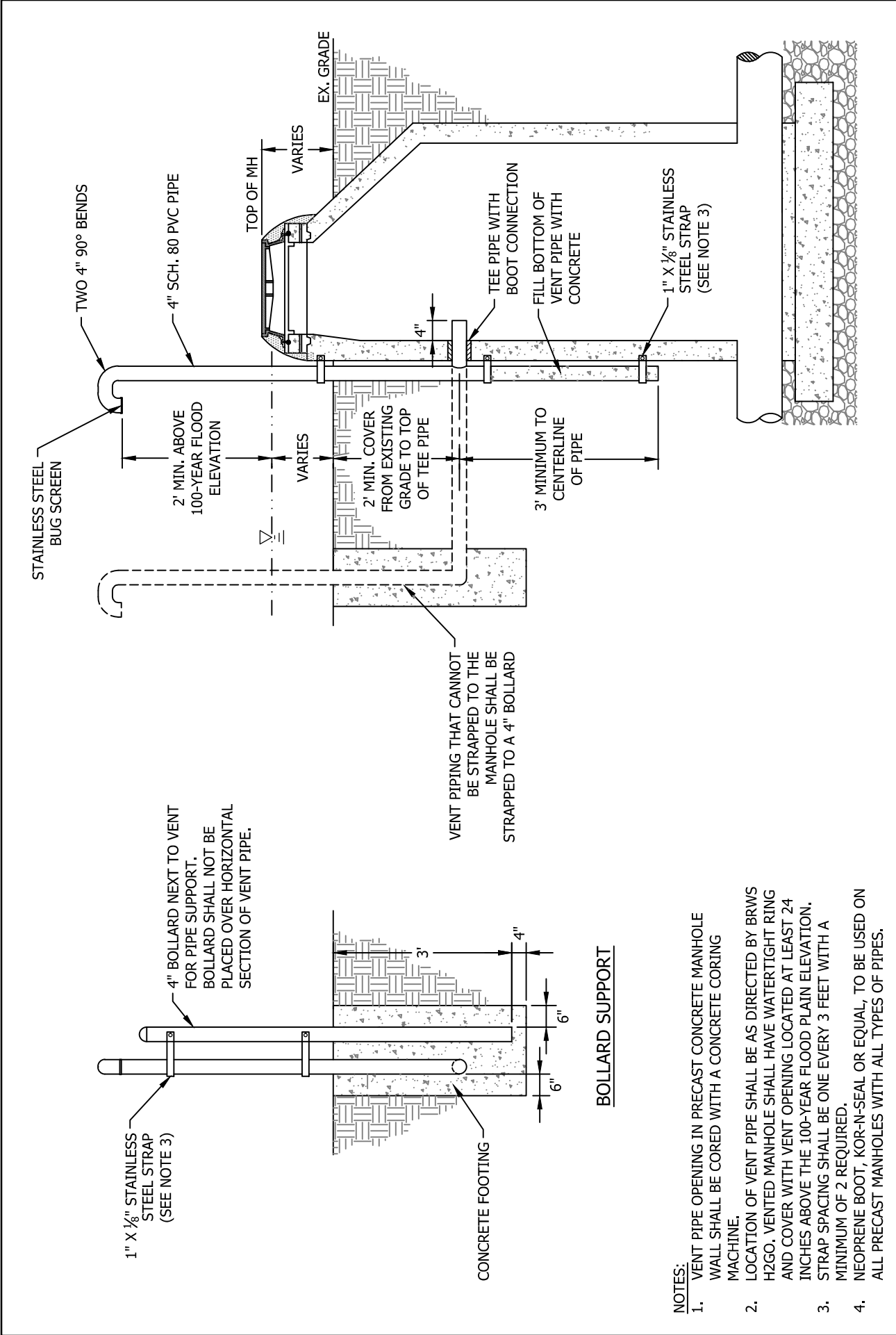
**BRUNSWICK REGIONAL
WATER AND SEWER H2GO**

EFFECTIVE: OCTOBER 2024

**OFFSET COMBINATION SEWER AIR
RELEASE VALVE**

STD. NO.
3000.13
NOT TO SCALE





STAINLESS STEEL BUG SCREEN

TWO 4" 90° BENDS

1" X 1/8" STAINLESS STEEL STRAP (SEE NOTE 3)

4" BOLLARD NEXT TO VENT FOR PIPE SUPPORT. BOLLARD SHALL NOT BE PLACED OVER HORIZONTAL SECTION OF VENT PIPE.

4" SCH. 80 PVC PIPE

TOP OF MH

VARIES

2' MIN. COVER FROM EXISTING GRADE TO TOP OF TEE PIPE

4"

VENT PIPING THAT CANNOT BE STRAPPED TO THE MANHOLE SHALL BE STRAPPED TO A 4" BOLLARD

CONCRETE FOOTING

6" 4" 6"

BOLLARD SUPPORT

TEE PIPE WITH BOOT CONNECTION

FILL BOTTOM OF VENT PIPE WITH CONCRETE

3' MINIMUM TO CENTERLINE OF PIPE

1" X 1/8" STAINLESS STEEL STRAP (SEE NOTE 3)

EX. GRADE

VARIES

NOTES:

1. VENT PIPE OPENING IN PRECAST CONCRETE MANHOLE WALL SHALL BE CORED WITH A CONCRETE CORING MACHINE.
2. LOCATION OF VENT PIPE SHALL BE AS DIRECTED BY BRWS H2GO. VENTED MANHOLE SHALL HAVE WATERTIGHT RING AND COVER WITH VENT OPENING LOCATED AT LEAST 24 INCHES ABOVE THE 100-YEAR FLOOD PLAIN ELEVATION.
3. STRAP SPACING SHALL BE ONE EVERY 3 FEET WITH A MINIMUM OF 2 REQUIRED.
4. NEOPRENE BOOT, KOR-N-SEAL OR EQUAL, TO BE USED ON ALL PRECAST MANHOLES WITH ALL TYPES OF PIPES.



