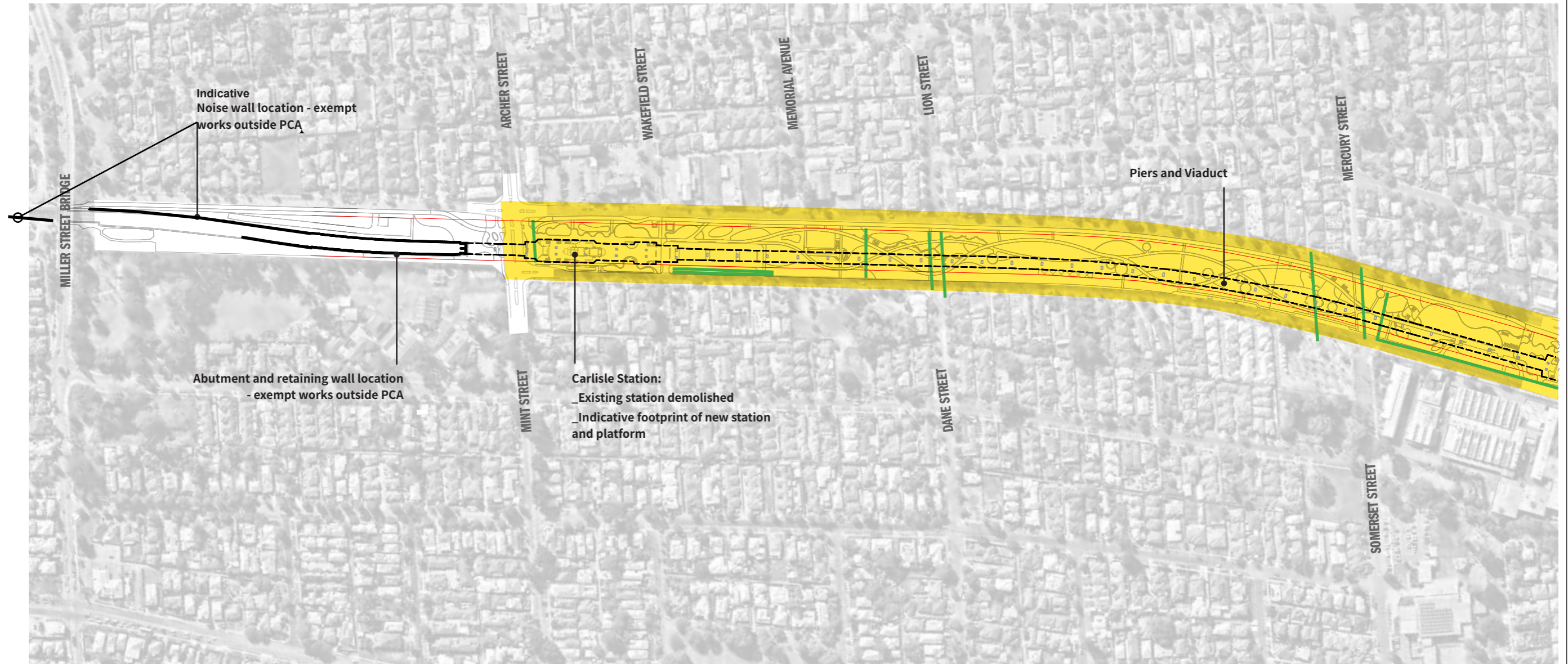


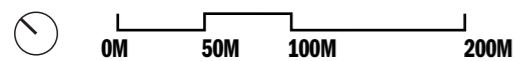
Appendix F – Civil Structures and Viaduct Drawings (Plans, Elevations, Typical Sections)

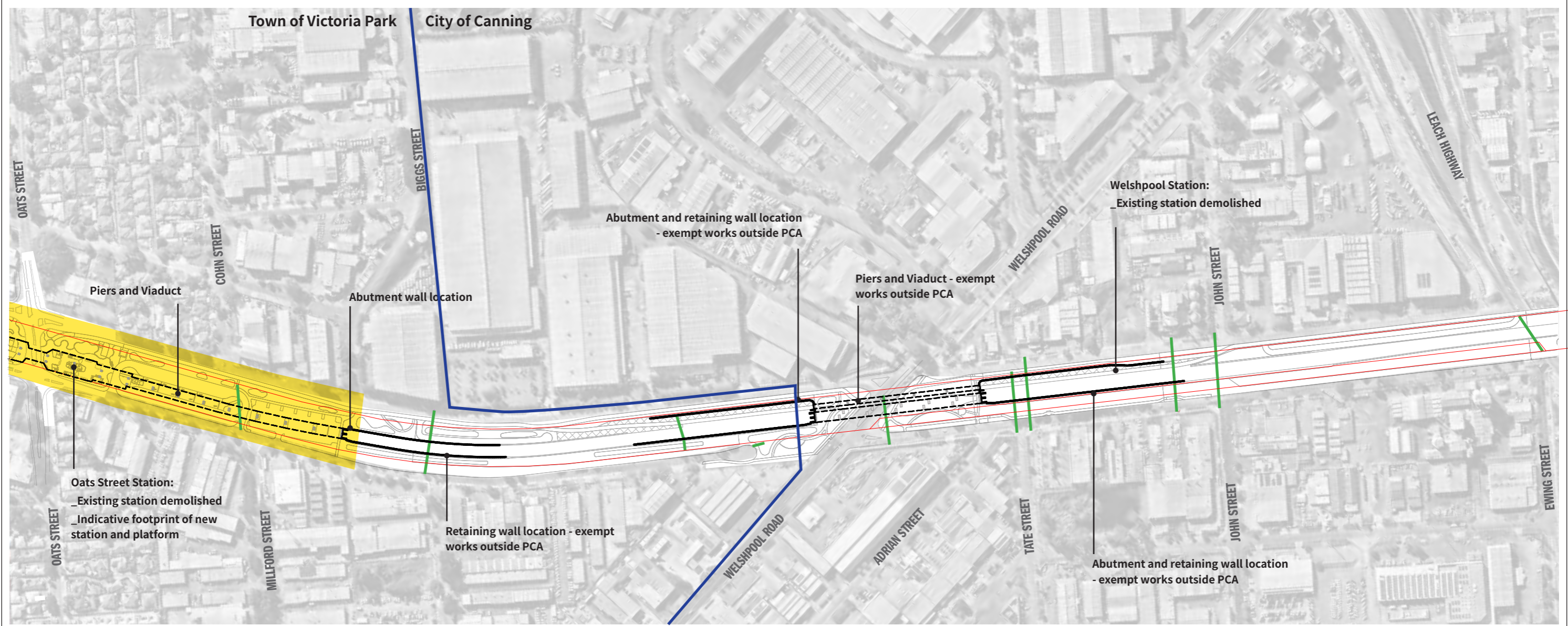
DA1 MASTER PLAN

Oats Street Package



- Planning Control Area (PCA)
- LGA Boundary
- Rail Corridor Boundary
- Services requiring relocation (indicative only)



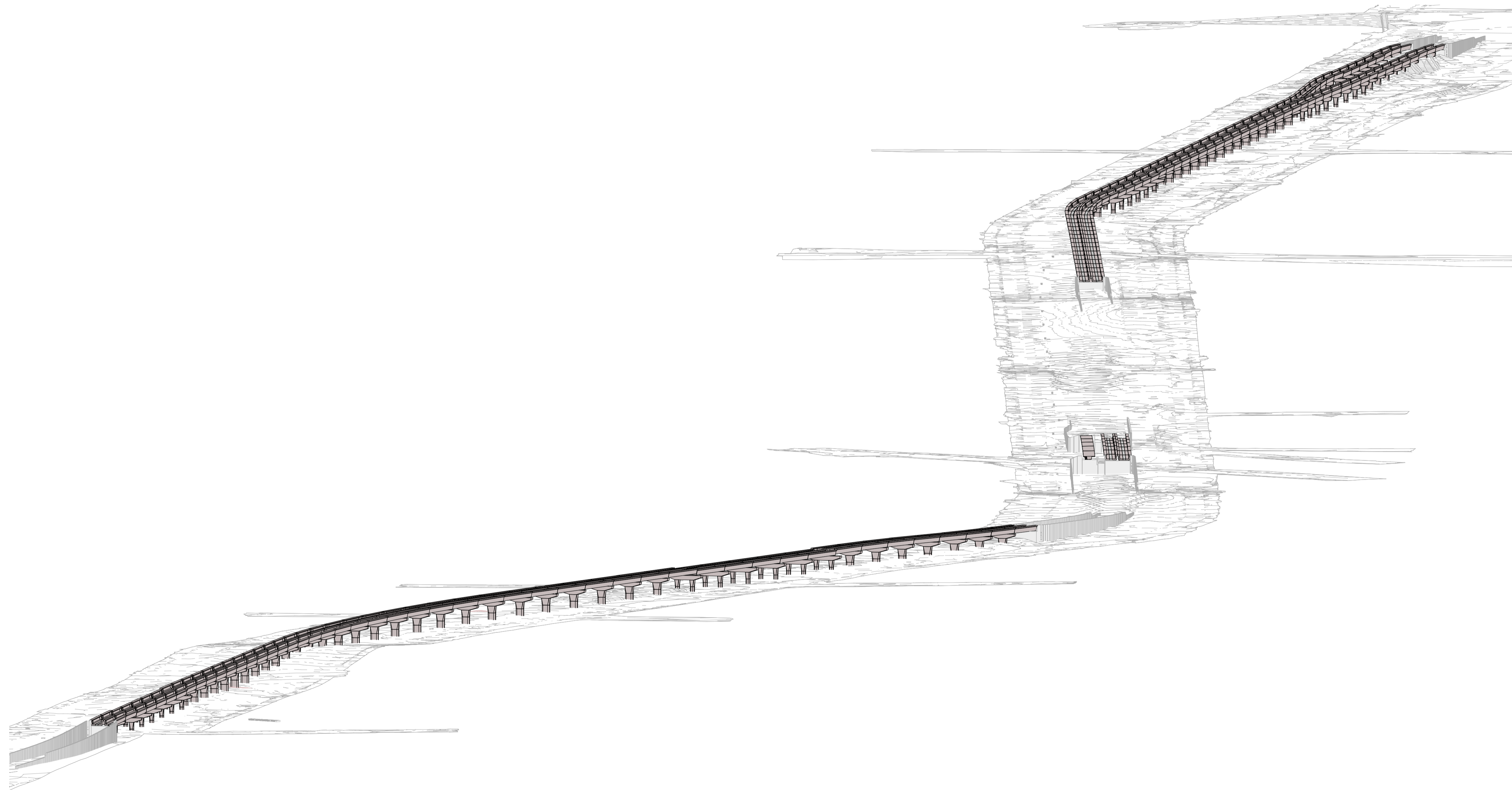




VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL

ZONE 0 - CIVIL STRUCTURES

PROJECT WIDE - VIADUCT



REFERENCE DESIGN

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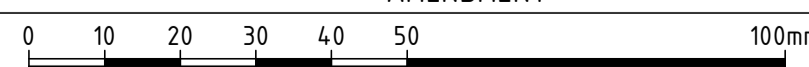
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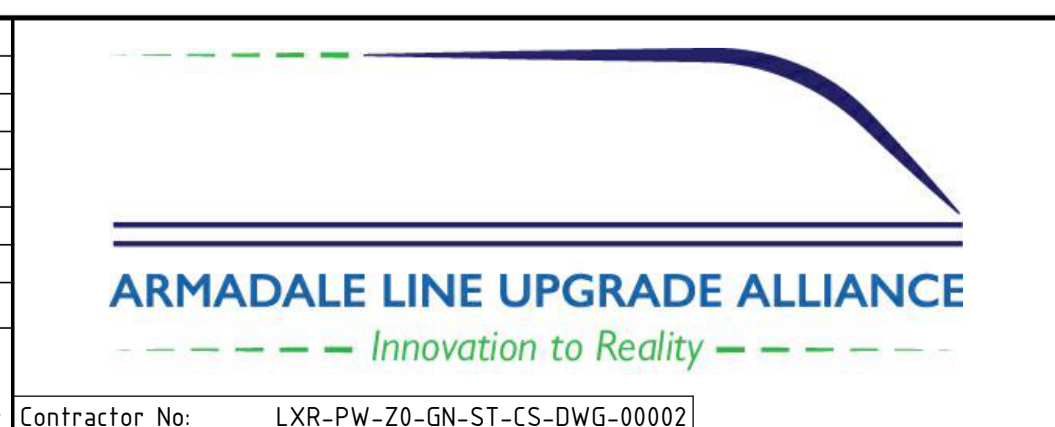
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DATUM	
HORIZONTAL:	PCG20
VERTICAL:	AHD71

DESIGNED	C.CHANG
DRAWN	L.RADICI
CHECKED	R.PEYILA
APPROVED	W.SCHWARZ
DATE	21.06.2022

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
ZONE 0 - CIVIL STRUCTURES PROJECT WIDE - VIADUCT COVER SHEET	
PTA Drawing No: 04-S-169-0001	Rev: A

DRAWING LIST			
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A	LXR-PW-Z0-GN-ST-CS-DWG-00002	04-S-169-0002	PROJECT WIDE - VIADUCT - DRAWING INDEX - SHEET 1
A	LXR-PW-Z0-GN-ST-CS-DWG-00005	04-S-169-0004	PROJECT WIDE - VIADUCT - LOCALITY PLAN - SHEET 1
A	LXR-PW-Z0-GN-ST-CS-DWG-00101	04-S-169-0009	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 1
A	LXR-PW-Z0-GN-ST-CS-DWG-00102	04-S-169-0010	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 2
A	LXR-PW-Z0-GN-ST-CS-DWG-00103	04-S-169-0011	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 3
A	LXR-PW-Z0-GN-ST-CS-DWG-00104	04-S-169-0012	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 4
A	LXR-PW-Z0-GN-ST-CS-DWG-00105	04-S-169-0013	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 5
A	LXR-PW-Z0-GN-ST-CS-DWG-00106	04-S-169-0014	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 6
A	LXR-PW-Z0-GN-ST-CS-DWG-00107	04-S-169-0015	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 7
A	LXR-PW-Z0-GN-ST-CS-DWG-00108	04-S-169-0016	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 8
A	LXR-PW-Z0-GN-ST-CS-DWG-00109	04-S-169-0017	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 9
A	LXR-PW-Z0-GN-ST-CS-DWG-00110	04-S-169-0018	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 10
A	LXR-PW-Z0-GN-ST-CS-DWG-00111	04-S-169-0019	PROJECT WIDE - VIADUCT - PLAN AND ELEVATION - SHEET 11
A	LXR-PW-Z0-GN-ST-CS-DWG-00121	04-S-169-0024	PROJECT WIDE - VIADUCT - SECTIONS - SHEET 1
A	LXR-PW-Z0-GN-ST-CS-DWG-00122	04-S-169-0025	PROJECT WIDE - VIADUCT - SECTIONS - SHEET 2
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A	LXR-PW-Z0-GN-ST-CS-DWG-00124	04-S-169-0027	PROJECT WIDE - VIADUCT - SECTIONS - SHEET 4
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A	LXR-PW-Z0-GN-ST-CS-DWG-00127	04-S-169-0030	PROJECT WIDE - VIADUCT - SECTIONS - SHEET 7


REV	DATE	ISSUED FOR REFERENCE DESIGN	CC	LR	RP	WS
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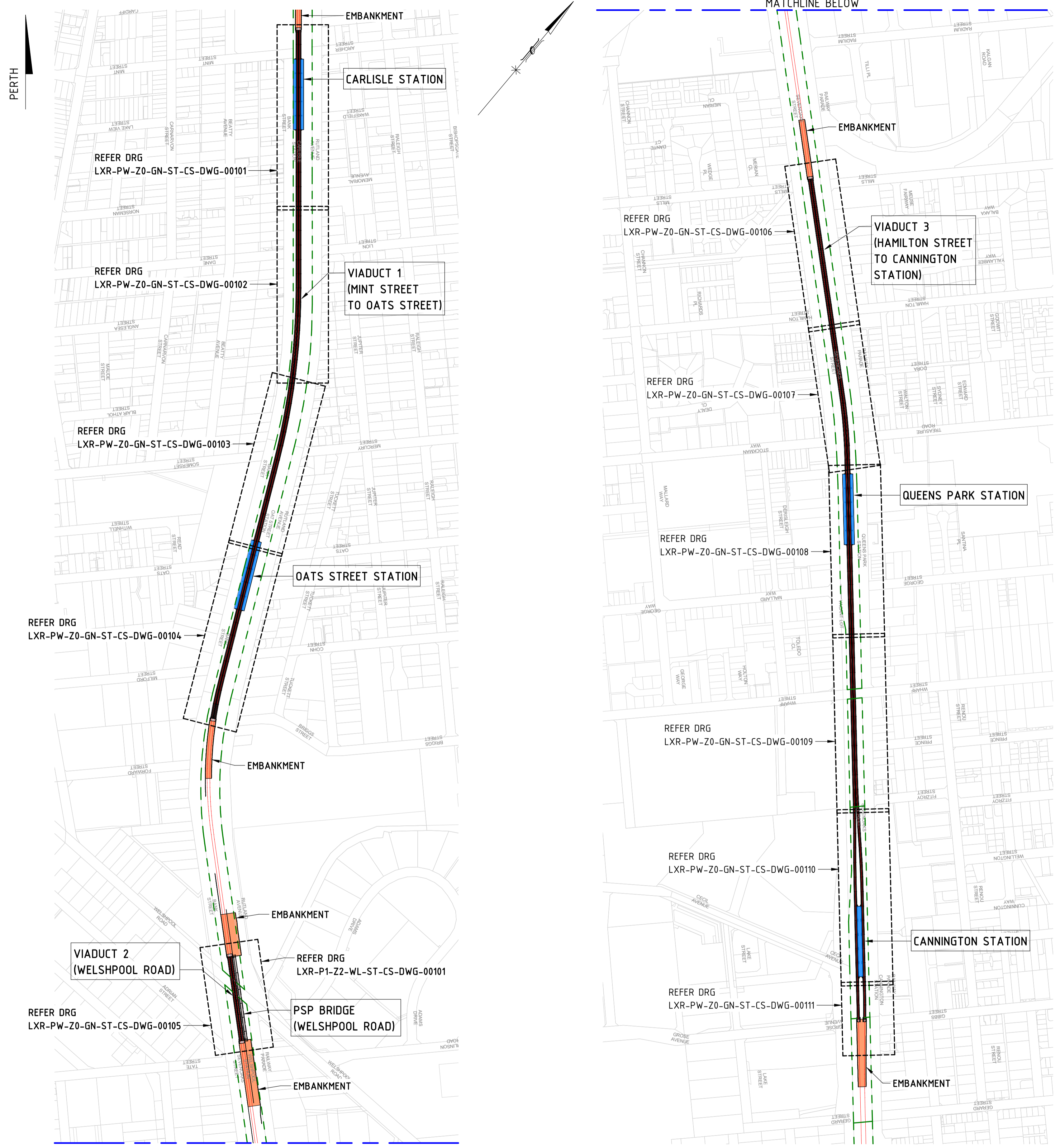


VALIDATION
SIGNATURE
DATE
DATE APPROVED

REFERENCES
SCALE
DATUM
HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED	C.CHANG
DRAWN	L.RADICI
CHECKED	R.PEYILA
APPROVED	W.SCHWARZ
DATE	21.06.2022

REFERENCE DESIGN	
	
VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL	
ZONE 0 - CIVIL STRUCTURES PROJECT WIDE - VIADUCT DRAWING INDEX - SHEET 1	
PTA Drawing No: 04-S-169-0002	Rev: A

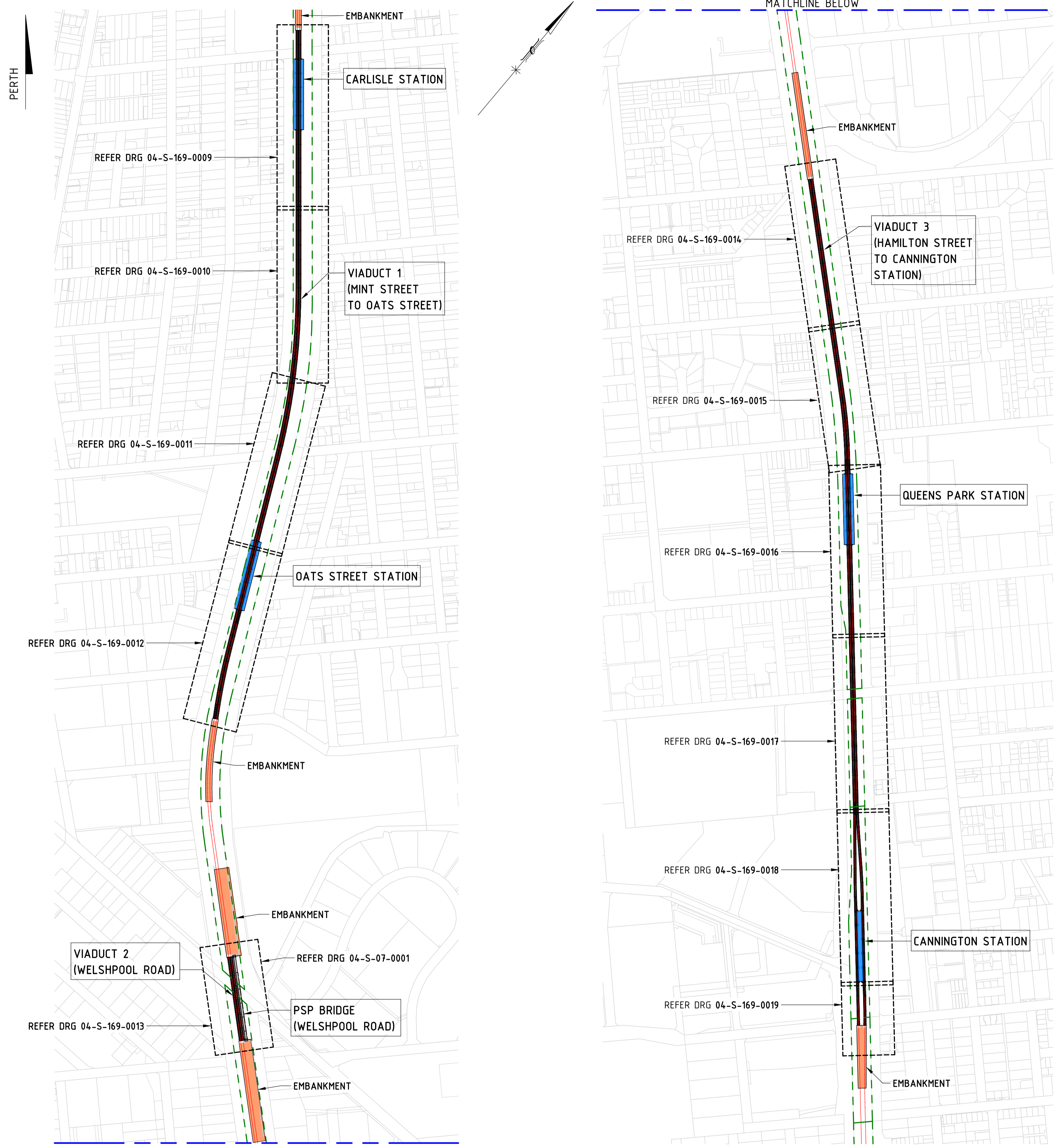


LOCALITY PLAN
SCALE 1 : 5000

- LEGEND:
- VIADUCT / PSP BRIDGE
 - EMBANKMENT
 - STATION
 - RAIL ALIGNMENT
 - RAIL RESERVE BOUNDARY

REFERENCE DESIGN	
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT LOCALITY PLAN PTA Drawing No: 00004	
DESIGNED: C.CHANG DRAWN: L.RADICI CHECKED: R.PEYILA APPROVED: W.SCHWARZ DATE: 12.05.2022	Rev: A01

A01	12.05.22	ISSUED FOR 15% INTERNAL REFERENCE DESIGN	CC	LR	RP	WS			
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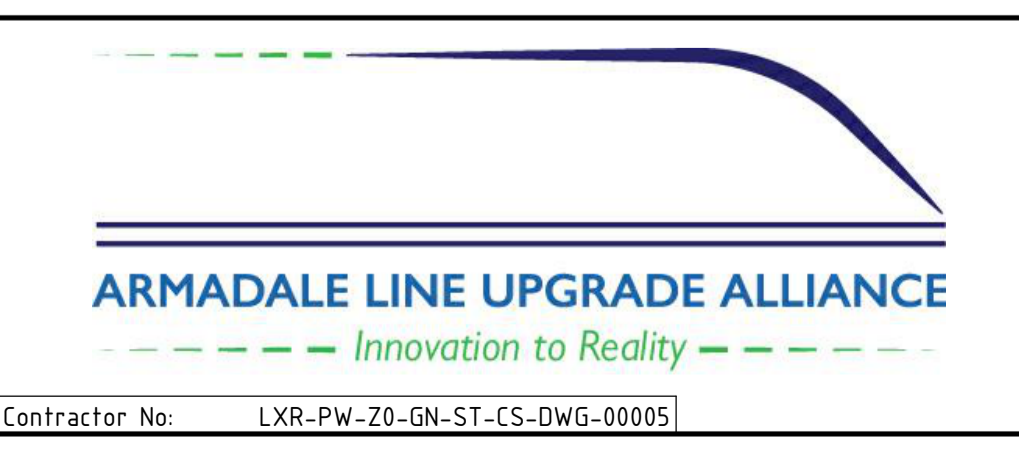


