



Central Region

Discussion Leader
Tom Lackowski

Date

Event

Global Design Effort

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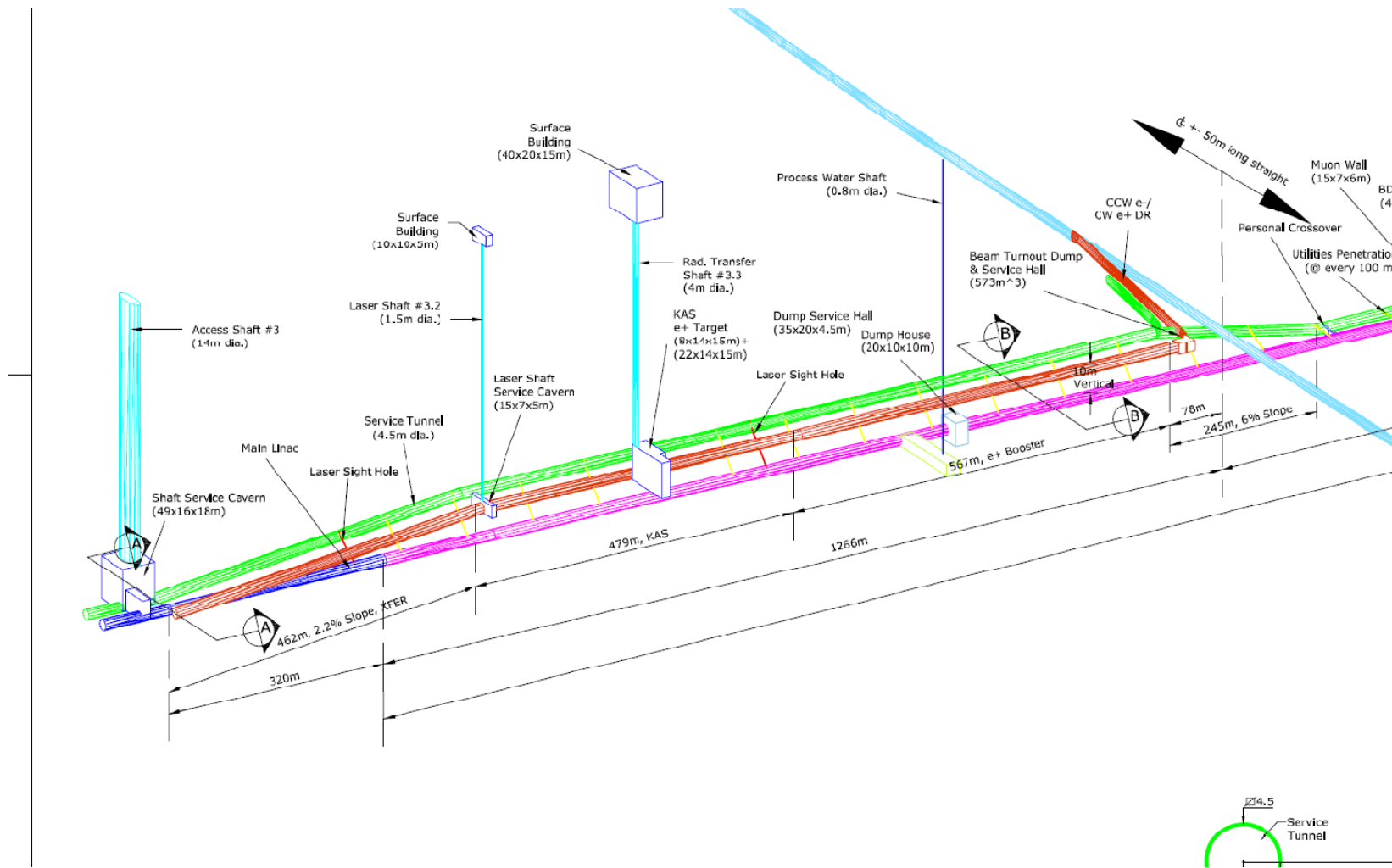


Agenda

- This is not a presentation; this is to be a discussion with pictures and a few words.
- Rick Ford will present the Alignment Group's proposal for the ILC coordinate system



RDR Americas



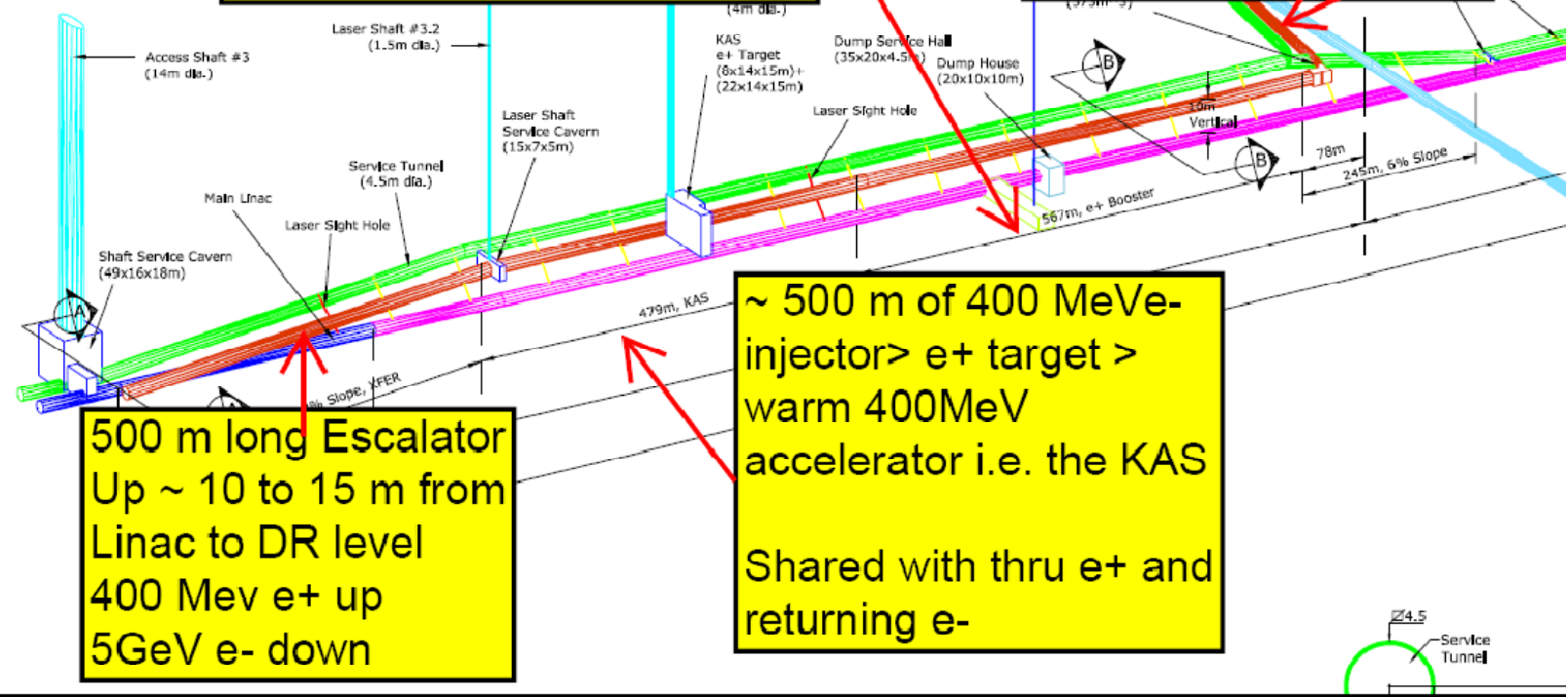
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Contents of BEAM tunnel on e- Linac Side

~ 500 m of 5 GeV cold linac booster for both thru e+ and KAS e+ Shared with returning e-

~100 m of bending and matching to e+ Inj and e- Ext from DR Includes Spin Rotators Energy Compressor Diagnostics



500 m long Escalator Up ~ 10 to 15 m from Linac to DR level 400 MeV e+ up 5GeV e- down