BRUNSWICK REGIONAL WATER AND SEWER H2GO

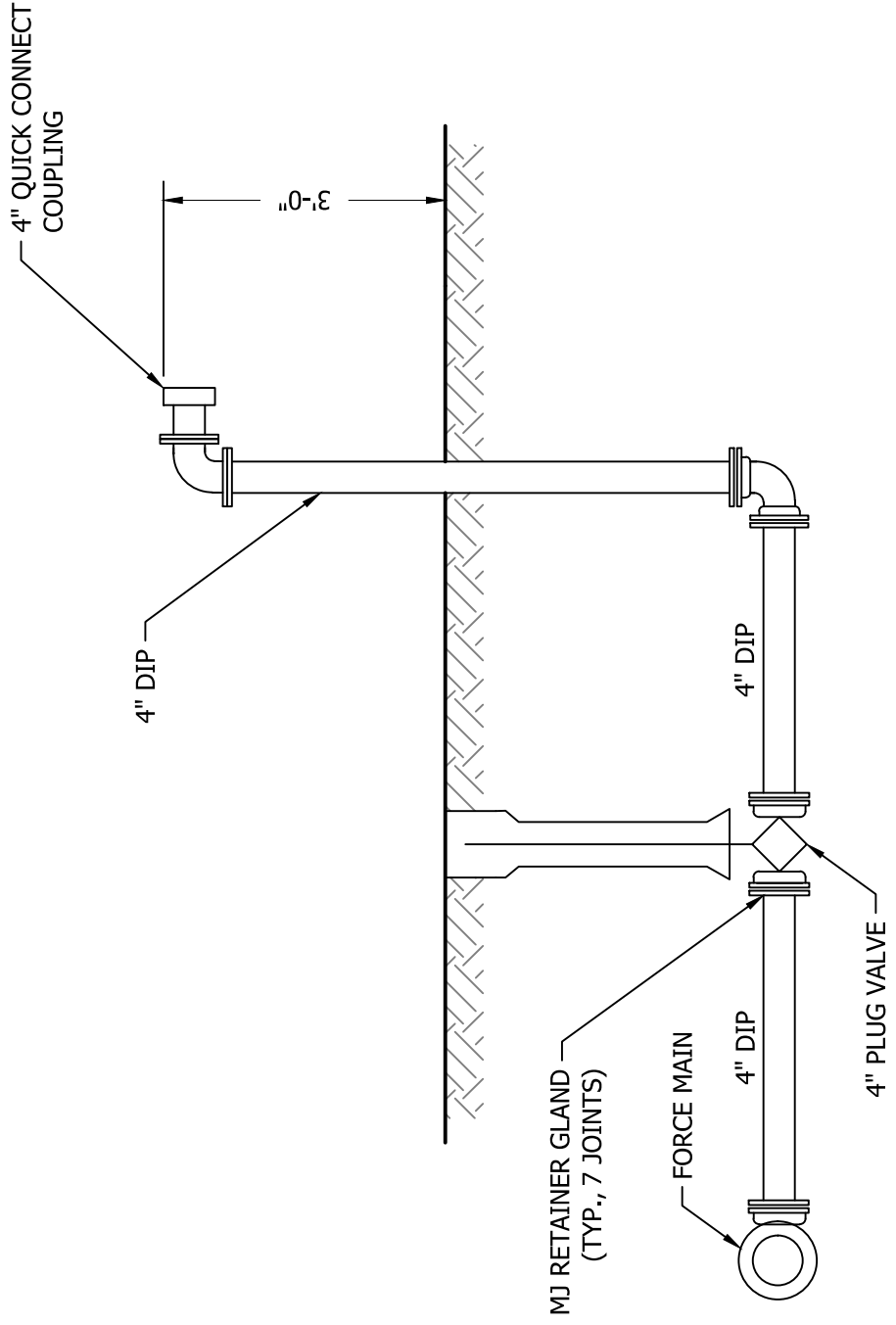
EFFECTIVE: OCTOBER 2024

MANHOLE VENT

STD. NO.

3000.14

NOT TO SCALE



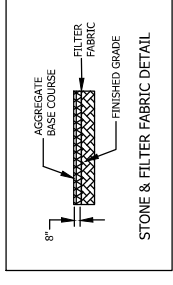
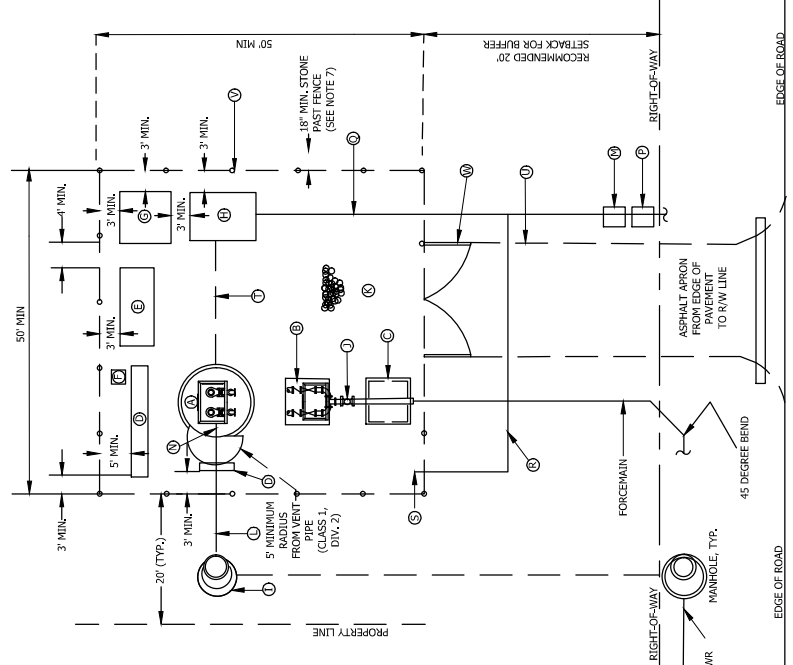
STD. NO.
3000.15
 NOT TO SCALE

BYPASS PUMPING CONNECTION

BRUNSWICK REGIONAL
 WATER AND SEWER H2GO
 EFFECTIVE: OCTOBER 2024



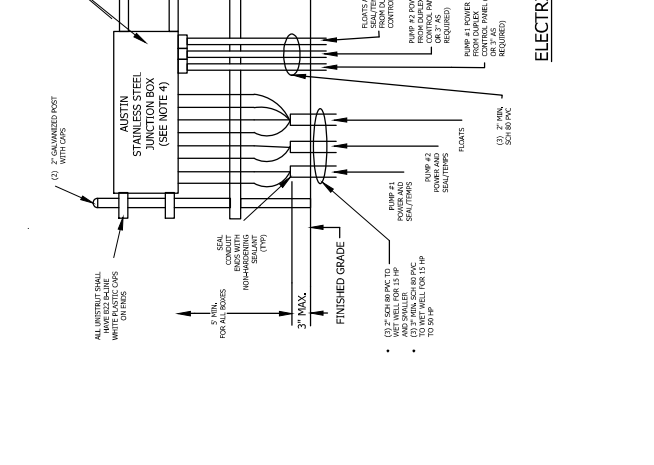
PUMP STATION COMPONENTS	
A	WET WELL
B	WET WELL
C	METERING VAULT - 6'x6'x6' MIN.
D	CONTROL PANEL (SEE DETAIL SHEET 3)
E	GENERATOR PAD AND STANDBY GENERATOR
F	AREA LIGHT ON POLE
G	ANTENNA PAD (SEE NOTE 9)
H	ODOR CONTROL PAD AND UNIT (SEE NOTE 15 & 18)
I	5" DIAMETER RECEIVING MANHOLE
J	EMERGENCY PUMP OUT
K	18" I.P.C. (SEE DETAIL THIS SHEET)
L	UNILLUMINATED BACKFLOW PREVENTION ON DEVICE
M	STAINLESS STEEL JUNCTION BOX ASSEMBLY (SEE DETAIL)
P	IRRIGATION METER
Q	1" WATER SERVICE TO ODOR CONTROL UNIT
R	1" WATER SERVICE TO YARD HYDRANT
S	1" WATER SERVICE TO YARD HYDRANT
T	VENT PIPE TO ODOR CONTROL UNIT (SEE NOTE 15)
U	CHAIN LINK FENCE (SEE DETAIL)
V	EMERGENCY GATES 2 & 7' TOTAL OPENING 14" (SEE DETAIL)



	REQUIRED	NOT REQUIRED
ODOR CONTROL UNIT		
METERING VAULT		

NOT FOR ALL PUMP STATIONS
 THE ODOR CONTROL SLAB, VENT PIPING FROM WETWELL, WATER SERVICE, AND ELECTRICAL CONDUIT FROM BUILDING OR ELECTRICAL RACK IS REQUIRED EVEN IF THE ODOR CONTROL UNIT IS NOT.

