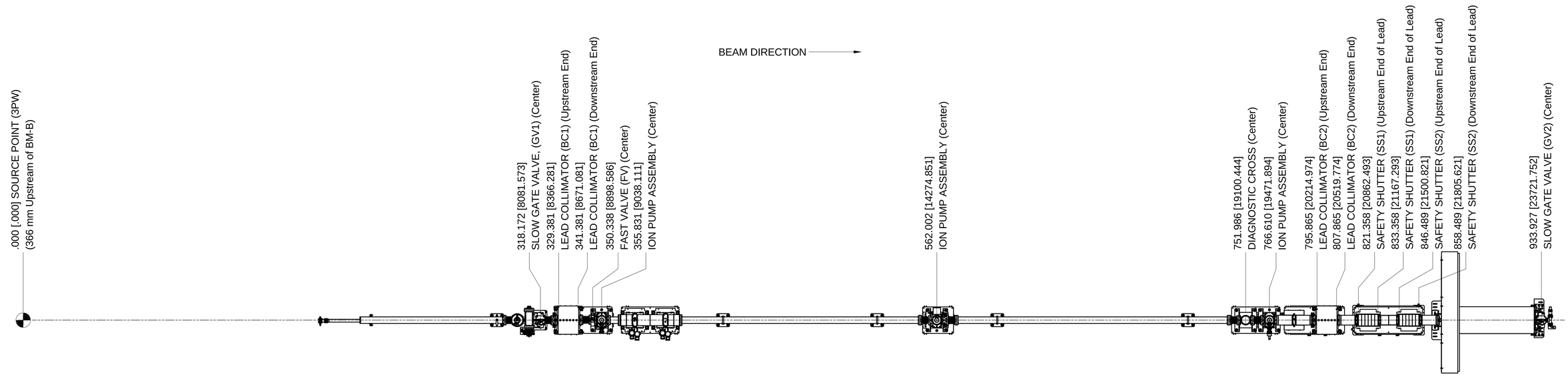
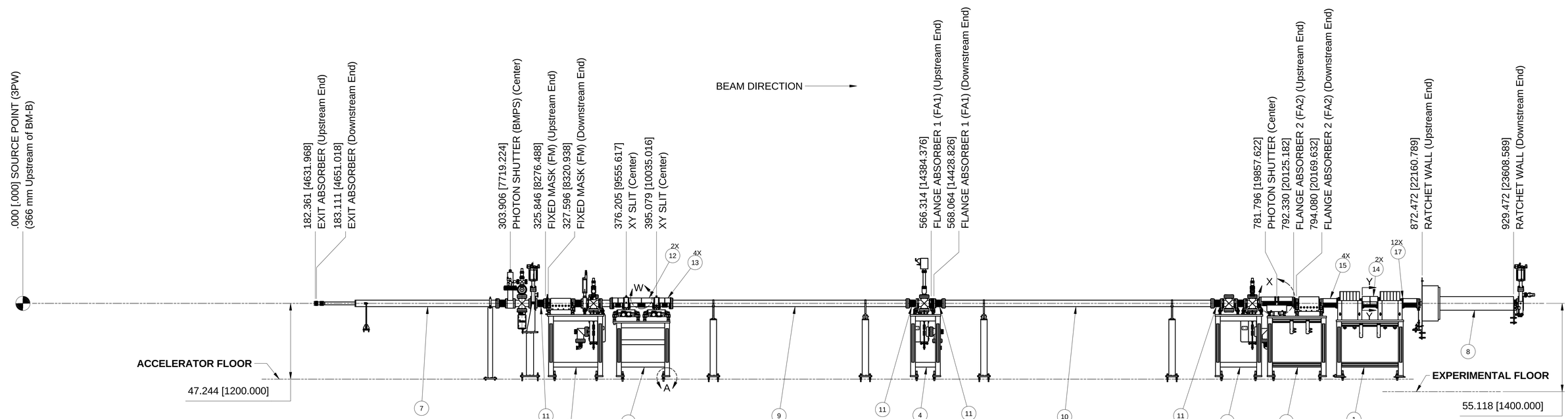
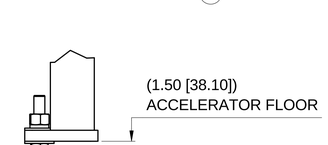
| REVISION HISTORY | | | | | |
|---|---|---|---|---|---|
| REV | DESCRIPTION | DATE | DESIGNER | CHECKED BY | ENGINEER |
| A | RELEASE PER ECO-005004 | 4/2017 | R GAMBELLA | CA/ML | M BREITFELLER |