LOCALITY PLAN
SCALE 1 : 5000

- LEGEND:
- VIADUCT / PSP BRIDGE
 - EMBANKMENT
 - STATION
 - RAIL ALIGNMENT
 - RAIL RESERVE BOUNDARY

REFERENCE DESIGN	
DESIGNED	C.CHANG
DRAWN	L.RADICI
CHECKED	R.PEYILA
APPROVED	W.SCHWARZ
DATE	21.06.2022
VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL ZONE 0 - CIVIL STRUCTURES PROJECT WIDE - VIADUCT LOCALITY PLAN - SHEET 1 PTA Drawing No: 04-S-169-0004 Rev: A	

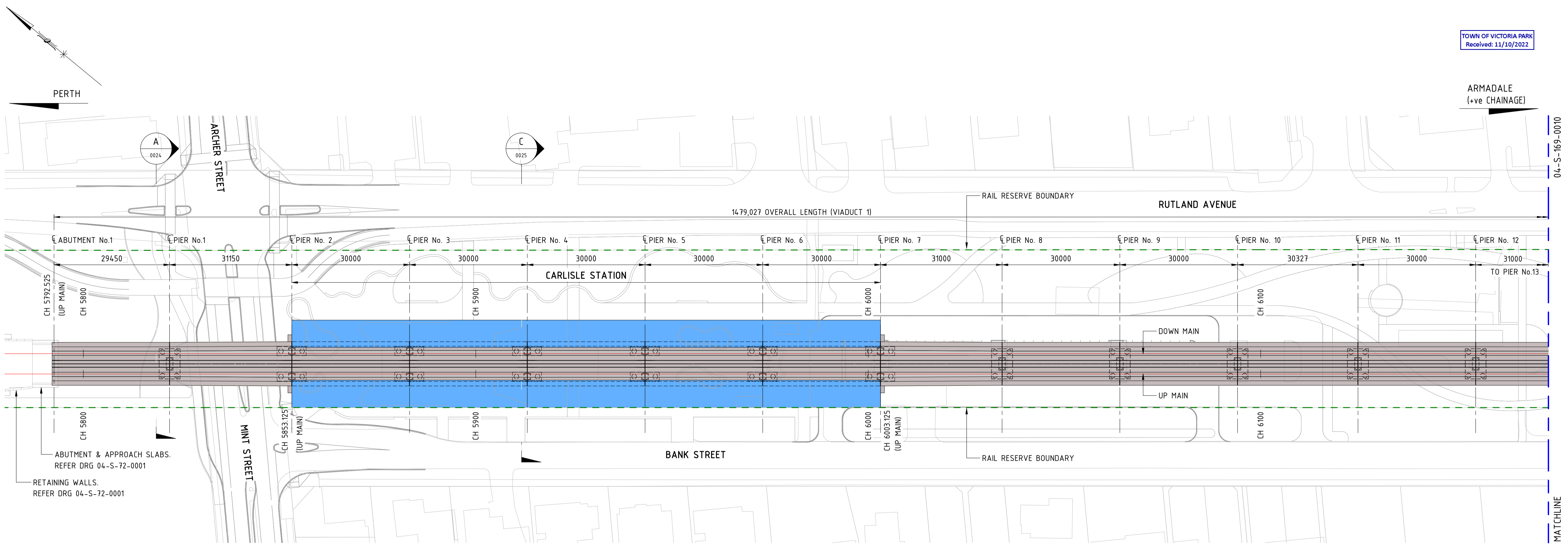
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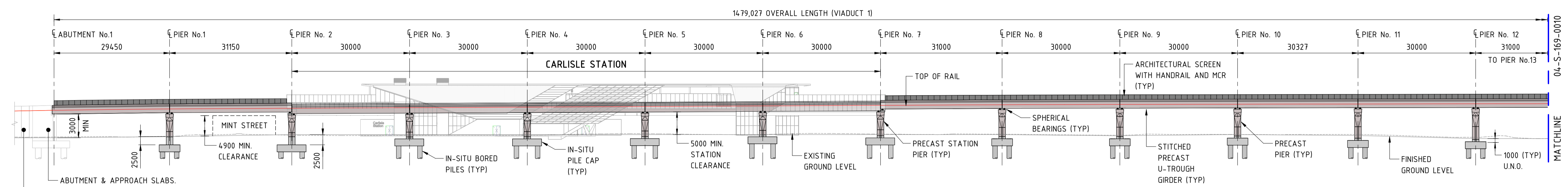
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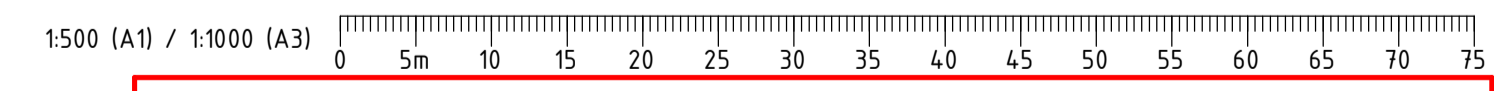
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SCALE 1 : 500



VIADUCT 1 ELEVATION - MINT STREET TO OATS STREET
SCALE 1 : 500

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS & CHAINAGES ARE IN METERS.
 3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
 4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
 5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
 6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.

- LEGEND:**
- VIADUCT
 - STATION PLATFORM
 - RAIL ALIGNMENT
 - RAIL RESERVE BOUNDARY



REFERENCE DESIGN

Government of Western Australia
Public Transport Authority

VICTORIA PARK TO CANNING
LEVEL CROSSING REMOVAL

ZONE 0 - CIVIL STRUCTURES
PROJECT WIDE - VIADUCT
PLAN AND ELEVATION - SHEET 1
PTA Drawing No: 04-S-169-0009

Rev: A

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A	21.06.22	ISSUED FOR REFERENCE DESIGN				

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ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00101

VALIDATION

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SCALE

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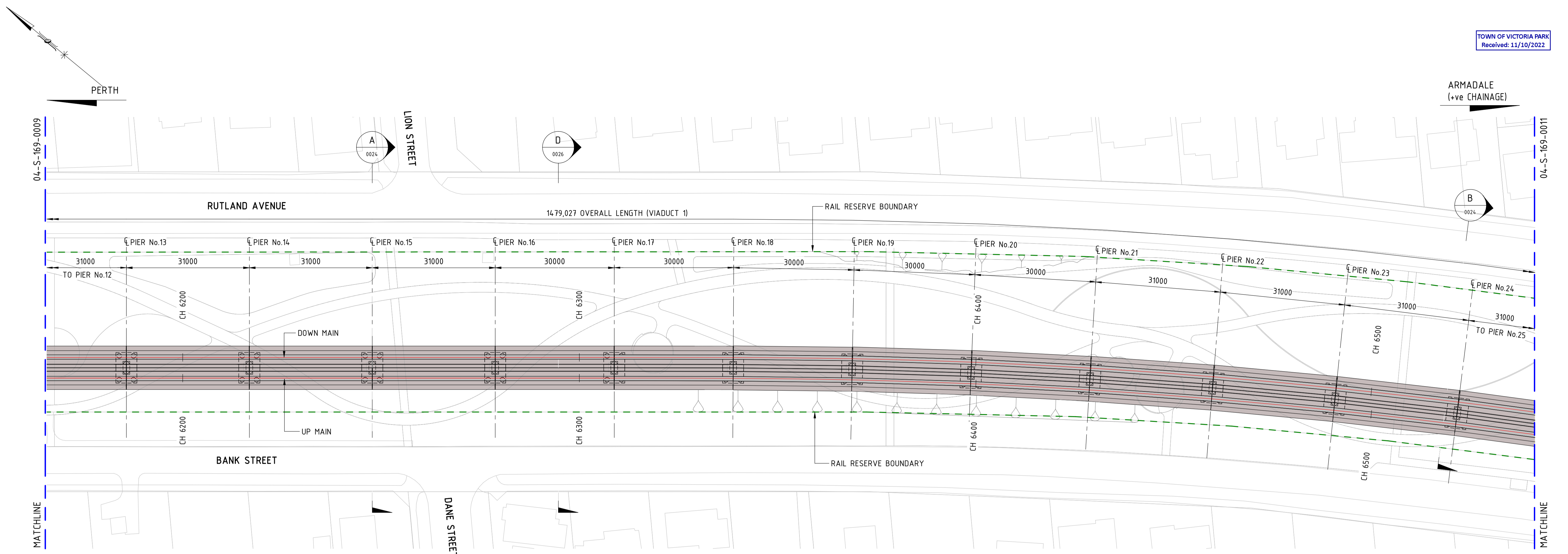
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DRAWN L.RADICI

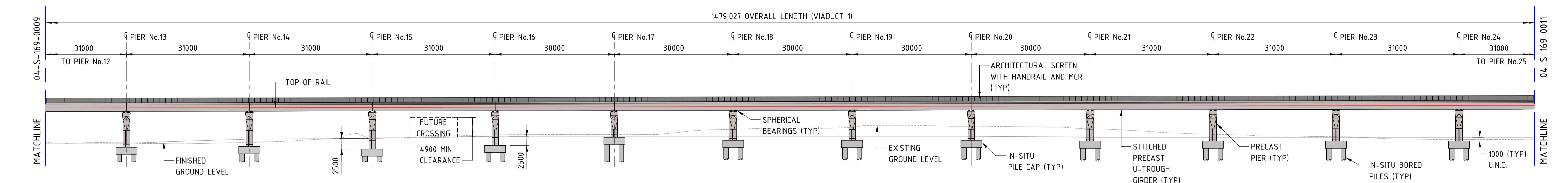
CHECKED R.PEYILA

APPROVED W.SCHWARZ

DATE 21.06.2022

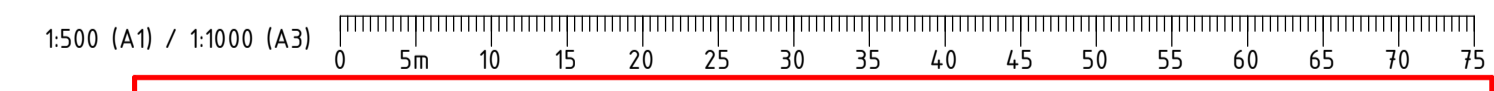


VIADUCT 1 PLAN - MINT STREET TO OATS STREET
SCALE 1 : 500



VIADUCT 1 ELEVATION - MINT STREET TO OATS STREET
SCALE 1 : 500

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS & CHAINAGES ARE IN METERS.
 3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
 4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
 5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
 6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.
- LEGEND:**
- VIADUCT
 - STATION PLATFORM
 - RAIL ALIGNMENT
 - RAIL RESERVE BOUNDARY



REFERENCE DESIGN

Government of Western Australia
Public Transport Authority

VICTORIA PARK TO CANNING
LEVEL CROSSING REMOVAL

ZONE 0 - CIVIL STRUCTURES
PROJECT WIDE - VIADUCT
PLAN AND ELEVATION - SHEET 2
PTA Drawing No: 04-S-169-0010

Rev: A

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ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

VALIDATION

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REFERENCES

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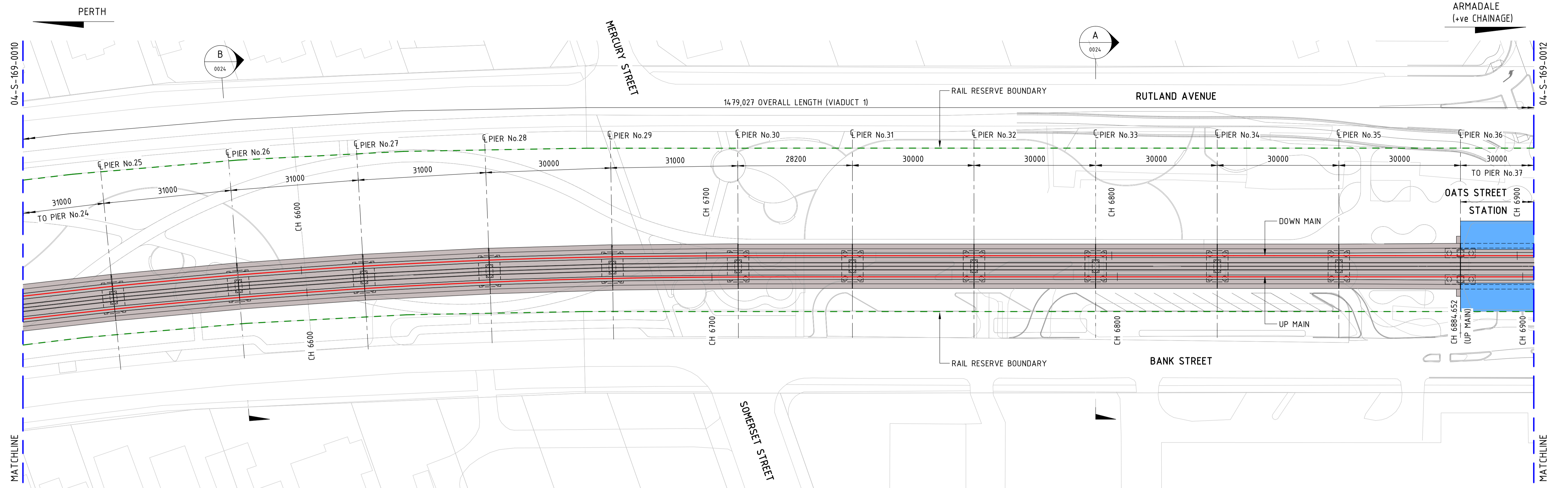
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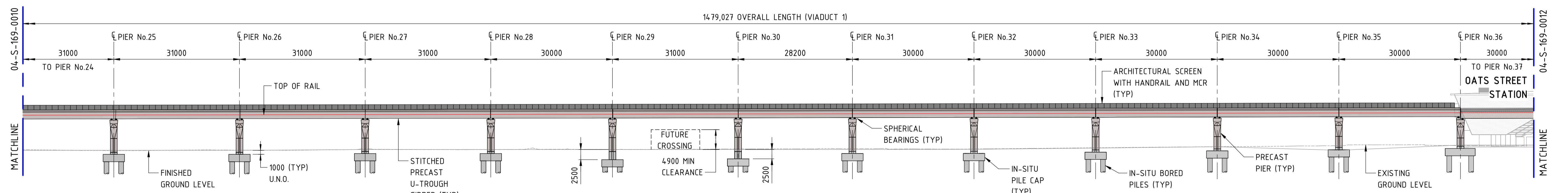
CHECKED R.PEYILA

APPROVED W.SCHWARZ

DATE 21.06.2022



VIADUCT 1 PLAN - MINT STREET TO OATS STREET
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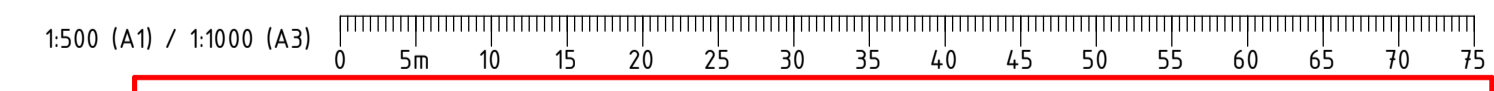


VIADUCT 1 ELEVATION - MINT STREET TO OATS STREET
SCALE 1 : 500

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS & CHAINAGES ARE IN METERS.
 3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
 4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
 5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
 6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.

LEGEND:

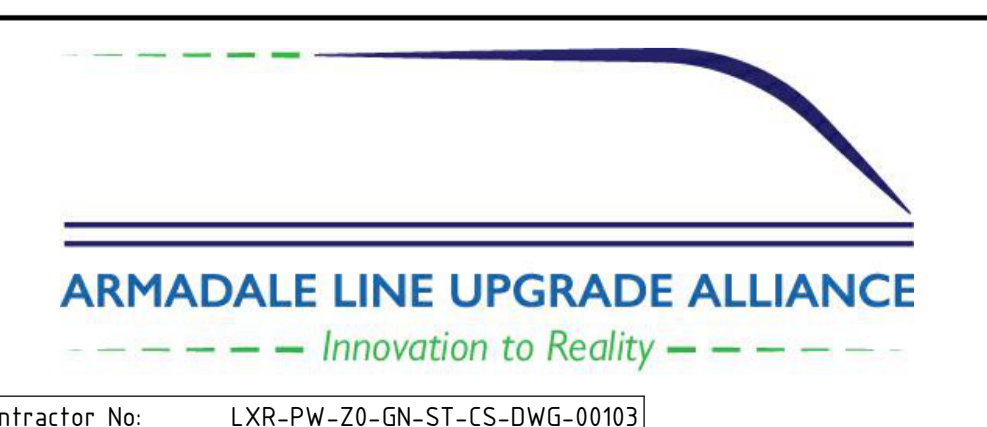
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[Green Dashed Line]	RAIL RESERVE BOUNDARY



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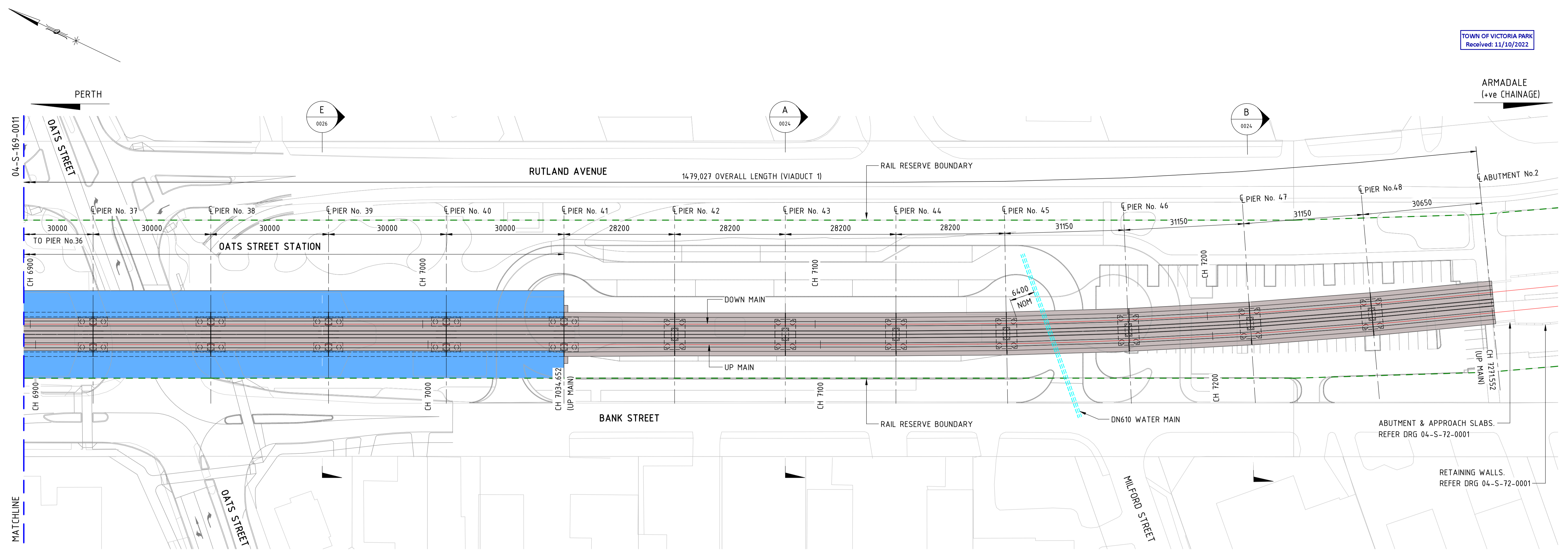
DESIGNED	C.CHANG	<p>VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL</p>
DRAWN	L.RADICI	
CHECKED	R.PEYILA	
APPROVED	W.SCHWARZ	
DATE	21.06.2022	
<p>ZONE 0 - CIVIL STRUCTURES PROJECT WIDE - VIADUCT PLAN AND ELEVATION - SHEET 3 PTA Drawing No: 04-S-169-0011</p>		
Rev: A		

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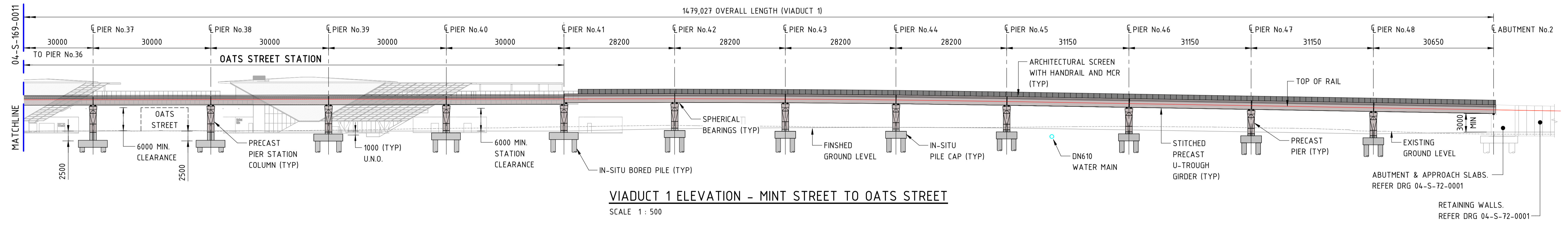


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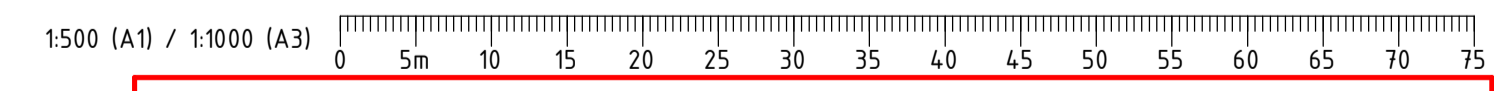


VIADUCT 1 PLAN - MINT STREET TO OATS STREET
SCALE 1 : 500



VIADUCT 1 ELEVATION - MINT STREET TO OATS STREET
SCALE 1 : 500

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS & CHAINAGES ARE IN METERS.
 3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
 4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
 5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
 6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.
- LEGEND:**
- VIADUCT
 - STATION PLATFORM
 - RAIL ALIGNMENT
 - RAIL RESERVE BOUNDARY



REFERENCE DESIGN

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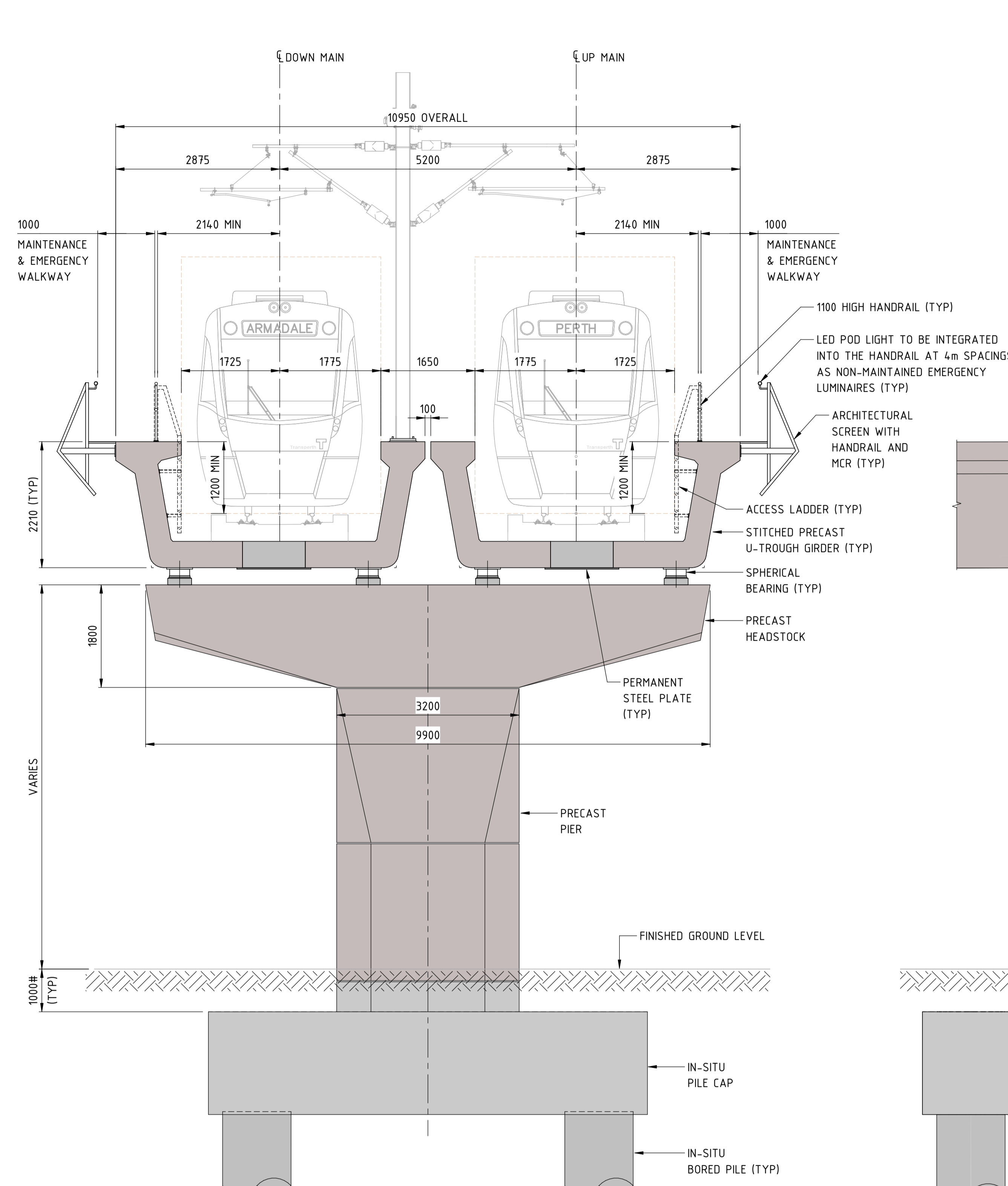
DESIGNED C.CHANG
DRAWN L.RADICI
CHECKED R.PEYILA
APPROVED W.SCHWARZ
DATE 21.06.2022

