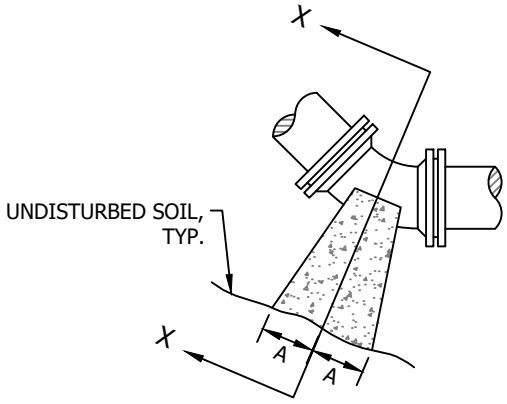
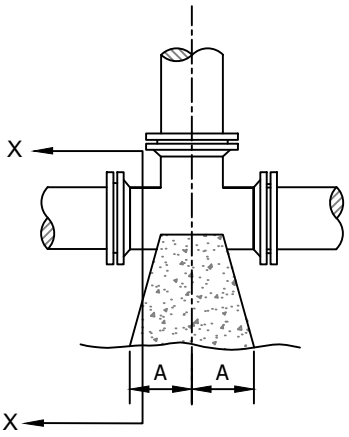
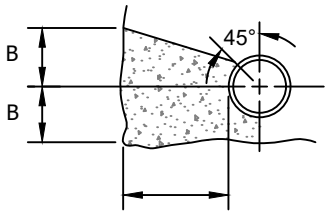


PLAN- BENDS

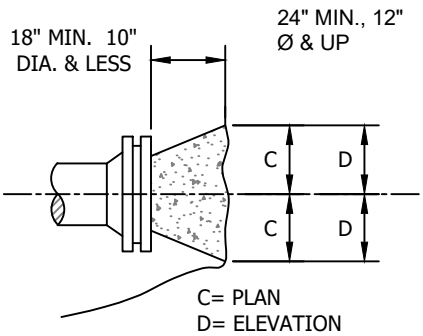


PLAN -TEES



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

SECTION X-X
BENDS & TEES



C= PLAN
D= ELEVATION

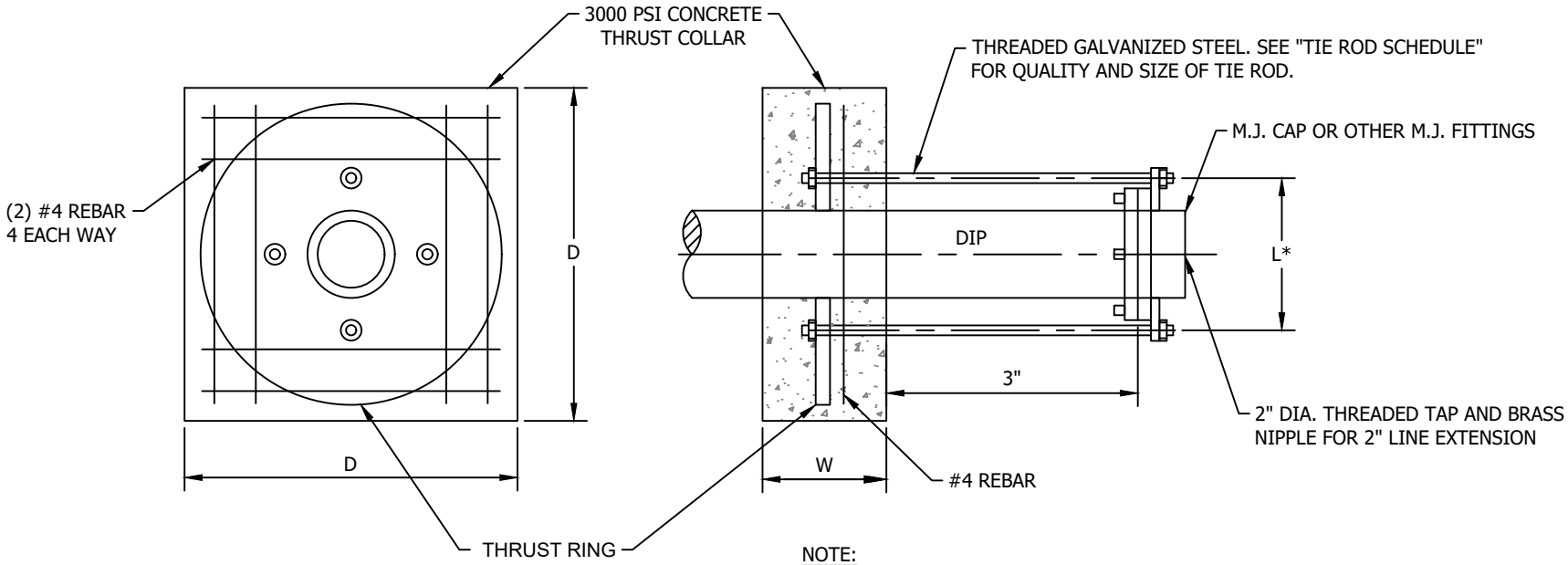
PLAN & ELEVATION
PLUGS

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 UNDISTRURBED 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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	THRUST BLOCKING	STD. NO. 1000.01
	EFFECTIVE: APRIL 2022		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"

H2GO

BRUNSWICK REGIONAL WATER AND SEWER H2GO

EFFECTIVE: APRIL 2022

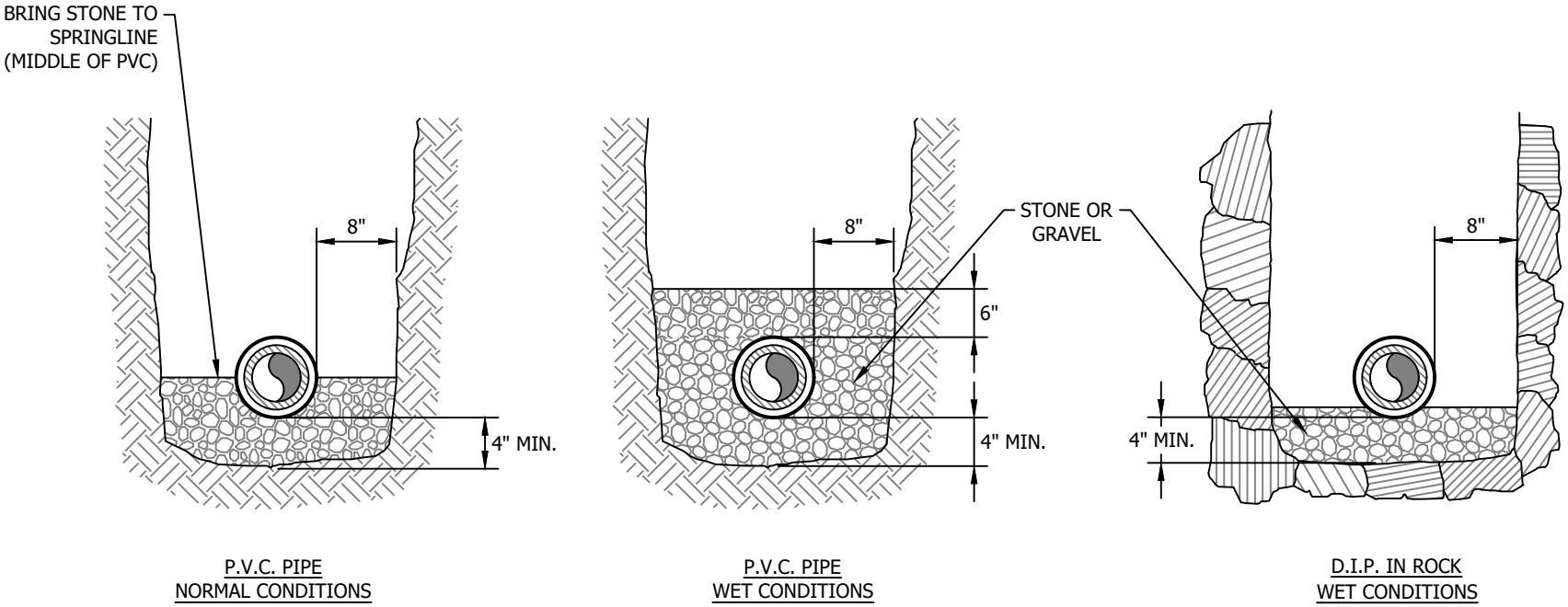
THRUST COLLAR

STD. NO.

1000.02

NOT TO SCALE

START LAYING AT LOW END AND BUILD AGAINST DIRECTION OF FLOW

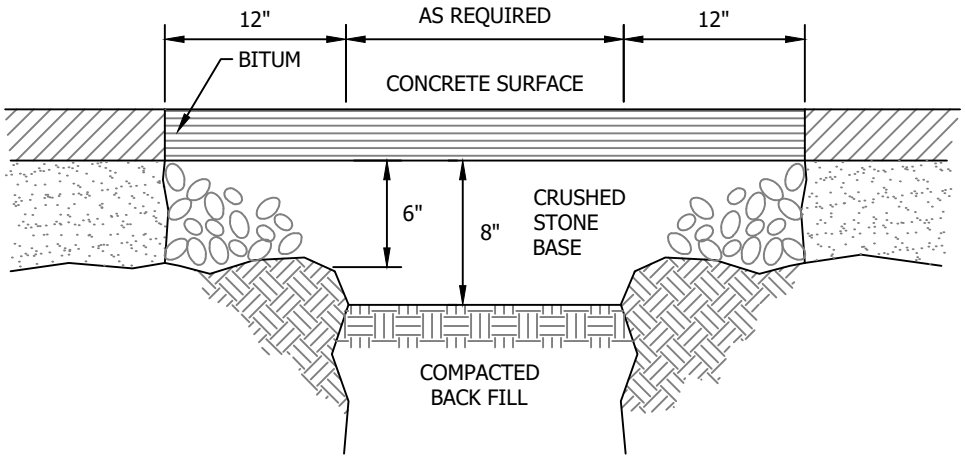


P.V.C. PIPE
NORMAL CONDITIONS

P.V.C. PIPE
WET CONDITIONS

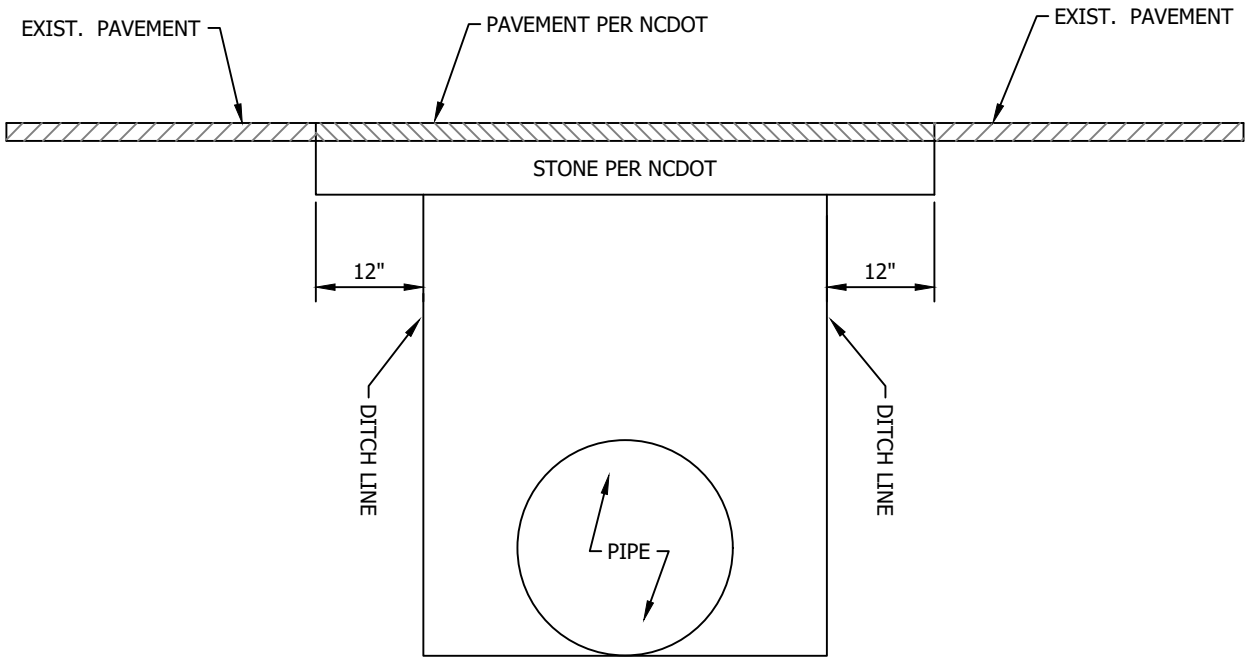
D.I.P. IN ROCK
WET CONDITIONS

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	STANDARD TRENCHING DETAIL (GRAVITY SEWER)	STD. NO. 1000.03 NOT TO SCALE



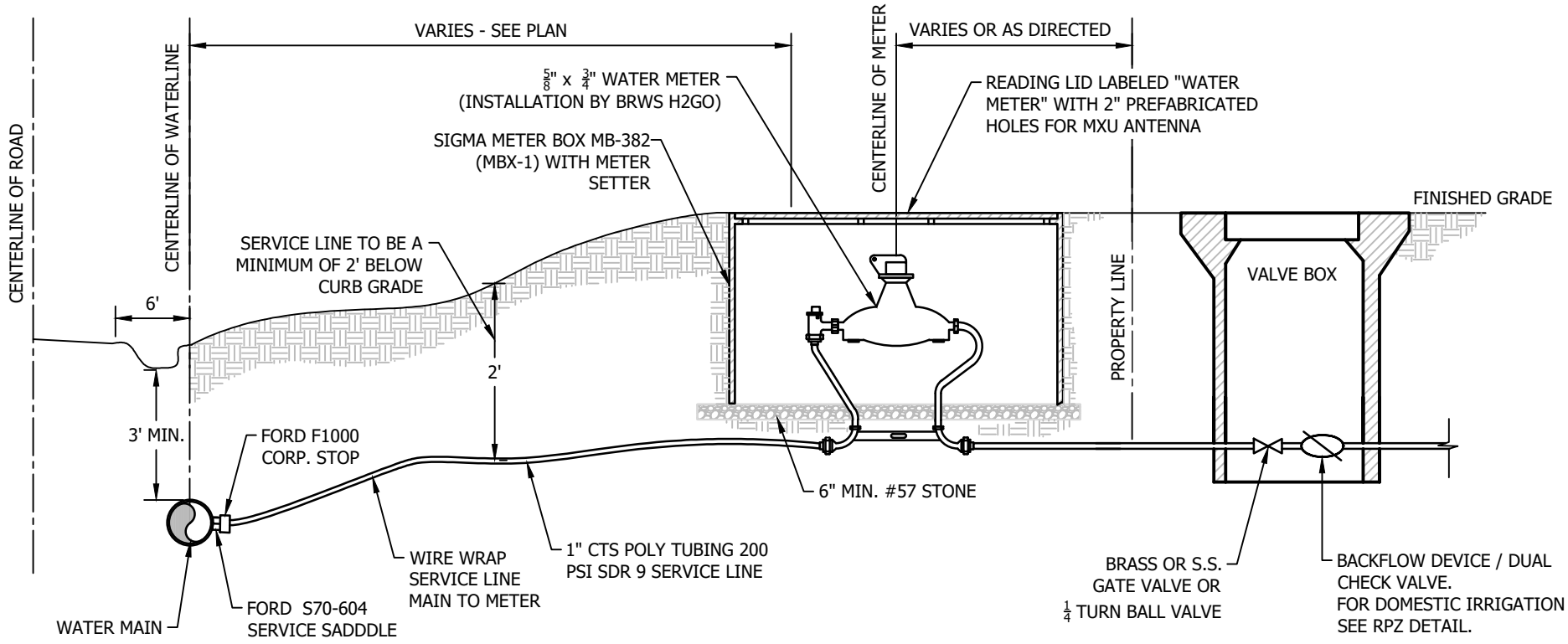
USE MATERIALS PER NCDOT REQUIREMENTS ON NCDOT DRIVEWAYS AND ROADWAYS.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	PAVEMENT REPAIR	STD. NO. 1000.04 NOT TO SCALE



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 REQUIREMENTS.

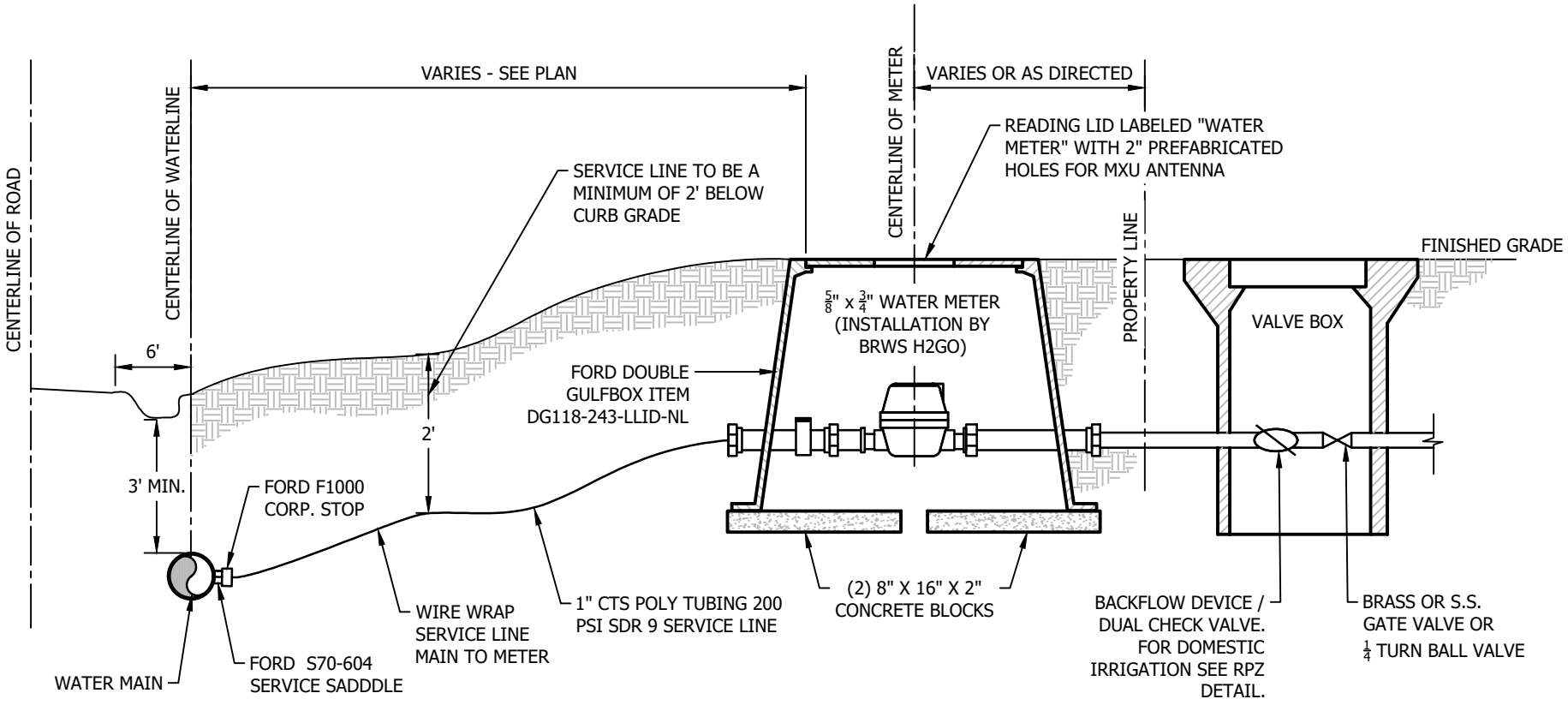
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	PIPE INSTALLATION PAVEMENT REPAIR	STD. NO. 1000.05 NOT TO SCALE



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.
3. NO COUPLINGS BETWEEN MAIN LINE AND METER SETTER.

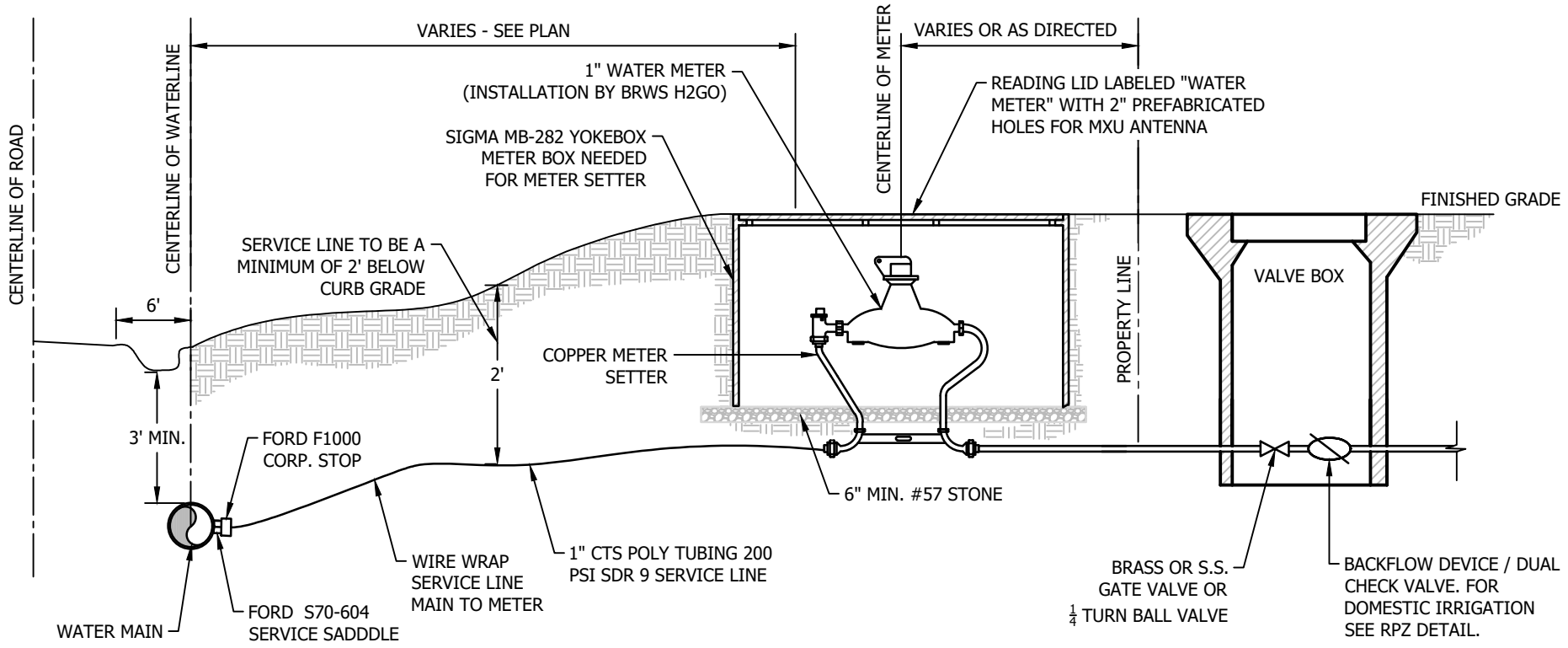
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	FORD YOKEBOX 3/4" WATER SERVICE	STD. NO. 2000.01
	EFFECTIVE: APRIL 2022		NOT TO SCALE



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.

