

17th November 2020

Health Infrastructure

Level 14, 77 Pacific Hwy

NORTH SYDNEY, NSW, 2059

c/-CBRE – Malcolm Smith

Attention: Mr. Malcolm Smith

Contract Between Health Infrastructure and CPB Contractors Pty Ltd

Project Name: Campbelltown Hospital Redevelopment Main works (HI 18467)

RE: REQUEST REMOVAL OF CONDITION B20 (e) – APPIN RD RETAIN EXISTING DECELERATION LANE

Dear Malcolm,

Pursuant to the relevant Development Consent SSD9241 issued 18th February 2019, CPB Contractors requests Health Infrastructure (the Applicant), apply for the removal of condition B20(e). This is to allow the retention of existing deceleration lane at Appin Road.

The removal of condition B20(e) is requested with the following justification:

- Environmental and safety impacts outlined in Enstruct - Appin Road Existing Deceleration Lane Report
- Consultation with Transport for NSW has raised no objections to the retention of the existing deceleration lane – Refer Attachment 1 from Suthes Kumar the Project-Contract Managers from Transport for NSW.

For any further detail, please contact the undersigned.

Regards,

CPB CONTRACTORS PTY LIMITED



Scott Knight

Project Director (Contractors Authorised Person)

Attachments:

1. TfNSW email – Suthes Kumar
2. Enstruct Report
3. Appin Rd Design Drawings

Knight, Scott

From: Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Sent: Tuesday, 10 November 2020 8:34 AM
To: Reilly, Christopher
Cc: Knight, Scott; Favotto, Raz; Lynch, Iain; O'Connell, Tadhg; Sgambellone, Frank
Subject: Campbelltown Hospital - Appin Road - Existing Deceleration

CAUTION: This email originated from outside of the Organisation.

Hi Reilly,

Although TfNSW considers the removal of the unwanted/unused deceleration as the best practice, TfNSW raises no objection to the retention of the existing deceleration lane given the circumstances outlined in the report prepared by **enstruct**, subject to modification of the DA condition relating to existing deceleration lane by the Consent Authority.

Regards
Suthes Kumar
Project-Contract Manager
North West Precinct | Sydney Roads | Greater Sydney
T 02 9598 7735 M 0408 655 528

Transport for NSW
129a Orchardleigh Street, Yennora NSW 2161



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Always Will Be.**
8-15 NOV 2020

From: Reilly, Christopher [mailto:Christopher.Reilly@cpbcon.com.au]
Sent: Tuesday, 10 November 2020 8:13 AM
To: Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>
Cc: Knight, Scott <scott.knight@cpbcon.com.au>; Favotto, Raz <Raz.Favotto@cpbcon.com.au>; Lynch, Iain <Iain.Lynch@cpbcon.com.au>; O'Connell, Tadhg <Tadhg.O'Connell@cpbcon.com.au>; Sgambellone, Frank <Frank.Sgambellone@cpbcon.com.au>
Subject: RE: Campbelltown Hospital - Appin Road - Detailed Design Drawing submission

Morning Suthes,
Please confirm the correspondence below confirm TfNSW support the retention of existing declaration lane.

Regards

Chris Reilly
Area Manager



Central Road and Therry Road, Campbelltown, NSW 2560,
M 0418 736 083

E Christopher.Reilly@cpbcon.com.au

A MEMBER OF THE CIMIC GROUP



From: Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>

Sent: Monday, 9 November 2020 9:50 AM

To: Reilly, Christopher <Christopher.Reilly@cpbcon.com.au>

Cc: Knight, Scott <scott.knight@cpbcon.com.au>; Favotto, Raz <Raz.Favotto@cpbcon.com.au>; Lynch, Iain <Iain.Lynch@cpbcon.com.au>; O'Connell, Tadhg <Tadhg.O'Connell@cpbcon.com.au>; Sgambellone, Frank <Frank.Sgambellone@cpbcon.com.au>

Subject: RE: Campbelltown Hospital - Appin Road - Detailed Design Drawing submission

CAUTION: This email originated from outside of the Organisation.

Hi Reilly,

With reference to your request in relation to the retention of existing deceleration lane, TfNSW reviewed the report prepared by enstruct and request the Developer to submit an application to the consent authority to modify the condition that requires the removal of the deceleration lane.

Regards

Suthes Kumar

Project-Contract Manager

North West Precinct | Sydney Roads | Greater Sydney

T 02 9598 7735 M 0408 655 528

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From: Yee, Benjamin [<mailto:Benjamin.Yee@cpbcon.com.au>]

Sent: Monday, 28 September 2020 2:31 PM

To: Suthes Kumar <Suthes.KUMAR@transport.nsw.gov.au>

Cc: Knight, Scott <scott.knight@cpbcon.com.au>; Favotto, Raz <Raz.Favotto@cpbcon.com.au>; Lynch, Iain <Iain.Lynch@cpbcon.com.au>; Reilly, Christopher <Christopher.Reilly@cpbcon.com.au>; O'Connell, Tadhg <Tadhg.O'Connell@cpbcon.com.au>; Sgambellone, Frank <Frank.Sgambellone@cpbcon.com.au>
Subject: Campbelltown Hospital - Appin Road - Detailed Design Drawing submission

Hi Suthes,
Please find attached filled in design review register and link to download the updated drawings for Appin Road for your review.

The following documents issued as part of this submission:

1. Civil Drawings including report justifying retention of existing deceleration lane (in response to condition B20(e) of the SSD9241)
2. Street lighting drawings & authority approval
3. HV drawings & authority approval
4. Bore Hole Investigations
5. Existing Utility and Survey

Download drawings from this link:

<https://www.dropbox.com/s/2hz5c0tvum85g32/200928%20-%20RMS%20submission.zip?dl=0>

Please let me know if you need anything else.

Regards

Benjamin Yee

Design Coordinator



Level 2, 177 Pacific Highway, North Sydney, NSW 2060, Australia

T M 0439 795 828

E Benjamin.Yee@cpbcon.com.au

cpbcon.com.au



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CAMPBELLTOWN HOSPITAL REDEVELOPMENT

APPIN ROAD EXISTING DECELERATION LANE

Prepared for: CPB
By: enstruct group pty ltd
September 2020

CAMPBELLTOWN HOSPITAL REDEVELOPMENT

APPIN ROAD EXISTING DECELERATION LANE

ISSUE AUTHORISATION

PROJECT: 5582

Project No: 5582-CV-RPT-0060

Rev	Date	Purpose of Issue / Nature of Revision	Prepared by	Reviewed by	Issue Authorised by
A	30/07/20	FINAL REPORT	KH	PL	PL
B	04/08/20	FINAL REPORT	KH	PL	PL
C	16/09/20	REVISED	KH	PL	PL



enstruct group pty ltd
www.enstruct.com.au

Sydney
61 2 8904 1444
Level 4,
2 Glen Street,
Milsons Point NSW 2061

Melbourne
61 3 9108 1100
Ground Floor.
555 Bourke Street,
Melbourne VIC 3000

Brisbane
61 7 3726 6000
Level 19,
1 Eagle Street
Brisbane QLD 4000

Executive Summary

This report has been prepared to outline CPB's justification not to comply with the SSDA condition Clause B20(e) due to environmental and safety impact to Appin Road and the adjacent property boundary DP 1058047

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1 SSDA Conditions and Proposed Changes

The SSD associated with the upgrade work on Appin Road outline the following works need to be carried out:

B20 (e) The applicant must carry out works to removed the existing deceleration lane and vehicular crossing to Appin Road at no cost to RMS

CPB has reviewed this specific condition with Health Infrastructure on behalf of the SWS LHD Campbelltown Hospital and propose to the amend Clause B20 (e) to read:

The applicant must carry out work to remove the existing vehicular crossing to Appin Road and repurpose the deceleration lane into an emergency breakdown shoulder at no cost to RMS.

2 Description of the Site (Existing Deceleration Lane)

The existing deceleration lane from Appin Road into Campbelltown Hospital is shown below outlined in purple in Figure 1, whereas the proposed declaration lane outline is shown in red.

The existing road deceleration lane length is about 80m, with a width of 3.5m. The deceleration lane is separated from the Appin Road through lanes by a 1.5m cycle lane.

The surface is asphalt, with kerb and gutter on the edge. Located within the gutter are two kerb inlet pits linked via 450mm diameter stormwater pipes. The stormwater pipe crosses Appin Road and connects the median stormwater system.

Behind the kerb and gutter is a W Beam style guard rail for the full length of the deceleration lane. Beyond the guard rail is a drop off about 2m in height difference with a grassed batter.

Water caught on the grassed batter is directed parallel with Appin Road and eventually into the Hospital Campus. The existing upstream catchment that is directed into the Hospital campus via the grassed batter measures about 2500m²



Figure 1 - Existing Deceleration Lane and Proposed Access



Figure 2- Existing Deceleration Lane

Removal of the existing deceleration lane will create the following problems:

1. Increase in area draining into the Hospital Campus
2. Reduced road width leading inability for broken down vehicles
3. The removal of the existing barrier leading to vehicle access to the existing grassed slope.
4. Impact on vehicles on Appin Road during construction due to reduced roadway width

3 Appin Road Annual Average Daily Traffic (AADT)

Vehicle counts reveal that Appin Road has an Annual Average Daily Traffic over 20,000 vehicles which will only increase due to expect growth in the Campbelltown Local Government Area. The vehicle numbers from the RMS for a nearby counter which is applicable to the Appin Road deceleration site is shown below in Figure 3

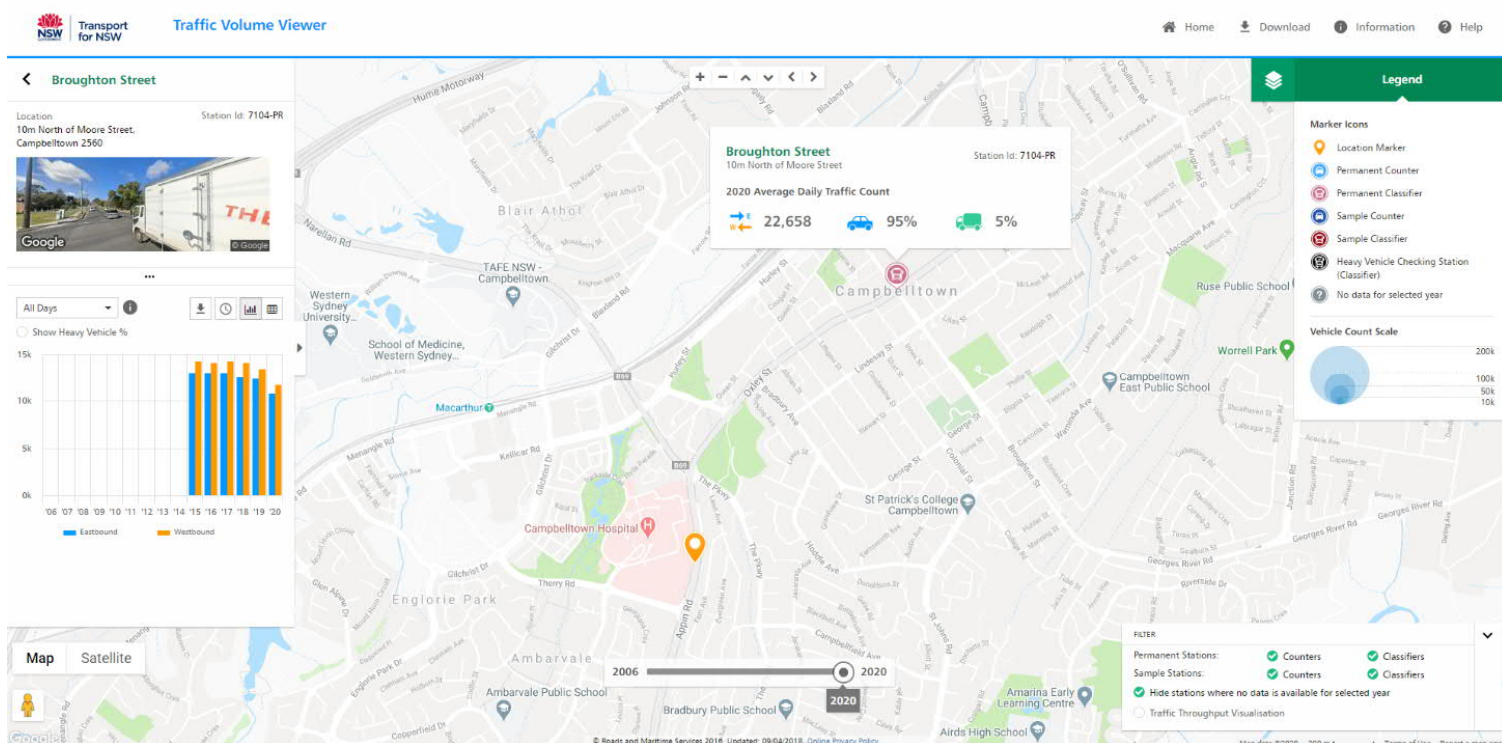


Figure 3 – Traffic Data for Appin Road

3.1 Problem 1 - Stormwater Overland Flow

The grassed batter adjacent to Appin Road drains into the hospital campus, the current flows for the 1% AEP storm event is around 70L/s. Removal of the deceleration lane and increasing the batter area draining into the hospital, will increase flows by approximately 5% in to the campus.

Refer to Figure 4 for the existing catchment draining into the Hospital

The proposed deceleration lane reduction in area has been included in the above 5% increase calculations.

Refer to Figure 5 for the catchment draining into the Hospital should the deceleration lane be removed.



Figure 4 – Road Reserve Draining into the Hospital

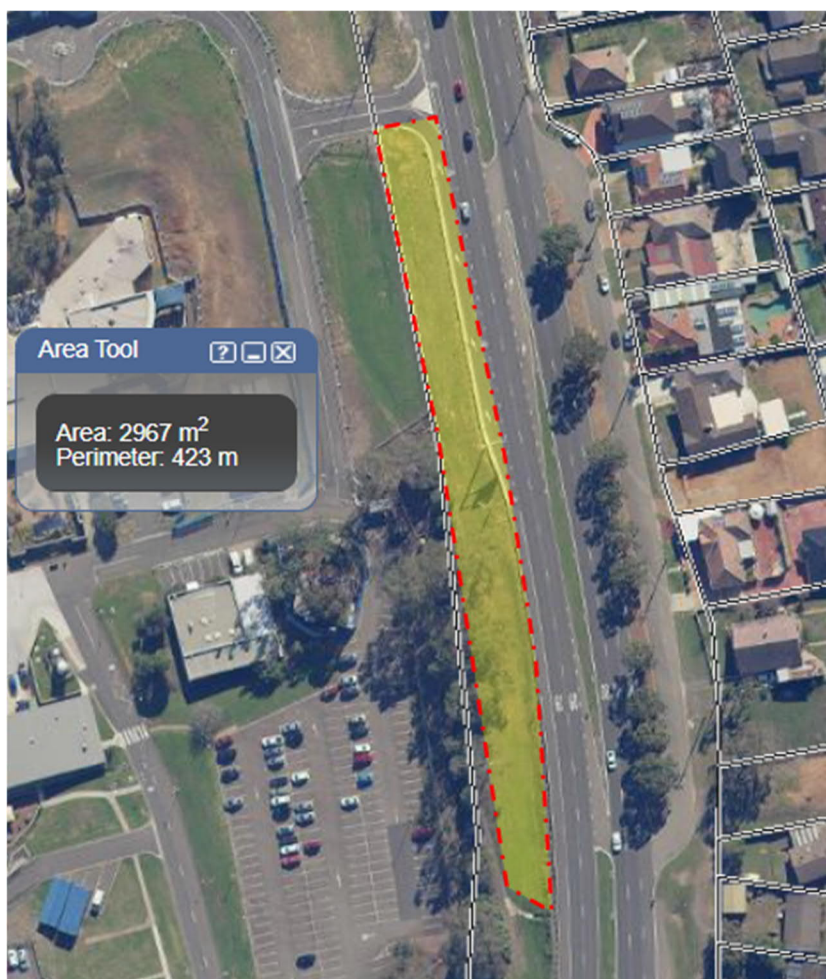


Figure 5 – Additional Road Reserve Draining into the Hospital after Removal of the Deceleration Lane

3.2 Problem 2 – Safety: Removal of Existing Barrier

Removal of the existing deceleration lane will require removal of the existing barrier. The existing barrier prevents errant vehicles egressing onto the batter and the risk of colliding with the proposed relocated overhead signage as well as vehicle overturning risk.

3.3 Problem 3 -Safety: Lane Removal Impact on Existing Traffic

Construction works to remove the deceleration lane pavement, stormwater, barrier, will increase the construction duration for Appin Road works which will increase the impact on vehicles using Appin Road.

4 Opportunity 1 - Break Down Lane

We recommend that the deceleration lane be modified as break down area. Austroads guidelines indicate that roads with an AADT of 20000 or more should have a breakdown shoulder width of 3.0m or more. The existing shoulder is 3.0m meaning the additional 0.5m will provide further clearance to the existing bicycle lane. Refer Figure 6 below for Austroad's supporting information.

