

Geotechnical Data

As per GALT Geotechnics report J1801148 001 R Rev0

SAND (SP)
- at depths ranging from 0.5-7.5m
- typically fine to medium grained
- high permeability
- suitable for urbanisation

k = 5.00 m/day

Stormwater Drainage Calculations

Shire of Carnarvon storage requirements = detain 15mm rainfall event.

Total Site Area = 23,870 m²
Development Impervious Area = 18,540 m²
Equivalent Impervious Area (@ 0.90) = 16,686 m²

Required Storage
= Area x 15mm
= 16,686 x 0.015
= 250.29 m³

Provided Storage

Via open swales and soakwells

Catchment A (Green)
A = 1,780 m²
EIA = 1,780 x 0.90 = 1,602 m²
Detention volume required = 24.03 m³

Catchment B (Magenta)
A = 5,200 m²
EIA = 5,200 x 0.90 = 4,680 m²
Detention volume required = 70.20 m³

Catchment C (Purple)
A = 2,060 m²
EIA = 2,060 x 0.90 = 1,854 m²
Detention volume required = 27.81 m³

Catchment D (Orange)
A = 2,520 m²
EIA = 2,520 x 0.90 = 2,268 m²
Detention volume required = 34.02 m³

Catchment E (Yellow)
A = 3,980 m²
EIA = 3,980 x 0.90 = 3,582 m²
Detention volume required = 53.73 m³

Catchment F (Maroon)
A = 3,000 m²
EIA = 3,000 x 0.90 = 2,700 m²
Detention volume required = 40.50 m³

Total detention provided = 250.29 m³

TOTAL 122

REFER TO LANDSCAPE CONSULTANT DRAWING FOR LANDSCAPE DESIGN

REFER TO CIVIL CONSULTANT DRAWING FOR CIVIL DESIGN

pritchard francis
civil and structural engineering consultants




Level 1, 430 Roberts Road
Subiaco WA 6008
PO Box 2150
Subiaco WA 6904

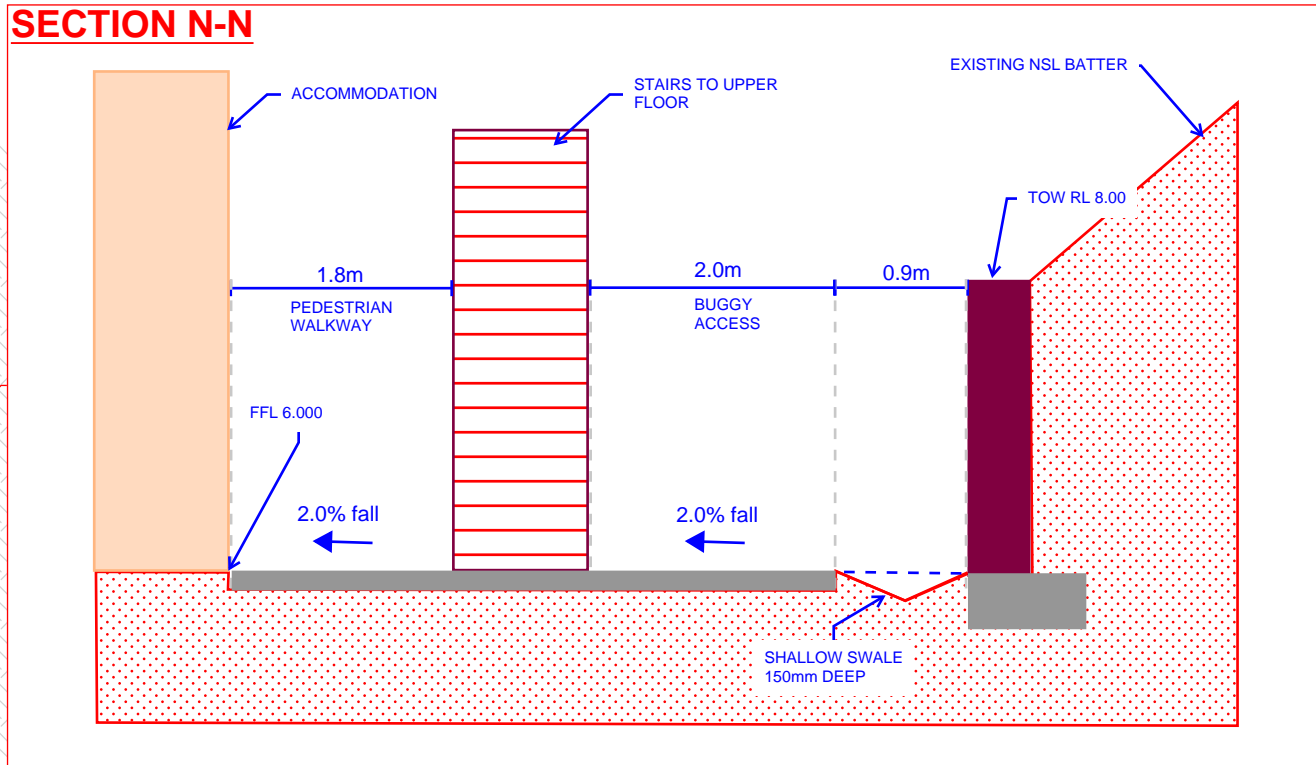
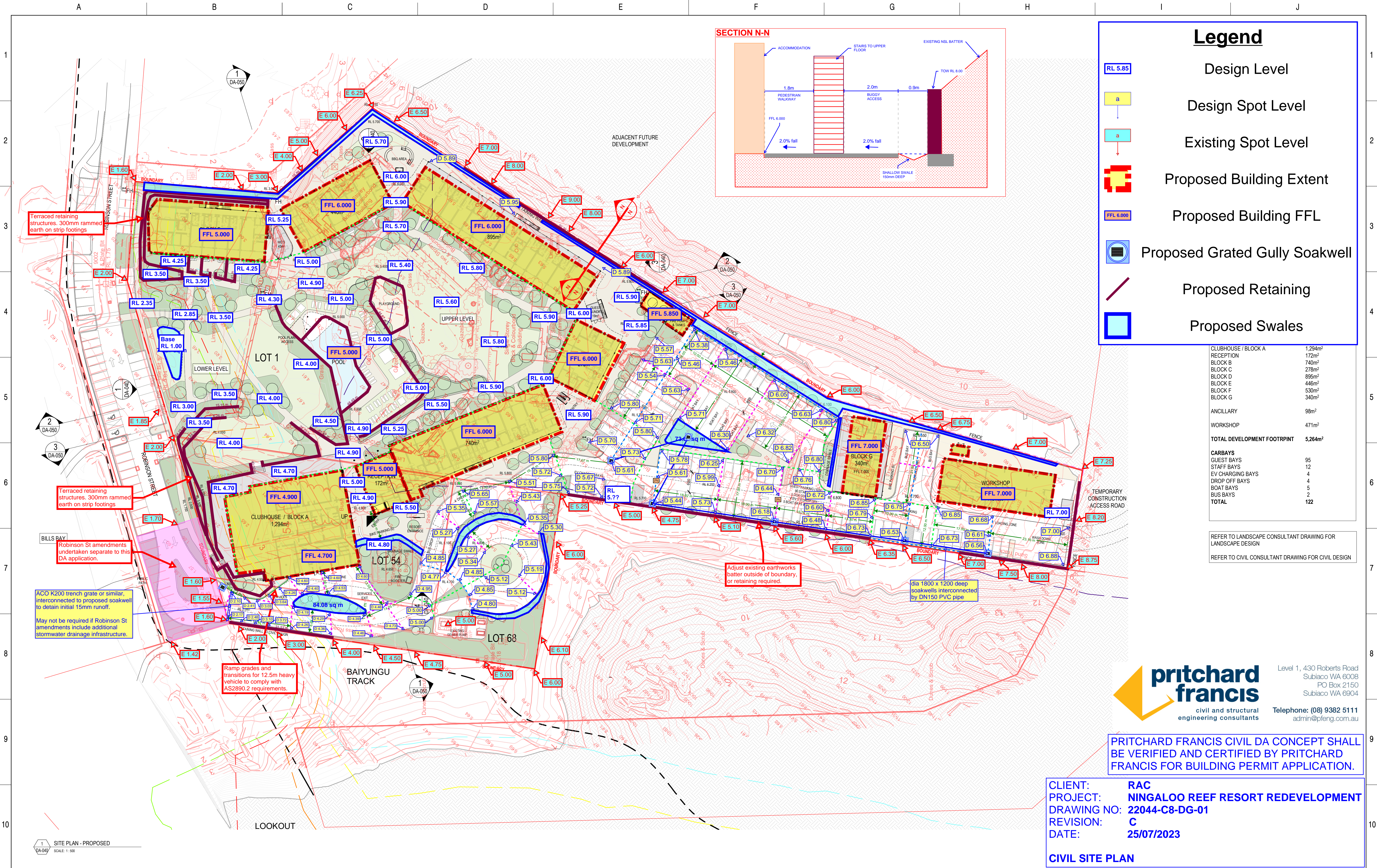
Telephone: (08) 9382 5111
admin@pfeng.com.au

PRITCHARD FRANCIS CIVIL DA CONCEPT SHALL BE VERIFIED AND CERTIFIED BY PRITCHARD FRANCIS FOR BUILDING PERMIT APPLICATION.

CLIENT: RAC
PROJECT: NINGALOO REEF RESORT REDEVELOPMENT
DRAWING NO: 22044-C8-DG-01
REVISION: C
DATE: 25/07/2023

CIVIL STORMWATER DRAINAGE PLAN

				CONSULTANT		CONSULTANT PROJECT NUMBER 210037		LEGEND				SCALE (A1) As indicated		PROJECT RAC NINGALOO REEF RESORT	
				architectus™		DESIGNED CJ / MT		DATE 20/07/23		- - - SITE BOUNDARY				TITLE SITE PLAN - PROPOSED	
				Architectus Perth QV1 Upper Plaza West 250 St. Georges Terrace Perth WA 6000 T (61 8) 9412 8355 perth@architectus.com.au ABN 90 131 245 684		CHECKED CJ		DATE 20/07/23		- - - HORIZONTAL SHORELINE DATUM (HSD) 3.4m AHD CONTOUR				1 ROBINSON ST, CORAL BAY WA 6701	
				Adelaide Brisbane Melbourne Perth Sydney		APPROVED BP		DATE 20/07/23		- - - COASTAL HAZARD LINE - 2022 PLANNING HORIZON				RAC PROJECT MANAGER J. LOURENS	
						PROJECT MANAGER MB		DATE 20/07/23		- - - COASTAL HAZARD LINE - 2047 PLANNING HORIZON				DRAWING No CRB-003-BLD-DA-014	
										- - - COASTAL HAZARD LINE - 2062 PLANNING HORIZON				REV A	
										- - - COASTAL HAZARD LINE - 2072 PLANNING HORIZON					
										- - - COASTAL HAZARD LINE - 2122 PLANNING HORIZON					
A				21/07/23		CD		APPD		ISSUE FOR DEVELOPMENT APPLICATION		AMENDMENT			
REV				DATE		BY		APPD							
PLOT DATE:				25/07/2023 9:33:52 AM											



Legend

Design Level

Design Spot Level

Existing Spot Level

Proposed Building Extent

Proposed Building FFL

Proposed Grated Gully Soakwell

Proposed Retaining

Proposed Swales

CLUBHOUSE / BLOCK A	1,294m²
RECEPTION	172m²
BLOCK B	740m²
BLOCK C	278m²
BLOCK D	895m²
BLOCK E	446m²
BLOCK F	530m²
BLOCK G	340m²
ANCILLARY	98m²
WORKSHOP	471m²
TOTAL DEVELOPMENT FOOTPRINT	5,264m²
CARBAYS	
GUEST BAYS	95
STAFF BAYS	12
EV CHARGING BAYS	4
DROP OFF BAYS	4
BOAT BAYS	5
BUS BAYS	2
TOTAL	122

REFER TO LANDSCAPE CONSULTANT DRAWING FOR LANDSCAPE DESIGN

REFER TO CIVIL CONSULTANT DRAWING FOR CIVIL DESIGN

civil and structural engineering consultants

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PROJECT: NINGALOO REEF RESORT REDEVELOPMENT
DRAWING NO: 22044-C8-DG-01
REVISION: C
DATE: 25/07/2023

CIVIL SITE PLAN

architectus

Architectus Perth
QV1 Upper Plaza West
250 St. Georges Terrace
Perth WA 6000
T 61 8 9412 8355
perth@architectus.com.au
ABN 90 131 245 684

CONSULTANT PROJECT NUMBER
210037

DESIGNED CJ / MT
CHECKED CJ
APPROVED BP
PROJECT MANAGER MB

DATE 20/07/23
DATE 20/07/23
DATE 20/07/23
DATE 20/07/23

LEGEND

- SITE BOUNDARY
- HORIZONTAL SHORELINE DATUM (HSD) 3.4m AHD CONTOUR
- COASTAL HAZARD LINE - 2022 PLANNING HORIZON
- COASTAL HAZARD LINE - 2047 PLANNING HORIZON
- COASTAL HAZARD LINE - 2062 PLANNING HORIZON
- COASTAL HAZARD LINE - 2072 PLANNING HORIZON
- COASTAL HAZARD LINE - 2122 PLANNING HORIZON

