

2 MACPHERSON STREET, WARRIEWOOD

EARLY WORKS

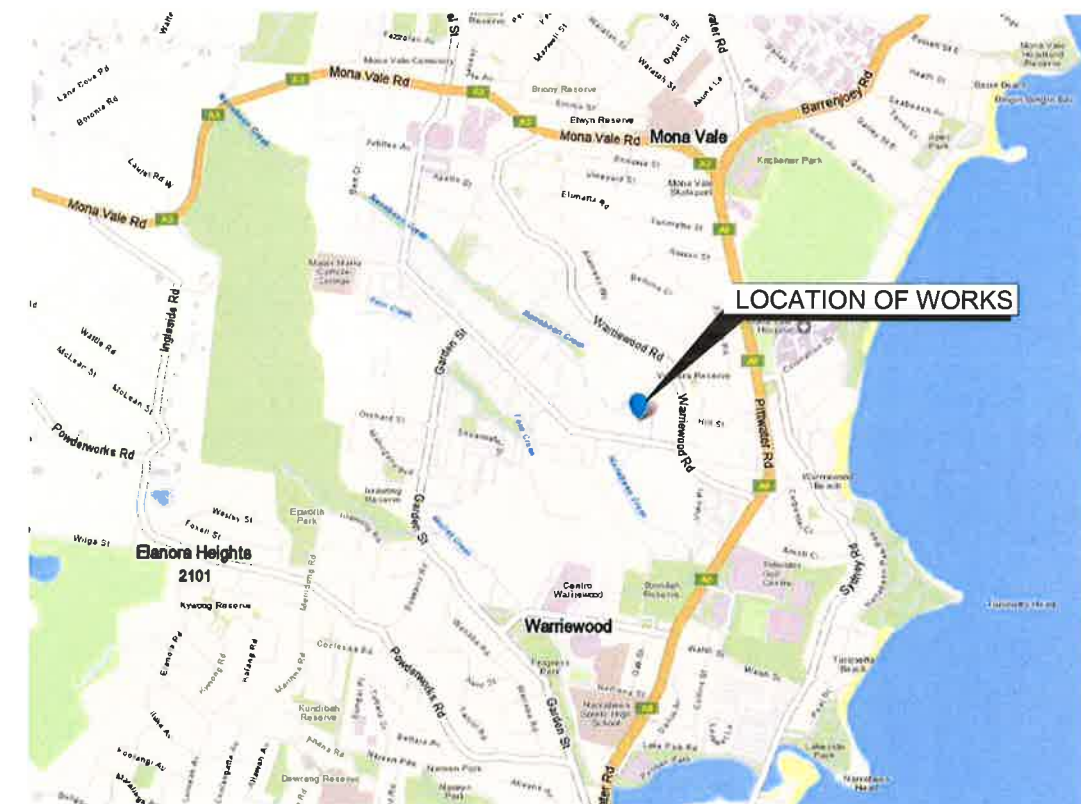
1000-SERIES

CIVIL WORKS PACKAGE

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LOCALITY PLAN
N.T.S

		Bar Scales		THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client  KARIMBLA CONSTRUCTION SERVICES (NSW) PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	<table><tr><td rowspan="2">Scales</td><td>NTS</td><td>Drawn</td><td>GJ</td></tr><tr><td></td><td>Designed</td><td>GJ</td></tr><tr><td rowspan="2">Grid</td><td>MGA</td><td>Checked</td><td>AT</td></tr><tr><td></td><td>Approved</td><td></td></tr><tr><td>Height Datum</td><td>AHD</td><td></td><td></td></tr><tr><td colspan="4"></td></tr></table>	Scales	NTS	Drawn	GJ		Designed	GJ	Grid	MGA	Checked	AT		Approved		Height Datum	AHD							Project 2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE	Civil Engineers and Project Managers  Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION			A1
Scales	NTS	Drawn	GJ																															
		Designed	GJ																															
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Drawing No. DAC1001		Project No. 18-580	Issue H																															
Issue		Description		Date	Title COVER SHEET AND LOCALITY PLAN																													
H	ISSUE FOR APPROVAL		4/15/2019																															
G	ISSUE FOR APPROVAL		04-04-19																															
F	ISSUE FOR APPROVAL		28-03-19																															
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A	ISSUE FOR COMMENT		24-10-18																															

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY JBW SURVEYORS, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

THE INFORMATION SUPPLIED IN THIS DATA FILE IS SUPPLIED ON THE CONDITION THAT THESE GENERAL NOTES ARE ALWAYS STORED WITH THE SUPPLIED CAD DRAWING & IF THE DATA IS PROVIDED TO ANY PARTY ON ANY FORM OF HARD COPY OR COMPUTER MEDIA THEN THESE GENERAL NOTES WILL ALSO BE A PART OF THAT HARD MEDIA COPY OR COMPUTER MEDIA DATA.

THE RECORDS OF THE SERVICE AUTHORITIES HAVE NOT BEEN INVESTIGATED UNLESS THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN SHOWN.

THE RECORDS OF THE SERVICE AUTHORITIES SHOULD BE INVESTIGATED AS TO THE LOCATION OF SERVICES PRIOR TO THE COMMENCEMENT OF ANY DETAILED DESIGN OR CONSTRUCTION WORKS.

THE POSITION OF IMPROVEMENT AND FEATURES HAVE BEEN LOCATED FOR PLOTTING PURPOSES ONLY.

IMPROVEMENTS AND FEATURES SHOWN ON OR NEAR THE BOUNDARIES ARE INDICATIVE ONLY.

LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) THE ORIGIN OF WHICH IS PM 55212, RL 4.641 AHD AS SUPPLIED BY SCIMS DATED 9/12/2004.

THE BOUNDARIES HAVE NOT BEEN SURVEYED, DIMENSIONS HAVE BEEN COMPILED FROM THE SUBJECT DEPOSITED PLANS AND ARE SUBJECT TO FINAL SURVEY.

THE BOUNDARIES SHOULD BE SURVEYED AND MARKED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORK.

CONTOURS SHOWN ARE AT 0.5 METRE INTERVALS.

CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- CONCRETE QUALITY
ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F _c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS, AND PITS	32	80	20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL

- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.

3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AT & L.

4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.

5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TYPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.

6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION RB3.

7. REINFORCEMENT SYMBOLS:

N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304

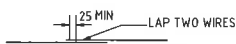
NUMBER OF BARS IN GROUP: 17 N 20 250

NOMINAL BAR SIZE IN mm: 17 N 20 250

SPACING IN mm

THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.

8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:



STORMWATER DRAINAGE NOTES

- STORMWATER DESIGN CRITERIA:
(A) AVERAGE RECURRENCE INTERVAL:
1:100 YEARS - ROOFED AREAS TO SURCHARGE PIT
1:20 YEARS - EXTERNAL PAVEMENTS
(B) RAINFALL INTENSITIES:
TIME OF CONCENTRATION 5 MINUTES
1:100 YEARS = 262.0 mm/hr
1:20 YEARS = 204.0 mm/hr
(C) RUNOFF COEFFICIENTS:
ROOF AREAS: C₁₀₀ = 1.0
EXTERNAL PAVEMENTS: C₂₀ = 1.0
- PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS, U.N.O.
- PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
- EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED.
- ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6, ENSURE ALL VERTICALS AND DOWNPIES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
- PIPES TO BE INSTALLED TO TYPE H51 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
- PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
- ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996.
- ALL INTERNAL PIT DIMENSIONS TO CONFORM TO AS3500.3 TABLE 8.2.
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

SITWORKS NOTES

- ORIGIN OF LEVELS:- REFER SURVEY NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
- PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- ASPHALTIC CONCRETE SHALL CONFORM TO RMS SPECIFICATION R116.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS FORM 3051 (UNBOUND), RMS FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS FORM 3051 AND 3051.1 AND COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF SUB-BASE COURSE MATERIAL PLACED.
- AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH RMS FORM 3051 AND 3051.1 WILL BE CONSIDERED SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
- SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
- WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.
- CIVIL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BOTANY BAY COUNCIL CIVIL WORKS SPECIFICATIONS 2013. WHERE ANY AMBIGUITY BETWEEN AT&L SPECIFICATIONS AND COUNCIL SPECIFICATIONS EXIST, COUNCIL SPECIFICATIONS TAKES PRECEDENCE.
- INSPECTIONS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH AN APPROVED INSPECTION REGISTER.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

ALL SURFACE LIDS/FITTINGS TO BE ADJUSTED TO SUIT FINISHED SURFACE LEVELS.

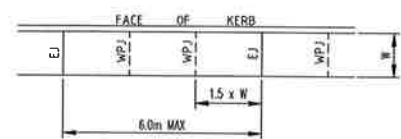
KERBING NOTES

- ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa U.N.O IN REINFORCED CONCRETE NOTES.
- ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 98% MODIFIED DRY DENSITY (AS 1289 5.2.1).
- EXPANSION JOINTS (E.J.) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
- IN THE REPLACEMENT OF KERB AND GUTTER - EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.
- EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

JOINTING NOTES

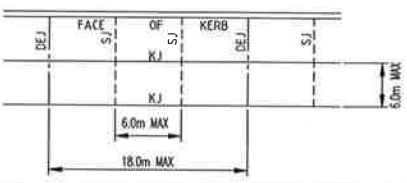
PEDESTRIAN PAVEMENT JOINTS

- ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
- EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
- WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 15 x WIDTH OF THE PAVEMENT.
- WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
- PEDESTRIAN PAVEMENT JOINT DETAIL.



VEHICULAR PAVEMENT JOINTS

- ALL VEHICULAR PAVEMENTS TO BE JOINTED AS FOLLOWS. (U.N.O)
- KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 6.0m CENTRES
- SAWN JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 6.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX 18.0m CENTRES
- VEHICULAR PAVEMENT JOINT DETAIL.



EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
- ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH:
a. LOCAL AUTHORITY REQUIREMENTS
b. EPA REQUIREMENTS
c. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
- MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
- WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
- CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

- WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:

- INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
- CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
- INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
- UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

- DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 29 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

- STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
 - ENSURING THAT NOTHING IS NAILED TO THEM
 - PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:
 - ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 15 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICHEVER IS THE GREATER
 - A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
 - CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.



CONTRACTOR SHALL CALL:
DIAL BEFORE
YOU DIG 1100
PRIOR TO COMMENCEMENT OF WORK
TO OBTAIN ALL CURRENT SERVICE
AUTHORITY PLANS

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
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Bar Scales

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Scales

NTS

Drawn

GJ

Designed

GJ

Grid

MGA

Height

AHD

Datum

Approved

Project

2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE

GENERAL NOTES

Civil Engineers and Project Managers

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Status

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

A1

Drawing No.

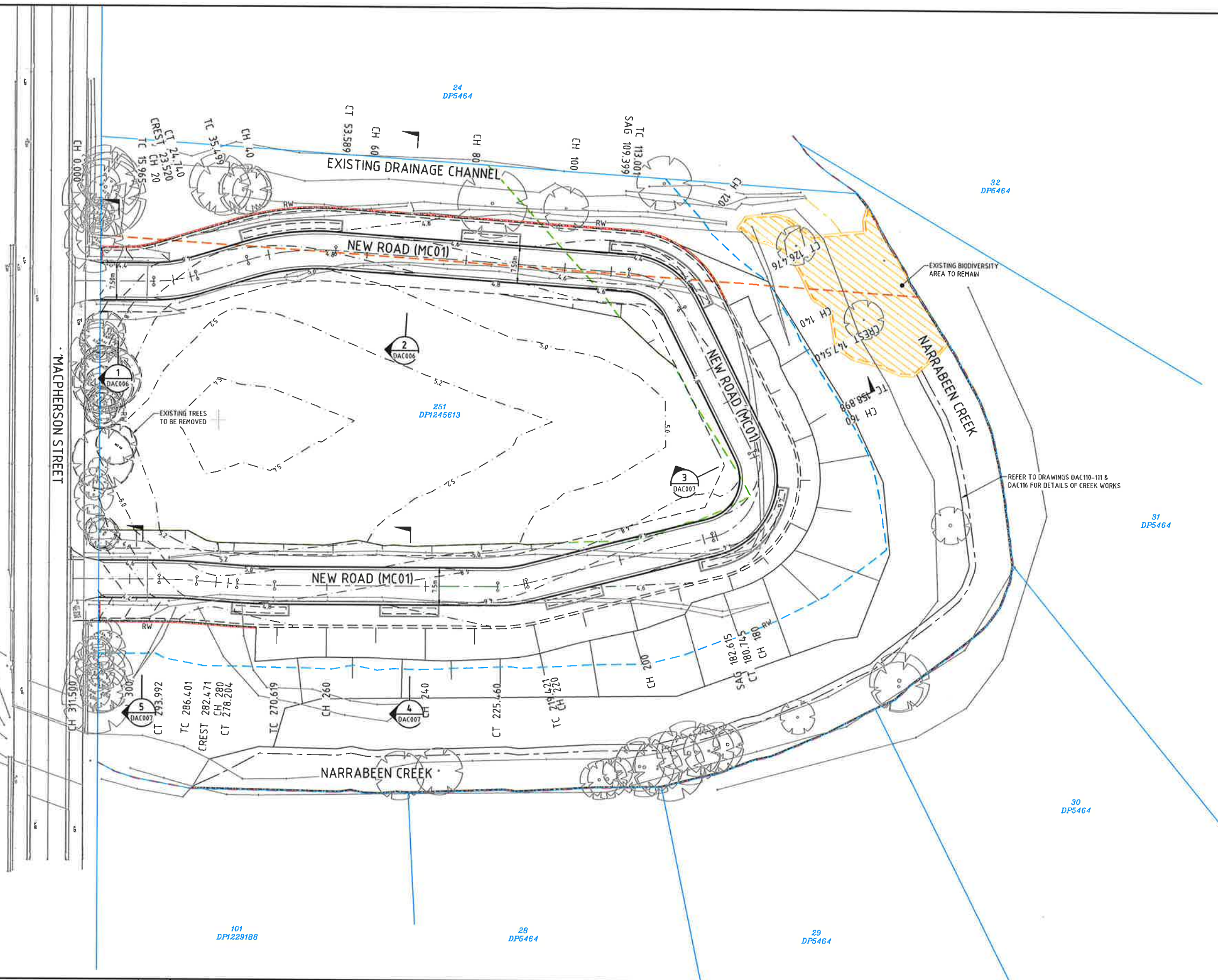
DAC1002

Project No.

18-580

Issue

F



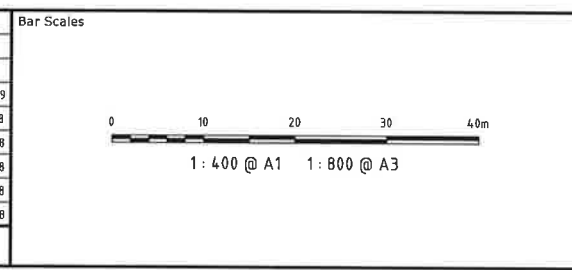
GENERAL ARRANGEMENT LEGEND

EXISTING	
	EXISTING BOUNDARY
	EXISTING CONTOUR
	EXISTING 20m ASSET PROTECTION ZONE
	EXISTING TREE
	BIODIVERSITY EXTENTS
PROPOSED	
	PROPOSED EASEMENT
	PROPOSED CREEK CENTERLINE
	PROPOSED 25m RIPARIAN CORRIDOR
	PROPOSED 25m PRIVATE BUFFER
	K&G
	RK
	BATTER
	CONTOUR (0.2m INTERVAL)
	RRW
	ROCK RETAINING WALL
	RW
	RETAINING WALL
	STORMWATER PIPE (SHOWING SIZE)
	STORMWATER KERB INLET PIT
	STORMWATER SURFACE INLET PIT
	STORMWATER PIT NUMBER
	STORMWATER RAINGARDEN

NOTES

- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT.
- REFER DRAWING DAC1020 FOR CIVIL DETAILS.
- REFER DRAWING DAC1021-1023 FOR STORMWATER DETAILS.

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C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18



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Scales	1: 400 @ A1	Drawn	GJ
		Designed	GJ
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

Project

**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title

**GENERAL ARRANGEMENT
PLAN**

Civil Engineers and Project Managers

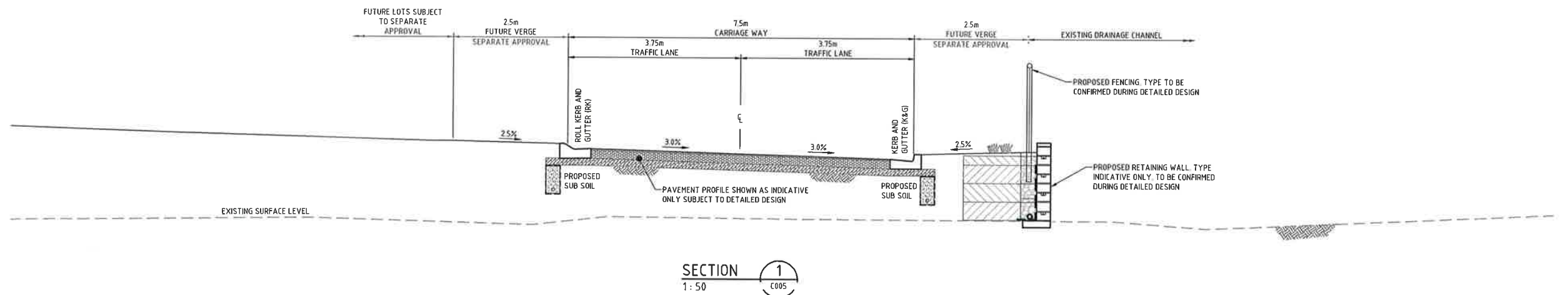
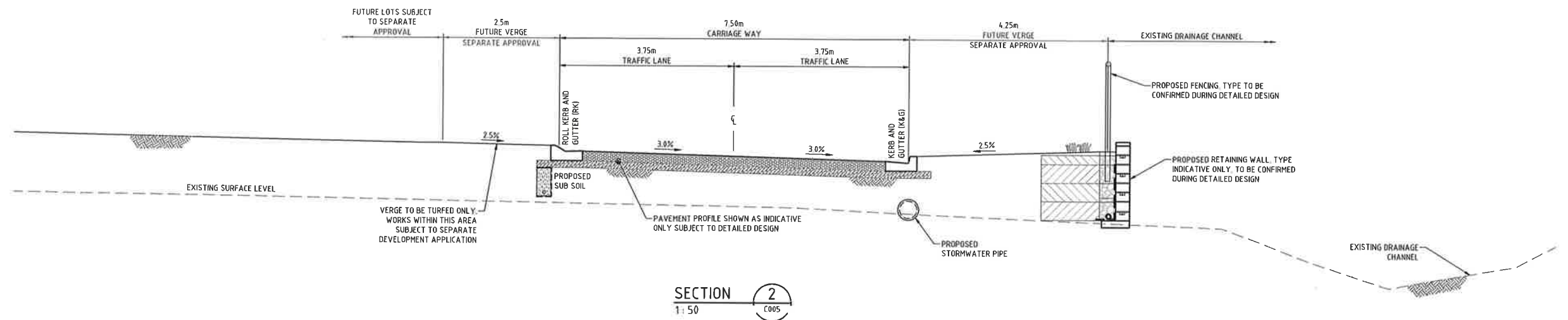
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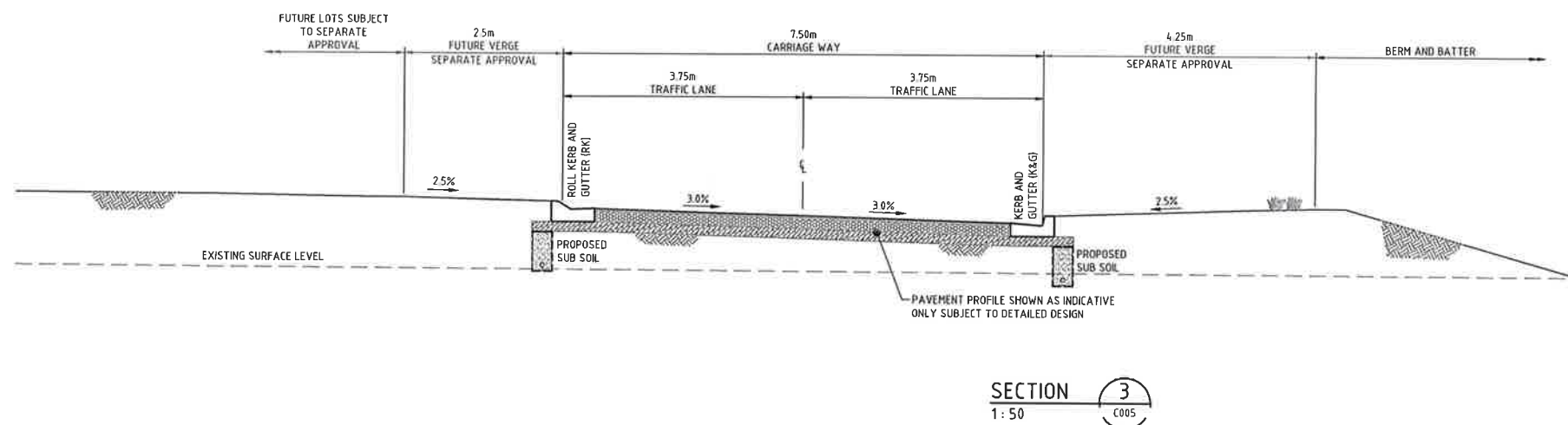
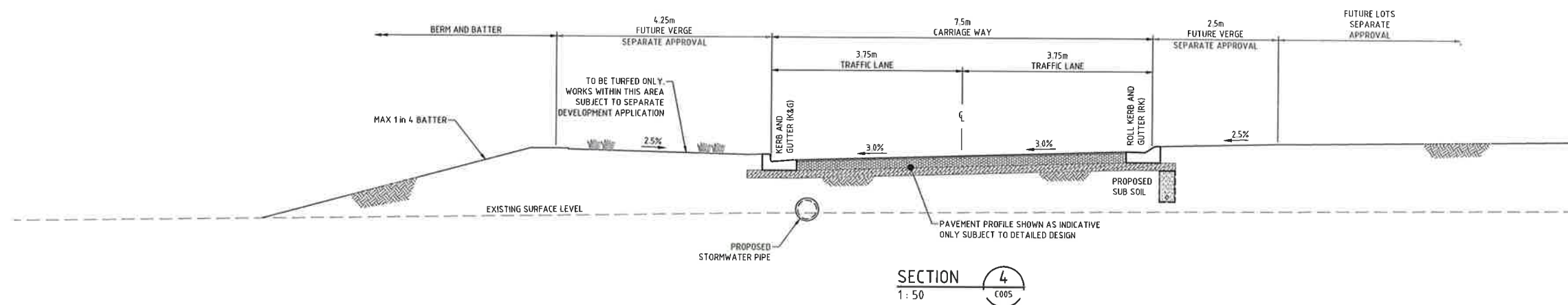
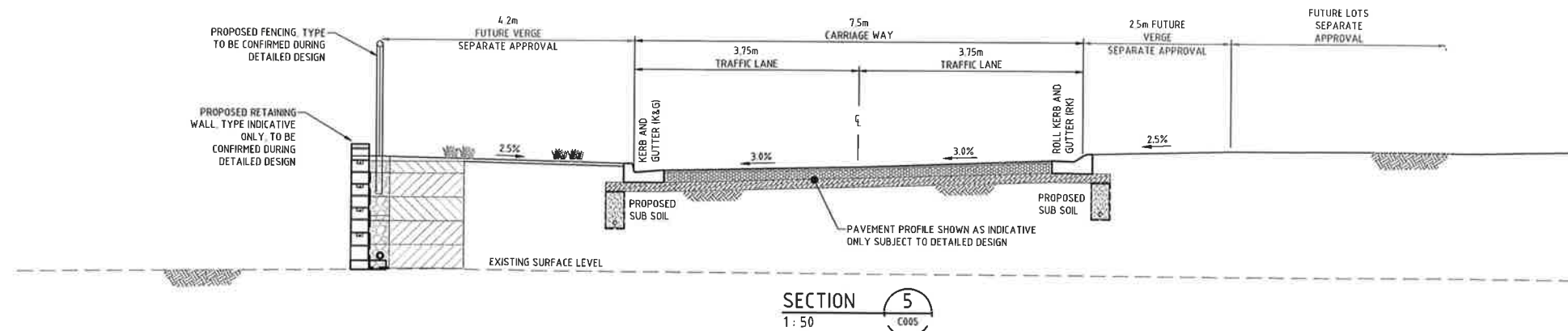
Status

FOR APPROVAL

Drawing No. **DAC1005** Project No. **18-580** Issue **F**



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Issue	Description	Date
G	ISSUE FOR APPROVAL	28-03-19
F	ISSUE FOR APPROVAL	12-12-18
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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Scales 1: 50 @ A1

