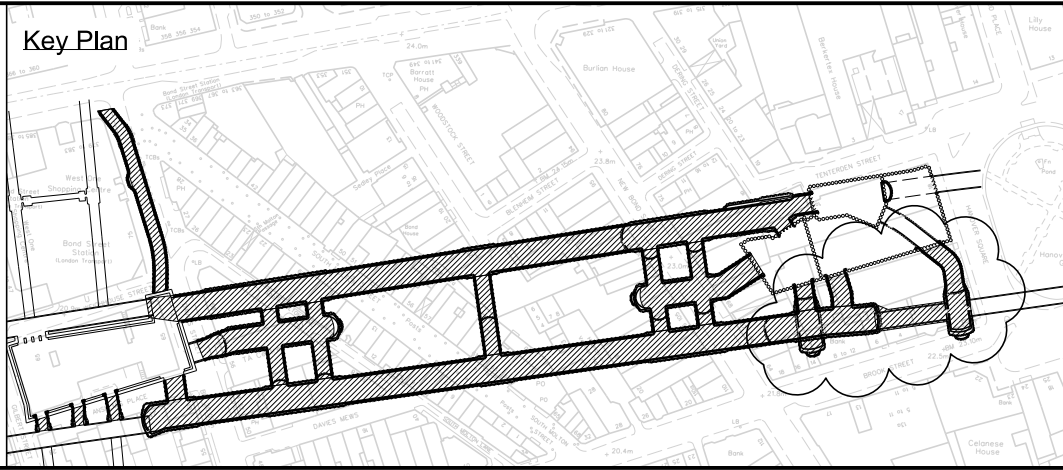


P05	27/05/2010	Draft RIBA E Issue	DC	KW	TD	
P06	15/06/2010	ITT Addendum Issue - Contract C410 - Change in assumed deformations	KK	KW	TD	
P07	22/06/2010	ITT Addendum Issue - Contract C410 - Change in assumed deformations	KK	KW	TD	
P08	05/11/2010	Draft RIBA F Issue - Internal review	IM	AP	-	
P09	17/01/2011	OCI Submission	IM	KW	TD	
P10	07/07/2011	RIBA F - CAT 3 check	DC	AP	TD	
P11	15/12/2011	RIBA F - CAT 3 check - Tolerances notes added and amended	GL	AP	TD	
C01	16/12/2011	Issued as Fit for manufacture/procurement	GL	AP	TD	DG
P12	17/05/2012	RIBA F - CAT 3 check - Checker comments incorporated	JG	AP	NT	-
C02	23/07/2012	Issued as Fit for construction	JG	AP	NT	DG
P13	05/02/2013	RIBA F - CAT 3 check - Note added, Table 1 amended, keyplan updated	AD	AP	RD	-
C03	12/02/2013	Issued as Fit for construction	AD	AP	RD	DG
Rev.	Date	Description	By	Chkd	App	Auth

Notes
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Key Plan

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Crossrail Limited
25 Canada Square
Canary Wharf
London
E14 5LQ

