



20 June 2019

CIVIL DESIGN CERTIFICATE

Section 4.55 Submission

Bluestone Industrial Estate (PROJECT NO. 190307)

20 Picrite Close
Pemulwuy NSW 2145

We, Xavier Knight Consulting Engineers, hereby certify that we are responsible for the stormwater design of the works shown on the following drawing numbers:

Drawing Number	Drawing Title
C300	STORMWATER OVERALL CATCHMENT PLAN
C301	STORMWATER CATCHMENTS A AND B PLAN
C302	STORMWATER CATCHMENT C PLAN
C310	STORMWATER MANAGEMENT PLAN - UPPER GROUND
C311	STORMWATER MANAGEMENT PLAN - LOWER GROUND SHEET 1
C312	STORMWATER MANAGEMENT PLAN - LOWER GROUND SHEET 2
C320	ON-SITE DETENTION (OSD) TANK SECTION AND DETAILS
C500	SEDIMENT & EROSION CONTROL PLAN
C501	SEDIMENT & EROSION CONTROL DETAILS

We certify that the stormwater drainage strategy proposed for the Bluestone Industrial Estate have been designed in accordance with the relevant clauses of the following Australian standards and design guides:

- AS 3500.3 Plumbing and drainage Part 3 – Stormwater drainage
- Australian Rainfall and Runoff 1997
- NSW Department of Housing Managing Urban Stormwater
- Cumberland (formerly Holroyd) DCP 2013 Part A – General Controls

The stormwater management strategy proposed for the Bluestone Industrial Estate subdivides the site into three sub-catchments: Catchment A, Catchment B and Catchment C (refer attached XK drawing no. C300). All sub-catchments will be discharging into existing drainage systems east of the site. Catchment A will discharge to the south and east via existing concrete chutes located east of the existing access driveway. Catchment B will be discharging into an existing kerb inlet pit in



Reconciliation Drive. Stormwater flows from Catchments A and B will ultimately end up in Widemere Basin, which is the regional water quality and detention facility that services the Greystanes Southern Employment Land (SEL) which includes the Bluestone Industrial Estate.

Runoff from Catchment C will not be managed by the Widemere detention and bioretention facility. Hence, a combined filtration and detention system has been provided on-site to ensure the quality and quantity of stormwater leaving the site meet applicable guidelines.

We note Xavier Knight's catchment and stormwater management plans are similar to the stormwater plans that were prepared by Costin Roe Consulting for the DA submission.

Considering the above discussion, we certify that the stormwater drainage strategy proposed for the Bluestone Industrial Estate has been designed consistent with the following engineering reports:

- Greystanes Estate, Southern Employment Lands Stormwater Design Report. GHD Pty Ltd, December 2007
- Civil Engineering Report for DA, Lot 37 Prospect Highway Greystanes NSW, Costin Roe Consulting, April 2018

For and on behalf of the Xavier Knight team.

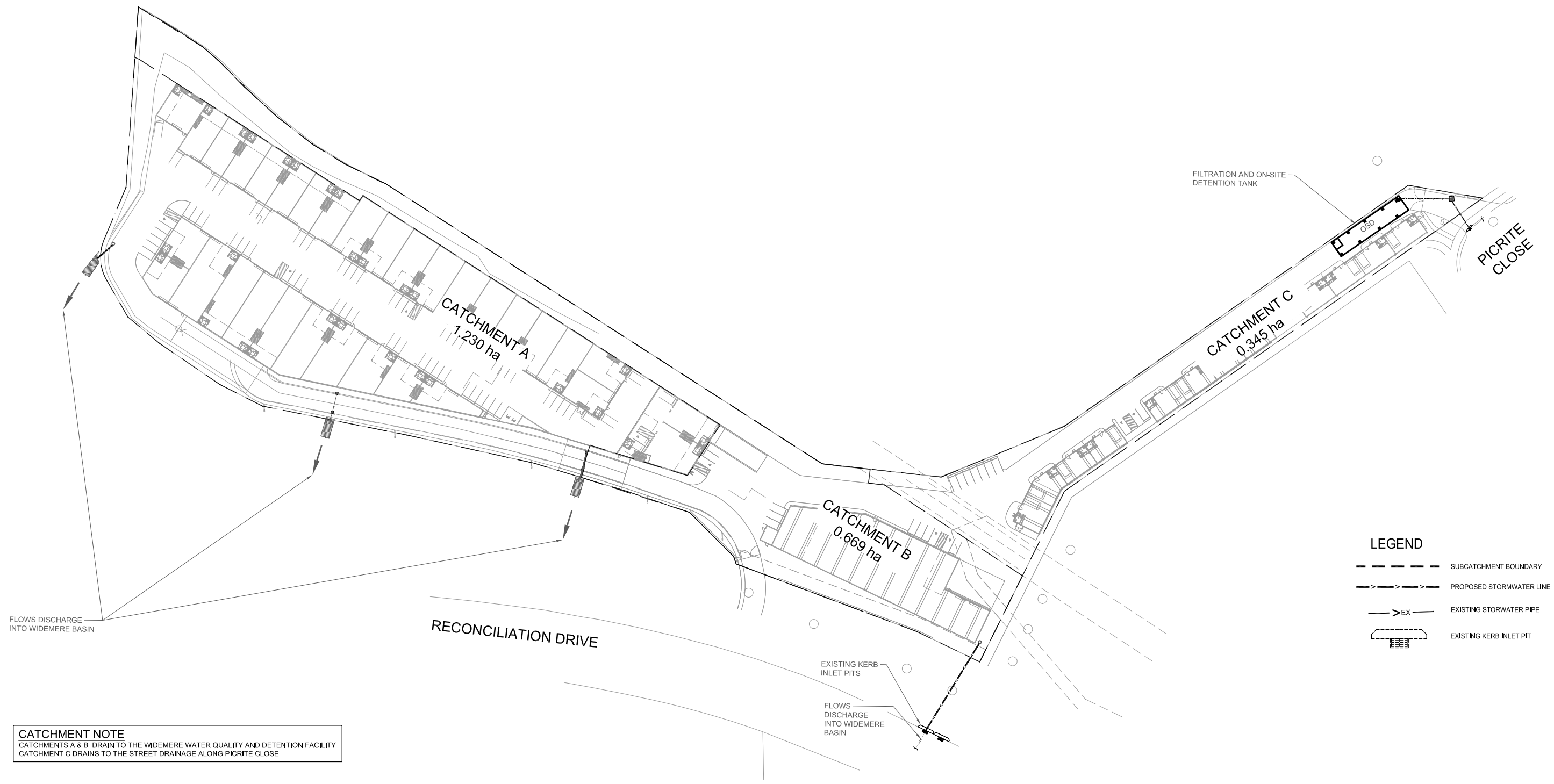
Kind regards,



Eric Ruiz

PRINCIPAL CIVIL ENGINEER

BE (Civil)(Hons), ME (Water), PhD (Civil), MIEAust, CPEng, NER



CATCHMENT NOTE
 CATCHMENTS A & B DRAIN TO THE WIDEMERE WATER QUALITY AND DETENTION FACILITY
 CATCHMENT C DRAINS TO THE STREET DRAINAGE ALONG PICRITE CLOSE

LEGEND

	SUBCATCHMENT BOUNDARY
	PROPOSED STORMWATER LINE
	EXISTING STORMWATER PIPE
	EXISTING KERB INLET PIT

SECTION 4.55 APPLICATION

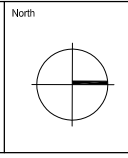
Architect	Client
NETTLETON TRIBE PARTNERSHIP PTY LTD 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065	EQ PROJECTS LEVEL 8, 43 BRIDGE STREET HURSTVILLE NSW 2220
Rev	Description
B	ISSUE FOR SECTION 4.55 APPLICATION
A	ISSUE FOR SECTION 4.55 APPLICATION
LN	LN
AD	AD
20,06,2019	19,06,2019
Eng	Draft
Date	Date

Architect
 NETTLETON TRIBE PARTNERSHIP PTY LTD
 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

Client
 EQ PROJECTS
 LEVEL 8, 43 BRIDGE STREET
 HURSTVILLE NSW 2220



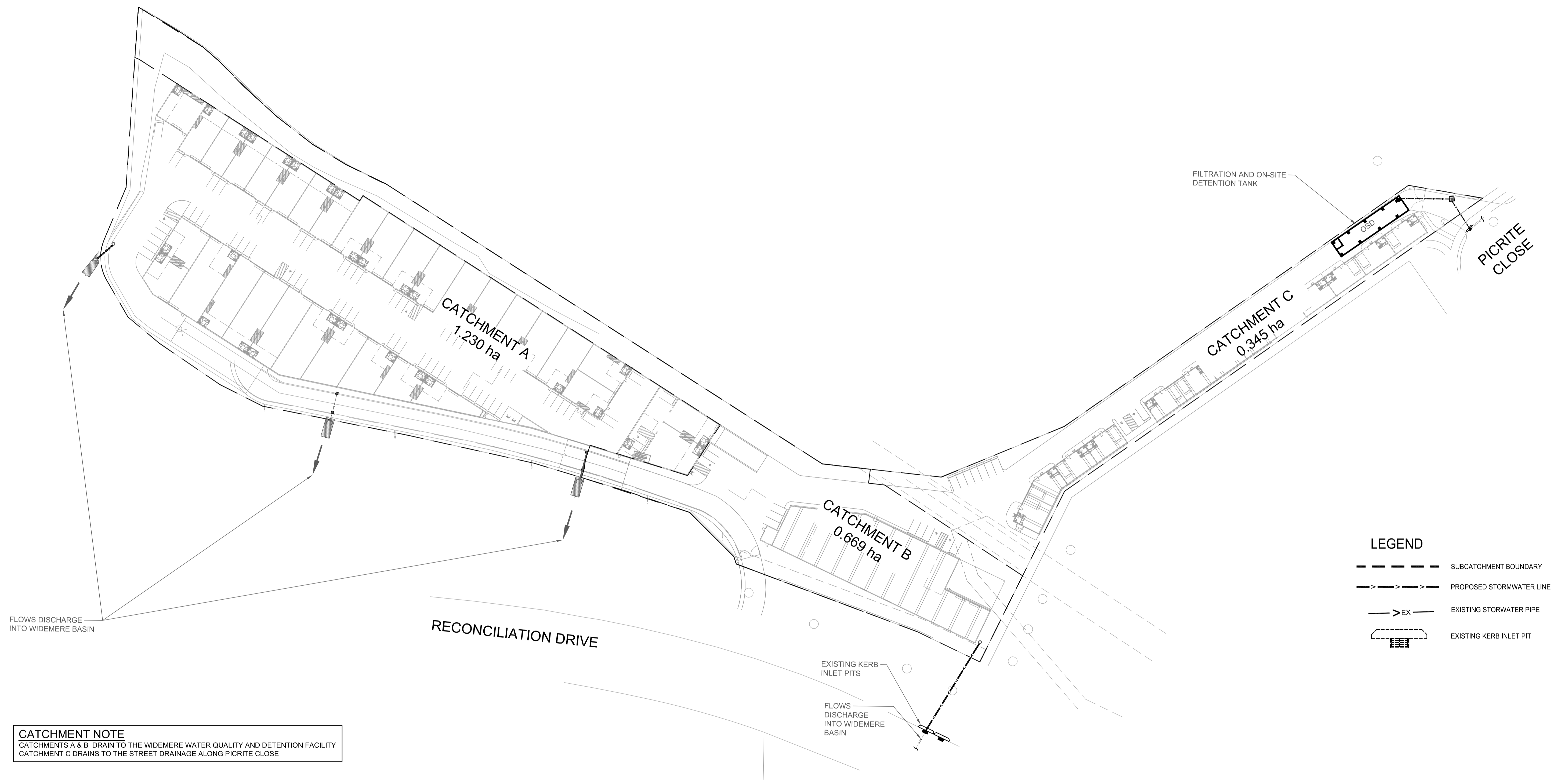
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Project
 BLUESTONE INDUSTRIAL ESTATE
 20 PICRITE CLOSE, PEMULWUY NSW 2145

Sheet Subject
 STORMWATER OVERALL CATCHMENT PLAN

Scale at A1	Drawn	Approved
NOT TO SCALE	LN, AD	ER
Job No	Drawing No	Revision
190307	C300	B



Flows discharge into Widemere Basin

Filtration and on-site Detention Tank

Picrite Close

Reconciliation Drive

Existing Kerb Inlet Pits

Flows discharge into Widemere Basin

- LEGEND**
- SUBCATCHMENT BOUNDARY
 - >->- PROPOSED STORMWATER LINE
 - >EX- EXISTING STORMWATER PIPE
 - [Symbol] EXISTING KERB INLET PIT

CATCHMENT NOTE
 CATCHMENTS A & B DRAIN TO THE WIDEMERE WATER QUALITY AND DETENTION FACILITY
 CATCHMENT C DRAINS TO THE STREET DRAINAGE ALONG PICRITE CLOSE

SECTION 4.55 APPLICATION

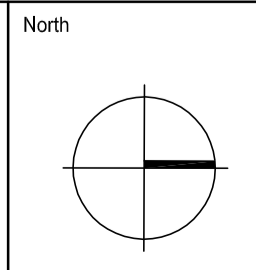
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NETTLETON TRIBE PARTNERSHIP PTY LTD		EQ PROJECTS	
117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065		LEVEL 8, 43 BRIDGE STREET HURSTVILLE NSW 2220	
Rev	Description	Eng	Draft Date
B	ISSUE FOR SECTION 4.55 APPLICATION	LN	LN, AD 20.06.2019
A	ISSUE FOR SECTION 4.55 APPLICATION	LN	LN, AD 19.06.2019

NETTLETON TRIBE PARTNERSHIP PTY LTD
 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