Grid MGA
Height Datum AHD

Drawn	GJ
Designed	GJ
Checked	AT
Approved	

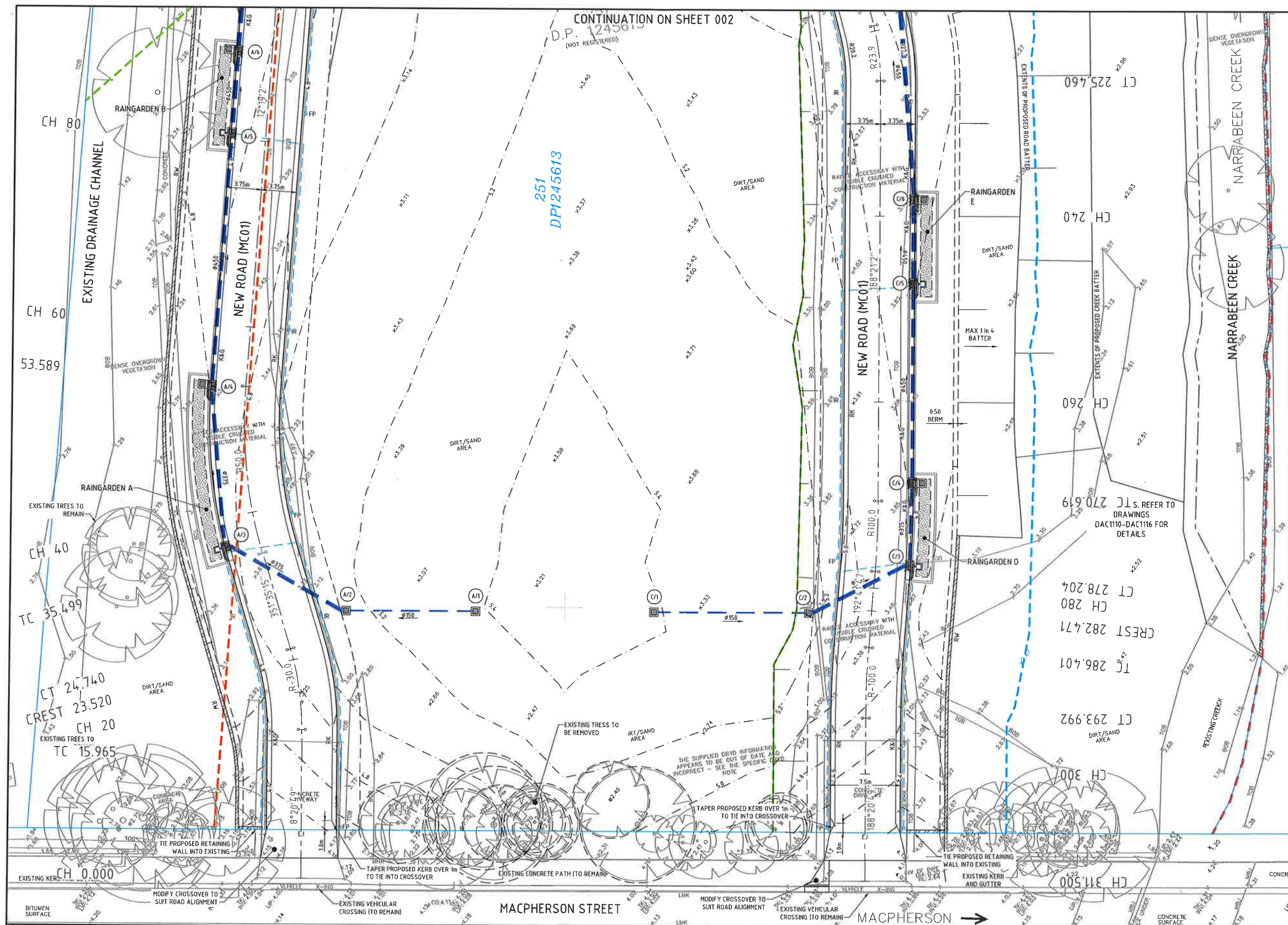
Project **2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title **TYPICAL SECTIONS
SHEET 2 OF 2**

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Status FOR APPROVAL	A1
NOT TO BE USED FOR CONSTRUCTION	
Drawing No. DAC1007	Issue G
Project No. 18-580	



SITEWORKS LEGEND

EXISTING

- EXISTING BOUNDARY
- EXISTING CONTOUR
- EXISTING 20m ASSET PROTECTION ZONE
- EXISTING TREE
- BIODIVERSITY EXTENTS

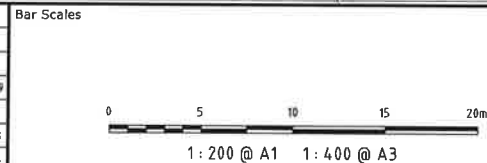
PROPOSED

- PROPOSED BOUNDARY
- PROPOSED EASEMENT
- PROPOSED CREEK CENTERLINE
- PROPOSED 25m RIPARIAN CORRIDOR
- PROPOSED 25m PRIVATE BUFFER
- K&G
- ROLL TOP KERB AND GUTTER
- BATTER (SHOWN AS COLOUR ORANGE FOR CREEK BATTERS)
- CONTOUR (0.2m INTERVAL)
- RETAINING WALL
- STORMWATER PIPE (SHOWING SIZE)
- STORMWATER KERB INLET PIT
- STORMWATER SURFACE INLET PIT
- STORMWATER PIT NUMBER
- STORMWATER RAINGARDEN
- SUBSOIL PIPE
- SUBSOIL FLUSHING POINT
- SUBSOIL INTERMEDIATE RISER

NOTES

- HARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT
- REFER DRAWING DAC1020 FOR CIVIL DETAILS
- REFER DRAWING DAC1021-1023 FOR STORMWATER DETAILS
- DRIVEWAYS ARE SHOWN FOR COORDINATION PURPOSES ONLY AND ARE SUBJECT TO INDIVIDUAL LOT APPROVALS
- REFER TO DAC110-DAC116 FOR CREEK WORKS

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
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A	ISSUE FOR COMMENT	24-10-18



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Scale	1:200 @ A1
Grid	MGA
Height Datum	AHD
Drawn	GJ
Designed	GJ
Checked	AT
Approved	

Project

2 MACPHERSON STREET

WARRIEWOOD

EARLY WORKS

PACKAGE

Title

SITEWORKS AND

STORMWATER

PLAN

SHEET 1

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Status

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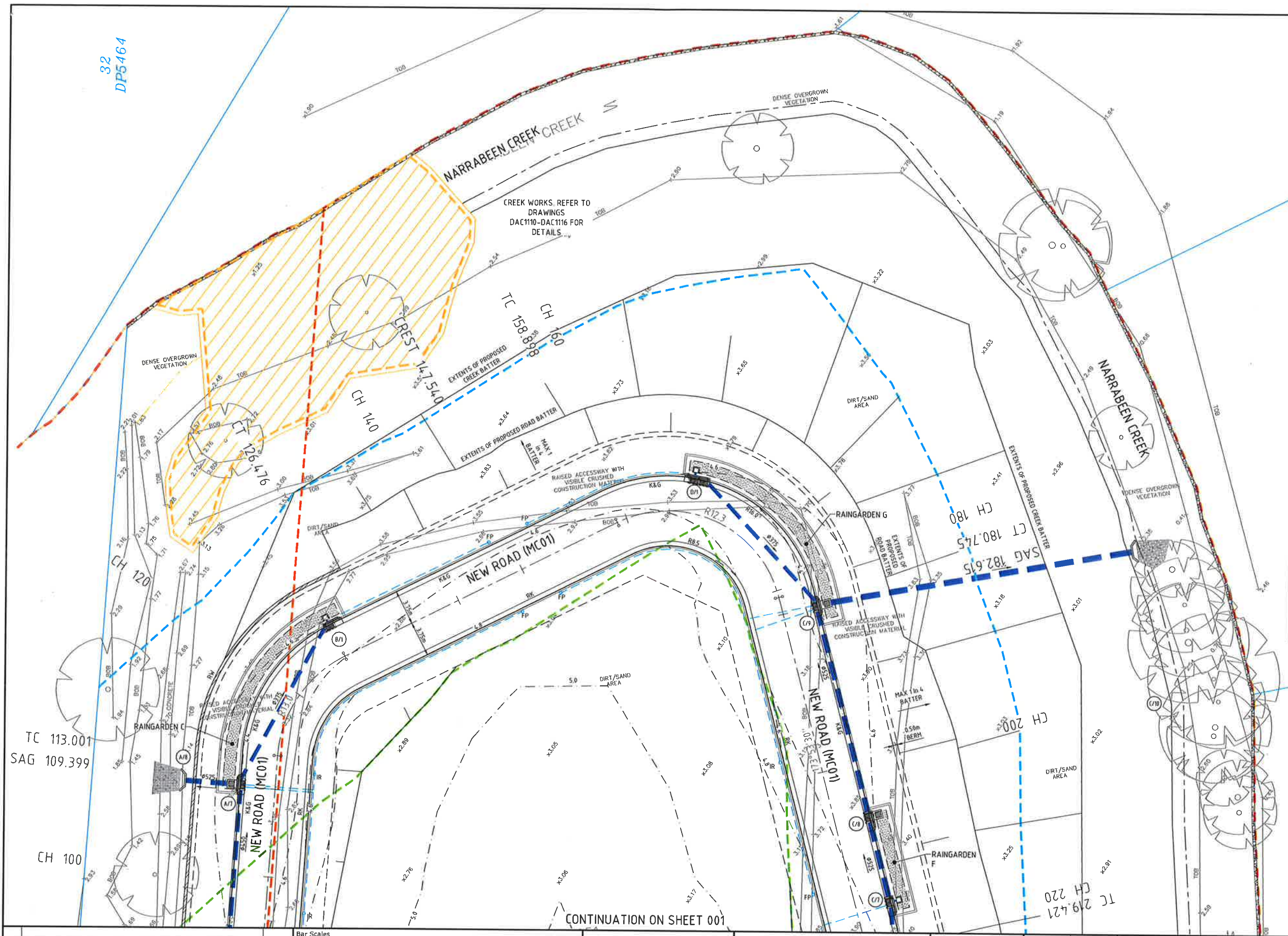
NOT TO BE USED FOR CONSTRUCTION

Drawing No. **DAC1010**

Project No. **18-580**

Issue **F**

32
DP5464



SITeworks LEGEND

EXISTING

EXISTING BOUNDARY

EXISTING CONTOUR

EXISTING 20m ASSET PROTECTION ZONE

EXISTING TREE

BIODIVERSITY EXTENTS

PROPOSED

PROPOSED BOUNDARY

PROPOSED EASEMENT

PROPOSED CREEK CENTERLINE

PROPOSED 25m RIPARIAN CORRIDOR

PROPOSED 25m PRIVATE BUFFER

K&G

KERB & GUTTER

RK

ROLL TOP KERB AND GUTTER

BATTER (SHOWN AS COLOUR ORANGE FOR CREEK BATTERS)

5.0

CONTOUR (0.2m INTERVAL)

RW

RETAINING WALL

375ø

STORMWATER PIPE (SHOWING SIZE)

Stormwater Kerb Inlet Pit

Stormwater Surface Inlet Pit

A1

STORMWATER PIT NUMBER

Stormwater Raingarden

SUBSOIL PIPE

FP

SUBSOIL FLUSHING POINT

IR

SUBSOIL INTERMEDIATE RISER

NOTES

- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT
- REFER DRAWING DAC1020 FOR CIVIL DETAILS.
- REFER DRAWING DAC1021-1023 FOR STORMWATER DETAILS.
- DRIVEWAYS ARE SHOWN FOR COORDINATION PURPOSES ONLY AND ARE SUBJECT TO INDIVIDUAL LOT APPROVALS.
- REFER TO DAC110-DAC116 FOR CREEK WORKS

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales

0 5 10 15 20m

1: 200 @ A1 1: 400 @ A3

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Scales 1: 200 @ A1

Grid MGA

Height Datum AHD

Drawn GJ

Designed GJ

Checked AT

Approved

Project 2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE

Title SITEWORKS AND
STORMWATER
PLAN
SHEET 2

Civil Engineers and Project Managers

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Status **FOR APPROVAL**
NOT TO BE USED FOR CONSTRUCTION

Drawing No. DAC1011

Project No. 18-580

Issue F



BULK EARTHWORKS VOLUMES

	DEPTH (mm)	STRIP VOL (m³)	CUT (m³)	FILL (m³)	VOLUME (m³)
LANDSCAPE	150	-956	-6	15,127	+14,165
PAVEMENT	360	-243	0	2,448	+2,205
CREEK	150	-812	-6,027	131	-6,708
VALUE		-2,011	-6,033	17,706	
BALANCE					+9,662 (IMPORT)

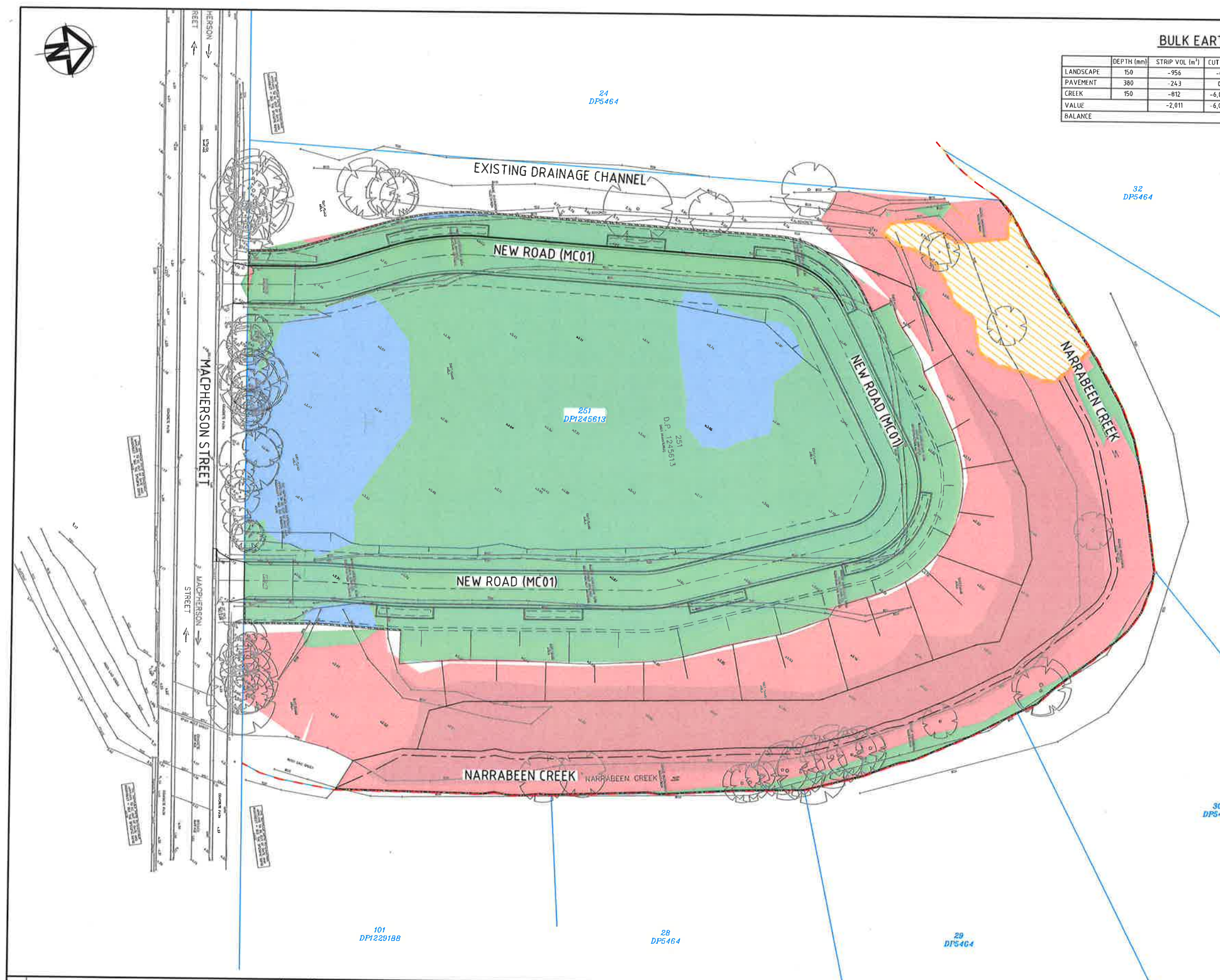
BULK EARTHWORKS LEGEND

EXISTING	EXISTING BOUNDARY
EXISTING CONTOUR	EXISTING 20m ASSET PROTECTION ZONE
EXISTING TREE	EXISTING TREE
BIODIVERSITY EXTENTS	
PROPOSED	PROPOSED EASEMENT
CONTOUR (0.2m INTERVAL)	SPOT LEVEL

NOTES

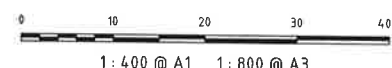
- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT
- REFER DRAWING C020 FOR CIVIL DETAILS.
- REFER DRAWING C021-023 FOR STORMWATER DETAILS.
- DRIVEWAYS ARE SHOWN FOR COORDINATION PURPOSES ONLY AND ARE SUBJECT TO INDIVIDUAL LOT APPROVALS.
- PROPOSED FOOTPATH AND LANDSCAPE THICKNESS ASSUMED TO BE 150mm.
- PROPOSED ROAD PAVEMENT THICKNESS ASSUMED TO BE 380mm.
- EXISTING SURFACE ASSUMED TO BE STRIPPED 100mm.
- THE VOLUMES DO NOT TAKE INTO ACCOUNT THE FOLLOWING --
 - BULKING FACTORS OF REMOVED CUT
 - REMOVAL AND/OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL
 - PROPOSED LANDSCAPING
 - PROPOSED RETAINING WALL EARTHWORKS AND BACKFILL MATERIAL
 - BLENDED OF STRIPPED TOPSOIL MATERIAL
 - STORMWATER PIPE AND UTILITY TRENCHING EXCAVATION
 - EARTHWORKS FILL ABOVE PROPOSED STRUCTURE

Lower_value	Upper_value	Colour
-100	to -8.0 m	
-8.0	to -7.0 m	
-7.0	to -6.0 m	
-6.0	to -5.0 m	
-5.0	to -4.0 m	
-4.0	to -3.0 m	
-3.0	to -2.0 m	
-2.0	to -1.0 m	
-1.0	to 0.0 m	
0.0	to 1.0 m	
1.0	to 2.0 m	
2.0	to 3.0 m	
3.0	to 4.0 m	
4.0	to 5.0 m	
5.0	to 6.0 m	
6.0	to 7.0 m	
7.0	to 8.0 m	
8.0	to 100 m	



Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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Scales 1 : 400 @ A1

Drawn	GJ
Designed	GJ
Checked	AT
Approved	

Grid MGA

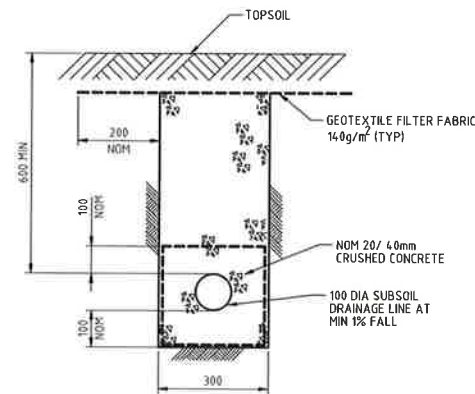
Height Datum AHD

Project
**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

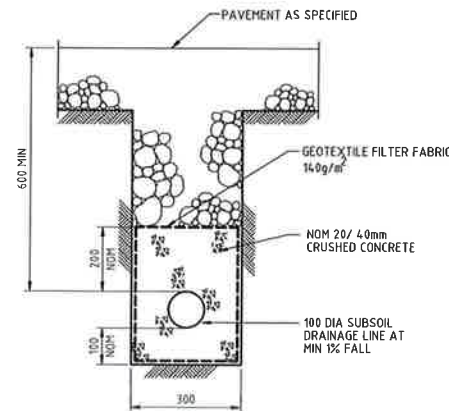
Title
**BULK
EARTHWORKS
PLAN**

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Status	FOR APPROVAL	A1
Drawing No.	DAC1015	
Project No.	18-580	
Issue	F	

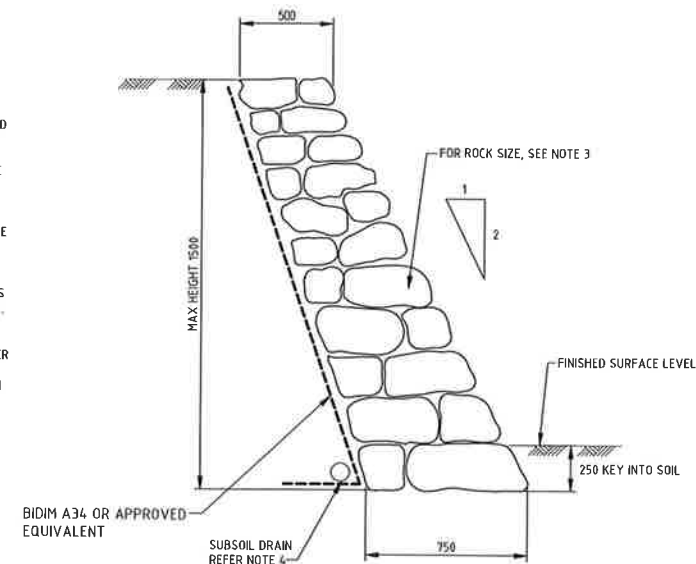


SUBSOIL IN LANDSCAPED AREAS
SCALE 1:10

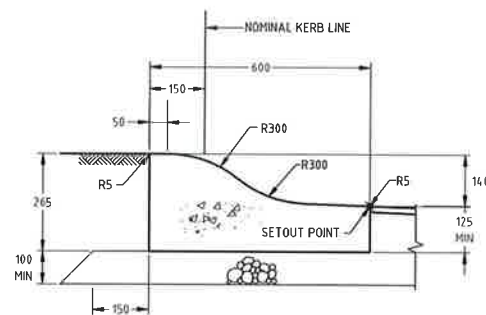


SUBSOIL IN PAVED AREAS
SCALE 1:10

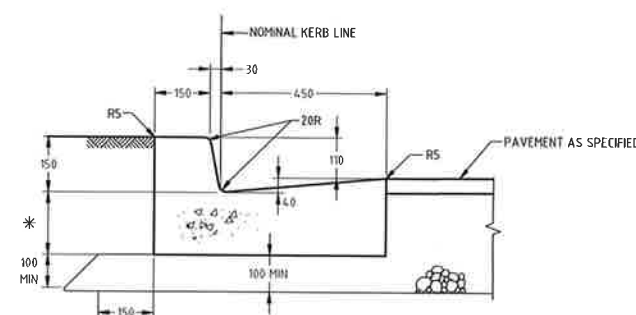
- NOTES:**
1. BACKFILL IS TO BE CLEAN FILLING SAND AND COMPACTED
 2. FOUNDATION TO BE APPROVED FOR A SAFE BEARING CAPACITY OF 200 KPa PRIOR TO CONSTRUCTION
 3. ROCK IS TO BE SOUND DURABLE SANDSTONE OR OTHER APPROVED MATERIAL AND AT LEAST 0.5 SQUARE METRES PLAN AREA
 4. A CONTINUOUS 100mm DIA SUBSOIL DRAIN IS TO BE INSTALLED AT THE REAR OF THE WALL. DISCHARGE AT PRECAST HEADWALL
 5. ROCKS SHALL BE PLACED IN SUCH A MANNER THAT THEY ARE STABLE AND INTERLOCKING AND LAID ROUGHLY COURSED AND BEDDED ON THEIR BROADEST BASE
 6. WALL TYPE AND DETAIL IS TO BE CONFIRMED BY STRUCTURAL ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION



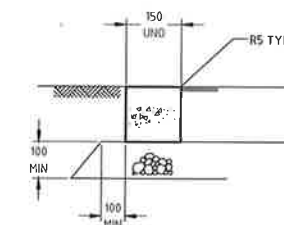
MASS ROCK WALL
SCALE 1:20



ROLL KERB AND TOE (RK&T)
SCALE 1:10



KERB AND GUTTER (K&G)
SCALE 1:10
* TO SUIT PAVEMENT DEPTH MIN. 150mm



CONCRETE EDGE STRIP (ES)
SCALE 1:10

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
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B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales	
0 100 200 400 600 800 1000mm	1: 10 @ A1 1: 20 @ A3
0 500 1000 1500 2000mm	1: 20 @ A1 1: 40 @ A3

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Scale	AS SHOWN	Drawn	GJ
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

