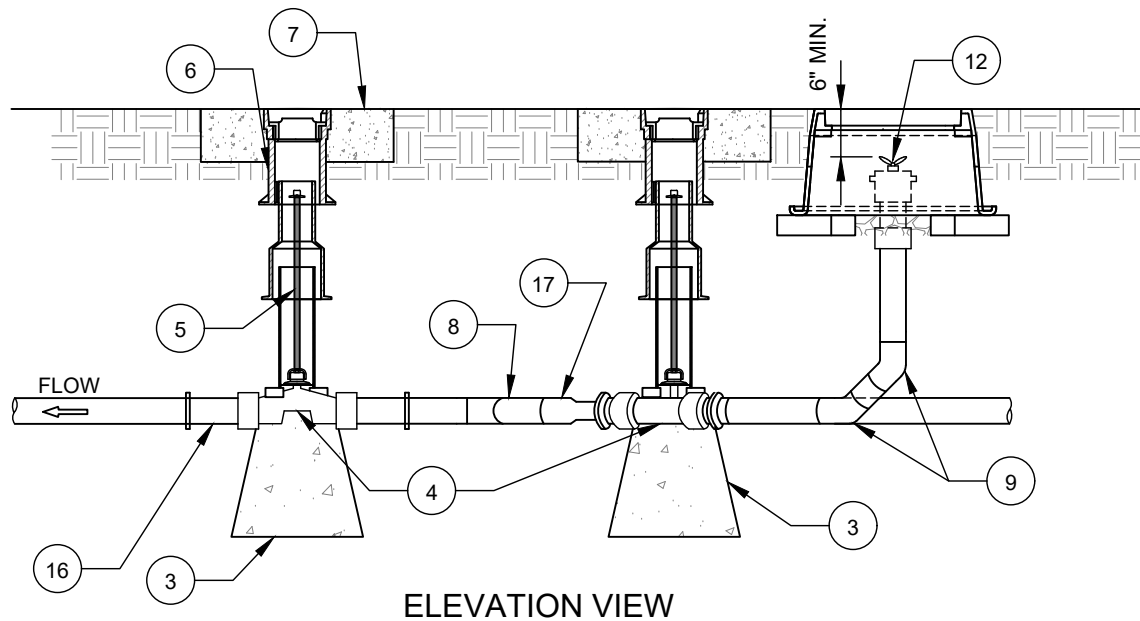


PLAN VIEW



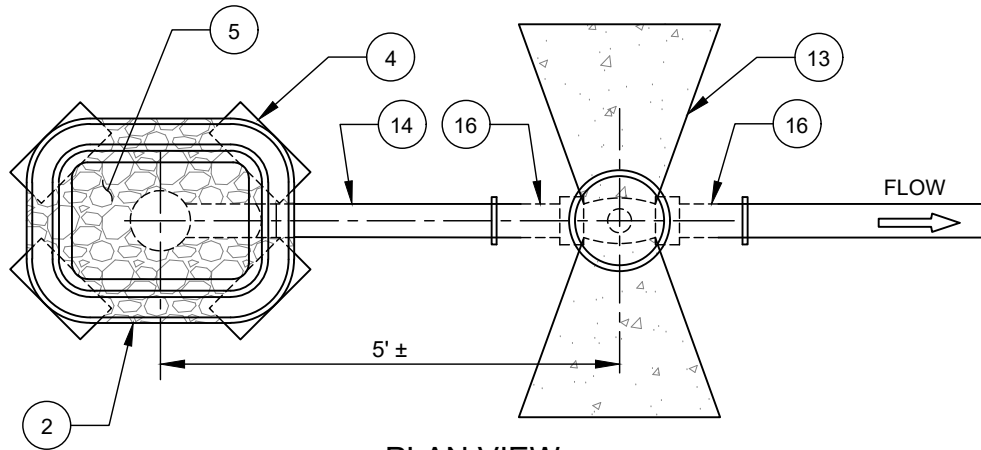
ELEVATION VIEW

NO. DESCRIPTION:

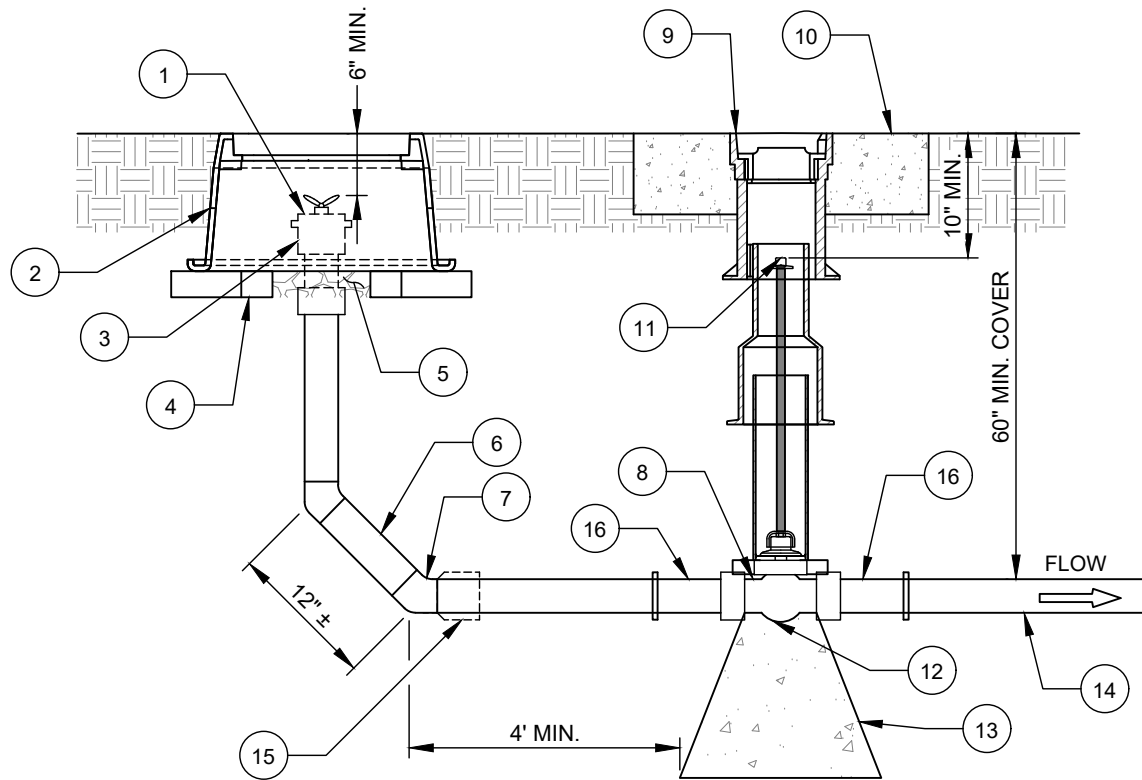
1. LOW PRESSURE SEWER PIPE (SDR 9 HDPE).
2. IRON BODY PLUG VALVE (2" - WITH THREADED ENDS) (3 & 4" - MJ ENDS WITH IPS TRANSITION GASKETS).
3. CAST IN PLACE CONC. SUPPORT/THRUST BLOCK (TYP. ALL VALVES).
4. POLYETHYLENE WRAP, 4 MILS. EACH, 2 LAYERS, 12" EACH SIDE OF VALVE BODY.
5. EXTENSION STEM W/ 2" SQUARE OPERATING NUT, 10" BELOW GRADE (TYP. ALL VALVES).
6. VALVE BOX ASSEMBLY, PER CLTW STANDARD DETAIL (TYP. ALL VALVES).
7. 24" PRECAST CONCRETE DONUT.
8. WYE (SDR 9 HDPE).
9. 45° BEND (SDR 9 HDPE).
10. 2" CLEANOUT/MANUAL AIR RELEASE (SDR 9 HDPE).
11. 2" CLEANOUT/AIR RELEASE BOX (PLASTIC).
12. 1 INCH GALVANIZED QUICK CONNECT WITH GALVANIZED PLUG AND 2 S.S. COTTER PINS.
13. SOLID STANDARD CONCRETE BRICK DIAGONAL AT CORNER.
14. BACK OF CURB.
15. EDGE OF PAVEMENT.
16. 2" SDR 9 HDPE BY S.S. THREADED ADAPTOR OR 3 OR 4" SDR 9 HDPE MJ ADAPTOR.
17. SDR 9 REDUCER WHEN REQUIRED.

NOTES:

- A. ALL HDPE PIPE AND FITTING JOINTS SHALL BE FUSED (SOCKET, BUTT OR ELECTROFUSED).
- B. USE OF MECHANICAL COUPLINGS IN THE HDPE PIPE SYSTEM ARE NOT PERMITTED WITHOUT SPECIFIC APPROVAL OF THE ENGINEER.
- C. TRACER WIRE NOT SHOWN FOR CLARITY. FOR TRACER WIRE INSTALLATION, REFER TO APPROPRIATE STANDARD DETAIL.



PLAN VIEW



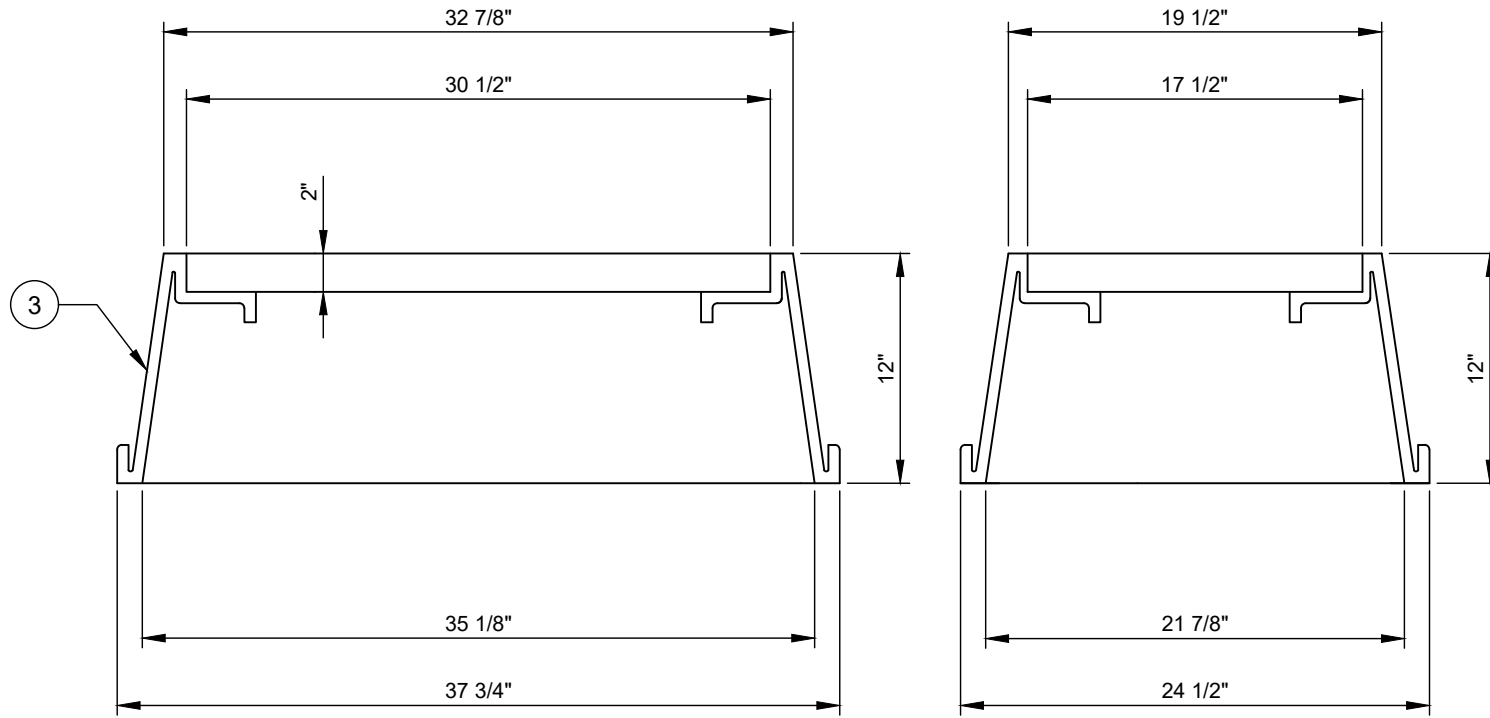
ELEVATION VIEW

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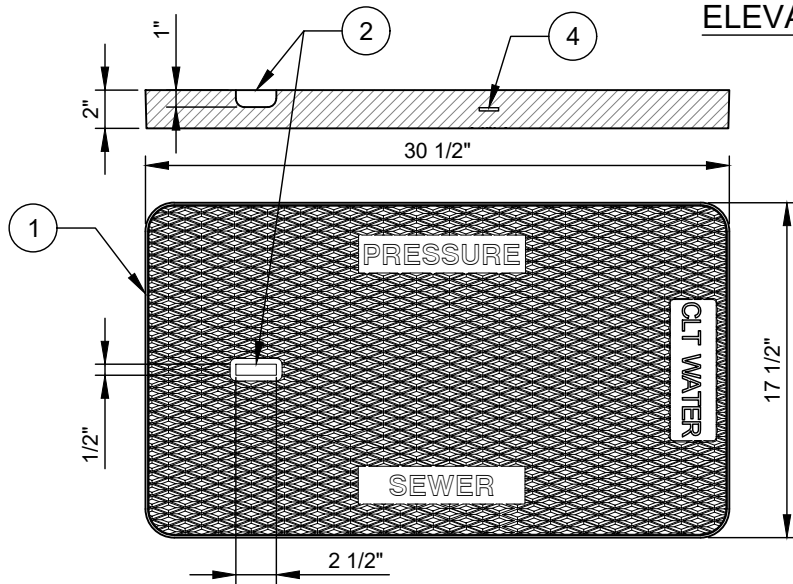
1. 1" QUICK CONNECT WITH PLUG AND 2 S.S. COTTER PINS.
2. CLEANOUT BOX (PLASTIC).
3. 2" X 1" HDPE WITH THREADED OUTLET (2" SDR 9 HDPE).
4. SOLID STANDARD CONCRETE BRICK DIAGONAL AT CORNER.
5. 6" MIN. OF #57 STONE BASE, SUITABLE BEARING CAPACITY AS APPROVED BY GEOTECHNICAL ENGINEER.
6. 2" CLEANOUT PIPE (SDR 9 HDPE).
7. 45° BEND (2" SDR 9 HDPE).
8. POLYETHYLENE WRAP, 4 MILS EACH, TWO LAYERS, 12" EACH SIDE OF VALVE BODY.
9. VALVE BOX ASSEMBLY, PER CLTW STANDARD DETAIL (TYP. ALL VALVES).
10. 24" PRECAST CONCRETE DONUT.
11. EXTENSION STEM WITH 2" SQUARE OPERATING NUT, 10" BELOW GRADE (TYP. ALL VALVES).
12. IRON BODY PLUG VALVE (2" - WITH THREADED BY SOLVENT WELD SDR 9 HDPE ADAPTORS) (3 & 4" - WITH MJ ENDS AND IPS TRANSITION GASKETS).
13. CAST IN PLACE CONCRETE SUPPORT/THRUST BLOCK.
14. LOW PRESSURE SEWER PIPE (SDR 9 HDPE).
15. SDR 9 HDPE REDUCER (WHEN REQUIRED).
16. SDR 9 ADAPTOR (2" WITH S.S. THREADED END), (3 & 4" WITH HDPE MJ END).

