

COURTNEY DRIVE UPPER COOMERA

OPERATIONAL WORKS STAGE 03 No. 41901-03

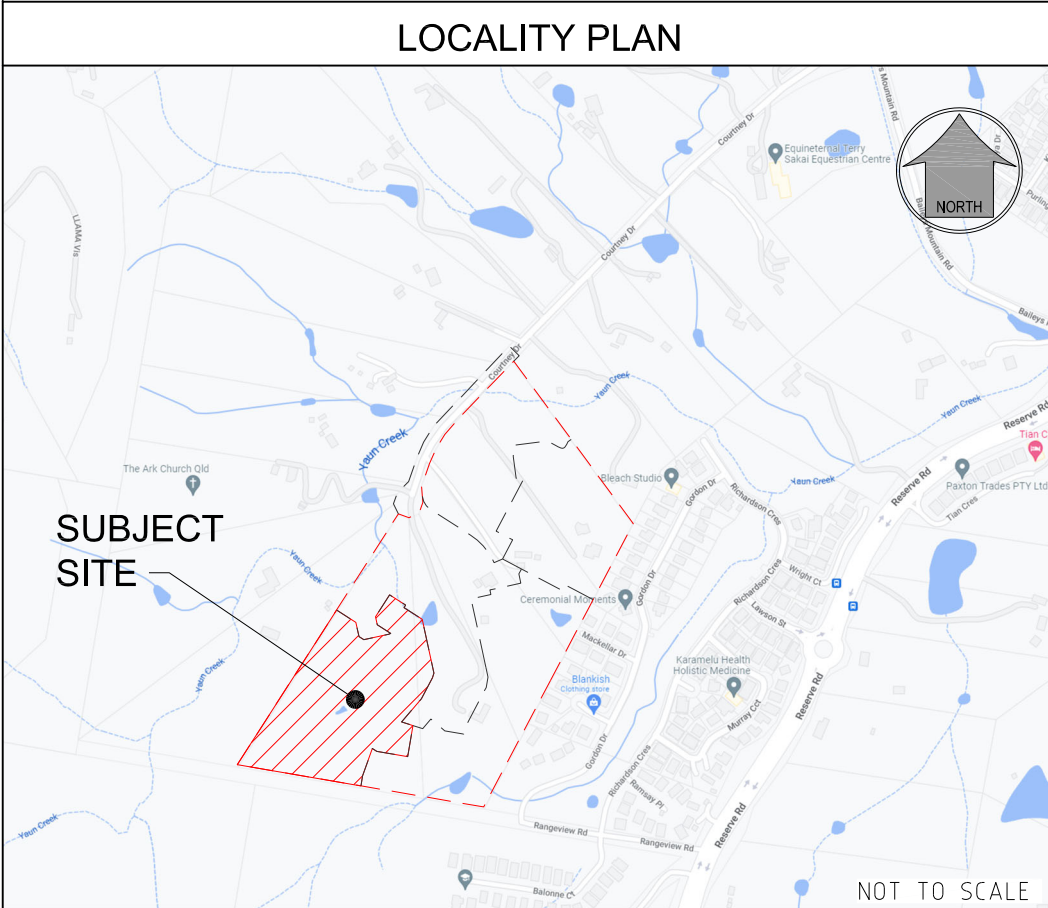
SCHEDULE OF DRAWINGS					
NUMBER	REV. NO.	TITLE	NUMBER	REV. NO.	TITLE
GENERAL			ROADS: INTERSECTION GRADING		
41901-03-000	B	COVER SHEET	41901-03-400	A	DETAILS SHEET 01
41901-03-003	A	SAFETY IN DESIGN	41901-03-410	A	DETAILS SHEET 01
41901-03-004	A	RISK MATRIX & NOTES	ROADS: LINEMARKING AND SIGNAGE		
41901-03-005	A	41901-03-005 - ROAD HIERARCHY & STAGING PLAN SHEET 01	41901-03-420	A	PLAN SHEET 01
EARTHWORKS: EXISTING FEATURES & DEMOLITION			SEWER: SEWER RETICULATION		
41901-03-020	A	PLAN SHEET 01	41901-03-500	A	PLAN SHEET 01
EARTHWORKS: RETAINING WALL & DETAIL GRADING			41901-03-501	A	PLAN SHEET 02
41901-03-060	A	PLAN SHEET 01	41901-03-510	A	DETAILS SHEET 01
41901-03-061	A	PLAN SHEET 02	SEWER: PROFILES		
41901-03-062	A	PLAN SHEET 03	41901-03-530	B	SHEET 01
41901-03-070	A	DETAILS SHEET 01	41901-03-531	B	SHEET 02
41901-03-071	A	DETAILS SHEET 02	SEWER: HOUSE CONNECTION PROFILES		
41901-03-072	A	FINAL TRIM DETAILS	41901-03-550	B	SHEET 01
EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL			DRAINAGE: STORMWATER		
41901-03-080	A	PLAN SHEET 01	41901-03-600	A	PLAN SHEET 01
41901-03-081	A	PLAN SHEET 02	41901-03-601	A	PLAN SHEET 02
ROADS			DRAINAGE: PROFILES		
ROADS: COMBINED SERVICES			41901-03-620	B	SHEET 01
41901-03-090	A	PLAN SHEET 01	41901-03-621	A	SHEET 02
ROADS: ROADWORKS			DRAINAGE: PIT DETAILS & TYPICAL DETAILS		
41901-03-100	A	PLAN SHEET 01	41901-03-640	A	OUTLETS & TYPICAL DETAILS SHEET 01
41901-03-120	A	DETAILS SHEET 01	41901-03-650	A	PIT DETAILS SHEET 01
ROADS: LONGITUDINAL SECTIONS			41901-03-651	A	PIT DETAILS SHEET 02
41901-03-200	A	ROAD 02	DRAINAGE: CATCHMENT		
41901-03-201	A	ROAD 04	41901-03-670	A	PLAN SHEET 01
ROADS: CROSS SECTIONS			41901-03-671	A	PLAN SHEET 02
41901-03-300	A	ROAD 02	DRAINAGE: CALCULATION TABLES		
41901-03-301	A	ROAD 04 SHEET 01	41901-03-680	A	MINOR AND MAJOR
41901-03-302	A	ROAD 04 (Cont.) SHEET 02	WATER: WATER RETICULATION		
41901-03-303	A	ROAD 04 (Cont.) SHEET 03	41901-03-700	B	PLAN SHEET 01
			41901-03-710	A	DETAILS



CLIENT



SUB-CONSULTANTS



R. P. DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the
conditions of approval as detailed in the
Decision Notice and Council's Planning
Scheme, Local Laws and Planning Policies

DRAWING NUMBER
41901-03-000

AMEND.
B

DESIGN ITEM	POTENTIAL HAZARD	PHASE	THOSE AT RISK	PRE-TREATMENT RISK ASSESSMENT				TREATMENT OPTIONS	- ADOPTED TREATMENT - REASON - BY WHOM	RESIDUAL RISK ASSESSMENT				ONGOING RESPONSIBILITY
				SEVERITY	LIKELIHOOD (RISK)	Risk Product	RISK RATING			SEVERITY	LIKELIHOOD (RISK)	Risk Product	RISK RATING	
Road Design	Traffic Speed	Operational	Public	Death	Possible	15	Significant	- Design compliance with Local Council requirements, Queensland Streets and appropriate sections of Austroads. - Lot layout to consider natural slow points in road layout. - Consideration of slow points within Local street network.	Town Planners and Council to ensure original layout reduces risk (i.e. minimise long straight roads). Designer to consider inclusion of slow points in consultation with Council and prepare design in accordance with applicable standards.	Permanent Disability	Rare	4	Low	Closed
Road Design	Unclear priorities at intersections or slow points	Operational	Public	Death	Unlikely	10	High	- Design compliance with Local Council requirements, Queensland Streets and appropriate sections of Austroads. - Linemarking to be provided in accordance with MUTCD and Council's approval.	Designer to incorporate linemarking in accordance with MUTCD and Council's requirements to assist in minimising confusion at intersections and slow points.	Permanent Disability	Rare	4	Low	Closed
Traffic Management	Accidents at the interface between public and work site	Construction	Contractor & Public	Permanent Disability	Unlikely	8	Moderate	- Traffic Management Plan to be prepared by suitable qualified consultant. - TMP to consider temporary lighting, signage, barriers/separation and other traffic management measures.	Contractor to prepare site specific TMP incorporating appropriate measures to minimise risk at interface of work site and public roads.	Permanent Disability	Rare	4	Low	On Going: Contractor to monitor until end of Construction Phase
Public Access	Public wandering onto work site	Construction	Contractor & Public	Death	Unlikely	10	High	- Appropriate signage to be installed at public interface - Fencing to discourage accidental access to site	Contractor to prepare site specific Construction Management Plan to minimise risk of public access to the site.	Death	Rare	5	Moderate	On Going: Contractor to monitor until end of Construction Phase
Existing Services	Working on or near existing services - Electrocutation, disrupt critical services, relating to the previous stages works	Construction	Contractor, Public & Asset Owner	Permanent Disability	Unlikely	8	Moderate	- Design to consider existing services and include appropriate clearances or protection measures. - Dial Before You Dig to be performed prior to design commencing. - Developer provide survey of any critical existing infrastructure prior to design. - Design drawings to show known services. - Connection point to be detailed in accordance with the relevant standard.	Contractor to physically locate and fence off the existing services at the end of each stage and make all personnel aware that there are live services. Dial Before You Dig logo to be added to drawings. Connection details design and annotated on drawings in accordance with Water Authority requirements.	Death	Rare	5	Moderate	On Going: Contractor to monitor until end of Construction Phase
Retaining Walls	Falling	Construction, operational, maintenance	Contractor, Public & Asset Owner	Permanent Disability	Possible	12	High	- Minimise the height if retaining walls. - Minimise the number of locations.	Batters designed in all locations practical. Heights of wall minimised by civil designer. Safety fencing requirements included on drawings.	Medical Treatment	Unlikely	6	Moderate	On Going: Contractor to monitor until end of Construction Phase
Earthworks Surface	Working on steep Batters	Construction and maintenance	Contractor & Asset Owner	Medical Treatment	Possible	9	High	- Minimise the height of batters. - Minimise the number of locations. - Extend services up batters where possible to reduce future works on batter slopes.	Batters designed to minimum practical height in all locations practical. Services to be constructed up the batters to ensure future batter stability.	Medical Treatment	Rare	3	Low	On Going: Contractor to monitor until end of Construction Phase and Asset Owner to continue monitoring for future maintenance.
Stormwater and Sewer	Falling and Trench Collapse	Construction and Maintenance	Contractor & Asset Owner	Death	Unlikely	10	High	- Minimise depth of drainage lines. - Design in accordance with relevant standard.	Infrastructure designed in accordance with local authority requirements. Graded pipelines as shallow as practical to reduce depth.	Death	Rare	5	Moderate	On going: Contractor to Monitor until end of Pipe line construction completed.
Stormwater Inlets	Drowning	Operational	Public	Death	Unlikely	10	High	- Design to minimise stormwater inlets within public areas. - Install inlet grates on stormwater inlets where required.	Risk assessment of stormwater inlets undertaken in accordance with QUDM requirements and stormwater inlet grates have been specified where required.	Death	Rare	5	Moderate	Closed
Temporary Stormwater Construction Sediment Ponds	Drowning	Construction and Maintenance	Public, Contractors & Council	Death	Possible	15	Significant	- Site fencing and warning signs to be installed. - Minimise depth - Design access and egress in accordance with QUDM and Asset Owner requirements.	Notes annotated on civil drawings for contractor to provide fencing and signage. Designed in accordance QUDM for access and egress. Depth minimised.	Death	Rare	5	Moderate	Monitor until end of Construction of Sediment Basins

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PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03

RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



A	14-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

SAFETY IN DESIGN

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As: Postal Address
Mortons-Urban Solutions PO Box 2484
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mortons@urbansolutions.net.au
www.urbansolutions.net.au Gold Coast Office
Tel: 07 5571 1099 Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	REPEQ 706 DATE 14-11-23
DRAWING NUMBER 41901-03-003	
REV A	

		Consequence				
		Minor / Insignificant (1)	First Aid Treatment (2)	Medical Treatment (3)	Permanent Disability (4)	Death (5)
Likelihood	Almost Certain (5)	Moderate	High	Significant	Significant	Significant
	Likely (4)	Low	Moderate	High	Significant	Significant
	Possible (3)	Low	Moderate	High	High	Significant
	Unlikely (2)	Low	Low	Moderate	Moderate	High
	Rare (1)	Low	Low	Low	Low	Moderate

LEVEL OF RISK
SIGNIFICANT 15 to 25
HIGH 9 to 14
MODERATE 5 to 8
LOW 1 to 4

NOTES:

- THIS SID REGISTER IN NO WAY RELIEVES THE PRINCIPAL, CONTRACTOR, ASSET OWNER OR ANY OTHER PARTY OF THEIR OWN OBLIGATIONS UNDER THE WORKPLACE HEALTH AND SAFETY ACT AND THEIR DUTY OF CARE. THIS IS PROVIDED AS INFORMATION FOR PARTIES TO ASSIST IN MEETING THEIR OWN OBLIGATIONS AND IS BY NO MEANS A COMPLETE LIST. THIS SID REGISTER OR THE NOTES AND DETAILS INCLUDED WITHIN THE DESIGN DRAWINGS DO NOT RELIEVE THE PRINCIPAL CONTRACTOR OF ANY OBLIGATION UNDER ALL RELEVANT LEGISLATION OR GUIDELINE.
- ALL CONTRACTORS AND ASSET OWNERS REMAIN RESPONSIBLE IN THE PREPARATION OF THEIR OWN SAFETY MANAGEMENT PLANS AND SUITABLE SAFE WORK METHOD STATEMENTS.
- THIS SID REGISTER IDENTIFIES ATYPICAL FEATURES OF THE DESIGN. COMMON/TYPICAL FEATURES OF THIS DESIGN ARE NOT INCLUDED IN THIS SID REGISTER.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

