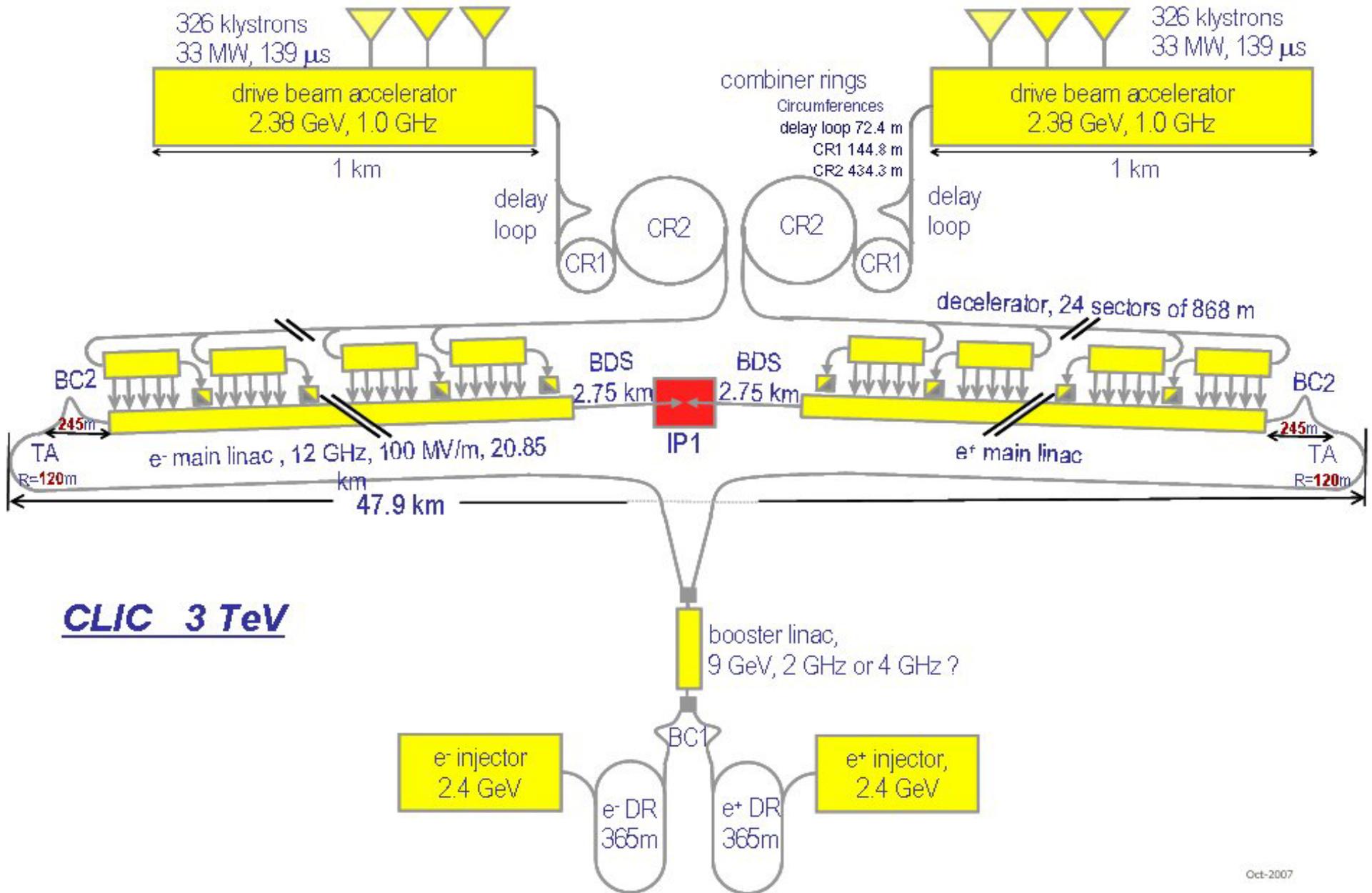
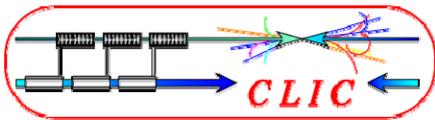


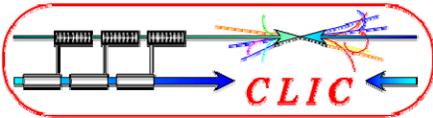
CLIC/ILC Collaboration Meeting 8 Feb 2008