NOTES:

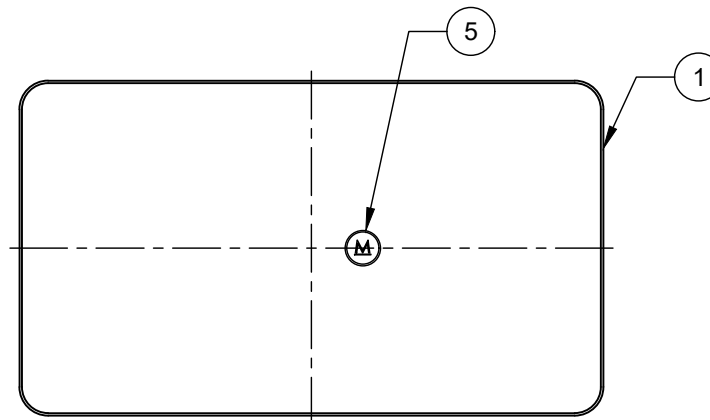
- A. ALL HDPE PIPE AND FITTING JOINTS SHALL BE FUSED (SOCKET, BUTT OR ELECTROFUSED).
- B. USE OF MECHANICAL COUPLINGS IN THE HDPE PIPE SYSTEM ARE NOT PERMITTED WITHOUT SPECIFIC APPROVAL OF THE ENGINEER.
- C. TRACER WIRE NOT SHOWN FOR CLARITY. FOR TRACER WIRE INSTALLATION, REFER TO APPROPRIATE STANDARD DETAIL.



ELEVATION VIEW



COVER PLAN VIEW



BOTTOM VIEW

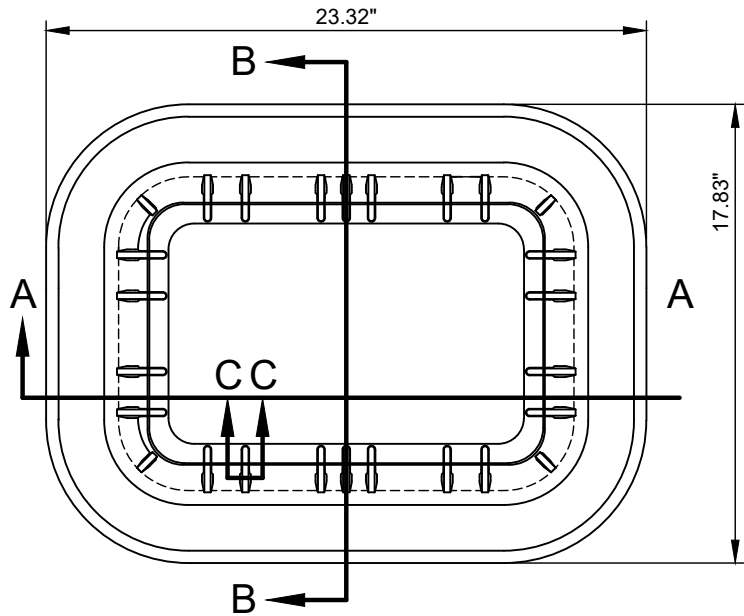
NO. DESCRIPTION:

1. GREEN VIRGIN PLASTIC SERVICE LID.
2. 3/4" DIAMETER PICK HOLE.
3. GREEN VIRGIN PLASTIC SERVICE BOX.
4. 1/8" X 3/4" DIAMETER RARE EARTH MAGNET.
5. IMPRINTED "M" UNDER MAGNET.

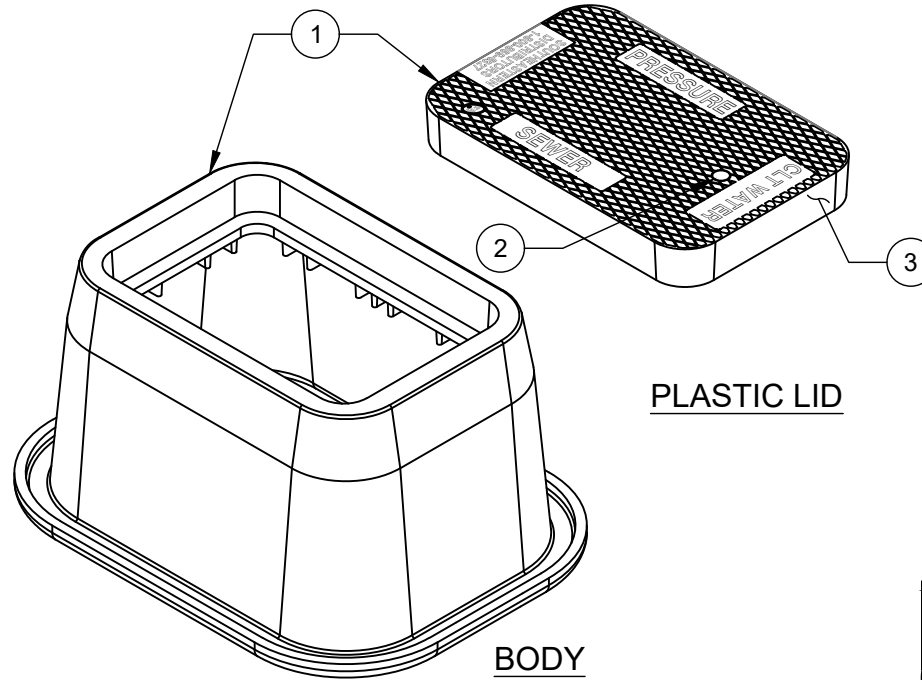
NOTES

- A. MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE.
- B. LOAD RATING = HS20.
- C. COLOR SHALL BE CHARLOTTE GREEN.
- D. SUPPLIER/MANUFACTURER: SOUTHEASTERN DISTRIBUTORS MODEL MB 19 - HD.

CLEANOUT/MANUAL AIR RELEASE BOX



PLAN VIEW

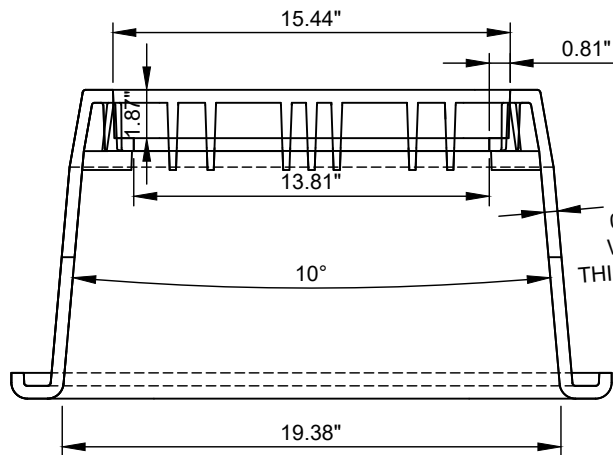


PLASTIC LID

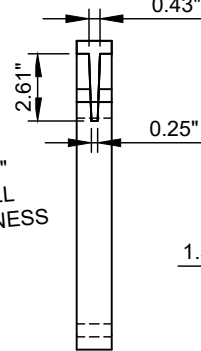
BODY

- | NO. | DESCRIPTION: |
|-----|--|
| 1. | MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE. |
| 2. | 3/4" DIAMETER PICK HOLE. |
| 3. | GREEN PLASTIC LID. |
| 4. | 1/8" X 3/4 DIAMETER" RARE EARTH MAGNET. |
| 5. | IMPRINTED "M" UNDER MAGNET. |

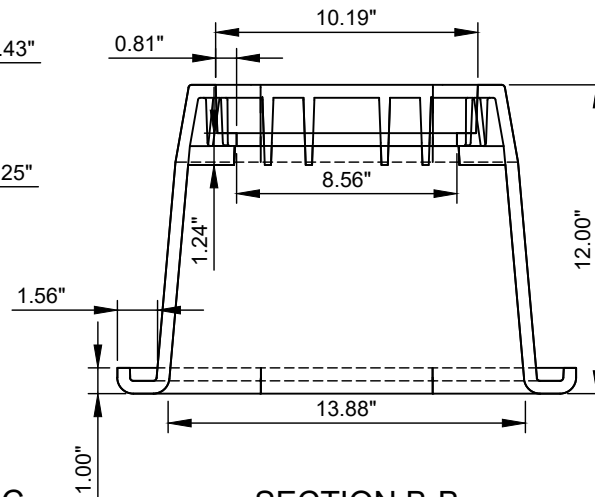
- NOTES:**
- A. LOAD RATING = HS20.
 - B. COLOR SHALL BE CHARLOTTE GREEN.
 - C. SUPPLIER/MANUFACTURER: SOUTHEASTERN DISTRIBUTORS MODEL MB 16 - HD.



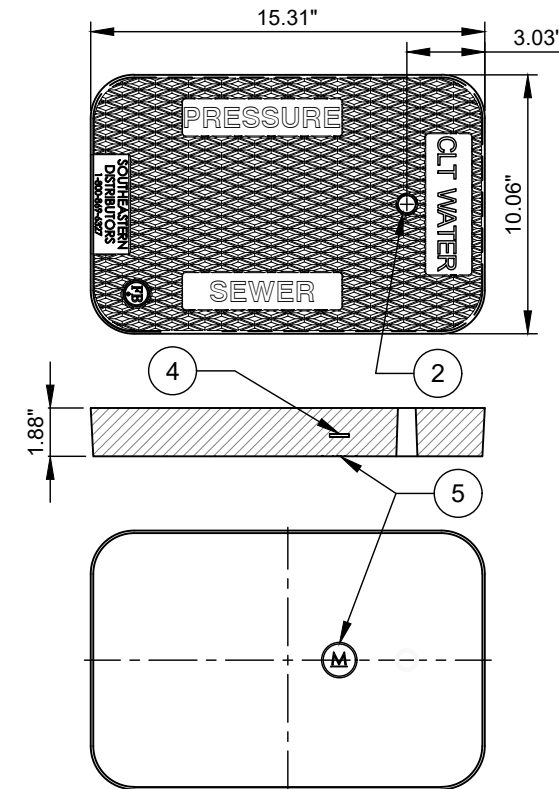
SECTION A-A



**SECTION C-C
RIB DETAIL**



SECTION B-B



BOTTOM VIEW

METER BOX BODY WEIGHT= 13.5 LBS.

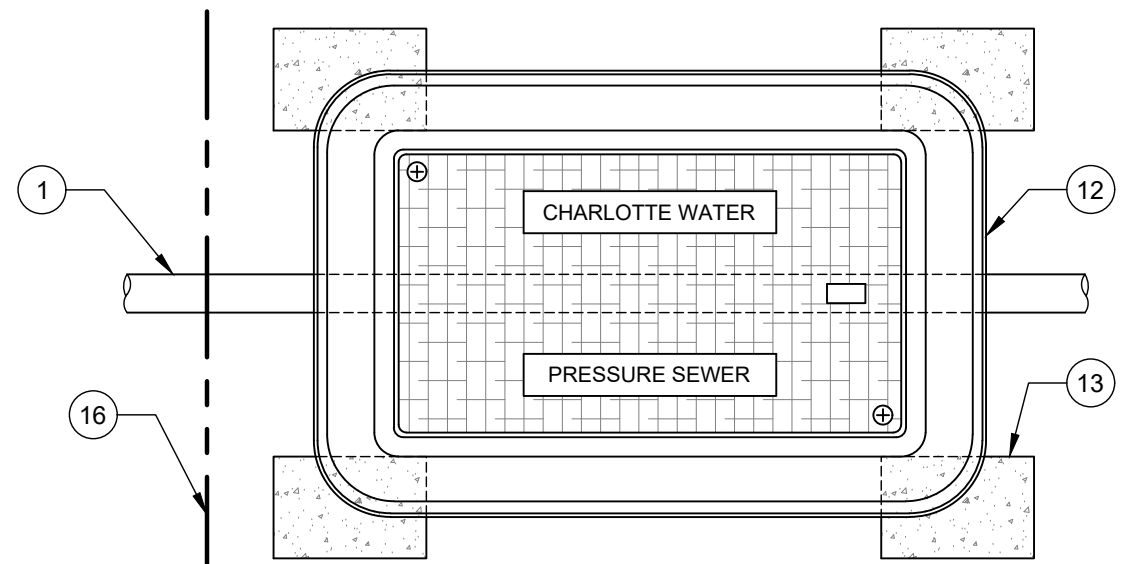
LID WEIGHT - INCLUDING MAGNET - 6 LBS.

