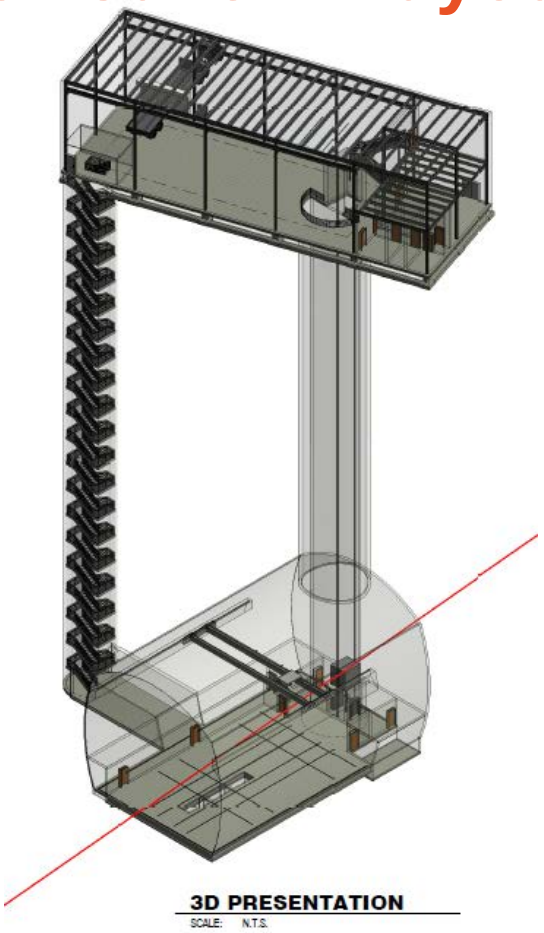
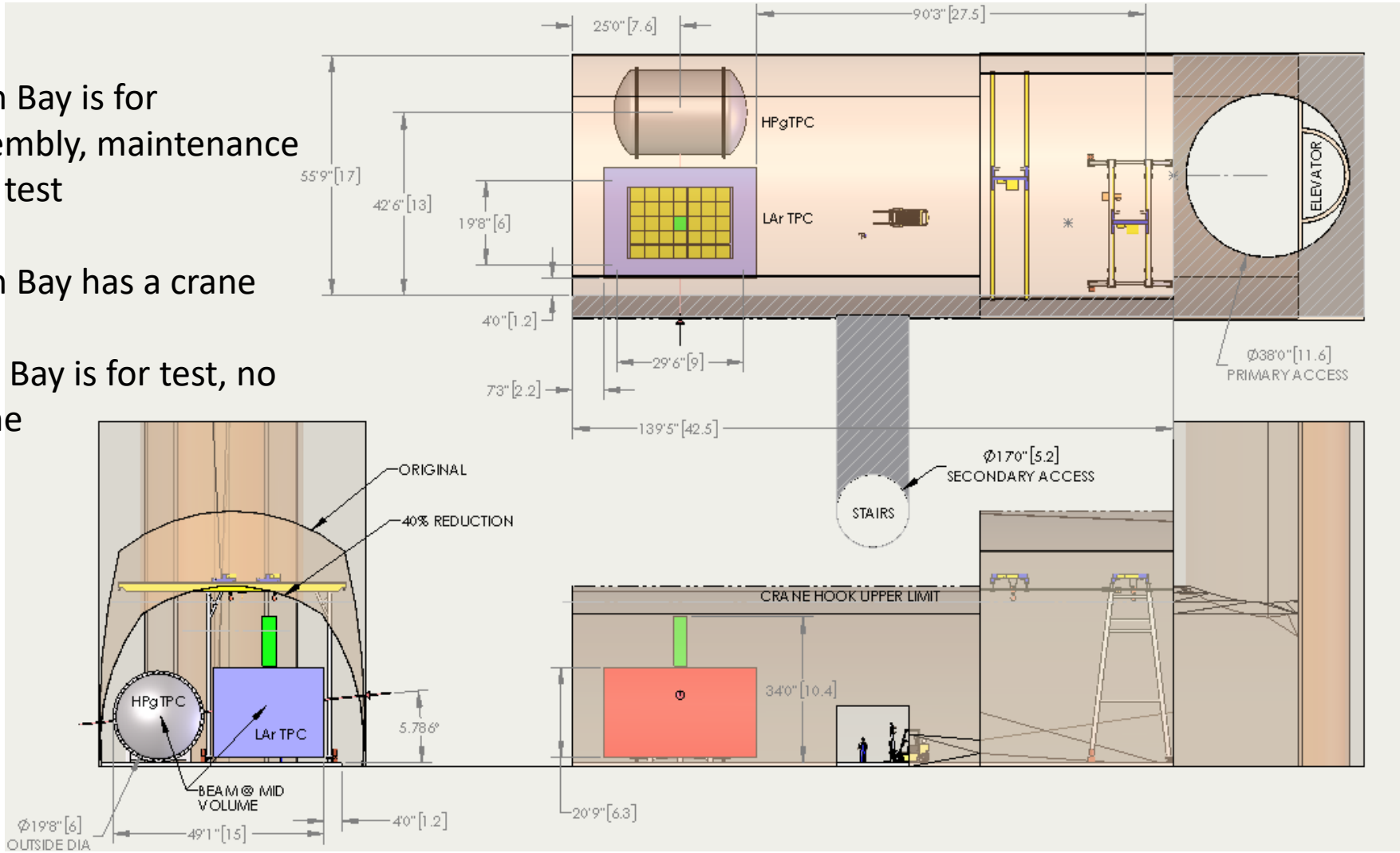
# Ideas for the DUNE Near Detector Cavern Layout