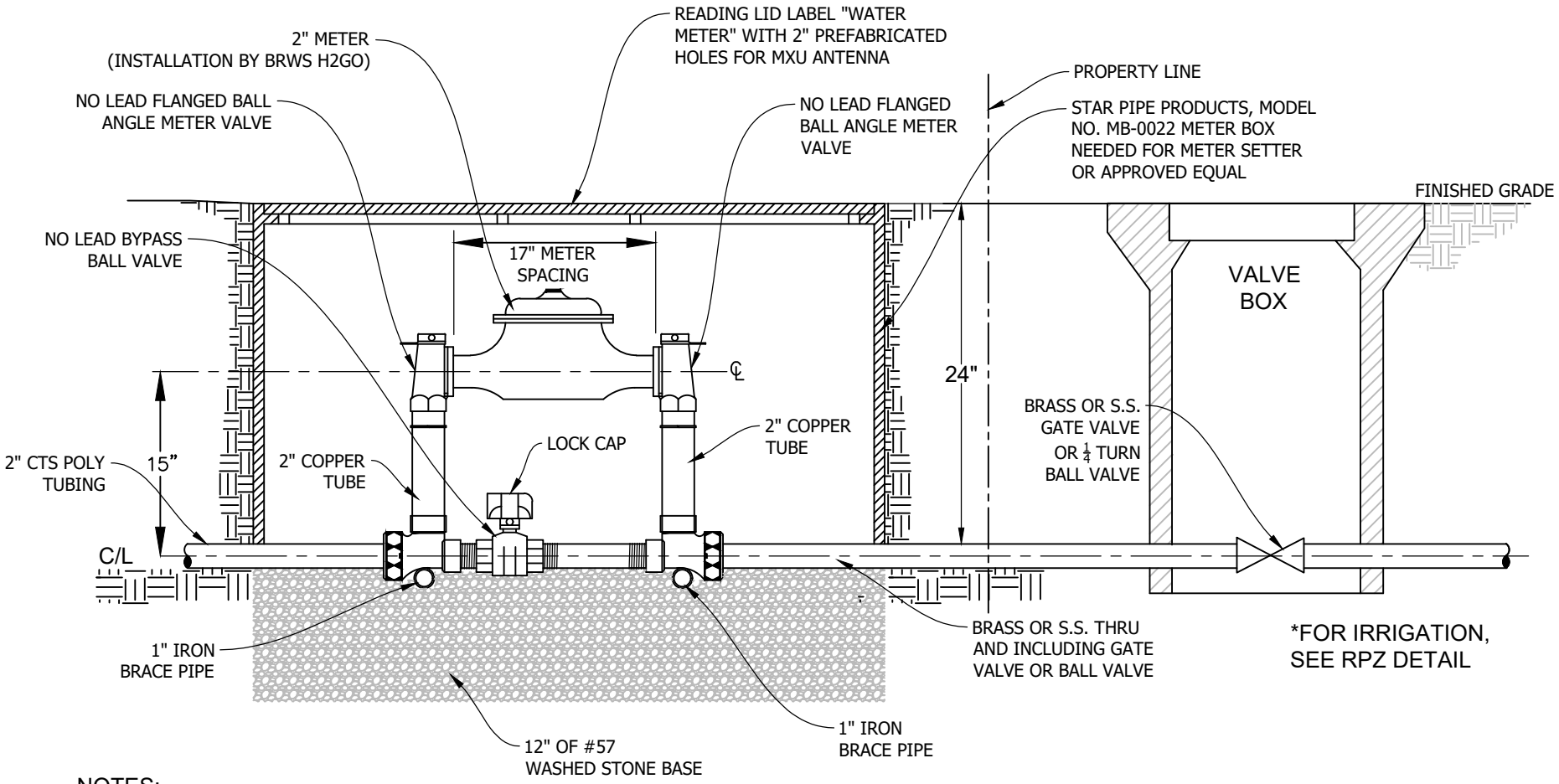
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: NOVEMBER 2022	FORD DOUBLE GULFBOX 3/4" WATER SERVICE (DOMESTIC AND IRRIGATION)	STD. NO. 2000.02 NOT TO SCALE



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.

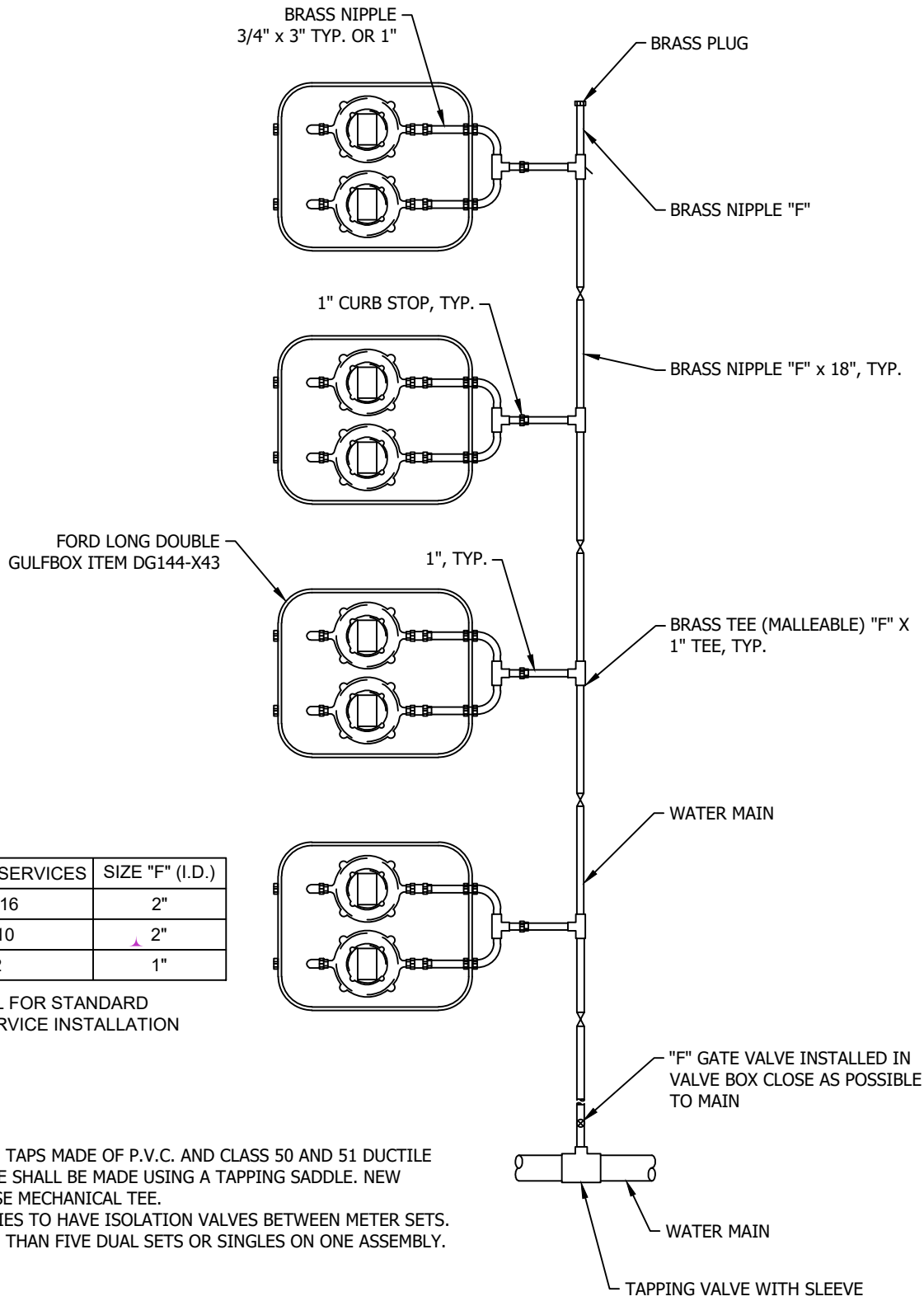
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	1" WATER SERVICE	STD. NO. 2000.03 NOT TO SCALE



NOTES:

1. PIPING TO BE "NO LEAD" BRASS AND COPPER TUBING. METER INLET AND OUTLET TO BE EQUIPPED WITH FLANGED BALL ANGLE METER VALVES.
2. CUSTOM SETTERS SHALL BE EQUIPPED WITH STANDARD LOW BYPASS WITH BALL VALVE AND PADLOCK WINGS.
3. CUSTOM SETTERS SHALL BE LISTED ON BRWS H2GO APPROVED PRODUCTS LIST.
4. ALL BRASS COMPONENTS SHALL BE "NO LEAD" BRASS MEETING UNS C89833 AS PER ASTM B584.
5. ALL APPLICATIONS REQUIRE A SEPARATE ABOVE GROUND BACKFLOW PREVENTER.
6. CUSTOM SETTER SHALL BE INSTALLED SUCH THAT THE METER REGISTER IS LOCATED 5 TO 8 INCHES BELOW METER BOX COVER.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	2" WATER SERVICE	STD. NO. 2000.04 NOT TO SCALE

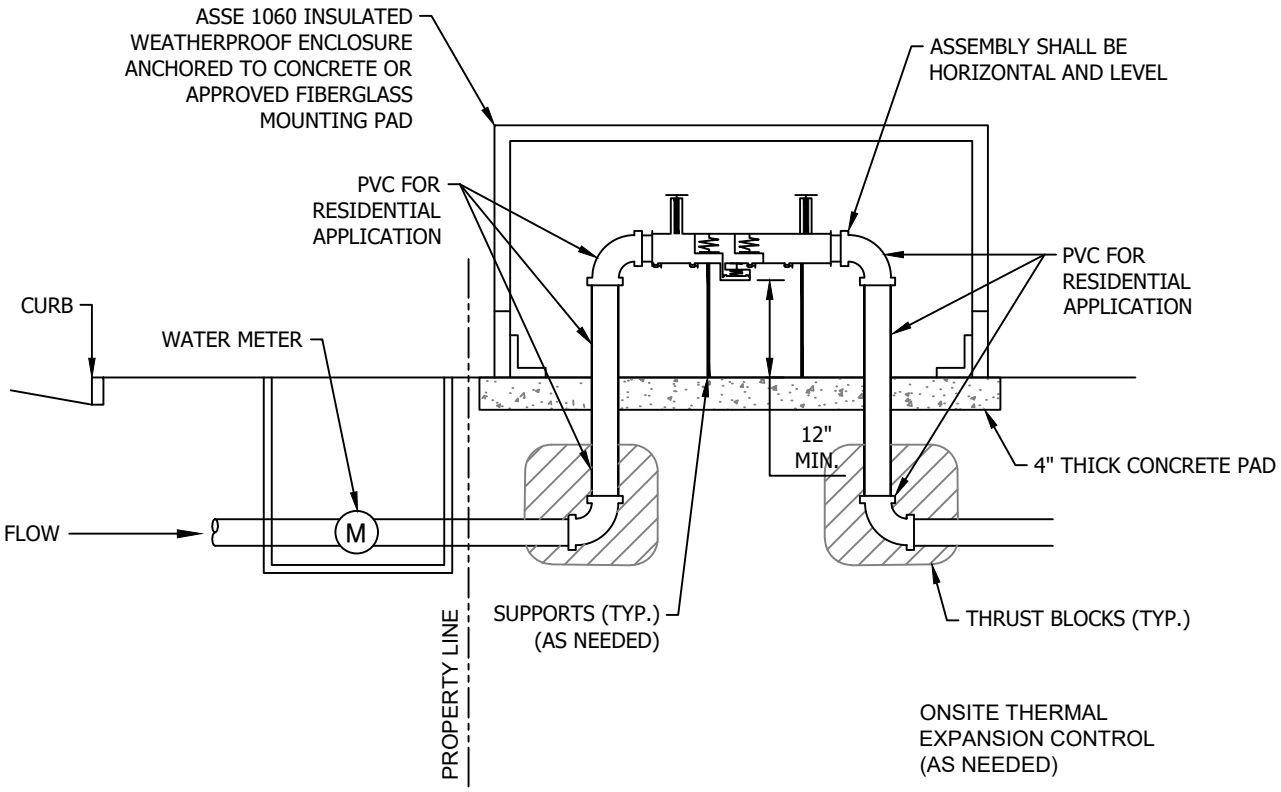


METERED SERVICES	SIZE "F" (I.D.)
11-16	2"
3-10	2"
2	1"

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.

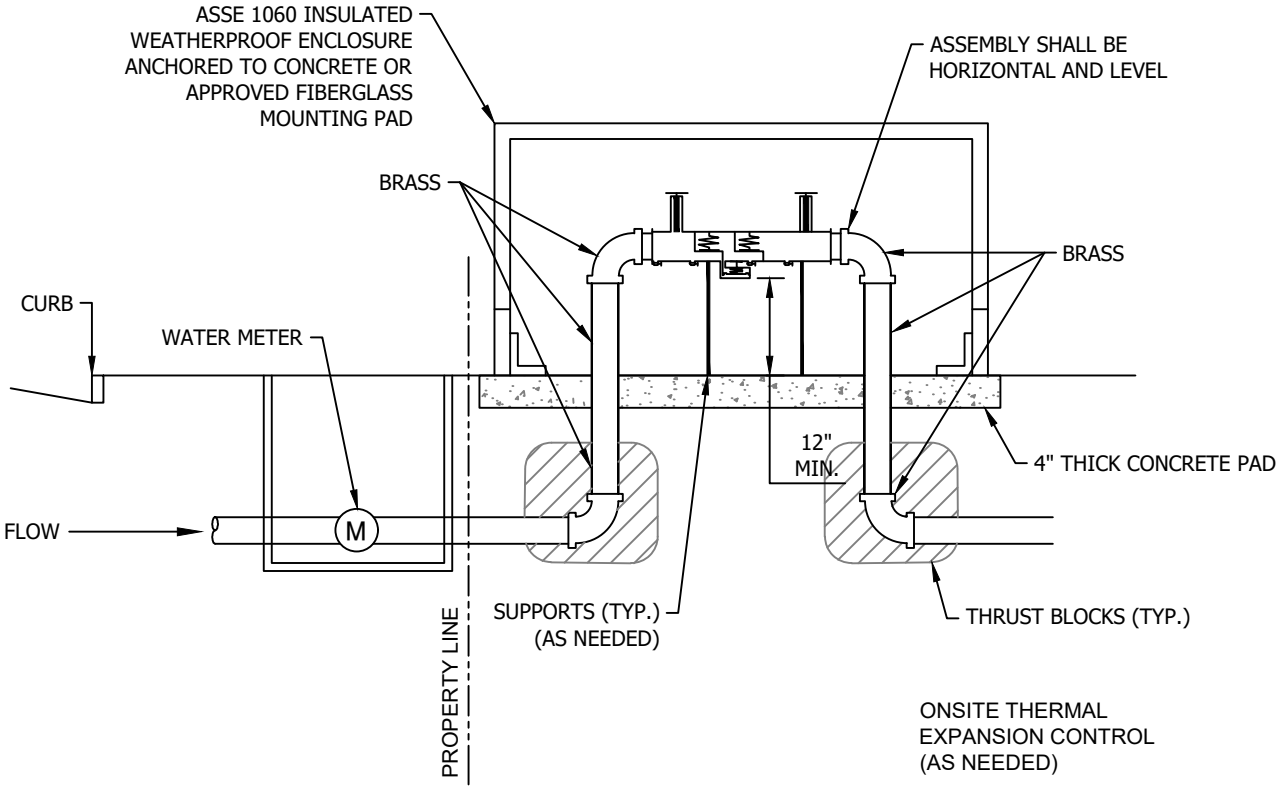
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	STANDARD GANG METER ASSEMBLY	STD. NO. 2000.05
	EFFECTIVE: APRIL 2022		NOT TO SCALE



NOTES:

1. ALL BACKFLOW DEVICES TO COMPLY WITH USC STANDARDS.
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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	RPZ DETAIL 3/4" OR 1"	STD. NO. 2000.06 NOT TO SCALE



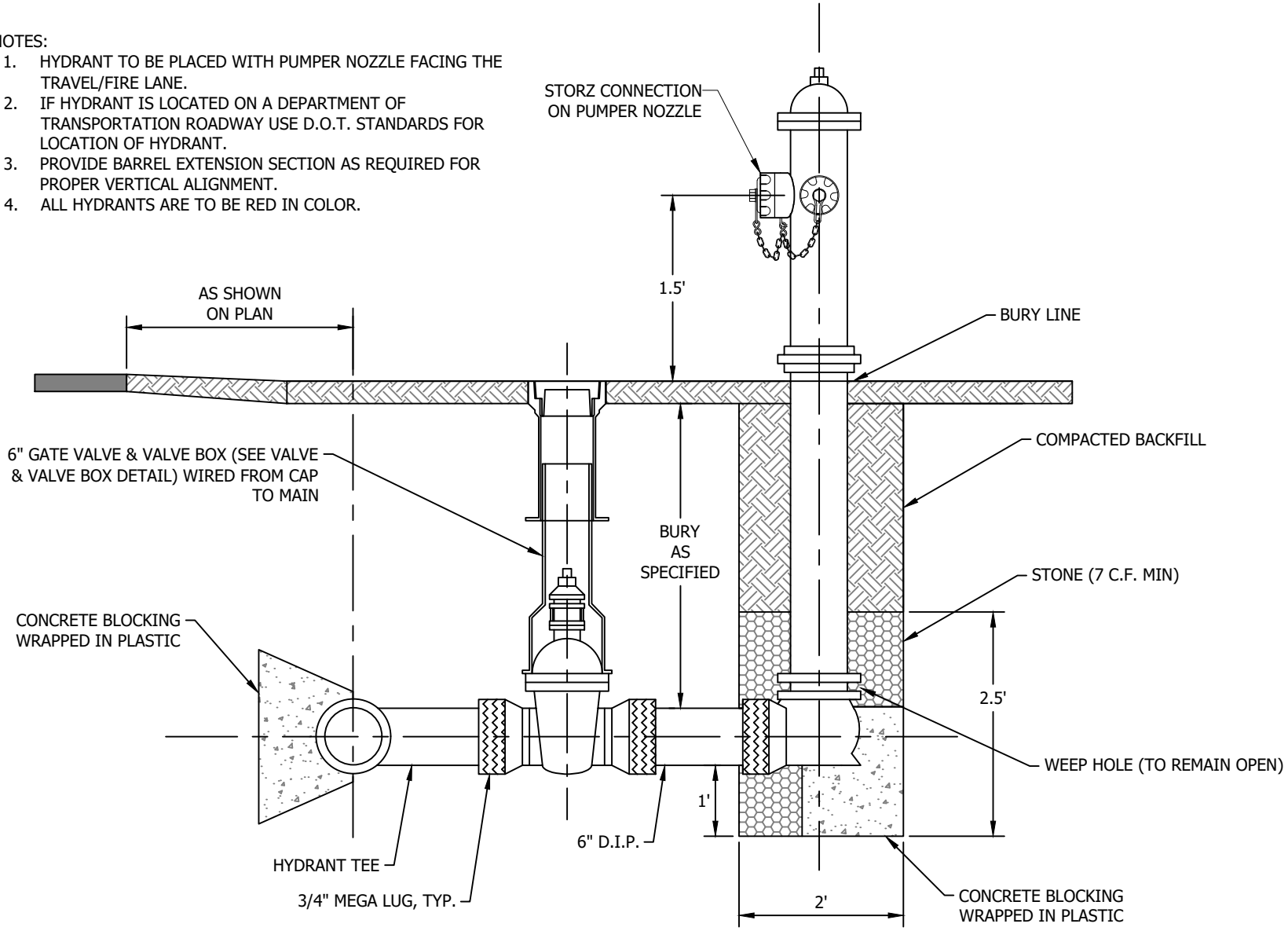
NOTES:

1. ALL BACKFLOW DEVICES TO COMPLY WITH USC STANDARDS.
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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	RPZ DETAIL 2" + UP	STD. NO. 2000.07
	EFFECTIVE: APRIL 2022		NOT TO SCALE

NOTES:

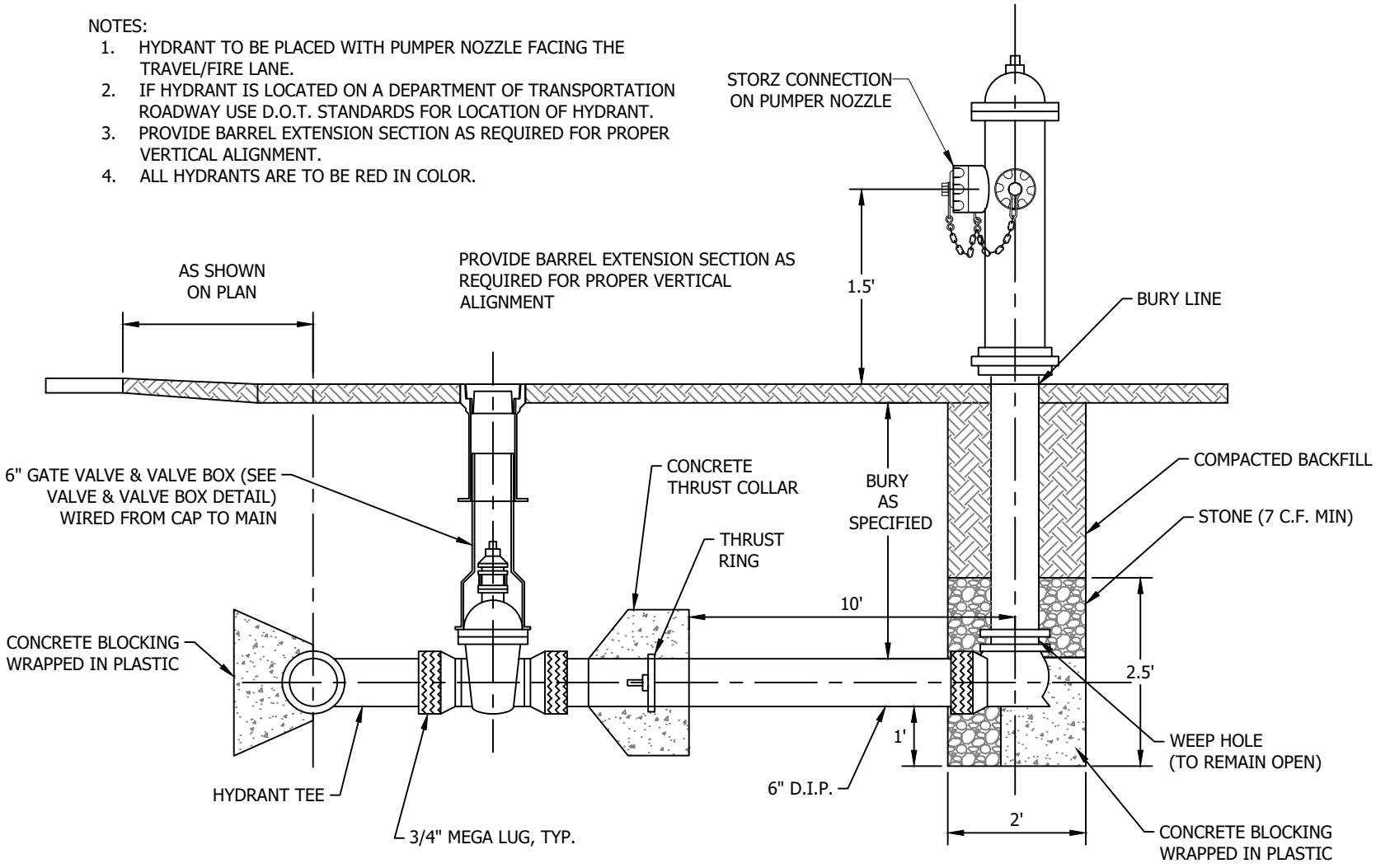
1. HYDRANT TO BE PLACED WITH PUMPER NOZZLE FACING THE TRAVEL/FIRE LANE.
2. IF HYDRANT IS LOCATED ON A DEPARTMENT OF TRANSPORTATION ROADWAY USE D.O.T. STANDARDS FOR LOCATION OF HYDRANT.
3. PROVIDE BARREL EXTENSION SECTION AS REQUIRED FOR PROPER VERTICAL ALIGNMENT.
4. ALL HYDRANTS ARE TO BE RED IN COLOR.



