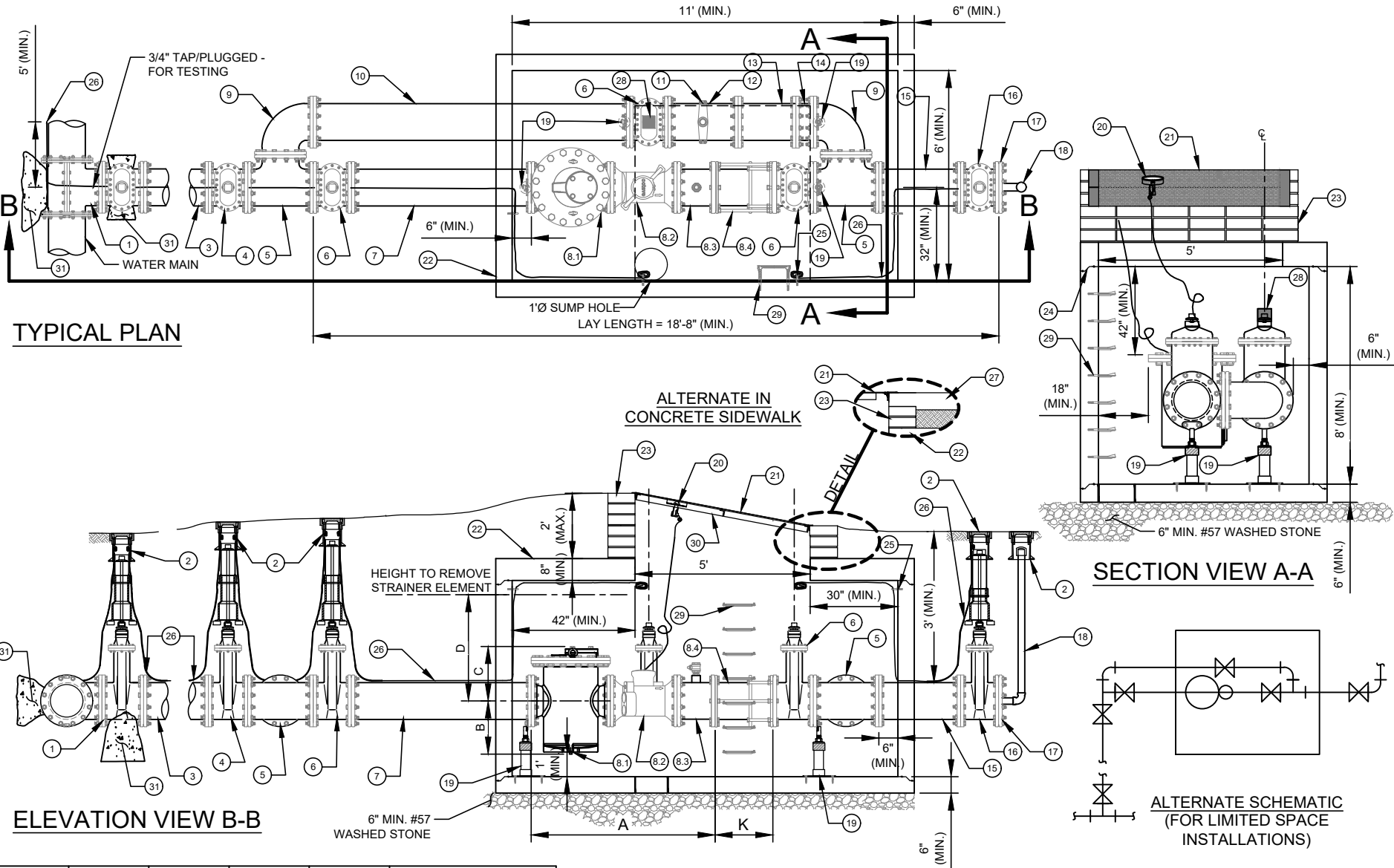


NOTES:

- A. ALL FLANGE HARDWARE (BOLT/WASHER/NUT) SHALL BE STAINLESS STEEL - TYPE 304 WITH ANTI-SEIZE COMPOUND.
- B. ALL PIPE SHALL BE RESTRAINED JOINT DUCTILE IRON FROM TAP TO PROPERTY LINE VALVE.
- C. METER CONFIGURATION AND LENGTH / WIDTH MAY VARY DUE TO BRAND - VERIFY DIMENSIONS TO DETERMINE MINIMUM VAULT SIZE.
- D. VAULT SHALL BE SIZED AS NEEDED FOR MINIMUM CLEARANCE AS SHOWN AND RATED FOR NCDOT HS-20 LOADING - SUBMIT SHOP DRAWINGS / P.E. SEALED FOR REVIEW.
- E. ALL CONCRETE SHALL BE MINIMUM 4,000 PSI COMPRESSIVE STRENGTH.
- F. DESIGN SHALL CONFORM TO ASTM C858 - SPECIFICATIONS FOR "UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURE".

- G. STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857.
- H. REBAR SHALL BE GRADE 60 PER ASTM A615.
- I. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
- J. DIAGONAL REINFORCING SHALL BE ADDED AT ALL OPENINGS.
- K. PIPE PENETRATIONS SHALL BE SEALED WITH FLEXIBLE CONNECTORS (MANHOLE BOOTS) OR WITH 8" OF BRICK & MORTAR (AND 1/2-INCH THICK CONSTRUCTION EXPANSION MATERIAL).
- L. FRAME TO BE FLUSH WITH GROUND OR CONCRETE SIDEWALK, GROUND SHALL SLOPE AWAY FROM VAULT.
- M. ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC.
- N. ALL VALVES SHALL BE OPEN RIGHT - CLOCKWISE, EXCEPT NO. 16.
- O. PRECAST VAULT COMPONENTS SHALL HAVE MARKINGS PER ASTM C478 REQUIREMENTS.