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PROJECT NAME		
COURTNEY DR UPPER COOMERA		
STAGE 03		
RP DESCRIPTION		
LOT 188, 189, 190, 191 & 192 ON RP173728 COURTNEY DRIVE LOCALITY OF UPPER COOMERA LOCAL AUTHORITY - GOLD COAST CITY COUNCIL		
CLIENT		
		
A	16-11-23	COUNCIL ISSUE
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ASSOCIATED CONSULTANTS		
  		
DRAWING TITLE		
RISK MATRIX & NOTES		
 Urban & Regional Planning Civil Engineering Project Coordination		
MUS Pty Ltd T/As: Postal Address Mortons-Urban Solutions PO Box 2484 ABN: 39 116 375 065 Southport QLD 4215 mortons@urbansolutions.net.au www.urbansolutions.net.au Gold Coast Office Tel: 07 5571 1099 Suite 9, 19 Short St Southport QLD 4215		
DESIGNED RB	DRAWN EP	
APPROVED 	REQ 4706	DATE 16-11-23
DRAWING NUMBER		REV
41901-03-004		A

GENERAL

1. CONTRACT SPECIFICATIONS
ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
2. SETOUT
SURVEY SETOUT INFORMATION HAS BEEN ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR TO ENABLE THE CONTRACTOR TO ACCURATELY SETOUT THE WORKS TO THE CO-ORDINATES SHOWN. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. DATUM
LEVELS SHOWN ARE TO A.H.D.
4. TRENCH SPOIL
ALL MATERIALS ARISING FROM ROADS & SERVICES ARE TO BE COMPACTED TO FUTURE STAGES, TO LEVEL 1 IF NO SPOIL AREA IS AVAILABLE THESE MATERIALS SHALL BE TRUCKED TO A LICENSED TIP. THESE WORKS FORM PART OF THE CONTRACTED WORKS.
5. CHECK ELECTRONIC SETOUT
CONTRACTOR IS RESPONSIBLE TO ENSURE ANY ELECTRONIC DATA FILES MATCH THE DRAWINGS.
6. PRE START
 - a. ERECT SITE SIGNAGE, CONSTRUCT ENTRY & EXIT POINT AS INDICATED.
 - b. CONSTRUCT VEHICLE WASHDOWN AREA & ASSOCIATED SILT MANAGEMENT DEVICES.
 - c. CONSTRUCT SITE OFFICE & STORAGE COMPOUND AREA.
 - d. INSTALL EROSION & SEDIMENT CONTROL DEVICES AS PER THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN.
 - e. ERECT TEMPORARY TREE PROTECTION FENCING IN ACCORDANCE WITH THE APPROVED VEGETATION MANAGEMENT PLAN & AUTHORITIES APPROVAL CONDITIONS (IF REQUIRED).
7. HEALTH & SAFETY
ALL WORKS UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH & SAFETY LEGISLATION.
8. STOCKPILING
STOCKPILING OF ANY SURPLUS MATERIAL IS NOT PERMITTED

PROJECT SPECIFIC REPORTS

THE CONTRACTOR MUST FOLLOW THE RECOMMENDATIONS & PROCEDURES OUTLINED IN THE FOLLOWING REPORTS AT ALL TIMES:

- a) GEOTECHNICAL INVESTIGATION REPORTS (INCLUDING ANY ACID SULPHATE OR DISPERSIVE SOIL REPORTING)
- b) VEGETATION & FAUNA MANAGEMENT PLANS
- c) OTHER MANAGEMENT PLANS NOMINATED IN THE CONTRACT, AUTHORITIES APPROVAL CONDITIONS OR BY THE SUPERINTENDENT.

LEGEND

	RESIDENTIAL ACCESS STREET (7.5m CARRIAGEWAY)
	EXISTING PROPERTY LINE
	EXISTING KERB (INVERT)
	FUTURE PROPERTY LINE
	FUTURE KERB (INVERT)
	PROPOSED PROPERTY LINE
	PROPOSED KERB (INVERT)
	SITE BOUNDARY
	STAGE BOUNDARY
	LIMIT OF WORKS BOUNDARY

REFER 120 DRAWINGS SERIES FOR TYPICAL SECTIONS

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STAGE 03

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COURTNEY DRIVE
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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 10 20 30 40 50m
Scale 1:1000 - A1 (1:2000 - A3)

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ASSOCIATED CONSULTANTS



DRAWING TITLE

ROAD HIERARCHY,
STAGING PLAN
&
GENERAL NOTES
SHEET 01



MUS Pty Ltd T/As:
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ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel: 07 5571 1099

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PO Box 2484
Southport QLD 4215

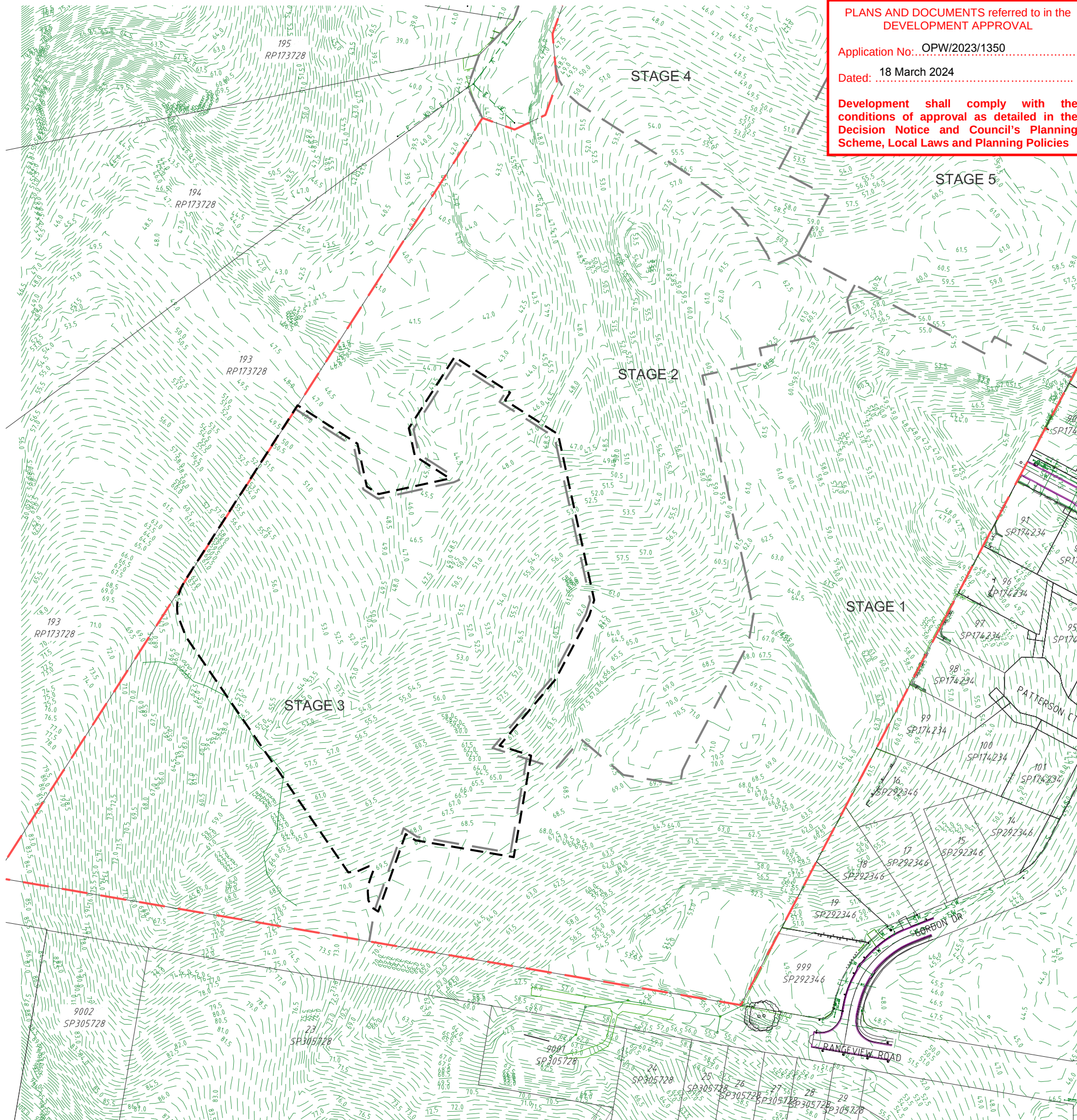
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED	REQ 4706 DATE 16-11-23
DRAWING NUMBER 41901-03-005	REV A

- GENERAL**
- EXISTING SERVICES - EXTERNAL WORKS
THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.
 - EXISTING STRUCTURES
ALL EXISTING STRUCTURES & ASSOCIATED INFRASTRUCTURE TO BE REMOVED & DISPOSED OF OFF SITE.
 - EXISTING DAMS
EXISTING DAMS TO BE DEWATERED. ALL SILT & DEBRIS ARE TO BE REMOVED & LAWFULLY DISPOSED OF TO A TIP OFF SITE, OR INCORPORATED INTO THE SITE EARTHWORKS AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER. REPLACEMENT FILL IS TO BE LOCATED & COMPACTED IN ACCORDANCE WITH LOCAL COUNCIL'S SPECIFICATIONS.

NOTE:
CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR LOCATION AND PROTECTION OF EXISTING SERVICES DURING WORKS.

- LEGEND**
- EXISTING PROPERTY LINE
 - EXISTING FENCE
 - EXISTING KERB
 - EXISTING EDGE OF BITUMEN
 - CONTROL LINE / CENTER OF ROAD
 - EXISTING FOOTPATH
 - EXISTING EDGE OF VEGETATION
 - RM - RM - EXISTING RISING MAIN
 - S - S - EXISTING SEWER
 - SW - SW - EXISTING STORMWATER
 - W - W - EXISTING WATER
 - G - G - EXISTING GAS
 - E - E - EXISTING UNDERGROUND ELECTRICITY
 - E - E - EXISTING OVERHEAD ELECTRICITY
 - T - T - EXISTING TELSTRA
 - C - C - EXISTING COMMUNICATIONS
 - 1.0 - EXISTING CONTOURS MAJOR
 - 1.5 - EXISTING CONTOURS MINOR
 - RM - X - RM - DEMOLISH RISING MAIN
 - S - X - S - DEMOLISH SEWER
 - SW - X - SW - DEMOLISH STORMWATER
 - W - X - W - DEMOLISH WATER
 - G - X - G - DEMOLISH GAS
 - E - X - E - DEMOLISH UNDERGROUND ELECTRICITY
 - E - X - E - DEMOLISH OVERHEAD ELECTRICITY
 - T - X - T - DEMOLISH TELSTRA
 - C - X - C - DEMOLISH COMMUNICATIONS
 - SITE BOUNDARY
 - STAGE BOUNDARY
 - LIMIT OF WORKS BOUNDARY
 - TREE PROTECTION FENCE
 - TREES TO BE RETAINED
 - TREES TO BE REMOVED



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UPPER COOMERA**

STAGE 03

RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 10 20 30 40 50m
Scale 1:1000 - A1 (1:2000 - A3)

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ASSOCIATED CONSULTANTS

BIOME
WATER AND ENVIRONMENTAL CONSULTING

Robin Russell
& ASSOCIATES PTY. LTD.

BENNETT - BENNETT

DRAWING TITLE

**EXISTING FEATURES
AND DEMOLITION
PLAN
SHEET 01**

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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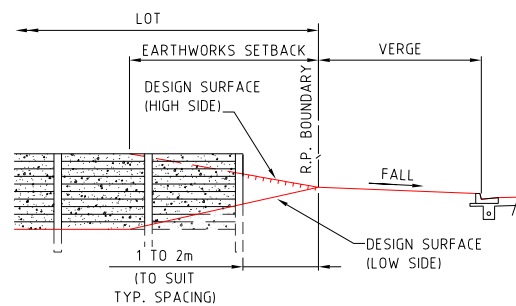
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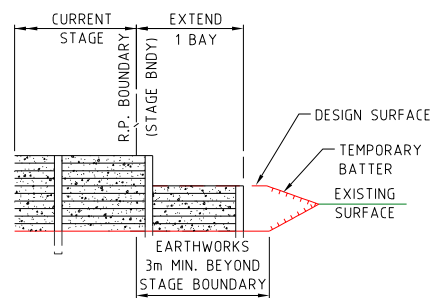


1. CONTRACT SPECIFICATIONS
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3. DATUM
LEVELS SHOWN ARE TO A.H.D.
4. EXISTING SERVICES - EXTERNAL WORKS
THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.
5. ALL MATERIALS ARISING FROM RETAINING WALL CONSTRUCTION ARE TO BE COMPACTED TO FUTURE STAGES, TO LEVEL 1 OR IF DIRECTED BY THE SUPERINTENDENT SHALL BE TRUCKED TO A LICENSED TIP.