Government of Western Australia
Public Transport Authority

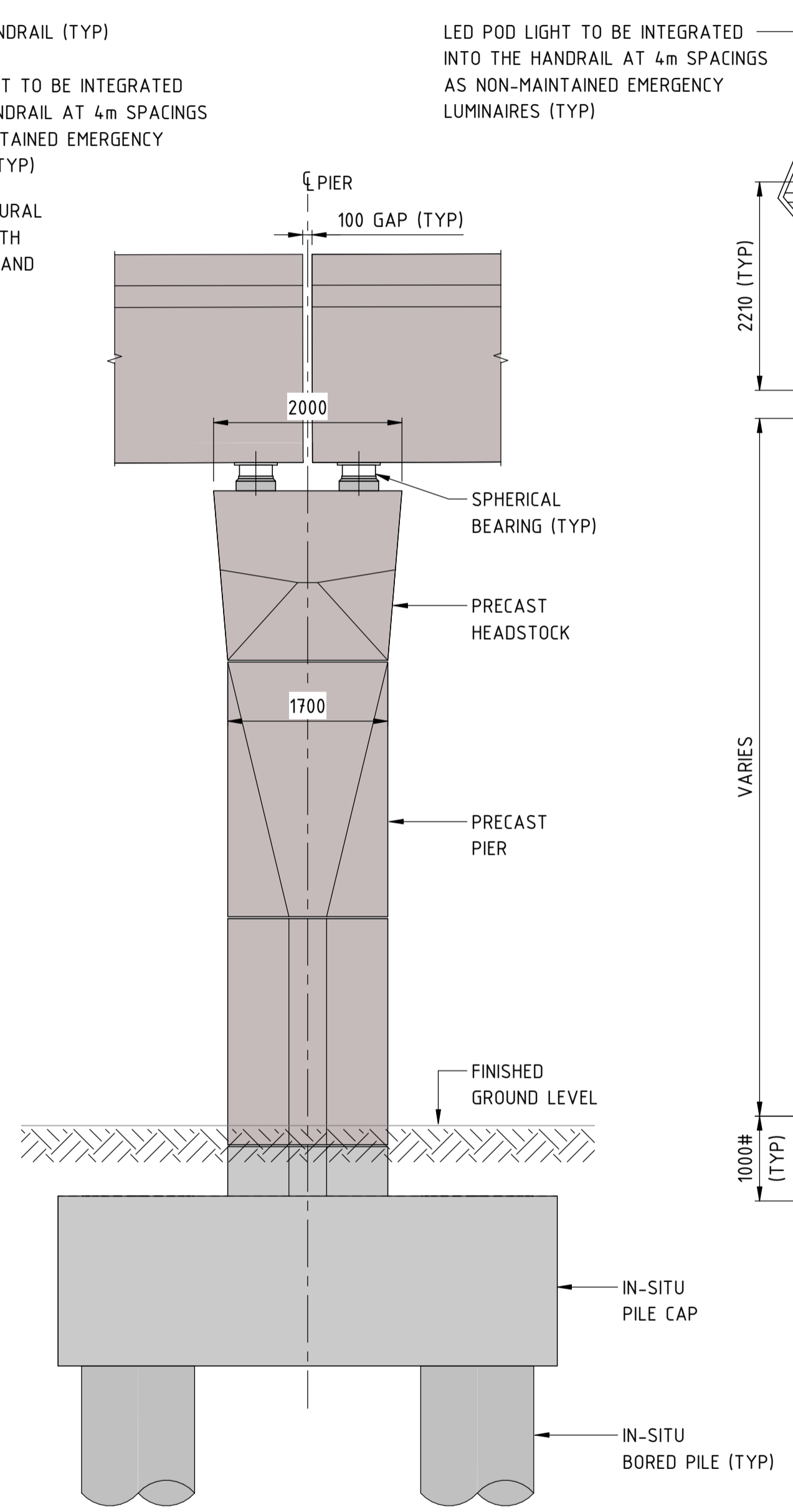
VICTORIA PARK TO CANNING
LEVEL CROSSING REMOVAL

ZONE 0 - CIVIL STRUCTURES
PROJECT WIDE - VIADUCT
PLAN AND ELEVATION - SHEET 4
PTA Drawing No: 04-S-169-0012

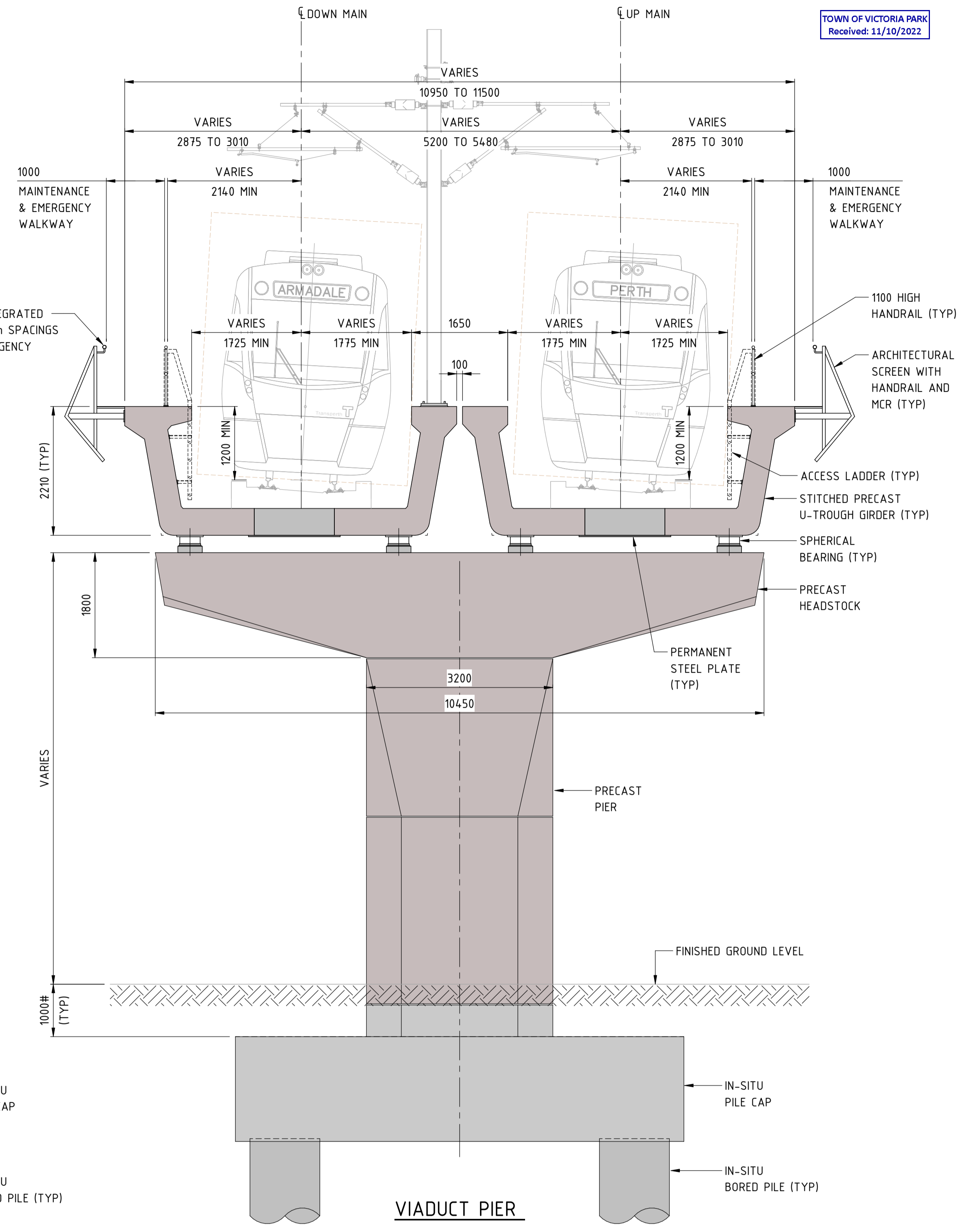
Rev: A



VIADUCT PIER
SECTION A
SCALE 1 : 50



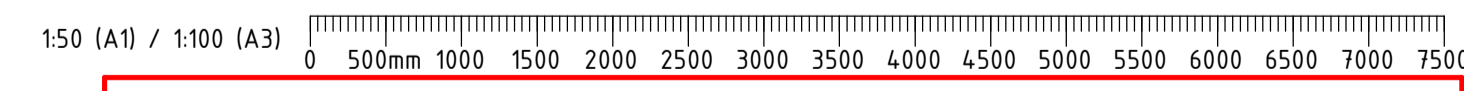
PIER ELEVATION
SCALE 1 : 50



VIADUCT PIER ON CURVED ALIGNMENT
SECTION B
SCALE 1 : 50

LEGEND:
 PRECAST CONCRETE
 IN-SITU CONCRETE
 # 2500 AT ROAD CROSSINGS

NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS & CHAINAGES ARE IN METERS.
 3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
 4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
 5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
 6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.



REFERENCE DESIGN

Government of Western Australia
Public Transport Authority

VICTORIA PARK TO CANNING
LEVEL CROSSING REMOVAL

ZONE 0 - CIVIL STRUCTURES
PROJECT WIDE - VIADUCT
SECTIONS - SHEET 1
PTA Drawing No: 04-S-169-0024

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AMENDMENT

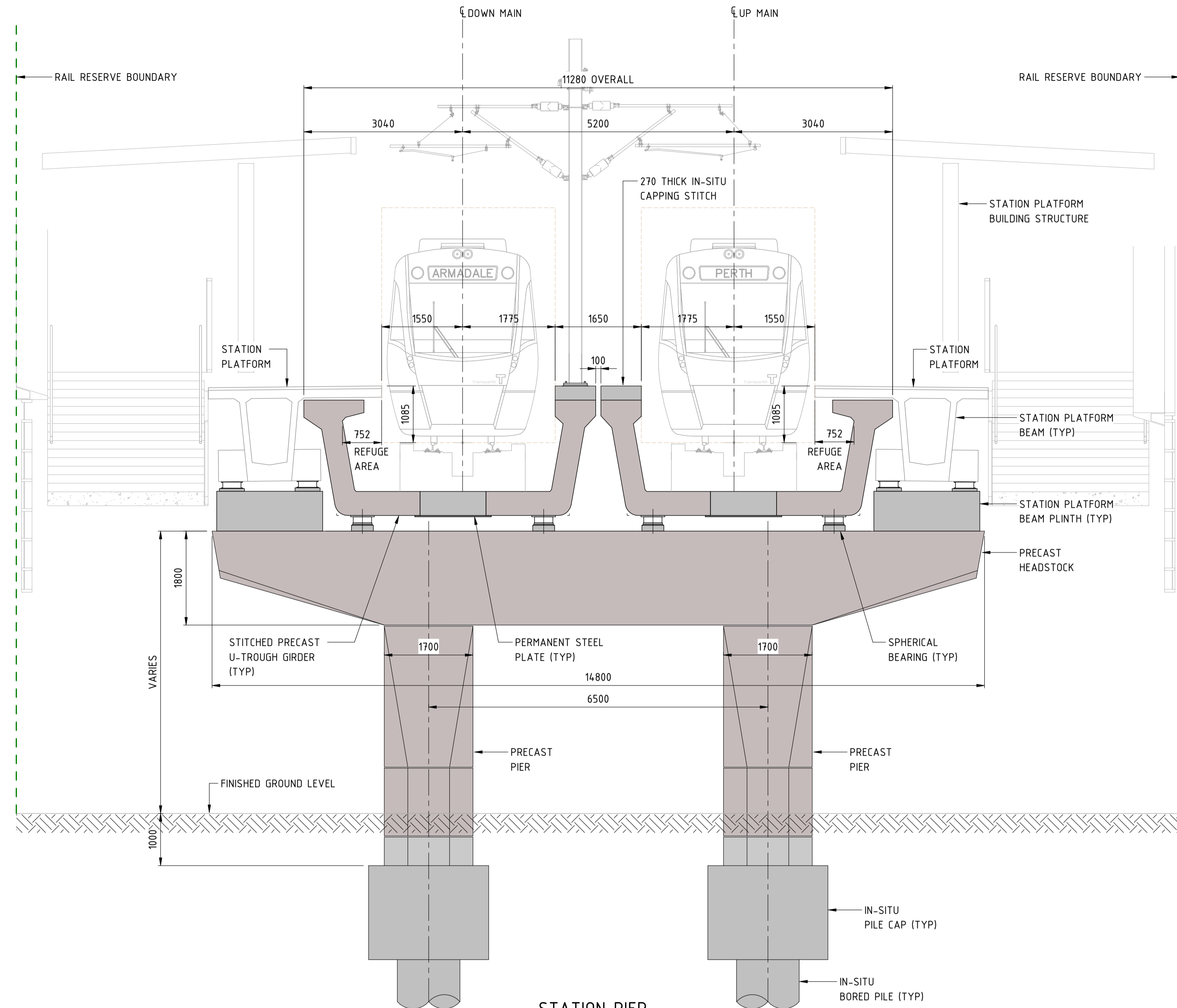
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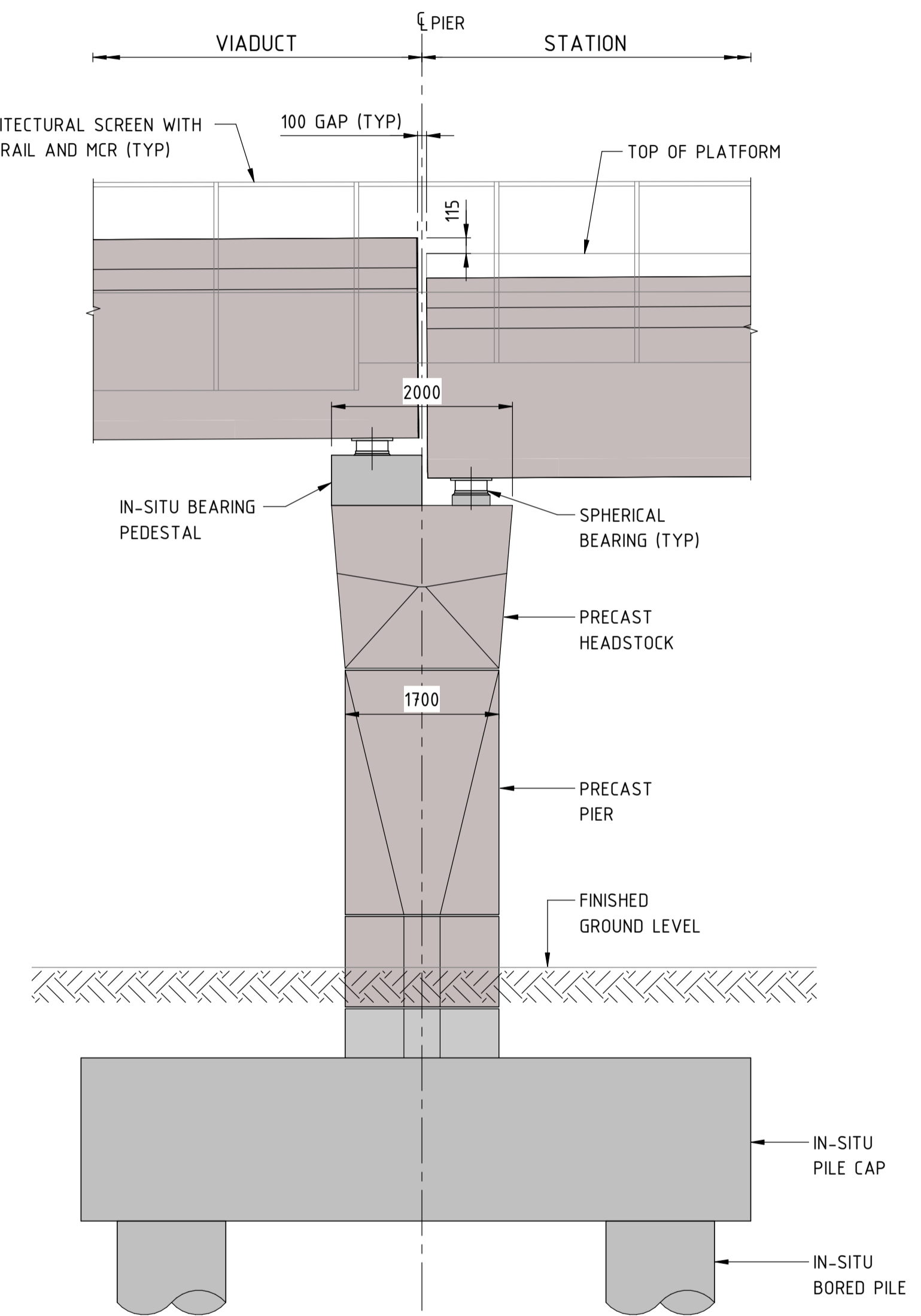
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Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00121

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DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.2022



SECTION C
SCALE 1 : 50



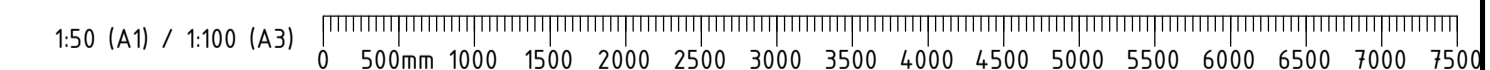
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LEGEND:

- PRECAST CONCRETE
- IN-SITU CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS & CHAINAGES ARE IN METERS.
3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.



REFERENCE DESIGN

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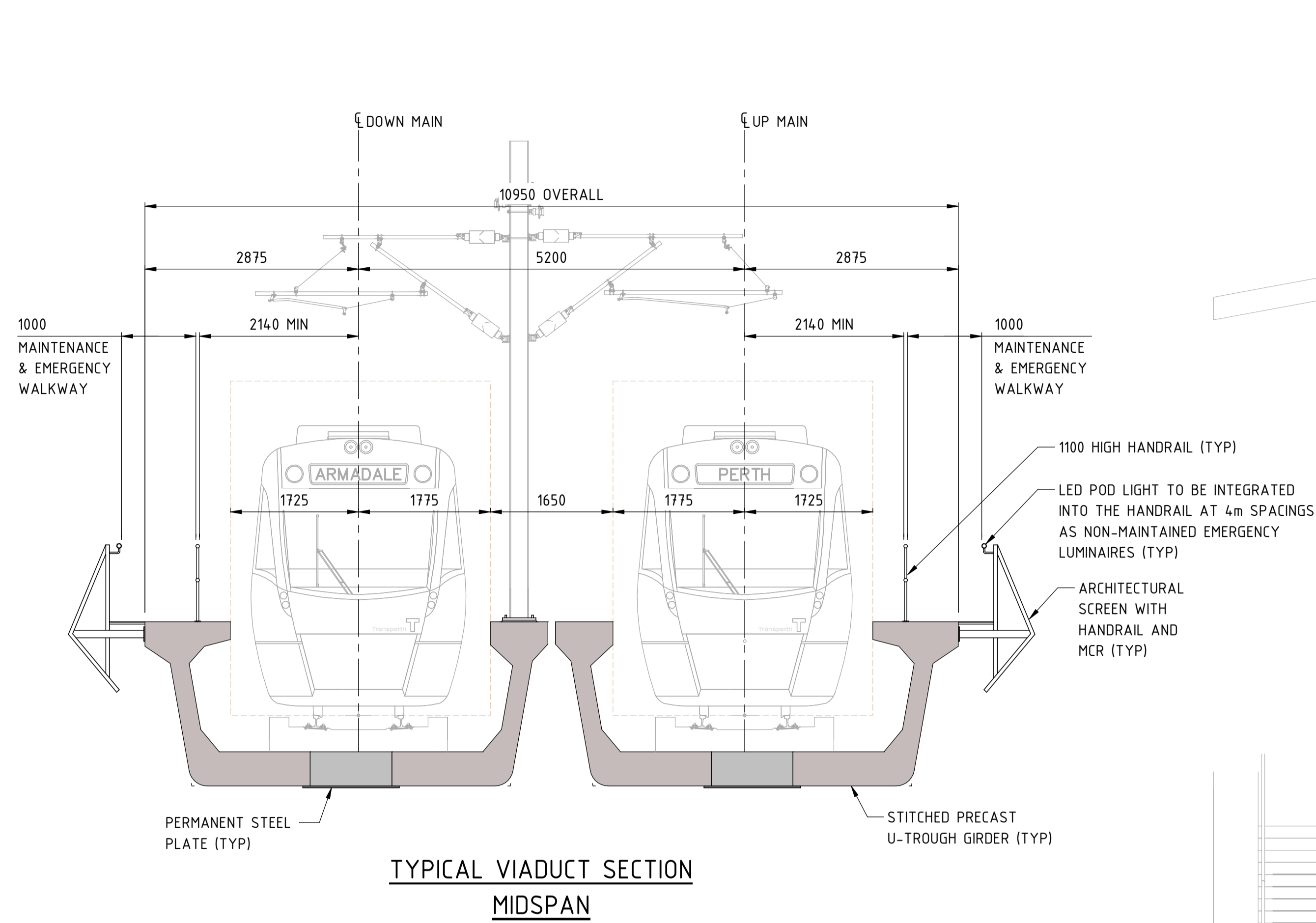
ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

Contractor No: LXR-PW-Z0-GN-ST-CS-M3D-00012

VALIDATION	REFERENCES
SIGNATURE	
DATE	
DATE APPROVED	

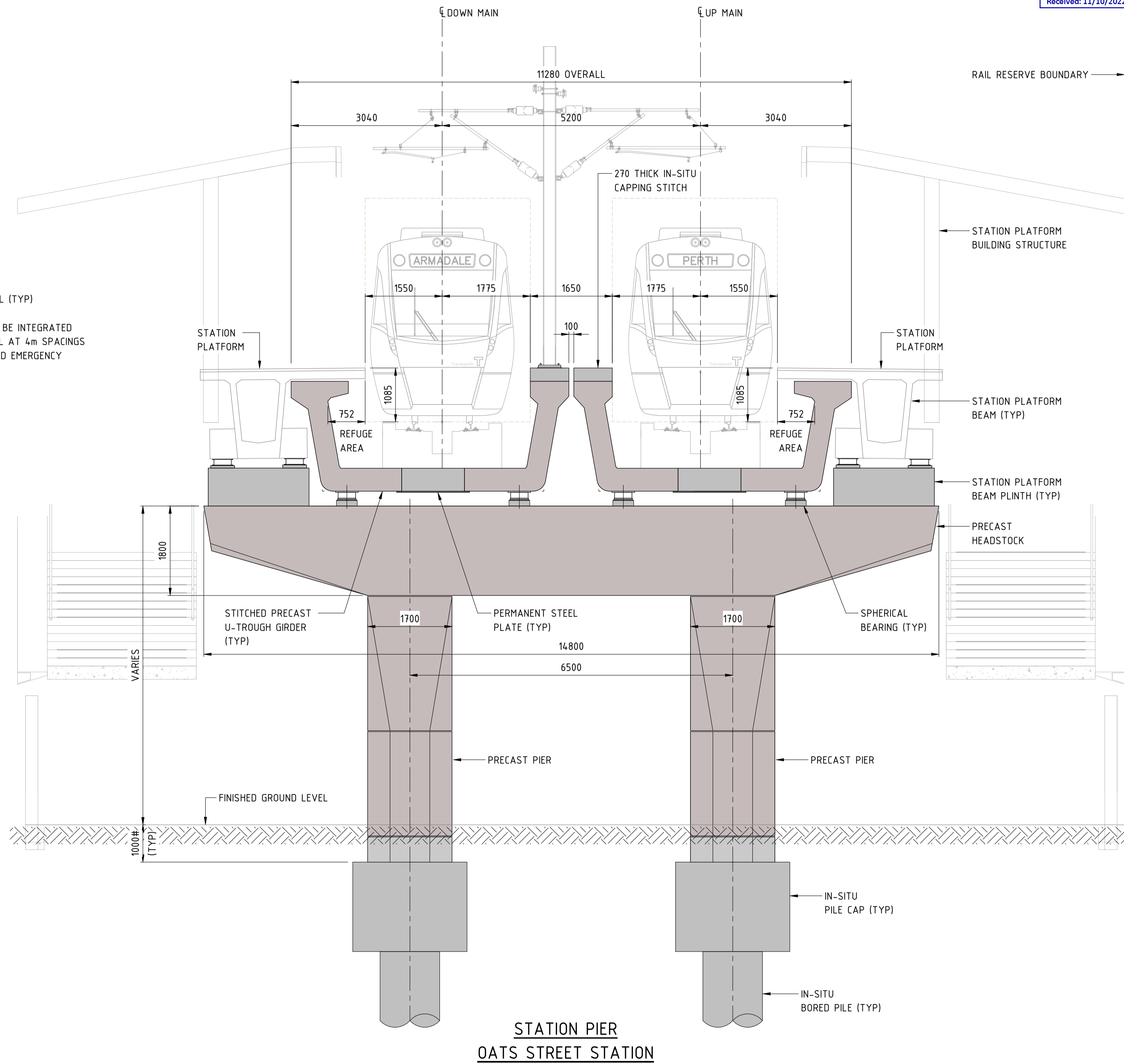
SCALE	DESIGNED
As indicated	C.CHANG
DATUM	DRAWN
HORIZONTAL: PCG20	L.RADICI
VERTICAL: AHD71	CHECKED
	R.PEYILA
	APPROVED
	W.SCHWARZ
	DATE
	21.06.2022

		VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
ZONE 0 - CIVIL STRUCTURES PROJECT WIDE - VIADUCT SECTIONS - SHEET 2		
PTA Drawing No: 04-S-169-0025		Rev: A



TYPICAL VIADUCT SECTION
MIDSPAN

SECTION D
SCALE 1 : 50



STATION PIER
OATS STREET STATION

SECTION E
SCALE 1 : 50

LEGEND:

- PRECAST CONCRETE
- IN-SITU CONCRETE
- # 2500 AT ROAD CROSSINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS & CHAINAGES ARE IN METERS.
3. REFER TO RAIL TRACK DRAWINGS FOR RAIL ALIGNMENT DETAILS.
4. REFER TO STATION ARCHITECTURE DRAWINGS FOR PLATFORM DETAILS.
5. REFER TO CIVIL DRAWINGS FOR PROPOSED ROAD LAYOUTS & BUS FACILITY DETAILS.
6. ALL SPANS ARE MEASURED ALONG THE UP MAIN CONTROL LINE.