Client
EQ PROJECTS
 LEVEL 8, 43 BRIDGE STREET
 HURSTVILLE NSW 2220



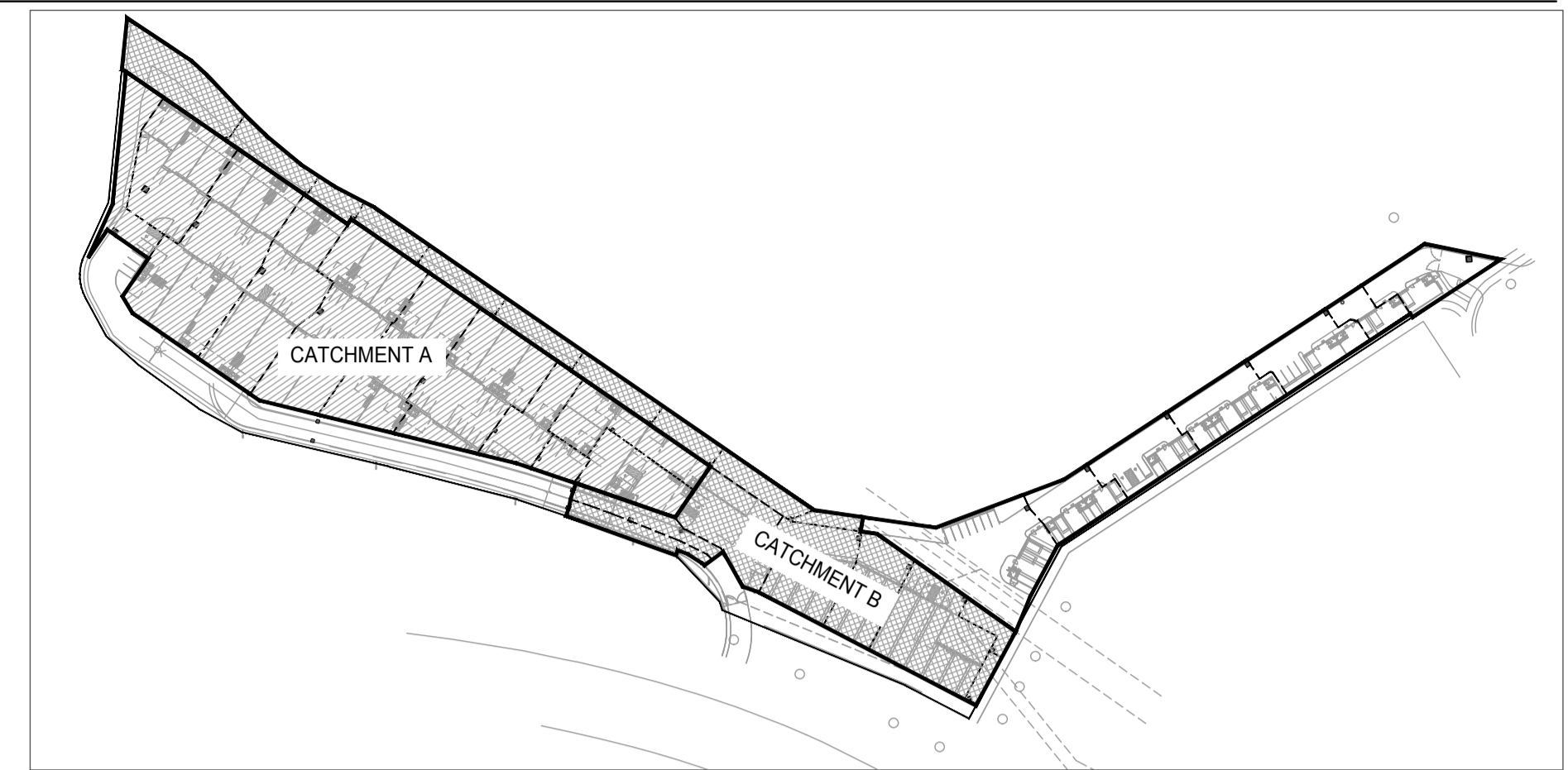
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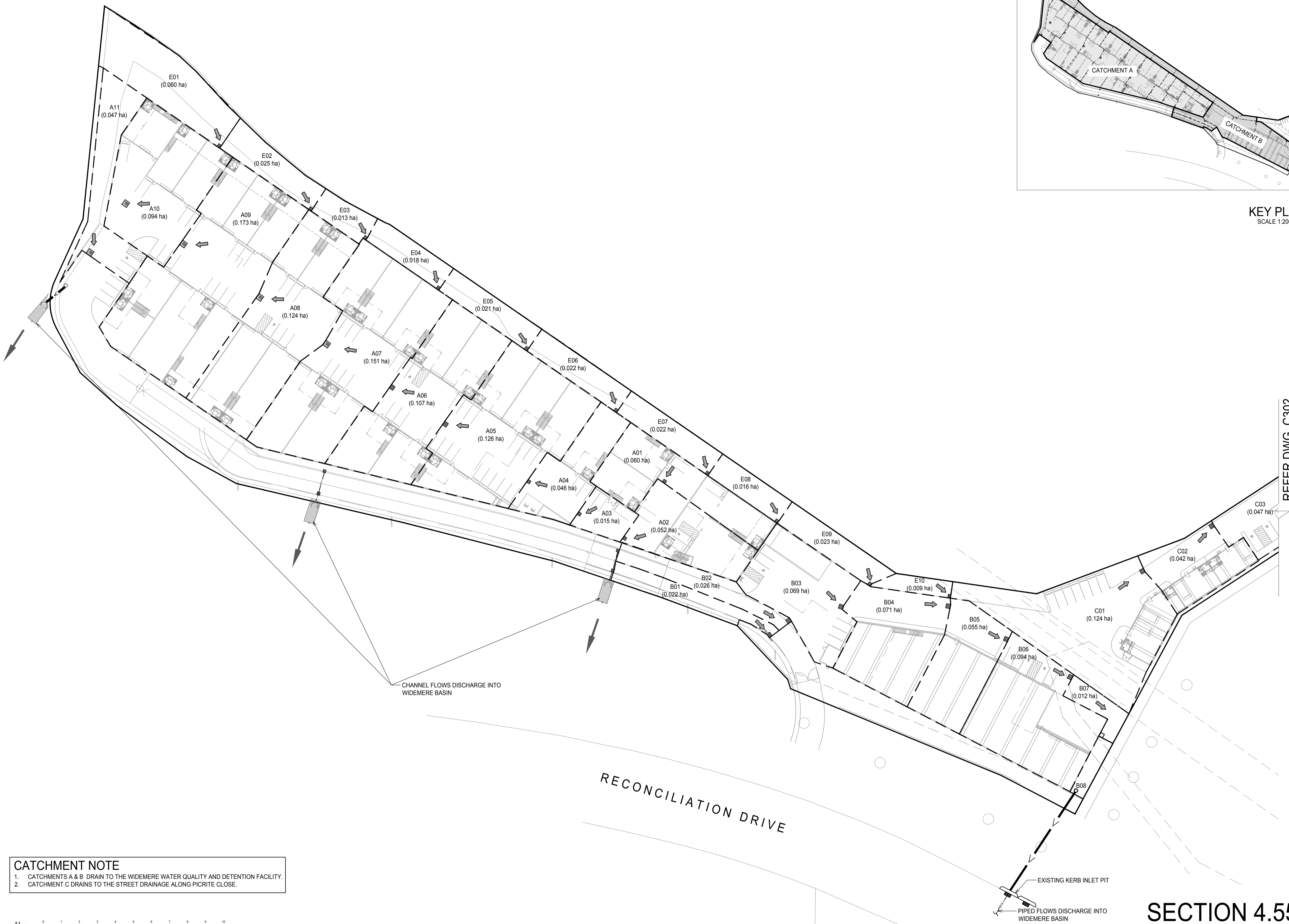
Project
BLUESTONE INDUSTRIAL ESTATE
 20 PICRITE CLOSE, PEMULWUY NSW 2145

Sheet Subject
STORMWATER OVERALL CATCHMENT PLAN

Scale at A1	Drawn	Approved
NOT TO SCALE	LN, AD	ER
Job No	Drawing No	Revision
190307	C300	B



KEY PLAN
SCALE 1:2000



REFER DWG. C302

CATCHMENT NOTE
 1. CATCHMENTS A & B DRAIN TO THE WIDEMERE WATER QUALITY AND DETENTION FACILITY.
 2. CATCHMENT C DRAINS TO THE STREET DRAINAGE ALONG PICRITE CLOSE.

LEGEND

	SITE BOUNDARY
	SUBCATCHMENT
A01 (0.02 ha)	PIT NUMBER (AREA IN HECTARE)
	FLOW DIRECTION
	PROPOSED PITS

SECTION 4.55 APPLICATION

A1 2 1 2 3 4 5 6 7 8 9 10

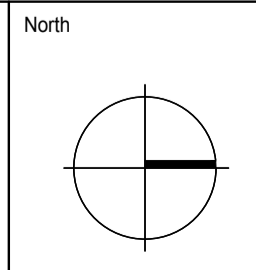
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A	ISSUE FOR SECTION 4.55 APPLICATION	LN	LN, AD	20.06.2019

Architect
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 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