Parks & Resorts
For the better

SCALE (A1)
As indicated

DATUM
HORIZONTAL EXM94
VERTICAL AHD

RAC PROJECT MANAGER J. LOURENS

PROJECT
RAC NINGALOO REEF RESORT

TITLE
SITE PLAN - PROPOSED
1 ROBINSON ST,
CORAL BAY WA 6701

DRAWING No
CRB-003-BLD-DA-014

REV
A

ISSUE FOR DEVELOPMENT APPLICATION

AMENDMENT

REV 21/07/23 CD BY APPD

PLOT DATE: 25/07/2023 9:33:52 AM

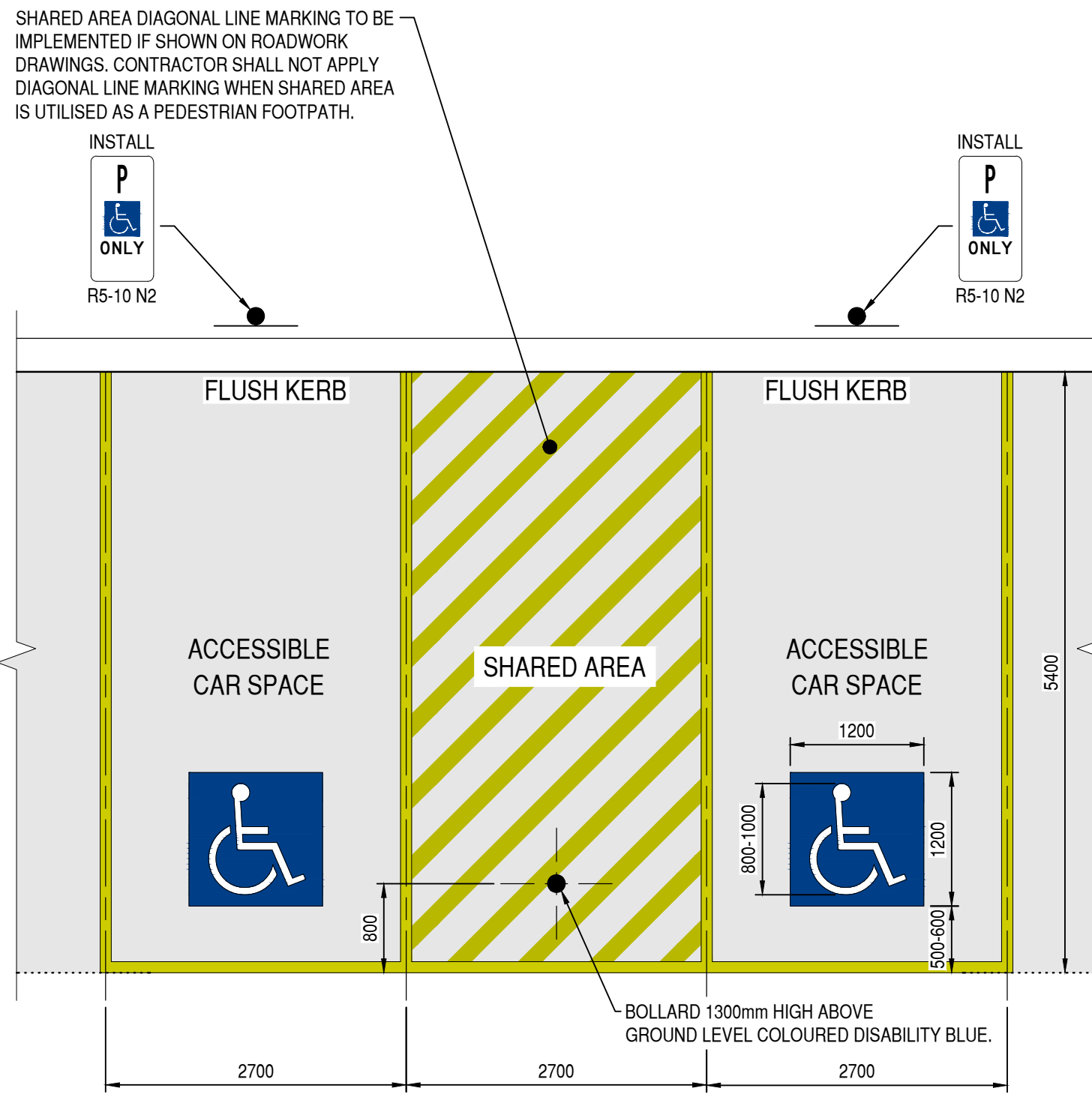
ACCESIBLE PARKING SPACE NOTES

SPACE IDENTIFICATION
EACH DEDICATED SPACE SHALL BE IDENTIFIED BY MEANS OF A WHITE SYMBOL OF ACCESS IN ACCORDANCE WITH AS1428.1 BETWEEN 800mm AND 1000mm HIGH PLACED ON A BLUE RECTANGLE WITH NO SIDE MORE THAN 1200mm, PLACED AS A PAVEMENT MARKING IN THE CENTRE OF THE SPACE BETWEEN 500mm AND 600mm FROM ITS ENTRY POINT AS ILLUSTRATED.

SPACE DELINEATION
PAVEMENT MARKINGS SPECIFIED IN ITEMS (A) AND (B) OF THIS CLAUSE SHALL BE YELLOW AND SHALL HAVE A SLIP RESISTANT SURFACE. RAISED PAVEMENT MARKERS SHALL NOT BE USED FOR SPACE DELINEATION.

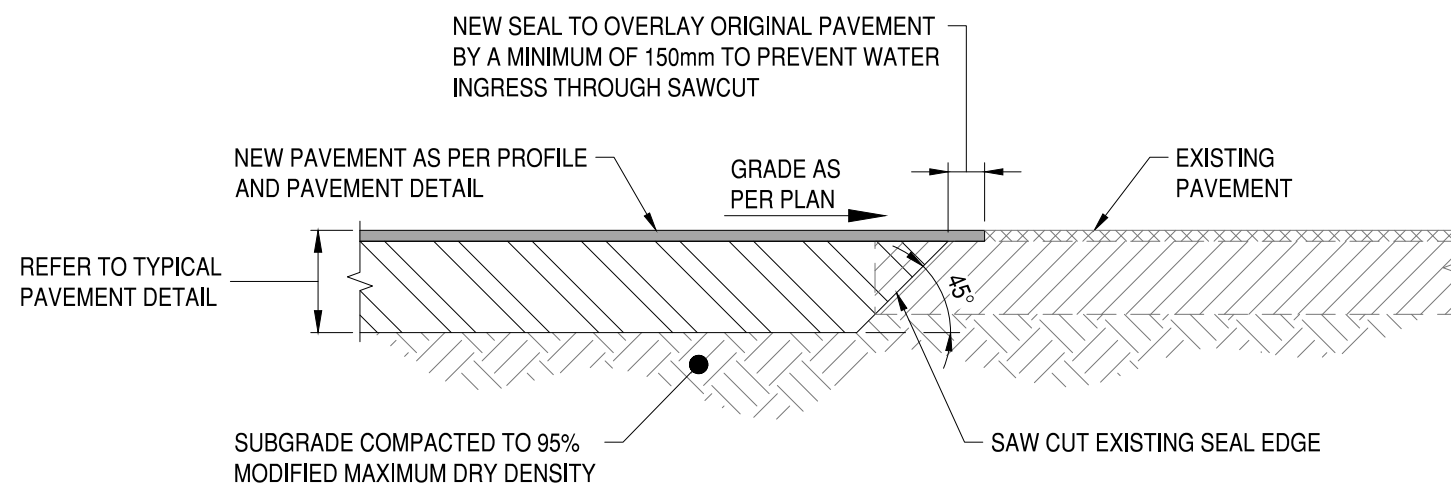
PAVEMENT MARKINGS SHALL BE PROVIDED AS FOLLOWS:

1. LITEMARKING:
 - 1.1. DEDICATED PARKING SPACES SHALL BE OUTLINED WITH UNBROKEN LINES 80 TO 100mm WIDE ON ALL SIDES EXCEPTING ANY SIDE DELINEATED BY A KERB, BARRIER OR WALL.
 - 1.2. SHARED AREAS SHALL BE MARKED AS FOLLOWS:
 - 2.1. WALKWAYS WITHIN OR PARTLY WITHIN A SHARED AREA SHALL BE MARKED WITH UNBROKEN LONGITUDINAL LINES ON BOTH SIDES OF THE WALKWAY EXCEPTING ANY SIDE DELINEATED BY A KERB, BARRIER OR WALL.
 - 2.2. OTHER VACANT NON-TRAFFICKED AREAS, WHICH MAY BE INTENTIONALLY OR UNINTENTIONALLY OBSTRUCTED (E.G. BY UNINTENDED PARKING), SHALL BE OUTLINED WITH UNBROKEN LINES 80mm TO 100mm WIDE ON ALL SIDES EXCEPTING ANY SIDE DELINEATED BY A KERB, BARRIER OR WALL, AND MARKED WITH DIAGONAL STRIPES 150mm WIDE WITH SPACES 300mm BETWEEN STRIPES. THE STRIPES SHALL BE AT AN ANGLE OF 45° TO THE SIDE OF THE SPACE.
 - 2.3. NO SHARED AREA MARKINGS SHALL BE PLACED IN TRAFFICKED AREAS.
 - 2.4. ALL LITEMARKING MUST BE NON SLIP.
 2. BOLLARDS:
 - 3.1. MINIMUM HEIGHT 1300mm.
 - 3.2. RECOMMENDED COLOUR BLUE TO CONTRAST AGAINST YELLOW LINE MARKING.