Table 4.6: Divided carriageway rural road widths

Element	Design AADT	
	< 20 000	> 20 000
Traffic lanes ⁽¹⁾	3.5	3.5
Shoulder		
Left	2.5	→ 3.0
Median	1.0	1.0
Shoulder seal ^(2, 3)		
Left	1.5	3.0
Median	1.0	1.0

1 Traffic lane widths include lane lines but are exclusive of edge lines.

2 Wider shoulder seals may be appropriate depending on requirements for cyclists, maintenance costs, and soil and climatic conditions.

3 Full width shoulder seals are appropriate beside road safety barriers and on the high side of superelevation.

Figure 6 – Excerpt from Austroad's Guide to Road Design Part 3: Geometric Design

5 Conclusion

We recommend keeping the existing deceleration lane, pavement, and barriers with removal of linemarking, and repurpose the width as a break down shoulder in accordance with Austroad's Geometric Road design.

Keeping the shoulder will reduce the impact on Appin Road traffic during construction, as well as limit additional stormwater overland flow into the Hospital campus.

We have identified risks with regards to Clause B20(e). Consequently, we propose this clause to read:

The applicant must carry out work to remove the existing vehicular crossing to Appin Road and repurpose the deceleration lane into an emergency breakdown shoulder at no cost to RMS.

The implementation of our proposal could also provide future benefits and facilitate road reserve maintenance and to any roadside furniture, such as footings, signs and allow a breakdown shoulder inline with traffic flow volumes.



CAMPBELLTOWN HOSPITAL REDEVELOPMENT

PROPOSED CHANALISED LEFT-TURN (CHL)
HOSPITAL ACCESS FROM APPIN ROAD

CIVIL ENGINEERING WORKS

CIVIL ENGINEERING DRAWING LIST:

- CHR-ENS-DWG-CIV-STE-101

COVER SHEET
- CHR-ENS-DWG-CIV-STE-110

DEMOLITION PLAN
- CHR-ENS-DWG-CIV-STE-120

SITE WORKS PLAN SHEET 1
- CHR-ENS-DWG-CIV-STE-121

SITE WORKS PLAN SHEET 2
- CHR-ENS-DWG-CIV-STE-130

SETOUT PLAN
- CHR-ENS-DWG-CIV-STE-150

SPEED ZONE PLAN
- CHR-ENS-DWG-CIV-STE-151

SWEPT PATH AND VISIBILITY PLAN
- CHR-ENS-DWG-CIV-STE-220

STORMWATER DRAINAGE PLAN
- CHR-ENS-DWG-CIV-STE-250

SEDIMENT AND EROSION CONTROL PLAN
- CHR-ENS-DWG-CIV-STE-520

PAVEMENT PLAN SHEET 1
- CHR-ENS-DWG-CIV-STE-521

PAVEMENT PLAN SHEET 2
- CHR-ENS-DWG-CIV-STE-720

LONG SECTION SHEET 1
- CHR-ENS-DWG-CIV-STE-721

LONG SECTION SHEET 2
- CHR-ENS-DWG-CIV-STE-722

SECTIONS
- CHR-ENS-DWG-CIV-STE-740

SIGN AND LINE MARKING PLAN SHEET 1
- CHR-ENS-DWG-CIV-STE-741

SIGN AND LINE MARKING PLAN SHEET 2
- CHR-ENS-DWG-CIV-STE-822

DETAILS SHEET 1
- CHR-ENS-DWG-CIV-STE-823

DETAILS SHEET 2
- CHR-ENS-DWG-CIV-STE-824

DETAILS SHEET 3
- CHR-ENS-DWG-CIV-STE-901

STORMWATER LONG SECTION SHEET1
- CHR-ENS-DWG-CIV-STE-902

STORMWATER LONG SECTION SHEET2
- CHR-ENS-DWG-CIV-STE-903

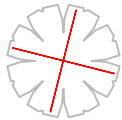
STORMWATER LONG SECTION SHEET3



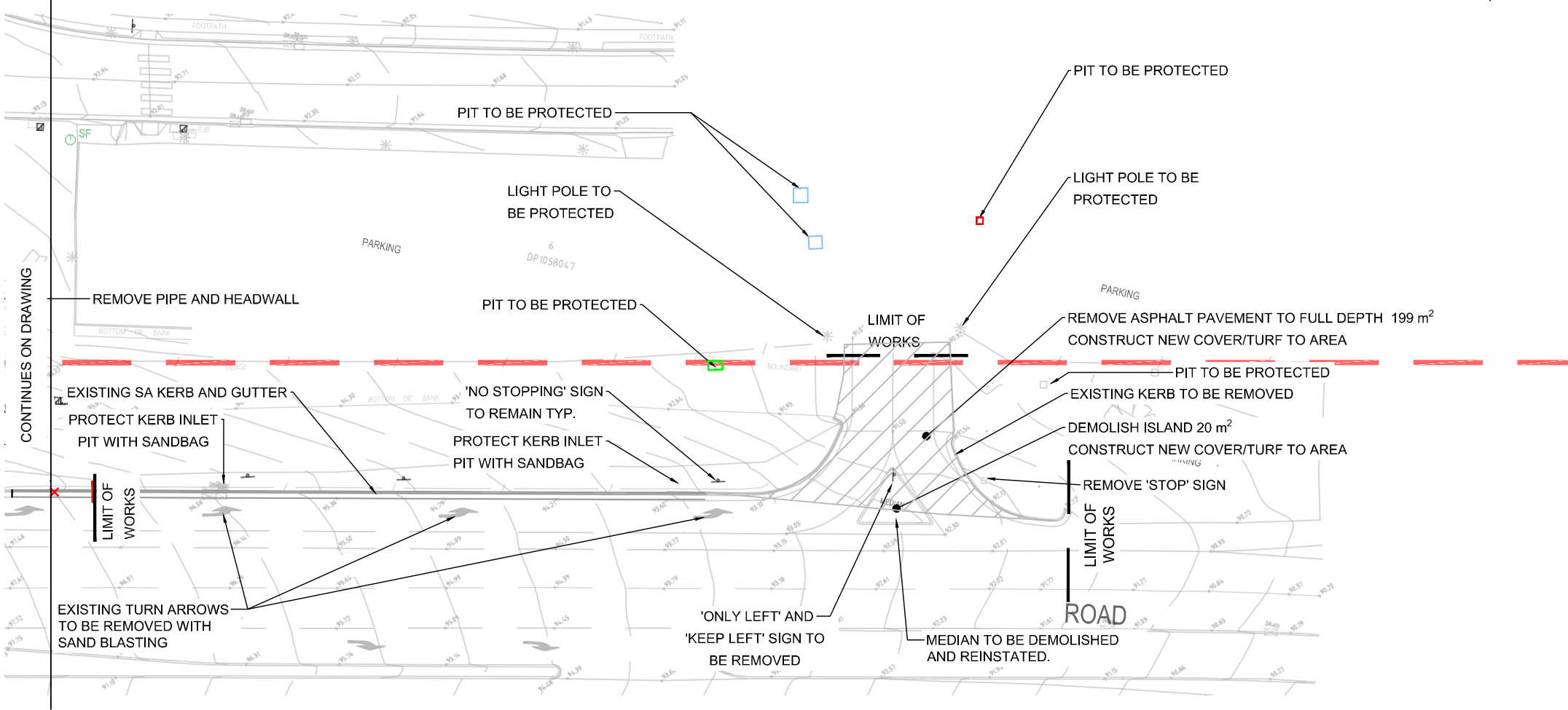
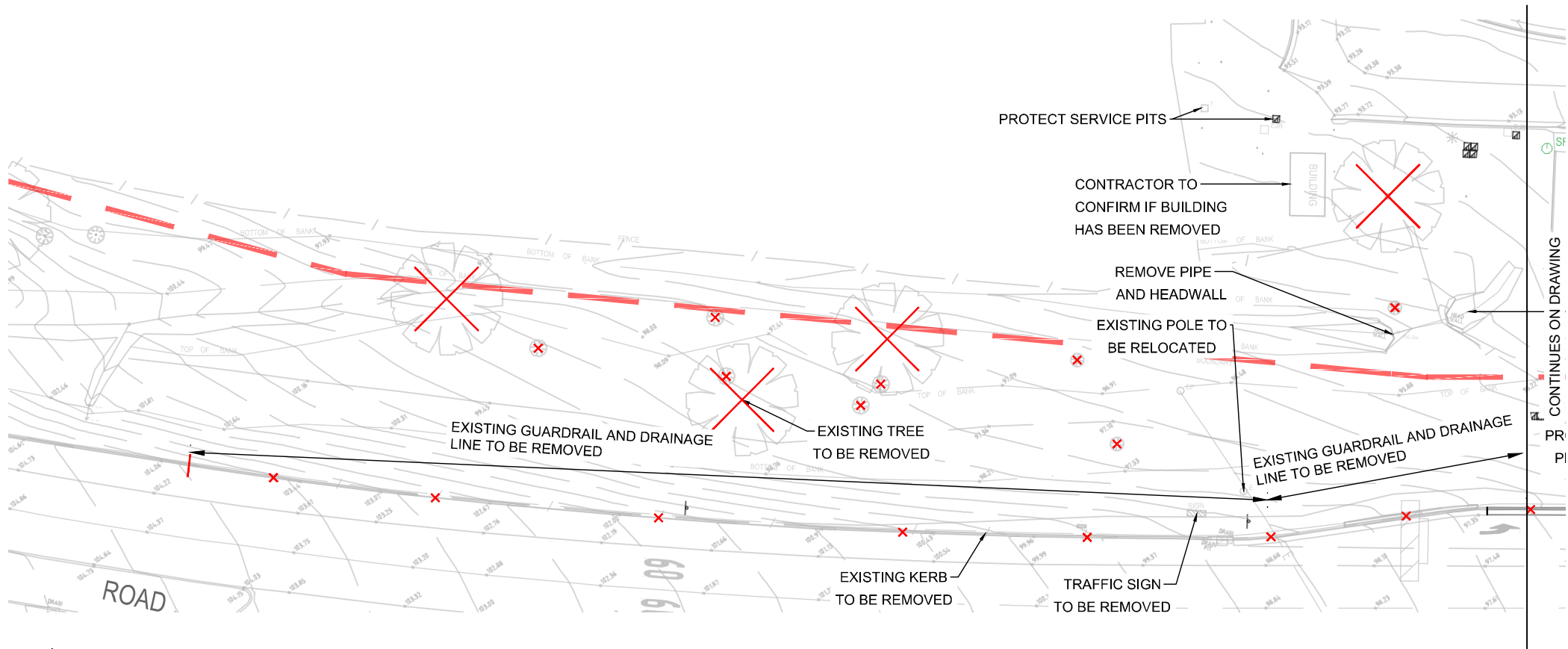
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NOTE

1. DEMOLITION WORK SHOULD BE IN CONJUNCTION WITH RMS DOCUMENTS:
- RMS D&C G22 WORK HEALTH AND SAFETY (CONSTRUCTION WORKS)
- RMS D&C G36 ENVIRONMENTAL PROTECTION
- RMS D&C R44 WARTHWORKS
- SAFE WORK NSW CODES OF PRACTICE
2. ALL EXISTING UTILITIES ENCOUNTERED ON CONSTRUCTION SITE SHOULD BE PROTECTED WITH APPROPRIATE METHODS WHERE NECESSARY.



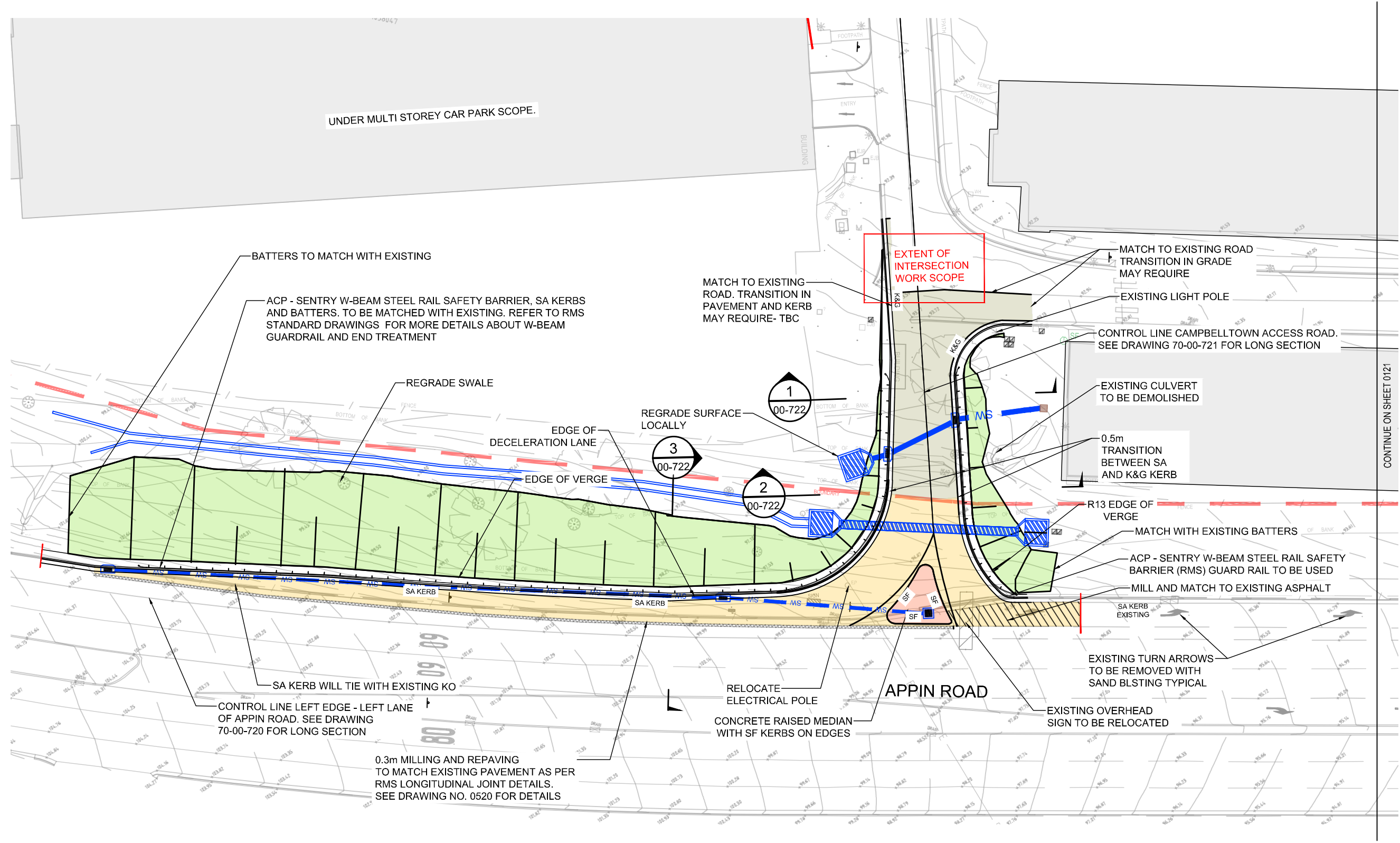
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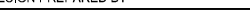
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	SA KERB
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	ACP-SENTRY W-BEAM ROAD BARRIER
	PROPOSED PIT
	PROPOSED HEADWALL