NO. DESCRIPTION:

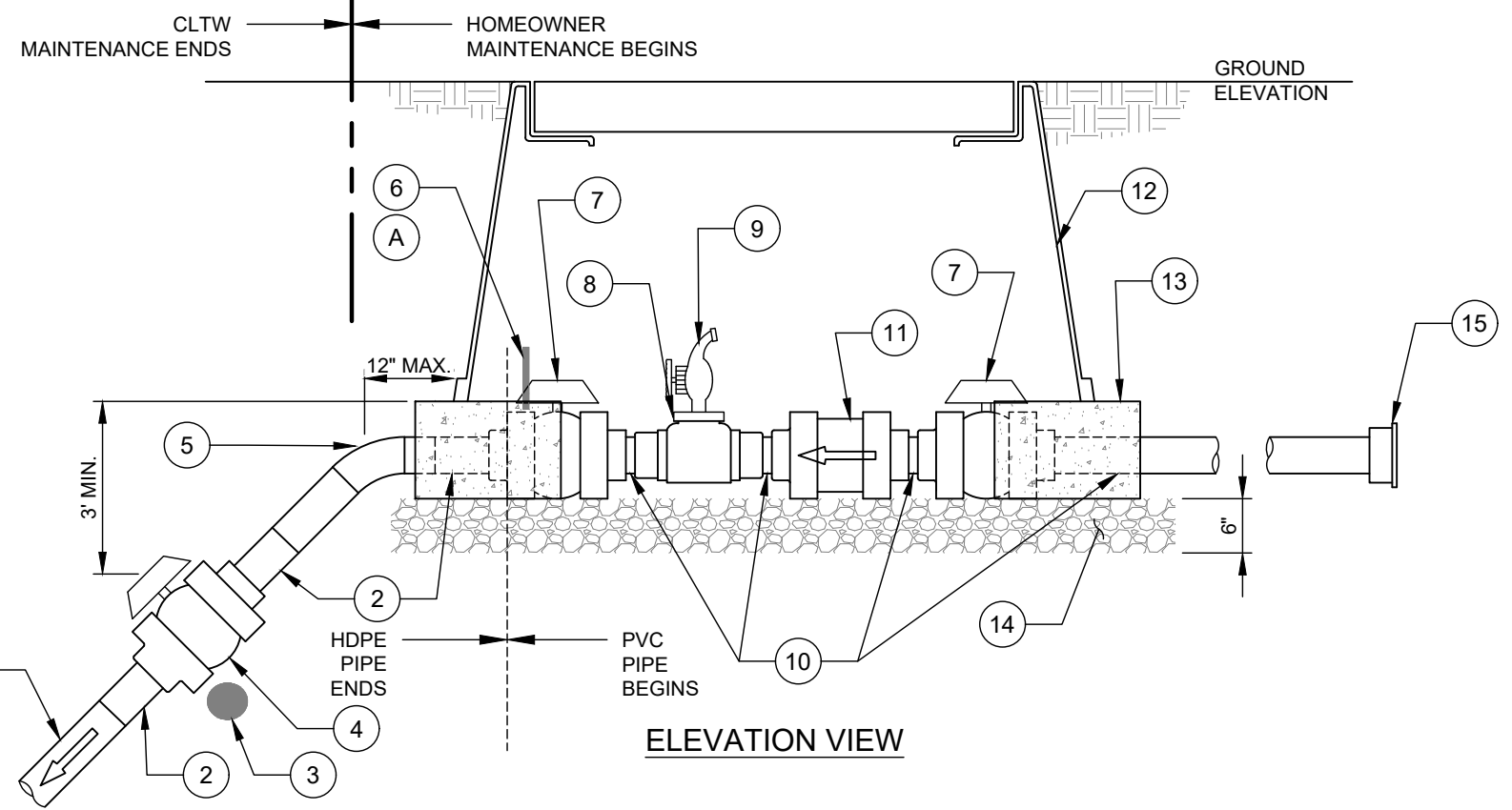
1. 1.5" SERVICE PIPE - SDR 9 HDPE PIPE.
2. 1.5" SDR 9 HDPE ADAPTOR WITH S.S. THREAD END.
3. PVC ENCAPSULATED MAGNET.
4. 1 1/2" TRUE UNION PVC BALL VALVE WITH THREADED ENDS.
5. 1.5" SDR 9 HDPE 45° BEND.
6. BARREL LOCK WITH RED CAP AND LOCKOUT TAG (FURNISHED BY CLTW) - LOCK BALL VALVE CLOSED.
7. 1.5" TRUE UNION PVC BALL VALVE WITH THREADED BY SOLVENT WELD ENDS.
8. 1 1/2" THREADED OUTLET PVC TEE W/1 1/2" X 3/4" THREADED REDUCING BUSHING (SCH 80 PVC).
9. 3/4" BALL VALVE HOSE BIB (BRASS).
10. 1.5" SCH 80 PVC PIPE.
11. 1 1/2" TRUE UNION PVC BALL CHECK VALVE.
12. SERVICE BOX.
13. NCDOT SOLID CONCRETE CAPBLOCK (4" X 4" X 8").
14. 6" #57 STONE BASE.
15. SCH 80 PVC BUSHING TO REDUCE SERVICE SIZE AND CAP.
16. PROPERTY LINE, ROAD R/W OR CLTW EASEMENT LINE.

NOTES:

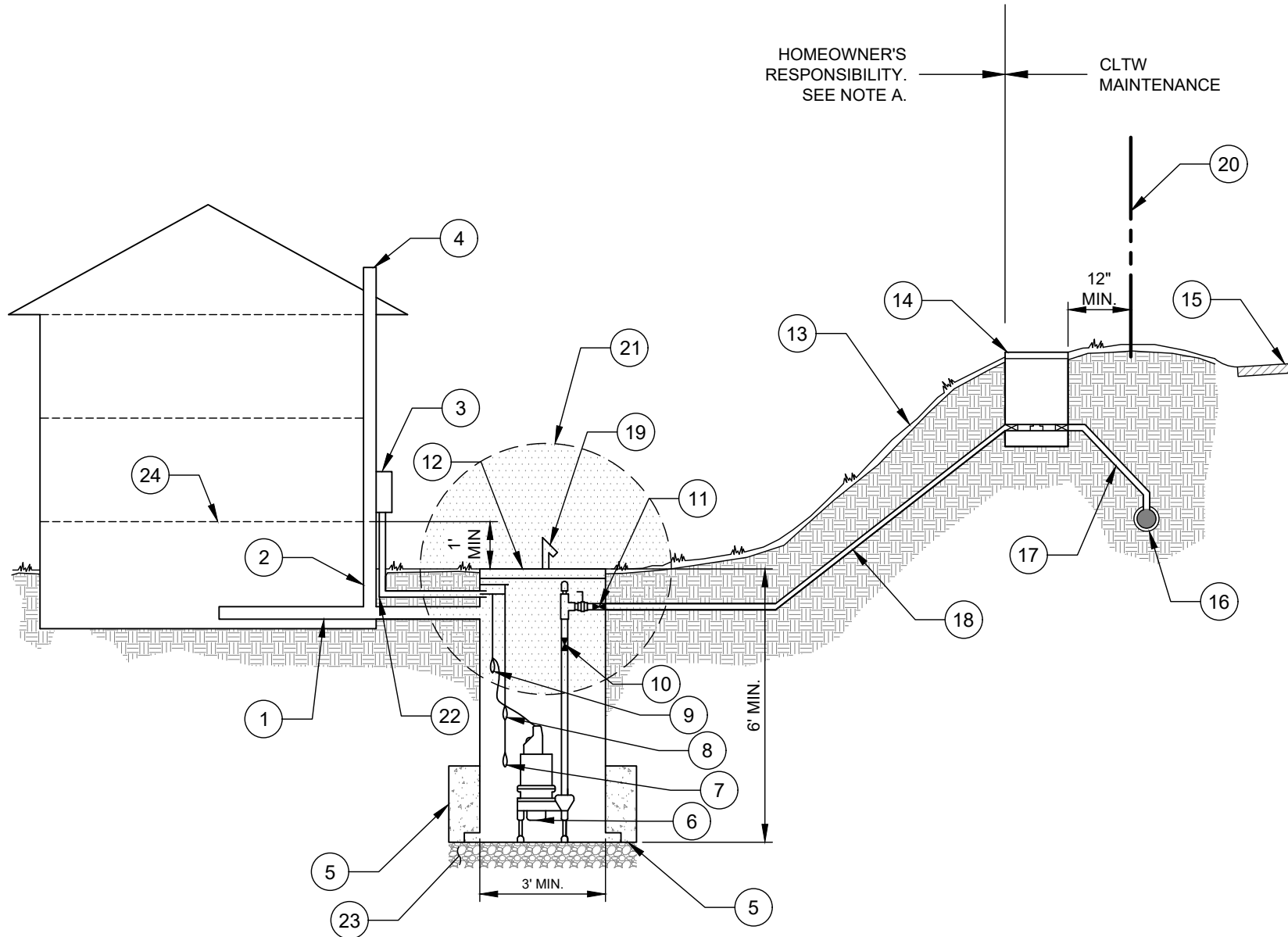
- A. BARREL LOCK AND LOCKOUT TAG TO BE INSTALLED AFTER PRESSURE TEST, AND WILL BE REMOVED AFTER CLTW INSPECTION OF PRIVATE LOW PRESSURE PUMP STATION - (CERTIFICATE OF OCCUPANCY HOLD WILL ALSO BE REMOVED).
- B. SERVICE BOX SHALL NOT BE IN SIDEWALKS OR DRIVEWAYS.
- C. TOP OF BOX SHALL BE FLUSH WITH FINISHED GRADE OF LOT.
- D. ALL HDPE PIPE AND FITTING JOINTS SHALL BE FUSED (SOCKET, BUTT OR ELECTROFUSED).
- E. USE OF MECHANICAL COUPLINGS IN THE HDPE PIPE SYSTEM ARE NOT PERMITTED WITHOUT SPECIFIC APPROVAL OF THE ENGINEER.



PLAN VIEW



ELEVATION VIEW



HOMEOWNER'S
RESPONSIBILITY.
SEE NOTE A.

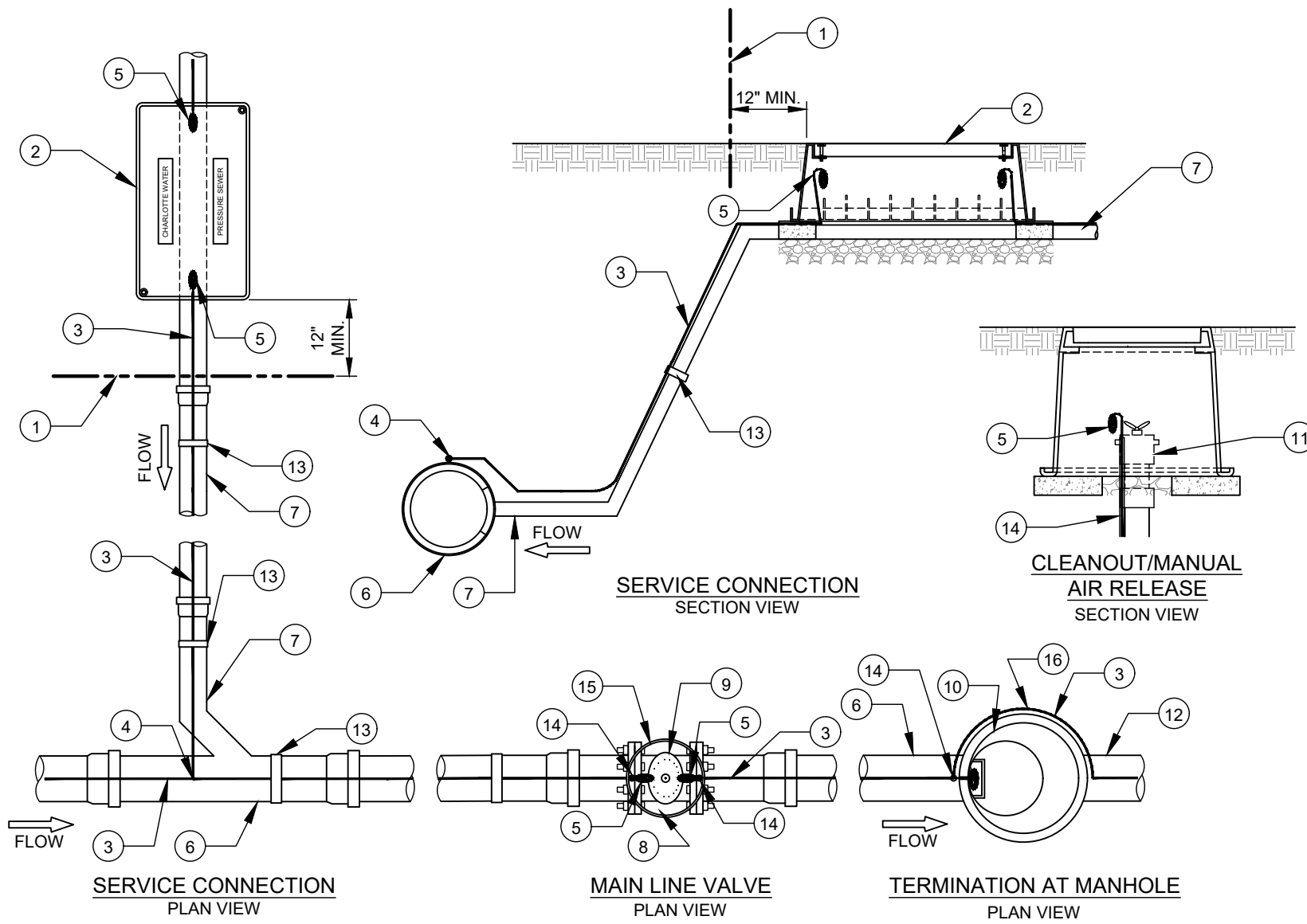
CLTW
MAINTENANCE

NO. DESCRIPTION:

1. BUILDING DRAIN.
2. VENT.
3. CONTROL BOX WITH VISUAL AND AUDIBLE HIGH LEVEL ALARMS.
4. MAIN VENT STACK.
5. CONCRETE BALLAST PER STATE MINIMUM. ADEQUATE BALLAST IS REQUIRED TO INSURE PROPER ANCHORING OF THE WET WELL.
6. NON-POSITIVE DISPLACEMENT GRINDER PUMP. MINIMUM 2 HP PUMP, CONFIRM WITH CLTW ENGINEER PRIOR TO PURCHASE.
7. OFF SWITCH FLOAT.
8. ON SWITCH FLOAT.
9. HIGH LEVEL ALARM FLOAT.
10. CHECK VALVE. PREVENTS CLOGS.
11. TRUE UNION BALL VALVE.
12. PUMP BASIN WITH SOLID, WATERTIGHT, BOLTED-DOWN COVER. ALSO SEE NOTE B.
13. FINISHED GRADE (VARIES).
14. SERVICE BOX.
15. PUBLIC ROAD.
16. PRESSURE SEWER STREET MAIN.
17. 1-1/2" SERVICE LINE.
18. 1-1/4" OR 1-1/2" INDIVIDUAL PUMP LINE.
19. VENT WITH S.S. INSECT SCREEN.
20. ROAD R/W.
21. 3' RADIUS EXPLOSION PROOF ZONE AROUND VENT PER NFPA 820.
22. NFPA 820 CONNECTION AND FIRE BLOCK.
23. 6" MIN. COMPACTED SUBBASE.
24. FINISHED FLOOR ELEVATION.

NOTES:

- A. RESPONSIBILITY IS DELEGATED BY CLTW TO HOMEOWNER, HOA, OR UTILITY OWNER.
- B. CONFIGURATION MAY VARY SLIGHTLY DEPENDING ON PRIVATE PLUMBING CONTRACTOR AS PUMP BASIN TO BE PLACED ON PROPERTY AT LOCATION DETERMINED BY PLUMBER.
- C. TOP OF WET WELL SHALL BE INSTALLED A MINIMUM OF TWO (2) FEET ABOVE THE 100-YEAR FLOOD ELEVATION.
- D. RIM ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' BELOW FINISHED FLOOR ELEVATION.
- E. CONTROL PANEL SHALL BE LABELED WITH PLACARD OR STICKER WITH 24-HOUR EMERGENCY CONTACT NAME AND TELEPHONE NUMBER.
- F. CONTROL BOX: WHICH PROVIDES THE PUMP POWER, THERMAL CIRCUIT BREAKER, AUDIBLE & VISUAL HIGH WATER ALARMS, SYSTEM STATUS AND COMPUTER PORT FOR ALTERING LEVEL SETTINGS.
- G. CLTW TO USE DISCRETION IN DETERMINING WHEN AND WHERE MODIFICATIONS TO THIS DETAIL ARE SUITABLE.