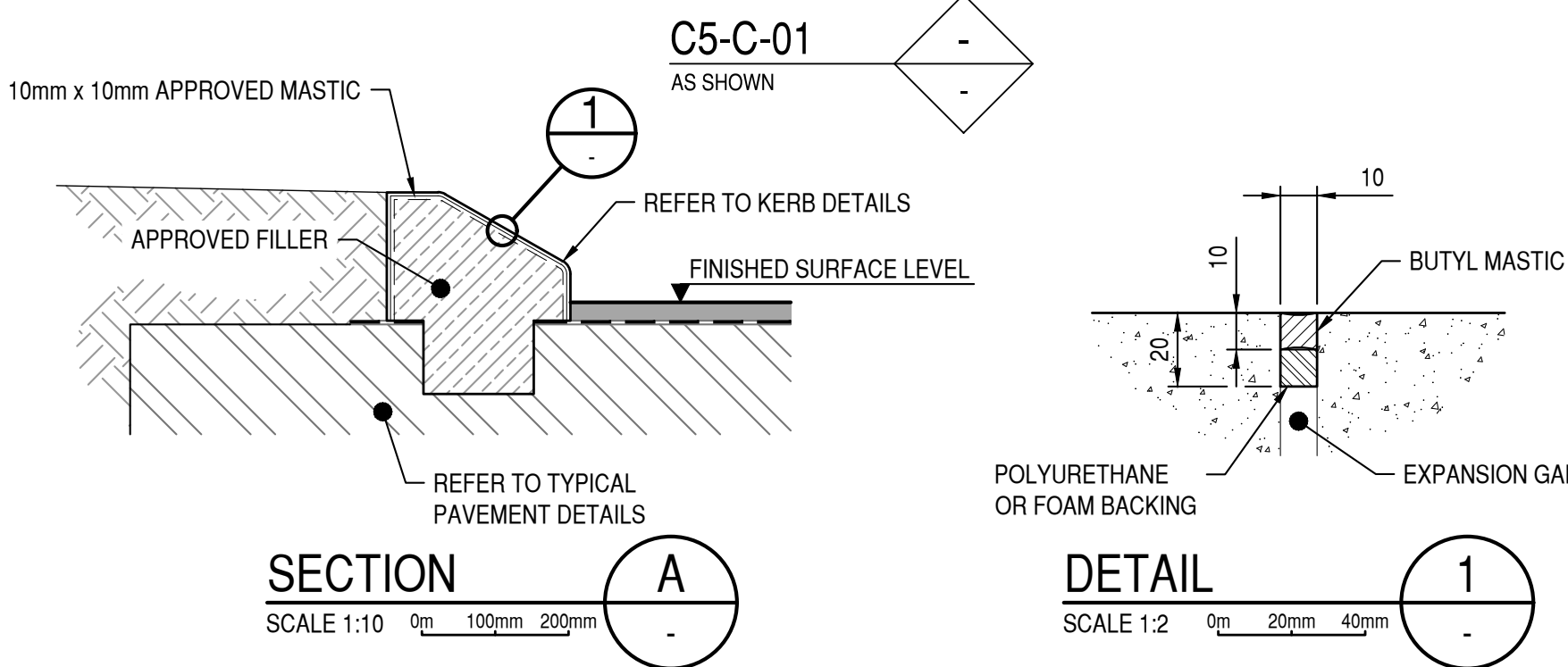
PERPENDICULAR ACCESSIBLE CAR PARKING SPACES IN ACCORDANCE WITH AS2890.6

SCALE 1:50 0m 1m 2m



TYPICAL SAW CUT DETAIL

SCALE 1:20 0m 400mm 800mm

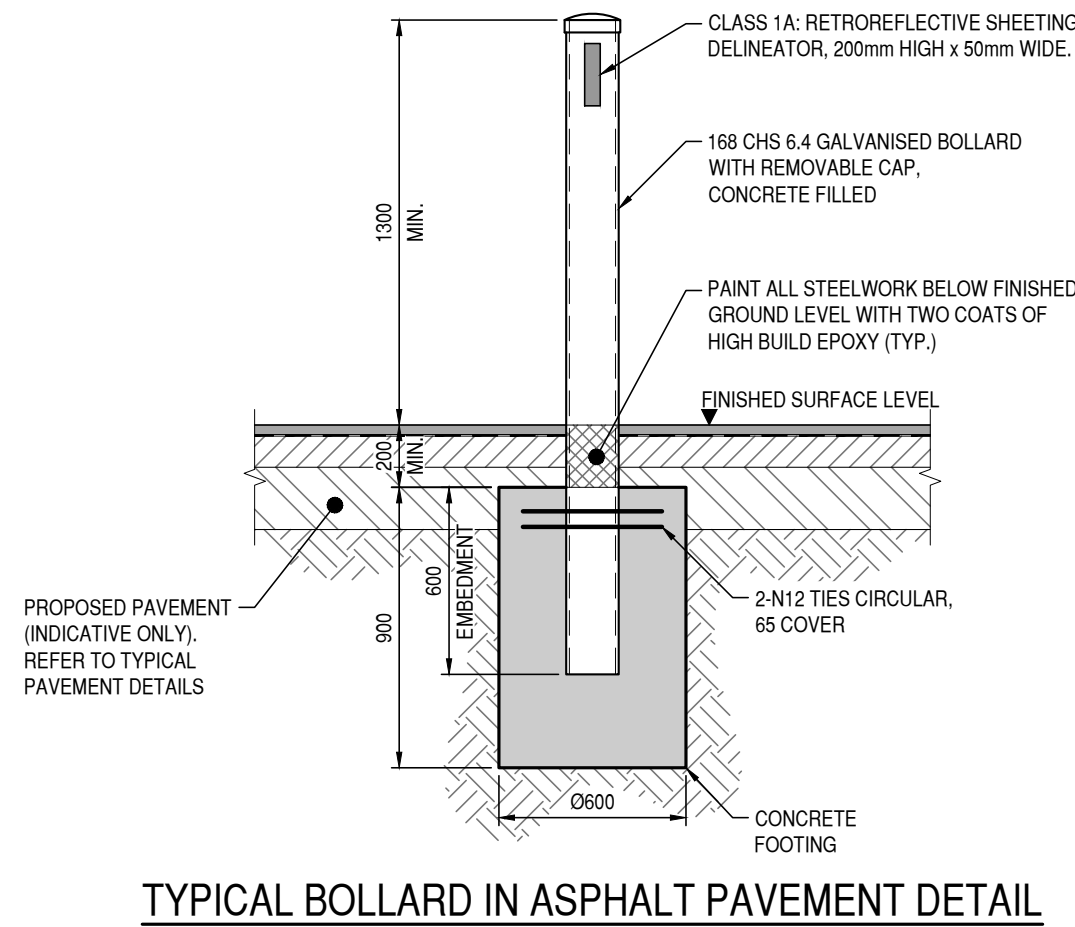


KERB EXPANSION JOINT NOTES

1. EXPANSION AND CONTRACTION JOINTS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION.
2. KEYS SHALL BE INSTALLED FOR ALL RADII LESS THAN OR EQUAL TO 40m
3. KERBING ALONG WITH EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED PRIOR TO LAYING OF ANY BRICK PAVING.
4. BACKFILL BEHIND KERB SHALL BE COMPACTED TO 90% M.M.D.D. IN ACCORDANCE WITH THE SPECIFICATION
5. WHERE PATHS ARE CONSTRUCTED DIRECTLY BEHIND THE KERB, EXPANSION AND CONTRACTION JOINTS IN THE PATH AND KERB SHALL BE ALIGNED

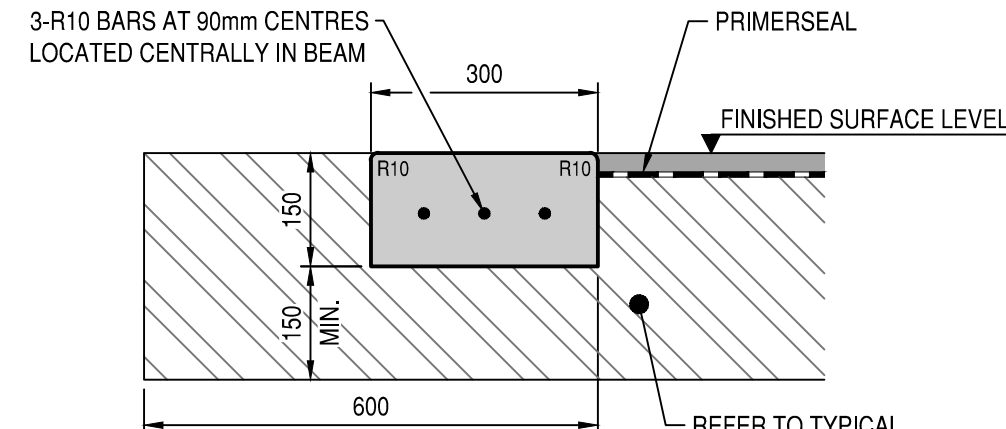
KERB EXPANSION JOINT AND CRACK CONTROL DETAILS

SCALE 1:200 0m 4m 8m



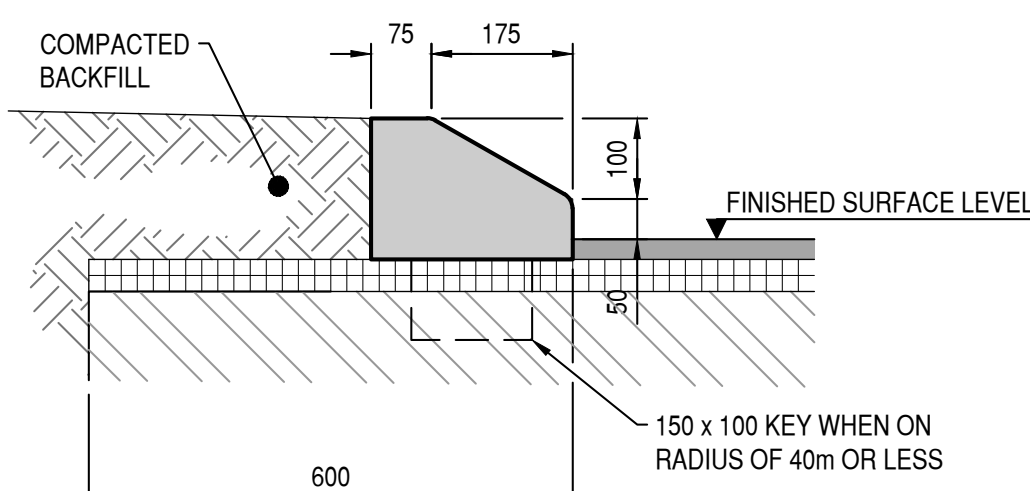
TYPICAL BOLLARD IN ASPHALT PAVEMENT DETAIL

- NOTES
1. THE BOLLARD SHALL COMPLY WITH AS3845.
 2. BOLLARD DESIGNED FOR 10kN INCIDENTAL LOAD ONLY. NOT DESIGNED TO AS1170.1 BARRIER LOADS.
 3. REFER TO THE ARCHITECT'S DOCUMENTATION FOR LOCATIONS AND HEIGHTS.



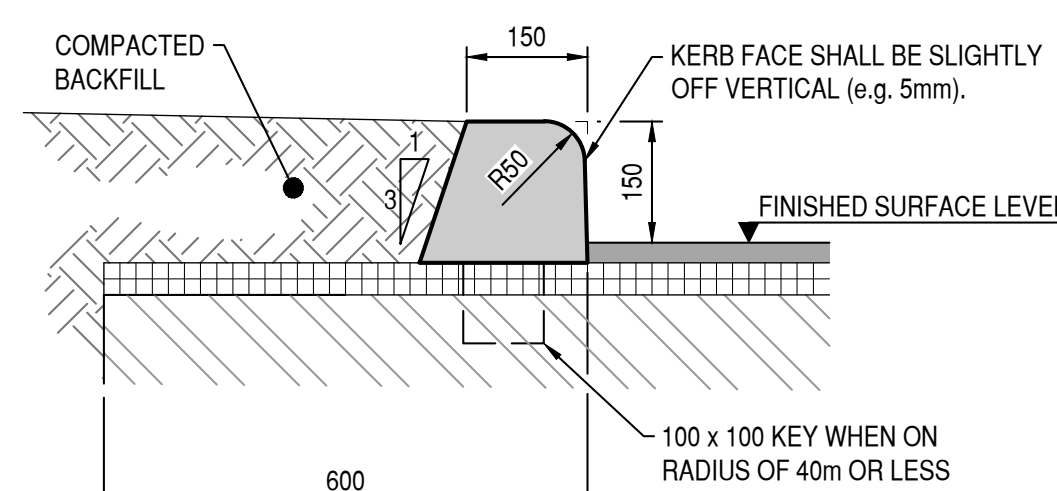
TYPICAL KERB DETAIL - FLUSH BEAM

NOTE: ALL RADII ARE 10mm U.S.O.



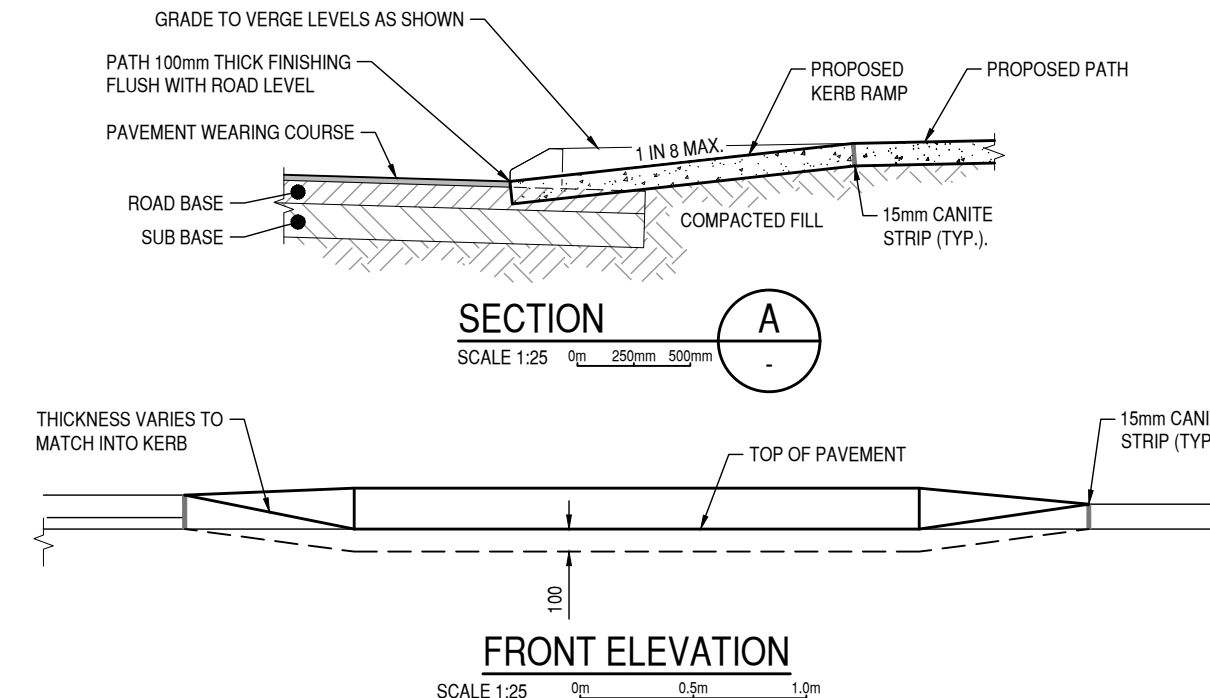
TYPICAL SEMI-MOUNTABLE KERB DETAIL

NOTE: ALL RADII ARE 20mm U.S.O.



