Storage rack assembly at W&M : Feb 24- Mar 6, 2025

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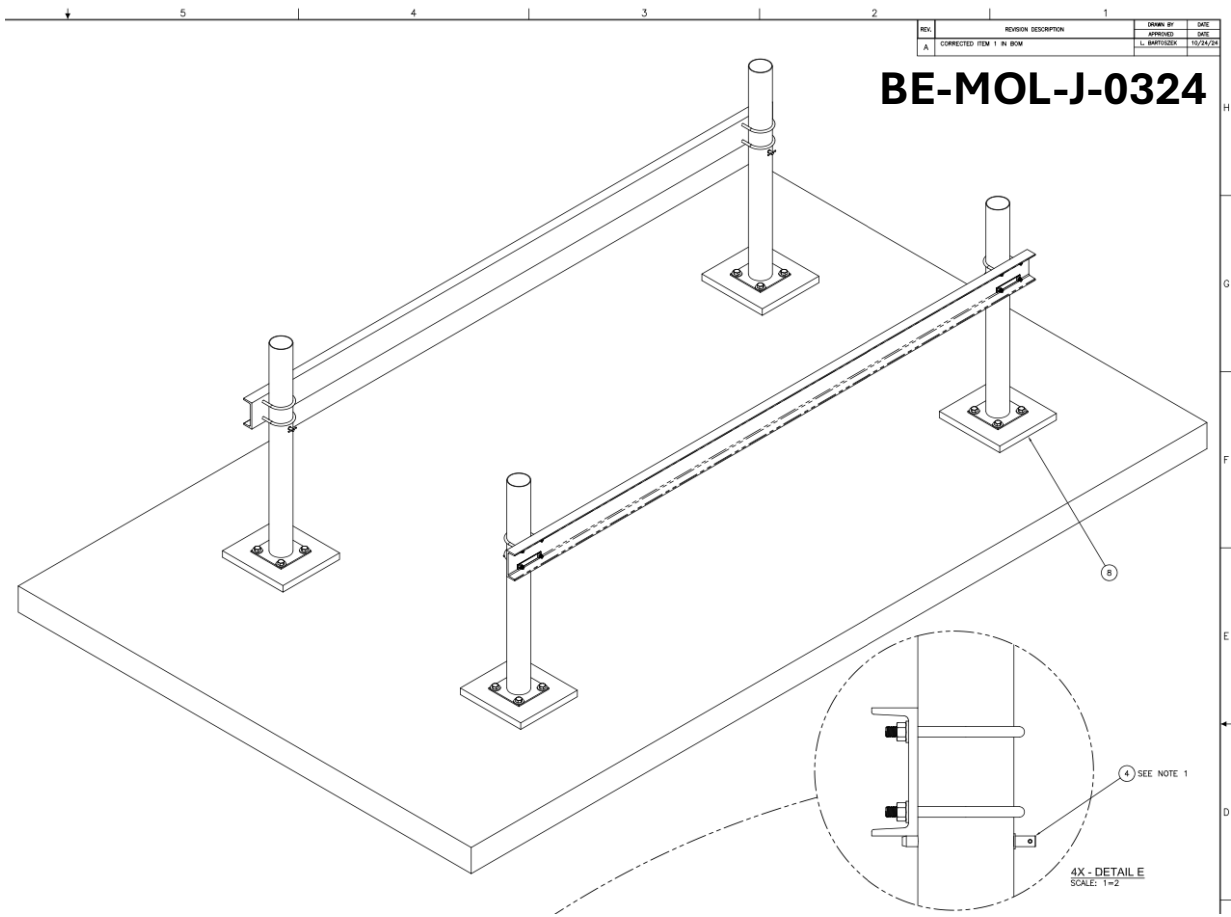
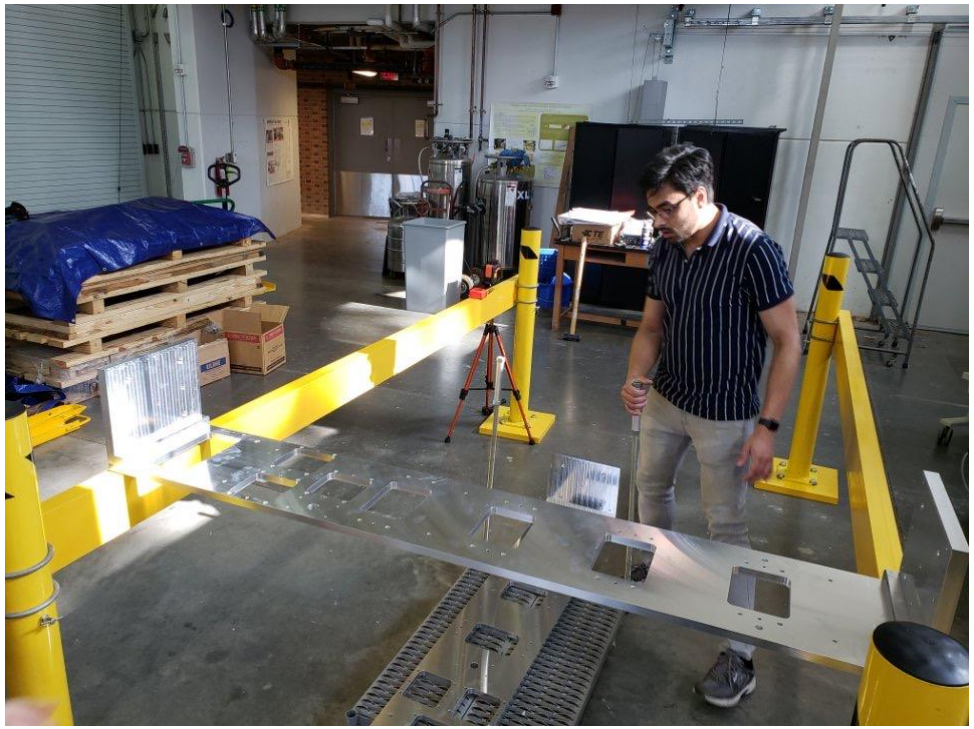
- Assembling the storage rack at W&M
- Loading lead in the segment plate on the storage rack
- Observation on the sagging of the storage rack with lead in it
- Measurement of the sagging of the segment plates on the storage rack and in the A-T box
- Main detector and shower-max rings are in the high bay at W&M