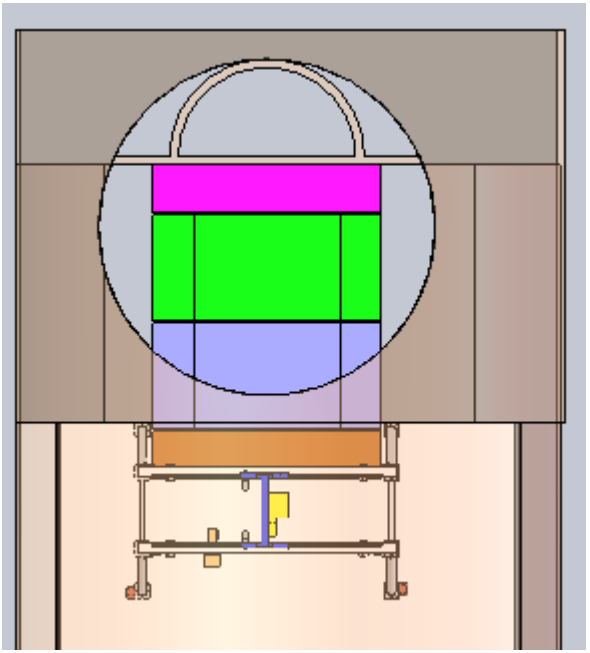
# High Bay & Low Bays

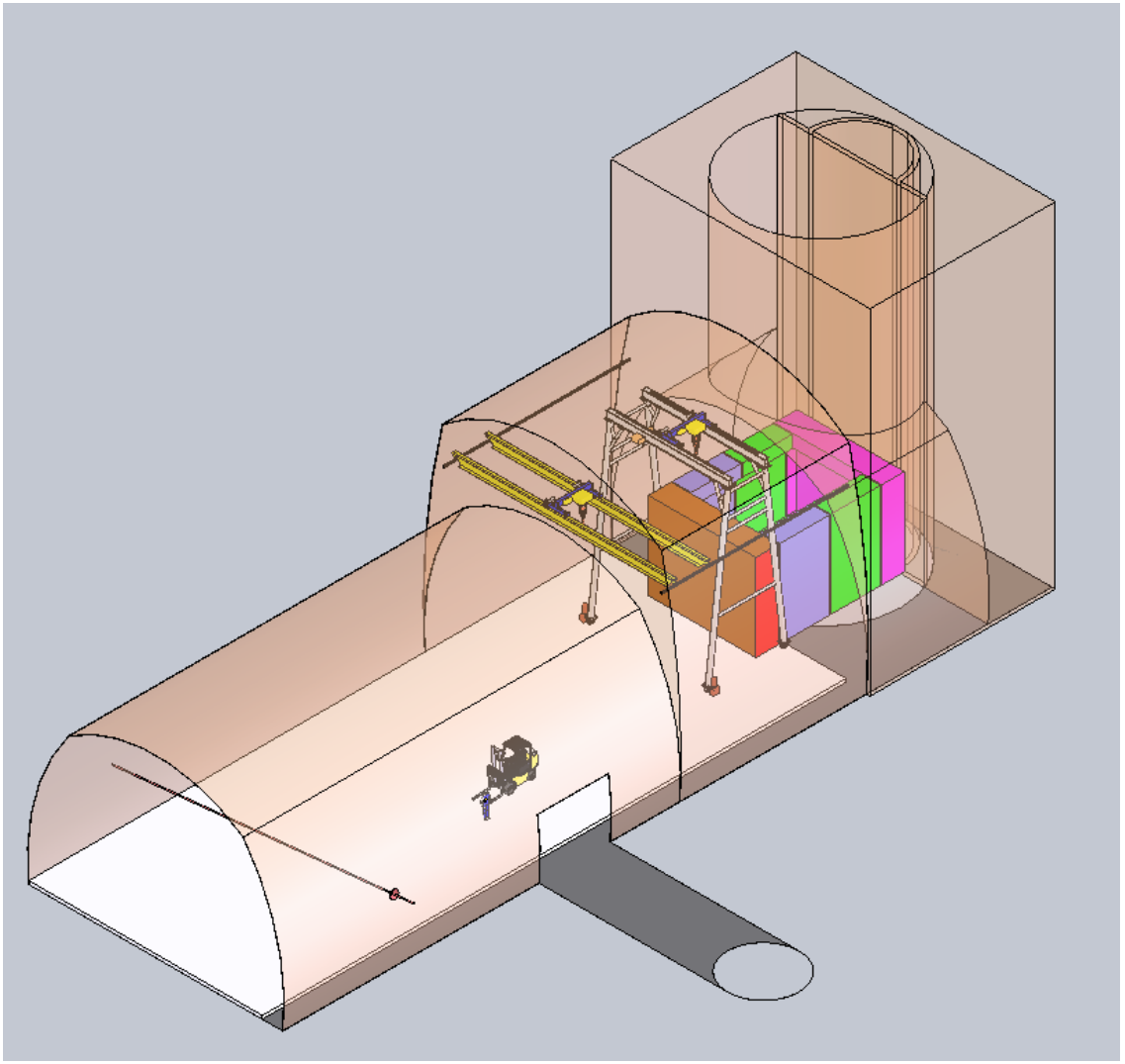
- High Bay is for assembly, maintenance and test
- High Bay has a crane
- Low Bay is for test, no crane