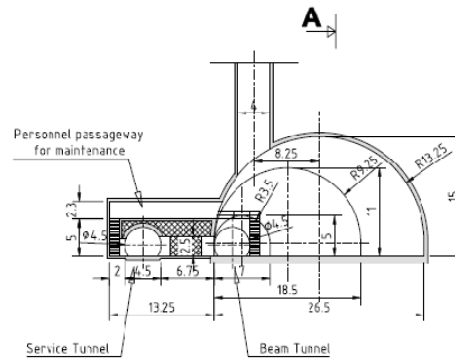
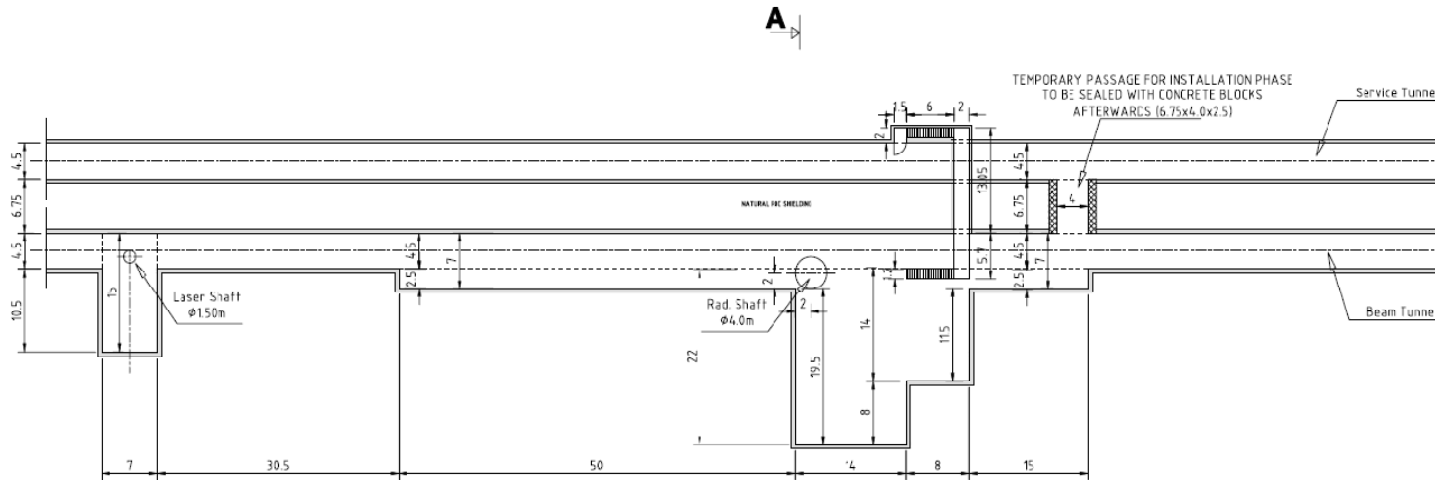
~ 500 m of 400 MeV injector > e+ target > warm 400MeV accelerator i.e. the KAS Shared with thru e+ and returning e-



Slide Title

- The change of elevation or escalator slope is probably conservative and could be shortened but this is a beam dynamics issue for the returning e-. A 4% or 5% slope may be a maximum.....should push the experts.
- The length of 500m for the KAS (e- injector, target, capture and reaccelerate) is probably as short as it can be within ~ 10%. The e+ linac side does not need all of it and we could make the two sides different?
- The 500m for the 5GeV booster linac is generous, it could be 300m, and it is only history that got us to 500m.
- The section from the booster to the DR has to be ~ 150m (along the beam line) and is complex with bend angles being determined by compression and spin rotation. Although complex it is short and we can probably adapt to many possible layouts.
- In summary we need 900 to 1000 meters of beam line at the same elevation as the DR and 200 to 500m for elevation change.
- Another general comment on your 1 thru 4 options, they all have more total length of tunnels as they do not always share the service tunnel with the BDS, at least not all the way. You are going to have to convince a lot of people that they have better “value”. This is going to be a fun discussion.

Ewan



Section A-A

ILC - SOURCES-KEEP ALIVE SOURCE TARGET AREA LAYOUT AND SECTION

EUROPEAN REGION



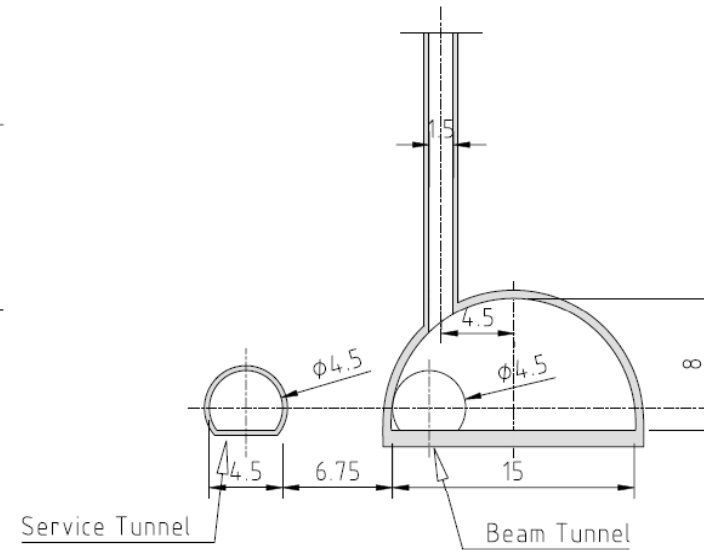
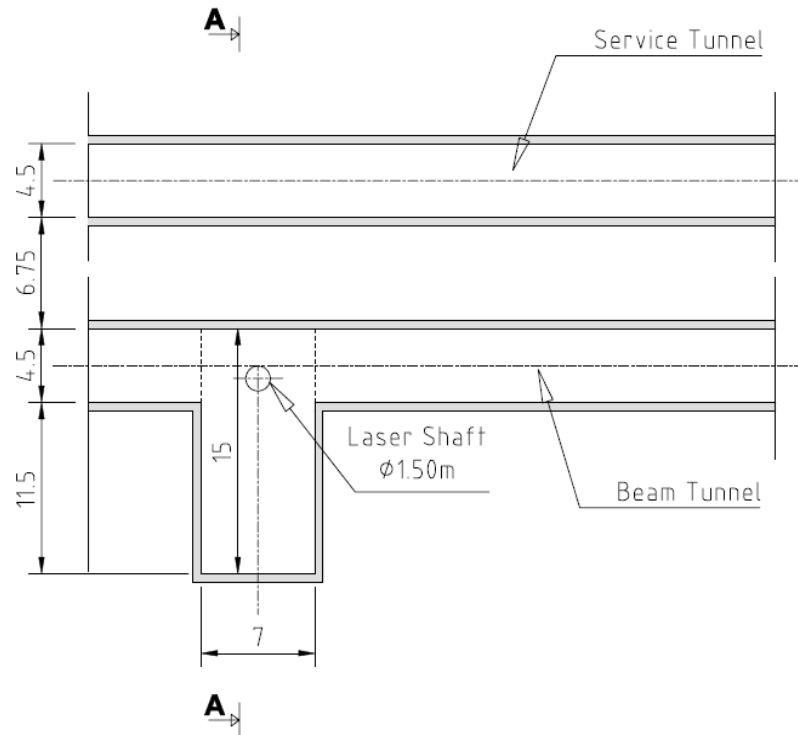
GROUP : TS-CE
 CIVIL ENGINEERING
 SUPERVISOR : J. BALDY
 DESIGNER : N. BADDAMS

