





# 7 RENSshaw STREET, CRANE BROOK

## CIVIL ENGINEERING WORKS FOR DEVELOPMENT APPLICATION

### DRAWING INDEX:

DRAWING No.	DRAWING TITLE
02216__100	COVER SHEET, DRAWING INDEX, GENERAL NOTES & LOCALITY SKETCH
02216__201	GENERAL ARRANGEMENT PLAN - SHEET 01
02216__202	GENERAL ARRANGEMENT PLAN - SHEET 02
02216__231	CUT / FILL PLAN
02216__601	CATCHMENT PLAN
02216__621	OSD TANK PLAN & DETAILS
02216__622	OSD TANK SECTIONS
02216__701	SEDIMENT & EROSION CONTROL - PLAN
02216__702	SEDIMENT & EROSION CONTROL - DETAILS

### LEGEND

---	BOUNDARY
—	FINISHED SURFACE CONTOUR
- - -	EXISTING SURFACE CONTOUR
---	STORMWATER DRAINAGE LINE
   	STORMWATER DRAINAGE PITS
1	STORMWATER STRUCTURE NUMBER
A	STORMWATER DRAINAGE LINE LETTER
ML91.86	FINISHED SURFACE LEVEL
ML91.86	FINISHED STORMWATER PIT LID/GRATE LEVEL
MTDWA-20	TOP OF WALL LEVEL
BOWA-20	BOTTOM OF WALL LEVEL

### GENERAL NOTES:

- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PENRITH COUNCIL'S CIVIL WORKS SPECIFICATION.
- THE CONSTRUCTOR SHALL REVIEW, BE AWARE AND AT ALL TIMES COMPLY WITH THE SPECIFIC REQUIREMENTS FOR THIS DEVELOPMENT AS SET OUT IN PENRITH NOTICE OF DETERMINATION.
- ANY CHANGES MADE BY THE CONSTRUCTOR TO ANY LEVEL, DIMENSION, LOCATION, POSITION, ALIGNMENT ETC, IF ANY OF THE WORKS SHOWN ON THE DRAWINGS WITHOUT THE WRITTEN CONSENT OF C&M CONSULTING ENGINEERS PTY. LTD. AND/OR THE PRINCIPAL CERTIFYING AUTHORITY IS DONE SO AT THE CONSTRUCTORS OWN RISK. THE CONSTRUCTOR SHALL ALLOW TO LIASE WITH AND PROVIDE SUFFICIENT NOTICE TO THE PRINCIPAL CERTIFYING AUTHORITY TO ENSURE THAT ALL WORKS ARE INSPECTED TO ENABLE COMPLIANCE CERTIFICATES TO BE ISSUED THROUGHOUT THE CONSTRUCTION PERIOD. THE CONSTRUCTOR SHALL LIASE WITH THE PRINCIPAL CERTIFYING AUTHORITY PRIOR TO ANY CONSTRUCTION WORKS COMMENCING AND PREPARE AN INSPECTION AND TEST PLAN WITH A MUTUALLY AGREED WITNESS AND HOLD POINTS FOR THE CONSTRUCTION WORKS.
- IF THE PRINCIPAL CERTIFYING AUTHORITY IS NOT PENRITH COUNCIL, THEN THE CONSTRUCTOR MUST CONTACT WORKS DIVISION TO ENABLE THEIR INSPECTION OF ALL WORKS INCLUDING EROSION AND SEDIMENT CONTROL MEASURES) WITHIN THE ROAD RESERVE AREA.
- THE CONSTRUCTOR SHALL USE A SUITABLY QUALIFIED SURVEYOR TO SET OUT ALL WORKS. THE SURVEYOR SHALL ISSUE A CERTIFICATE TO THE PRINCIPAL CERTIFYING AUTHORITY CERTIFYING THAT THE WORKS HAVE BEEN SET OUT IN ACCORDANCE WITH THE APPROVED DRAWINGS PRIOR TO THE WORKS BEING CONSTRUCTED.
- ALL NEW WORKS SHALL MAKE A SMOOTH CONNECTION WITH ANY FORMATIONS, STRUCTURES, ETC.
- THE WORKS SHALL BE CONSTRUCTED IN SUCH A MANNER THAT THERE IS MINIMUM DISTURBANCE TO EXISTING TREES AND VEGETATION.
- ALL BOUNDARY LOCATIONS, DIMENSIONS, BEARINGS, AREAS, ETC, SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND ARE SUBJECT TO A FINAL SURVEY AND REGISTRATION OF THE FINAL PLAN OF SUBDIVISION WITH LAND AND PROPERTY INFORMATION NSW.
- THE PUBLIC FOOTWAY AND ROADWAY FRONTING THE SITE SHALL BE MAINTAINED IN A SAFE AND UNOBSTRUCTED MANNER AT ALL TIMES DURING THE CONSTRUCTION WORKS.
- NOT USED
- NOT USED

### EARTHWORKS NOTES:

- ALL TOPSOIL FROM EARTHWORKS AREAS SHOULD BE REMOVED AND STOCKPILED PRIOR TO ANY EARTHWORKS OPERATIONS.
- ALL BATTER SLOPES SHALL BE A MAXIMUM OF 4:1 (H:V).
- ALL EARTHWORKS OPERATIONS SHALL BE SUPERVISED AND CERTIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER IN ACCORDANCE WITH AS3798 - 2007 SECTION 8.2 LEVEL 1 - INSPECTION AND TESTING.
- ALL COMPACTION TEST RESULTS SHALL BE PROVIDED TO THE PRINCIPAL CERTIFYING AUTHORITY AS REQUIRED.
- NOT USED
- NOT USED
- SURPLUS MATERIAL INCLUDING TOPSOIL SHALL BE REMOVED AND DISPOSED OF LAWFULLY OFF SITE.