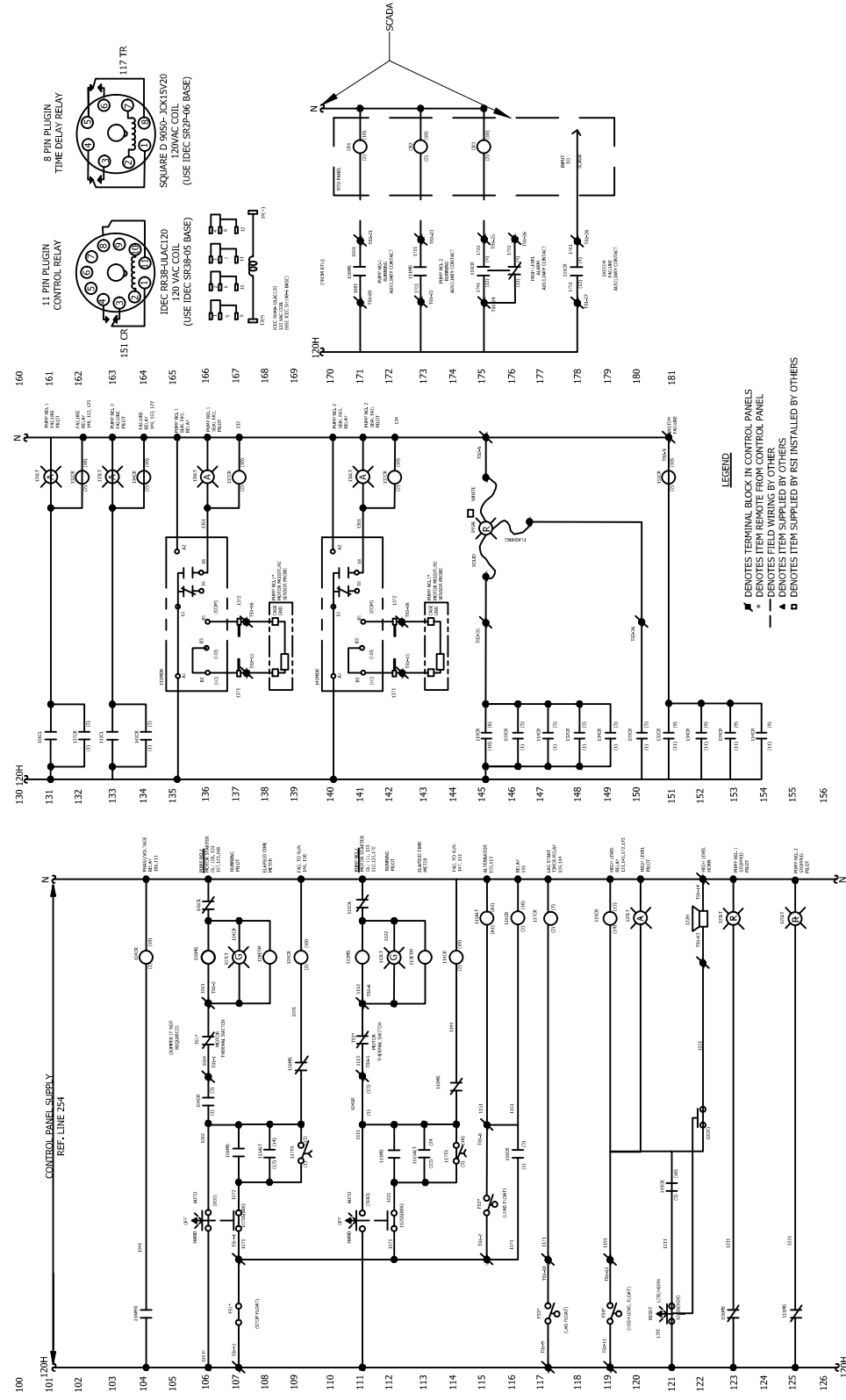
1. NEW WET WELLS AND NEW RECEIVING MANHOLES ARE TO BE POLYCRETE PER TECHNICAL SPECIFICATION 15.5. ALL EXISTING WET WELLS TO REMAIN SHALL BE OPENED TO INSURE THEY ARE NOT BLOCKED AND APPROVED EQUAL.
2. WET WELL VENT OUTLET TO HAVE ODORING CHARCOAL FILTER OR APPROVED EQUAL.
3. WET WELL VENT TO BE A MINIMUM OF 18" MIN. STONE ENCLOSURE. VENT SHALL BE FINISHED TO MATCH SURROUNDING AREA. SEE NOTE 15 & 18.
4. RECOMMENDED 20' FOOT BUFFER FROM THE PROPERTY LINE TO THE FINISHED AREA. SEE APPLICABLE JURISDICTIONS ZONING ORDINANCE FOR REQUIRED BUFFERS.
5. NO STORM DRAINAGE SHALL ENTER PUMP STATION.
6. THE ACCESS ROAD SHALL BE ASC STONE AT A MINIMUM OF 8" THICK. THE ROAD SHALL BE A MINIMUM OF 2 FEET ABOVE THE 100 YEAR METERS SURFACE ELEVATION.
7. THE PUMP STATION SHALL BE FINISHED TO MATCH SURROUNDING AREA.
8. THE PUMP CONTROL PANEL MUST BE FINISHED TO MATCH THE FINISHED AREA.
9. SEE PUMP ANTENNA DETAIL SHEET FOR ANTENNA DETAILS.
10. USE SAME PUMP SIZE AND PUMP CONNECTING PIPES. WAIVE VALVE SHALL BE FINISHED TO MATCH SURROUNDING AREA FOR MAINTENANCE AND REPAIR.
11. NOT OPENED PLUG VALVES IN WALL MUST BE POSITIONED SO THAT THEY CAN BE OPERATED FROM WITHIN THE WALL.
12. IF REQUIRED, WETTERING WALL MINIMUM SIZE IS 6'x6'x6'. ACTUAL REQUIRED MINIMUM SIZE DEPENDS ON ACTUAL DISCHARGE PIPING SIZE. ALL PIPING CONNECTIONS INSIDE METERING VAULT SHALL BE EASILY IDENTIFIABLE.
13. CONTRACTOR RESPONSIBLE FOR COORDINATING WITH ELECTRIC POWER COMPANY FOR PLACEMENT OF POWER COMPANY EQUIPMENT AND ANY REQUIRED CONCRETE SLABS, CONDUIT, ETC., NEEDED TO SERVE THE STATION.
14. WET WELL VENT SHALL BE A MINIMUM OF 18" MIN. STONE ENCLOSURE. VENT SHALL BE FINISHED TO MATCH SURROUNDING AREA.
15. CONTRACTOR SHALL PROVIDE A 12" DIA. VENT PIPE FOR 8" PVC PIPE TO ODOR CONTROL UNIT.
16. 1/2" DIAMETER, 3/4" LONG, 3/4" DIAMETER, COPPER, 1/2" DIAMETER, COPPER, 1/2" DIA. GROUND ROD SPACED 5' ABOVE CONDUIT TERMINATIONS FROM WET WELL AS SHOWN.
17. THE ACCESS ROAD SHALL BE FINISHED TO MATCH SURROUNDING AREA.
18. THE PUMP CONTROL PANEL MUST BE FINISHED TO MATCH THE FINISHED AREA.
19. USE SAME PUMP SIZE AND PUMP CONNECTING PIPES. WAIVE VALVE SHALL BE FINISHED TO MATCH SURROUNDING AREA FOR MAINTENANCE AND REPAIR.
20. CONTRACTOR RESPONSIBLE FOR ALL BUILDING AND ELECTRICAL PERMITS NEEDED, INCLUDING SITE SPECIFIC ENGINEERED PLANS FOR GENERATOR FOUNDATION.



STD. NO.
3000.16
 SHEET 1 OF 1

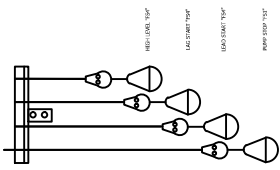
PUMP STATION ELECTRICAL SITE & JUNCTION BOX DETAIL





1-50 HP PUMP STATION ELECTRICAL DIAGRAMS

1-50 HP PUMP STATION ELECTRICAL DIAGRAMS



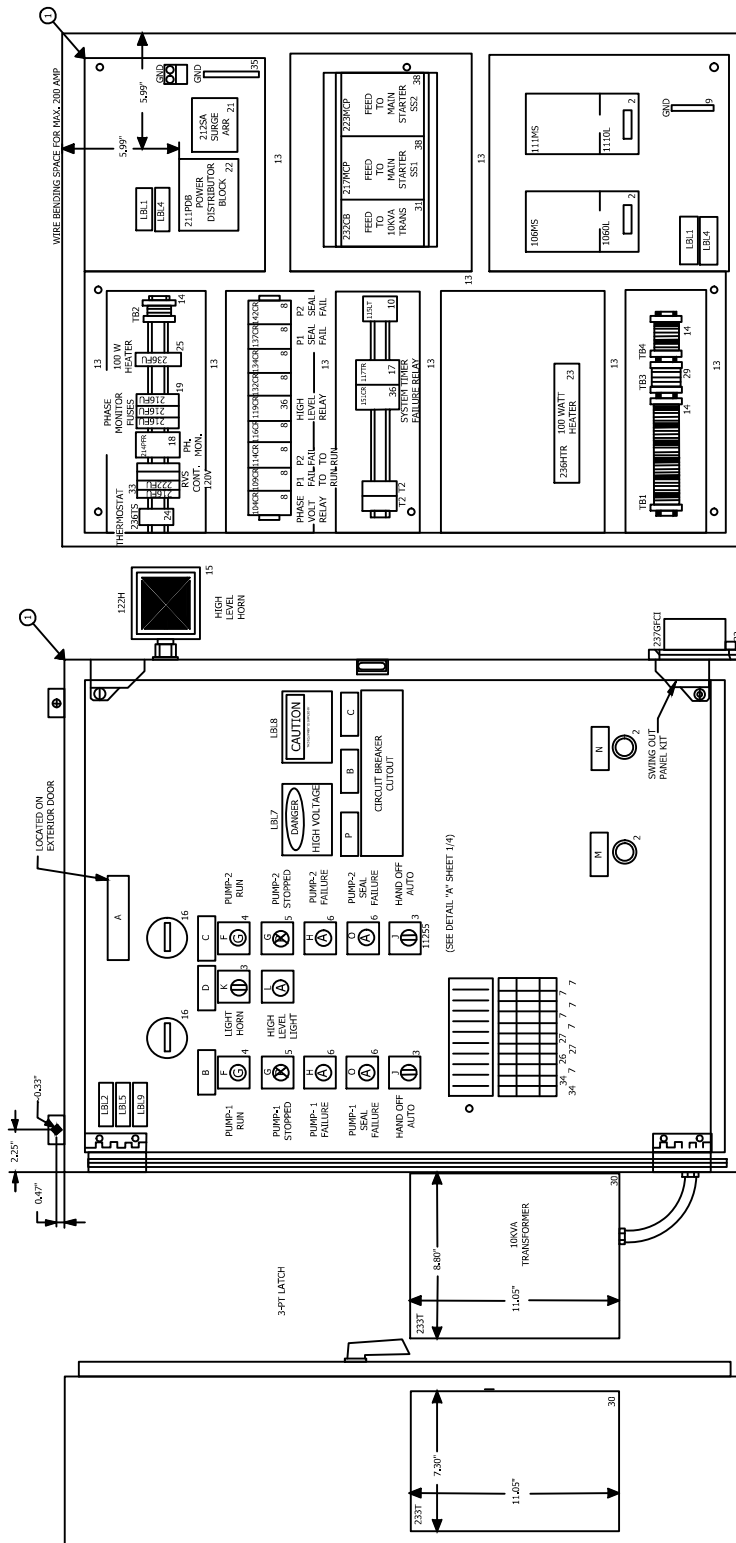
- LEGEND**
- DENOTES TERMINAL BLOCK IN CONTROL PANELS
 - * DENOTES ITEM REMOTE FROM CONTROL PANEL
 - DENOTES FIELD WIRING BY OTHERS
 - ▲ DENOTES ITEM SUPPLIED BY OTHERS