# LAr TPC Assembly Option

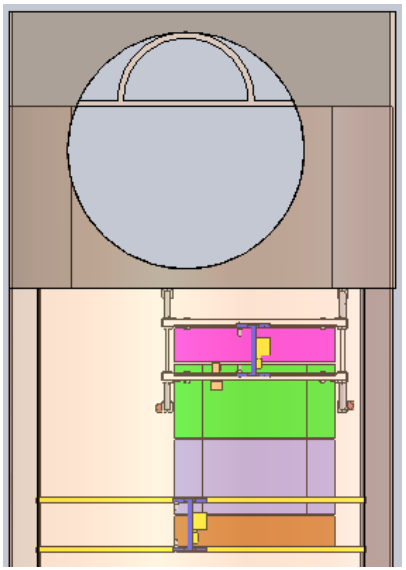
- One option is to assembly the LAr TPC under the shaft
- Reduces crane capacity needs within the cavern
- Ties up the shaft during assembly

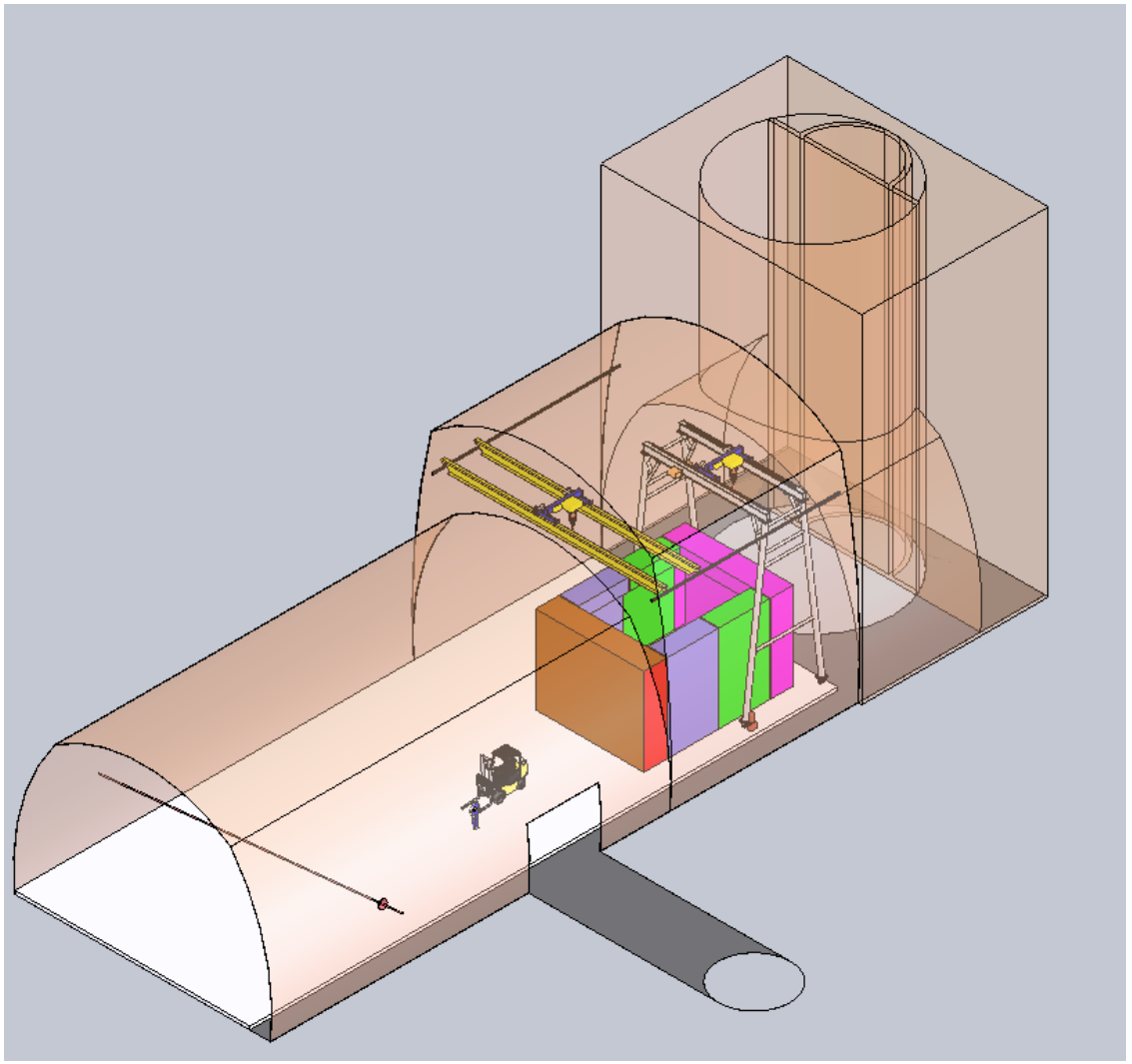




# LAr TPC Assembly Option

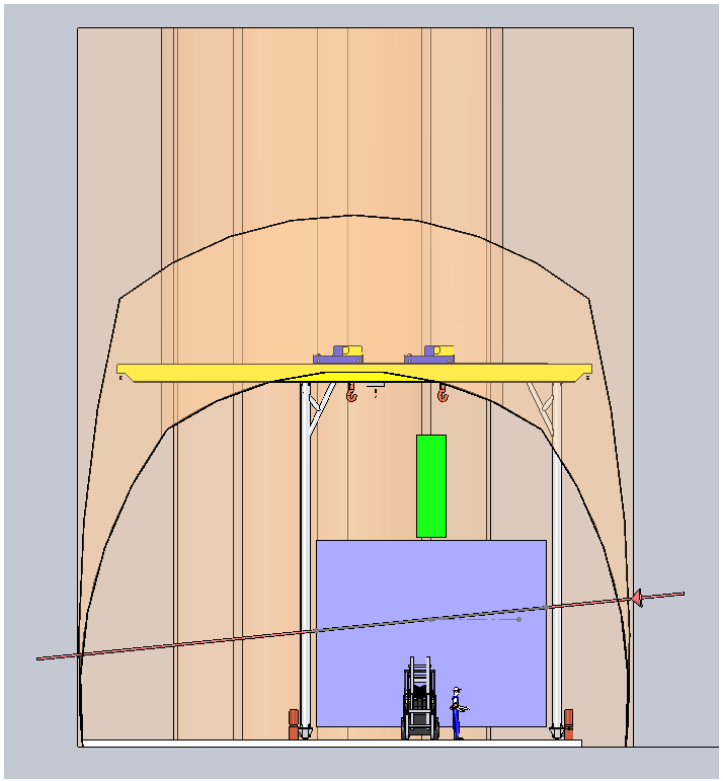
- A different option is to assembly the LAr TPC in the High Bay
- May increase crane capacity needs in the High Bay
- Keeps the shaft open during assembly for other cavern activities