CLIC Civil Engineering Layouts & Tunnel Cross Section

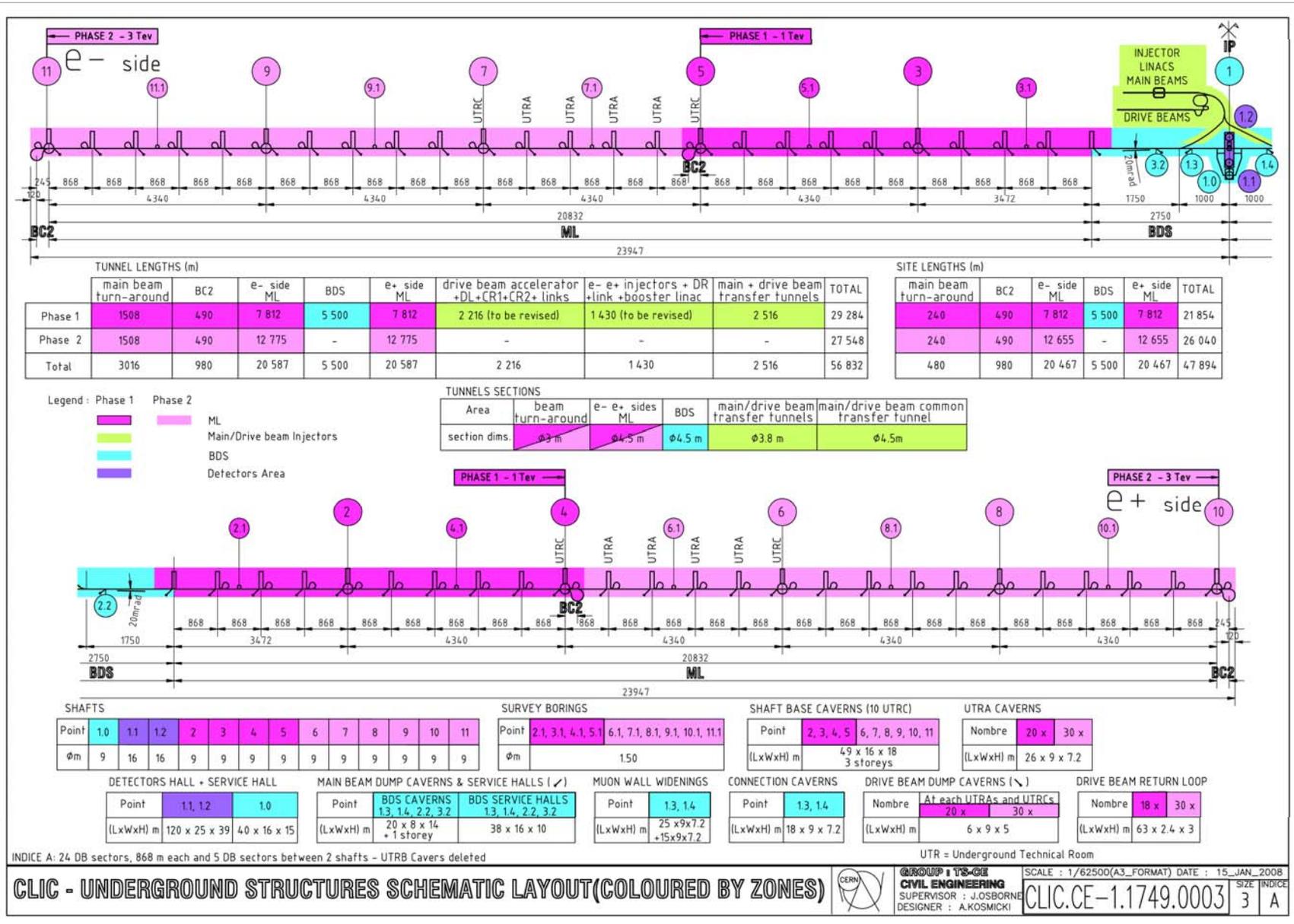
John Osborne CERN

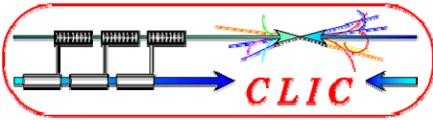
Civil Engineering Layouts & Tunnel Cross Section