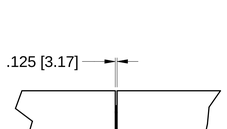


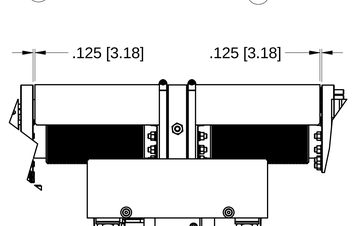

**SCALE 1 / 24**



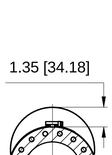

**DETAIL A**
**SCALE 1 : 4**




**DETAIL W**
**SCALE 1 : 4**
4X
2 PIECE DESIGN
INSTALL WITH .125 GAP BETWEEN SHIELDS
CENTERED OVER BELLOWS




**DETAIL X**
**SCALE 1 : 4**
4X
1 PIECE DESIGN
INSTALL WITH .125 GAP BETWEEN SHIELD AND FLANGE.
(INSTALL CLAMPS ON PHOTON SHUTTER FLANGE TO PREVENT
SHIELD FROM CONTACTING BELLOWS DURING ACTUATION)




**SECTION Y-Y**
**SCALE 1 / 4**

**NOTES:**

1. COMPONENTS LAYOUT AS PER RSI (LT-C-ASD-RSI-002 VERSION 3).
2. ALL ORDINATE DIMENSIONS ARE FROM SOURCE POINT (3PW).
3. SEE SHEET 4 FOR TABLE SURVEY AND ALIGNMENT DIMENSIONS.
4. SEE SHEET 3 FOR COMPONENT HEIGHTS AND ALIGNMENT DIMENSIONS.
5. RCO POSITION TOLERANCE OF ±.020 [.500] IN X, Y AND Z DIRECTION (BEAM DIRECTION). ALL OTHER COMPONENT POSITION TOLERANCE OF ± .008 [200] IN X AND Y DIRECTIONS AND +/-.020 [.500] IN Z DIRECTION.
6. REFERENCE WATER FLOW DIAGRAM SR-FE-3PW-UT-6000.
7. REFERENCE AIR SCHEMATIC SR-FE-3PW-UT-7001.
8. FOR SURVEY PURPOSES, USE FIXED MASK TO ESTABLISH PRACTICAL FRAME.
9. REFERENCE RAY TRACE DRAWING SR-FE-3PW-6001.
10. BAKE OUT IAW NSLS II VACUUM SYSTEMS BAKE OUT PS-C-ASD-PRC-105.
11. INSTALL ALL SAFETY WIRE AFTER FINAL ALIGNMENT.

TOP OFF SAFETY CREDITED COMPONENT OR ASSEMBLY.
ANY CHANGES TO THIS DRAWING REQUIRES APPROVAL
OF THE TECHNICAL AUTHORITY FOR TOP OFF SAFETY.

| COMPONENT | RADIATION SAFETY COMPONENT CHECKLIST | TOP OFF SAFETY SYSTEM |
|---|---|---|
| FIXED MASK (FM) | X | X |
| LEAD COLLIMATOR 1 (BC1) | X | |
| FLANGE ABSORBER 1 (FA1) | X | |
| FLANGE ABSORBER 2 (FA2) | X | |
| LEAD COLLIMATOR 2 (BC2) | X | X |
| SAFETY SHUTTER 1 | X | |
| SAFETY SHUTTER 2 | X | |
| RATCHET WALL COLLIMATOR | X | |

