



ELMA WATER DEPARTMENT

EUGENE STEVENSON, SUPT.

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ELMA, NEW YORK 14059-9653
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MEMORANDUM

TO: PROPERTY OWNERS, WATER CUSTOMERS, ENGINEERS, ARCHITECTS,
CONTRACTORS AND PLUMBERS. **NOTE: MAKE SURE THESE SHEETS ARE
GIVEN TO THE INSTALLER BEFORE WORK COMMENCES**

SUBJECT: WATER METER VAULTS AND WATER METER PIPING STANDARDS
FOR 3/4" TO 2" DOMESTIC INSTALLATIONS, AND PLAN AND DESIGN
REQUIREMENTS.

THE ELMA WATER DEPARTMENT HAS PREPARED THIS PACKET OF REFERENCE
INFORMATION TO ASSIST YOU IN COMPLYING WITH THE PROPER DESIGN
AND INSTALLATION OF WATER VAULTS AND WATER METER PIPING. PLEASE
CONTACT OUR DEPARTMENT AT 674-8855 FOR INSPECTION.

- A. Twenty (20') foot maximum distance from curb box to the meter pit
- B. Open trench inspection from curb box to house.
- C. All lines shall be a minimum of 48" depth from existing grade. Note: water services that cross under a driveway should be deeper to prevent freezing.
- D. K copper from curb box to the meter pit
- E. K copper out of meter pit to extend a minimum of 10' before transition to another approved pipe type. The coupling shall be brass compression with stainless steel inserts.
- F. PVC shall be CTS polytube SDR9 200 psi minimum. The unions shall be brass compression with stainless steel inserts
- G. PVC line shall have a copper trace wire attached
- H. Transition to K copper shall be a minimum of 10' outside the basement wall
- I. A flared meter valve shall be installed as the first fitting entering basement.
- J. Additional inspection fees will be charged for repeat inspections for return trips due to customer or customer's contractor.
- K. No tap can be taken off service line before the back flow preventor
- L. The curb box shall be centered over curb stop and plumb after being backfilled.
- M. All backfilling, ladder installations, etc. must be completed before final approval. Note: water may be turned off at the discretion of the EWD until final approval is given.

IF YOU HAVE ANY QUESTIONS REGARDING THESE ISSUES OR THE ATTACHED
MATERIAL, PLEASE CONTACT OUR OFFICE. WE WOULD BE PLEASED TO ASSIST
YOU. THANK YOU

Eugene F. Stevenson,

Eugene F. Stevenson
Water Department Superintendent

ELMA WATER DEPARTMENT

WATER METER VAULTS AND METER PIPING STANDARDS FOR 3/4", 1", 1-1/2" AND 2" DOMESTIC SERVICE INSTALLATIONS

ACCEPTABLE PRODUCTS MEETING OUR STANDARDS FOR METERS FOR 3/4" TO 2" SERVICES ARE PRE-CAST CONCRETE METER VAULTS BY: RIEFLER CONCRETE PRODUCTS (AS MODIFIED) OR KISTNER CONCRETE PRODUCTS 1-1/2" - 2" WATER METER PITS, PER E.C.W.A. SECTION 8.19 AS AMENDED BY EWD. BOTH AS SHOWN ON THE ATTACHED DRAWINGS WITH A 36" NOMINAL, SQUARE OPENING IN THE CONCRETE ROOF AND A SECURED SYRACUSE CASTINGS ALUMINUM HATCH AND FRAME. BEING A MODEL EC-7 FOR NON-TRAFFIC AREAS AND HC-7HD FOR TRAFFIC AREAS NOT EXCEEDING AN H-20 HIGHWAY LOAD, WITH AN OSHA APPROVED LADDER AS SHOWN, OR EQUAL.