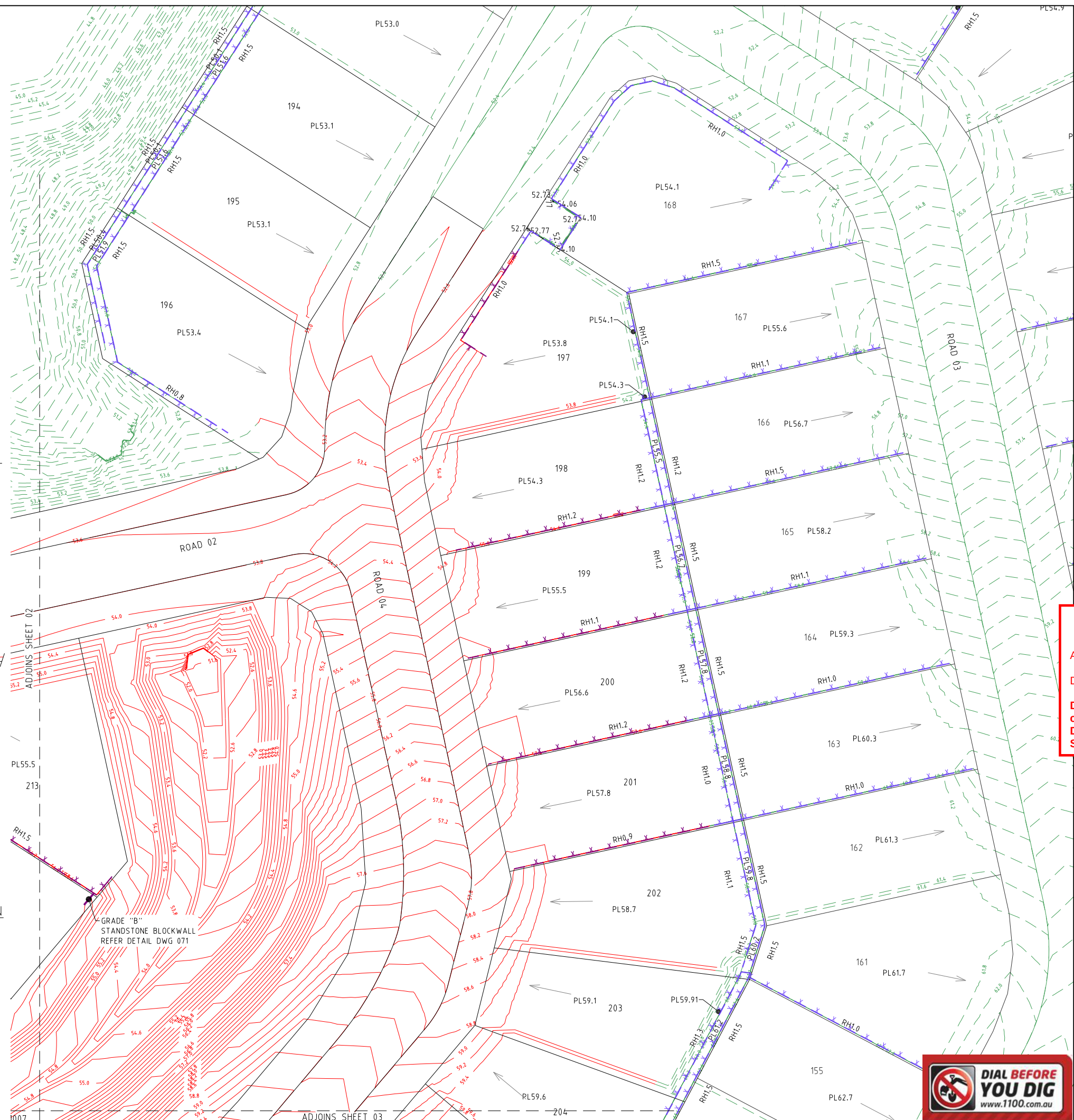
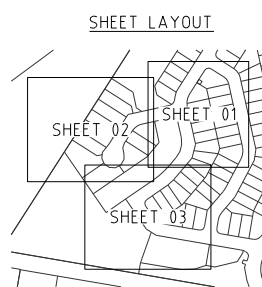
———— EXISTING KERB (INVERT)
 ———— EXISTING PROPERTY LINE
 — 1.0 ——— EXISTING CONTOURS
 —X—X—X—X—X— EXISTING RETAINING WALL
 - - - - - FUTURE KERB (INVERT)
 - - - - - FUTURE PROPERTY LINE
 - - 1.0 - - - FUTURE CONTOURS
 —X—X—X—X—X— FUTURE RETAINING WALL
 ———— PROPOSED KERB (INVERT)
 ———— PROPOSED PROPERTY LINE
 — 1.0 ——— DESIGN CONTOURS
 —X—X—X—X—X— PROPOSED SINGLE TIER RETAINING WALL
 ————— PROPOSED RETAINING WALL SLEEPER
 —○—○—○—○—○— PROPOSED SINGLE BOULDER RETAINING WALL
 PL50.4 NOMINAL LOT PAD LEVEL
 RH1.0 INDICATIVE WALL HEIGHT
 —————> DETAIL PAD FALL DIRECTION
 (CONTRACTOR TO ENSURE LOTS
 FALL TO ROAD AT 1:150 MIN.
 REFER DRG. 071)



SCALE 1:100 - A1 (1:200 - A3)



SCALE 1:100 - A1 (1:200 - A3)



COURTNEY DR
UPPER COOMERA

RP DESCRIPTION

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LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

C L I E N T



A	14-11-23	COUNCIL ISSUE	RK
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ASSOCIATED CONSULTANTS

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

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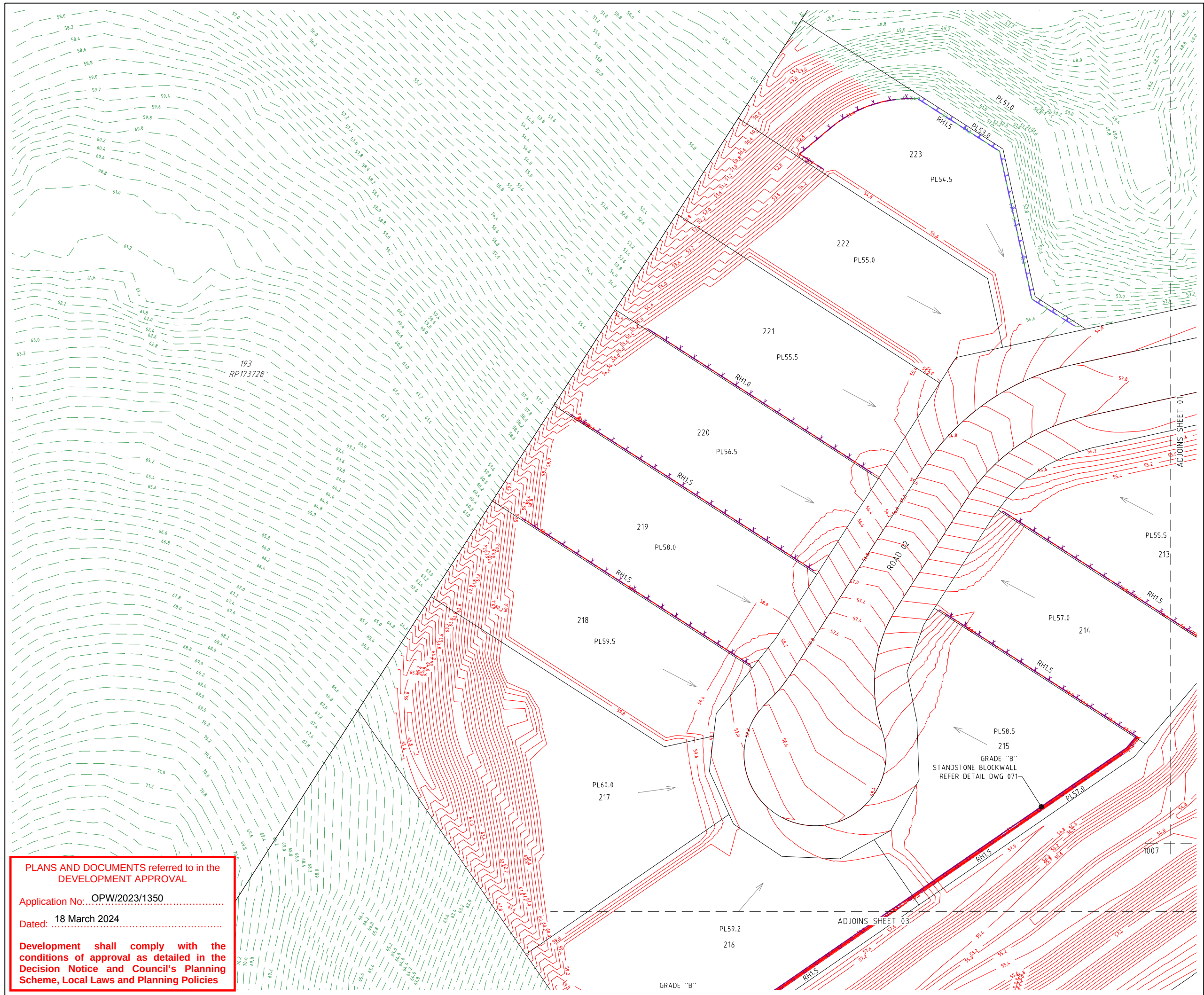
RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 01



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www.urbansolutions.net.au Gold Coast Office
Tel 07 5571 1099 Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	EP
APPROVED	<i>W.K. mbs</i>	RPEQ4706	DATE 14-11-23
DRAWING NUMBER			REV
41901-03-060			A





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DEVELOPMENT APPROVAL

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Dated: 18 March 2024

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PROJECT NAME

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UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 2.5 5 7.5 10 12.5m
Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
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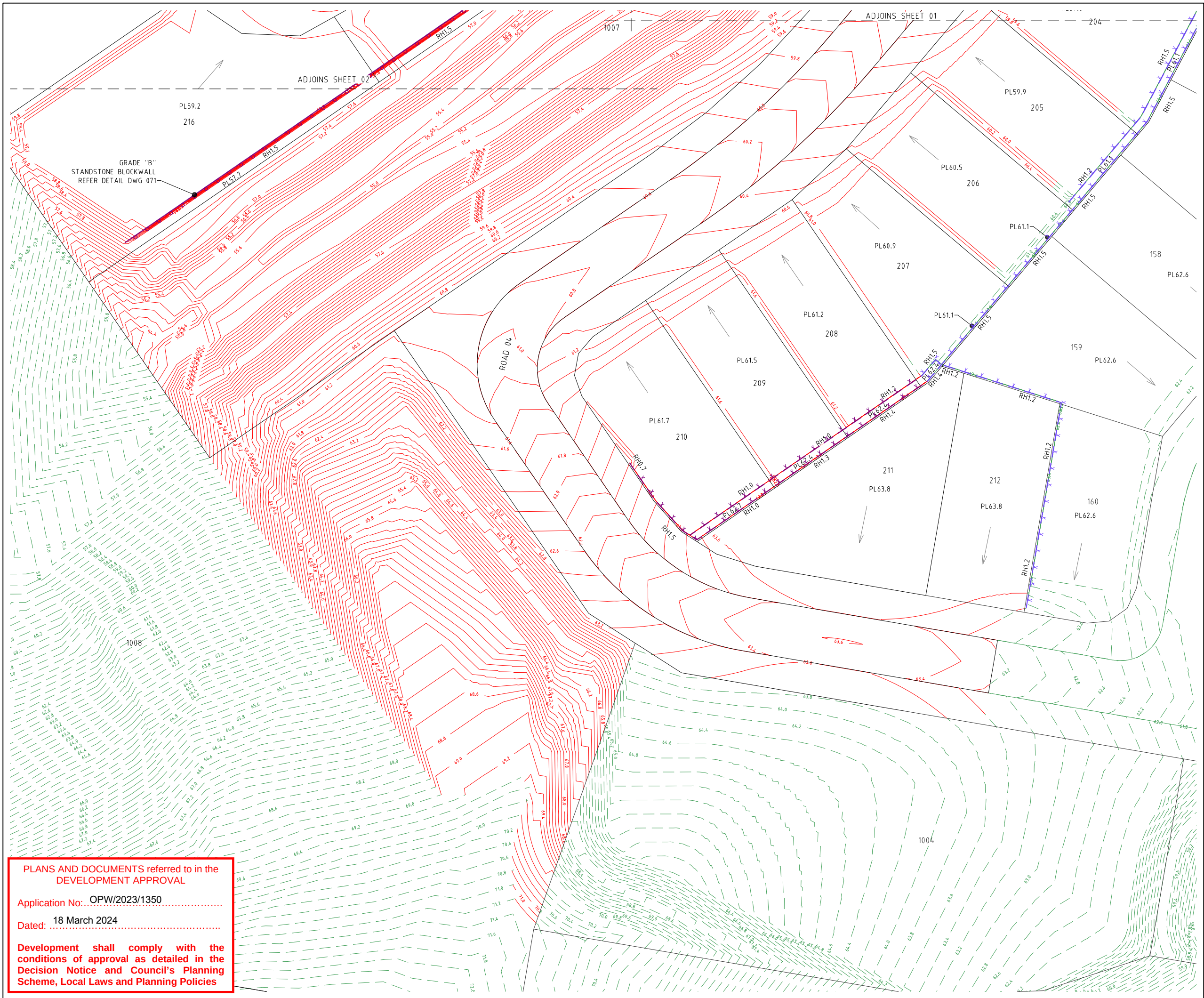
DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 02

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	EP
APPROVED	AK	RPE	Q706
DRAWING NUMBER	41901-03-061	REV	A



PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the
conditions of approval as detailed in the
Decision Notice and Council's Planning
Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 2.5 5 7.5 10 12.5m
Scale 1:250 - A1 (1:500 - A3)