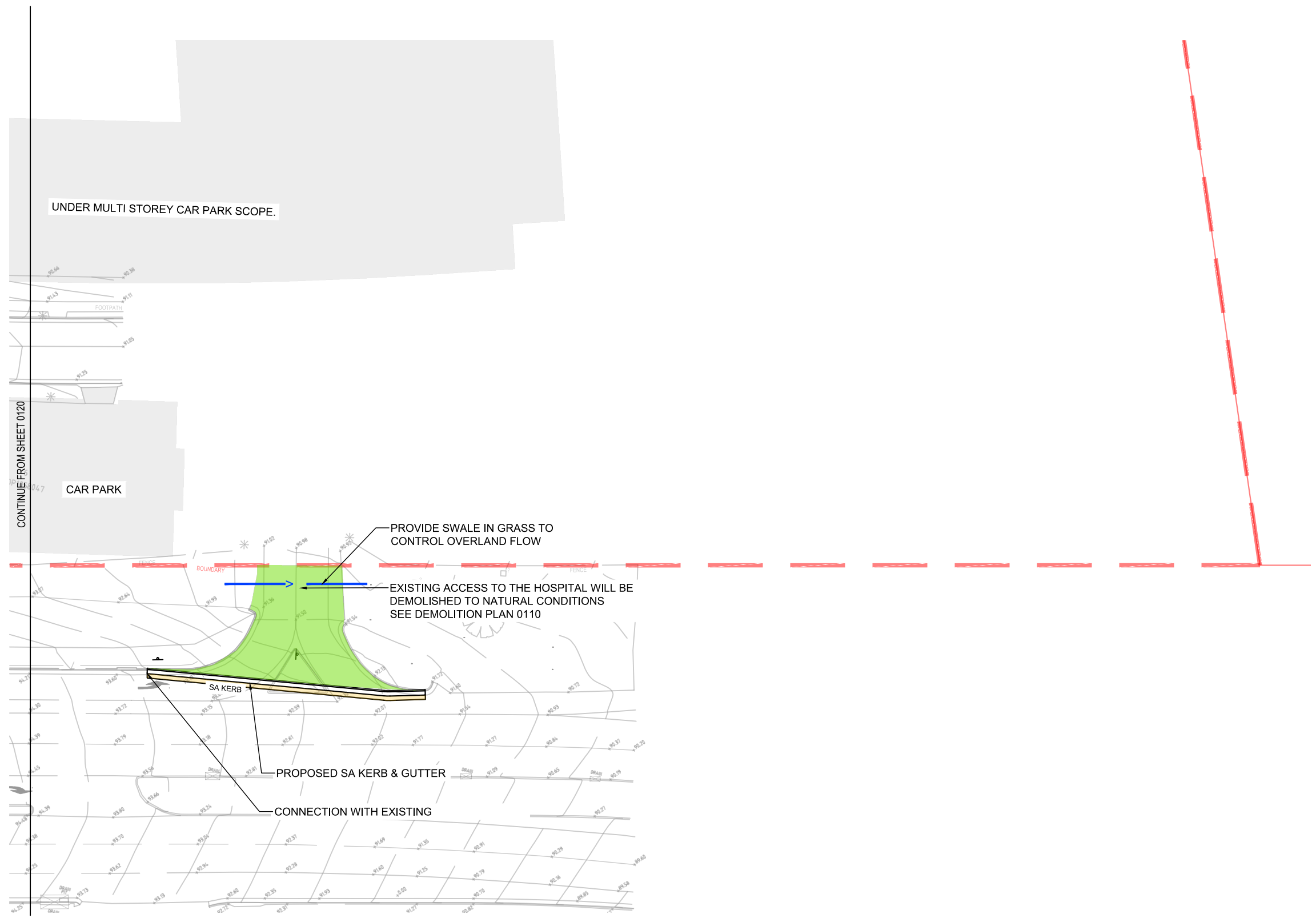
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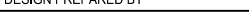
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- LEGEND:
- SITE BOUNDARY
 - K&G
 - KERB & GUTTER
 - SA KERB
 - SF KERB
 - ACP-SENTRY W-BEAM ROAD BARRIER
 - PROPOSED PIT
 - PROPOSED HEADWALL

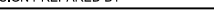


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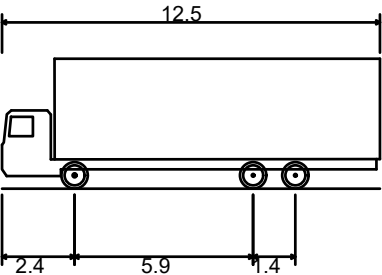
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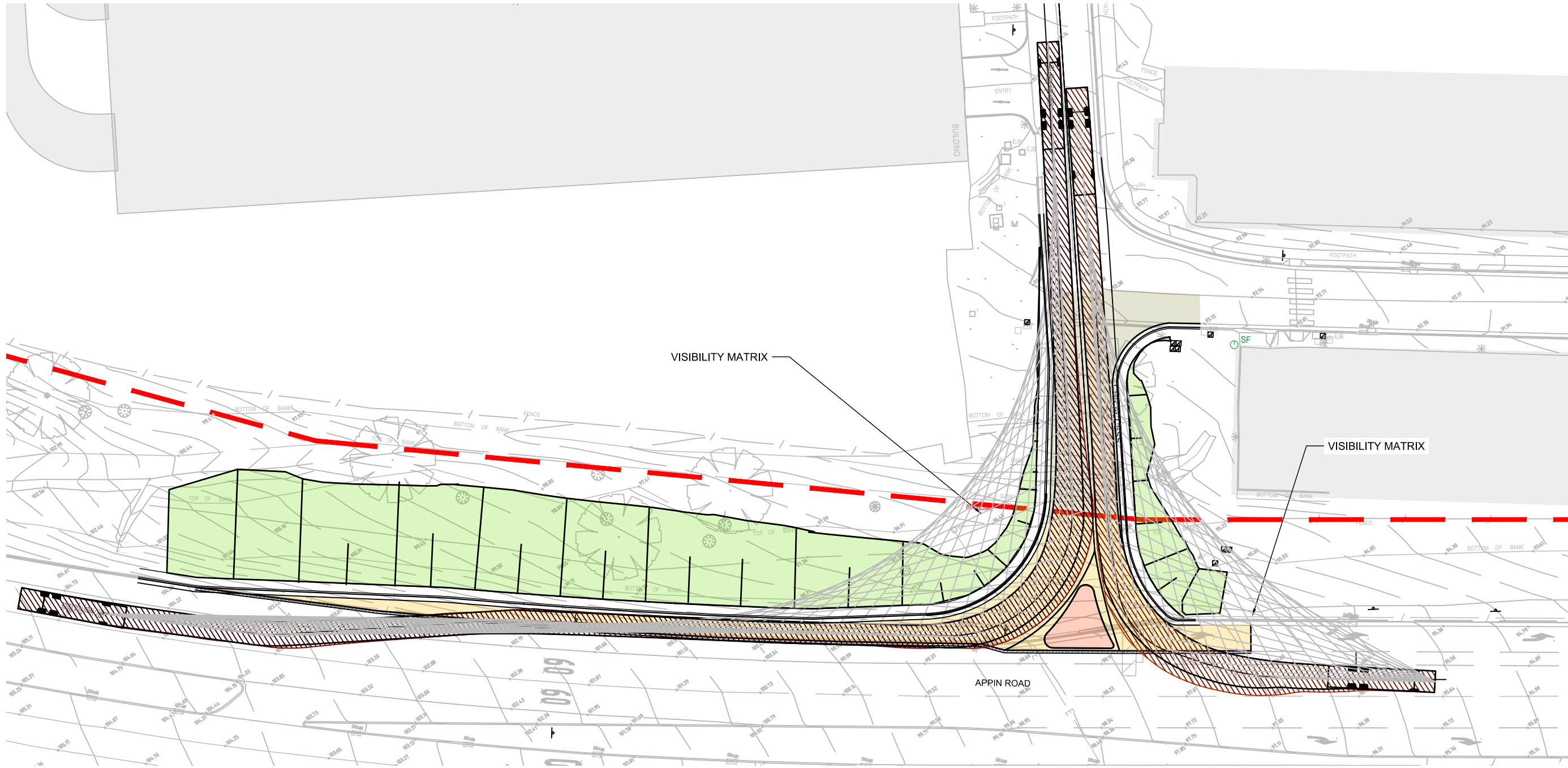


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EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY								TITLE	NAME	DATE	
		A	18-09-20	DETAILED DESIGN ISSUE		-	-	1:2000 		 LEVEL 4, 2 GLEN STREET, MILSONS POINT, NSW, 2061. P: 02 8904 1444 E: sydney@enstruct.com.au		DRAWN		BJ	03/09/20	PREPARED FOR BRANCH: PARRAMATTA		RMS REGISTRATION No. DS2020/000249		PART -	
												DRG CHECK		KH	03/09/20						
												DESIGN		MEL	03/09/20						
												DESIGN CHECK		PL	03/09/20						
												DESIGN MNGR		-	-						
								CO-ORDINATE SYSTEM MGA ZONE 56		HEIGHT DATUM AHD		DESIGN MNGR		-	-	ISSUE STATUS DETAILED DESIGN		SHEET No. CHR-ENS-DWG-CIV-STE- 0150		ISSUE A	

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED



HRV - Heavy Rigid Vehicle
Overall Length 12.500m
Overall Width 2.500m
Overall Body Height 4.300m
Min Body Ground Clearance 0.417m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m



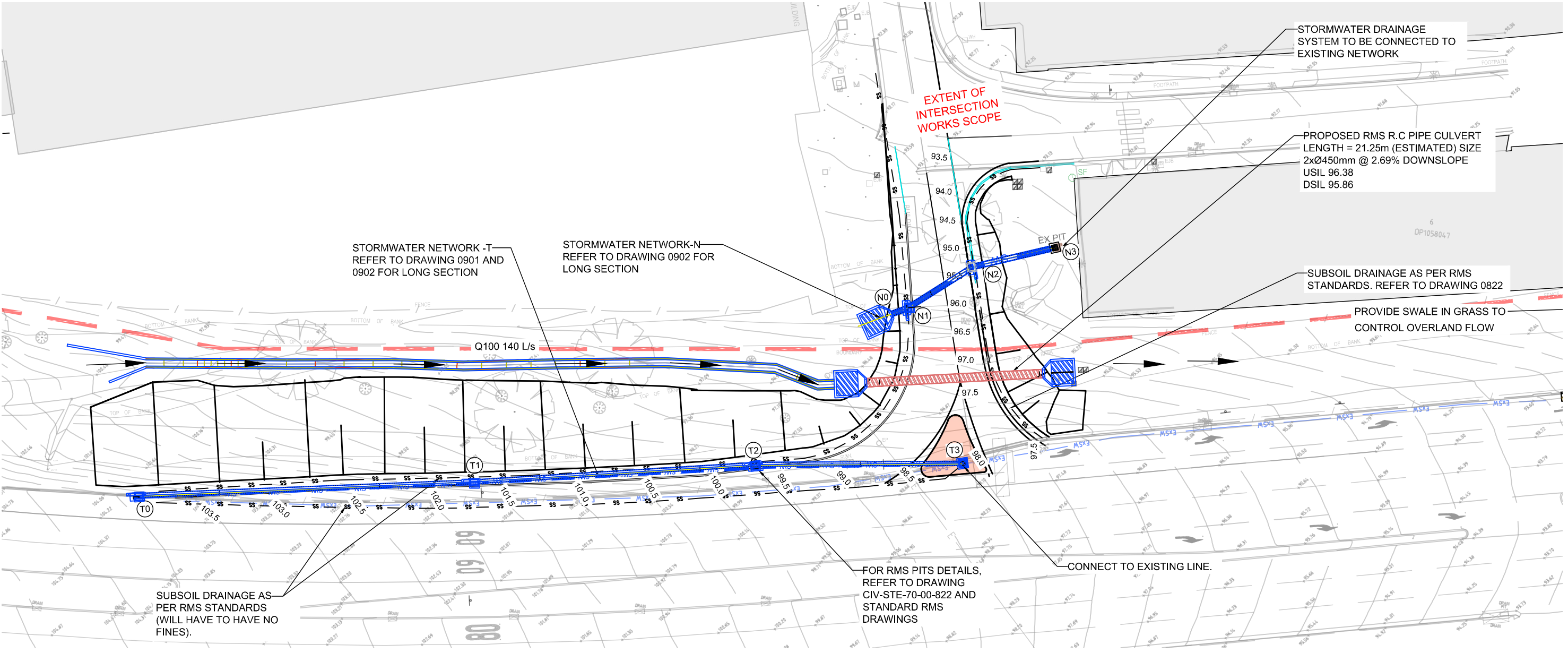
P:\j\5500\5582\00 - Enstruct Documents\0.1 - Cad\Civil\Autocad\APPIN ROAD A3						DESIGN LOT CODE -		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING -				PLOT DATE/TIME 03/09/20		PLOT BY BJ		 CPB CONTRACTORS		APPIN ROAD - CAMPBELLTOWN MR177 CAMPBELLTOWN HOSPITAL REDEVELOPMENT		A3	
EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY		TITLE	NAME	DATE							
		A	18-09-20	DETAILED DESIGN ISSUE		-	-	1:500 		 LEVEL 4, 2 GLEN STREET, MILSONS POINT, NSW. 2061. P: 02 8904 1444 E: sydney@enstruct.com.au		DRAWN		BJ	03/09/20	PREPARED FOR BRANCH: PARRAMATTA		RMS REGISTRATION No. DS2020/000249		PART -	
								DRG CHECK				KH	03/09/20								
								DESIGN		MEL	03/09/20										
								DESIGN CHECK		PL	03/09/20										
								CO-ORDINATE SYSTEM MGA ZONE 56		HEIGHT DATUM AHD		DESIGN MNGR		-	-			ISSUE A			
												PROJECT MNGR		-	-			SHEET No. CHR-ENS-DWG-CIV-STE-0151			
																		DETAILED DESIGN			

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

LEGEND:

- SW — STORMWATER NETWORK
CONSTRUCTED BY CPB IN
DDR2 STAGE
- ExSW — ASSUMED STORMWATER LINE
(NOT SURVEYED)
- SW — PROPOSED STORMWATER LINE
- EXISTING STORMWATER PIT
- PROPOSED STORMWATER PIT
- PROPOSED KERB INLET PIT
- OVERLAND FLOW PATH

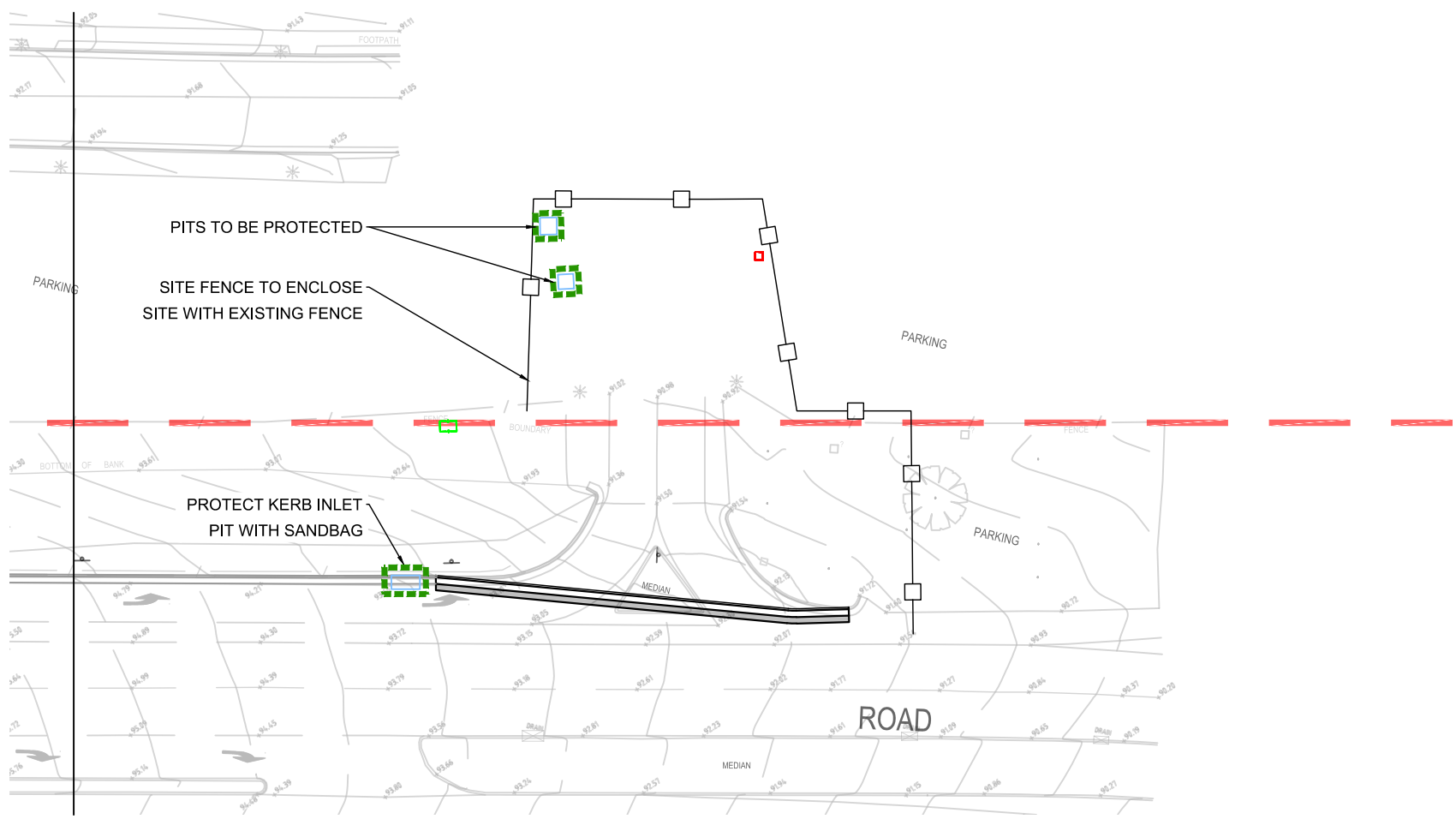
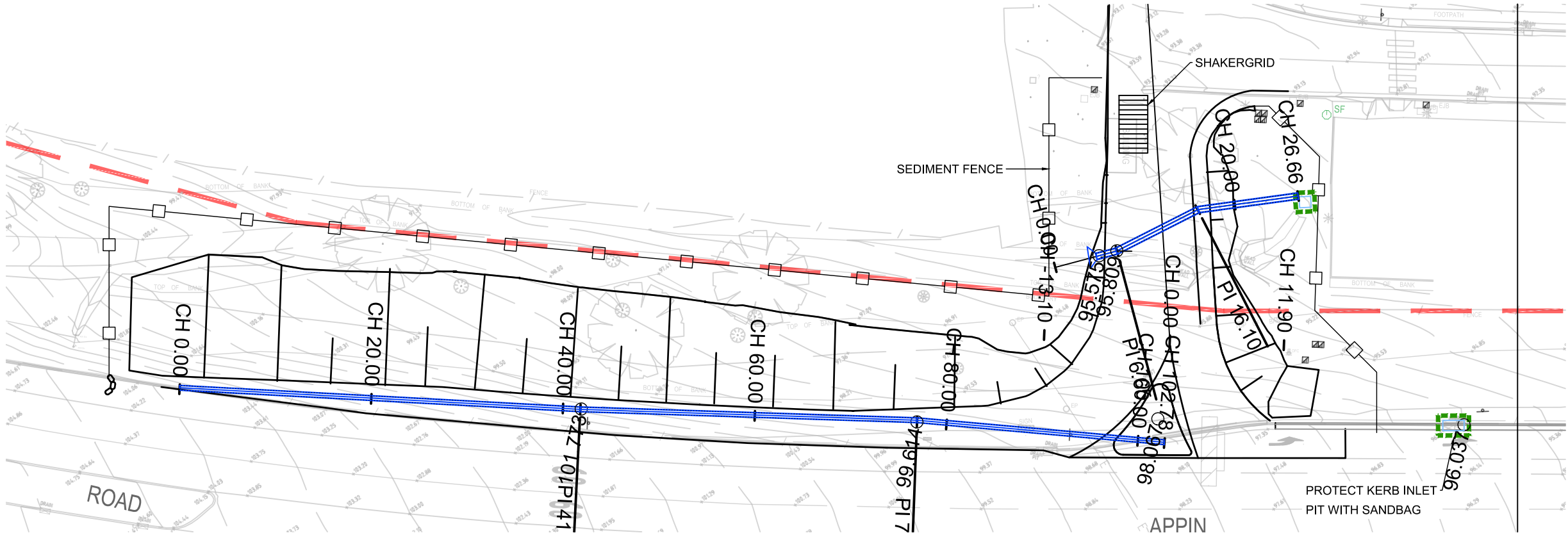
- NOTE:
1. THE STORMWATER ARRANGEMENT
DETAILED IS BASED ON SUPPLIED PROJECT
SURVEY.
 2. FURTHER UNDERGROUND SERVICES
SURVEY IS REQUIRED TO RECONCILE ALL
EXISTING INGROUND SERVICES