THE VAULTS ARE TO BE INSTALLED WITH THE TOP OF THE HATCH HAVING A MINIMUM ELEVATION OF 6" ABOVE THE SURROUNDING FINISH GRADE, WITH THE ADJACENT SURFACE AREA GRADED AWAY FROM THE HATCH AS TO PREVENT SURFACE RUNOFF AND STORM WATER FROM ENTERING THE METER VAULT. PIPE AND/OR CONDUIT ENTRANCE AND EXIT OPENINGS SHALL BE GROUTED WATERTIGHT ON THE INSIDE AND OUTSIDE OF THE VAULT WITH HYDRAULIC CEMENT, AND ALL HATCH FRAME FLANGES AND PRE-CAST CONCRETE SECTIONAL JOINTS SHALL BE SEALED WITH APPROVED BUTYL RESIN WATERTIGHT GASKET AND SEALING MATERIALS. THE VAULTS ARE TO BE SET ON THOROUGHLY COMPACTED #1 R.O.C. CRUSHED STONE BEDDING (LEVELING COURSE), A MINIMUM OF 6" (OR AS REQUIRED) IN DEPTH, OR ON UNDISTURBED BASE MATERIAL OR DIRECTLY PLACED ON UNDISTURBED SOIL. PROVIDED THAT THE BASE MATERIAL (OR SOILS), AND BEDDING IS CERTIFIED AS MEETING THE BEARING REQUIREMENTS FOR THE TOTAL VAULT WEIGHT, COVER AND ANTICIPATED LOAD. ALL PLUMBING AND ASSOCIATED WORK AND DESIGNS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE NYS CODES, AWWA, NEC, OSHA AND ELMA WATER DEPARTMENT (EWD) STANDARDS.

3/4" AND 1" WATER METERS REQUIRE A SETTING DISTANCE OF 12" FOR A 3/4" METER AND 15-7/8" FOR A 1" METER. THE DISTANCE IS MEASURED FACE TO FACE BETWEEN THE ANGLE METER VALVES (STOP & WASTE TYPE). EWD WILL PROVIDE AND SET THE WATER METER AND THE METER COUPLINGS (2).

