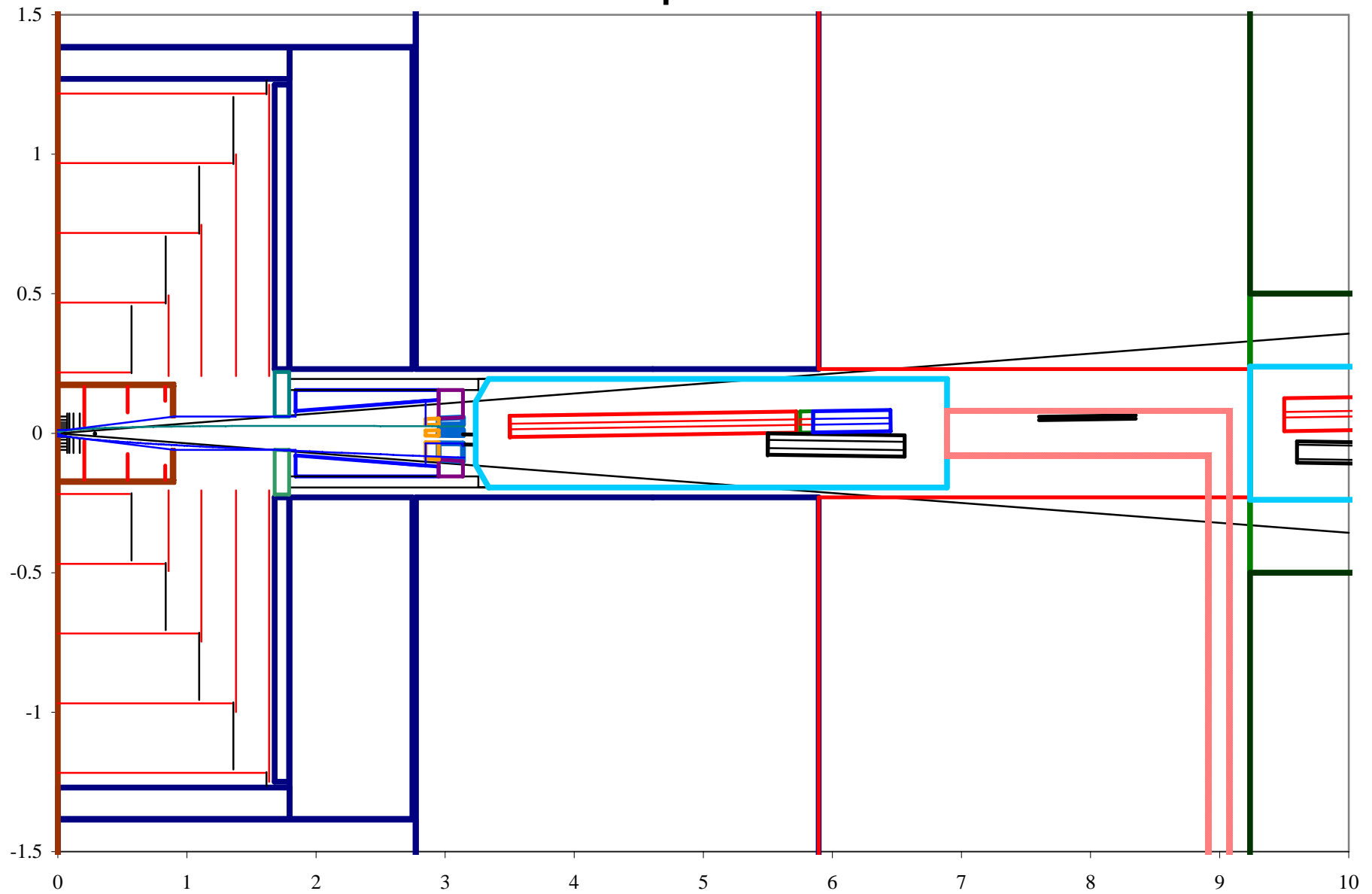


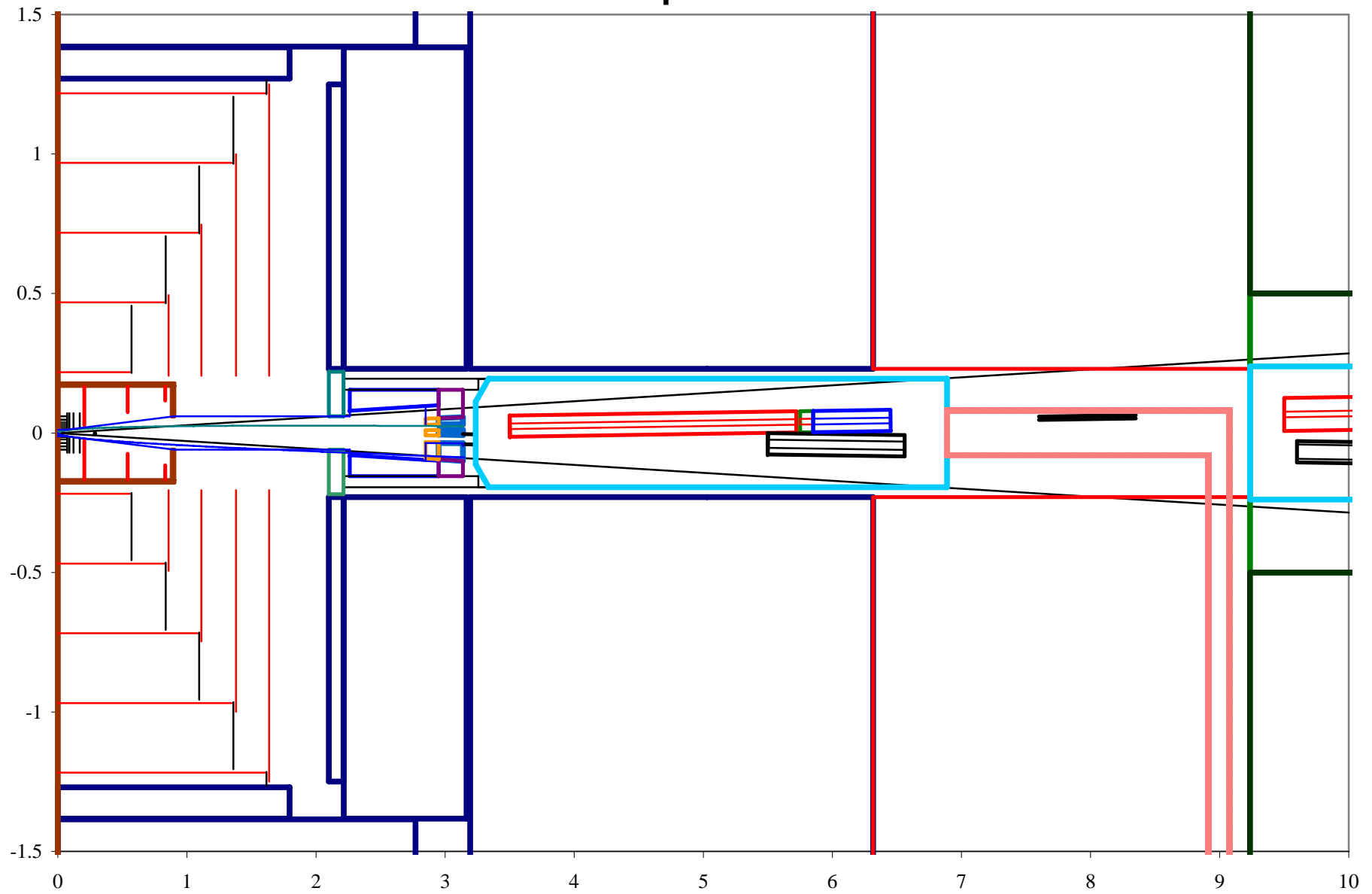
## If $Z_{\text{ECAL}}$ increases by 42cm & $L^*$ remains 3.5m

- $Z_{\text{LUMICAL}}$  increases by 42 cm
  - 6cm inner aperture closer to pair dead zone
    - may need to be increased
  - inner aperture acceptance goes from 36mrad to 29 mrad
  - radial angular granularity decreases for pixel radial pixel size
- $Z_{\text{BEAMCAL}}$  unchanged
  - BeamCal is 42 cm closer to trackers
  - Increased photon background in trackers
- Length of mask between LUMICAL & BEAMCAL reduced 42cm
  - Less weight
  - probably adequately long at ~72 cm (want > ~60cm)
- Back End of ENDCAP yoke moves back 42 cm
  - Less cantilever for QD0 cryostat
    - easier support
  - Less space available for door opening
    - still enough for 2m door opening on beam line
  - PACMAN length reduced by 42 cm
    - lighter, cheaper
- Reduced “length overhead” available for yet-to-be engineered hardware
  - Vacuum pumps, BPMs, flanges, etc.
  - Still have ~40-60cm “spare” length to play with

