Changes to the Inner Sector Strongback to accommodate a wall between the inner and outer sectors

(and a 2nd wall at the innermost edge of the inner sector)

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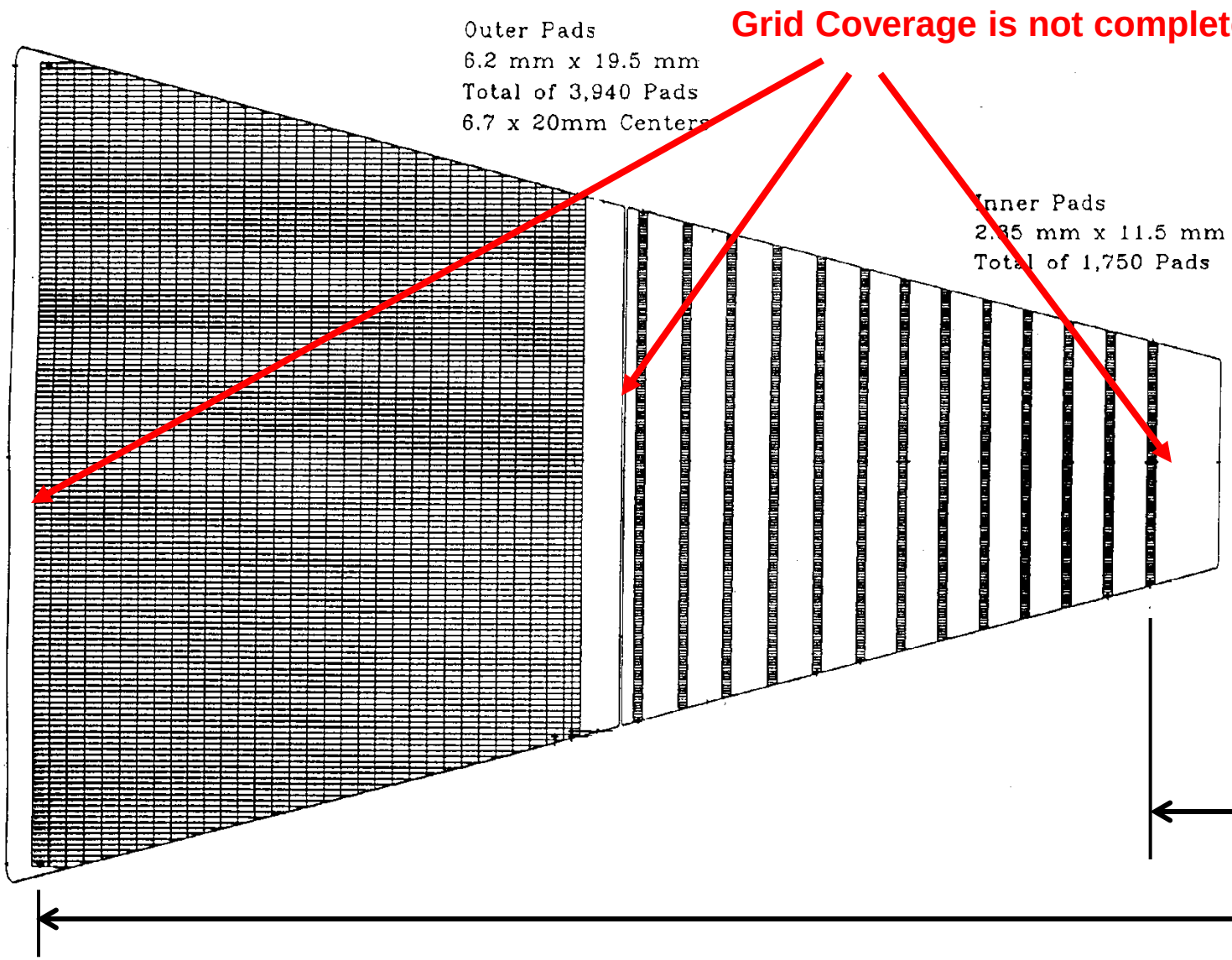
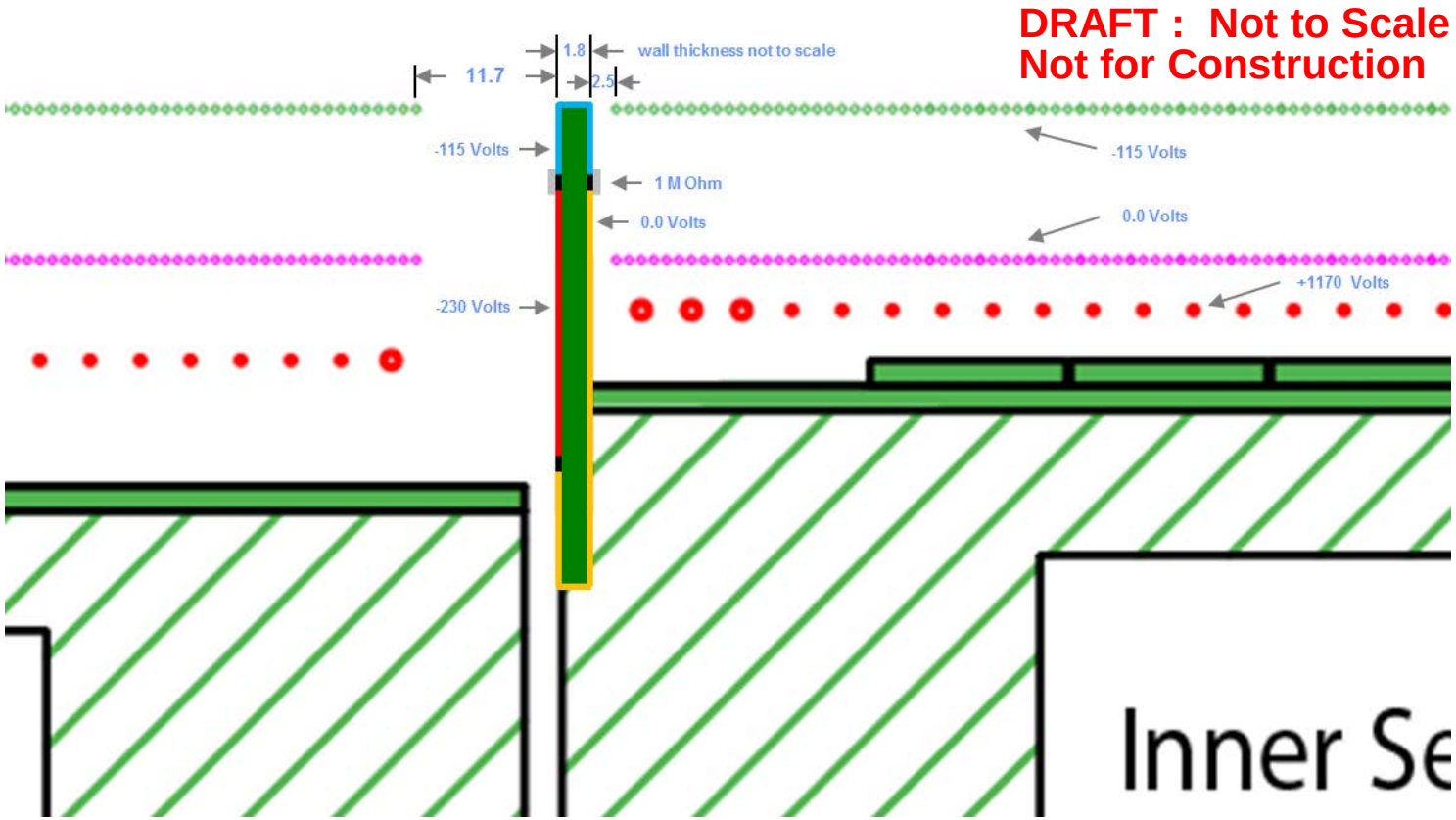
Top View of an Inner & Outer Sector at STAR