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EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY							
		A	18-09-20	DETAILED DESIGN ISSUE		-	-	1:500 		 LEVEL 4, 2 GLEN STREET, MILSONS POINT, NSW. 2061. P: 02 8904 1444 E: sydney@enstruct.com.au		DRAWN	BJ	24-09-20			
		B	24-09-20	DETAILED DESIGN ISSUE								DRG CHECK	KH	24-09-20			
												DESIGN	MEL	24-09-20			
												DESIGN CHECK	PL	24-09-20			
												DESIGN MNGR	-	-			
												PROJECT MNGR	-	-			

LEGEND

- 
- SILTATION FENCE
- 
- STORMWATER PIT WITH GEOTEXTILE FILTER SURROUND
- 
- SANDBAG SEDIMENT TRAP



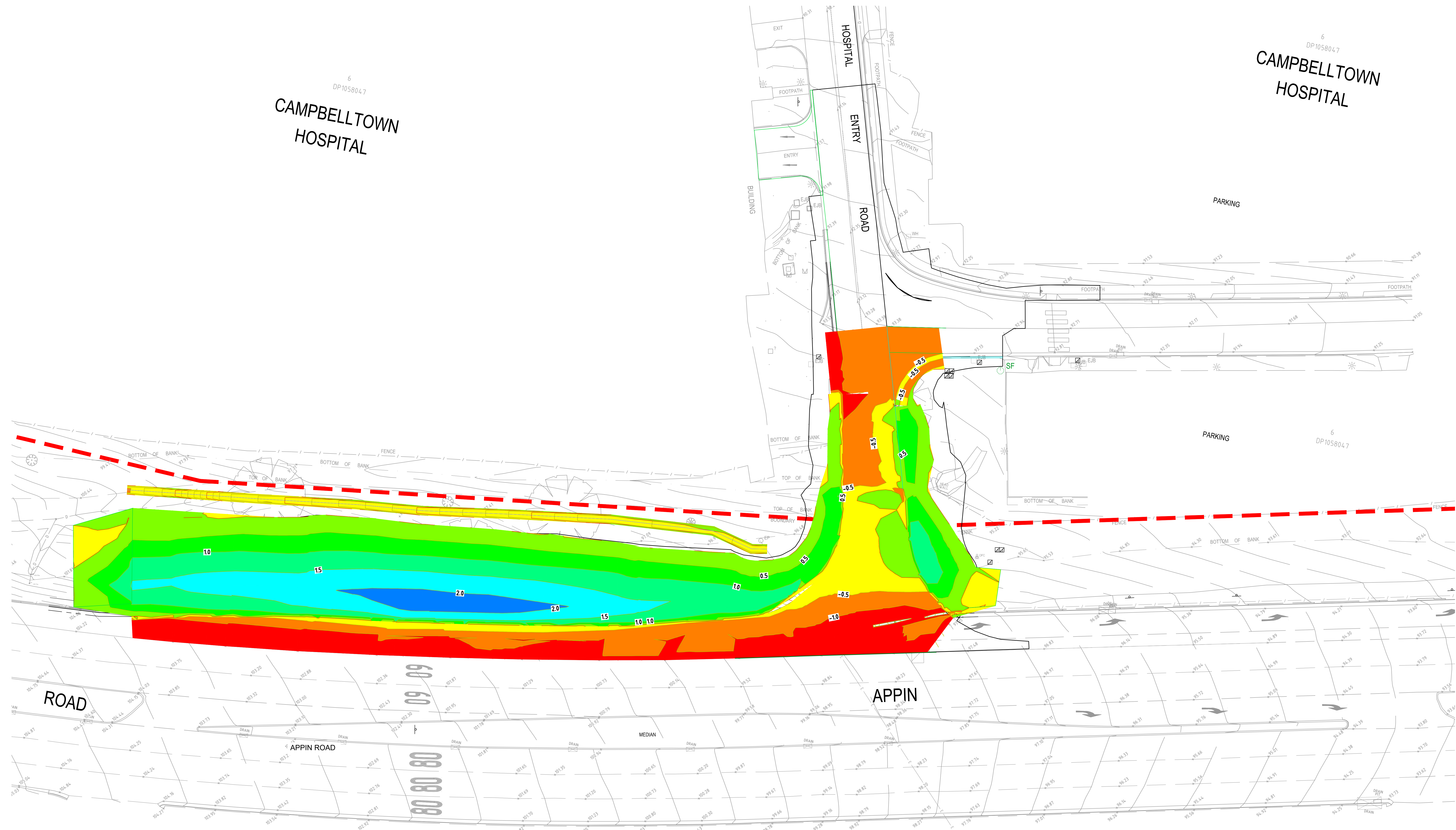
50mm ON A3 SIZE ORIGINAL

P:\j1-5500\5582\00 - Enstruct Documents\0,1 - Cad\Civil\Autocad\APPIN ROAD A3				DESIGN LOT CODE -		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING -		PLOT DATE/TIME 03/09/20		PLOT BY BJ		CLIENT		APPIN ROAD - CAMPBELLTOWN MR177 CAMPBELLTOWN HOSPITAL REDEVELOPMENT		A3	
EXTERNAL REFERENCE FILES				REV A	DATE 18-09-20	AMENDMENT / REVISION DESCRIPTION DETAILED DESIGN ISSUE		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING 1:500		DRAWINGS / DESIGN PREPARED BY		TITLE		PART	
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														DRG CHECK KH		03/09/20	
														DESIGN MEL		03/09/20	
														DESIGN CHECK PL		03/09/20	
														DESIGN MNGR -		-	
														PROJECT MNGR -		-	
														PREPARED FOR		RMS REGISTRATION No. DS2020/000249	
														BRANCH: PARRAMATTA		ISSUE STATUS	
																DETAILED DESIGN	
																SHEET No. CHR-ENS-DWG-CIV-STE-0250	
																ISSUE A	



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LEVEL 4, 2 GLEN STREET, MILSONS POINT,
NSW. 2061.
P: 02 8904 1444 E: sydney@enstruct.com.au





Cut/Fill Summary						
Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
Bulk CP05-06 Opt2-Pavement	1.000	1.000	55.376sq.m	33.383 Cu. M.	0.251 Cu. M.	33.132 Cu. M.<Cut>
Bulk Vol Appin Link Road-Pavement	1.000	1.000	114.702sq.m	77.304 Cu. M.	0.134 Cu. M.	77.171 Cu. M.<Cut>
Bulk North Intersection Batter	1.000	1.000	163.282sq.m	1.243 Cu. M.	81.718 Cu. M.	80.475 Cu. M.<Fill>
Bulk South Intersection Batter	1.000	1.000	1255.832sq.m	1.505 Cu. M.	1240.800 Cu. M.	1239.295 Cu. M.<Fill>
Bulk Vol RMS Intersection-Pavement	1.000	1.000	749.324sq.m	571.136 Cu. M.	3.523 Cu. M.	567.613 Cu. M.<Cut>
Bulk Swale	1.000	1.000	107.776sq.m	17.308 Cu. M.	1.308 Cu. M.	16.000 Cu. M.<Cut>
Totals			2446.291sq.m	701.880 Cu. M.	1327.733 Cu. M.	625.853 Cu. M.<Fill>

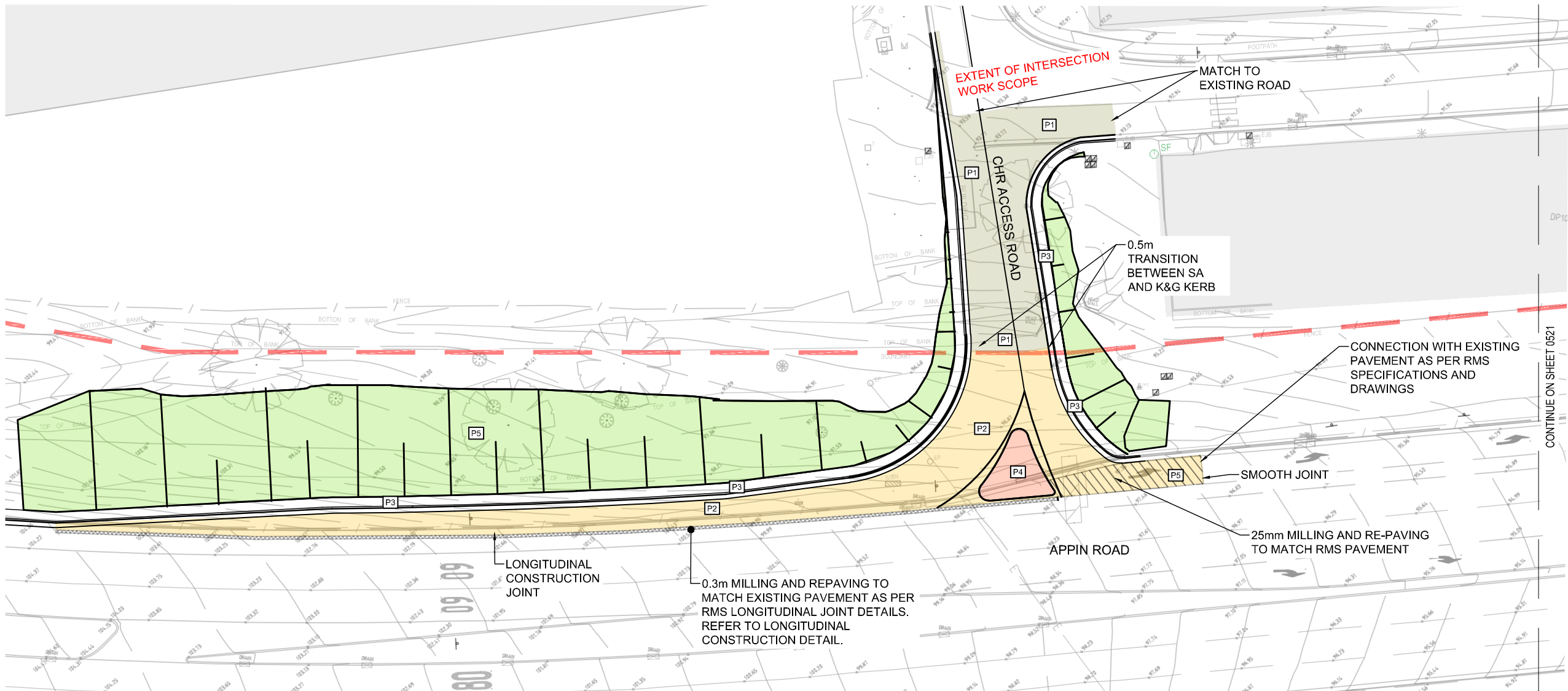
PAVEMENT SUMMARY			
	AREA (m ²)	PAVEMENT THICKNESS (m)	VOLUME (m ³)
PAVEMENT VOLUME - RMS PAVEMENT (m ³) [INCLUDING 600SMZ]	435	1.054	459
PAVEMENT VOLUME - CHR HOSPITAL PAVEMENT (m ³)	243	0.725	177
PAVEMENT VOLUME - VERGE (m ³) [INCLUDING 600SMZ]	165	0.910	151

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-1,500	-1,000
2		-1,000	-500
3		-500	0.000
4		0.000	0.500
5		0.500	1.000
6		1.000	1.500
7		1.500	2.000
8		2.000	2.500

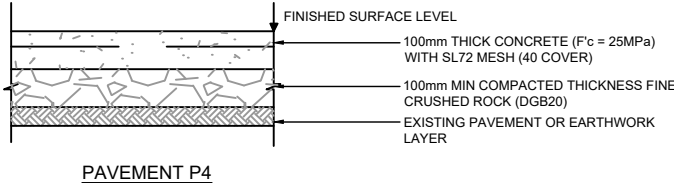
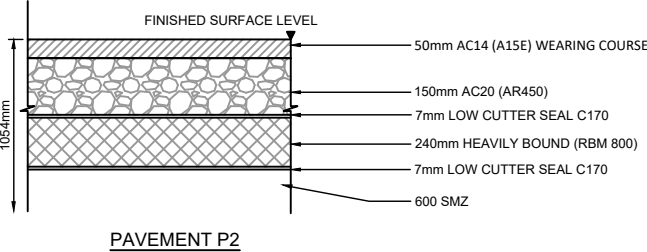
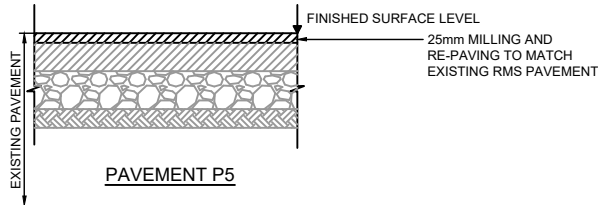
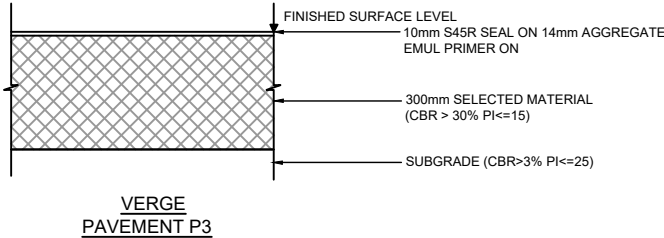
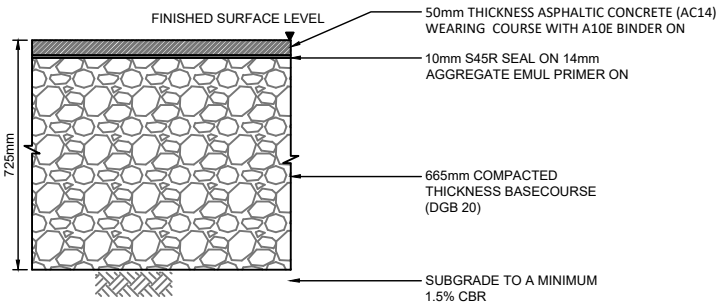
- | NOTES | |
|-------|--|
| 1. | ABOVE CALCULATION DOES NOT TAKE ACCOUNT OF ANY EXCAVATION AND BACKFILLING FOR PROPOSED CULVERT IN THE INTERSECTION. |
| 2. | THIS DRAWING IS AN ESTIMATE FOR INFORMATION ONLY WHICH SHOULD NOT BE TAKEN AS AN ACCURATE MEASUREMENT AND SHOULD NOT BE USED FOR CONSTRUCTION. |
| 3. | NO ALLOWANCE HAS BEEN CONSIDERED FOR SERVICE TRENCHES, IN GROUND TANKS, STRUCTURAL FOOTINGS, FLOOR SLABS OR LIFT PITS |
| 4. | NO BULKING FACTOR HAS BEEN APPLIED TO THIS ESTIMATED EXCAVATION VOLUME. |
| 5. | THIS ESTIMATE DOES NOT INCLUDE EXCAVATION FOR ANY BELOW GROUND SERVICES INCLUDING STORMWATER INFRASTRUCTURE. |
| 6. | IT HAS BEEN ASSUMED THAT ALL EXCAVATED MATERIAL IS NOT CONTAMINATED AND CAN BE USED AS FILL MATERIAL ON SITE. |
| 7. | NO TOP SOIL STRIP HAS BEEN ALLOWED FOR. |
| 8. | FINAL INTERSECTION SURFACE TO BE SUBJECT TO NEW MODIFICATIONS WHILE BEING ON DESIGN PHASE |

