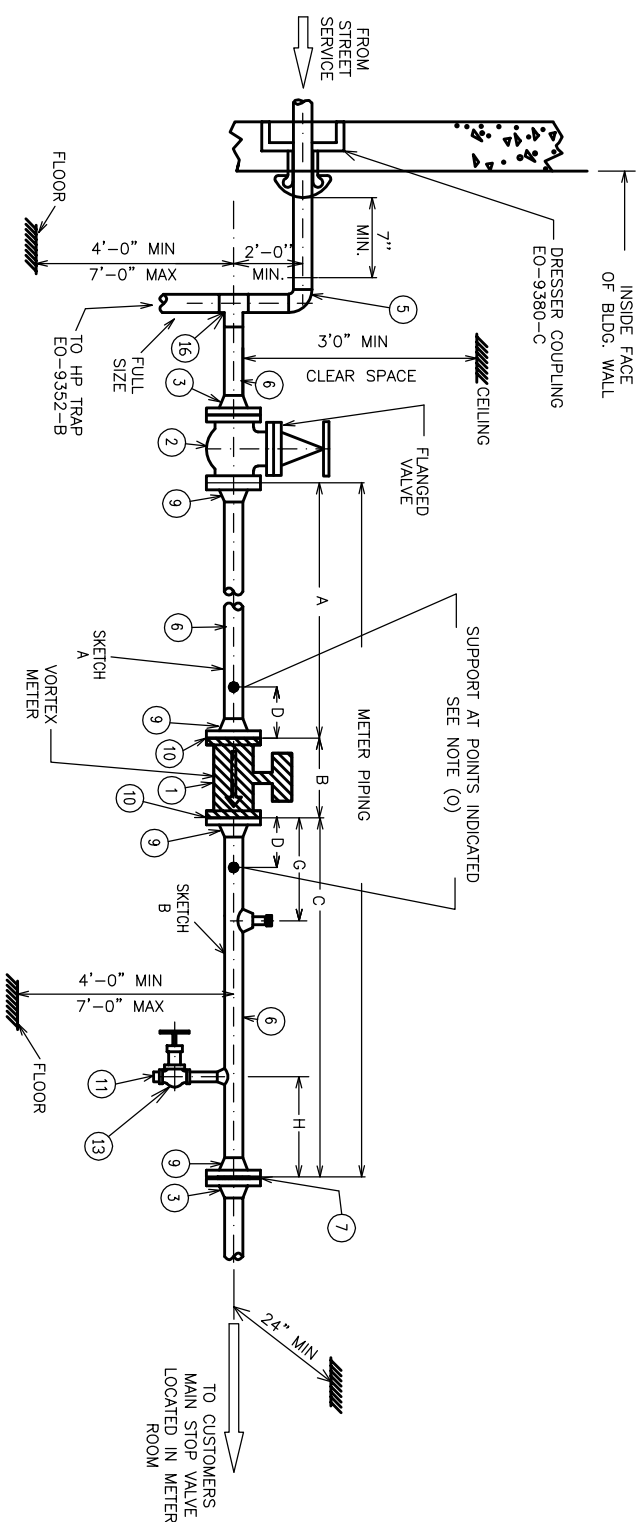


685-S
REVISIONS
08/26/88 CON EDISON 0
NEW ISSUE
07/01/98 GEN-TEK 1
1 1/2" PIPE ADDED
08/15/03 GEN-TEK 2
REDRAWN
07/18/05 RPR 3
CONVERTED TO MICROSTATION EDITORIAL CHANGES
01/20/06 LBD (SEA) 4
ROTATED STRAINERS, REVISED BOM, ADDED SPECS.
03/17/09 KIANSKID/KMM 5
REMOVED STRAINERS, LOWER HEIGHT LIMIT, PREFERRED ALTERNATE PIPING, NOTES, SPECS, BOM

PREFERRED INLET PIPING ARRANGEMENT

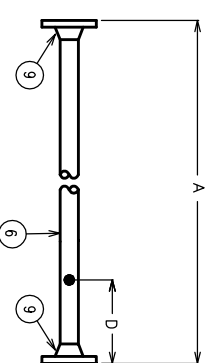
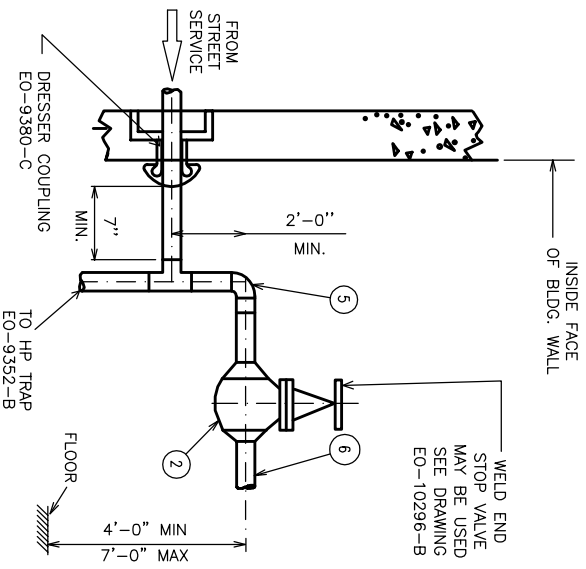


