

NOTES

1 ELEMENTS CROSS THE ELECTRON BEAM AS READ (FROM LEFT-TO-RIGHT)

2 MACHINE CENTER IS 400.0948 METERS UPSTREAM OF 'HALL CENTER'

3 CONTENTS:
PAGE 1: COMPONENT POSITIONING FOR REFERENCE BY COUNTING-ROOM & MCC OPERATORS
PAGE 2: COMPONENT POSITIONING FOR REFERENCE BY COUNTING-ROOM & MCC OPERATORS CONT'D
PAGE 3: COMPONENT IDENTIFICATION FOR INSTALLATION BY TECHNICAL STAFF
PAGE 4: BEAMLINE SHIELDING
PAGE 5: IDENTIFICATION OF MATERIALS IN THE BEAM

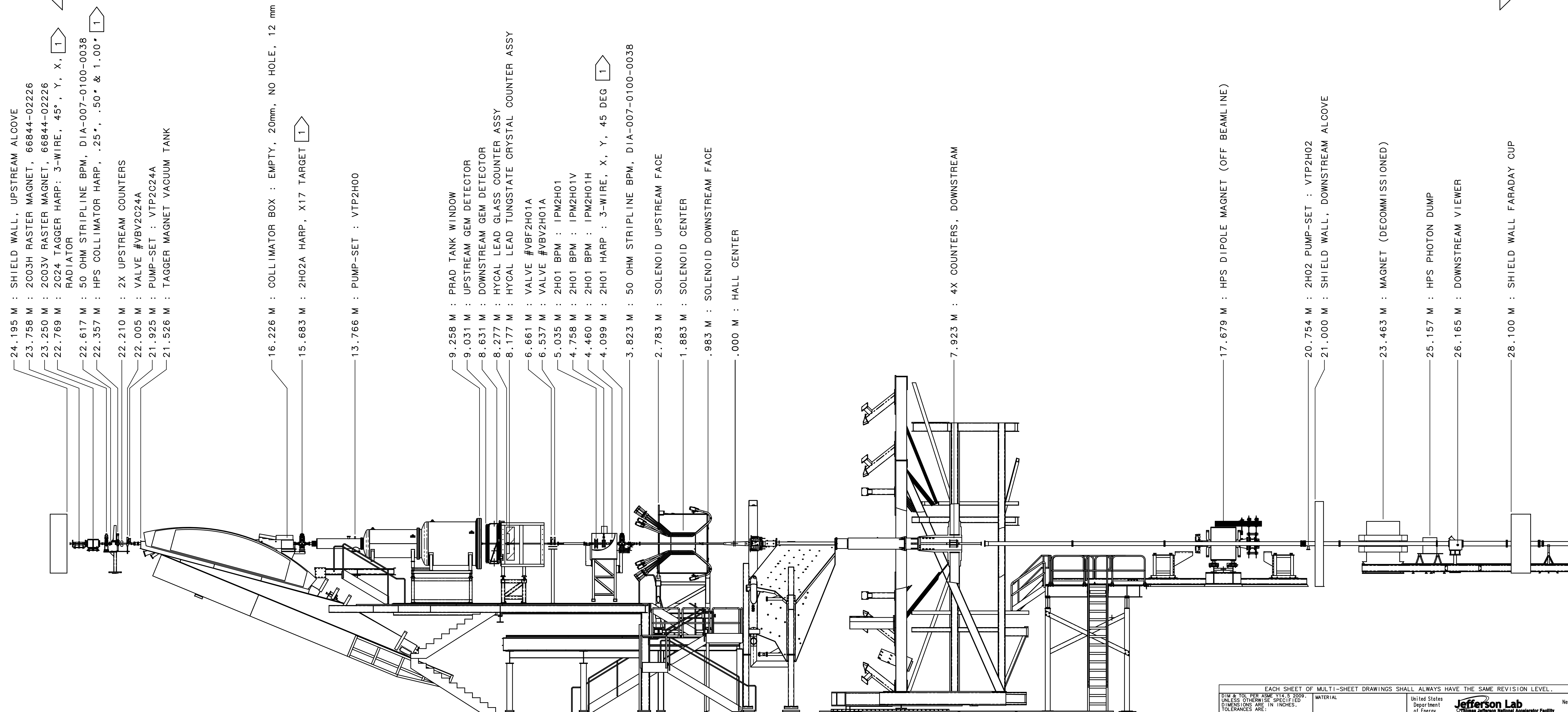
4 BEAM-TUBE IDENTIFICATION:
FORMAT: A - B - C, L
A = UPSTREAM FLANGE SIZE
B = TUBE OD
C = DOWNSTREAM FLANGE SIZE
L = LENGTH
CONFLAT FLANGES UNLESS SPECIFIED

