

# NPS Magnet – Status and Field Mapping Plan

Charles Hyde  
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NPS Collaboration Meeting

# Magnet Status

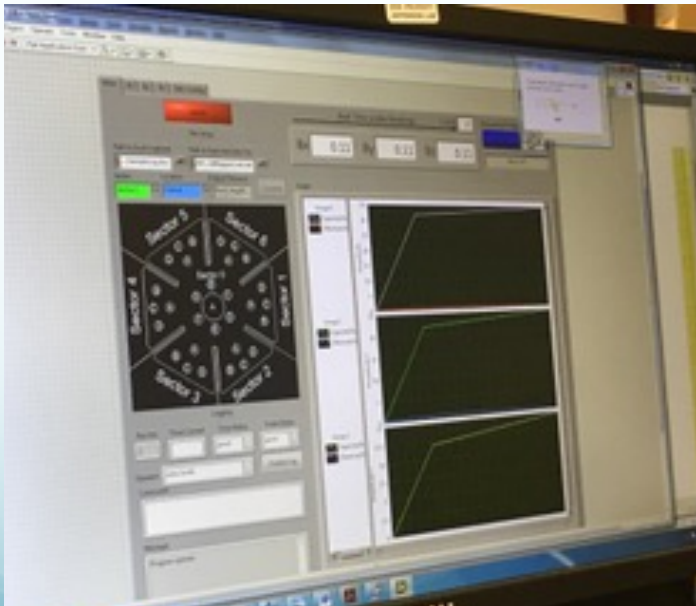
- Magnet Coils
  - Ordered from Buckley Systems, New Zealand
  - Delivery expected by end of February
  - Conductivity, Pressure Tests
- Magnet Yoke
  - Ordered from Standard Machine, Ohio  
\$72,000 + \$6,000 additional iron (budget \$100K)
  - Delivery expected by end of February
  - Assembly procedure, timeline?

# Magnet Mapping

- Central Bore
  - Verify  $\int \mathbf{B} \times d\mathbf{l}$
  - Can be done at reduced current
- Beam Line
  - Verify  $\int \mathbf{B} \times d\mathbf{l} \approx 0$
  - measure maximum value of  $B$ .
  - Requires full current to verify saturation effects.

# Measurement Tools

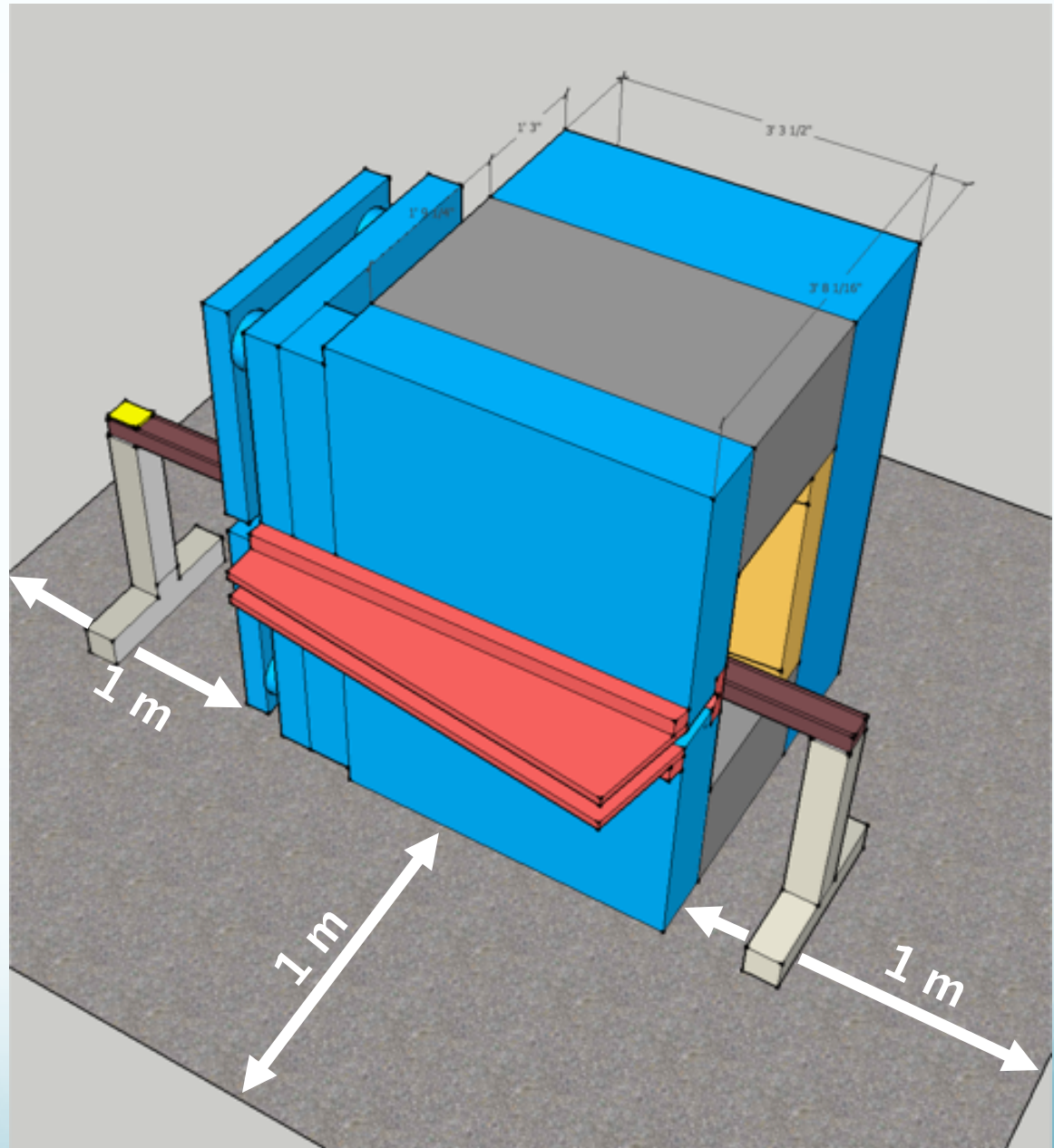
- Hall Probe (Hall A)
- CLAS12 Equipment available:
  - 90" Velmex BiSlide® w/ stepper motor
  - LabView DAQ