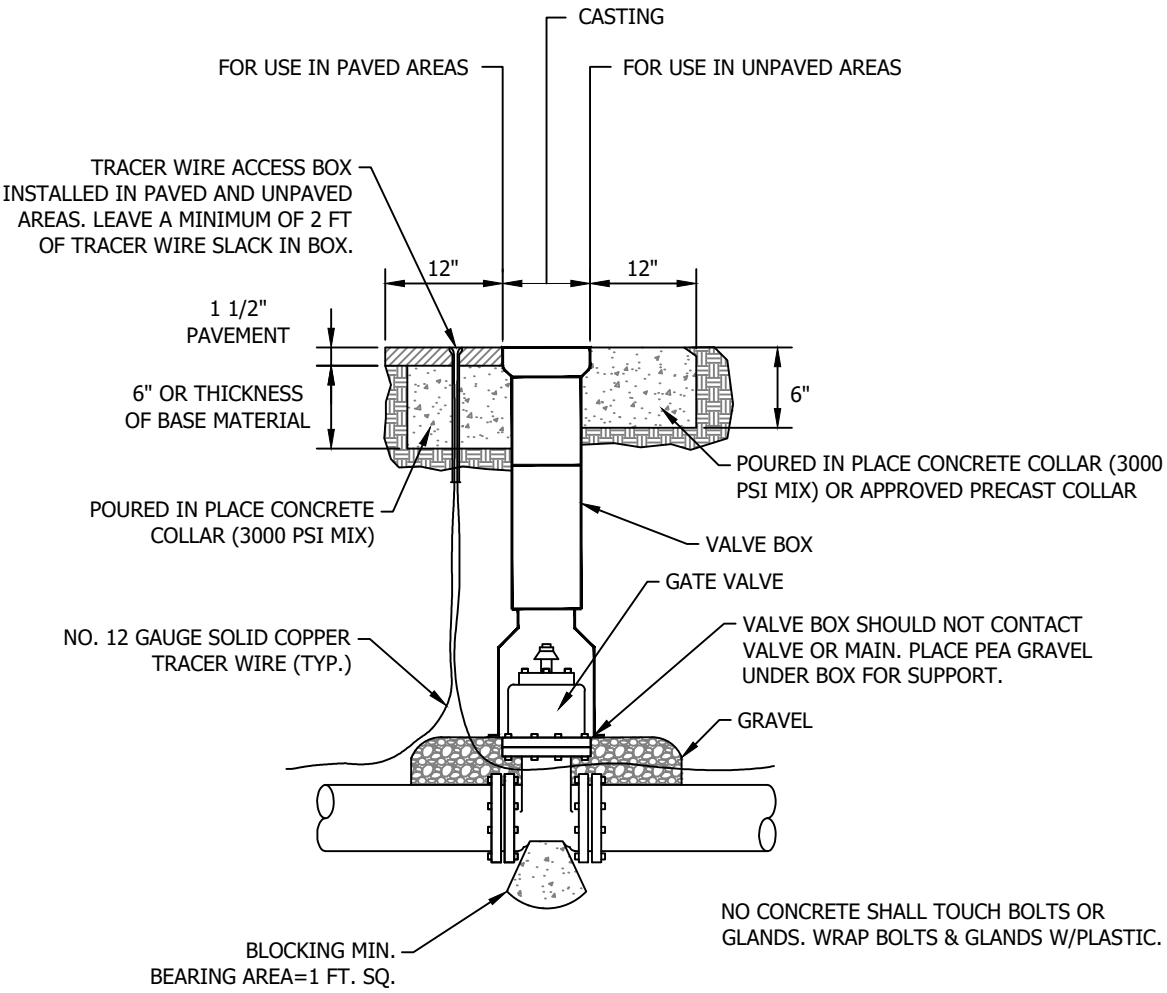
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	FIRE HYDRANT ASSEMBLY	STD. NO. 2000.08
	EFFECTIVE: APRIL 2022		NOT TO SCALE

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.



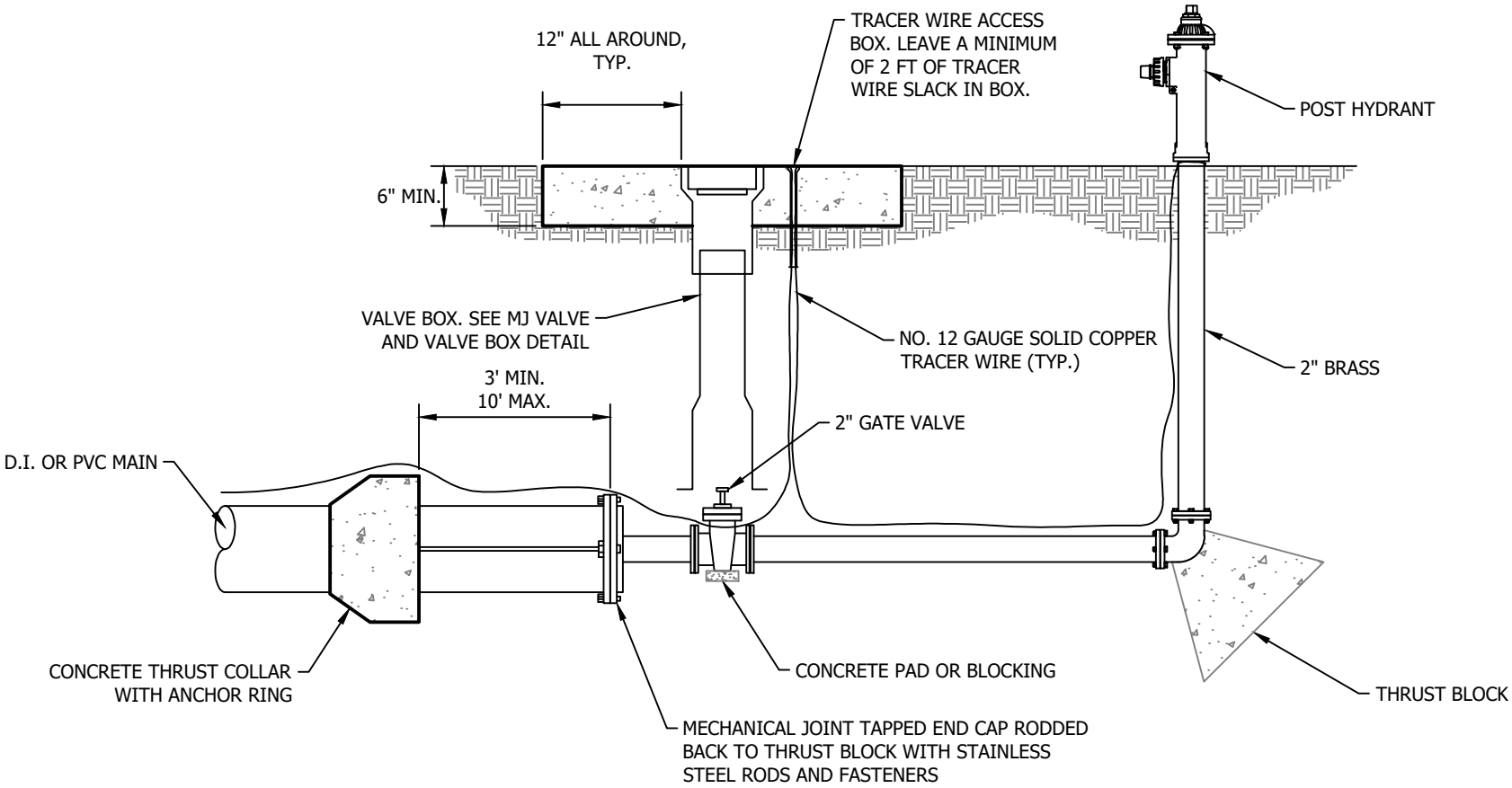
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	FIRE HYDRANT ASSEMBLY (FAR SIDE)	STD. NO. 2000.09 NOT TO SCALE



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.).

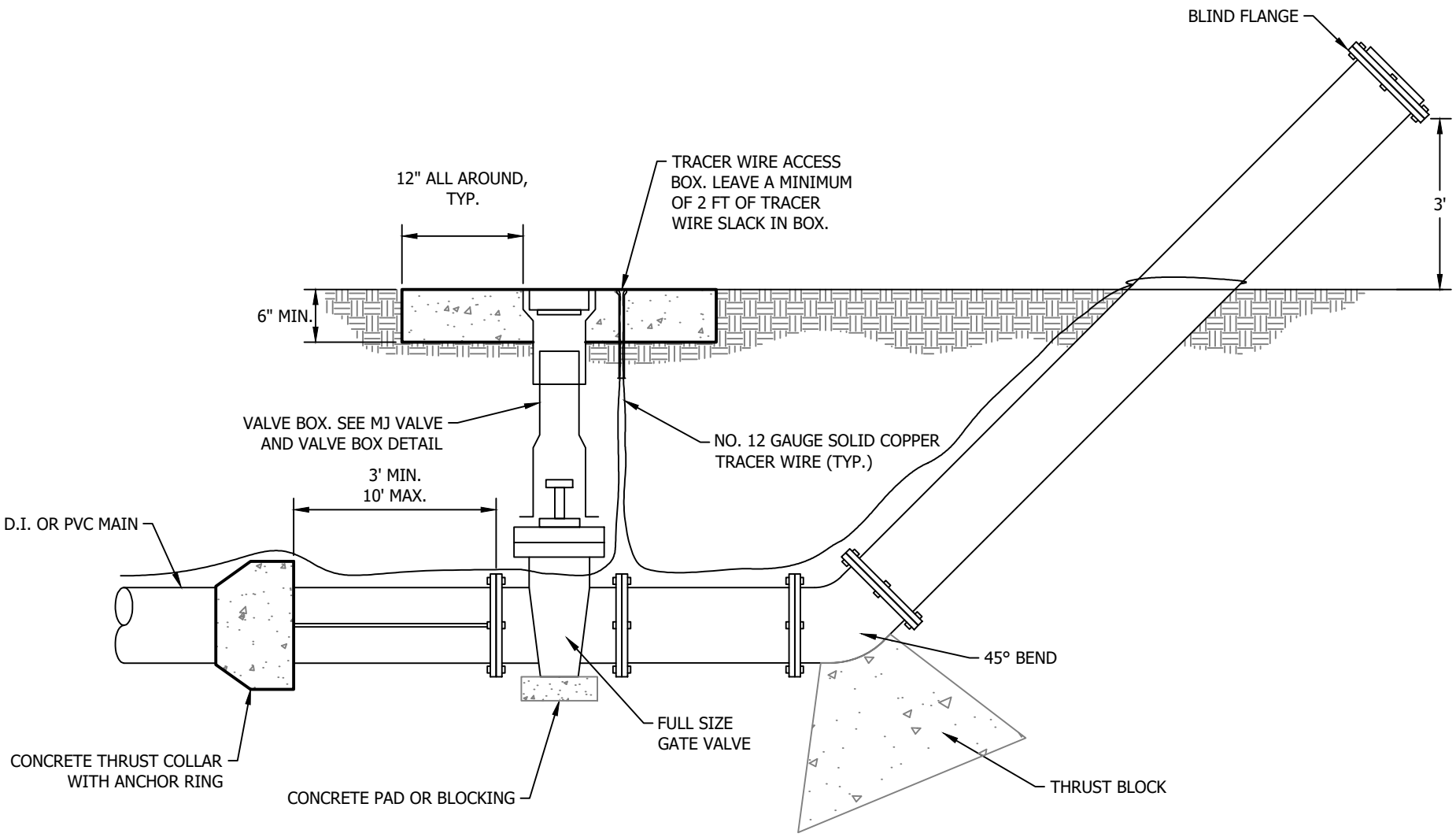
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	M.J. VALVE AND VALVE BOX	STD. NO. 2000.10
	EFFECTIVE: APRIL 2022		NOT TO SCALE



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.

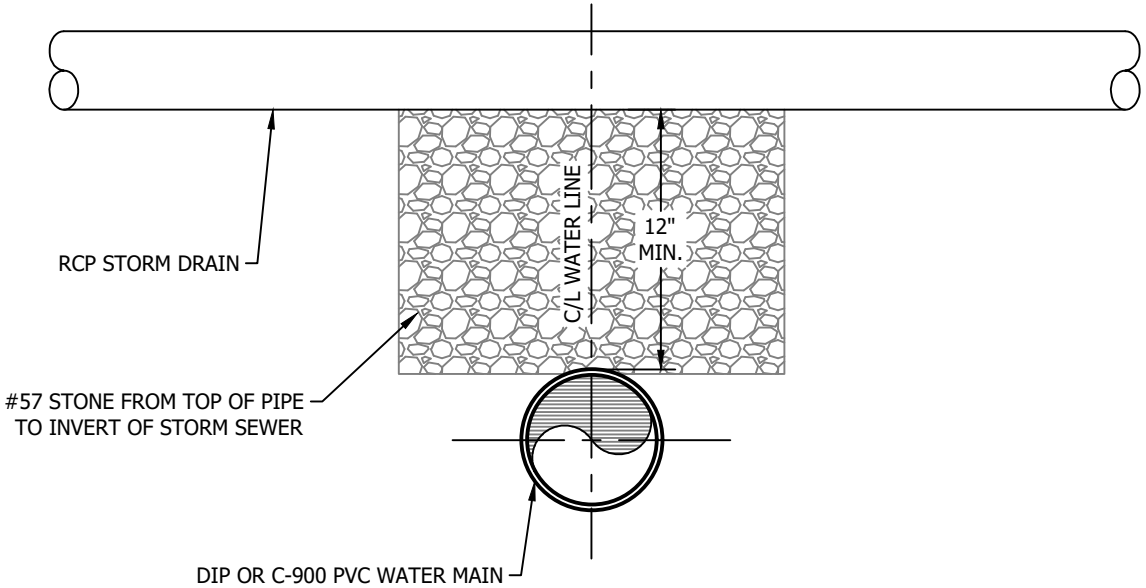
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	2" HYDRANT BLOWOFF ASSEMBLY	STD. NO. 2000.11
	EFFECTIVE: APRIL 2022		NOT TO SCALE



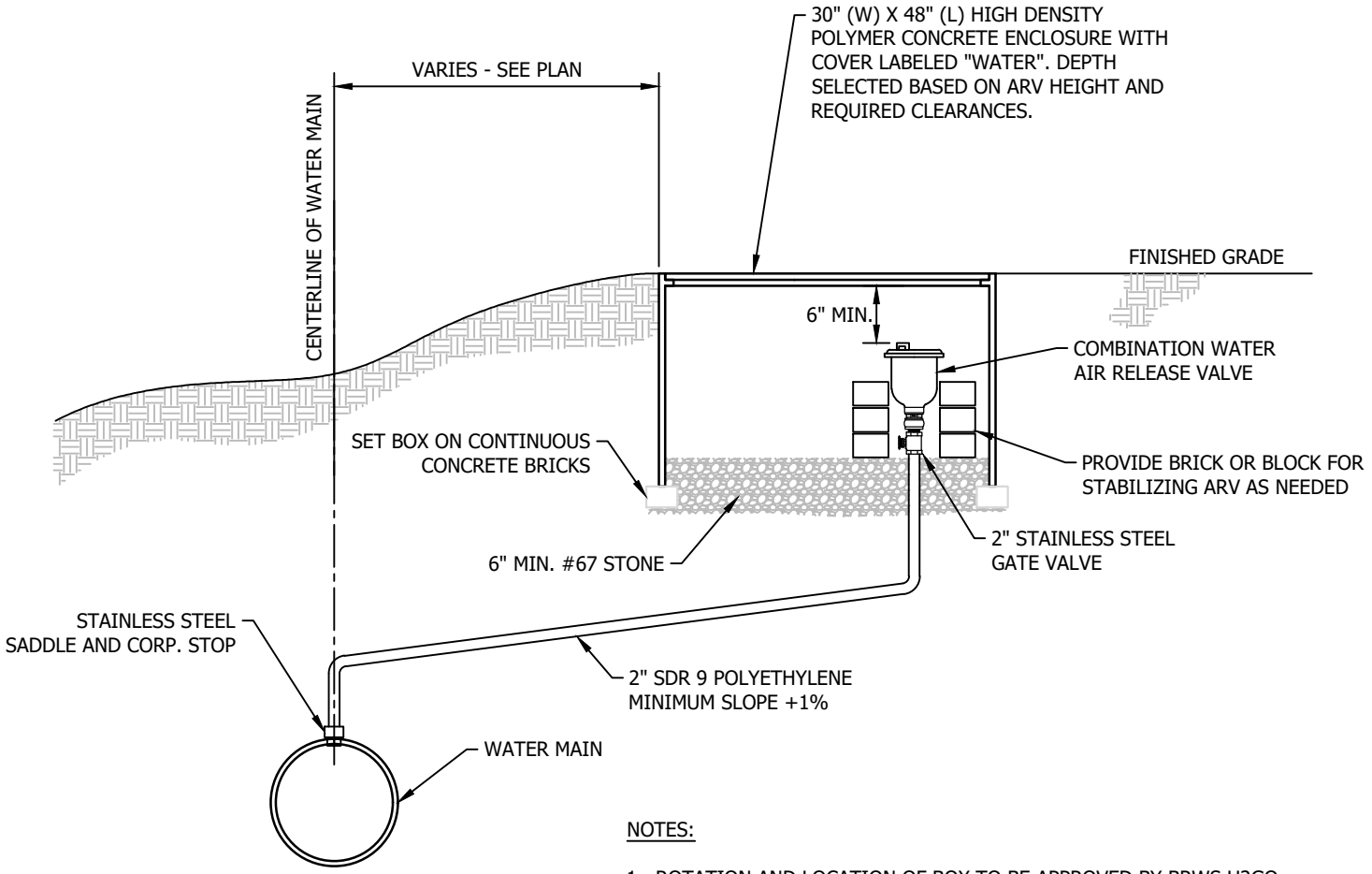
NOTES:

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 SIDEWALKS, CONCRETE, OR PAVED AREAS.
4. TRACER WIRE ACCESS BOX SHALL BE VALVCO TYPE OR APPROVED EQUAL.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	TEMPORARY BLOWOFF	STD. NO. 2000.12
	EFFECTIVE: APRIL 2022		NOT TO SCALE



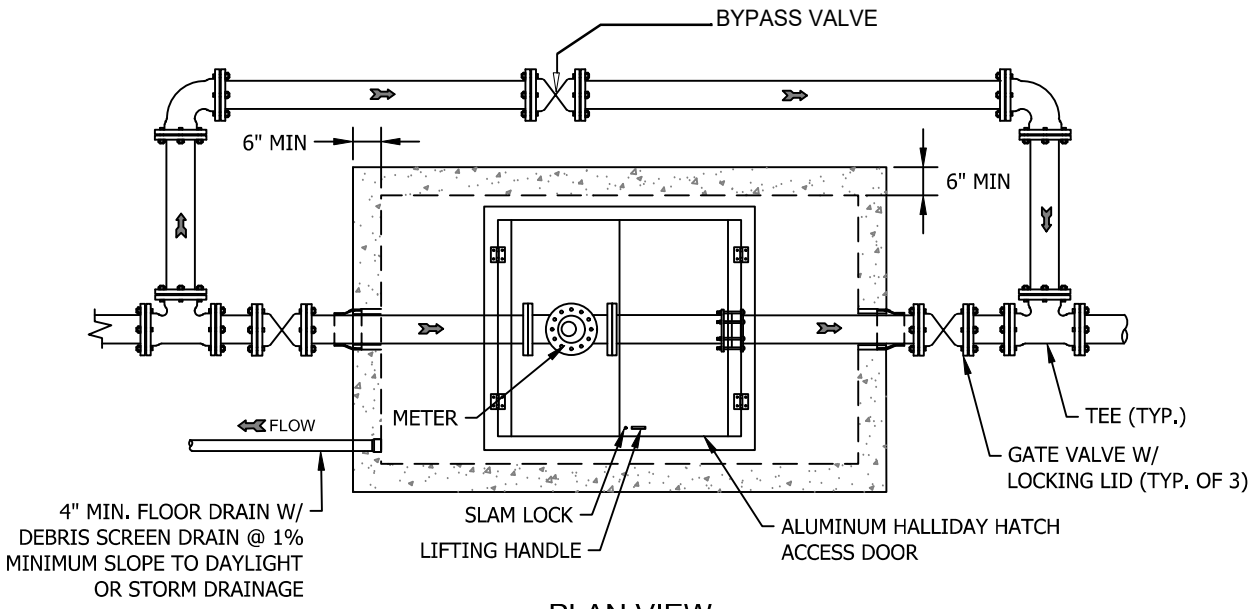
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	WATER & STORM DRAIN INTERSECTION	STD. NO. 2000.13 NOT TO SCALE