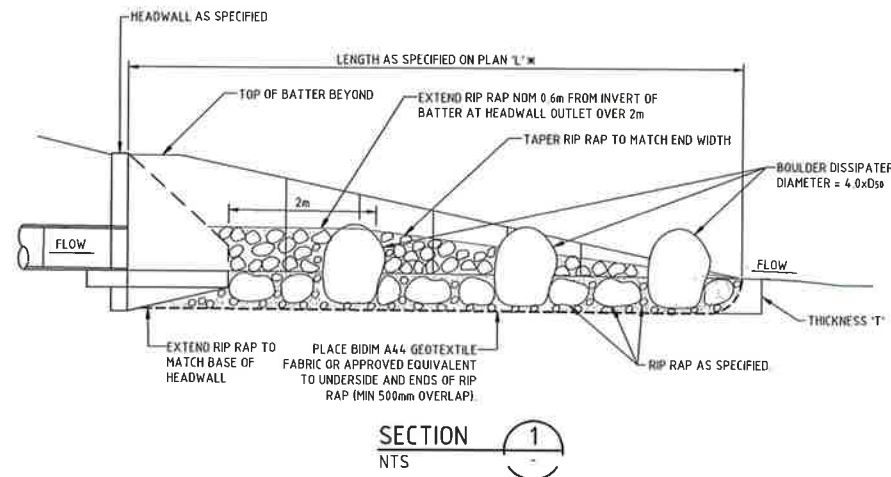
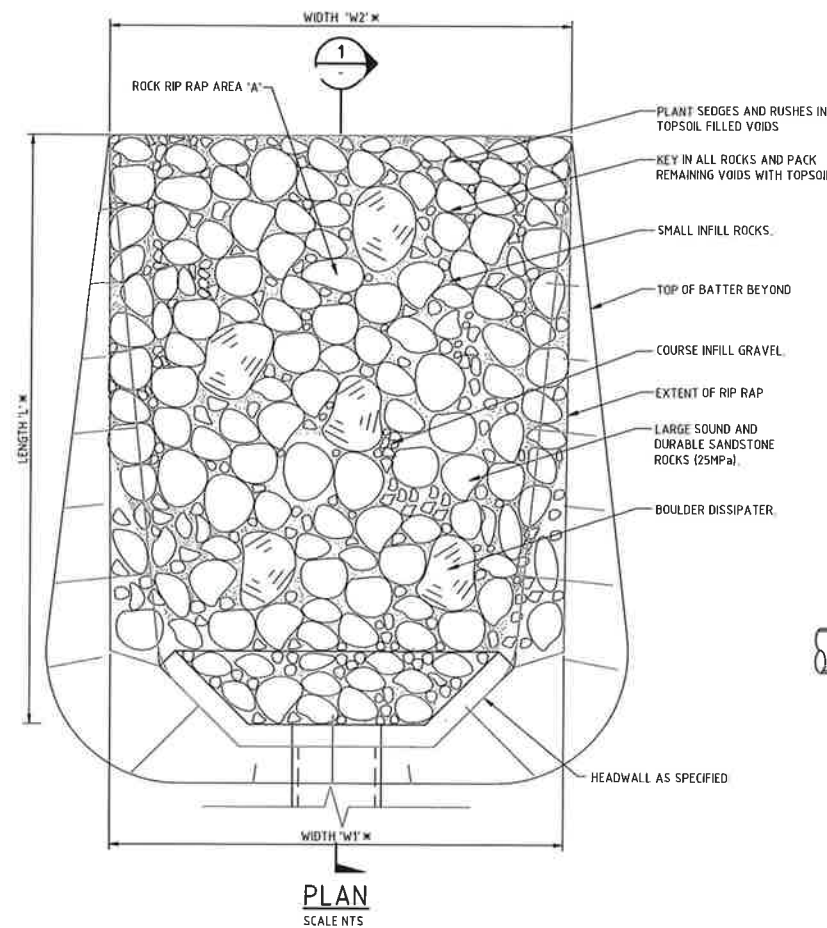
Project	2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE
Title	SITEWORKS DETAILS

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Status **FOR APPROVAL** **A1**

Drawing No. **DAC1020** Project No. **18-580** Issue **F**



ROCK RIP RAP GRADATION SIZE

SPHERICAL DIA	% OF RIP RAP SMALLER (ie RIP RAP PASSING THROUGH SIEVE)
1.5-2.0 D ₅₀	100%
D ₅₀	50%
0.3-0.4 D ₅₀	10-20%

D₅₀ = MEDIAN ROCK SIZE AS SPECIFIED

ROCK GRADATION TABLE

ROCK SIZE (mm)	d ₅₀					ROCK DISTRIBUTION BY %
	200mm	300mm	400mm	500mm	600mm	
400	400	600	750	850	900	15-25%
300	300	400	525	600	750	20%
200	200	300	400	500	600	50%
75	75	100	150	150	200	15-25%

TYPICAL ROCK RIP RAP ENERGY DISSIPATER SCOUR PROTECTION DETAIL

SCALE NTS

* - REFER SCOUR PROTECTION SCHEDULE ON THIS DRAWING

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales
100mm on Original

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Scales	NTS	Drawn	GJ
		Designed	GJ
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

Project
**2 MACPHERSON STREET
 WARRIWOOD
 EARLY WORKS
 PACKAGE**
 Title
**STORMWATER
 DETAILS
 SHEET 2**

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 www.atl.net.au
 info@atl.net.au
 Status
FOR APPROVAL
 NOT TO BE USED FOR CONSTRUCTION
 Drawing No.
DAC1022
 Project No.
18-580
 Issue
F

BIO-RETENTION FILTER MEDIA SPECIFICATION

MATERIALS:

BIO-RETENTION FILTER MEDIA, TRANSITION LAYER AND DRAINAGE LAYERS TO BE IN ACCORDANCE WITH CURRENT VERSION OF FAWB DOCUMENT "STORMWATER BIO-FILTRATION SYSTEMS ADOPTION GUIDELINES" AND THE FOLLOWING:

A) BIO-RETENTION FILTER MEDIA

1. BIO-RETENTION MEDIA IS TO BE FREE OF RUBBISH AND DELETERIOUS MATERIAL.
2. BIO-RETENTION FILTER MEDIA SATURATED HYDRAULIC CONDUCTIVITY TO BE 180mm/hr USING TEST METHOD ASTM F1815-06.

3. BIO-RETENTION FILTER MEDIA PARTICLE SIZE DISTRIBUTION IS TO BE AS FOLLOWS:

CLAY & SILT	<3%	(-0.05mm)
VERY FINE SAND	5-30%	(0.05-0.15mm)
FINE SAND	10-30%	(0.15-0.25mm)
MEDIUM TO COARSE SAND	40-60%	(0.25-1.0mm)
COARSE SAND	7-10%	(1.0-2.0mm)
FIN GRAVEL	<3%	(2.0-3.4mm)

THE COMBINED PERCENTAGE OF CLAY AND SILT MUST NOT EXCEED 3% (W/W) UNDER ANY CIRCUMSTANCES.

4. BIO-RETENTION FILTER MEDIA IS TO BE TESTED AND COMPLY WITH THE FOLLOWING REQUIREMENTS:

- ORGANIC MATTER CONTENT IN ACCORDANCE WITH AS 4419 AT LEAST 3% (W/W)
- TOTAL NITROGEN (TN) CONTENT - 900mg/kg
- ORTHOPHOSPHATE (PO₄) CONTENT - <30mg/kg WHERE PLANTS WITH MODERATE PHOSPHOROUS SENSITIVITY ARE TO BE USED, TOTAL PHOSPHOROUS CONCENTRATION SHOULD BE <20mg/kg
- AS SPECIFIED FOR "NATURAL SOILS AND SOIL BLENDS" AS4419 - pH 5.5-7.5 (pH 15 IN WATER)
- ELECTRICAL CONDUCTIVITY (EC) AS SPECIFIED FOR "NATURAL SOILS AND SOIL BLENDS" AS4419 - 12ds/m
- DISPENSABILITY - AS SPECIFIED FOR "NATURAL SOILS AND SOIL BLENDS" AS4419
- CATEGORY 1 OR 2
- TEXTURE - LOAMY SAND AS PER AS4419

5. PRIOR TO PLACEMENT OF THE FILTER MEDIA A STATEMENT IS TO BE SUBMITTED FROM A QUALIFIED HORTICULTURIST CONFIRMING THAT THE SOIL IS CAPABLE OF SUPPORTING A HEALTHY VEGETABLE COMMUNITY.

6. TESTS CONFIRMING THE REQUIREMENTS OF ITEMS 1 TO 4 ARE TO BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF FILTER MEDIA.

B) DRAINAGE LAYER A

DRAINAGE LAYER MATERIAL IS TO BE CLEAN, FINE GRAVEL, SUCH AS A 2 - 5mm WASHED SCREENING. THE PARTICLE SIZE DISTRIBUTION TO BE:

D₁₅ (DRAINAGE LAYER) < 5 x D₈₅ (TRANSITION LAYER)
WHERE D₁₅ (DRAINAGE LAYER) IS THE 15th PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (i.e. 15% OF THE SAND IS SMALLER THAN D₁₅ mm), AND D₈₅ (TRANSITION LAYER) IS THE 85th PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA.

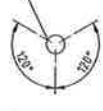
C) DRAINAGE LAYER B

10-20mm CLEAN GRAVEL WITH 2% VOLUME FINE STRAW AND 4-6% VOLUME HARDWOOD CHIPS.

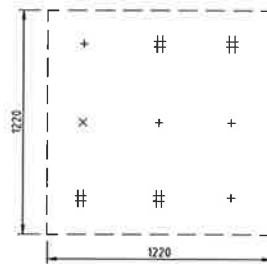
INSTALLATION:

FILTER MATERIAL IS TO BE LIGHTLY COMPACTED EG. A SINGLE PASS WITH A DRUM LAWN ROLLER. UNDER NO CIRCUMSTANCES SHOULD HEAVY EQUIPMENT OR MULTIPLE PASSES BE MADE. FILTER MEDIA SHOULD BE INSTALLED IN TWO LIFTS UNLESS THE DEPTH IS LESS THAN 500mm.

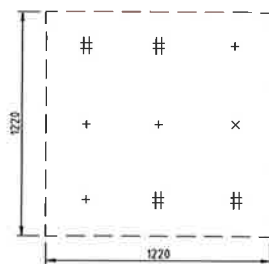
3/50 x 2mm
SLOTTED AS
NOTED



TYPICAL SLOTTED PIPE DETAILS
1:20



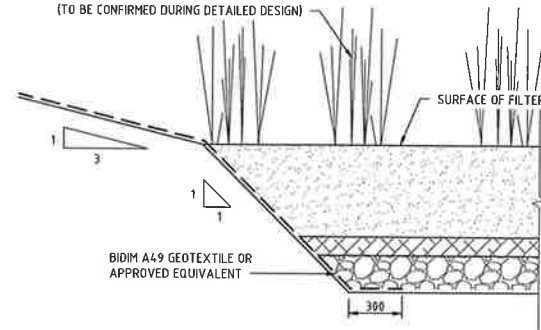
TYPICAL PLANTING LOCATION
GRID A
SCALE 1:20



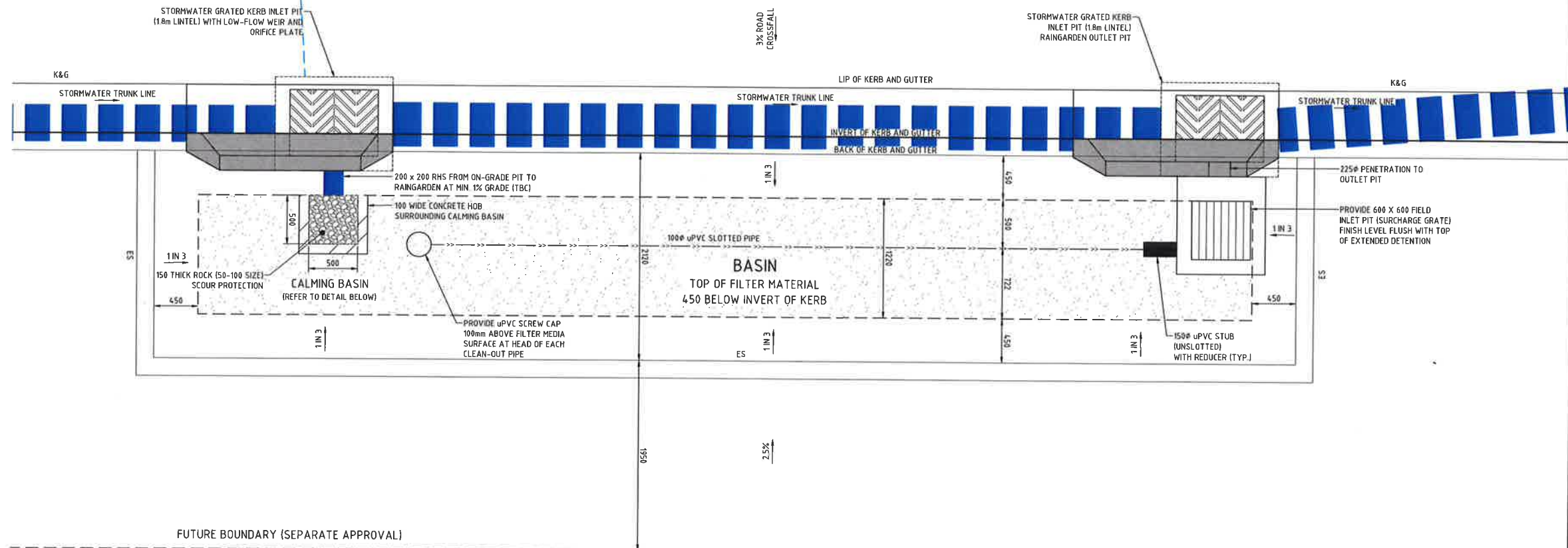
TYPICAL PLANTING LOCATION
GRID B
SCALE 1:20

NOMINAL 10 PLANTS PER SQUARE METRE, SUBJECT TO COUNCIL APPROVAL PRIOR TO THE COMMENCEMENT OF CONSTRUCTION
JUNCUS USITATUS "COMMON RUSH" - (MAX 1m HEIGHT)
x CYPREUS POLYSTACHYOS - (MAX 0.6m HEIGHT)
+ THEMEDA TRIANDA THOMEDA AUSTRALIS "KANGAROO GRASS" - (MAX 0.6m HEIGHT)

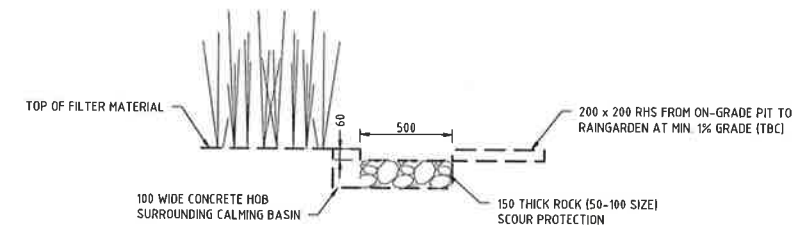
LANDSCAPING OF BASINS TO BE IN ACCORDANCE WITH LANDSCAPING DOCUMENTATION & WSUD REQUIREMENTS (TO BE CONFIRMED DURING DETAILED DESIGN)



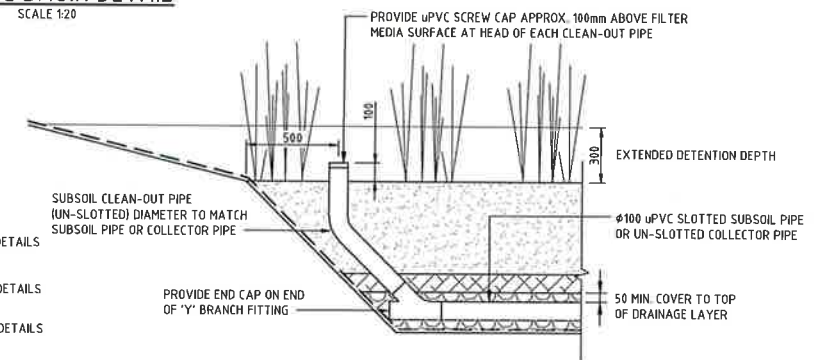
TYPICAL BIO-RETENTION FILTER MEDIA AND EDGE TREATMENT DETAIL
SCALE 1:20



TYPICAL RAINGARDEN PLAN
SCALE 1:25



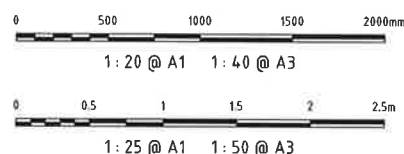
CALMING BASIN DETAIL
SCALE 1:20



SUBSOIL PIPE FLUSH-OUT DETAIL
SCALE 1:20

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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Client



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Email: info@design.merilon.com.au
Internet: http://www.merilon.com.au

Scales AS SHOWN

Drawn GJ

Designed GJ

Checked AT

Approved

Grid MGA

Height AHD

Datum

Project
**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title

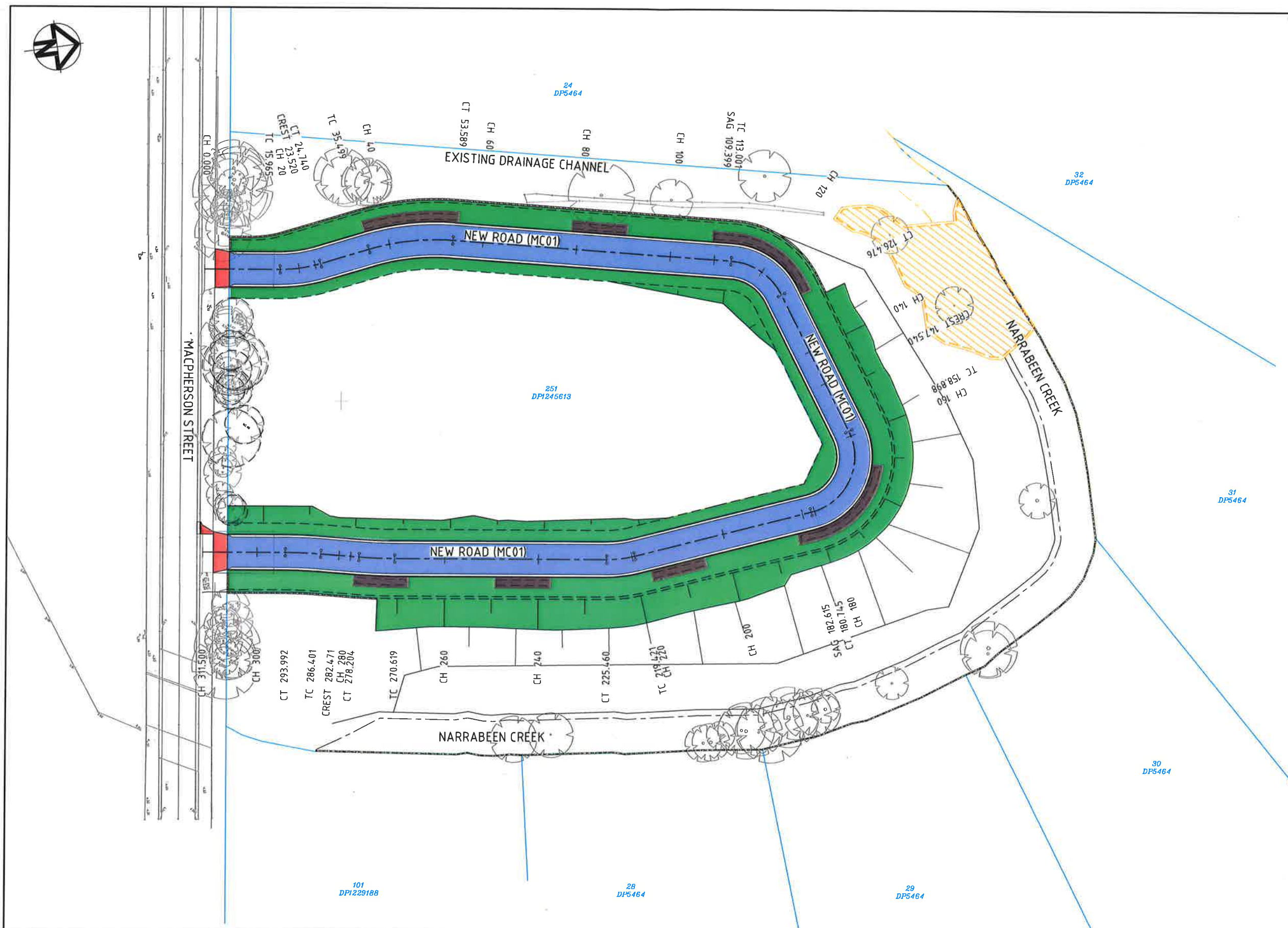
**STORMWATER
DETAILS
SHEET 3**

Civil Engineers and Project Managers

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info@atl.net.au

Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

Drawing No. **DAC1023**
Project No. **18-580**
Issue **F**



PAVEMENT LEGEND

EXISTING

- EXISTING BOUNDARY
- EXISTING CONTOUR
- EXISTING TREE

PROPOSED

- ROAD PAVEMENT (FLEXIBLE)
- LANDSCAPING/TURF
- RAINGARDEN, REFER TO DRAWING DAC1023 FOR DETAILS
- VEHICULAR CROSSOVER AS PER NORTHERN BEACHES COUNCIL GUIDELINES

NOTES

- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT
- REFER DRAWING DAC1020 FOR CIVIL DETAILS
- REFER DRAWING DAC1021-1023 FOR STORMWATER DETAILS, PAVEMENT DESIGN SUBJECT TO COUNCIL REQUIREMENTS AND GEOTECHNICAL CONFIRMATION
- DRIVEWAYS ARE SHOWN FOR COORDINATION PURPOSES ONLY AND ARE SUBJECT TO INDIVIDUAL LOT APPROVALS

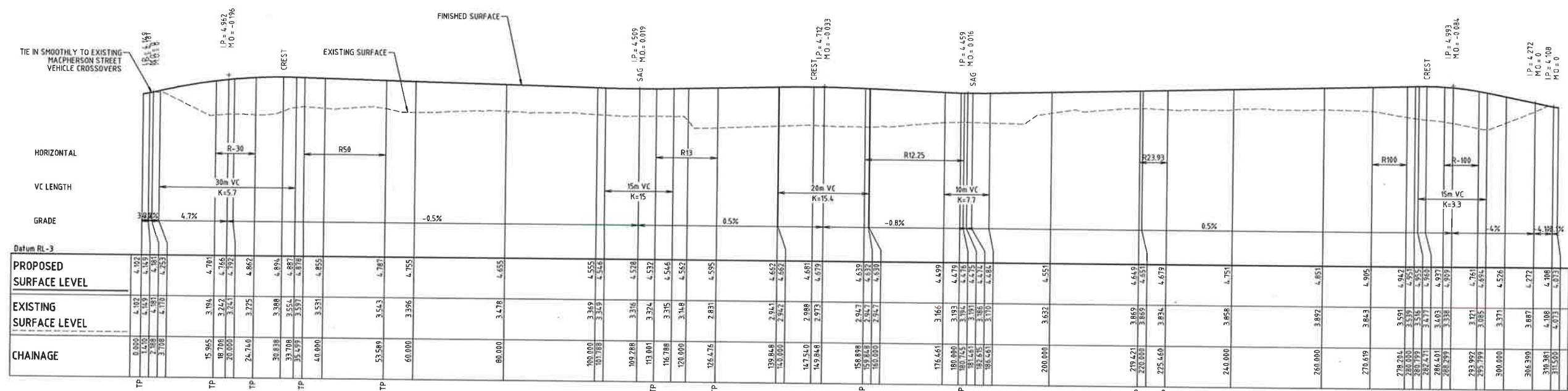
ROAD PAVEMENT DESIGN

ESA1 10⁶ TRAFFIC LOADING (DESIGN CBR = 4)

WEARING COURSE - 40mm AC10 (IN 2 LAYERS)
BASE COURSE - 100mm DGB20
SUB-BASE COURSE - 240mm CRUSHED SANDSTONE
SUBGRADE - EXISTING

SUBJECT TO DETAILED DESIGN AND CONFIRMATION OF COUNCIL REQUIREMENTS

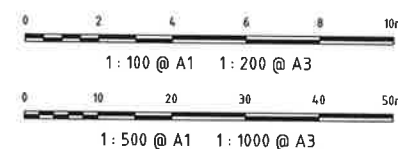
Issue		Bar Scales		THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L		Client		Scales 1 : 400 @ A1		Drawn		Project		Civil Engineers and Project Managers	
F ISSUE FOR APPROVAL		28-03-19				KARIMBLA CONSTRUCTION SERVICES (NSW) PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au		GrId MGA Height Datum AHD		GJ GJ AT Approved		2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE		 Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au	
E ISSUE FOR APPROVAL		10-12-16													
D ISSUE FOR APPROVAL		07-12-16													
C ISSUE FOR APPROVAL		30-10-16													
B ISSUE FOR COMMENT		25-10-16													
A ISSUE FOR COMMENT		24-10-16													
Description		Date										Title		Status	
												PAVEMENT SIGNAGE AND LINEMARKING PLAN		FOR APPROVAL	
												Drawing No.		Project No.	
												DAC1030		18-580	
												Issue		A1	
												F			



MC01 LONGITUDINAL SECTION
SCALE 1:500 HORI.
1:100 VERT.