SCALE : 1/50(A3_FORMAT) DATE : 30_NO

ILC-CE-1.1640.0003



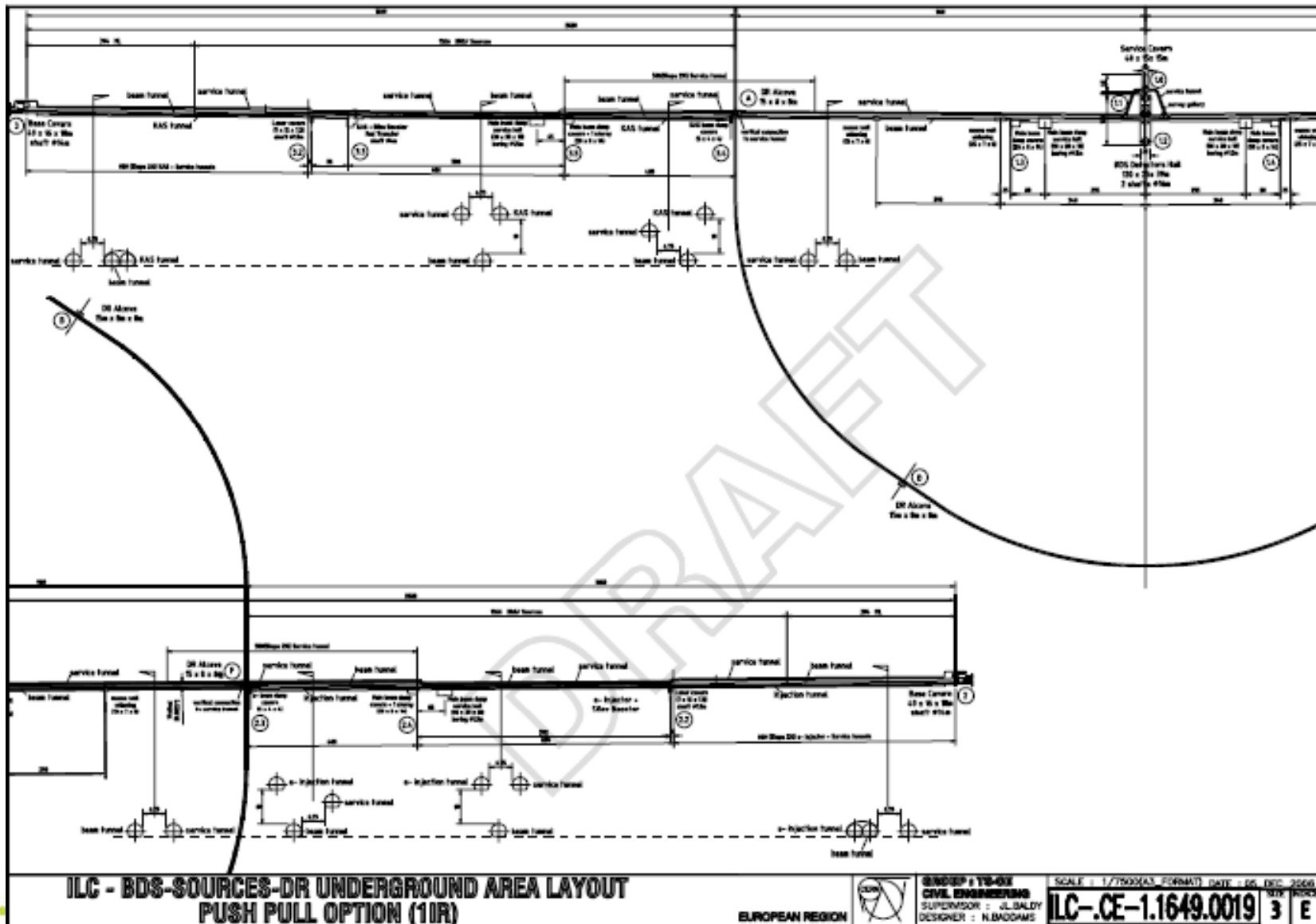
-e Source



Section A-A



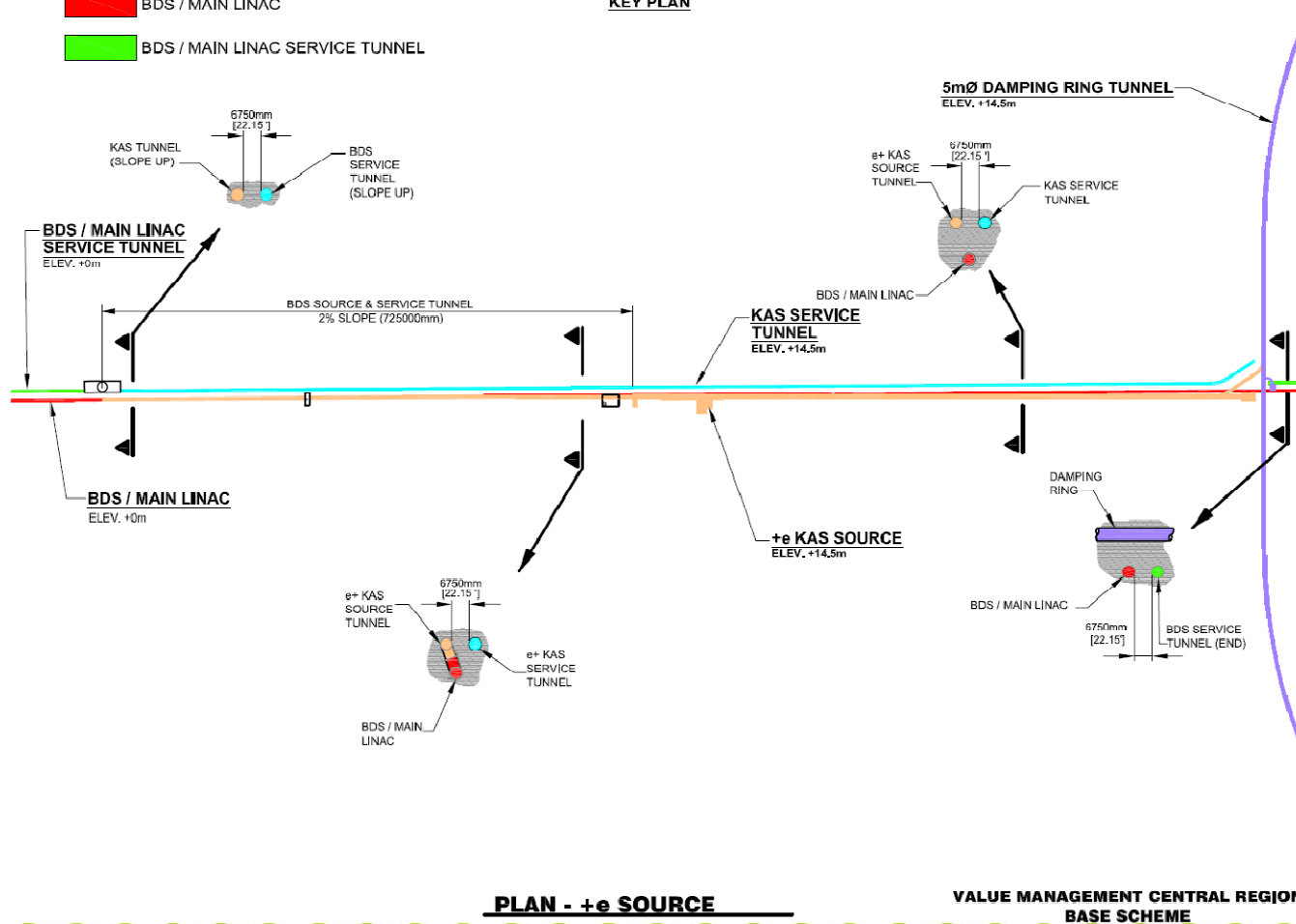
Base RDR Layout (Europe)