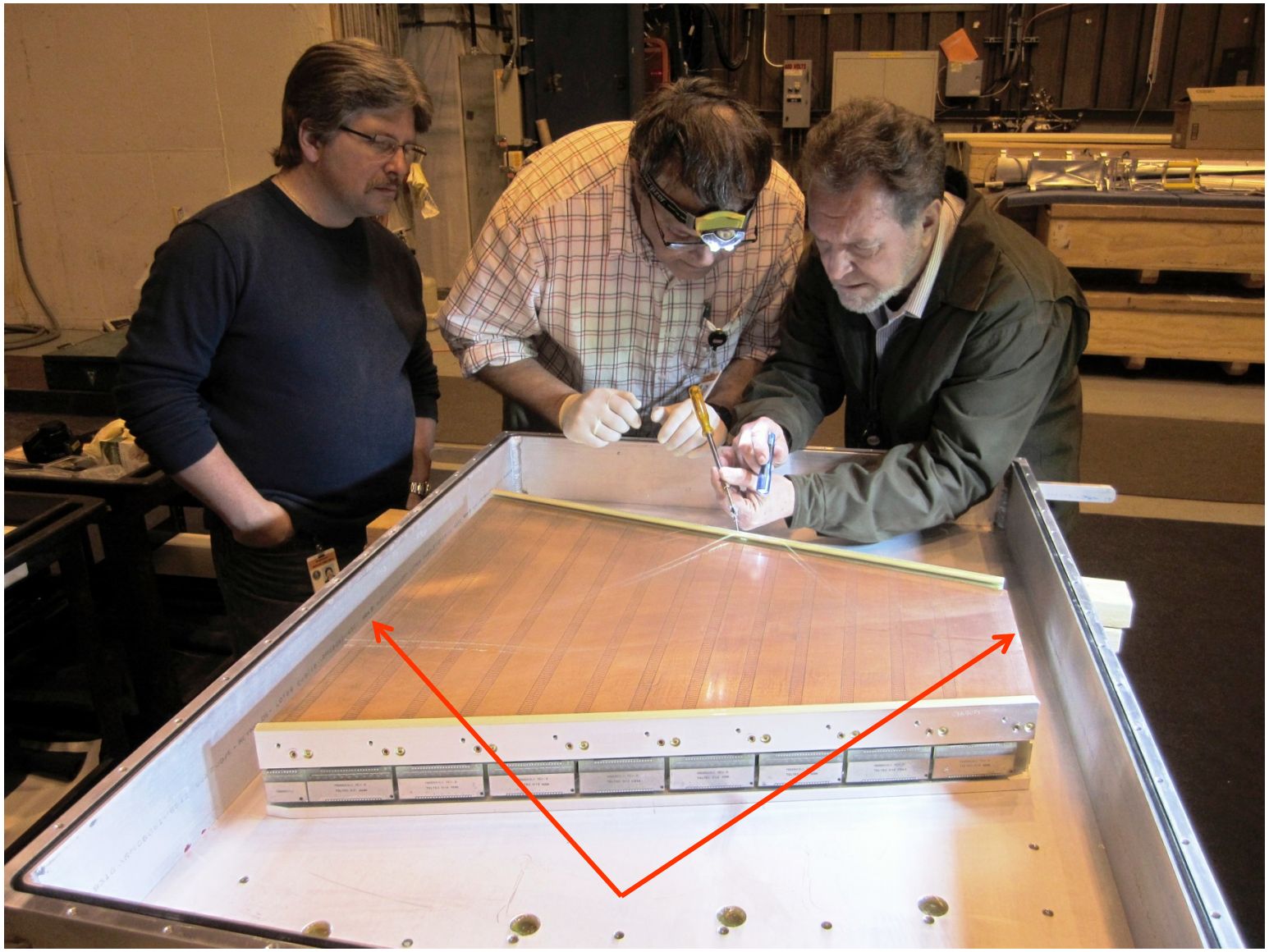
- **24 sectors (12 on a side)**
- **Large pads good dE/dx resolution in the Outer sector**
- **Small pads for good two track resolution in the inner sector**