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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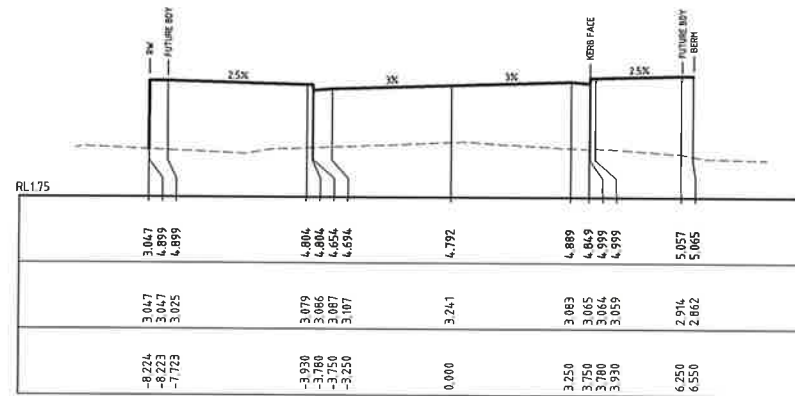
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Grid	MGA
Height Datum	AHD
Drawn	GJ
Designed	GJ
Checked	AT
Approved	

Project
**2 MACPHERSON STREET
WARRIWOOD
EARLY WORKS
PACKAGE**

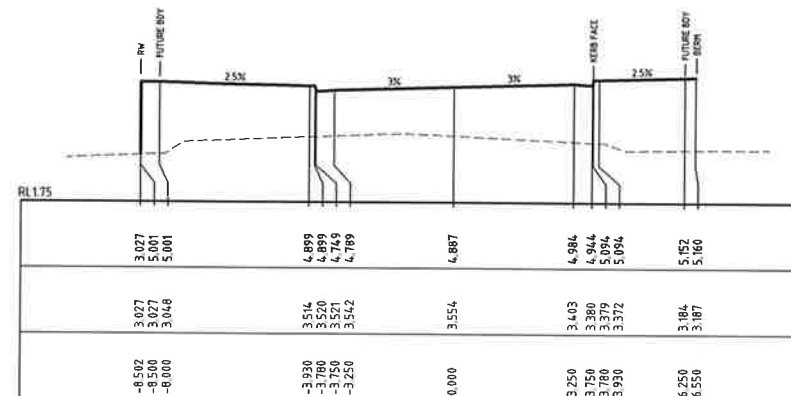
MC01
LONGITUDINAL
SECTION

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North Sydney NSW 2060
ABN 96 130 882 405
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Fax: 02 9460 8413
www.atl.net.au
Info@atl.net.au

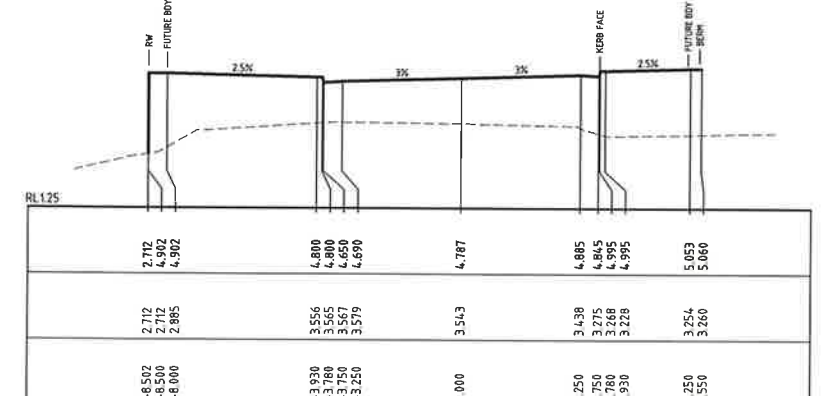
Status	FOR APPROVAL	A1
Drawing No.	DAC1040	Issue
Project No.	18-580	F



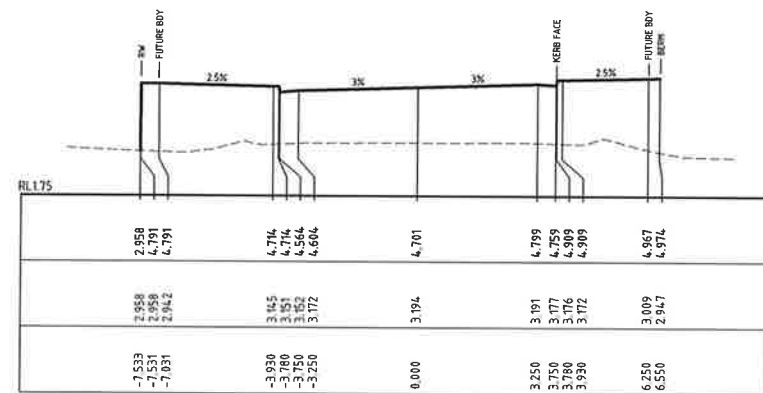
CH 20



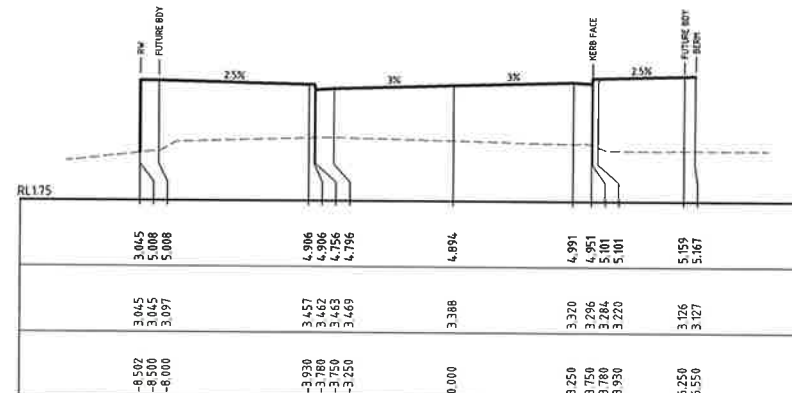
CH 33.708



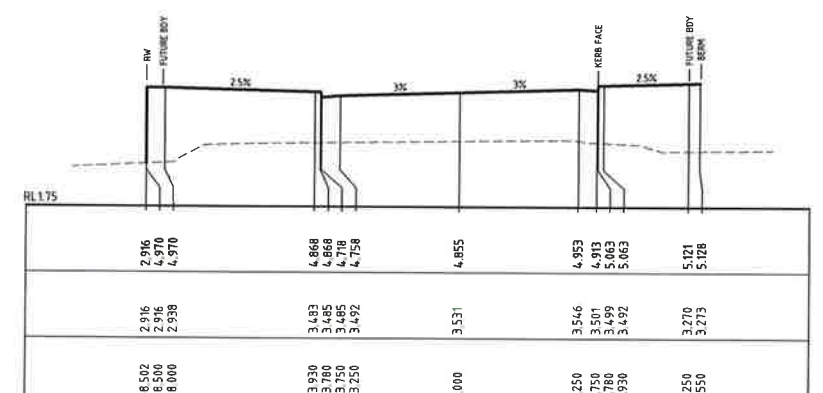
CH 53.589



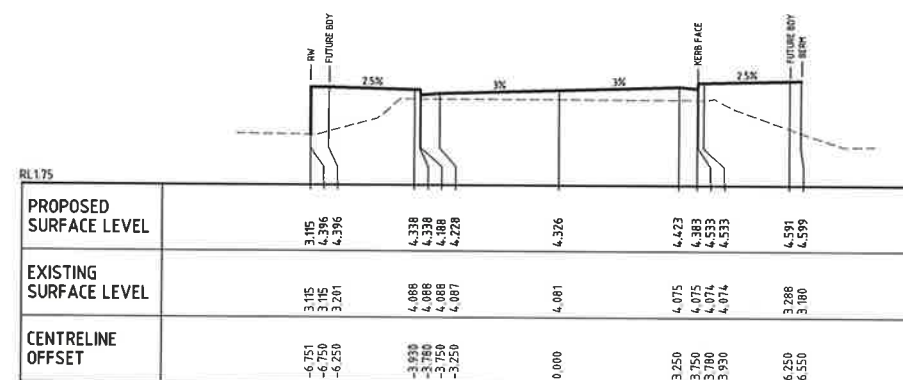
CH 15.965



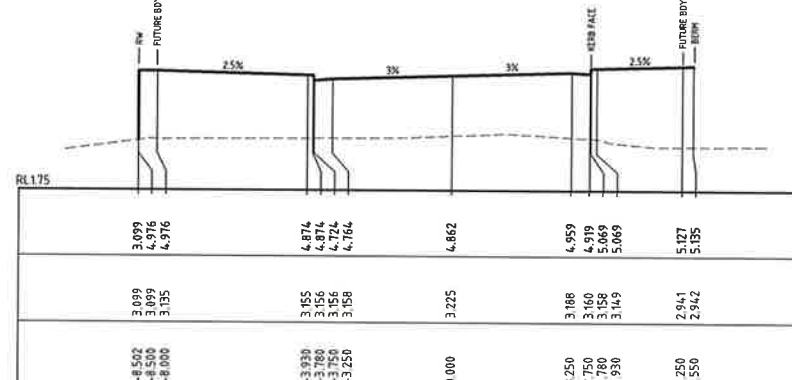
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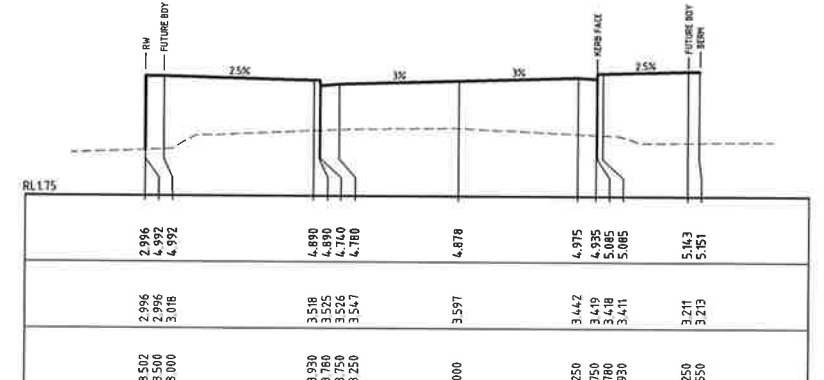
CH 40



CH 5.3



CH 24.74



CH 35.499

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales
0 2 4 6 8 10m
1: 100 @ A1 1: 200 @ A3

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Internet: http://www.meriton.com.au

Scales 1: 100 @ A1	Drawn GJ
Grid MGA	Designed GJ
Height Datum AHD	Checked AT
	Approved

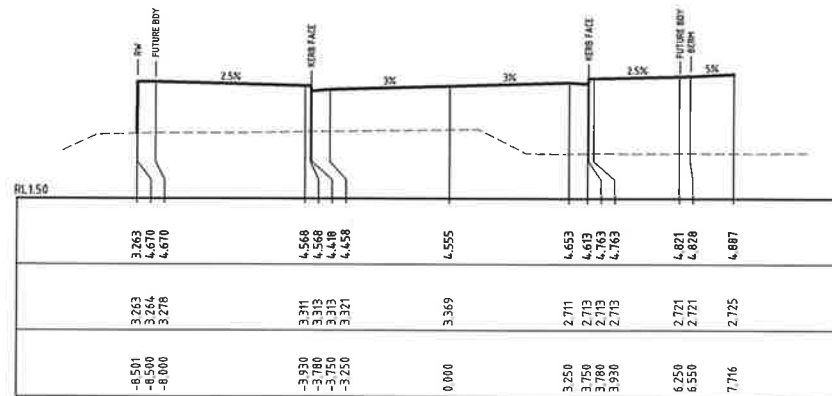
Project
**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title
**MC01
CROSS SECTIONS
SHEET 1**

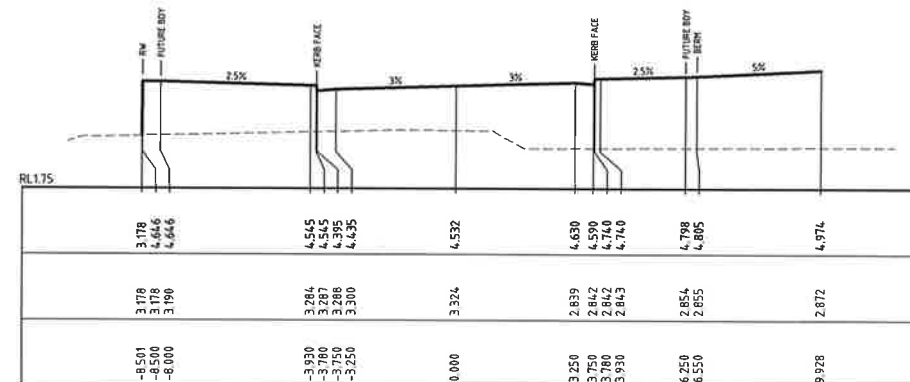
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 862 405
Tel: 02 9439 1777
Fax: 02 9460 8413
www.atl.net.au
info@atl.net.au

Status
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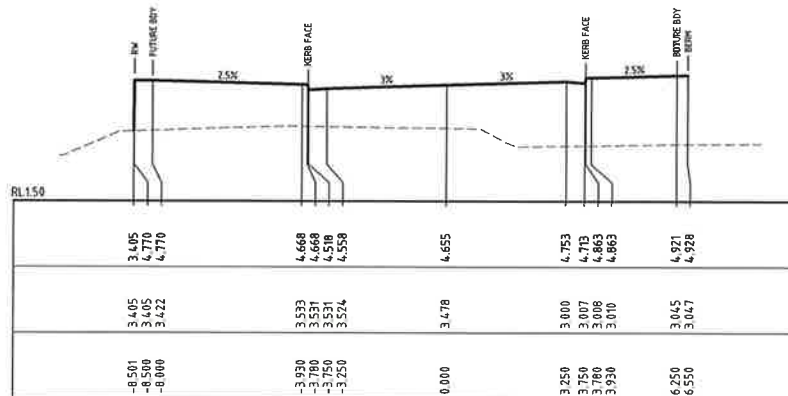
Drawing No. **DAC1050** Project No. **18-580** Issue **F**



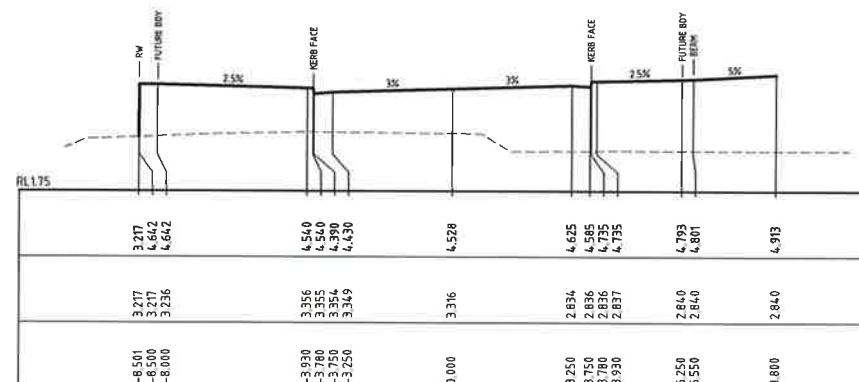
CH 100



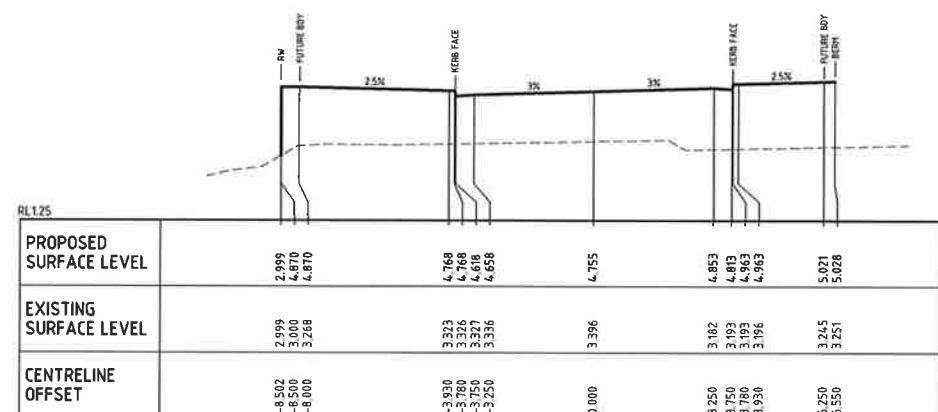
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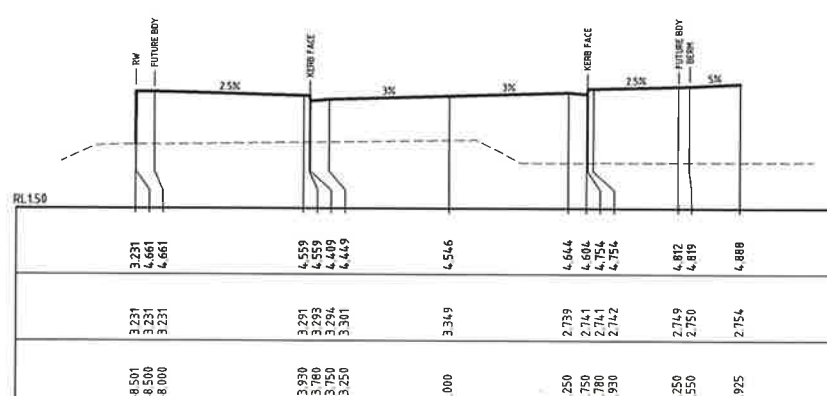
CH 80



CH 109.288

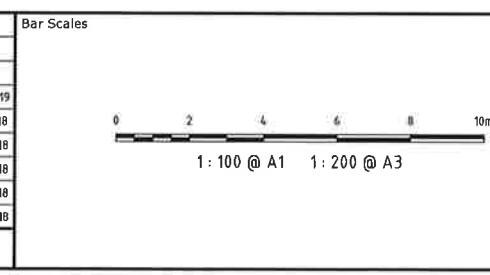


CH 60



CH 101.788

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18



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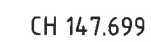
Client
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 PTY LIMITED
 Level 11, 528 Kent Street, Sydney NSW 2000
 Tel: (02) 9287 2888 Fax: (02) 9287 2777
 Email: info@design.meriton.com.au
 Internet: http://www.meriton.com.au

Scales	1 : 100 @ A1
Grid	MGA
Height Datum	AHD
Drawn	GJ
Designed	GJ
Checked	AT
Approved	

Project
**2 MACPHERSON STREET
 WARRIEWOOD
 EARLY WORKS
 PACKAGE**

Title
**MC01
 CROSS SECTIONS
 SHEET 2**

Civil Engineers and Project Managers	
at&l	Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au
Status	FOR APPROVAL
Drawing No.	DAC1051
Project No.	18-580
Issue	F



Bar Scales



0 2 4 6 8 10m

1: 100 @ A1 1: 200 @ A3

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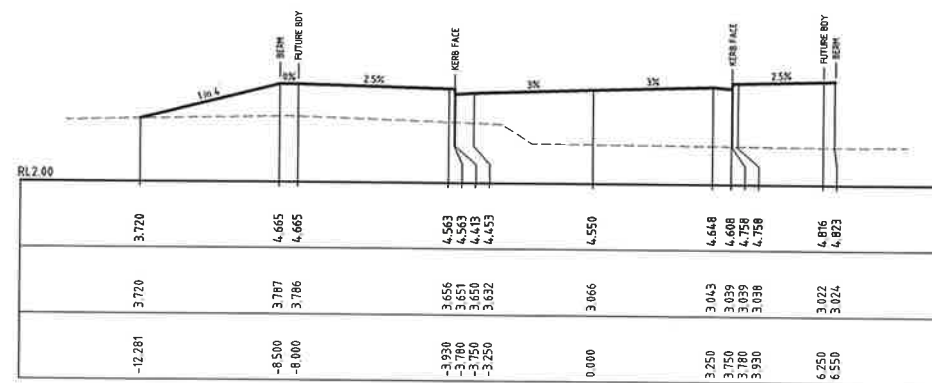
Scales: 1 : 100 @ A1		Drawn	GJ
		Designed	GJ
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

Project	2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE
Title	MC01 CROSS SECTIONS SHEET 3

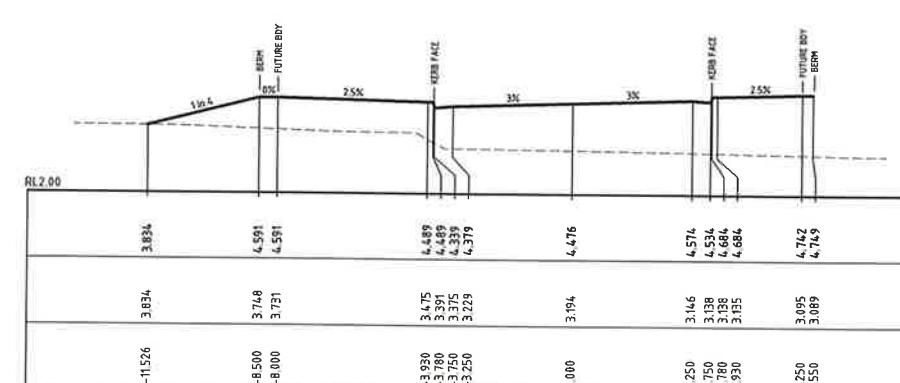
Civil Engineers and Project Managers

at&l

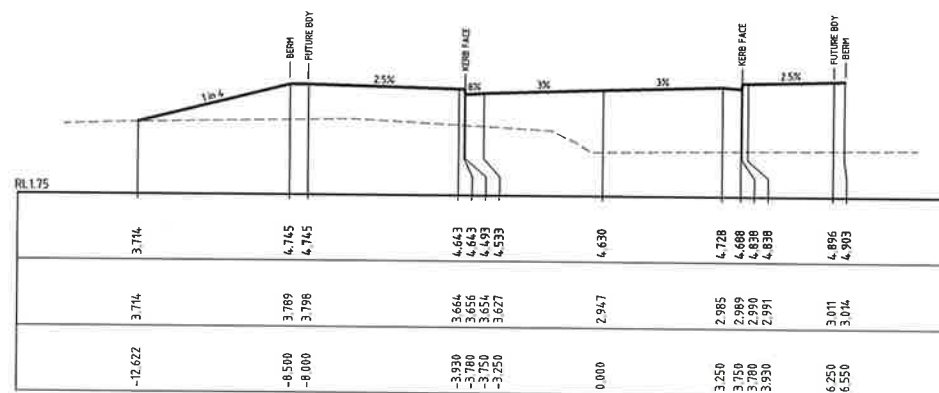
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 082 405
Tel: 02 9439 1777
Fax: 02 9460 8413
www.atl.nel.au
info@atl.nel.au



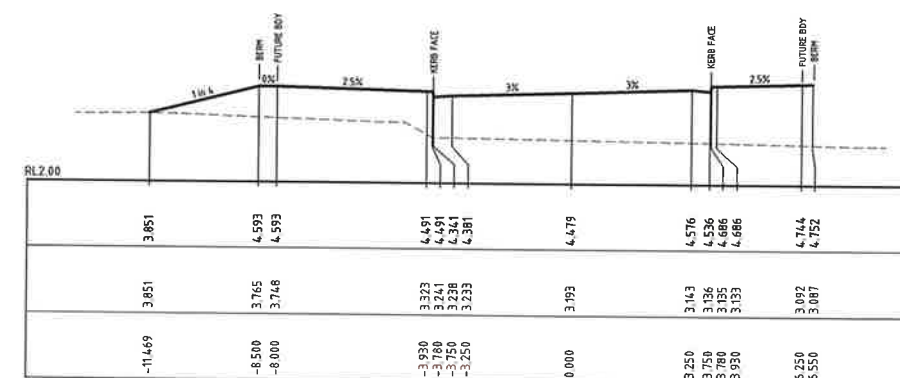
CH 170



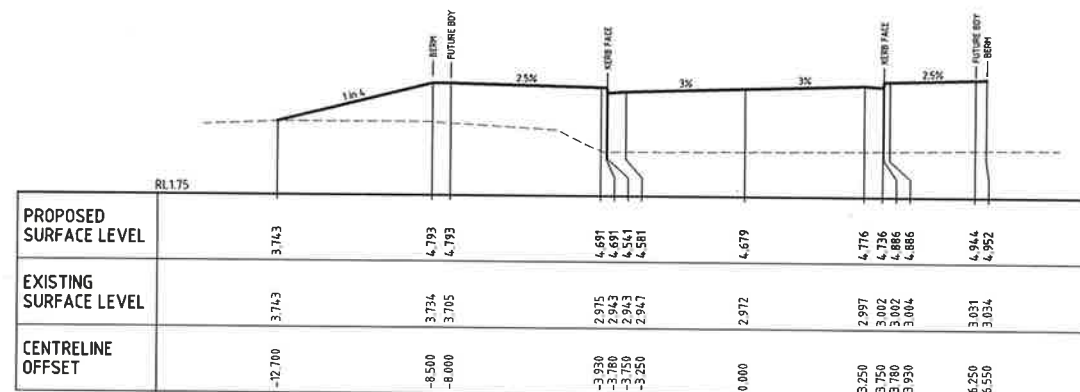
CH 180.745



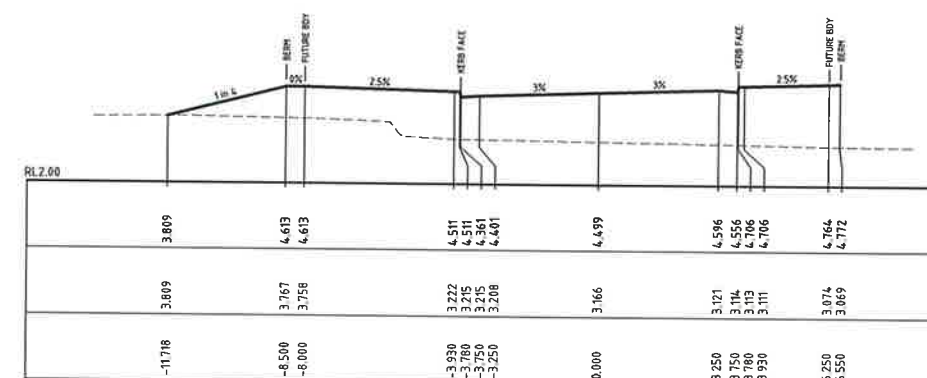
CH 160



CH 180

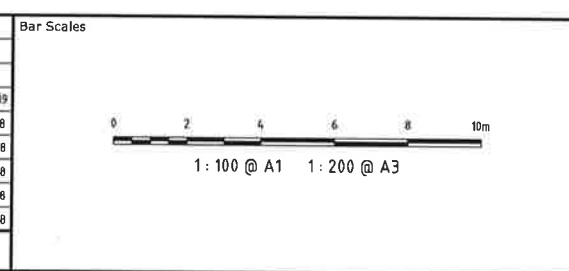


CH 150



CH 176.461

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18



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Client

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Scales	1:100 @ A1
Drawn	GJ
Designed	GJ
Checked	AT
Approved	
Grld	MGA
Height	AHD
Datum	

