

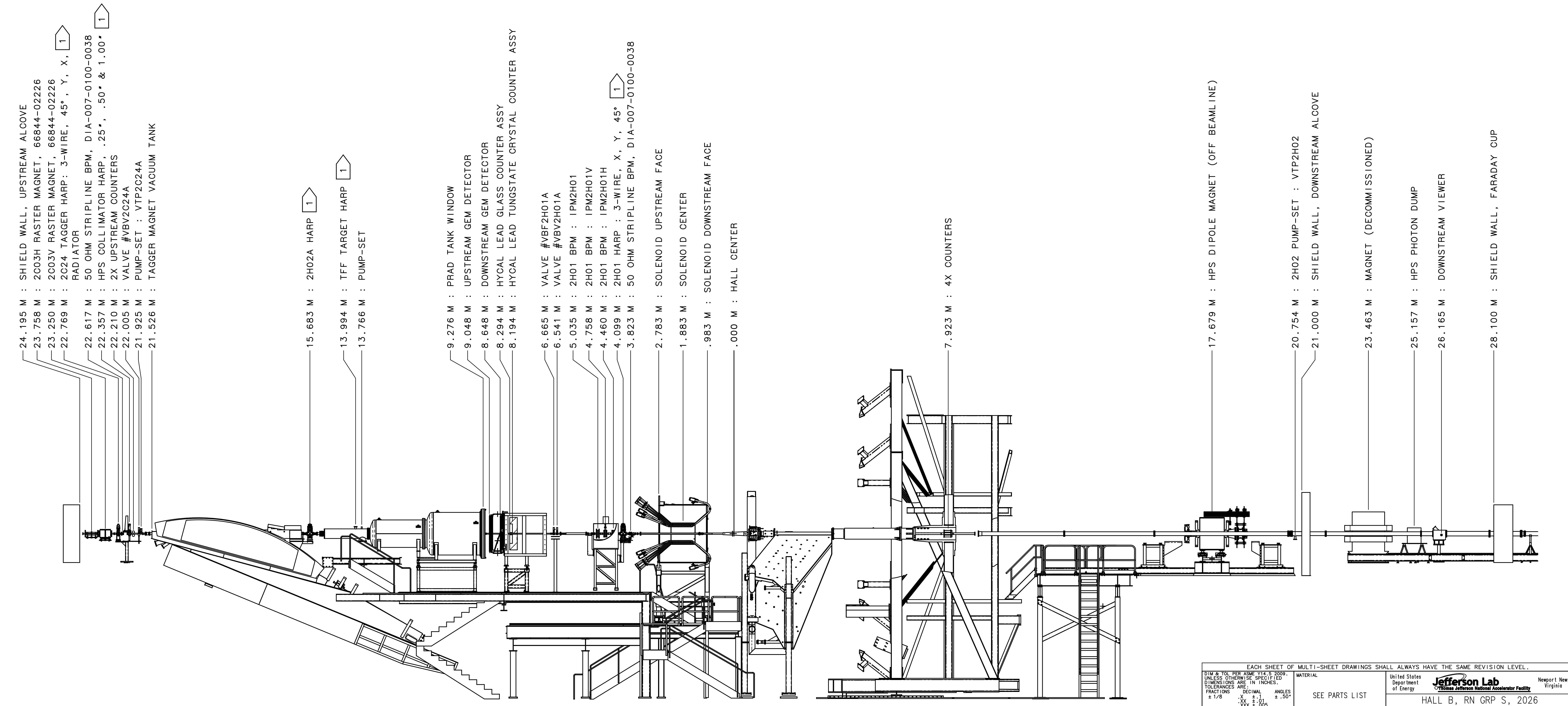
NOTES

- 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		
ZONE	REV	DESCRIPTION

FOR CONTINUATION  
SEE DRAWING NO.  
28405-0034

FOR CONTINUATION  
SEE ELEVATION 2-5C



ELEVATION 1-5A  
UPSTREAM ALCOVE TO DOWNSTREAM ALCOVE

EACH SHEET OF MULTI-SHEET DRAWINGS SHALL ALWAYS HAVE THE SAME REVISION LEVEL.

