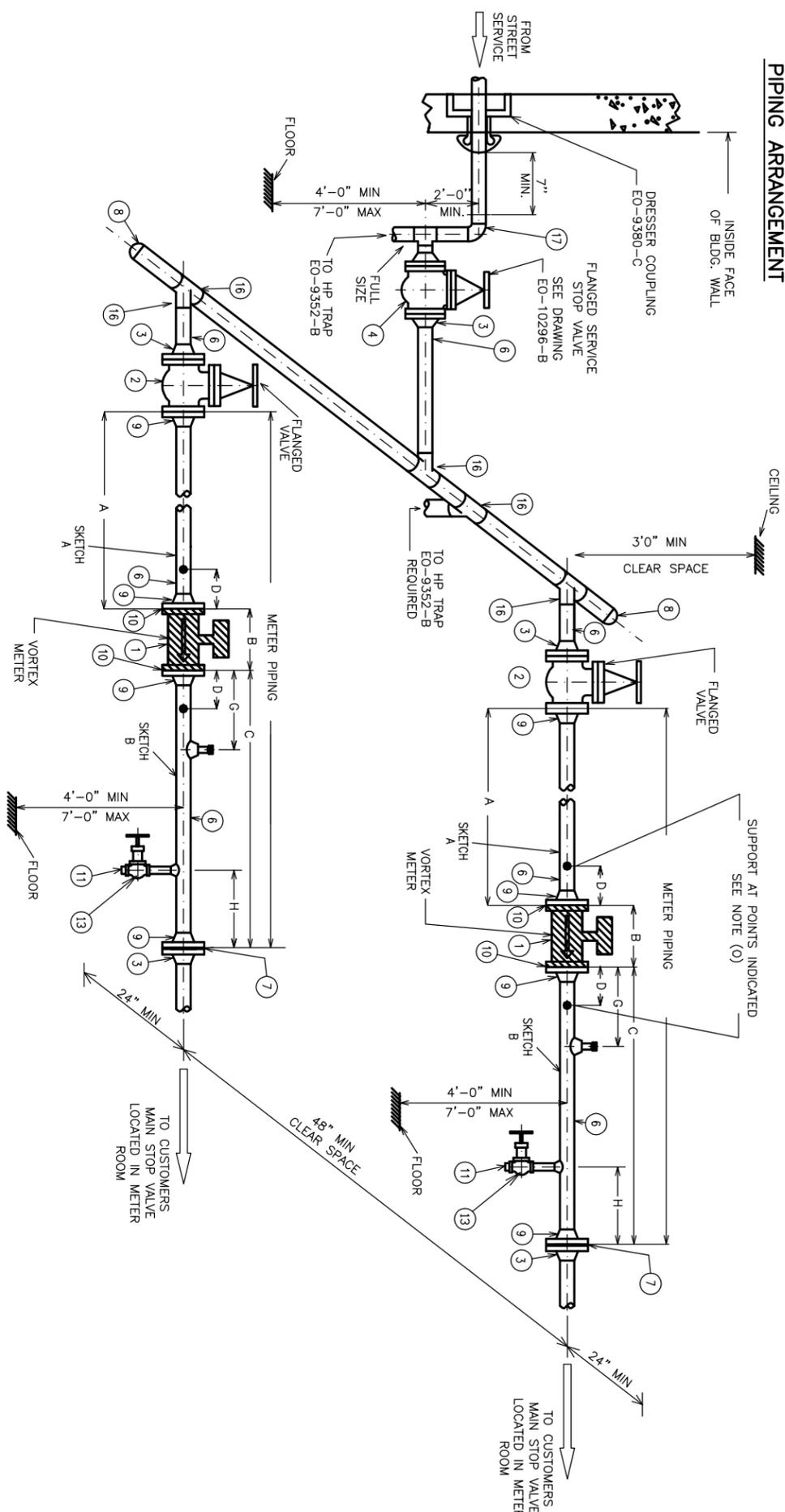


REVISIONS	
08/25/88	CON EDISON
NEW ISSUE	0
01/20/06	LBD (SEA)
CONVERTED TO MICROSTATION	2
03/17/09	KITANSKI/KYAM
REMOVED STRAINERS, LOWER HEIGHT LIMIT, PREFERRED/ALTERNATE PIPING, NOTES, SPECS, BOM	