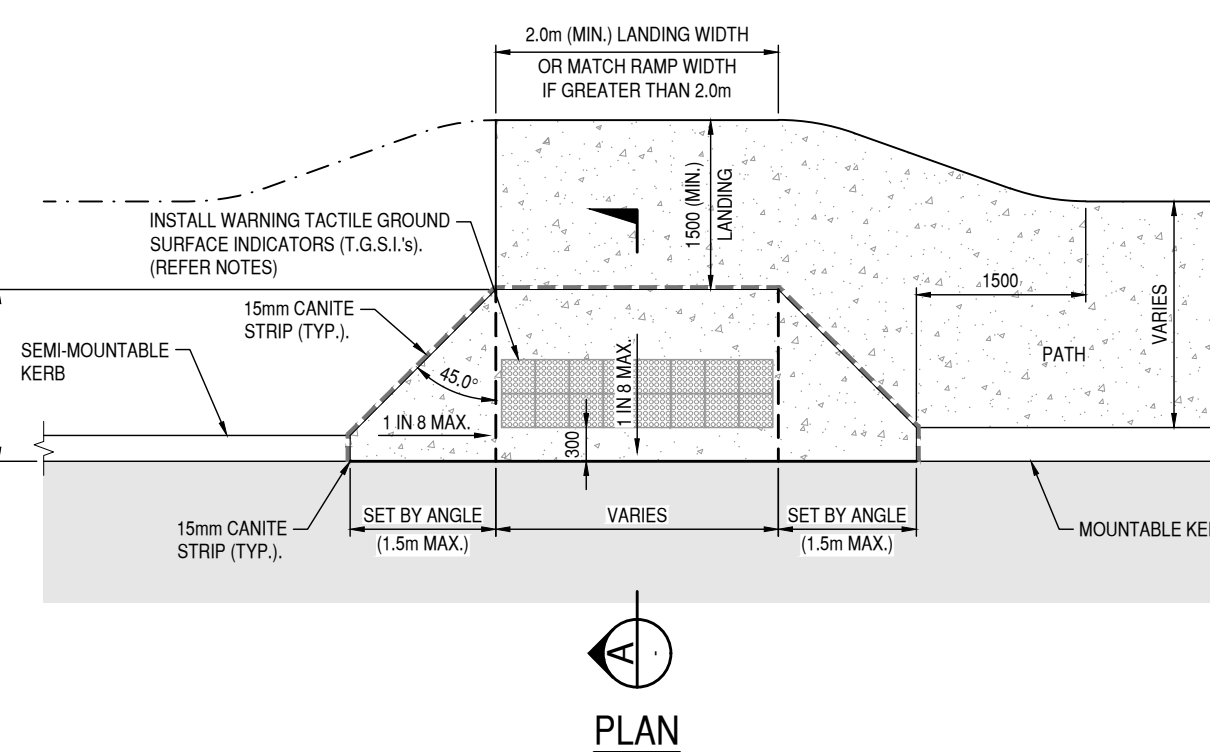
TYPICAL BARRIER KERB DETAIL

SCALE 1:10 0m 200mm 400mm



FRONT ELEVATION

SCALE 1:25 0m 50mm 100mm



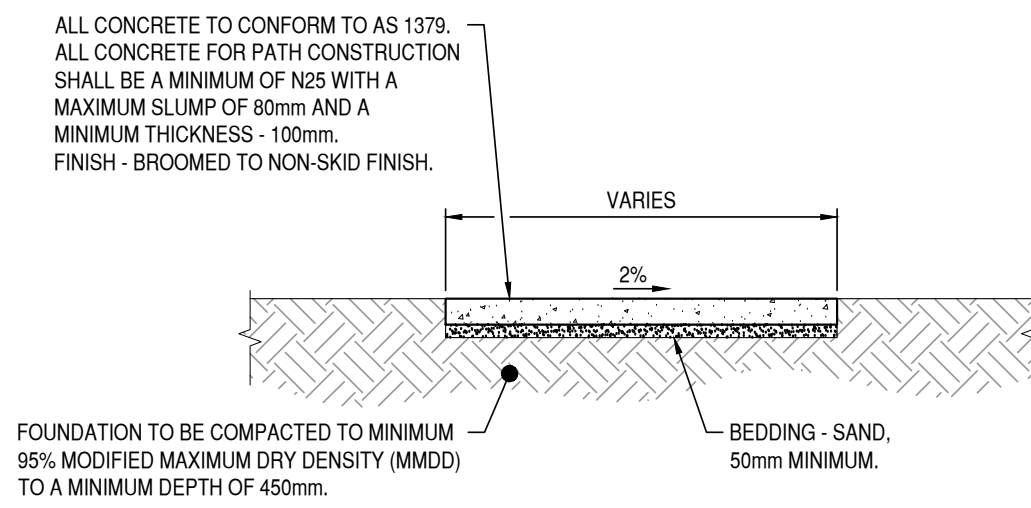
PLAN

TYPICAL KERB RAMP DETAIL

SCALE 1:50 0m 1m 2m

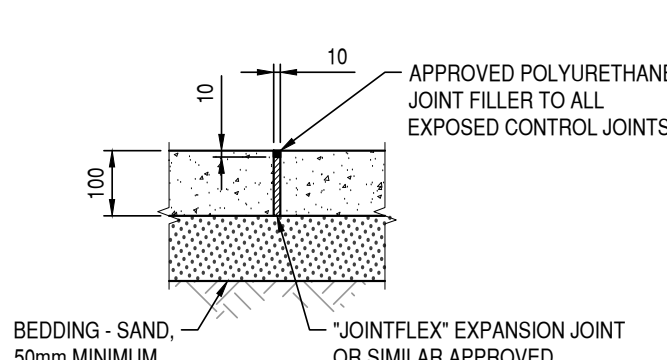
NOTES

1. ALL CONCRETE TO BE A MINIMUM OF 25MPa, 20mm AGGREGATE AND A MAXIMUM SLUMP OF 80mm, FROM AN APPROVED PRE-MIX BATCH PLANT
2. MINIMUM THICKNESS - 100mm
3. BEDDING - SAND, 50mm MINIMUM
4. FINISH - BROOMED TO NON-SKID FINISH PARALLEL TO LINE OF KERB WITH TOOLED EDGES
5. EXPANSION JOINTS - APPROVED MATERIAL SHALL BE EXPANDITE-FLEXICELL
6. TACTILE GROUND SURFACE INDICATORS (T.G.S.I.s) SHALL BE IN ACCORDANCE WITH AS1428.1 AND AS1428.4
7. CONTRACTOR TO INSTALL 2x ROWS OF TERRACOTTA WARNING T.G.S.I.s (ADHESIVE TYPE) FOR FULL WIDTH OF CONCRETE KERB RAMP
8. WARNING TGSIs ARE NOT TO BE CUT. CONTRACTOR SHALL SELECT SUITABLE SIZE TO EXTEND ACROSS FULL WIDTH OF KERB RAMP (EXCLUDING SPAYS)
9. WHERE THE KERB RAMP IS CONSTRUCTED USING BLOCK PAVERS, THE CONTRACTOR SHALL INSTALL TGSi PAVERS IN A CONTRASTING COLOUR CONFORMING WITH AS1428.4 LUMINANCE REQUIREMENTS.



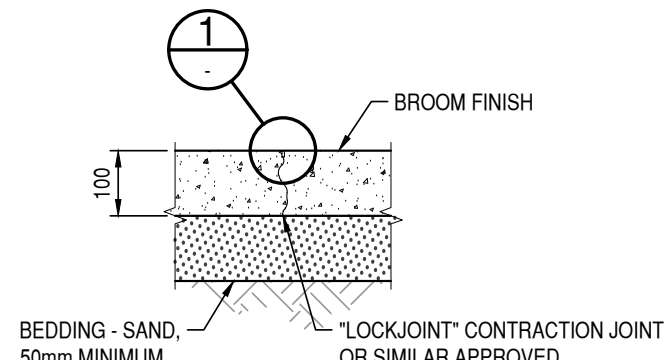
CONCRETE PATH SECTION

SCALE 1:25 0m 0.5m 1.5m



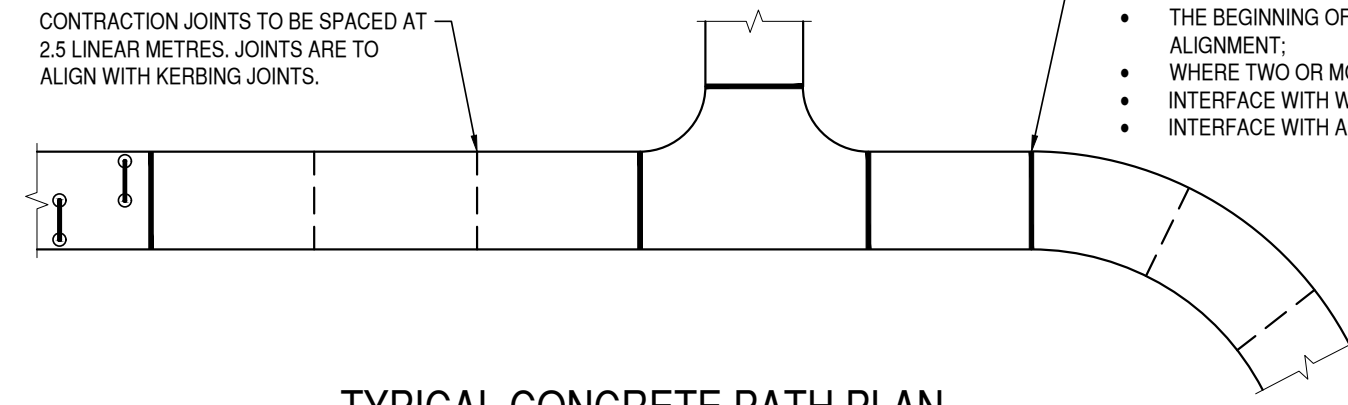
EXPANSION JOINT

SCALE 1:10 0m 200mm 400mm



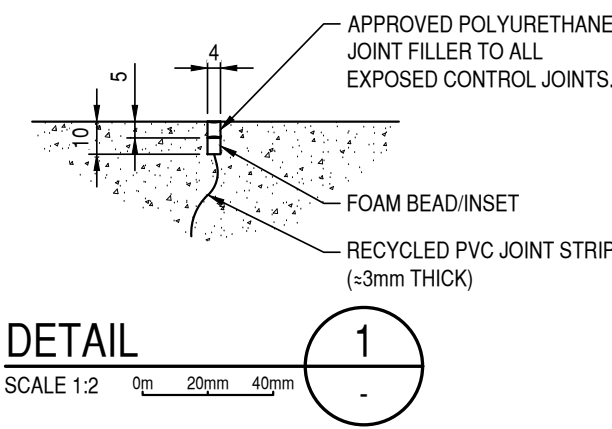
CONTRACTION JOINT

SCALE 1:10 0m 200mm 400mm



TYPICAL CONCRETE PATH PLAN

SCALE 1:100 0m 2m 4m



DETAIL

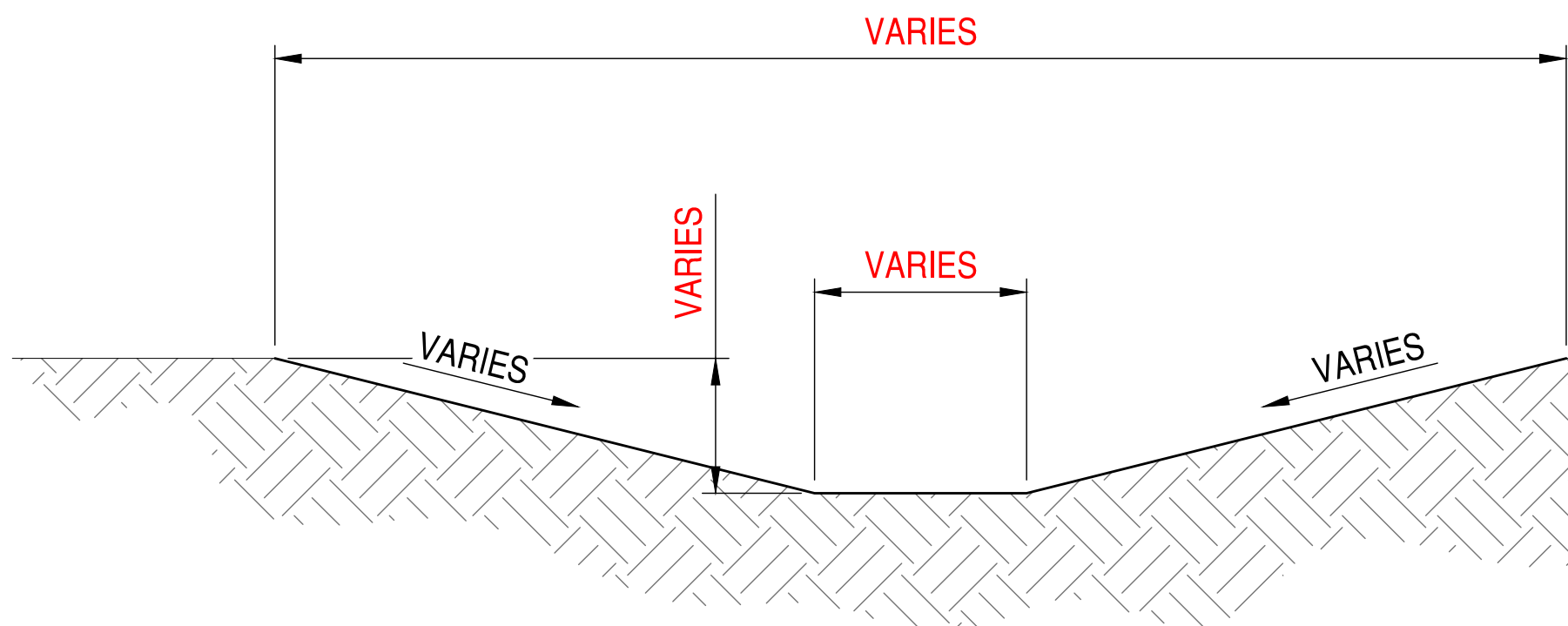
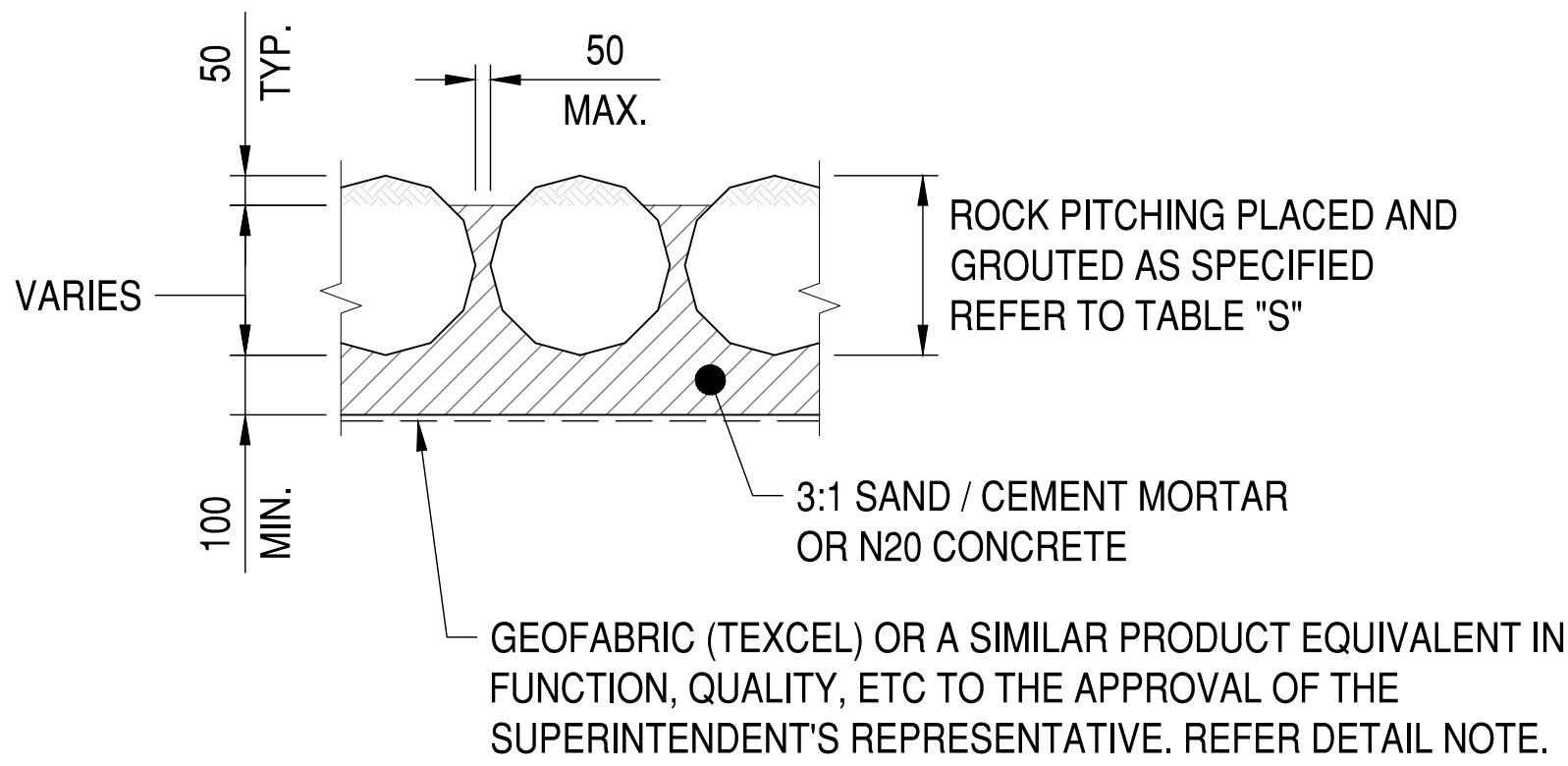
SCALE 1:2 0m 20mm 40mm