### STORMWATER NOTES:

- STORMWATER DESIGN CRITERIA:  
MINOR STORM ARI: 20 YEARS  
MAJOR STORM ARI: 100 YEARS  
IFD DATA LOCALITY: CRANE BROOK
- PIPES DN375 AND LARGER TO BE STEEL REINFORCED CONCRETE PIPES CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS UNO.
- PIPES DN300 AND SMALLER SHALL BE GRADE SH (SEWER GRADE) uPVC WITH RUBBER RING JOINTS.
- EQUIVALENT STRENGTH FIBRE REINFORCED CONCRETE PIPES MAY BE USED UP TO DN450.
- PIPES FOR SUB-SOIL DRAINS SHALL BE SLOTTED 100MM DIAMETER CLASS 1000 WRAPPED IN GEOTEXTILE, UNO, COMPLYING WITH THE REQUIREMENTS OF AS 2439.
- PRECAST PITS, WHERE ALLOWED, AND THE IN-SITU BASE SHALL COMPLY WITH THE REQUIREMENT OF THE MANUFACTURER.
- STORMWATER OUTFLET TO BE INSTALLED ON THE LOWER SIDE OF EACH LOT.
- PROVIDE STEP IRONS FOR PITS DEEPER THAN 12m.
- COMPRESSIVE STRENGTH FOR CAST IN-SITU PITS SHALL BE 25MPa UNLESS NOTED OTHERWISE.
- ALL PITS SHALL BE BENCHED AND FLOW STREAMLINED.
- ALL MILD STEEL FIXTURES INCLUDING GRATES, FRAMES, STEP IRONS, LADDERS, ETC, SHALL BE HOT DIP GALVANISED. GALVANISING SHALL COMPLY WITH THE REQUIREMENTS OF AS 1214 OR AS 1655, AS APPROPRIATE.
- GEOTEXTILE FILTER SHALL BE PERMEABLE, NON-WOVEN FABRIC MANUFACTURED FROM A POLYMER SUCH AS POLYPROPYLENE OR POLYESTER OF MASS NOT LESS THAN 195G/M<sup>2</sup>.
- THE MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:  
CONCRETE AND FRC PIPES: EXTERNAL PIPE DIAMETER PLUS 400MM.  
uPVC PIPE: EXTERNAL DIAMETER OF PIPE PLUS 200MM.  
SUBSOIL PIPE: 250MM.
- ALL PIPES SHALL BE PLACED CENTRALLY WITHIN THE TRENCH WITH EQUAL CLEARANCE EACH SIDE.
- 100mm DIA. SUBSOIL DRAINAGE PIPE 3m LONG WRAPPED IN FILTER SOCK TO BE PROVIDED IN PIPE TRENCHES UPSTREAM OF ALL PITS.
- PIPE BEDDING MATERIAL SHALL BE CLEAN COARSE RIVER SAND OR RECYCLED EQUIVALENT MATERIAL WITH DEPTH AS FOLLOWS:  
CONCRETE AND FRC PIPES: 100MM (75MM IN ROCK)  
uPVC PIPE: 75MM (100MM IN ROCK)  
SUBSOIL DRAINS: 50MM
- ALL PIPES SHALL BE BACKFILLED WITH GRANULAR MATERIAL SUCH AS QUARRY FINES OR COARSE RIVER SAND TO A MINIMUM OF 150MM ABOVE THE PIPE. THE GRANULAR MATERIAL SHALL BE PLACED IN 150MM THICK MAXIMUM LAYERS AND COMPACTED TO ACHIEVE A DENSITY INDEX IDI OF 70% FREQUENCIES OF COMPACTION TESTS FOR TRENCHES SHALL BE 1 TEST PER 2 LAYERS PER 40 LINEAR METRE.
- BACKFILL THE REMAINDER OF THE TRENCH ABOVE THE SAND TO SUBGRADE LEVEL WITH TRENCH MATERIAL. PLACE AND COMPACT MATERIALS IN LAYERS NOT EXCEEDING 150MM LOOSE THICKNESS MATERIAL LOWER THAN 500MM BELOW SUBGRADE LEVEL SHALL BE COMPACTED TO AT LEAST 90% OF STANDARD MAXIMUM DRY DENSITY. THE TOP 500MM BELOW PAVEMENT SUBGRADE LEVELS SHALL BE COMPACTED TO AT LEAST 100% STANDARD MAXIMUM DRY DENSITY.

1% NOT USED

2% FILTER MATERIAL FOR SUBSOIL SHALL BE COARSE SAND OR CRUSHED STONE COMPLYING WITH ONE OF THE GRADINGS IN THE TABLE BELOW. WHERE NOTED ON THE DRAWINGS THE 75MM CRUSHED ROCK FILTER MATERIAL SHALL BE ENCLOSED WITHIN FILTER FABRIC SHEET AS SPECIFIED. FILTER MATERIAL SHALL BE PLACED IN 750MM LAYERS AND COMPACTED TO DENSITY INDEX IDI OF 60%.

AS SEVE SIZE (mm)	SAND	75mm ROCK
95	100	100
6.7	-	75-100
4.75	90-100	20-55
2.36	75-100	0-15
1.18	50-90	
0.6	20-40	
0.3	10-30	
0.15	2-10	
0.075	0-3	0-2

21 UNLESS OTHERWISE DETAILED OR PERMITTED, THE MINIMUM GRADE OF ALL PIPE WORKS SHALL BE 15%.

22 PRIOR TO ISSUE OF PRACTICAL COMPLETION THE CONTRACTOR SHALL CARRY OUT CCTV SURVEY OF ALL PIPES AND SUBMIT DVD AND WRITTEN REPORT THAT ALL PIPES ARE FREE OF DEFECTS LAID TO THE SPECIFICATION.