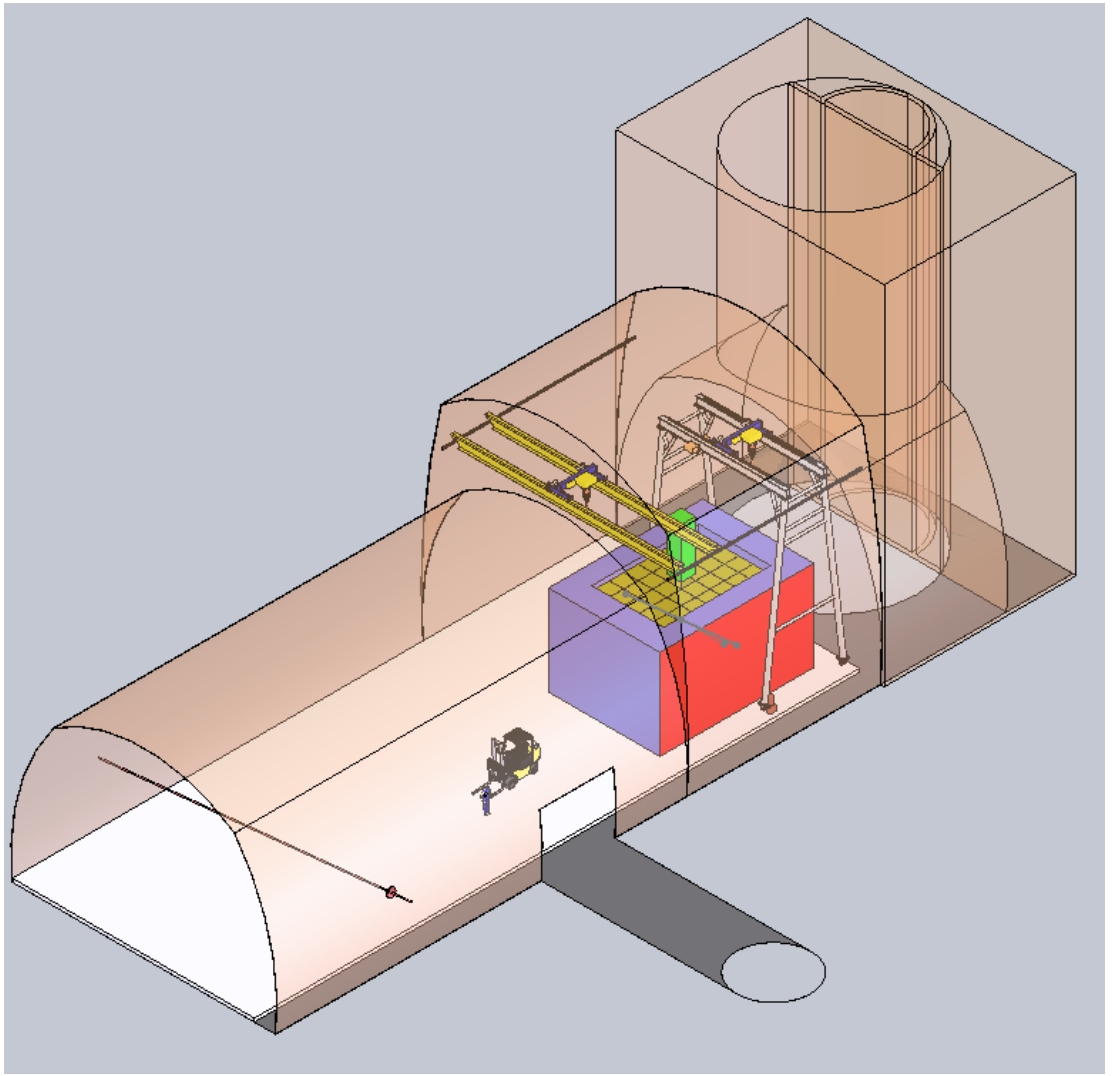




# High Bay Crane

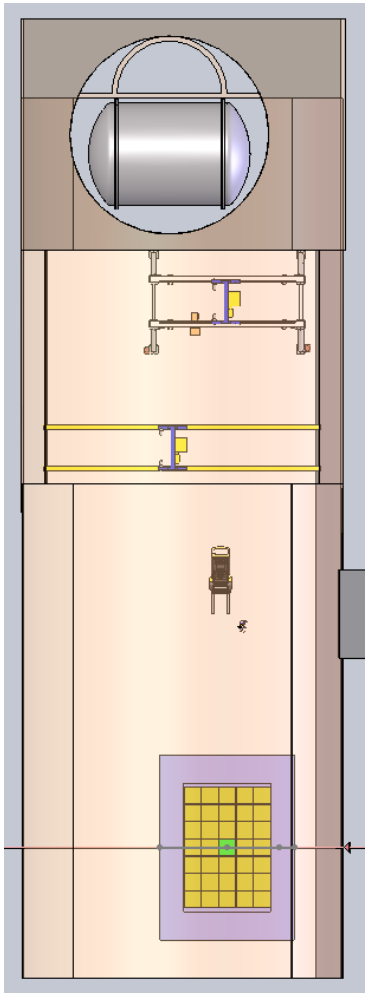
- Ceiling height suitable for assembly & future repair needs
- Will need to choose a crane type