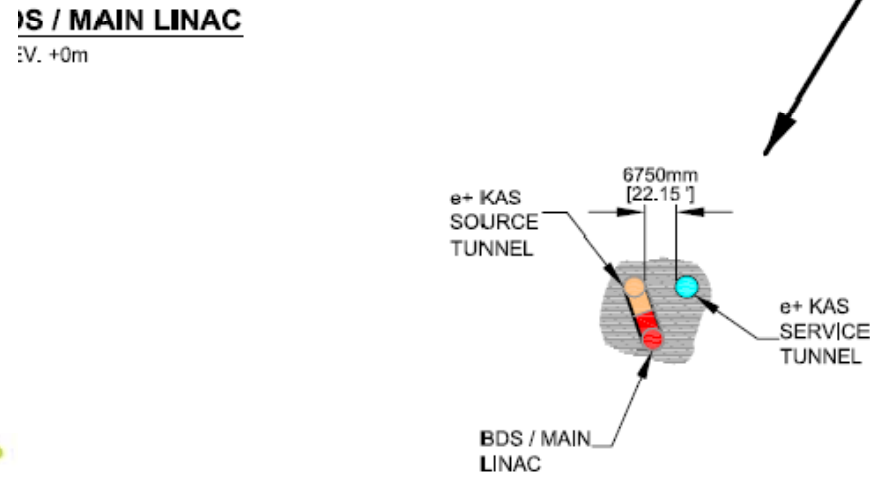
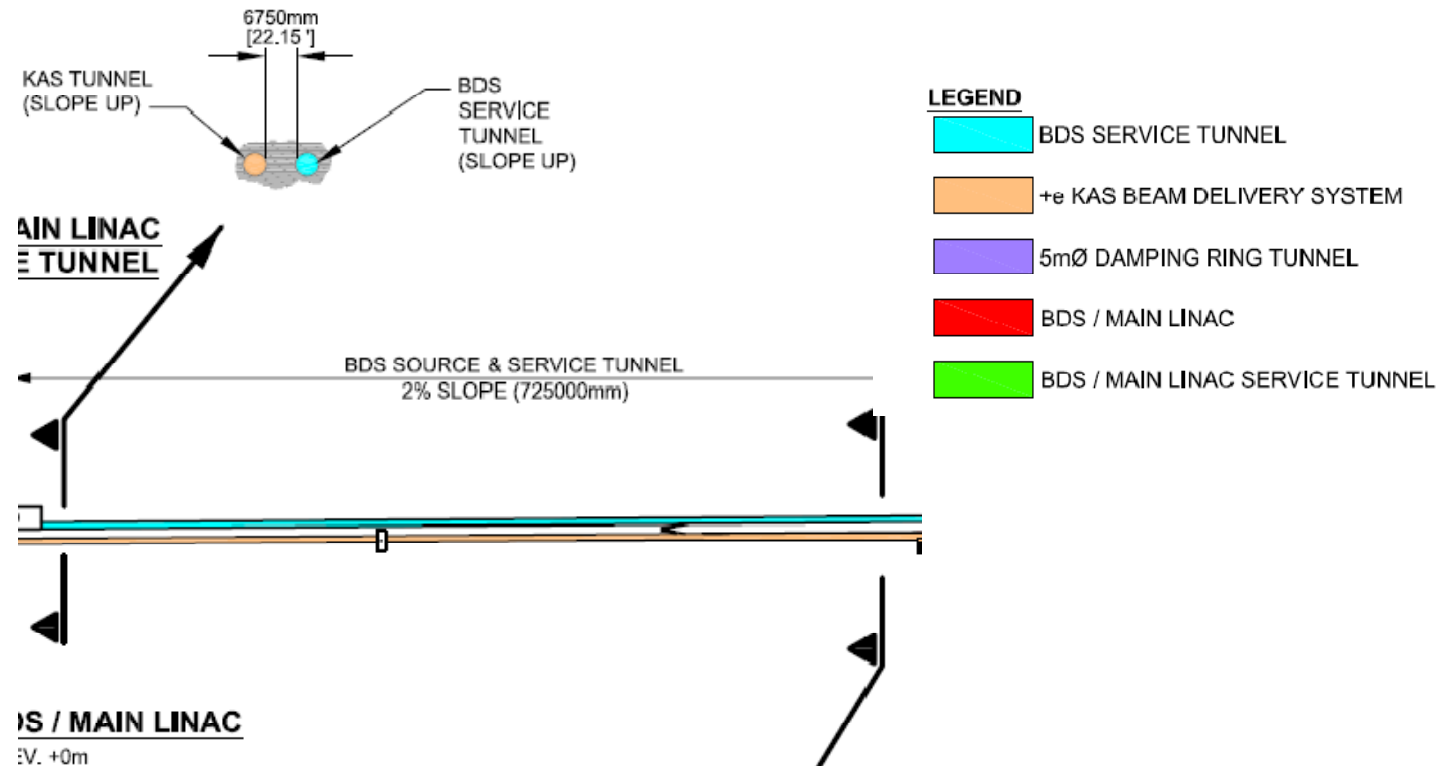
Base RDR Layout (Americas)

- LEGEND**
- BDS SERVICE TUNNEL
 - +e KAS BEAM DELIVERY SYSTEM
 - 5mØ DAMPING RING TUNNEL
 - BDS / MAIN LINAC
 - BDS / MAIN LINAC SERVICE TUNNEL





Base Layout detail



Date Event

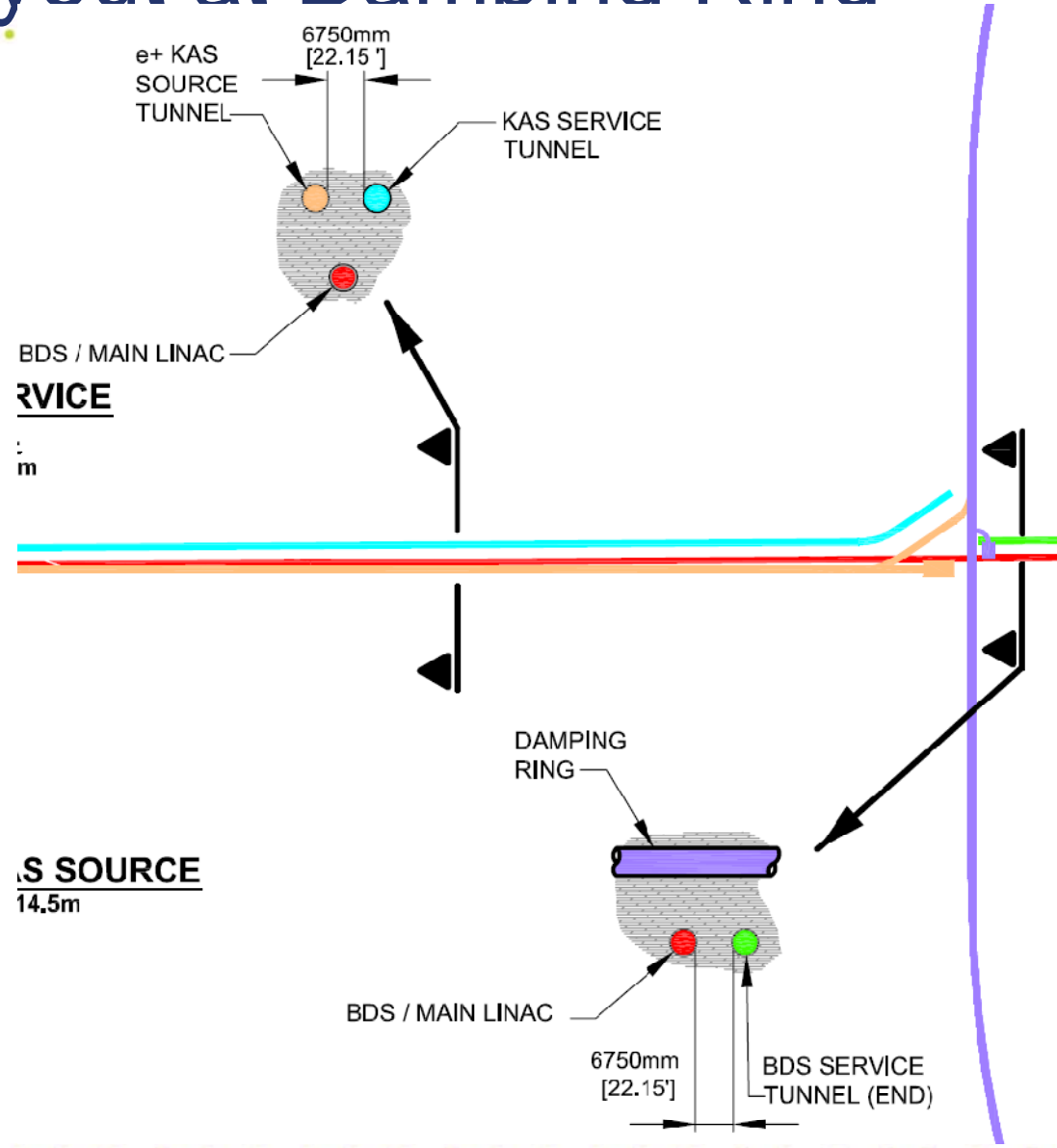
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Base Layout at Dampina Rina