1:50 (A1) / 1:100 (A3) 0 500mm 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500

REFERENCE DESIGN

REV	DATE	AMENDMENT	CC	LR	RP	WS
A	21.06.22	ISSUED FOR REFERENCE DESIGN				
			DSN	DRN	CHK	APP

ORIG SIZE A1
AT ORIGINAL PLOT SIZE

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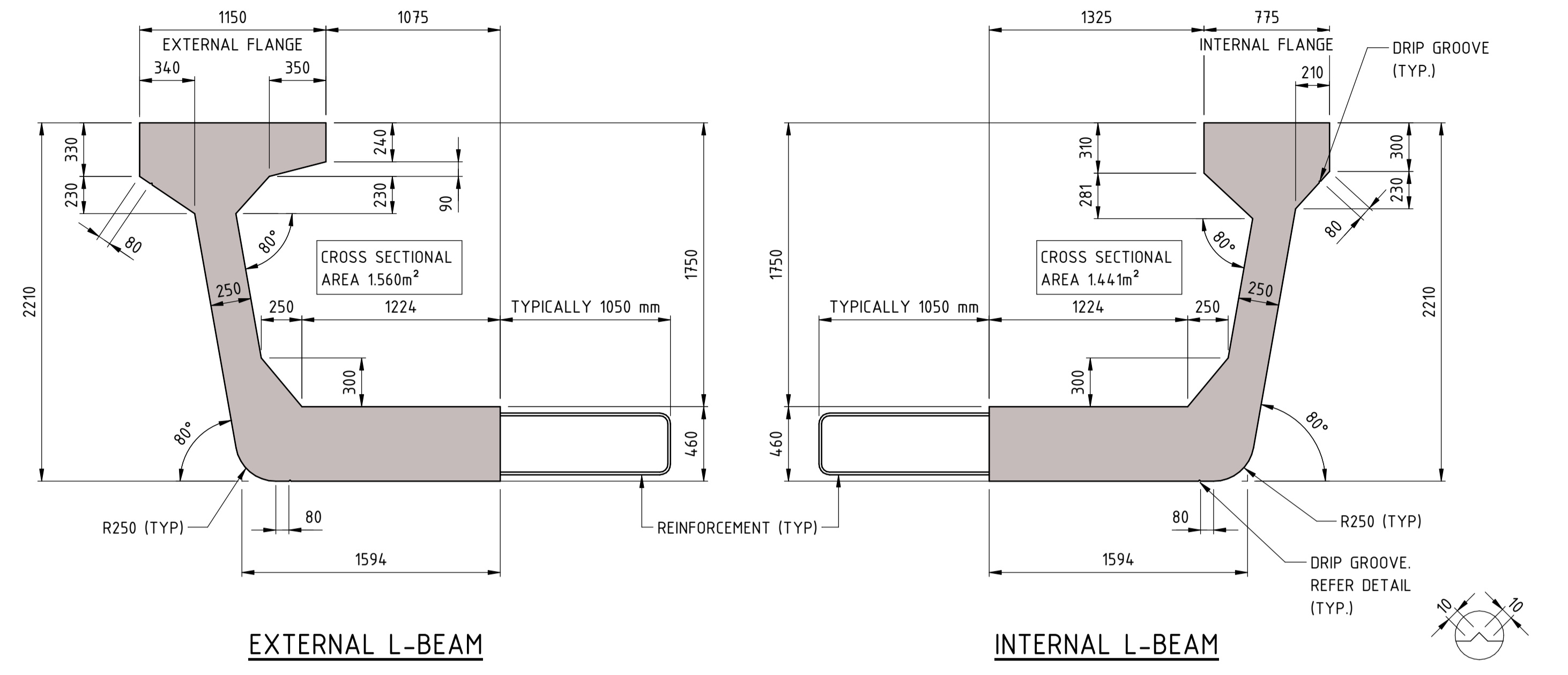
ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00123

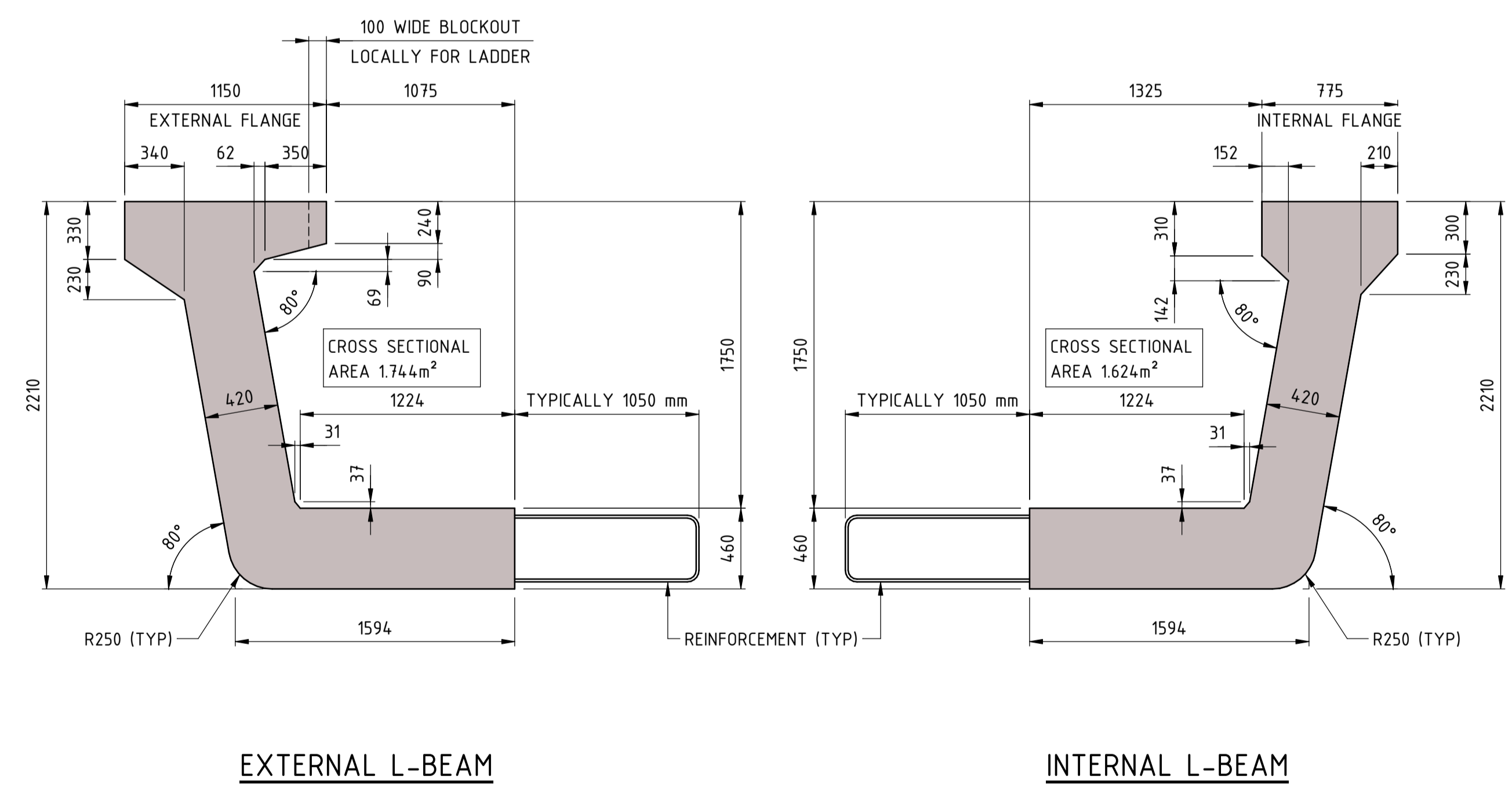
VALIDATION	REFERENCES
SIGNATURE	
DATE	
DATE APPROVED	

SCALE	DESIGNED
As indicated	C.CHANG
DATUM	DRAWN
HORIZONTAL: PCG20	L.RADICI
VERTICAL: AHD71	CHECKED
	R.PEYILA
	APPROVED
	W.SCHWARZ
	DATE
	21.06.2022

VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL	
ZONE 0 - CIVIL STRUCTURES	
PROJECT WIDE - VIADUCT	
SECTIONS - SHEET 3	
PTA Drawing No: 04-S-169-0026	Rev: A



SECTION AT MIDSPAN
SCALE 1:25

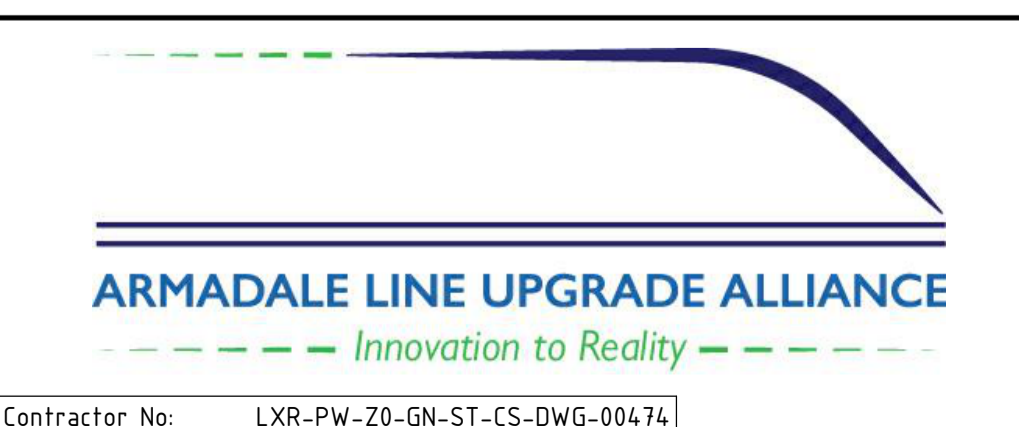


SECTION AT DIAPHRAGM
SCALE 1:25

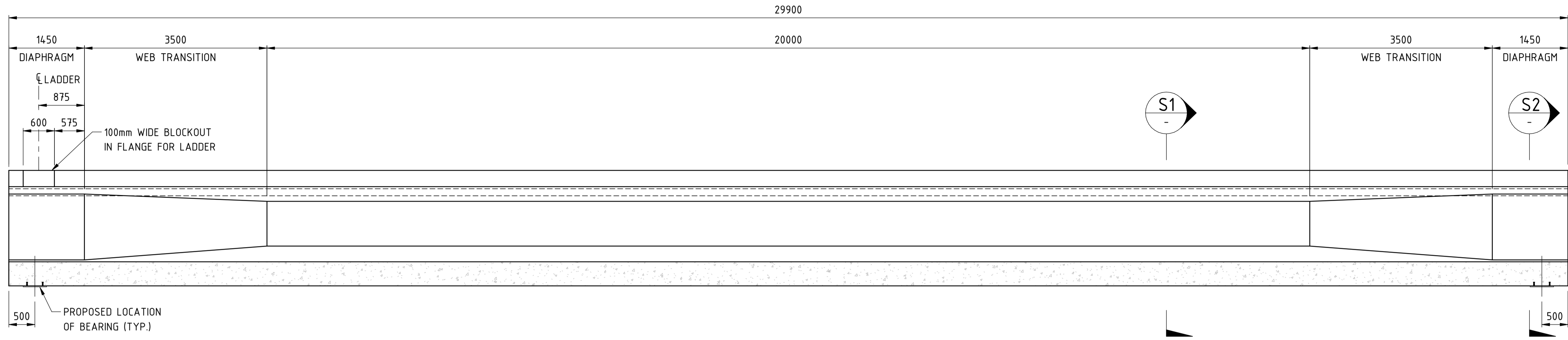
1:25 (A1) / 1:50 (A3) 0 250mm 500 750 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750

FOR INFORMATION	
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT L-BEAM TYPICAL DETAILS PTA Drawing No: 00474	
DESIGNED C.CHANG DRAWN L.RADICI CHECKED R.PEYILA APPROVED W.SCHWARZ DATE 21.06.22	Rev: A01

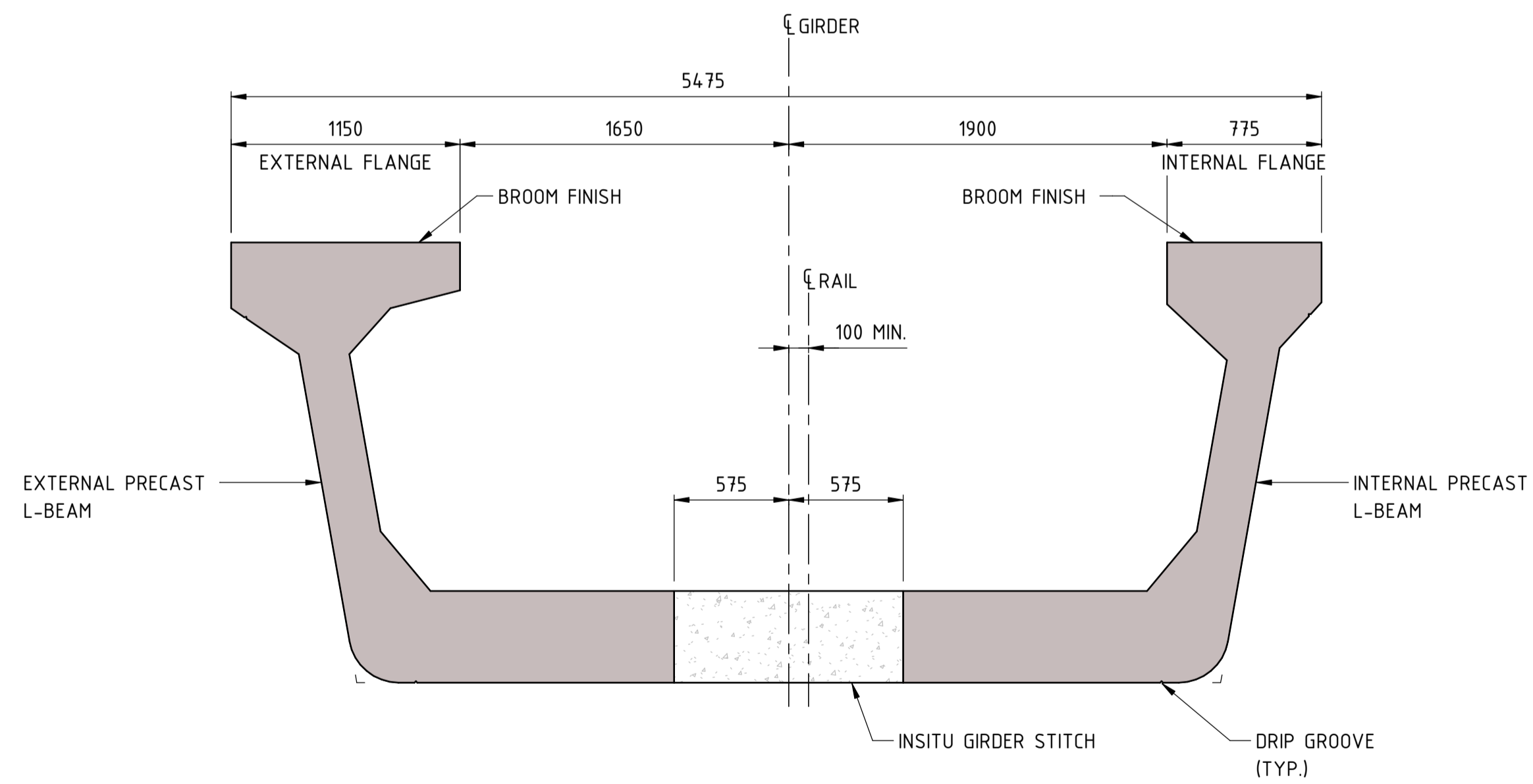
REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
A01	21.06.22	ISSUED FOR INFORMATION				
AMENDMENT			DSN	DRN	CHK	APP
ORIG SIZE	AT ORIGINAL PLOT SIZE		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
A1			Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00474			



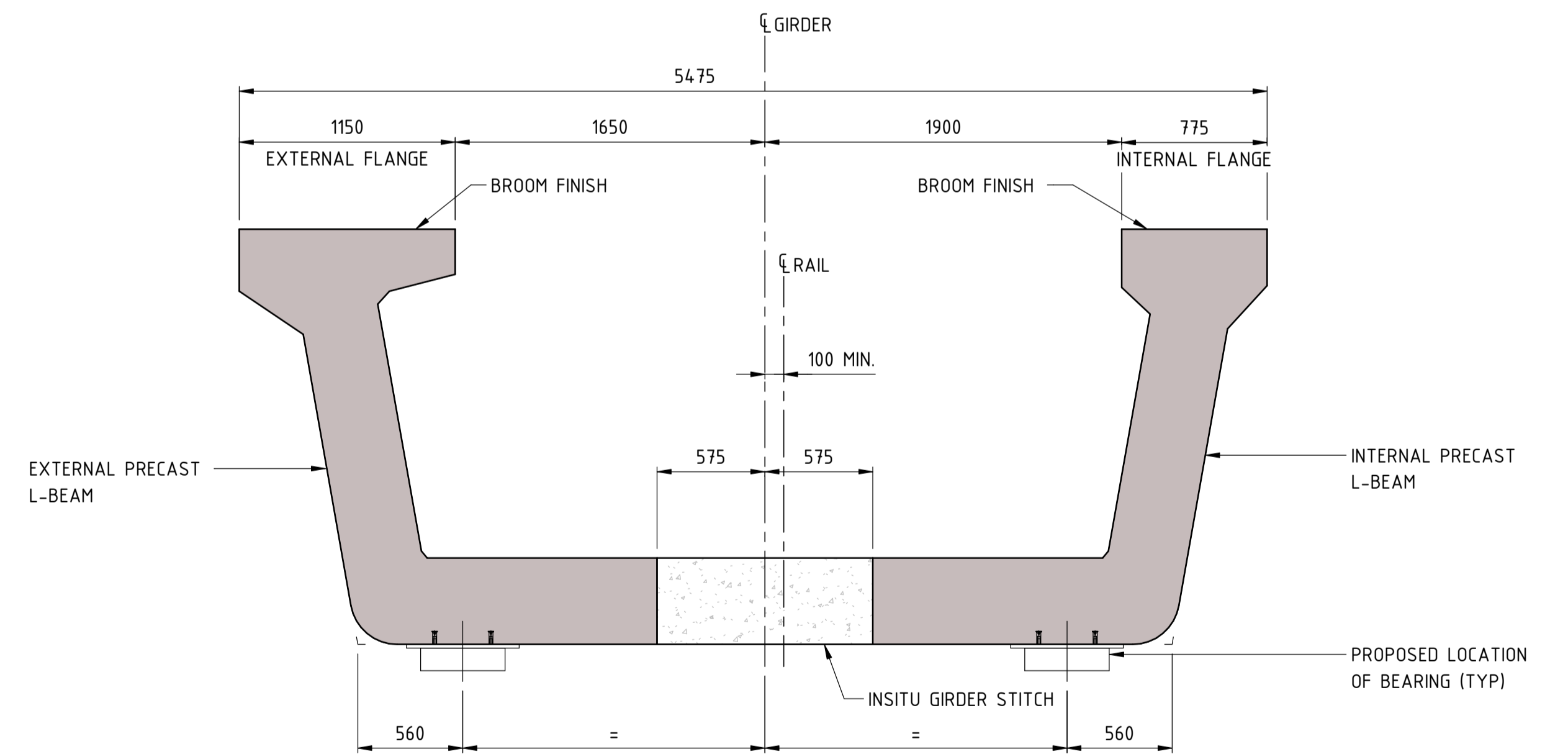
VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		1 : 25	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22



TYPICAL U-TROUGH ELEVATION - 29900
SCALE 1 : 50



U-TROUGH AT MIDSPAN
SECTION S1
SCALE 1:25



U-TROUGH SECTION AT DIAPHRAGMS
SECTION S2
SCALE 1:25

1:50 (A1) / 1:100 (A3) 0 500mm 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500

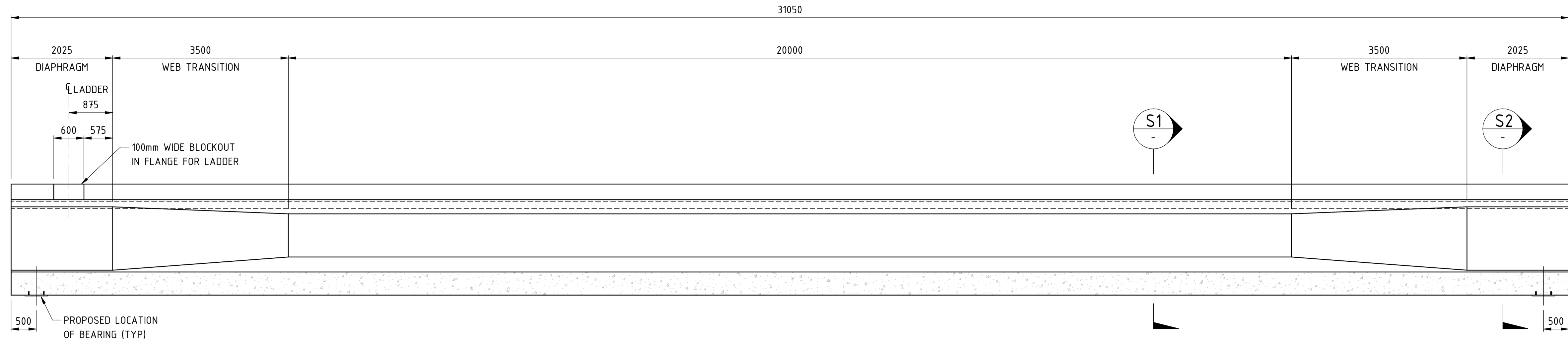
FOR INFORMATION

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT	
U-TROUGH TYPICAL SECTIONS - SHEET 1	
PTA Drawing No: 00475	Rev: A01