Client
EQ PROJECTS
 LEVEL 8, 43 BRIDGE STREET
 HURSTVILLE NSW 2220

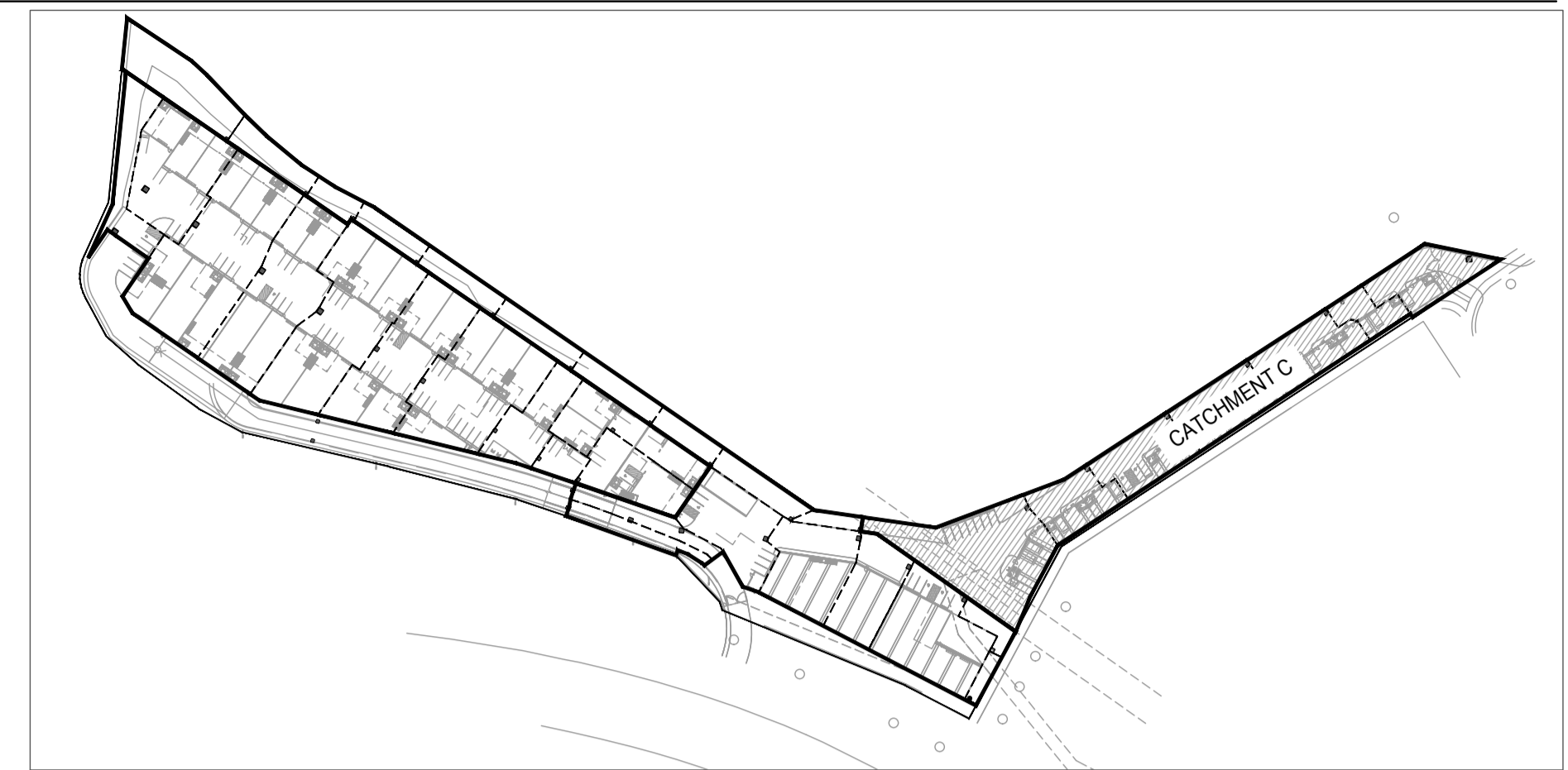


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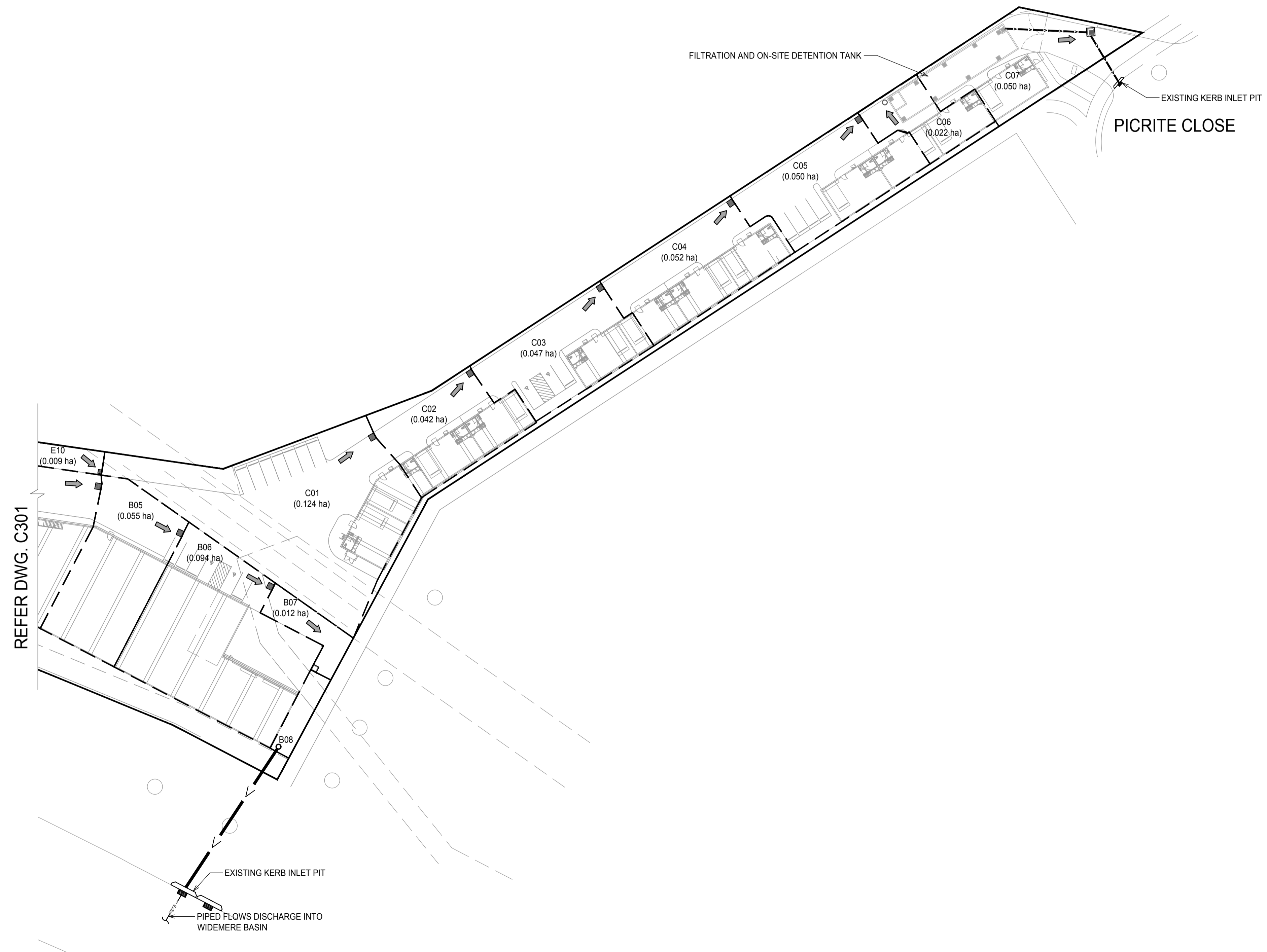


Project
BLUESTONE INDUSTRIAL ESTATE
 20 PICRITE CLOSE, PEMULWUY NSW 2145
 Sheet Subject
STORMWATER CATCHMENTS A AND B PLAN

Scale at A1	Drawn	Approved
1:500	LN, AD	ER
Job No	Drawing No	Revision
190307	C301	A



KEY PLAN
SCALE 1:2000



CATCHMENT NOTE
 1. CATCHMENTS A & B DRAIN TO THE WIDEMERE WATER QUALITY AND DETENTION FACILITY.
 2. CATCHMENT C DRAINS TO THE STREET DRAINAGE ALONG PICRITE CLOSE.

LEGEND

	SITE BOUNDARY
	SUBCATCHMENT
	PIT NUMBER (AREA IN HECTARE)
	FLOW DIRECTION
	PROPOSED PITS

SECTION 4.55 APPLICATION

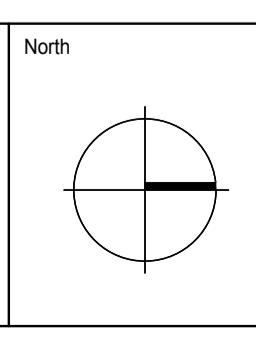
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Architect	NETTLETON TRIBE PARTNERSHIP PTY LTD 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065
Client	EQ PROJECTS LEVEL 8, 43 BRIDGE STREET HURSTVILLE NSW 2220
Project	BLUESTONE INDUSTRIAL ESTATE 20 PICRITE CLOSE, PEMULWUY NSW 2145
Sheet Subject	STORMWATER CATCHMENT C PLAN
Scale at A1	1:500
Drawn	LN, AD
Approved	ER
Job No	190307
Drawing No	C302
Revision	A
Rev	Description
LN	AD
20.06.2019	
Eng	Draft
	Date

Architect
NETTLETON TRIBE PARTNERSHIP PTY LTD
117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

Client
EQ PROJECTS
LEVEL 8, 43 BRIDGE STREET
HURSTVILLE NSW 2220






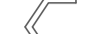


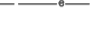
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Project
BLUESTONE INDUSTRIAL ESTATE
20 PICRITE CLOSE, PEMULWUY NSW 2145

Scale at A1	Drawn	Approved
1:500	LN, AD	ER
Job No	Drawing No	Revision
190307	C302	A

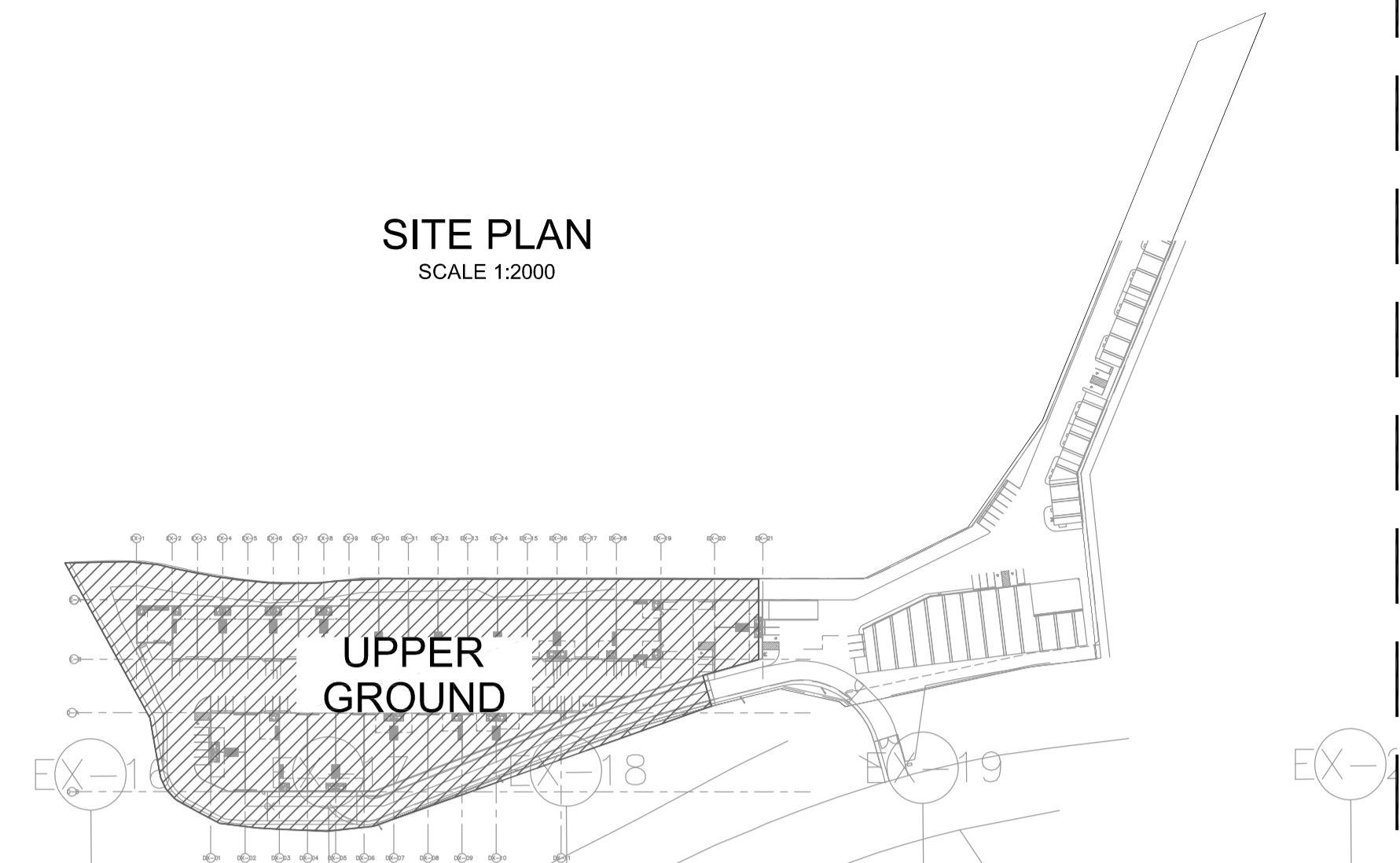
LEGEND

-  SITE BOUNDARY
-  PROPOSED STORMWATER LINE
-  PIT NAME
-  HEADWALL
-  GRATED SURFACE INLET PIT
-  FLOW DIRECTION
-  EXISTING STORMWATER LINE

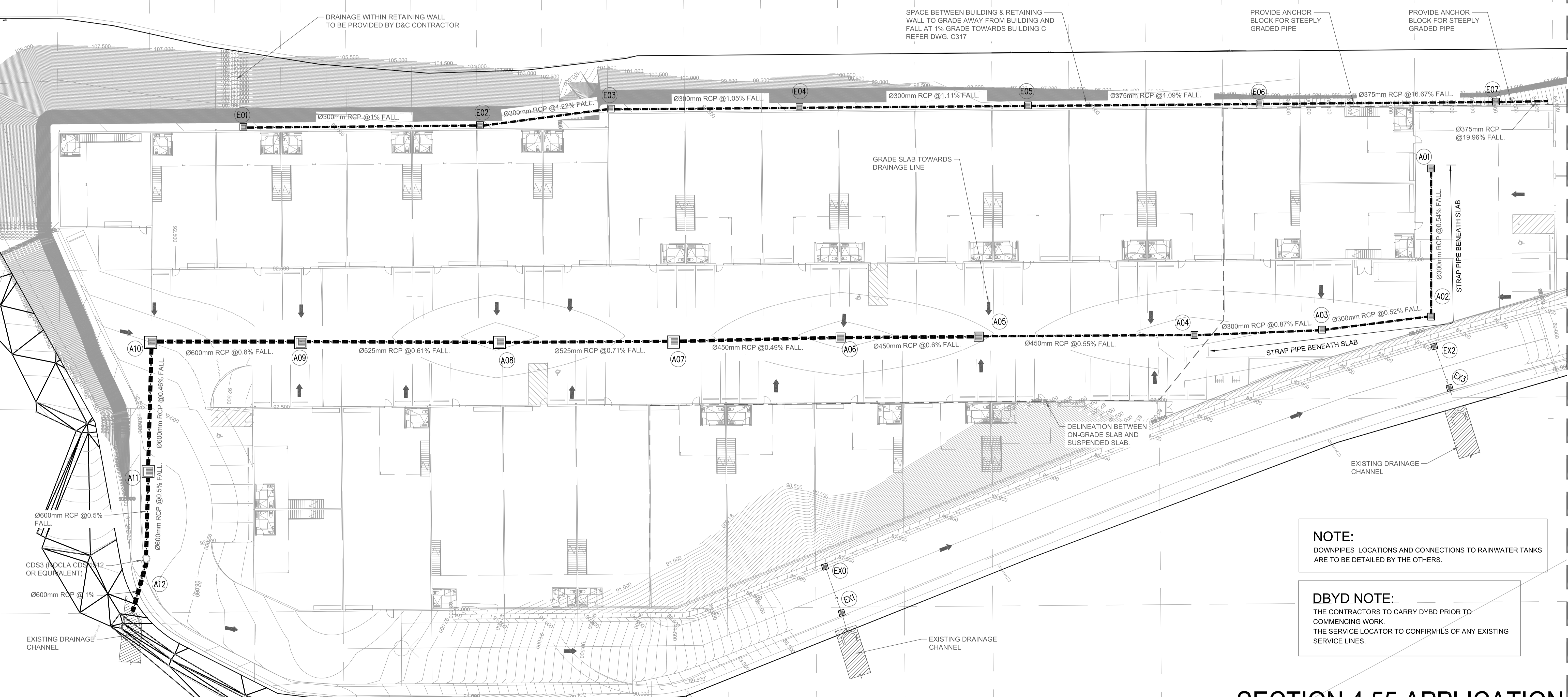
PIT SCHEDULE

PIT ID	PIT TYPE ID	COVER LEVEL (mAHD)	UPSTREAM IL (mAHD)	PIPE LENGTH (m)	DOWNSTREAM IL (mAHD)	GRADE (%)	DEPTH TO INVERT (m)	OUTGOING PIPE DIA (mm)	INTERNAL PIT SIZE (mm)
A01	SDP	92.45	91.85	18.50	91.75	0.54	0.60	300	600x600
A02	SDP	92.45	91.70	13.55	91.63	0.52	0.75	300	600x600
A03	SDP	92.45	91.58	15.85	91.50	0.50	0.87	300	600x600
A04	SDP	92.25	91.45	27.15	91.30	0.55	0.80	450	600x600
A05	SDP	92.45	91.25	16.80	91.15	0.60	1.20	450	900x900
A06	SDP	92.25	91.10	20.50	91.00	0.49	1.15	450	900x900
A07	SDP	92.45	90.95	21.00	90.80	0.71	1.50	525	1200x1200
A08	SDP	92.25	90.75	24.52	90.60	0.61	1.50	525	1200x1200
A09	SDP	92.45	90.55	18.80	90.40	0.80	1.90	600	1200x1200
A10	SDP	92.20	90.35	15.15	90.28	0.46	1.85	600	1200x1200
A11	SDP	92.00	90.23	10.05	90.18	0.50	1.77	600	1200x1200
A12	SPECIAL	92.00	90.13	5.00	90.08	1.00	1.87	600	ROCLA CDS 1512 OR APPROVED EQUIVALENT
E01	SDP	92.12	91.52	30.00	91.25	0.90	0.60	300	600x600
E02	SDP	91.80	91.20	16.40	91.02	1.10	0.60	300	600x600
E03	SDP	91.57	90.97	23.80	90.82	0.63	0.60	300	600x600
E04	SDP	91.37	90.77	28.95	90.50	0.93	0.60	300	600x600
E05	SDP	91.07	90.47	29.40	90.20	0.92	0.60	375	600x600
E06	SDP	90.77	90.17	30.00	84.95	17.40	0.60	375	600x600
E07	SDP	85.50	84.90	22.30	80.45	19.96	0.60	375	600x600

SITE PLAN
SCALE 1:2000



REFER TO DRAWING C311 FOR CONTINUATION



NOTE:
DOWNPIPES LOCATIONS AND CONNECTIONS TO RAINWATER TANKS ARE TO BE DETAILED BY THE OTHERS.