A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 03

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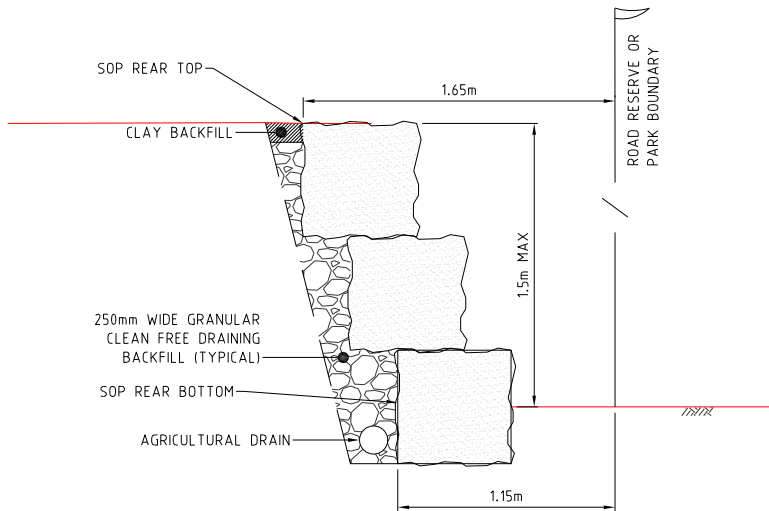
DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	RECEIVED DATE 16-11-23
DRAWING NUMBER 41901-03-062	REV A

NOTES:

1. RETAINING WALL DETAILS ARE INDICATIVE ONLY.
2. CONTRACTOR TO ARRANGE FOR DESIGN & CONSTRUCTION OF WALLS BY RPEQ STRUCTURAL ENGINEER. CONTRACTOR TO PROVIDE STRUCTURAL CERTIFICATION OF DESIGN & FINAL CONSTRUCTION.
3. ALLOW FOR 5kPa LOADING TO WALLS EXCEPT ADJACENT TO ROADS WHICH REQUIRE A 10kPa LOADING.
4. CONTRACTOR TO CONFIRM LOCATION OF LOT BOUNDARY PRIOR TO COMMENCING WALL CONSTRUCTION.
5. THE BUILDING ON THE HIGHER SIDE OF THE RETAINING WALL MUST MAINTAIN AN OFFSET OR APPROPRIATE FOUNDATION STRUCTURES (EG; PIERS) IN ORDER TO ENSURE THE ENTIRE DEPTH OF THE RETAINING WALL IS FREE FROM THE ZONE OF INFLUENCE OF THE BUILDING/OVERBURDEN LOAD UNLESS OTHERWISE SPECIFIED BY STRUCTURAL ENGINEER.
6. STRUCTURAL ENGINEER TO DESIGN SLAB & PIER.
7. AGRICULTURAL DRAIN TO DISCHARGE TO 300x300mm STORMWATER PIT. HOUSE BUILDER TO CONNECT 300x300mm STORMWATER PIT TO ROOFWATER SYSTEM.
8. RETAINING WALL DESIGN TO ALLOW FOR ALL SERVICES (ADJACENT OR BELOW) & HAVE NO IMPACT.
9. SANDSTONE & PROPRIETARY RETAINING WALLS TO BE DESIGNED & CONSTRUCTED TO HAVE VERTICAL FACE UNLESS OTHERWISE AGREED BY THE SUPERINTENDENT.
10. ANY WALL GREATER THAN 0.9M HIGH TO INSTALL A FALL BARRIER AT THE TOP OF WALL. THE FALL BARRIER IS TO BE MAINTAINED UNTIL THE END OF THE MAINTENANCE PERIOD OR THE ASSOCIATED LOT IS SOLD BY THE DEVELOPER.
11. REFER TO LANDSCAPE ARCHITECT FOR RETAINING WALL COLOUR & FINISH.
12. * SETBACK FROM BOUNDARY TO BE:
 - 200mm SIDE BOUNDARY
 - 200mm REAR BOUNDARY UNLESS IT BACKS ON OPEN SPACE OR ROAD RESERVE
 - 600mm ROAD RESERVE/OPEN SPACE
13. WHERE RETAINING WALLS ARE LOCATED WITHIN 2m OF A PMT SITE THE RETAINING WALL IS TO BE DESIGNED & CONSTRUCTED TO ALLOW EXCAVATION OF THE FULL PMT SITE TO A DEPTH OF 1.3m.
14. FENCE BRACKETS TO BE INSTALLED ON POSTS, NO BRACKETS 5m FROM FRONT BOUNDARY.
15. ALL FOOTINGS MUST BE A MINIMUM OF 200mm FROM PROPERTY BOUNDARY.

BOULDER WALL SPECIFIC NOTES

1. BOULDER WALL INDICATIVE ONLY. CONTRACTOR TO CONSTRUCT TO STRUCTURAL ENGINEERS SPECIFICATION
2. BOTTOM ROW OF BOULDERS TO BE KEYED INTO NATURAL GROUND 0.2m (MINIMUM)
3. CONCRETE FOOTING IF DIRECTED BY STRUCTURAL ENGINEER.
4. BOTTOM ROW OF BOULDERS TO BE LAID HORIZONTAL OR TO SLOPE INTO THE FACE OF THE BATTER



GRADE 'B' SANDSTONE
BLOCK WALL DETAIL

NOT TO SCALE

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No:.....OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the
conditions of approval as detailed in the
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Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



A	16-11-23	COUNCIL ISSUE	RK
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DRAWING TITLE

RETAINING WALL
DETAILS
SHEET 02



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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	RPEQ 4706 DATE 16-11-23

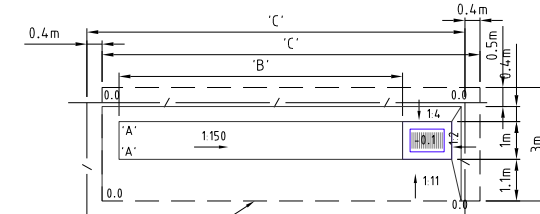
DRAWING NUMBER	REV
41901-03-071	A

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

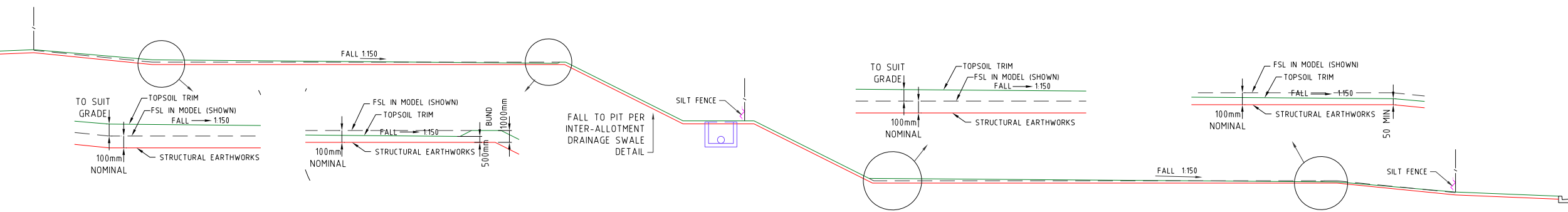
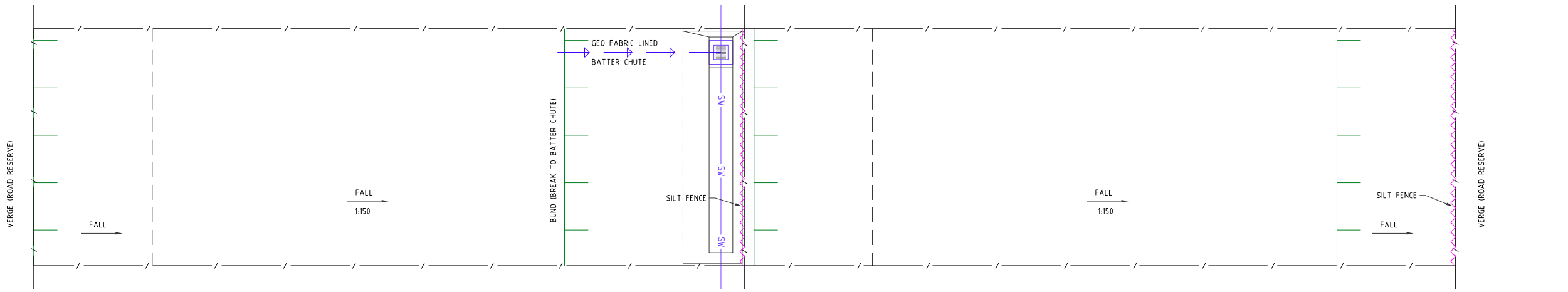
Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



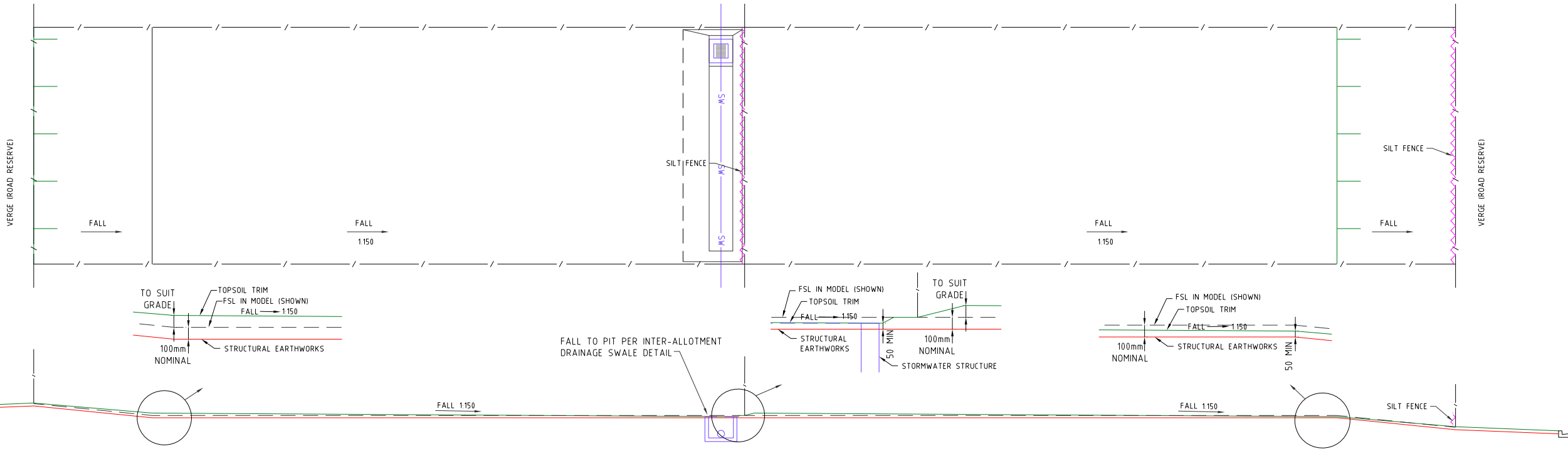
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14	-0.023	11.500
16	-0.01	13.500
18	0.0	15.000
20	0.0	15.000

INTER-ALLOTMENT DRAINAGE SWALE

NOTE: GRADING OCCURS WITHIN MODEL, NO ADDITIONAL DEPRESSION OF PIT SURFACE LEVEL REQUIRED.



TYPICAL TOPSOIL TRIM (BENCHED LOTS)
NOT TO SCALE



TYPICAL TOPSOIL TRIM (NON BENCHED LOTS)
NOT TO SCALE

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

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A	16-11-23	COUNCIL ISSUE	RK

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DRAWING TITLE

FINAL TRIM
DETAILS



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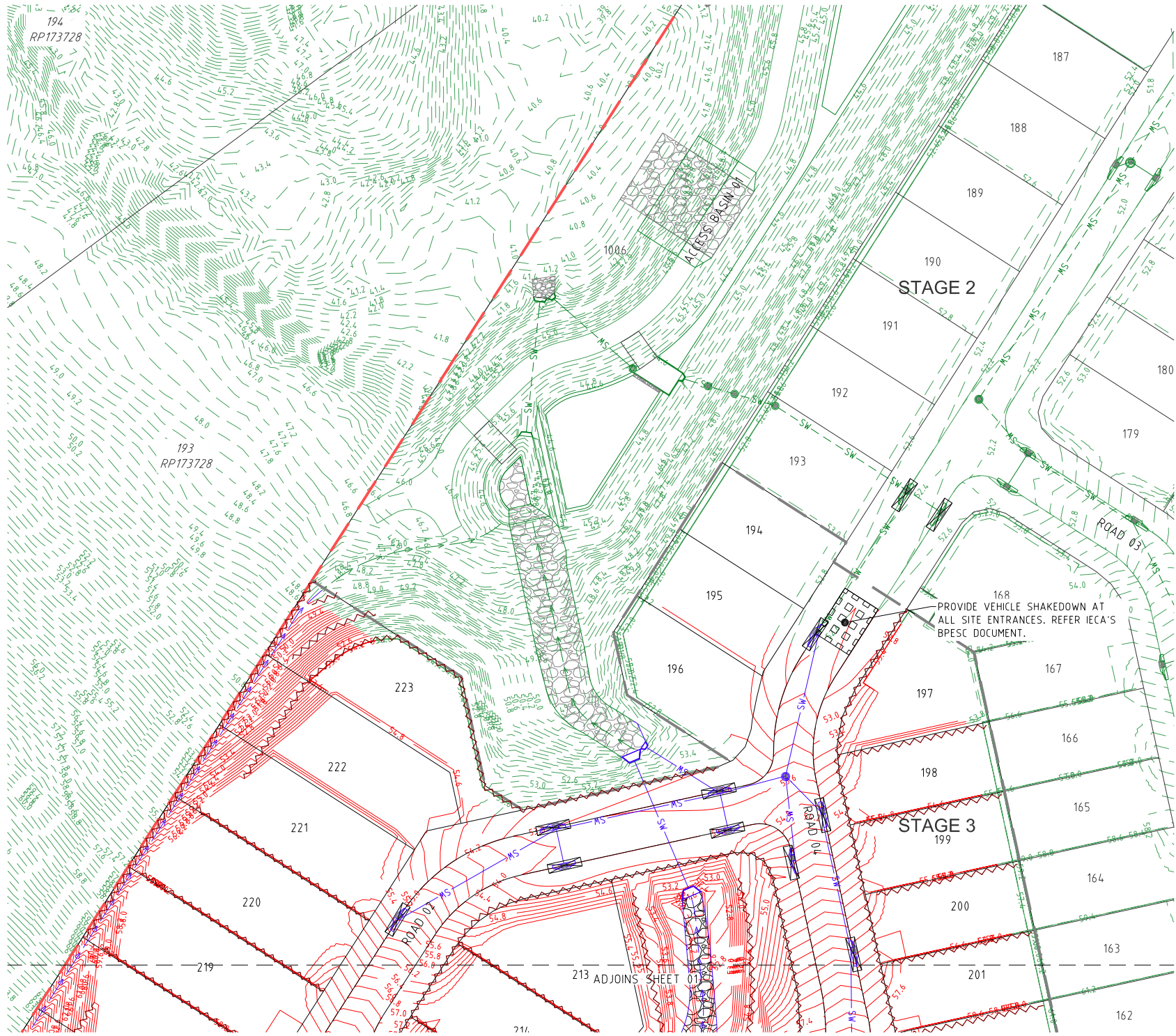
DESIGNED RB	DRAWN EP
APPROVED <i>[Signature]</i>	REQ 4706
DRAWING NUMBER 41901-03-072	DATE 16-11-23 REV A