- NOTES:**
1. CONTROL CIRCUITRY SHOWN IS FOR A NON-FLYGT PUMP - DESIGN ENGINEER SHALL SUBMIT ELECTRICAL DRAWINGS FOR A FLYGT PUMP FOR REVIEW AND APPROVAL BY WASTEWATER AND UTILITIES DEPARTMENTS REVIEW AND APPROVAL

STD. NO.
3000.17
NOT TO SCALE

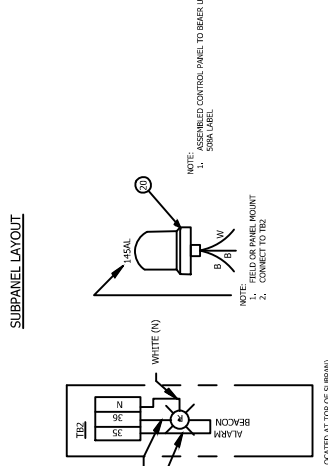
BRUNSWICK REGIONAL
WATER AND SEWER H2GO
EFFECTIVE: OCTOBER 2024





FRONT VIEW
(SHOW WITH OUTER DOOR REMOVED)

120CH	110VAC	1
N		2
0		3
1		4
2		5
3		6
4		7
5		8
6		9
7		10
8		11
9		12
10		13
11		14
12		15
13		16
14		17
15		18
16		19
17		20
18		21
19		22
20		23
21		24
22		25
23		26
24		27
25		28
26		29
27		30
28		31
29		32
30		33
31		34
32		35
33		36
34		37
35		38
36		39
37		40
38		41
39		42
40		43
41		44
42		45
43		46
44		47
45		48
46		49
47		50
48		51
49		52
50		53
51		54
52		55
53		56
54		57
55		58
56		59
57		60
58		61
59		62
60		63
61		64
62		65
63		66
64		67
65		68
66		69
67		70
68		71
69		72
70		73
71		74
72		75
73		76
74		77
75		78
76		79
77		80
78		81
79		82
80		83
81		84
82		85
83		86
84		87
85		88
86		89
87		90
88		91
89		92
90		93
91		94
92		95
93		96
94		97
95		98
96		99
97		100
98		101
99		102
100		103
101		104
102		105
103		106
104		107
105		108
106		109
107		110
108		111
109		112
110		113
111		114
112		115
113		116
114		117
115		118
116		119
117		120
118		121
119		122
120		123
121		124
122		125
123		126
124		127
125		128
126		129
127		130
128		131
129		132
130		133
131		134
132		135
133		136
134		137
135		138
136		139
137		140
138		141
139		142
140		143
141		144
142		145
143		146
144		147
145		148
146		149
147		150
148		151
149		152
150		153
151		154
152		155
153		156
154		157
155		158
156		159
157		160
158		161
159		162
160		163
161		164
162		165
163		166
164		167
165		168
166		169
167		170
168		171
169		172
170		173
171		174
172		175
173		176
174		177
175		178
176		179
177		180
178		181
179		182
180		183
181		184
182		185
183		186
184		187
185		188
186		189
187		190
188		191
189		192
190		193
191		194
192		195
193		196
194		197
195		198
196		199
197		200



1 - 50 HP PUMP STATION ELECTRICAL DIAGRAMS

STD. NO.
3000.18
NOT TO SCALE

**PUMP STATION ELECTRICAL
PANEL LAYOUT**

**BRUNSWICK REGIONAL
WATER AND SEWER H2GO**

EFFECTIVE: OCTOBER 2024

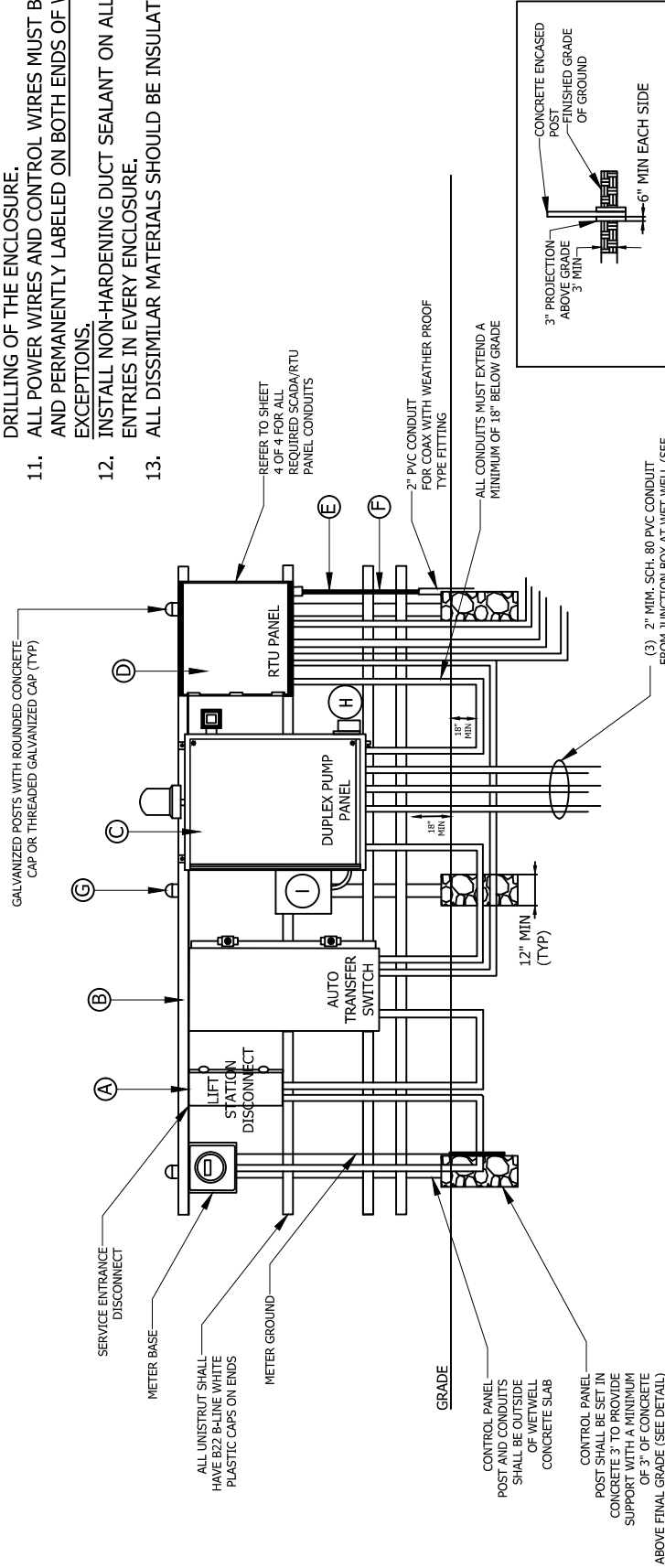


NOTES:

1. ALL POWER TO THE PUMP STATION SHALL BE THREE PHASE POWER. IF PUMP STATION IS SMALLER THAN 5 HP AND THREE PHASE POWER IS UNAVAILABLE, H2GO WILL REVIEW IF SINGLE PHASE POWER MAY BE USED.
2. TRANSFER SWITCH; DUPLEX PUMP PANEL, AND SERVICE DISCONNECT SHALL BE STAINLESS STEEL
3. THE DUPLEX PUMP PANEL SHALL HAVE A FACTORY APPLIED WHITE PAINT FINISH AND 3-POINT LOCKABLE HATCH.
4. 10KVA DRY TRANSFORMER REQUIRED FOR 480 VAC PRIMARY. PROVIDE A MINIMUM OF THREE 10' LONG 3/4" DIAMETER COPPER CLAD GROUND RODS SPACED AT A MINIMUM OF 6 FOOT APART, GROUND ROD LOCATED AT FIRST DISCONNECTING MEANS OR ELECTRIC METER, GENERATOR, AND CONNECTED TO BACK PANEL POSTS.