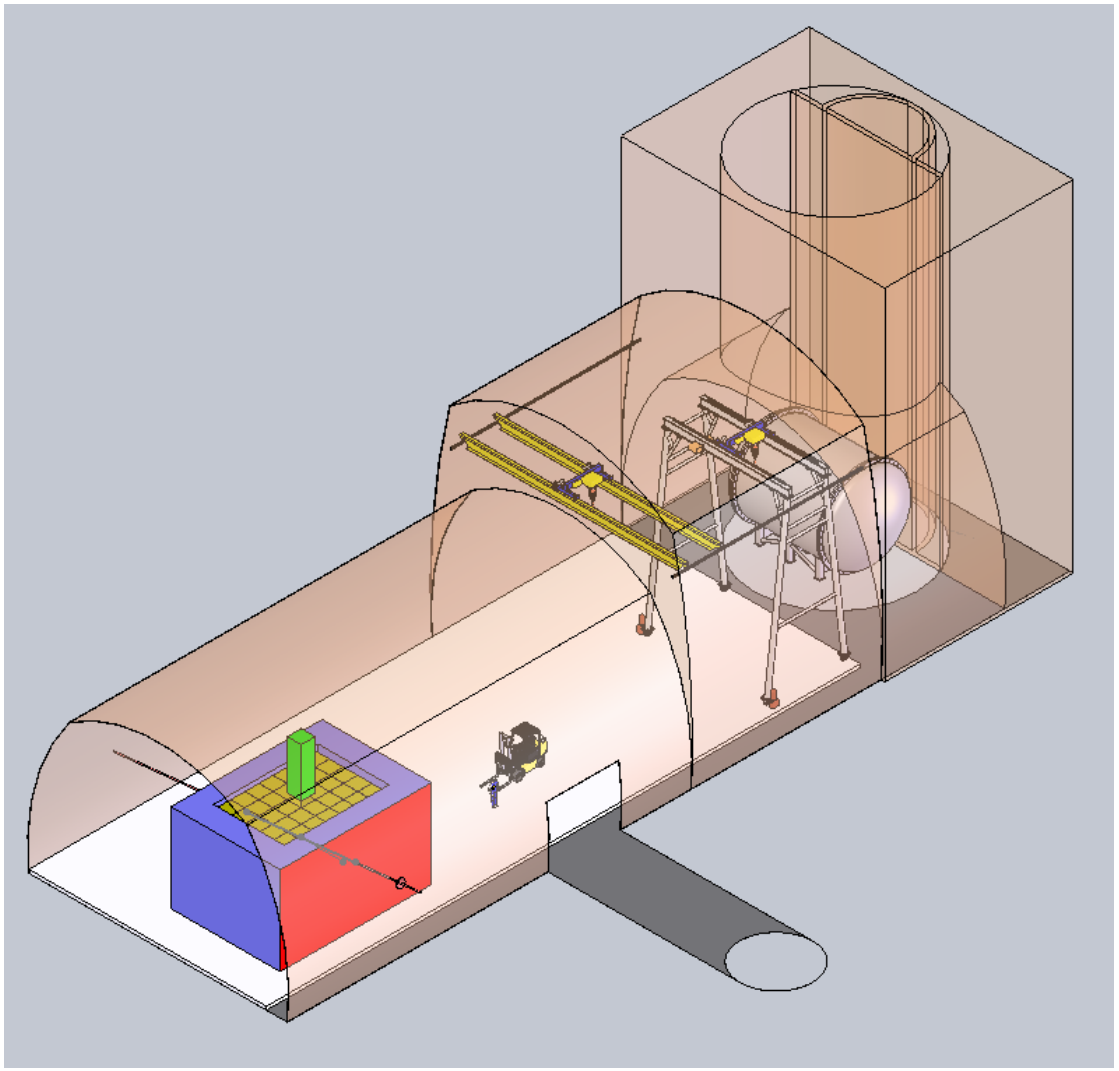




# Tank comes down the 38’ shaft

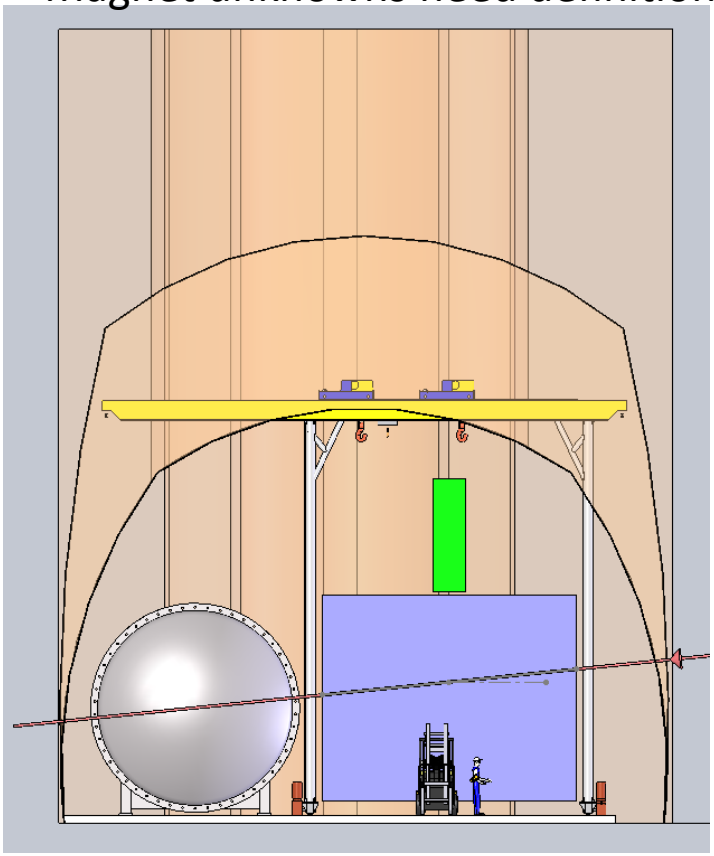
The assembled tank is lowered down into the cavern before, during or after the LAr TPC is completed