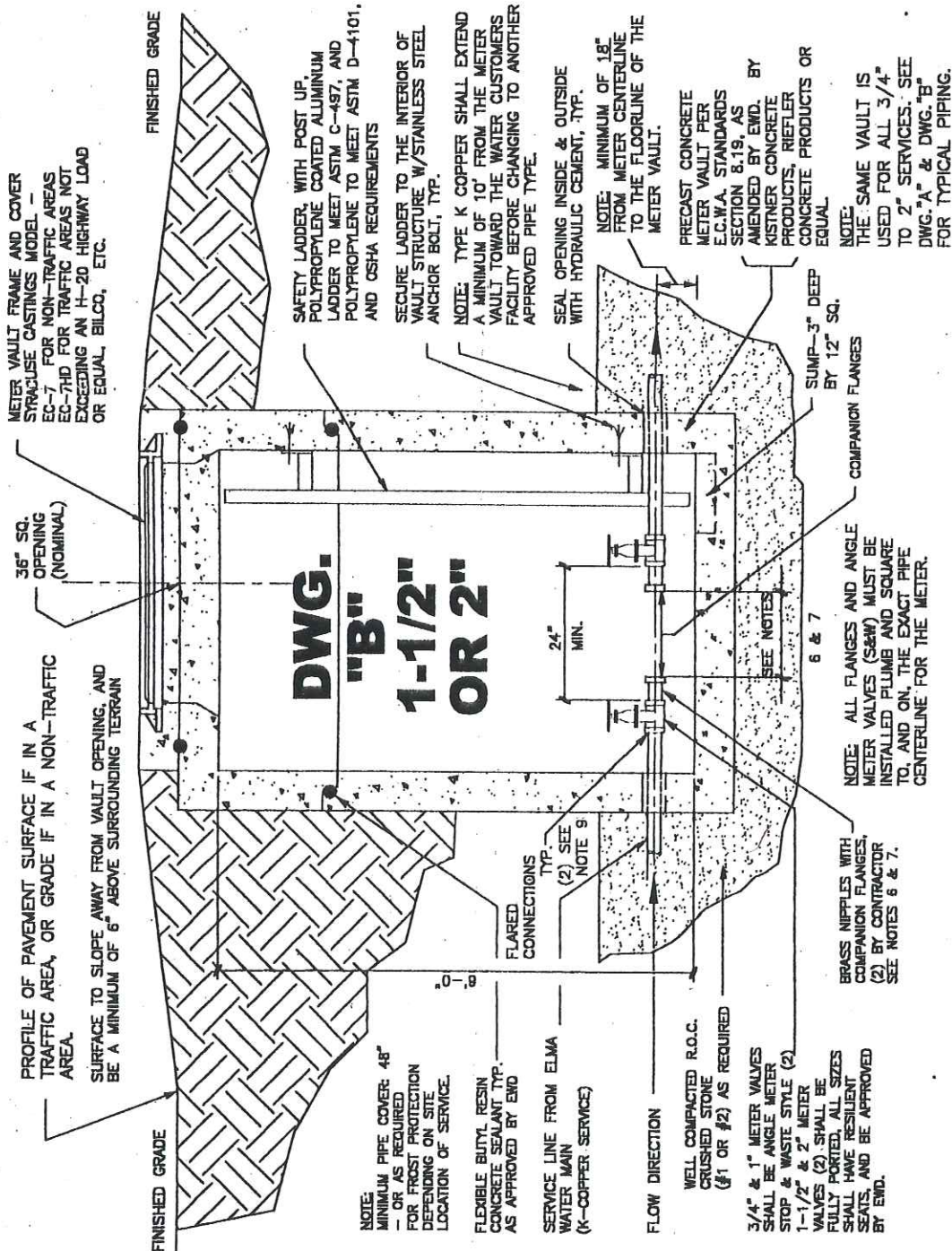
1-1/2" WATER METERS REQUIRE A SETTING DISTANCE OF 13-1/4" (2" METERS REQUIRE 17-1/4") BETWEEN THE FACES OF THE MOUNTING FLANGES, WITH A 24" OVERALL FACE TO FACE DISTANCE BETWEEN THE METER ISOLATING VALVES (NPT). WE SUPPLY THE FLANGES (2) (FLANGE X 1-1/2" (OR 2") F NPT). EWD WILL PROVIDE AND INSTALL THE WATER METER, THE VALVES, AND THE REQUIRED BRASS NIPPLES AND COMPANION FLANGES SHALL BE INSTALLED BY THE CONTRACTOR AND SHALL BE SET PLUMB AND SQUARE TO THE METER CENTERLINE. THE METER CENTERLINE SHALL BE 18" ABOVE THE FLOOR LINE OF THE METER VAULT. ALL VALVES SHALL HAVE RESILIENT SEATS. TYPE "K" COPPER TUBING (PIPE) IS REQUIRED. ALL FLARED CONNECTION FLARES SHALL BE MADE WITH A DRIVEN FLARING TOOL OR A MECHANICAL FLARING TOOL. THE DESIGN AND PLUMBING PLAN (PER NYS CODE) MUST BE SUBMITTED TO, AND APPROVED BY OUR DEPARTMENT PRIOR TO INSTALLATION, AND THE COMPLETED INSTALLATION APPROVED FOR METER INSTALLATION BY OUR FINAL INSPECTION.

NOTE: CONTAINMENT PROTECTION (RPZ INSTALLATION) MAY BE REQUIRED, A SPECIFIC DESIGN AND APPROVAL PROCESS PER NYSDOH MUST THEN BE FOLLOWED.

NOTE: DEPENDING UPON SITE AND ACCESS CONDITIONS, AND DRAINAGE DITCH LOCATION, A CULVERT AND/OR A STABILIZED VEHICLE APPROACH TO METER VAULT MAY BE REQUIRED.