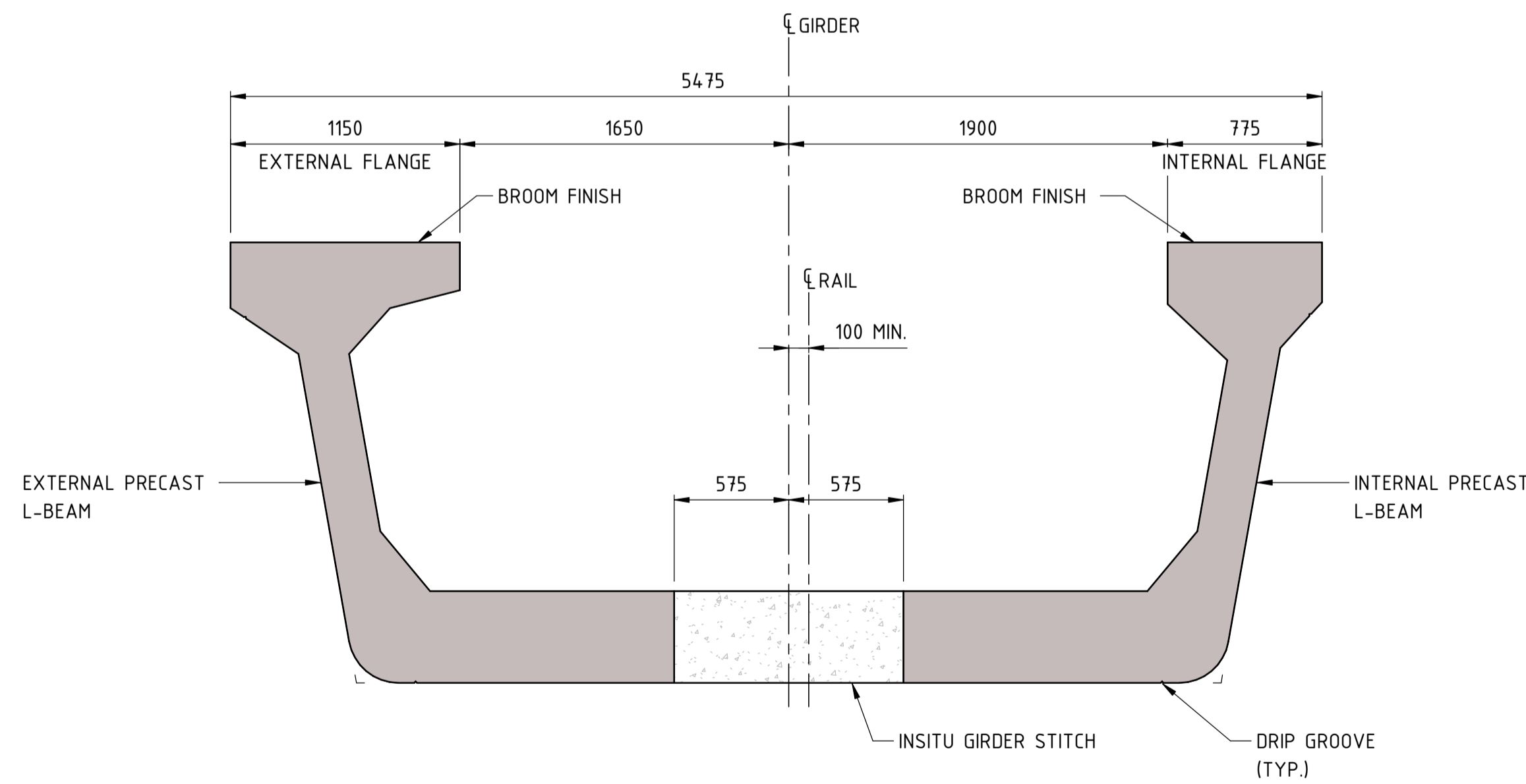
REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
A01	21.06.22					
AMENDMENT	DSN	DRN	CHK	APP		
ORIG SIZE	AT ORIGINAL PLOT SIZE		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
A1	0 10 20 30 40 50 100mm		Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00475			

VALIDATION	REFERENCES
SIGNATURE	
DATE	
DATE APPROVED	

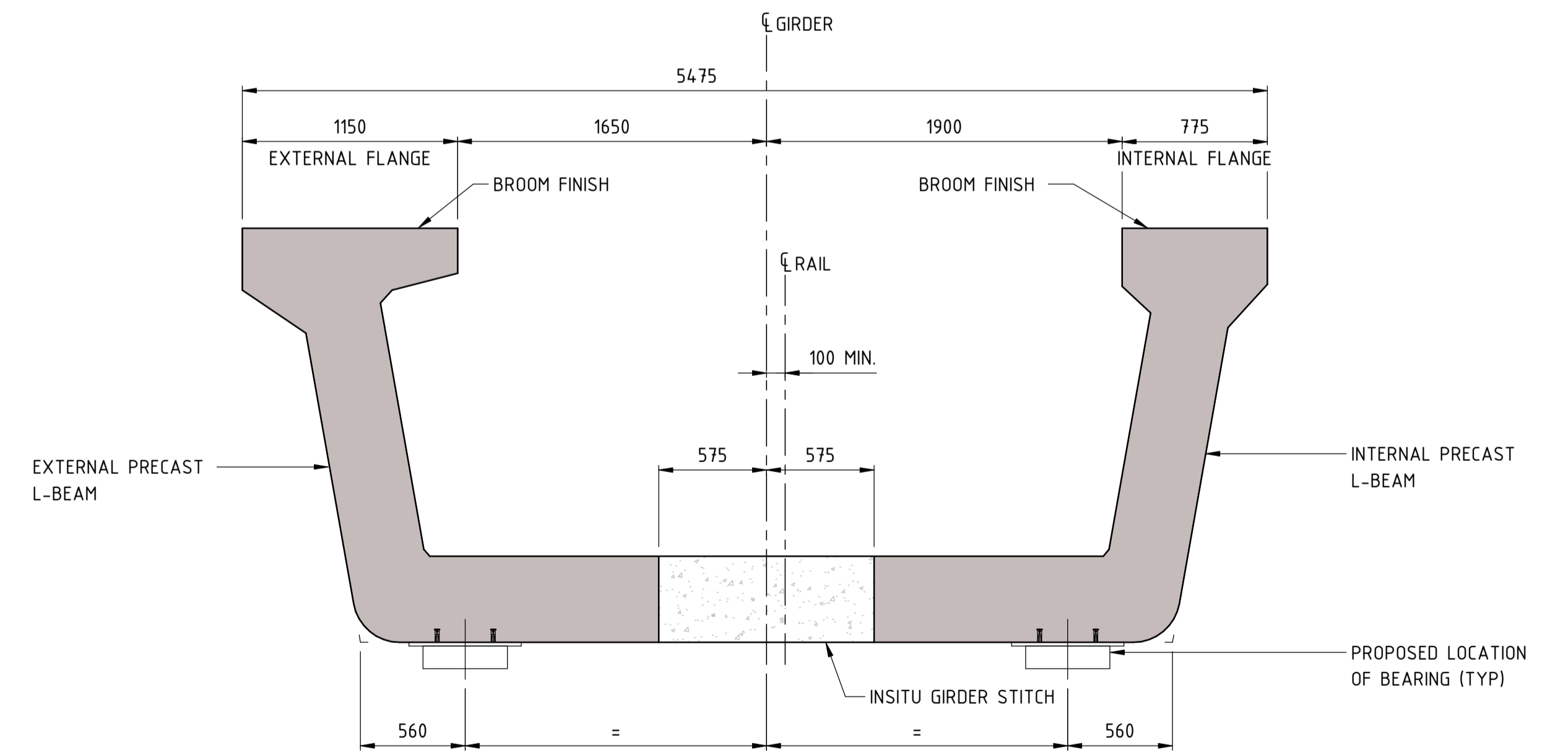
SCALE	DESIGNED
As indicated	C.CHANG
DATUM	DRAWN
HORIZONTAL: PCG20	L.RADICI
VERTICAL: AHD71	CHECKED
	R.PEYILA
	APPROVED
	W.SCHWARZ
	DATE
	21.06.22



TYPICAL U-TROUGH ELEVATION - 31050
SCALE 1 : 50



U-TROUGH AT MIDSPAN
SECTION S1
SCALE 1:25



U-TROUGH SECTION AT DIAPHRAGMS
SECTION S2
SCALE 1:25

1:50 (A1) / 1:100 (A3) 0 500mm 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500

FOR INFORMATION

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
	PROJECT WIDE - CIVIL STRUCTURES VIADUCT
U-TROUGH TYPICAL SECTIONS - SHEET 2	
PTA Drawing No: 00476	Rev: A01

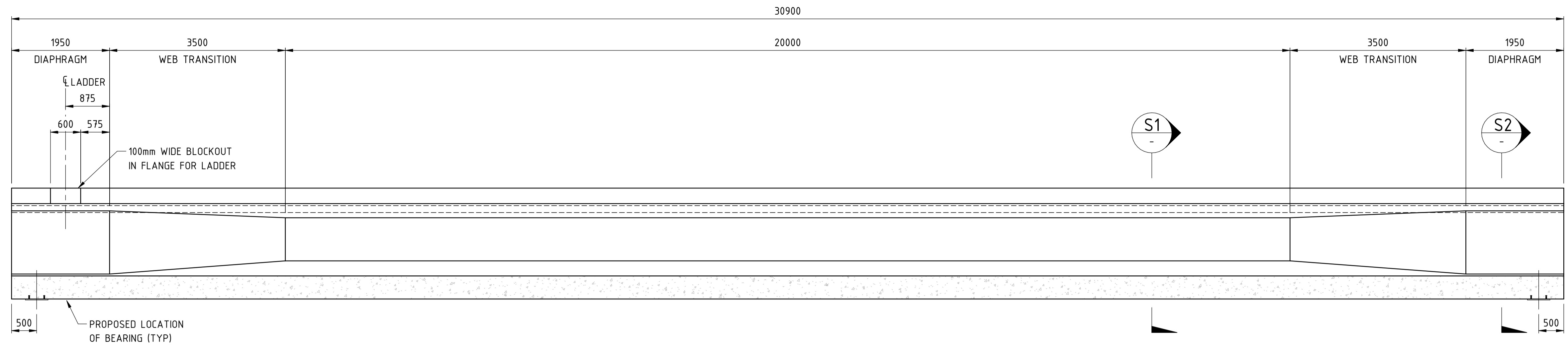
REV	DATE	ISSUED FOR INFORMATION	AMENDMENT	CC	LR	RP	WS
DSN	DRN	CHK	APP				
A01	21.06.22	ISSUED FOR INFORMATION					
				This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
AT ORIGINAL PLOT SIZE				Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00476			

VALIDATION
SIGNATURE
DATE
DATE APPROVED

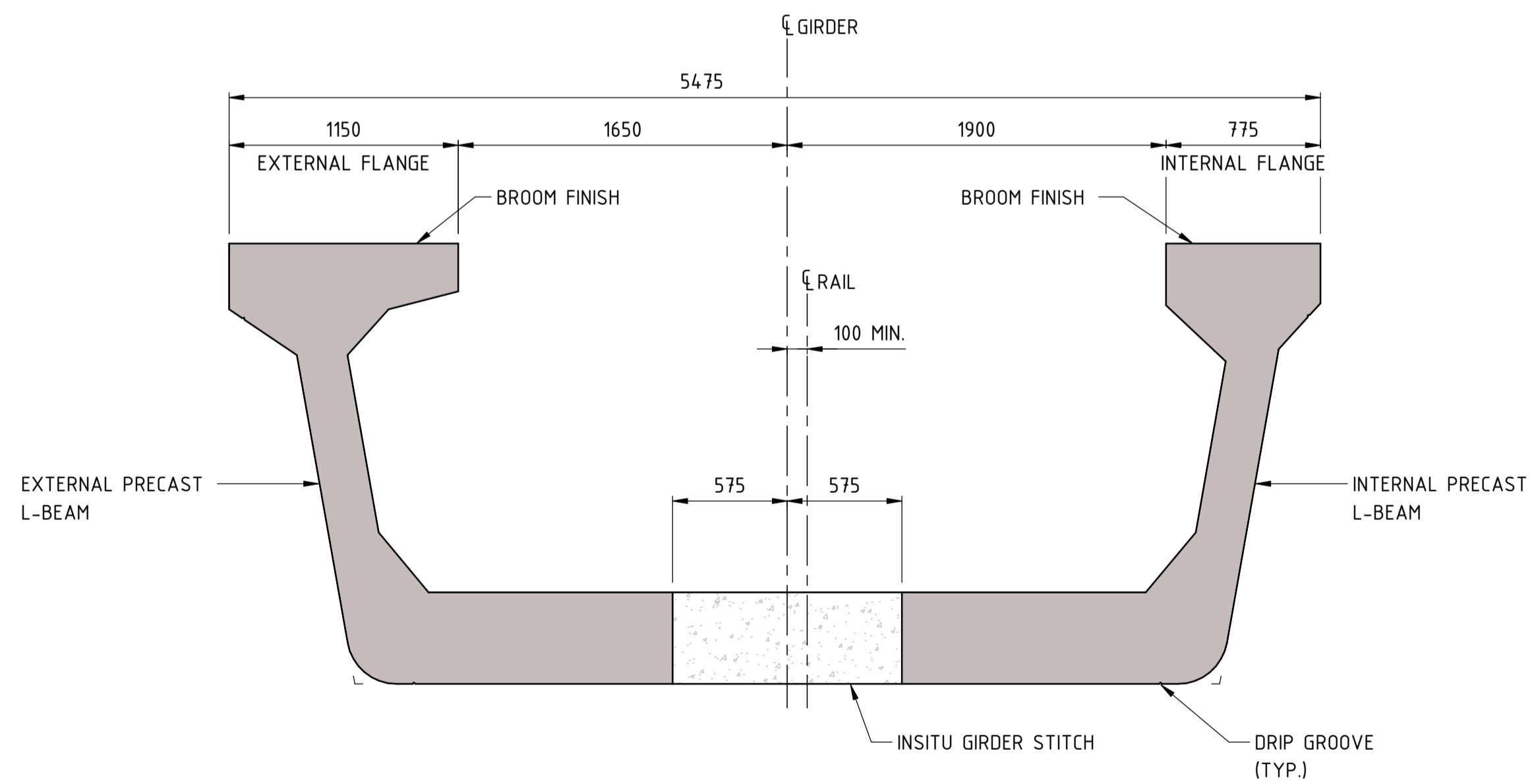
REFERENCES

SCALE	As indicated
DATUM	
HORIZONTAL:	PCG20
VERTICAL:	AHD71

DESIGNED	C.CHANG
DRAWN	L.RADICI
CHECKED	R.PEYILA
APPROVED	W.SCHWARZ
DATE	21.06.22

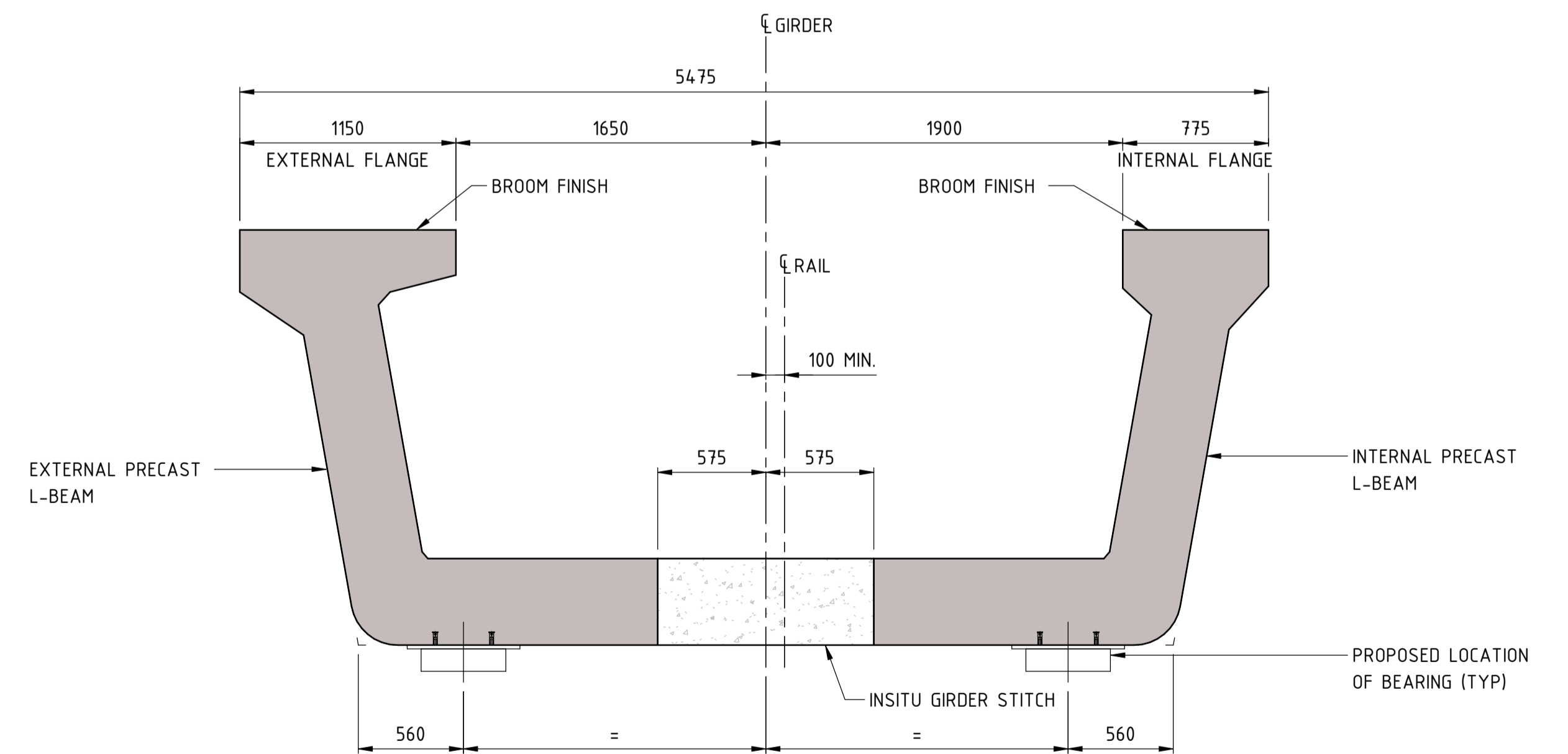


TYPICAL U-TROUGH ELEVATION - 30900
SCALE 1 : 50



U-TROUGH AT MIDSPAN

SECTION S1
SCALE 1:25



U-TROUGH SECTION AT DIAPHRAGMS

SECTION S2
SCALE 1:25

1:50 (A1) / 1:100 (A3) 0 500mm 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500

FOR INFORMATION

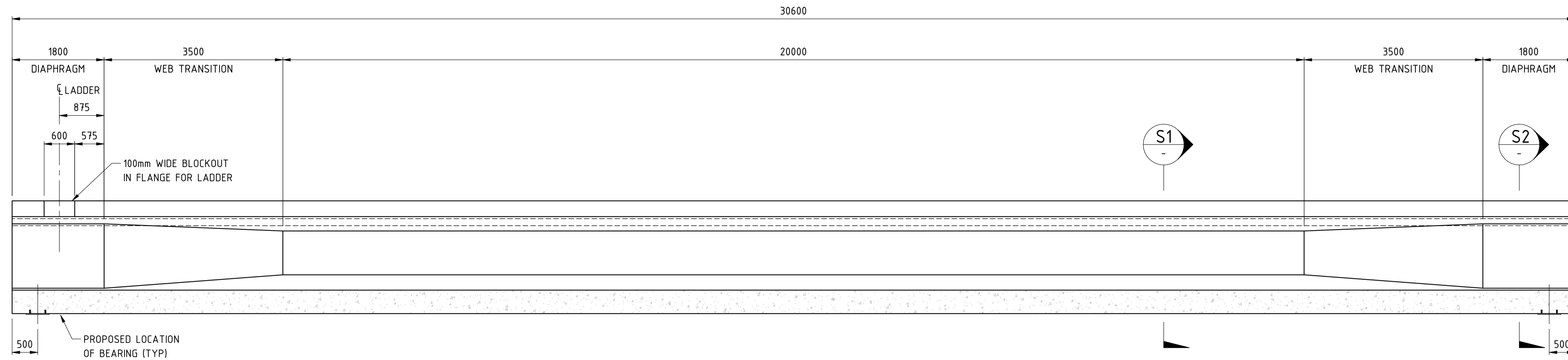
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT U-TROUGH TYPICAL SECTIONS - SHEET 3	
PTA Drawing No: 00477	Rev: A01

REV	DATE	ISSUED FOR INFORMATION	AMENDMENT	CC	LR	RP	WS
ORIG SIZE	AT ORIGINAL PLOT SIZE		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.				
A01	21.06.22	ISSUED FOR INFORMATION		CC	LR	RP	WS
REV	DATE	ISSUED FOR INFORMATION	AMENDMENT	DSN	DRN	CHK	APP
A1							