DBYD NOTE:
THE CONTRACTORS TO CARRY DYBD PRIOR TO COMMENCING WORK.
THE SERVICE LOCATOR TO CONFIRM ILS OF ANY EXISTING SERVICE LINES.

SECTION 4.55 APPLICATION

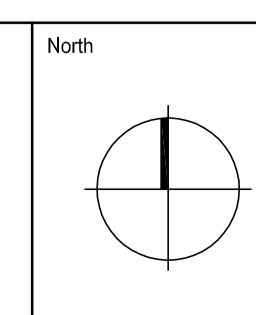
Rev	Description	Eng	Draft	Date
B	ISSUE FOR SECTION 4.55	LN	LN, AD	13.06.2019
A	ISSUE FOR SECTION 4.55	LN	LN, AD	12.06.2019

Architect
NETTLETON TRIBE PARTNERSHIP PTY LTD
117 WILLOUGHBY ROAD, CROWS NEST, NSW 2085

Client
EQ PROJECTS
LEVEL 8, 43 BRIDGE STREET
HURSTVILLE NSW 2220



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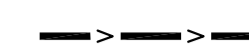






Project
BLUESTONE INDUSTRIAL ESTATE
20 PICRITE CLOSE, PEMULWUY NSW 2145

Sheet Subject
STORMWATER MANAGEMENT PLAN
UPPER GROUND

Scale at A1	Drawn	Approved
1:250	LN, AD	ER
Job No	Drawing No	Revision
190307	C310	B

LEGEND

-  SITE BOUNDARY
-  PROPOSED STORMWATER LINE
-  PIT NAME
-  GRATED SURFACE INLET PIT
-  FLOW DIRECTION
-  EXISTING STORMWATER LINE

NOTE:

DOWNPIPES LOCATIONS AND CONNECTIONS TO RAINWATER TANKS ARE TO BE DETAILED BY OTHERS.

DBYD NOTE:

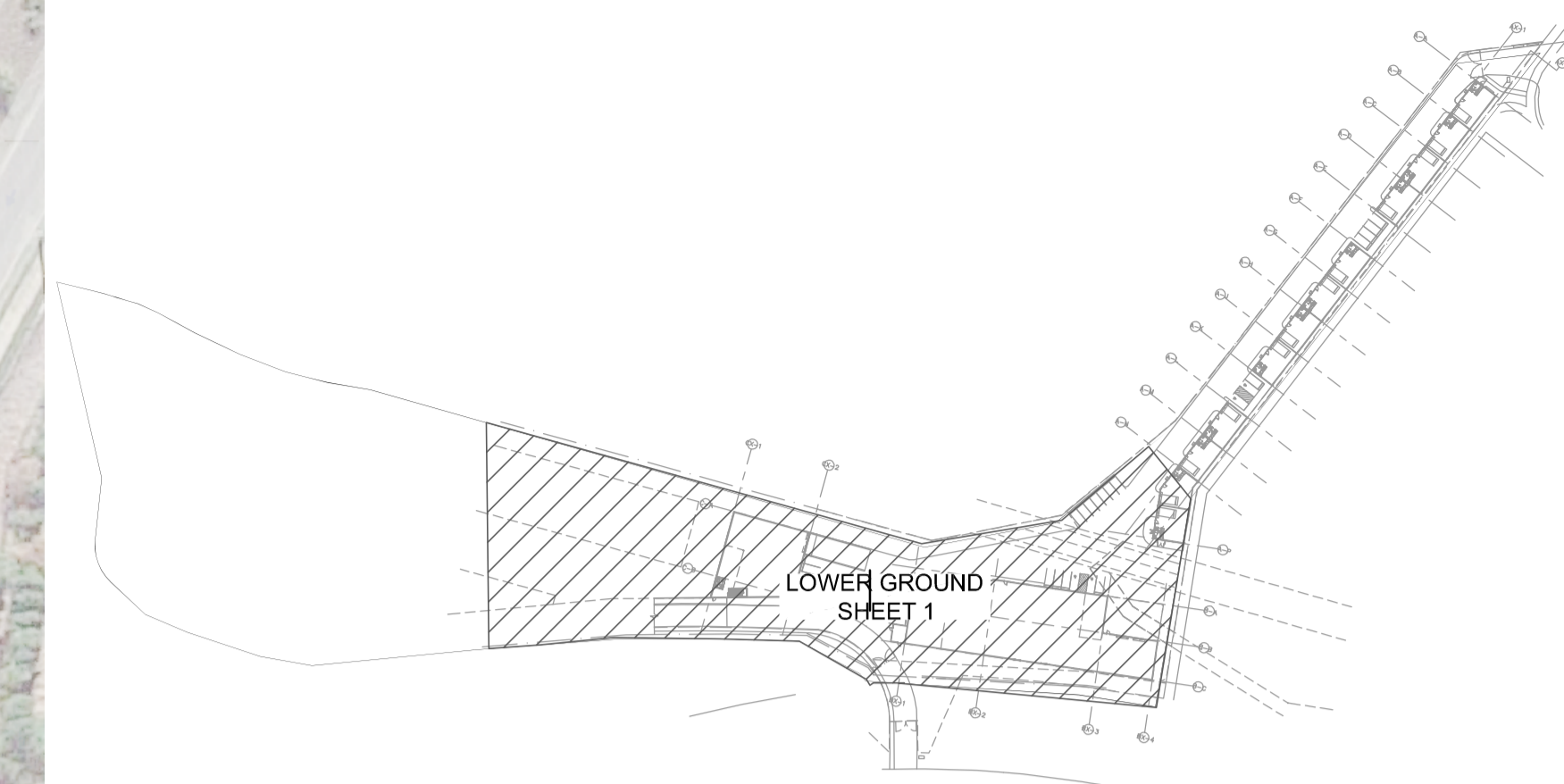
THE CONTRACTORS TO CARRY DYBD PRIOR TO COMMENCING WORK.
THE SERVICE LOCATOR TO CONFIRM ILS OF ANY EXISTING SERVICE LINES WITHIN THE SITE.

PIT SCHEDULE

PIT ID	PIT TYPE ID	COVER LEVEL (mAHD)	UPSTREAM IL (mAHD)	PIPE LENGTH (m)	DOWNSTREAM IL (mAHD)	GRADE (%)	DEPTH TO INVERT (m)	OUTGOING PIPE DIA (mm)	INTERNAL PIT SIZE (mm)
E08	SDP	81.00	80.40	30.00	77.45	9.83	0.60	375	600x600
E09	SDP	78.00	77.40	23.33	76.75	2.79	0.60	375	600x600
E10	SDP	77.30	76.70	2.10	76.55	7.14	0.60	375	600x600
B01	SDP	79.85	78.85	15.95	78.05	5.02	1.00	300	900x900
B02	SDP	79.10	78.00	26.34	77.15	3.23	1.10	300	900x900
B03	SDP	78.20	77.10	29.00	76.10	3.45	1.10	375	900x900
B04	SDP	77.15	76.05	17.70	75.04	5.71	1.10	525	900x900
B05	SDP	76.10	75.00	19.80	74.15	4.29	1.10	525	900x900
B06	SDP	75.20	74.10	17.55	73.45	3.70	1.10	525	900x900
B07	SDP	74.50	73.40	15.85	73.20	1.26	1.10	525	900x900
B08	SPECIAL	74.00	73.00	20.00	72.80	1.00	1.00	525	ROCLA CDS 1512 OR APPROVED EQUIVALENT



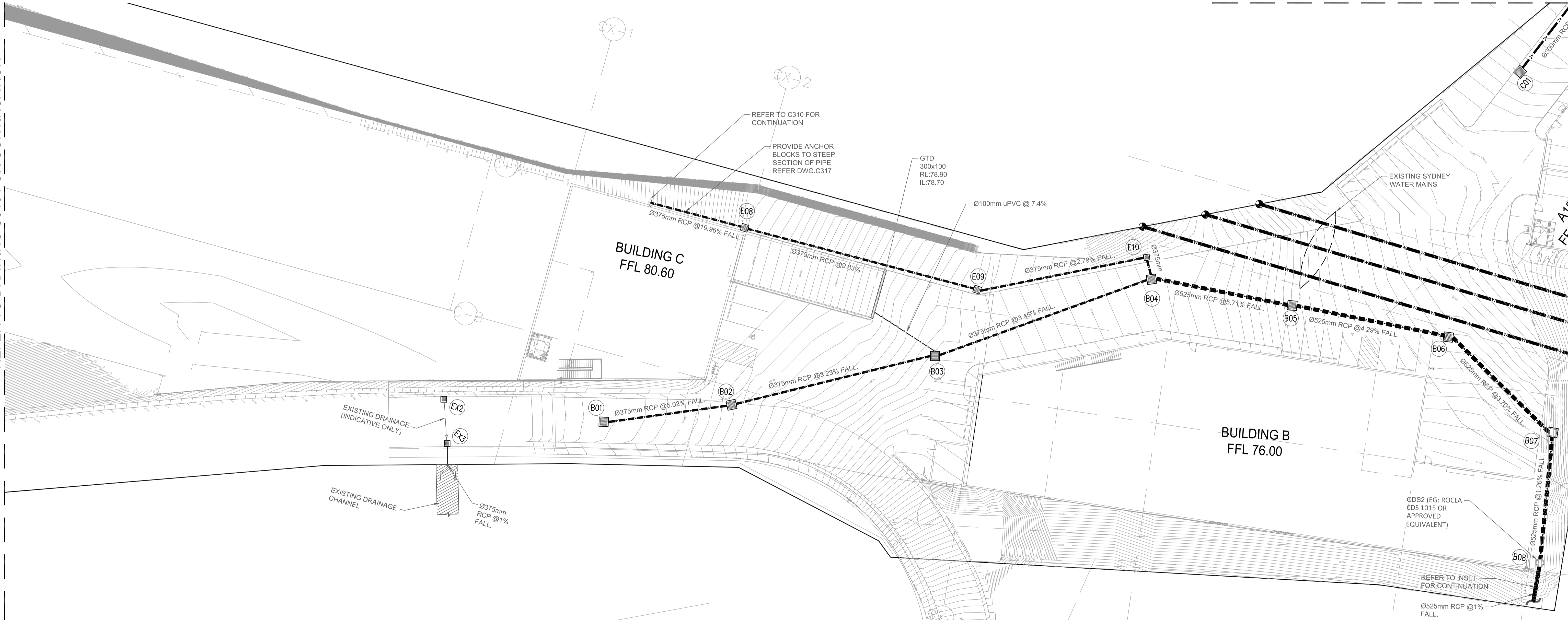
CONNECTION POINT
NOT TO SCALE



SITE PLAN
SCALE 1:2000

REFER TO DRAWING C312 FOR CONTINUATION

REFER TO DRAWING C310 FOR CONTINUATION



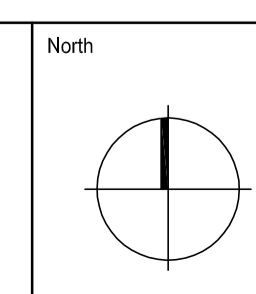
SECTION 4.55 APPLICATION

Rev	Description	Eng	Draft	Date
B	ISSUE FOR SECTION 4.55	LN	LN, AD	13.06.2019
A	ISSUE FOR SECTION 4.55	LN	LN, AD	12.06.2019

Architect NETTLETON TRIBE PARTNERSHIP PTY LTD 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2085	Client EQ PROJECTS LEVEL 8, 43 BRIDGE STREET HURSTVILLE NSW 2220
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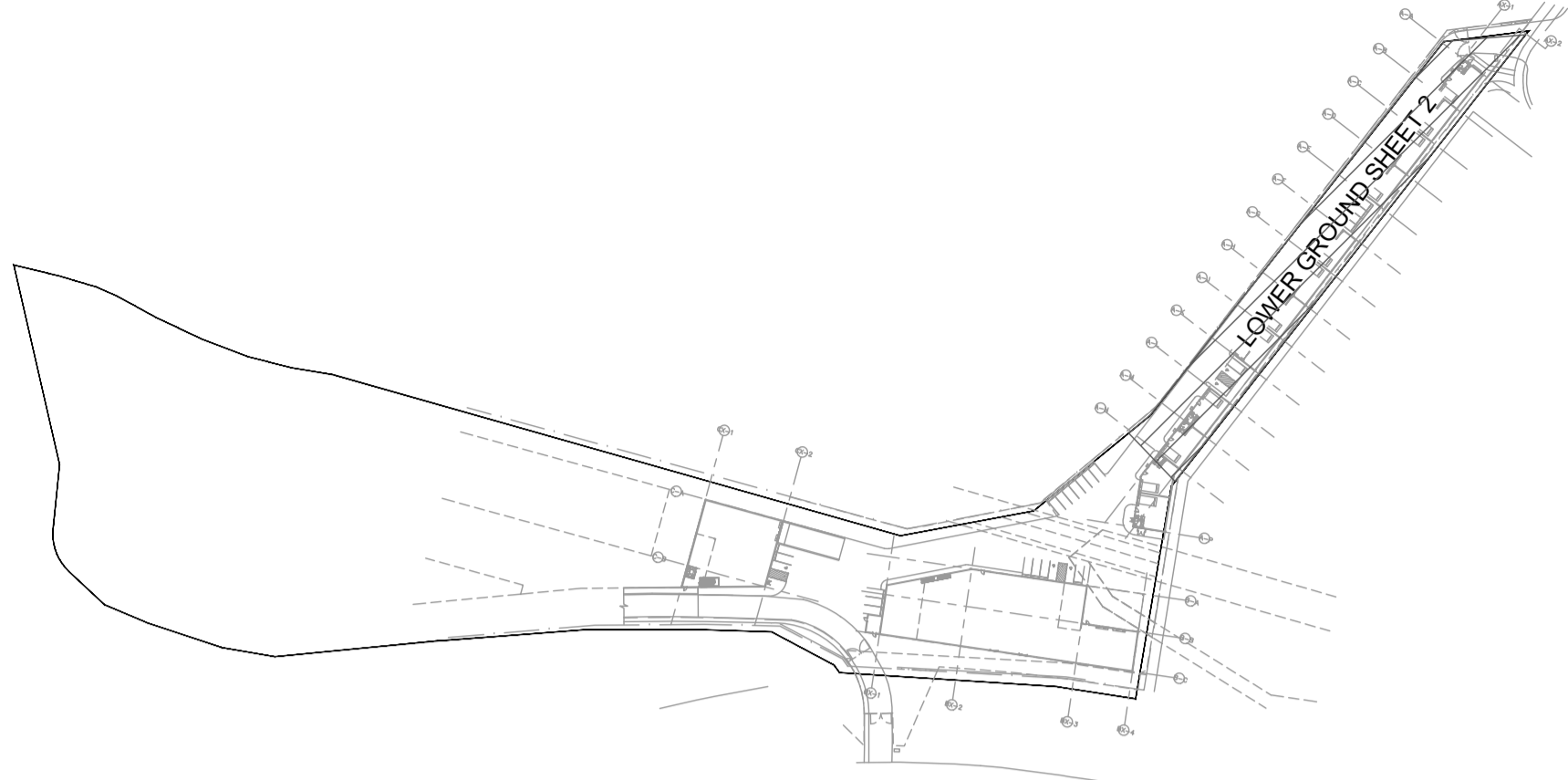
Project BLUESTONE INDUSTRIAL ESTATE 20 PICRITE CLOSE, PEMULWUY NSW 2145	Scale at A1 1:250	Drawn LN, AD	Approved ER
Sheet Subject STORMWATER MANAGEMENT PLAN LOWER GROUND - SHEET 1	Job No 190307	Drawing No C311	Revision B