# Mapping

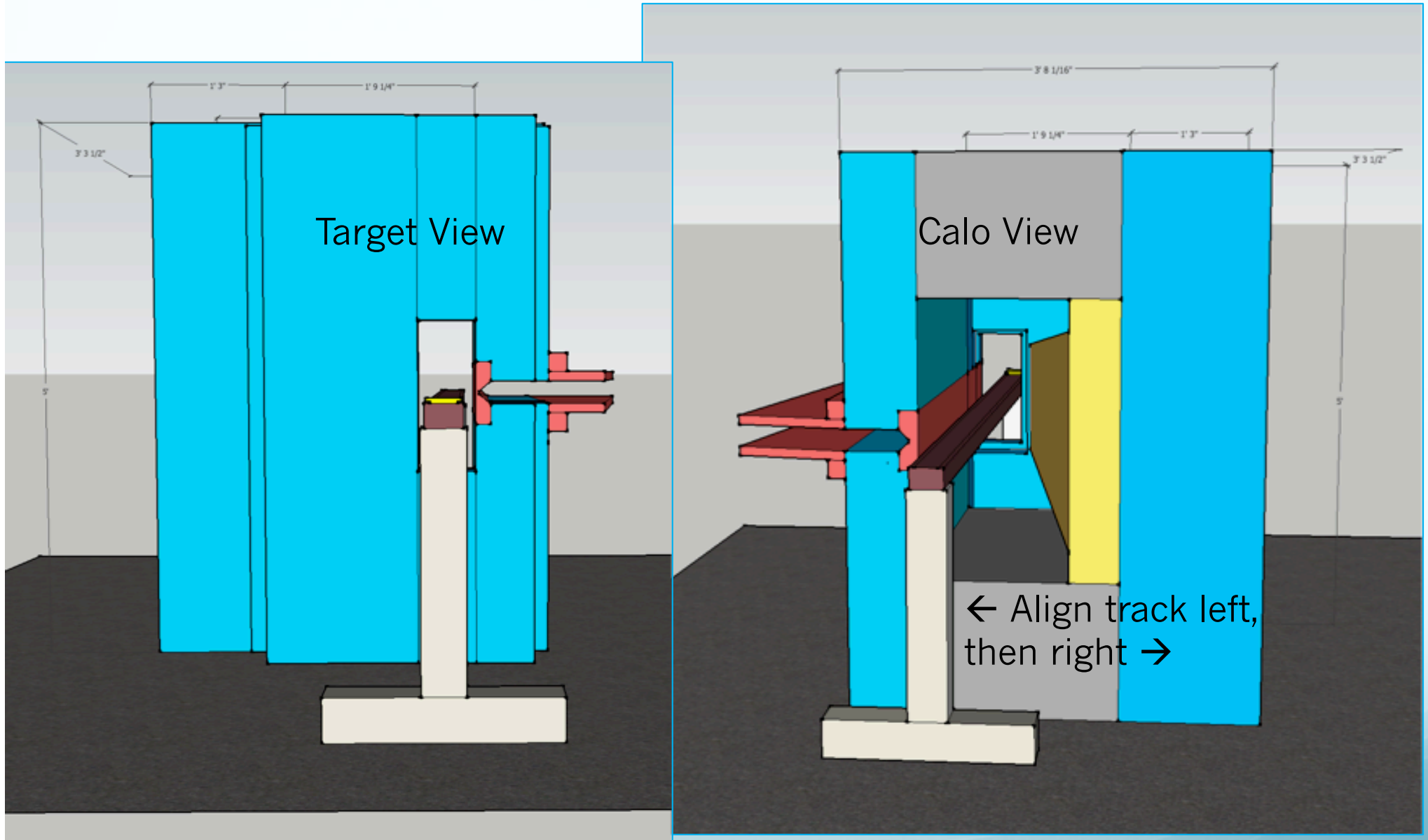
## I. Gap

- Align Velmex track to Magnet gap
- Support with T-Slot Al Channel
- Probe on adjustable **stage**
  - Map upper half of gap.