Level 1, 430 Roberts Road
Subiaco WA 6008
PO Box 2150
Subiaco WA 6904
Telephone: (08) 9382 5111
admin@pfrng.com.au

CLIENT		
RAC		
PROJECT		
RAC NINGALOO REEF RESORT REDEVELOPMENT		
TITLE		
TYPICAL ROADWORKS DETAILS		
SCALE	DATE	DESIGNED
AS SHOWN	25/07/2023	JT
JOB No.	DRG No.	REV
22-044	22044-C8-DG-01	C

TABLE "S"	
ROCK PITCHING SPALL GRADING	
MINIMUM DIMENSIONS OF INDIVIDUAL SPALLS (mm)	SIZING RATIO
>200 to <300	45 - 60%
100 to 200	25 - 40%
>50 to <100	10 - 20%

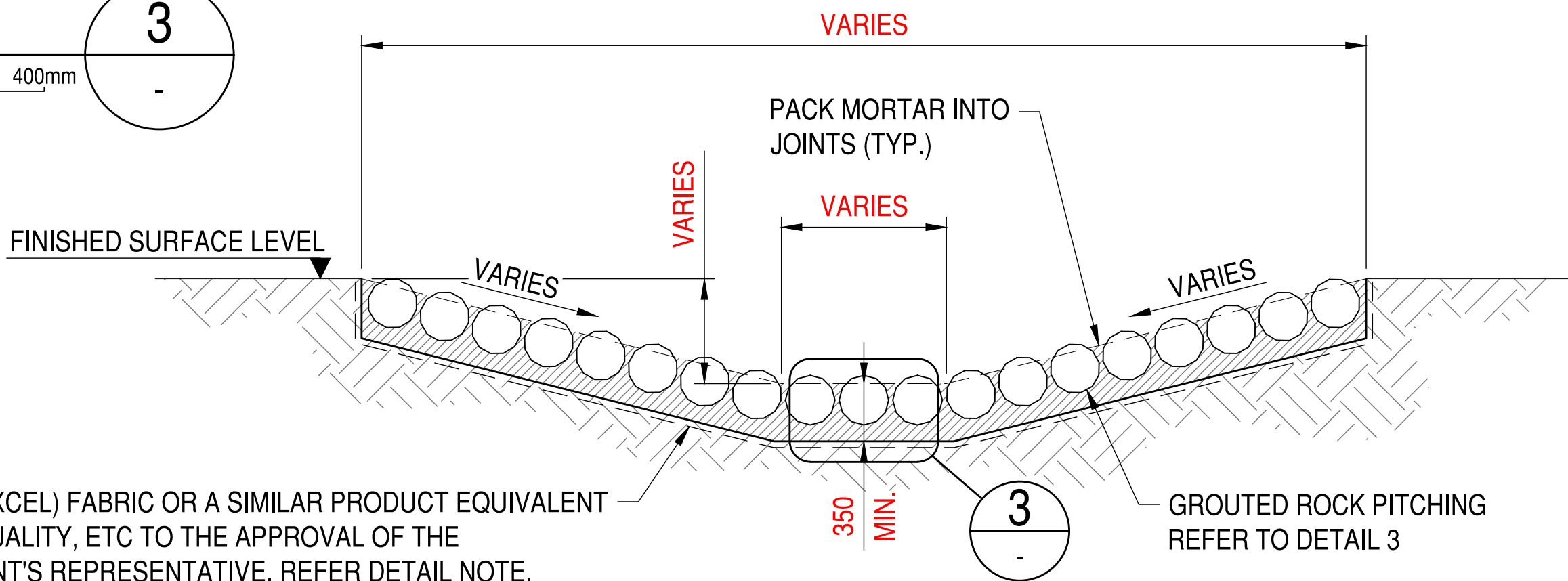


TYPICAL DRAINAGE SWALE

SCALE 1:50 0m 1m 2m

DETAIL 3

SCALE 1:20 0m 200mm 400mm



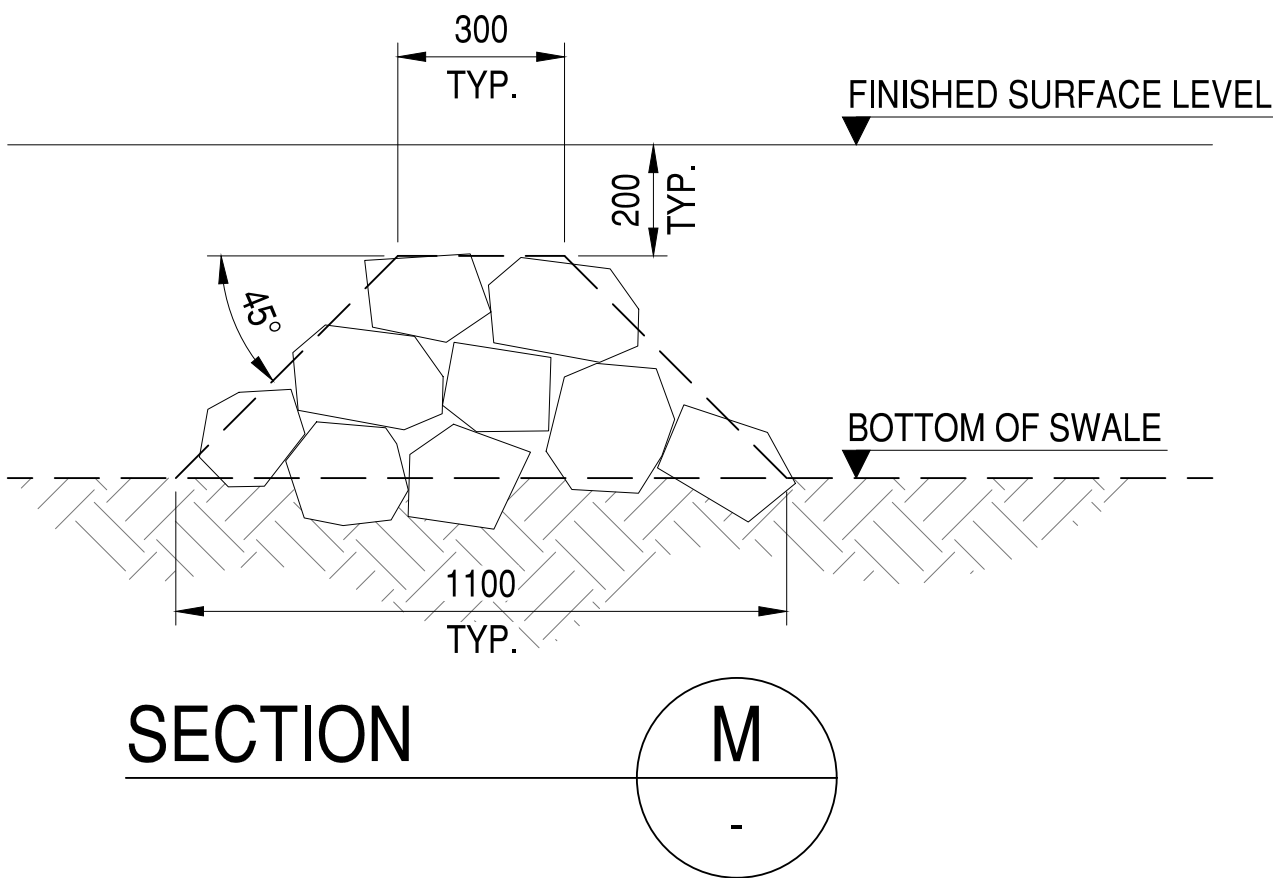
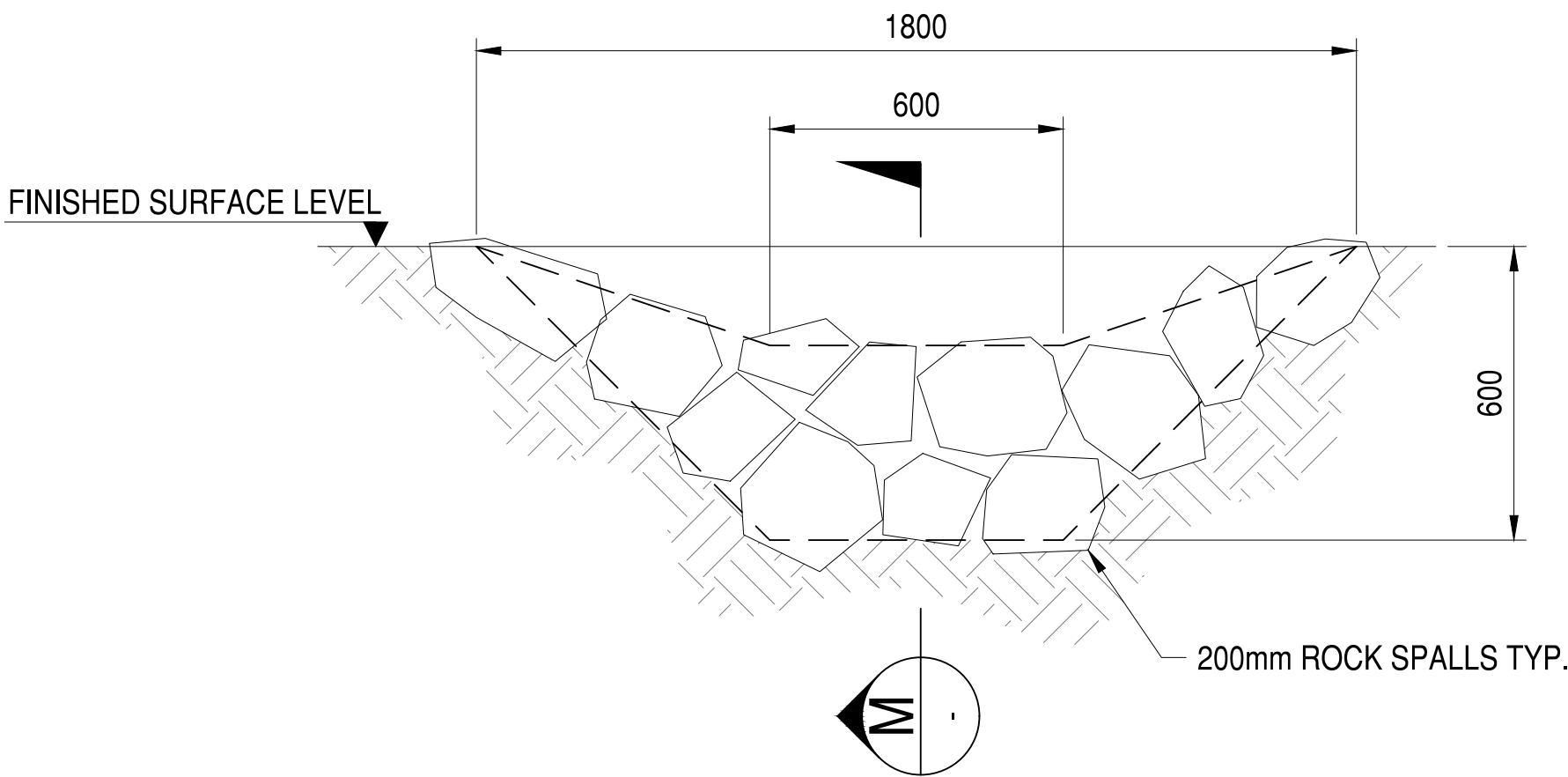
TYPICAL DRAINAGE SWALE - SCOUR PROTECTION

SCALE 1:50 0m 1m 2m

NOTE
GEOFABRIC (TEXCEL) FABRIC OR A SIMILAR PRODUCT EQUIVALENT IN FUNCTION, QUALITY, ETC TO THE APPROVAL OF THE SUPERINTENDENT'S REPRESENTATIVE TO EXTEND UP EDGE OF ROCK PITCHING WORK AND FINISH 20mm BELOW SURFACE LEVEL (TYP.).

