

HVAC OVERVIEW

for Single Tunnel Configuration

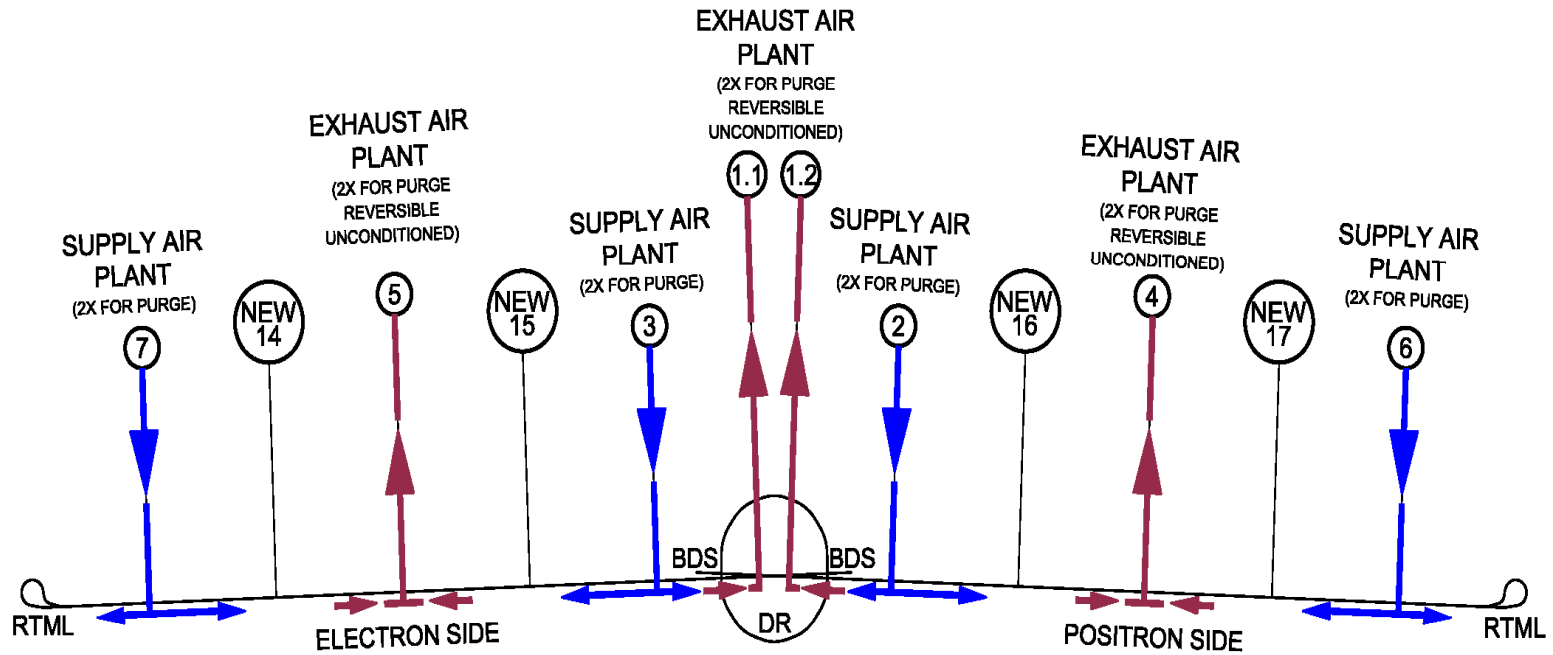
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ILC CFS Workshop 2008 Chicago, IL