Scale at A1 1:250	Drawn LN, AD	Approved ER
Job No 190307	Drawing No C311	Revision B

LEGEND

- SITE BOUNDARY
- >>> PROPOSED STORMWATER LINE
- ⊙ A02 PIT NAME
- ▣ EXISTING PIT
- ▣ GRATED SURFACE INLET PIT

PIT SCHEDULE									
PIT ID	PIT TYPE ID	COVER LEVEL (mAHD)	UPSTREAM IL (mAHD)	PIPE LENGTH (m)	DOWNSTREAM IL (mAHD)	GRADE(%)	DEPTH TO INVERT (m)	OUTGOING PIPE DIA (mm)	INTERNAL PIT SIZE (mm)
C01	SDP	74.00	72.90	21.80	72.05	3.90	1.10	300	900x900
C02	SDP	73.10	72.00	29.90	70.80	4.01	1.10	300	900x900
C03	SDP	71.85	70.75	29.60	69.70	3.55	1.10	375	900x900
C04	SDP	70.75	69.65	29.35	68.45	4.09	1.10	375	900x900
C05	SDP	69.50	68.40	5.20	68.10	5.77	1.10	375	900x900
C06	SPECIAL	69.15	68.05	3.00	68.02	1.00	1.10	375	CDS UNIT
OSD	SPECIAL	68.50	67.08	16.50	67.00	0.48	1.42	375	OSD TANK
C07	SDP	67.85	66.95	15.00	66.87	0.53	0.90	375	900x900



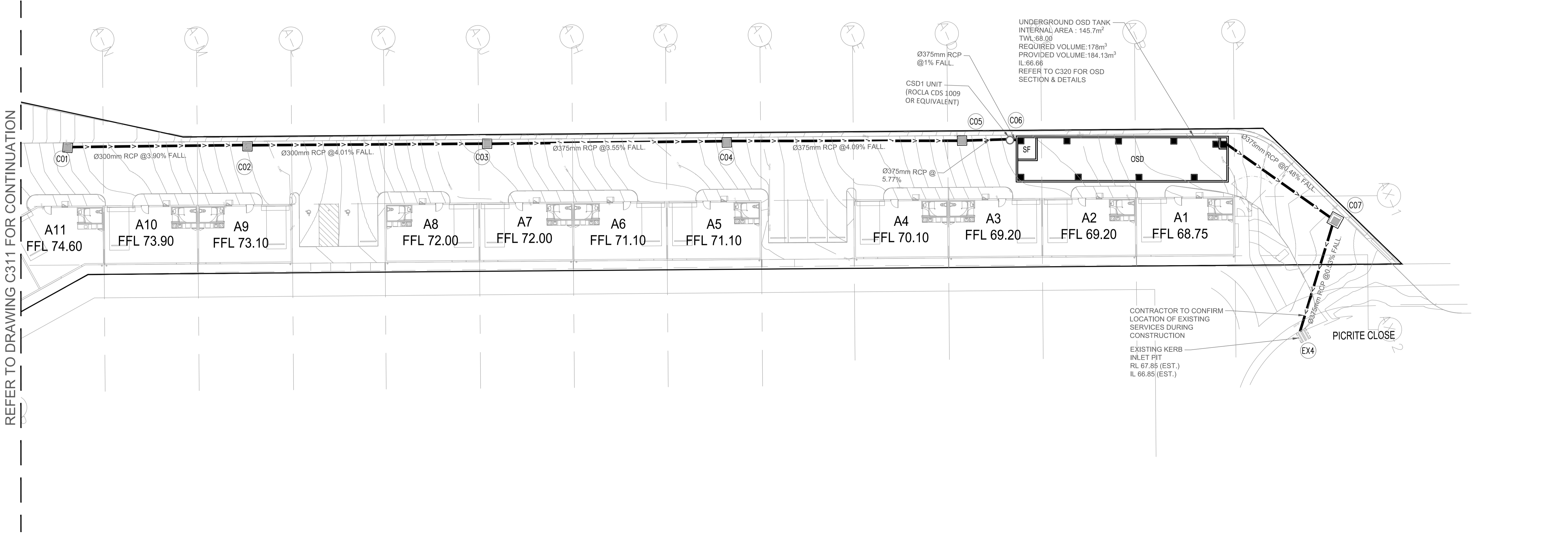
SITE PLAN
SCALE 1:2000

DBYD NOTE:

THE CONTRACTORS TO CARRY DYBD PRIOR TO COMMENCING WORK.
THE SERVICE LOCATOR TO CONFIRM ILS OF ANY EXISTING SERVICE LINES AROUND THE LEGAL DISCHARGE POINT

NOTE:

DOWNPIPES' LOCATIONS AND CONNECTIONS TO RAINWATER TANKS ARE TO BE DETAILED BY THE OTHERS.



SECTION 4.55 APPLICATION

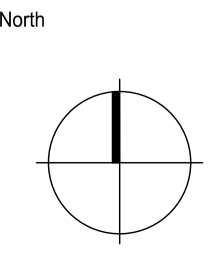
A1 0 1 2 3 4 5 6 7 8 9 10			
Rev	Description	Eng	Draft Date
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A	ISSUE FOR SECTION 4.55	LN	LN, AD 12.06.2019

Architect
NETTLETON TRIBE PARTNERSHIP PTY LTD
117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

Client
EQ PROJECTS
LEVEL 8, 43 BRIDGE STREET
HURSTVILLE NSW 2220



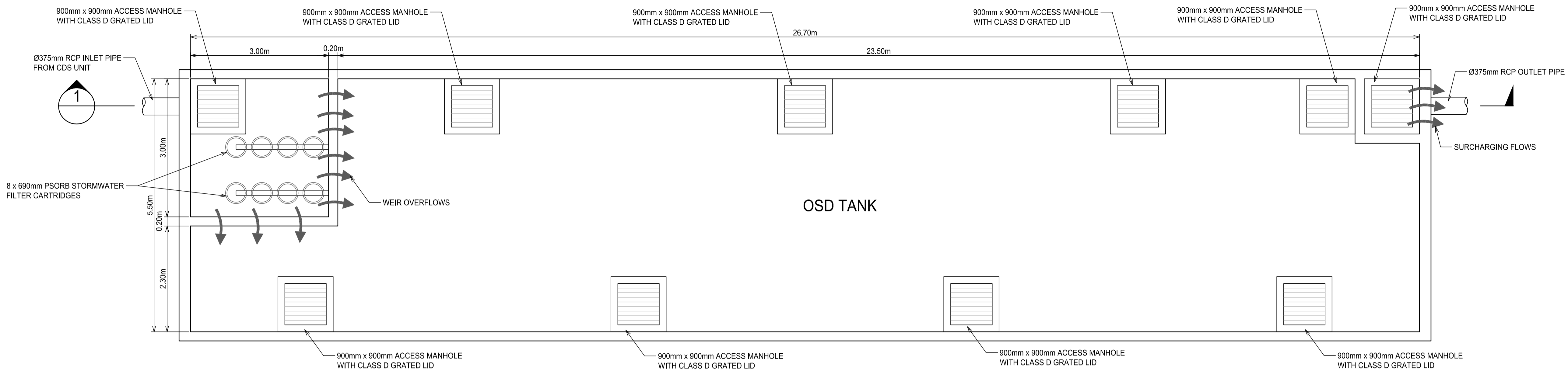
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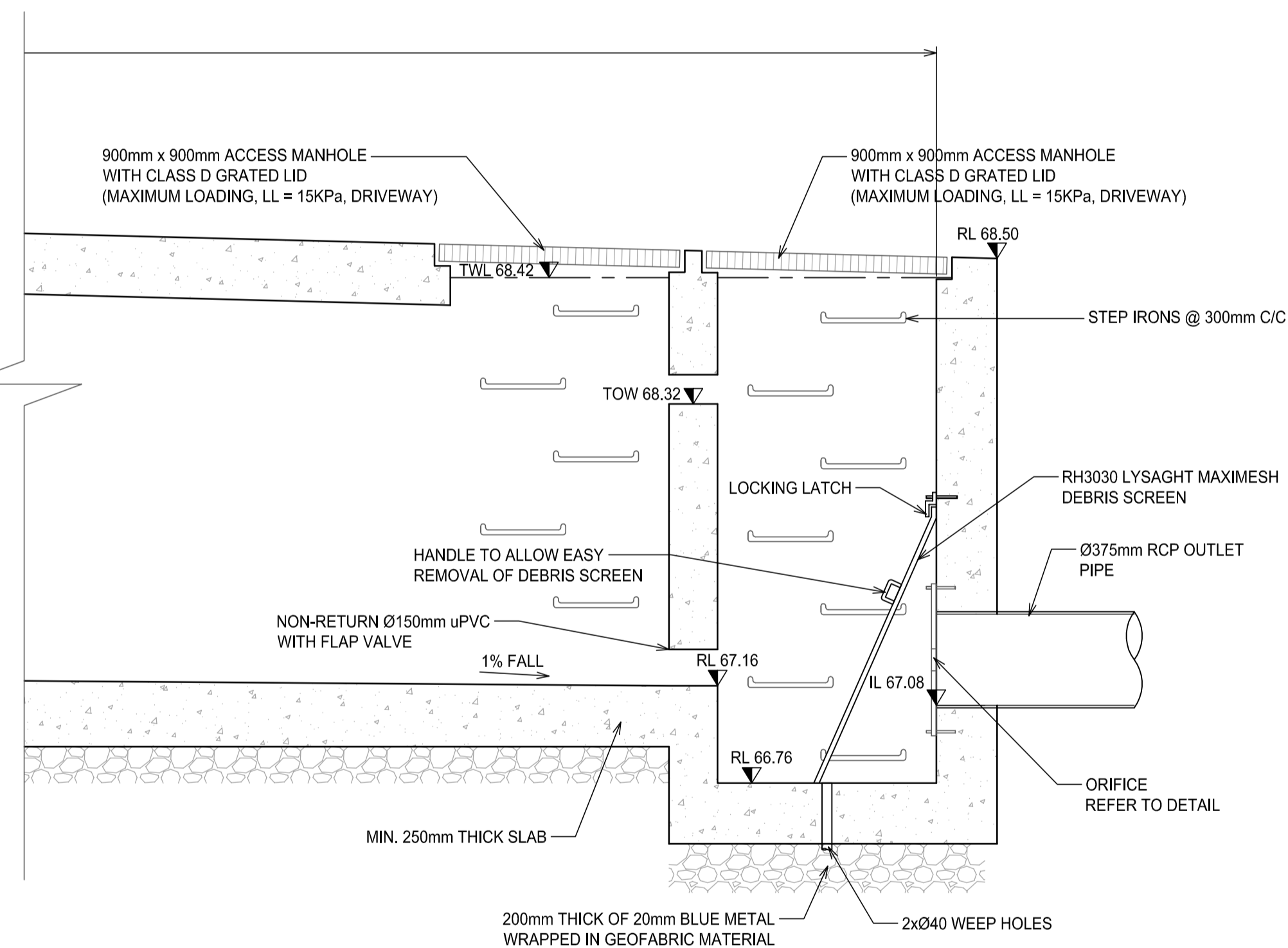
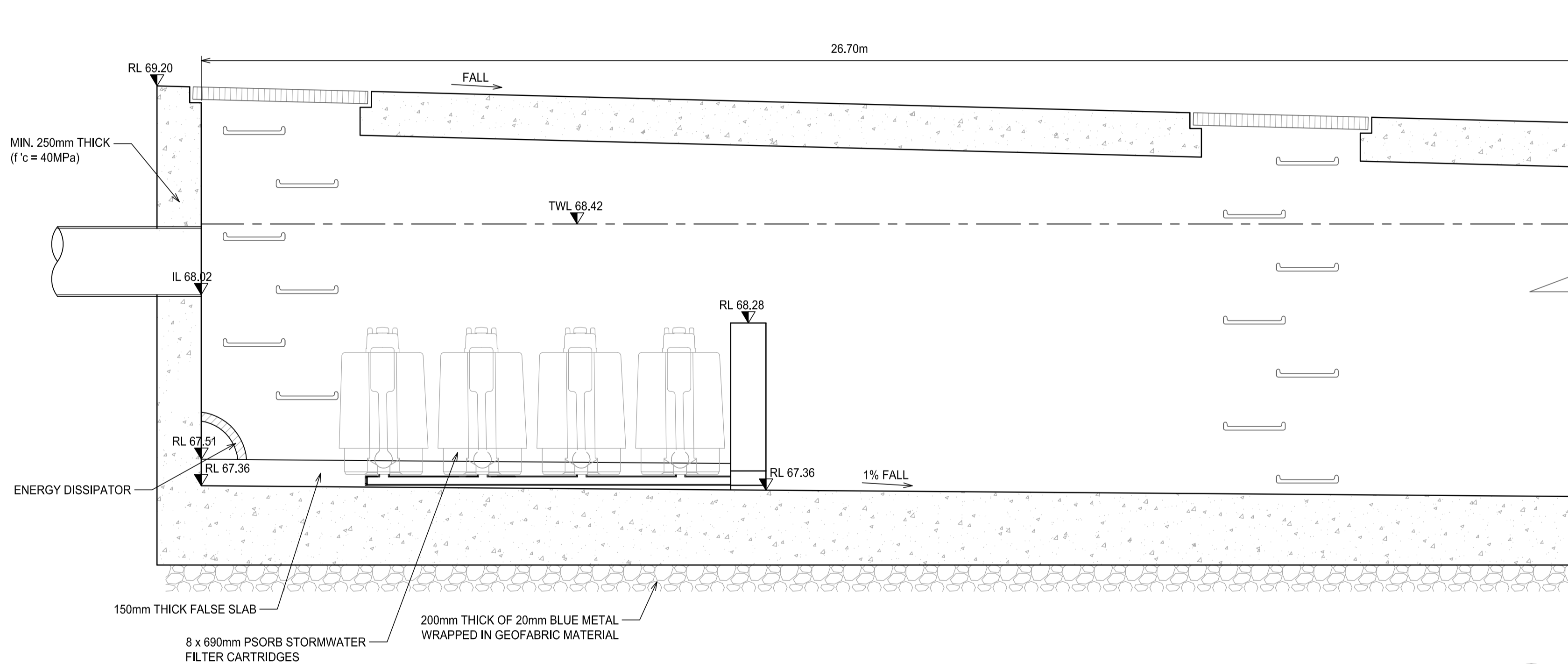
Project
BLUESTONE INDUSTRIAL ESTATE
20 PICRITE CLOSE, PEMULWUY NSW 2145