USER GROUP SIGN OFF BOX	
Name	
Date	
Name	
Date	

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL



- LEGEND:**
- SITE BOUNDARY
 - NEW HOSPITAL ROADS TO BE CONSTRUCTED
 - NEW RMS ROADS TO BE CONSTRUCTED
 - LONGITUDINAL PAVEMENT CONSTRUCTION JOINT
 - PROPOSED LANDSCAPE AREA
 - PROPOSED FOOTPATHS OR CONCRETE HARDSTAND
 - 25mm MILLING AND REPAVING OF RMS EXISTING PAVEMENT
 - PAVEMENT TYPE



- NOTE**
- SAWCUT EXISTING GUTTER (FULL DEPTH) ALONG EXISTING EDGE LINE AND CAREFULLY REMOVE EXISTING SHOULDER PAVEMENT WITHOUT DAMAGING EXISTING ADJACENT ASPHALT/FLEXIBLE PAVEMENT LAYERS". THE PROPOSED SAW CUT IS SHOWN ALONG THE EDGE LINE. IF SO, HAS ANY CONSIDERATION BEEN GIVEN TO CONSTRUCT THE PAVEMENT WIDENING WITHOUT IMPACTING ON THE CURRENT TRAFFIC AND STILL COMPLY WITH TMC REGULATIONS
 - FOR DETAIL OF KERB REFER TO DRAWING NO.0822

P:\j1-5500\5582\00 - Enstruct Documents\0.1 - Cad\Civil\Autocad\APPIN ROAD A3				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE/TIME		PLOT BY		CLIENT		APPIN ROAD - CAMPBELLTOWN MR177 CAMPBELLTOWN HOSPITAL REDEVELOPMENT PAVEMENT PLAN SHEET 1	A3
EXTERNAL REFERENCE FILES				WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	TITLE	NAME	DATE		PREPARED FOR		RMS REGISTRATION No.	
				A	B	03-09-20	24-09-20	24-09-20	24-09-20	24-09-20	24-09-20	BRANCH: PARRAMATTA		DS2020/000249	PART
														ISSUE STATUS	ISSUE
														DETAILED DESIGN	B
														SHEET No.	
														CHR-ENS-DWG-CIV-STE-0520	

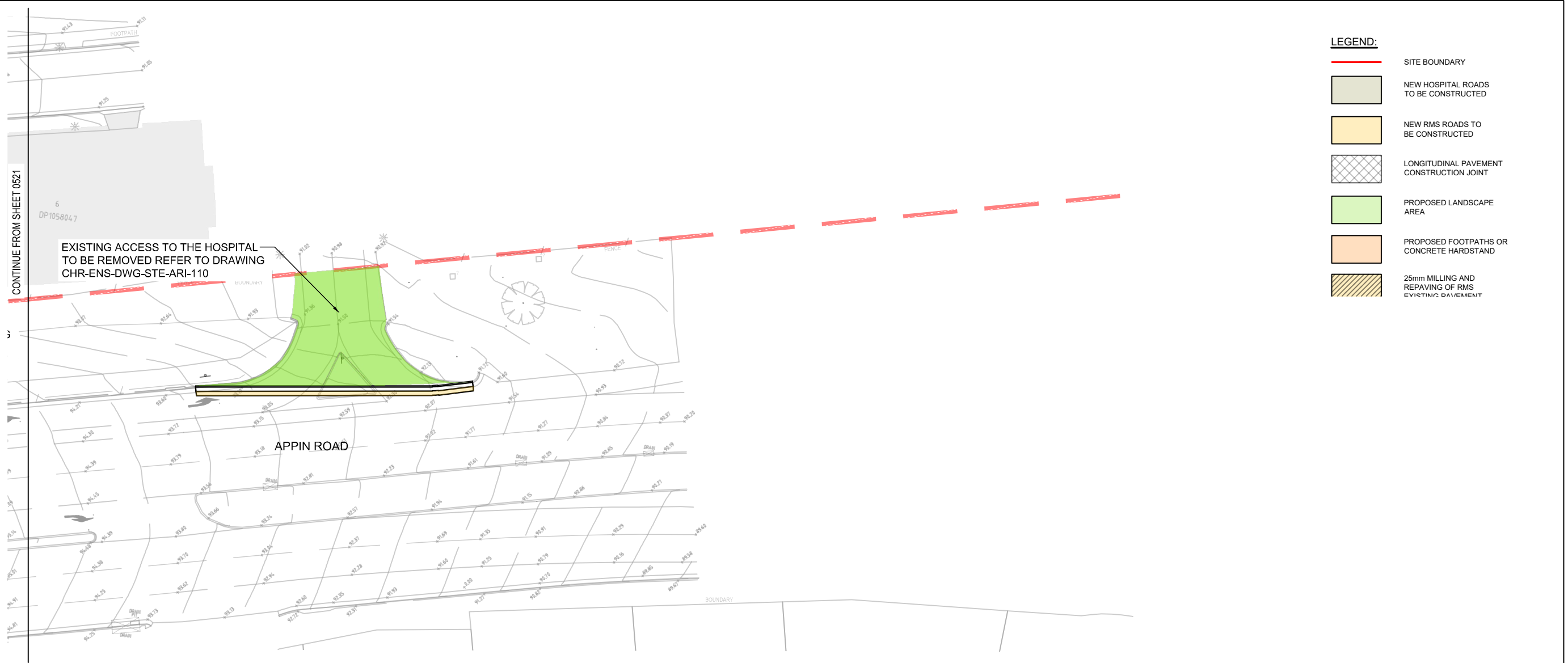


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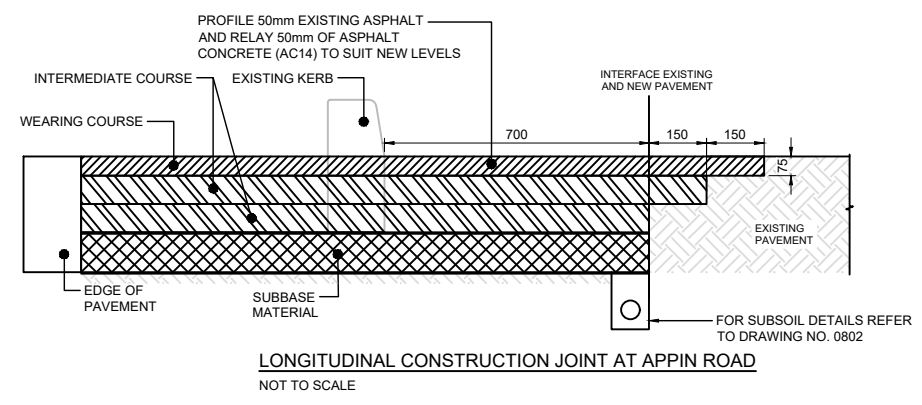
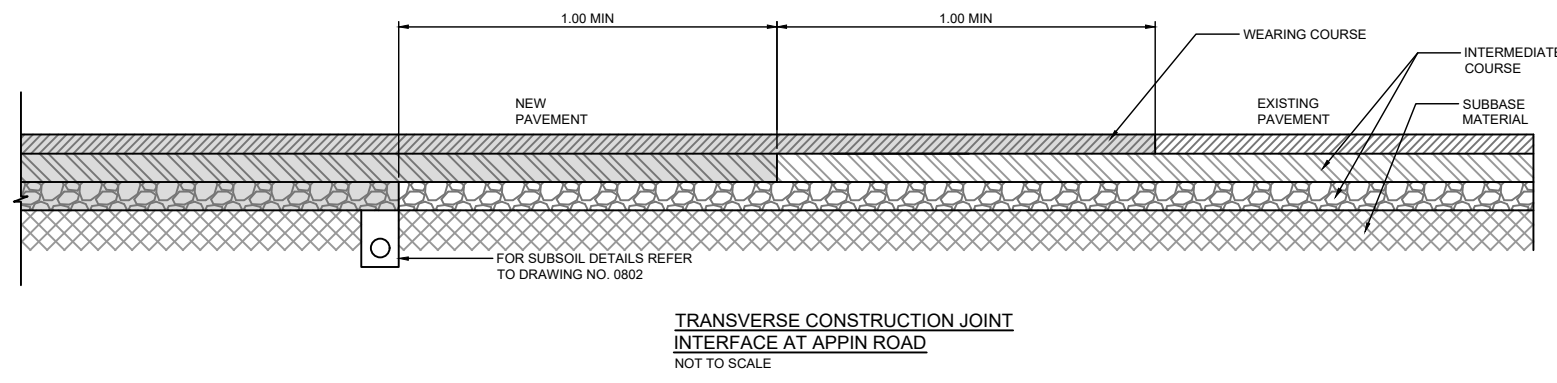
LEVEL 4, 2 GLEN STREET, MILSONS POINT,
NSW, 2061.
P: 02 8904 1444 E: sydney@enstruct.com.au



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- LEGEND:**
- SITE BOUNDARY
 - NEW HOSPITAL ROADS TO BE CONSTRUCTED
 - NEW RMS ROADS TO BE CONSTRUCTED
 - LONGITUDINAL PAVEMENT CONSTRUCTION JOINT
 - PROPOSED LANDSCAPE AREA
 - PROPOSED FOOTPATHS OR CONCRETE HARDSTAND
 - 25mm MILLING AND REPAVING OF RMS EXISTING PAVEMENT

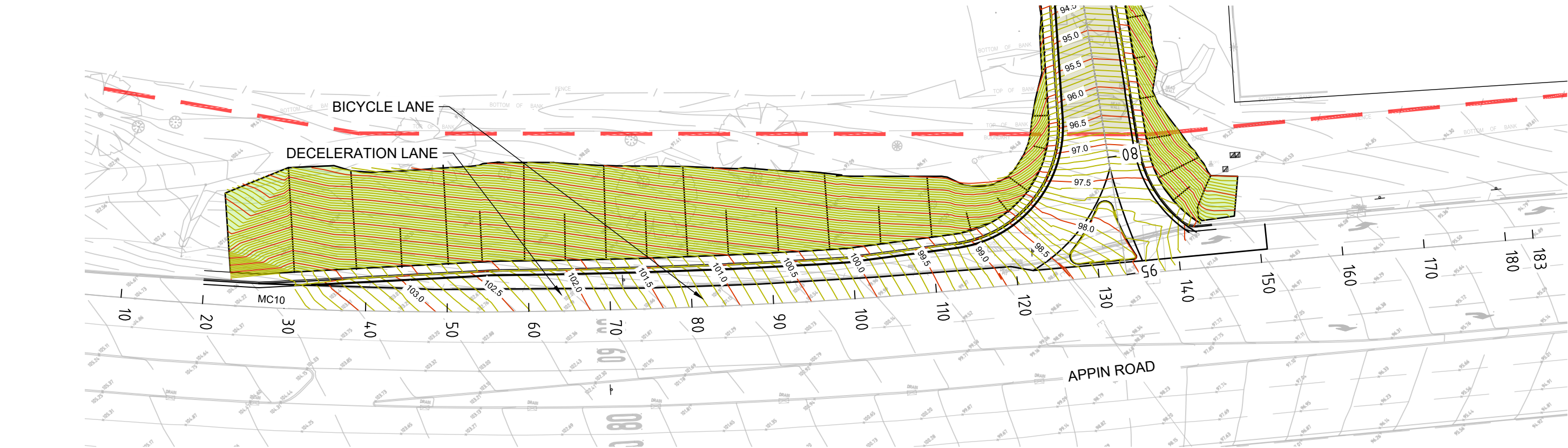


- NOTE**
- SAWCUT EXISTING GUTTER (FULL DEPTH) ALONG EXISTING EDGE LINE AND CAREFULLY REMOVE EXISTING SHOULDER PAVEMENT WITHOUT DAMAGING EXISTING ADJACENT ASPHALT/FLEXIBLE PAVEMENT LAYERS". THE PROPOSED SAW CUT IS SHOWN ALONG THE EDGE LINE. IF SO, HAS ANY CONSIDERATION BEEN GIVEN TO CONSTRUCT THE PAVEMENT WIDENING WITHOUT IMPACTING ON THE CURRENT TRAFFIC AND STILL COMPLY WITH TMC REGULATIONS
 - FOR DETAIL OF KERB REFER TODRAWING NO.0822

P:\j1-5500\5582\00 - Enstruct Documents\0.1 - Cad\Civil\Autocad\APPIN ROAD A3						DESIGN LOT CODE -		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING -				PLOT DATE/TIME 24-09-20		PLOT BY BJ		CLIENT		APPIN ROAD - CAMPBELLTOWN MR177 CAMPBELLTOWN HOSPITAL REDEVELOPMENT PAVEMENT PLAN SHEET 2				A3			
EXTERNAL REFERENCE FILES			REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING			DRAWINGS / DESIGN PREPARED BY				TITLE	NAME	DATE			PREPARED FOR BRANCH: PARRAMATTA		RMS REGISTRATION No. DS2020/000249		PART -	
			A	18-09-20	DETAILED DESIGN ISSUE	-	-	1:500 			 LEVEL 4, 2 GLEN STREET, MILSONS POINT, NSW. 2061. P: 02 8904 1444 E: sydney@enstruct.com.au				DRAWN	BJ	24-09-20								
			B	24-09-20	DETAILED DESIGN ISSUE										DRG CHECK	KH	24-09-20								
			DESIGN	MEL	24-09-20																				
			DESIGN CHECK	PL	24-09-20																				
								CO-ORDINATE SYSTEM MGA ZONE 56			HEIGHT DATUM AHD			DESIGN MNGR	-	-	SHEET No. CHR-ENS-DWG-CIV-STE-0521		ISSUE B						
														PROJECT MNGR	-	-									

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0 5 10 15 20 30 35 40 45 50mm ON A3 SIZE ORIGINAL



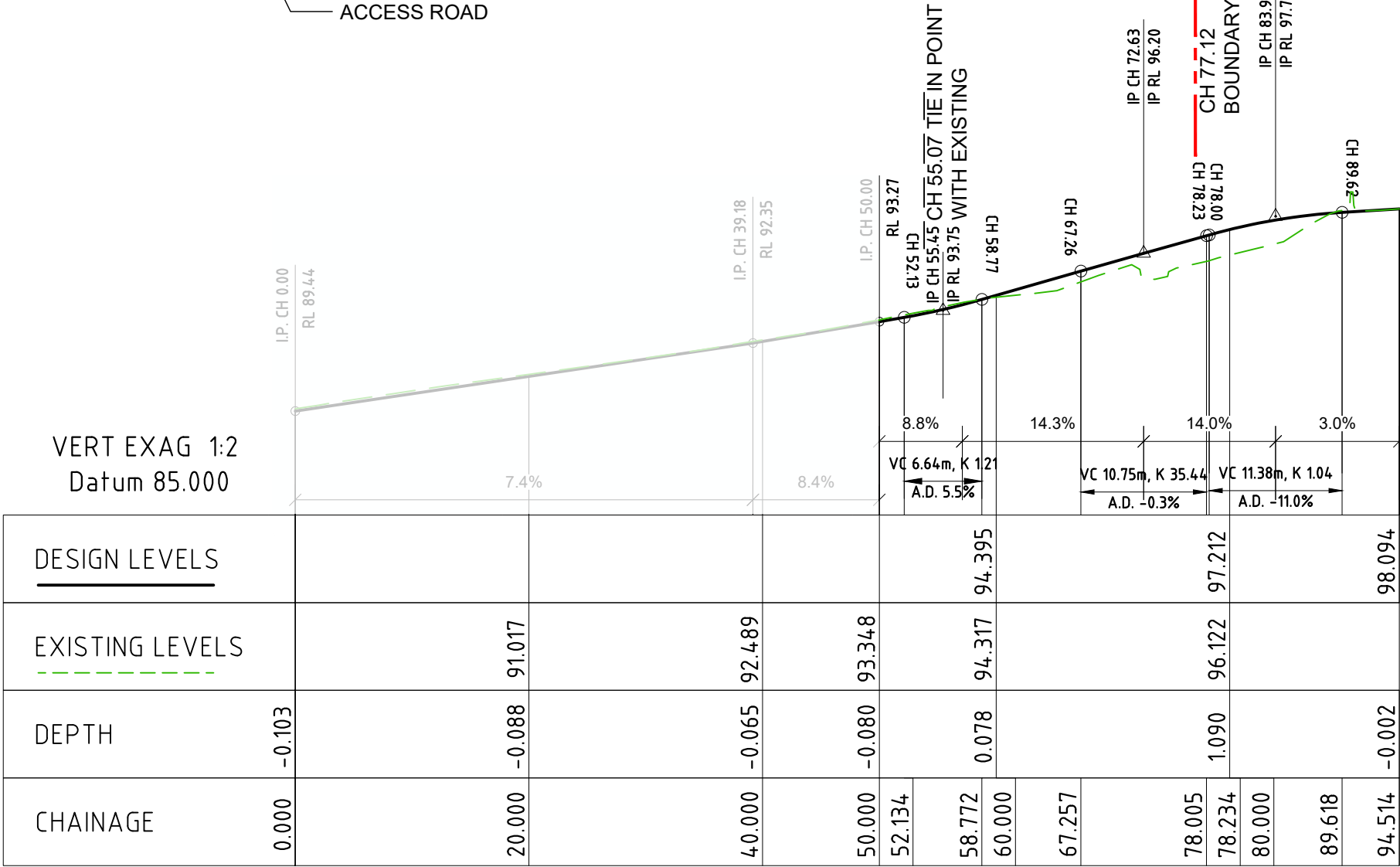
CHAINAGE	DEPTH	EXISTING LEVELS	DESIGN LEVELS
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20.061	0.000	104.383	104.383
24.031	0.000	104.224	104.224
28.842	0.000	104.009	104.009
30.000	0.000	103.956	103.956
31.947	0.000	103.865	103.865
37.036	0.000	103.611	103.611
40.000	0.000	103.459	103.459
44.072	0.000	103.250	103.250
50.000	0.000	102.929	102.929
53.728	0.000	102.757	102.757
60.000	0.000	102.409	102.409
64.311	0.000	102.191	102.191
70.000	0.000	101.869	101.869
74.155	0.000	101.656	101.656
80.000	0.000	101.283	101.283
83.741	0.000	101.126	101.126
90.000	0.000	100.764	100.764
94.053	0.000	100.537	100.537
100.000	0.000	100.169	100.169
102.859	0.000	99.992	99.992
110.000	0.000	99.545	99.545
112.763	0.000	99.372	99.372
119.193	0.000	98.966	98.966
120.000	0.000	98.915	98.915
120.220	0.000	98.902	98.902
120.907	0.000	98.859	98.859
123.765	0.000	98.679	98.679
130.000	0.000	98.308	98.308
133.433	0.000	98.098	98.098
140.000	0.000	97.688	97.688
143.366	0.000	97.478	97.478
150.000	0.000	97.055	97.055
153.517	0.000	96.831	96.831
160.000	0.000	96.395	96.395
163.807	0.000	96.138	96.138
170.000	0.000	95.726	95.726
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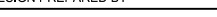
APPIN ROAD EDGE OF LEFT CARRIAGEWAY EXISTING PROFILE (MC10)

