



ML Tunnel Cross-section Latest Proposal Plan

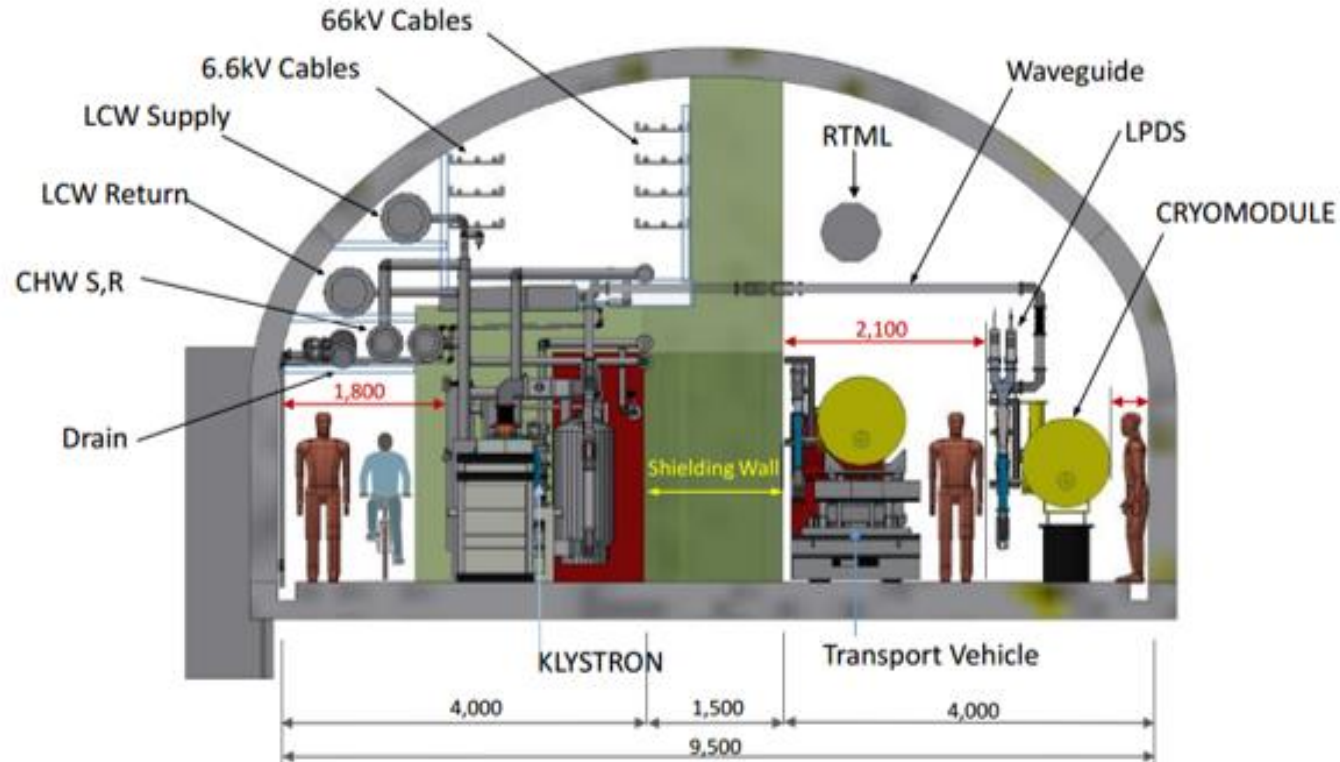
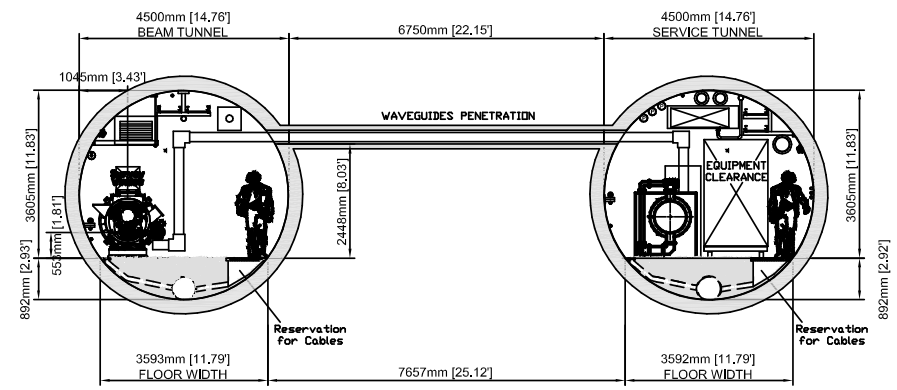
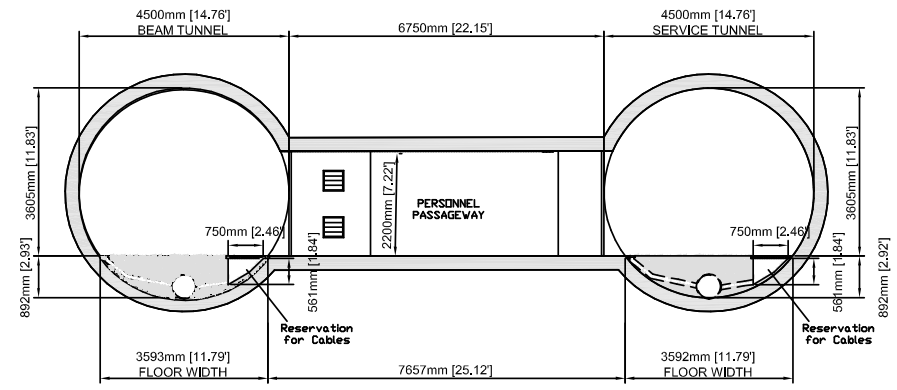
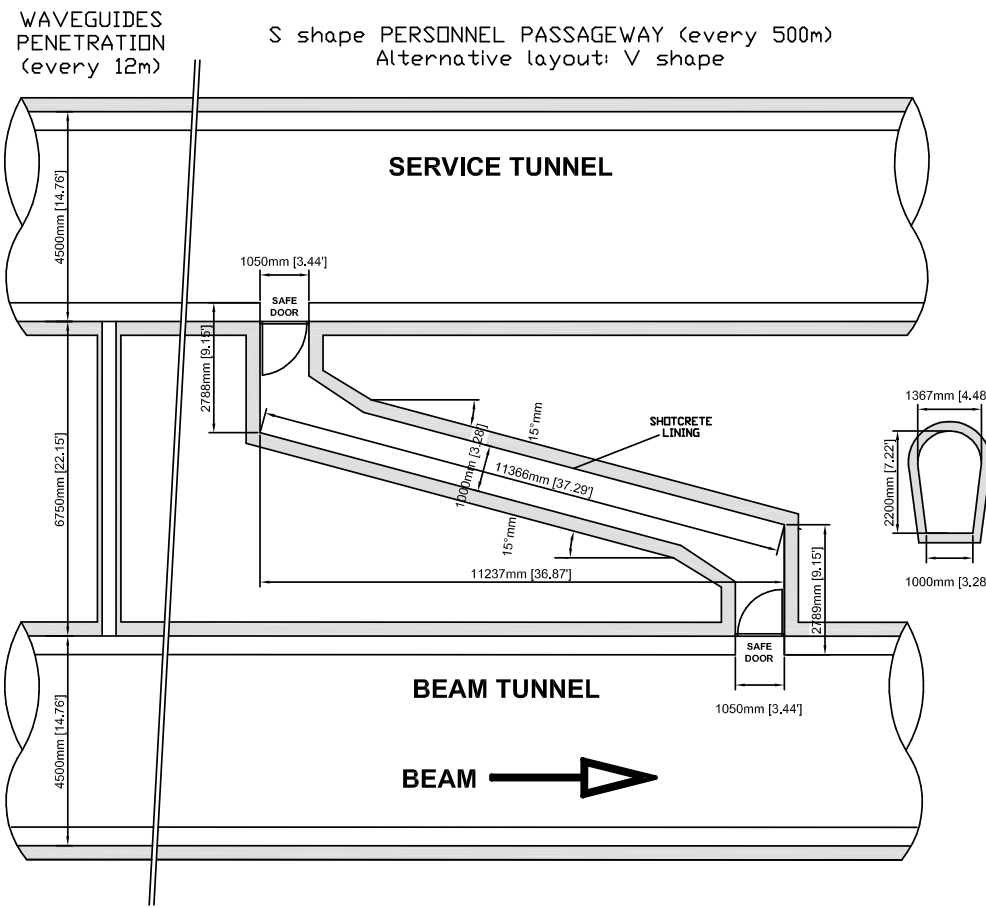