SEDIMENT AND EROSION

1. THE EROSION & SEDIMENT CONTROL DEVICES SHOWN ON THESE DRAWINGS ARE INDICATIVE & PROVIDED FOR SUBMISSION TO LOCAL AUTHORITY ONLY. NOTWITHSTANDING THE EROSION & CONTROL DEVICES SHOWN ON THESE DRAWINGS, THE CONTRACTOR MUST PREPARE & FOLLOW A SITE SPECIFIC EROSION & SEDIMENT CONTROL PLAN TO MEET ALL LOCAL & STATE GOVERNMENT LEGISLATION INCLUDING BUT NOT LIMITED TO:
- a. ENVIRONMENTAL PROTECTION ACT WITH SPECIFIC REFERENCE TO PARTS 5440G & 5319
 - b. STATE PLANNING POLICY
- PRESCRIBED WATER CONTAMINANTS (AS DEFINED IN THE ENVIRONMENTAL PROTECTION ACT 1994) MUST NOT BE RELEASED FROM THE SITE OR TO WATERS WITHIN THE SITE, OR BE LIKELY TO BE RELEASED SHOULD RAINFALL OCCUR, UNLESS ALL REASONABLE & PRACTICABLE MEASURES ARE TAKEN TO PREVENT OR MINIMISE THE RELEASE & CONCENTRATION OF CONTAMINATION. THE ESC PLAN MUST BE DESIGNED, IMPLEMENTED & MAINTAINED IN ACCORDANCE WITH "BEST PRACTICE EROSION & SEDIMENT CONTROL" PUBLISHED BY THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIAN CHAPTER) (IECA, 2008).
2. TO COMPLY WITH THE REQUIREMENTS OF THE EP ACT & BEST PRACTICE DESIGN, THE SEDIMENT BASINS ON THE SITE MUST BE DESIGNED & IMPLEMENTED TO ACHIEVE THE FOLLOWING:
- SEDIMENT BASINS ARE TO BE DESIGNED, IMPLEMENTED & MAINTAINED TO A STANDARD WHICH WOULD ACHIEVE AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME OF THE CONTRIBUTING CATCHMENT TREATED (I.E. 80% HYDROLOGIC EFFECTIVENESS) TO 50MG/L TSS OR LESS & PH IN THE RANGE 6.5-8.5
 - THIS WILL REQUIRE THE INSTALLATION & OPERATION OF A HIGH-EFFICIENCY SEDIMENT BASIN(S) DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED IN THE "BEST PRACTICE EROSION & SEDIMENT CONTROL - APPENDIX B SEDIMENT BASIN DESIGN & OPERATION" PUBLISHED BY THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIAN CHAPTER) (IECA, 2016, DRAFT)
3. THE EROSION & SEDIMENT CONTROL PLAN MUST BE PREPARED & CERTIFIED BY A CERTIFIED PROFESSIONAL IN EROSION & SEDIMENT CONTROL & FOLLOW THE REQUIREMENTS OUTLINED IN IECA'S BEST PRACTICE EROSION & SEDIMENT CONTROL DOCUMENT & THE QUEENSLAND URBAN DRAINAGE MANUAL.
4. PRIOR TO THE COMMENCEMENT OF WORKS ONSITE THE CONTRACTOR MUST MAKE THEMSELVES AWARE OF ALL PREVIOUS GEOTECHNICAL REPORTS & DETERMINE THE DISPERSIVE CHARACTERISTICS OF THE SOIL (INCLUDING PERFORMING ANY SOIL TESTS IF REQUIRED). THE RESULTS OF THIS REVIEW & ANY TESTS MUST BE INCLUDED IN THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN. A COPY OF ALL TEST RESULTS MUST BE PROVIDED TO THE SUPERINTENDENT.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION & DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION (INCLUDING THE MAINTENANCE PERIOD). NOTWITHSTANDING THE CONTROL MEASURES OR FINISHED EARTHWORKS DESIGN SHOWN ON THESE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ADDITIONAL OR ALTERNATIVE EROSION & SEDIMENT CONTROL MEASURES TO MINIMISE SEDIMENT ACROSS OR LEAVING THE SITE.
6. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS (INCLUDING WEEKENDS & PUBLIC HOLIDAYS) & AT ALL TIMES REMAINS RESPONSIBLE TO:
- a) CLEAN & REPAIR CONTROL DEVICES WHENEVER THE ACCUMULATED SEDIMENT REDUCES THEIR CAPACITY BY 50%.
 - b) MAINTAIN POSITIVE GRADES OF ALL PERIMETER BANKS & SWALES TO AN OUTLET.
 - c) PROTECT ANY DOWNSTREAM CONSTRUCTION.
 - d) CONTROLLING DUST.
 - e) MEASURES HAVE BEEN INSTALLED IN ACCORDANCE WITH DETAILS OUTLINED IN THEIR EROSION & SEDIMENT CONTROL PLAN & AS DIRECTED BY THE SUPERINTENDENT.
7. THE CONTRACTOR'S PLAN SHALL ALLOW FOR SUITABLE ACCESS TO ALLOW MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. NO ADDITIONAL VEGETATION CLEARING IS PERMITTED FOR GAINING ACCESS UNLESS APPROVED BY THE SUPERINTENDENT.
8. THE CONTRACTOR MAY REQUEST APPROVAL FROM THE SUPERINTENDENT TO REUSE THE STOCKPILED MULCH FOR STABILISING BATTERS ONLY IN LOCATIONS WHERE THE APPROVED LANDSCAPE OPW DESIGN REQUIRES MULCH ULTIMATELY.
9. CONSTRUCTION STOCKPILING:
- a) TOPSOIL SHALL BE STRIPPED & STOCKPILED IN LOCATIONS NOMINATED ON THE CONSTRUCTION DRAWINGS OR IN LOCATIONS AGREED WITH THE SUPERINTENDENT.
 - b) ADDITIONAL VEGETATION CLEARING IS NOT PERMITTED TO FACILITATE THE STOCKPILING OF MATERIALS UNLESS SHOWN ON THE APPROVED VEGETATION MANAGEMENT PLAN.
 - c) ANY STOCKPILE SITE MUST BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES.
 - d) NO STOCKPILES ARE TO BE LOCATED WITHIN THE TREE PROTECTION ZONE OF VEGETATION.
 - e) A TEMPORARY SILT FENCE IS TO BE ERECTED APPROXIMATELY 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING.
10. NOTWITHSTANDING THE DETAILS SHOWN IN THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN, DURING CONSTRUCTION THE CONTRACTOR MUST:
- a) SIZE ALL TEMPORARY SEDIMENT BASINS APPROPRIATELY TO TREAT THE UPSTREAM CATCHMENT. NOTE THAT THE PERMANENT BIO BASINS SHOWN ON THESE DRAWINGS ARE SIZED FOR THE ULTIMATE CATCHMENT NOT FOR THE CONSTRUCTION PHASE.
 - b) PLACE A ROCK BUND AROUND ALL HEADWALLS DURING CONSTRUCTION.
 - c) PROVIDE KERB INLET PROTECTION TO ALL GULLIES.
 - d) PLACE A MINIMUM 1.0m WIDE TURF STRIP BEHIND ALL KERBS & IN A HERRINGBONE LAYOUT WITHIN THE ROAD VERGE.
 - e) MAINTENANCE (INCLUDING FLOCCULATION IF REQUIRED & PUMP OUT) OF ALL CONSTRUCTION SEDIMENT BASINS (WHETHER EXISTING OR NEW).
 - f) CLEAN OUT OF ALL GROSS POLLUTANT TRAPS, SEDIMENT FOREBAYS & ALL OTHER PERMANENT SEDIMENT CONTROL DEVICES AT BOTH ON & OFF MAINTENANCE.
11. CONTRACTOR TO CONFIRM THE EXTENTS OF REQUIRED GRASSING TREATMENTS WITH THE SUPERINTENDENT AT LEAST 7 DAYS PRIOR TO FINAL TRIMMING.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT GRASSING STRIKE RATES ARE ACHIEVED AT THE ON & OFF MAINTENANCE INSPECTIONS IN ACCORDANCE WITH COUNCIL REQUIREMENTS. THIS INCLUDES THE SUPPLY & INSTALLATION OF ANY REQUIRED CHEMICAL/FERTILISER AMELIORATION TO ACHIEVE THE SPECIFIED GRASS STRIKE RATES.
13. GEOFABRIC LINING OF CHANNELS & CHECK DAMS MAY BE REQUIRED SUBJECT TO THE SITE CONDITIONS.
14. BATTERS WITHIN PUBLIC OPEN SPACE TO BE VEGETATED IN ACCORDANCE WITH APPROVED OPEN SPACE MANAGEMENT PLAN & LANDSCAPING OPW. CONTRACT DOCUMENTATION WILL SPECIFY WHETHER THIS IS THE CIVIL CONTRACTOR OR THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO SUPPLY & INSTALL. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUITABLE ACCESS FOR THE LANDSCAPE CONTRACTOR TO PERFORM THEIR WORKS.
15. MAINTENANCE PERIOD (PRE TO POST CONSTRUCTION)
- a) ALL PROTECTION MEASURES ARE TO BE INSPECTED & MAINTAINED REGULARLY
 - b) REPAIRS ARE TO BE EFFECTED IMMEDIATELY.
 - c) SILT AFTER RAIN IS TO BE CLEANED FROM STREETS & ALLOTMENTS IMMEDIATELY & CORRECTIVE ACTION TAKEN TO AVOID A RE-OCCURRENCE.
 - d) AT OFF-MAINTENANCE & ONLY WHEN DIRECTED BY COUNCIL, REMOVE & DISPOSE OFFSITE ALL TEMPORARY EROSION & SEDIMENT CONTROL DEVICES.

NOTE:

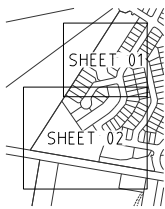
SEDIMENT AND EROSION CONTROL MEASURES SHOWN RELATE TO THE FINISHED SURFACE ONLY AND ARE CONCEPTUAL ONLY. THE CONTRACTOR IS TO PREPARE A SITE SPECIFIC CONSTRUCTION AND MAINTENANCE PHASE SEDIMENT AND EROSION CONTROL PLAN.



LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- EXISTING STORMWATER
- EXISTING CONTOURS
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- FUTURE STORMWATER
- FUTURE CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED STORMWATER
- DESIGN CONTOURS
- MANHOLE
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SEDIMENT FENCE
- SCOUR PROTECTION
- TEMPORARY SEDIMENT BASIN
- STORMWATER INLET FILTER
- VEHICLE SHAKEDOWN (AT ALL SITE ENTRANCES MIN.)

SHEET LAYOUT



PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION BPESC DOCUMENT.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

A	16-11-23	COUNCIL ISSUE	RE
REV	DATE	DESCRIPTION	INT
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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No...OPW/2023/1350.....