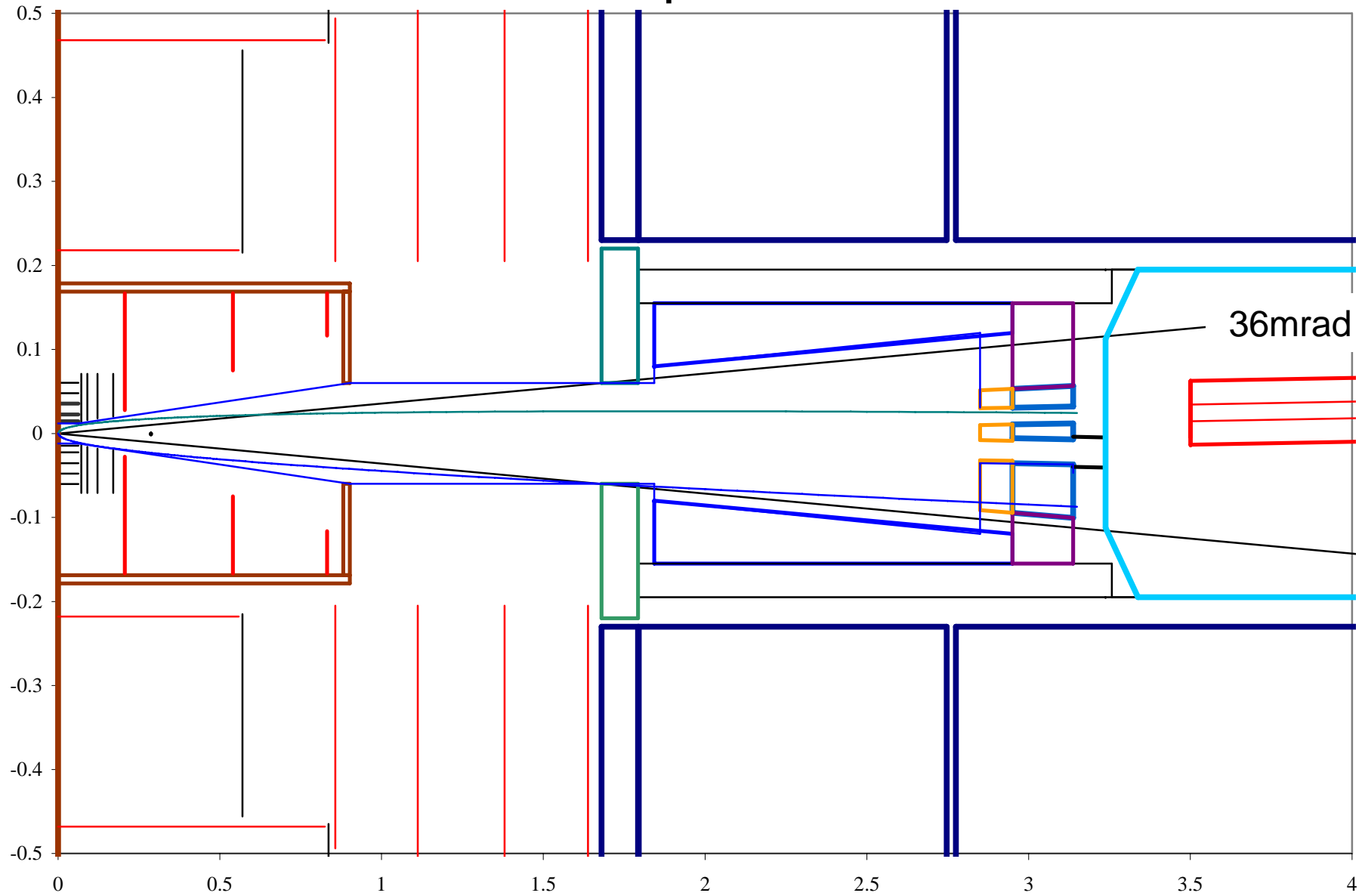
Zmin Endcap Ecal=1.68m



# Zmin Endcap Ecal=2.10m



# Zmin Endcap Ecal=1.68m



# Zmin Endcap Ecal=2.10m