Fig 12.2: Proposed cross-section

The defining issue in determining the ILC tunnel wall thickness is field-emission induced radiation from the cavities (dark current) when the RF power is on since it is proposed that personnel access will be permitted during these times.



ILC -ML-RTML PERSONNEL PASSAGEWAY AND WAVEGUIDES LAYOUT AND SECTIONS

EUROPEAN REGION		GROUP : TS-CE CIVIL ENGINEERING SUPERVISOR : JL.BALDY DESIGNER : N.BADDAMS	SCALE : 1/100(A3_FORMAT) DATE : 13_DEC_2006	SIZE INDEX ILC-.CE-1.1610.0003 3 c
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A few thoughts about CLIC civil engineering for Klystron option

- FCC and ILC studies have shown that generally one larger single tunnel is normally cheaper/faster than two smaller tunnels
- From LHC experience we know if a tunnel is longer than about 2km (CLIC will be 5km each side of IP), generally 'circular' tunnel boring machines provide the quickest and cheapest option in Molasse rock
- Typical TBM diameter is 6m, but can increase up to about 10m
- Other option would be to use a "roadheader" type excavation to make the cross section similar to ILC Japan "kamaboko" shaped tunnel
- How do the BDS v Klystron tunnel cross sections vary ?
- These three options will be briefly investigated (Double tunnel, Large circular single tunnel or 'Roadheader' tunnel)



TBM

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Roadheader