23 NOT USED

24 NOT USED

25 NOT USED


26 NOT USED



### LOCALITY SKETCH

NOT TO SCALE

NOT FOR CONSTRUCTION

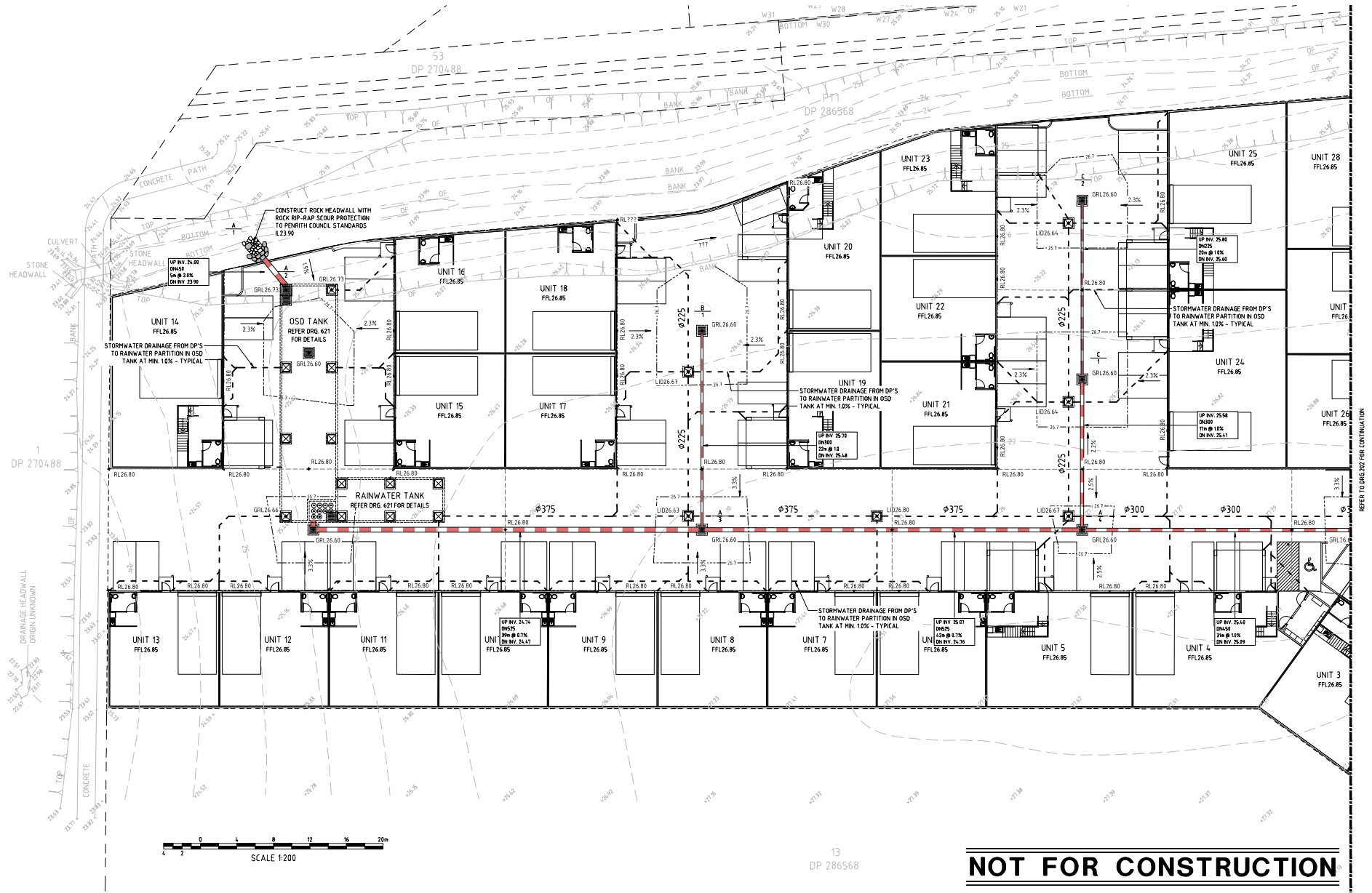
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				PROJECT VERIFIER'S SIGNATURE: _____				DESIGNER T.T.		DATE DECEMBER 2019	7 RENSHAW STREET, CRANEBROOK		
				DATE _____				ENGINEER P.O.		ISA PENRITH	COVER SHEET, DRAWING INDEX & LOCALITY SKETCH		
								VERIFIER A.M.		SCALE @ A1 N/A			
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REV.	DES.	DATE	VER.	DESCRIPTION									



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ENGINEER	P.O.	IGA	PENRITH	COVER SHEET, DRAWING INDEX & LOCALITY SKETCH	
VERIFIER	A.M.	SCALE @ A1	N/A		
				STATUS	DEVELOPMENT APPLICATION
				DRAWING No.	02216__100
				REVISION	02