- NO. DESCRIPTION:**
1. PROPERTY/EASEMENT LINE/ROAD R/W.
 2. LOW PRESSURE SEWER SERVICE BOX .
 3. #12 GAUGE SOLID COPPER TRACER WIRES WITH 30 MILS GREEN HDPE INSULATION (TYP.).
 4. SPLICE.
 5. 24" NEATLY COILED TRACER WIRE IN BOX.
 6. LOW PRESSURE SEWER FORCE MAIN.
 7. LOW PRESSURE SEWER SERVICE LATERAL.
 8. NO SPLICE.
 9. MAIN LINE VALVE WITH VALVE BOX ASSEMBLY.
 10. SANITARY SEWER MANHOLE.
 11. CLEANOUT/MANUAL AIR RELEASE.
 12. GRAVITY SEWER MAIN.
 13. FASTEN TRACER WIRE TO PIPE WITH ZIP TIES OR DUCT TAPE AROUND THE CIRCUMFERENCE OF PIPE AT 10' INTERVALS (TYP.).
 14. ALL VERTICAL WIRE SHALL BE PLACED IN 1/4" OR 3/8" I.D. CONDUIT SDR 9 PEX TUBING - ASTM F876 (TYP.).
 15. WHERE 2 OR MORE WIRES ENTER A VALVE BOX ASSEMBLY, (PROVIDE 24 INCHES OF NEATLY COILED WIRE) AFTER ACCEPTANCE TESTING, CONNECT ENDS OF ALL WIRES WITH WATER PROOF WIRE CONNECTOR NUT AND 3" BARE #12 COPPER WIRE PIGTAIL.
 16. FOR TRACER WIRE INSTALLATION AT A SEWER MANHOLE, REFER TO THE GRAVITY SEWER DETAILS.

NO.	DESCRIPTION:
1.	3-LAYERS OF HALF LAPPED VINYL TAPE.
2.	3-LAYERS OF HALF LAPPED RUBBER TAPE.
3.	COPPER CRIMP CONNECTOR OR COPPER ALLOY SPLIT BOLT CONNECTOR.
4.	SOLID COPPER WITH 30 MILS GREEN HDPE INSULATION (AWG #12 TRACER WIRE).
5.	COPPER ALLOY SPLIT BOLT.
6.	COPPER ALLOY PRESSURE BAR.
7.	COPPER ALLOY HEX NUT.
8.	SOLID COPPER TRACER WIRES.

NOTES:

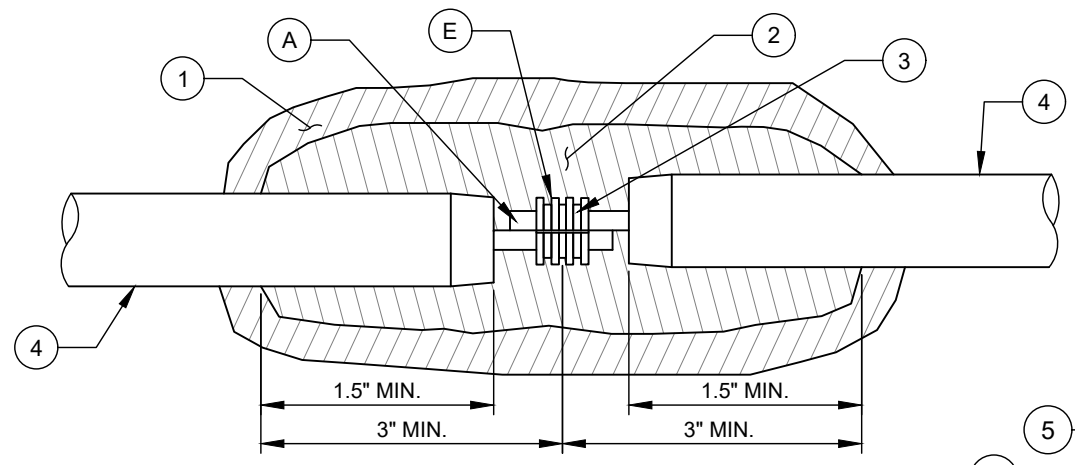
A. REMOVE MAINLINE (PRIMARY) TRACER WIRE INSULATION MATERIAL TO EXPOSE COPPER CORE WIRE.

B. IN LINE SPLICES SHALL BE LIMITED TO THE GREATEST EXTENT POSSIBLE. TRACER WIRE SHALL BE AS CONTINUOUS AS POSSIBLE WITHOUT SPLICES.

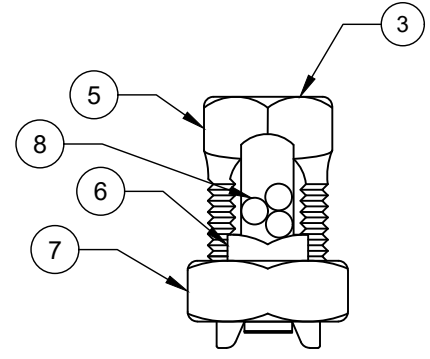
C. SPLICES SHALL INCLUDE 2' OF SLACK WIRE ON EACH SIDE OF EACH SPLICE (SEE DETAIL ON THIS SHEET).

D. 4-WAY WIRE SPLICES ARE ACCEPTABLE, WHERE NEEDED FOR 2 LATERALS CLOSELY SPACED, TO REDUCE THE NUMBER OF SPLICES.

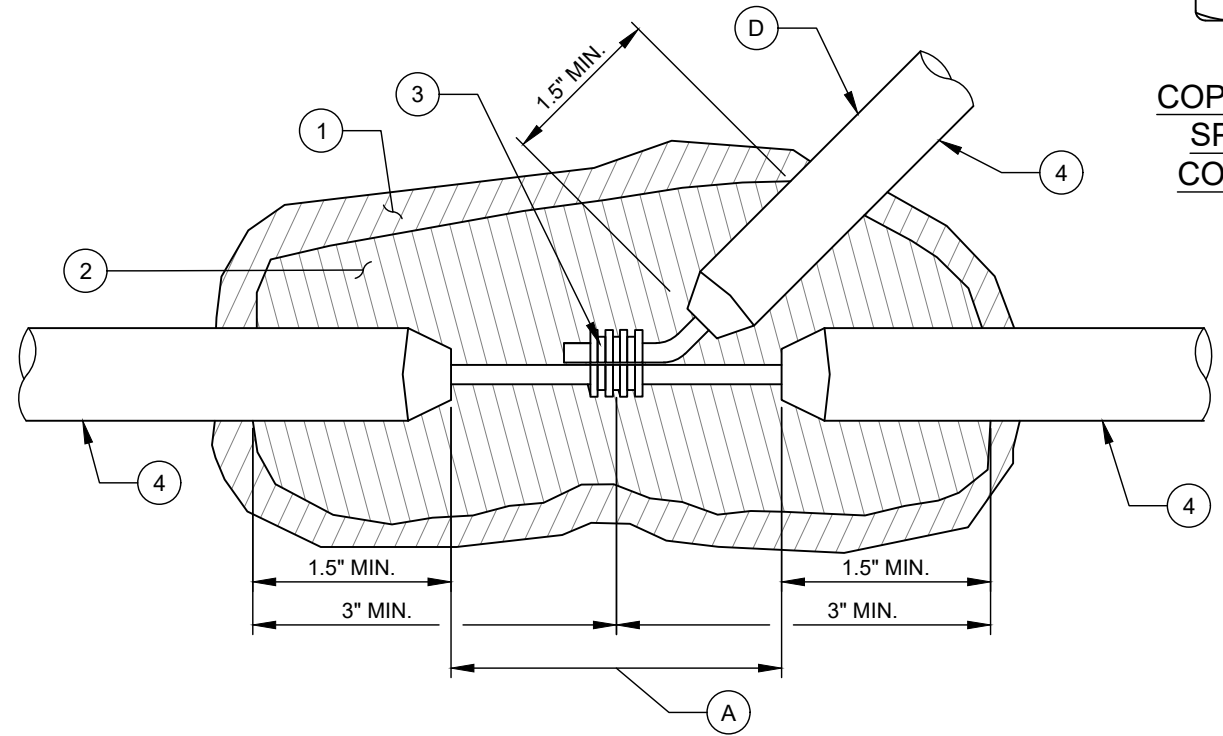
E. THE CRIMPING TOOL USED TO COMPLETE THE CRIMP SHALL BE DESIGNED SPECIFICALLY FOR USE WITH THE CONNECTOR USED. GENERIC CRIMPING TOOLS ARE NOT ACCEPTABLE.



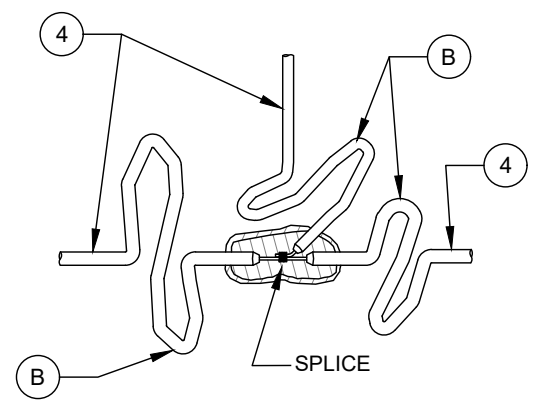
IN-LINE OR REPAIR SPLICE



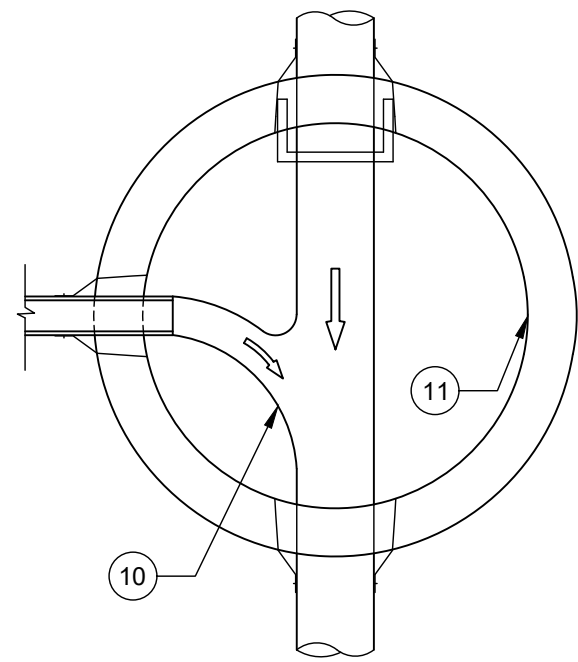
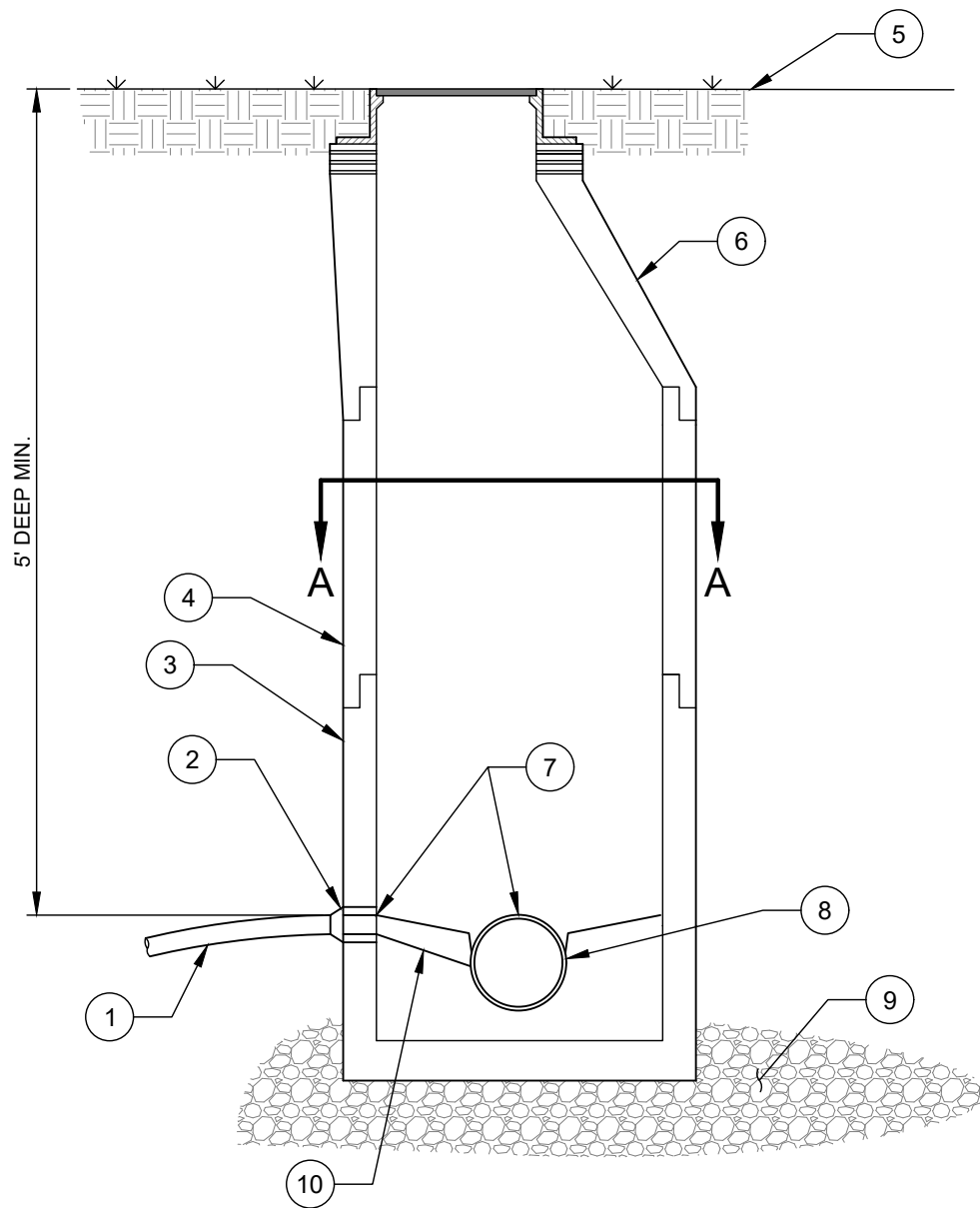
COPPER ALLOY SPLIT BOLT CONNECTOR