UNIT & TOL PER ASME Y14.5 2009.  
 UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN INCHES.  
 TOLERANCES ARE:  
 FRACTIONS DECIMAL ANGLES  
 ± 1/16 ± .01 ± 30°  
 ± .005 ± .01 ± 50°

THIRD ANGLE PROJECTION

FINISH MACHINED SURFACES UNLESS OTHERWISE NOTED  
 DEBURR & BREAK ALL SHARP EDGES

DO NOT SCALE DRAWING

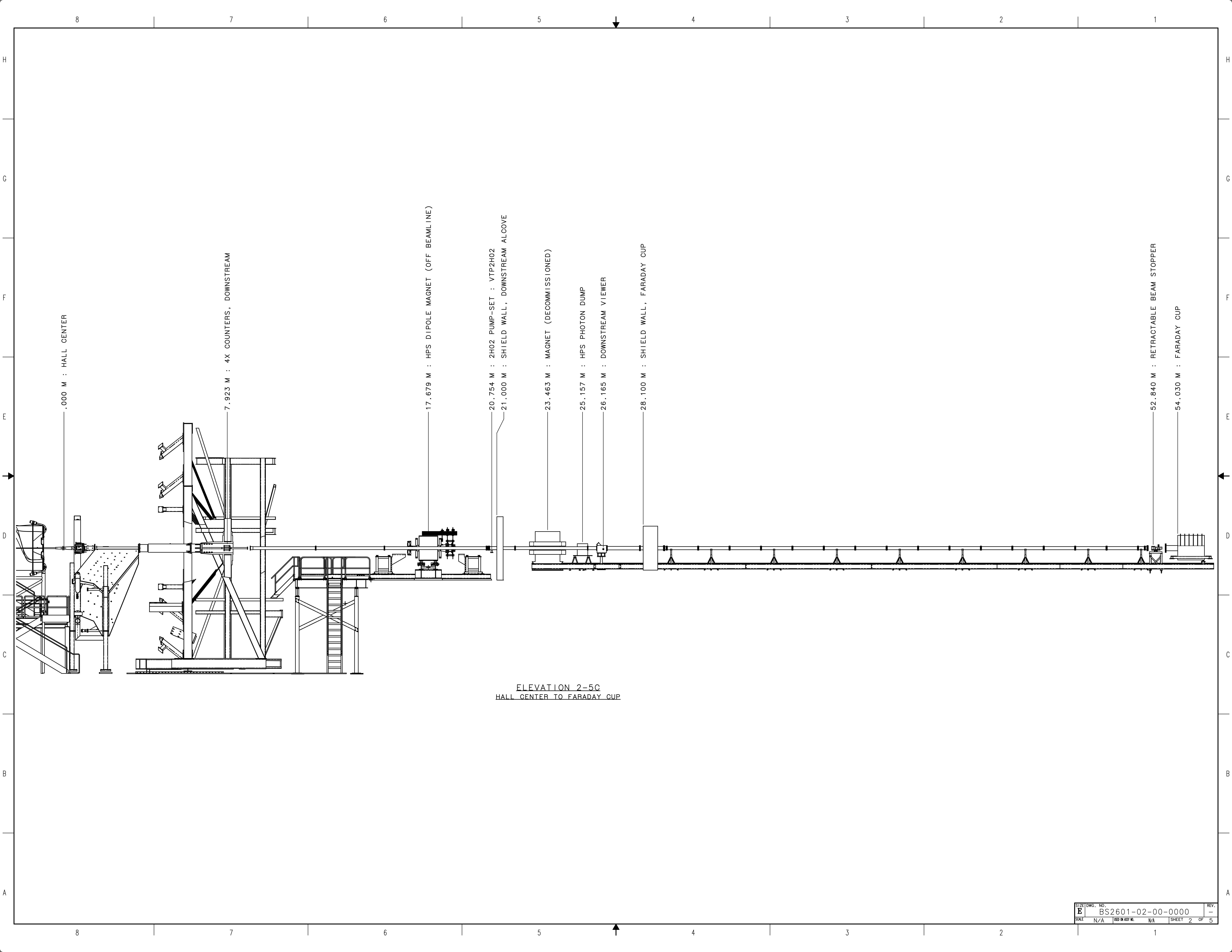
DRAWN: CHRIS QUIRIE DATE: 10/30/2024

MATERIAL: SEE PARTS LIST

UNITED STATES DEPARTMENT OF ENERGY  
**Jefferson Lab**  
 Thomas Jefferson National Accelerator Facility  
 Newport News, Virginia