| ITEM | QTY | PART NUMBER | DESCRIPTION | MATERIAL |
|---|---|---|---|---|
| 17 | 12 | PI-CLMP-0056 | CLAMP, HOSE, WORM DRIVE, S.S, 4.125" - 7" | Stn Stl |
| 15 | 4 | SR-FE-SHLD-0001-11 | BELLOWS SHIELD, 9.00 lg. | Alum |
| 14 | 2 | SR-FE-SHLD-0002-02 | BELLOWS SHIELD, 4.75" LONG | Alum |
| 13 | 4 | SR-FE-3PW-SHLD-0001-02 | BELLOWS SHIELD, 3.86 lg. | Alum |
| 12 | 2 | SR-FE-3PW-SHLD-0001-01 | BELLOWS SHIELD, 8.17 lg. | Alum |
| 11 | 4 | SR-VA-BLW-0003 | BELLOWS, WELD, 6.00 CF X 6.00 NOM LENGTH | Stn Stl |
| 10 | 1 | SR-FE-3PW-6610 | DRIFT PIPE, ASSY | Stn Stl |
| 9 | 1 | SR-FE-3PW-6600 | DRIFT PIPE, ASSY | Stn Stl |
| 8 | 1 | SR-FE-3PW-RCO-6000 | RATCHET WALL COLLIMATOR, XFM | |
| 7 | 1 | SR-VA-CHM-6310-02 | EXIT CHM SUBASSY, S6 EVEN AND ODD | |
| 6 | 1 | SR-FE-3PW-SLT-2000 | TABLE ASSEMBLY, SLIT-STAGE | |
| 5 | 1 | SR-FE-3PW-6031 | TABLE ASSY, DIAGNOSTIC CROSS | |
| 4 | 1 | SR-FE-3PW-6014 | TABLE ASSY, DIAGNOSTIC CROSS / FA1 | |
| 3 | 1 | SR-FE-3PW-6013 | TABLE ASSY, PHOTON SHUTTER / FA2 / BC2 | |
| 2 | 1 | SR-FE-3PW-6005 | TABLE ASSY, FM / BC1 / FV | |
| 1 | 1 | SR-FE-3PW-3030 | TABLE ASSY, SAFETY SHUTTER | |

PARTS LIST

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
DIMENSIONS IN BRACKETS [m.m] (WHERE PRESENT) ARE MILLIMETERS AND ARE FOR REFERENCE ONLY
INTERPRET DRAWING AS PER ASME Y14.5-1994 OR Y32.3-1975

| DIMENSIONAL TOLERANCES | ANGULAR TOLERANCE |
|---|---|
| X. ± 0.060 | ± .5° |
| .X ± 0.030 | |
| .XX ± 0.015 | FINISH 125 |
| .XXX ± 0.005 | |

BREAK EDGES & SHARP CORNERS 0.005 MIN. TO 0.030 MAX

BROOKHAVEN NATIONAL LABORATORY
BROOKHAVEN SCIENCE ASSOCIATES
UPTON, NEW YORK 11973
Exploring Life's Mysteries, Protecting its Future

| | | |
|---|---|---|
| DRAWN BY | R GAMBELLA | 9/29/2014 |
| CHECKED BY | CA/ML | 4/2017 |
| VACUUM APPROVAL | C HETZEL | 4/2017 |
| ENGINEER APPROVAL | M BREITFELLER | 4/2017 |
| SUPERVISOR APPROVAL | S SHARMA | 4/2017 |
| ESH&H APPROVAL | A ACKERMAN | 4/2017 |
| QA APPROVAL | E CHESWICK | 4/2017 |

NSLS II NATIONAL SYNCHROTRON LIGHT SOURCE II

STORAGE RING
FRONT END, 3PW, CELL 4-BM
LAYOUT, XFM BEAMLINE

SHEET SIZE: E
SR-FE-3PW-6000 (DRAWING/PART NUMBER)
A (REVISION)