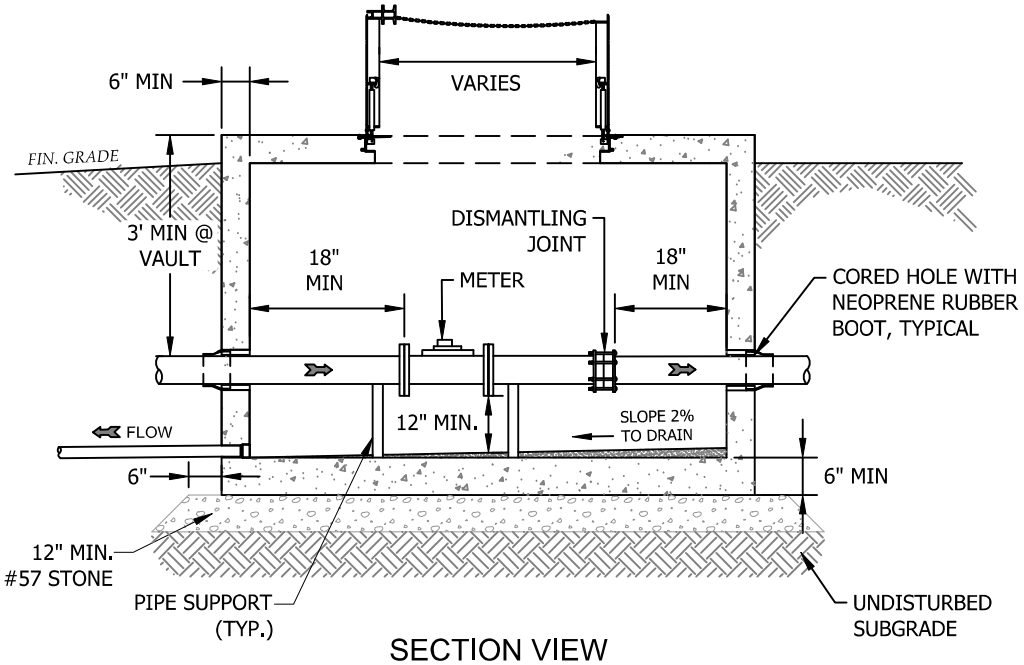
NOTES:

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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	OFFSET COMBINATION POTABLE WATER AIR RELEASE VALVE	STD. NO. 2000.14 NOT TO SCALE



PLAN VIEW

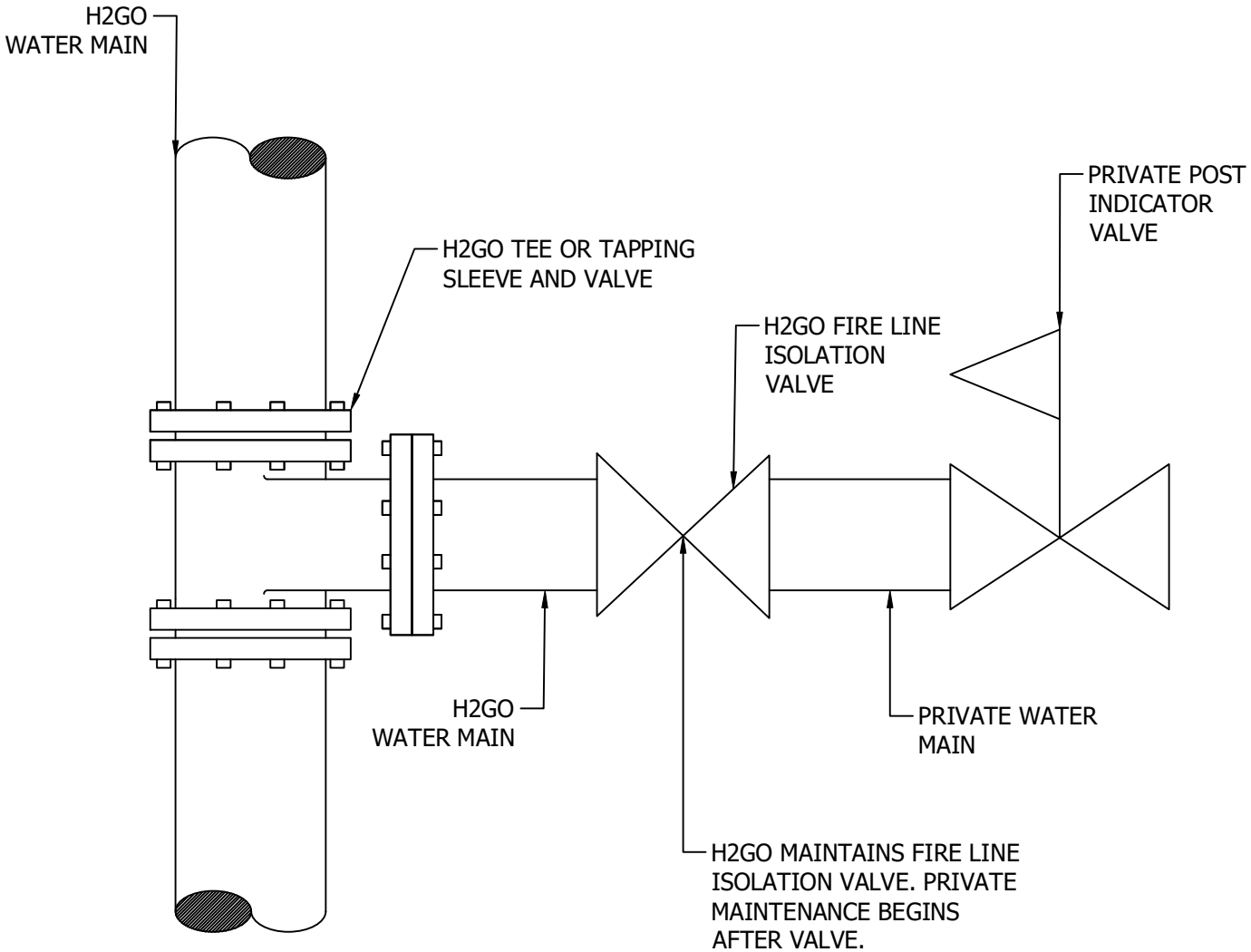


SECTION VIEW

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.

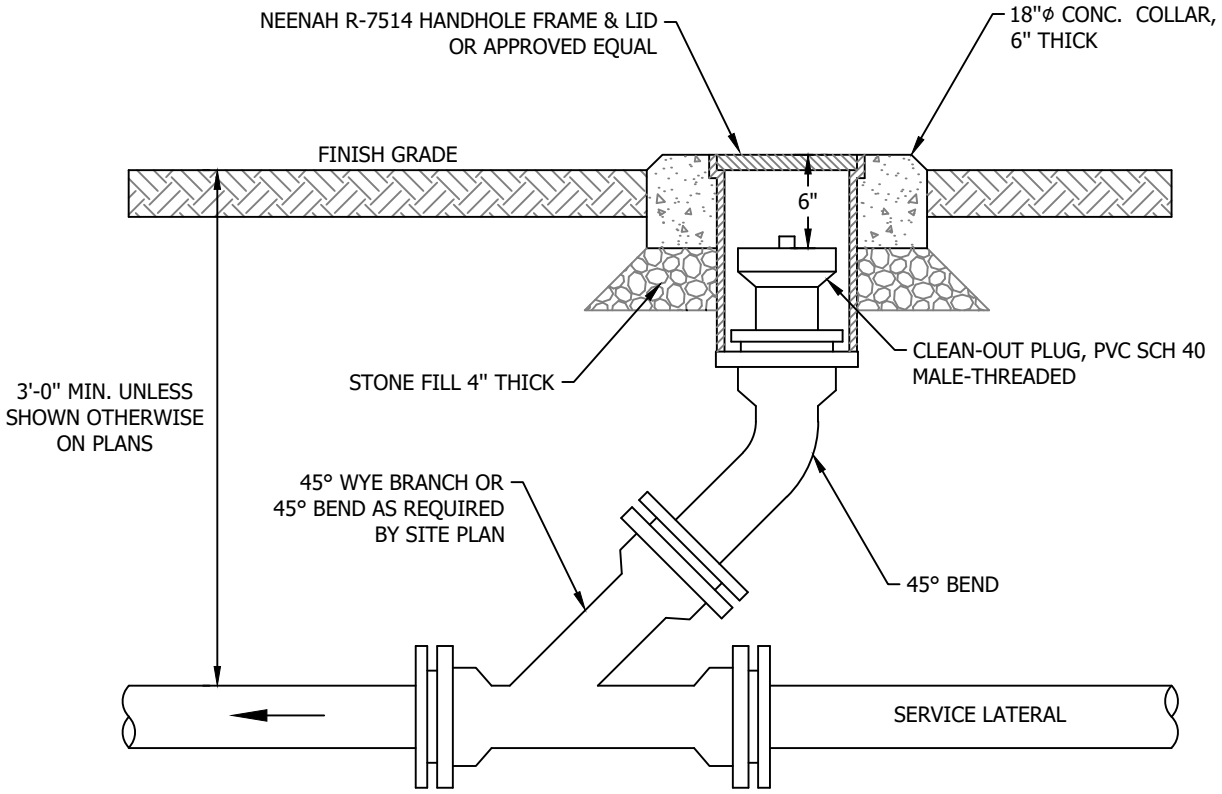
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	WATER METER VAULT WITH BYPASS (3" AND GREATER)	STD. NO. 2000.15
	EFFECTIVE: OCTOBER 2022		NOT TO SCALE



NORTH CAROLINA PROFESSIONAL SEAL 029997 ENGINEER DAVID G. MALINAUSKAS

DocuSigned by: David G. Malinauskas CCD0B2287A8D48D...
8/4/2023

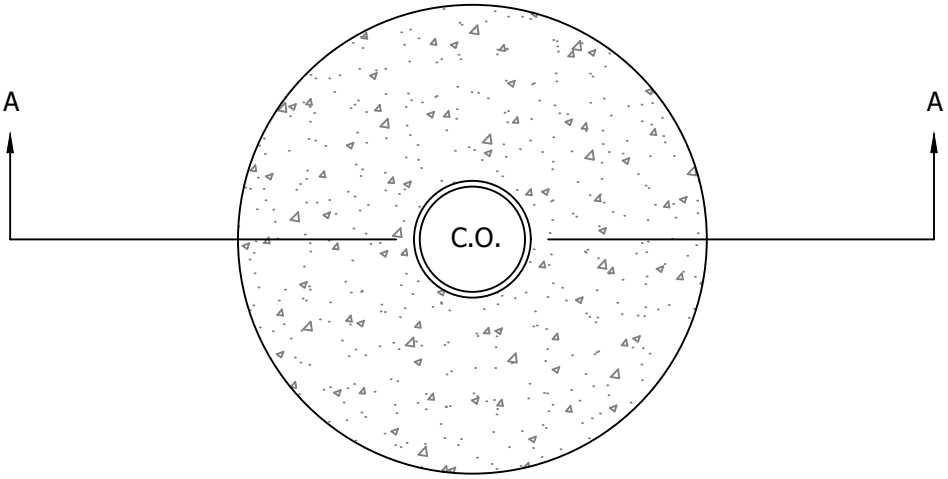
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: AUGUST 2023	FIRE LINE ISOLATION VALVE	STD. NO. 2000.16 NOT TO SCALE



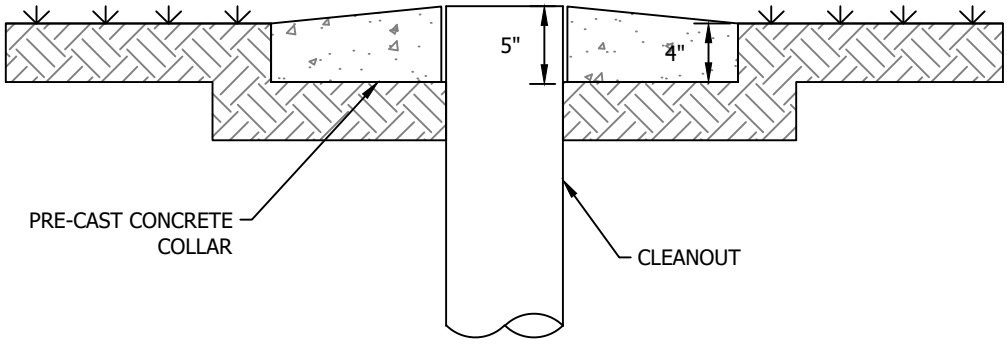
NOTES:

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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	SANITARY SEWER SERVICE LATERAL CLEANOUT	STD. NO. 3000.01
	EFFECTIVE: APRIL 2022		NOT TO SCALE



PLAN



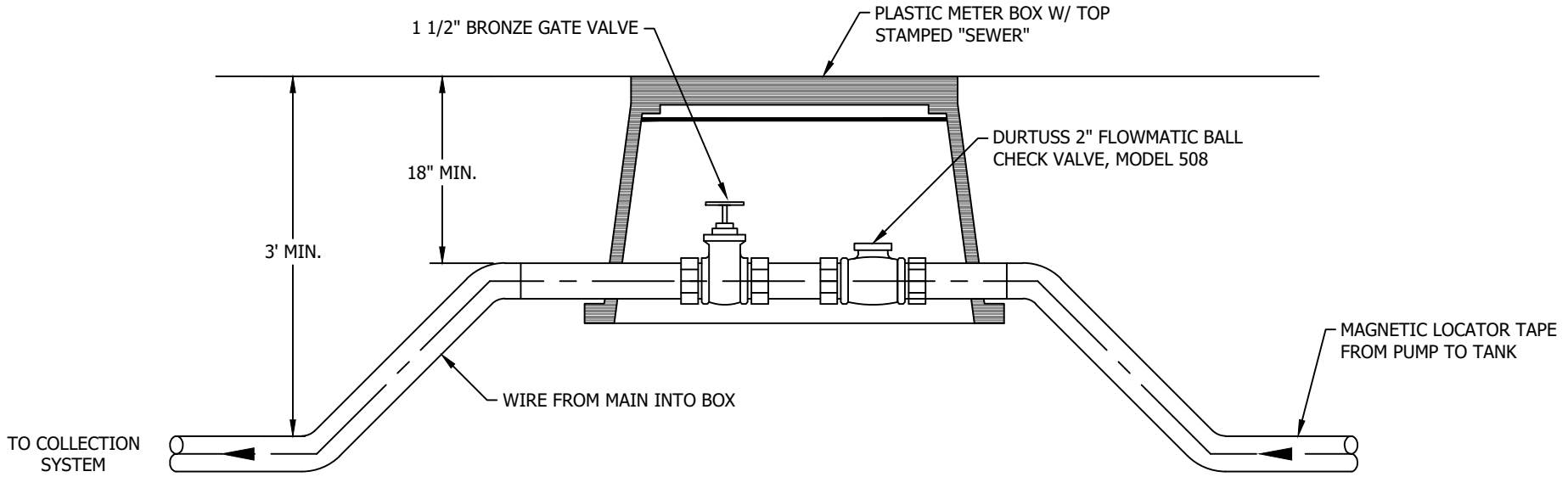
SECTION A-A

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	CLEANOUT PAD	STD. NO. 3000.02
	EFFECTIVE: APRIL 2022		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 SCH. 40 PVC SERVICE LINE SHALL BE ACCOMPLISHED USING A SCH. 40 PVC IRON PIPE THREAD BY SLIP COUPLING. 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.

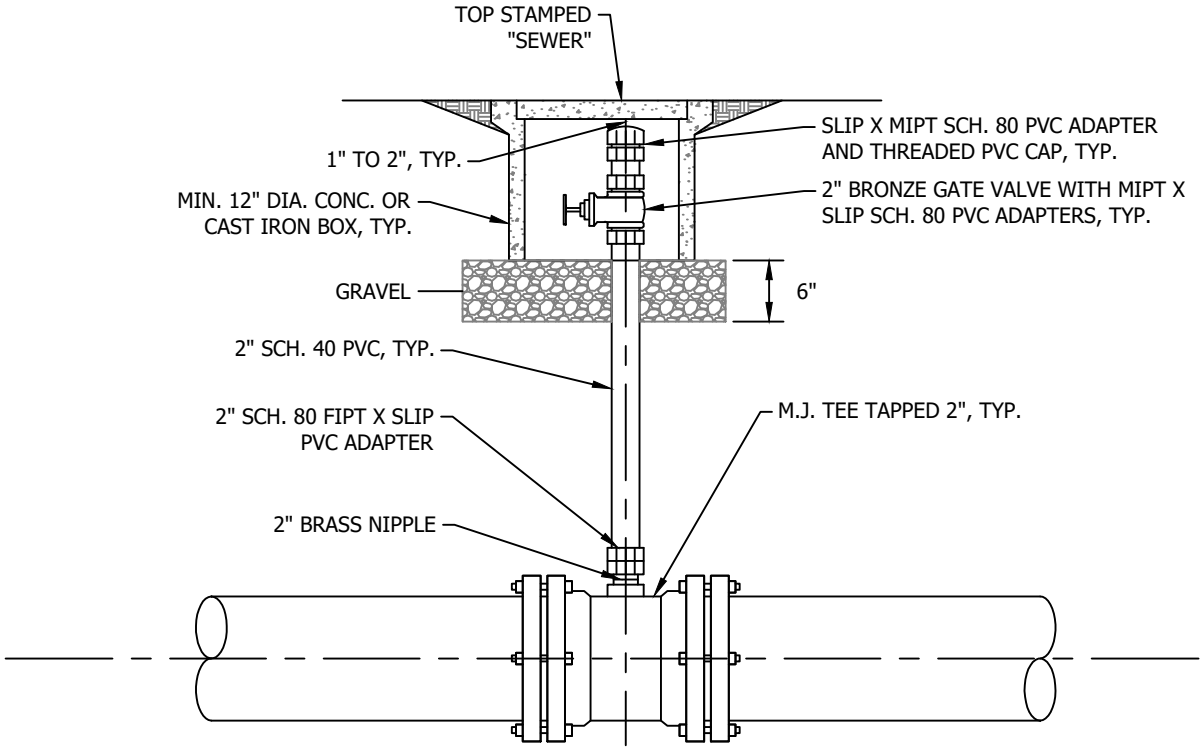
PROXIMITY TO WATER SUPPLY LINES:
WHERE SEWER SERVICES CROSS WATER SUPPLY LINES, THE SEWER SHALL BE INSTALLED A MINIMUM OF 18" BELOW THE WATER LINE. (CONVERSELY, WHERE WATER SERVICE LINES CROSS SEWER MAINS, THE WATER LINE SHALL BE INSTALLED A MINIMUM OF 18" ABOVE THE SEWER MAIN AS NOTED ON THE "WATER 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" SCH. 40 PVC UNLESS OTHERWISE NOTED. SCH. 80 PVC ADAPTERS SHALL BE PROVIDED AT EACH END OF VALVES.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	SERVICE LINE VALVE BOX	STD. NO. 3000.03
	EFFECTIVE: APRIL 2022		NOT TO SCALE



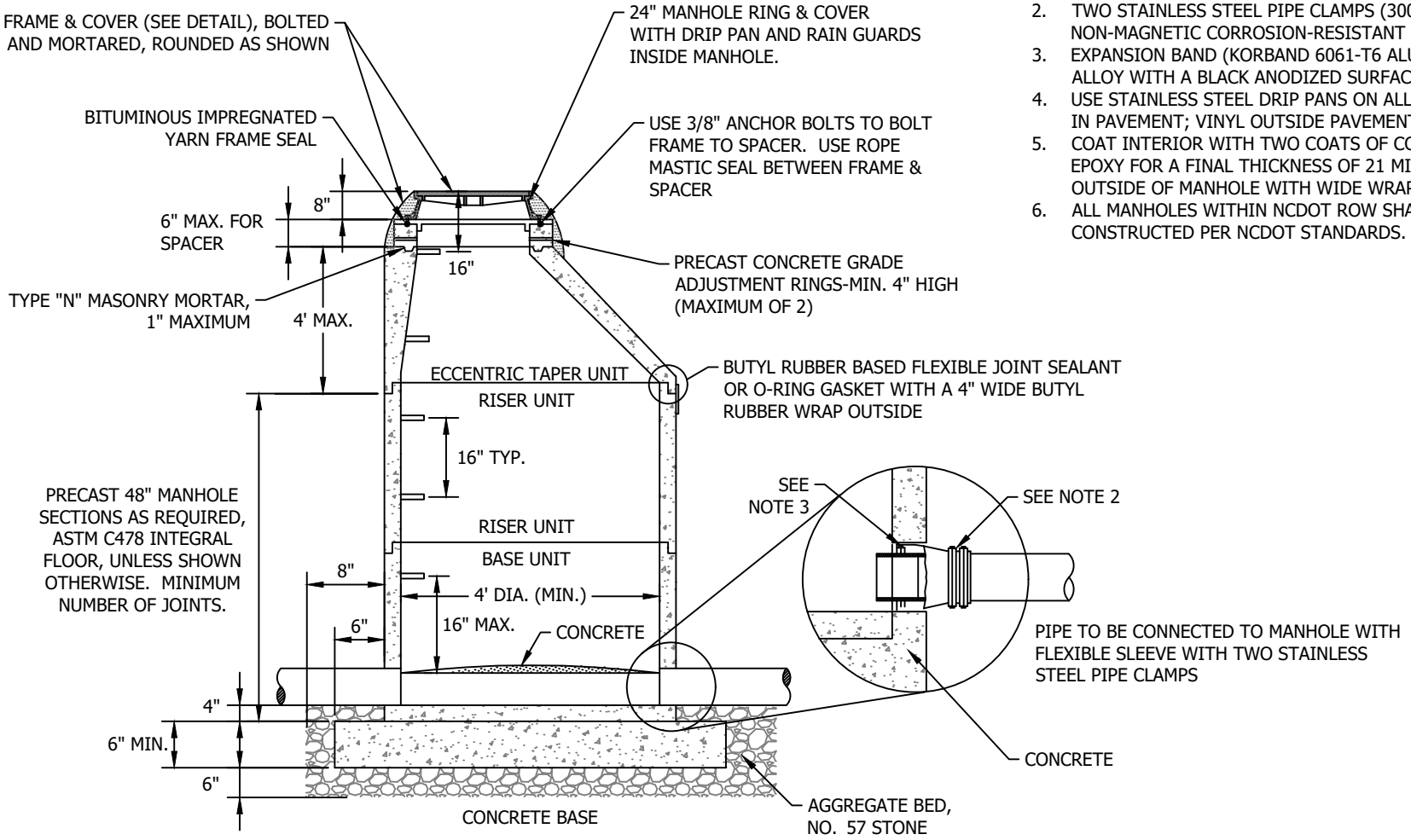
NOTES:

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. 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.