C3-M-03

AS SHOWN



TYPICAL SWALE LEAKY ROCK WALL

SCALE 1:20 0m 400mm 800mm

C3-M-04

AS SHOWN

CLIENT RAC		
PROJECT RAC NINGALOO REEF RESORT REDEVELOPMENT		
TITLE TYPICAL DRAINAGE DETAILS 1		
SCALE AS SHOWN	DATE 25/07/2023	DESIGNED JT
JOB No. 22-044	DRG No. 22044-C8-DG-01	REV C

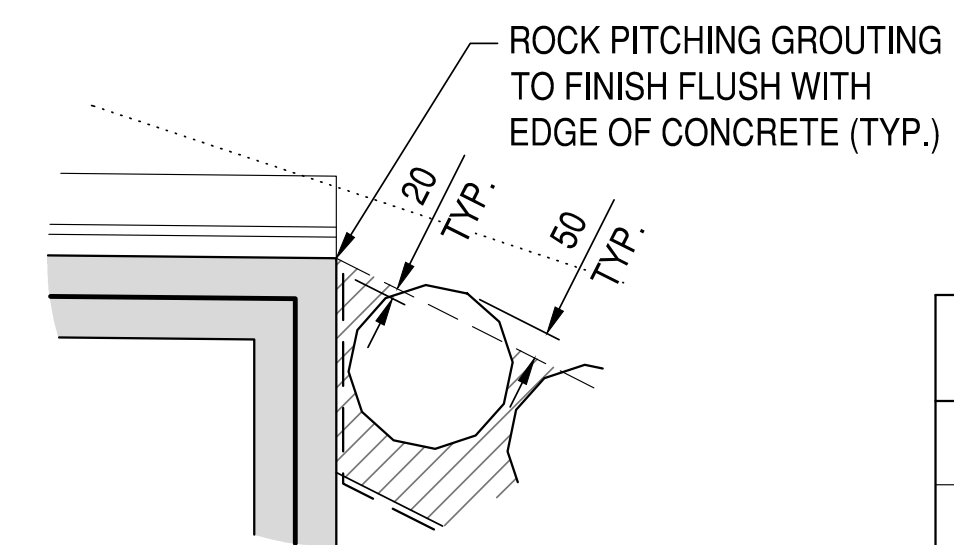
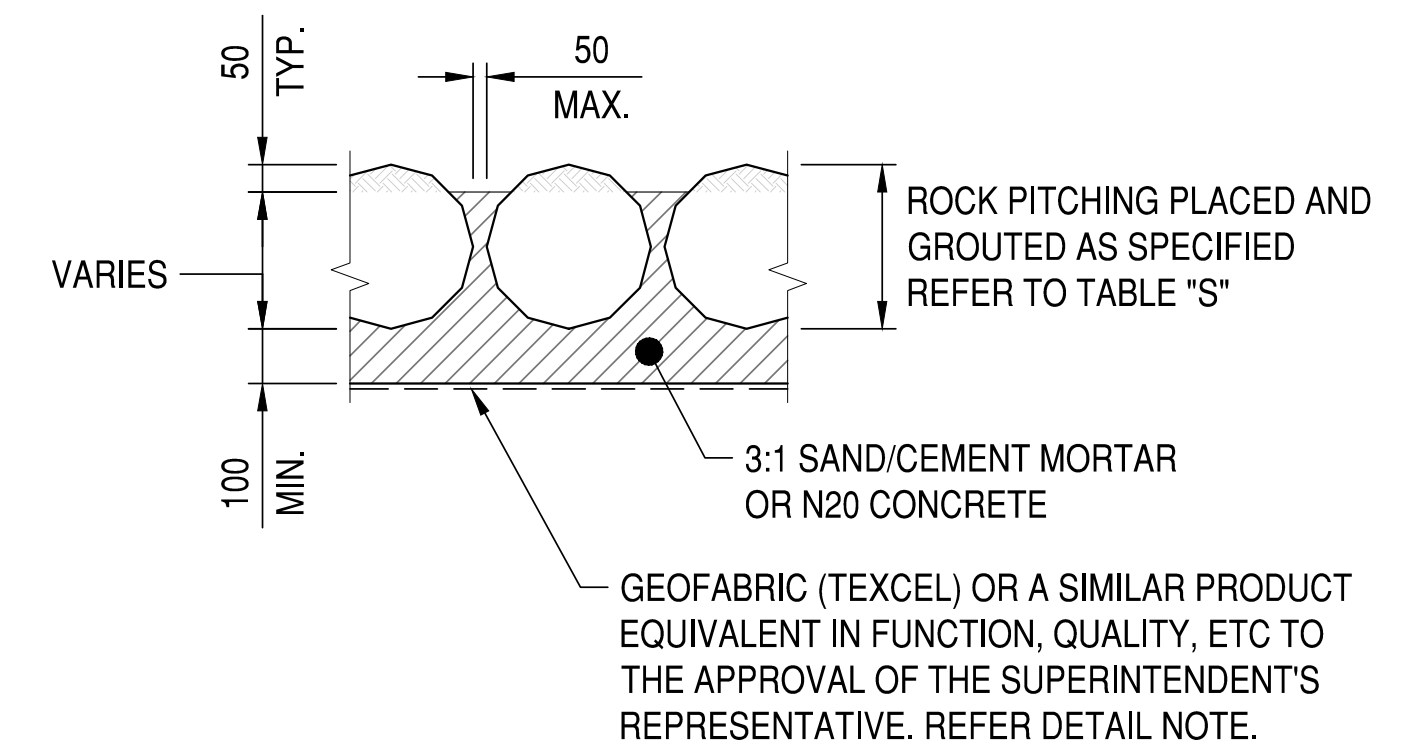
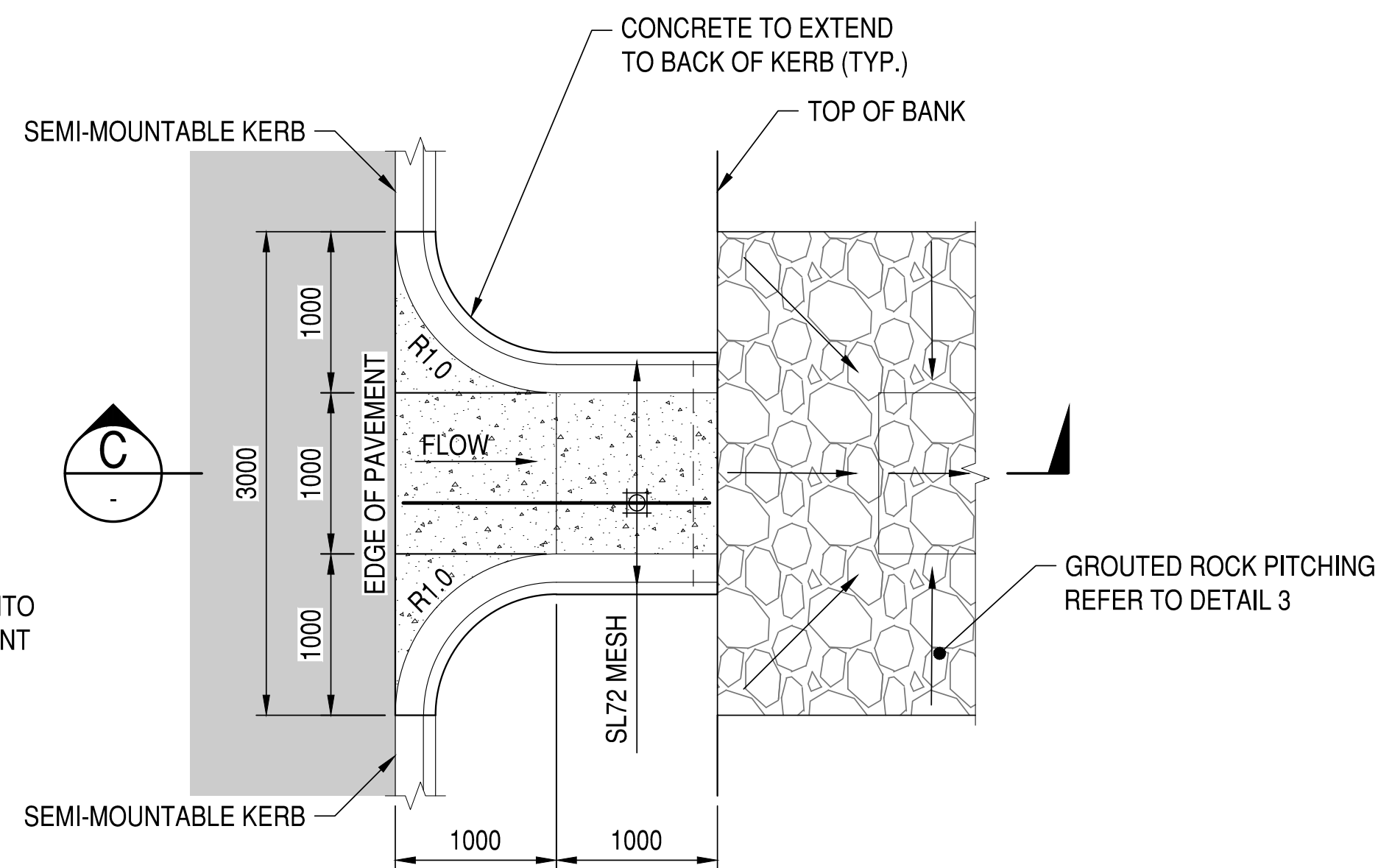
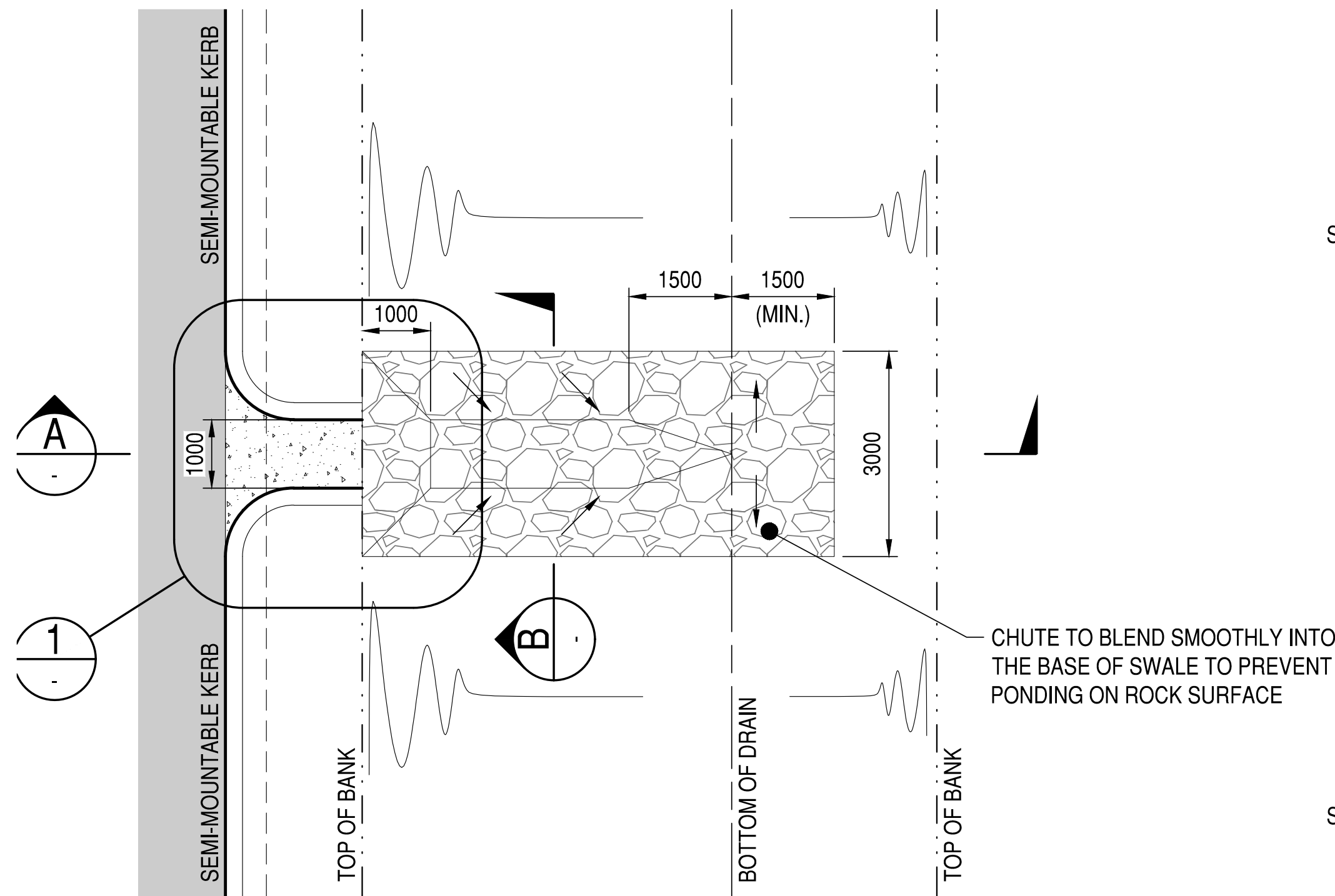
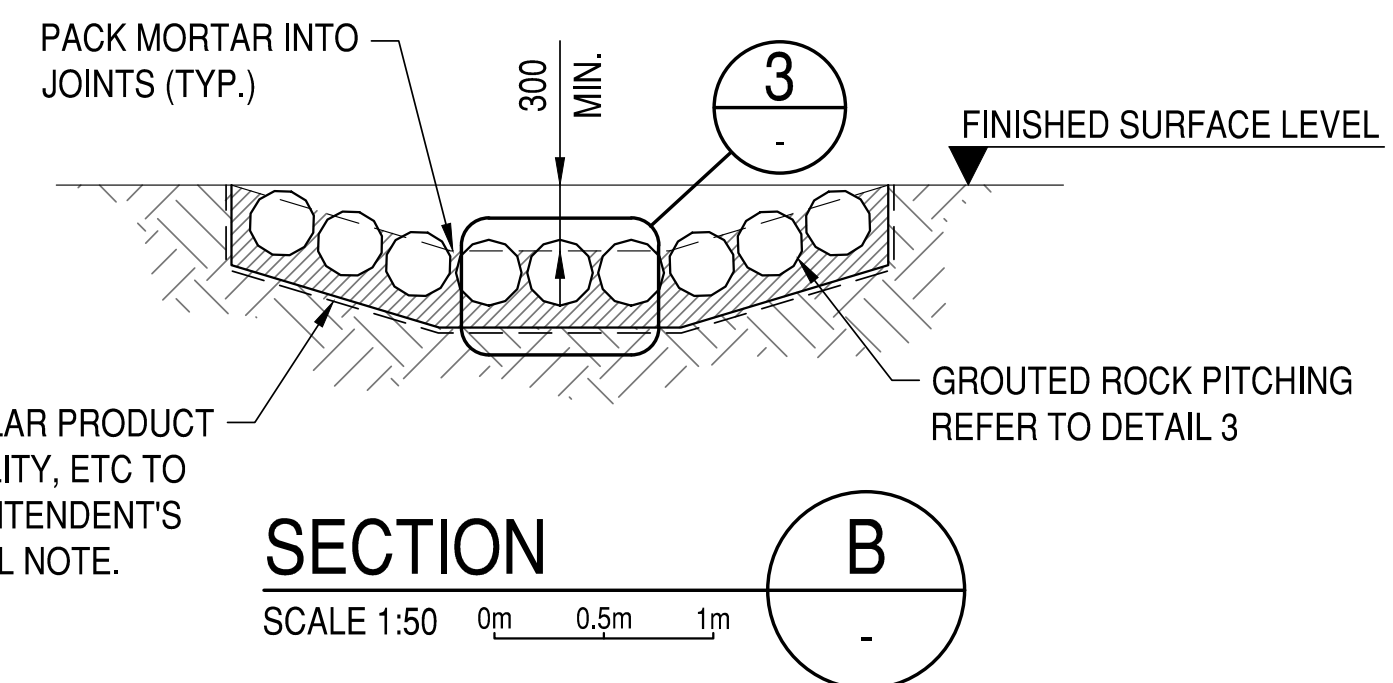
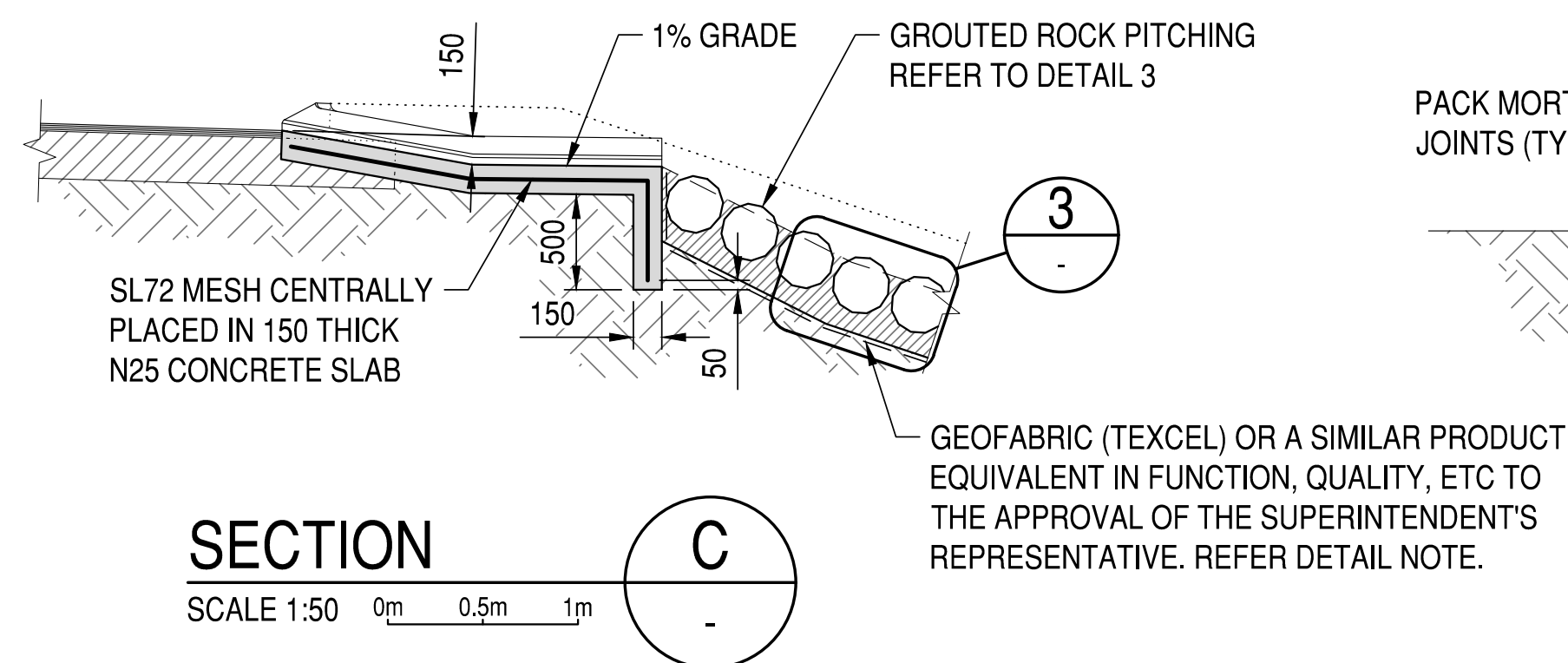
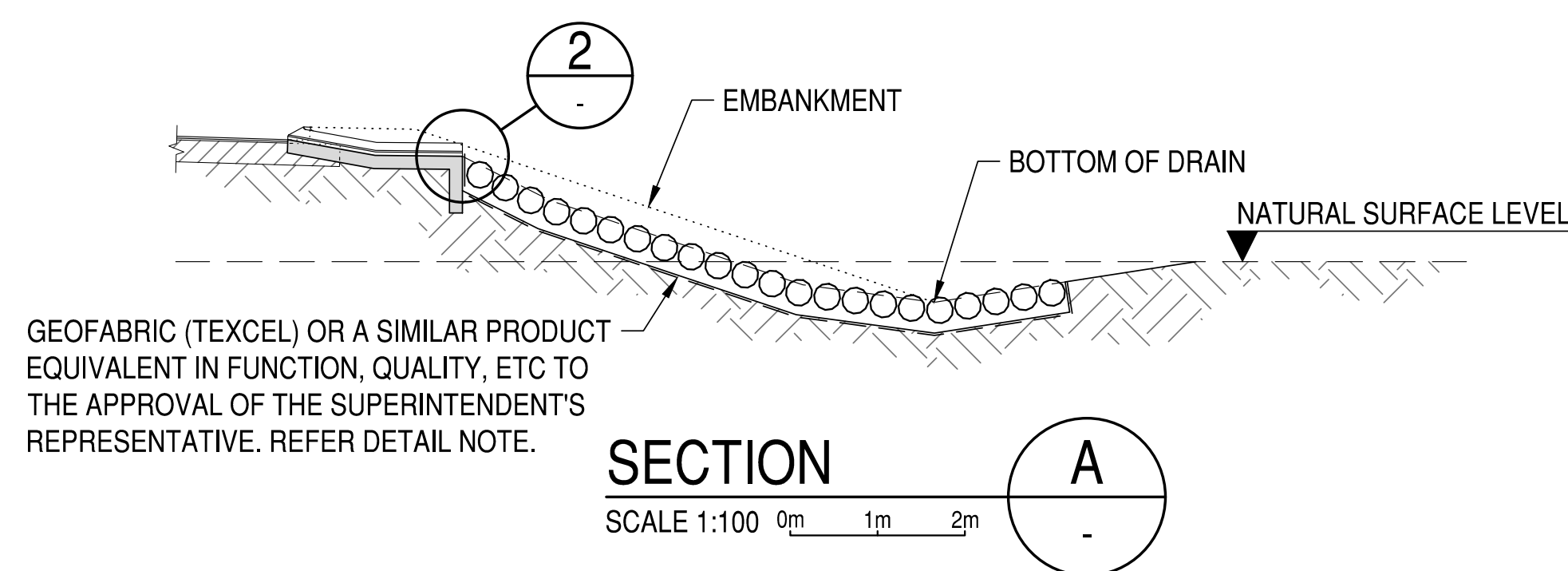