P:\j\5500\5582\00 - Enstruct Documents\0.1 - Cad\Civil\Autocad\APPIN ROAD A3				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE/TIME		PLOT BY		CLIENT		APPIN ROAD - CAMPBELLTOWN MR177 CAMPBELLTOWN HOSPITAL REDEVELOPMENT		A3	
EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY		TITLE		NAME		DATE	
		A	18-09-20	DETAILED DESIGN ISSUE				1:500				DRAWN		BJ		03/09/20	
												DRG CHECK		KH		03/09/20	
												DESIGN		MEL		03/09/20	
												DESIGN CHECK		PL		03/09/20	
												DESIGN MNGR		-		-	
												PROJECT MNGR		-		-	
								CO-ORDINATE SYSTEM MGA ZONE 56		HEIGHT DATUM AHD							
										enstruct							
										LEVEL 4, 2 GLEN STREET, MILSONS POINT, NSW. 2061. P: 02 8904 1444 E: sydney@enstruct.com.au							
												PREPARED FOR		BRANCH: PARRAMATTA			
												RMS REGISTRATION No.		DS2020/000249		PART	
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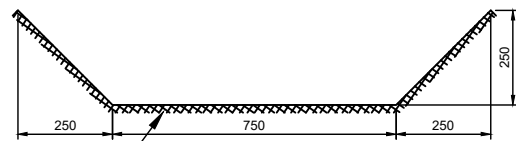
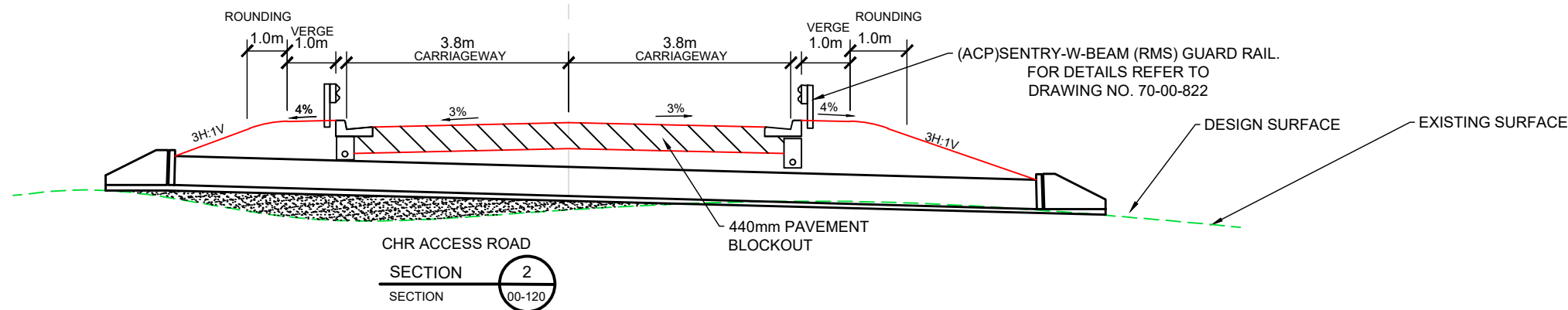
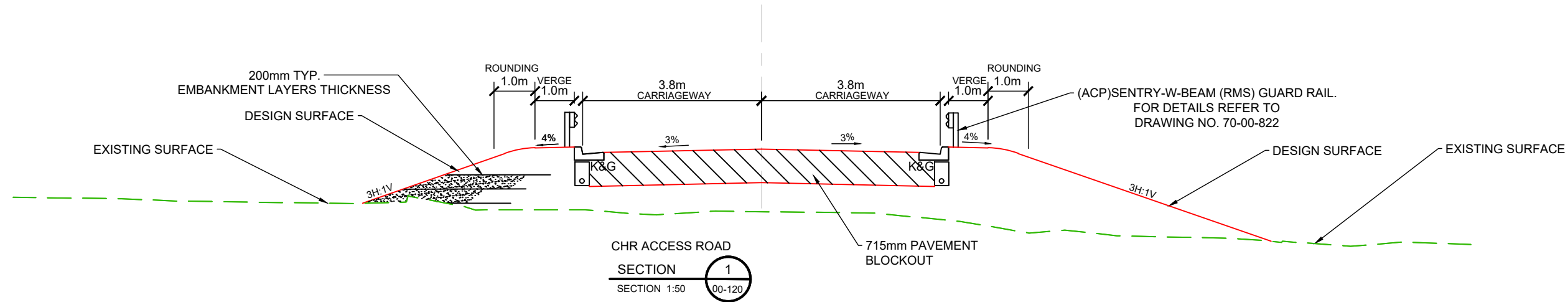
THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

30mm ON A3 SIZE ORIGINAL



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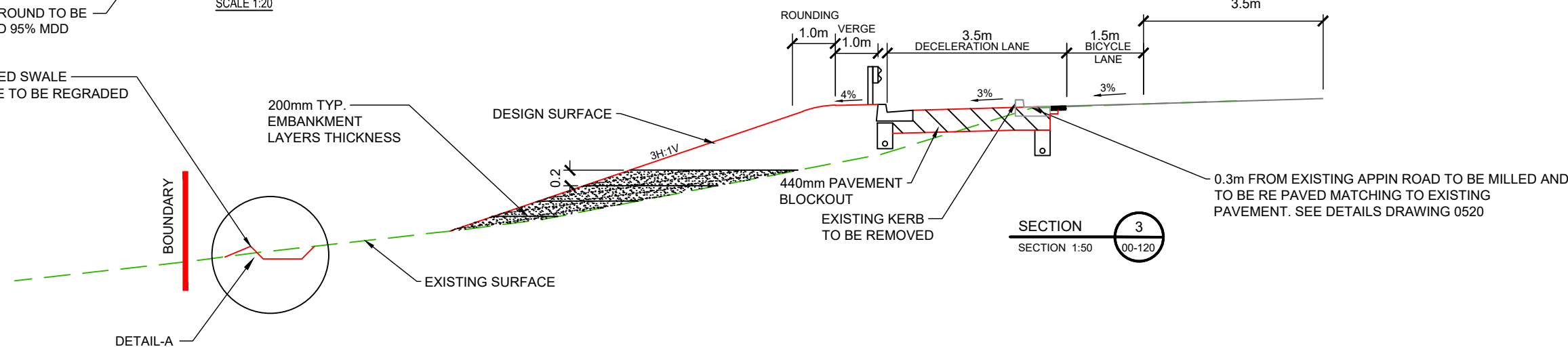
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50mm ON A3 SIZE ORIGINAL



NATURAL GROUND TO BE
COMPACTED 95% MDD

PROPOSED SWALE
SURFACE TO BE REGRADED

200mm TYP.
EMBANKMENT
LAYERS THICKNESS



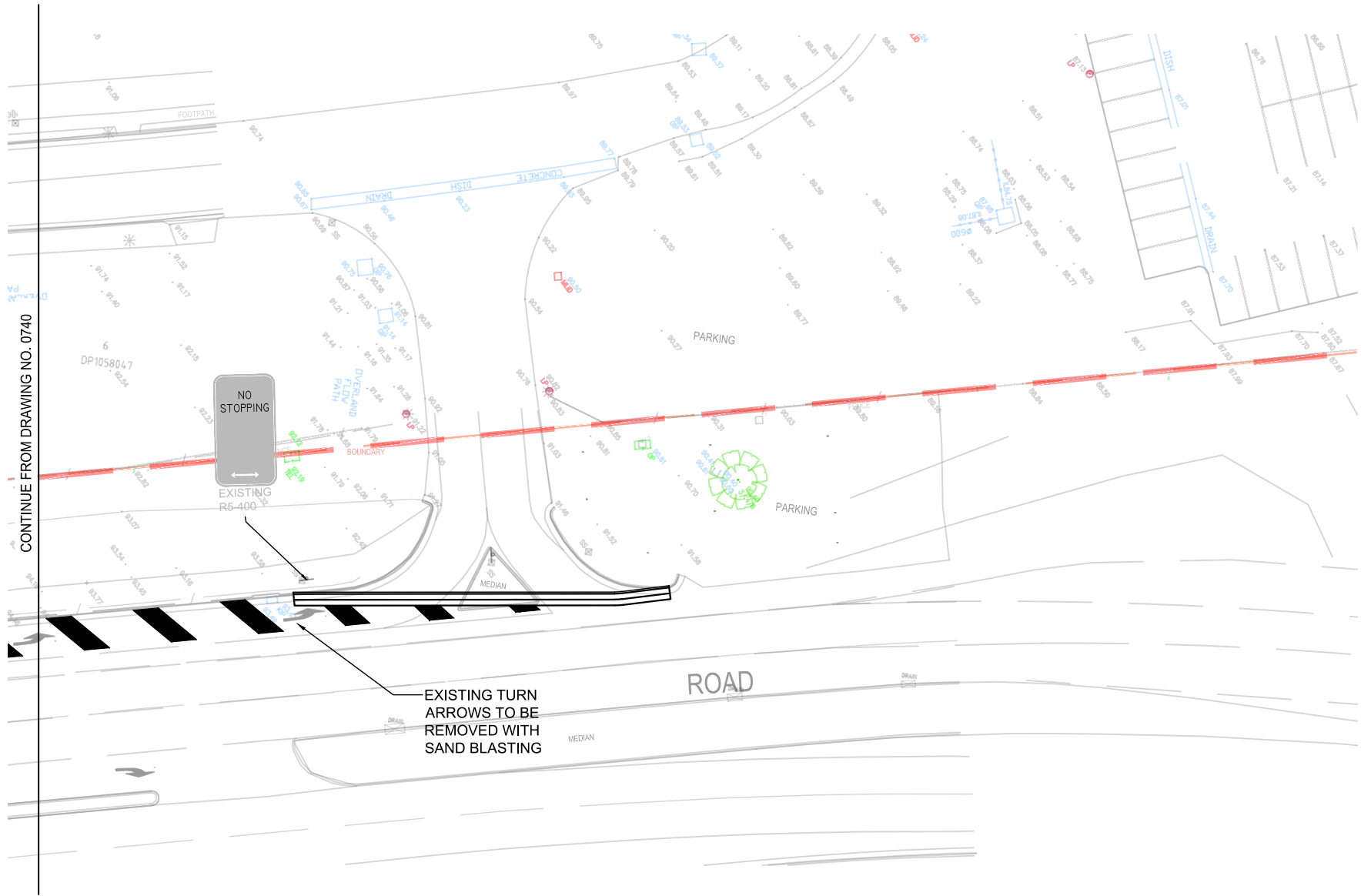
EXISTING APPIN ROAD
ROAD-THROUGH LANE
3.5m

0.3m FROM EXISTING APPIN ROAD TO BE MILLED AND
TO BE RE PAVED MATCHING TO EXISTING
PAVEMENT. SEE DETAILS DRAWING 0520

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														ISSUE STATUS DETAILED DESIGN		SHEET No. CHR-ENS-DWG-CIV-STE-0722	ISSUE B