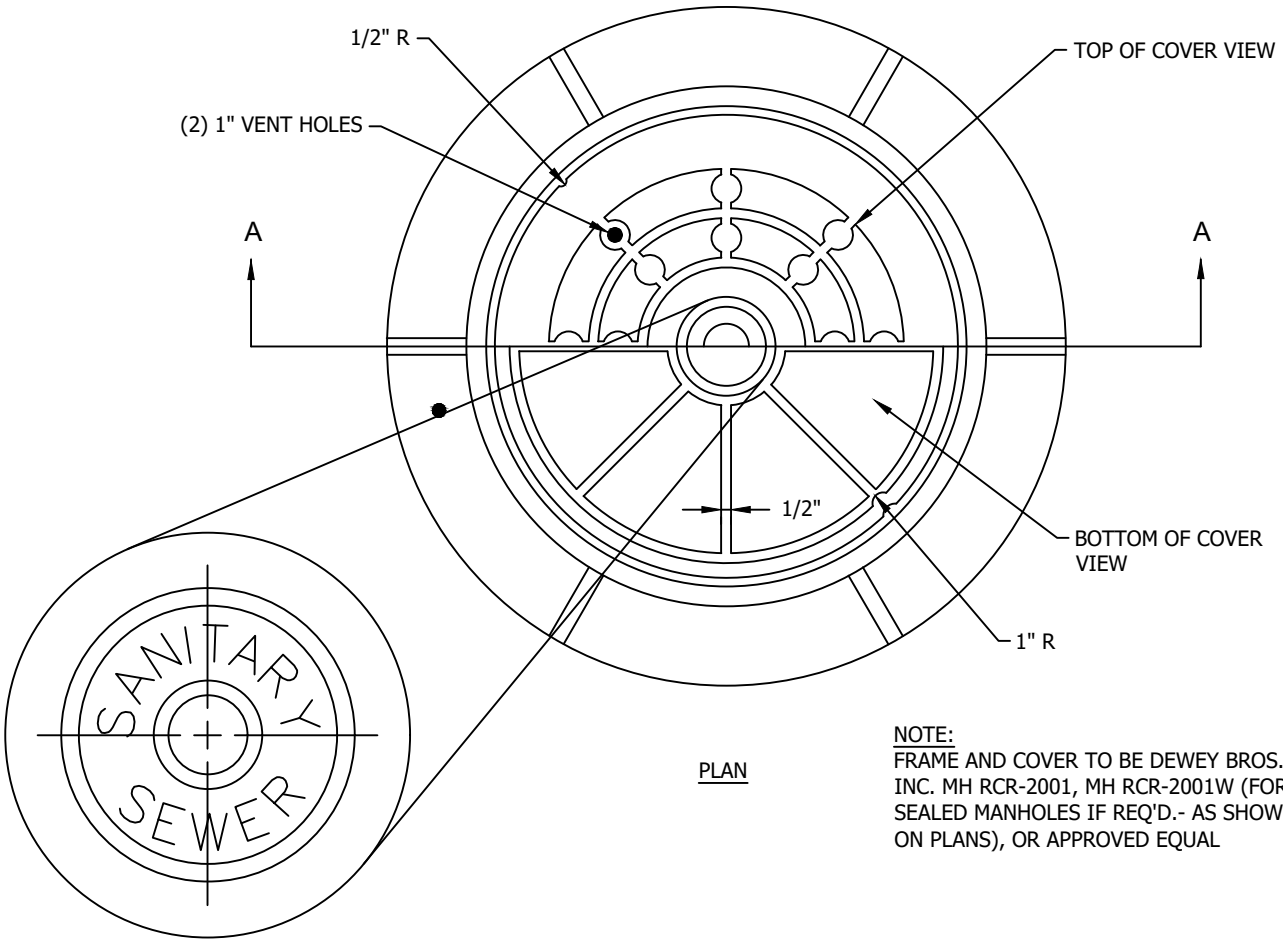
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	IN-LINE PRESSURE SEWER CLEANOUT	STD. NO. 3000.04 NOT TO SCALE

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).
3. EXPANSION BAND (KORBAND 6061-T6 ALUMINUM ALLOY WITH A BLACK ANODIZED SURFACE
4. USE STAINLESS STEEL DRIP PANS ON ALL MANHOLES IN PAVEMENT; VINYL OUTSIDE PAVEMENT.
5. COAT INTERIOR WITH TWO COATS OF COAL TAR EPOXY FOR A FINAL THICKNESS OF 21 MILS. WRAP OUTSIDE OF MANHOLE WITH WIDE WRAP MASTIC.
6. ALL MANHOLES WITHIN NCDOT ROW SHALL BE CONSTRUCTED PER NCDOT STANDARDS.



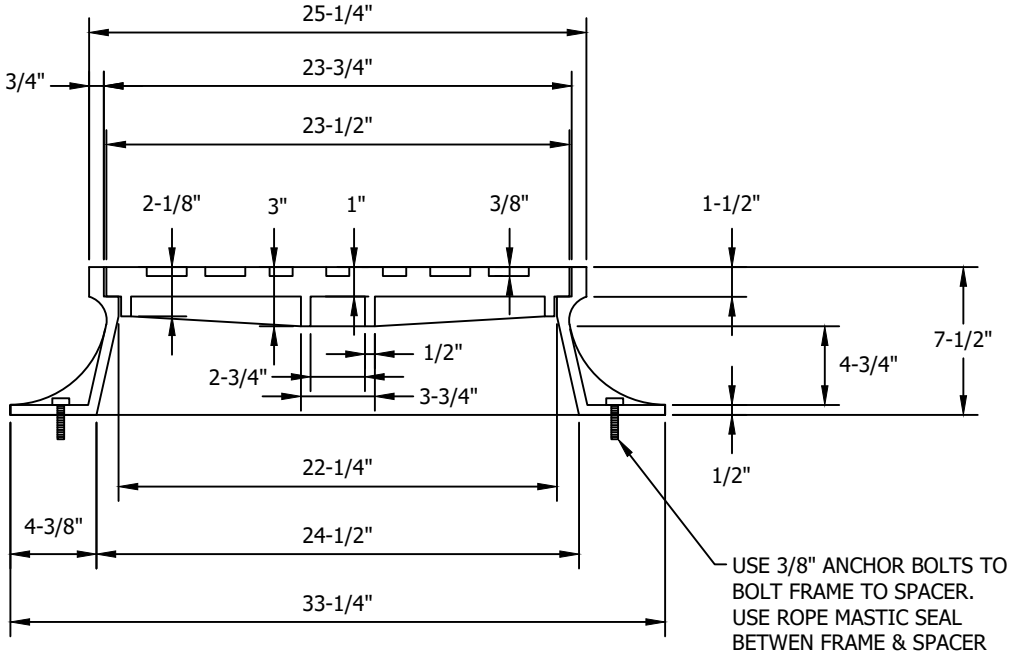
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	STD. NO.
	EFFECTIVE: APRIL 2022	3000.05
	TYPICAL PRECAST MANHOLE	NOT TO SCALE



PLAN

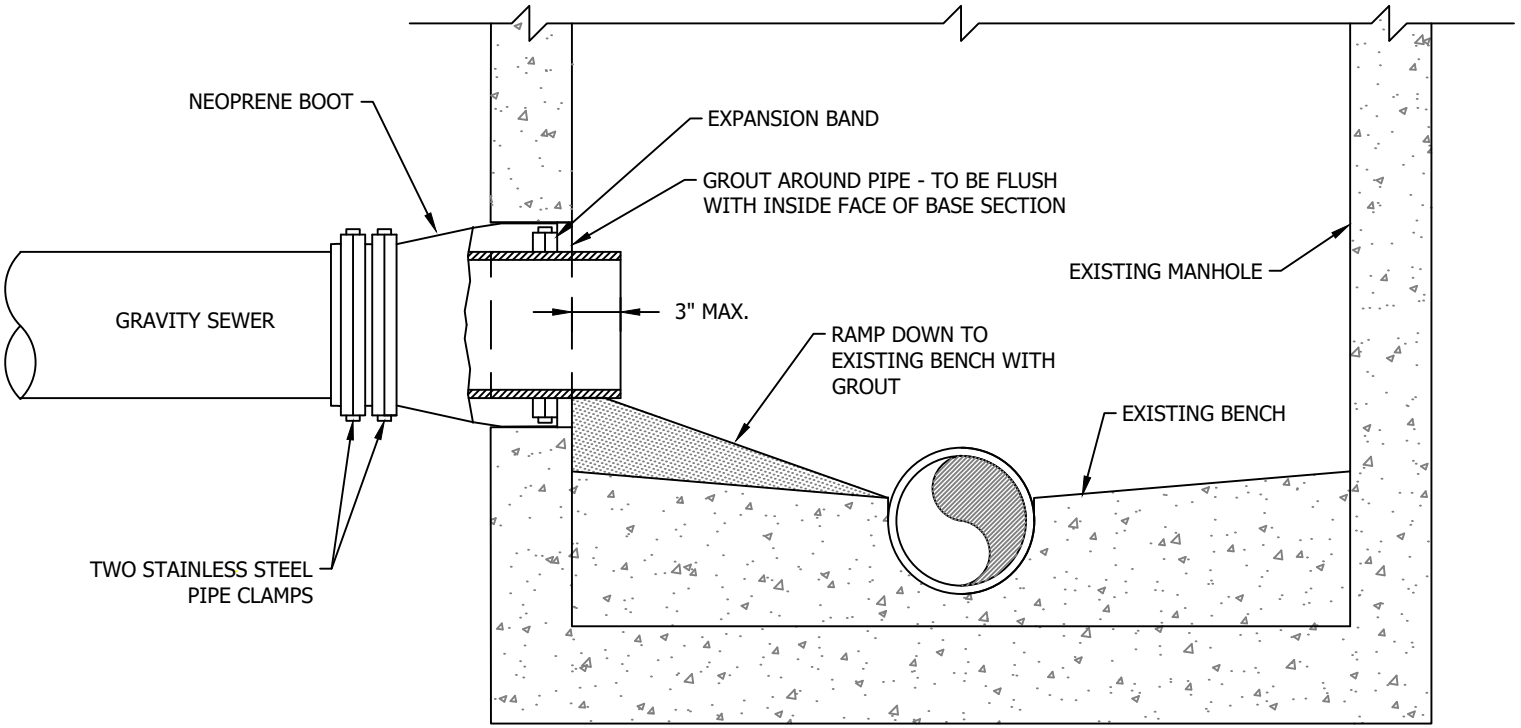
NOTE:
FRAME AND COVER TO BE DEWEY BROS., INC. MH RCR-2001, MH RCR-2001W (FOR SEALED MANHOLES IF REQ'D.- AS SHOWN ON PLANS), OR APPROVED EQUAL

DETAIL



SECTION A-A

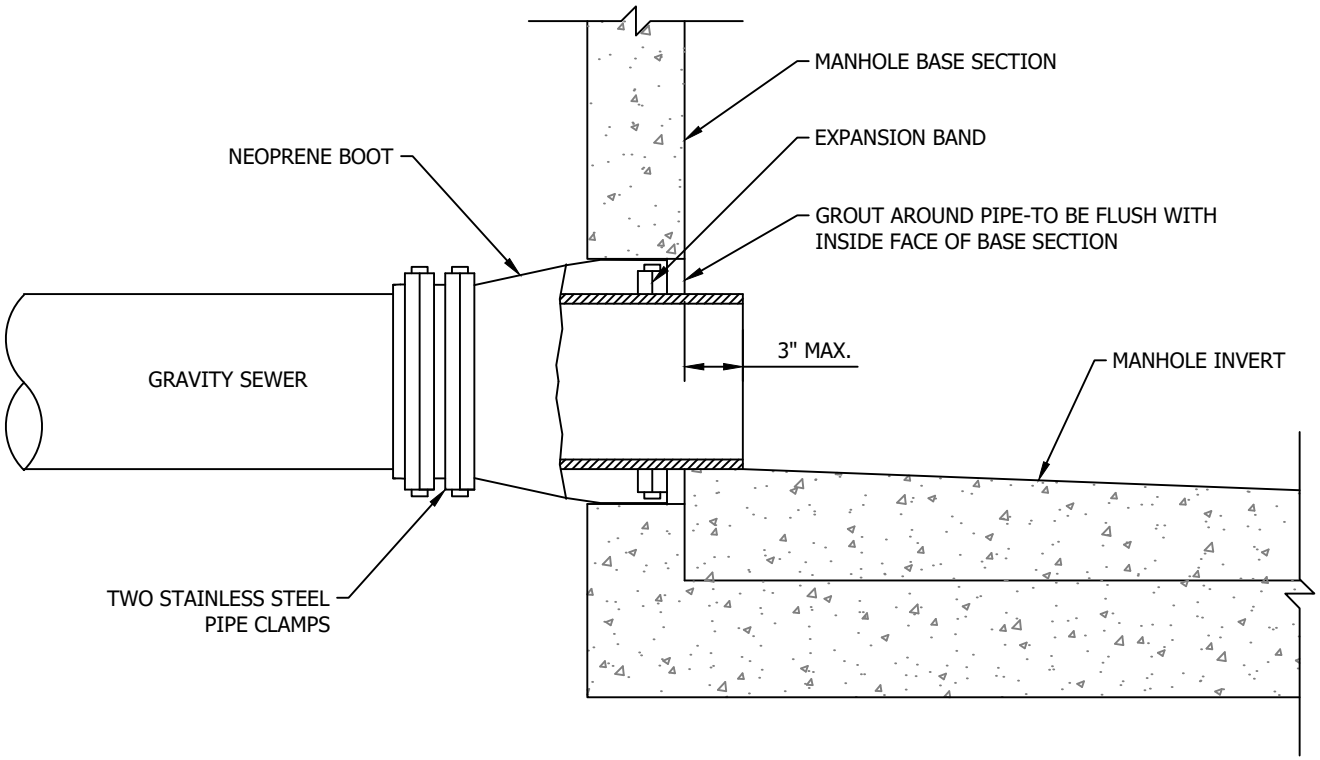
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	STANDARD MH FRAME AND COVER	STD. NO. 3000.06
	EFFECTIVE: APRIL 2022		NOT TO SCALE



NOTES:

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

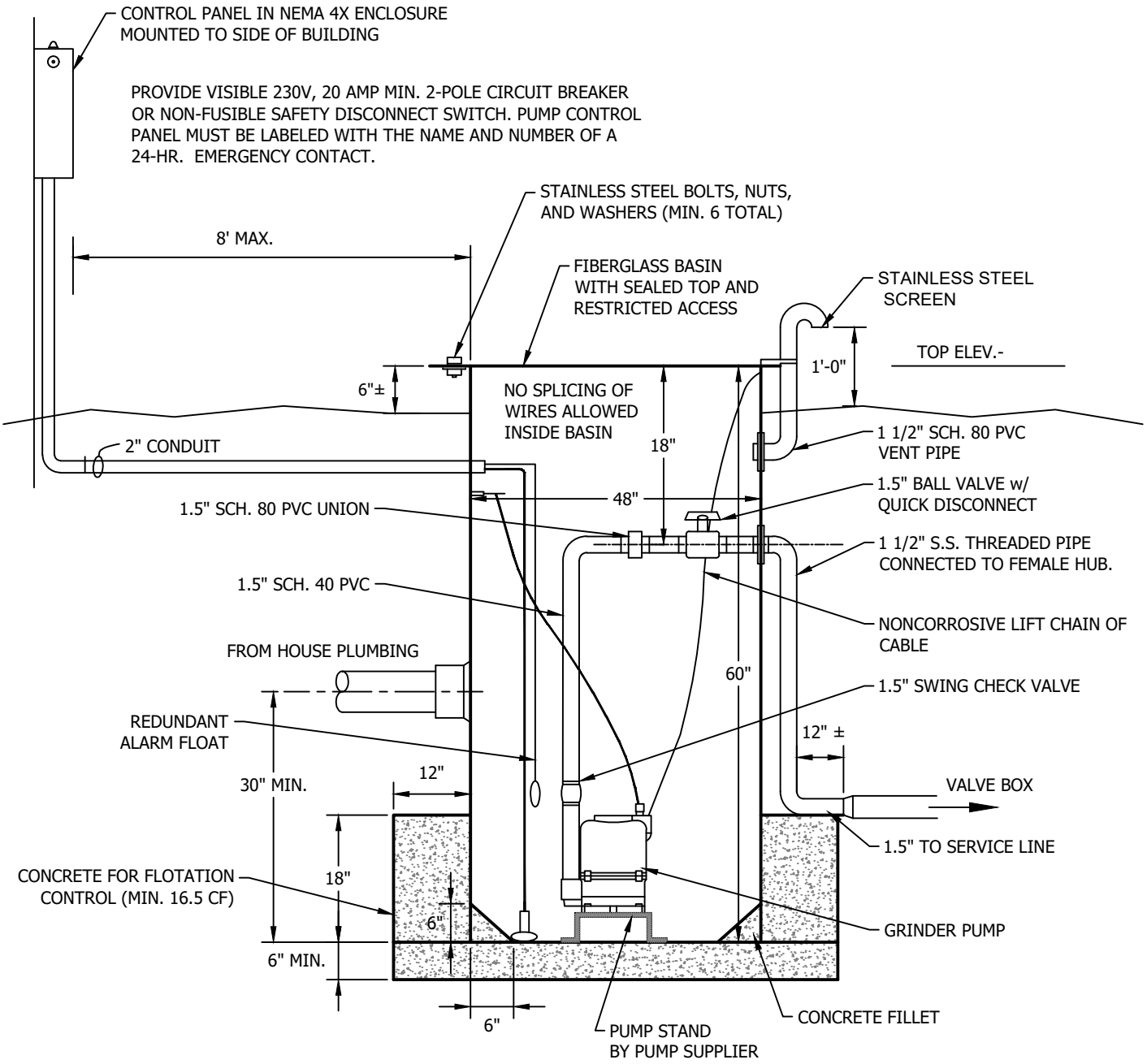
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	STANDARD SEWER LINE CONNECTION TO EXISTING MANHOLE	STD. NO. 3000.07 NOT TO SCALE



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 C0RR0SION-RESISTANT STEEL)

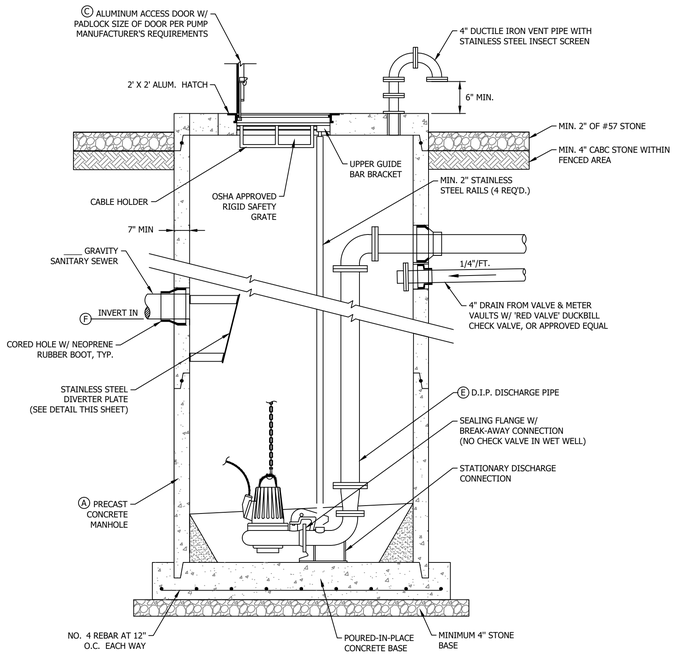
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	STANDARD MANHOLE BOOT	STD. NO. 3000.08
	EFFECTIVE: APRIL 2022		NOT TO SCALE



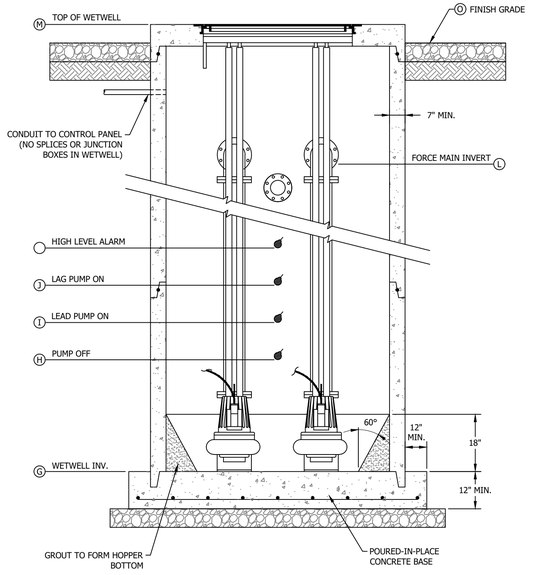
NOTE:

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.