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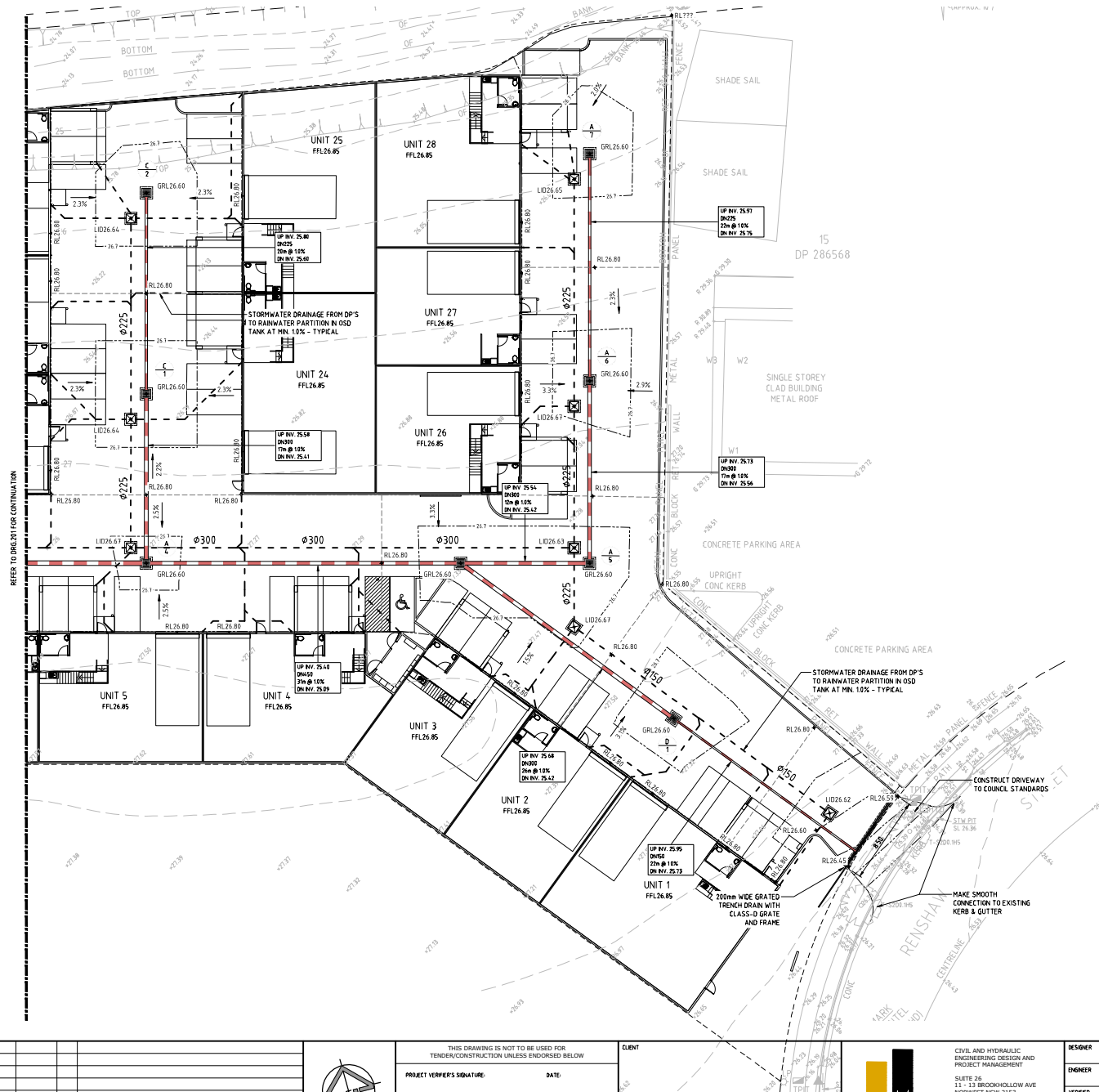


CIVIL AND HYDRAULIC  
ENGINEERING DESIGN AND  
PROJECT MANAGEMENT  
SUITE 26  
11 - 13 BROOKHOLLOW AVE  
NORTHWEST NSW 2153  
PHONE: (02) 9680 3100  
FAX: (02) 9634 6889  
ABN 21 118 134 240

DESIGNER	T.T.	DATE	DECEMBER 2019
ENGINEER	P.O.	LGA	PENRITH
VERIFIER	A.M.	SCALE @ A1	1:200

7 RENSHAW STREET, CRANE BROOK			
GENERAL ARRANGEMENT PLAN - SHEET 01			
STATUS	DEVELOPMENT APPLICATION	DRAWING No.	02216_201
REVISION	02		

A1

**NOT FOR CONSTRUCTION**

REV.	DES.	DATE	VER.	DESCRIPTION
02	A.M.	08/04/20	A.M.	ISSUE FOR DA APPROVAL
01	T.T.	25/03/20	A.M.	ISSUE FOR REVIEW



THIS DRAWING IS NOT TO BE USED FOR  
TENDER/CONSTRUCTION UNLESS ENDORSED BELOW

PROJECT VERIFIER'S SIGNATURE: DATE:

CLIENT



CIVIL AND HYDRAULIC  
ENGINEERING DESIGN AND  
PROJECT MANAGEMENT  
SUITE 26  
11 - 13 BROOKHOLLOW AVE  
NORTHWEST NSW 2153  
PHONE: (02) 9680 3100  
FAX: (02) 9634 6989  
ABN 21 118 134 240

DESIGNER	T.T.	DATE	DECEMBER 2019
ENGINEER	P.O.	16A	PENRITH
VERIFIER	A.M.	SCALE @ A1	1:200

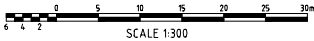
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7 RENSHAW STREET, CRANE BROOK	
GENERAL ARRANGEMENT PLAN - SHEET 02	
STATUS	DEVELOPMENT APPLICATION
DRAWING No.	02216_202
REVISION	02

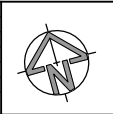
NOT FOR CONSTRUCTION



Levels Table				
No.	From Depth	To Depth	Colour	Depth Range Volume
1	-1.152	0.000	Red	34.00m
2	0.000	2.850	Green	36.89m



REV.	DES.	DATE	VER.	DESCRIPTION
01	T.T.	25/03/20	A.M.	ISSUE FOR REVIEW
02	A.M.	08/04/20	A.M.	ISSUE FOR DA APPROVAL



THIS DRAWING IS NOT TO BE USED FOR TENDER/CONSTRUCTION UNLESS ENDORSED BELOW	
PROJECT VERIFIER'S SIGNATURE:	DATE:

CLIENT
11 - 13 BROOKHOLLOW AVE NORTHWEST NSW 2113



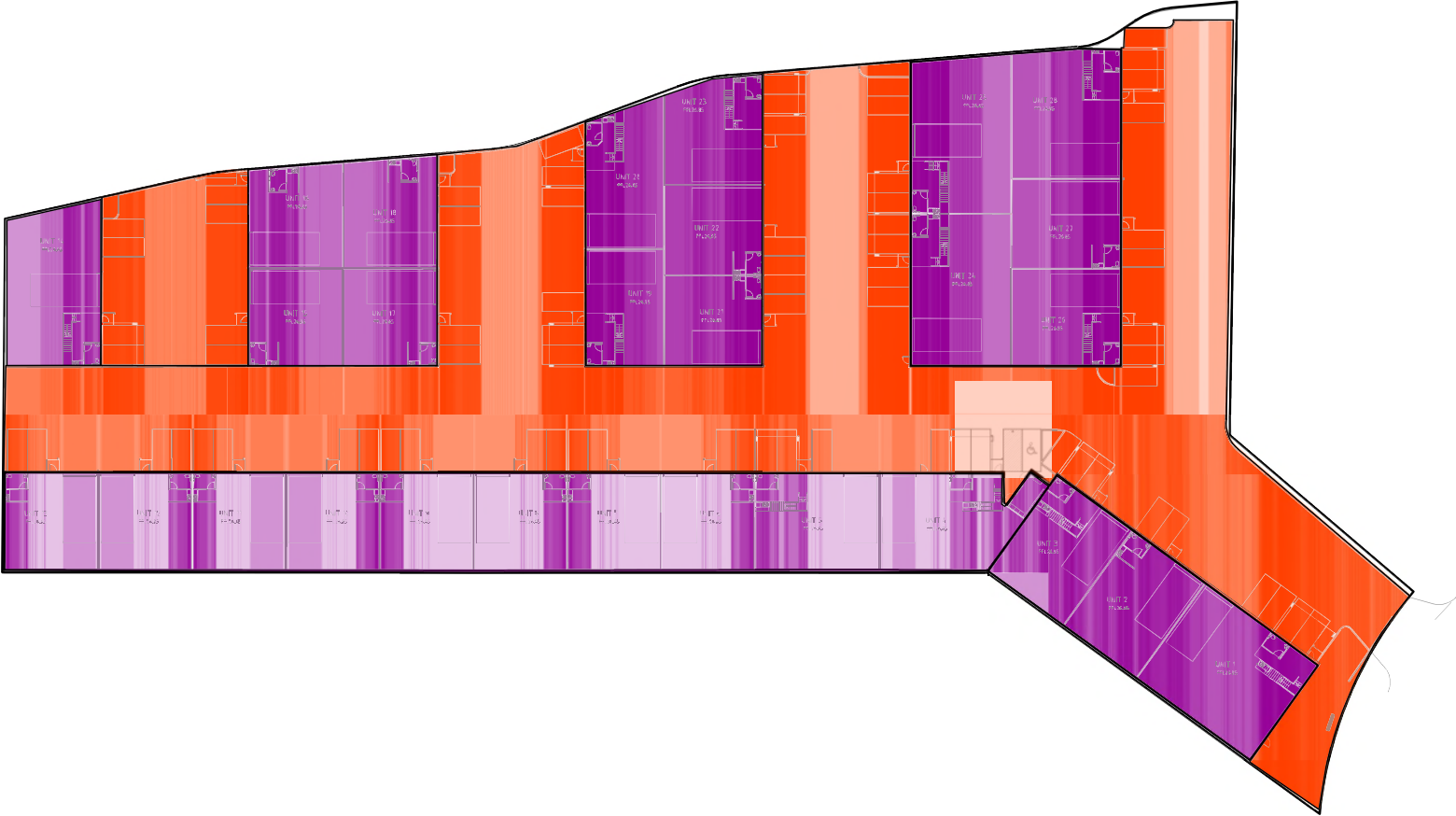
CIVIL AND HYDRAULIC  
ENGINEERING DESIGN AND  
PROJECT MANAGEMENT  
SUITE 20  
11 - 13 BROOKHOLLOW AVE  
NORTHWEST NSW 2113  
PHONE: (02) 9680 3100  
FAX: (02) 9634 6989  
ABN 21 118 134 240

DESIGNER	T.T.	DATE	DECEMBER 2019
ENGINEER	P.O.	IGA	PENRITH
VERIFIER	A.M.	SCALE @ A1	1:300

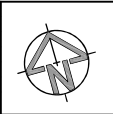
7 RENSCH STREET, CRANE BROOK	
BULK-EARTHWORKS PLAN	
STATUS	DEVELOPMENT APPLICATION
DRAWING No.	02216_231
REVISION	02

NOT FOR CONSTRUCTION

CATCHMENT LEGEND			
No.	Catchment Type	Colour	Area
1	Roof Area		5079m <sup>2</sup>
2	Other Impervious Area		5166m <sup>2</sup>
Total Catchment Area			10,245m <sup>2</sup>



REV	DES	DATE	VER	DESCRIPTION
02	A.M.	08/04/20	A.M.	ISSUE FOR DA APPROVAL
01	T.T.	25/03/20	A.M.	ISSUE FOR REVIEW



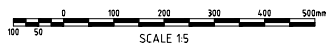
THIS DRAWING IS NOT TO BE USED FOR TENDER/CONSTRUCTION UNLESS ENDORSED BELOW	
PROJECT VERIFIER'S SIGNATURE	DATE
.....	.....