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30mm ON A3 SIZE ORIGINAL

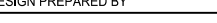


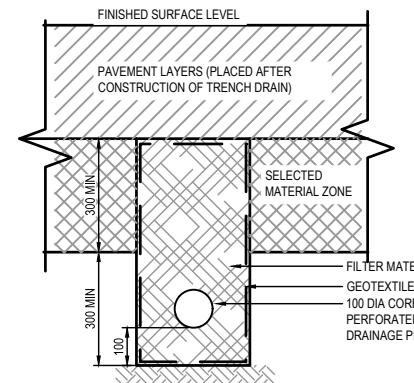
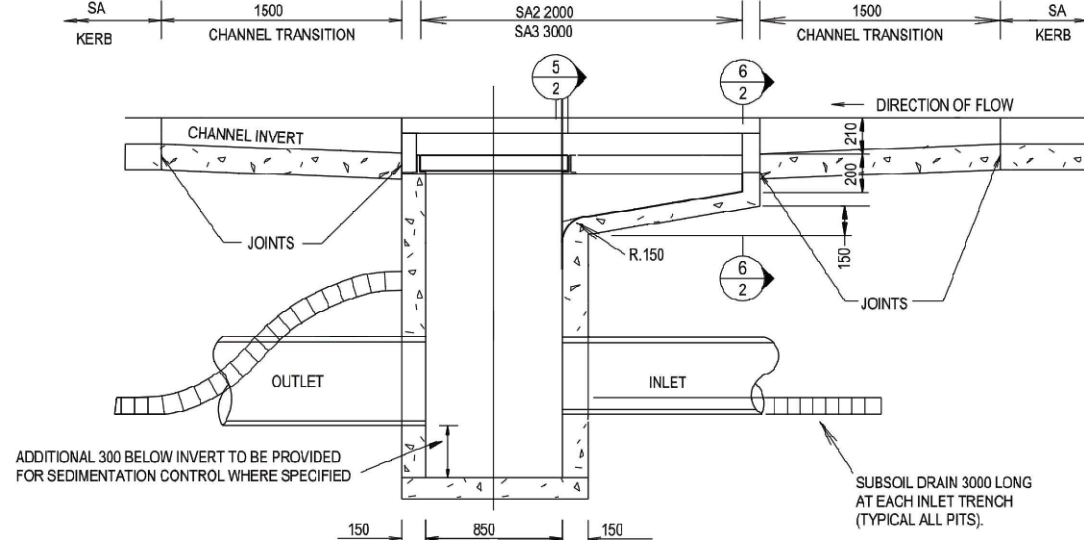
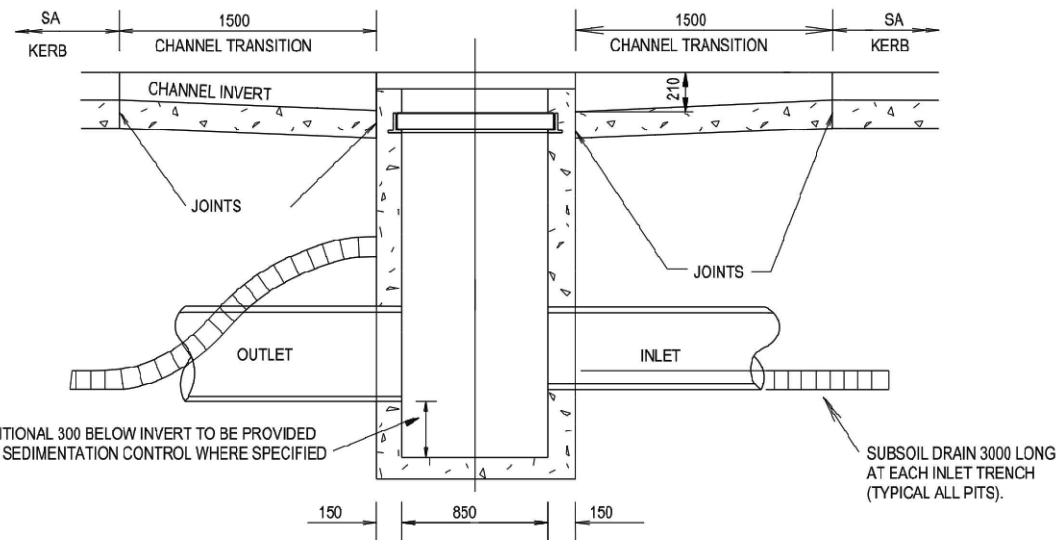
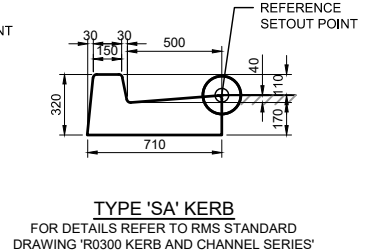
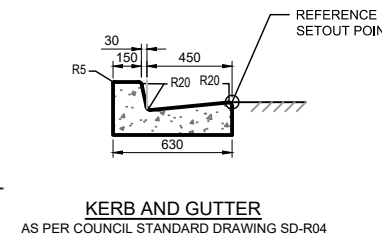
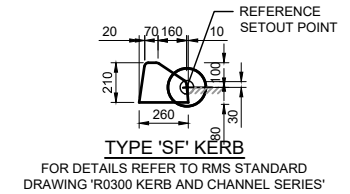
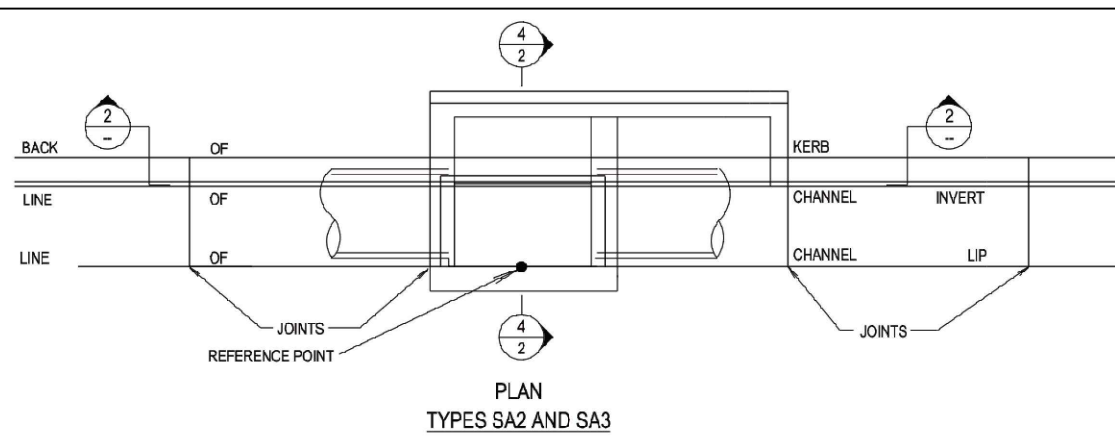
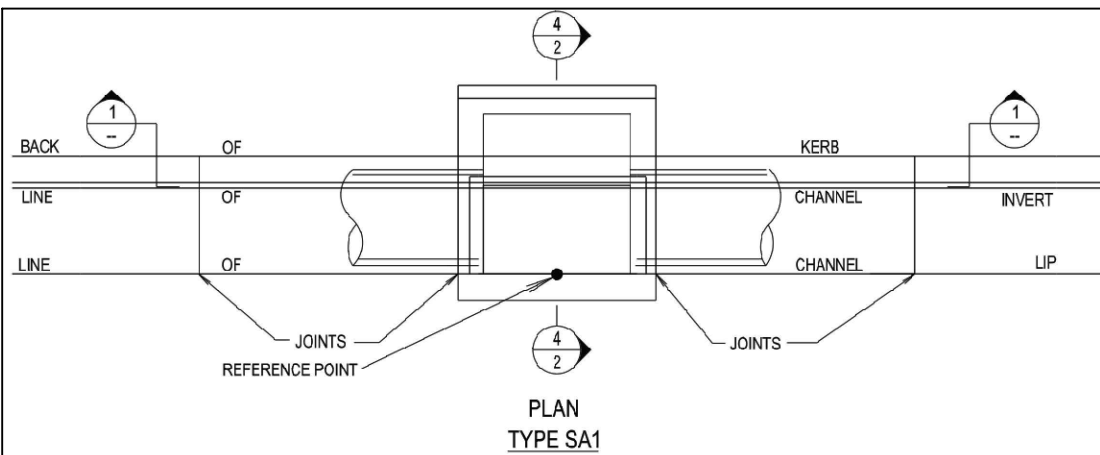
LEGEND

- EXISTING SIGN
- PROPOSED SIGN
- DIRECTION ARROW TYPE UA4 (L OR R)
- DIRECTION ARROW TYPE UA1
- DIRECTION ARROW TYPE UA3 (L OR R)
- ON ROAD BIKE SYMBOL (PS-2)
- LINE MARKING TYPE

NOTES

- ALL PAVEMENT LINE MARKING AND SIGNAGE TO BE IN ACCORDANCE WITH RMS STANDARDS AND AS1742.2.
- FINAL LOCATION OF ALL SIGNAGE TO BE AS DIRECTED BY CONTRACTOR
- IN AREAS OF AC SURFACING - ALL LINEMARKING TO BE REGULARLY DRIVEN ACROSS BY TRAFFIC (STOP BARS, GIVE WAY LINES, CONTINUITY LINES, ARROWS AND SYMBOLS) SHALL BE THERMOPLASTICS. ALL OTHER MARKINGS SHALL BE PAINTED WITH RETRO-REFLECTIVE PAINT UNLESS NOTED OTHERWISE
- THE WORK SHALL INCLUDE PAVEMENT MARKING TO ROADWAYS, CARPARKS, AND THE TRAFFICABLE AREA AS SHOWN.
- THE PAVEMENT MARKING AND PAINT SHALL BE IN ACCORDANCE WITH A.S. 1742.2
- PAINT SHALL BE TYPE 3, CLASS A AND THE COLOUR SHALL BE WHITE U.N.O AND NOT SUBJECT TO DISCOLOURATION BY BITUMEN FROM THE ROAD SURFACE. LINE WIDTH SHALL BE AS SHOWN IN LEGEND. ALL PAINT SHALL BE APPLIED BY MECHANICAL SPRAYER.
- PAVEMENT MARKING SHALL BE SPOTTED OUT AND APPROVED PRIOR TO SPRAYING.
- PAINT SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm TO 0.40mm.
- PAINT 100mm LINEMARKING TO CARPARK PAVEMENT
- ALL EXISTING PAVEMENT MARKING WHICH IS LOCATED ON EXISTING PAVEMENT TO BE RETAINED SHALL BE REMOVED WHERE THE EXISTING MARKINGS ARE MADE REDUNDANT BY THE PROPOSED WORKS.
- ALL SIGNS TO HAVE VULC RUBBER MOUNTING

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EXTERNAL REFERENCE FILES		REV	DATE	AMENDMENT / REVISION DESCRIPTION		WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING		DRAWINGS / DESIGN PREPARED BY		TITLE	NAME	DATE								
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												PROJECT MNGR	-	-								



RMS SUBSOIL IN THE PAVEMENT
TO BE CONSTRUCTED IN STAGES AS PER RMS STANDARD
PAVEMENT SUBSURFACE DRAINAGE DETAILS AND DRAWING REG.
NO. MD R33.A07
SCALE 1:10

TYPE 'SA' PIT

FOR DETAILS REFER TO RMS STANDARD DRAWING
'R0200 STORMWATER DRAINAGE SERIES'

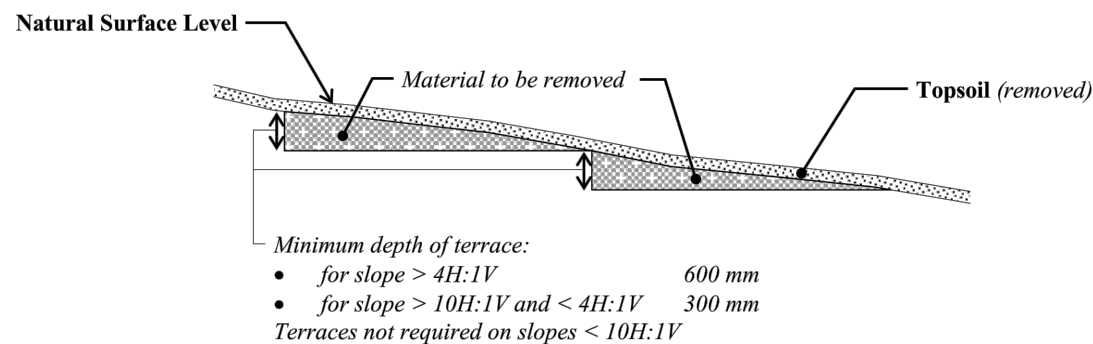
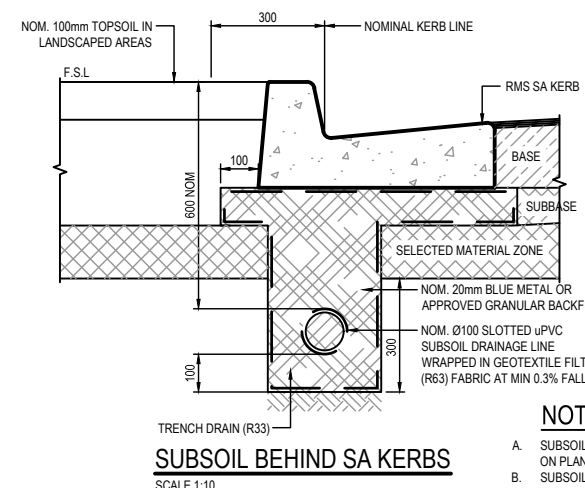
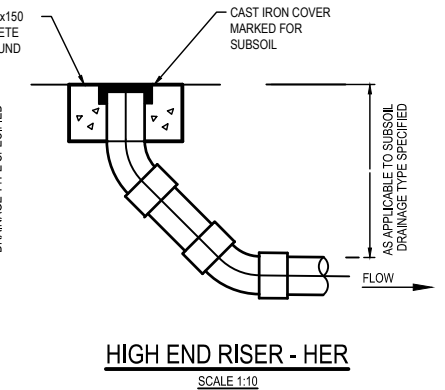
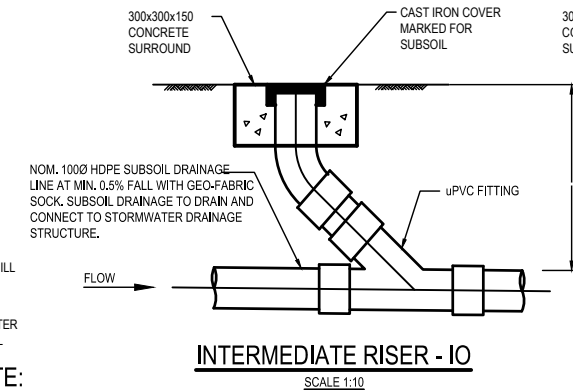


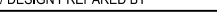
Figure R44.4 – Hillside Terracing Requirements

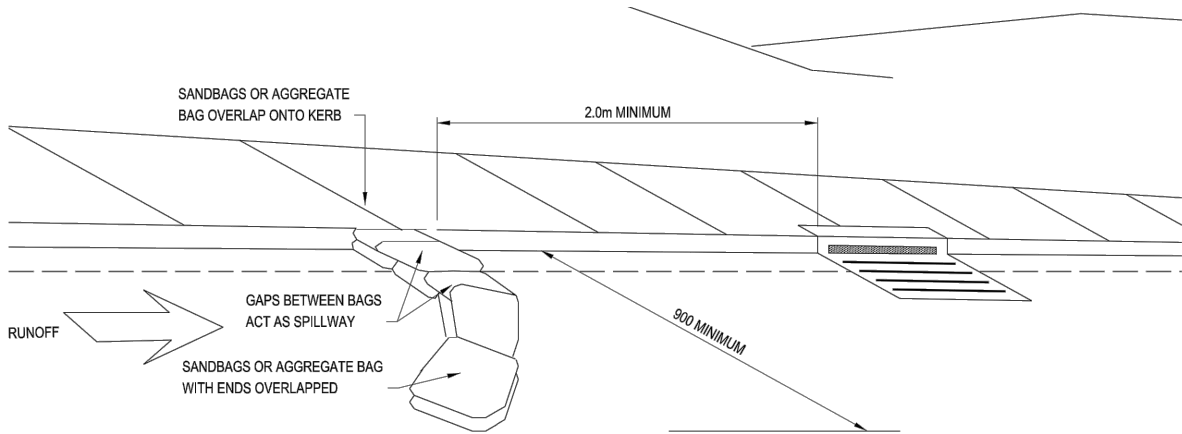


NOTE:

- SUBSOIL DRAINAGE LINE TO BE PROVIDED WHERE SHOWN ON PLAN
- SUBSOIL FLUSHING POINTS TO BE PROVIDED AT 50m MAX INTERVALS ALONG SUBSOIL LINES AND PAVEMENT DRAINS, AT CHANGES IN DIRECTION OF SUBSOIL LINES, AND AT INTERSECTIONS OF SUBSOIL LINES.
- FOR DETAILS FOLLOW RMS STANDARD DRAWING DETAIL A11G REG NO.0000. 000. PT. 0010 SHEET 06 ED3 REV 2

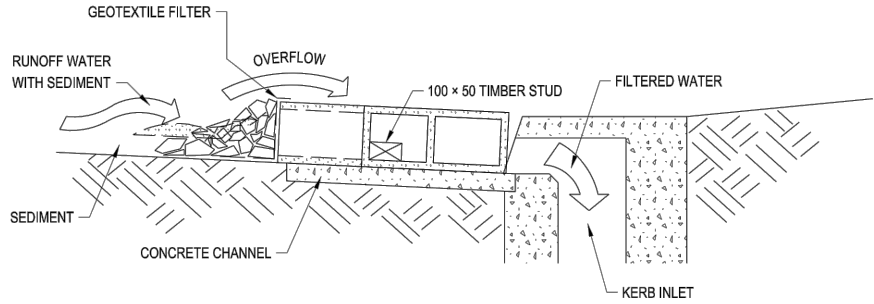
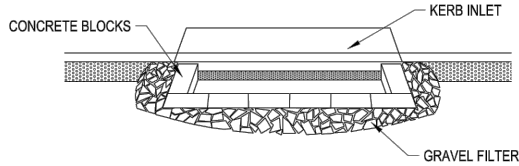


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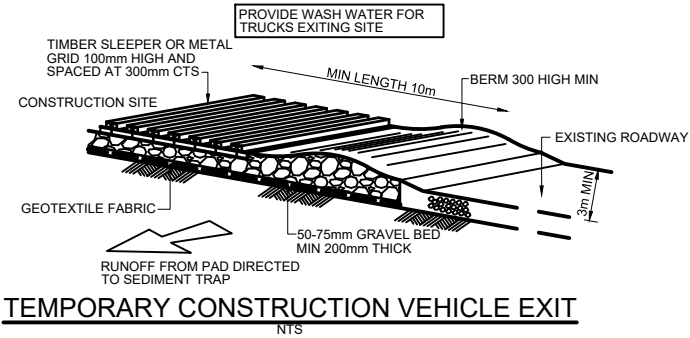


TYPICAL KERB APPLICATION

TEMPORARY SEDIMENT CONTROL BANK (FOR MORE DETAILS REFER TO RMS R0100 SERIES)



BLOCK AND GRAVEL KERB INLET SEDIMENT TRAP



TEMPORARY CONSTRUCTION VEHICLE EXIT



Safety Barrier System Acceptance Conditions

SENTRY W BEAM Steel Rail Safety Barrier

	Issue Date: 6 December 2019	Supplier: Australian Construction Products
	These conditions take precedence over any instructions in the Product Manual.	
	These acceptance conditions should be read in conjunction with the Product Manual and Transport for NSW Specification R132 – Safety Barrier Systems and Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers.	
	Transport for NSW may withdraw or modify this acceptance at any time without notice. Users should refer to the Transport for NSW website to ensure they have the latest version of the conditions related to this product.	
	Acceptance of this product does not place any obligation on Transport for NSW, or its contractors, to purchase or use the product.	