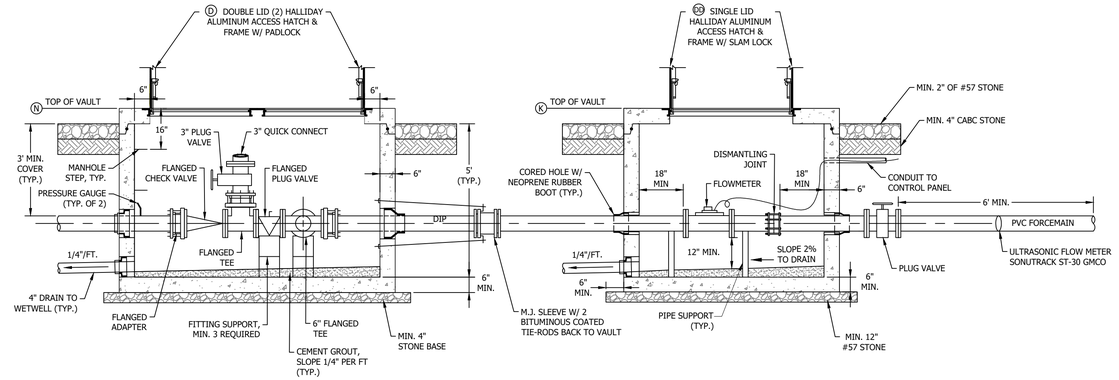
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	HOUSE PUMPING UNIT	STD. NO. 3000.09
	EFFECTIVE: SEPTEMBER 2022		NOT TO SCALE



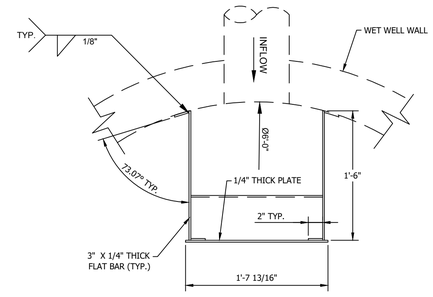
DUPLEX SUBMERSIBLE LIFT STATION - SECTION A-A



DUPLEX SUBMERSIBLE LIFT STATION - SECTION B-B

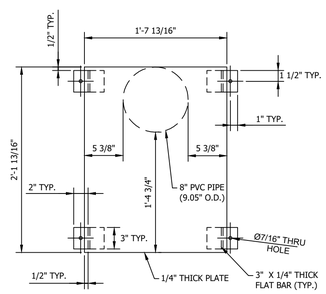


DUPLEX SUBMERSIBLE LIFT STATION - SECTION C-C

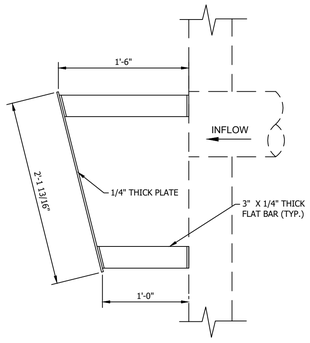


PLAN VIEW

SPECIFICATION:
1. PLATE ASTM A240, T316L, STAINLESS STEEL
2. FLAT BAR: ASTM A276, T316L, STAINLESS STEEL
3. LINING/COATING: BARE
4. QUANTITY: 2 EACH

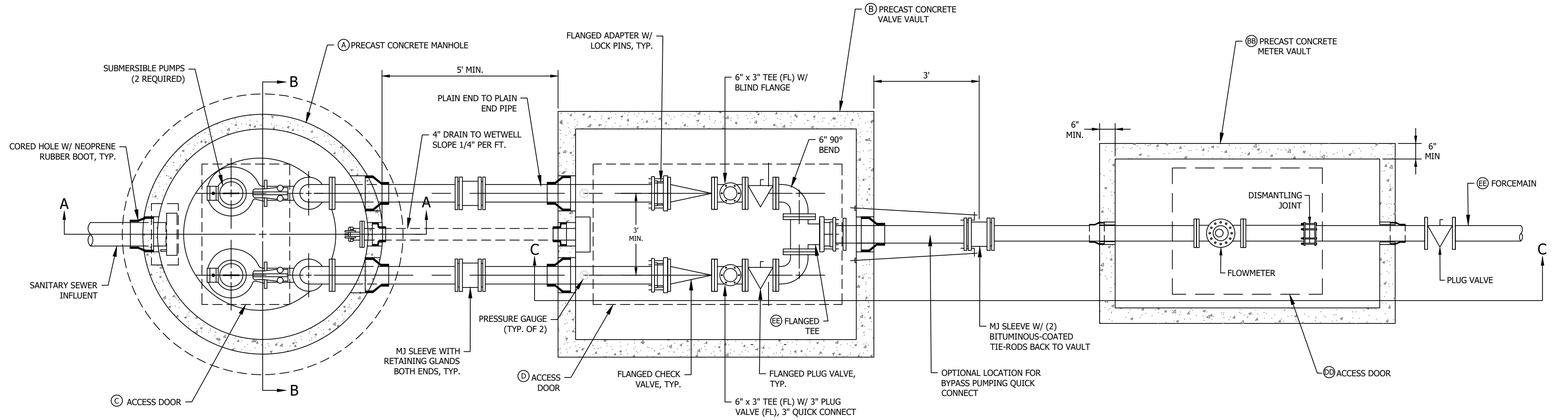


FRONT VIEW



SIDE VIEW

DIVERTER PLATE



DUPLEX SUBMERSIBLE LIFT STATION - PLAN

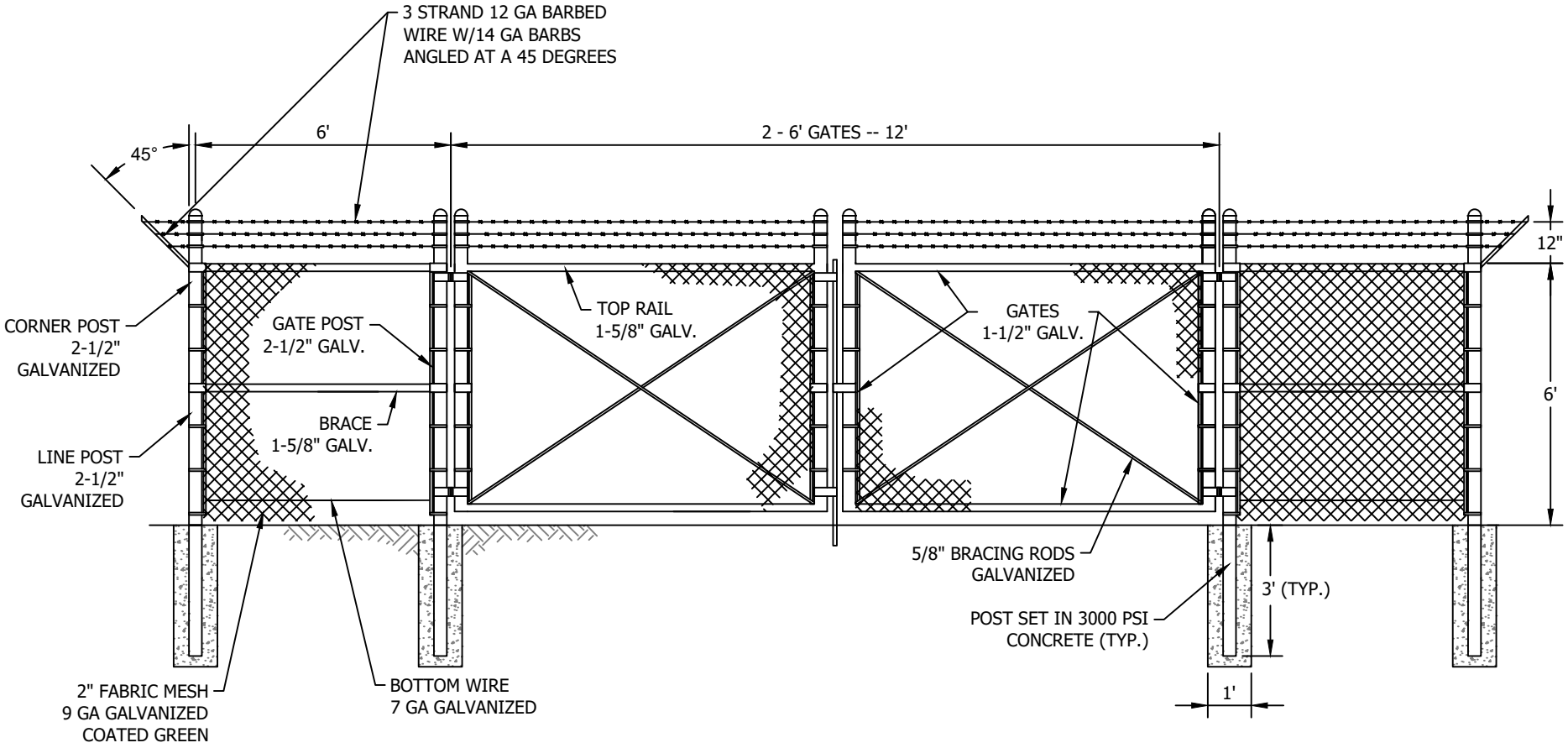
DIMENSION SCHEDULE							
A (DIA)	B (WxL)	BB (WxL)	C (WxL)	D (WxL)	DD (WxL)	E (DIA)	EE (DIA)
_____	_____	_____	_____	_____	_____	_____	_____

ELEVATION SCHEDULE (FT)									
F	G	H	I	J	K	L	M	N	O
____	____	____	____	____	____	____	____	____	____

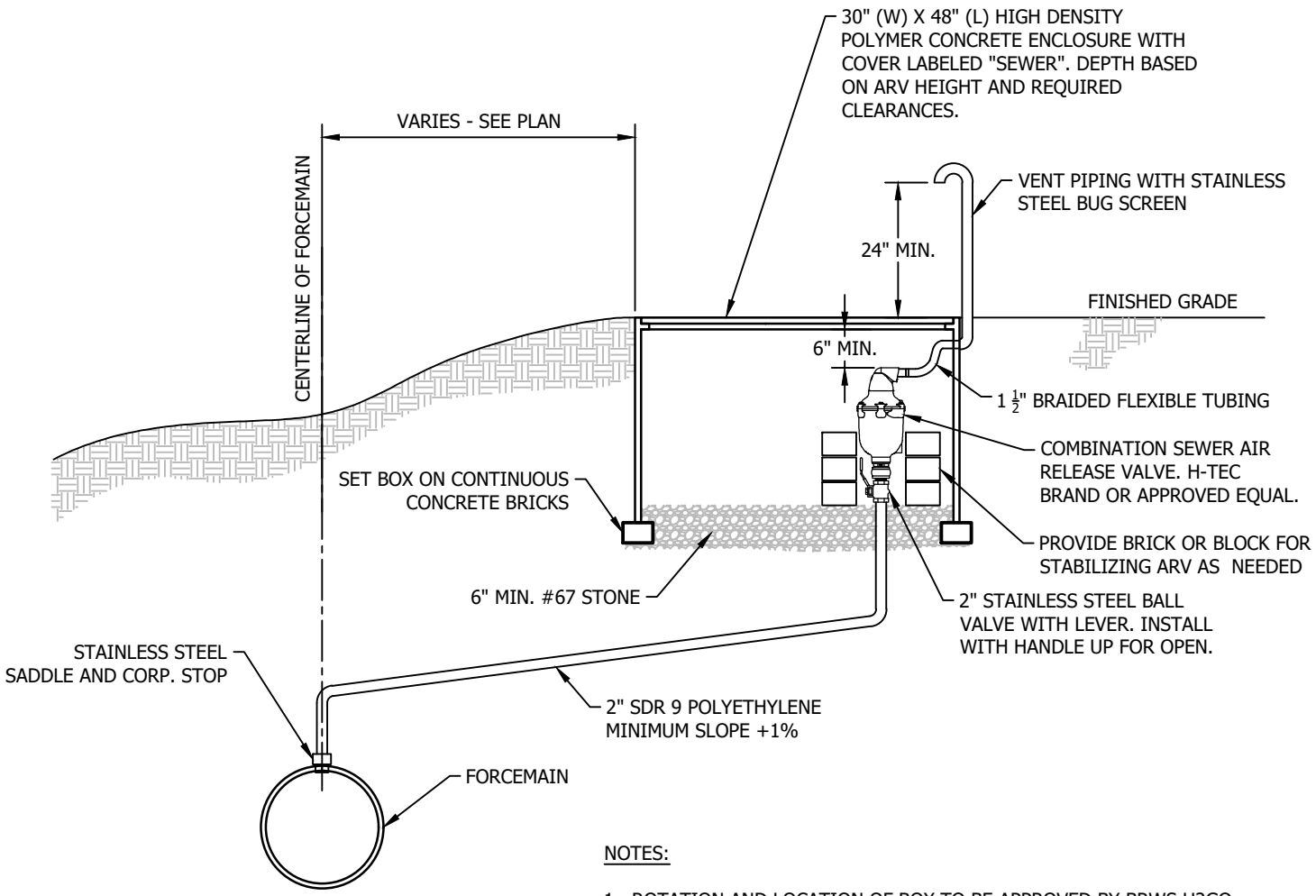
PUMP SCHEDULE					
PUMP STATION NUMBER	PUMP DISCHARGE DIAMETER	DESIGN CAPACITY (GPM)	DESIGN TDH (FT.)	HP	VOLTAGE PHASE
_____	_____	_____	____	____	_____

GENERAL NOTES

1. A DENOTES A PUMP STATION DIMENSION/SIZE OR ELEVATION - SEE SCHEDULE.
2. ALL PUMP STATION PIPING IS FLANGED-END TO PLAIN-END E D.I.P., UNLESS NOTED OTHERWISE.
3. ALL FITTINGS INSIDE WET WELL, VALVE VAULT & METER VAULT TO BE FLANGED AND BITUMINOUS COATED, MINIMUM 1 MIL. THICK.
4. ALL PIPE OPENINGS IN WET WELL, VALVE VAULT & METER VAULT TO BE CORED AND FITTED WITH NEOPRENE RUBBER BOOTS.
5. VALVE VAULT & METER VAULT PIPING SHALL BE SUPPORTED WITH MASONRY OR STEEL SUPPORTS AT A MINIMUM OF 3 POINTS.
6. INSTALL A 1/4" TAP AND TEST COCK ON PIPING WITHIN VALVE VAULT.



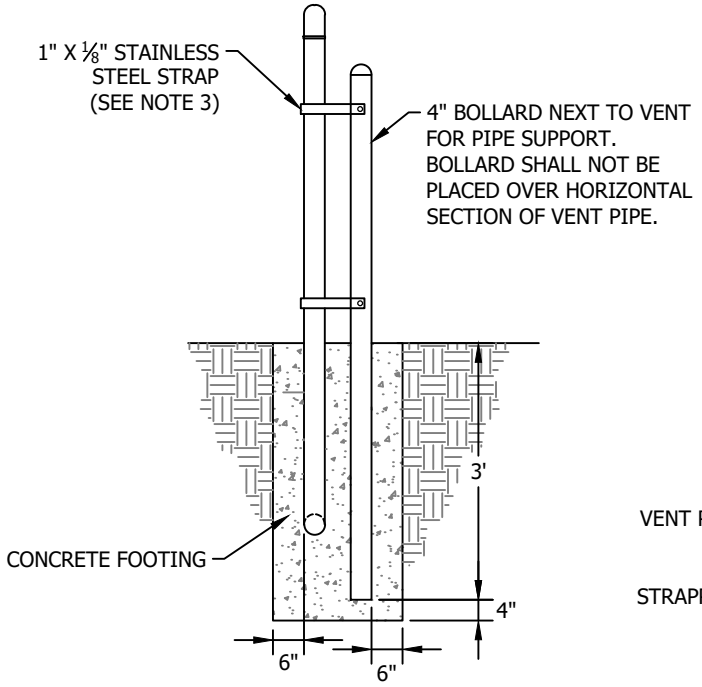
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	CHAINLINK FENCE	STD. NO. 3000.11
	EFFECTIVE: APRIL 2022		NOT TO SCALE



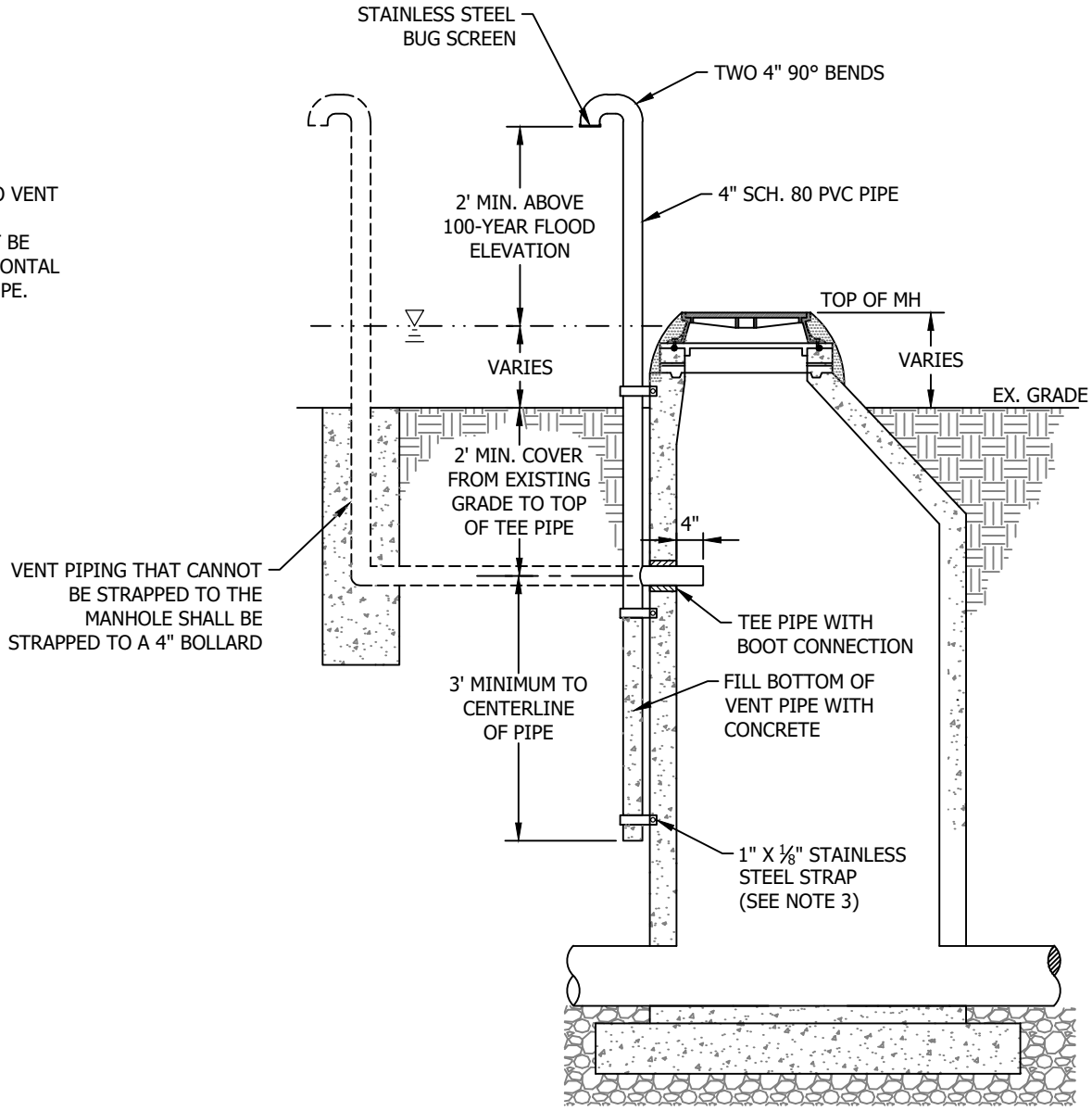
NOTES:

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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: APRIL 2022	OFFSET COMBINATION SEWER AIR RELEASE VALVE	STD. NO. 3000.12 NOT TO SCALE



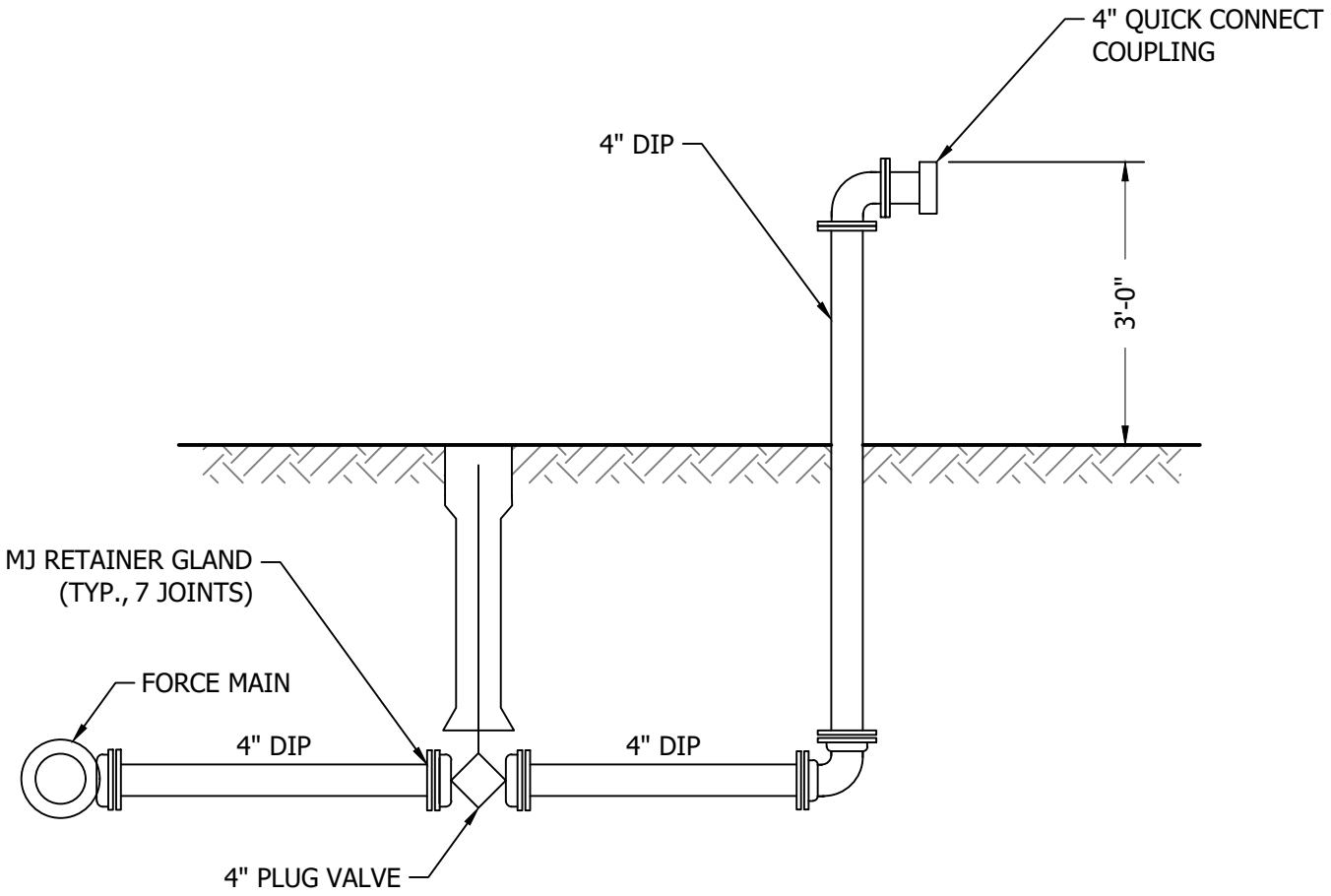
BOLLARD SUPPORT



NOTES:

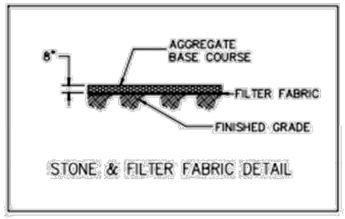
1. VENT PIPE OPENING IN PRECAST CONCRETE MANHOLE WALL SHALL BE CORED WITH A CONCRETE CORING MACHINE.
2. LOCATION OF VENT PIPE SHALL BE AS DIRECTED BY BRWS H2GO. VENTED MANHOLE SHALL HAVE WATERTIGHT RING AND COVER WITH VENT OPENING LOCATED AT LEAST 24 INCHES ABOVE THE 100-YEAR FLOOD PLAIN ELEVATION.
3. 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.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	MANHOLE VENT	STD. NO. 3000.13
	EFFECTIVE: JUNE 2022		NOT TO SCALE



H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	BYPASS PUMPING CONNECTION	STD. NO. 3000.14
	EFFECTIVE: APRIL 2022		NOT TO SCALE

PUMP STATION COMPONENTS	
A	WET WELL
B	VALVE VAULT – 6'X6'X6' MIN. (SEE NOTE 10)
C	METERING VAULT – 6'X6'X6' MIN. (SEE NOTE 12 & 19)
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	8" ABC (SEE DETAIL THIS SHEET)
L	INFLUENT SANITARY SEWER LINE
M	APPROVED BACKFLOW PREVENTION DEVICE
N	6" VENT
O	JUNCTION BOX RACK ASSEMBLY (SEE DETAIL)
P	¾" IRRIGATION METER
Q	1" WATER SERVICE TO ODOR CONTROL UNIT
R	1" WATER SERVICE TO YARD HYDRANT
S	1" FREEZE-PROOF YARD HYDRANT
T	VENT PIPE TO ODOR CONTROL UNIT (SEE NOTE 15)
U	16' ALL-WEATHER GRAVEL DRIVE (SEE NOTE 5)
V	CHAIN LINK FENCE (SEE DETAIL)
W	DOUBLE SWING GATES 2 @ 7', TOTAL OPENING 14' (SEE DETAIL)

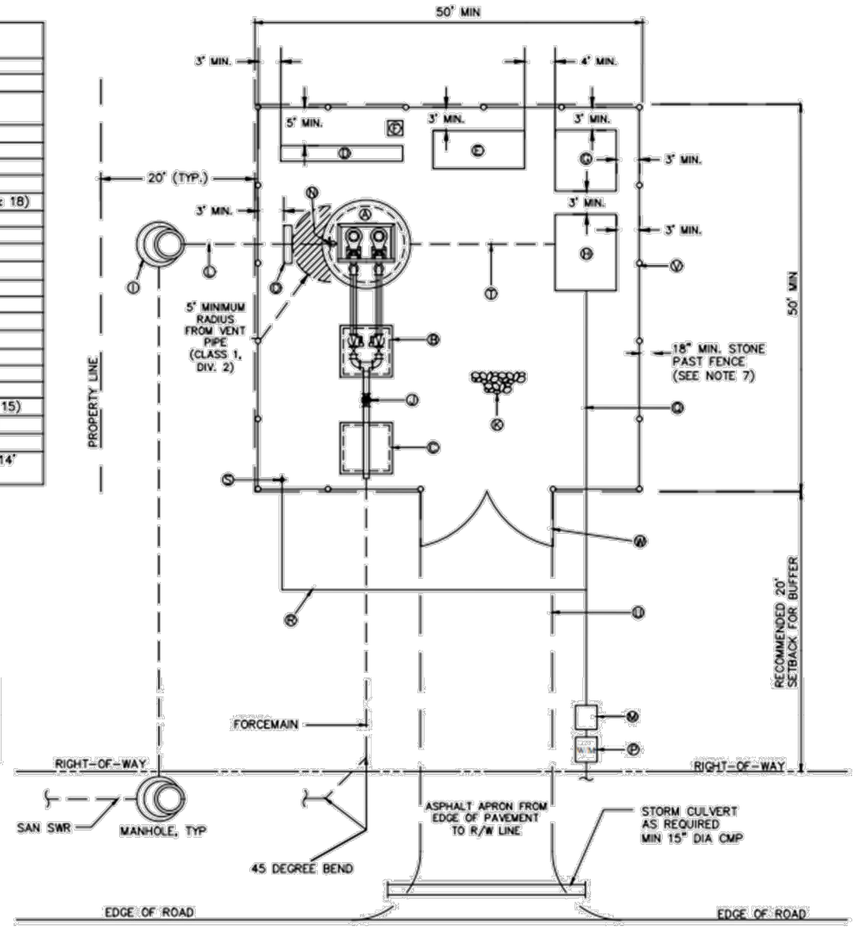


STONE & FILTER FABRIC DETAIL

	REQUIRED	NOT REQUIRED
ODOR CONTROL UNIT		
METERING VAULT		

NOTE FOR ALL PUMP STATIONS:

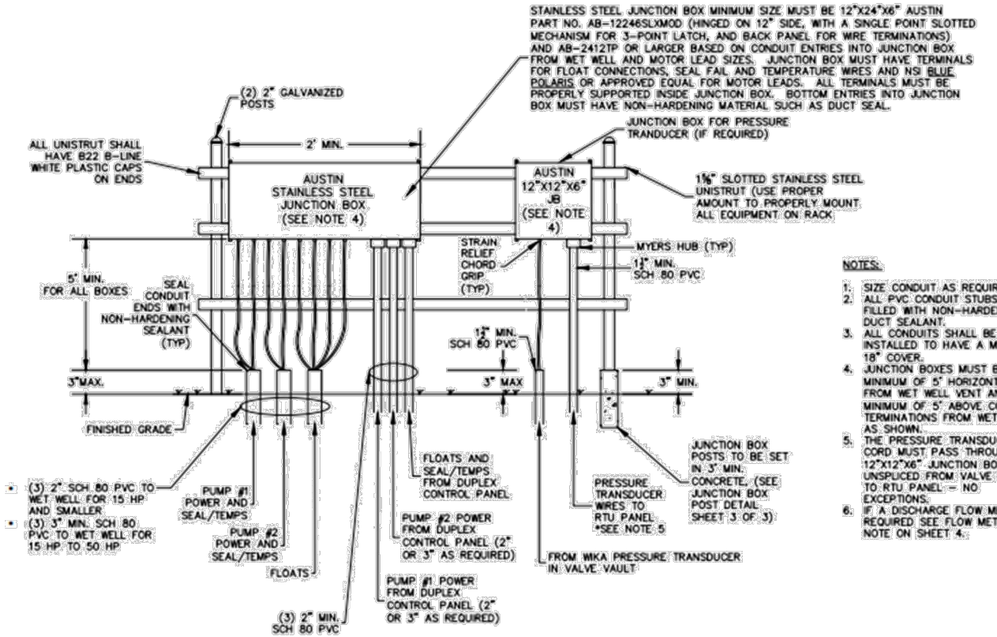
THE ODOR CONTROL SLAB, VENT PIPING FROM WETWELL, WATER SERVICE, AND ELECTRICAL CONDUIT FROM BUILDING OR ELECTRICAL RACK IS REQUIRED EVEN IF THE ODOR CONTROL UNIT IS NOT.



PUMP STATION SITE DETAIL
50 HP OR SMALLER PUMP STATION

NOTES:

1. NEW WET WELLS AND NEW RECEIVING MANHOLES ARE TO BE POLYCRETE PER TECHNICAL SPECIFICATION 023.01. EXISTING WET WELLS INTERIOR TO RECEIVE MIN 120 MILS RAVEN 405 HIGH SOLIDS EPOXY OR APPROVED EQUAL.
2. WET WELL VENT OUTLET TO HAVE ODORHOG CHARCOAL FILTER OR APPROVED EQUAL.
3. THE PUMP STATION SITE SHALL BE A MINIMUM OF 50 FEET BY 50 FEET. THE PLAN HEREIN SHOWS A RECOMMENDED 20 FOOT BUFFER FROM THE PROPERTY LINE TO THE FENCED AREA. SEE APPLICABLE JURISDICTION'S ZONING ORDINANCE FOR REQUIRED BUFFERS.
4. THE PUMP STATION SITE SHALL BE GRADED TO PROMOTE POSITIVE DRAINAGE AWAY FROM THE WET WELL. NO STORM DRAINAGE SHALL ENTER PUMP STATION SITE.
5. THE ACCESS ROAD SHALL BE ABC STONE AT A MINIMUM 8" THICK. THE ROAD SHALL BE A MINIMUM OF 12' WIDE.
6. THE ACCESS ROAD AND ENTIRE AREA WITHIN PUMP STATION FENCE SHALL BE A MINIMUM OF 2 FEET ABOVE THE 100 YEAR WATER SURFACE ELEVATION.
7. THE PUMP STATION SHALL HAVE STONE EXTENDING 18" PAST THE FENCE LINE IN ALL DIRECTIONS.
8. THE PUMP CONTROL PANEL MUST BE INSTALLED SUCH THAT IT FACES THE WET WELL.
9. SEE ROHN ANTENNA DETAIL SHEET FOR ANTENNA DETAILS.
10. VALVE VAULT MINIMUM SIZE IS 6'X6'X6'. ACTUAL REQUIRED MINIMUM SIZE DEPENDS ON ACTUAL DISCHARGE PIPING SIZES. ALL PIPING CONNECTIONS INSIDE VALVE VAULT SHALL BE EASILY ACCESSIBLE FOR MAINTENANCE AND REPAIR.
11. NUT OPERATED PLUG VALVES IN VAULT MUST BE POSITIONED SO THAT THEY CAN BE OPERATED FROM ABOVE THE VAULT THROUGH THE HATCH WITH A STANDARD VALVE WRENCH.
12. IF REQUIRED, METERING VAULT MINIMUM SIZE IS 6'X6'X6'. ACTUAL REQUIRED MINIMUM SIZE DEPENDS ON ACTUAL DISCHARGE PIPING SIZES. ALL PIPING CONNECTIONS INSIDE METERING VAULT SHALL BE EASILY ACCESSIBLE FOR MAINTENANCE AND REPAIR. IF A METERING VAULT IS REQUIRED, A SEPARATE METERING ENCLOSURE WILL BE REQUIRED. A DRAIN LINE WITH BACK FLOW TO THE WET WELL WILL BE REQUIRED.
13. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ELECTRIC POWER COMPANY FOR PLACEMENT OF POWER COMPANY EQUIPMENT AND ANY REQUIRED CONCRETE SLABS, CONDUIT, ETC., NEEDED TO SERVE PUMP STATION. ELECTRIC COMPANY EQUIPMENT PLACEMENT SHALL NOT OBSTRUCT ACCESS DRIVE, GATES, GRAVITY SEWER MAIN, MANHOLES, DISCHARGE FORCE MAIN, OR ANY OTHER PUMP STATION EQUIPMENT.
15. IF APPLICABLE, ODOR CONTROL UNIT REQUIREMENTS:
    A) CONCRETE SLAB – 10'X8'X2'. TO BE INSTALLED SO THAT 12" OF SLAB ARE ABOVE FINISHED GRADE.
    B) INLET PIPE FROM WET WELL – 8" PVC MINIMUM
    C) CORE AND BOOT WET WELL FOR 8" PVC VENT PIPE TO ODOR CONTROL UNIT.
    D) SIEMENS WATER TECHNOLOGIES, ZABOCS MODEL 5000/6000 – CONTACT BRUNSWICK COUNTY PUBLIC UTILITIES FOR DETAILS
    E) ELECTRICAL POWER TO UNIT IS REQUIRED FROM ELECTRICAL RACK.
    F) WET WELL VENT IS CAPPED IF ODOR CONTROL UNIT IS UTILIZED
16. ALL PUMP STATION WORK BY CONTRACTOR SHALL BE OF ADEQUATE QUALITY AND WORKMANSHIP FOR ACCEPTANCE BY BRUNSWICK COUNTY.
17. GENERATOR TO HAVE ENGINE EXHAUST SILENCER, WEATHER PROTECTIVE ENCLOSURE, AND SOUND ATTENUATION. REFER TO STANDBY EMERGENCY GENERATOR TECHNICAL SPECIFICATIONS FOR FURTHER DETAILS.
18. ODOR CONTROL – SEE 'NOTE FOR ALL PUMP STATIONS' THIS SHEET.
19. IF BRUNSWICK COUNTY REQUIRES A FLOW METER (METER VAULT IS SHOWN), A METERING ENCLOSURE WILL BE REQUIRED. A 1.5" MIN. SCH. 80 PVC CONDUIT FROM THE METER VAULT TO THE METERING ENCLOSURE WILL ALSO BE REQUIRED.
20. PROVIDE A MINIMUM OF 3 (THREE), 10' LONG, ¾" DIAMETER, COPPER CLAD GROUND RODS SPACED A MINIMUM OF 20' APART, BONDED TOGETHER WITH INSPECTION WELLS AT EACH CONNECTION PER COUNTY DETAIL. ONE GROUND ROD AT:
    A) ANTENNA TOWER
    B) ELECTRIC METER
    C) GENERATOR
21. CONTRACTOR RESPONSIBLE FOR ALL BUILDING AND ELECTRICAL PERMITS NEEDED, INCLUDING SITE SPECIFIC ENGINEERED PLANS FOR GENERATOR PAD FOUNDATION.

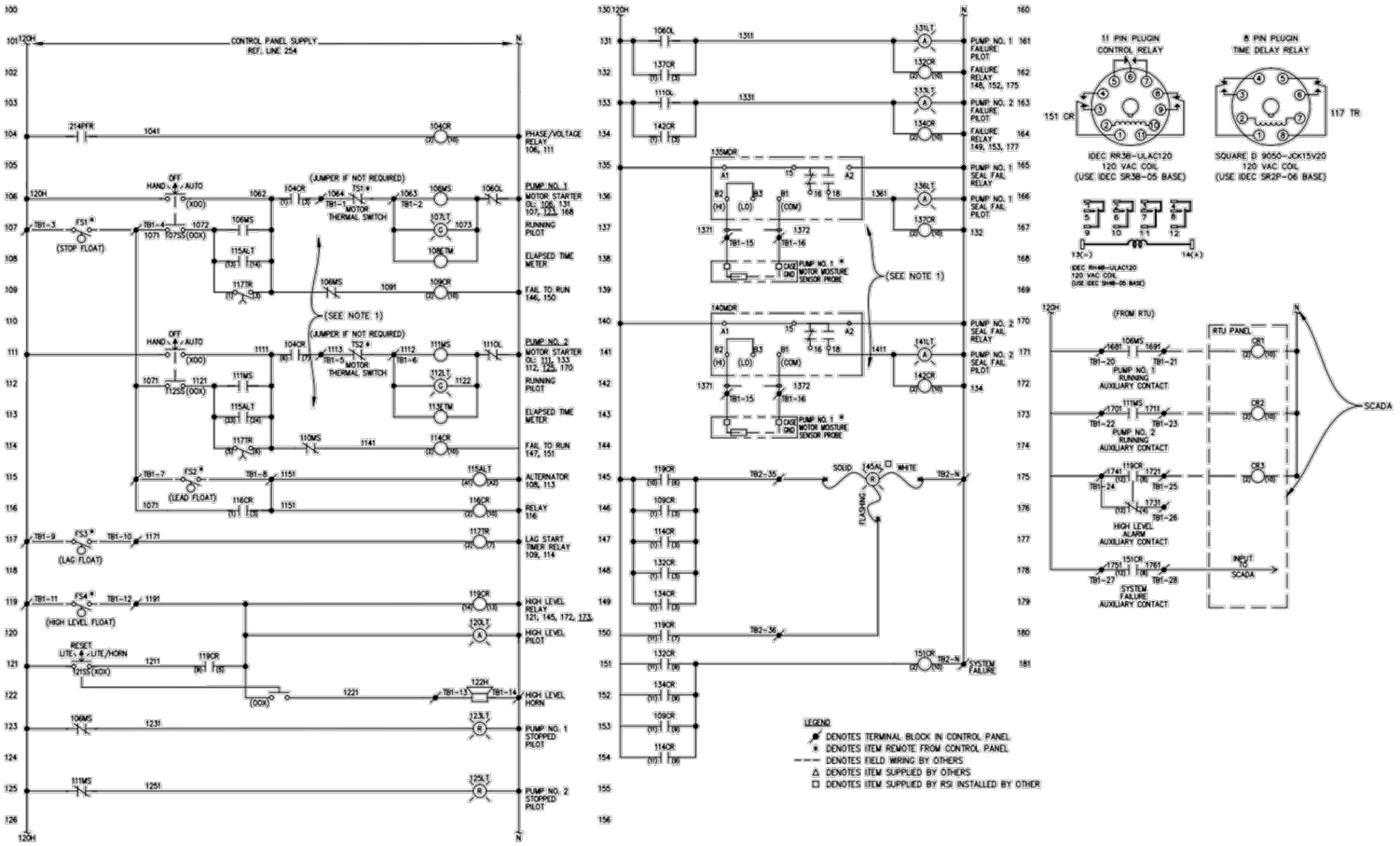


NOTES:

1. SIZE CONDUIT AS REQUIRED.
2. ALL PVC CONDUIT STUBS TO BE FILLED WITH NON-HARDENING DUCT SEALANT.
3. ALL CONDUITS SHALL BE INSTALLED TO HAVE A MINIMUM 18" COVER.
4. JUNCTION BOXES MUST BE A MINIMUM OF 5' HORIZONTAL FROM WET WELL VENT AND A MINIMUM OF 5' ABOVE CONDUIT TERMINATIONS FROM WET WELL AS SHOWN.
5. THE PRESSURE TRANSDUCER CORD MUST PASS THROUGH THE 12"X12"X6" JUNCTION BOX UNSPLICED FROM VALVE VAULT TO RTU PANEL – NO EXCEPTIONS.
6. IF A DISCHARGE FLOW METER IS REQUIRED SEE FLOW METER NOTE ON SHEET 4.

ELECTRICAL JUNCTION BOX DETAIL

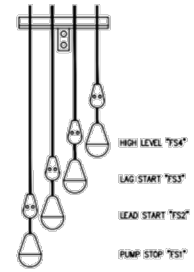
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: OCTOBER 2022	PUMP STATION ELECTRICAL SITE & JUNCTION BOX DETAIL	STD. NO. 3000.15 SHEET 1 OF 1



1-50 HP PUMP STATION ELECTRICAL DIAGRAMS

FLOAT DETAIL

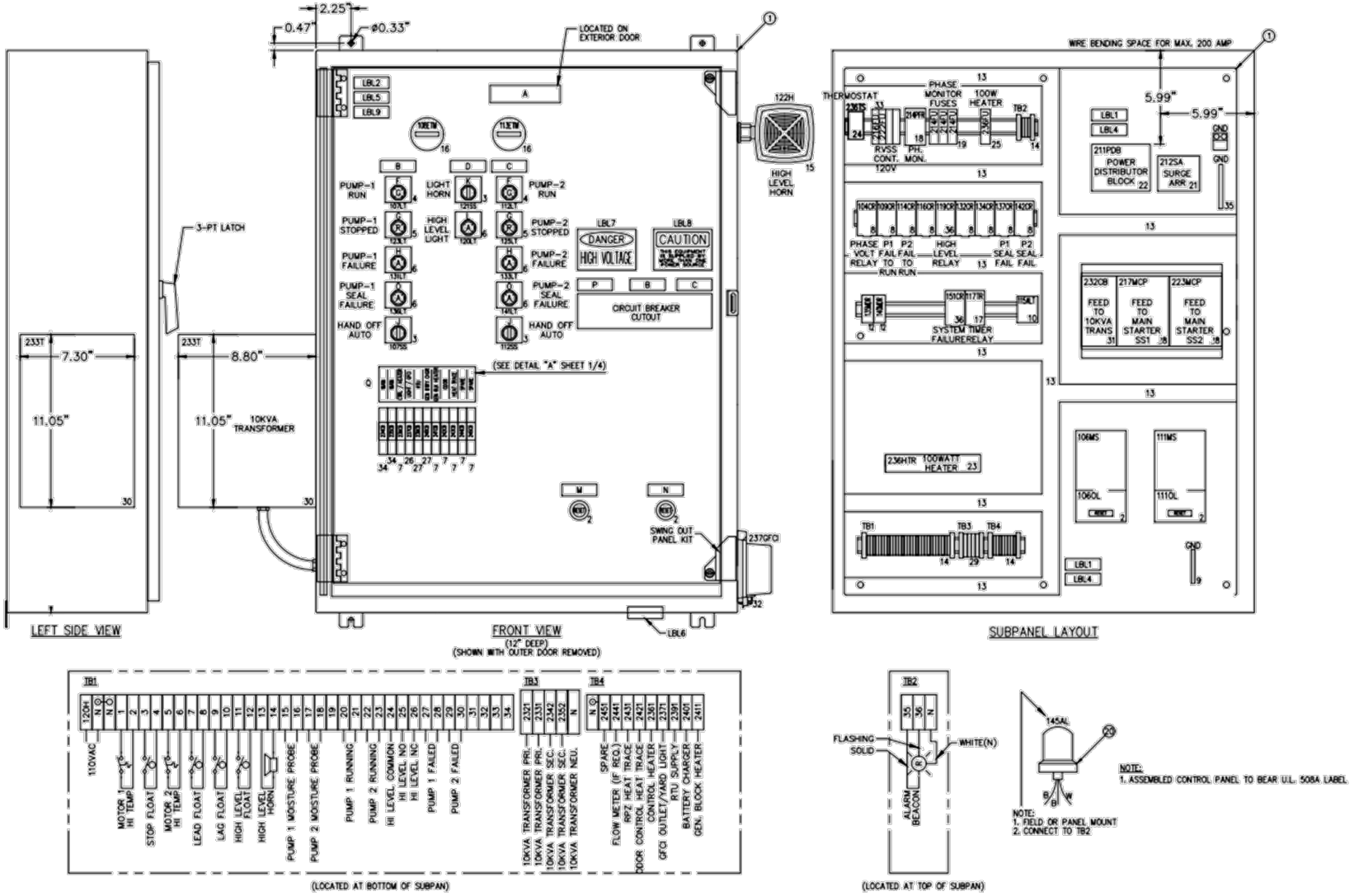
FOR ILLUSTRATION ONLY



NOTES:

1. CONTROL CIRCUITRY SHOWN IS FOR A NON-FLYGT PUMP – DESIGN ENGINEER SHALL SUBMIT ELECTRICAL DRAWINGS FOR A FLYGT PUMP FOR BRUNSWICK COUNTY ENGINEERING AND UTILITIES DEPARTMENTS REVIEW AND APPROVAL.