Proposal to solve the “Grid Leak” requires a wall



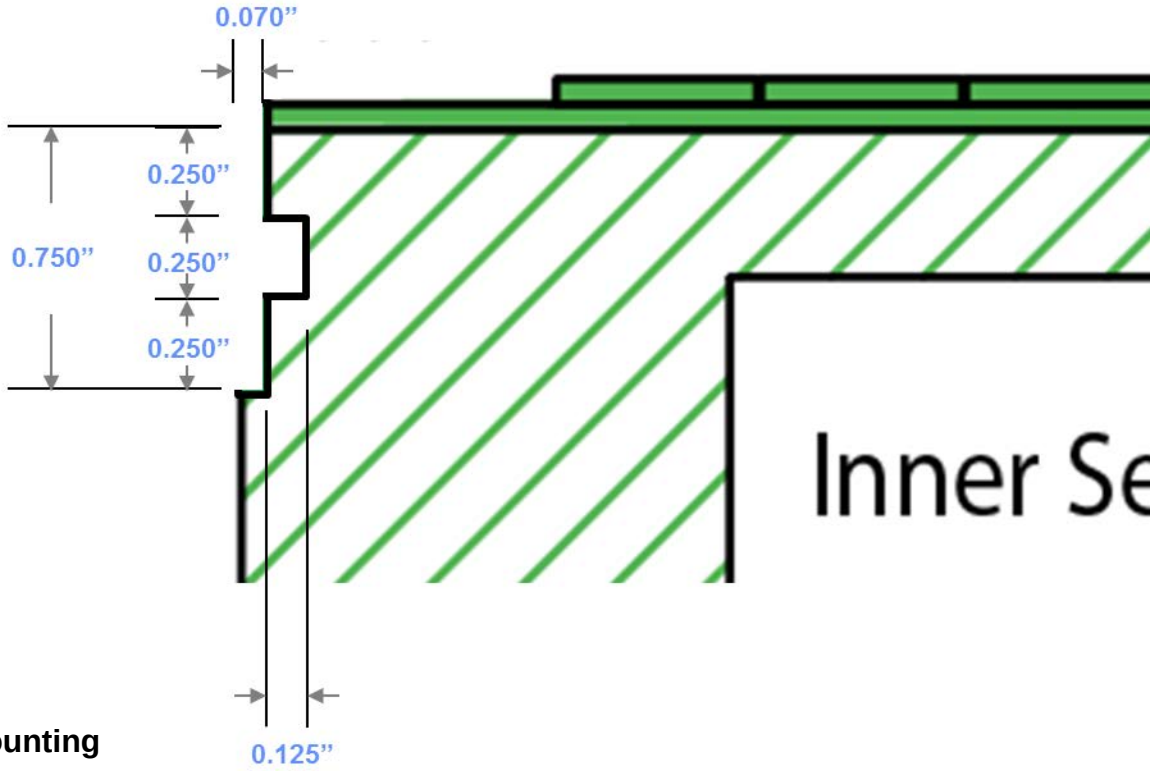
- Put a wall between the inner and outer sectors, mount to the top edge of the inner sector
- Also need another wall at the bottom edge of the inner sector
- Wall is 1/16” mm thick Printed Circuit Board with Cu on both sides
- Thus, two walls with a wire to feed voltage to both walls

Two walls required – same style and technology



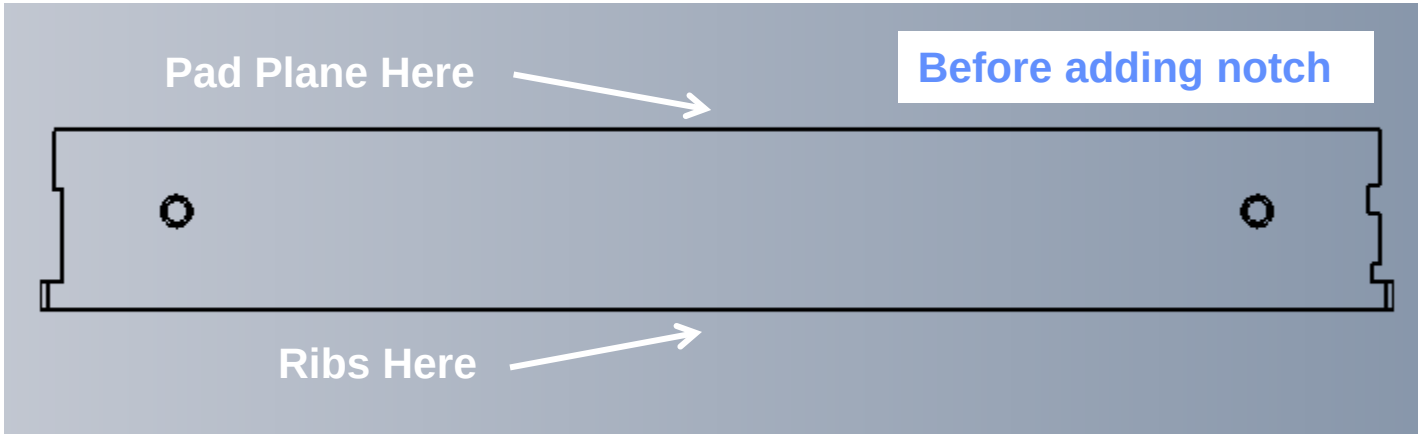
Conceptual Design of Notch to hold PCB Walls