Sheet Subject
STORMWATER MANAGEMENT PLAN
LOWER GROUND - SHEET 2

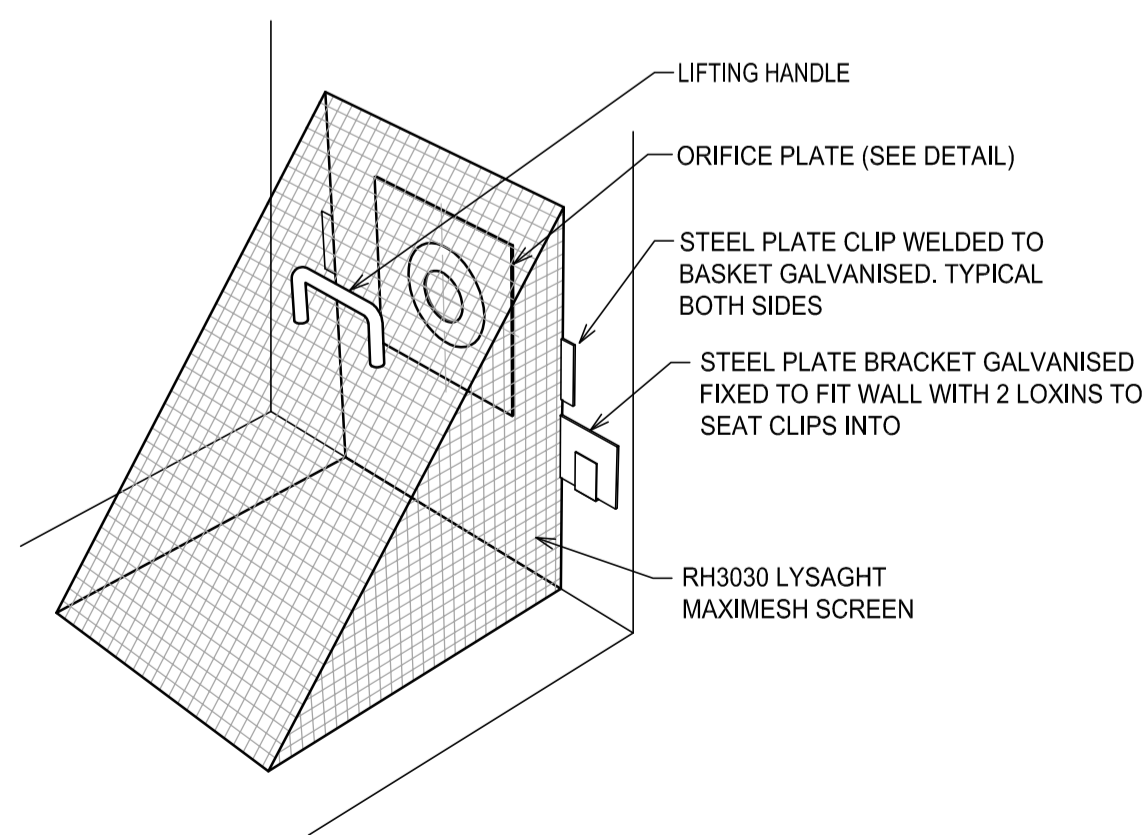
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1:250	LN,AD	ER
Job No	Drawing No	Revision
190307	C312	B



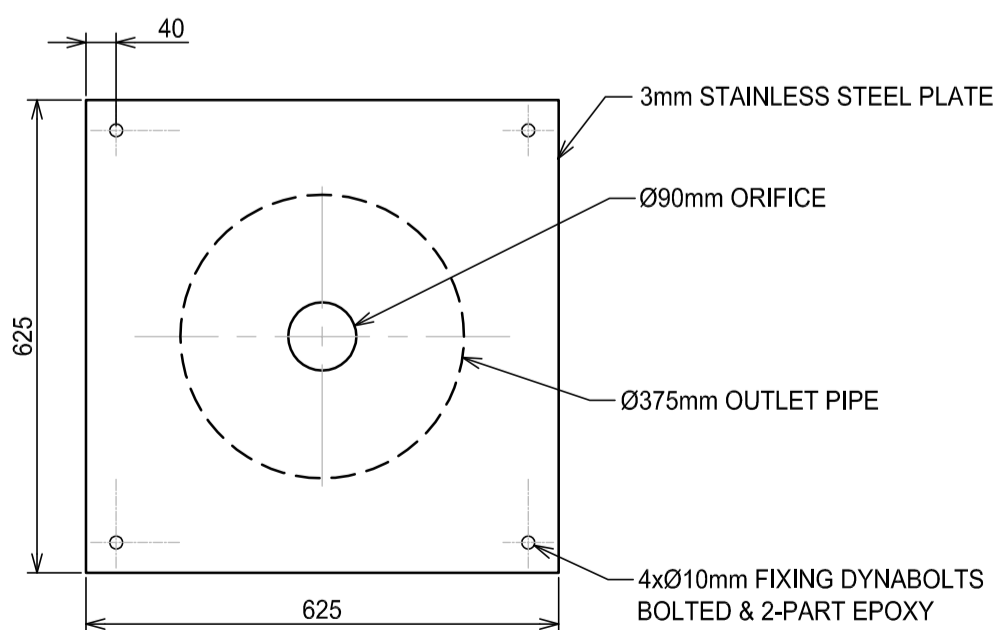
ON-SITE DETENTION (OSD) TANK PLAN
SCALE 1:50



SECTION 1
SCALE 1:20



DEBRIS SCREEN
NOT TO SCALE



ORIFICE PLATE DETAIL
SCALE 1:10

SECTION 4.55 APPLICATION

Architect	NETTLETON TRIBE PARTNERSHIP PTY LTD 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065			
Client	EQ PROJECTS LEVEL 8, 43 BRIDGE STREET HURSTVILLE NSW 2220			
Rev	Description	Eng	Draft	Date
B	ISSUE FOR SECTION 4.55 APPLICATION	LN	LN, AD	13.06.2019
A	ISSUE FOR COORDINATION	LN	LN, AD	19.04.2019

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North

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BLUESTONE INDUSTRIAL ESTATE
20 PICRITE CLOSE, PEMULWUY NSW 2145

Sheet Subject
ON-SITE DETENTION (OSD) TANK SECTION AND DETAILS

Scale at A1
AS SHOWN

Drawn
LN, AD

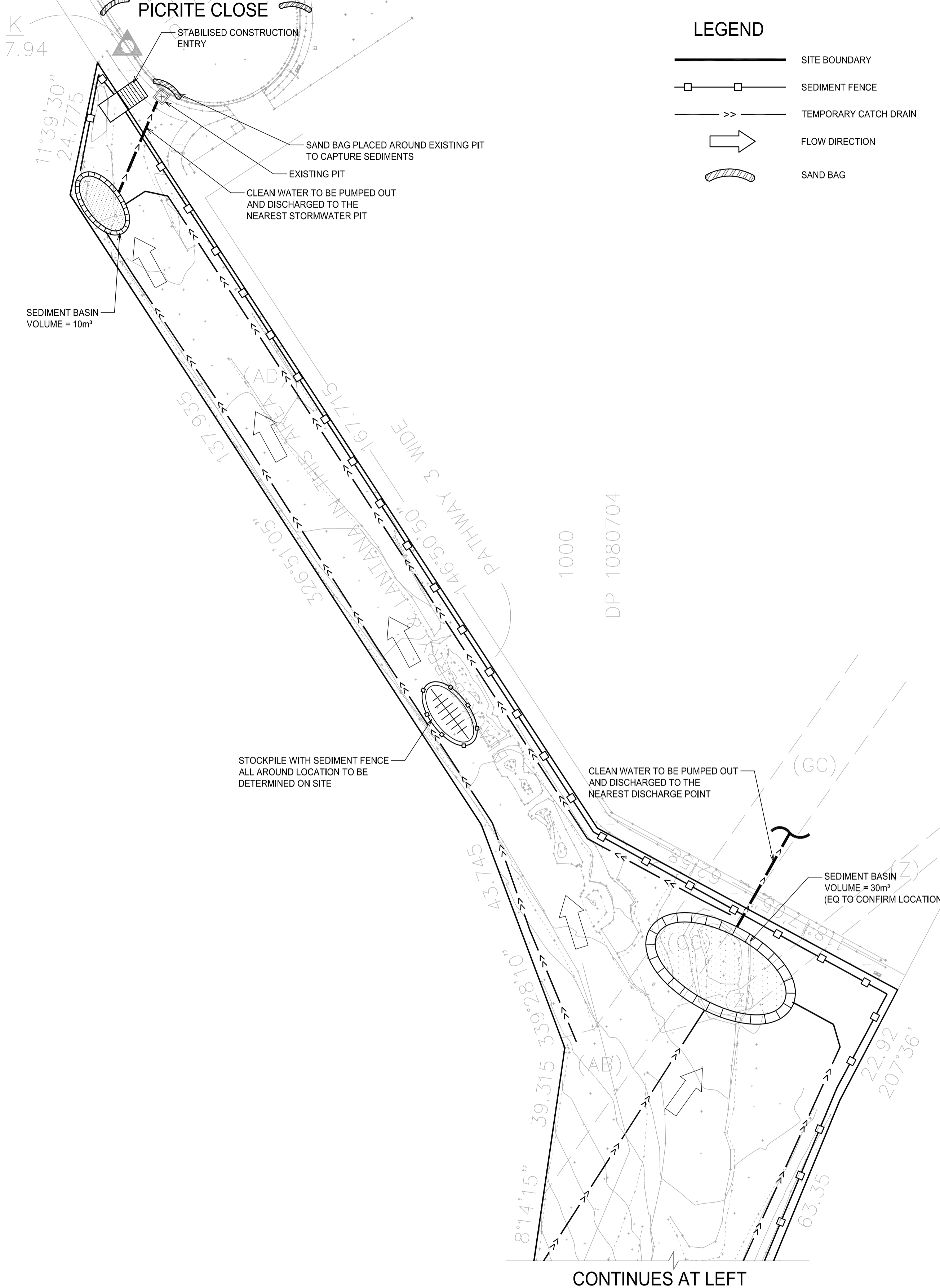
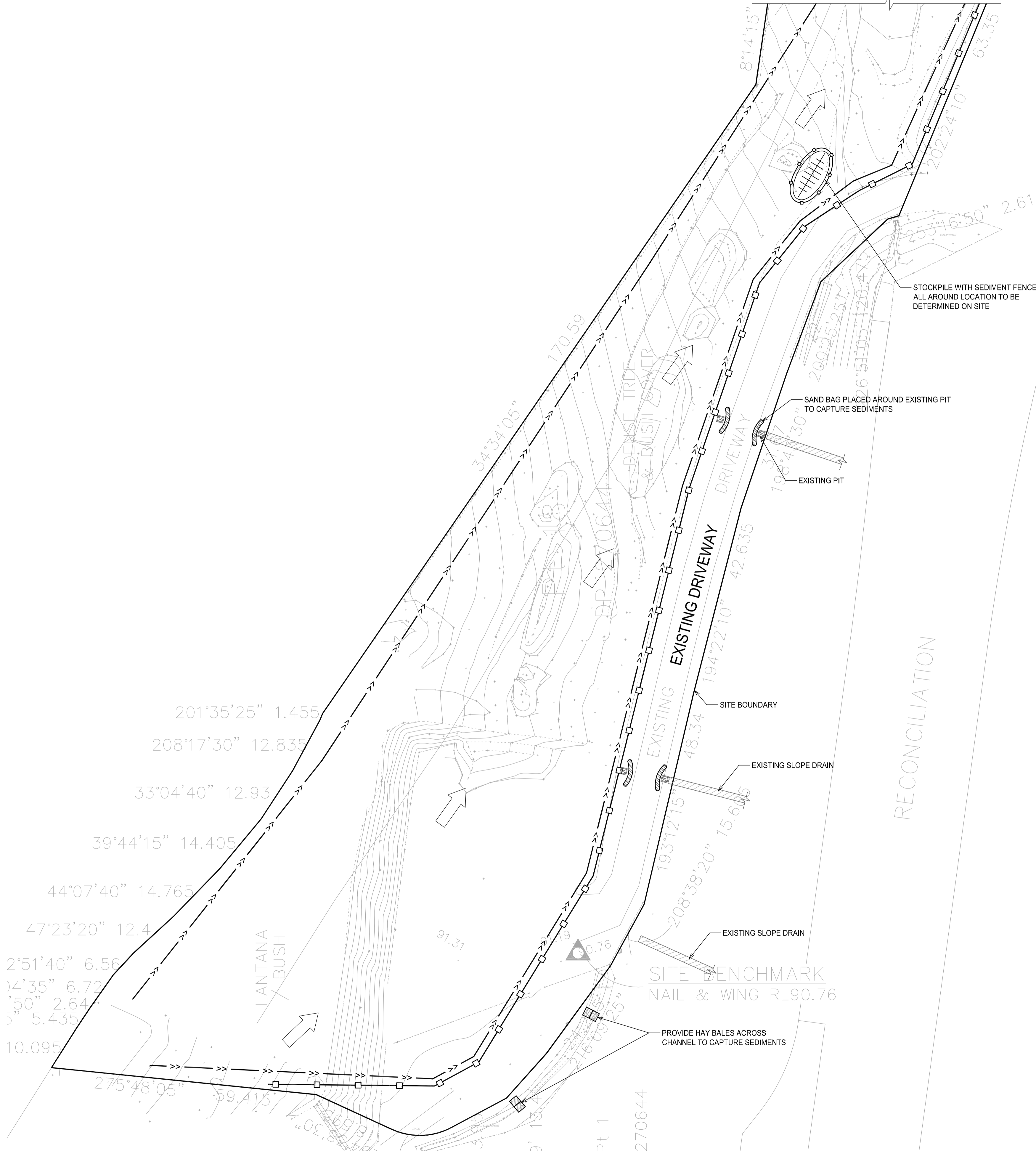
Approved
ER