**4-BM BEAMLINE**

NEXT ASSY: FINAL
PROJECT: NSLS-II
THIRD ANGLE PROJECTION
SCALE: SEE DWG VIEW
WBS# 6.12
ESH&Q RISK LEVEL: A1
SHEET 1 OF 4

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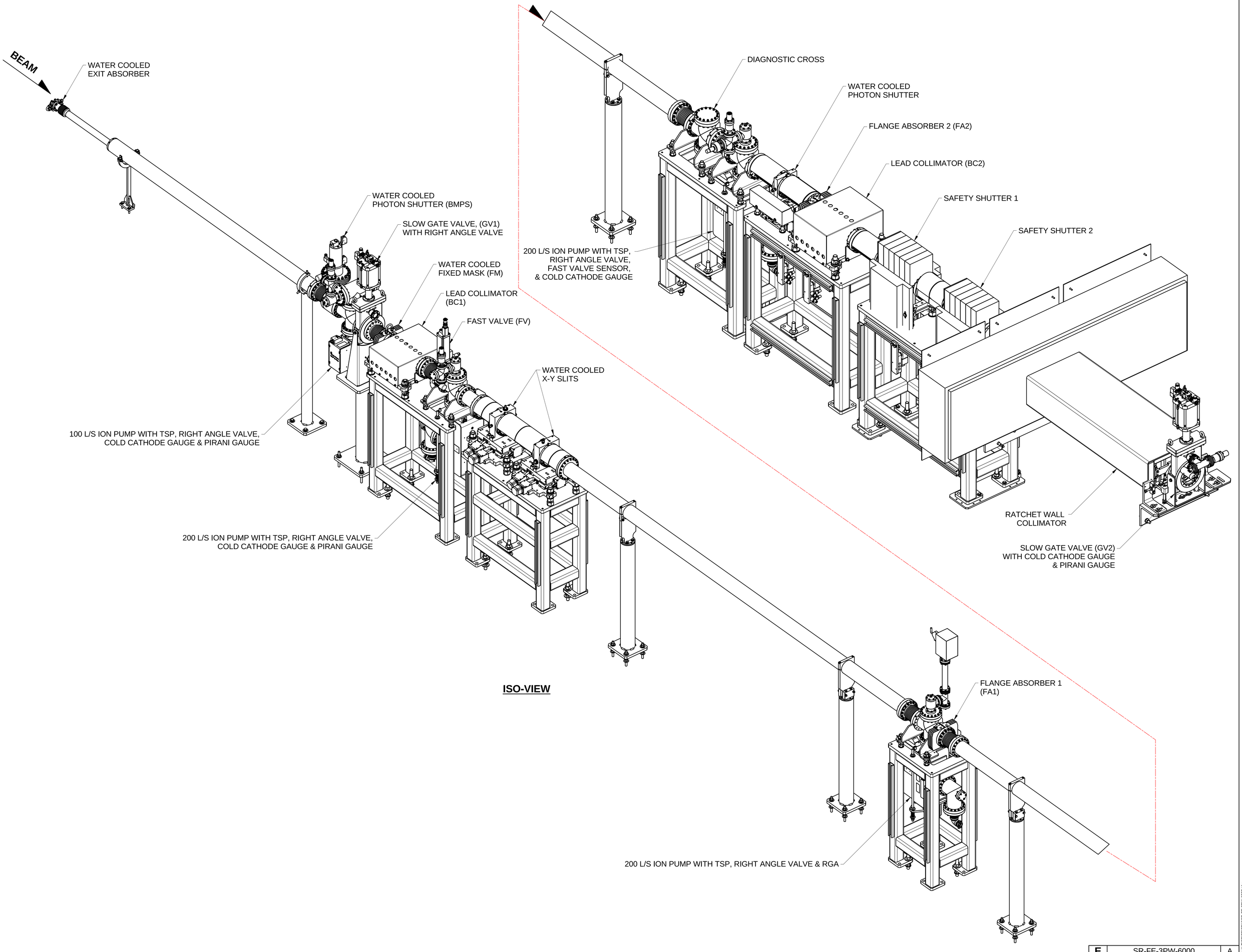


| E | SR-FE-3PW-6000 | A |
|---|---|---|
| SHEET SIZE | DRAWING/PART NUMBER | REVISION |
| ESH&Q RISK LEVEL A1 | SHEET 2 OF 4 | |