Dated: 18 March 2024

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FINAL SURFACE AND
SEDIMENT AND EROSION
PLAN
SHEET 01

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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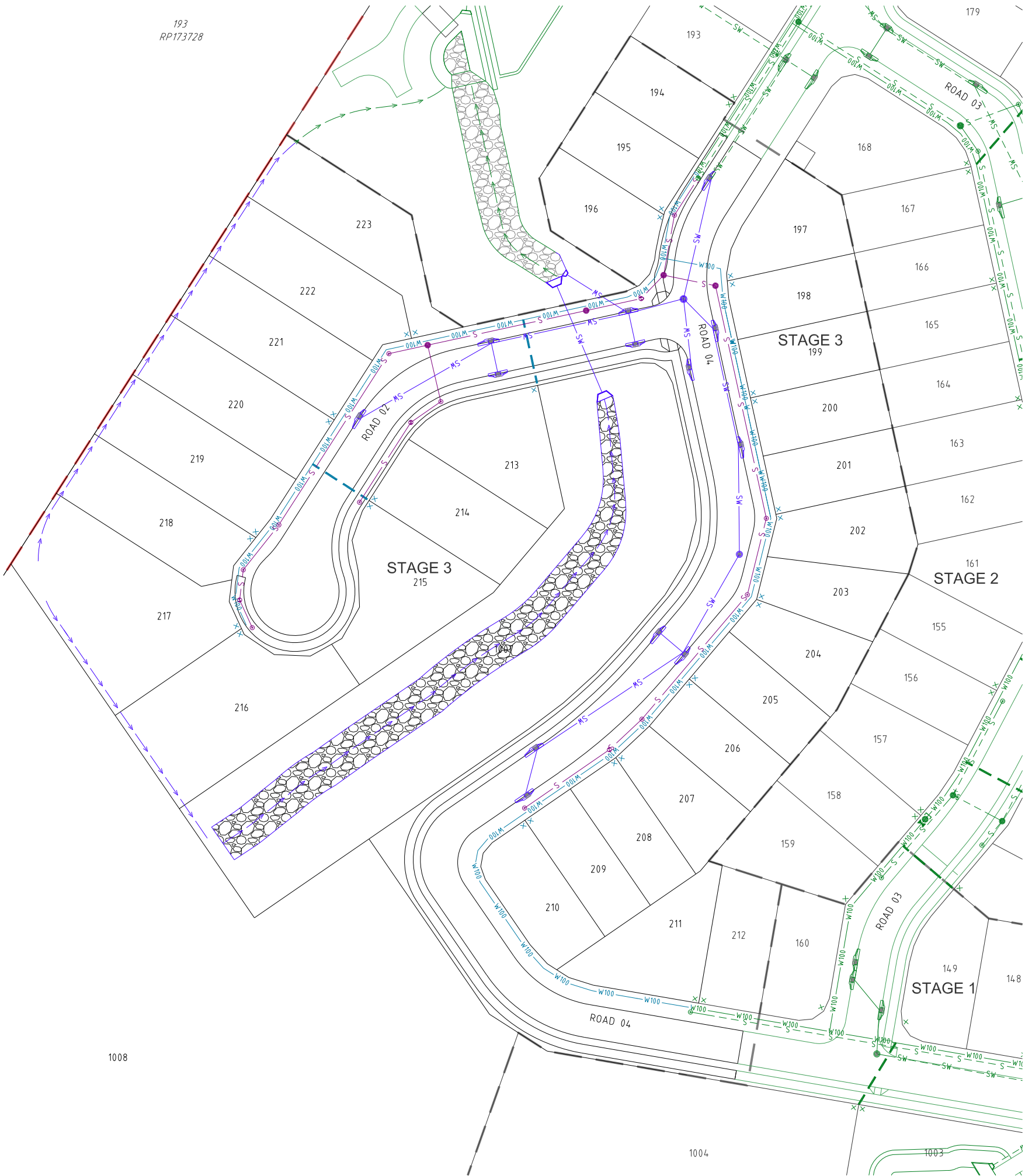
DESIGNED RB	DRAWN EP
APPROVED <i>RB</i>	RPEQ4706 DATE 16-11-23
DRAWING NUMBER 41901-03-080	REV A

CONSTRUCTION SERVICES

1. CONSTRUCTION OF
SEWER/ROOFWATER/STORMWATER/SERVICES
EXCAVATED MATERIAL TO BE PLACED ON HIGH SIDE
OF TRENCH & TO PROTECT PIPE WORK & DIRECT
SURFACE MATERIAL AWAY FROM EXCAVATIONS.
TOPSOIL & GRASS SEED AREAS IN ALLOTMENTS
IMMEDIATELY AFTER COMPLETING THE SEWER &
ROOFWATER DRAINAGE CONSTRUCTION.
DEPRESS GROUND AROUND TEMPORARY FIELD
INLETS TO CREATE SILT POND.
2. TRIP HAZARD
MANHOLES OR STRUCTURES INSTALLED IN THE
ROAD, FOOTPATH OR VERGE MUST MATCH NEATLY
WITH NO TRIP HAZARD.
3. EXISTING SERVICES - EXTERNAL WORKS
THE LOCATIONS OF ALL EXISTING SERVICES WITHIN
THE WORK AREA SHALL BE CONFIRMED BY THE
CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
CONTACT THE RELEVANT AUTHORITIES & TO
ENSURE THAT THE EXISTING SERVICES ARE NOT
DAMAGED OR DISTURBED IN ANY WAY BY THE
CONTRACT WORKS.

LEGEND

---	EXISTING PROPERTY LINE
---	EXISTING KERB (INVERT)
---	EXISTING FOOTPATH
RM	EXISTING RISING MAIN
S	EXISTING SEWER
SW	EXISTING STORMWATER
RW	EXISTING ROOFWATER
SS	EXISTING SUBSOIL
W100	EXISTING WATER
W150	EXISTING WATER
W200	EXISTING WATER
W250	EXISTING WATER
W300	EXISTING WATER
---	EXISTING WATER CONDUIT
---	PROPOSED PROPERTY LINE
---	PROPOSED KERB (INVERT)
---	PROPOSED FOOTPATH
RM	PROPOSED RISING MAIN
S	PROPOSED SEWER
SW	PROPOSED STORMWATER
RW	PROPOSED ROOFWATER
SS	PROPOSED SUBSOIL
W100	PROPOSED WATER
W150	PROPOSED WATER
W200	PROPOSED WATER
W250	PROPOSED WATER
W300	PROPOSED WATER
---	PROPOSED WATER CONDUIT
---	FUTURE PROPERTY LINE
---	FUTURE KERB (INVERT)
---	FUTURE FOOTPATH
RM	FUTURE RISING MAIN
S	FUTURE SEWER
SW	FUTURE STORMWATER
RW	FUTURE ROOFWATER
SS	FUTURE SUBSOIL
W100	FUTURE WATER
W150	FUTURE WATER
W200	FUTURE WATER
W250	FUTURE WATER
W300	FUTURE WATER
---	FUTURE WATER CONDUIT
---	SITE BOUNDARY
---	STAGE BOUNDARY



PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

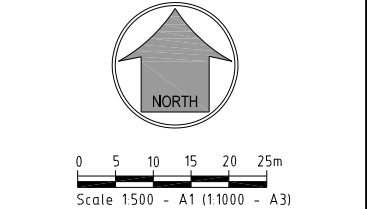
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STAGE 03
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CLIENT
HB Land



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BIOME
WATER AND ENVIRONMENTAL CONSULTING
Robin Russell
& ASSOCIATES PTY. LTD.
BENNETT - BENNETT

DRAWING TITLE
**COMBINED SERVICES
PLAN
SHEET 01**

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Project Coordination
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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	DATE 16-11-23
DRAWING NUMBER 41901-03-090	REV A

ROADWORKS

1. PAVEMENT DEPTHS
- a) THE DESIGN PAVEMENT DEPTHS ALLOWED IN EARTHWORKS CALCULATIONS ARE BASED ON THE DEPTHS SHOWN IN THE SCHEDULE OF PAVEMENT DEPTHS ON DRAWING 120.
- b) THE PAVEMENT DEPTHS GIVEN ARE DESIGN DEPTHS ONLY & MAY BE VARIED AFTER SUB-GRADE TESTS ARE TAKEN. THE CONTRACTOR IS TO PROVIDE THE SUPERINTENDENT A SUBGRADE C.B.R. REPORT PREPARED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.
- THE SUPERINTENDENT WILL COORDINATE THE AUTHORITIES APPROVAL OF THE PAVEMENT DESIGN.
- c) REFER TO DWG. 120 FOR TYPICAL ROAD SECTIONS.
2. TESTING
- ALL COMPACTION TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY. ALL SITE FILLING SHALL BE TESTED AT LEVEL 1 REQUIREMENTS.
3. SUBSOIL DRAINS
- SUBSOIL DRAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL AUTHORITY'S SPECIFICATIONS. SUBSOIL DRAINS SHALL BE PLACED UNDER ALL KERB STRUCTURES & ARE TO BE CONSTRUCTED TO A DEPTH GREATER THAN THAT OF THE INVERT OF THE DEEPEST SERVICE CROSSING.
4. MITRE DRAINS
- MITRE DRAINS ARE TO BE CONSTRUCTED ALONG THE CUT/FILL INTERFACE & SAG/LOW POINTS OF ALL ROADS. CONTRACTOR TO REQUEST DIRECTION FROM SUPERINTENDENT WHETHER TO INSTALL MITRE DRAIN AT ROCK ENCOUNTERED IN SUBGRADE. ALL MITRE DRAINS MUST BE FREE DRAINING & TIE INTO THE ADJACENT SUBSOIL DRAINS.
5. ROCK
- THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR RATES.
6. TURF
- 1.0m TURF STRIP TO BE INSTALLED BEHIND THE BACK OF ALL KERBS. A PERPENDICULAR TURF STRIP AT MAXIMUM 10m INCREMENTS MUST BE INSTALLED TO FULL VERGE WIDTH FOR SEDIMENT & EROSION CONTROL PURPOSES.
7. KERBS
- ALL KERBS TO BE CONSTRUCTED IN ACCORDANCE WITH AUTHORITY STANDARDS
8. PAVEMENT TIE-IN
- PAVEMENT TIE-IN TO BE IN ACCORDANCE WITH DWG. 120

LEGEND

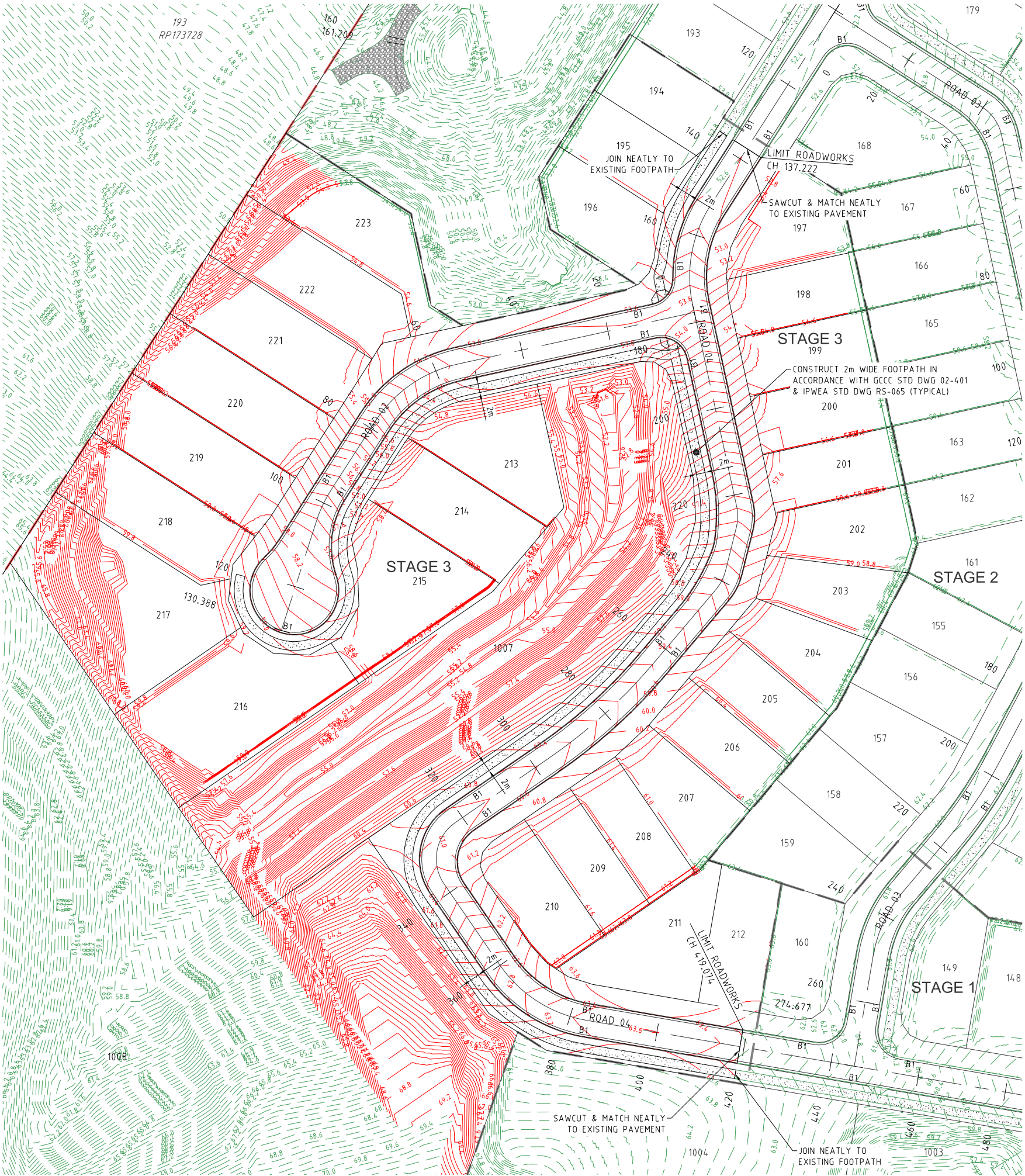
- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- 1.0 — EXISTING CONTOURS
- — FUTURE KERB
- — FUTURE FOOTPATH
- — FUTURE PROPERTY LINE
- 1.0 — FUTURE CONTOURS
- — CONTROL LINE / CENTER OF ROAD
- — PROPOSED KERB (INVERT)
- — PROPOSED KERB (LIP & BACK)
- — PROPOSED FOOTPATH
- — PROPOSED PROPERTY LINE
- — SITE BOUNDARY
- — STAGE BOUNDARY
- 1.0 — DESIGN CONTOURS
- — PROPOSED CONCRETE
- 41.065 CENTRELINE CHAINAGE

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

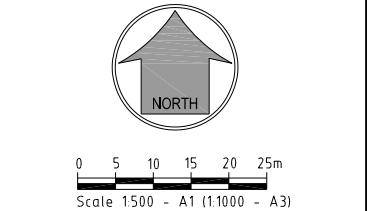
Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03
RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL



REV	DATE	DESCRIPTION	INT
A	16-11-23	COUNCIL ISSUE	RK

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DRAWING TITLE
**ROADWORKS
PLAN
SHEET 01**

MORTONS
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Urban & Regional Planning
Civil Engineering
Project Coordination
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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	REPEQ4706
DRAWING NUMBER 41901-03-100	REV A

SCHEDULE OF PAVEMENT DEPTHS							
ROAD NAME	SURFACING	BASE	SUB-BASE	LOWER SUB-BASE	CLASSIFICATION	DESA OR VPD	DESIGN GUIDE
ROAD 02 & 04	25mm ASPHALT	100mm TYPE 2.1 (CBR 80)	100mm TYPE 2.3 (CBR 45)	100mm TYPE 2.5 (CBR 15)	RESIDENTIAL ACCESS ST	401-750	CCCC TABLE 2.11

NOTE: THE PAVEMENT DEPTHS ARE GIVEN AS A GUIDE ONLY AND FINAL PAVEMENT DESIGN WILL BE DETERMINED AFTER CBR TESTING IS UNDERTAKEN, AND COUNCIL HAVE APPROVED THE DESIGN. PLEASE NOTE CBR10 IS MAXIMUM INSITU CBR VALUE.