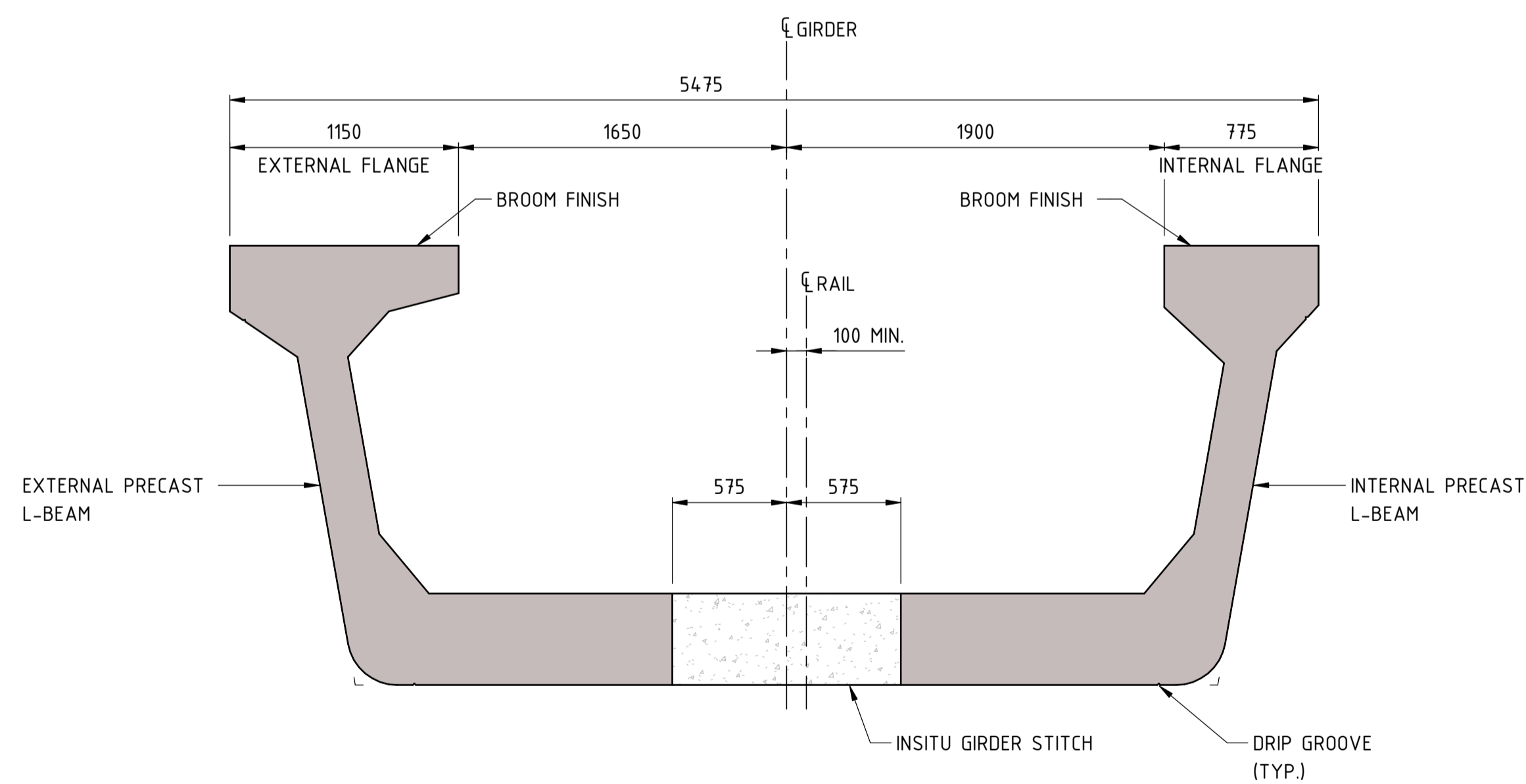
Innovation to Reality

Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00477

VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22

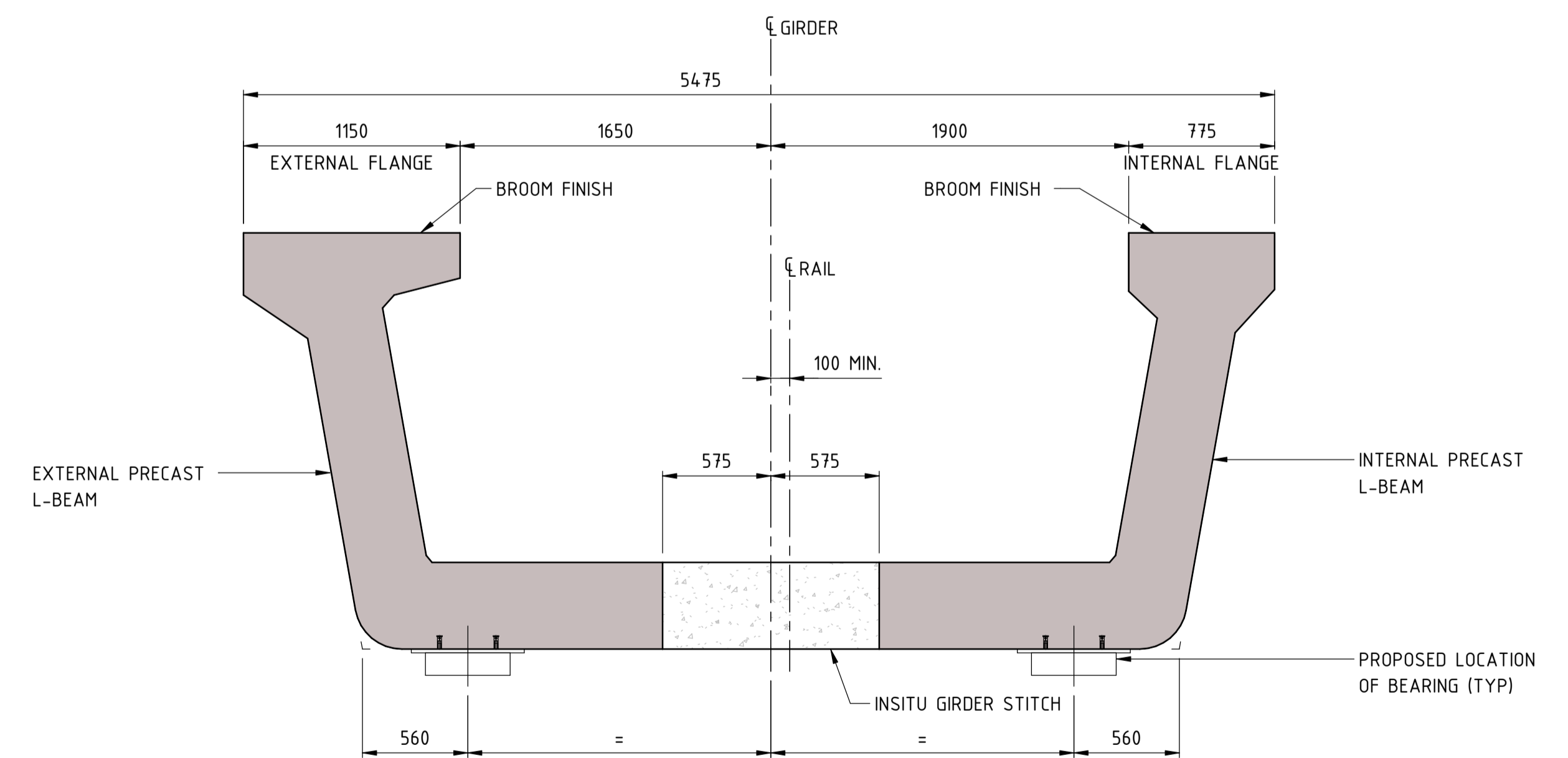


TYPICAL U-TROUGH ELEVATION - 30600
SCALE 1 : 50



U-TROUGH AT MIDSPAN

SECTION S1
SCALE 1:25



U-TROUGH SECTION AT DIAPHRAGMS

SECTION S2
SCALE 1:25

1:50 (A1) / 1:100 (A3) 0 500mm 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500

FOR INFORMATION

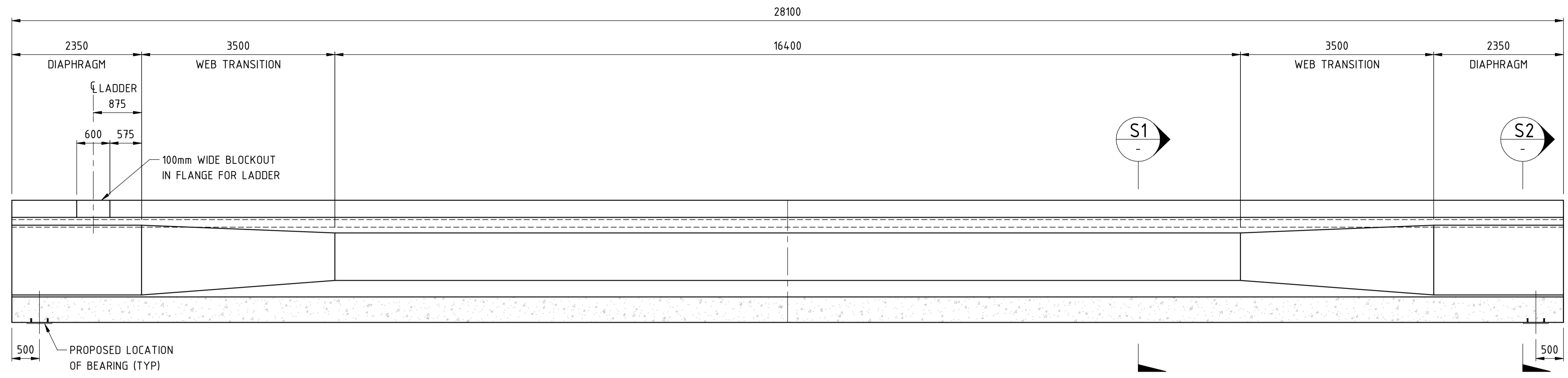
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT U-TROUGH TYPICAL SECTIONS - SHEET 4	
PTA Drawing No: 00478	Rev: A01

REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
		AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE			This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
A1	AT ORIGINAL PLOT SIZE					

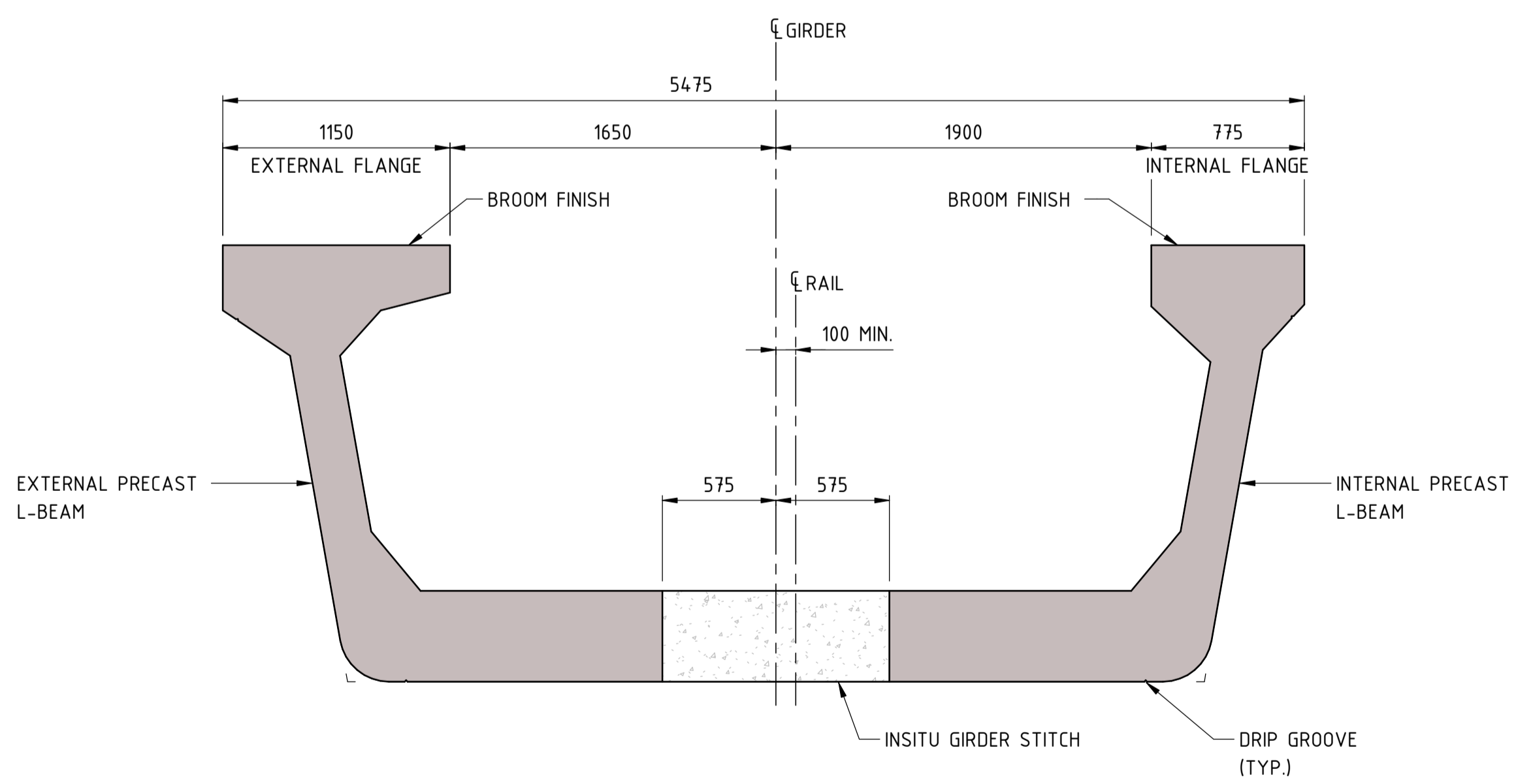
ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00478

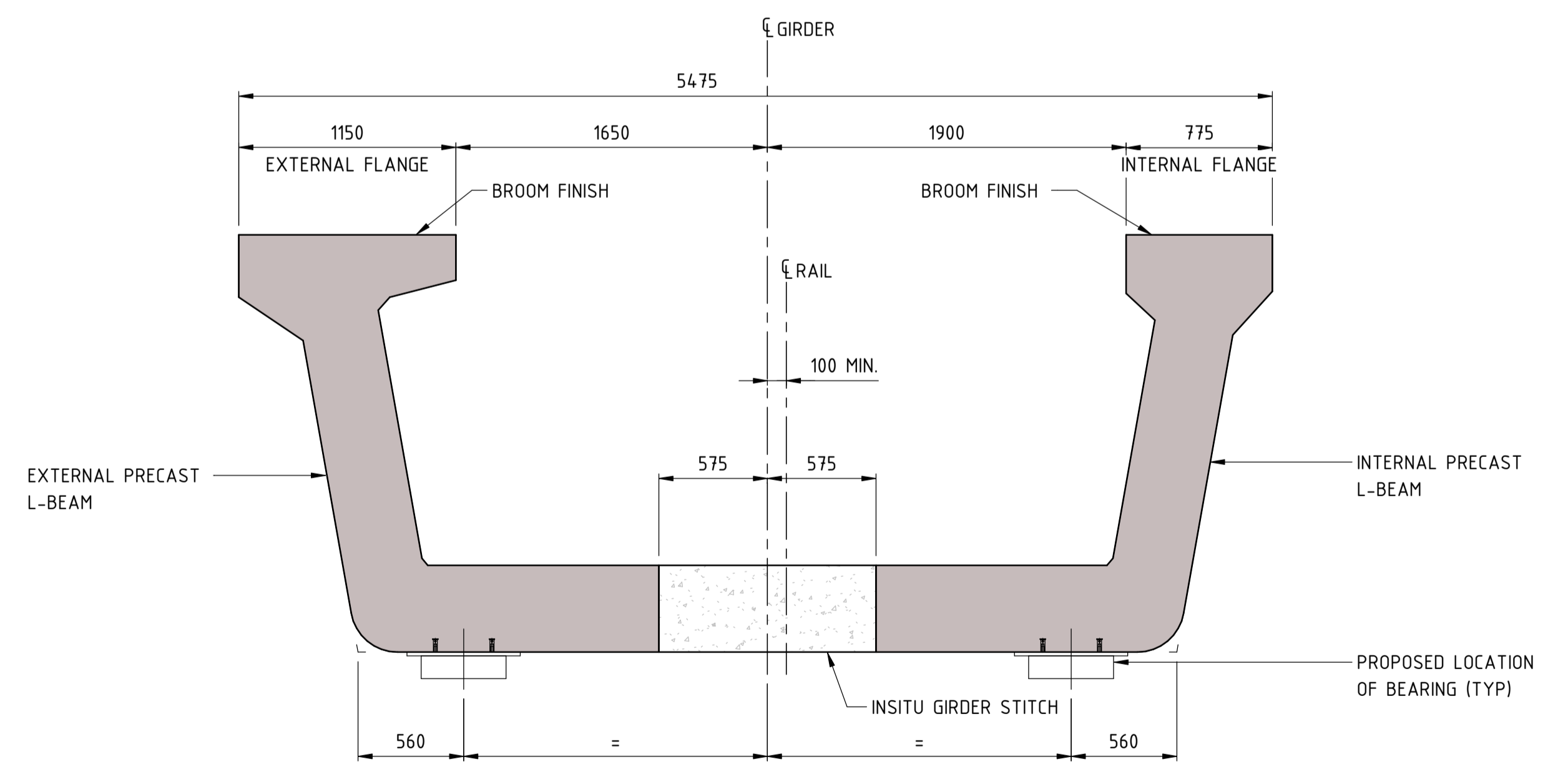
VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22



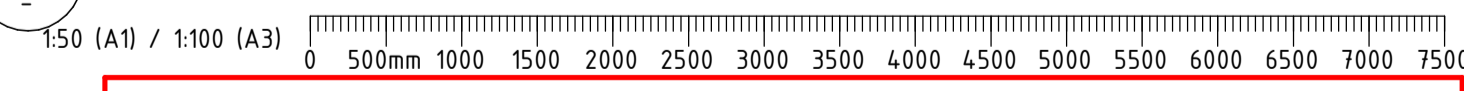
TYPICAL VIADUCT ELEVATION - 28100
SCALE 1 : 50



U-TROUGH AT MIDSPAN
SECTION S1
SCALE 1:25



U-TROUGH SECTION AT DIAPHRAGMS
SECTION S2
SCALE 1:25



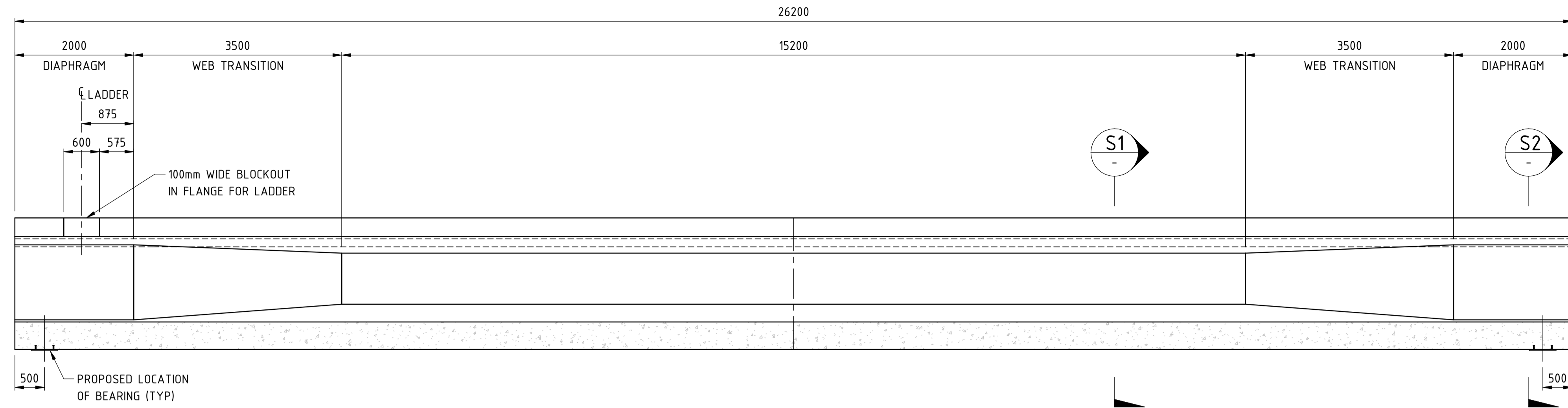
FOR INFORMATION

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT U-TROUGH TYPICAL SECTIONS - SHEET 5	
PTA Drawing No: 00479	Rev: A01

REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
		AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE			This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
A1	AT ORIGINAL PLOT SIZE					

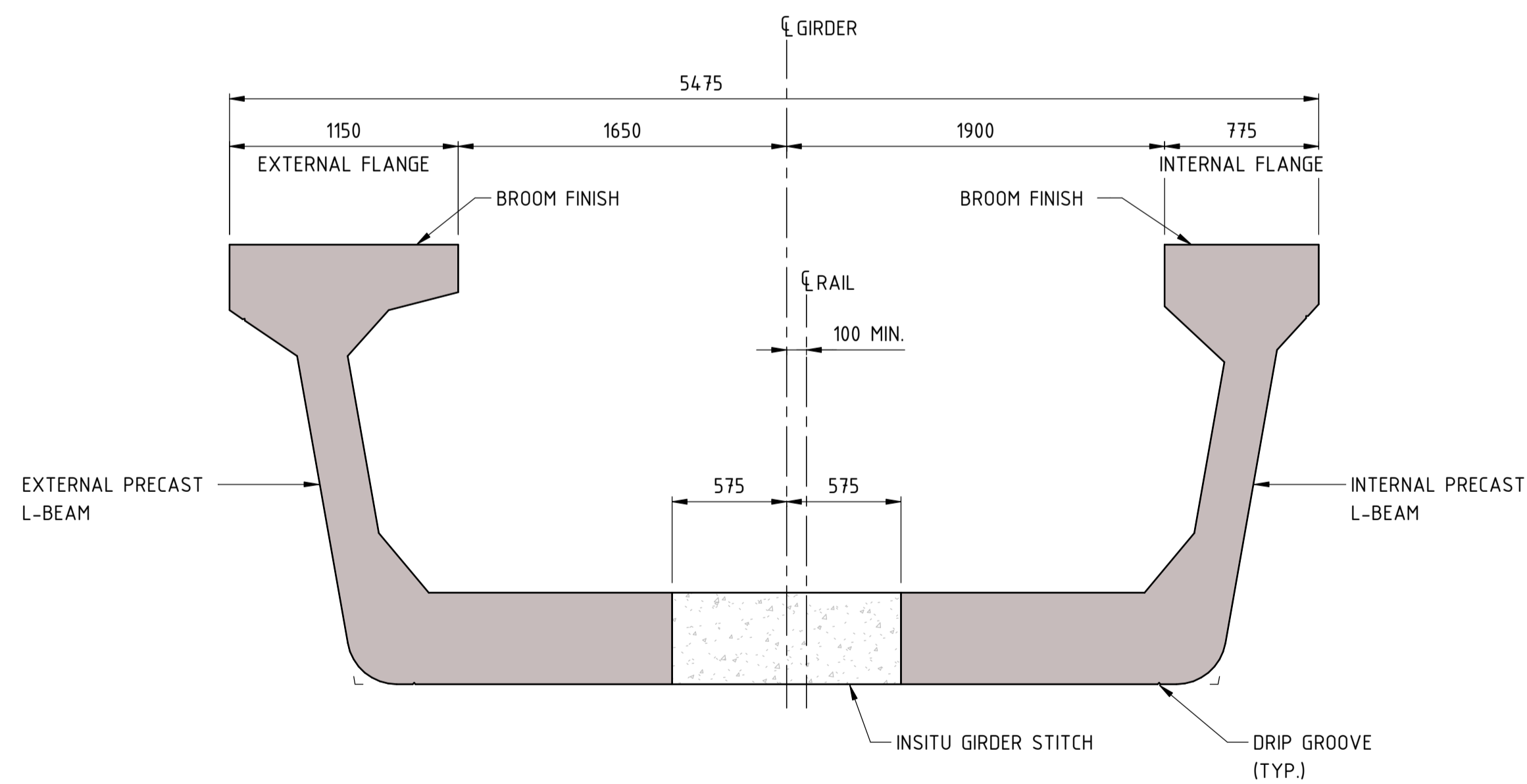
Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00479

VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22



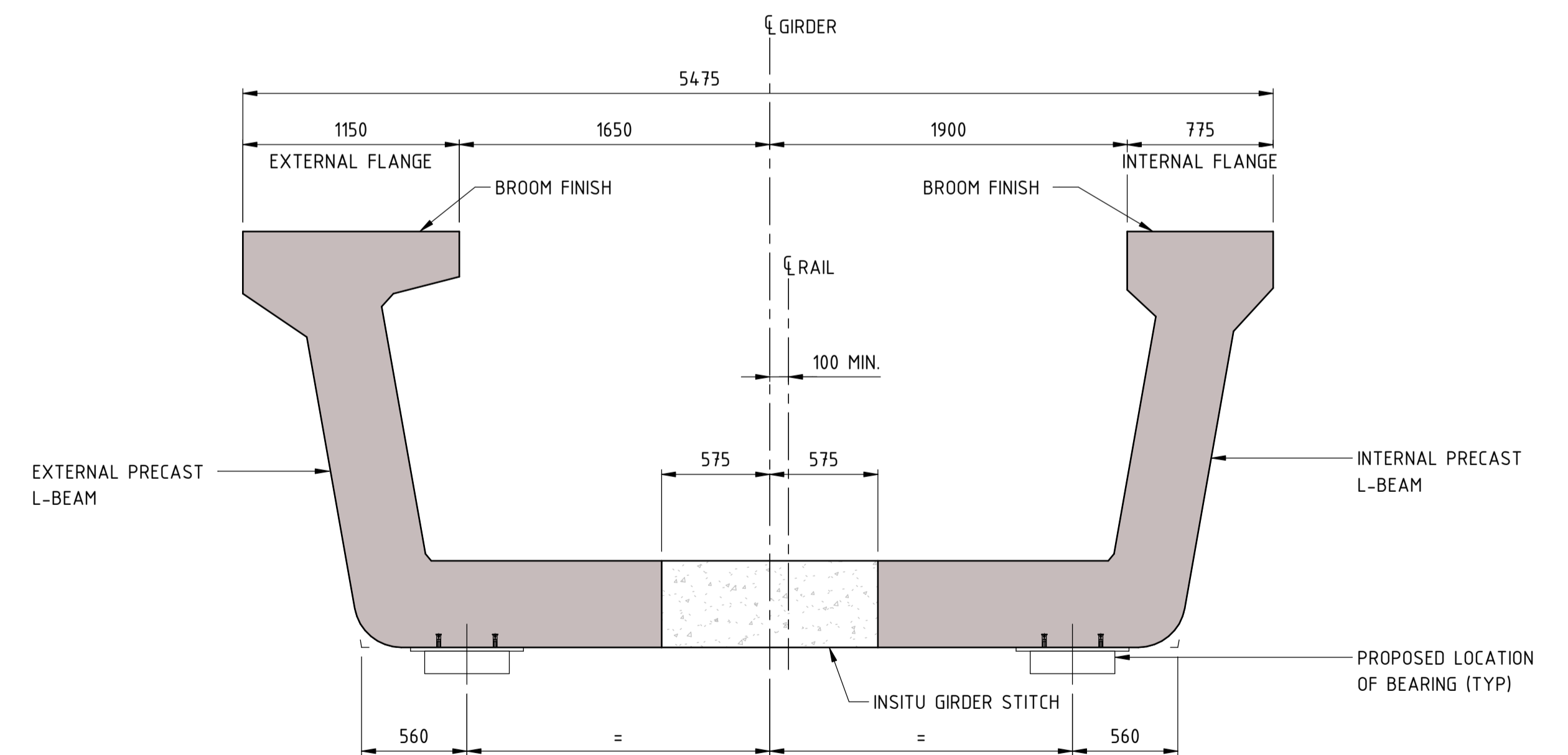
TYPICAL U-TROUGH ELEVATION - 26200

SCALE 1 : 50



U-TROUGH AT MIDSPAN

SECTION S1
SCALE 1:25



U-TROUGH SECTION AT DIAPHRAGMS

SECTION S2
SCALE 1:25

1:50 (A1) / 1:100 (A3) 0 500mm 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500