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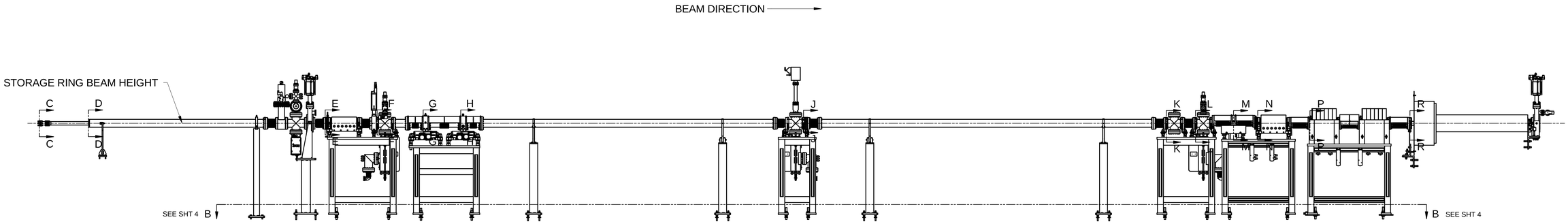
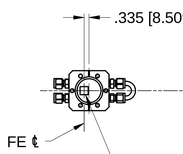
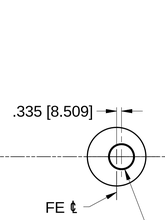