Project

**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title

**MC01
CROSS SECTIONS
SHEET 4**

Civil Engineers and Project Managers

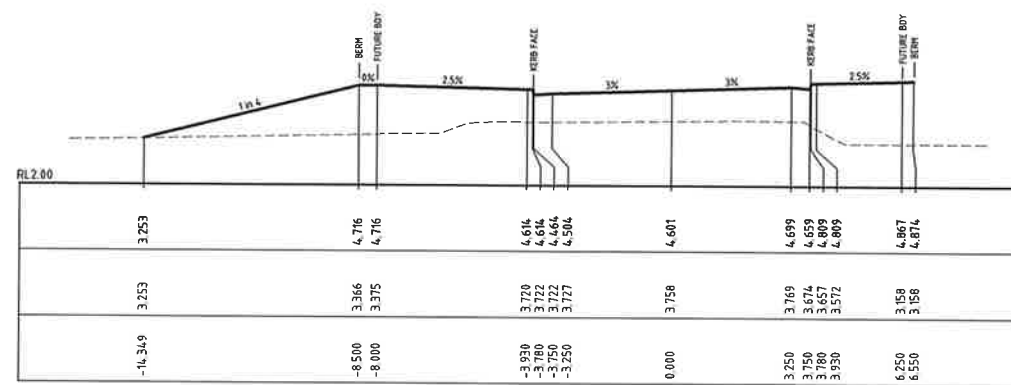
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www.atl.net.au
info@atl.net.au

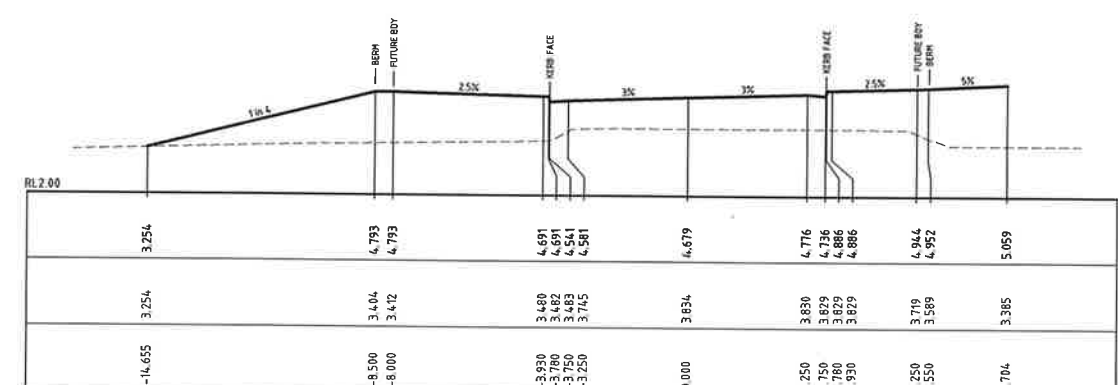
Status

FOR APPROVAL

Drawing No. **DAC1053** Project No. **18-580** Issue **F**



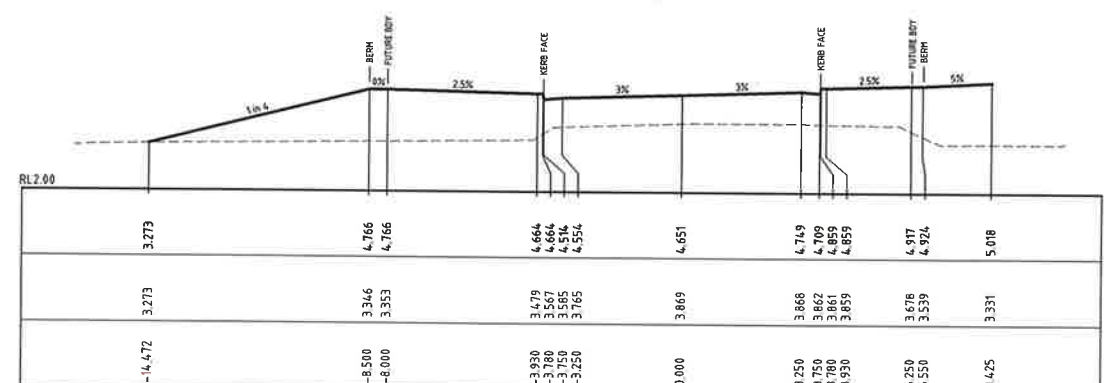
CH 210



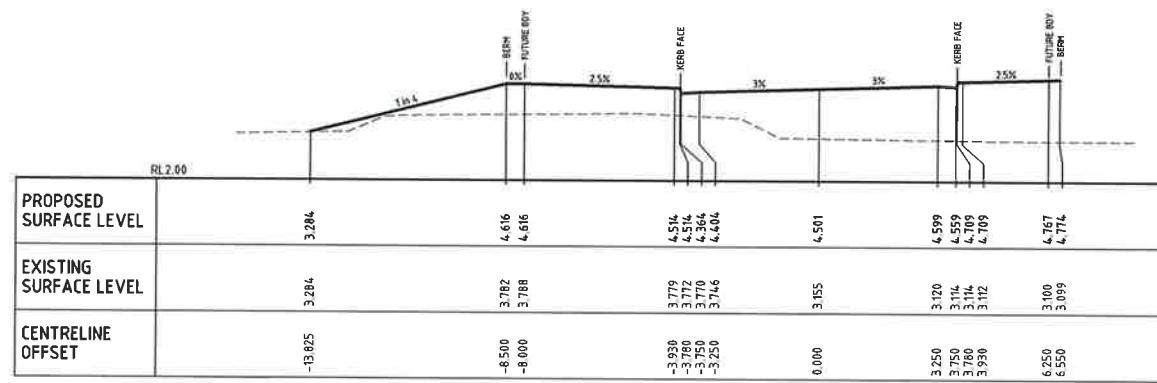
CH 225.46



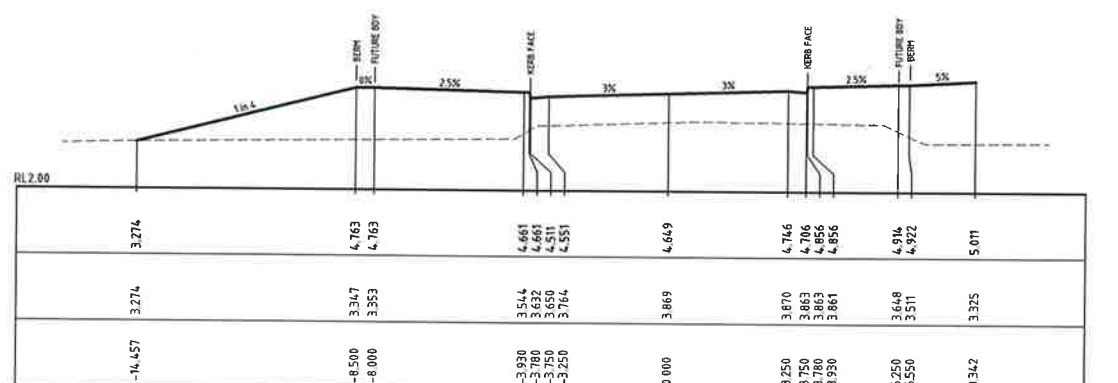
CH 200



CH 220

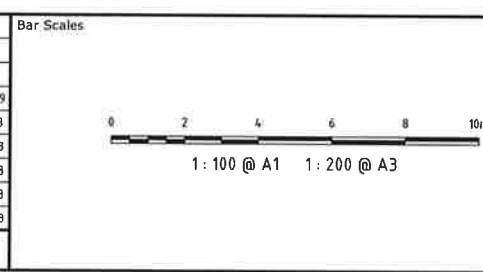


CH 190



CH 219.421

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
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A	ISSUE FOR COMMENT	24-10-18



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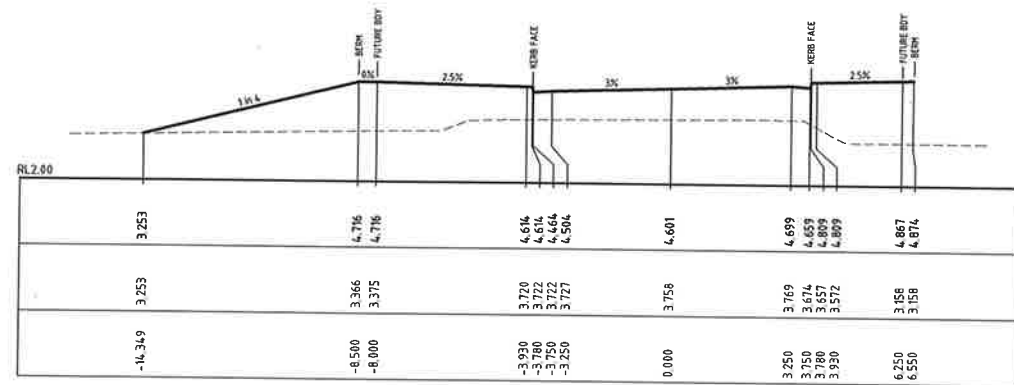
Client
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Scales 1:100 @ A1
Grid MGA
Height Datum AHD
Drawn GJ
Designed GJ
Checked AT
Approved

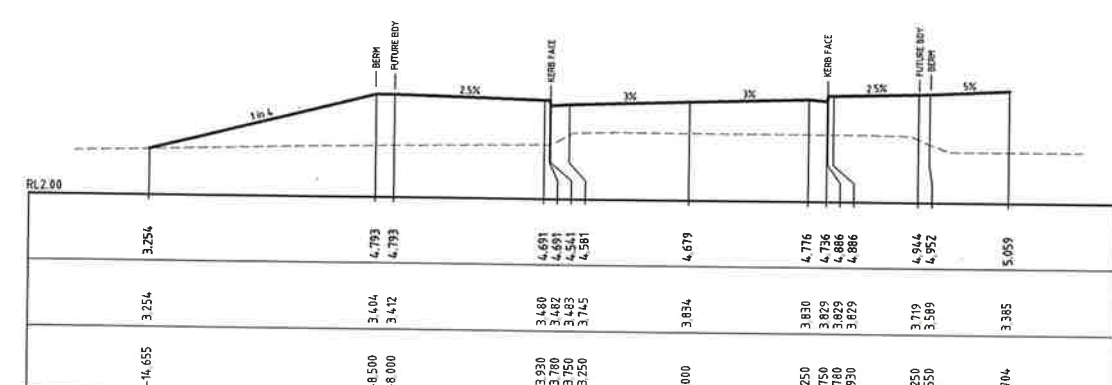
Project
**2 MACPHERSON STREET
WARRIWOOD
EARLY WORKS
PACKAGE**
Title
**MC01
CROSS SECTIONS
SHEET 5**

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
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Fax: 02 9460 8413
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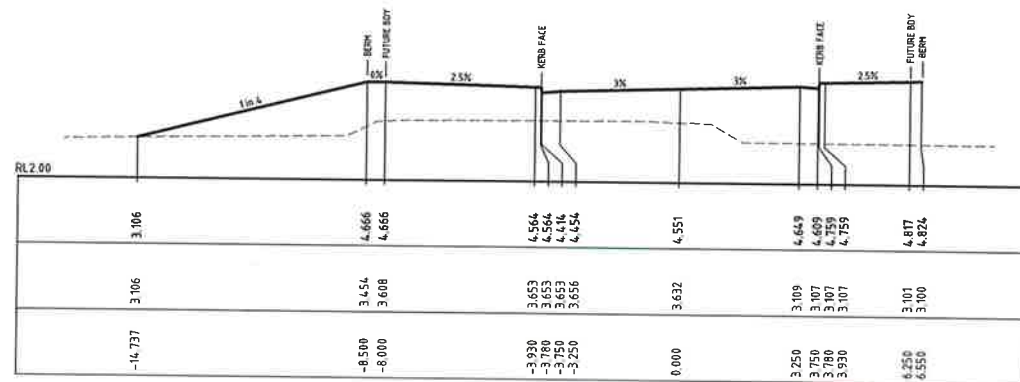
Status
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION
Drawing No. DAC1054
Project No. 18-580
Issue F



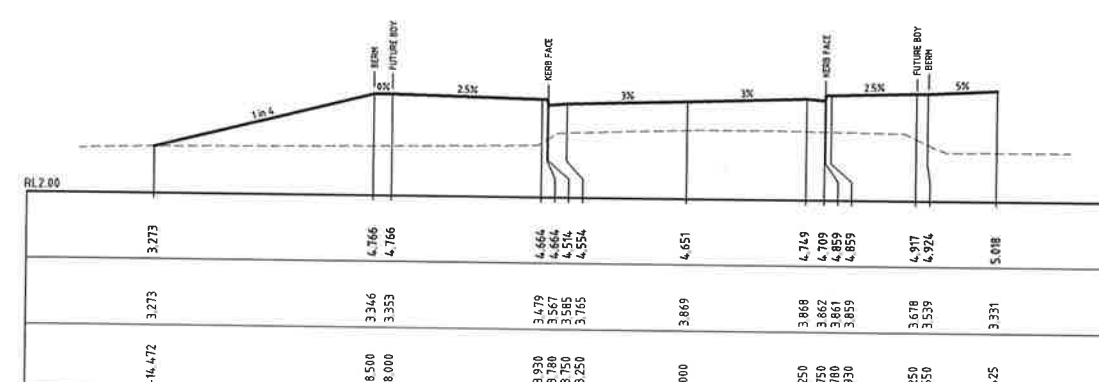
CH 210



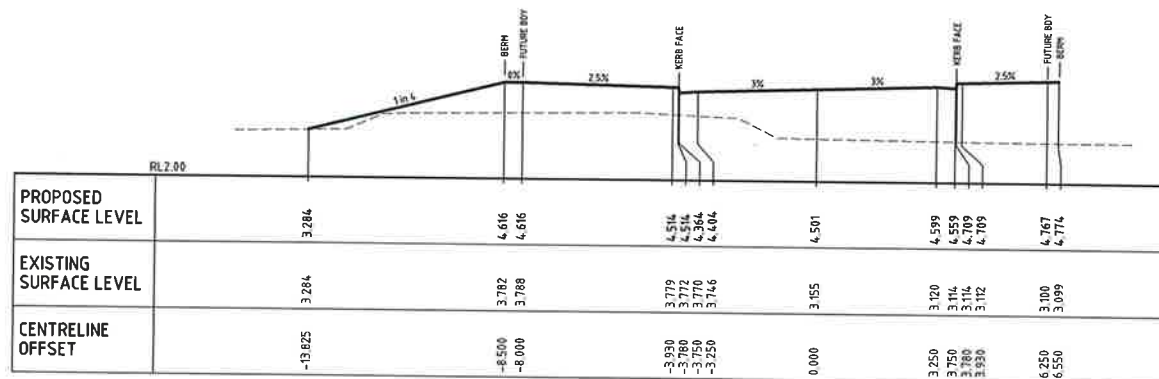
CH 225.46



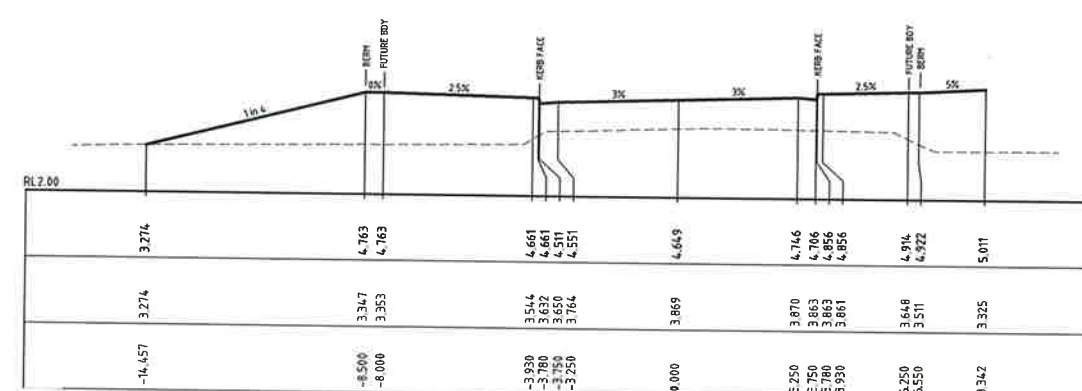
CH 200



CH 220



CH 190



CH 219.421

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales
1: 100 @ A1 1: 200 @ A3

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Internet: http://www.meriton.com.au

Scales 1: 100 @ A1	Drawn GJ
Grid MGA	Designed GJ
Height AHD	Checked AT
Datum	Approved

Project	2 MACPHERSON STREET WARRIWOOD EARLY WORKS PACKAGE
Title	MC01 CROSS SECTIONS SHEET 6

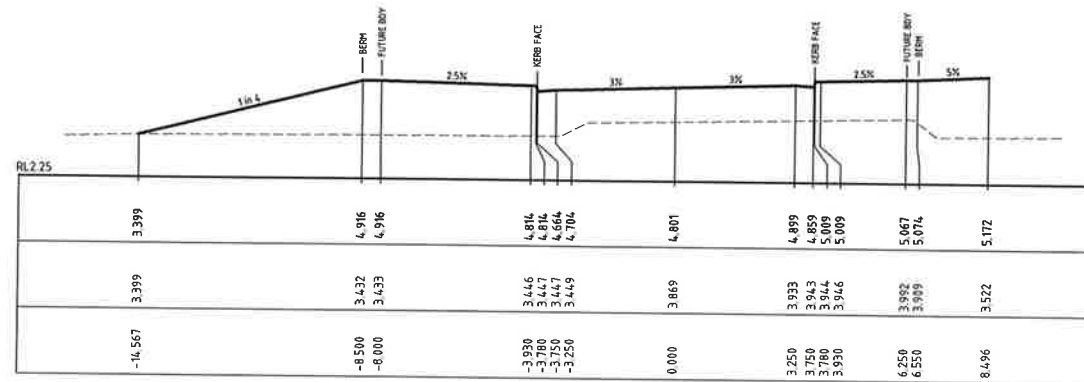
Civil Engineers and Project Managers

at&l

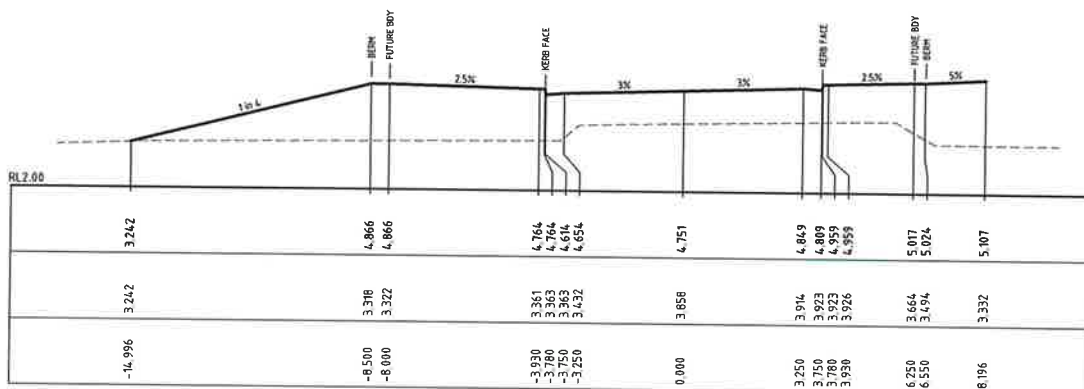
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www.atl.net.au
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Status **FOR APPROVAL**

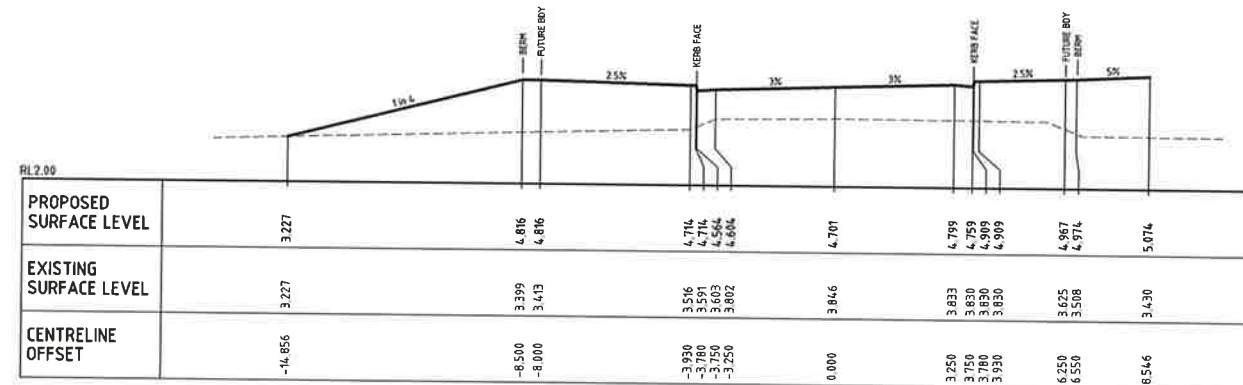
Drawing No. **DAC1055** Project No. **18-580** Issue **F**



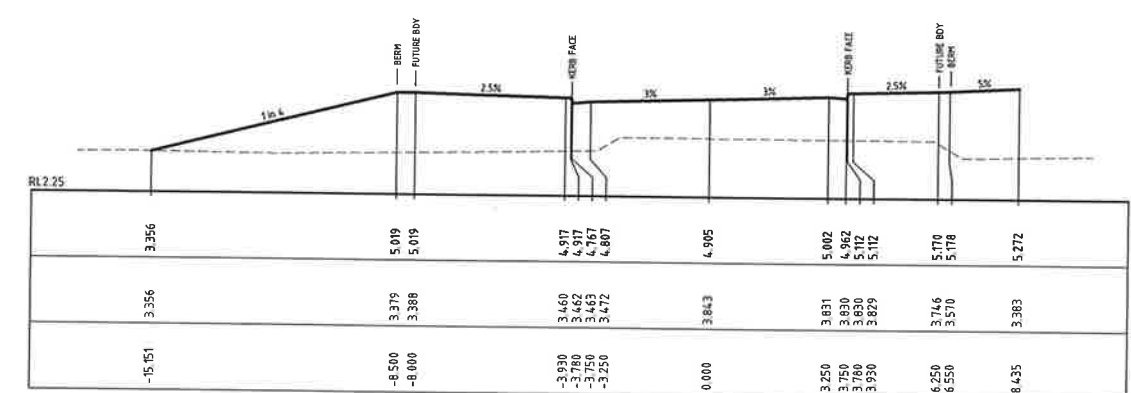
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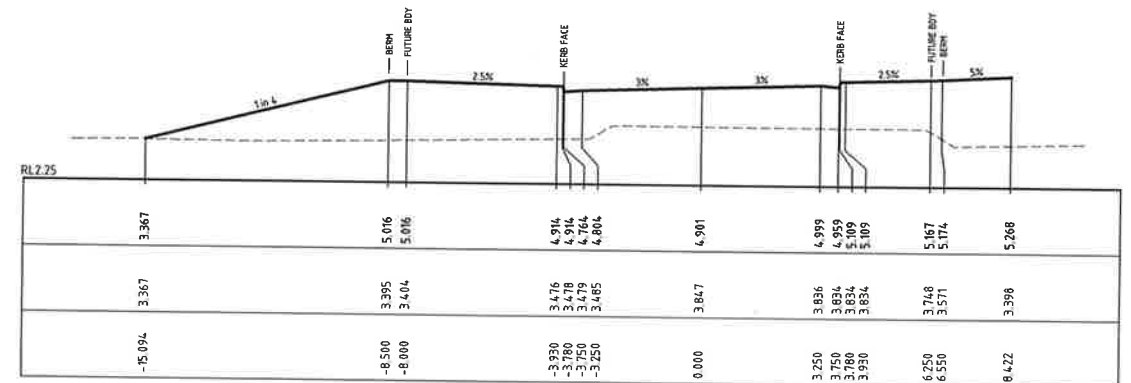
CH 240



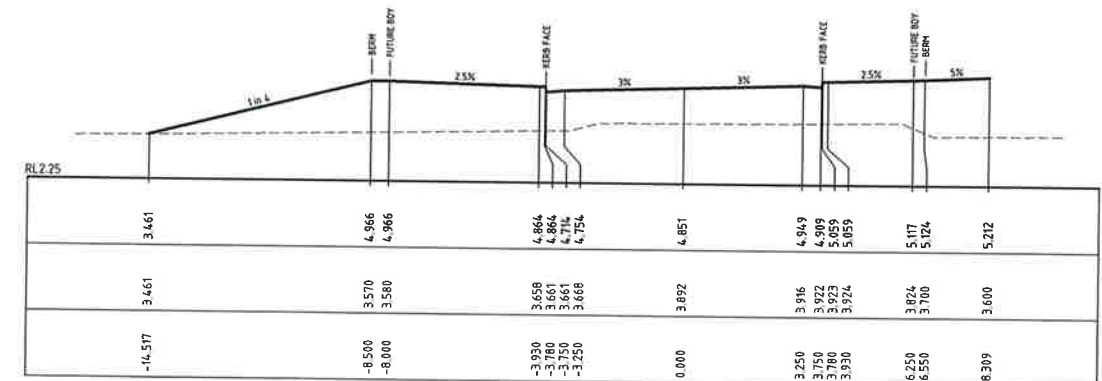
CH 230



CH 270.619



CH 270



CH 260

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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Scales 1 : 100 @ A1