6. METER BASE, SCADA/RTU PANEL, AND FLOW METER ENCLOSURE (IF APPLICABLE) MAY BE MOUNTED ON THE BACK IF THERE IS NO ROOM ON THE FRONT. SERVICE DISCONNECT, ATS, AND PUMP CONTROL PANEL MUST BE MOUNTED TOGETHER ON THE FRONT AND FACE WET WELL. USE ADEQUATE AMOUNT OF 1 5/8" SLOTTED STAINLESS STEEL UNISTRUT TO SUPPORT ALL ENCLOSURES. EACH ENCLOSURE SHALL BE SUPPORTED BY A MINIMUM OF TWO HORIZONTAL PIECES OF UNISTRUT.
8. ALL CONDUIT ENTRIES MUST PENETRATE THE BOTTOM OF ALL ENCLOSURE WITH MYERS HUB TYPE FITTINGS, NO EXCEPTIONS, NO CONDUIT FITTINGS (LL, LB, OR LR) ALLOWED.
9. ALL CONDUIT SHALL BE SCHEDULE 80 PVC.
10. ALL ENCLOSURE LABELS SHALL BE OUTDOOR VINYL LABELS AND SHALL BE MOUNTED TO THE ENCLOSURE WITHOUT ANY DRILLING OF THE ENCLOSURE.
11. ALL POWER WIRES AND CONTROL WIRES MUST BE PROPERLY AND PERMANENTLY LABELED ON BOTH ENDS OF WIRES, NO EXCEPTIONS.
12. INSTALL NON-HARDENING DUCT SEALANT ON ALL CONDUIT ENTRIES IN EVERY ENCLOSURE.
13. ALL DISSIMILAR MATERIALS SHOULD BE INSULATED

A	SERVICE DISCONNECT (SEE NOTE 2)
B	AUTOMATIC TRANSFER SWITCH (SEE NOTE 2)
C	DUPLEX PUMP CONTROL PANEL (SEE NOTE 2 & 3)
D	RTU PANEL - FIBERGLASS
E	POLYPHASE COAXIAL CABLE SURGE ARRESTOR
F	COAX CABLE FROM ANTENNA
G	MINIMUM 3" GALVANIZED POSTS
H	GFCI PROTECTED OUTLET
I	DRY TRANSFORMER - 10KVA (SEE NOTE 4)



CONTROL PANEL ELEVATION

NOT TO SCALE

BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

**PUMP STATION ELECTRICAL
CONTROL PANEL ELEVATION**

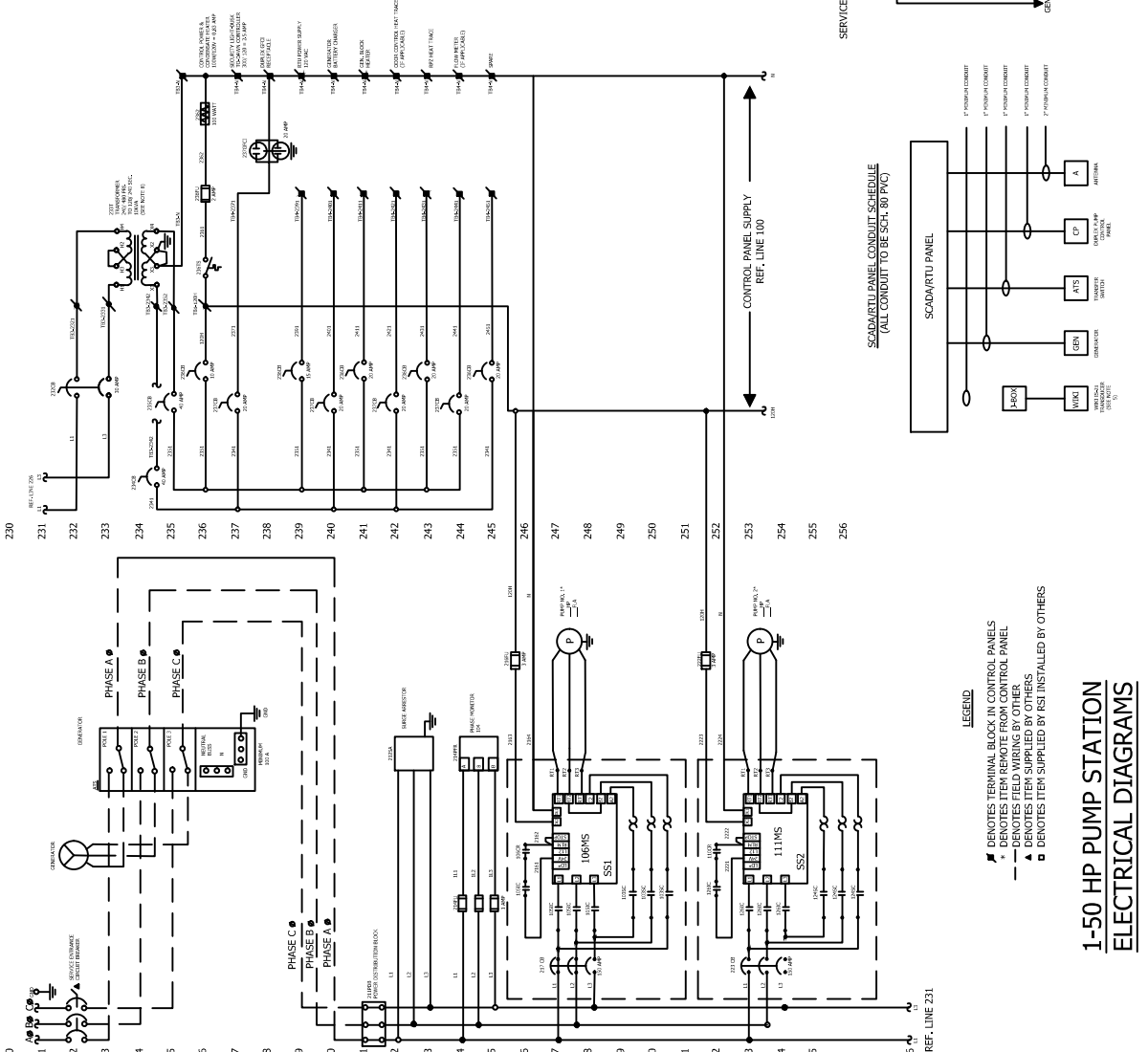
STD. NO.

3000.19

NOT TO SCALE



- NOTES:**
- STARTING DEVICE SHOWN IS A REDUCED VOLTAGE SOLID STATE STARTER. STARTING DEVICE MAY BE A FULL VOLTAGE NON-REVERSING STARTER, A REDUCED VOLTAGE SOLID STATE STARTER, OR A VARIABLE FREQUENCY DRIVE DEPENDING ON THE SITUATION AND THE NEEDS OF THE PUMP STATION. LOCATE STARTING DEVICES OUTSIDE OF THE PUMP CONTROL PANEL WHERE APPROVED BY BRUNSWICK COUNTY, TYPICALLY FOR LARGER HORSEPOWER DESIGNS. STARTING DEVICES LOCATED OUTSIDE OF THE PUMP CONTROL PANEL SHALL BE LOCATED IN THEIR OWN ENCLOSURES. ENCLOSURES SHALL HAVE SUITABLE NEMA RATING FOR THE ENVIRONMENT THEY ARE LOCATED IN, AND SHALL BE APPROVED BY BRUNSWICK COUNTY ENGINEERING AND UTILITIES.
 - ADD ADDITIONAL CIRCUIT BREAKERS IN THE PUMP CONTROL PANEL WHERE NECESSARY TO ACCOMMODATE ADDITION LOADS.
 - ADJUST THE SIZE OF THE TRANSFORMER AND CIRCUIT BREAKERS AS NECESSARY TO ACCOMMODATE ANY INCREASE IN THE MISCELLANEOUS LOAD.
 - PUMP MOTORS 10HP AND SMALL CAN BE SINGLE PHASE POWER, IF A WIKI IS-21 PRESSURE TRANSDUCER IS INSTALLED IN THE PUMP STATION VALVE VAULT, A MINIMUM 1" PVC CONDUIT MUST BE INSTALLED FROM THE VALVE VAULT TO J-BOX, THEN FROM THE J-BOX TO THE RTU/SCADA PANEL (OR TO THE ELECTRICAL BUILDING IF THE PUMP STATION HAS AN ELECTRICAL BUILDING).
 - PUMPS 10 HP AND SMALLER MAY BE SINGLE PHASE POWER. DESIGN ENGINEER TO SPECIFY INCOMING POWER VOLTAGE, PHASE, AND AMPERES (MINIMUM SERVICE SIZE IS 100 AMPERES).
 - TRANSFORMER REQUIRED FOR 480 VAC PRIMARY PUMP STATIONS.
 - IF ODOR CONTROL UNIT IS INSTALLED, AN ADDITIONAL 480 VAC, 3 PHASE, 15 AMP CIRCUIT BREAKER IS REQUIRED.