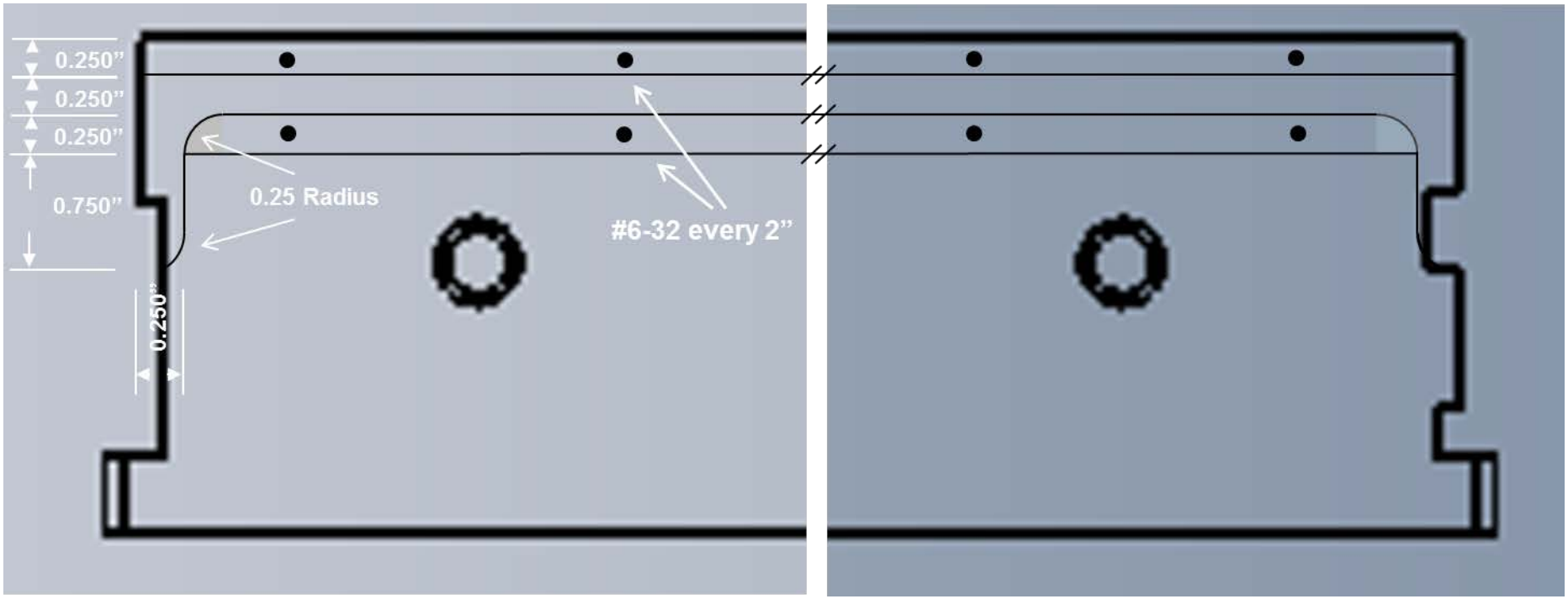
DRAFT : Not to Scale
Not for Construction
(dimensions are inches)



- ¾” by 0.070” notch is for mounting PCB board as the wall
- 1/8” deep auxillary channel is to carry up to 3 wires (1000V, 18 AWG)