NO. DESCRIPTION:

1. 12" OUTLET TAPPING SLEEVE AND 12" FL X MJ TAPPING VALVE ON EXISTING MAIN. 12" MJ OUTLET TEE, 12" FOSTER ADAPTOR, AND 10" MJ GATE VALVE ON NEW MAIN.
2. STANDARD VALVE BOX ASSEMBLY (TYPICAL) - ALL VALVES.
3. 12" DUCTILE IRON PIPE - RESTRAINED.
4. 12" MJ X FL DUCTILE IRON ADAPTER ON SHORT SIDE SERVICE (NOT SHOWN), 12" MJ X FL GATE VALVE ON LONG SIDE SERVICE (SHOWN).
5. 12" ALL FLANGE DUCTILE IRON TEE.
6. 12" ALL FLANGE GATE VALVE.
7. 12" ALL FLANGE DUCTILE IRON PIPE SPOOL - L = 60" (MIN.) (SPECIAL CLASS 53).
8. 12" ULTRASONIC WATER METER ASSEMBLY (FLANGE X FLANGE)
- 8.1. BERMAD MODEL FP-60F-D FIRE RATED BASKET STRAINER (FL X FL). LL = 26.8"
- 8.2. 12-INCH MASTER METER OCTAVE OR NEPTUNE MACH10 WITH ITRON W100 TRANSMITTER - LL = 19.75".
- 8.3. 12" EPOXY COATED/LINED STEEL FL X FL SPOOL WITH 2" FNPT TEST OUTLET - LL = 12" (MARS CO.) AND 2" BALL CORPORATION STOP WITH T-HEAD OPERATING NUT - MNPT X FNPT.
- 8.4. ROMAC D J400 DISMANTLING JOINT - LL = 9.5" TO 11.5", SET TO 10.5" OR SMITH-BLAIR MODEL 975 DISMANTLING JOINT (RESTRAINED) - LL = 9" TO 11", SET TO 10". ALL HARDWARE BOLTS, NUTS AND TIE RODS SHALL BE 304 S.S.
9. 12" DUCTILE IRON 90° BEND FLANGE X FLANGE.
10. 12" DUCTILE IRON PIPE - FLANGE X FLANGE SPOOL - L = 107" (MIN.) (SPECIAL CLASS 53).
11. 12" X 1 1/2" SERVICE SADDLE WITH 1 1/2" BALL CORPORATION STOP WITH T-HEAD OPERATING NUT - CC - TAPER THREAD X FNPT.
12. 12" DUCTILE IRON PIPE - FLANGE X PE - L = 24" (MIN.) (SPECIAL CLASS 53).
13. 12" MECHANICAL JOINT DUCTILE IRON LONG PATTERN SOLID SLEEVE WITH RESTRAINED JOINT.
14. 12" DUCTILE IRON PIPE - FLANGE X PE - L = 12" (MIN.) (SPECIAL CLASS 53).
15. 12" DUCTILE IRON PIPE - FLANGE X PE - L = 30" (MIN.) (SPECIAL CLASS 53).
16. 12" MECHANICAL JOINT (RJ) GATE VALVE - OPEN LEFT AT PROPERTY LINE.
17. 12" MECHANICAL JOINT PLUG WITH 2" TAP (FNPT).
18. 2" TEMPORARY BLOW OFF ASSEMBLY (GALV. STEEL (SCH 80) OR RED BRASS (SCH 40) - END WITH THREADED COUPLING).
19. GALV. STEEL OR S.S. ADJUSTABLE FLANGE PIPE SUPPORT (NUMBER REQUIRED = 4) (WITH STAINLESS STEEL ADHESIVE ANCHORS).
20. AMR TRANSMITTER.
21. 5' X 5' ACCESS DOOR - SEE STD. DETAIL.
22. PRECAST REINFORCED CONCRETE VAULT - 11' X 6' X 8' (MIN.) (L X W X D). SEE NOTES C AND D.
23. MINIMUM OF THREE STD. SOLID CONCRETE BRICK COURSES (OR PRECAST RISER) UNDER ACCESS DOOR FRAME - MAX. 2'. JOINT REQUIRED AT FLAT TOP SECTION.
24. 3/8" DIA. GALV. STEEL EYE BOLT (EPOXY ADHESIVE ANCHOR) - TYPICAL.
26. AWG #12 GAUGE SOLID COPPER TRACER WIRE - WITH BLUE INSULATION (30 MILS HDPE) TERMINATE WITH 24" EXCESS WIRE (COILED) AT EYE BOLT AND VALVE BOX (TYP.).
27. CAST IN PLACE CONCRETE SIDEWALK - BRICKWORK SHALL NOT EXTEND TO SURFACE. ACCESS DOOR FRAME SHALL REST ON SIDEWALK.
28. VALVE LOCK (FURNISHED BY CLTW) - LOCK VALVE CLOSED.
29. PLASTIC STEP - 12" O.C. VERTICAL SPACING.
30. ATTACH ENGRAVED LABEL, WITH PREMISE NUMBER, TO UNDERSIDE OF DOOR, NEAR THE LIFTING HANDLE.
31. CONCRETE THRUST BLOCKING - 3,600 PSI.

CHARLOTTE WATER A CITY OF CHARLOTTE DEPARTMENT STANDARD DETAILS	WATER METERS	
	12-INCH ULTRASONIC WATER METER (COMBINED FIRE AND DOMESTIC) SERVICE AND PRECAST CONCRETE VAULT	
	NO SCALE	
VERSION 2.0		DATE 01/2026
		DETAIL 15.5.6