5. DRAWING DEPICTS IDEAL INSTALLATION LOCATIONS FOR EQUIPMENT, REFER TO SURVEY TRANSMITTALS FOR FINAL LOCATION

REVISION HISTORY table with columns: ZONE, REV, DESCRIPTION, DATE/REVISOR

FOR CONTINUATION SEE DRAWING NO. 28405-0034

FOR CONTINUATION SEE ELEVATION 2-5C



- 24.195 M : SHIELD WALL, UPSTREAM ALCOVE
23.758 M : 2003H RASTER MAGNET, 66844-02226
23.250 M : 2003V RASTER MAGNET, 66844-02226
22.769 M : 2024 TAGGER HARP: 3-WIRE, 45°, Y, X, 1
22.617 M : 50 OHM STRIPLINE BPM, DIA-007-0100-0038
22.357 M : HPS COLLIMATOR HARP, .25", .50" & 1.00"
22.210 M : 2X UPSTREAM COUNTERS
22.005 M : VALVE #VBV2G24A
21.925 M : PUMP-SET : VTP2024A
21.526 M : TAGGER MAGNET VACUUM TANK

- 16.226 M : COLLIMATOR BOX : EMPTY, 20mm, NO HOLE, 12 mm
15.683 M : 2H02A HARP, X17 TARGET 1
13.766 M : PUMP-SET : VTP2H00

- 9.258 M : PRAD TANK WINDOW
9.031 M : UPSTREAM GEM DETECTOR
8.631 M : DOWNSTREAM GEM DETECTOR
8.277 M : HICAL LEAD GLASS COUNTER ASSY
8.177 M : HICAL LEAD TUNGSTATE CRYSTAL COUNTER ASSY

- 6.661 M : VALVE #VBF2H01A
6.537 M : VALVE #VBV2H01A
5.035 M : 2H01 BPM : IPM2H01
4.758 M : 2H01 BPM : IPM2H01V
4.460 M : 2H01 BPM : IPM2H01H
4.099 M : 2H01 HARP : 3-WIRE, X, Y, 45 DEG 1

- 3.823 M : 50 OHM STRIPLINE BPM, DIA-007-0100-0038
2.783 M : SOLENOID UPSTREAM FACE
1.883 M : SOLENOID CENTER
.983 M : SOLENOID DOWNSTREAM FACE
.000 M : HALL CENTER

- 7.923 M : 4X COUNTERS, DOWNSTREAM

- 17.679 M : HPS DIPOLE MAGNET (OFF BEAMLINE)