FOR INFORMATION

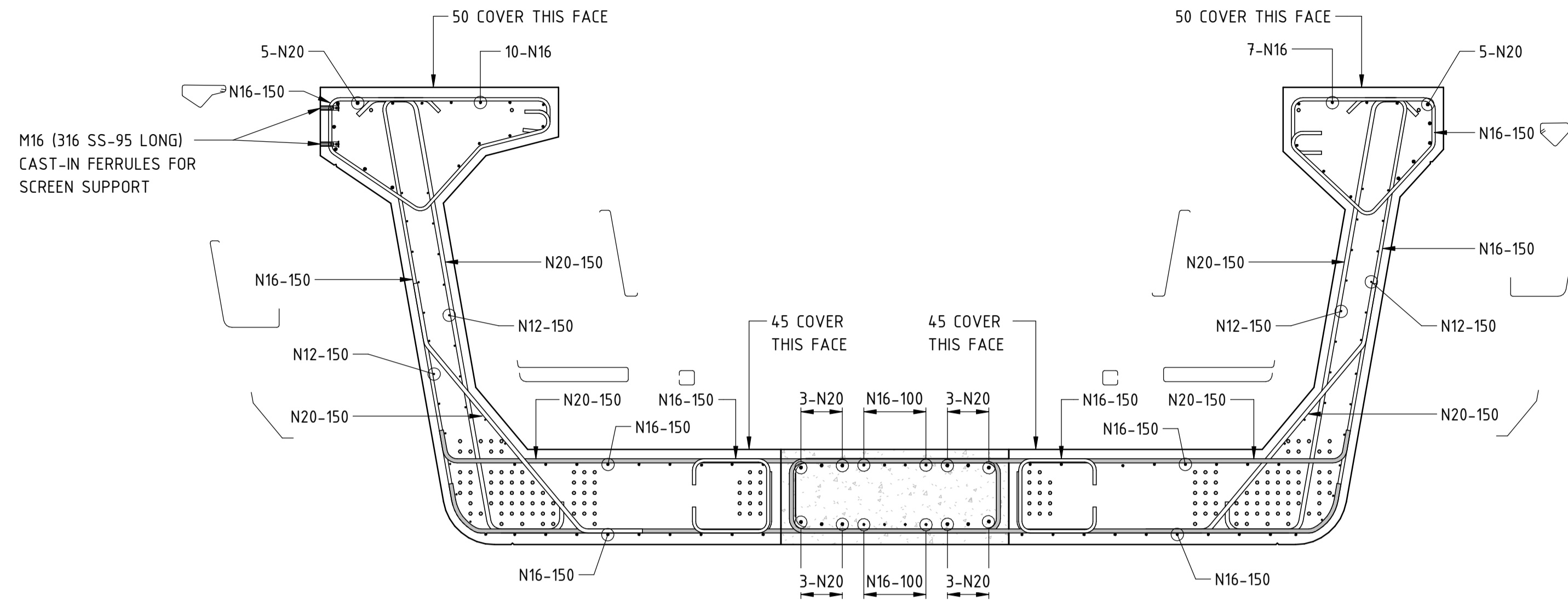
	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT U-TROUGH TYPICAL SECTIONS - SHEET 6	
PTA Drawing No: 00480	Rev: A01

REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
A01	21.06.22	ISSUED FOR INFORMATION				
AMENDMENT	DSN	DRN	CHK	APP		
ORIG SIZE A1			This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
AT ORIGINAL PLOT SIZE						

ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

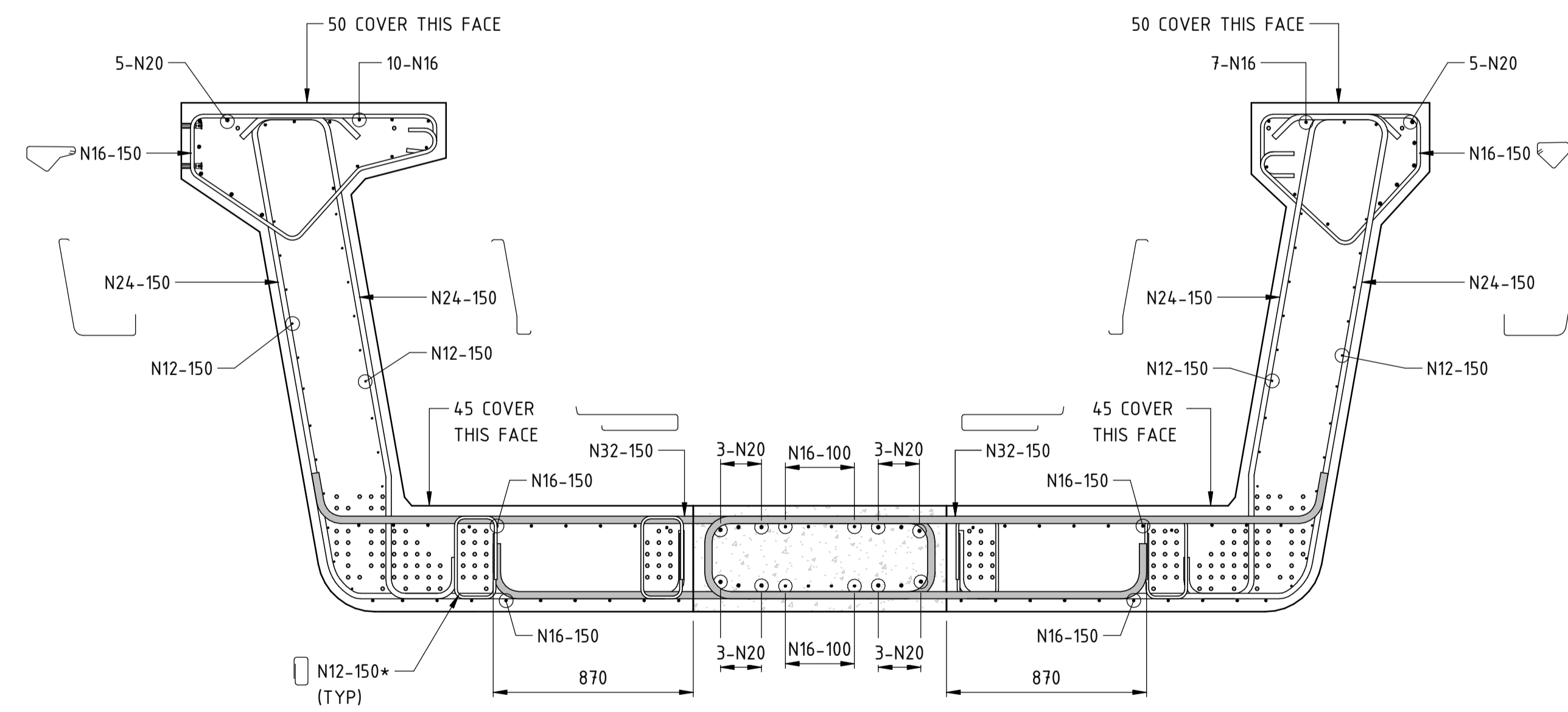
Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00480

VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		As indicated	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22

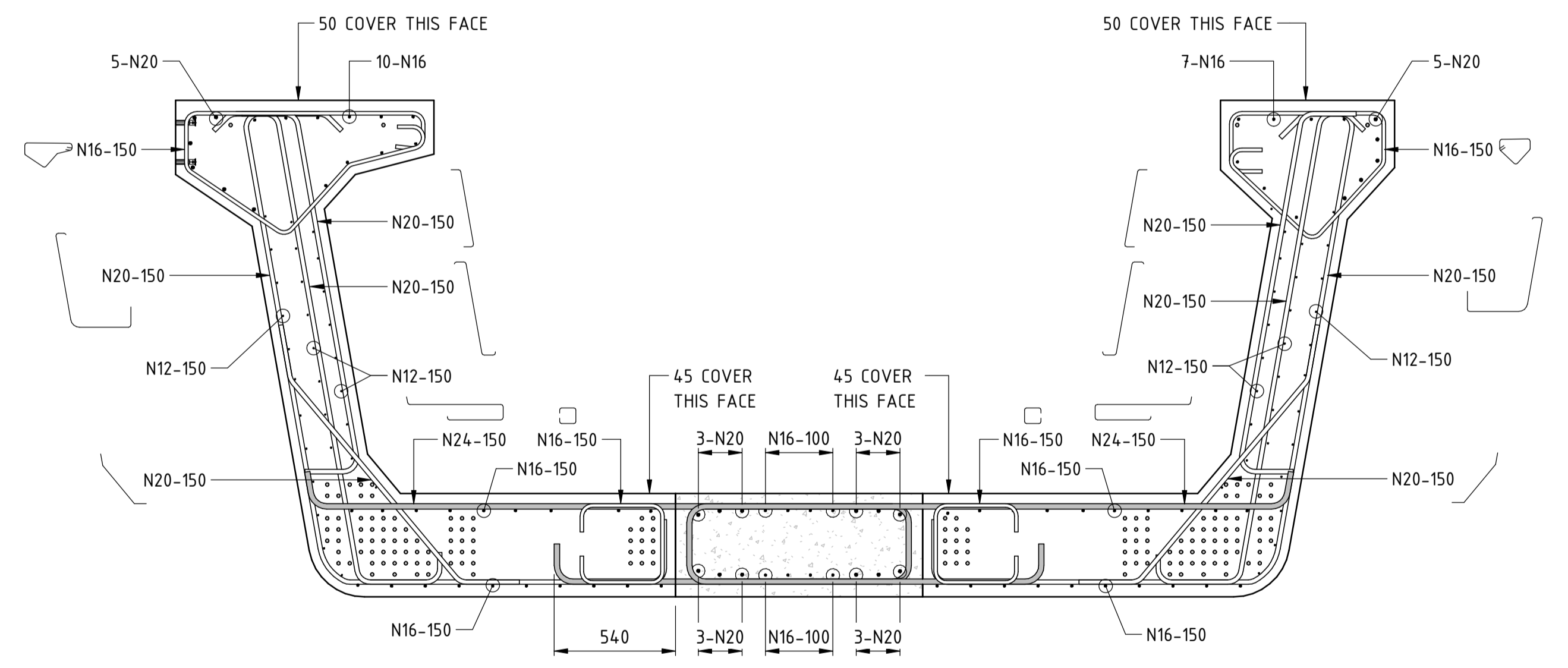


U-TROUGH REINFORCEMENT STANDARD SECTION
SCALE 1:20

NOTE: 40mm COVER TO REINFORCEMENT UNO



U-TROUGH REINFORCEMENT DIAPHRAGM SECTION
SCALE 1:20
NOTE: * NOT REQUIRED FOR 26.2m AND 28.1m SPAN GIRDERS



U-TROUGH REINFORCEMENT TRANSITION SECTION
SCALE 1:20

1:20 (A1) / 1:40 (A3) 0 200mm 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000

FOR INFORMATION

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT U-TROUGH REINFORCEMENT SECTIONS PTA Drawing No: 00498	
DESIGNED C.CHANG DRAWN L.RADICI CHECKED R.PEYILA APPROVED W.SCHWARZ DATE 21.06.22	Rev: A01

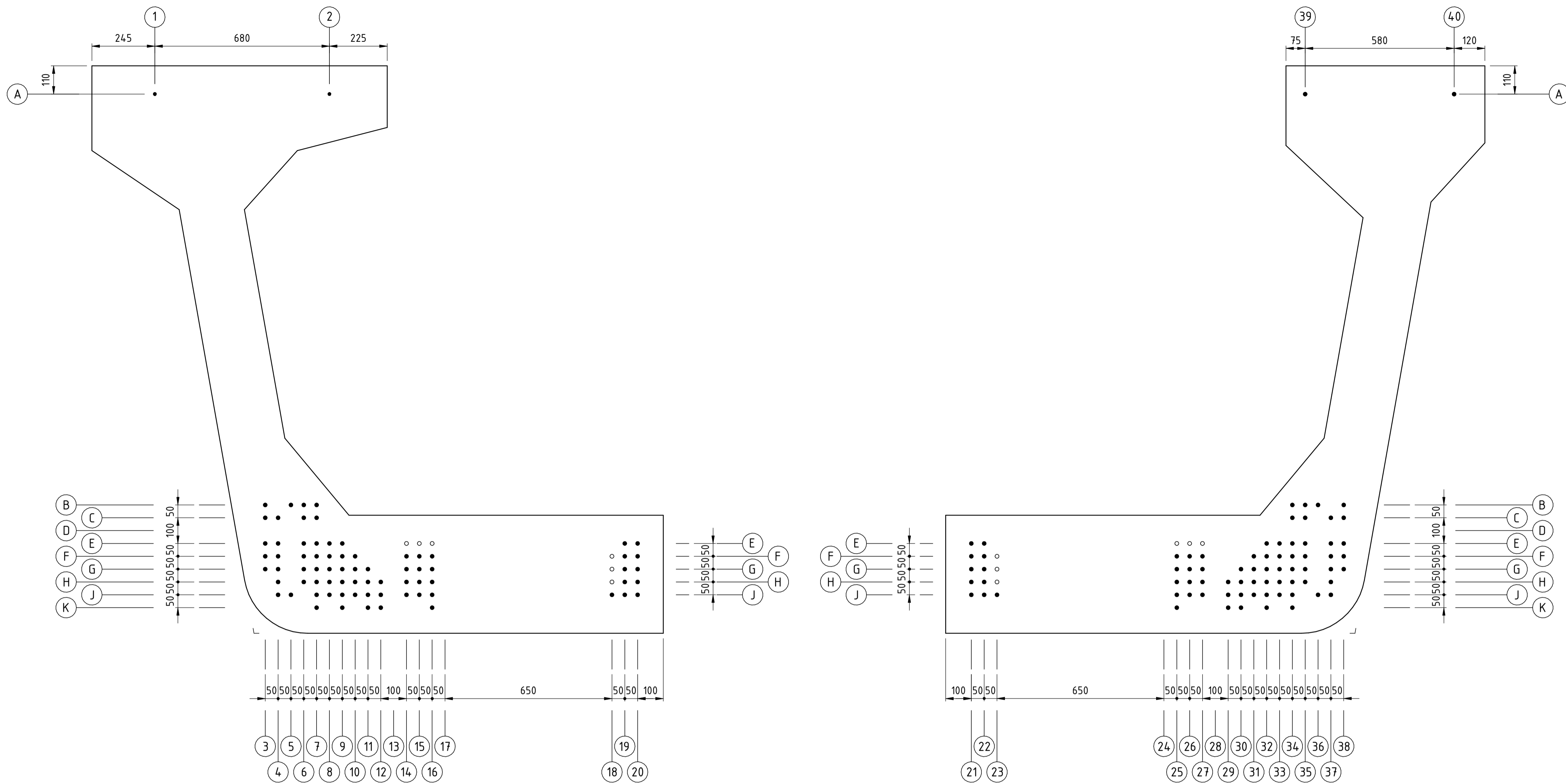
REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
A01	21.06.22	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE						
A1		AT ORIGINAL PLOT SIZE				

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ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00498

VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		1 : 20	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22



EXTERNAL L-BEAM
SCALE 1:10

INTERNAL L-BEAM
SCALE 1:10

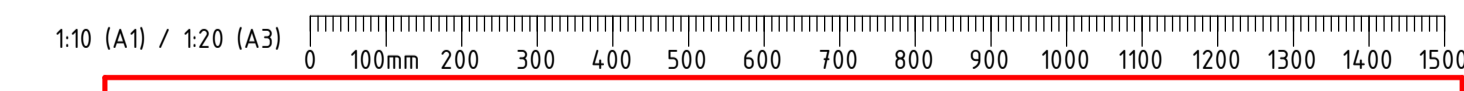
**PRE-STRESSING STRAND ARRANGEMENT
(TYPICAL 29.9m BEAM) AT STATION**

LEGEND:

- - STRAND WITH NO DEBONDING
- (with 4500) - STRAND WITH DEBONDING LENGTH 'L'
- - NO STRAND
- ⊗ - PROVISIONAL STRANDS FOR ANCHOR BED (TBC - IDD PHASE)

EXTERNAL L-BEAM (29.9m BEAM)																					
STRAND No.	DEBONDING LENGTH FROM EACH END (mm)																				STRANDS PER ROW
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
ROW A	0	0																			2
ROW B			0		4500	0	4500														4
ROW C			4500	0		4500	0														4
ROW D																					-
ROW E			0	4500		0	4500	0	4500										0	0	8
ROW F			4500	0		4500	0	4500	0	4500			4500	0	4500				0	0	12
ROW G			0	4500	0		4500	0	4500	0	4500			0	4500	0			0	0	13
ROW H				0		4500	0	4500	0	4500	0	4500		4500	0	4500			0	0	13
ROW J				4500	0		4500	0	4500	0	4500			0	4500	0			0	0	14
ROW K																4500					5
																					TOTAL
																					75

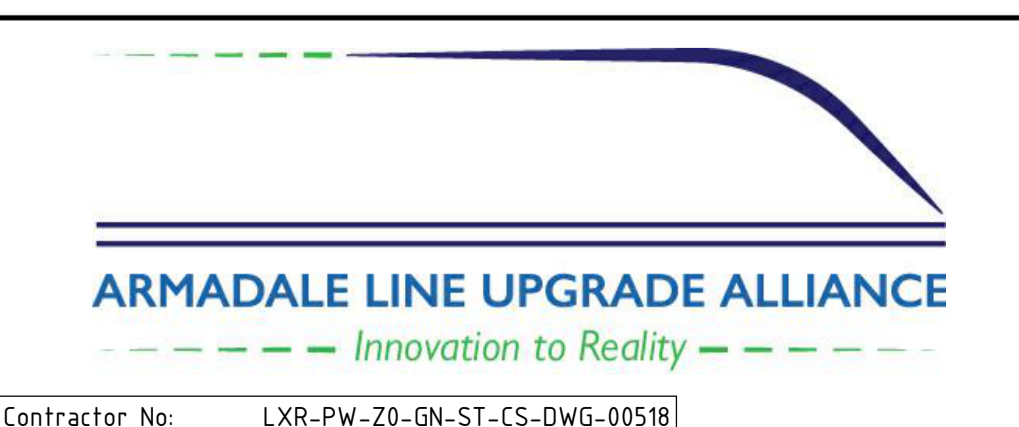
INTERNAL L-BEAM (29.9m BEAM)																					
STRANDS PER ROW	DEBONDING LENGTH FROM EACH END (mm)																				STRAND No.
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
ROW A																			0	0	ROW A
ROW B														4500	0	4500			0		ROW B
ROW C														0	4500			0	4500		ROW C
ROW D																					ROW D
ROW E	8	0	0										4500	0	4500	0		4500	0		ROW E
ROW F	12	0	0					4500	0	4500			4500	0	4500	0	4500	0	4500		ROW F
ROW G	13	0	0					0	4500	0			4500	0	4500	0	4500	0	4500	0	ROW G
ROW H	13	0	0					4500	0	4500			4500	0	4500	0	4500	0	4500	0	ROW H
ROW J	14	0	0	0				0	4500	0			0	4500	0	4500	0	4500	0		ROW J
ROW K	5																				ROW K
75								4500						4500	0			0			TOTAL



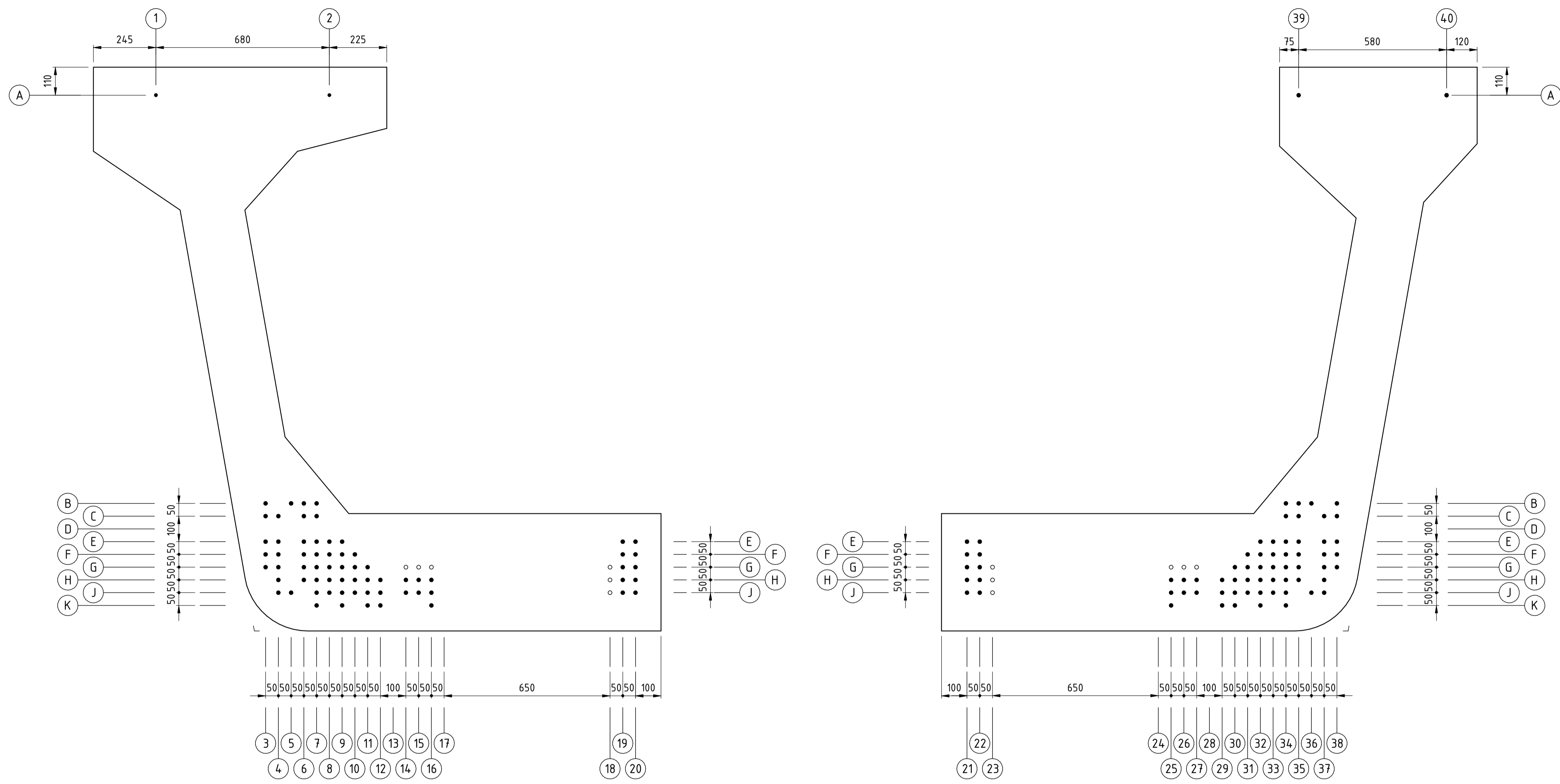
FOR INFORMATION

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT L-BEAM - PRE-STRESSING DETAILS - SHEET 1	
DESIGNED: C.CHANG DRAWN: L.RADICI CHECKED: R.PEYILA APPROVED: W.SCHWARZ DATE: 21.06.22	PTA Drawing No: 00518 Rev: A01

REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
A01	21.06.22	ISSUED FOR INFORMATION				
AMENDMENT DSN DRN CHK APP						
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A1		AT ORIGINAL PLOT SIZE		Contractor No: LXR-PW-Z0-GN-ST-CS-M3D-00002.rvt		



VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		1 : 10	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22



EXTERNAL L-BEAM
SCALE 1:10

INTERNAL L-BEAM
SCALE 1:10

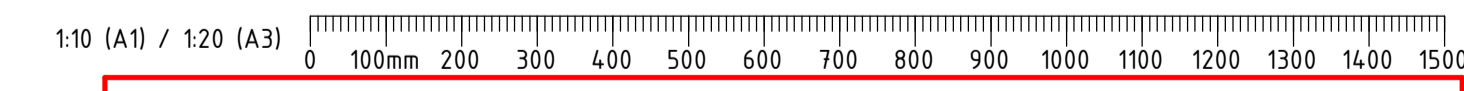
**PRE-STRESSING STRAND ARRANGEMENT
(TYPICAL 29.9m-30.05m BEAM) ON VIADUCT**

LEGEND:

- - STRAND WITH NO DEBONDING
- (with 4500) - STRAND WITH DEBONDING LENGTH 'L'
- - NO STRAND
- ⊗ - PROVISIONAL STRANDS FOR ANCHOR BED (TBC - IDD PHASE)

EXTERNAL L-BEAM (29.9m-30.05m BEAM)																					STRANDS PER ROW
STRAND No.	DEBONDING LENGTH FROM EACH END (mm)																				
ROW A	0	0																			2
ROW B			0		4500	0	4500														4
ROW C			4500	0		4500	0														4
ROW D																					-
ROW E			0	4500	0	4500	0	4500											0	0	8
ROW F			4500	0		4500	0	4500	0	4500									0	0	9
ROW G			0	4500	0	4500	0	4500	0	4500	0	4500							0	0	10
ROW H				0		4500	0	4500	0	4500	0	4500	0	4500					4500	0	13
ROW J				4500	0		4500	0	4500	0	4500	0			0	4500	0			0	13
ROW K																				0	5
	TOTAL																				68