Grid MGA

Height Datum AHD

Drawn GJ

Designed GJ

Checked AT

Approved

Project
**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

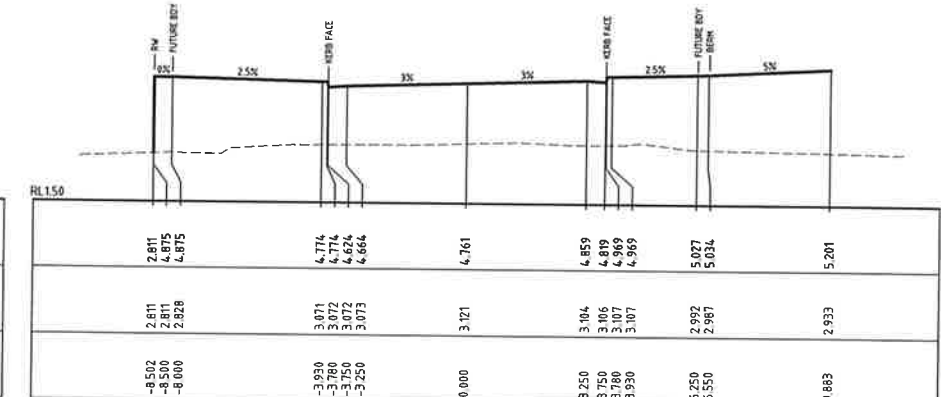
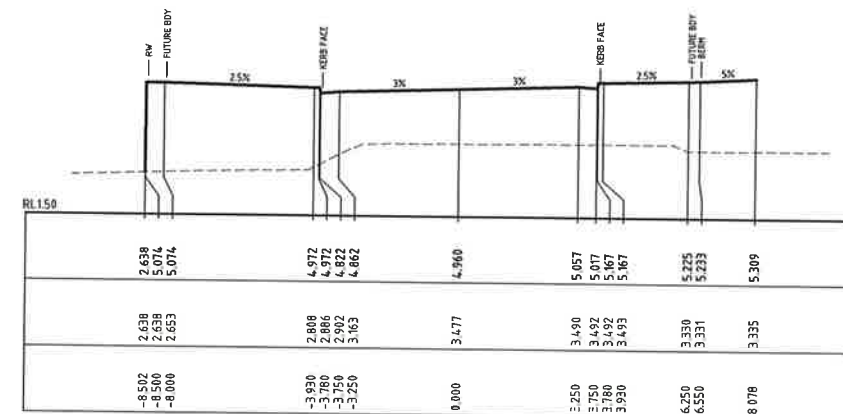
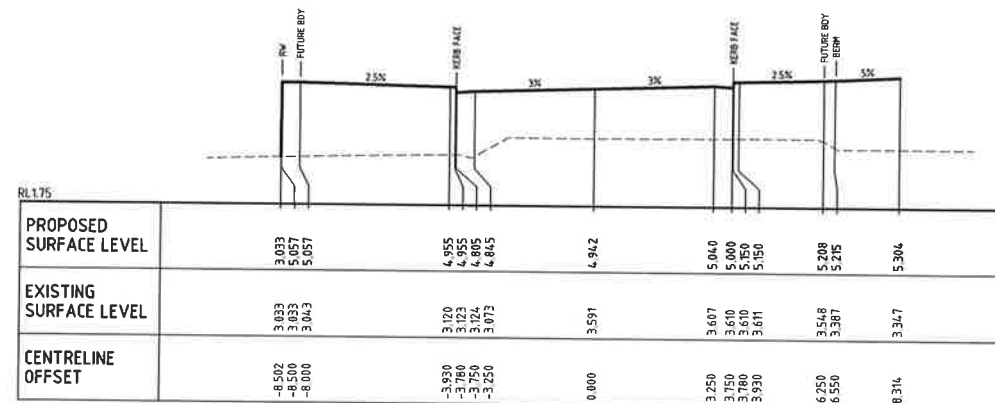
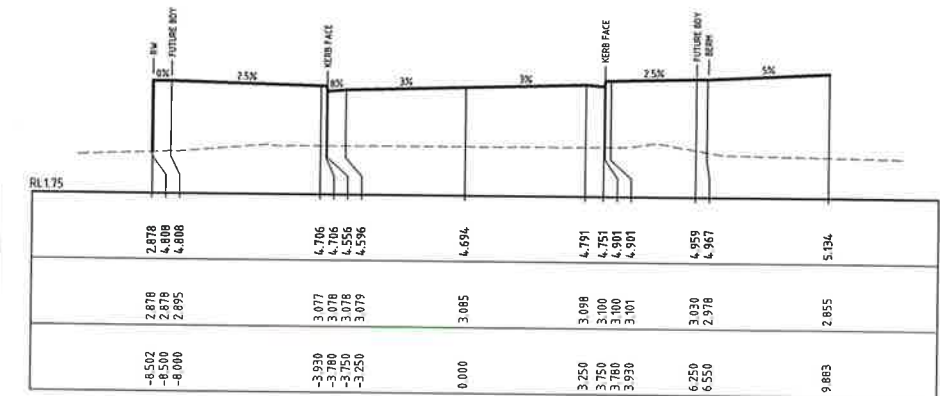
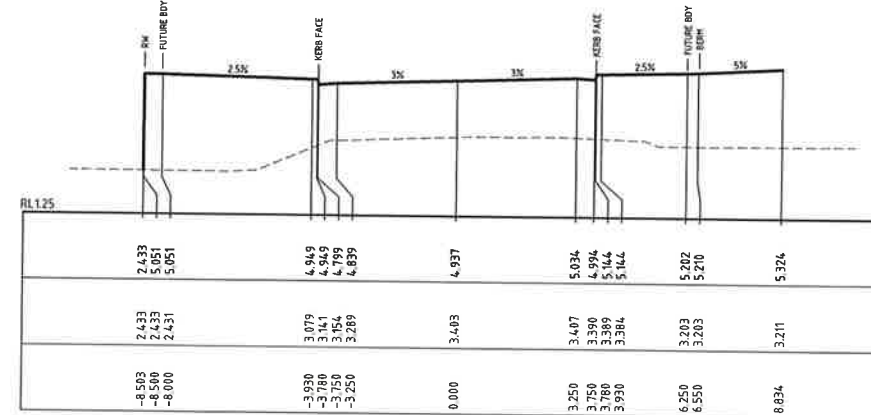
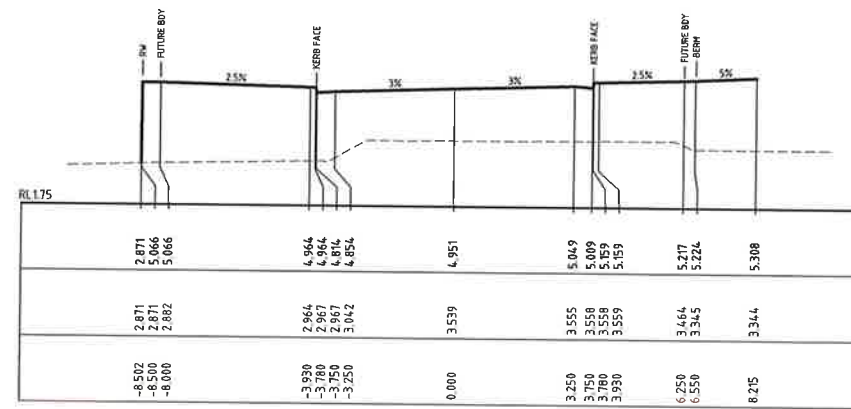
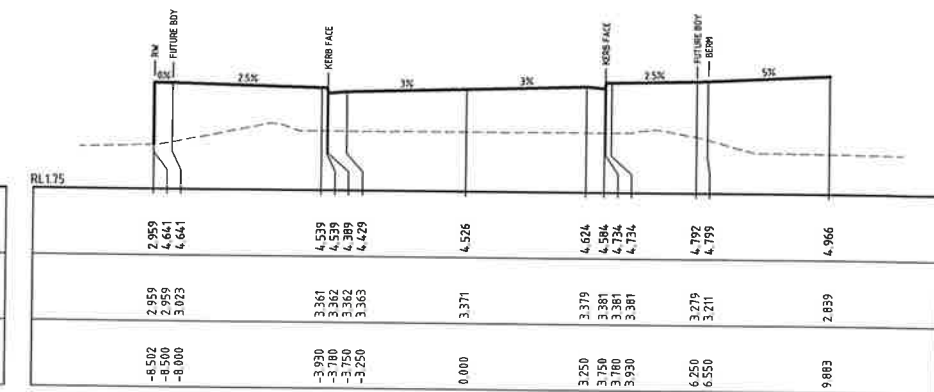
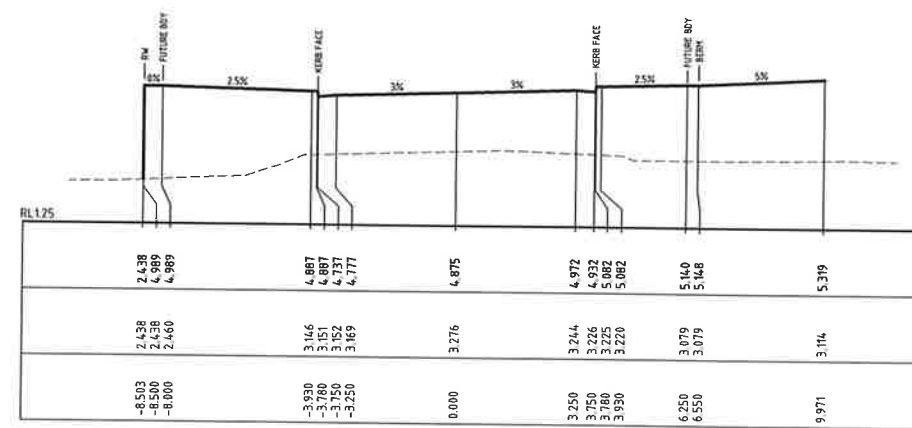
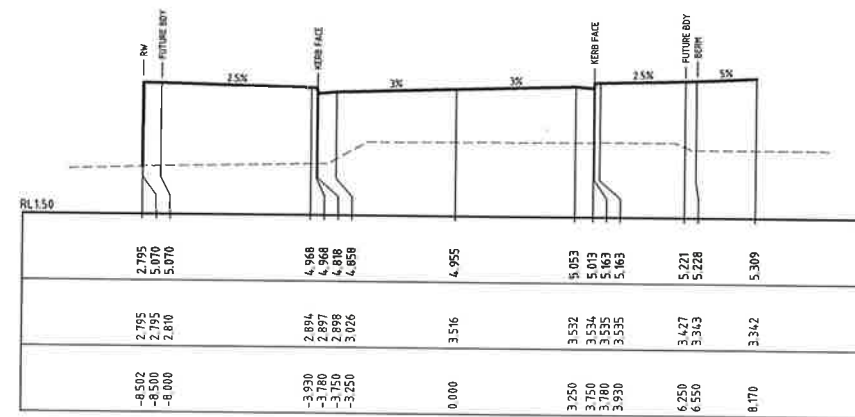
Title
**MC01
CROSS SECTIONS
SHEET 7**

Civil Engineers and Project Managers

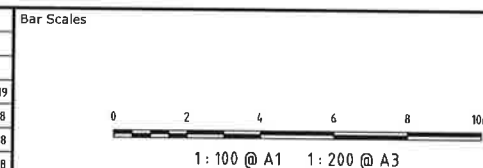
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North Sydney NSW 2060
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Tel: 02 9439 1777
Fax: 02 9460 8413
www.atl.net.au
info@atl.net.au

Status
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Drawing No. **DAC1056** Project No. **18-580** Issue **F**



F	ISSUE FOR APPROVAL	28-03-18
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18
Issue	Description	Date



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Scales	1 : 100 @ A1
Grid	MGA
Height Datum	AHD

Drawn	GJ
Designed	GJ
Checked	AT
Approved	

Project 2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE

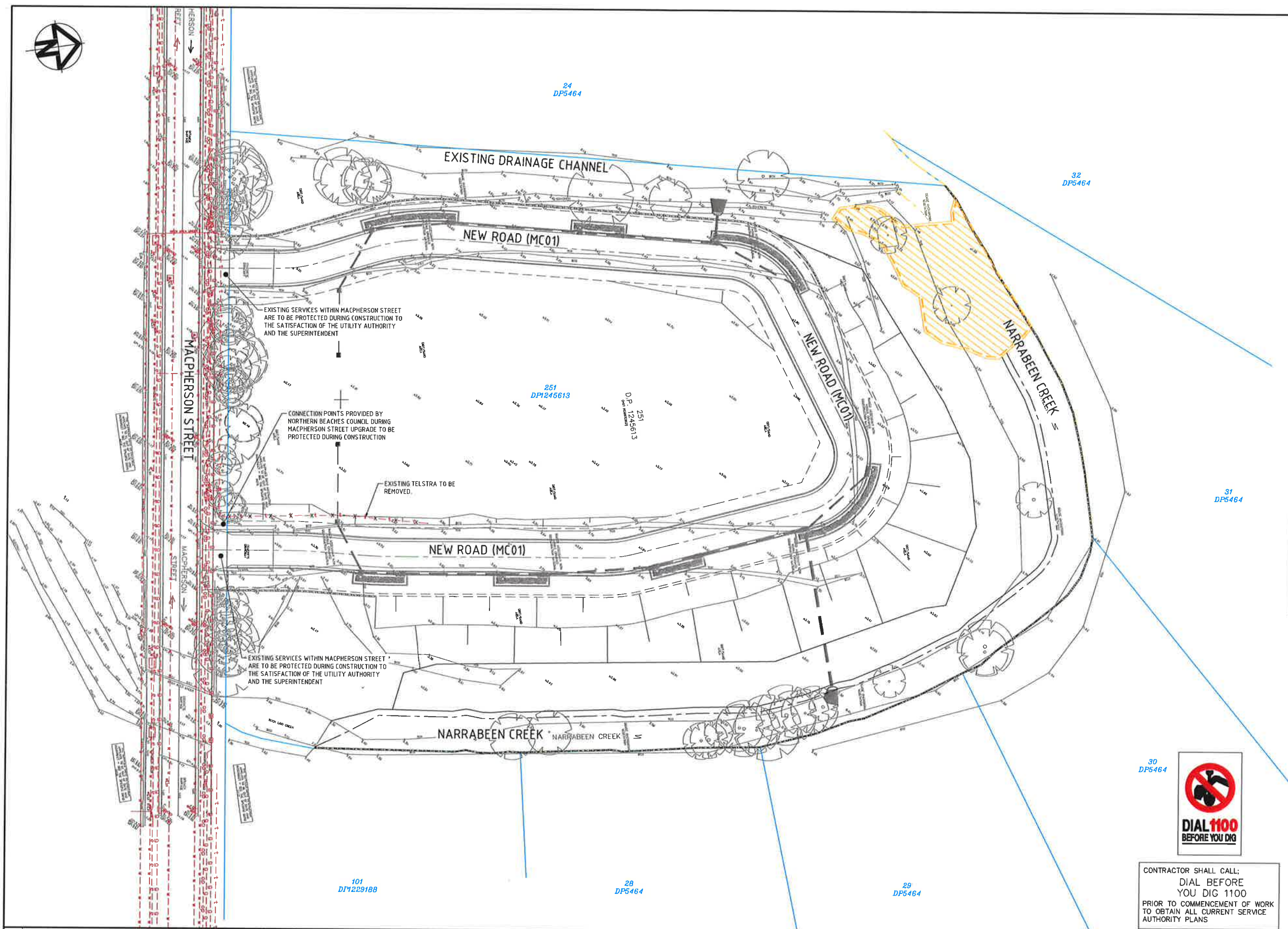
Civil Engineers and Project Managers

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www.atl.net.au
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Title	MC01 CROSS SECTIONS SHEET 8
-------	-----------------------------------

Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		A1
Drawing No. DAC1057	Project No. 18-580	Issue F



SERVICES LEGEND

EXISTING

- EXISTING BOUNDARY
- EXISTING 20m ASSET PROTECTION ZONE
- BIODIVERSITY EXTENTS
- EXISTING TREE
- ELECTRICITY
- ELECTRICITY OVERHEAD
- TELSTRA CONDUITS
- NBN SERVICE
- SEWER SERVICE
- WATER SERVICE
- GAS SERVICE
- STORMWATER
- WATER HYDRANT
- WATER STOP VALVE
- SEWER MANHOLE
- POWER POLE
- TELSTRA PIT
- EXISTING POWER POLE

PROPOSED

- SERVICE TO BE REMOVED
- KERB & GUTTER
- ROLL TOP KERB AND GUTTER
- BATTER
- CONTOUR (0.2m INTERVAL)
- RETAINING WALL
- STORMWATER PIPE (SHOWING SIZE)
- STORMWATER KERB INLET PIT
- STORMWATER SURFACE INLET PIT
- STORMWATER RAINGARDEN

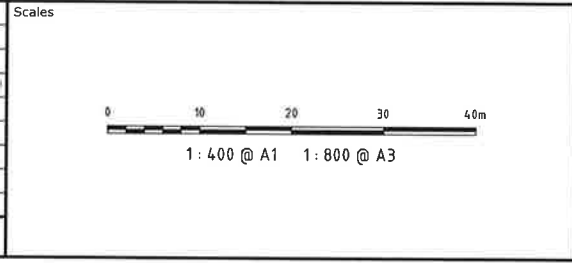
NOTES

SERVICE ALIGNMENTS AND CONNECTION DETAILS ARE SUBJECT TO INDIVIDUAL UTILITIES AND LOT APPROVAL SHOULD BE CONSIDERED INDICATIVE ONLY.



CONTRACTOR SHALL CALL;
DIAL BEFORE
YOU DIG 1100
PRIOR TO COMMENCEMENT OF WORK
TO OBTAIN ALL CURRENT SERVICE
AUTHORITY PLANS

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18



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PROPERTIES PTY LTD**

Scales	1:400 @ A1	Drawn	GJ
		Designed	GJ
Grid	MGA	Checked	AT
Height	AHD	Approved	
Datum			

Project
**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title
**SERVICES
AND UTILITIES
COORDINATION
PLAN**

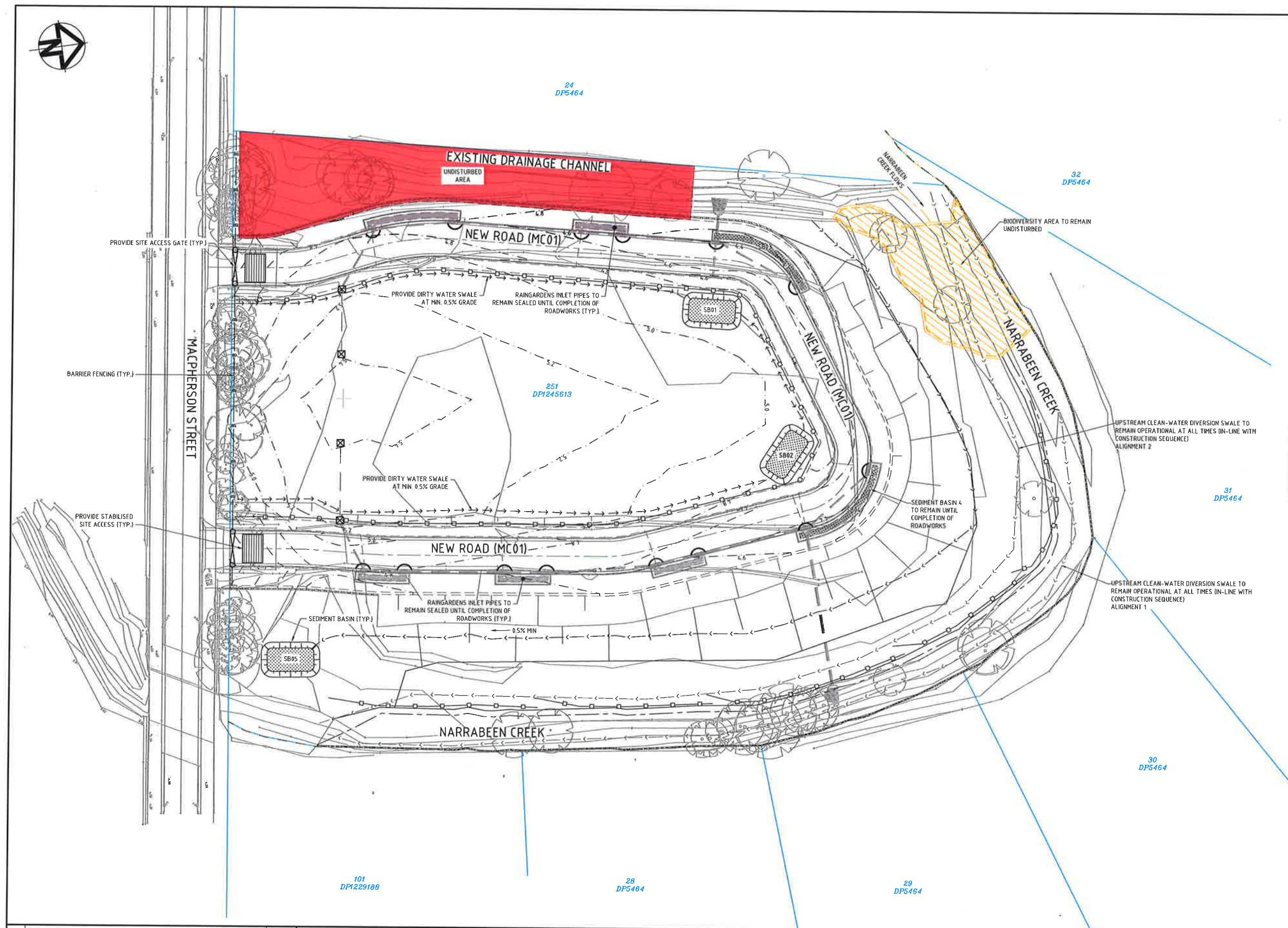
Civil Engineers and Project Managers

at&l

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North Sydney NSW 2060
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Status
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NOT TO BE USED FOR CONSTRUCTION**

Drawing No. **DAC1070** Project No. **18-580** Issue **F**



ESC LEGEND

EXISTING

EXISTING BOUNDARY

EXISTING CONTOUR

EXISTING TREE

BIODIVERSITY EXTENTS

PROPOSED

SEDIMENT FENCE (SD 6-8)

CATCH DRAIN

BARRIER FENCE

STRAW BALE FILTER (SD 6-7)

MESH AND GRAVEL INLET FILTER (SD 6-11)

GEOTEXTILE INLET (SD 6-12)

STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)

SITE ACCESS GATE

UNDISTURBED AREA

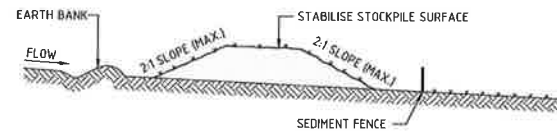
SEDIMENT BASIN

375Ø STORMWATER PIPE WITH SIZE

NOTES

- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT.
- REFER DRAWING DAC1081 FOR ESC DETAILS
- EROSION AND SEDIMENT CONTROLS TO SUIT CONSTRUCTION STAGING
- NARRABEEN CREEK WORKS ESC MEASURES ARE TO BE COORDINATED WITH COUNCIL AND STAGING OF WORKS.