Lee Hammond, Fermilab

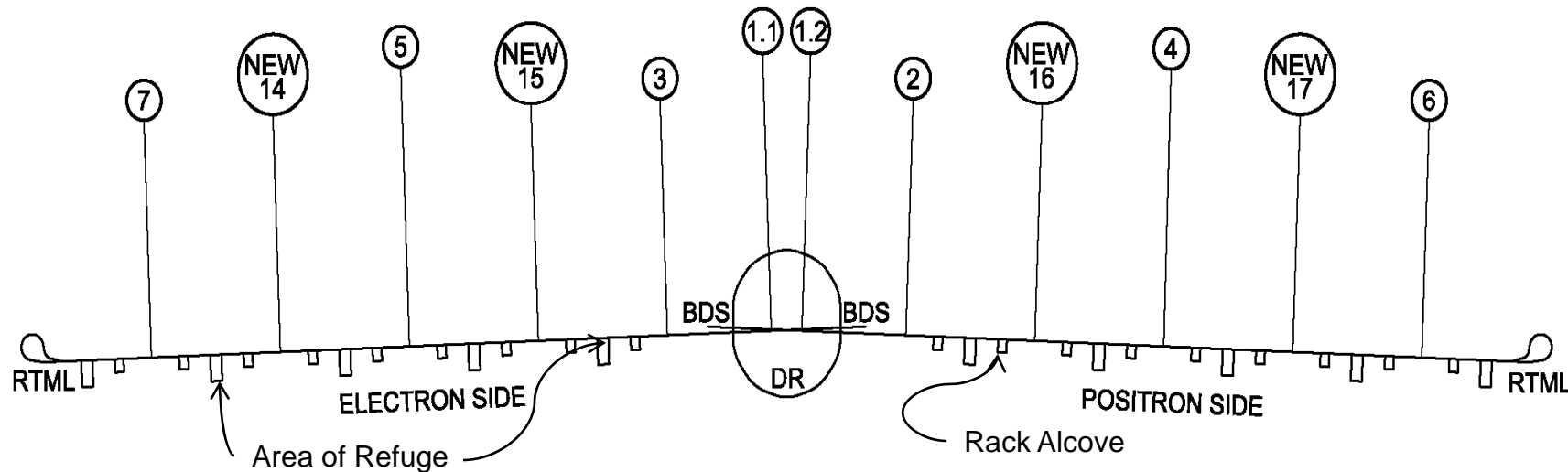
Klystron Cluster August Cost Basis

KLYCLUSTER COST ESTIMATE BASIS

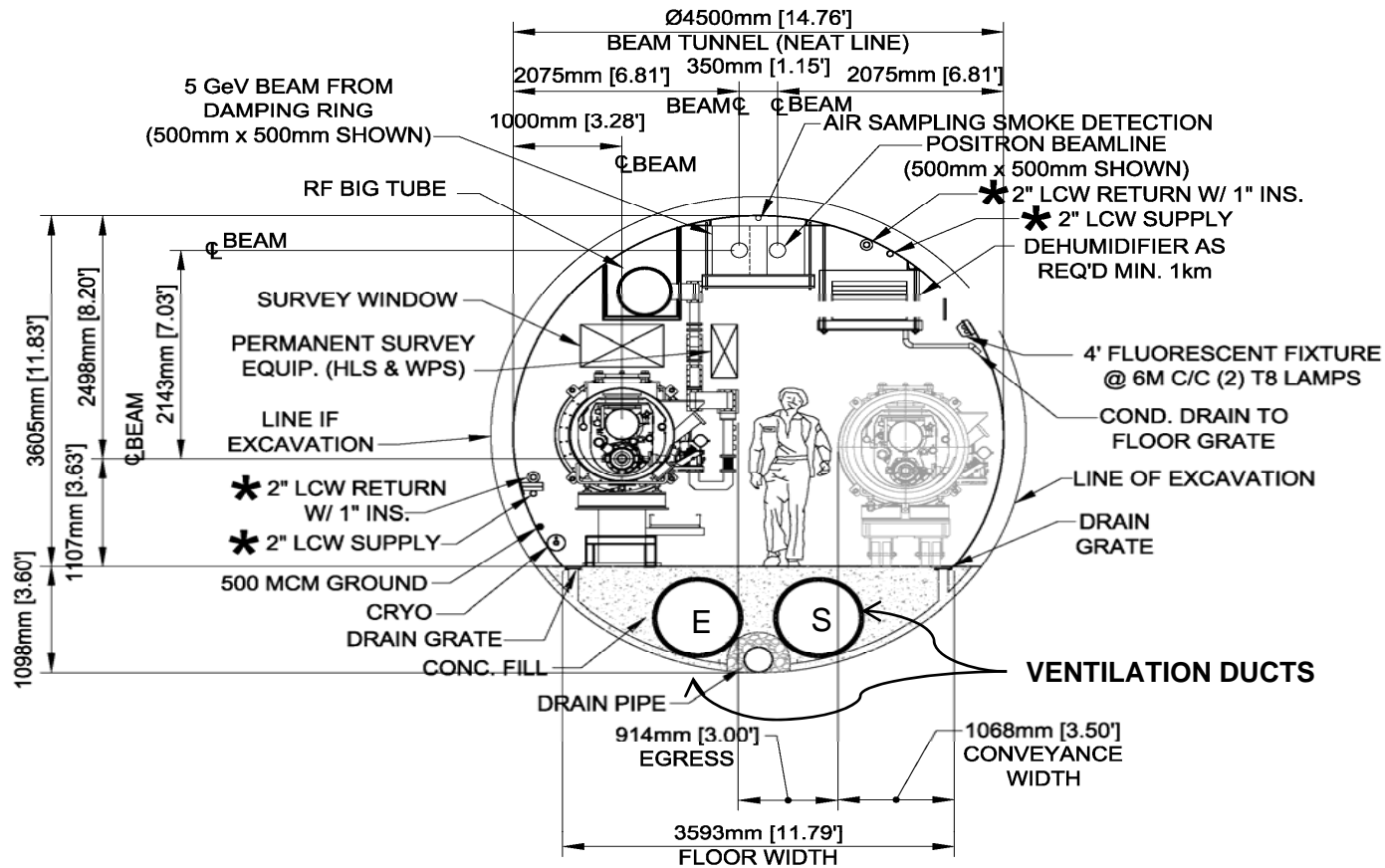


Single Tunnel Alcove Layout

- Alcove and Area of Refuge Consideration
- NFPA 520 ...shall have fresh air from the surface during a fire emergency
- Air quantity shall be $34\text{m}^3/\text{hr}$ (944 L/s, 20cfm) per