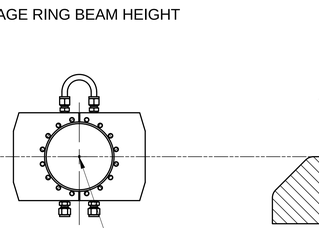

SCALE 1 / 20



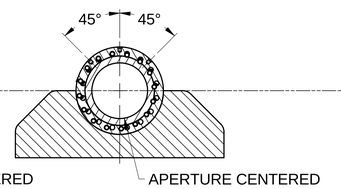

SECTION C-C
EXIT ABSORBER
SCALE 1 : 4



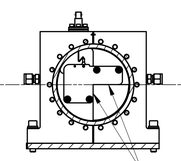

SECTION D-D
EXIT CHAMBER
SCALE 1 : 4



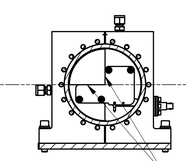

SECTION E-E
FIXED MASK (FM)
SCALE 1 : 4



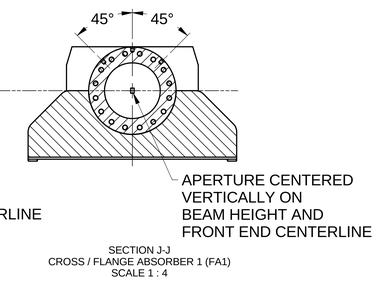

SECTION F-F
CROSS
SCALE 1 : 4



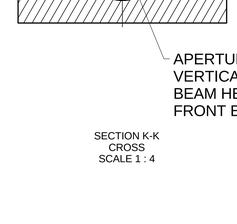

SECTION G-G
SLIT 1
STAGE IN MECHANICAL CENTER
SCALE 1 : 4



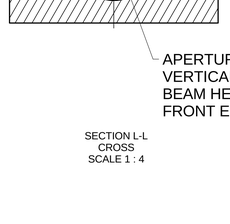

SECTION H-H
SLIT 2
STAGE IN MECHANICAL CENTER
SCALE 1 : 4



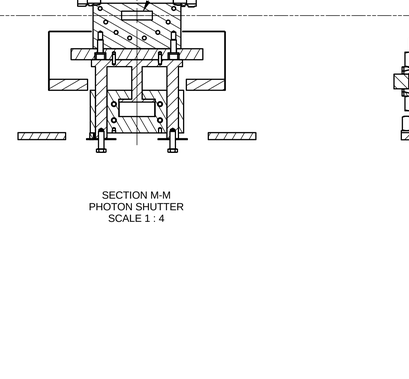

SECTION J-J
CROSS / FLANGE ABSORBER 1 (FA1)
SCALE 1 : 4



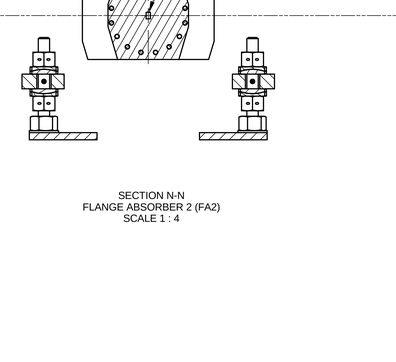

SECTION K-K
CROSS
SCALE 1 : 4



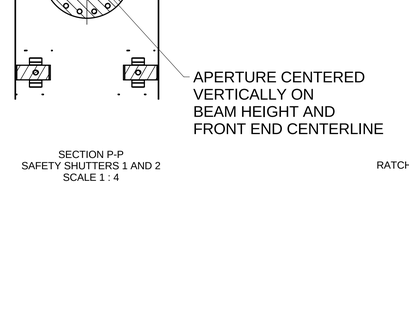

SECTION L-L
CROSS
SCALE 1 : 4



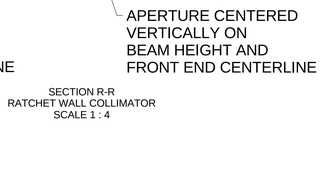

SECTION M-M
PHOTON SHUTTER
SCALE 1 : 4




SECTION N-N
FLANGE ABSORBER 2 (FA2)
SCALE 1 : 4




SECTION P-P
SAFETY SHUTTERS 1 AND 2
SCALE 1 : 4




SECTION R-R
RATCHET WALL COLLIMATOR
SCALE 1 : 4

| | | |
|---|---|---|
| E (SHEET SIZE) | SR-FE-3PW-6000 (DRAWING/PART NUMBER) | A (REVISION) |
| ESH&Q RISK LEVEL A1 | SHEET 3 OF 4 | |

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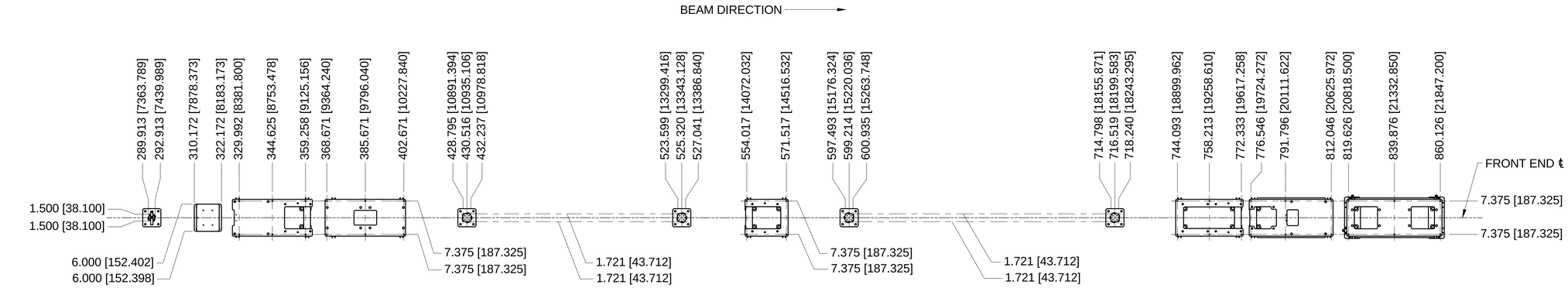
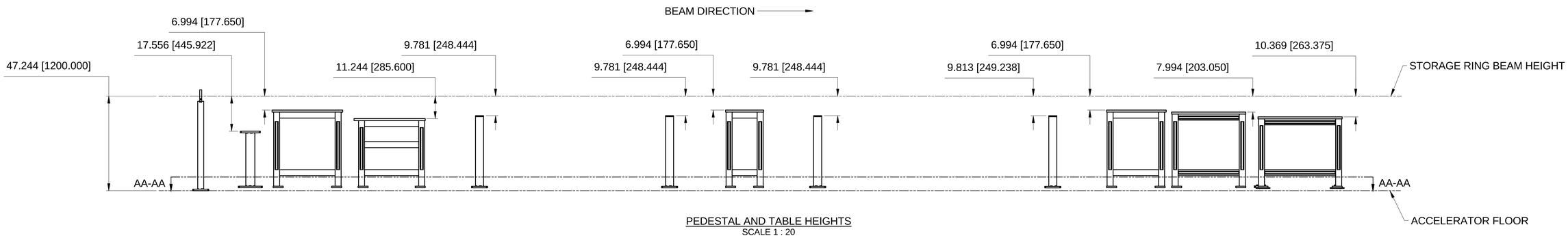
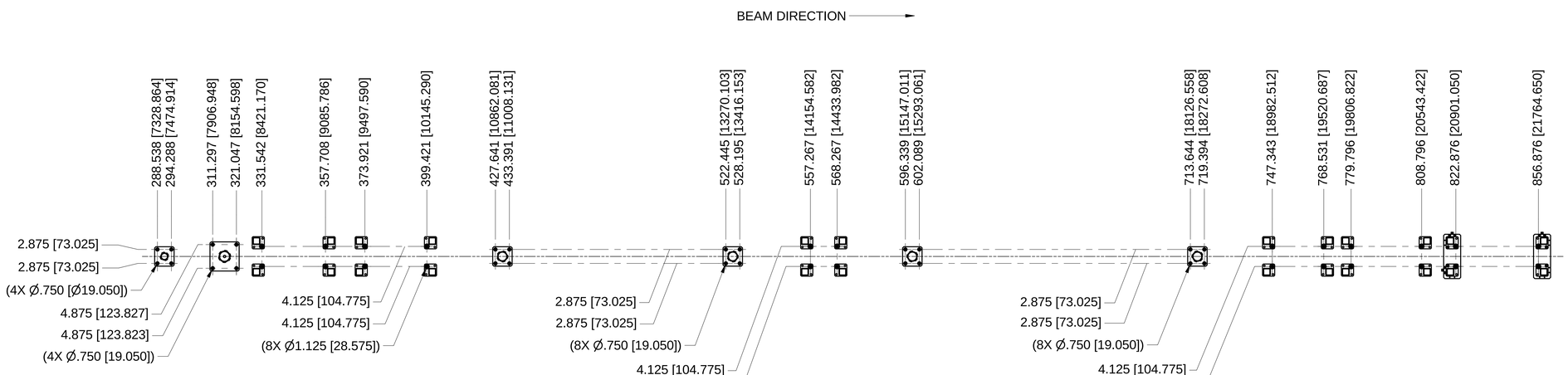