CIVIL AND HYDRAULIC ENGINEERING DESIGN AND PROJECT MANAGEMENT SUITE 20 1/1 - 1/3 BROOKHOLLOW AVE NORWEST NSW 2153 PHONE: (02) 9680 3100 FAX: (02) 9684 6989 ABN 21 118 124 249
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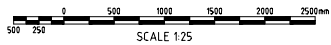
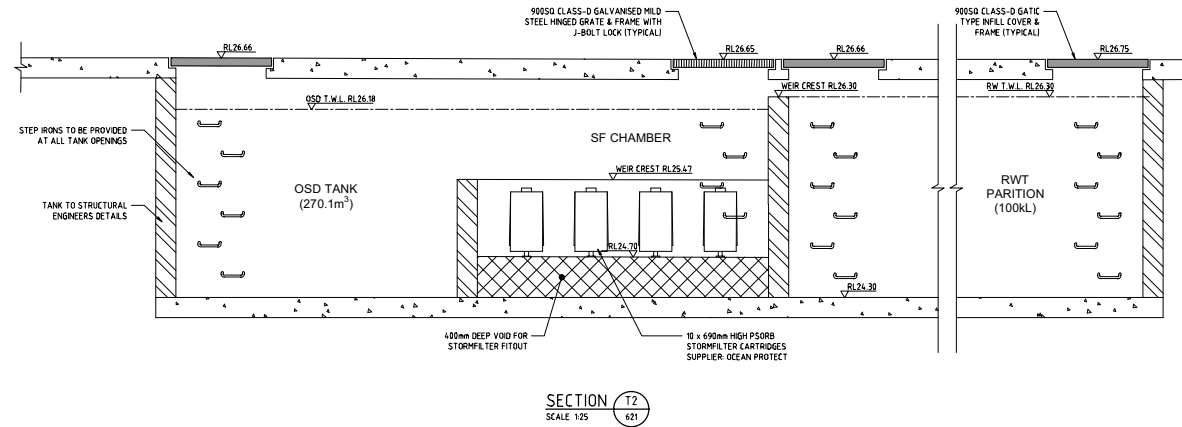
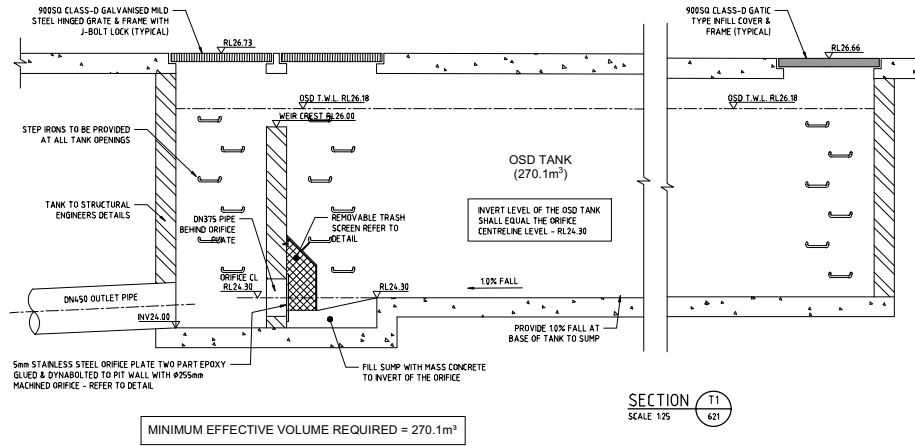
DESIGNER	T. T.	DATE	DECEMBER 2019
ENGINEER	P. O.	LGA	PENRITH
VERIFIER	A. M.	SCALE @ A1	1:300

7 RENSHAW STREET, CRANEBROOK	
CATCHMENT PLAN	
© THIS DRAWING AND DESIGN IS THE COPYRIGHT OF CAM CONSULTING ENGINEERS PTY LTD. NO PART OF THIS DRAWING OR DESIGN SHALL BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT FROM CAM CONSULTING ENGINEERS PTY LTD.	

STATUS	DEVELOPMENT APPLICATION	DRAWING No	02216_601	REVISION	02
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[illegible]

# NOT FOR CONSTRUCTION



<p>THIS DRAWING IS NOT TO BE USED FOR TENDER/CONSTRUCTION UNLESS ENDORSED BELOW</p>				CLIENT		7 RENSHAW STREET, CRANE BROOK	
PROJECT VERIFIER'S SIGNATURE: _____				DATE: _____		OSD TANK SECTIONS	
<p>22 A.M. 08/04/20 A.M. ISSUE FOR DA APPROVAL</p> <p>01 T.T. 25/03/20 A.M. ISSUE FOR REVIEW</p>				<p>DESIGNER T.T. DATE DECEMBER 2019</p> <p>ENGINEER P.O. LGA PENRITH</p> <p>VERIFIER A.M. SCALE @ A1 AS NOTED</p>		<p>STATUS DEVELOPMENT APPLICATION</p> <p>DRAWING No. 02216_622</p> <p>REVISION 02</p>	

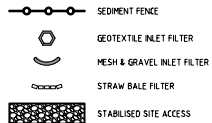


CIVIL AND HYDRAULIC  
ENGINEERING DESIGN AND  
PROJECT MANAGEMENT  
SUITE 20  
11-13 BROOKHOLLOW AVE  
NORTHWEST NSW 2153  
PHONE: (02) 9680 3100  
FAX: (02) 9634 6989  
AIN 21 118 134 240

DESIGNER T.T. DATE DECEMBER 2019  
ENGINEER P.O. LGA PENRITH  
VERIFIER A.M. SCALE @ A1 AS NOTED

7 RENSHAW STREET, CRANE BROOK  
OSD TANK SECTIONS  
STATUS DEVELOPMENT APPLICATION  
DRAWING No. 02216\_622  
REVISION 02