BRANCH IN-LINE SPLICE FOR SERVICE LATERAL, WYE, OR CLEANOUT/AIR RELEASE



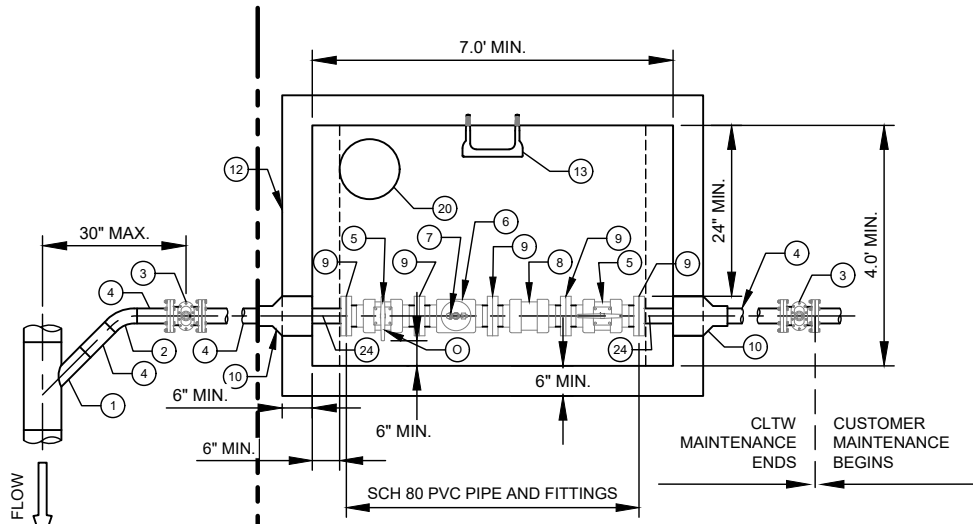
SPLICES WITH 2 FEET OF SLACK WIRE



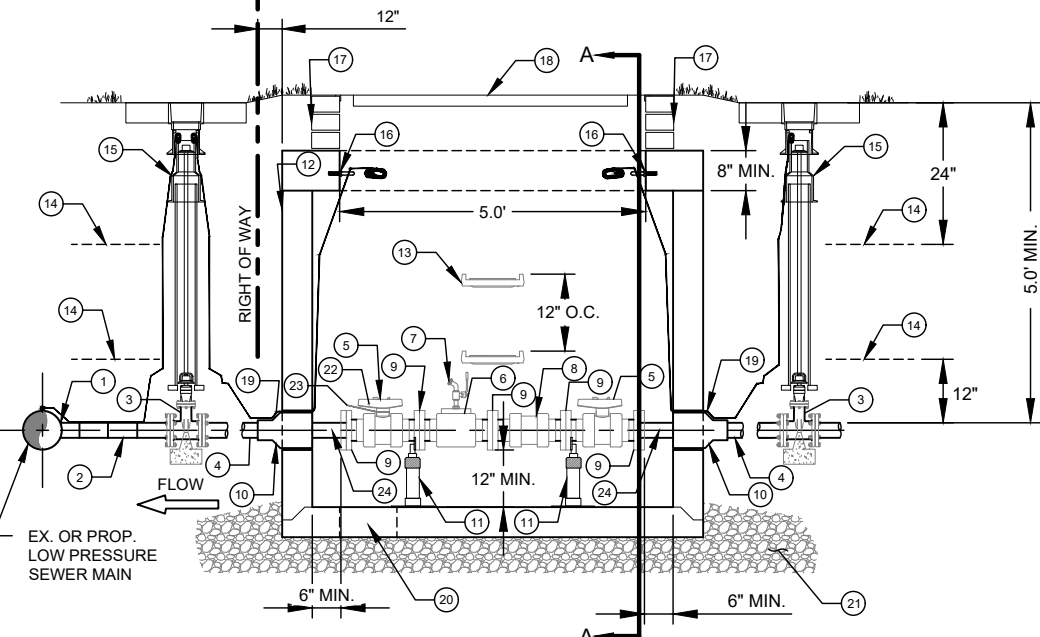
SECTION A-A

- NO. DESCRIPTION:**
1. LOW PRESSURE SEWER MAIN.
 2. CORE HOLE AND INSTALL FLEXIBLE BOOT CONNECTOR.
 3. BASE SECTION.
 4. RISER.
 5. EXISTING OR FINISHED GRADE.
 6. CONE.
 7. CROWN OF LOW PRESSURE SEWER MAIN TO BE INSTALLED AT SAME ELEVATION AS THE CROWN OF THE GRAVITY SEWER LINE ENTERING THE MANHOLE.
 8. RECEIVING GRAVITY SEWER.
 9. #57 STONE BASE, SUITABLE BEARING CAPACITY AS APPROVED BY GEOTECHNICAL ENGINEER.
 10. RESHAPE INVERT.
 11. CORROSION PROTECTION REQUIRED - SEE GRAVITY SEWER MANHOLE SPECIFICATIONS.

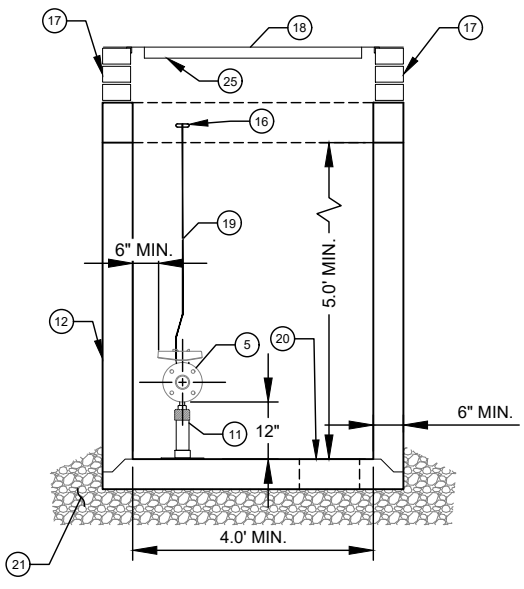
- NOTES:**
- A. INSIDE AND OUTSIDE DROPS SHALL NOT BE ALLOWED AT LOW PRESSURE SEWER CONNECTIONS TO MANHOLE.
 - B. TRACER WIRE NOT SHOWN FOR CLARITY. FOR TRACER WIRE INSTALLATION, REFER TO APPROPRIATE STANDARD DETAIL.



PLAN VIEW



SIDE VIEW

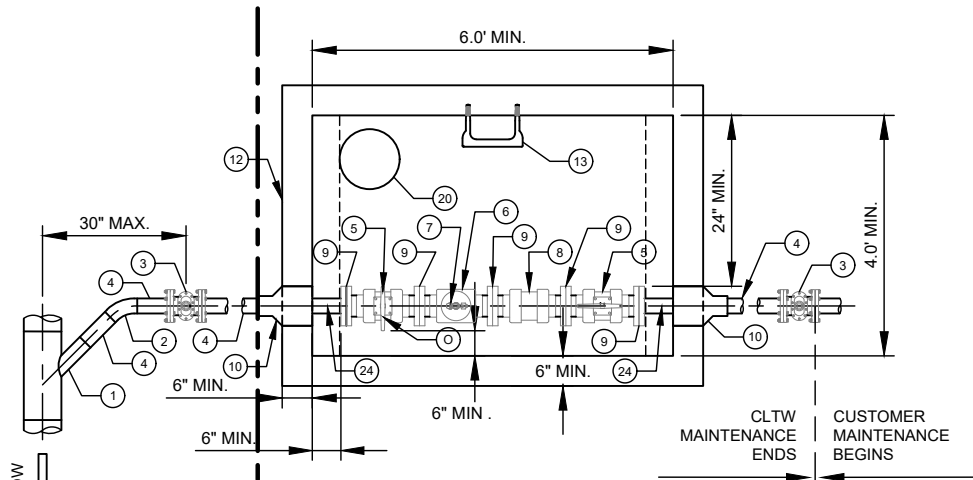


SECTION A-A VIEW

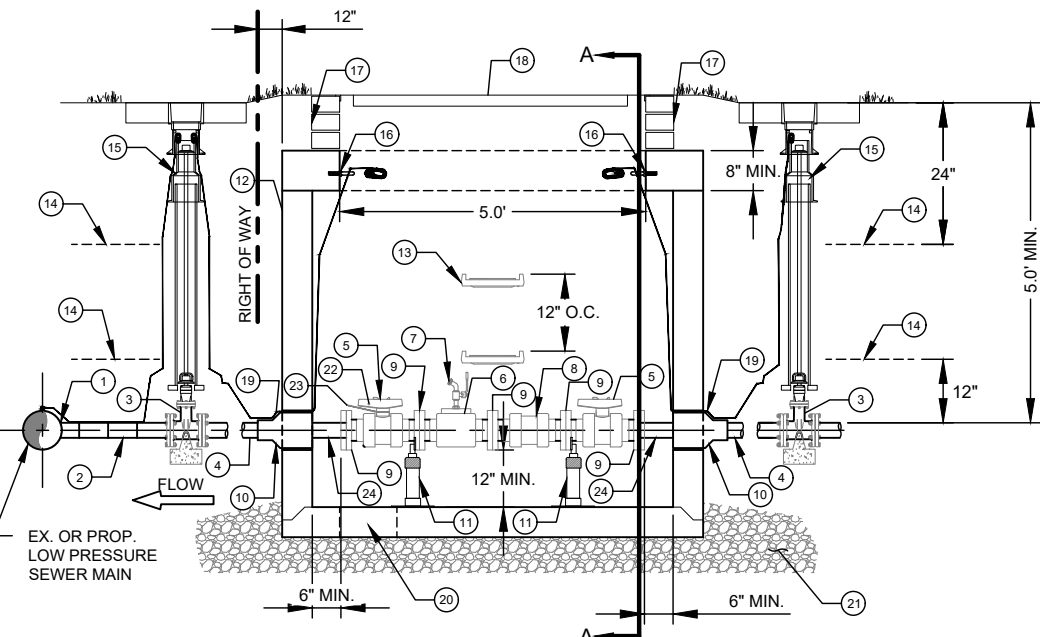
P-#####
XXXXXXXXXXXXX AVE
APT/UNIT XX

- | NO. | DESCRIPTION: |
|-----|---|
| 1. | 4" OUTLET SDR 9 HDPE WYE, WITH CONCRETE THRUST BLOCKING. |
| 2. | 4" SDR 9 HDPE 45° BEND, WITH CONCRETE THRUST BLOCKING. |
| 3. | 4" MJ DI PLUG VALVE, WITH SDR 9 HDPE MJ ADAPTOR, EXTENSION STEM, 2" OPERATING NUT, AND CONCRETE THRUST BLOCKING/ SUPPORT. |
| 4. | 4" SDR 9 HDPE PIPE - BUTT FUSED. |
| 5. | 4" PVC HAYWARD TRUE UNION BALL VALVE WITH FLANGE ENDS, LOCKOUT HANDLE. |
| 6. | 4" X 4" X 2" SCH 80 PVC FLANGE TEE WITH 2" SOLVENT WELD OUTLET, 2" X 3/4" PVC REDUCING BUSHING, WITH FNPT OUTLET. |
| 7. | 3/4" BRASS BALL VALVE HOSE BIB, MNPT. |
| 8. | 4" PVC HAYWARD TRUE UNION BALL CHECK VALVE W/ FLANGE ENDS. |
| 9. | 4" SCH 80 PVC FLANGE SOLVENT WELD ADAPTORS, IF FLANGED MAJOR COMPONENTS ARE NOT AVAILABLE. |
| 10. | RUBBER PIPE CONNECTOR BOOT (DO NOT GROUT AROUND PIPE). |
| 11. | S.S. ADJUSTABLE FLANGE PIPE SUPPORTS W/ S.S EPOXY ADHESIVE ANCHORS (REQ'D - 2 EACH). |
| 12. | PRECAST CONCRETE VAULT - MIN L,W,D = 7' X 4' X 5'. |
| 13. | PLASTIC STEP - 12" O.C. VERTICAL SPACING. |
| 14. | 6" WIDE "PRESSURE SEWER" WARNING TAPE. |
| 15. | STD SEWER VALVE BOX ASSEMBLY WITH CONCRETE PAD. |
| 16. | 3/8" S.S. EYE BOLT (TYP). |
| 17. | MIN 3 COURSES CAP BLOCK WITH 3/8" MORTAR JOINTS, OR PRECAST RISER SECTION, MAX 2.5'. |
| 18. | 4' X 5' STEEL METER VAULT FRAME AND COVER, 1000 PSF MIN LOAD RATING, COVER SHALL BE "CLTW - L. P. SEWER", ERT HANGERS AND SLOTS NOT REQUIRED. |
| 19. | SOLID COPPER AWG #12 GAUGE TRACER WIRE WITH 30 MILS GREEN HDPE INSULATION, TERMINATE WITH 24" AT EYE BOLT. |
| 20. | 12" DIAMETER SUMP HOLE. |
| 21. | 12" COMPACTED #57 WASHED STONE. |
| 22. | BARREL LOCK - FURNISHED BY CLTW. |
| 23. | PUMP STATION INSPECTION LOCKOUT WARNING TAG - FURNISHED BY CLTW. |
| 24. | SDR 9 HDPE FLANGE ADAPTOR. |
| 25. | ATTACH GREEN ENGRAVED LABEL, WITH PREMISE NUMBER AND ADDRESS, TO UNDERSIDE OF DOOR, NEAR THE LIFTING HANDLE. |

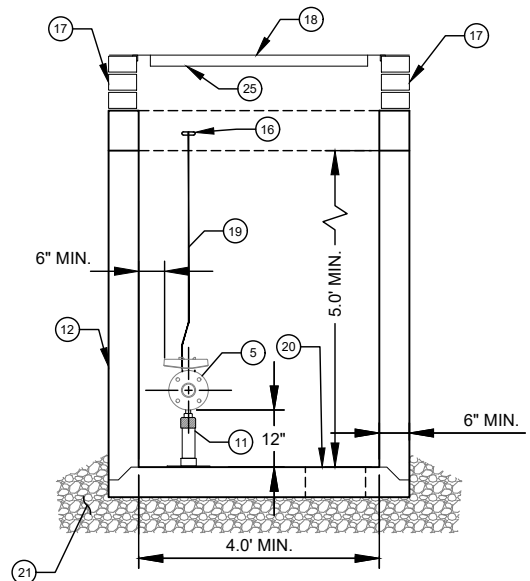
- NOTES:
- A. VAULT SHALL NOT BE LOCATED IN PAVEMENT, SIDEWALKS OR DRIVEWAYS.
 - B. VAULT SHALL BE 7' LONG, 4' WIDE, 5' DEEP MINIMUM.
 - C. ALL FLANGE HARDWARE SHALL BE 316 OR 304 STAINLESS STEEL WITH ANTI-SEIZE COMPOUND, FLAT WASHER REQUIRED BETWEEN BOLT HEAD AND FLANGE, FLAT WASHER AND LOCK WASHER REQUIRED BETWEEN NUT AND FLANGE. TORQUE TO 20-25 FT. LBS.
 - D. ALL PIPE AND FITTINGS SHALL BE SDR 9 HDPE, EXCEPT AS INDICATED INSIDE THE VAULT.
 - E. ASSEMBLY CONFIGURATION AND LENGTH MAY VARY DUE TO BRAND - VERIFY LENGTH TO DETERMINE MINIMUM VAULT LENGTH.
 - F. ALL CONCRETE SHALL BE MINIMUM 4000 PSI COMPRESSIVE STRENGTH.
 - G. DESIGN SHALL CONFORM TO ASTM C858 - SPECIFICATIONS FOR "UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURE".
 - H. STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857.
 - I. REBARS SHALL BE GRADE 60 PER ASTM A615.
 - J. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
 - K. DIAGONAL REINFORCING SHALL BE ADDED AT ALL OPENINGS.
 - L. PIPE PENETRATION SHALL BE SEALED WITH FLEXIBLE CONNECTORS (MANHOLE BOOTS).
 - M. FRAME TO BE FLUSH WITH GROUND OR CONCRETE SIDEWALK, GROUND SHALL SLOPE AWAY FROM VAULT.
 - N. ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC.
 - O. BARREL LOCK AND LOCKOUT TAG TO BE INSTALLED AFTER PRESSURE TEST, AND WILL BE REMOVED AFTER CLTW INSPECTION OF PRIVATE LOW PRESSURE PUMP STATION - (CERTIFICATE OF OCCUPANCY HOLD WILL ALSO BE REMOVED).
 - P. WHEN CONNECTING TO A PVC LOW PRESSURE MAIN, NO. 1, NO. 2, NO. 3, NO. 4, AND NO. 24 SHALL BE SCH 80 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS.