End View detail – note access path for wires



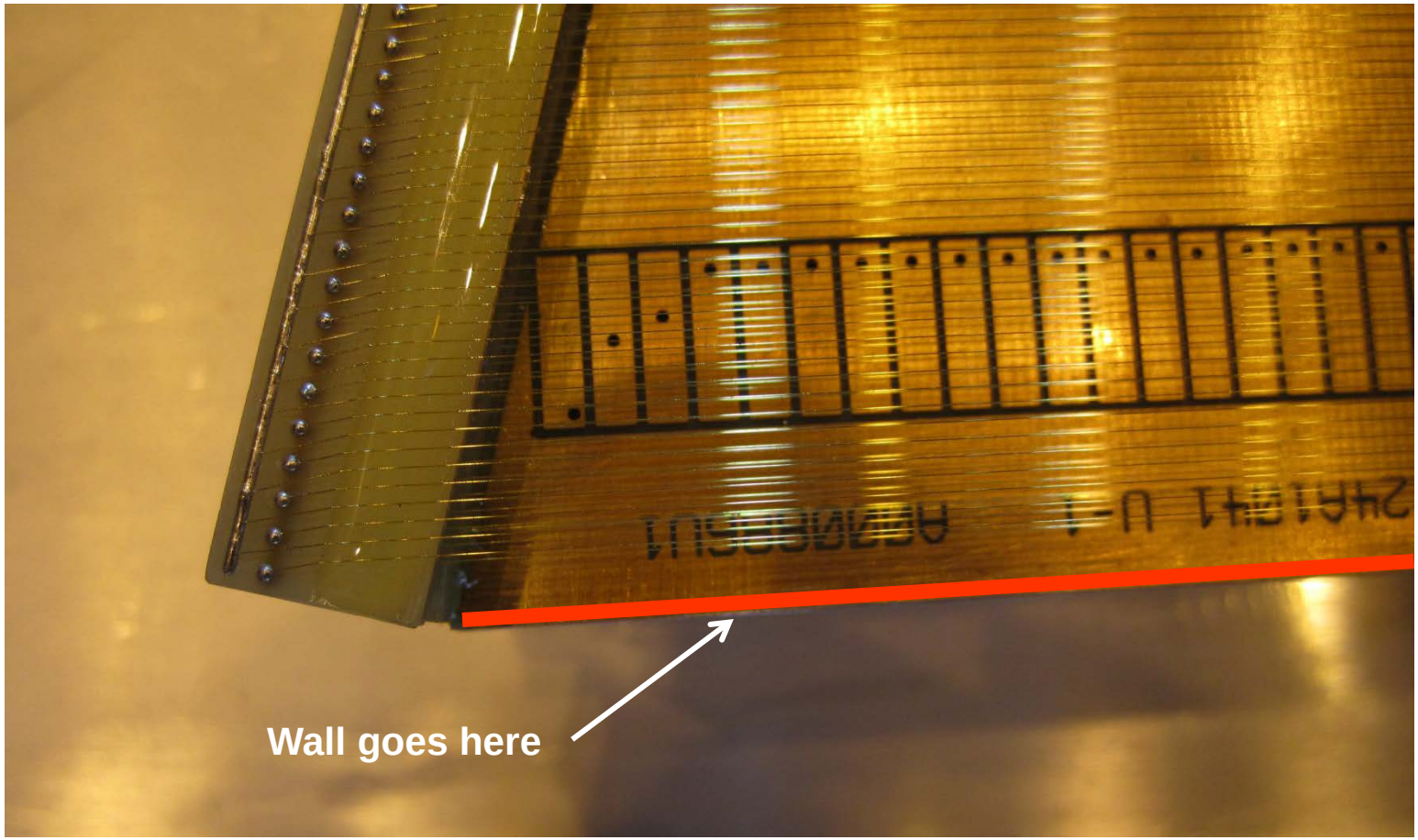


Backup Slides

Dimensions - recap

- Notches & Wall are on the same side of the sector as the PadPlane
- Wall will be 1/16” G10 and should fit comfortably into 0.070” notch
- Notch is full width at upper end and lower end of inner sector
  - Sector is 24.5” full width at top, 9.85” full width at bottom
- 0.070” deep
- 0.750” tall
- ¼” wide channel for wires, 1/8” deep
  - Wires go under the wall
  - So channel is 0.125” deeper than 0.070” cut for wall
  - Note addition of access path for wires … to go from side of sector, to backside of the wall
- Two rows of screws, first row is 1/8” below padplane surface, etc.
  - Use #6 screws, 2 inches apart, counter sunk into G10 wall

Inner sector … upper end



- **A portion of the (old) Inner Sector near the Inner – Outer sector boundary**
  - **In other words, the top edge of the inner sector**

Inner Sector … lower end

- Sometimes we call this the inner-inner grid leak
  - It requires an inner-inner solution
- We can build a wall that is very similar to the wall that goes between the inner and outer sectors
  - The only difference is the length of the wall
    - Top Edge Full width is 24.5”, Bottom Edge Full width is 9.85”