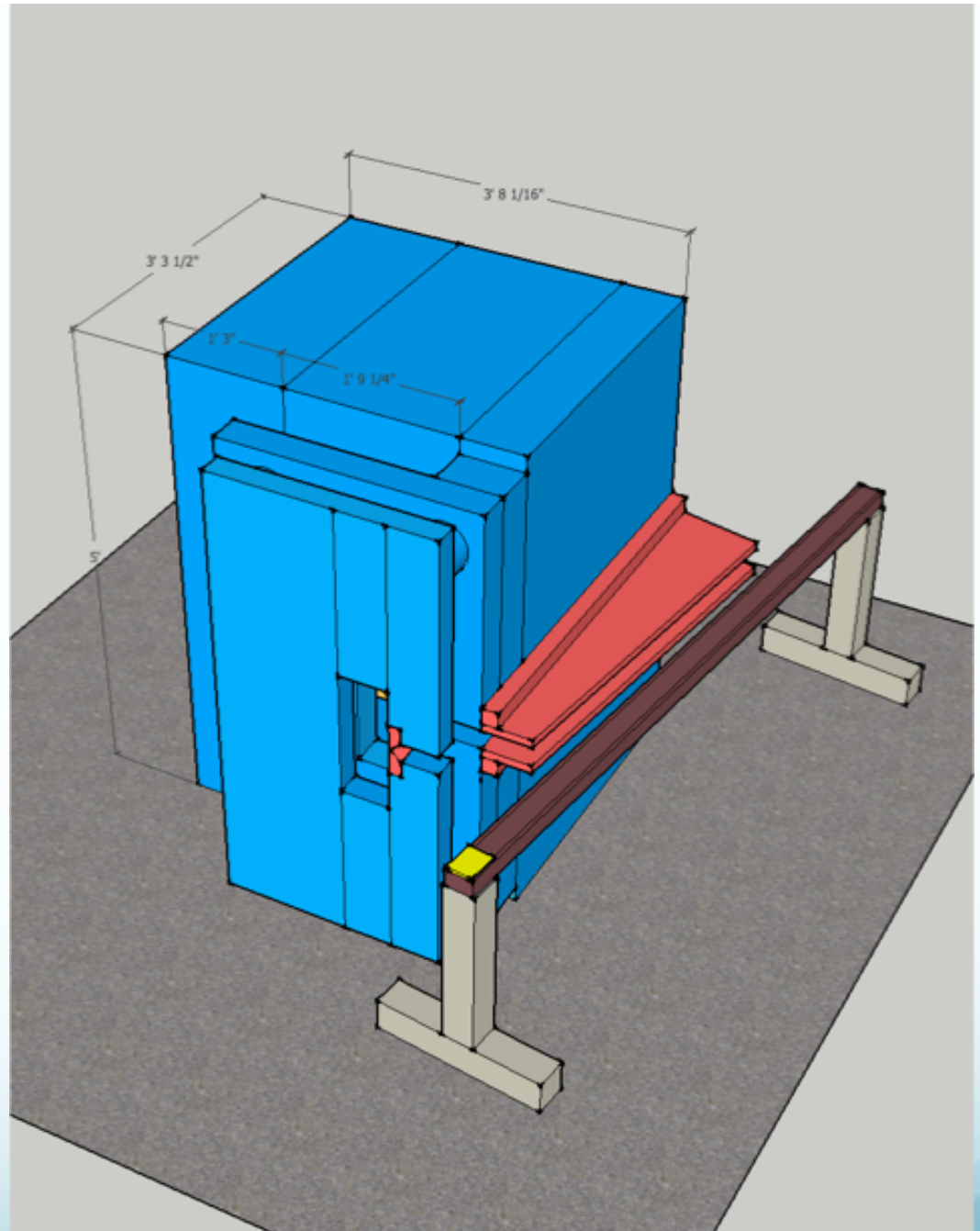
# Mapping Detail



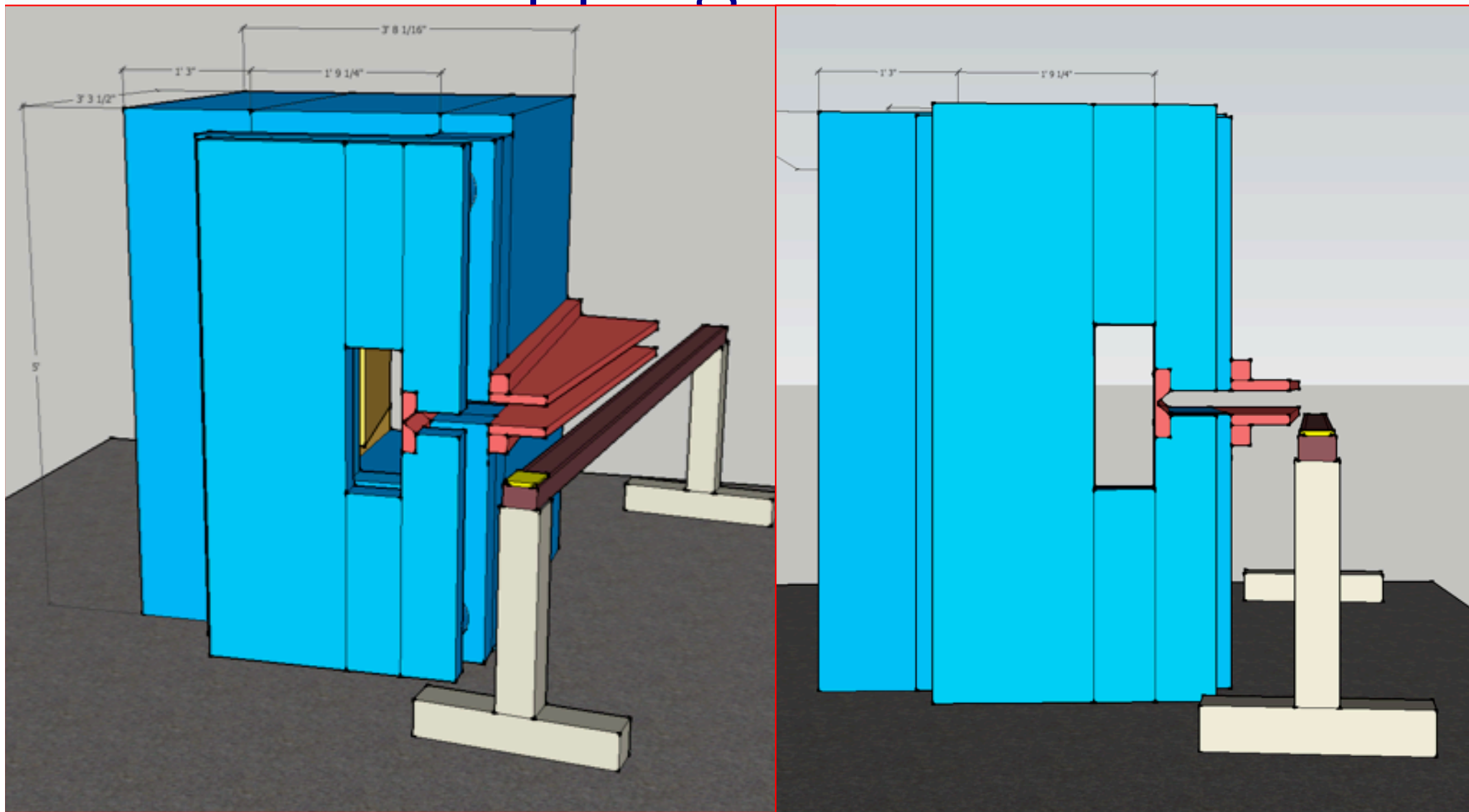
# Mapping

## II. Beam Line

- Align Velmex track to Outer Shield
- Probe cantelevered from stage into shielded gap