PLAN VIEW



SIDE VIEW

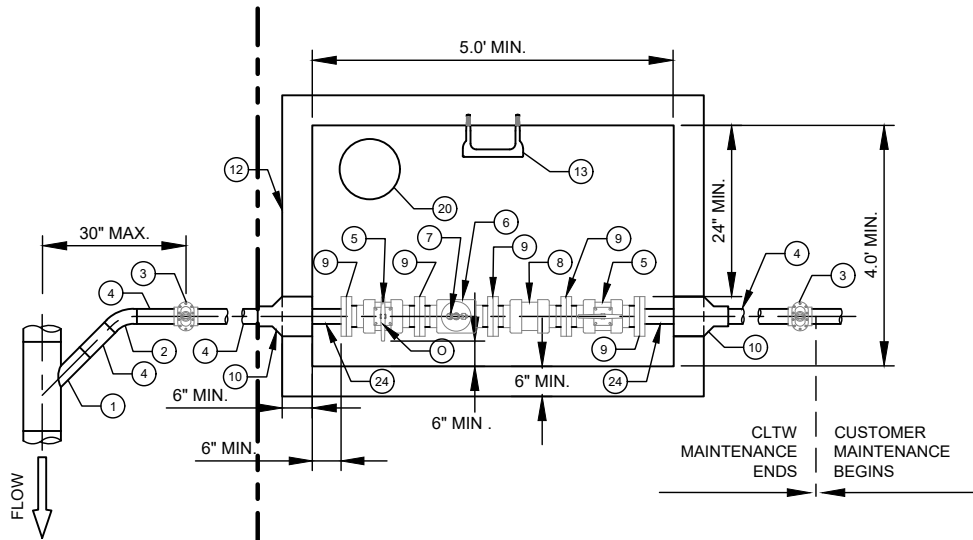


SECTION A-A VIEW

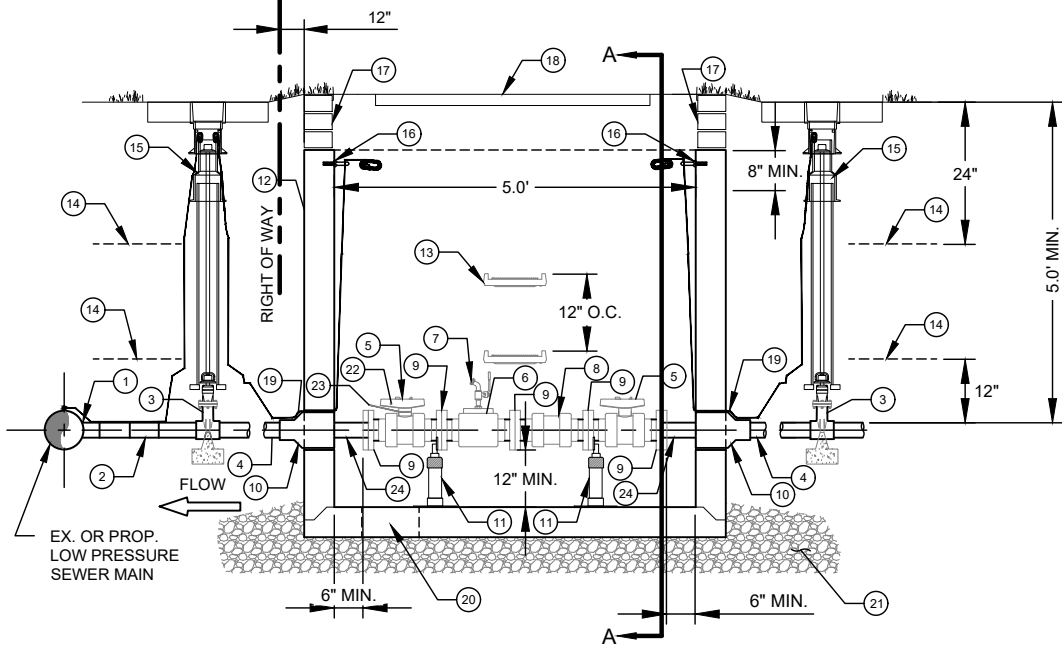
P-#####
XXXXXXXXXXXXX AVE
APT/UNIT XX

- NO. DESCRIPTION:**
1. 3" OUTLET SDR9 HDPE WYE, WITH CONCRETE THRUST BLOCKING.
 2. 3" SDR9 HDPE 45° BEND, WITH CONCRETE THRUST BLOCKING.
 3. 3" MJ DI PLUG VALVE, W/ SDR9 HDPE MJ ADAPTOR, EXTENSION STEM, 2" OPERATING NUT, AND CONCRETE THRUST BLOCKING/SUPPORT.
 4. 3" SDR9 HDPE PIPE - BUTT FUSED.
 5. 3" PVC HAYWARD TRUE UNION BALL VALVE WITH FLANGE ENDS, LOCKOUT HANDLE.
 6. 3" X 3" X 2" SCH 80 PVC FLANGE TEE WITH 2" SOLVENT WELD OUTLET, 2"X3/4" PVC REDUCING BUSHING, WITH FNPT OUTLET.
 7. 3/4" BRASS BALL VALVE HOSE BIB, MNPT.
 8. 3" PVC HAYWARD TRUE UNION BALL CHECK VALVE WITH FLANGE ENDS.
 9. 3" SCH 80 PVC FLANGE SOLVENT WELD ADAPTORS, IF FLANGED MAJOR COMPONENTS ARE NOT AVAILABLE.
 10. RUBBER PIPE CONNECTOR BOOT (DO NOT GROUT AROUND PIPE).
 11. S.S. ADJUSTABLE FLANGE PIPE SUPPORTS W/ S.S EPOXY ADHESIVE ANCHORS (REQ'D - 2 EACH).
 12. PRECAST CONCRETE VAULT - MIN L,W,D = 6' X 4' X 5'.
 13. PLASTIC STEP - 12" O.C. VERTICAL SPACING.
 14. 6" WIDE "PRESSURE SEWER" WARNING TAPE.
 15. STD SEWER VALVE BOX ASSEMBLY WITH CONCRETE PAD.
 16. 3/8" S.S. EYE BOLT (TYP).
 17. MIN 3 COURSES CAP BLOCK WITH 3/8" MORTAR JOINTS, OR PRECAST RISER SECTION, MAX 2.5'.
 18. 4' X 5' STEEL METER VAULT FRAME AND COVER, 1000 PSF MIN LOAD RATING, COVER SHALL BE "CLT WATER - L. P. SEWER", ERT HANGERS AND SLOTS NOT REQUIRED.
 19. SOLID COPPER AWG #12 GAUGE TRACER WIRE WITH 30 MILS GREEN HDPE INSULATION, TERMINATE WITH 24" AT EYE BOLT.
 20. 12" DIA SUMP HOLE.
 21. 12" COMPACTED #57 WASHED STONE.
 22. BARREL LOCK - FURNISHED BY CLTW.
 23. PUMP STATION INSPECTION LOCKOUT WARNING TAG - FURNISHED BY CLTW.
 24. SDR9 HDPE FLANGE ADAPTOR.
 25. ATTACH GREEN ENGRAVED LABEL, WITH PREMISE NUMBER, AND ADDRESS TO UNDERSIDE OF DOOR, NEAR THE LIFTING HANDLE.

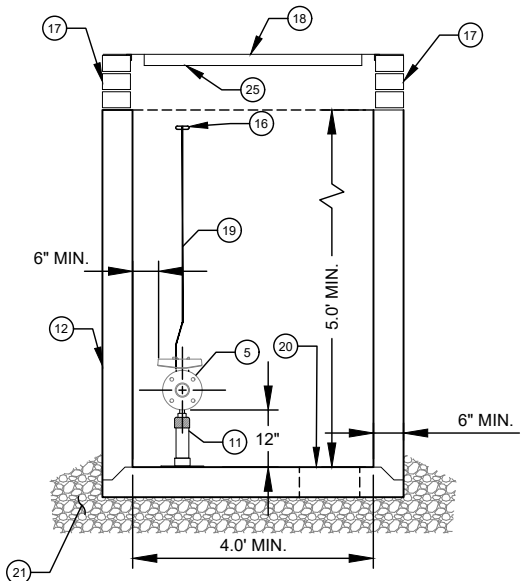
- NOTES:**
- A. VAULT SHALL NOT BE LOCATED IN PAVEMENT, SIDEWALKS OR DRIVEWAYS.
 - B. VAULT SHALL BE 6' LONG, 4' WIDE, 5' DEEP MINIMUM.
 - C. ALL FLANGE HARDWARE SHALL BE 316 OR 304 STAINLESS STEEL WITH ANTI-SEIZE COMPOUND, FLAT WASHER REQUIRED BETWEEN BOLT HEAD AND FLANGE, FLAT WASHER AND LOCK WASHER REQUIRED BETWEEN NUT AND FLANGE. TORQUE TO 20-25 FT. LBS.
 - D. ALL PIPE AND FITTINGS SHALL BE SDR 9 HDPE, EXCEPT AS INDICATED INSIDE THE VAULT.
 - E. ASSEMBLY CONFIGURATION AND LENGTH MAY VARY DUE TO BRAND - VERIFY LENGTH TO DETERMINE MINIMUM VAULT LENGTH.
 - F. ALL CONCRETE SHALL BE MINIMUM 4000 PSI COMPRESSIVE STRENGTH.
 - G. DESIGN SHALL CONFORM TO ASTM C858 - SPECIFICATIONS FOR "UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURE".
 - H. STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857.
 - I. REBARS SHALL BE GRADE 60 PER ASTM A615.
 - J. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
 - K. DIAGONAL REINFORCING SHALL BE ADDED AT ALL OPENINGS.
 - L. PIPE PENETRATION SHALL BE SEALED WITH FLEXIBLE CONNECTORS (MANHOLE BOOTS).
 - M. FRAME TO BE FLUSH WITH GROUND OR CONCRETE SIDEWALK, GROUND SHALL SLOPE AWAY FROM VAULT.
 - N. ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC.
 - O. BARREL LOCK AND LOCKOUT TAG TO BE INSTALLED AFTER PRESSURE TEST, AND WILL BE REMOVED AFTER CLTW INSPECTION OF PRICATE LOW PRESSURE PUMP STATION - (CERTIFICATION OF OCCUPANCY HOLD WILL ALSO BE REMOVED).
 - P. WHEN CONNECTING TO A PVC LOW PRESSURE MAIN, NO. 1, NO. 2, NO. 3, NO. 4, AND NO. 24 SHALL BE SCH 80 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS.