person or minimum required to prevent smoke infiltration.
- Shall maintain 12.5Pa (0.05in.wg) relative to adjacent space.
- Shall be provided with food, water, emergency lighting, blankets, toilets facilities, first aid kits, two communications.



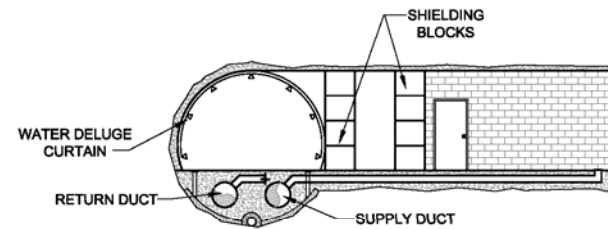
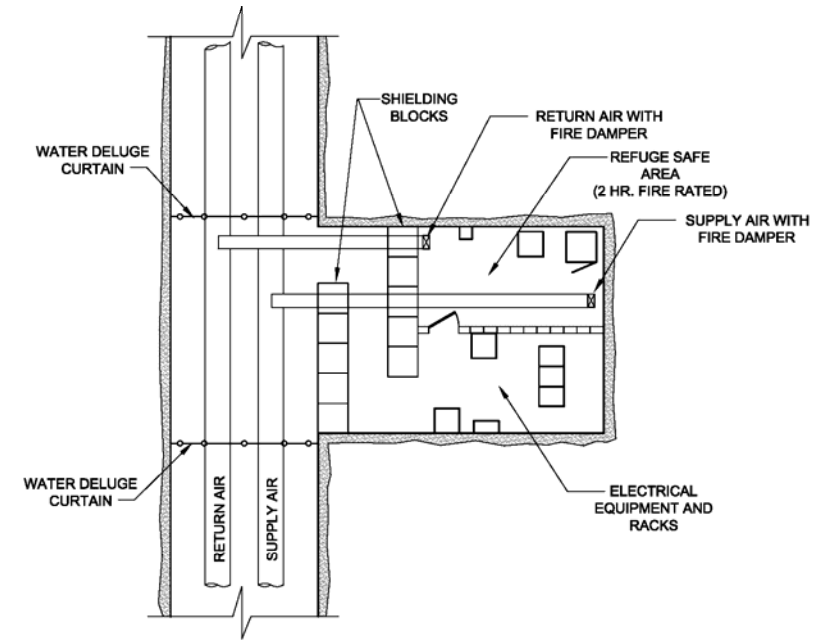
Tunnel Section with Ventilation Piping in Floor