H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	STD. NO.
	EFFECTIVE: OCTOBER 2022	3000.16
	PUMP STATION ELECTRICAL DIAGRAMS	NOT TO SCALE



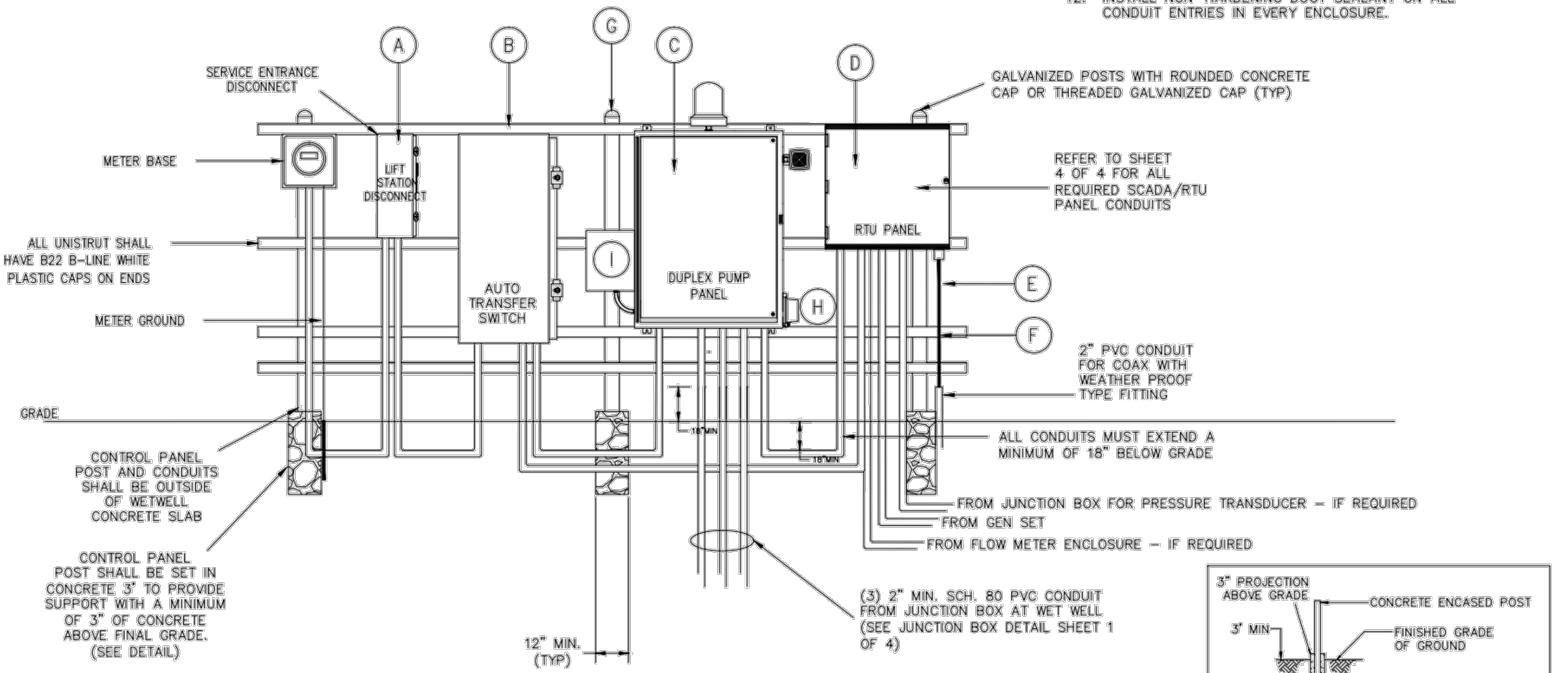
1 – 50 HP PUMP STATION
ELECTRICAL DIAGRAMS

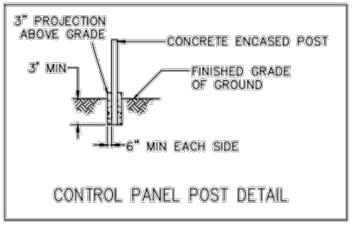
BRUNSWICK REGIONAL WATER AND SEWER H2GO	PUMP STATION ELECTRICAL PANEL LAYOUT	STD. NO. 3000.17
EFFECTIVE: OCTOBER 2022		NOT TO SCALE

ITEM	
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)

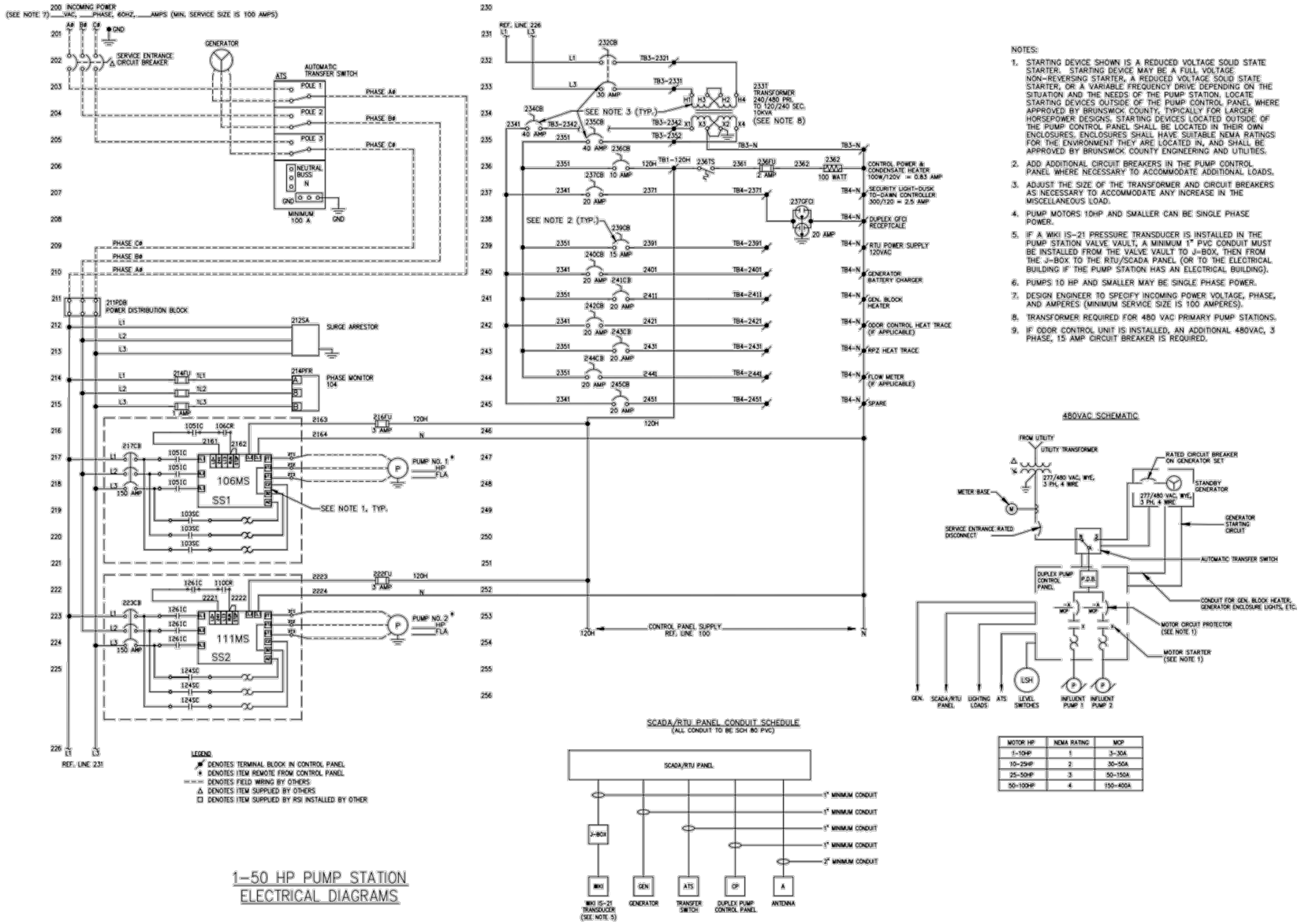
NOTES:

1. ALL POWER TO THE PUMP STATION SHALL BE THREE PHASE POWER. PUMP STATIONS 10 HP AND SMALLER MAY HAVE SINGLE PHASE POWER.
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.
5. PROVIDE A MINIMUM OF THREE 10' LONG ¾" DIAMETER COPPER CLAD GROUND RODS SPACED A MINIMUM OF 20' APART, EXOTHERMICALLY WELDED AND BONDED TOGETHER WITH INSPECTION WELLS AT EACH CONNECTION. ONE GROUND ROD LOCATED AT TOWER, ELECTRIC METER, AND GENERATOR.
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.
7. USE ADEQUATE AMOUNT OF 1 ⅝" 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 ENCLOSURES WITH MYERS HUB TYPE FITTINGS, NO EXCEPTIONS. NO CONDULET 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.





H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO EFFECTIVE: OCTOBER 2022	PUMP STATION ELECTRICAL CONTROL PANEL ELEVATION	STD. NO. 3000.18 NOT TO SCALE



1–50 HP PUMP STATION
ELECTRICAL DIAGRAMS

SCADA/RTU PANEL CONDUIT SCHEDULE
(ALL CONDUIT TO BE SCH 80 PVC)

NOTES:

1. 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 RATINGS FOR THE ENVIRONMENT THEY ARE LOCATED IN, AND SHALL BE APPROVED BY BRUNSWICK COUNTY ENGINEERING AND UTILITIES.
2. ADD ADDITIONAL CIRCUIT BREAKERS IN THE PUMP CONTROL PANEL WHERE NECESSARY TO ACCOMMODATE ADDITIONAL LOADS.
3. ADJUST THE SIZE OF THE TRANSFORMER AND CIRCUIT BREAKERS AS NECESSARY TO ACCOMMODATE ANY INCREASE IN THE MISCELLANEOUS LOAD.
4. PUMP MOTORS 10HP AND SMALLER CAN BE SINGLE PHASE POWER.
5. IF A WKI 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).
6. PUMPS 10 HP AND SMALLER MAY BE SINGLE PHASE POWER.
7. DESIGN ENGINEER TO SPECIFY INCOMING POWER VOLTAGE, PHASE, AND AMPERES (MINIMUM SERVICE SIZE IS 100 AMPERES).
8. TRANSFORMER REQUIRED FOR 480 VAC PRIMARY PUMP STATIONS.
9. IF ODOR CONTROL UNIT IS INSTALLED, AN ADDITIONAL 480VAC, 3 PHASE, 15 AMP CIRCUIT BREAKER IS REQUIRED.

480VAC SCHEMATIC

MOTOR HP	NEMA RATING	MCP
1-10HP	1	3-30A
10-25HP	2	30-50A
25-50HP	3	50-150A
50-100HP	4	150-400A

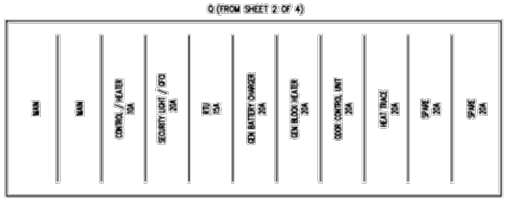
H2GO	BRUNSWICK REGIONAL WATER AND SEWER H2GO	PUMP STATION ELECTRICAL SCHEMATICS	STD. NO. 3000.19
	EFFECTIVE: OCTOBER 2022		NOT TO SCALE

BILL OF MATERIAL

ITEM	QTY.	MANUFACTURER AND CATALOG NUMBER		DESCRIPTION
1	1	HOFFMAN	A-48H3612SSLP 3PT	ENCLOSURE, NEMA 4X, STAINLESS STEEL, 48"H X 36"W X 12"D MINIMUM, FACTORY WHITE PAINT, 3-POINT LATCHES
	1	HOFFMAN	A-48P36	PANEL, 45"H X 33"W
	1	HOFFMAN	A-NADFK	INNER DOOR KIT
	1	HOFFMAN	CUSTOM	SWING-OUT PANEL, ALUMINUM, 44"H X 33"W
2	2	SQUARE D	8536-SD01V02H10	FULL VOLTAGE STARTER, SIZE *, * POLE, 120 VAC COIL, SOLID STATE THERMAL OVERLOAD, CLASS 10 TRIP, 15-45 AMP
	2	SQUARE D	9999-SX8	AUXILIARY CONTACT, 1 N.O. & 1N.C. CONTACT
	2	SQUARE D	9066-RA1	MOTOR STARTER RESET BUTTON/MECHANISM
	2	SQUARE D	9999-AC04	AUXILIARY CONTACT FOR OVERLOAD
	2	SQUARE D	9999-SX7	AUXILIARY CONTACT 1-N.C.
3	3	SQUARE D	9001-SKS43BH1	SELECTOR SWITCH, 3 POSITION, NEMA 4X, CONTACT BLOCK, 1 N.O. & 1 N.C. CONTACT
	1	SQUARE D	9001-KA1	CONTACT BLOCK, 1 N.O. & 1 N.C.
4	2	SQUARE D	9001-SKP1G31	PILOT LIGHT, NEMA 4X, TRANSFORMER TYPE, 120 VAC, GREEN LENS
5	2	SQUARE D	9001-SKP1R31	PILOT LIGHT, NEMA 4X, TRANSFORMER TYPE, 120 VAC, RED LENS
6	5	SQUARE D	9001-SKP1A31	PILOT LIGHT, NEMA 4X, TRANSFORMER TYPE, 120 VAC, AMBER LENS
7	1	SQUARE D	QOU 110	CIRCUIT BREAKER, 1 POLE, 10 AMP, 125 VOLT
8	8	IDEC	RR3B-ULAC120	CONTROL RELAY, 3PDT, BLADES, INDICATING LIGHT, 120V COIL, 11 PIN
	8	IDEC	SR3B-05	RELAY SOCKET, 11 BLADES, DIN RAIL MOUNT
9	1	SQUARE D	PK7GTA	GROUND BAR
10	1	SQUARE D	CA2SKE2007	ALTERNATION RELAY, 120 VOLT, 2 N.O. CONTACTS
12	2	TELEMECANIQUE	RM4LG01F	SEAL FAIL RELAY
13	A/R	PANDUIT	TYPE F	WIRE DUCT, GREY, NON-SLIP COVER (REFER TO DIMENSIONS ON LAYOUT)
14	39	WEIDMUELLER	1020100000	TERMINAL BLOCKS, 600 V, 35 AMPS, TYPE WDU 4, #10-#22 AWG WIRE
15	1	EDWARDS	876-N5	ALARM HORN, 120VAC, NEMA 4X
16	2	ENM	T50B212	COUNTER, 120VAC, 6 1/2 DIGIT
17	1	SQUARE D	9050-JCK15V20	TIMER RELAY, 2PDT, 10 AMP, 8 PIN BASE, 120 VAC 60HZ COIL
	1	IDEC	SR2P-06	RELAY SOCKET, 8 PINS, DIN RAIL MOUNT
18	1	MOTOR SAVER	460-14	PHASE FAILURE RELAY, 3 PH, 480VAC
19	1	BUSSMANN	BM6033PQ	FUSEBLOCK
	3	BUSSMANN	FNQR-1	FUSE, 1 AMP, 600V, TIME DELAY TYPE
20	1	EDWARDS	102PMB5-N5	PIPE MOUNT BASE
	2	EDWARDS	102LM-R	LENS MODULE - RED
	1	EDWARDS	102LS-ST-N5	STROBE LIGHT SOURCE
	1	EDWARDS	102LS-SIN-N5	STEADY ON, INCANDESCENT LIGHT SOURCE
21	1	SQUARE D	SDSA3650	SURGE ARRESTOR, 600 VOLT, 3 PHASE, W/ LED INDICATOR
22	1	SQUARE D	9080-LBA363104	DISTRIBUTION BLOCK, 600 VOLT, 3 POLE, MAIN (1) #6-400 AWG, BRANCH (4) #14-2 AWG
23	1	HEATREX	276-1	HEATER, 120 VAC, 100 WATT WITH FINGER GUARD
24	1	HOFFMAN	ATEMNC	THERMOSTAT, SPST, CLOSE ON FALL, 30-140 DEG.
25	1	BUSMANN	BM6031PQ	FUSE BLOCK, 600 VOLT, 1 POLE, 30 AMP
	1	BUSSMANN	FNM-2	FUSE, 2 AMP, 250V, TIME DELAY TYPE
26	7	SQUARE D	QOU 120	CIRCUIT BREAKER, 1 POLE, 20 AMP, 125 VOLT
27	1	SQUARE D	QOU 115	CIRCUIT BREAKER, 1 POLE, 15 AMP, 125 VOLT
28	2	SQUARE D	FAL360315M	MOTOR CIRCUIT PROTECTOR, * POLE, * AMP, MAGNETIC TRIP, CIRCUIT BREAKER
29	4	WEIDMUELLER	1020300000	TERMINAL BLOCKS, 600 V, 65 AMPS, TYPE WDU 10, #6-#18 AWG WIRE
30	1	SQUARE D	7400-10S1F	TRANSFORMER, */=-*/* VOLT, 10 KVA, DRY TYPE, NEMA 3R (SEE NOTE #2)
31	1	SQUARE D	FAL24030	CIRCUIT BREAKER, * POLE, * AMP, * VOLT, FEED TO KVA TRANSFORMER
32	1	PASS & SEYMOUR	WLUCAST1	DUPLEX RECEPTACLE COVER, NEMA 3R, CAST WHILE IN USE COVER
	1	LEVITON	8899I	GROUND FAULT RECEPTACLE, DUPLEX, 20 AMP
33	2	BUSSMAN	FNM-3	FUSE, 3 AMP, 250 V, TIME DELAY TYPE
34	2	SQUARE D	QOU 140	CIRCUIT BREAKER, 1 POLE, 40 AMP, 125 VOLT
35	1	SQUARE D	PF7GTA	GROUND BAR
36	2	IDEC	SH4B-ULAC120	CONTROL RELAY, 4PDT, BLADES, INDICATING LIGHT, 120V COIL, 11 PINS
	2	IDEC	SH4B-05	RELAY SOCKET, DIN RAIL MOUNT, 11 PINS
37	A/R	IDEC	BNDN1000	DINRAIL, ALUMINUM, 39.37 INCHES

* ENGINEER TO SPECIFY BASED ON PUMP STATION REQUIREMENTS

Q (FROM SHEET 2 OF 4)



ENGRAVING SCHEDULE

ID NO.	QTY.	TYPE	SIZE	PLATE COLOR	LETTER COLOR	FIRST LINE \ SECOND LINE, ETC.
A	1	N P	1-1/2" X 6"	WHITE	BLACK	\ PUMP STATION \ DUPLEX CONTROL PANEL \ * VOLT, *HP
B	2	N P	1" X 3"	WHITE	BLACK	PUMP NO. 1
C	2	N P	1" X 3"	WHITE	BLACK	PUMP NO. 2
D	1	N P	1" X 3"	WHITE	BLACK	ALARM CONTROL
E	1	N P	1" X 2"	WHITE	BLACK	CONTROL \ CIRCUIT
F	2	L P	2-1/4" SQ.	WHITE	BLACK	RUNNING
G	2	L P	2-1/4" SQ.	WHITE	BLACK	STOPPED
H	2	L P	2-1/4" SQ.	WHITE	BLACK	PUMP FAILURE
J	2	L P	2-1/4" SQ.	WHITE	BLACK	HAND OFF AUTO
K	1	L P	2-1/4" SQ.	WHITE	BLACK	LIGHT RESET LIGHT/HORN
L	1	L P	2-1/4" SQ.	WHITE	BLACK	HIGH \ LEVEL
M	1	N P	1" X 3"	WHITE	BLACK	PUMP NO. 1 \ OL RESET
N	1	N P	1" X 3"	WHITE	BLACK	PUMP NO. 2 \ OL RESET
O	2	L P	2-1/4" SQ.	WHITE	BLACK	SEAL \ FAILURE
P	1	N P	1" X 3"	WHITE	BLACK	10KVA \ TRANSFORMER
Q	1	N P	3" X 4-3/4"	WHITE	BLACK	(NOTE: SEE DETAIL "A")

NOTE:
NAMEPLATES ATTACHED WITH STAINLESS STEEL SCREWS

LABEL SCHEDULE

TAG	QTY.	TEXT
LBL1	1	* VOLT
LBL2	1	(REVERE CUSTOM LABEL) TWO * HP MOTOR, * FLA EA. * VAC, * PHASE, 60 HZ * FLA, CONTROL VOLTAGE 120 VAC FILE NUMBER E88854
LBL3	1	RECOMMENDED TORQUE \ 5.31-7.09 IN. LB.
LBL4	2	USE COPPER CONDUCTORS ONLY RATED AT 60°C OR HIGHER
LBL5	1	NEMA TYPE 4X, ENCLOSURE RATING
LBL6	2	TO MAINTAIN ENCLOSURE RATING, USE WATERTIGHT HUBS OR FITTINGS WITH THE SAME ENVIRONMENTAL RATING AS THE ENCLOSURE. O-Z/GEDNEY CHM SERIES HUBS APPLETON HUB SERIES HUBS CROUSE-HINDS STG SERIES HUBS
LBL7	1	DANGER HIGH VOLTAGE
LBL8	1	CAUTION \ THIS EQUIPMENT \ IS SUPPLIED BY \ MORE THAN ONE \ POWER SOURCE.
LBL9	1	FUSE SCHEDULE: TO REDUCE RISK OF FIRE, REPLACE WITH SAME TYPE AND SIZE FUSES. NO. MANUF. TYPE AMP VOLTS 2141U BUSSMANN FNQ-R 1 600 2361U BUSSMANN FNM 2 250

NOTE:
1. ASSEMBLED CONTROL PANEL TO BEAR U.L. 508A LABEL.
2. 10 KVA TRANSFORMER ONLY REQUIRED IF UTILITY VOLTAGE IS 240/480 PRIMARY

FULL VOLTAGE MOTOR STARTER TABLE

MOTOR HP	208 V SIZE	240 V SIZE	480 V SIZE
2	1	1	1
5	1	1	1
10	2	2	1
15	3	2	2
20	3	3	2
30	4	3	3
40	4	4	3
50	5	4	3

1-50 HP PUMP STATION
ELECTRICAL DIAGRAMS

BRUNSWICK REGIONAL WATER AND SEWER H2GO

EFFECTIVE: OCTOBER 2022

PUMP STATION ELECTRICAL BILL OF MATERIALS

STD. NO.

3000.20

NOT TO SCALE