PLAN VIEW



SIDE VIEW

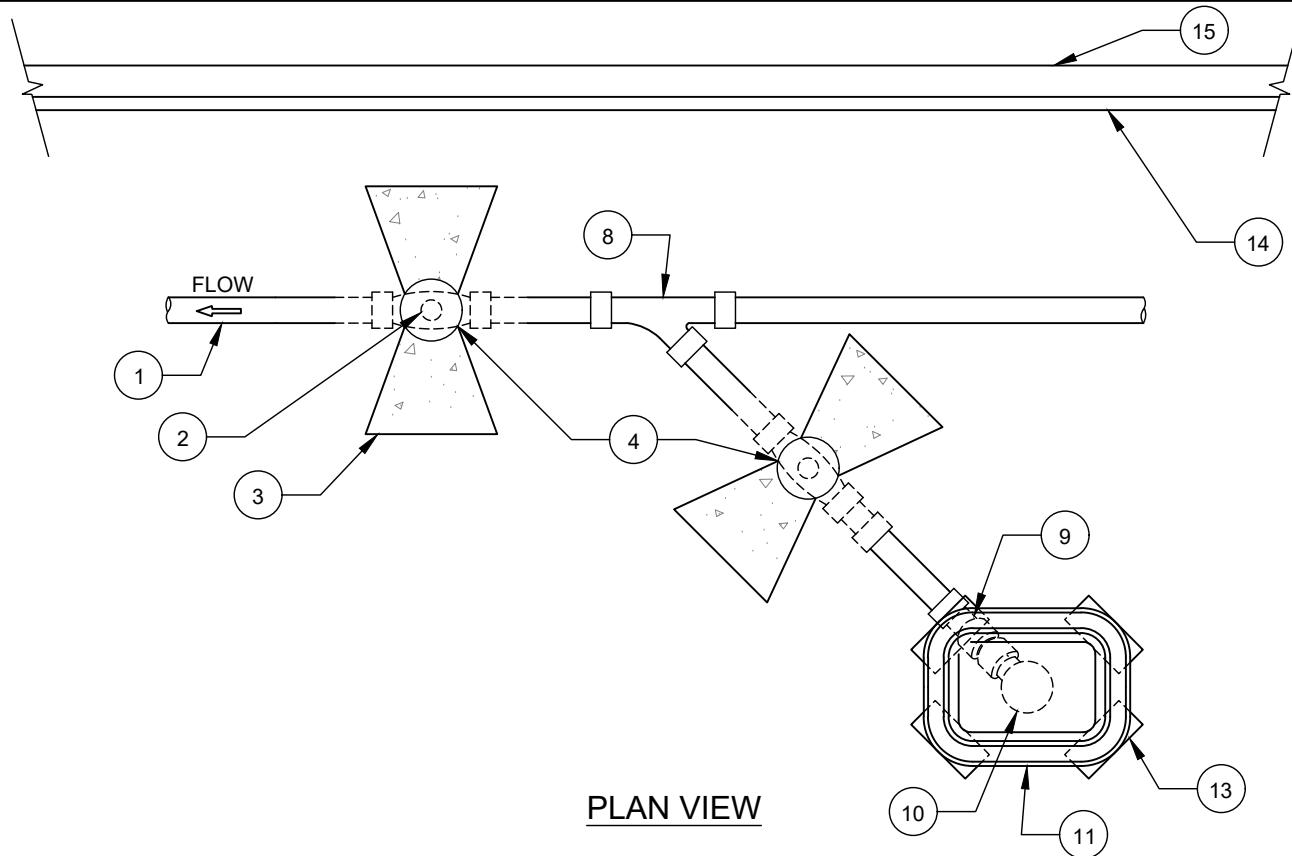


SECTION A-A VIEW

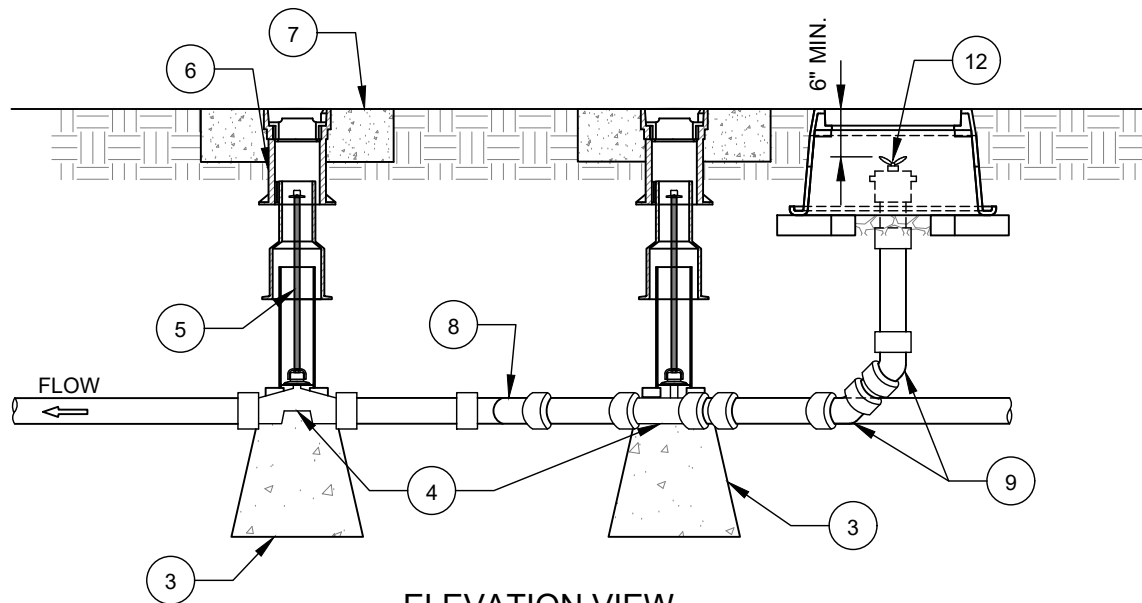
P-#####
XXXXXXXXXXXXX AVE
APT/UNIT XX

- NO. DESCRIPTION:**
1. 2" OUTLET SDR9 HDPE WYE, WITH CONCRETE THRUST BLOCKING.
 2. 2" SDR9 HDPE 45° BEND, WITH CONCRETE THRUST BLOCKING.
 3. 2" DI PLUG VALVE, FNPT, EXTENSION STEM, 2" OPERATING NUT, AND CONCRETE THRUST BLOCKING/SUPPORT.
 4. 2" SDR9 HDPE PIPE - BUTT FUSED.
 5. 2" PVC HAYWARD TRUE UNION BALL VALVE WITH FLANGE ENDS, LOCKOUT HANDLE.
 6. 2" X 2" X 2" SCH 80 PVC FLANGE TEE WITH 2" SOLVENT WELD OUTLET, 2" X 3/4" PVC REDUCING BUSHING, WITH FNPT OUTLET.
 7. 3/4" BRASS BALL VALVE HOSE BIB, MNPT.
 8. 2" PVC HAYWARD TRUE UNION BALL CHECK VALVE WITH FLANGE ENDS.
 9. 2" SCH 80 PVC FLANGE SOLVENT WELD ADAPTORS, IF FLANGED MAJOR COMPONENTS ARE NOT AVAILABLE.
 10. RUBBER PIPE CONNECTOR BOOT (DO NOT GROUT AROUND PIPE).
 11. S.S. ADJUSTABLE FLANGE PIPE SUPPORTS WITH S.S. EPOXY ADHESIVE ANCHORS (REQ'D - 2 EACH).
 12. PRECAST CONCRETE VAULT - MIN L.W.D = 5' X 4' X 5'.
 13. PLASTIC STEP - 12" O.C. VERTICAL SPACING.
 14. 6" WIDE "PRESSURE SEWER" WARNING TAPE.
 15. STD SEWER VALVE BOX ASSEMBLY WITH CONCRETE PAD.
 16. 3/8" S.S. EYE BOLT (TYP).
 17. MIN 3 COURSES CAP BLOCK WITH 3/8" MORTAR JOINTS, OR PRECAST RISER SECTION, MAX 2.5'.
 18. 4' X 5' STEEL METER VAULT FRAME AND COVER, 1000 PSF MIN LOAD RATING, COVER SHALL BE "CLT WATER - L. P. SEWER", ERT HANGERS AND SLOTS NOT REQUIRED.
 19. SOLID COPPER AWG #12 GAUGE TRACER WIRE WITH 30 MILS GREEN HDPE INSULATION, TERMINATE WITH 24" AT EYE BOLT.
 20. 12" DIAMETER SUMP HOLE.
 21. 12" COMPACTED #57 WASHED STONE.
 22. BARREL LOCK - FURNISHED BY CLTW.
 23. PUMP STATION INSPECTION LOCKOUT WARNING TAG - FURNISHED BY CLTW.
 24. SDR9 HDPE FLANGE ADAPTOR.
 25. ATTACH GREEN ENGRAVED LABEL, WITH PREMISE NUMBER, AND ADDRESS TO UNDERSIDE OF DOOR, NEAR THE LIFTING HANDLE.

- NOTES:**
- A. VAULT SHALL NOT BE LOCATED IN PAVEMENT, SIDEWALKS OR DRIVEWAYS.
 - B. VAULT SHALL BE 5' LONG, 4' WIDE, 5' DEEP MINIMUM.
 - C. ALL FLANGE HARDWARE SHALL BE 316 OR 304 STAINLESS STEEL WITH ANTI-SEIZE COMPOUND, FLAT WASHER REQUIRED BETWEEN BOLT HEAD AND FLANGE, FLAT WASHER AND LOCK WASHER REQUIRED BETWEEN NUT AND FLANGE. TORQUE TO 20-25 FT. LBS.
 - D. ALL PIPE AND FITTINGS SHALL BE SDR 9 HDPE, EXCEPT AS INDICATED INSIDE THE VAULT.
 - E. ASSEMBLY CONFIGURATION AND LENGTH MAY VARY DUE TO BRAND - VERIFY LENGTH TO DETERMINE MINIMUM VAULT LENGTH.
 - F. ALL CONCRETE SHALL BE MINIMUM 4000 PSI COMPRESSIVE STRENGTH.
 - G. DESIGN SHALL CONFORM TO ASTM C858 - SPECIFICATIONS FOR "UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURE".
 - H. STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857.
 - I. REBARS SHALL BE GRADE 60 PER ASTM A615.
 - J. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
 - K. DIAGONAL REINFORCING SHALL BE ADDED AT ALL OPENINGS.
 - L. PIPE PENETRATION SHALL BE SEALED WITH FLEXIBLE CONNECTORS (MANHOLE BOOTS).
 - M. FRAME TO BE FLUSH WITH GROUND OR CONCRETE SIDEWALK, GROUND SHALL SLOPE AWAY FROM VAULT.
 - N. ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC.
 - O. BARREL LOCK AND LOCKOUT TAG TO BE INSTALLED AFTER PRESSURE TEST, AND WILL BE REMOVED AFTER CLTW INSPECTION OF PRIVATE LOW PRESSURE PUMP STATION - (CERTIFICATE OF OCCUPANCY HOLD WILL ALSO BE REMOVED).
 - P. WHEN CONNECTING TO A PVC LOW PRESSURE MAIN, NO. 1, NO. 2, NO. 3, NO. 4, AND NO. 24 SHALL BE SCH 80 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS.



PLAN VIEW



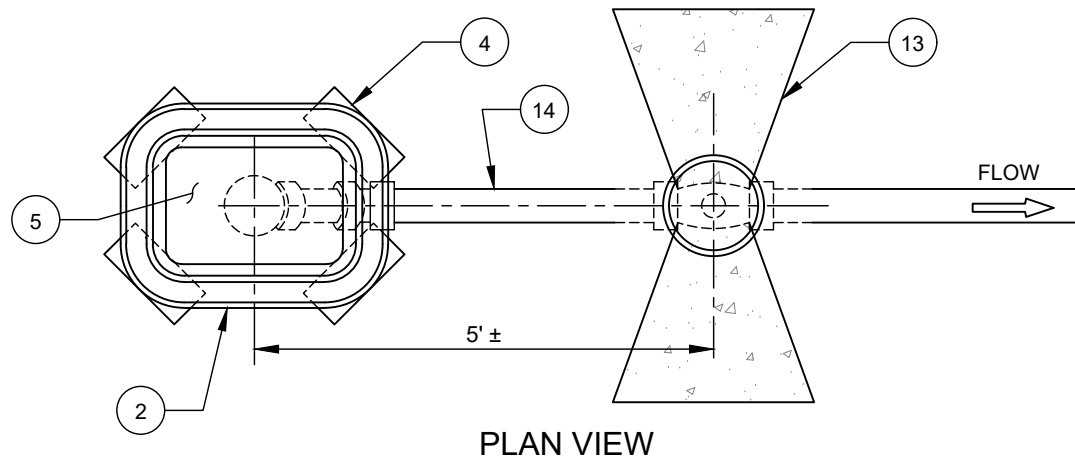
ELEVATION VIEW

NO. DESCRIPTION:

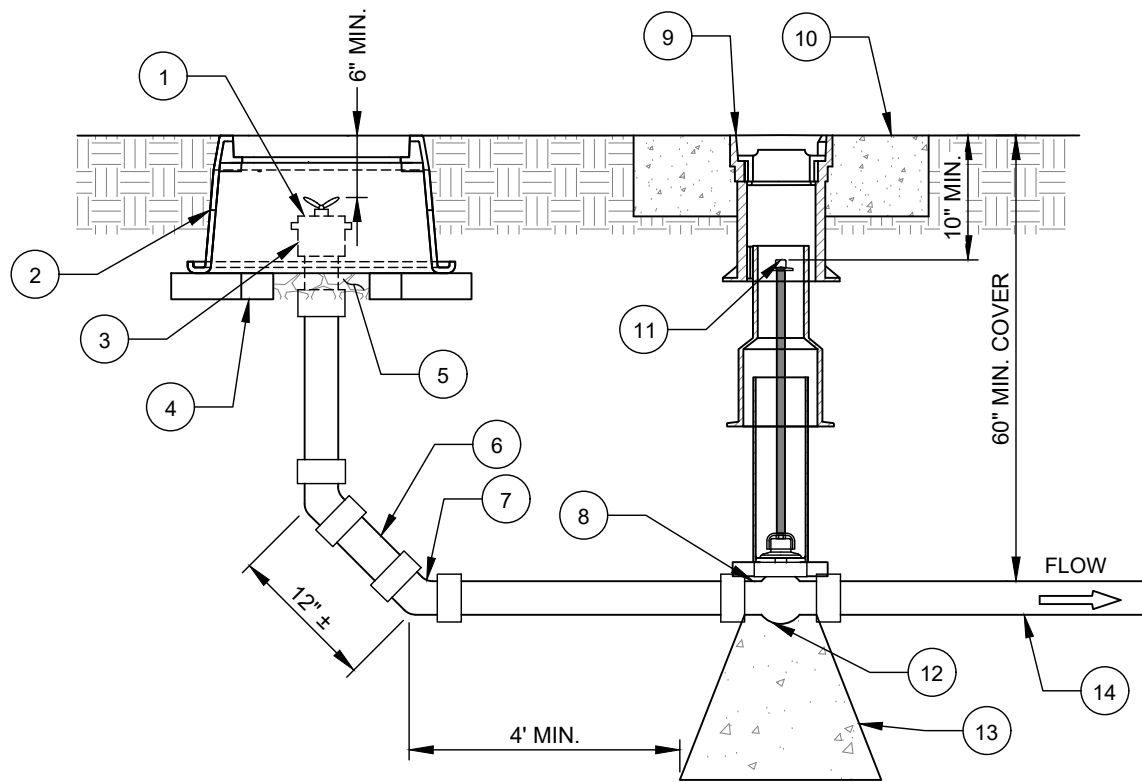
1. LOW PRESSURE SEWER PIPE (SDR 21 PVC).
2. IRON BODY PLUG VALVE (2" - WITH THREADED BY SLIP JOINT DI ADAPTOR AND KNUCKLE JOINT RESTRAINT) (3 & 4" - MJ ENDS WITH WEDGE ACTION THRUST RESTRAINT GLAND AND IPS TRANSITION GASKETS).
3. CAST IN PLACE CONC. SUPPORT/THRUST BLOCK (TYP. ALL VALVES).
4. POLYETHYLENE WRAP, 4 MILS. EACH, 2 LAYERS, 12" EACH SIDE OF VALVE BODY.
5. EXTENSION STEM W/ 2" SQUARE OPERATING NUT, 10" BELOW GRADE (TYP. ALL VALVES).
6. VALVE BOX ASSEMBLY, PER CLTW STANDARD DETAIL (TYP. ALL VALVES).
7. 24" PRECAST CONCRETE DONUT.
8. WYE (SCH 80 PVC) WITH REDUCING BUSHING AS REQUIRED.
9. 45° BEND (SCH 80 PVC).
10. 2" CLEANOUT/MANUAL AIR RELEASE (SCH 80 PVC).
11. 2" CLEANOUT/MANUAL AIR RELEASE BOX (PLASTIC).
12. 1" GALVANIZED QUICK CONNECT WITH GALVANIZED PLUG AND 2 S.S. COTTER PINS.
13. SOLID STANDARD CONCRETE BRICK DIAGONAL AT CORNER.
14. BACK OF CURB.
15. EDGE OF PAVEMENT.

NOTE:

- A. TRACER WIRE NOT SHOWN FOR CLARITY. FOR TRACER WIRE INSTALLATION, REFER TO APPROPRIATE STANDARD DETAIL.
- B. 2" DUCTILE IRON PIPE ADAPTOR AND KNUCKLE JOINT RESTRAINT SHALL BE FUSION BONDED EPOXY COATED AND LINED BY HARRINGTON CORPORATION (HARCO) OR APPROVED EQUAL.