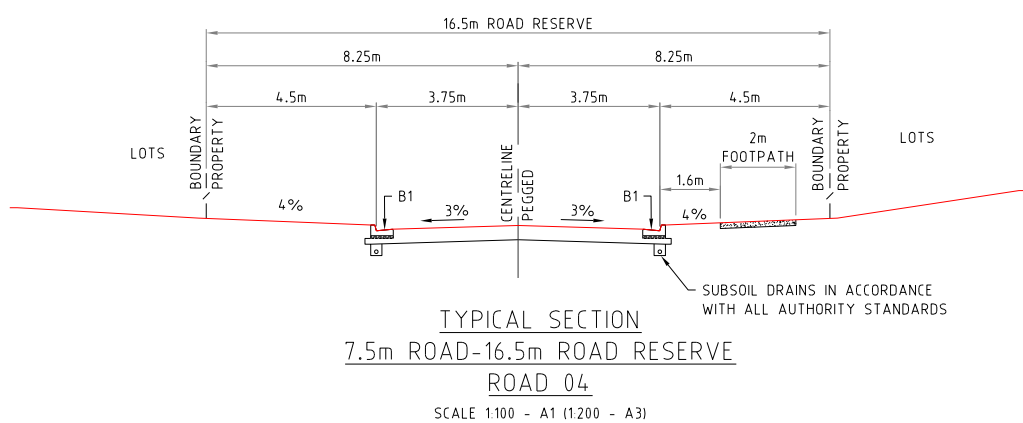
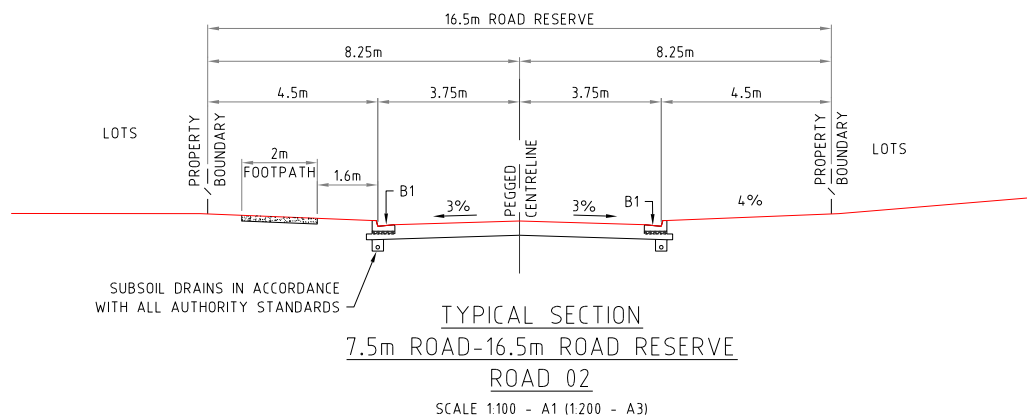
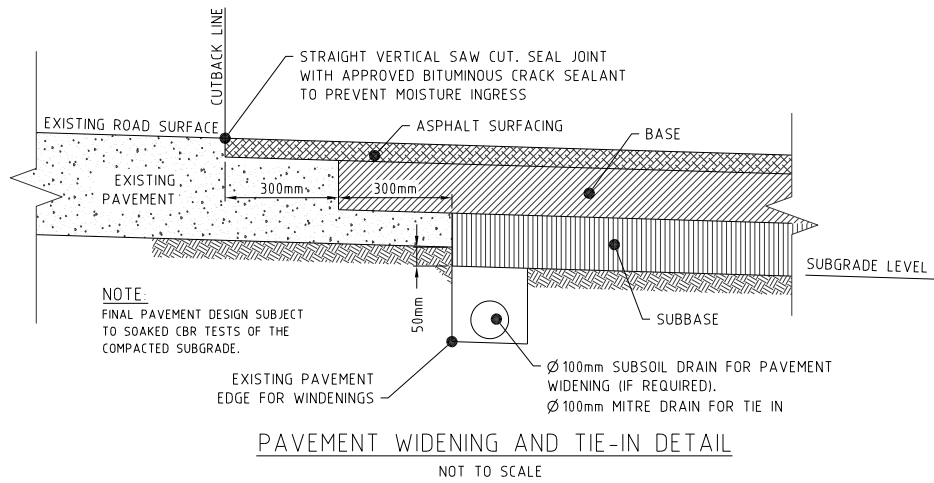
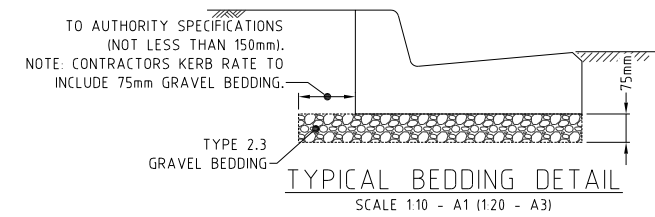
SCHEDULE OF KERB TYPES		
KERB TYPE	IMAGE	REFERENCE
B1		IPWEA DWG. RS-080 NOTE: SUBSOIL DRAINS TO BE PLACED UNDER ALL KERBS.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



PROJECT NAME

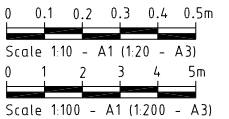
COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



REV	DATE	DESCRIPTION	INT
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ASSOCIATED CONSULTANTS



DRAWING TITLE

ROADWORKS
DETAILS
SHEET 01



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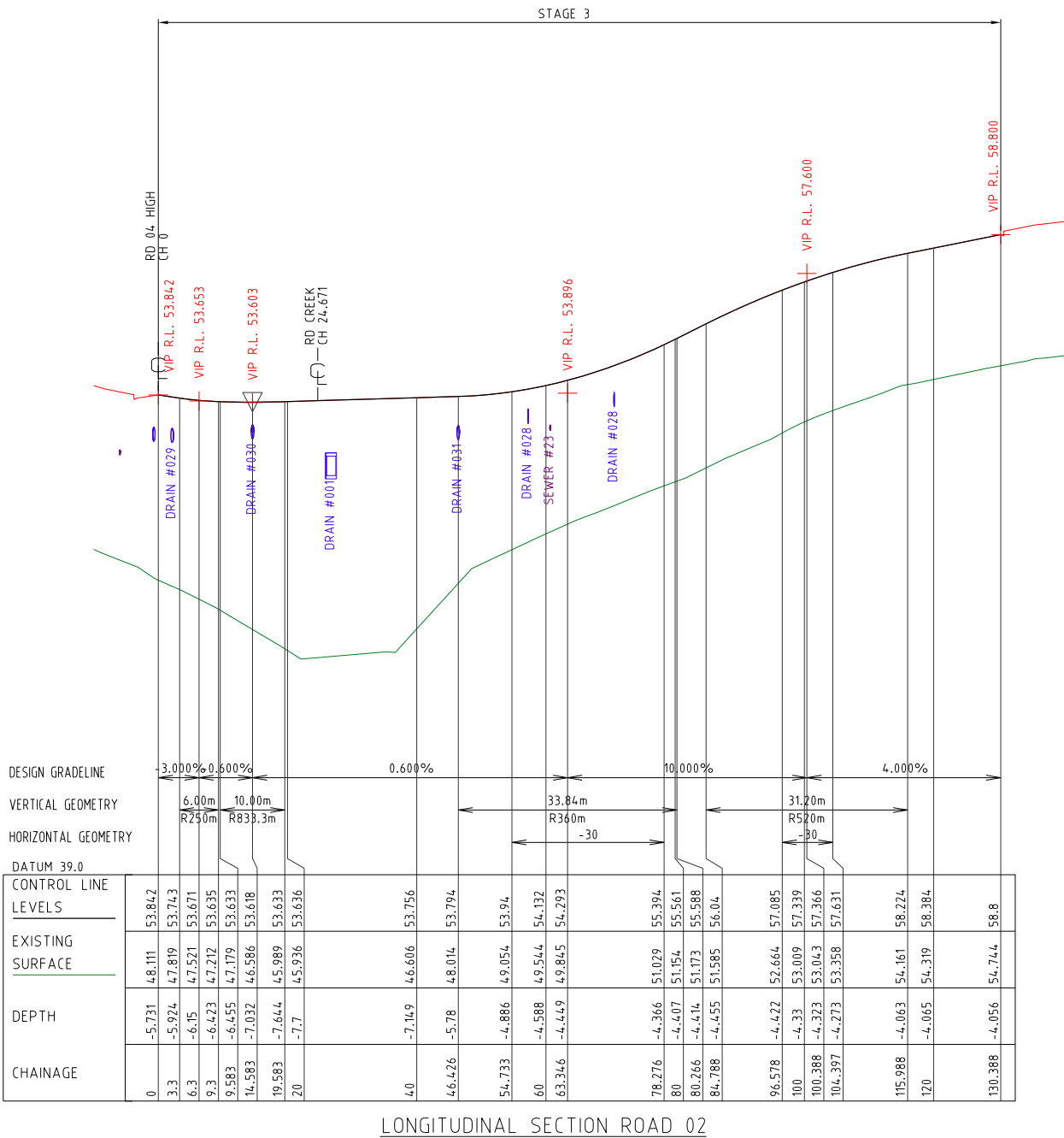
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APPROVED		RPEQ4706	DATE 16-11-23
DRAWING NUMBER			REV
41901-03-120			A

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

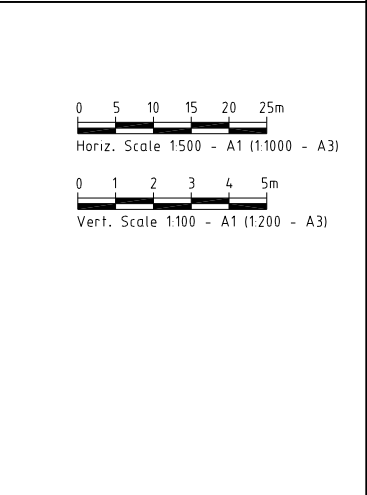
Dated: 18 March 2024

Development shall comply with the
conditions of approval as detailed in the
Decision Notice and Council's Planning
Scheme, Local Laws and Planning Policies



PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03
RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
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REV	DATE	DESCRIPTION	INT
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DRAWING TITLE

LONGITUDINAL SECTIONS
ROAD 02

MORTONS
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Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	RPEQ 4706
DRAWING NUMBER 41901-03-200	DATE 16-11-23 REV A

NOTES:

1. REFER TO 080 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.
2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.