- 20.754 M : 2H02 PUMP-SET : VTP2H02
21.000 M : SHIELD WALL, DOWNSTREAM ALCOVE

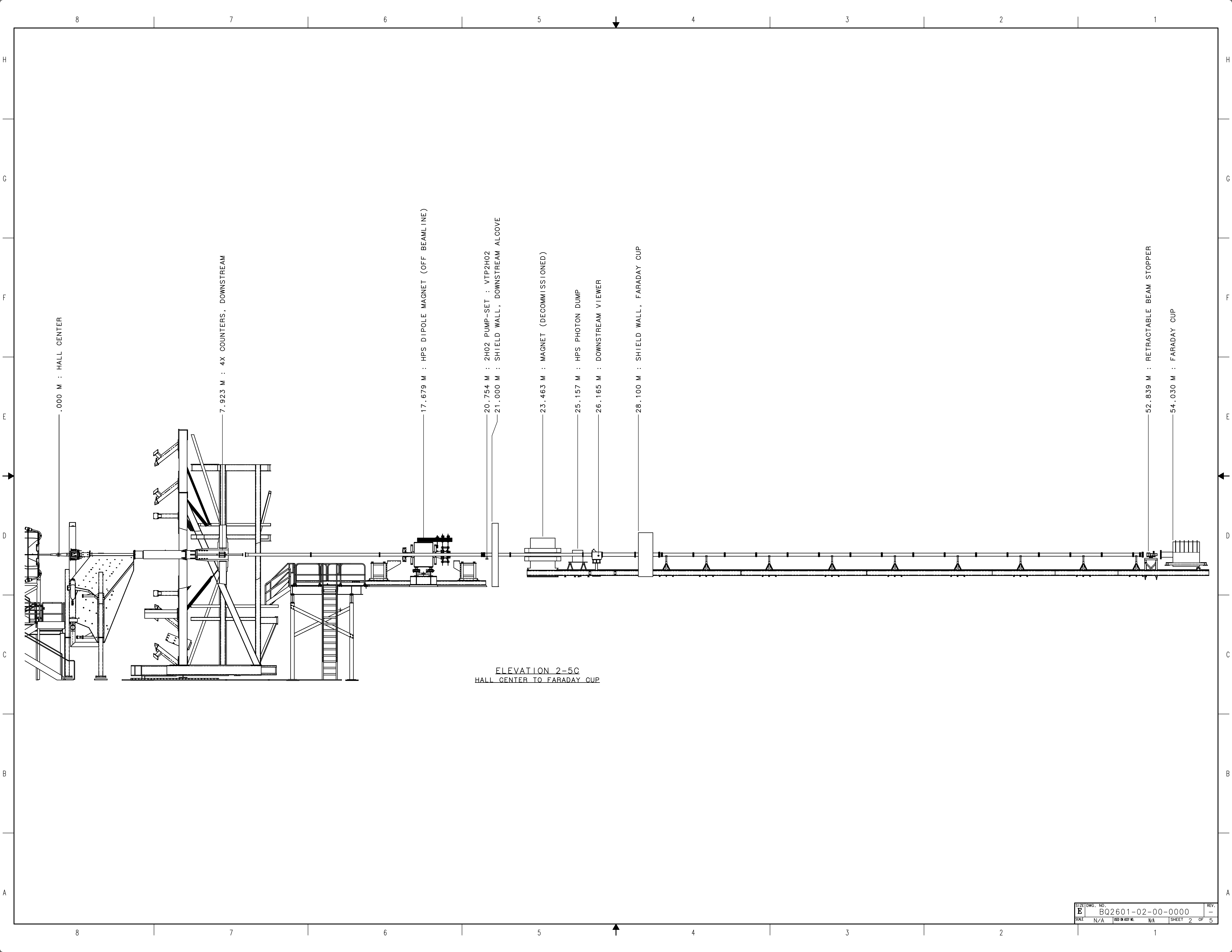
- 23.463 M : MAGNET (DECOMMISSIONED)