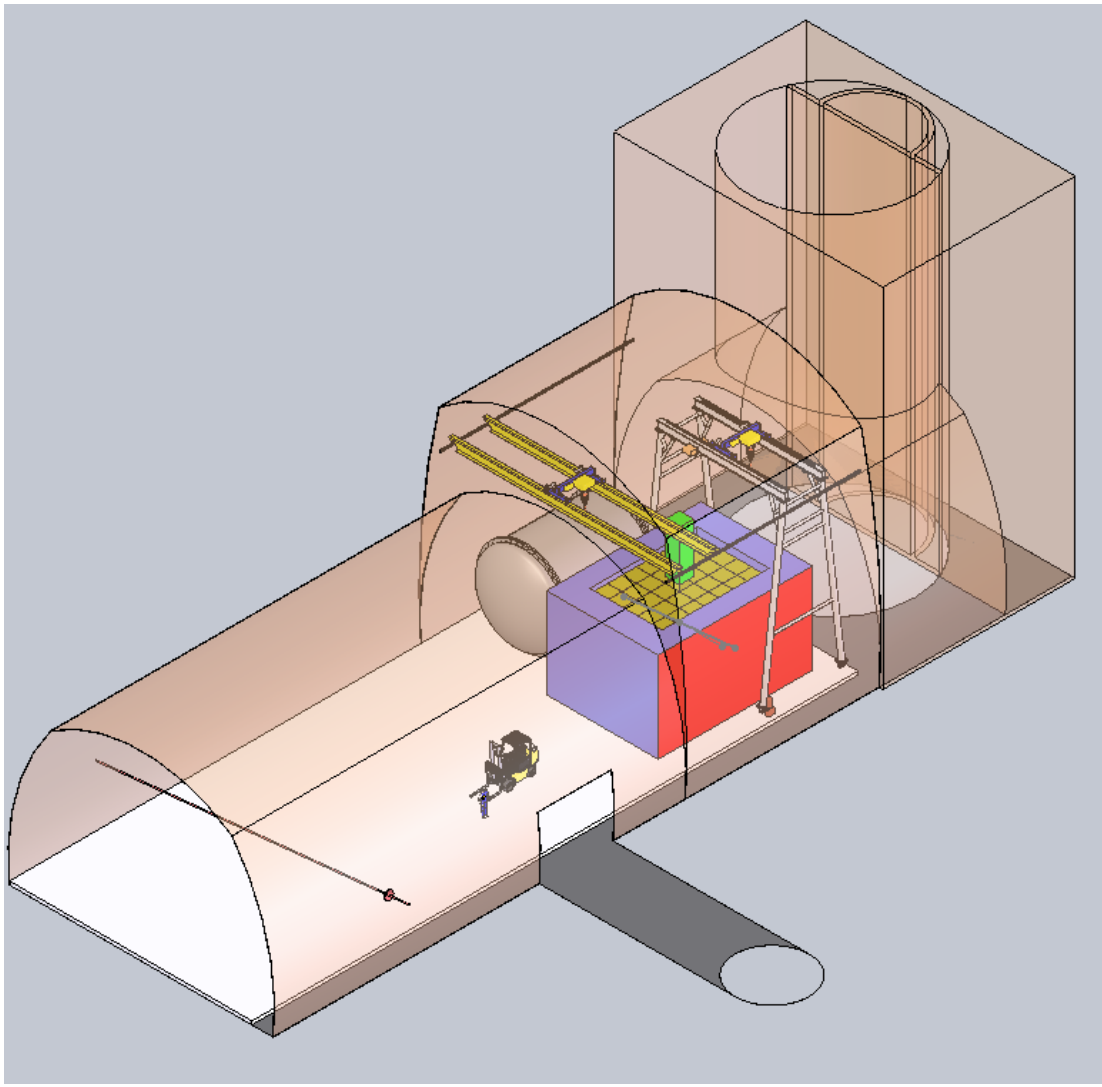




# Floor space issues

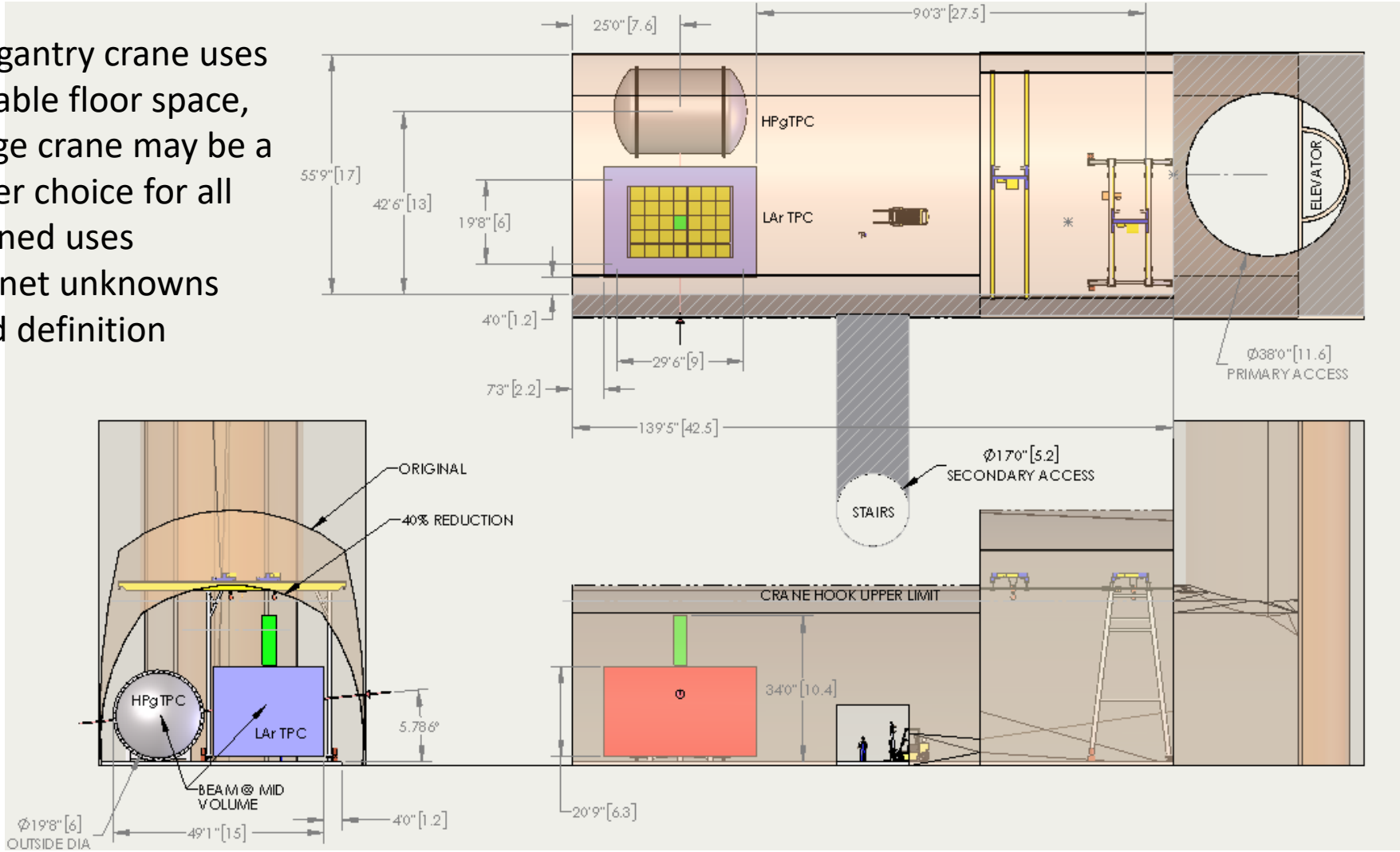
- The gantry crane uses valuable floor space, bridge crane may be a better choice
- Magnet unknowns need definition