**PREFERRED INLET PIPING ARRANGEMENT**



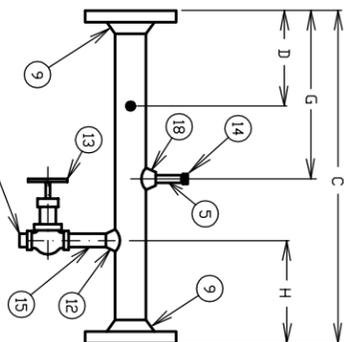
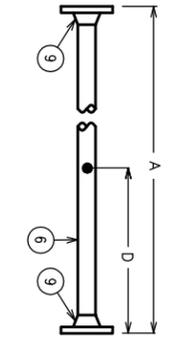
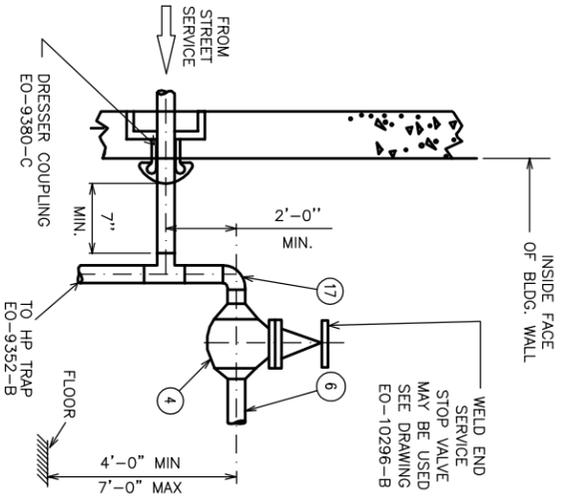
\* SEE APPROVED STEAM SERVICE EQUIPMENT 'BOOKLET', BILL OF MATERIALS

NO.	DESCRIPTION
1	STEAM METER - SEE NOTES (a) (b) (k) (n) (p) & (q)
2	METER STOP VALVE GATE TYPE, C.S., FLANGED, CLASS 300, RISING STEM
3	WELDING NECK FLANGE, 300# *- SEE NOTES (b) (d) (e) (f) & (g)
4	INSIDE SERVICE STOP VALVE, CAST STEEL, GATE TYPE, RECOMMENDED TO BE MOTOR OPERATED - SEE NOTE (i)
5	1/2" DIAMETER NIPPLE, 4" LONG, CARBON STEEL, ASTM A53 GRADE B SEAMLESS, SCHEDULE 80, THREADED ENDS
6	PIPE, CARBON STEEL, ASTM A53, GRADE B, SEAMLESS, AS REQUIRED -SEE NOTE (i)
7	LOAD LIMITING ORIFICE PLATE 1/8" THICK AS REQ'D -SEE NOTES (a) (c) AND TABLE
8	WELDING CAP, CARBON STEEL, BUTTWELD ANSI B16.9, EXTRA STRONG
9	WELDING NECK FLANGE, 300# SIZE 4"-SEE NOTES (b) (d) (e) (f) (g) WELDING FLANGE SOCKET TYPE 300# SIZE 3"-SEE NOTES b,d,e,f&g WELDING FLANGE SOCKET TYPE 600# SIZE 1"& 2"-SEE NOTES b,d,e,f&g
10	GASKET 1/8" THICK, AMERFLON OR FLEXITALLIC -SEE NOTES (o) & (q)
11	PLUG, SOLID STEEL, SIZE AS REQUIRED
12	SOCKOLET, 1/2" 3000# CARBON STEEL -SEE NOTE (s)
13	1/2" BLEEDOFF GATE VALVE, 300#, BRONZE THREADED ENDS
14	1/2" CAP, THREADED, CARBON STEEL, EXTRA HEAVY
15	1/2" NIPPLE, 4" LONG, CARBON STEEL, ASTM A53 SCHEDULE 80, GRADE B SEAMLESS, THREADED ONE END
16	TEE, CARBON STEEL, FOR EXTRA STRONG PIPE
17	ELBOW, LONG RADIUS, CARBON STEEL, SCHEDULE 40 FOR 3" & LARGER; SCHEDULE 80 FOR 2" AND SMALLER
18	THREADEDLET, 1/2" DIAMETER, 3000#, CARBON STEEL

**REFERENCE NOTE:**

METER SHALL BE MOUNTED AT 3 O'CLOCK OR 9 O'CLOCK POSITION

**ALTERNATE INLET PIPING ARRANGEMENT**



METER PIPING DIMENSIONS (INCHES)	
DIM.	METER SIZE
A	1
B	2
C	3
D	4
G	45
H	90
	12
	15
	20
	30
	40
	15
	15
	12
	16
	8
	8

**REFERENCE SPECS:**

ASSY. VORTEX METER \_\_\_\_\_ S-588  
 WIRING DIAG. F/VORTEX METER \_\_\_\_\_ S-592  
 MOUNTING PANEL FOR \_\_\_\_\_ S-593  
 FLOW COMPUTER \_\_\_\_\_ S-593

**SPECIFICATION:**

METERS AND SERVICE EQUIPMENT SHALL BE INSTALLED SUBJECT TO RULES AND REGULATIONS AS OUTLINED IN SECTION 5 OF THE CON EDISON CO. STEAM SERVICE RULES BOOK, LATEST REVISION. THE CUSTOMER SHALL PROVIDE AND MAINTAIN CLEAR AREAS ABOVE, BELOW, BEHIND AND IN FRONT OF METERS AND SERVICE EQUIPMENT AS INDICATED ON THIS SPECIFICATION.