<table><tr><td>F</td><td>ISSUE FOR APPROVAL</td><td>28-03-19</td></tr><tr><td>E</td><td>ISSUE FOR APPROVAL</td><td>10-12-18</td></tr><tr><td>D</td><td>ISSUE FOR APPROVAL</td><td>07-12-18</td></tr><tr><td>C</td><td>ISSUE FOR APPROVAL</td><td>30-10-18</td></tr><tr><td>B</td><td>ISSUE FOR COMMENT</td><td>25-10-18</td></tr><tr><td>A</td><td>ISSUE FOR COMMENT</td><td>24-10-18</td></tr><tr><td>Issue</td><td>Description</td><td>Date</td></tr></table>	F	ISSUE FOR APPROVAL	28-03-19	E	ISSUE FOR APPROVAL	10-12-18	D	ISSUE FOR APPROVAL	07-12-18	C	ISSUE FOR APPROVAL	30-10-18	B	ISSUE FOR COMMENT	25-10-18	A	ISSUE FOR COMMENT	24-10-18	Issue	Description	Date	Bar Scales 1 : 400 @ A1 1 : 800 @ A3	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client KARIMBLA CONSTRUCTION SERVICES (NSW) PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Scales 1 : 400 @ A1 Grid MGA Height Datum AHD Drawn GJ Designed GJ Checked AT Approved	Project 2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE Title SEDIMENTATION AND EROSION CONTROL PLAN	Civil Engineers and Project Managers Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION Drawing No. DAC1080 Project No. 18-580 Issue F A1
F	ISSUE FOR APPROVAL	28-03-19																									
E	ISSUE FOR APPROVAL	10-12-18																									
D	ISSUE FOR APPROVAL	07-12-18																									
C	ISSUE FOR APPROVAL	30-10-18																									
B	ISSUE FOR COMMENT	25-10-18																									
A	ISSUE FOR COMMENT	24-10-18																									
Issue	Description	Date																									

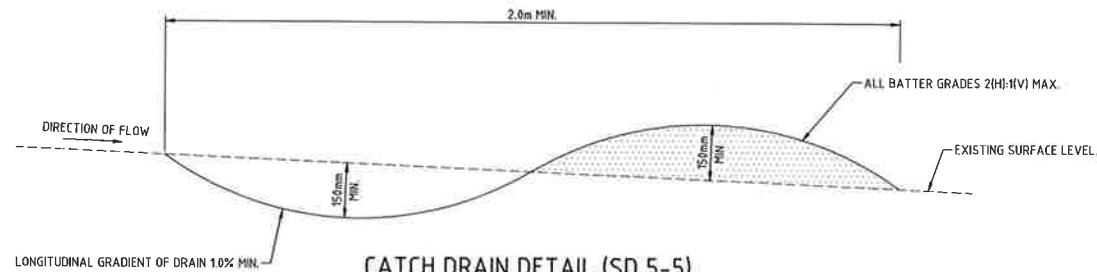


STOCKPILE CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

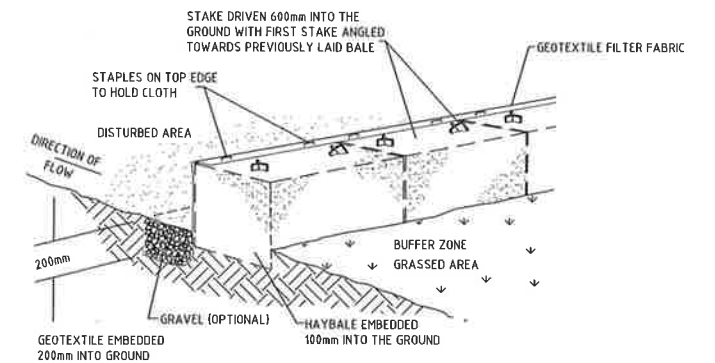
STOCKPILE SECTION (SD 4-1)

SCALE N.T.S.



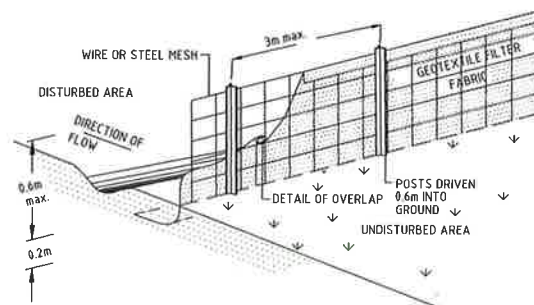
CATCH DRAIN DETAIL (SD 5-5)

SCALE 1:10



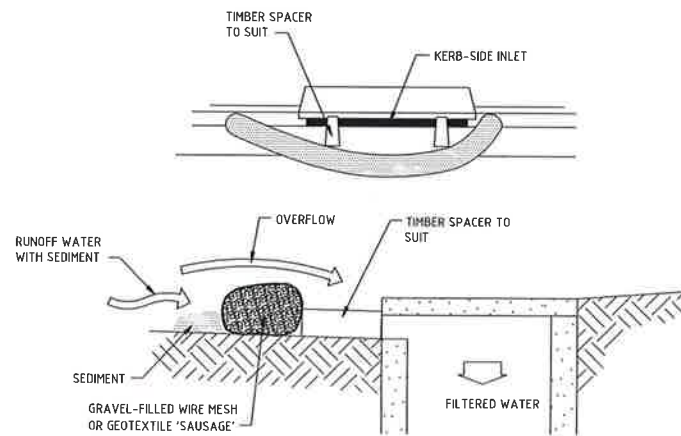
HAYBALE AND GEOTEXTILE SEDIMENT FILTER (SD 6-7)

NTS



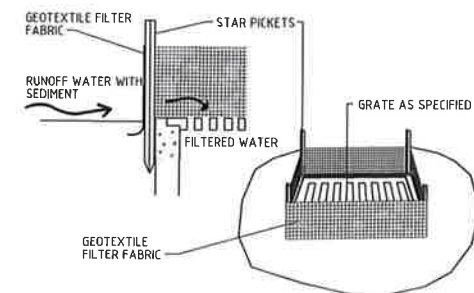
SEDIMENT FENCE (SD 6-8)

NTS



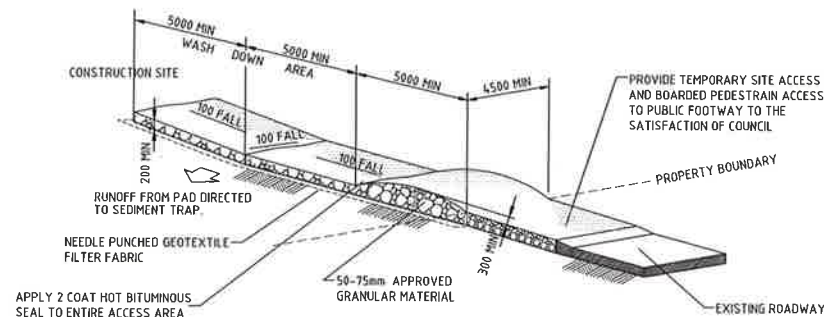
MESH AND GRAVEL INLET FILTER (SD 6-11)

NTS



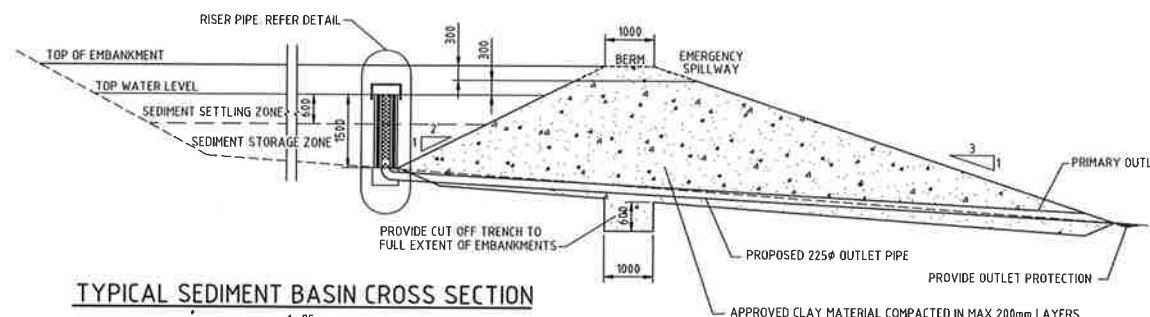
GEOTEXTILE FILTER PIT SURROUND (SD 6-12)

NTS



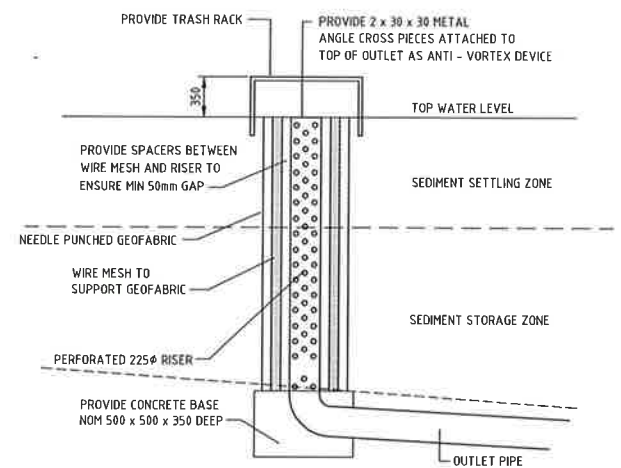
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)

NTS



TYPICAL SEDIMENT BASIN CROSS SECTION

1:75
TYPICAL FOR ALL SEDIMENT BASINS

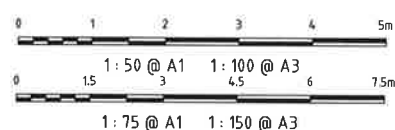


RISER PIPE DETAIL

1:50

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
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A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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Scales	AS SHOWN	Drawn	GJ
Grid	MGA	Designed	GJ
Height Datum	AHD	Checked	AT
		Approved	

Project
**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title
**SEDIMENTATION
AND EROSION
CONTROL
DETAILS**

Civil Engineers and Project Managers		
at&l		
Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au		
Status FOR APPROVAL	A1	
Drawing No. DAC1081	Project No. 18-580	Issue F

SITE DATA

Site area	Site					Remarks
	1	2	3	4	5	
Total catchment area (ha)	0.29	0.32	0.18	0.22	0.91	
Disturbed catchment area (ha)	0.29	0.32	0.18	0.22	0.91	
Soil analysis						
% sand (fraction 0.02 to 2.00 mm)						Soil texture should be assessed through mechanical dispersion only. Dispersing agents (e.g. Calgon) should not be used
% silt (fraction 0.002 to 0.02 mm)						
% clay (fraction finer than 0.002 mm)						
Dispersion percentage						E.g. enter 10 for dispersion of 10%
% of whole soil dispersible						See Section 6.3.3(e)
Soil Texture Group						See Section 6.3.3(c), (d) and (e)
Rainfall data						
Design rainfall depth (days)	5	5	5	5	5	See Sections 6.3.4 (f) and (g)
Design rainfall depth (percentile)	85	85	85	85	85	See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	44	44	44	44	44	See Section 6.3.4 (f)
Rainfall intensity: 2-year, 6-hour storm	13.5	13.5	13.5	13.5	13.5	See IFD chart for the site
RUSLE Factors						
Rainfall erosivity (R-factor)	3900	3900	3900	3900	3900	Automatic calculation from above data
Soil erodibility (K-factor)	0.007	0.007	0.007	0.007	0.007	
Slope length (m)	80	80	80	80	80	
Slope gradient (%)	5	5	5	5	5	RUSLE data can be obtained from Appendix A, B and C
Length/gradient (L/G-factor)	1.19	1.19	1.19	1.19	1.19	
Erosion control practice (P-factor)	1.2	1.2	1.2	1.2	1.2	
Ground cover (C-factor)	1	1	1	1	1	
Calculations						
Soil loss (t/ha/yr)	40	40	40	40	40	
Soil Loss Cores	1	1	1	1	1	See Section 4.4.2(b)
Soil loss (m/ha/yr)	30	30	30	30	30	
Sediment basin storage volume, m ³	2	2	1	1	5	See Sections 6.3.4(i) and 6.3.5 (a)

PEAK FLOW CALCULATIONS

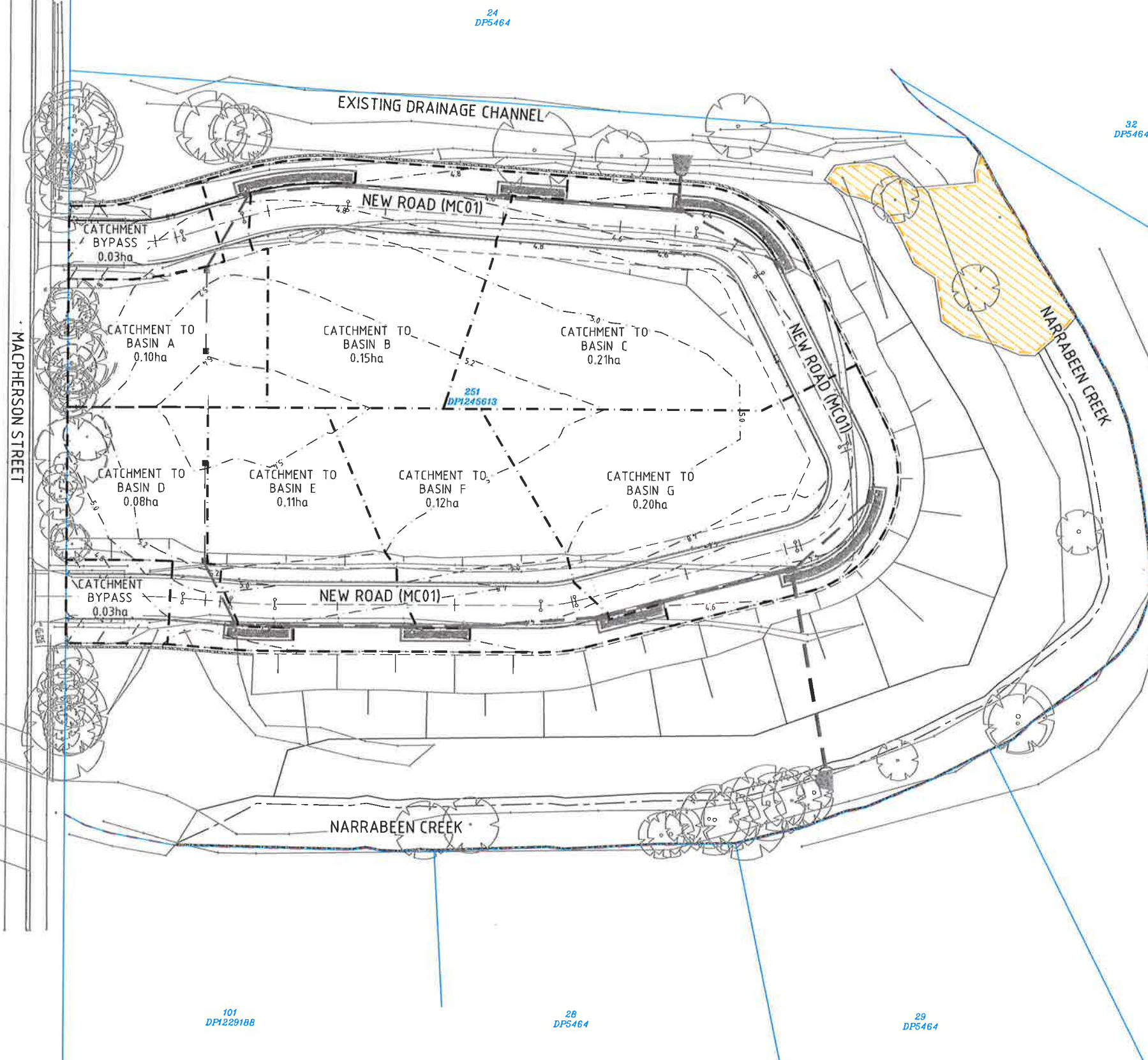
Peak flow calculations, 1									
Site	A (ha)	Lc (m)	Rainfall intensity, I, mm/hr						C _u
			1 _{yr,6h}	5 _{yr,6h}	10 _{yr,6h}	20 _{yr,6h}	50 _{yr,6h}	100 _{yr,6h}	
1	0.29	5	98.1	159	178	204	237	282	0.5
2	0.32	5	98.1	159	178	204	237	282	0.5
3	0.18	4	98.1	159	178	204	237	282	0.5
4	0.22	5	75.3	159	178	204	237	282	0.5
5	0.91	8	75.3	123	139	159	185	205	0.5

Peak flow calculations, 2							
ARI (yr)	Frequency factor (F _r)	Peak flows					Comment
		1 (m ³ /s)	2 (m ³ /s)	3 (m ³ /s)	4 (m ³ /s)	5 (m ³ /s)	
1 yr, 6h	0.8	0.036	0.039	0.022	0.021	0.088	
5 yr, 6h	0.95	0.061	0.067	0.038	0.046	0.145	
10 yr, 6h	1	0.072	0.079	0.045	0.054	0.178	
20 yr, 6h	1.05	0.086	0.095	0.054	0.068	0.211	
50 yr, 6h	1.15	0.110	0.121	0.068	0.083	0.269	
100 yr, 6h	1.2	0.127	0.140	0.079	0.096	0.311	

TOTAL BASIN VOLUME

Site	Q _{10, 6h} (m ³ /h)	Area factor	Basin surface area (m ²)	Depth of settling zone (m)	Settling zone volume (m ³)	Sediment storage volume (m ³)	Total basin volume (m ³)	Basin shape		
								L/W Ratio	Length (m)	Width (m)
1	0.016	4100	73	0.6	44	2	46	3	14.8	4.9
2	0.020	4100	81	0.6	48	2	50	3	15.5	5.2
3	0.011	4100	45	0.6	27	1	28	3	11.7	3.9
4	0.010	4100	42	0.6	25	1	26	3	11.3	3.8
5	0.043	4100	178	0.6	105	5	110	3	23.0	7.7

Bar Scales			THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client KARIMBLA CONSTRUCTION SERVICES (NSW) PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9267 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Scales NTS		Drawn GJ	Project 2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE	Civil Engineers and Project Managers		
					Designed GJ	 Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au Info@atl.net.au					
					Checked AT						
					Approved	Title SEDIMENTATION AND EROSION CONTROL CALCULATIONS	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		A1		
F	ISSUE FOR APPROVAL	28-03-19									
E	ISSUE FOR APPROVAL	10-12-18									
D	ISSUE FOR APPROVAL	07-12-18									
C	ISSUE FOR APPROVAL	30-10-18									
B	ISSUE FOR COMMENT	25-10-18									
A	ISSUE FOR COMMENT	24-10-18									
Issue		Description	Date								
											



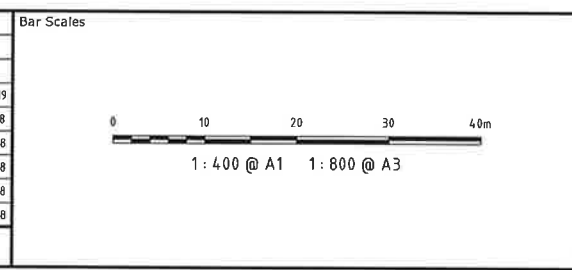
SW CATCHMENT LEGEND

- EXISTING**
- EXISTING BOUNDARY
 - EXISTING CONTOUR
 - EXISTING TREE
 - BIODIVERSITY EXTENTS
- PROPOSED**
- PROPOSED EASEMENT
 - PROPOSED CREEK CENTERLINE
 - PROPOSED 25m RIPARIAN CORRIDOR
 - PROPOSED 25m PRIVATE BUFFER
 - STORMWATER CATCHMENT BOUNDARY
 - STORMWATER CATCHMENT IDENTIFICATION
 - CATCHMENT TO BASIN E 0.10ha
 - KERB & GUTTER
 - ROLL TOP KERB AND GUTTER
 - BATTER
 - CONTOUR (0.2m INTERVAL)
 - RETAINING WALL
 - STORMWATER PIPE (SHOWING SIZE)
 - STORMWATER KERB INLET PIT
 - STORMWATER SURFACE INLET PIT
 - STORMWATER RAINGARDEN

NOTES

- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT
- REFER DRAWING DAC020 FOR CIVIL DETAILS
- REFER DRAWING DAC021-023 FOR STORMWATER DETAILS
- DRIVEWAYS ARE SHOWN FOR COORDINATION PURPOSES ONLY AND ARE SUBJECT TO INDIVIDUAL LOT APPROVALS

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
B	ISSUE FOR COMMENT	25-10-18
A	ISSUE FOR COMMENT	24-10-18



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Internet: http://www.meriton.com.au

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		Designed	GJ
Grid	MGA	Checked	AT
Height Datum	AHD	Approved	

Project

**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title

**INTERNAL STORMWATER
CATCHMENT
PLAN**

Civil Engineers and Project Managers

at&l

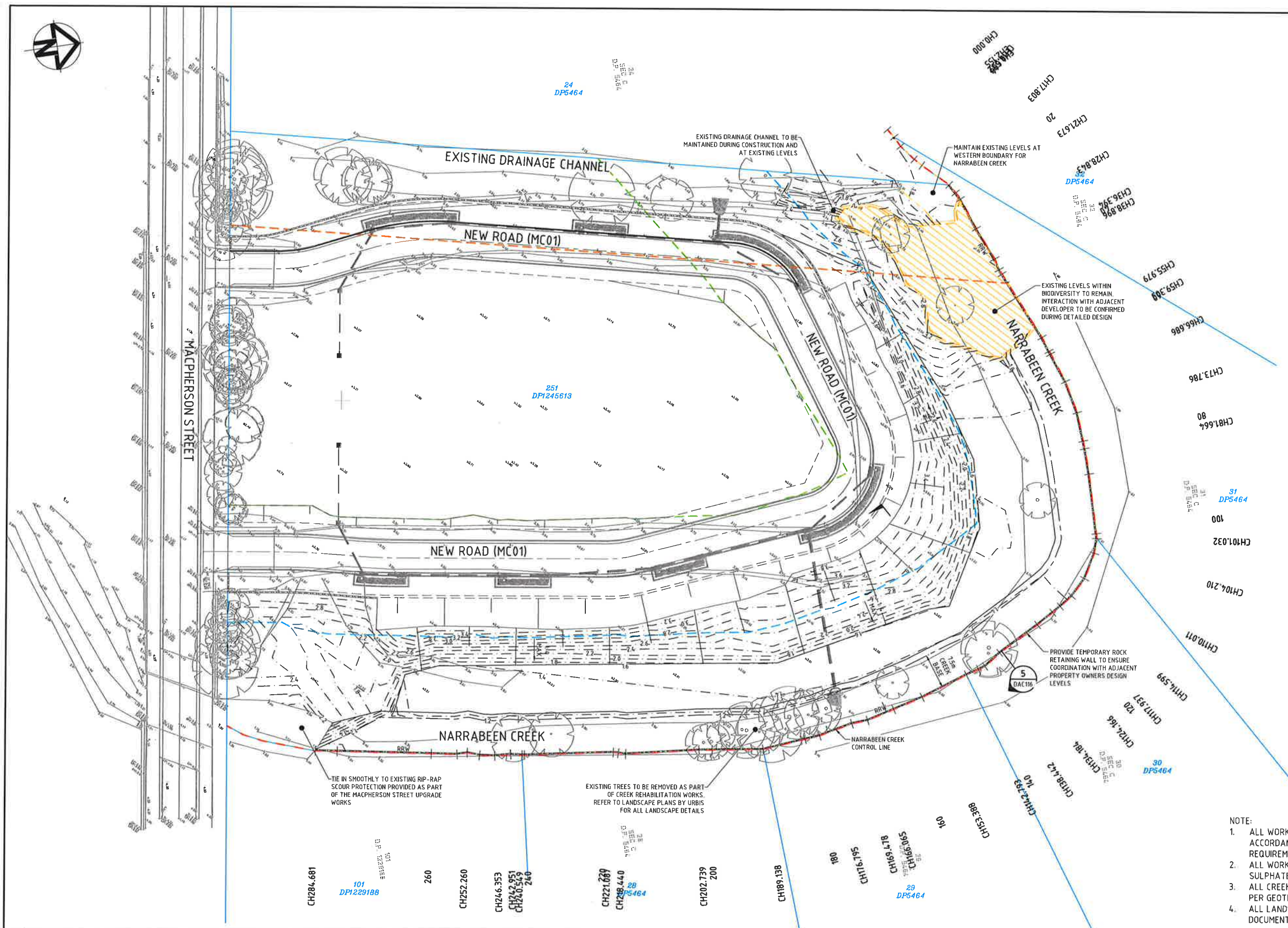
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Tel: 02 9439 1777
Fax: 02 9460 8413
www.atl.net.au
info@atl.net.au

Status

FOR APPROVAL

NOT TO BE USED FOR CONSTRUCTION

Drawing No. **DAC1090** Project No. **18-580** Issue **F**



CREEK PLAN LEGEND

EXISTING

- EXISTING BOUNDARY
- EXISTING CONTOUR
- EXISTING 20m ASSET PROTECTION ZONE
- EXISTING TREE
- BIODIVERSITY EXTENTS

PROPOSED

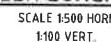
- PROPOSED EASEMENT
- PROPOSED CREEK CENTERLINE
- PROPOSED 25m RIPARIAN CORRIDOR
- PROPOSED 25m PRIVATE BUFFER
- PROPOSED CREEK BASE
- CONTOUR (0.2m INTERVAL)
- FINISHED LEVEL
- KERB & GUTTER
- ROLL TOP KERB AND GUTTER
- BARRIER KERB
- DISH DRAIN
- VEHICULAR CROSSING
- BATTER
- RETAINING WALL
- STORMWATER PIPE (SHOWING SIZE)
- STORMWATER KERB INLET PIT
- STORMWATER SURFACE INLET PIT
- STORMWATER RAINGARDEN

NOTES

- NARRABEEN CREEK DESIGN SHOULD BE CONSIDERED INDICATIVE ONLY UNTIL DETAILED SITE SURVEY AND ADJACENT PROPERTY OWNERS DETAILED DESIGNS ARE OBTAINED IN ELECTRONIC FORMAT
- REFER DRAWING DAC1028 FOR CIVIL DETAILS.
- REFER DRAWING DAC1021-1023 FOR STORMWATER DETAILS.