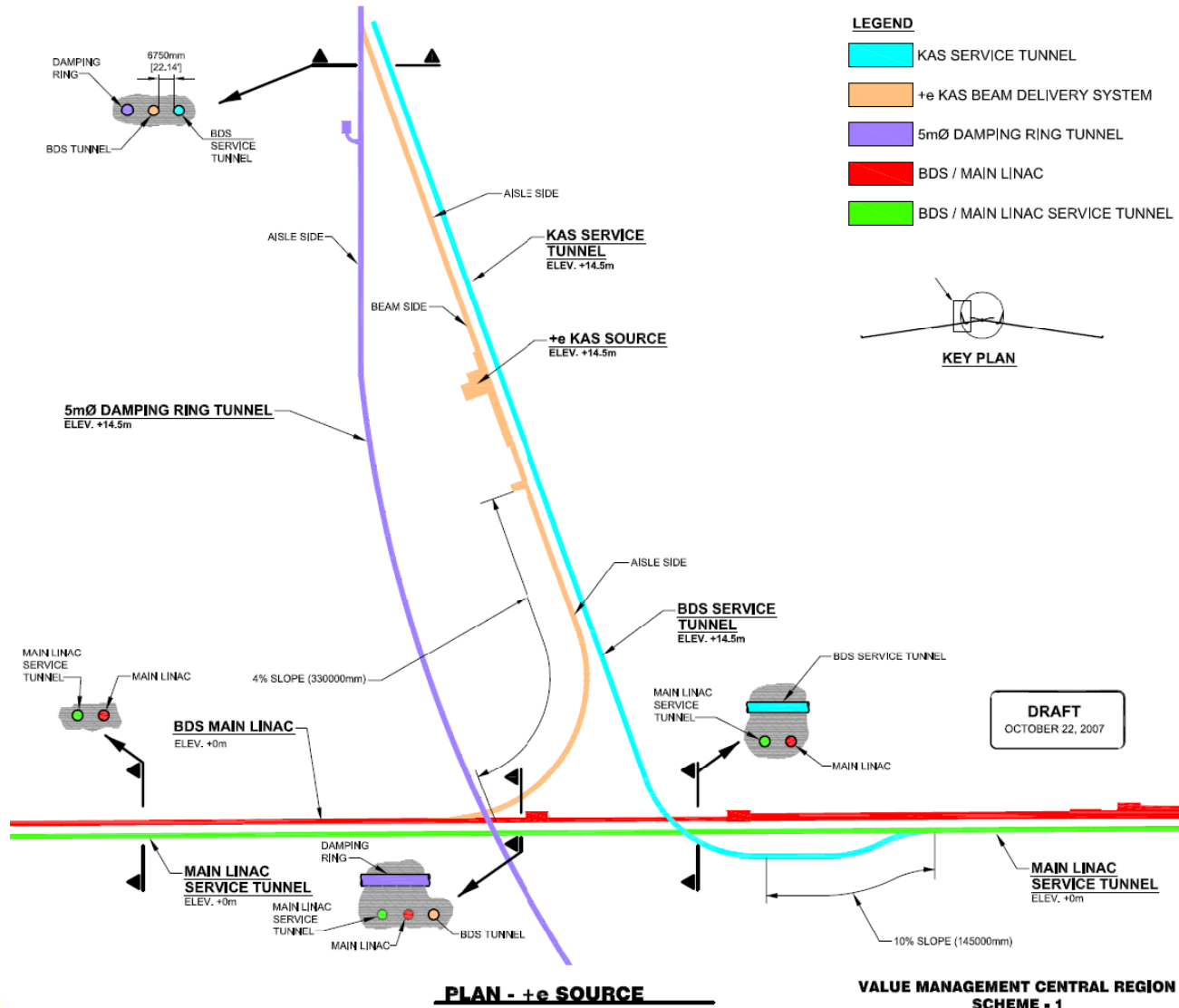
LEGEND

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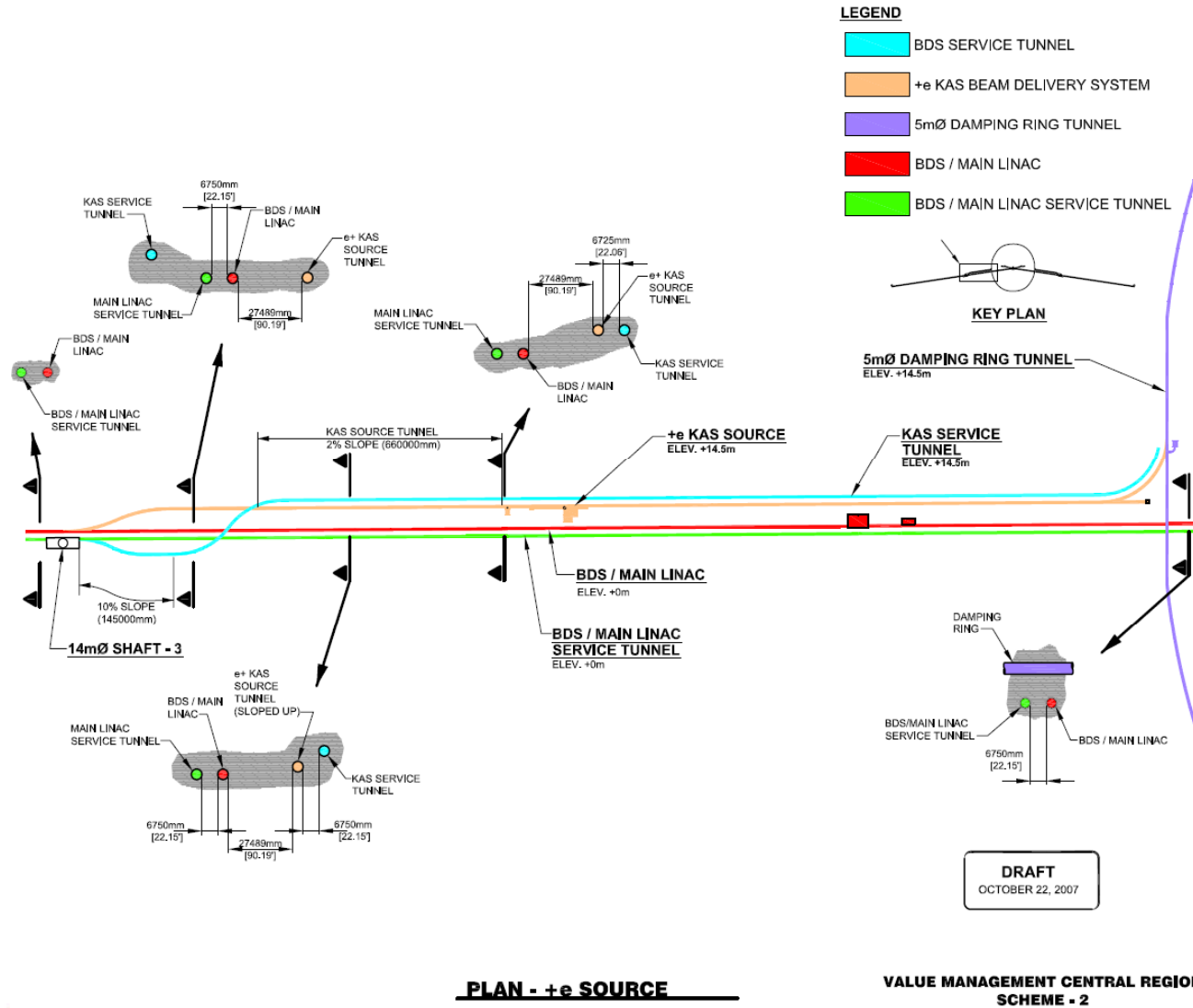