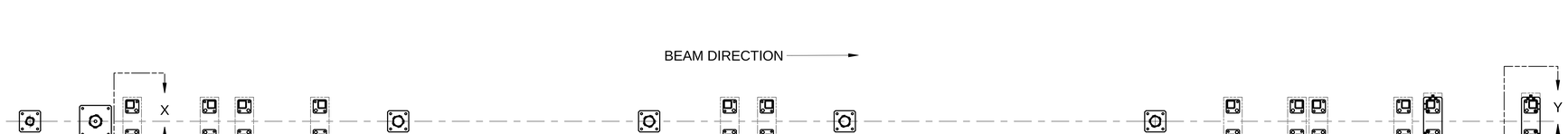

PEDESTAL AND TABLE FIDUCAIL LOCATIONS
SCALE 1 : 20



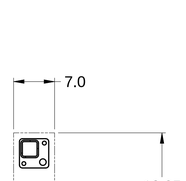

PEDESTAL AND TABLE HEIGHTS
SCALE 1 : 20



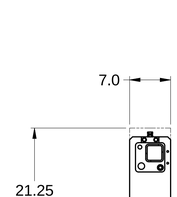

**SECTION B-B**
(FROM SHEET 3)
PEDESTAL AND TABLE FLOOR MOUNTING LOCATIONS
SCALE 1 / 20




**SECTION AA-AA**
GROUT LOCATIONS
SCALE 1 : 20




**DETAIL X**
10X
SCALE 1 / 10




**DETAIL Y**
2X
SCALE 1 / 10

**NOTES:**

1. FOR Ø1.125 [28.575] HOLES USE "3/4" P/N PI-HDW-0021 ANCHORS.

2. FOR Ø.750 [19.050] HOLES USE "1/2" P/N PI-HDW-0040 ANCHORS.

| | | |
|---|---|---|
| E (SHEET SIZE) | SR-FE-3PW-6000 (DRAWING/PART NUMBER) | A (REVISION) |
| ESH&Q RISK LEVEL A1 | SHEET 4 OF 4 | |

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