REFERENCE NOTE:

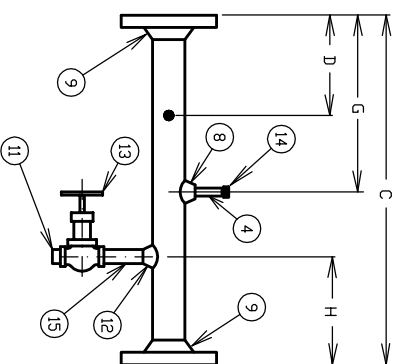
METER SHALL BE MOUNTED AT 3 O'CLOCK OR 9 O'CLOCK POSITION
A MINIMUM CLEAR SPACE OF 3'-0" SHALL BE PROVIDED
IN FRONT OF THE METER

BILL OF MATERIALS	
NO. ITEM	DESCRIPTION
1	STEAM METER - SEE NOTES (a) (b) (k) (n) (p) & (q)
2	METER STOP VALVE GATE TYPE, C.S., CLASS 300, RISING STEM RECOMMENDED TO BE MOTOR OPERATED - SEE NOTE (i)
3	WELDING NECK FLANGE, 300# *- SEE NOTES (b) (d) (e) (f) & (g)
4	1/2" DIAMETER NIPPLE, 4" LONG, CARBON STEEL, ASTM A53 GRADE B SEAMLESS, SCHEDULE 80, THREADED ENDS
5	ELBOW, LONG RADIUS, CARBON STEEL, SCHEDULE 40 FOR 3" & LARGER; SCHEDULE 80 FOR 2" AND SMALLER
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	THREADOLET, 1/2" DIAMETER, 3000#, CARBON STEEL
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
10	WELDING FLANGE SOCKET TYPE 600# SIZE 1" & 2" -SEE NOTES b,d,e,f&g
11	GASKET 1/8" THICK, AMERPLON OR FLEXITALLIC -SEE NOTES (c) & (g)
12	PLUG, SOLID STEEL, SIZE AS REQUIRED
13	SOCKOLET, 1/2" 3000# CARBON STEEL -SEE NOTE (s)
14	1/2" BLEEDOFF GATE VALVE, 300#, BRONZE THREADED ENDS
15	1/2" GAP, THREADED, CARBON STEEL, EXTRA HEAVY
16	1/2" NIPPLE, 4" LONG, CARBON STEEL, ASTM A53 SCHEDULE 80, GRADE B SEAMLESS, THREADED ONE END TEE, CARBON STEEL, FOR EXTRA STRONG PIPE

ALTERNATE INLET PIPING ARRANGEMENT



SKETCH A
METER INLET SPOOL



SKETCH B
METER OUTLET SPOOL

METER PIPING DIMENSIONS (INCHES)			
DIM.	1	2	3
A	45	90	135
B	12	12	12
C	20	20	30
D	9	9	15
G	4	8	12
H	5	5	8

REFERENCE SPECS:

ASSY. VORTEX METER _____ S-588
WIRING DIAG. F/VORTEX METER _____ S-592
MOUNTING PANEL FOR SINGLE FLOW COMPUTER _____ S-622

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" INDIVIDUAL 'VORTEX' STEAM METER

SHEET 1 OF 2

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

CONSOLIDATED EDISON COMPANY OF N.Y., INC.		DWG. NO.	S-589	REV.	5
STEAM ENGINEERING DEPT.		DATE	08/26/88		
INITIAL DATE: 08/26/88		REVISION DATE: 08/17/09			
DWG NOT TO SCALE					

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

68C-S

REVISIONS

08/26/88 CON EDISON NEW ISSUE	0
07/01/98 GEN-TEK 1 1/2" PIPE ADDED	1
08/15/03 GEN-TEK REDRAWN	2
07/18/05 R.P.R. CONVERTED TO MICROSTATION EDITORIAL CHANGES	3
01/20/06 LRD (SEA) ROTATED STRAINERS, REVISED BOM, ADDED SPEC'S	4
03/17/09 KITANSKID/KYAM REMOVED STRAINERS, LOWER HEIGHT LIMIT, PREFERRED/ALTERNATE PIPING, NOTES, SPEC'S, BOM	5

S-589 NOTE: TYPICAL INSTALLATION OF 1" TO 4"
INDIVIDUAL VORTEX STEAM METERS

- (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.

TYPICAL INSTALLATION OF 1" TO 4"
INDIVIDUAL "VORTEX" STEAM METER
SHEET 2 OF 2CONSOLIDATED EDISON COMPANY OF N.Y., INC.
STEAM ENGINEERING DEPT.

* SEE "APPROVED STEAM SERVICE EQUIPMENT" BOOKLET.

STEAM DISTRIBUTION ENGINEERING
SPECIFICATION NO. S-589INITIAL DATE: 08/26/88
REVISION DATE: 03/17/09
DWG NOT TO SCALEDWG.
NO. S-589REV.
5