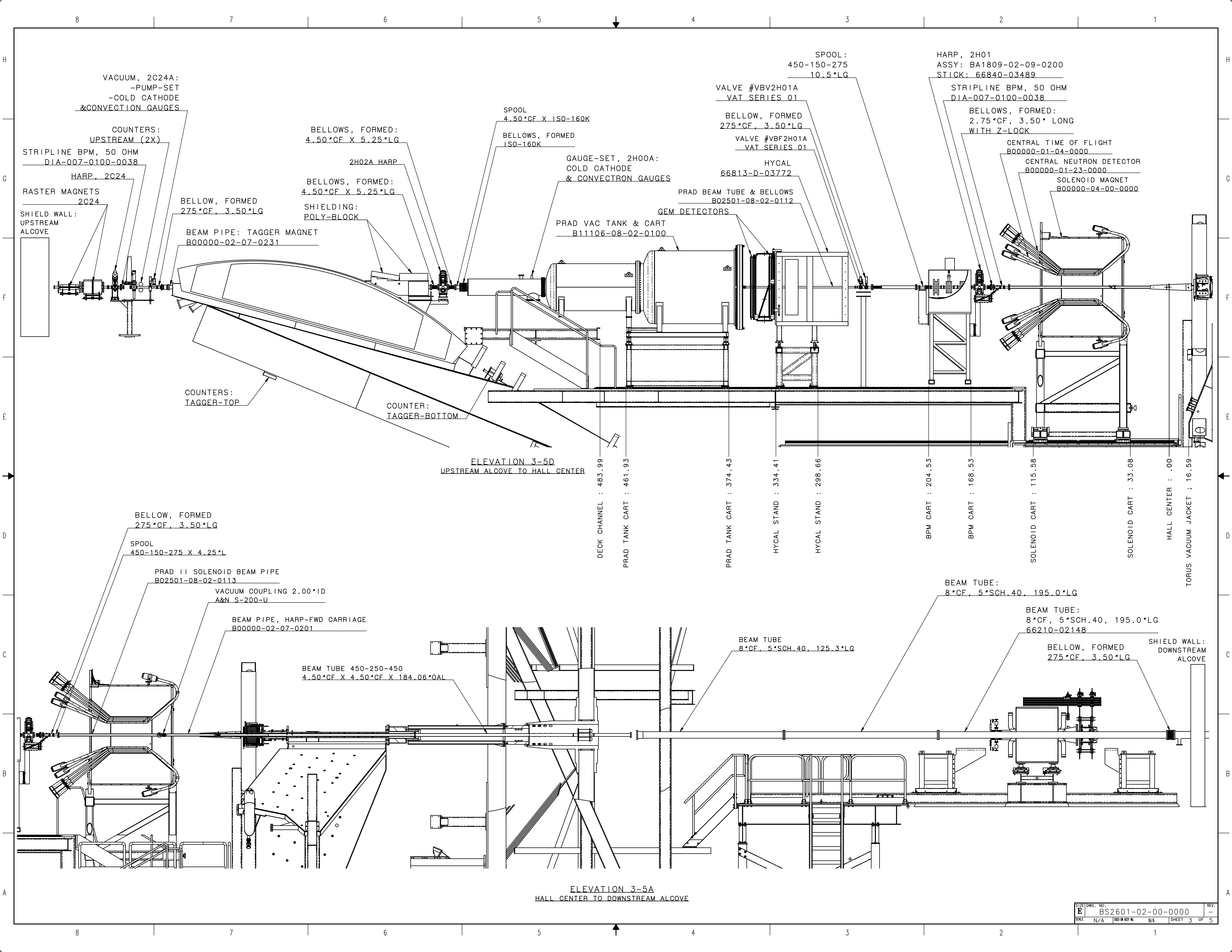
HALL B, RN GRP S, 2026  
 02 BEAMLINE  
 00 INSTALLATION TEMPLATE  
 BEAMLINE CONFIGURATION