NOTE: ALL CONFINED SPACE ENTRY SAFETY PROCEDURES ARE A CONTRACTOR RESPONSIBILITY. VAULT MAINTENANCE IS A WATER CUSTOMER RESPONSIBILITY.

WATER METER VAULT FOR: 3/4" TO 2" METER PIPING STANDARDS SHOWN: DWG. "A": 3/4" OR 1" DWG. "B": 1-1/2" OR 2"



METER VAULT FRAME AND COVER
SYRACUSE CASTINGS MODEL -
EC-7 FOR NON-TRAFFIC AREAS
EC-7HD FOR TRAFFIC AREAS NOT
EXCEEDING AN H-20 HIGHWAY LOAD
OR EQUAL, BILCO, ETC.

36" SQ.
OPENING
(NOMINAL)

PROFILE OF PAVEMENT SURFACE IF IN A
TRAFFIC AREA, OR GRADE IF IN A NON-TRAFFIC
AREA.
SURFACE TO SLOPE AWAY FROM VAULT OPENING, AND
BE A MINIMUM OF 6" ABOVE SURROUNDING TERRAIN

**DWG. "B"
1-1/2"
OR 2"**

NOTE:
MINIMUM PIPE COVER: 48"
OR AS REQUIRED
FOR FROST PROTECTION
DEPENDING ON SITE
LOCATION OF SERVICE.

FLEXIBLE BUTYL RESIN
CONCRETE SEALANT TYP.
AS APPROVED BY END

SERVICE LINE FROM ELMA
WATER MAIN
(K-COPPER SERVICE)

WELL COMPACTED R.O.C.
CRUSHED STONE
(#1 OR #2) AS REQUIRED

3/4" & 1" METER VALVES
SHALL BE ANGLE METER
STOP & WASTE STYLE (2)
1-1/2" & 2" METER
VALVES (2) SHALL BE
FULLY PORTED, ALL SIZES
SHALL HAVE RESILIENT
SEATS, AND BE APPROVED
BY END.

BRASS NIPPLES WITH
COMPANION FLANGES,
(2) BY CONTRACTOR
SEE NOTES 6 & 7.

NOTE: ALL FLANGES AND ANGLE
METER VALVES (SEW) MUST BE
INSTALLED PLUMB AND SQUARE
TO, AND ON, THE EXACT PIPE
CENTERLINE FOR THE METER.

SAFETY LADDER, WITH POST UP,
POLYPROPYLENE COATED ALUMINUM
LADDER TO MEET ASTM C-487, AND
POLYPROPYLENE TO MEET ASTM D-4101,
AND OSHA REQUIREMENTS

SECURE LADDER TO THE INTERIOR OF
VAULT STRUCTURE W/ STAINLESS STEEL
ANCHOR BOLT, TYP.

NOTE: TYPE K COPPER SHALL EXTEND
A MINIMUM OF 10" FROM THE METER
VAULT TOWARD THE WATER CUSTOMERS
FACILITY BEFORE CHANGING TO ANOTHER
APPROVED PIPE TYPE.

SEAL OPENING INSIDE & OUTSIDE
WITH HYDRAULIC CEMENT, TYP.

NOTE: MINIMUM OF 18"
FROM METER CENTERLINE
TO THE FLOORLINE OF THE
METER VAULT.