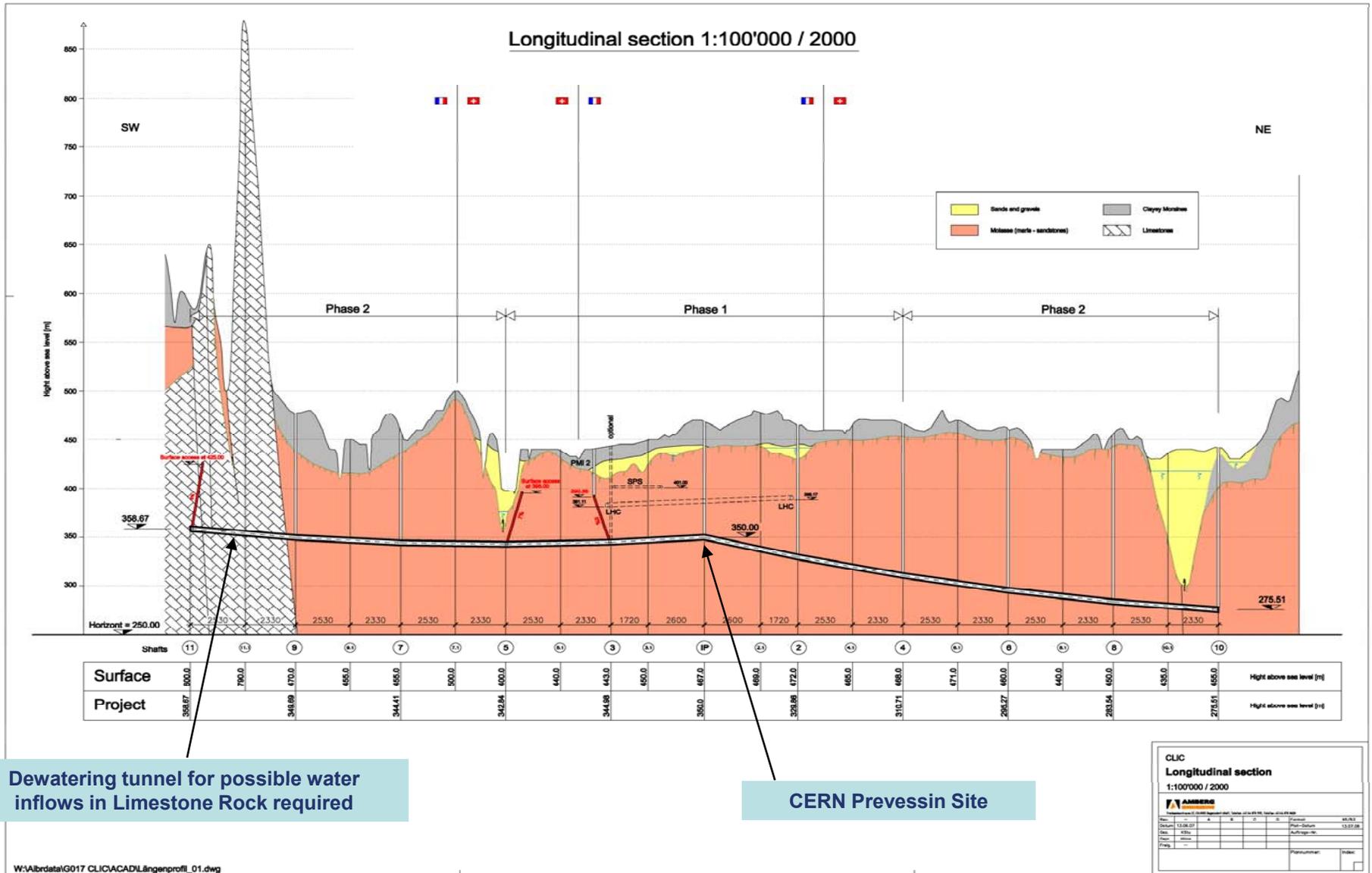


Civil Engineering Layouts & Tunnel Cross Section



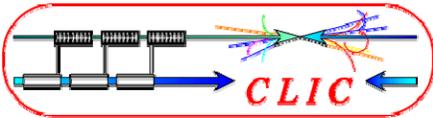


Civil Engineering Layouts & Tunnel Cross Section

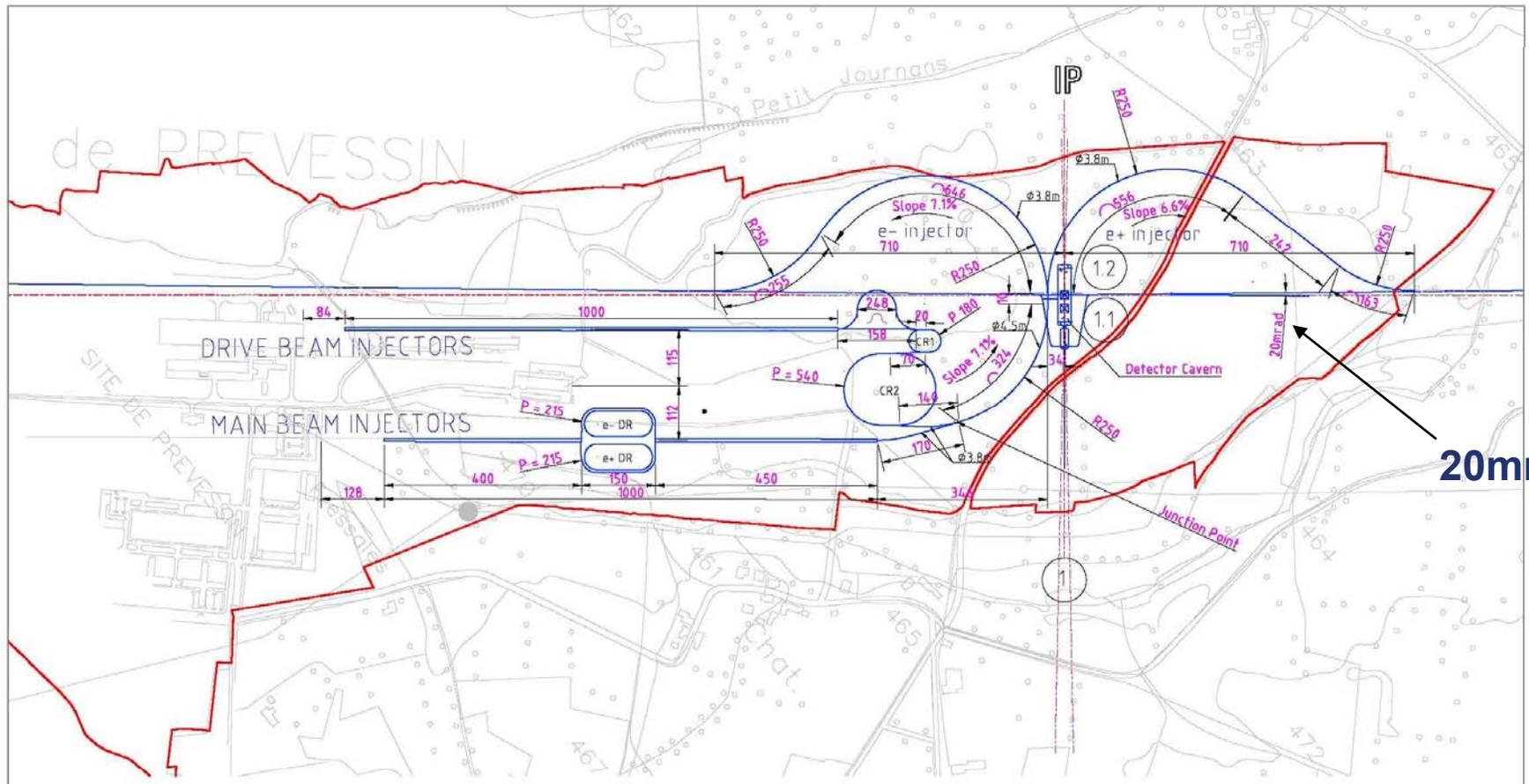


Dewatering tunnel for possible water inflows in Limestone Rock required

CERN Preessin Site



Civil Engineering Layouts & Tunnel Cross Section



20mrad

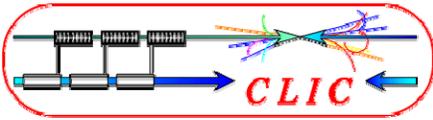
INJECTORS TUNNELS	DRIVE BEAM INJECTORS COMPLEX					MAIN BEAM INJECTORS COMPLEX						COMMON & FINAL TRANSFER TUNNELS (after Junction Point)		
	LINAC	DELAY LOOP	CR 1	CR 2	TT to Junction Point	LINAC 1	e- DR	e+ DR	DR Link	LINAC 2 + BC 1	TT to Junction Point	COMMON	e- TT	e+ TT
Length (l) m	1000	406	180	540	140	400	215	215	150	450	170	334	901	971
Section (l x h) m	6 x 3	4 x 3	4 x 3	4 x 3	∅ 3.8	3 x 3	6 x 3	6 x 3	14 x 3	3 x 3	∅ 3.8	∅ 4.5	∅ 3.8	∅ 3.8