SIZE: DWG. NO. BS2601-02-00-0000  
 SCALE: N/A  
 SHEET: 1 OF 5



ELEVATION 2-5C  
 HALL CENTER TO FARADAY CUP

SIZE	DWG. NO.	REV.
E	BS2601-02-00-0000	-
SCALE	ISSUED ON ASSY NO.	SHEET
N/A	N/A	2 OF 5



VACUUM, 2C24A:  
-PUMP-SET  
-COLD CATHODE  
& CONVECTION GAUGES

COUNTERS:  
UPSTREAM (2X)  
STRIPLINE BPM, 50 OHM  
DIA-007-0100-0038  
HARP, 2C24

RASTER MAGNETS  
2C24  
SHIELD WALL:  
UPSTREAM  
ALCOVE

BELLOW, FORMED  
275\*CF, 3.50\*LG  
BEAM PIPE: TAGGER MAGNET  
B00000-02-07-0231

COUNTERS:  
TAGGER-TOP

BELLOWS, FORMED:  
4.50\*CF X 5.25\*LG

BELLOWS, FORMED:  
4.50\*CF X 5.25\*LG

SHIELDING:  
POLY-BLOCK

COUNTER:  
TAGGER-BOTTOM

SPOOL  
4.50\*CF X ISO-160K

BELLOWS, FORMED  
ISO-160K

GAUGE-SET, 2H00A:  
COLD CATHODE  
& CONVECTRON GAUGES

PRAD VAC TANK & CART  
B11106-08-02-0100

GEM DETECTORS

PRAD BEAM TUBE & BELLOWS  
B02501-08-02-0112

VALVE #VBV2H01A  
VAT SERIES 01

BELLOW, FORMED  
275\*CF, 3.50\*LG

VALVE #VBF2H01A  
VAT SERIES 01

HYCAL  
66813-D-03772

SPOOL:  
450-150-275  
10.5\*LG

HARP, 2H01  
ASSY: BA1809-02-09-0200  
STICK: 66840-03489

STRIPLINE BPM, 50 OHM  
DIA-007-0100-0038

BELLOWS, FORMED:  
2.75\*CF, 3.50\* LONG  
WITH Z-LOCK

CENTRAL TIME OF FLIGHT  
B00000-01-04-0000

CENTRAL NEUTRON DETECTOR  
B00000-01-23-0000

SOLENOID MAGNET  
B00000-04-00-0000

ELEVATION 3-5D  
UPSTREAM ALCOVE TO HALL CENTER

DECK CHANNEL : 483.99

PRAD TANK CART : 461.93

PRAD TANK CART : 374.43

HYCAL STAND : 334.41

HYCAL STAND : 298.66

BPM CART : 204.53

BPM CART : 168.53

SOLENOID CART : 115.58

SOLENOID CART : 33.08

HALL CENTER : .00

TORUS VACUUM JACKET : 16.59

BELLOW, FORMED  
275\*CF, 3.50\*LG

SPOOL  
450-150-275 X 4.25\*L

PRAD II SOLENOID BEAM PIPE  
B02501-08-02-0113

VACUUM COUPLING 2.00\*ID  
A&N S-200-U

BEAM PIPE, HARP-FWD CARRIAGE  
B00000-02-07-0201

BEAM TUBE 450-250-450  
4.50\*CF X 4.50\*CF X 184.06\*OAL

BEAM TUBE  
8\*CF, 5\*SCH.40, 125.3\*LG

BEAM TUBE:  
8\*CF, 5\*SCH.40, 195.0\*LG

BEAM TUBE:  
8\*CF, 5\*SCH.40, 195.0\*LG  
66210-02148

BELLOW, FORMED  
275\*CF, 3.50\*LG

SHIELD WALL:  
DOWNSTREAM  
ALCOVE

ELEVATION 3-5A  
HALL CENTER TO DOWNSTREAM ALCOVE

8

7

6

5

4

3

2

1

H

G

F

E

D

C

B

A

H

G

F

E

D

C

B

A

15683.00 mm : 2H02A HARP

13993.77 mm : TFF TARGET HARP

9048.13 mm : UPSTREAM GEM DETECTOR

8648.08 mm : DOWNSTREAM GEM DETECTOR

8293.78 mm : HYCAL LEAD GLASS COUNTER ASSY

8193.78 mm : HYCAL LEAD TUNGSTATE CRYSTAL COUNTER ASSY

4098.91 mm : 2H01 HARP

1882.87 mm : SOLENOID CENTER

404.16 mm : MOELLER SHIELD

.00 mm : HALL CENTER

366.97 mm

991.97 mm

1480.60 mm

3642.00 mm

4090.74 mm

ELEVATION 4-5C  
2H02A HARP TO APEX LEAD SHIELD  
(FT-ON, TFF TARGET & 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