Alt. Scheme 1



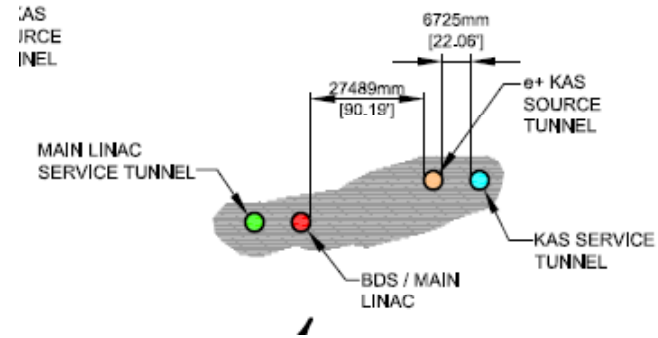
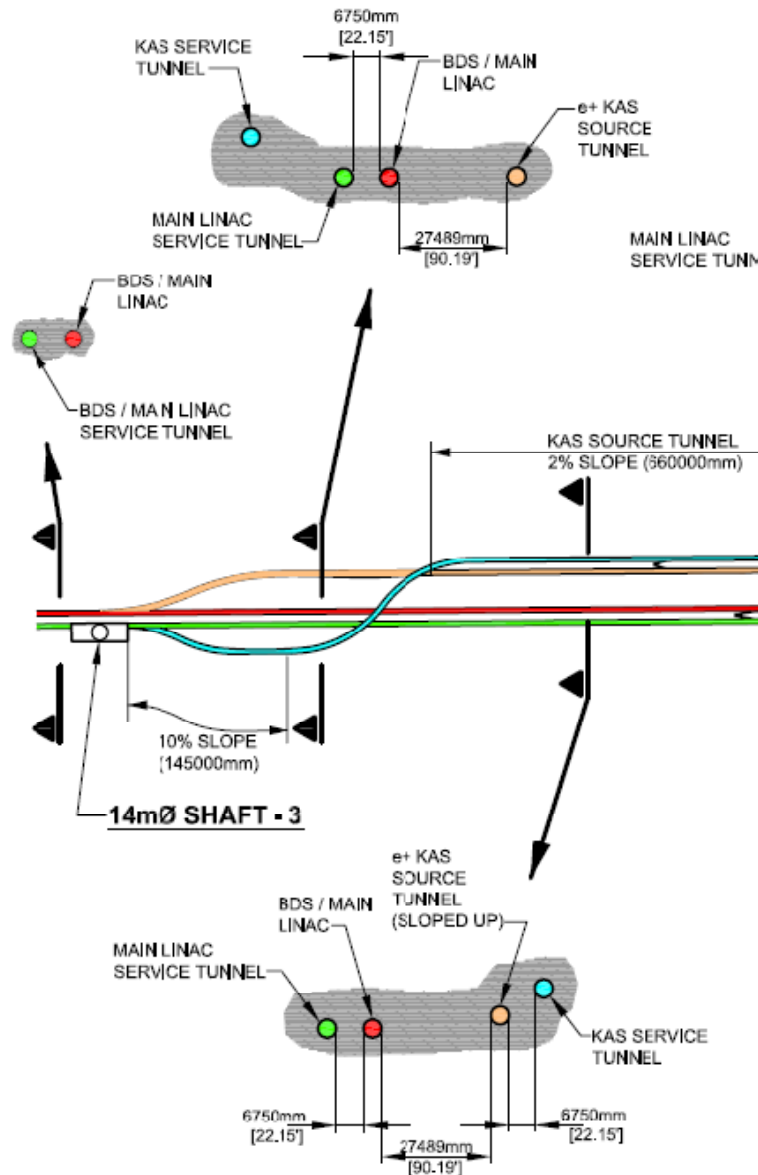


Alt Scheme 2





Detail Scheme 2







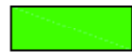
LEGEND

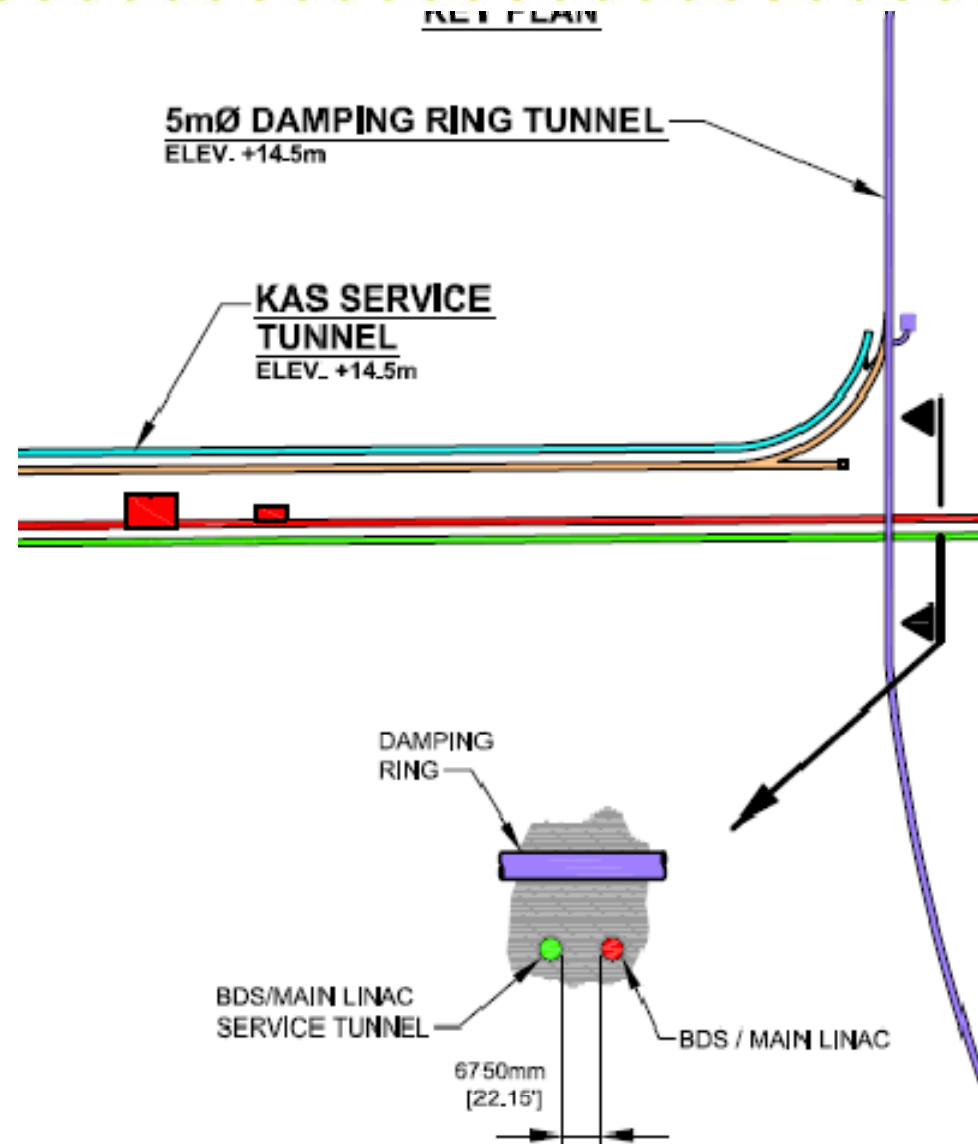
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Detail Scheme 2