Status	Accepted - may be used on the classified road network
Product accepted	SENTRY W BEAM Safety Barrier - Permanent.
	Variants - Standard Installation (Sentry W-Beam Barrier) - Back to back installation (Sentry Median Barrier) - Base plate installation
Accepted speed	110 km/h

Tested Outcomes

Containment Level	Point of Redirection	Tested Article Length (m)	Anchor/Post Spacing (m)	Dynamic Deflection (m)	Working Width (m)	Notes
MASH TL3	Interface between the barrier and terminal	90	2.0	1.59	1.59	

Approved Connections

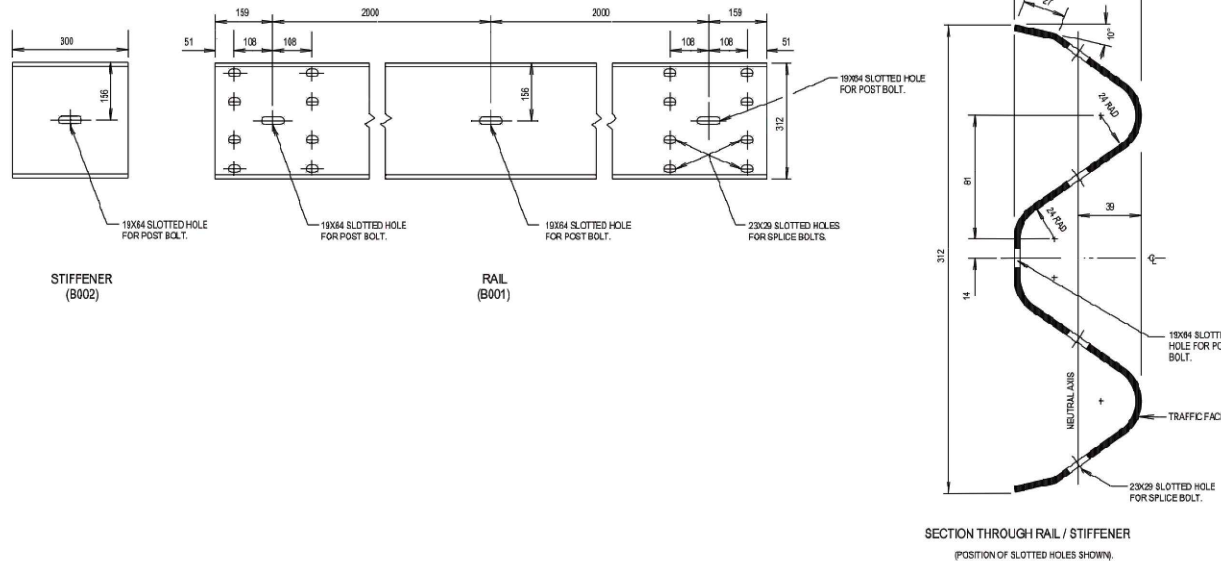
Crash Cushions or Terminals must be fitted to both ends of a barrier	
Public Domain Products	
W-Beam Guardrail	Permitted
Thrie-Beam Guardrail	Not Permitted
Concrete	Not Permitted
Proprietary Products	
MAX-TENSION Guardrail Terminal	- Refer to MAX-TENSION Guardrail Terminal Technical Conditions for Use. - The MAX-TENSION transition to SENTRY W Beam must be used to connect the terminal to the barrier.

Design Guidance

This product must be installed and maintained in accordance with the Product Manual and Transport for NSW specifications	
Minimum installation length	78 metres between crash cushions/terminals (tested article)
System width (m)	0.20 metres
Minimum distance to excavation	Recorded dynamic deflection
Slope limit	Side slope limit: 6 Horizontal to 1 Vertical (17 %).
Systems conditions	1. Installation on top of a kerb is not recommended, however if installed on top of a kerb, all system components must be free to operate. 2. Flaring across the clear zone without a terminal listed above is NOT permitted.
Gore area use	Permitted
Pedestrian area use	Permitted - consider potential for snagging and deflection
Cycleway use	Permitted - consider potential for snagging and deflection
Frequent impact likely	Permitted
Remote location	Permitted
Median use	Permitted

Foundation Pavement Conditions					
Pavement	Use	Accepted Speed (max)	Post/Pin Spacing (m)	Post/Pin Type	Pavement Construction
Concrete	Not Permitted				
Deep lift asphaltic concrete	Permitted	110 km/h	2.0	ACP Sentry Barrier Post	Minimum AASHTO standard soil strength
Asphaltic concrete over granular pavement					
Flush seal over granular pavement					
Unsealed compacted formation					

Note: Installation in pavement conditions not listed above have not been justified to the Transport for NSW's satisfaction.

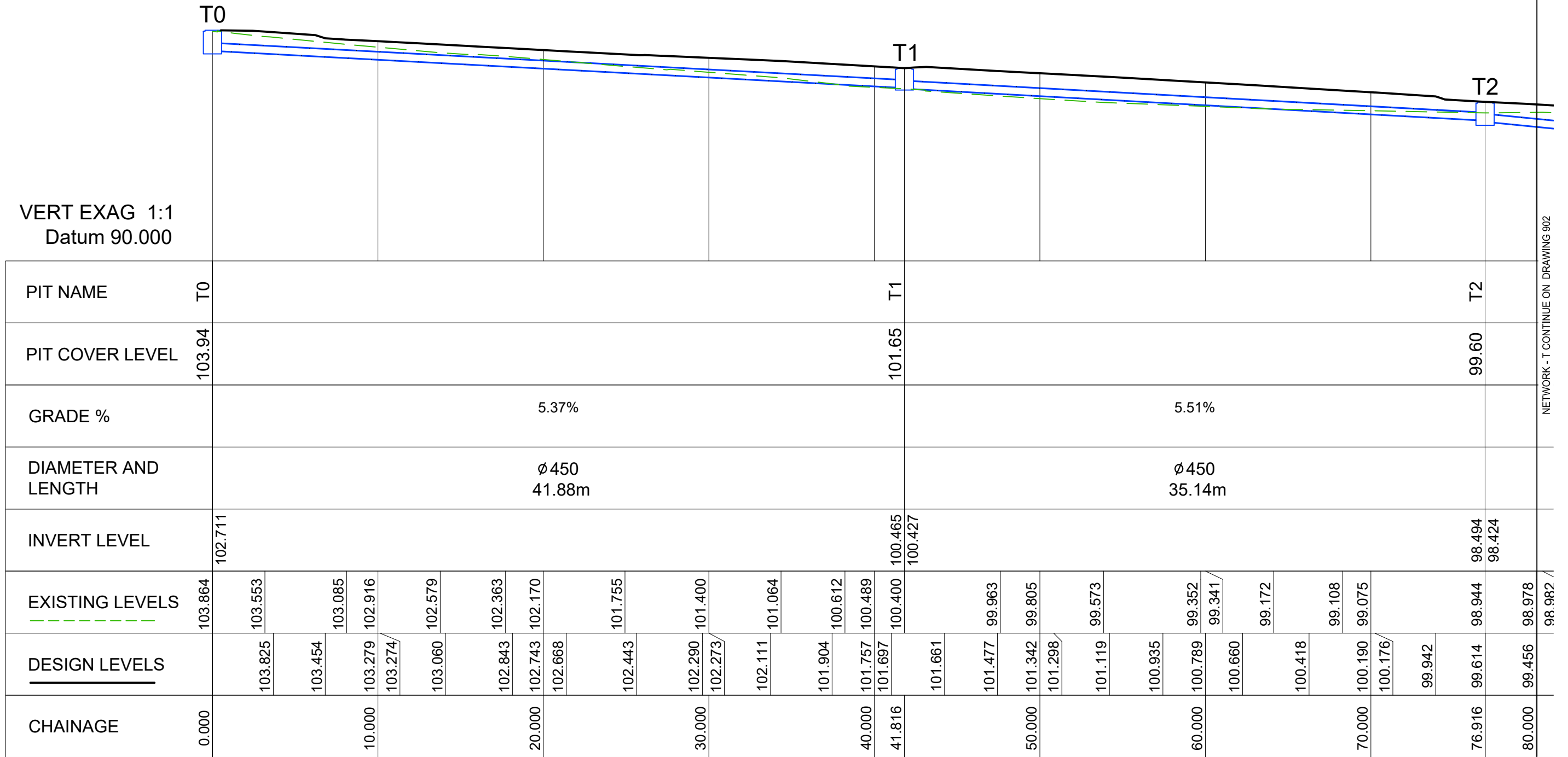


(ACP) SENTRY W BEAM STEEL RAIL SAFETY BARRIER

FOR LEADING TERMINALS USE RMS ET-SS TERMINAL SYSTEM AND TERMINATION,
USE MASH TRAILING STEEL RAIL TERMINAL.
FOR DETAILS REFER TO RMS STANDARD FOR SAFETY BARRIER AND SAFETY BARRIER PRODUCTS (END TREATMENTS)

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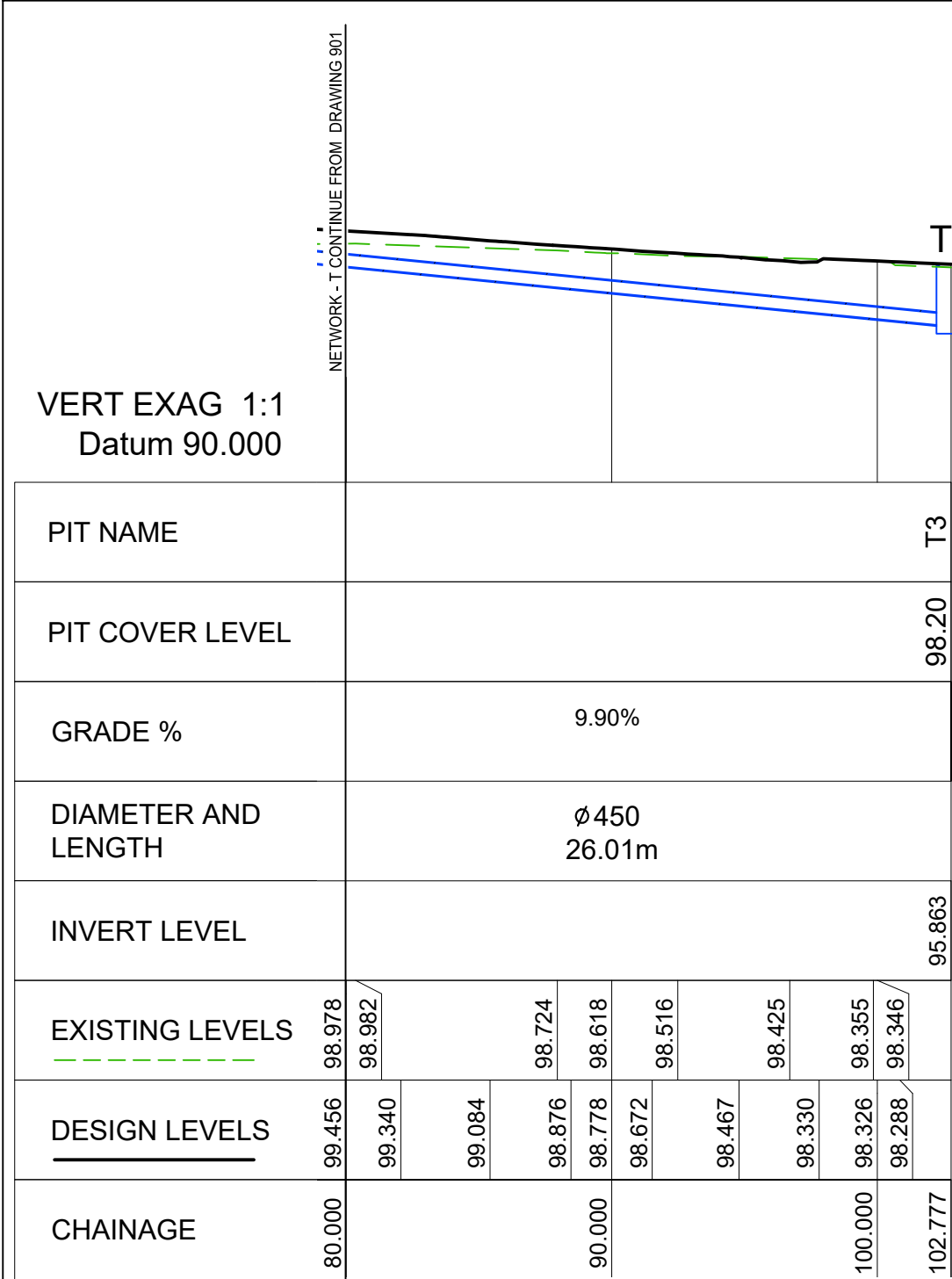
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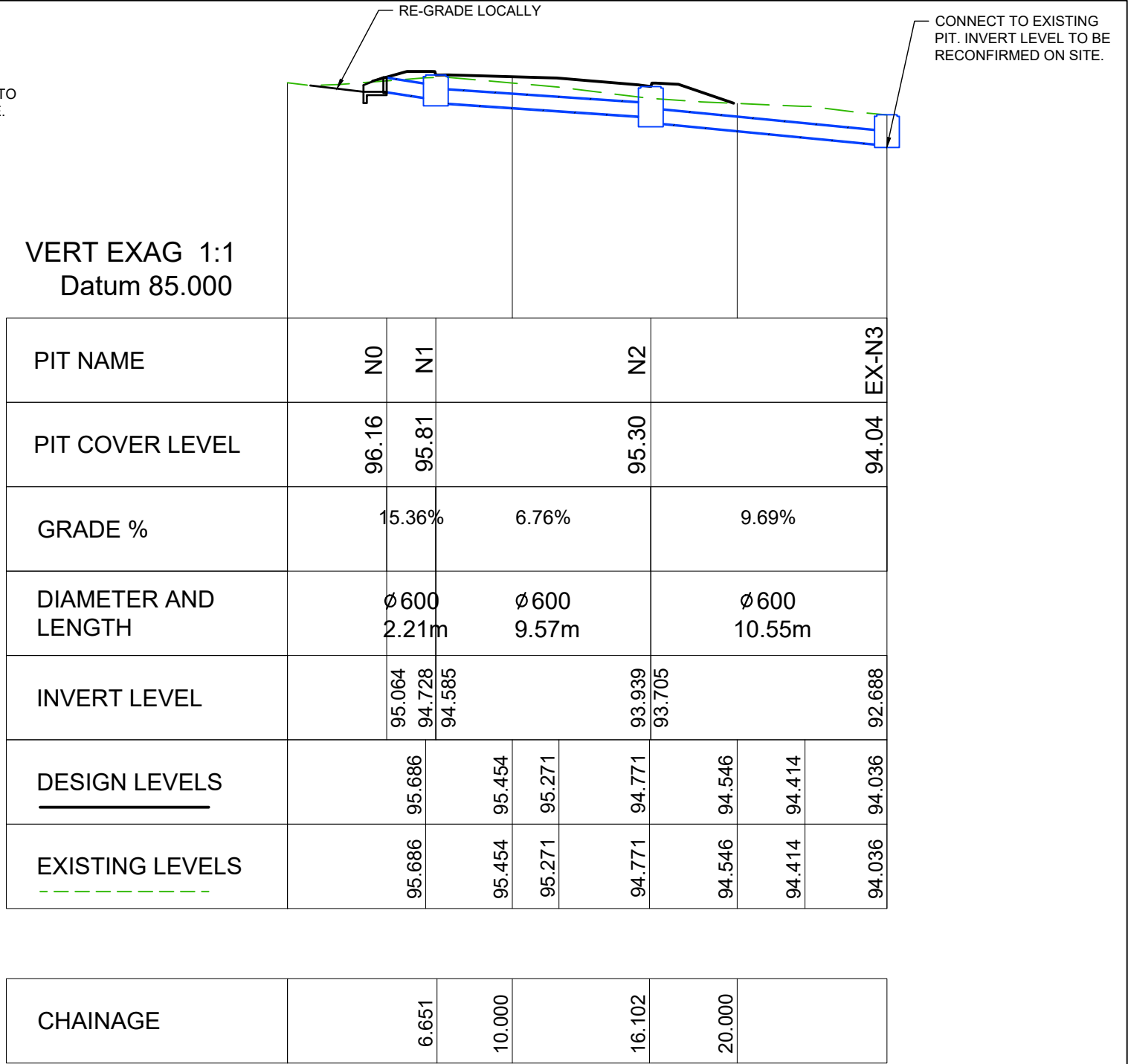
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STORMWATER LONG SECTION NETWORK-T



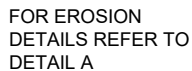
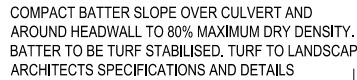
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50mm ON A3 SIZE ORIGINAL



SHOWN AS HW ON STORMWATER LONGITUDINAL SECTIONS



DESIGN LEVELS

EXISTING LEVELS

CHAINAGE

CULVERT SECTION

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	A	18-09-20	DETAILED DESIGN ISSUE	-	-	AS SHOWN
						CO-ORDINATE SYSTEM MGA ZONE 56 HEIGHT DATUM AHD

F THIS DRAWING

DRAWINGS / DESIGN PREPARED BY

enstruct

LEVEL 4, 2 GLEN STREET, MILSONS POINT,
NSW. 2061.

P: 02 8904 1444 E: sydney@enstruct.com.au

PLOT DATE/TIME		PLOT BY
30/07/2020		BJ
TITLE	NAME	DATE
DRAWN	BJ	03/09/20
DRG CHECK	KH	03/09/20
DESIGN	MEL	03/09/20
DESIGN CHECK	PL	03/09/20
DESIGN MNGR	-	-
PROJECT MNGR	-	-

CLIENT	
PREPARED FOR	
BRANCH: PARRAMATTA	

APPIN ROAD - CAMPBELLTOWN MR177 CAMPBELLTOWN HOSPITAL REDEVELOPMENT		A3
STORMWATER LONG SECTION - SHEET3		
RMS REGISTRATION No. DS2020/000249		PART -
ISSUE STATUS DETAILED DESIGN	SHEET No. CHR-ENS-DWG-CIV-STE-0903	ISSU A