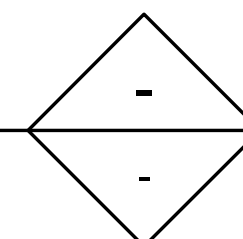
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TYPICAL CONCRETE KERB OPENING DETAILS

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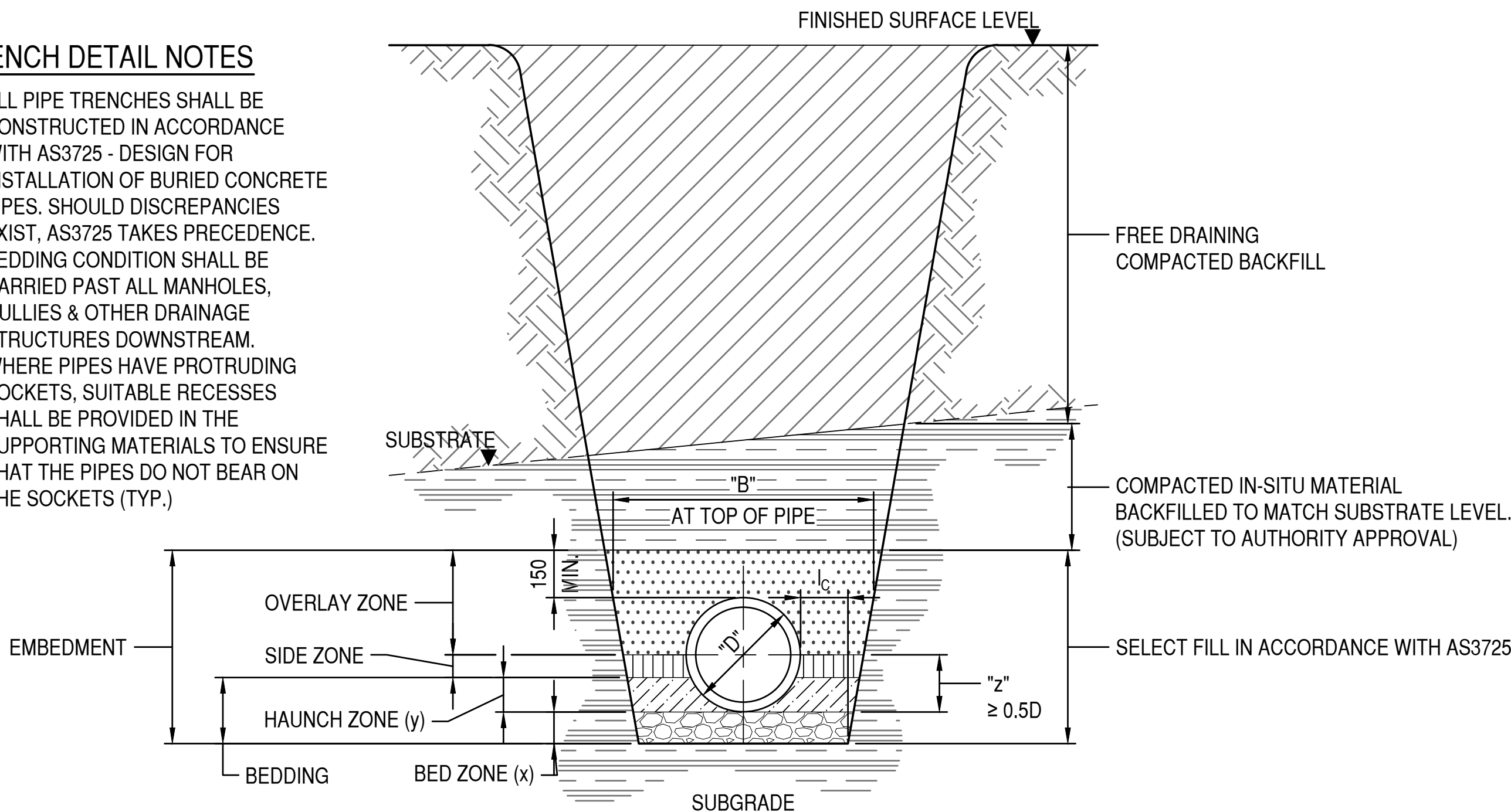
C3-N-01
AS SHOWN



CLIENT RAC		
PROJECT RAC NINGALOO REEF RESORT REDEVELOPMENT		
TITLE TYPICAL DRAINAGE DETAILS 2		
SCALE AS SHOWN	DATE 25/07/2023	DESIGNED JT
JOB No. 22-044	DRG No. 22044-C8-DG-01	REV C

TRENCH DETAIL NOTES

- 1. ALL PIPE TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AS3725 - DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES. SHOULD DISCREPANCIES EXIST, AS3725 TAKES PRECEDENCE.
- 2. BEDDING CONDITION SHALL BE CARRIED PAST ALL MANHOLES, GULLIES & OTHER DRAINAGE STRUCTURES DOWNSTREAM.
- 3. WHERE PIPES HAVE PROTRUDING SOCKETS, SUITABLE RECESSES SHALL BE PROVIDED IN THE SUPPORTING MATERIALS TO ENSURE THAT THE PIPES DO NOT BEAR ON THE SOCKETS (TYP.)



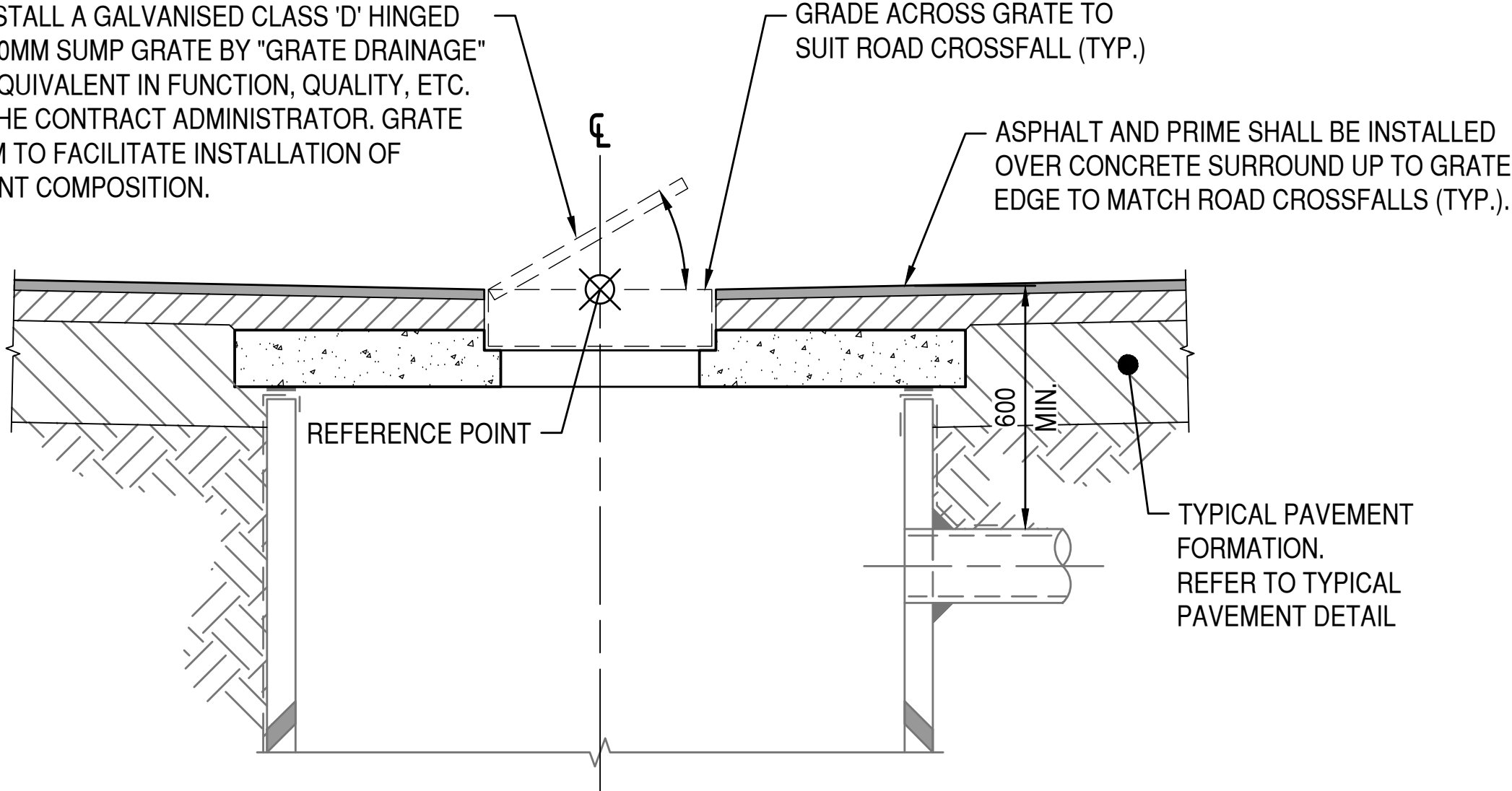
"H" AND "HS" PIPE TRENCH DETAILS									
PIPE I.D. (mm)	PIPE O.D. (mm) "D"	MINIMUM TRENCH WIDTH "B" (mm)	MINIMUM BED ZONE DEPTHS "x"		mm			MINIMUM SIDE CLEARANCE "l _c "	
			SUPPORT TYPE	DEPTH (mm)	HAUNCH ZONE "y" = 0.1D	HAUNCH ZONE "y" = 0.3D	BEDDING "z" $\geq 0.5D$	PIPE DIAMETER	l _c
300	362	650	H / HS $\leq \phi 1500$	100	37	109	185	≤ 600	150
375	445	750			45	134	225		
450	534	850			54	161	270		
525	616	900			62	185	310		
600	698	1000	H / HS $> \phi 1500$	150	70	210	350	$> 600 - \leq 1200$	200
750	864	1150			87	260	435		
900	1042	1400			105	313	525		
1050	1220	1650			122	366	610		
1200	1372	1850			138	412	690	> 1200	D/6