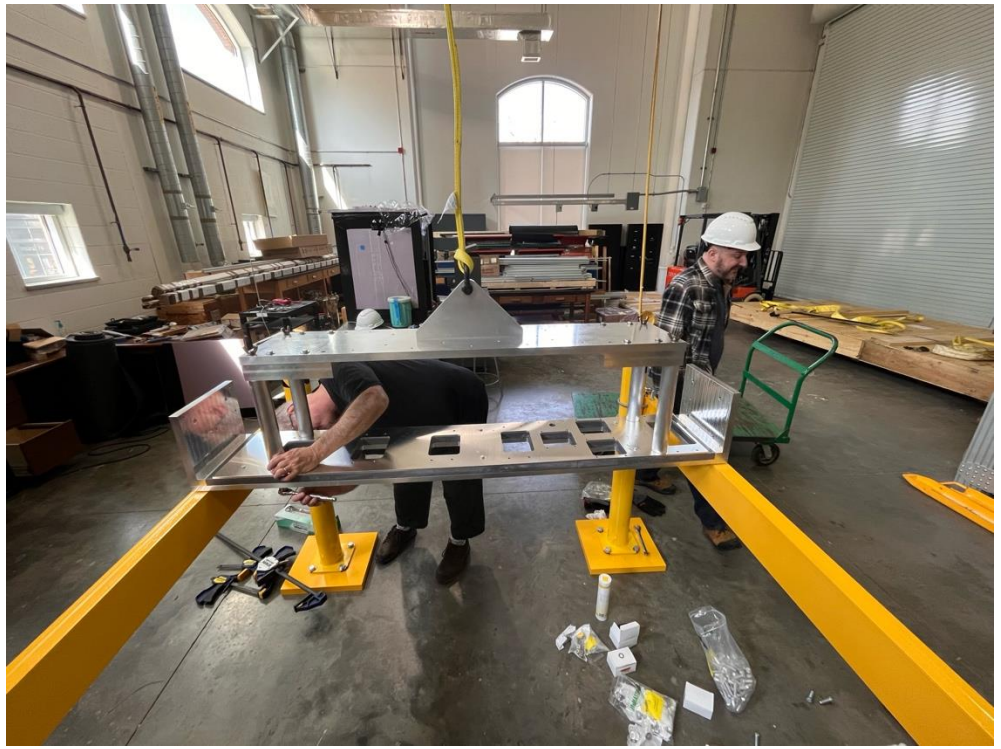
Storage rack assembly



- Assembled one storage rack at W&M
- Took about half a day to complete the entire structure
  - The bollard whole structure was not lining up with the base plate
  - Will opened up the slots in the bollard
- Did not precisely align the rails, only measured the distance between the base plates