Job No
190307

Drawing No
C320

Revision
B

CONTINUES AT RIGHT



LEGEND

	SITE BOUNDARY
	SEDIMENT FENCE
	TEMPORARY CATCH DRAIN
	FLOW DIRECTION
	SAND BAG

CONTINUES AT LEFT

SECTION 4.55 APPLICATION

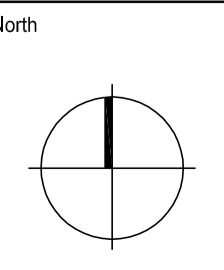
A1			
Rev	Description	Eng	Draft
B	ISSUE FOR SECTION 4.55 APPLICATION	LN	LN, AD
A	ISSUE FOR SECTION 4.55 APPLICATION	LN	LN, AD

Architect
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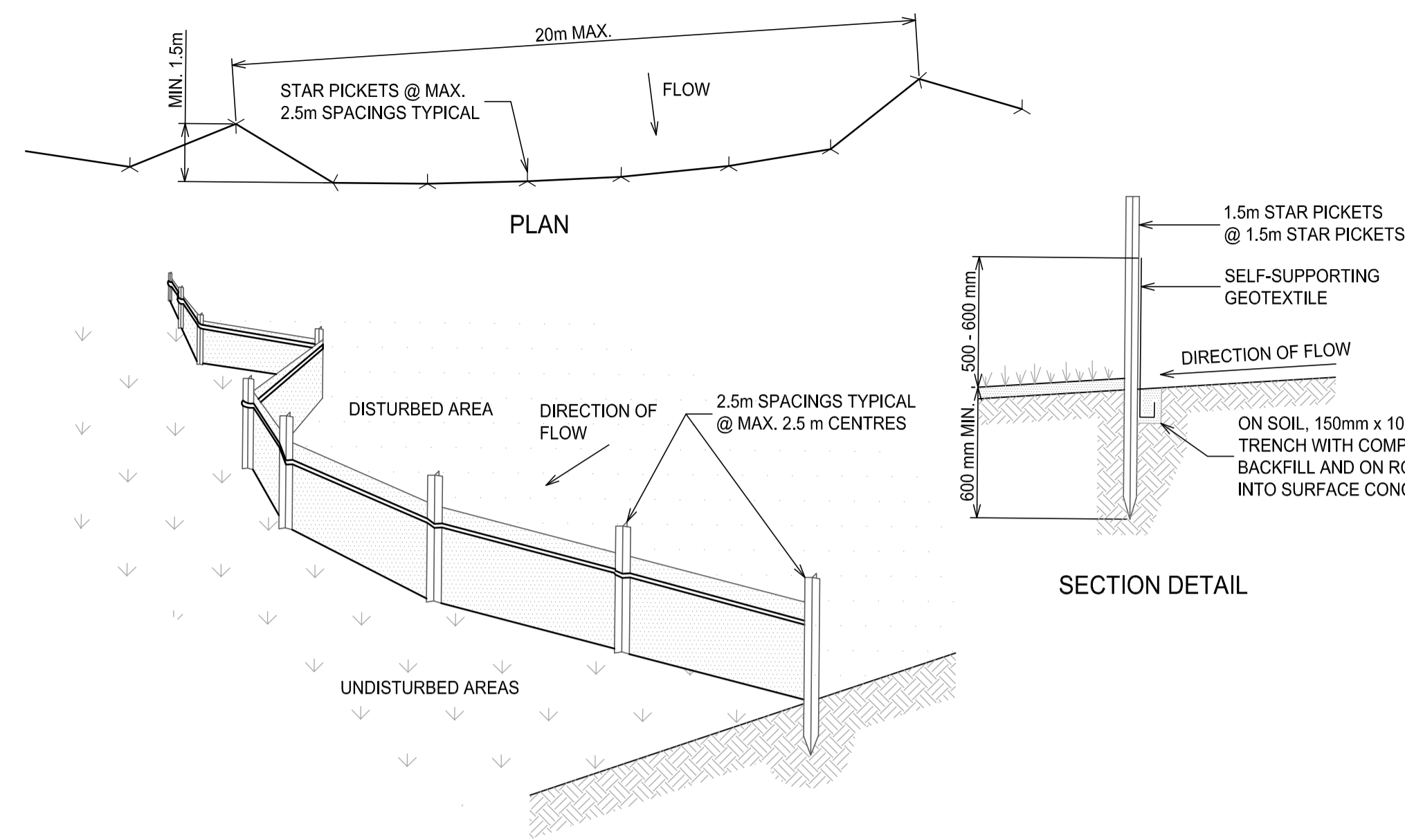
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 20 PICRITE CLOSE, PEMULWUY NSW 2145

Sheet Subject
SEDIMENT & EROSION CONTROL PLAN

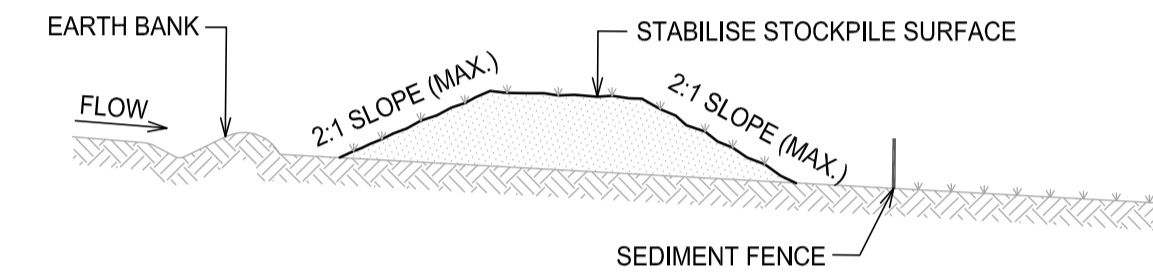
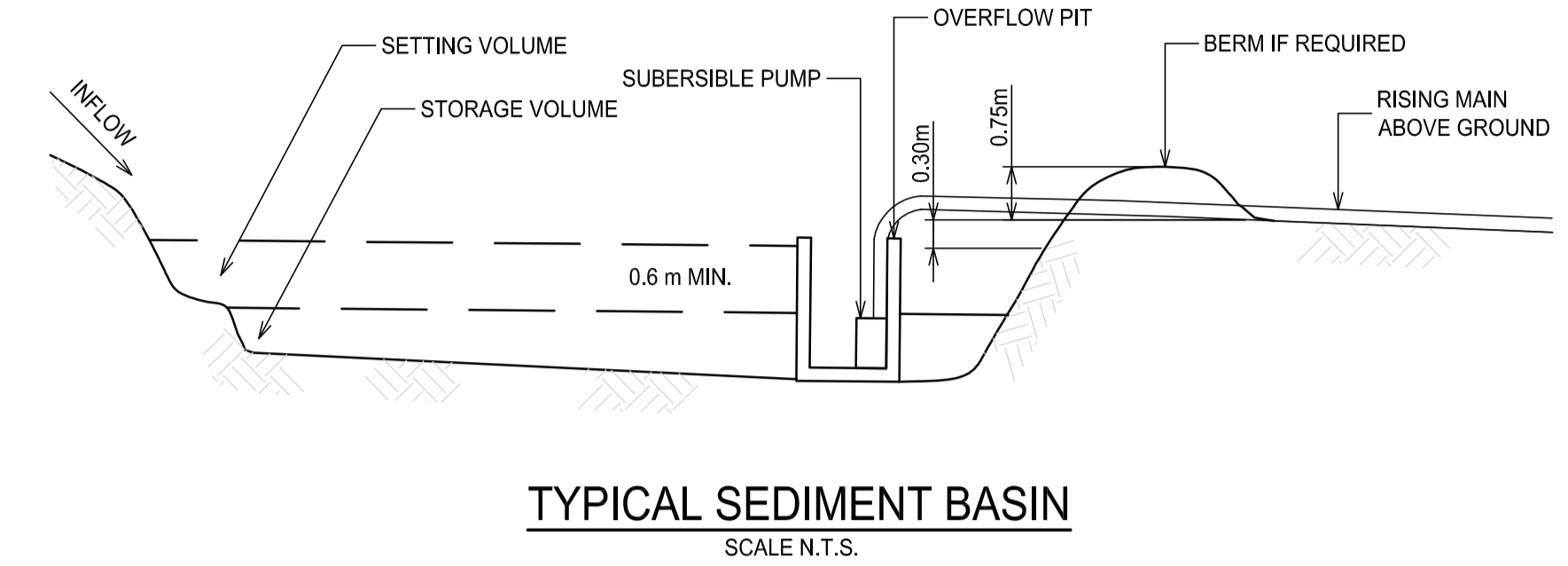
Scale at A1 1:500	Drawn LN, AD	Approved ER
Job No 190307	Drawing No C500	Revision B



SEDIMENT FENCE
 SCALE N.T.S.

SEDIMENT FENCE CONSTRUCTION NOTES:

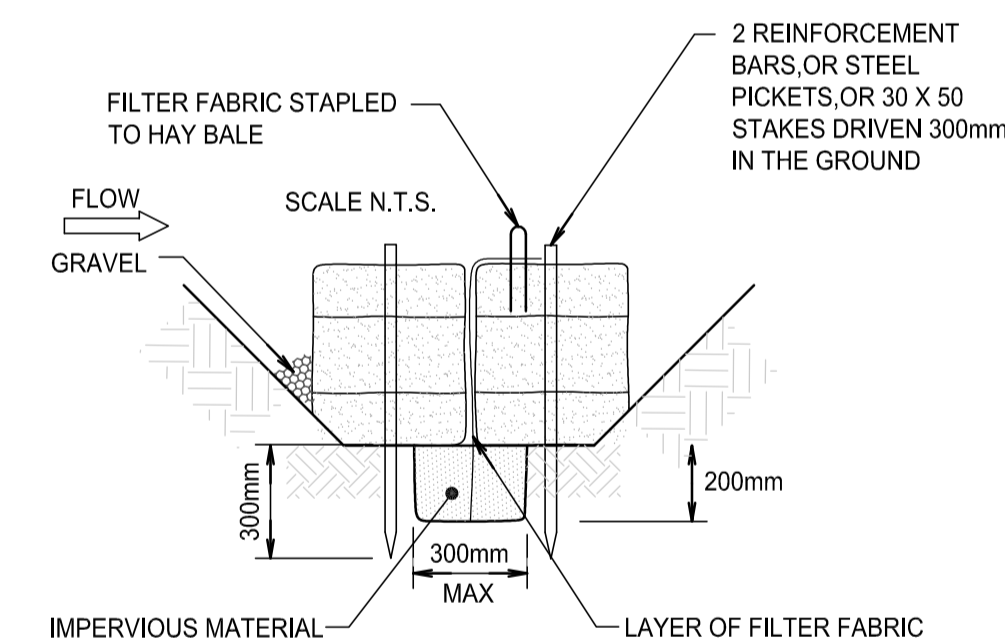
- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- DRIVE 1.5m LONG STAR PICKETS INTO GROUND @ 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



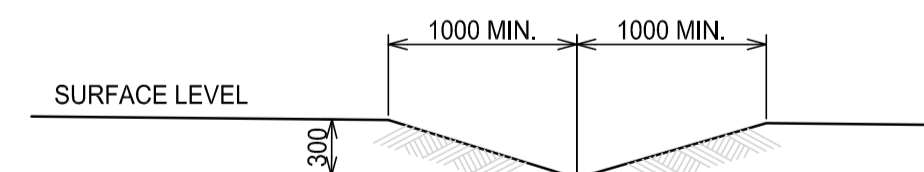
GENERAL INSTRUCTIONS:

- THIS SEDIMENT AND EROSION CONTROL WORKS FOR THE SITE SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION, 4TH EDITION (2004)" BY LANDCOM.
- AS REQUIRED BY GEORGES RIVER COUNCIL SEDIMENT CONTROL MEASURES WILL BE REQUIRED DURING THE CONSTRUCTION OF ALL DEVELOPMENTS/BUILDING WORKS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY THAT THE WORKS ARE CARRIED OUT IN ACCORDANCE WITH THE SEDIMENT AND EROSION CONTROL PLAN AND COUNCIL'S REQUIREMENTS.
- THE CONTRACTOR SHALL ENSURE THAT ALL SUBCONTRACTORS ARE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.
- THE NON-DISTURBED PORTION OF THE CATCHMENT OUTSIDE OF OPERATING AREA IS TO BYPASS THE BASINS BY MEANS OF LINED CATCH DRAINS.
- WHERE PRACTICABLE, THE SOIL EROSION HAZARD SHALL BE KEPT AS LOW AS POSSIBLE. LIMITATIONS TO ACCESS ARE TO BE VIA STANLEY LANE UNLESS OTHERWISE APPROVED BY COUNCIL.
- ENSURE THAT ALL DRAINS ARE OPERATING EFFECTIVELY AND SHALL MAKE ANY NECESSARY REPAIRS. REMOVE TRAPPED SEDIMENT WHERE THE CAPACITY OF THE TRAPPING DEVICE FALLS BELOW 60%.
- CONSTRUCT ADDITIONAL EROSION OR SEDIMENT CONTROL WORKS AS MAY BE APPROPRIATE TO ENSURE THE PROTECTION OF DOWNSLOPE LANDS AND WATERWAYS.
- MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION AT ALL TIMES UNTIL THE SITE IS REHABILITATED.
- REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