- 25.157 M : HPS PHOTON DUMP
26.165 M : DOWNSTREAM VIEWER

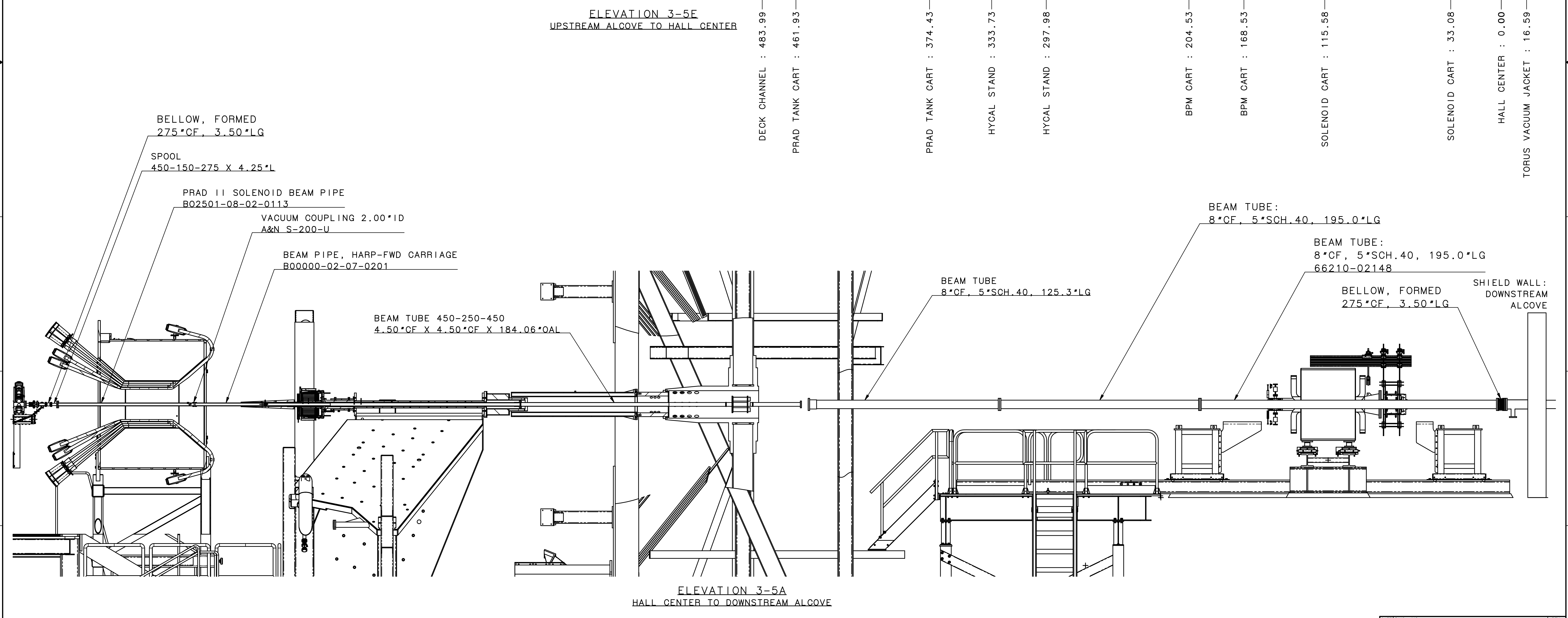
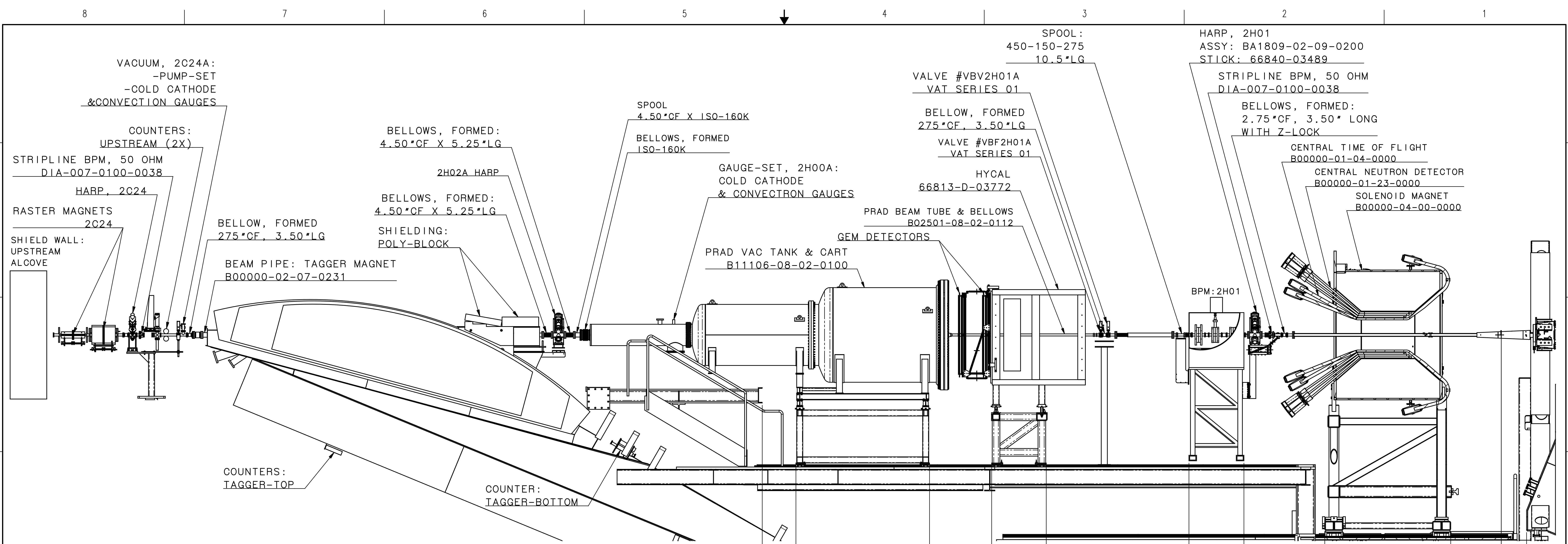
- 28.100 M : SHIELD WALL FARADAY CUP