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

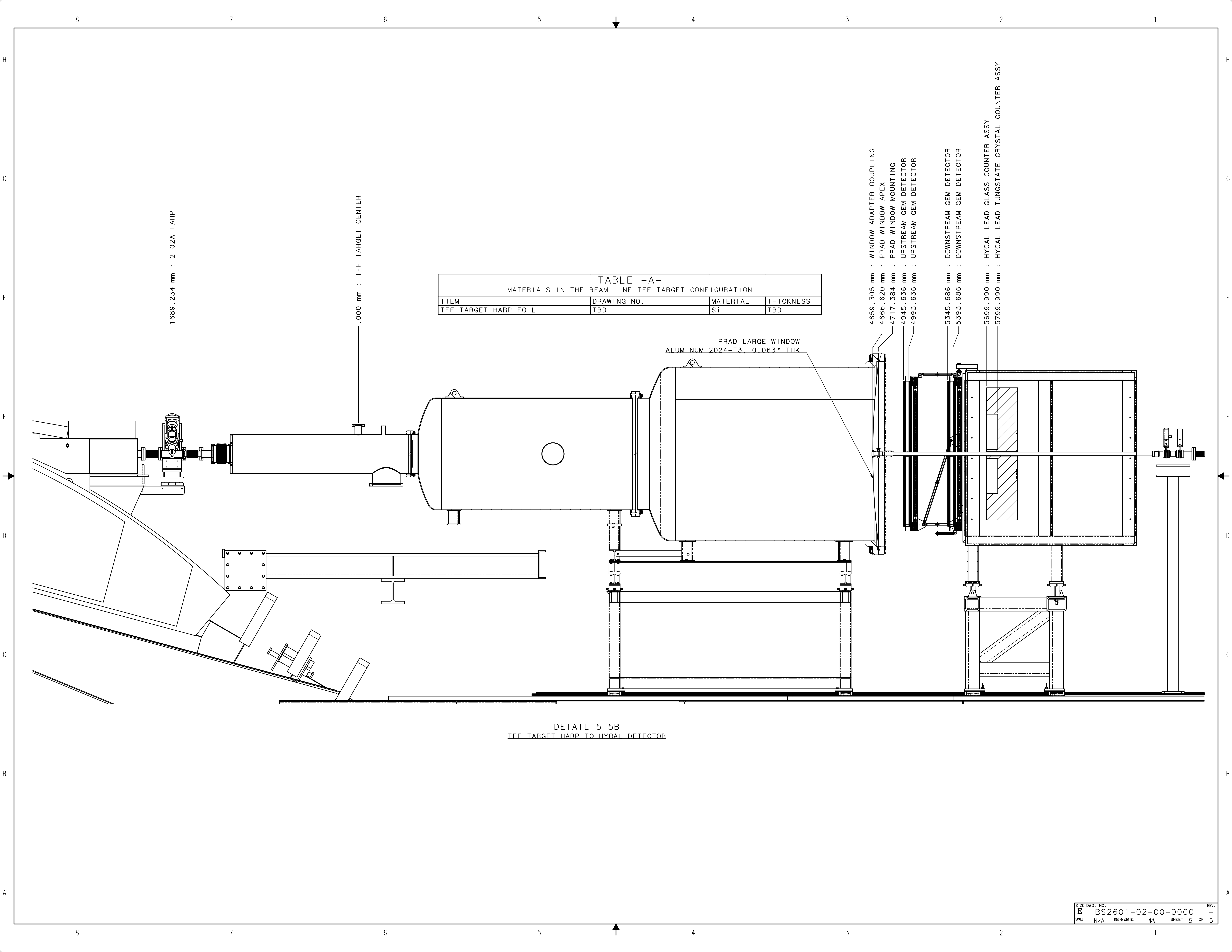


TABLE -A-  
MATERIALS IN THE BEAM LINE TFF TARGET CONFIGURATION

ITEM	DRAWING NO.	MATERIAL	THICKNESS
TFF TARGET HARP FOIL	TBD	Si	TBD

DETAIL 5-5B  
TFF TARGET HARP TO HYCAL DETECTOR