STOCKPILES

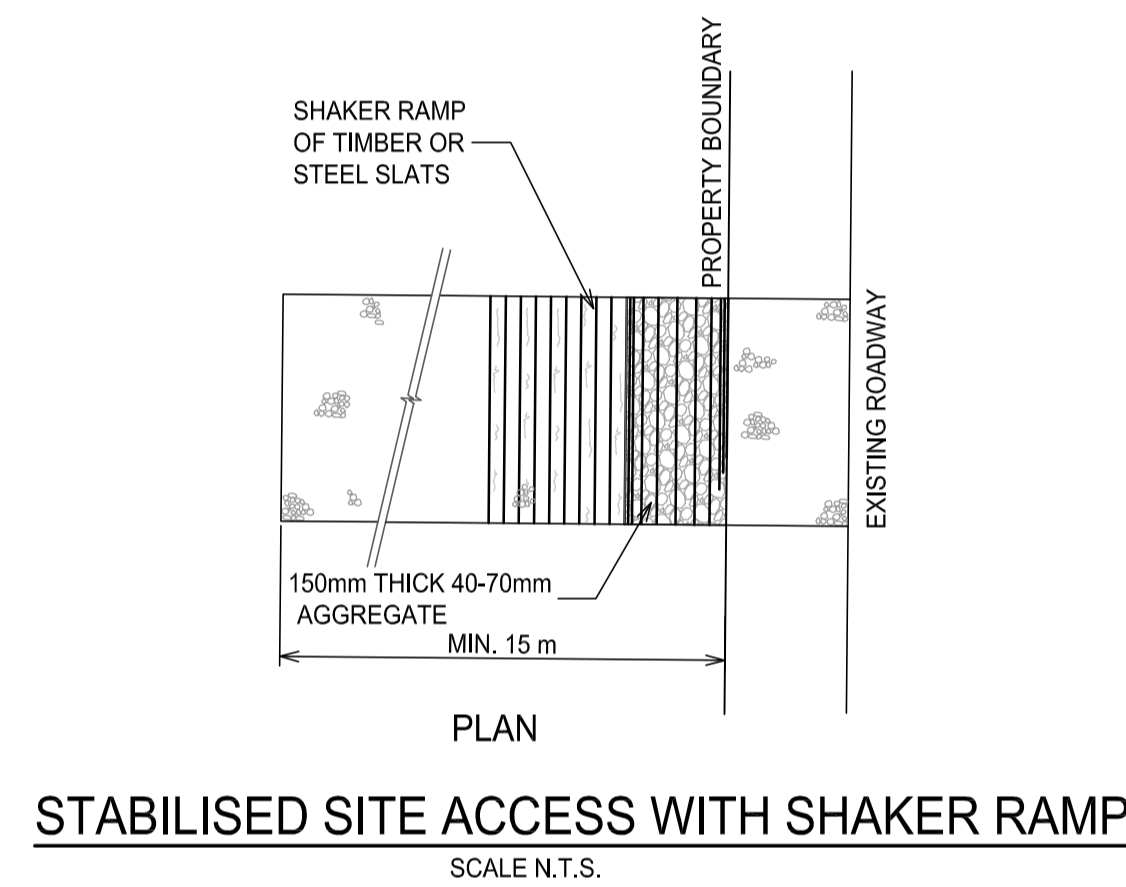


HAY BALE SEDIMENT FENCE
 NOT TO SCALE

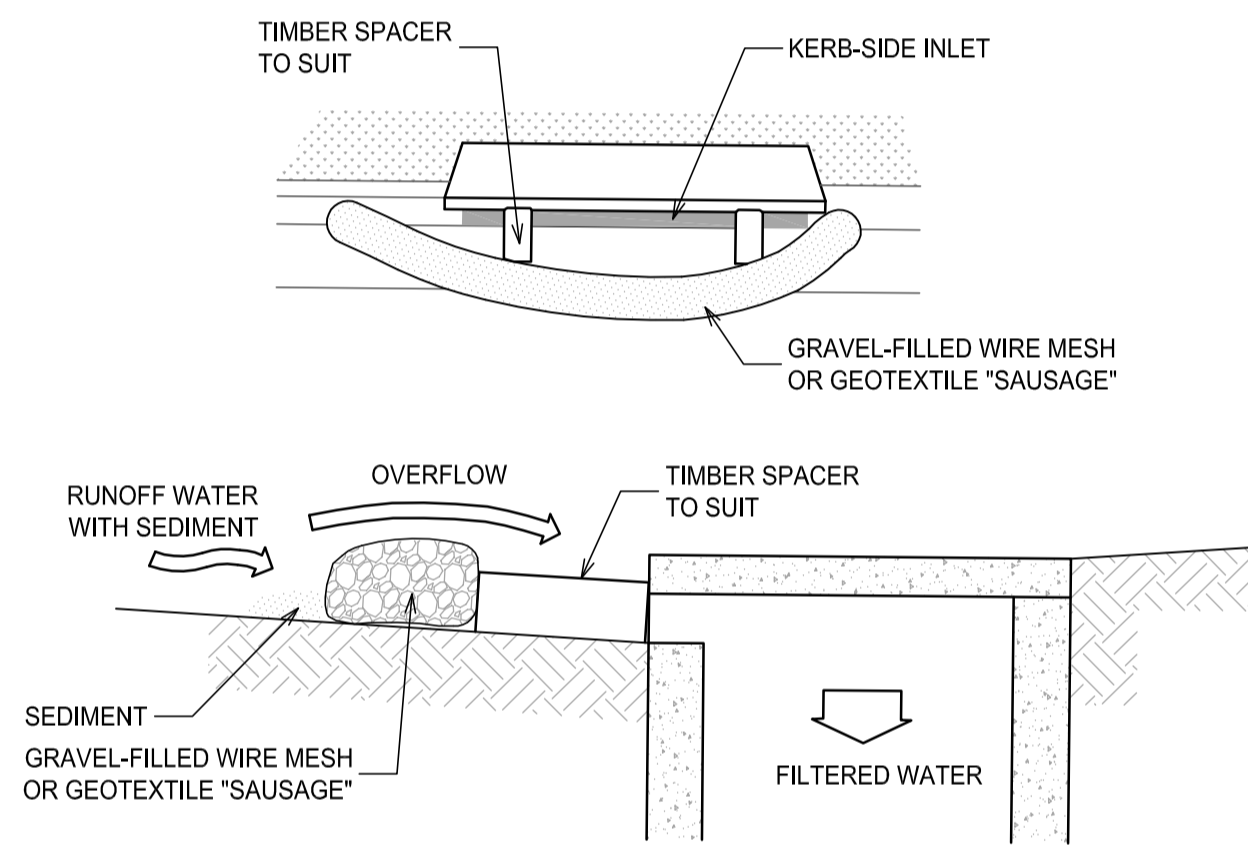


TYPICAL SECTION THROUGH CATCH DRAIN

NOTE:
 REFER TO PROPOSED CONTOURS FOR EXACT PROFILE OF CATCH DRAIN REQUIRED IN FINAL STATE



STABILISED SITE ACCESS WITH SHAKER RAMP
 SCALE N.T.S.



MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

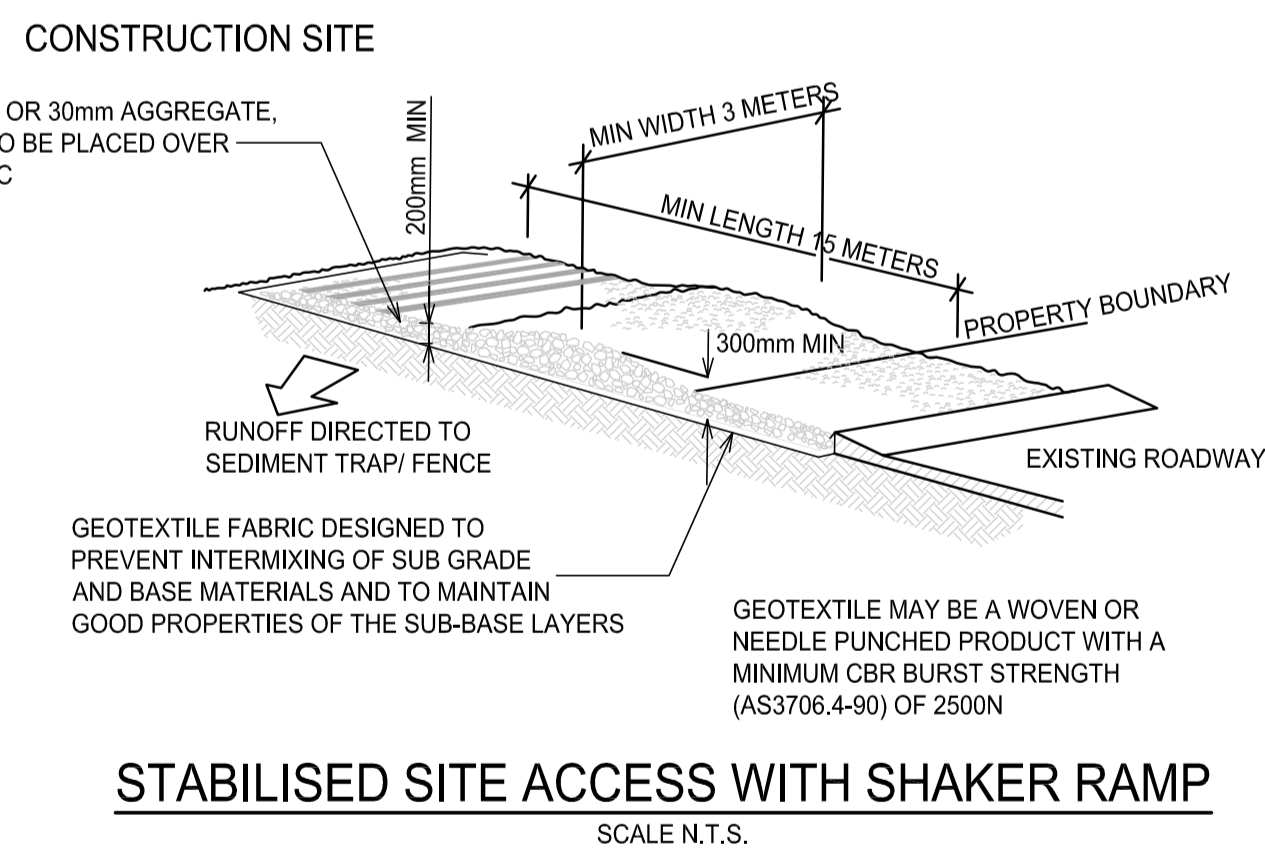
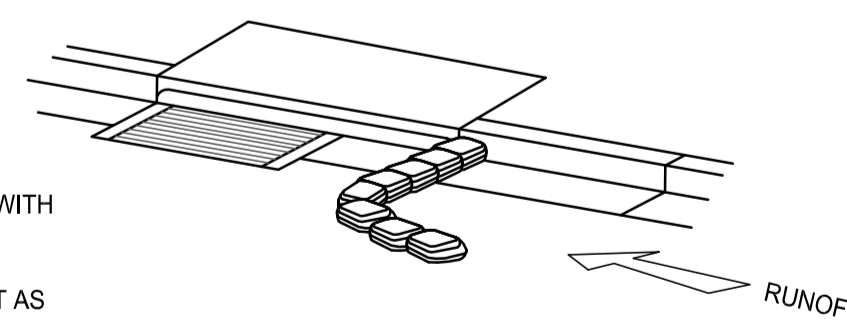
- FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
- FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
- PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
- FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
- SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT / LADEN WATERS CANNOT PASS BETWEEN.

MESH & GRAVEL INLET FILTER
 SCALE N.T.S.

NOTES:

- PROVIDE THREE LAYERS OF SANDBAGS WITH THEIR ENDS OVERLAPPED AND ALSO OVERLAPPING ONTO THE KERB.
- CREATE A GAP IN THE SANDBAGS TO ACT AS A SPILLWAY.
- SANDBAG BARRIER TO BE MIN. 2m FROM THE INLET AND EXTEND MIN. 0.9m OUT FROM THE KERB.

GULLY INLET SANDBAG PROTECTION DETAIL
 SCALE N.T.S.



STABILISED SITE ACCESS WITH SHAKER RAMP
 SCALE N.T.S.

NOTES:

- THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
- THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
- ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
- ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY "HUMES CONCRETE MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.

SECTION 4.55 APPLICATION

A1 1 2 3 4 5 6 7 8 9 10		Architect NETTLETON TRIBE PARTNERSHIP PTY LTD 117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065	Client EQ PROJECTS LEVEL 8, 43 BRIDGE STREET HURSTVILLE NSW 2220		T : 02 8810 5800 E : info@xavierknight.com.au A : Level 2, 2/90 Phillip Street, Parramatta NSW 2150 xavierknight.com.au This drawing is copyright and is the property of XAVIER KNIGHT CONSULTING ENGINEERS Pty. Ltd. and must not be used without authorisation.	North Project BLUESTONE INDUSTRIAL ESTATE 20 PICRITE CLOSE, PEMULWUY NSW 2145	Scale at A1 Drawn LN, AD Approved ER
A ISSUE FOR SECTION 4.55 APPLICATION LN LN_AD 12.06.2019 Rev Description Eng Draft Date						Sheet Subject SEDIMENT & EROSION CONTROL DETAILS	Job No 190307 Drawing No C501 Revision A