TYPICAL INSTALLATION OF 1" TO 4" DUAL VORTEX STEAM METERS FOR SEGREGATED LOADS SHEET 1 OF 2

CONSTRUCTION STD'S MANUAL, ND. 3 SECT. A51 STEAM METERING

PIPING ARRANGEMENT

SKETCH A  
METER INLET SPOOL

SKETCH B  
METER OUTLET SPOOL

LOAD LIMITING DRIFICE PLATE - ITEM 7	STOCK NO.
1"	455-2014
2"	455-2030
3"	455-2022
4"	455-

CONSOLIDATED EDISON COMPANY OF N.Y., INC.  
 STEAM ENGINEERING DEPT.  
 INITIAL DATE: 08/25/88  
 REVISION DATE: 03/17/09  
 DWG. NO. S-590  
 DWG. NDT TO SCALE  
 REV. 3

06S-S

## REVISIONS

08/25/88 CON EDISON NEW ISSUE	0
01/20/06 LRD (SEA) CONVERTED TO MICROSTATION	2
03/17/09 KITANSKID/KYAM REMOVED STRAINERS, LOWER HEIGHT LIMIT, PREFERED/ALTERNATE PIPING, NOTES, SPEC'S, BDM	3

S-590 NOTE: TYPICAL INSTALLATION OF 1" TO 4" DUAL VORTEX  
STEAM METERS FOR SEGREGATED LOADS

- (a) ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER EXCEPT METERS, METER GASKETS, METER REGULATING VALVES, RELAYS, FLOW COMPUTERS AND DRIFICE PLATES WHICH WILL BE FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CUSTOMER. ITEMS SUPPLIED BY THE COMPANY ARE SHOWN CROSS HATCHED OR OTHERWISE MARKED.
- (b) METER SIZE DETERMINES SIZE OF METER PIPING. THE INTERIOR SURFACE OF THE METER PIPING SHALL BE SMOOTH AND ROUND, WITHOUT SHOULDERS. WELDING NECK FLANGES ON METER PIPING SHALL BE INSTALLED WITHOUT BACKING RINGS. ALL TRACES OF WELDING BEAD OR FLASH INSIDE OF PIPE SHALL BE REMOVED. ALL METER PIPING SHALL BE INSPECTED BY THE COMPANY AFTER ITS FABRICATION AND PRIOR TO ITS ERECTION.
- FOR FOUR PIPE DIAMETERS UPSTREAM AND TWO PIPE DIAMETERS DOWNSTREAM OF THE METER THE INTERNAL SURFACE OF THE PIPE SHALL BE:
- ROUGHNESS NO GREATER THAN .00019", .00038", .00061" AND .00080" FOR 1", 2", 3" AND 4" PIPE RESPECTIVELY.
  - SURFACE TO BE FREE FROM MILL SCALE, PITS, HOLES, REAMING SCORES, RIFLING, BUMPS OR OTHER IRREGULARITIES.
  - PIPE INSIDE DIAMETER SHALL IN NO WAY DEPART FROM THE NOMINAL PIPE INSIDE DIAMETER BY MORE THAN 0.33%.
- (c) DRIFICE PLATES
- LOAD DRIFICE PLATES OR SPACER PLATES WILL BE SUPPLIED BY THE COMPANY AS REQUIRED. PLATES SHALL BE INSTALLED BY THE CUSTOMER, WITH THE IDENTIFICATION DATA ON THE HANDLE FACING THE SERVICE SIDE AND THE HANDLE EXTENDING HORIZONTALLY TO THE RIGHT WHEN VIEWED FROM THE SERVICE SIDE.
- (d) FLANGES SHALL CONFORM TO ASTM SPECIFICATION A105 ANSI B16.5. \*
- (e) BOLTS SHALL BE CHROME-MOLY CONFORMING TO ASTM SPECIFICATION A193, GRADE B7, HEXAGONAL HEAD. \*
- (f) NUTS SHALL BE CARBON STEEL CONFORMING TO ASTM SPECIFICATION A194, GRADE 2H, HEXAGONAL. \*
- (g) GASKETS SHALL CONFORM TO CON EDISON CO. SPECIFICATION S-9051. FLANGE GASKETS SHALL BE FIELD COATED WITH HIGH TEMPERATURE ANTI-SEIZE AND LUBRICATING COMPOUND - "NEVER SEEZ" OR EQUAL. FLEXITELLIC GASKET OF 300# DESIGN IS ACCEPTABLE AS AN ALTERNATE.