INTERNAL L-BEAM (29.9m-30.05m BEAM)																					STRAND No.
STRANDS PER ROW	DEBONDING LENGTH FROM EACH END (mm)																				
ROW A	2																				2
ROW B	4																				4
ROW C	4																				4
ROW D	-																				-
ROW E	8	0	0																		8
ROW F	9	0	0																		9
ROW G	11	0	0																		11
ROW H	13	0	0																		13
ROW J	13	0	0																		13
ROW K	5																				5
	TOTAL																				68



FOR INFORMATION

VICTORIA PARK TO CANNING
LEVEL CROSSING REMOVAL

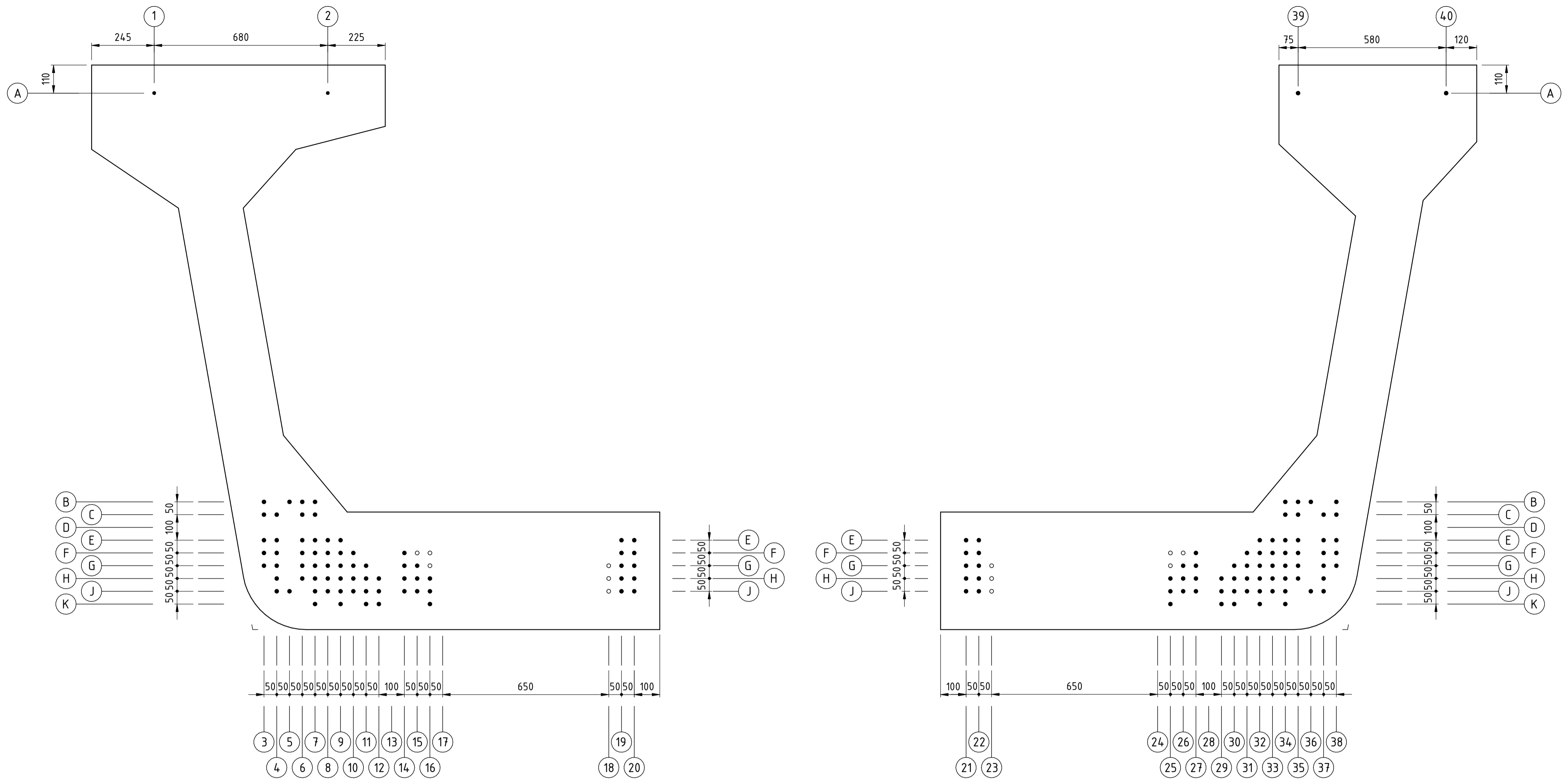
PROJECT WIDE - CIVIL STRUCTURES
VIADUCT
L-BEAM - PRE-STRESSING DETAILS - SHEET 2

PTA Drawing No: 00519 Rev: A01

A01	21.06.22	ISSUED FOR INFORMATION	CC	LR	RP	WS
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE	AT ORIGINAL PLOT SIZE					
A1						

Contractor No: LXR-PW-Z0-GN-ST-CS-M3D-00002.rvt

VALIDATION	REFERENCES	SCALE	DESIGNED
SIGNATURE		1 : 10	C.CHANG
DATE		DATUM	DRAWN
DATE APPROVED		HORIZONTAL: PCG20	L.RADICI
		VERTICAL: AHD71	CHECKED
			R.PEYILA
			APPROVED
			W.SCHWARZ
			DATE
			21.06.22



- PRESTRESSING NOTES:**
1. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT TRANSFER OF PRESTRESS SHALL BE 35MPa.
 2. ALL STRANDS SHALL BE A 7 WIRE, STRESS-RELIEVED, LOW RELAXATION (RELAX 2) COMPLYING WITH AS 4672.
 3. STRANDS SHALL BE 15.2mm NOMINAL DIAMETER WITH MINIMUM TENSILE STRENGTH OF 1830 MPa AND MINIMUM BREAKING LOAD OF 261 kN.
 4. TOTAL INITIAL FORCE IN EACH STRAND AFTER ALLOWANCES HAVE BEEN MADE FOR ALL LOSSES IN GRIPS AND JACKS SHALL BE 209 kN.
 5. AFTER TRANSFER OF PRESTRESS, STRANDS SHALL BE CUT FLUSH WITH THE CONCRETE SURFACE AND EXPOSED STRANDS SHALL BE SEALED AGAINST CORROSION BY THE APPLICATION OF AN APPROVED EXPOXY RESIN.
 6. DIMENSIONED LENGTH OF THE GIRDERS IS REQUIRED LENGTH OF THE FINISHED PRODUCT
 7. STRANDS SHALL BE RELEASED IN SUCH A MANNER TO MINIMISE ECCENTRIC FORCES IN THE MEMBER.
 8. ALL L-BEAMS SHALL BE MINIMUM 30 DAYS OLD BEFORE CARRYING OUT IN-SITU STITCH POUR.

EXTERNAL L-BEAM
SCALE 1:10

INTERNAL L-BEAM
SCALE 1:10

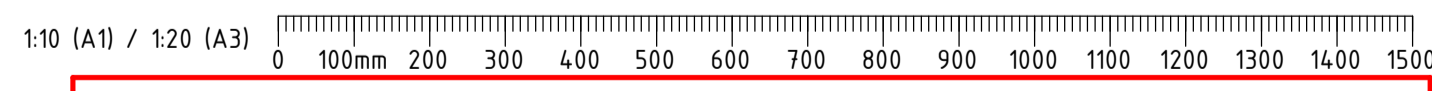
**PRE-STRESSING STRAND ARRANGEMENT
(TYPICAL 30.6m-31.05m BEAM) ON VIADUCT**

LEGEND:

- - STRAND WITH NO DEBONDING
- ◻ (with 4500) - STRAND WITH DEBONDING LENGTH 'L'
- ◻ (grey) - NO STRAND
- ◻ (with X) - PROVISIONAL STRANDS FOR ANCHOR BED (TBC - IDD PHASE)

EXTERNAL L-BEAM (30.6m-31.05m BEAM)																					
DEBONDING LENGTH FROM EACH END (mm)																					
STRAND No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	STRANDS PER ROW
ROW A	0	0																			2
ROW B			0		4500	0	4500														4
ROW C			4500	0		4500	0														4
ROW D																					-
ROW E			0	4500		0	4500	0	4500										0	0	8
ROW F			4500	0		4500	0	4500	0	4500			4500	◻	◻				0	0	10
ROW G			0	4500		0	4500	0	4500	0	4500			4500	◻	◻			0	0	12
ROW H			0		4500	0	4500	0	4500	0	4500		4500	0	4500		◻	◻	0	0	13
ROW J				4500	0		4500	0	4500	0	4500			0	4500	0			0	0	13
ROW K							0				0	4500				4500					5
																					TOTAL
																					71

INTERNAL L-BEAM (30.6m-31.05m BEAM)																					
DEBONDING LENGTH FROM EACH END (mm)																					
STRANDS PER ROW	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	STRAND No.
ROW A	2																		0	0	ROW A
ROW B	4													4500	0	4500			0	0	ROW B
ROW C	4													0	4500			0	4500	0	ROW C
ROW D	-																				ROW D
ROW E	8	0	0										4500	0	4500	0		4500	0	0	ROW E
ROW F	9	0	0				4500			4500	0	4500	0	4500	0	4500	0	4500	0	0	ROW F
ROW G	11	0	0				4500	0		4500	0	4500	0	4500	0	4500	0	4500	0	0	ROW G
ROW H	13	0	0				4500	0	4500	0	4500	0	4500	0	4500	0	4500	0	0	0	ROW H
ROW J	13	0	0				0	4500	0		0	4500	0	4500	0	4500	0	0	4500	0	ROW J
ROW K	5																				ROW K
	71																				TOTAL



FOR INFORMATION

		VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT L-BEAM - PRE-STRESSING DETAILS - SHEET 3 PTA Drawing No: 00520		
	DESIGNED: C.CHANG DRAWN: L.RADICI CHECKED: R.PEYILA APPROVED: W.SCHWARZ DATE: 21.06.22	Rev: A01

A01	21.06.22	ISSUED FOR INFORMATION	CC	LR	RP	WS			
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP			
ORIG SIZE			This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.						
A1	AT ORIGINAL PLOT SIZE		Contractor No: LXR-PW-Z0-GN-ST-CS-DWG-00520						

ARMADALE LINE UPGRADE ALLIANCE
Innovation to Reality

VALIDATION

SIGNATURE

DATE

DATE APPROVED

REFERENCES

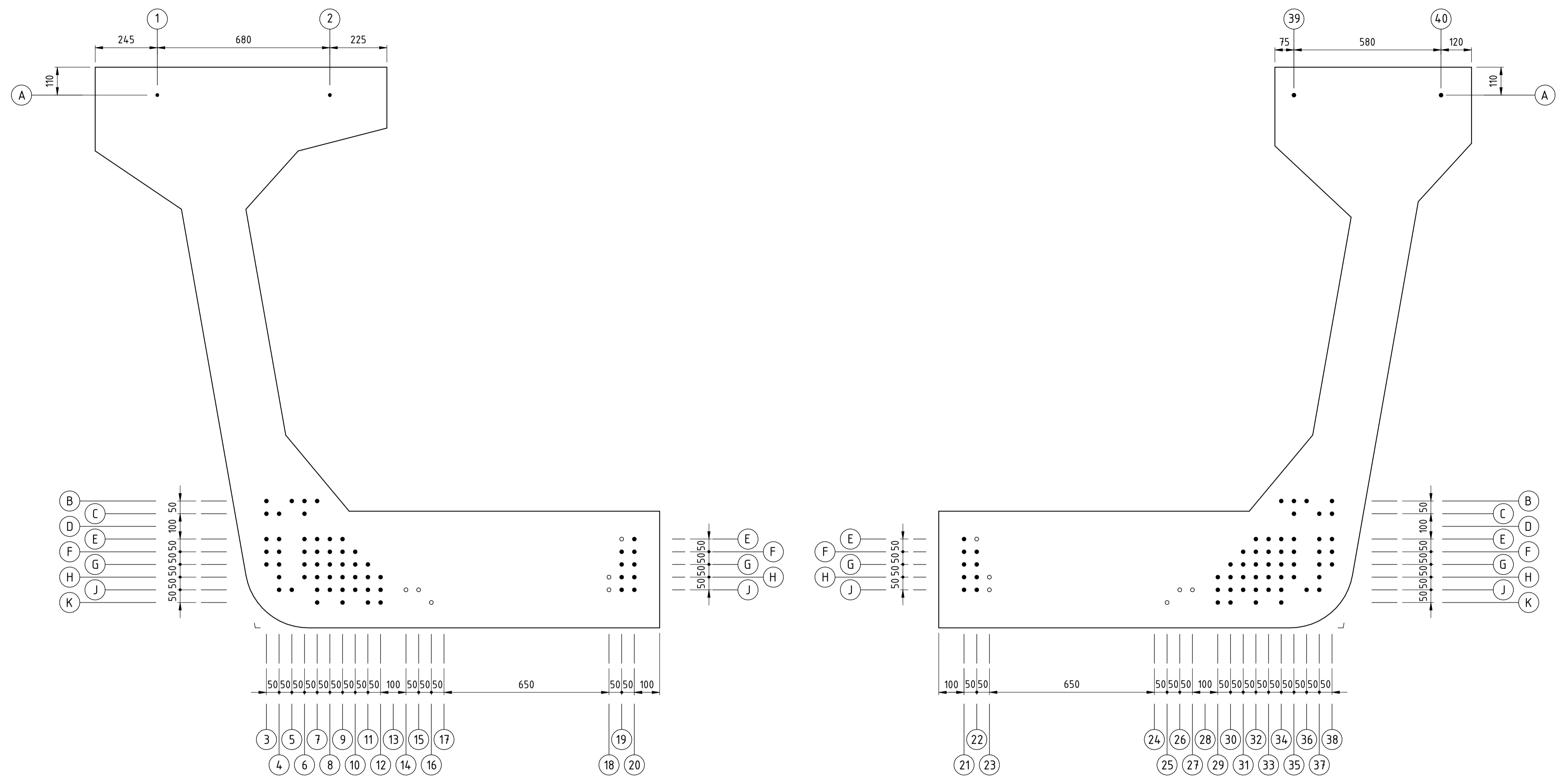
SCALE

1 : 10

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71



EXTERNAL L-BEAM
SCALE 1:10

INTERNAL L-BEAM
SCALE 1:10

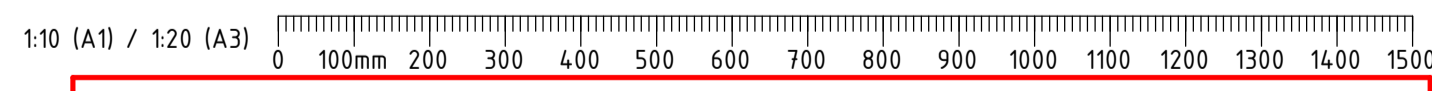
**PRE-STRESSING STRAND ARRANGEMENT
(TYPICAL 28.1m BEAM) ON VIADUCT**

LEGEND:

- - STRAND WITH NO DEBONDING
- (with 4500) - STRAND WITH DEBONDING LENGTH 'L'
- - NO STRAND
- ⊗ - PROVISIONAL STRANDS FOR ANCHOR BED (TBC - IDD PHASE)

STRAND No.	EXTERNAL L-BEAM (28.1m BEAM)																				STRANDS PER ROW
	DEBONDING LENGTH FROM EACH END (mm)																				
ROW A	0	0																			2
ROW B			0		4500	0	4500														4
ROW C			4500	0		4500															3
ROW D																					-
ROW E			0	4500		0	4500	0	4500	0	4500									⊗	7
ROW F			4500	0		4500	0	4500	0	4500	0	4500									9
ROW G			0	4500		0	4500	0	4500	0	4500	0	4500								10
ROW H			0		4500	0		4500	0		4500	0		4500							10
ROW J				4500	0		4500	0		4500	0		4500	0							10
ROW K																					4
TOTAL																				59	

STRANDS PER ROW	INTERNAL L-BEAM (28.1m BEAM)																				STRAND No.
	DEBONDING LENGTH FROM EACH END (mm)																				
2																					ROW A
4																					ROW B
3																					ROW C
-																					ROW D
7	0	⊗																			ROW E
9	0	0																			ROW F
10	0	0																			ROW G
10	0	0																			ROW H
10	0	0																			ROW J
4																					ROW K
59	TOTAL																				



FOR INFORMATION

REV	DATE	ISSUED FOR INFORMATION	CC	LR	RP	WS
A01	21.06.22	AMENDMENT	DSN	DRN	CHK	APP
ORIG SIZE		AT ORIGINAL PLOT SIZE		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.		
A1		100mm		Contractor No: LXR-PW-Z0-GN-ST-CS-M3D-00002.rvt		

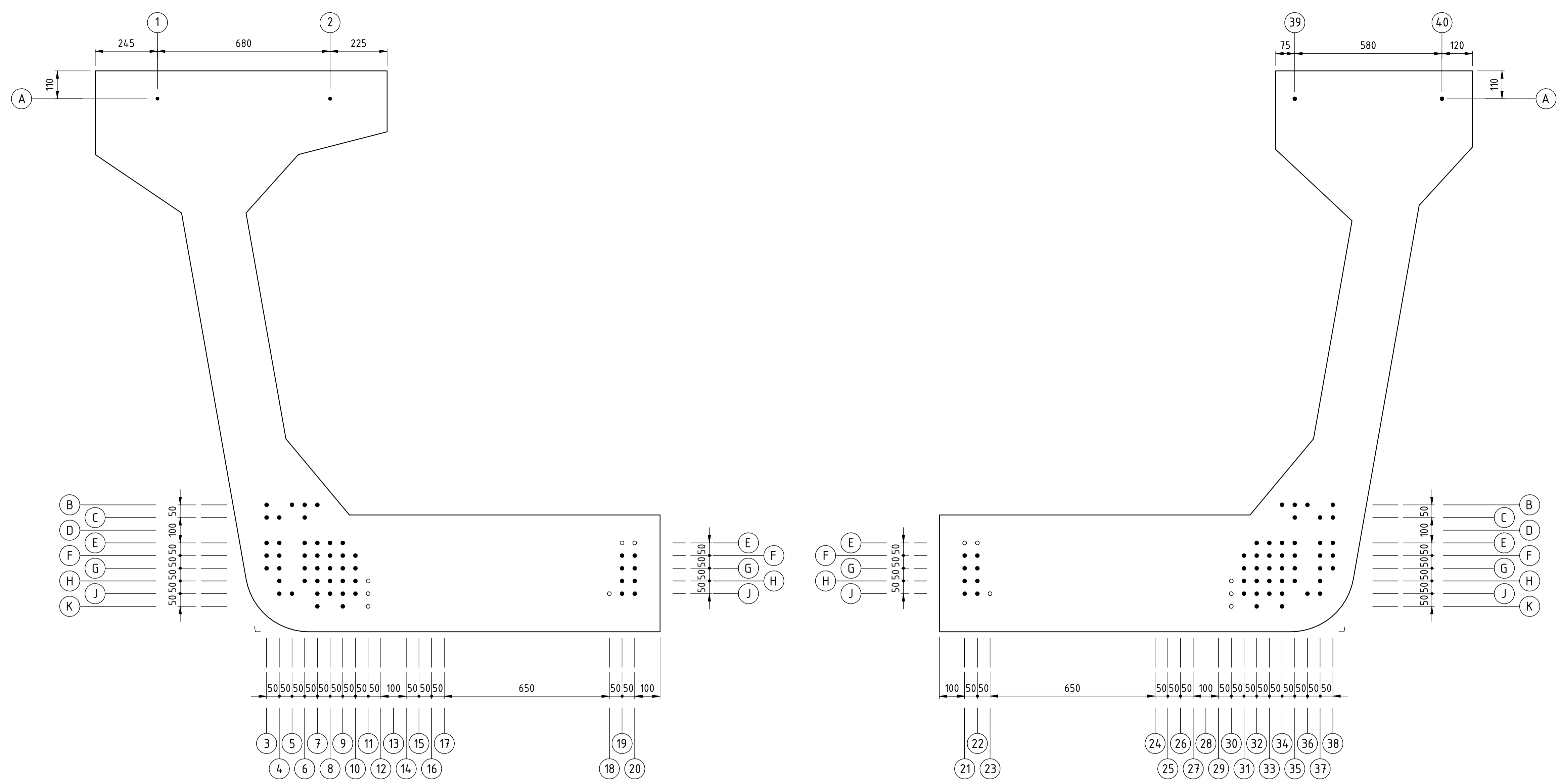


VALIDATION
SIGNATURE
DATE
DATE APPROVED

REFERENCES
SCALE
1 : 10
DATUM
HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED C.CHANG
DRAWN L.RADICI
CHECKED R.PEYILA
APPROVED W.SCHWARZ
DATE 21.06.22

Government of Western Australia
Public Transport Authority
VICTORIA PARK TO CANNING
LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES
VIADUCT
L-BEAM - PRE-STRESSING DETAILS - SHEET 4
PTA Drawing No: 00521
Rev: A01



EXTERNAL L-BEAM
SCALE 1:10

INTERNAL L-BEAM
SCALE 1:10

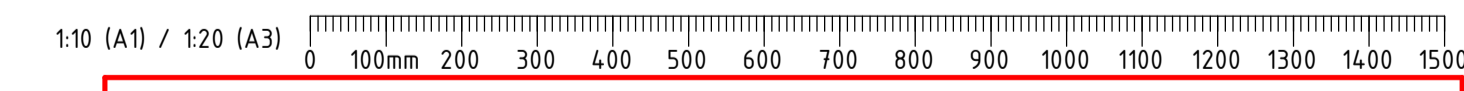
**PRE-STRESSING STRAND ARRANGEMENT
(TYPICAL 26.2m BEAM) ON VIADUCT**

LEGEND:

- 0 - STRAND WITH NO DEBONDING
- 4500 - STRAND WITH DEBONDING LENGTH 'L'
- NO STRAND
- PROVISIONAL STRANDS FOR ANCHOR BED (TBC - IDD PHASE)

STRAND No.	EXTERNAL L-BEAM (26.2m BEAM)																				STRANDS PER ROW
	DEBONDING LENGTH FROM EACH END (mm)																				
ROW A	0	0																			2
ROW B			0		4500	0	4500														4
ROW C			4500	0		4500															3
ROW D																					-
ROW E			0	4500		0	4500	0	4500												6
ROW F			4500	0		4500	0	4500	0	4500											9
ROW G			0	4500		0	4500	0	4500	0											9
ROW H			0		4500	0	4500	0	4500	0											8
ROW J			4500	0		4500	0	4500	0												8
ROW K																					2
TOTAL																				51	

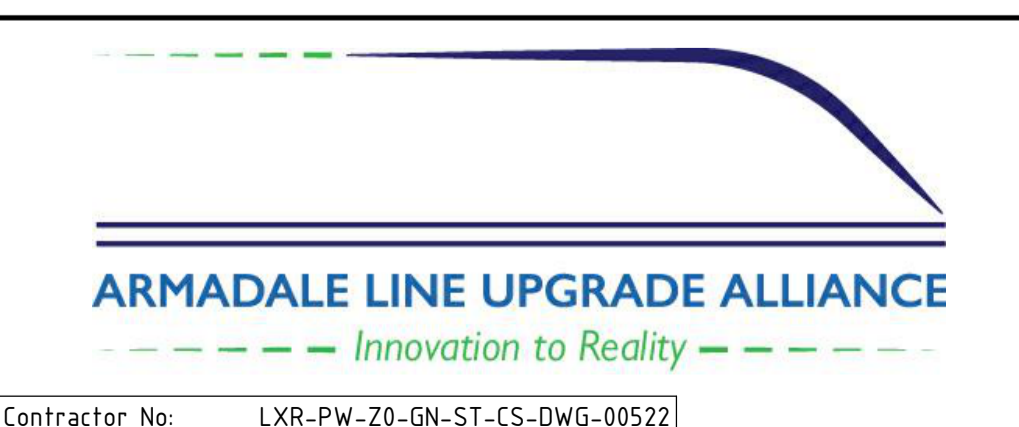
STRANDS PER ROW	INTERNAL L-BEAM (26.2m BEAM)																				STRAND No.	
	DEBONDING LENGTH FROM EACH END (mm)																					
2																					ROW A	
4																				4500	0	ROW B
3																				4500	0	ROW C
-																					0	ROW D
6																					4500	ROW E
9	0	0																		4500	0	ROW F
9	0	0																		4500	0	ROW G
8	0	0																		4500	0	ROW H
8	0	0																		4500	0	ROW J
2																						ROW K
51	TOTAL																					



FOR INFORMATION

	VICTORIA PARK TO CANNING LEVEL CROSSING REMOVAL
PROJECT WIDE - CIVIL STRUCTURES VIADUCT L-BEAM - PRE-STRESSING DETAILS - SHEET 5 PTA Drawing No: 00522	
Rev: A01	

A01	21.06.22	ISSUED FOR INFORMATION	CC	LR	RP	WS			
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DATE
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REFERENCES

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1 : 10

DATUM
HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED C.CHANG
DRAWN L.RADICI
CHECKED R.PEYILA
APPROVED W.SCHWARZ
DATE 21.06.22