PLAN VIEW



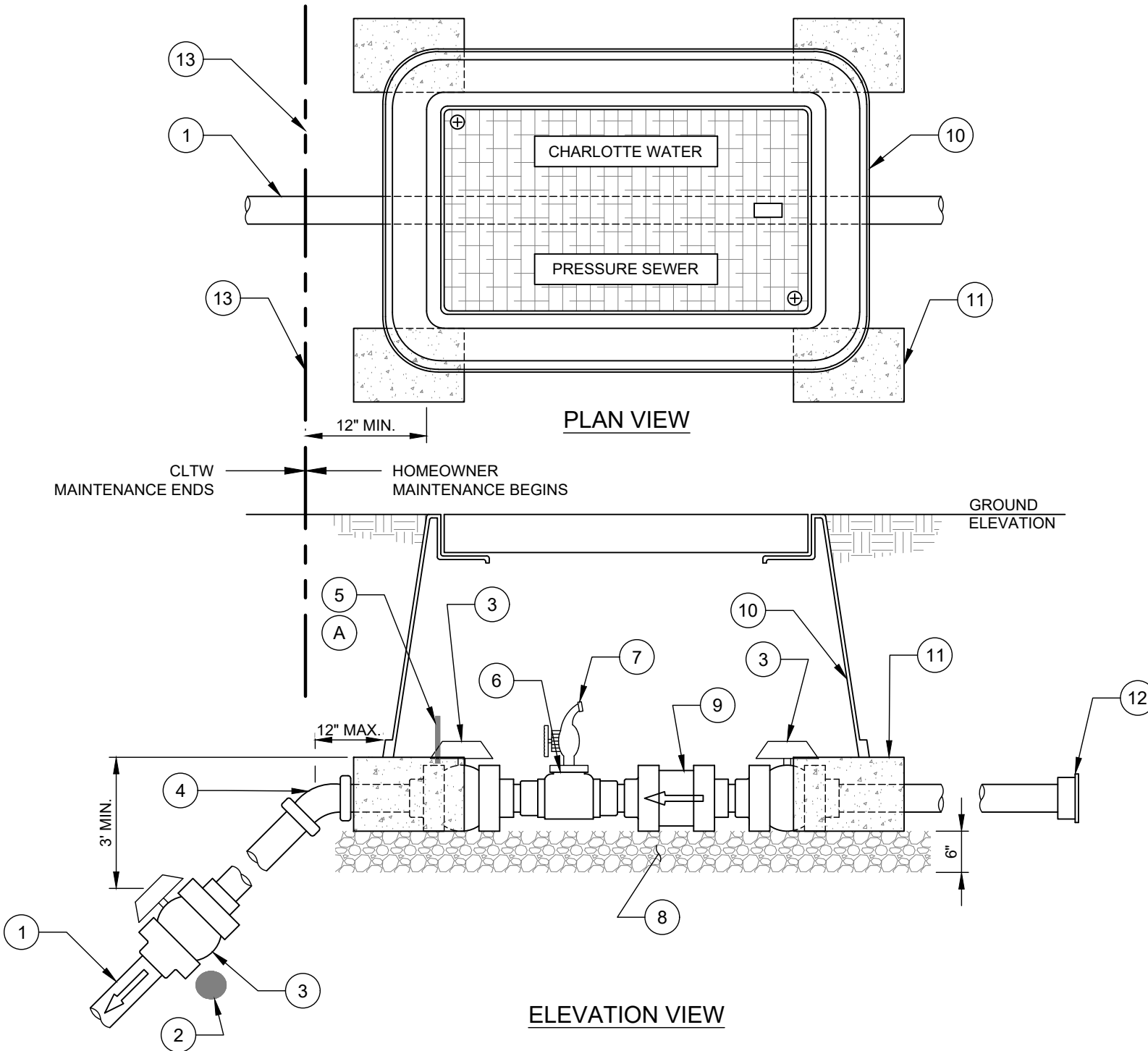
ELEVATION VIEW

NO. DESCRIPTION:

1. 1" QUICK CONNECT WITH PLUG AND 2 S.S. COTTER PINS.
2. CLEANOUT BOX (PLASTIC).
3. 2" X 1" REDUCING BUSHING (SCH 80 PVC) WITH THREADED OUTLET.
4. SOLID STANDARD CONCRETE BRICK DIAGONAL AT CORNER.
5. 6" MIN. OF #57 STONE BASE, SUITABLE BEARING CAPACITY AS APPROVED BY GEOTECHNICAL ENGINEER.
6. 2" CLEANOUT PIPE (SCH 80 PVC).
7. 45° BEND (SCH 80 PVC) WITH REDUCING BUSHING AS REQUIRED.
8. POLYETHYLENE WRAP, 4 MILS EACH, TWO LAYERS, 12" EACH SIDE OF VALVE BODY.
9. VALVE BOX ASSEMBLY, PER CLTW STANDARD DETAIL (TYP. ALL VALVES).
10. 24" PRECAST CONCRETE DONUT.
11. EXTENSION STEM WITH 2" SQUARE OPERATING NUT, 10" BELOW GRADE (TYP. ALL VALVES).
12. IRON BODY PLUG VALVE (2" - WITH THREADED BY SLIP JOINT DI ADAPTOR AND KNUCKLE JOINT RESTRAINT) (3 & 4" - MJ ENDS WITH WEDGE ACTION THRUST RESTRAINT GLAND AND IPS TRANSITION GASKETS).
13. CAST IN PLACE CONCRETE SUPPORT/THRUST BLOCK.
14. LOW PRESSURE SEWER PIPE (SDR 21 PVC).

NOTE:

- A. TRACER WIRE NOT SHOWN FOR CLARITY. FOR TRACER WIRE INSTALLATION, REFER TO APPROPRIATE STANDARD DETAIL.
- B. 2" DUCTILE IRON PIPE ADAPTOR AND KNUCKLE JOINT RESTRAINT SHALL BE FUSION BONDED EPOXY COATED AND LINED, BY HARRINGTON CORPORATION (HARCO) OR APPROVED EQUAL.

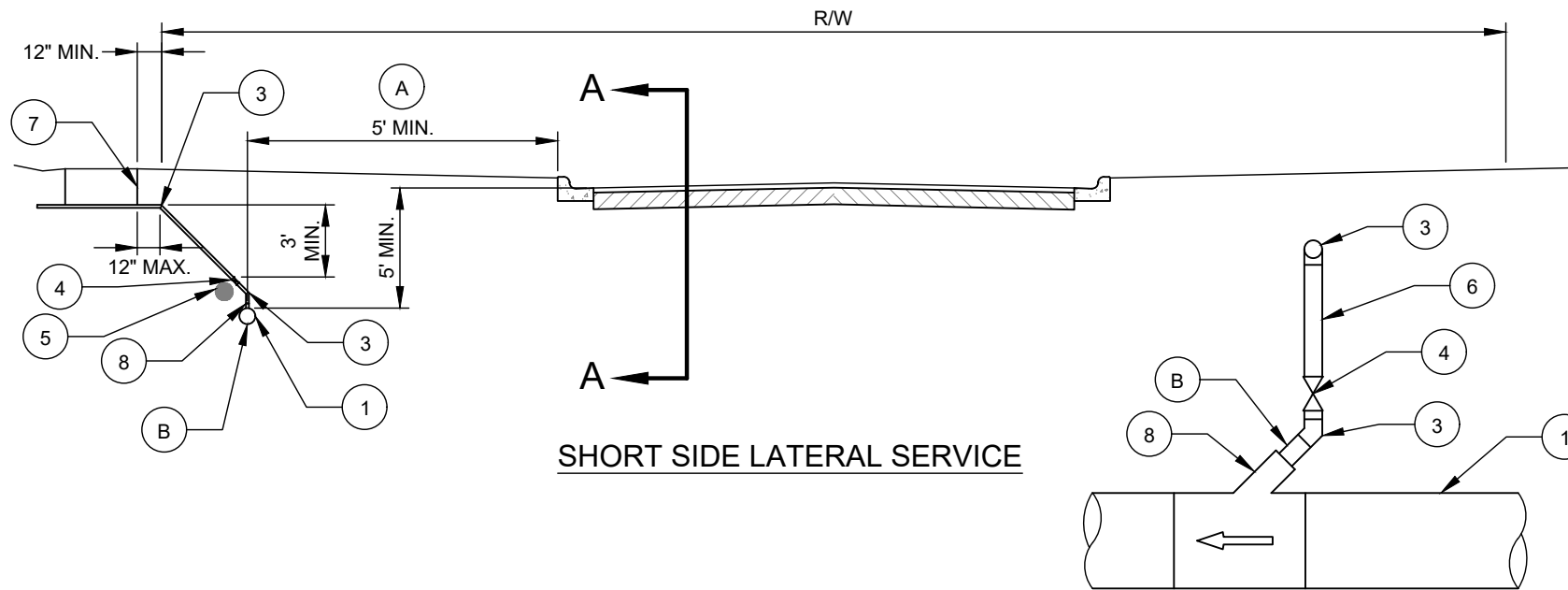


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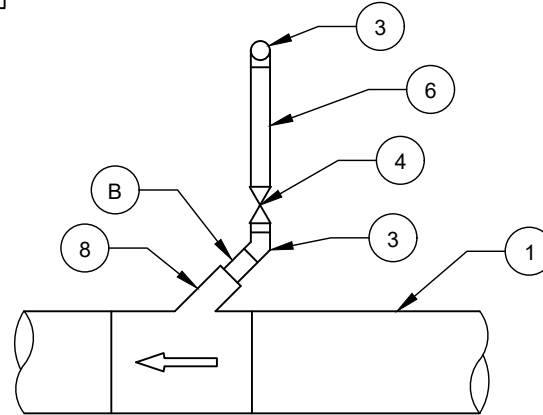
1. 1.5" SERVICE PIPE - SCH 80 PVC.
2. PVC ENCAPSULATED MAGNET.
3. 1 1/2" TRUE UNION PVC BALL VALVE.
4. 45° SCH 80 PVC BEND.
5. BARREL LOCK WITH RED CAP AND LOCKOUT TAG (FURNISHED BY CHARLOTTE WATER) - LOCK BALL VALVE CLOSED.
6. 1 1/2" THREADED OUTLET P.V.C. TEE W/1 1/2"x3/4" THREADED REDUCING BUSHING (SCH 80 PVC).
7. 3/4" BALL VALVE HOSE BIB (BRASS).
8. 6" #57 STONE BASE.
9. 1 1/2" TRUE UNION PVC BALL CHECK VALVE.
10. SERVICE BOX.
11. NCDOT SOLID CONCRETE CAPBLOCK (4"x4"x8").
12. BUSHING TO REDUCE SERVICE SIZE AND CAP.
13. PROPERTY LINE, ROAD RIGHT-OF-WAY OR CHARLOTTE WATER EASEMENT LINE.

NOTES:

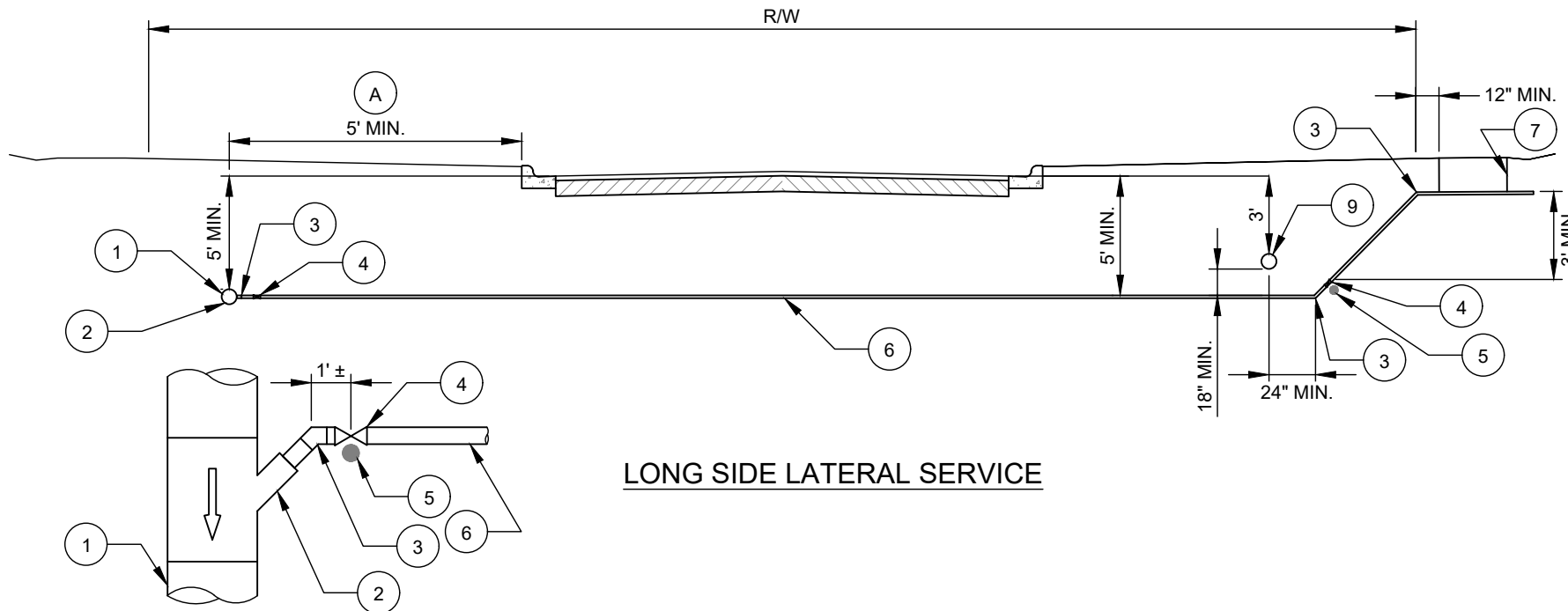
- A. BARREL LOCK AND LOCKOUT TAG TO BE INSTALLED AFTER PRESSURE TEST, AND WILL BE REMOVED AFTER CHARLOTTE WATER INSPECTION OF PRIVATE LOW PRESSURE PUMP STATION - (CERTIFICATE OF OCCUPANCY HOLD WILL ALSO BE REMOVED).
- B. SERVICE BOX SHALL NOT BE IN SIDEWALKS OR DRIVEWAYS.
- C. TOP OF BOX SHALL BE FLUSH WITH FINISHED GRADE OF LOT.



SHORT SIDE LATERAL SERVICE



SECTION A-A



LONG SIDE LATERAL SERVICE

PLAN VIEW

NO. DESCRIPTION:

1. LOW PRESSURE SEWER MAIN (SDR 21 PVC).
2. HORIZONTAL SERVICE WYE WITH REDUCING BUSHING (SCH 80 PVC).
3. 45° BEND (SCH 80 PVC).
4. 1.5" TRUE UNION PVC BALL VALVE (NO VALVE BOX ASSEMBLY).
5. PVC ENCAPSULATED MAGNET.
6. 1 1/2" SERVICE PIPE (SCH 80 PVC).
7. SERVICE CONNECTION BOX.
8. VERTICAL SERVICE WYE WITH REDUCING BUSHING (SCH 80 PVC).
9. WATER MAIN.

NOTES:

- A. MINIMUM 5' FROM BOC AND OUTSIDE PLANTING STRIP. MUST MEET THE MOST STRINGENT GOVERNING AUTHORITY CRITERIA FOR MINIMUM SEPARATION FROM ALL OTHER UTILITIES.
- B. ROTATE VERTICAL WYE AND 45° BEND FOR HORIZONTAL AND VERTICAL ALIGNMENT.
- C. TRACER WIRE NOT SHOWN FOR CLARITY. FOR TRACER WIRE INSTALLATION, REFER TO APPROPRIATE STANDARD DETAIL.