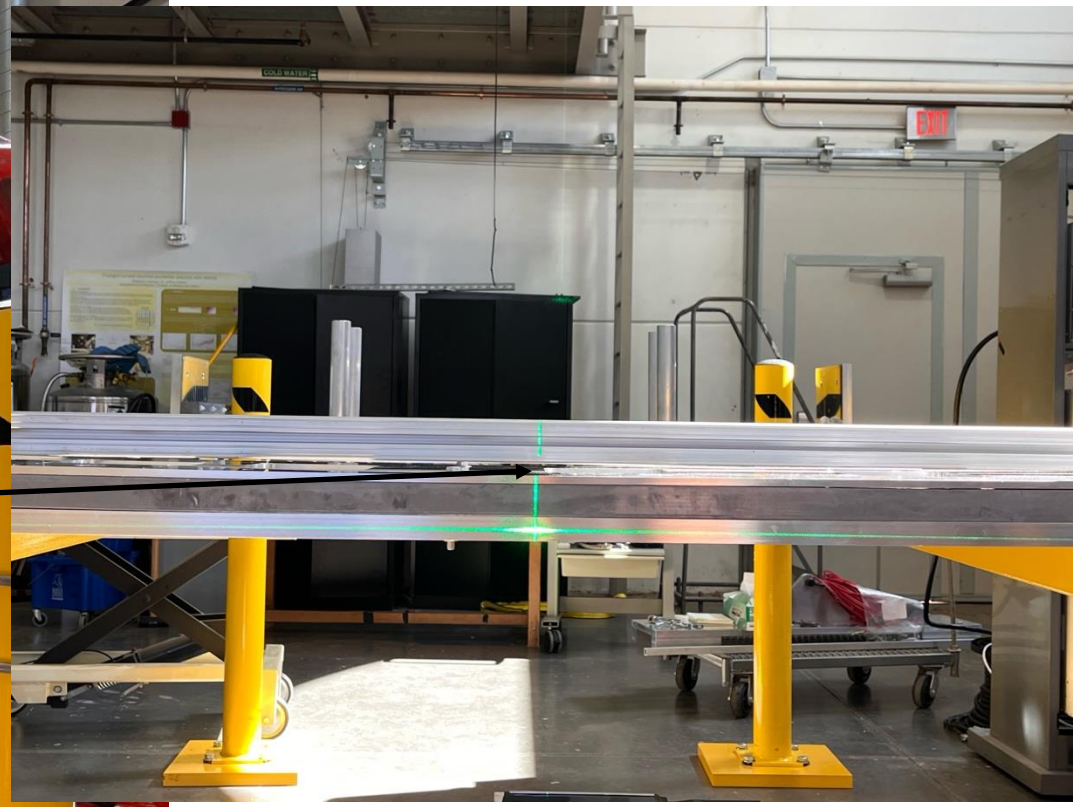
Storage rack assembly





- Placed the U structure on the storage rack
- Used the lead lifting fixture to load the lead into the segment plate on the storage rack
- Used the stiffener plate and the module lifting boss (lifting lugs) to sandwich the lead in between the segment plate and the stiffener plate
- Started seeing sagging of the segment
- Had to use the segment lifting fixture to place the Pb corner bars and also, we found out that due to the sagging, the holes of the segment lifting fixture is not lining up with the module lifting lugs

Storage rack assembly



- Used a 80-20 bar to measure the sagging at the center of the segment
- ~ 8 mm gap between the bottom of the 80-20 bar and the top of the stiffener plate

Storage rack assembly

- Used a lifting table to support the segment plate (with Pb in it) and started fastening the M8 SS bolts using torque value ~ 100 lb-in
- Did not use washers with the M8 bolts
- Found cracks in SEG-II near the Ring 5 region

Measurement in the A-T box

- Observed a sagging of 4.5 (±0.4) mm at the center of the SEG-I where 6 modules were present, but the M8 Al bolts were not fastened to the torque values
- Observed a sagging of 4.2 (±0.4) mm at the center of the SEG-0 where only 2 modules were present and no other M8 bolts were engaged