**NOT FOR CONSTRUCTION****LEGEND****ENVIRONMENTAL CONTROL NOTES:****EROSION AND SEDIMENT CONTROL**

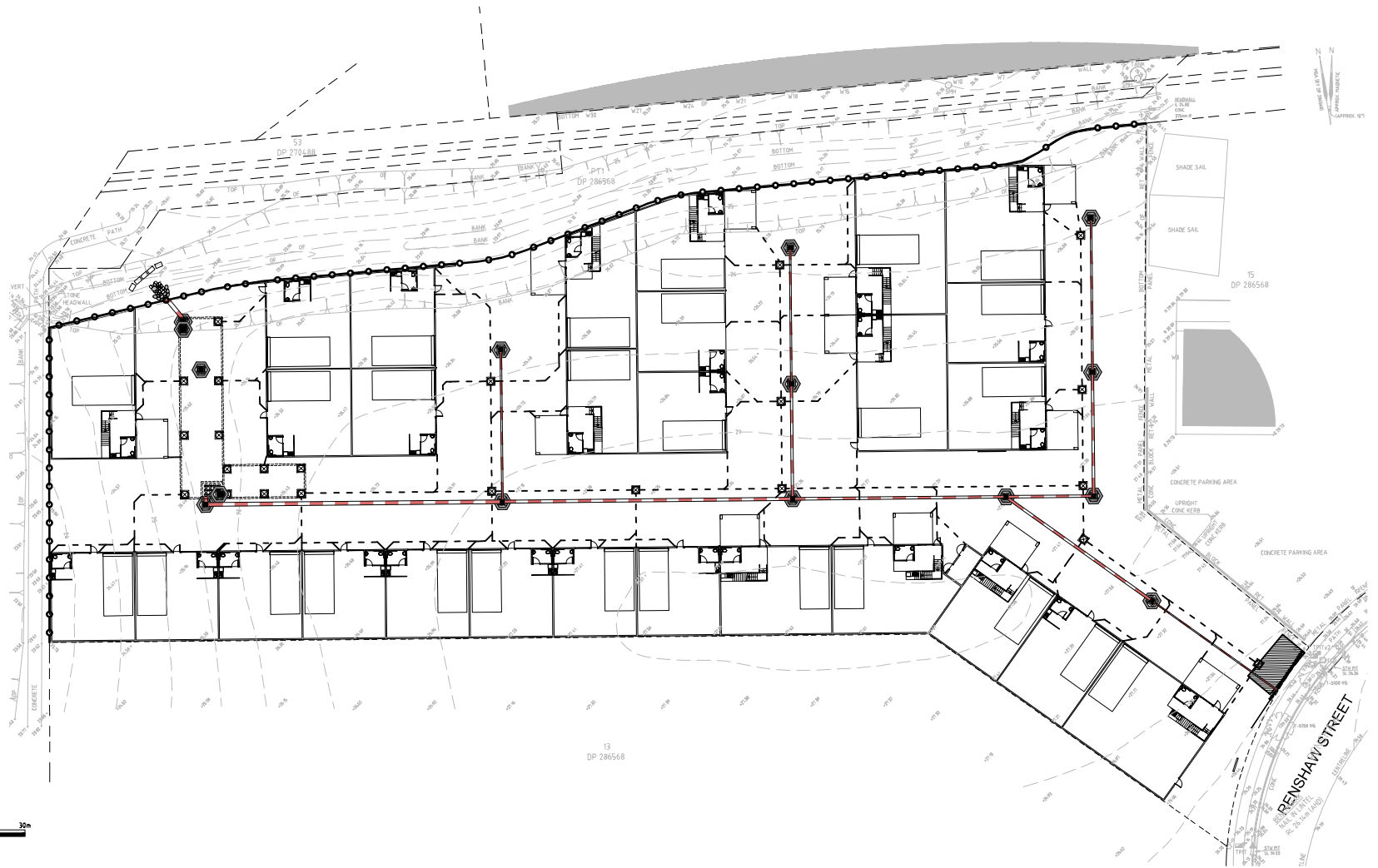
1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, THE RELEVANT STATE AUTHORITIES AND THE SUPERINTENDENT. TO THIS END, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
2. NO CONSTRUCTION WORKS ARE TO COMMENCE ON SITE UNTIL ALL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND HAVE BEEN INSPECTED AND APPROVED BY THE COUNCIL ENGINEER AND/OR SUPERINTENDENT.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REGULARLY INSPECTED, IN PARTICULAR AFTER STORMS, AND REPAIRED OR MAINTAINED AS REQUIRED TO ENSURE THE MEASURES CORRECT AND EFFICIENT FUNCTION THROUGHOUT THE DURATION OF THE WORKS, UNTIL SUCH TIME AS THE COUNCIL ENGINEER AND/OR SUPERINTENDENT AUTHORISES THE REMOVAL OF SUCH MEASURES.
4. ALL STOCKPILES SHALL BE CLEAR OF ALL TREES AND DRAINAGE LINES (INCLUDING OVERLAND FLOW PATHS) AND PROTECTED FROM EROSION.
5. IN THE CASE OF THE TEMPORARY CONSTRUCTION EXIT, THE CONTRACTOR SHALL UNDERTAKE WEEKLY SURFACE CLEANING BY DRAG BROOM OR EQUIVALENT, TO REMOVE ALL BUILD UP OF FOREIGN MATERIAL TO THE SATISFACTION OF THE SUPERINTENDENT.

**TRAFFIC CONTROLS**

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF TRAFFICS INCLUDING VEHICLES AND PEDESTRIANS TO THE SATISFACTION OF COUNCIL, THE RELEVANT STATE AUTHORITIES AND THE SUPERINTENDENT.
2. THE CONTRACTOR IS TO PREPARE A TRAFFIC MANAGEMENT PLAN TO THE REQUIREMENTS OF THE RMS - TRAFFIC CONTROL AT WORK SITE, AS 1742 - AUSTRALIAN STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND LOCAL COUNCIL STANDARDS.

**OTHER ENVIRONMENTAL CONTROLS**

1. OTHER ENVIRONMENTAL CONTROLS LIKE NOISE, DUST, VIBRATION, FLORA & FAUNA, FIRE, HAZMAT, AND CONTAMINATIONS MUST BE CONTROLLED TO THE REQUIREMENT OF THE COUNCIL AND THE RELEVANT STATE AUTHORITIES.