LEGEND

- ▲ DENOTES TERMINAL BLOCK IN CONTROL PANELS
- * DENOTES ITEM REMOTE FROM CONTROL PANEL
- DENOTES ITEM SUPPLIED BY OTHERS
- ▲ DENOTES ITEM SUPPLIED BY OTHERS
- DENOTES ITEM SUPPLIED BY OTHERS

1-50 HP PUMP STATION ELECTRICAL DIAGRAMS

REF. LINE 231

REF. LINE 200

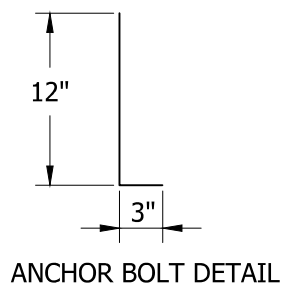
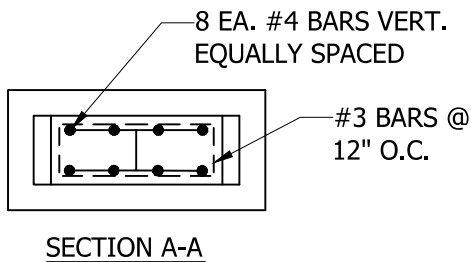
STD. NO.
3000.20
NOT TO SCALE

PUMP STATION ELECTRICAL SCHEMATICS

BRUNSWICK REGIONAL WATER AND SEWER H2GO

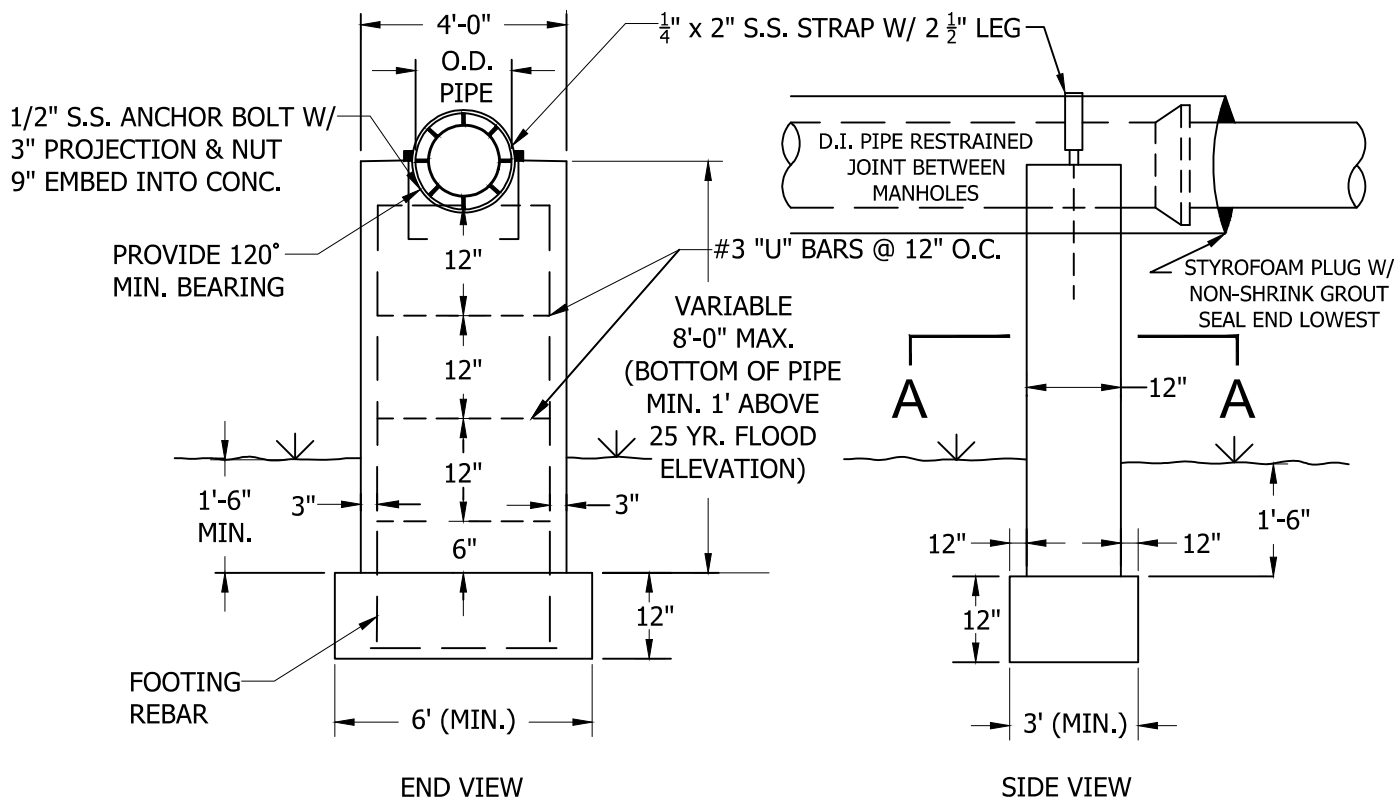
EFFECTIVE: OCTOBER 2024





NOTES:

1. BRUNSWICK REGIONAL WATER AND SEWER H2GO SHALL REVIEW ALL PROPOSED AERIAL CROSSINGS TO CONFIRM NEED.
2. SITE SPECIFIC DESIGN CRITERIA SHOULD BE CONSIDERED WHEN DESIGNING AERIAL CROSSINGS.
3. AT THE CONTRACTORS OPTION IN LIEU OF FORMING THE 120° CONC. SADDLE, A STAINLESS STEEL PIPE SADDLE MAY PROVIDED.
4. PATCH SNAP TIES
5. CONCRETE FOOTING SHALL HAVE $\frac{3}{4}$ " CHAMFER EDGES.
6. REINFORCING STEEL AS SHOWN IS MINIMUM ALLOWED. DESIGN ENGINEER SHALL COMPLETE AN ANALYSIS AND DESIGN. BASED ON SUBGRADE ANALYSIS LOAD.
7. TWO SPACERS AT EVERY JOINT WITHIN CASING PIPE. ENSURE SPACERS ARE APPROPRIATELY SIZED FOR CASING PIPE AND CARRIER PIPE. REFER TO BRUNSWICK REGIONAL WATER AND SEWER H2GO CONSTRUCTION STANDARDS FOR SPACER SPECIFICATIONS.
8. ALL JOINTS SHALL BE RESTRAINED JOINTS BETWEEN MANHOLES.