- (h) THERMAL INSULATION OF THE PIPING UP TO THE CUSTOMER'S MAIN STOP VALVE SHALL CONFORM TO CON EDISON SPECIFICATION S-9021. \*
- (i) STEEL PIPE SHALL CONFORM TO ASTM SPECIFICATION A53, GRADE B, SEAMLESS, SCHED 40 FOR 4" AND LARGER SIZE. 2" AND SMALLER DIAMETER PIPE SHALL BE SCH 80. 3" AND LARGER DIAMETER PIPE SHALL BE SCH 40. \*
- (j) ALL CONSTRUCTION BY THE CUSTOMER FROM THE POINT OF SERVICE TERMINATION TO THE CUSTOMER'S SECONDARY PRESSURE REDUCING VALVE STATION SHALL BE SUBJECT TO APPROVAL BY THE COMPANY.
- (k) THE STEAM METER OR BALL VALVE SHALL BE INSTALLED LEVEL WITH ELECTRONIC HOUSING OR MOTOR IN THE HORIZONTAL POSITION (3 O'CLOCK OR 9 O'CLOCK POSITION). THE METER PIPING SHALL BE STRAIGHT, HORIZONTAL AND LEVEL. CLEAR SPACE ABOVE, BELOW, BEHIND & IN FRONT OF THE METERS AND SERVICE EQUIPMENT MUST BE PROVIDED FOR MAINTNENACE.
- (l) THE INSTALLATION OF ALL STEAM PIPING AND EQUIPMENT SHALL CONFORM TO ASME CODE B31.1.
- (m) STEAM TRAPS WILL BE FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CUSTOMER IN ACCORDANCE WITH CON EDISON COMPANY DRAWING E0-9352-B.
- (n) THE COMPANY WILL INSTALL METERS, MAKE FINAL WIRING CONNECTION, AND SEAL METER STOP VALVES.
- (o) METER PIPING SHALL BE ADEQUATELY SUPPORTED AT POINTS INDICATED OR WHERE PIPING SUPPORT DOES NOT INTERFERE WITH THE REMOVAL OF NUTS & BOLTS FROM THE FLANGES OR THE MAINTENANCE & OPERATION OF BLOW DOWN VALVES. PROVISIONS FOR ATTACHING HOUSING EQUIPMENT SHALL BE PROVIDED FOR INSTALLATION AND MAINTNENACE OF 4" MOTORIZED VALVES AND 4" METERS IN A MANNER ACCEPTABLE TO THE COMPANY.
- (p) SEE STEAM ENGINEERING SPECIFICATION NO. S-588 FOR ASSEMBLY OF VORTEX METER.
- (q) STEAM METER ENGINEERING SPECIFICATION NO. S-624 AND S-599 FOR WIRING CONNECTIONS AND RELAY MOUNTING PANEL FOR CONTROL OF THE METER REGULATING VALVES, IF REQUIRED.
- (r) NO PERMANENT THERMAL INSULATION SHALL BE INSTALLED AT THE FLANGES OF THE DRIFICE PLATE, METER AND METER REGULATING VALVES. REMOVABLE INSULATION JACKETS ARE PERMITTED ON THE METER AND METER REGULATING VALVE MAIN BODY.
- (s) DRILL 1/2" HOLE THROUGH PIPE WALL AT CENTER OF SOCKOLET. TAP HOLE MUST BE FREE OF BURRS AND OBSTRUCTIONS.
- (t) MOTORIZED INSIDE SERVICE STOP VALVE MUST BE DESIGNED TO CLOSE ELECTRONICALLY AND OPEN MANUALLY. CONTROL SWITCH SHALL BE LOCATED OUTSIDE STEAM ROOM AND IN A SECURE LOCATION SUCH AS OFFICE OF ENG. OR BLDG MGR.

HORIZONTAL INSTALLATION OF 1" TO 4"  
DUAL VORTEX STEAM METERS  
FOR SEGREGATED LOADS  
SHEET 2 OF 2

CONSOLIDATED EDISON COMPANY OF N.Y., INC.  
STEAM ENGINEERING DEPT.

\* SEE "APPROVED STEAM SERVICE EQUIPMENT" BOOKLET.

STEAM DISTRIBUTION ENGINEERING  
SPECIFICATION NO. S-590

INITIAL DATE: 08/25/88  
REVISION DATE: 03/17/09  
DWG NOT TO SCALE

DWG.  
NO. S-590

REV.  
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