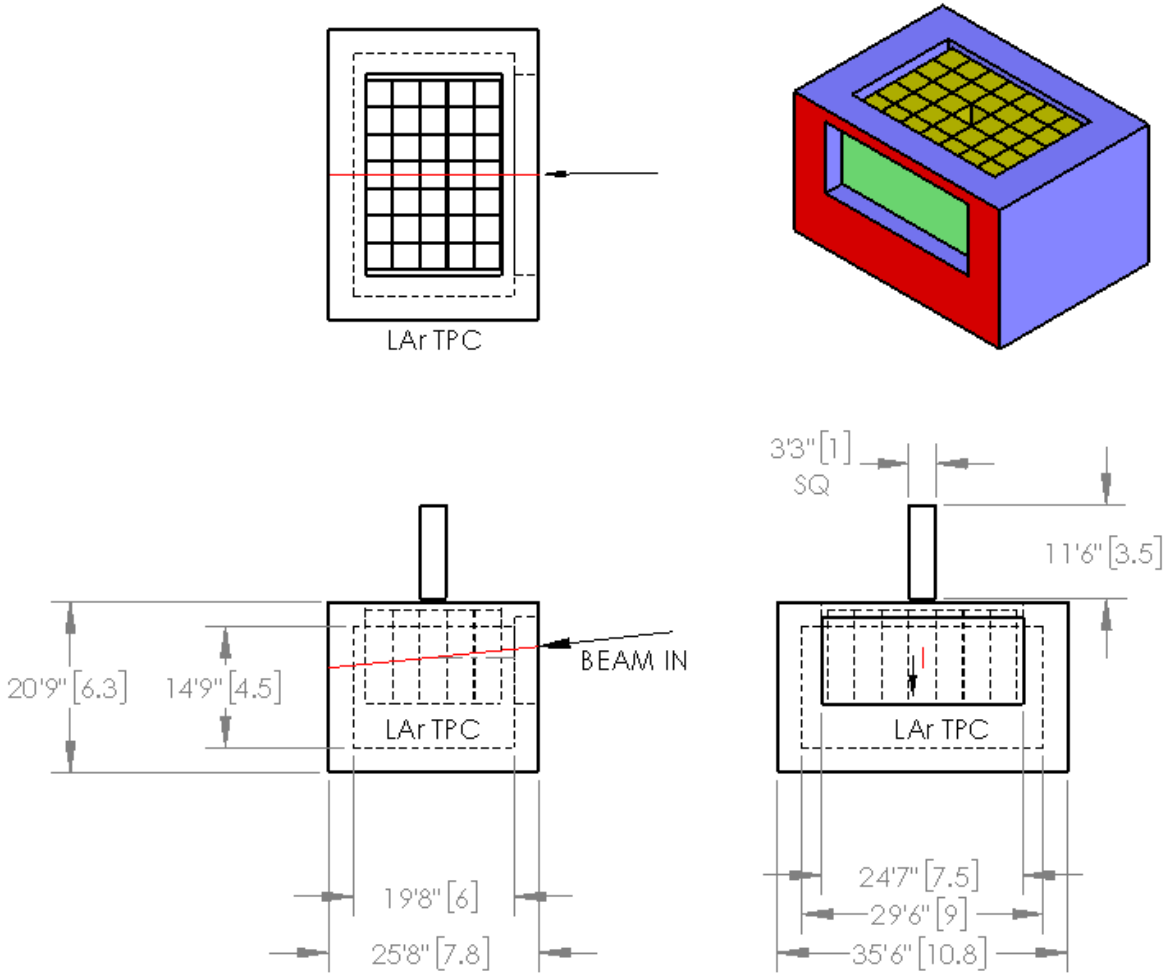
# High Bay & Low Bay

- The gantry crane uses valuable floor space, bridge crane may be a better choice for all planned uses
- Magnet unknowns need definition



# Supporting info

# Current LAr TPC size



# HPgTPC vessel

The current HPgTPC vessel