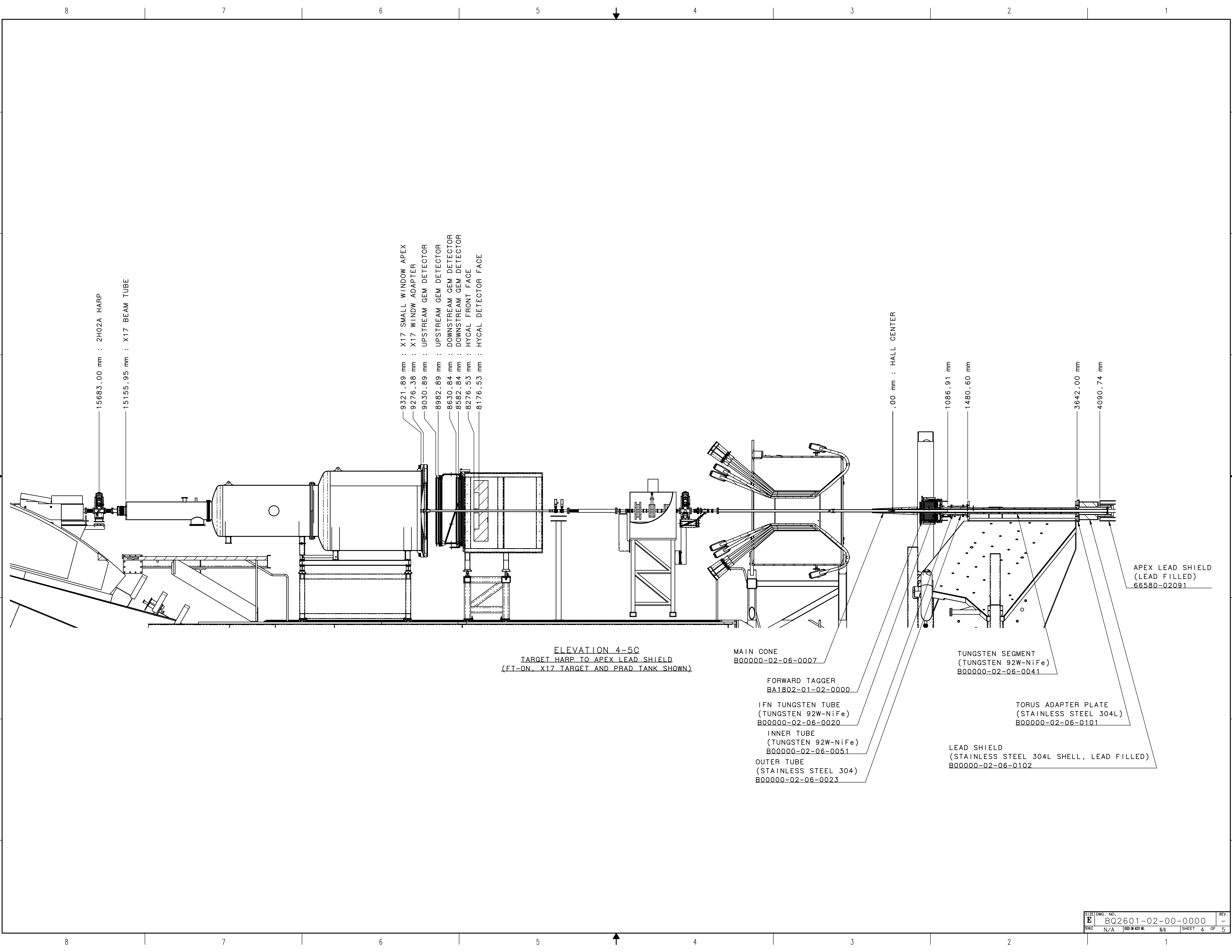
ELEVATION 1-5A
UPSTREAM ALCOVE TO DOWNSTREAM ALCOVE

Technical drawing metadata including: EACH SHEET OF MULTI-SHEET DRAWINGS SHALL ALWAYS HAVE THE SAME REVISION LEVEL, DIM & TOL PER ASME Y14.5 2009, UNITED STATES DEPARTMENT OF ENERGY, JEFFERSON LAB, HALL B, RN GRP Q, 2026 02 BEAM LINE, 00 INSTALLATION TEMPLATE BEAMLINE CONFIGURATION, SIZE DWG. NO. BQ2601-02-00-0000, DATE 10/28/2024, SHEET 1 OF 5



ELEVATION 2-5C  
HALL CENTER TO FARADAY CUP





15683.00 mm : 2H02A HARP  
 15155.95 mm : X17 BEAM TUBE

9321.89 mm : X17 SMALL WINDOW APEX  
 9276.38 mm : X17 WINDW ADAPTER  
 9030.89 mm : UPSTREAM GEM DETECTOR  
 8982.89 mm : UPSTREAM GEM DETECTOR  
 8630.84 mm : DOWNSTREAM GEM DETECTOR  
 8582.84 mm : DOWNSTREAM GEM DETECTOR  
 8276.53 mm : HYCAL FRONT FACE  
 8176.53 mm : HYCAL DETECTOR FACE

**ELEVATION 4-5C**  
 TARGET HARP TO APEX LEAD SHIELD  
 (FT-ON, X17 TARGET AND PRAD TANK SHOWN)

MAIN CONE  
 B00000-02-06-0007

FORWARD TAGGER  
 BA1802-01-02-0000

IFN TUNGSTEN TUBE  
 (TUNGSTEN 92W-NiFe)  
 B00000-02-06-0020

INNER TUBE  
 (TUNGSTEN 92W-NiFe)  
 B00000-02-06-0051