CLIC- MAIN / DRIVE BEAM INJECTORS AND EXPERIMENTAL AREA LAYOUT

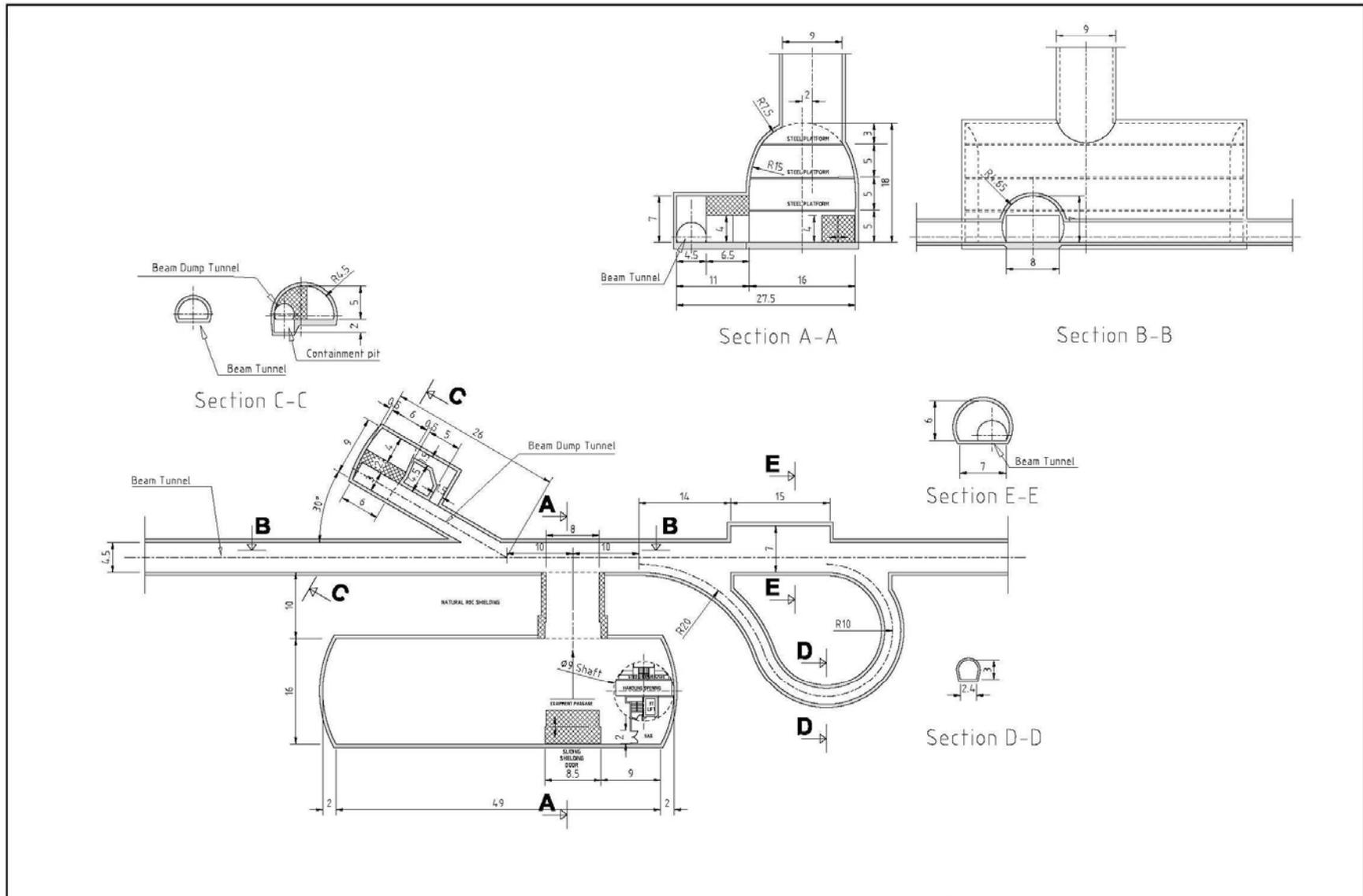


CERN TS-CE
CIVIL ENGINEERING
 SUPERVISOR : J.L.BALDY
 DESIGNER : N.BADAMS

SCALE : 1:6500(A3_FORMAT) DATE : 12 JUNE 2007
 CLIC.CE-1.1799.0002 3 D



Civil Engineering Layouts & Tunnel Cross Section



CLIC - UTRC CAVERN, DRIVE BEAM LOOP AND BEAM DUMP

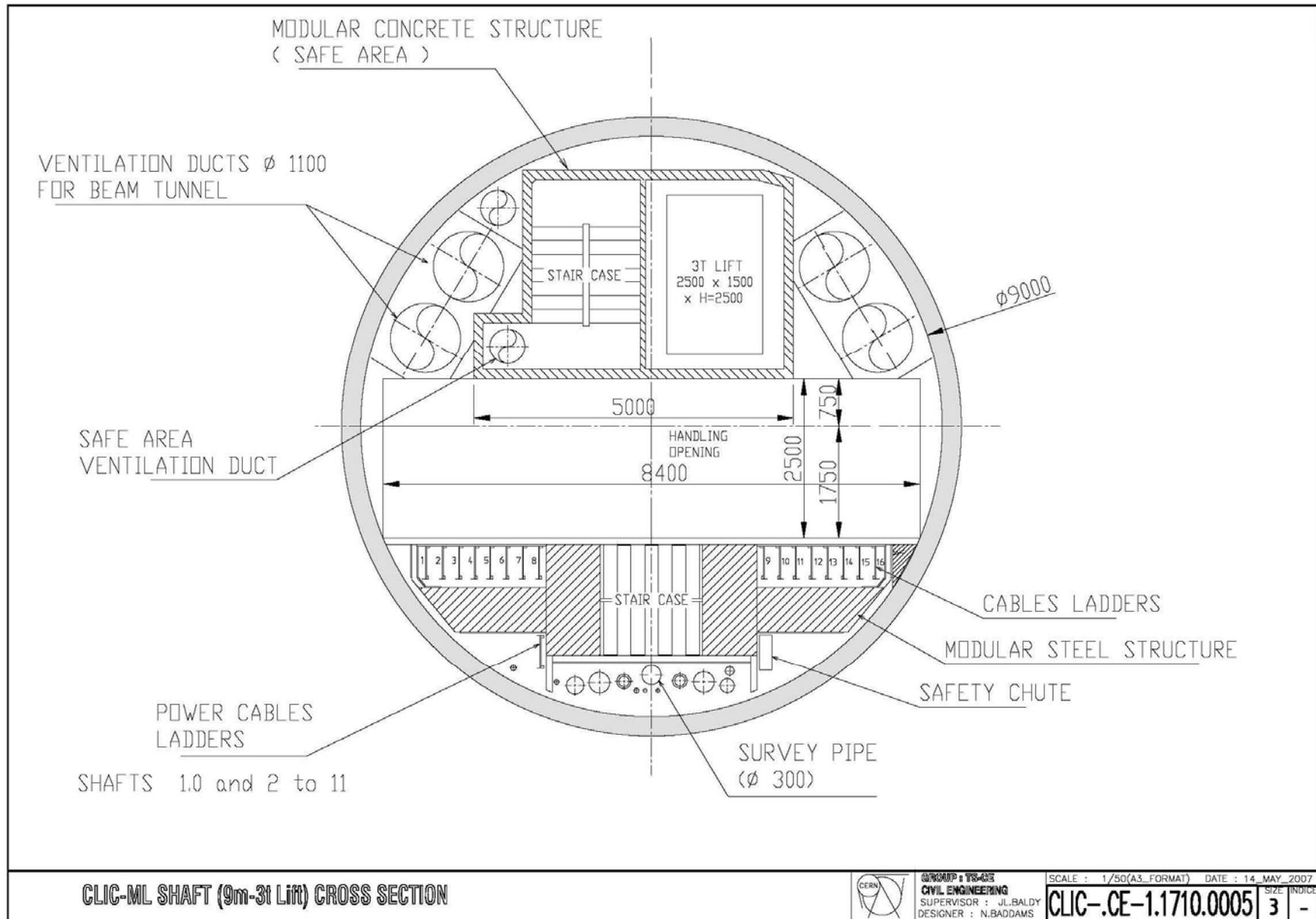
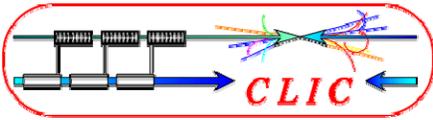