NOTE: THE MINIMUM VALUES SHALL ONLY BE USED WHERE NECESSARY COMPACTION VALUES CAN BE ASSURED.

TYPICAL CONCRETE PIPE TRENCH DETAILS
(SUPPORT TYPE "H" AND "HS")

SCALE 1:20 0m 400mm 800mm

CONTRACTOR SHALL INSTALL A GALVANISED CLASS 'D' HINGED AND LOCKABLE 600 X 600MM SUMP GRATE BY "GRATE DRAINAGE" OR SIMILAR PRODUCT EQUIVALENT IN FUNCTION, QUALITY, ETC. TO THE APPROVAL OF THE CONTRACT ADMINISTRATOR. GRATE SHALL BE RAISED 150MM TO FACILITATE INSTALLATION OF SURROUNDING PAVEMENT COMPOSITION.

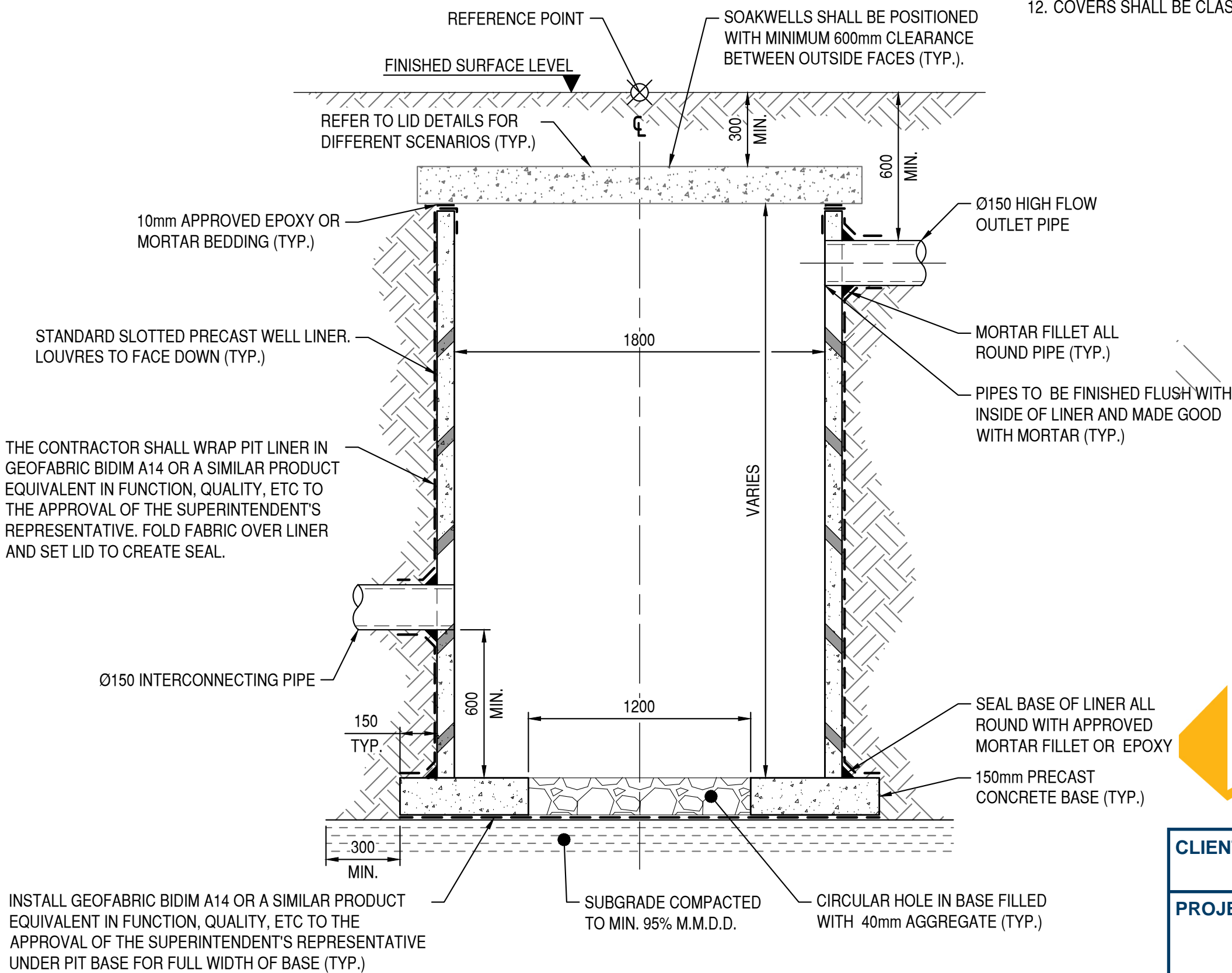


TYPICAL INVERTED GULLY GRATE LID DETAIL (GSW)
WITH ASPHALT PAVEMENT

SCALE 1:20 0m 400mm 800mm

STORMWATER PIT NOTES

- 1. ALL IN-SITU CONCRETE SHALL BE CLASS N32 IN ACCORDANCE WITH AS1379.
- 2. ALL IN-SITU CONCRETE CORNERS SHALL HAVE A 20mm CHAMFER UNLESS OTHERWISE NOTED.
- 3. CEMENT MORTAR SHALL CONSIST OF ONE PART CEMENT AND THREE PARTS SAND.
- 4. SL81 REINFORCEMENT SHALL CONFORM WITH HARD DRAWN FABRIC TO AS4671.
- 5. MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 50mm.
- 6. THE LINER SHALL BE REINFORCED CONCRETE MANUFACTURED TO AS4058.
- 7. THE MAXIMUM INLET/OUTLET PIPE OUTSIDE DIAMETER SHALL BE LESS THAN 60% OF THE LINER INTERNAL DIAMETER.
- 8. MINIMUM OF 40% OF LINER SHALL REMAIN IN ANY HORIZONTAL PLANE.
- 9. MINIMUM INTERNAL LINER SPACE OF 200mm BETWEEN PUNCHED/CUT HOLES.
- 10. HOLES TO BE CUT/PUNCHED ON ACCORDANCE WITH MANUFACTURER'S SPECIFICATION.
- 11. THE LINER SHALL HAVE EQUIVALENT PROPERTIES AND REINFORCEMENT OF CLASS 2 R.C.P. EXCEPT THAT THE REINFORCEMENT SHALL BE CIRCULAR.
- 12. COVERS SHALL BE CLASS 'D' TO AS3996.



TYPICAL INTERCONNECTED SOAKWELL DETAIL

SCALE 1:20 0m 400mm 800mm

pritchard francis
civil and structural
engineering consultants
Level 1, 430 Roberts Road,
Subiaco WA 6008
PO Box 2150
Subiaco WA 6904
Telephone: (08) 9382 5111
admin@pfeng.com.au

CLIENT	RAC	
PROJECT	RAC NINGALOO REEF RESORT REDEVELOPMENT	
TITLE	TYPICAL DRAINAGE DETAILS 3	
SCALE	AS SHOWN	DESIGNED JT
DATE	25/07/2023	
JOB No.	22-044	REV C
DRG No.	22044-C8-DG-01	

Justin Tan

From: Michael Mallon <Mallon.M@carnarvon.wa.gov.au>
Sent: Friday, 24 June 2022 8:18 AM
To: Justin Tan
Cc: Stefan Louw
Subject: RE: [External] RE: Robinson St Drainage Ascons and Shire of Carnarvon Drainage Strategy

Morning Justin,

Apologies it has taken a while to get back to you. David is still with us here, but Paul is not unfortunately. I have spoken with David Nielsen, our Executive Manager Infrastructure Services about previous discussions and we have agreed to accept the strategy as described in the Exmouth DWMS which was previously agreed to in principle. Sorry for all the extra confusion it was just a matter of tracking down appropriate information. As mentioned by yourself below, when ready, please provide a detailed stormwater plan for our review + approval. If you need anything further, please reach out.

Kind Regards,

Michael Mallon

M.Arch

Project Delivery Manager

PO Box 459, Carnarvon WA 6701

www.carnarvon.wa.gov.au

T: (08) 9941 0068

M: +61 400 741 199



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From: Justin Tan <justin.tan@pfeng.com.au>
Sent: Thursday, 2 June 2022 2:29 PM
To: Michael Mallon <Mallon.M@carnarvon.wa.gov.au>
Cc: Stefan Louw <Louw.C@carnarvon.wa.gov.au>
Subject: RE: [External] RE: Robinson St Drainage Ascons and Shire of Carnarvon Drainage Strategy

Hi Michael,

That's unfortunate, but thanks for your efforts in searching for the ascons. We already have a survey but thank you for the offer.

After sending my initial email I had also reached out to my colleague who has managed to find the attached email from 2018. It has correspondence between Dave and Paul from the Shire (I'm unsure if they are still with the Shire), confirming that our proposed strategy of detaining the first 15mm of rainfall and maintaining pre to post development flows is acceptable.

Noting your comments about the Shire's approach below, would the Shire be willing to accept this strategy given that we had prior acceptance in this instance? We will of course provide the detailed stormwater plan for your review and approval in due course.

Kind regards,

Justin Tan

Project Engineer – Civil

Pritchard Francis | **T** (08) 9382 5111 | **D** (08) 9382 5155 | **M** 0481 343 678

From: Michael Mallon <Mallon.M@carnarvon.wa.gov.au>

Sent: Thursday, 2 June 2022 1:30 PM

To: Justin Tan <justin.tan@pfeng.com.au>

Cc: Stefan Louw <Louw.C@carnarvon.wa.gov.au>

Subject: [External] RE: Robinson St Drainage Ascons and Shire of Carnarvon Drainage Strategy

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Afternoon Justin,

I have been unable to locate any ascon draining drawings for the area, but I can provide an aerial survey that may be of use to you (let me know and I will organise). I can also confirm there is kerbing on most of the road structure along that path but little to no control of stormwater drainage once collected by kerbing.

In regard to the Shire agreeing in principle to the Exmouth DWMS, I have not been able to find any further correspondence in our filing system confirming this. I have discussed at length with our Senior Manager Development + Regulatory Services and we are advising that the Shire's approach has changed. As with recent previous developments, we have requested that all stormwater be detained within the property boundary. Further to this we request that a detailed stormwater plan be sent to the Shire for approval as we cannot allow any discharge onto Robinson St.

If you require any further information or clarification, I have CC'd the above mentioned Senior Development Manager who can continue to advise on this matter. Sorry I couldn't be more help.

Regards,

Michael Mallon

M.Arch

Project Delivery Manager

PO Box 459, Carnarvon WA 6701

www.carnarvon.wa.gov.au

T: (08) 9941 0068

M: +61 400 741 199



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From: Justin Tan <justin.tan@pfeng.com.au>

Sent: Wednesday, 1 June 2022 2:01 PM

To: Michael Mallon <Mallon.M@carnarvon.wa.gov.au>

Subject: Robinson St Drainage Ascons and Shire of Carnarvon Drainage Strategy

Hi Michael,

Thanks for your time on the phone.

As discussed, I was hoping to obtain some drainage ascon info for Robinson St in the area marked up in the snippet below. Would the Shire be able to provide any ascon info for this area?



Additionally, sometime in 2018 I believe the Shire had previously advised a colleague of mine that due to the lack of any local drainage strategy documents, the Shire supported in-principle the Exmouth District Water Management Strategy (DWMS). Particularly for a proposed commercial development, we have understood this to require detention of the first 15mm of rainfall within the property boundary, with major events discharging towards the existing road network (in this case Robinson St) and maintaining or creating overland flow paths.

Would you be able to confirm the above strategy and/or advise if the Shire's approach has changed?

Thanks for your time and look forward to hearing back from you.

Kind regards,

Justin Tan

Project Engineer – Civil
BSc MPE



T (08) 9382 5111 | **D** (08) 9382 5155 | **M** 0481 343 678

E justin.tan@pfeng.com.au | **W** www.pfeng.com.au

430 Roberts Road, Subiaco WA 6008 | PO Box 2150 Subiaco WA 6904