OUTER TUBE  
 (STAINLESS STEEL 304)  
 B00000-02-06-0023

.00 mm : HALL CENTER

1086.91 mm  
 1480.60 mm  
 3642.00 mm  
 4090.74 mm

TUNGSTEN SEGMENT  
 (TUNGSTEN 92W-NiFe)  
 B00000-02-06-0041

TORUS ADAPTER PLATE  
 (STAINLESS STEEL 304L)  
 B00000-02-06-0101

LEAD SHIELD  
 (STAINLESS STEEL 304L SHELL, LEAD FILLED)  
 B00000-02-06-0102

APEX LEAD SHIELD  
 (LEAD FILLED)  
 66580-02091

8

7

6

5

4

3

2

1

H

G

F

E

D

C

B

A

.000 mm : 2H02A HARP, X17 TARGET CENTER

TABLE -A-  
MATERIALS IN THE BEAM LINE X17 TARGET CONFIGURATION

ITEM	DRAWING NO.	MATERIAL	THICKNESS
X17 TARGET HARP FOIL	TBD	Ta	1um

X17 SMALL WINDOW  
ALUMINUM 2024-T3, 0.02" THK

- 6352.703 mm : WINDOW ADAPTER COUPLING
- 6361.111 mm : X17 SMALL WINDOW APEX
- 6406.618 mm : X17 WINDOW ADAPTER
- 6424.874 mm : X17 SMALL WINDOW MOUNTING
- 6652.110 mm : UPSTREAM GEM DETECTOR
- 6700.110 mm : UPSTREAM GEM DETECTOR
- 7052.160 mm : DOWNSTREAM GEM DETECTOR
- 7100.160 mm : DOWNSTREAM GEM DETECTOR
- 7406.464 mm : HYCAL LEAD GLASS COUNTER ASSY
- 7506.464 mm : HYCAL LEAD TUNGSTATE CRYSTAL COUNTER ASSY

DETAIL 5-5B  
X17 TARGET HARP TO HYCAL DETECTOR