GROUP : TS-CE
CIVIL ENGINEERING
 SUPERVISOR : J.L.BALDY
 DESIGNER : N.BADDAMS

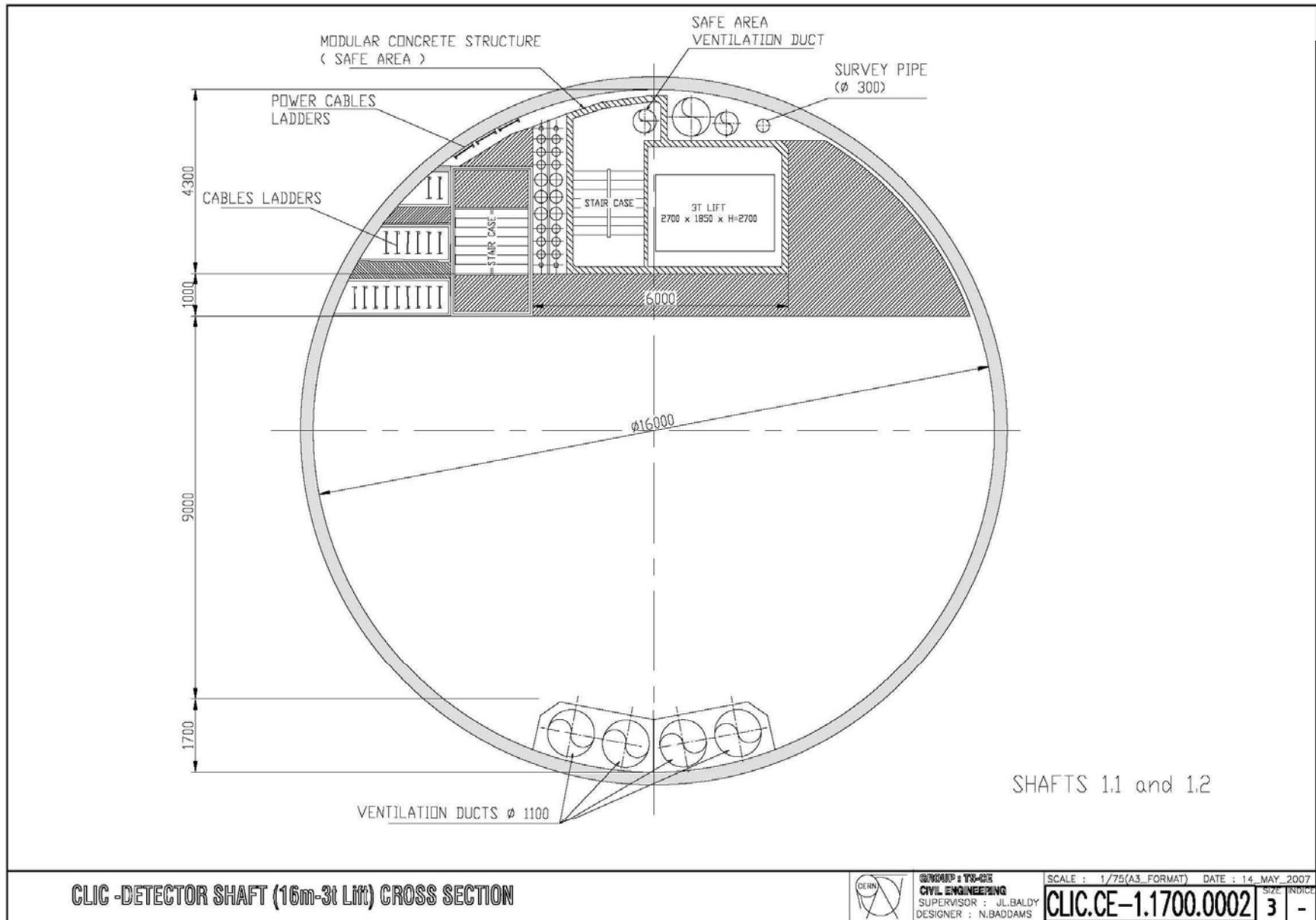
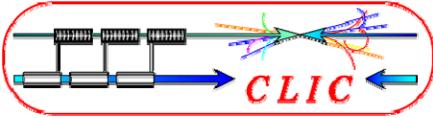
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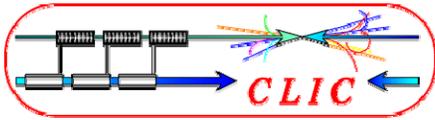
CLIC-.CE-1.1710.0001 3 A

Civil Engineering Layouts & Tunnel Cross Section

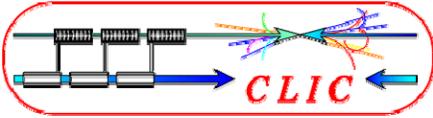


Civil Engineering Layouts & Tunnel Cross Section



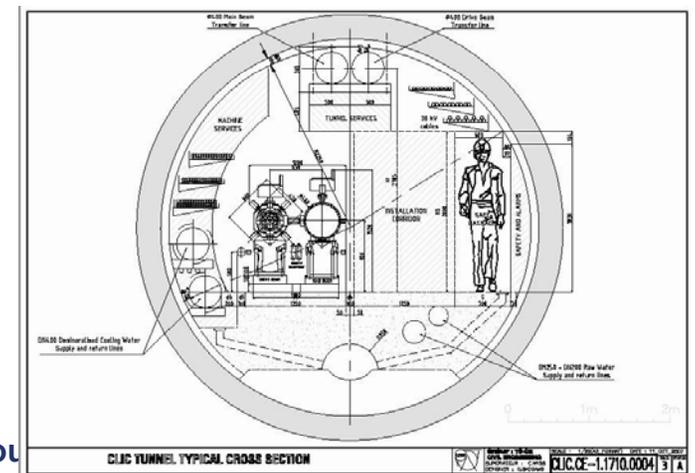


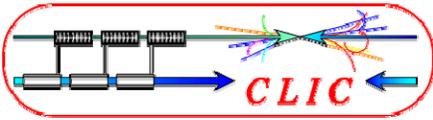
- Tunnel Services & Cross Section



- Machine Services (1) :