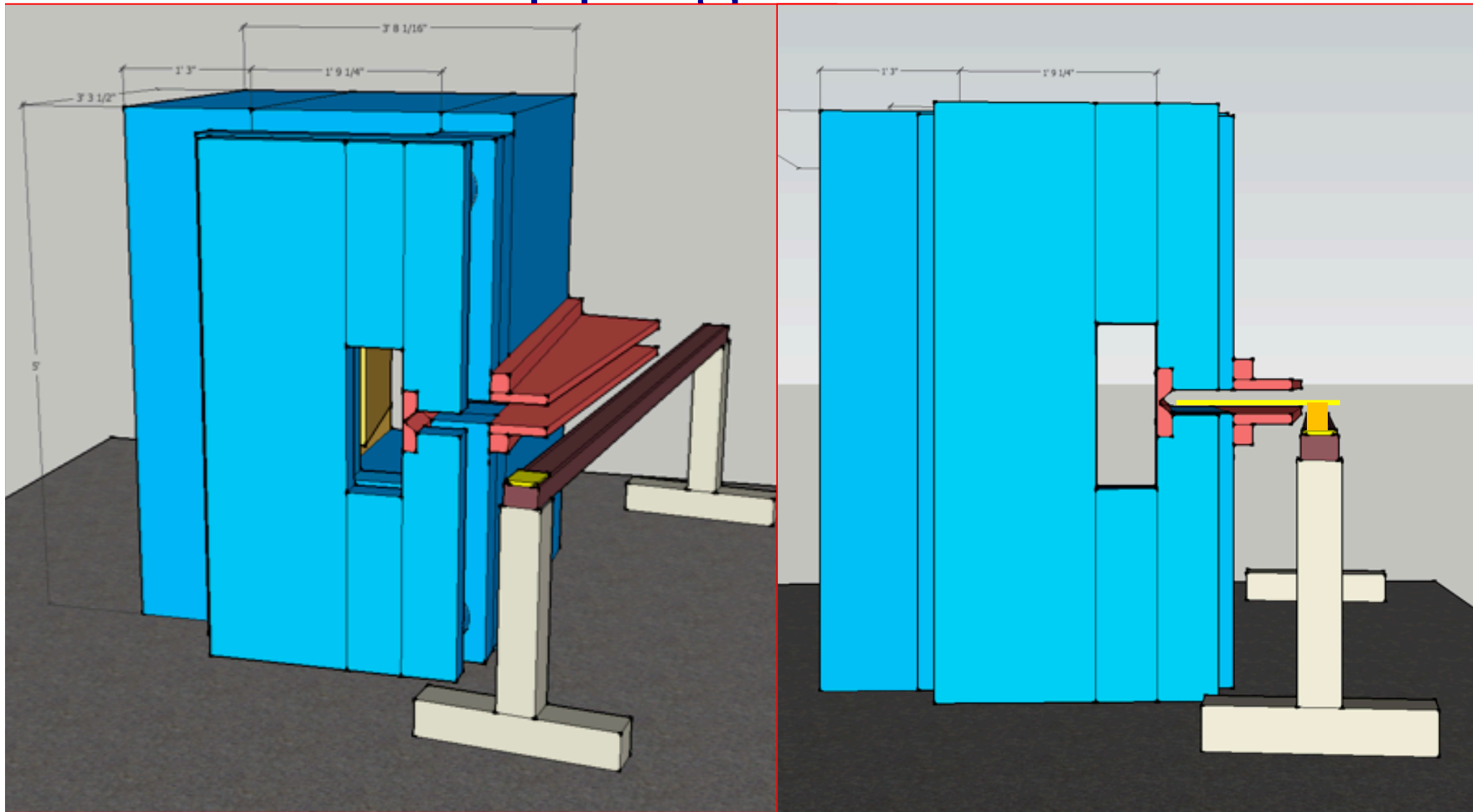


# Mapping Detail II.





# Mapping Detail II.



# Next Steps

- Thanks to Tom Hartlove for Sketch-Up drawings
- Schedule depends upon Magnet Delivery, Assembly, etc.
  - Start ordering needed parts.