TYPICAL MAIN LINAC SECTION

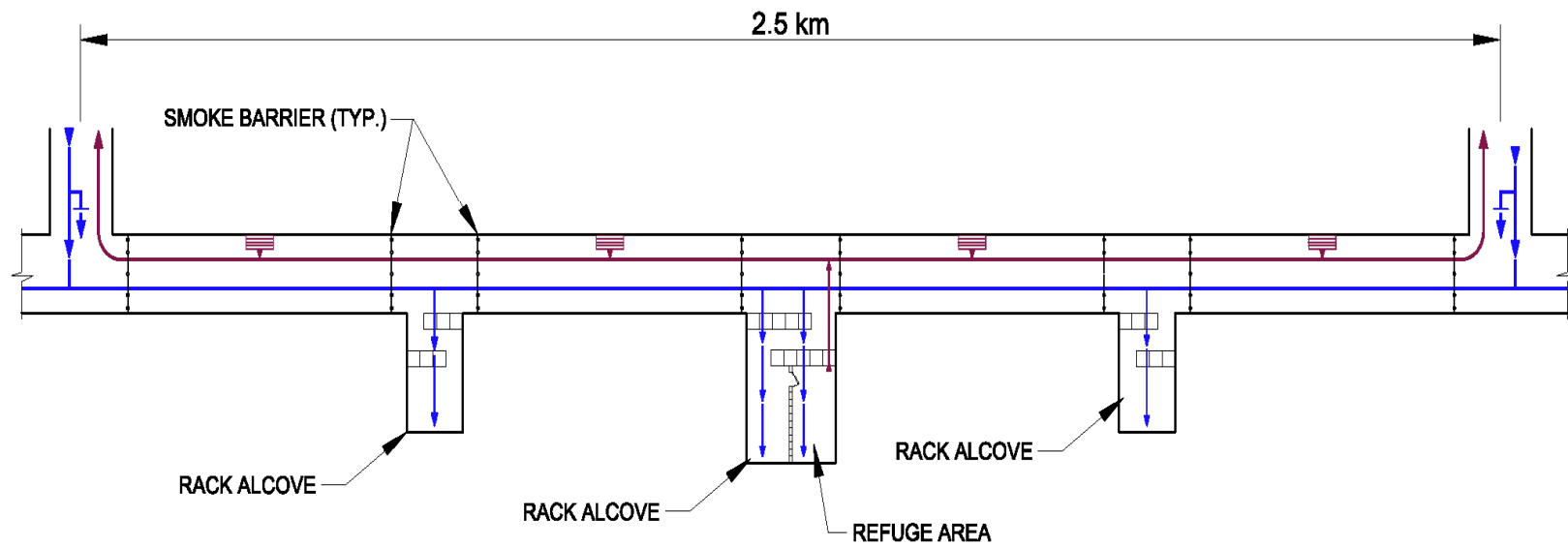
DRAFT FOR REVIEW

Area of refuge Layout



Single tunnel Airflow

- Air supply into area of refuge and rack alcoves. “Heat to air” in beam tunnel considered to be quite small. 95% reduction from RDR



Airflow during Emergency

- Smoke barrier/water curtain at approx. 600m intervals