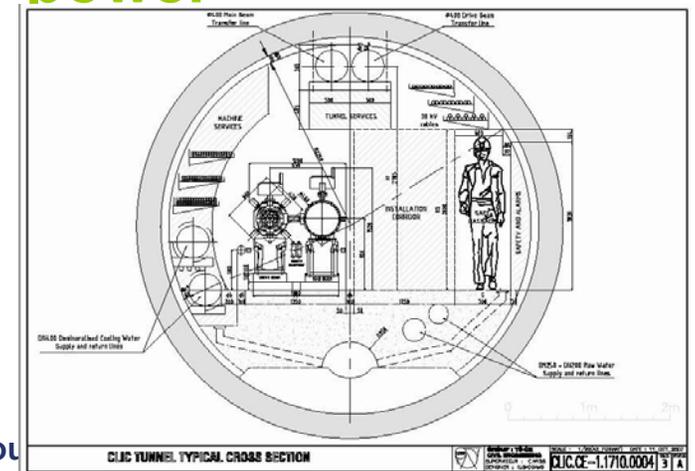
- Supply and return manifolds for demineralised water cooling.
- Raw water supply and return.
- Drainage pipe embedded in concrete invert for any water seepage
- Compressed air for PETS on/off mechanism
- Nitrogen distribution, if any
- One or two 40mm duct(s) for optical fibre links
- Two or three 500mm wide cable trays for dc power cables.

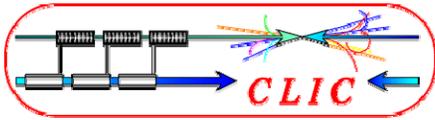




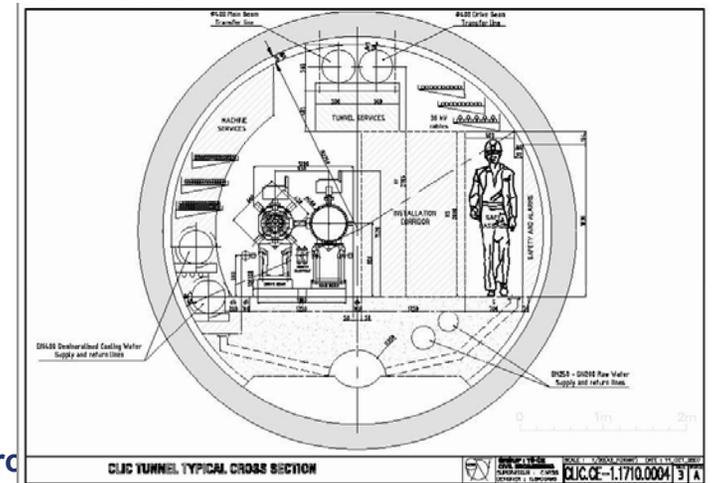
- Machine Services (2) :

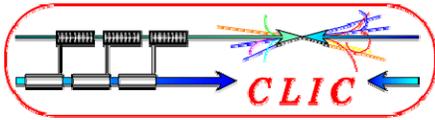
- A free section of at least 70cm width by 200cm for personnel passage between a module and the tunnel wall.
- One 500mm wide cable tray for low power and signal cables for the RF system
- One 500mm wide cable tray for beam instrumentation, survey and vacuum systems
- One 300mm wide cable tray for the power cables of the transfer lines





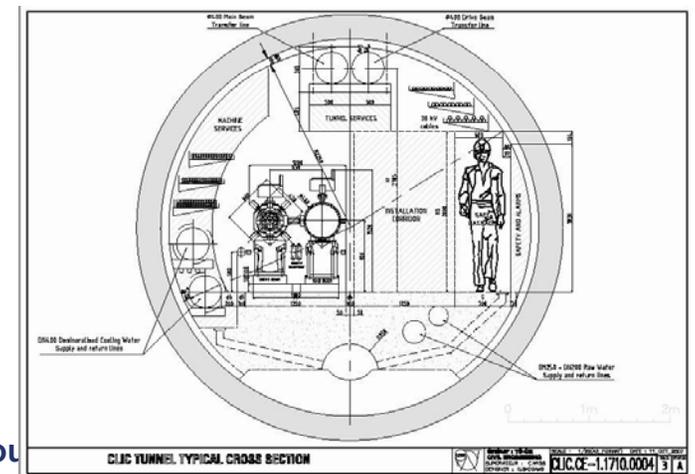
- Machine Services (3) :
 - One 200mm wide cable tray for the cables of the vacuum and beam instrumentation systems of the transfer lines
 - The Low-Voltage (400V) distribution
 - 5 Cables for Medium Voltage (36KV). These cables will bring power from Preveessin Site central Area to other sites
 - Secure Low Voltage Electricity
 - Power for the transport vehicles
 - No mono-rail type transport included for the moment

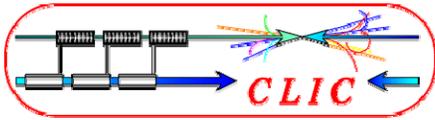




Civil Engineering Layouts & Tunnel Cross Section

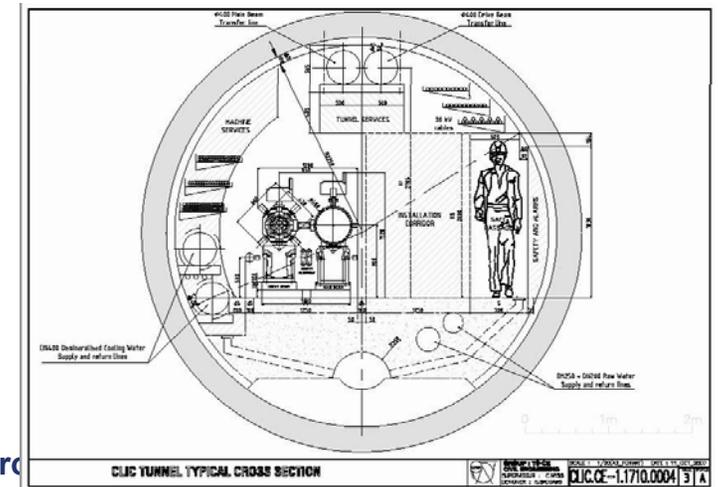
- Tunnel Services :
 - Normal Lighting
 - Leaky feeder for mobile telephones
 - Public address system