SCALE 1:300



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PROJECT VERIFIER'S SIGNATURE DATE

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DESIGNER	T.T.	DATE	DECEMBER 2019
ENGINEER	P.O.	IGA	PENRITH
VERIFIER	A.M.	SCALE @ A1	1:300

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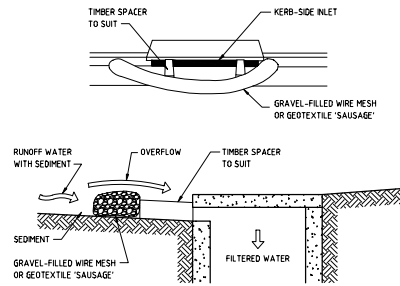
7 RENSCHAW STREET, CRANE BROOK

SEDIMENT & EROSION CONTROL PLAN

STATUS: DEVELOPMENT APPLICATION DRAWING No: 02216\_701 REVISION: 02

REV.	DES.	DATE	VER.	DESCRIPTION
02	A.M.	08/04/20	A.M.	ISSUE FOR DA APPROVAL
01	T.T.	25/03/20	A.M.	ISSUE FOR REVIEW

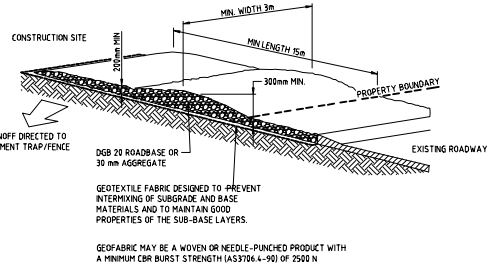


**CONSTRUCTION NOTES:**

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. 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.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ADJUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

**MESH AND GRAVEL INLET FILTER DETAIL**

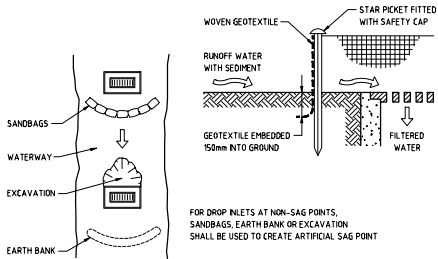
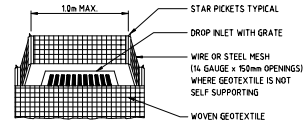
NOT TO SCALE

**CONSTRUCTION NOTES:**

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15m LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3m WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

**STABILISED SITE ACCESS DETAIL**

NOT TO SCALE

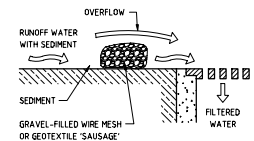
**CONSTRUCTION NOTES:**

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
3. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

**GEOTEXTILE INLET FILTER DETAIL**

FOR PITS WITHIN LANDSCAPED AREAS

NOT TO SCALE

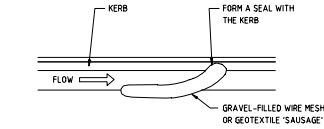
**CONSTRUCTION NOTES:**

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

**GEOTEXTILE INLET FILTER DETAIL**

FOR PITS WITHIN PAVED AREAS

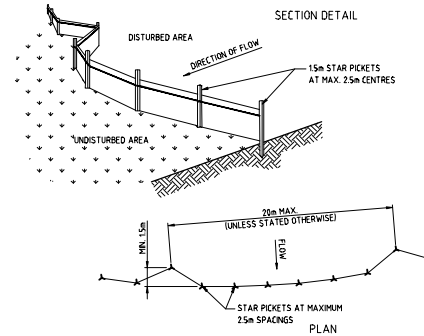
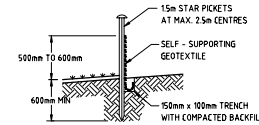
NOT TO SCALE

**CONSTRUCTION NOTES:**

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH APPROXIMATELY 10m IN LENGTH AND FILL IT WITH 25mm TO 50mm GRAVEL.
2. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
3. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE KERB.
4. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ADJUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

**MESH AND GRAVEL KERB FILTER DETAIL**

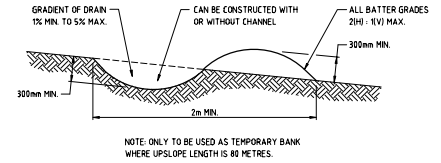
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**CONSTRUCTION NOTES:**

1. 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.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 15 METRE LONG STAR PICKETS INTO THE GROUND AT 25 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE PICKETS 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 PROVIDED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

**SEDIMENT FENCE DETAIL**

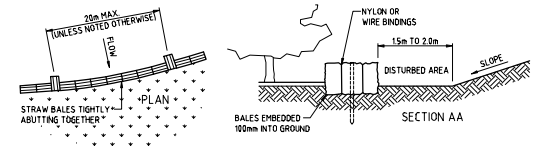
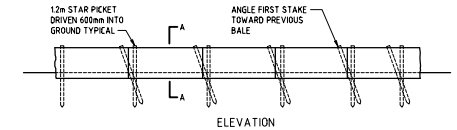
NOT TO SCALE

**CONSTRUCTION NOTES:**

1. BUILD WITH GRADIENTS BETWEEN 1% AND 5%.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPIDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V-SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

**TEMPORARY DIVERSION CHANNEL (LOW FLOW)**

NOT TO SCALE

**CONSTRUCTION NOTES:**

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ADJUT. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 150mm TO 100mm AND ANCHOR WITH TWO 12m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 10m TO 25m DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAMME THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

**STRAW BALE FILTER DETAIL**

NOT TO SCALE

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VERIFIER	A.M.	SCALE @ A1	N/A

7 RENSHAW STREET, CRANEBROOK			
SEDIMENT & EROSION CONTROL DETAILS			
STATUS	DEVELOPMENT APPLICATION	DRAWING No.	02216_702
		REVISION	02