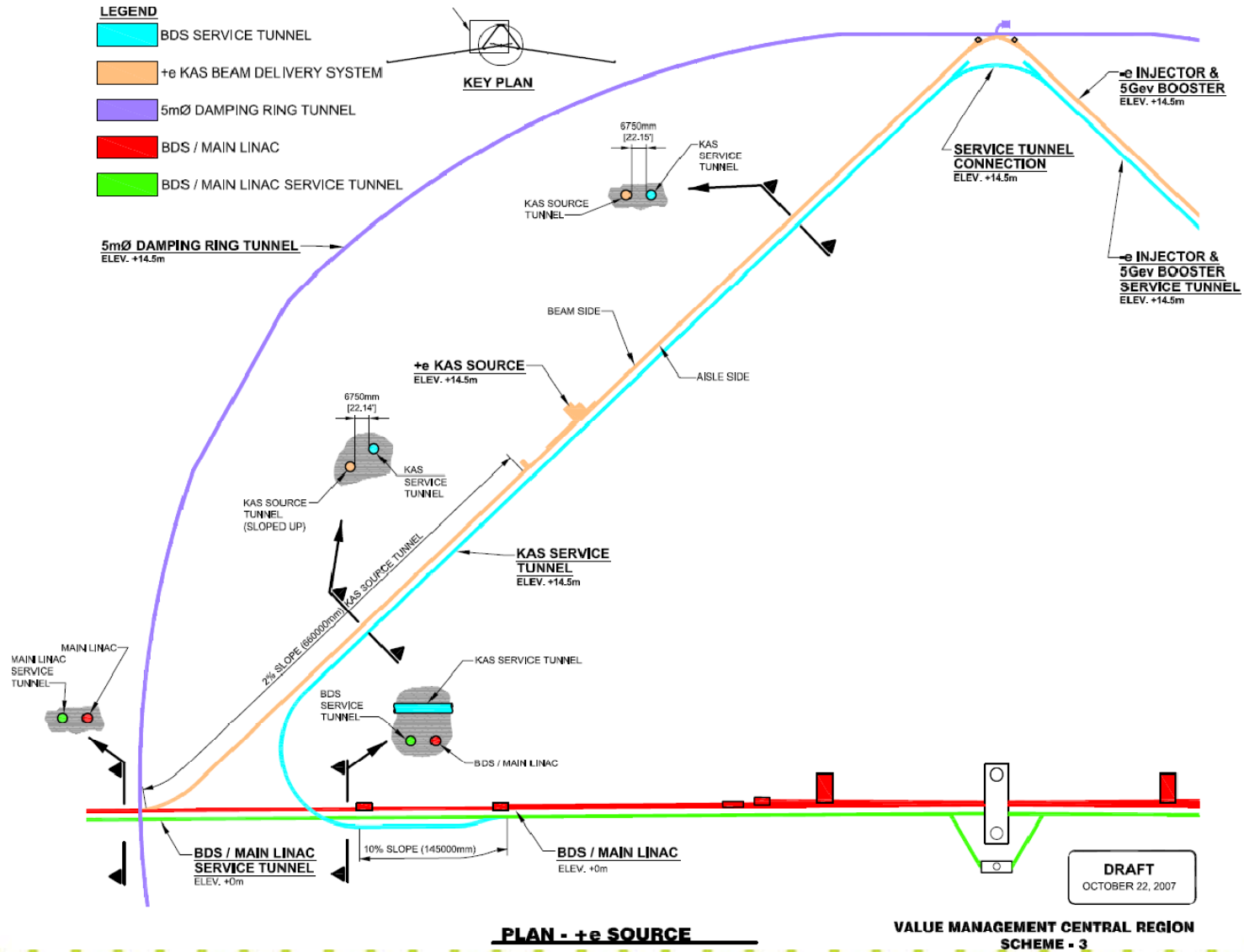
LEGEND

-  BDS SERVICE TUNNEL
-  +e KAS BEAM DELIVERY SYSTEM
-  5mØ DAMPING RING TUNNEL
-  BDS / MAIN LINAC
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Scheme 3



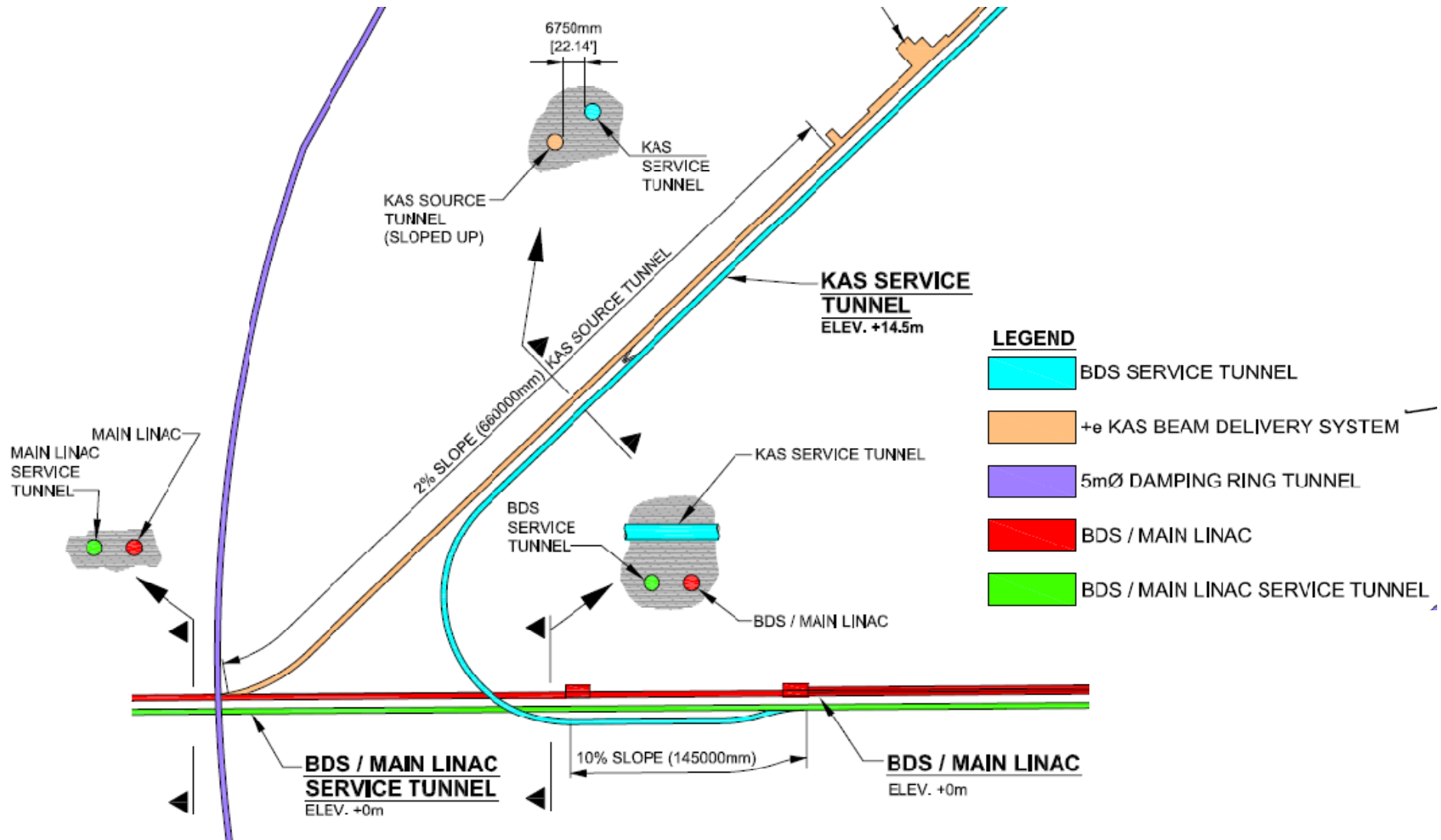
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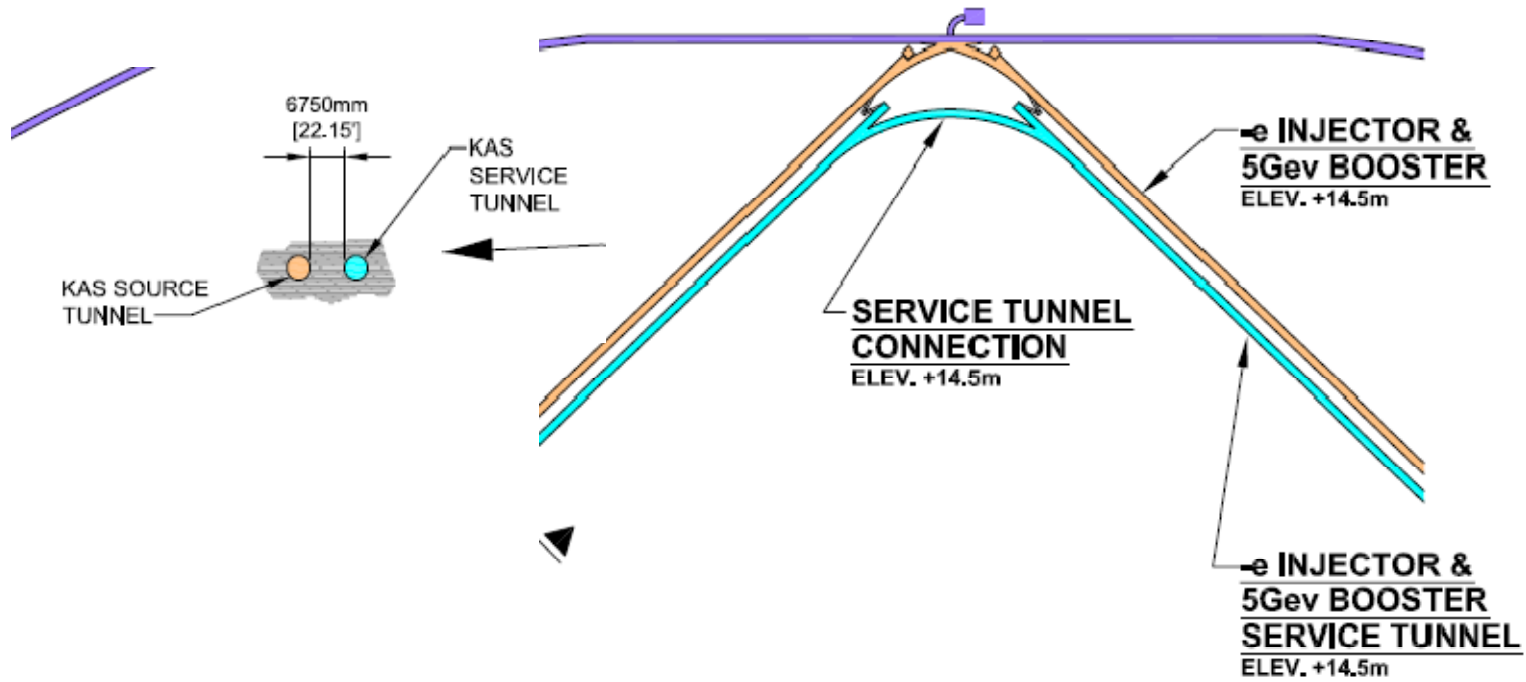