- NOTE:
- ALL WORKS WITHIN NARRABEEN CREEK ARE TO BE IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL REQUIREMENTS AND ASSOCIATED APPROVAL
 - ALL WORKS TO BE IN ACCORDANCE WITH APPROVED ACID SULPHATE SOILS MANAGEMENT PLAN
 - ALL CREEK STABILISATION WORKS TO BE COMPLETED AS PER GEOTECHNICAL ENGINEERS DIRECTON
 - ALL LANDSCAPE WORKS ARE AS PER URBIS DOCUMENTATION

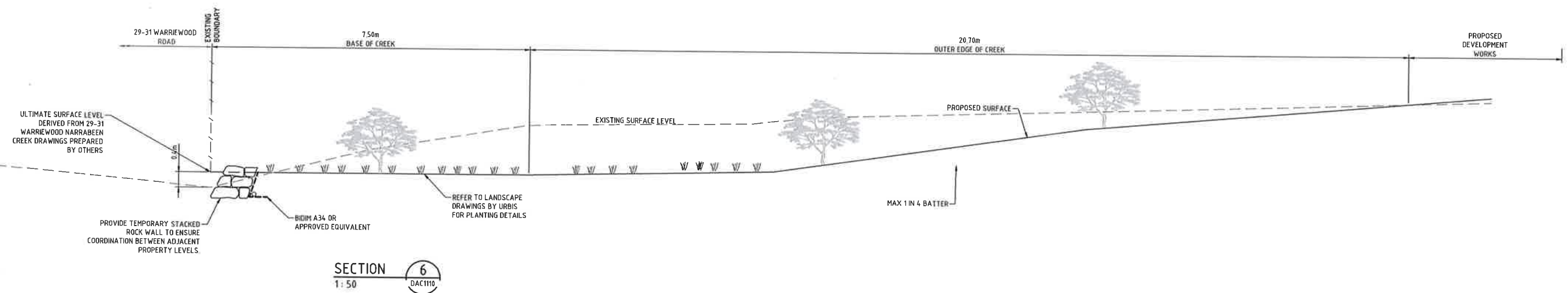
Bar Scales 0 10 20 30 40m 1:400 @ A1 1:800 @ A3		THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L		Client KARIMBLA CONSTRUCTION SERVICES (NSW) PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au		Scales 1:400 @ A1 Grid MGA Height Datum AHD		Drawn GJ Designed GJ Checked AT Approved		Project 2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE		Civil Engineers and Project Managers at&l Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 862 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au																												
<table border="1"><thead><tr><th>Issue</th><th>Description</th><th>Date</th></tr></thead><tbody><tr><td>F</td><td>ISSUE FOR APPROVAL</td><td>28-03-19</td></tr><tr><td>E</td><td>ISSUE FOR APPROVAL</td><td>10-12-18</td></tr><tr><td>D</td><td>ISSUE FOR APPROVAL</td><td>07-12-18</td></tr><tr><td>C</td><td>ISSUE FOR APPROVAL</td><td>30-10-18</td></tr><tr><td>B</td><td>ISSUE FOR COMMENT</td><td>25-10-18</td></tr><tr><td>A</td><td>ISSUE FOR COMMENT</td><td>24-10-18</td></tr></tbody></table>		Issue	Description	Date	F	ISSUE FOR APPROVAL	28-03-19	E	ISSUE FOR APPROVAL	10-12-18	D	ISSUE FOR APPROVAL	07-12-18	C	ISSUE FOR APPROVAL	30-10-18	B	ISSUE FOR COMMENT	25-10-18	A	ISSUE FOR COMMENT	24-10-18									Title NARRABEEN CREEK PLAN		<table border="1"><tr><td colspan="2">Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION</td><td>A1</td></tr><tr><td>Drawing No. DAC1110</td><td>Project No. 18-580</td><td>Issue F</td></tr></table>		Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		A1	Drawing No. DAC1110	Project No. 18-580	Issue F
Issue	Description	Date																																						
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Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		A1																																						
Drawing No. DAC1110	Project No. 18-580	Issue F																																						



Civil Engineers and Project Managers

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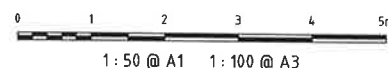
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 4. ALL LANDSCAPE WORKS ARE AS PER URBIS DOCUMENTATION

Issue	Description	Date
F	ISSUE FOR APPROVAL	28-03-19
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A	ISSUE FOR COMMENT	24-10-18

Bar Scales



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Scales 1:50 @ A1

Grid MGA
Height Datum AHD

Drawn GJ
Designed GJ
Checked AT
Approved

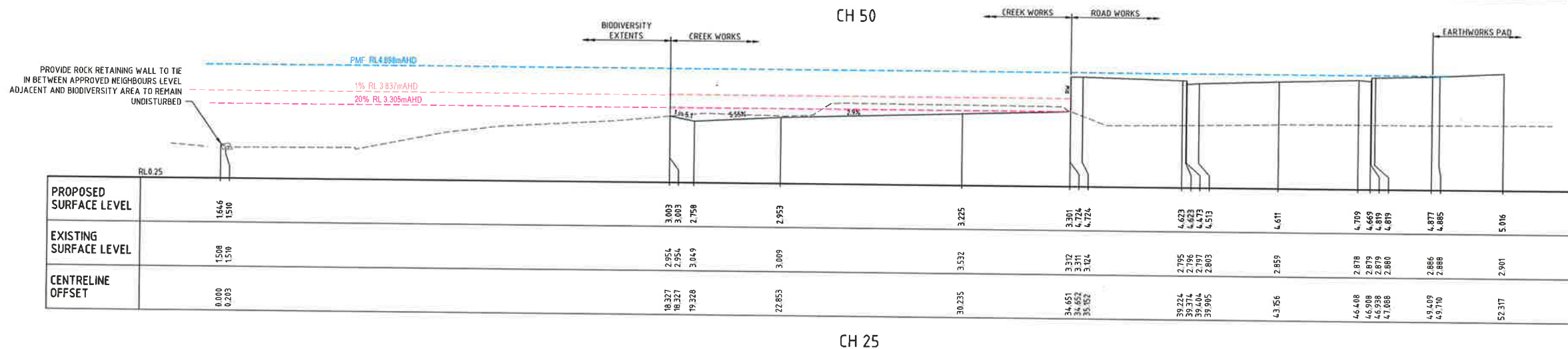
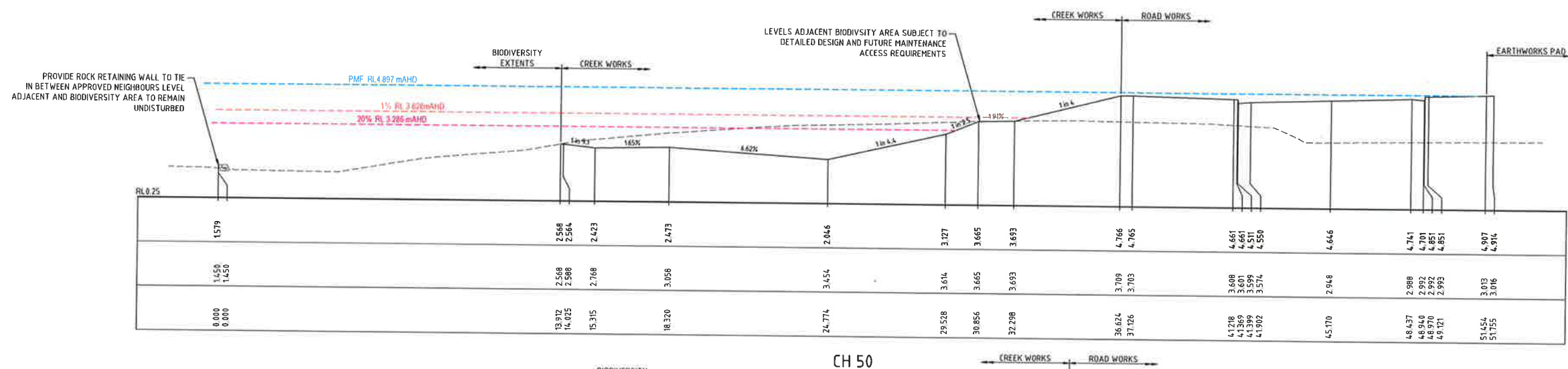
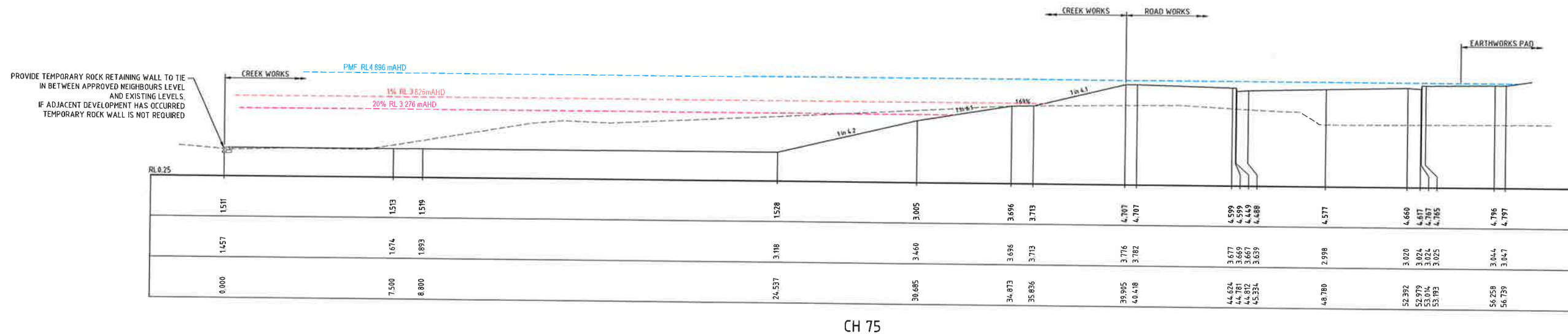
Project **2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title **NARRABEEN CREEK
TYPICAL
SECTIONS**

Civil Engineers and Project Managers

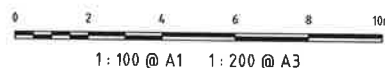
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Status **FOR APPROVAL**
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Project No. **18-580**
Issue **A1**
F



Issue	Description	Date
A	ISSUE FOR COMMENT	15-04-19

Bar Scales



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Scales 1: 100 @ A1

Grid MGA

Height Datum AHD

Drawn	GJ
Designed	GJ
Checked	AT
Approved	

Project

**2 MACPHERSON STREET
WARRIEWOOD
EARLY WORKS
PACKAGE**

Title

**NARRABEEN CREEK
CROSS SECTIONS
SHEET 1**

Civil Engineers and Project Managers

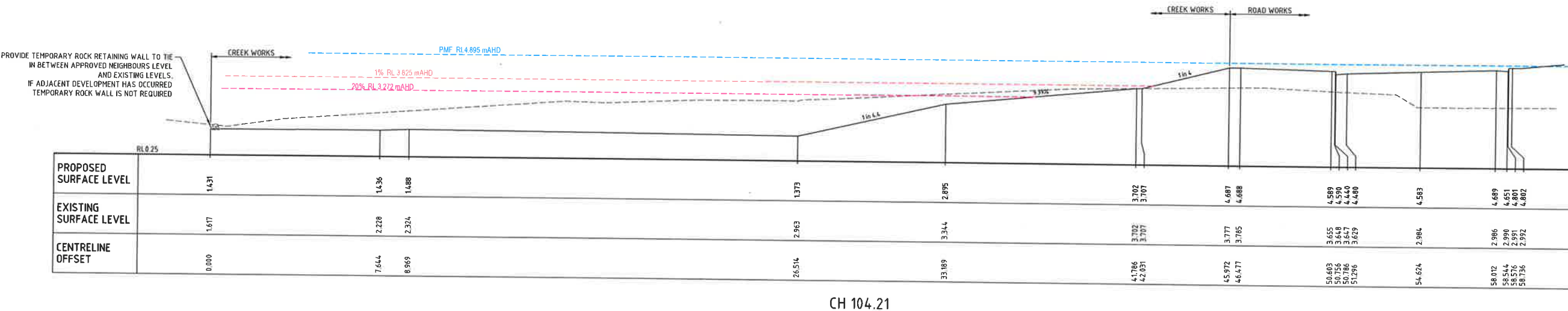
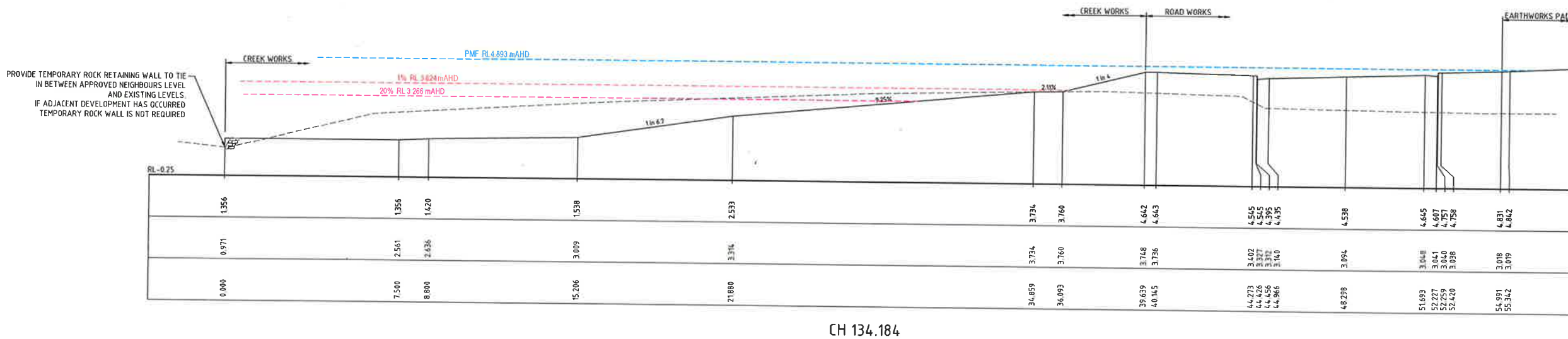
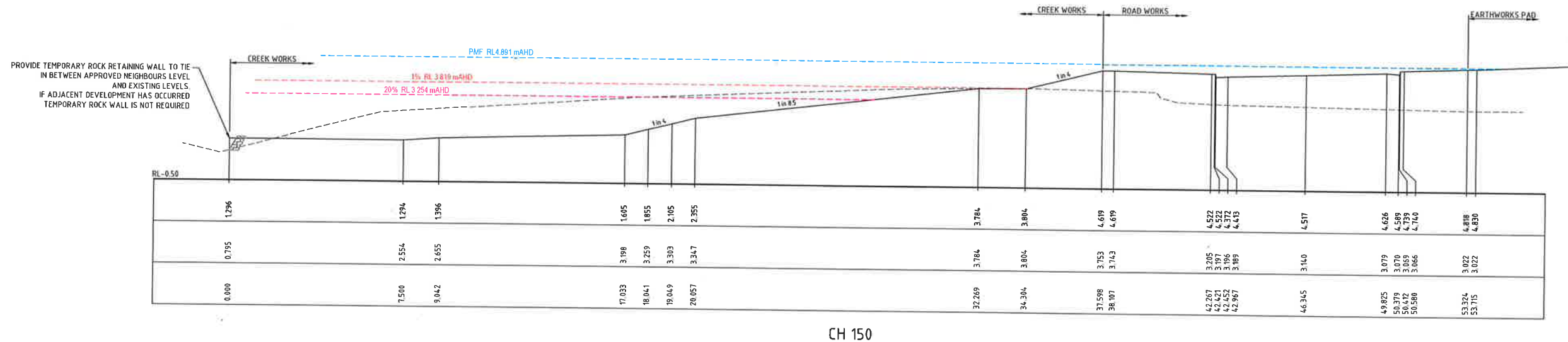
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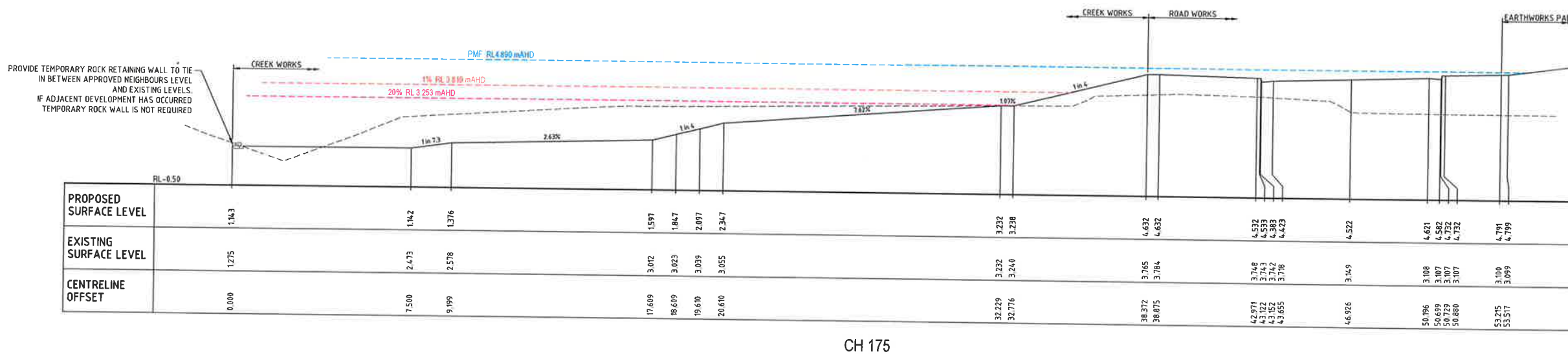
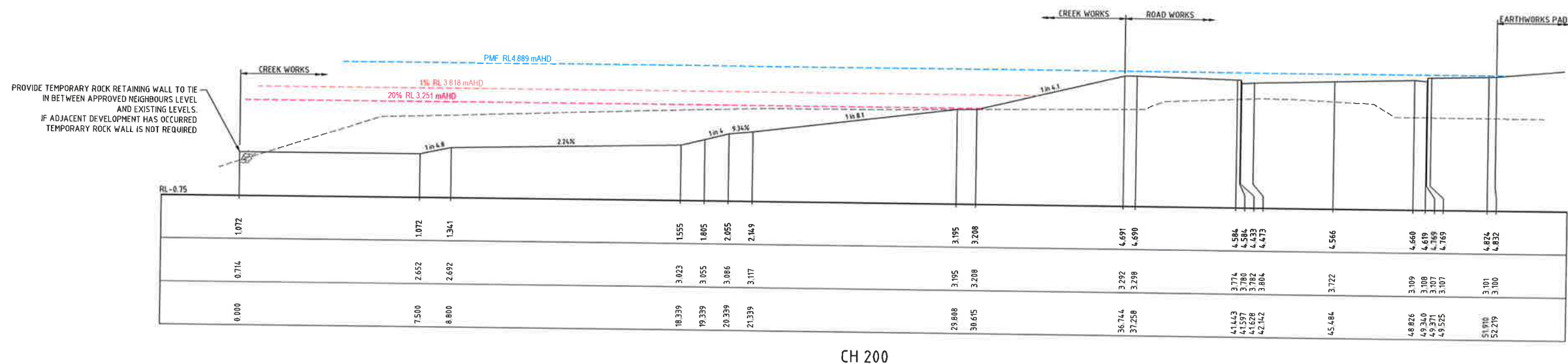
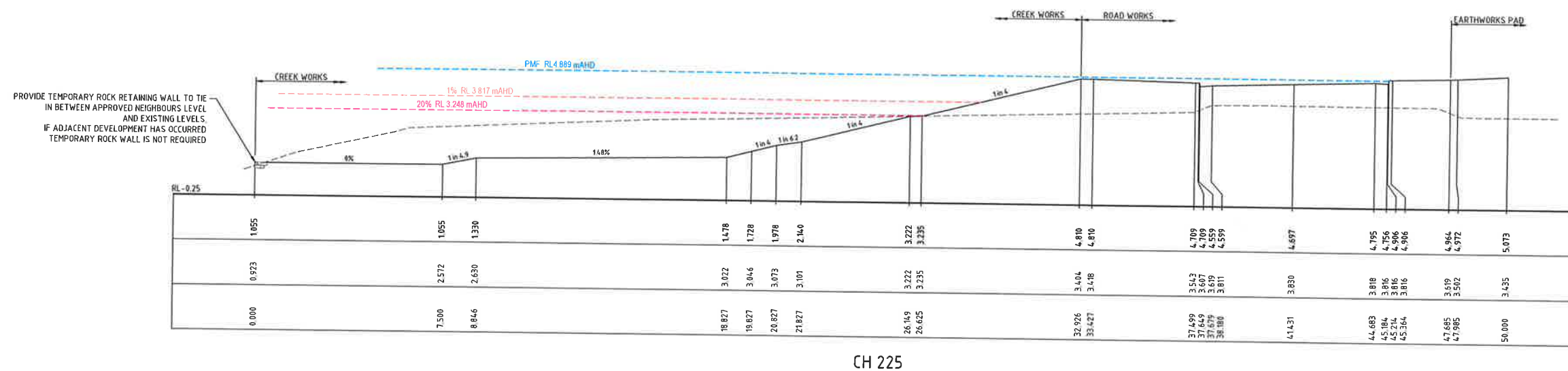
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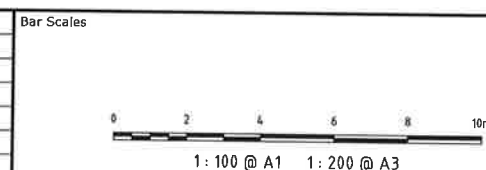
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A ISSUE FOR COMMENT 15-04-19		Date		Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION Drawing No. DAC1121 Project No. 18-580 Issue A		Drawing No. DAC1121 Project No. 18-580 Issue A		Drawing No. DAC1121 Project No. 18-580 Issue A		Drawing No. DAC1121 Project No. 18-580 Issue A			



A	ISSUE FOR COMMENT	15-04-1
Issue	Description	Date



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Grid MGA	Checked	AT
Height AHD	Approved	

Project	2 MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE
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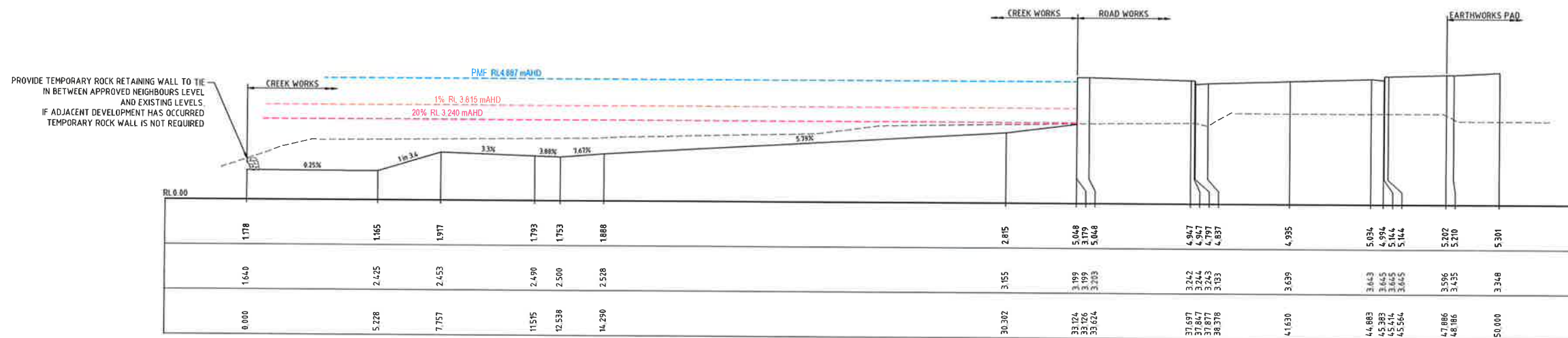
NARRABEEN CREEK
CROSS SECTIONS
SHEET 3

Civil Engineers and Project Managers

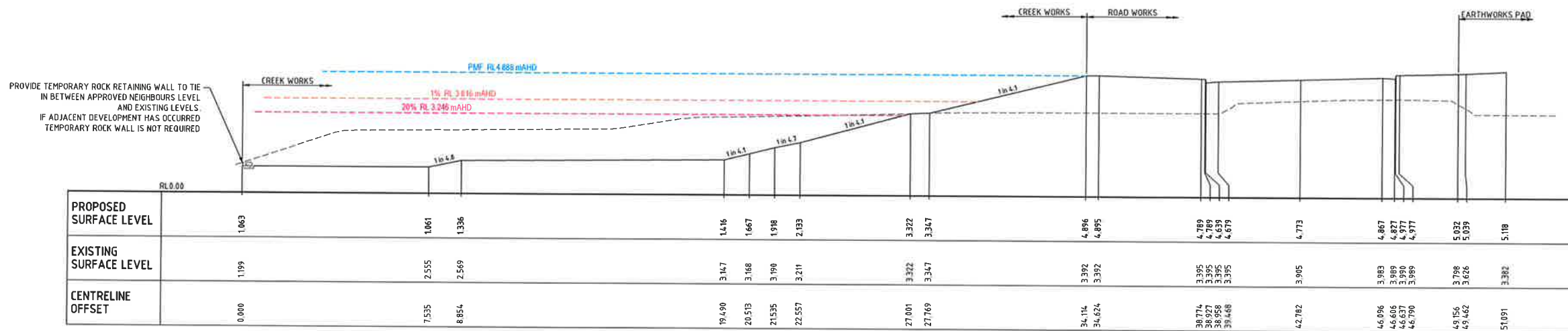
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Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		A1
Drawing No. DAC1122	Project No. 18-580	Issue A



CH 275



CH 250

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Issue A ISSUE FOR COMMENT 15-04-19		Date		Grid MGA Height AHD		Title NARRABEEN CREEK CROSS SECTIONS SHEET 4		Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		Project No. 18-580	
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