PRECAST CONCRETE
METER VAULT PER
E.C.W.A. STANDARDS
SECTION 8.19, AS
AMENDED BY EMD, BY
KISTNER CONCRETE
PRODUCTS, RIEFLER
CONCRETE PRODUCTS OR
EQUAL

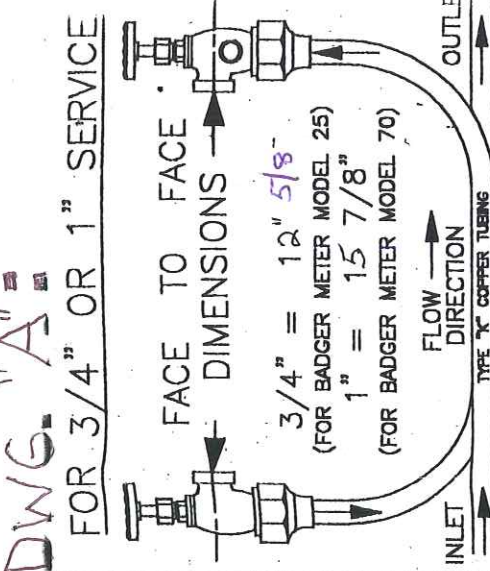
NOTE:
THE SAME VAULT IS
USED FOR ALL 3/4"
TO 2" SERVICES. SEE
DWG. "A" & DWG. "B"
FOR TYPICAL PIPING.

SUMP-3" DEEP
BY 12" SQ.

COMPANION FLANGES

FLARED
CONNECTIONS
TYP.
(2) SEE
NOTE 9

FLOW DIRECTION



18" FROM METER CENTERLINE TO FLOORLINE OF METER VAULT

- GENERAL NOTES**
1. INFORMATION SHOWN ON THIS DRAWING IS FOR REFERENCE ONLY. ITEMS SHOWN OR NOTED SHOULD BE INCLUDED ON THE ENGINEER'S/ARCHITECT'S SITE-PLAN DRAWING.
 2. METER & METER COUPLINGS BY END FOR 3/4" & 1" SERVICES.
 3. METER BY END FOR 1-1/2" & 2" SERVICES. COMPANION FLANGES SUPPLIED TO CONTRACTOR BY END.
 4. FOR 3/4" METERS THE FACE TO FACE DISTANCE REQUIREMENT BETWEEN THE ANGLE STOP & WASTE METER VALVES IS 12" BY CONTRACTOR. (DWG. "A")
 5. FOR 1" METERS THE FACE TO FACE DISTANCE REQUIREMENT BETWEEN THE ANGLE STOP & WASTE METER VALVES IS 15-7/8" BY CONTRACTOR. (DWG. "A")
 6. FOR 1-1/2" METERS THE FLANGE TO FLANGE (FACE TO FACE) DISTANCE REQUIREMENT IS 13-1/4" BY CONTRACTOR. (DWG. "B")
 7. FOR 2" METERS THE FLANGE TO FLANGE (FACE TO FACE) DISTANCE REQUIREMENT IS 17-1/4" BY CONTRACTOR. (DWG. "B")
 8. ALL WORK SHALL CONFORM TO THE NYS FIRE PREVENTION AND BUILDING CODE, NYS SANITARY CODE, NATIONAL ELECTRIC CODE (NEC), OSHA, OTHER GOVERNING STATUTES, AND REQUIREMENTS OF END.
 9. K-COPPER TUBING FLARED CONNECTION FLARES SHALL BE MADE WITH A DRIVEN FLARING TOOL OR MECHANICAL TOOL.
 10. VAULT MAINTENANCE IS A WATER CUSTOMER RESPONSIBILITY.

ELMA WATER DEPARTMENT
TOWN OF ELMA, NEW YORK
EUGENE F. STEVENSON, SUPERINTENDENT

WATER METER VAULTS
AND METER PIPING STANDARDS
FOR 3/4", 1", 1-1/2", AND 2"
DOMESTIC SERVICE INSTALLATIONS

DRAWN BY: W. D. MILLER CHIEF ENGINEER C.C.C.
DATE: 07/05/01 SCALE: NONE (NTS)
SHEET: EWD-MV1 CHK'D E. STEVENSON
FILE: EWD METER VAULT & PIPING DETAIL

DWG. "A"
FOR 3/4" OR 1" SERVICE