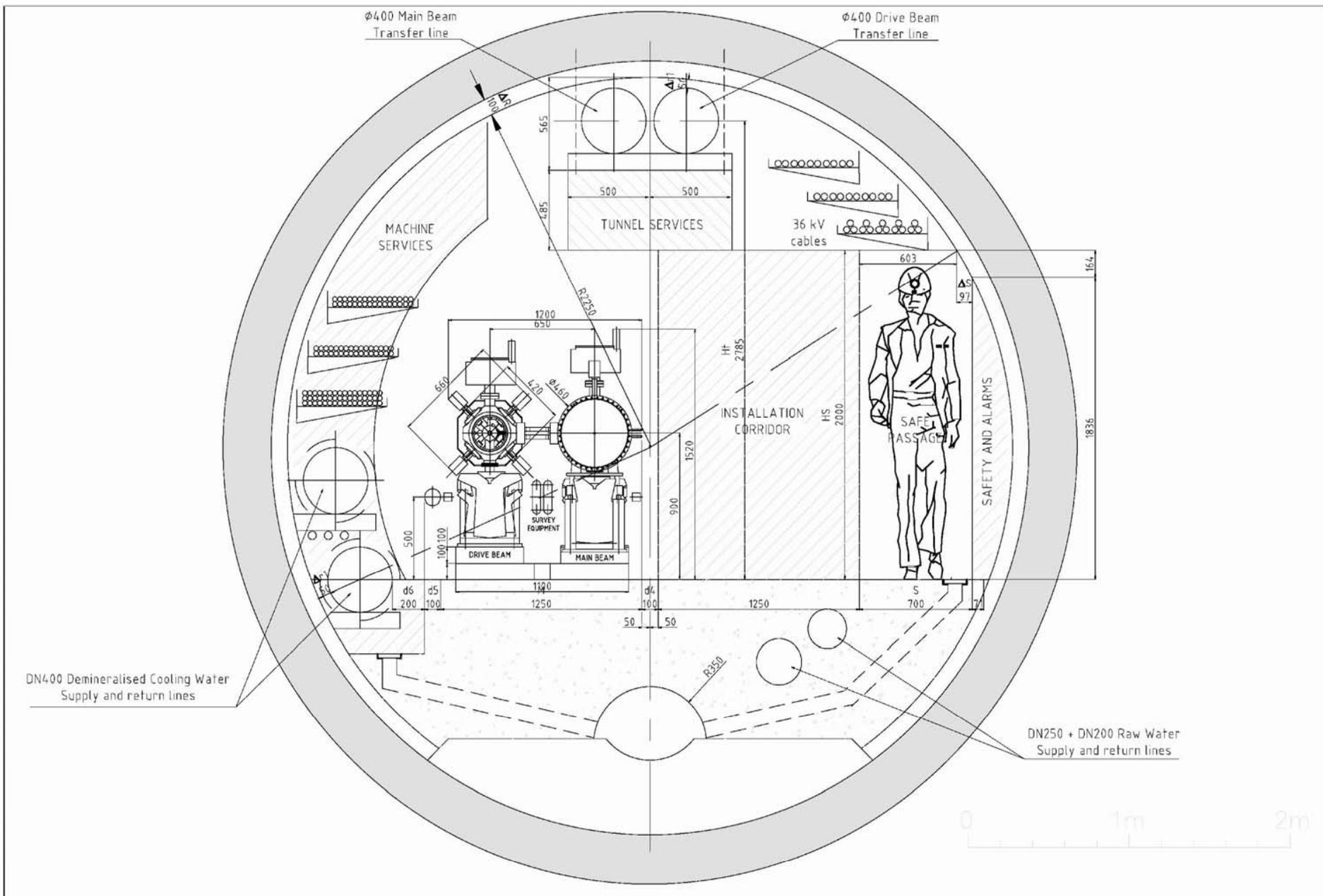




Civil Engineering Layouts & Tunnel Cross Section

- Alignment and Tunnel tolerances
 - Space has been recently allocated for alignment systems
 - A radial allowance for construction tolerances has been included (10cm)



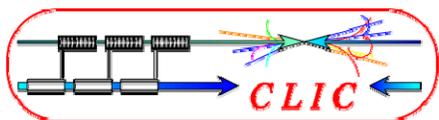


CLIC TUNNEL TYPICAL CROSS SECTION



GROUP : TS-CE
 CIVIL ENGINEERING
 SUPERVISEUR : C.WYSS
 DESIGNER : N.BADDAMS

SCALE : 1/20(A3_FORMAT) DATE : 11_OCT_2007
 CLIC.CE-1.1710.0004 SIZE INDICE 3 A



- Further in-depth studies on-going to define tunnel cross section, in particular for :
 - **Demineralised Water (ΔT to be better understood) and maximum flow to avoid vibration problems.**
 - **Ventilation System to comply with current Safety requirements for emergency situations.**