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

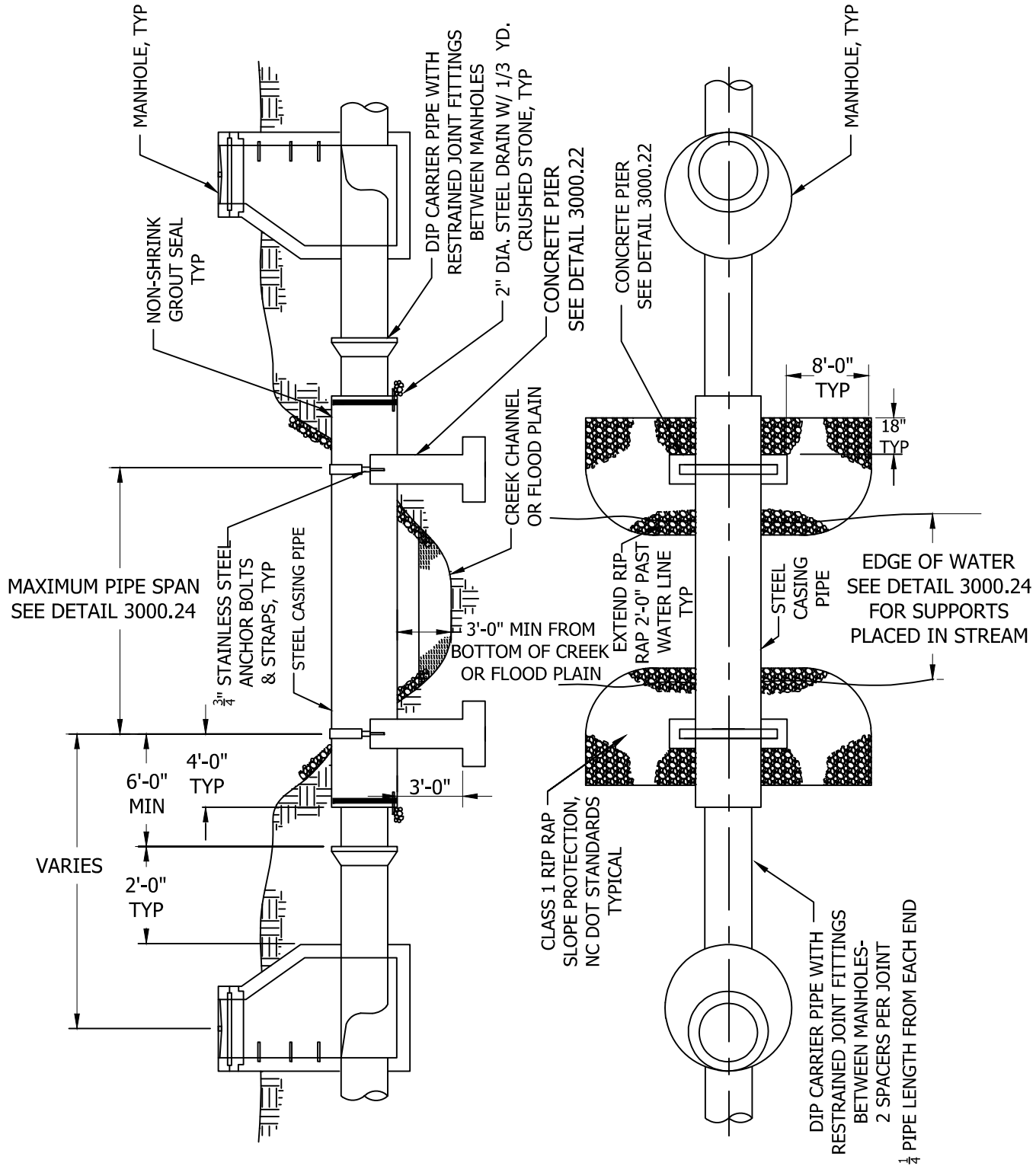
EFFECTIVE: OCTOBER 2024

AERIAL PIPE SUPPORTS -
CONCRETE PIER

STD. NO.

3000.22

NOT TO SCALE



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

AERIAL PIPE SUPPORT-LAYOUT

STD. NO.

3000.23

NOT TO SCALE

NOTES FOR AERIAL CROSSING:

1. STEEL CASING PIPE SHALL BE SPIRAL WELDED OR SMOOTH WALL SEAMLESS WITH A MIN. YIELD STRENGTH OF 35,000 PSI. REQUIREMENTS SHOWN IN TABLE BELOW:

ALLOWABLE SPANS FOR STEEL CASING PIPE			
CARRIER PIPE, RJ DIP DIAMETER (IN)	CASING PIPE, STEEL DIAMETER (IN)	MIN. CASING PIPE WALL THICKNESS (IN)	ALLOWABLE SPAN (FT)
6	14	0.3750	40
8	16	0.3750	45
10	17	0.3750	50
12	20	0.3750	50
14	24	0.3750	55
16	26	0.3750	55
18	30	0.3750	60
20	32	0.3750	60
24	36	0.4375	65
30	42	0.4375	65
36	48	0.5000	65
40	56	0.5000	65

2. RESTRAINED JOINT PIPE AND FITTINGS SHALL CONSIST OF BOLTED RETAINER RINGS AND WELDER RETAINER BARS OR BOLTLESS TYPE WHICH INCLUDE DUCTILE IRON LOCKING SEGMENTS AND RUBBER RETAINERS. RESTRAINED PIPE AND FITTINGS MEET REQUIREMENTS SET IN BRUNSWICK REGIONAL WATER AND SEWER H2GO STANDARD SPECIFICATIONS.

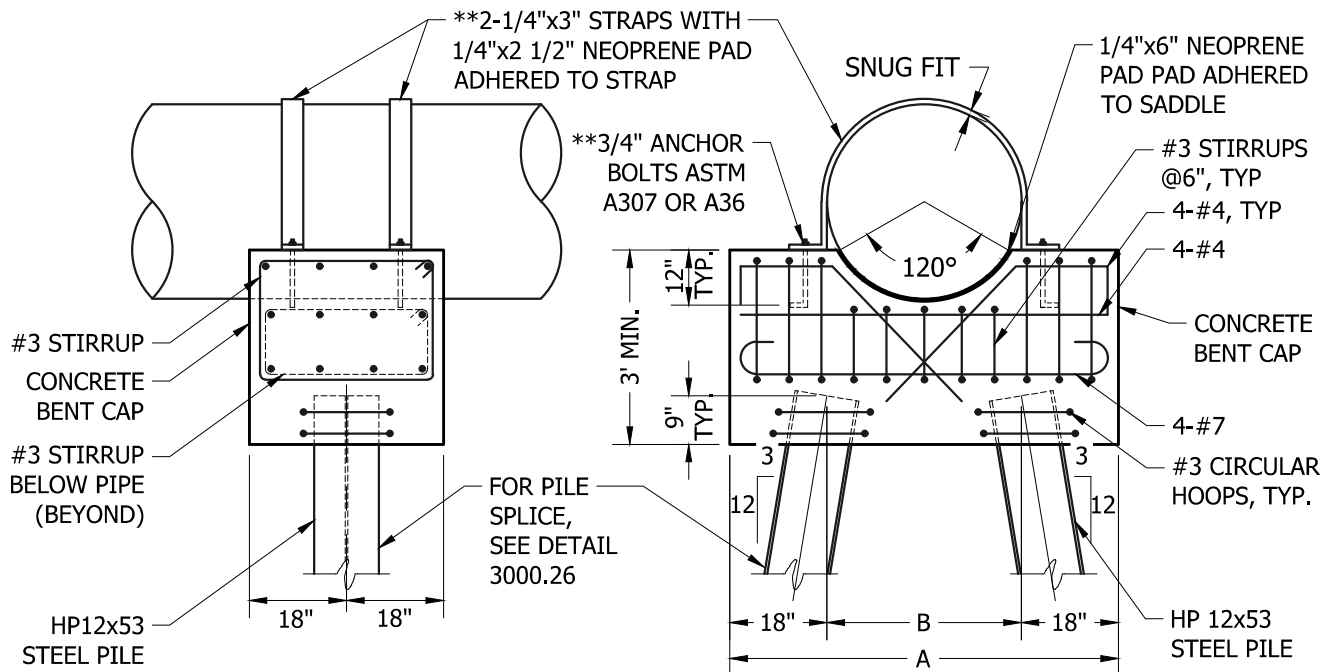
3. CONCRETE PROPERTIES SHALL BE AS FOLLOWS:
 CONCRETE COMPRESSIVE STRENGTH = 4000 PSI
 NOMINAL SLUMP = 4 INCHES
 WATER/CEMENTITIOUS MATERIAL RATIO – 0.45 MAX
 AIR CONTENT = MIN 6%, MAX 7.5%
 CONCRETE SHALL BE TYPE I/11 OR IN ACCORDANCE WITH ASTM C-150.

4. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4"

5. CONVENTIONAL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 AND SHALL BE PLACED IN ACCORDANCE WITH "THE RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS" (LATEST EDITION) AS PUBLISHED BY THE CONCRETE REINFORCING INSTITUTE. SPLICES SHALL BE CLASS B CONFORMING TO ACI 318 OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

6. NEOPRENE BEARING PADS SHALL BE FORMED FROM PREVIOUSLY UNVULCANIZED, 100% VIRGIN NEOPRENE WITH DUROMETER HARDNESS OF 50.