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www.crossrail.co.uk

Contract :
Sprayed Concrete Lining

Originator :
Mott MacDonald Limited

Location :
Bond Street Stn

Title :
**Bond Street Station
Lining Thickness, Tolerances**

CC410

Scale :
NTS@ A1

Drawing and CAD file No :
C121-MMD-C4-DDB-C125_Z-00040

Rev :
C03

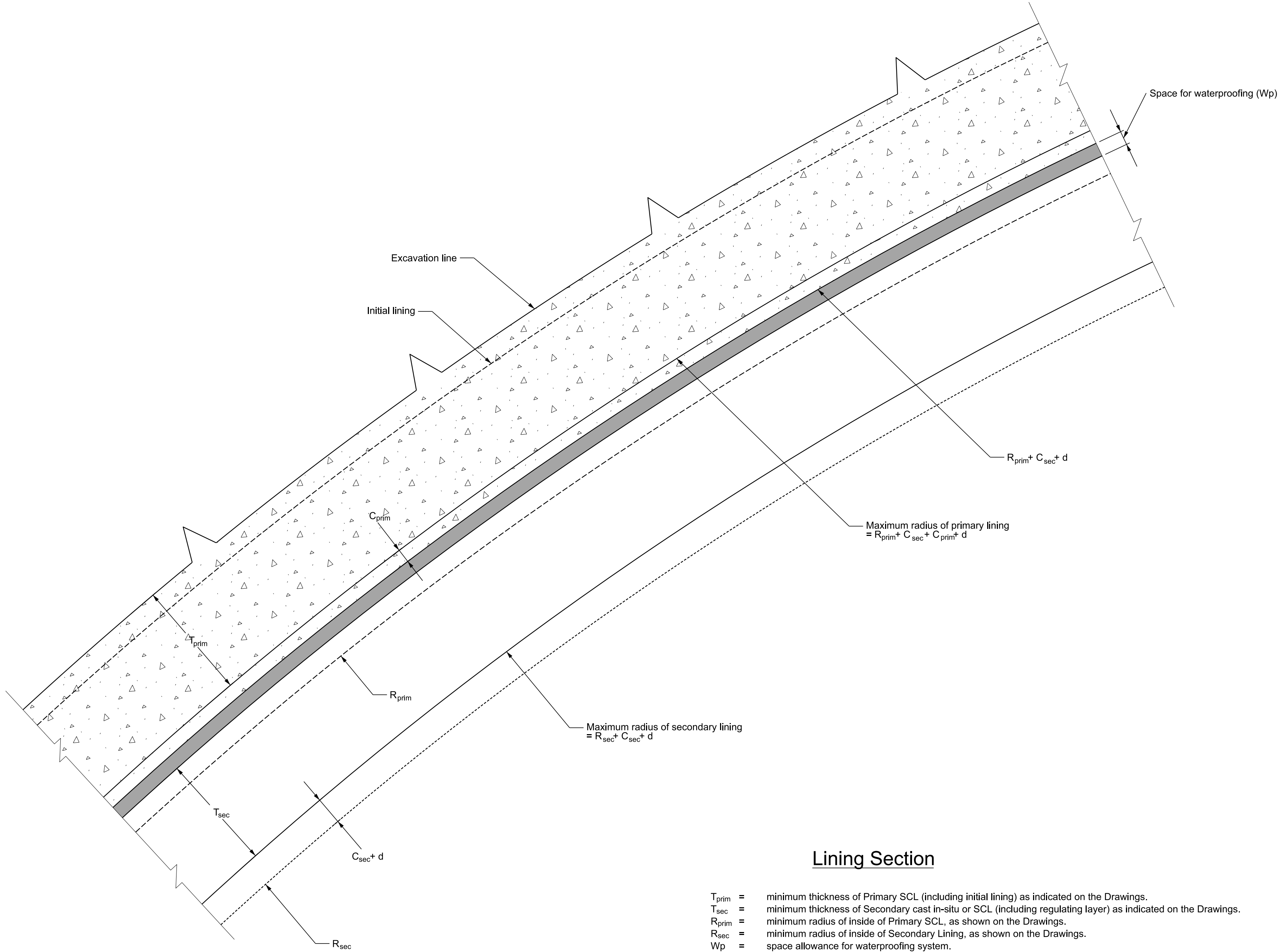
Suitability :
A

By : A.DOYLE

Chk : A.PICKETT

App : R.DIEZ

Auth : D.GOODSELL



Lining Section

- T_{prim} = minimum thickness of Primary SCL (including initial lining) as indicated on the Drawings.
- T_{sec} = minimum thickness of Secondary cast in-situ or SCL (including regulating layer) as indicated on the Drawings.
- R_{prim} = minimum radius of inside of Primary SCL, as shown on the Drawings.
- R_{sec} = minimum radius of inside of Secondary Lining, as shown on the Drawings.
- Wp = space allowance for waterproofing system, as shown on the Drawings.
- C_{sec} = construction tolerance (secondary lining).
- C_{prim} = construction tolerance (primary lining).
- c = permitted construction tolerance as shown on this Drawing.
- d = deformation allowance as shown in table 1.

- Contractor to provide minimum lining thickness shown on cross section drawings.
- Design drawings make no allowance for construction, excavation, or workmanship tolerances. Contractor to allow for appropriate tolerances in setting out excavation profile and linings.
- Construction tolerances, c , on the internal radius of primary and secondary lining shown on the drawings to be as follow up to a maximum of 100mm
+2% of design radius
-0% of design radius
- $c \leq 0.02 R$
- Linings cannot intrude within inside face of secondary lining shown on cross section drawings.
- Design drawings make no allowance for primary lining deformation. Contractor to allow for deformation as shown in table 1 in setting out excavation profile and linings.

Tunnel	Max Deformation (mm)	Max Deformation (mm) (faulted parameters see note 5.)
Tunnels > 12m Excavated width	75	N/A
Tunnels > 7m Excavated width	50	80
Tunnels < 7m Excavated width	20	70

Table 1 - Deformation Tolerances

- Maximum allowance for waterproofing system is shown on cross section drawings. Contractor to allow for actual waterproofing system thickness in setting out excavation profile and linings.
- Maximum deformation additive to construction tolerances
- The minimum thickness of Primary SCL (T_{prim}), as indicated on the Drawings, shall be provided from the Maximum radius of primary lining line ($R_{prim} + C_{sec} + d + C_{prim}$), measured from this line towards the Excavation line.
- The minimum thickness of Secondary SCL (including the regulating layer) or cast in-situ lining, (T_{sec}) as indicated on the Drawings, shall be provided from the Maximum radius of secondary lining line ($R_{sec} + C_{sec} + d$), measured from this line towards the inside of the waterproofing system.
- The Primary SCL setting out and dimensions as shown on the Drawings do not allow for tolerances and deformation allowances. The Contractor shall determine the setting out of Primary SCL based on required tolerances and specified deformation allowances.
- $C_{sec} + C_{prim} \leq c$

- Notes
- For general notes refer to drawing number C121-MMD-C4-DDJ-C125_Z-00001.
 - Coordinates to the London Survey Grid, heights to the London height datum which is 100 metres below Ordnance Datum Newlyn. See Crossrail standard CR-STD-010.
 - All dimensions are in millimetres unless specified otherwise.
 - There is no SHE box shown on this drawing as the designer has reviewed the relevant risks and consider that there are no significant or unusual, location specific risks which are not obvious to a competent contractor or other designers, or likely to be difficult to manage effectively.
 - Site investigation carried out in the area suggests that "faulted ground" might be encountered west of chainage 3880. During excavation the contractor shall monitor the excavation to be able to determine whether "faulted ground" is encountered.

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Reference Drawings

C121-MMD-C4-DDJ-C125_Z-00001 - General Notes.

Reference Documents

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