Scheme 3 Detail










Scheme 3 Detail

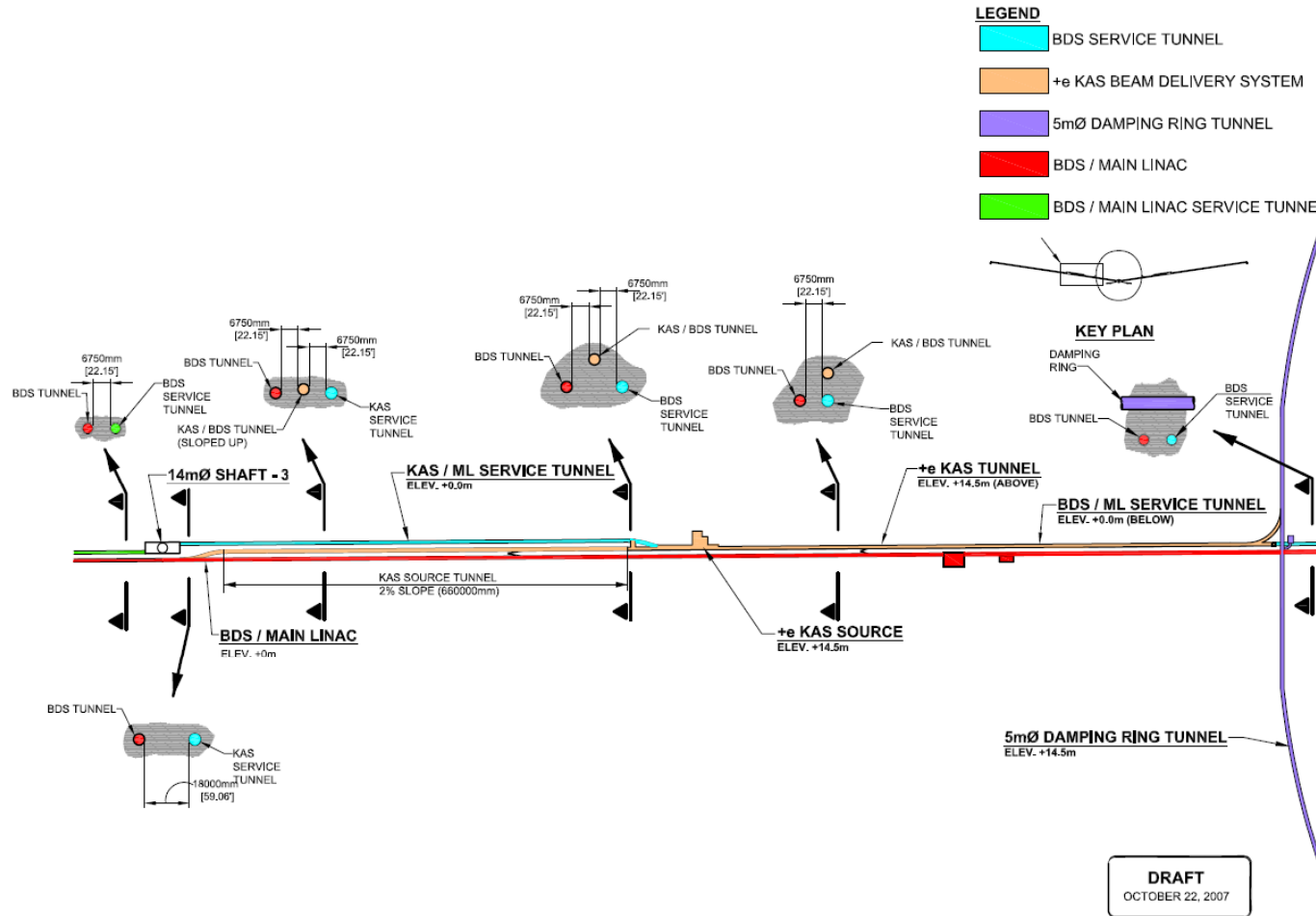


LEGEND

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-  5mØ DAMPING RING TUNNEL
-  BDS / MAIN LINAC
-  BDS / MAIN LINAC SERVICE TUNNEL



Scheme 4



PLAN - +e SOURCE

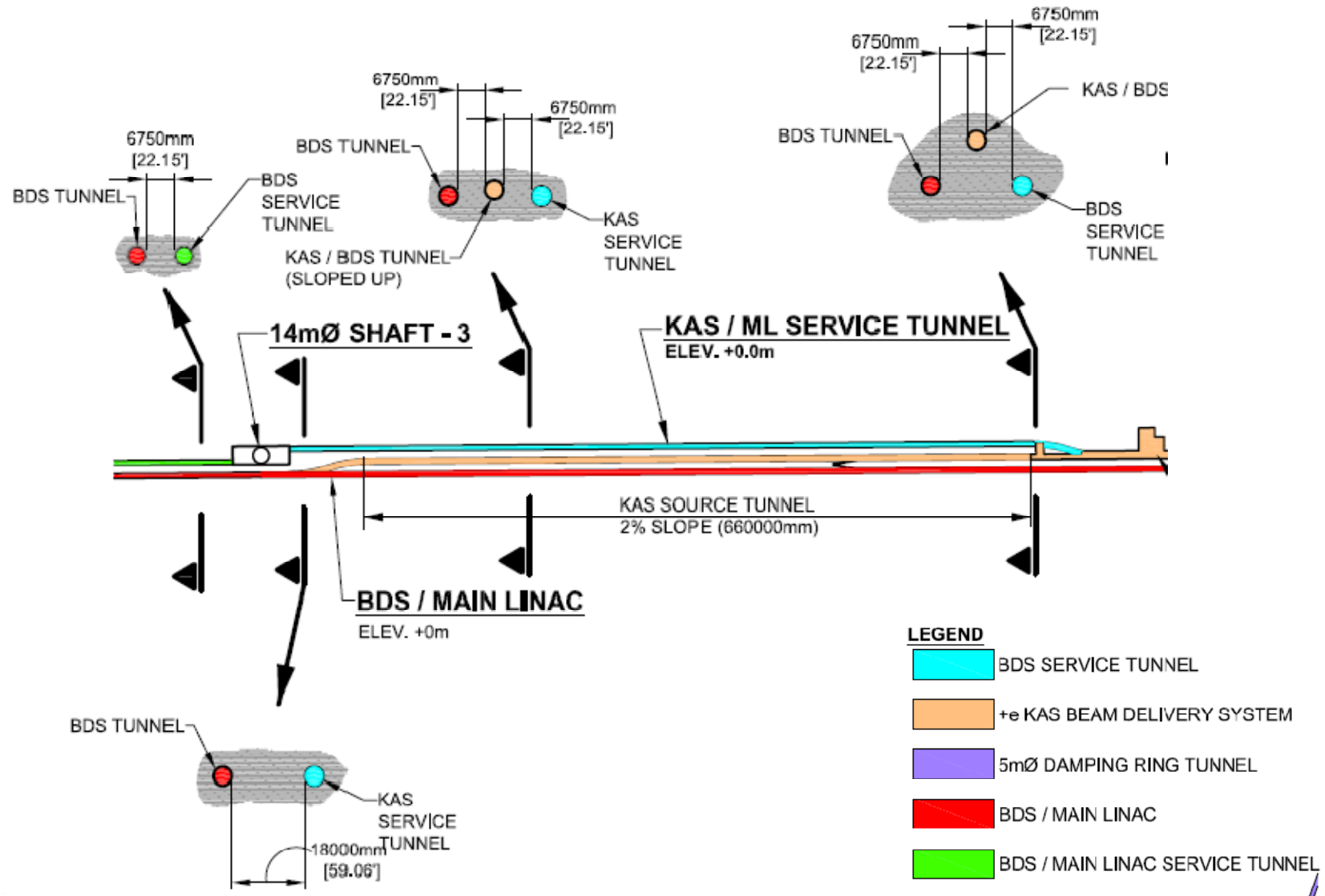
**VALUE MANAGEMENT CENTRAL REGION
SCHEME - 4**

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Scheme 4





Scheme 4

LEGEND

-  BDS SERVICE TUNNEL
-  +e KAS BEAM DELIVERY SYSTEM
-  5mØ DAMPING RING TUNNEL
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