7. IF ENGINEERED DESIGN REQUIRES PILES, THE CALCULATIONS AND ALTERNATE DESIGN MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.



NOTES:

1. BRUNSWICK REGIONAL WATER AND SEWER H2GO SHALL REVIEW ALL PROPOSED AERIAL CROSSINGS TO CONFIRM NEED.
2. PILE SUPPORTED FOUNDATION DESIGN SHOWN ON THIS DETAIL IS BASED UPON THE FOLLOWING PARAMETERS:
 MINIMUM CAPACITY OF HP12x53 PILE = 30 TONS
 CONCRETE COMPRESSIVE STRENGTH = 4000 PSI
 GRADE 60 REINFORCING STEEL
 MAXIMUM STREAM VELOCITY = 10 FT/SEC
 IF FIELD CONDITIONS REQUIRE ANY DEVIATION FROM THESE PARAMETERS, FOUNDATION DESIGN MUST BE APPROVED BY BRUNSWICK REGIONAL WATER AND SEWER H2GO.
3. LENGTH OF PILES SHALL BE AS REQUIRED TO DEVELOP 30 TON CAPACITY BY EITHER END BEARING, FRICTION OR A COMBINATION OF END BEARING AND FRICTION. AS A MINIMUM, PILES SHALL BE DRIVEN AT LEAST 15 FEET INTO UNDISTURBED SOIL.

****4. ANCHOR BOLTS AND STRAPS SHALL BE STAINLESS STEEL.**

WIDTH OF PILE CAP		
PIPE DIAMETER (IN.)	TOTAL WIDTH "A" (FT.)	PILE SPACING "B" (FT.)
≤ 18	4'-6"	2'-0"
20-36	6'-0"	3'-0"
42	6'-6"	3'-6"
48	7'-3"	4'-3"
54-60	8'-0"	5'-0"



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

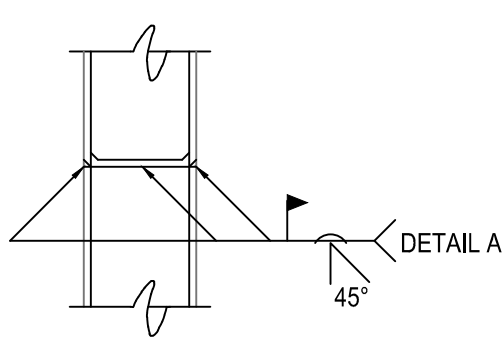
EFFECTIVE: OCTOBER 2024

TYPICAL PILE
BENT DETAIL

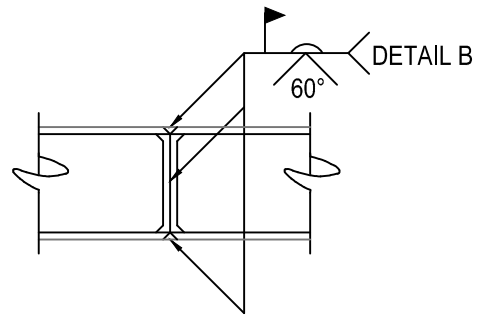
STD. NO.

3000.25

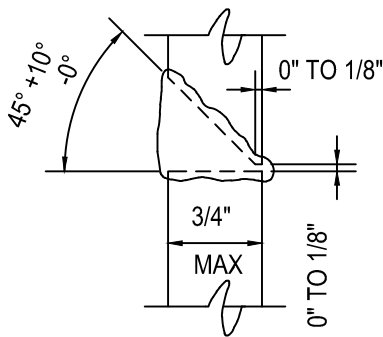
NOT TO SCALE



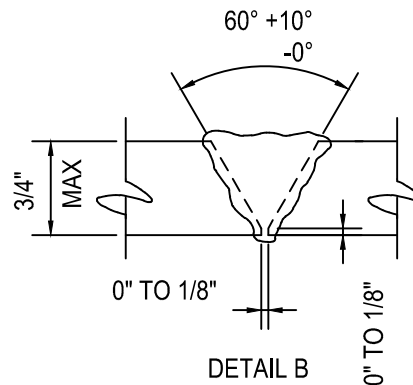
COLUMN VERTICAL



* COLUMN HORIZONTAL OR VERTICAL



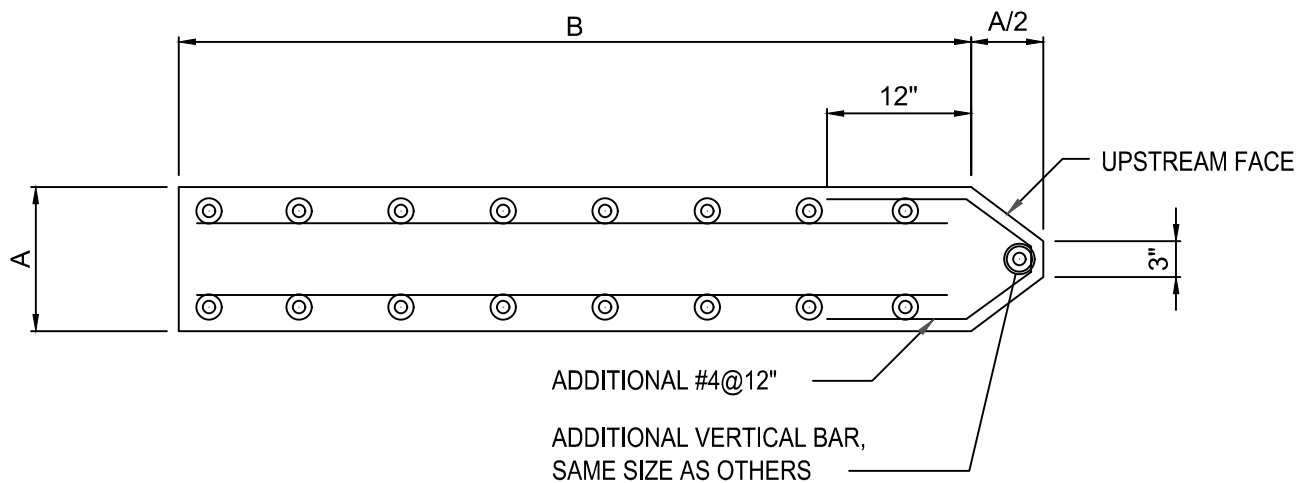
DETAIL A



DETAIL B

* POSITION OF COLUMN DURING WELDING

STEEL PILE SPLICE



PLAN - CONCRETE SUPPORT NOSING

(WHEN EXPOSED TO STREAM FLOW)



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

**TYPICAL PILE BENT-
CONCRETE SUPPORT**

STD. NO.

3000.26

NOT TO SCALE

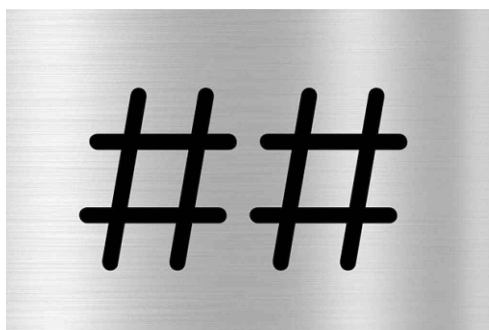


CONFINED SPACE SIGNAGE
 3M HI INTENSITY REFLECTIVE
 ALUMINUM WITH 3M
 SMARTSHIELD POF LAMINATE
 18" X 24"



CHEMICAL IDENTIFICATION SIGNAGE

3M Engineered Grade Reflective
 Aluminum with SmartShield POF
 Laminate
 12" x 18"



ADDRESS NUMBER
 3M ENGINEERED GRADE
 REFLECTIVE ALUMINUM WITH
 SMARTSHIELD POF LAMINATE
 (# IS 6" HEIGHT)
 12" X 8"



BRUNSWICK REGIONAL
 WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

SIGNAGE

STD. NO.

3000.27

NOT TO SCALE

NO TRESPASSING!

**TAMPERING WITH THIS FACILITY IS A
FEDERAL OFFENSE**

U.S. CODE TITLE 42, SECTIONS 3001-1

Brunswick Regional



Water and Sewer

In case of emergency or to report suspicious activity, call:

910-371-9949

TRESPASSING SIGNAGE

3M ENGINEERED GRADE
REFLECTIVE ALUMINUM WITH
SMARTSHIELD POF LAMINATE

26"X26"



BRUNSWICK REGIONAL
WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2024

SIGNAGE

STD. NO.

3000.28

NOT TO SCALE