DESIGN SURFACE LEVEL	DATUM R.L. 50.0
EXISTING SURFACE LEVEL	48.111 53.842
OFFSET	0 47.819 53.743

CH 0

0	47.819	53.743
---	--------	--------

CH 3.3

0	47.212	53.635
3.3	46.695	53.536
3.9	46.6	53.646

CH 9.3

0	47.179	53.633
3.3	46.665	53.534
3.9	46.57	53.644

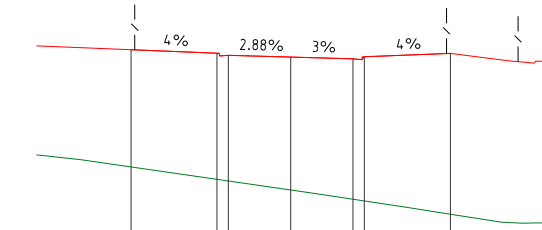
CH 9.583

0	47.179	53.633
3.3	46.665	53.534
3.9	46.57	53.644

DATUM R.L. 42.0

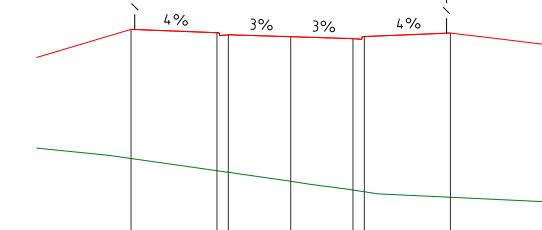
-8.45	47.806	54.005
-3.9	47.149	53.823
-3.3	47.062	53.713
0	46.586	53.618
3.3	46.098	53.519
3.9	46.005	53.629
8.45	45.301	53.811

CH 14.583



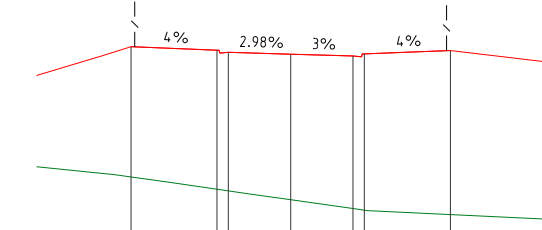
-8.45	47.19	54.024
-3.9	46.543	53.842
-3.3	46.458	53.732
0	45.989	53.633
3.3	45.518	53.534
3.9	45.431	53.644
8.45	45.139	53.826

CH 19.583



-8.45	47.137	54.026
-3.9	46.49	53.844
-3.3	46.405	53.734
0	45.936	53.636
3.3	45.466	53.537
3.9	45.381	53.647
8.45	45.15	53.829

CH 20



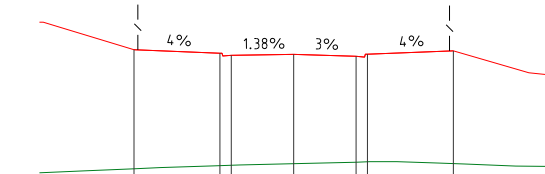
-8.45	46.331	54.063
-3.9	46.486	53.881
-3.3	46.505	53.771
0	46.606	53.756
3.3	46.686	53.657
3.9	46.701	53.767
8.45	46.941	53.949

CH 40

ROAD 02

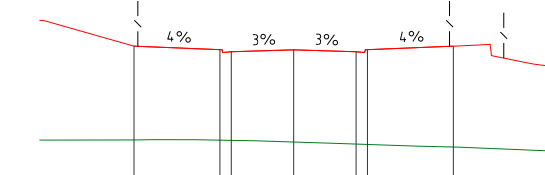
-8.45	47.743	54.041
-3.9	47.911	53.859
-3.3	47.931	53.749
0	48.014	53.794
3.3	48.094	53.695
3.9	48.108	53.805
8.45	48.017	53.987

CH 46.426



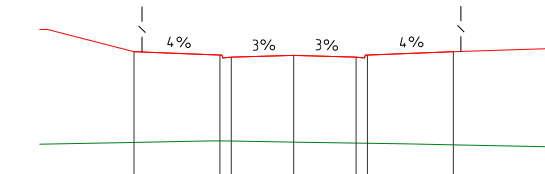
-8.45	49.176	54.133
-3.9	49.171	53.951
-3.3	49.153	53.841
0	49.054	53.94
3.3	48.956	53.841
3.9	48.938	53.951
8.45	48.8	54.133

CH 54.733



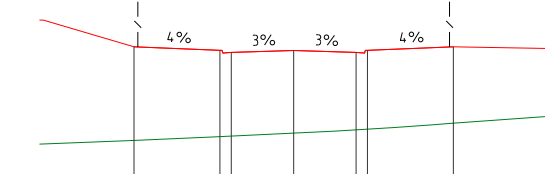
-8.45	49.527	54.325
-3.9	49.606	54.143
-3.3	49.597	54.033
0	49.544	54.132
3.3	49.491	54.033
3.9	49.481	54.143
8.45	49.4	54.325

CH 60



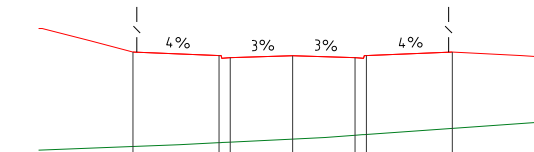
-8.45	50.636	55.587
-3.9	50.837	55.405
-3.3	50.866	55.295
0	51.029	55.394
3.3	51.191	55.295
3.9	51.228	55.405
8.45	51.55	55.587

CH 78.276



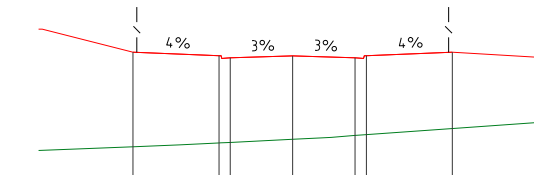
CH 80

-8.45	50.763	55.754
-3.9	50.942	55.572
-3.3	50.991	55.462
0	51.154	55.561
3.3	51.354	55.462
3.9	51.397	55.572
8.45	51.717	55.754



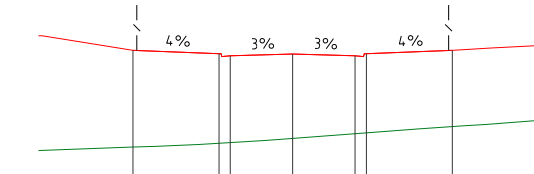
-8.45	50.782	55.781
-3.9	50.981	55.599
-3.3	51.011	55.489
0	51.173	55.588
3.3	51.38	55.489
3.9	51.424	55.599
8.45	51.744	55.781

CH 80.266



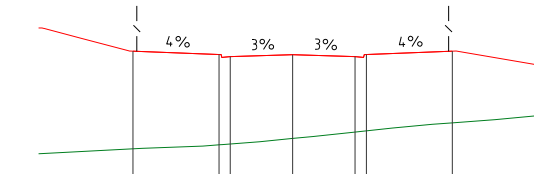
-8.45	51.116	56.233
-3.9	51.31	56.051
-3.3	51.345	55.941
0	51.595	56.04
3.3	51.825	55.941
3.9	51.868	56.051
8.45	52.19	56.233

CH 84.788



-8.45	52.113	57.278
-3.9	52.323	57.096
-3.3	52.369	56.986
0	52.664	57.085
3.3	52.997	56.986
3.9	53.058	57.096
8.45	53.483	57.278

CH 96.578



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
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ASSOCIATED CONSULTANTS



DRAWING TITLE

CROSS SECTIONS
ROAD 02



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Southport QLD 4215

DESIGNED RB	DRAWN EP
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APPROVED <i>AK</i>	RP EQ 4706	DATE 16-11-23
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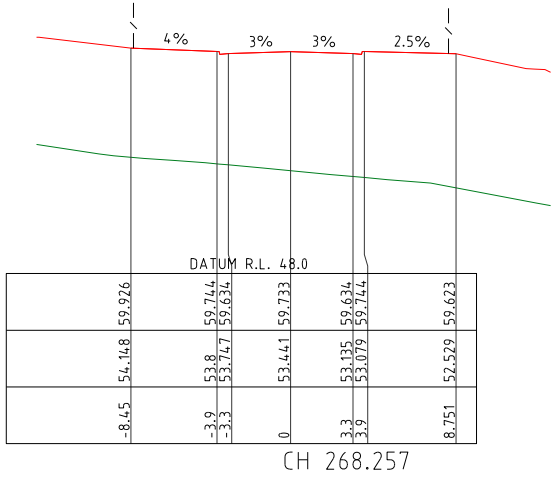
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41901-03-300	A

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

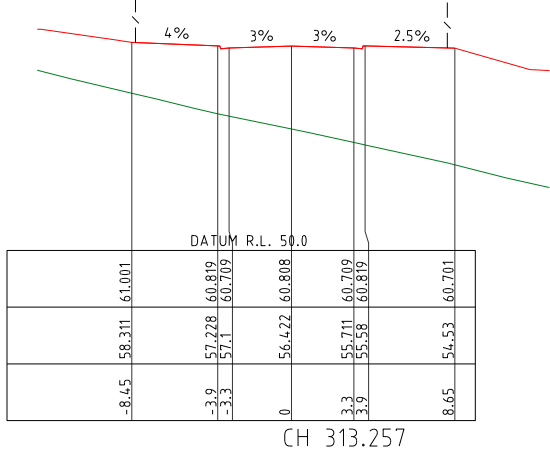
Application No: OPW/2023/1350

Dated: 18 March 2024

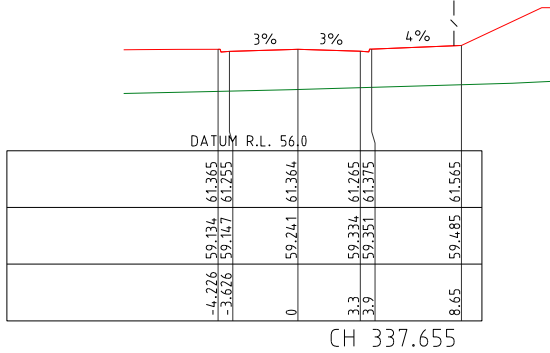
Development shall comply with the
conditions of approval as detailed in the
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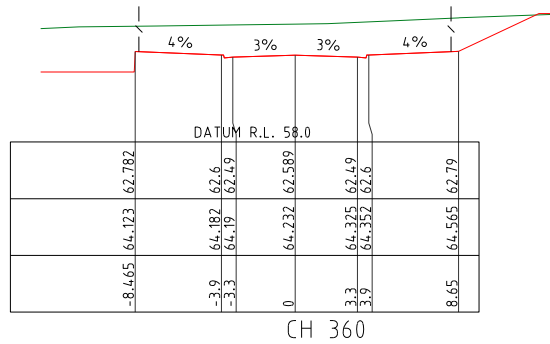
CH 268.257



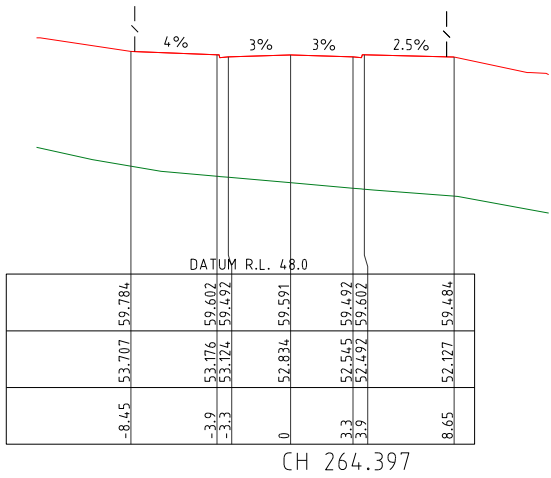
CH 313.257



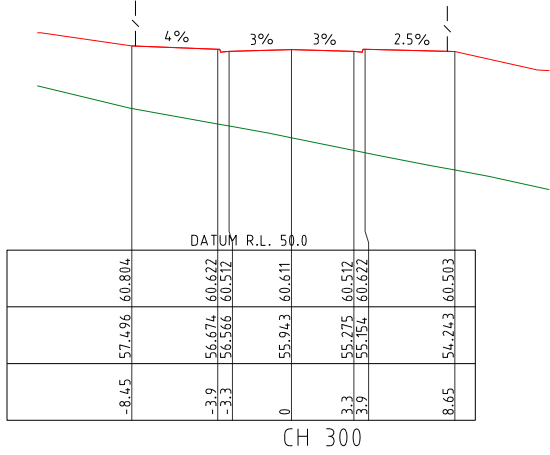
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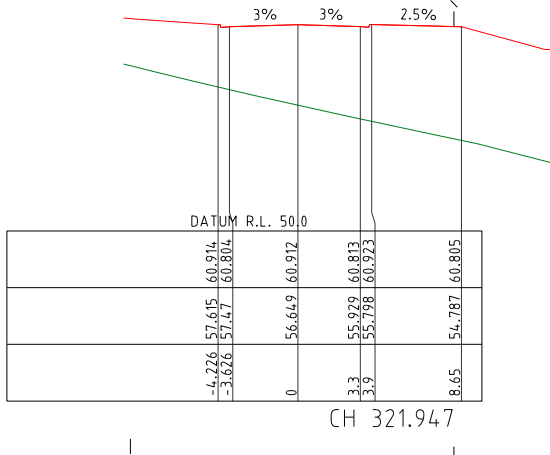
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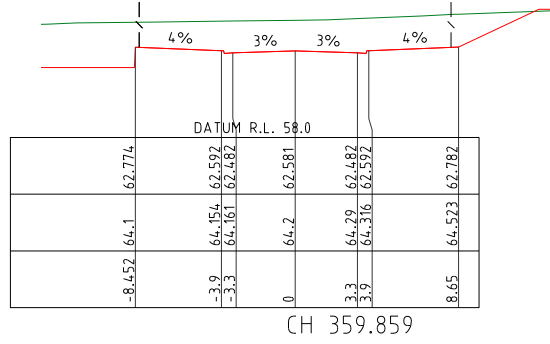
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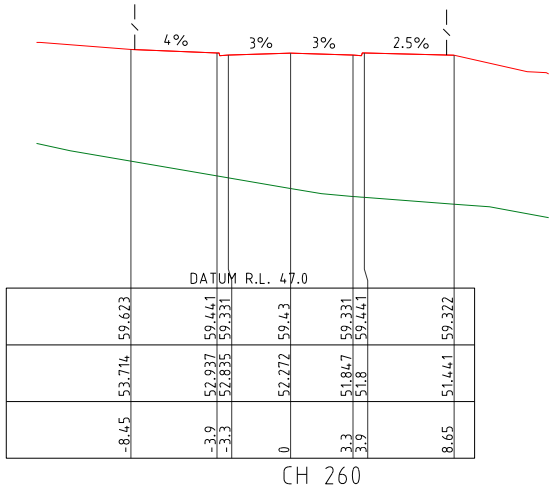
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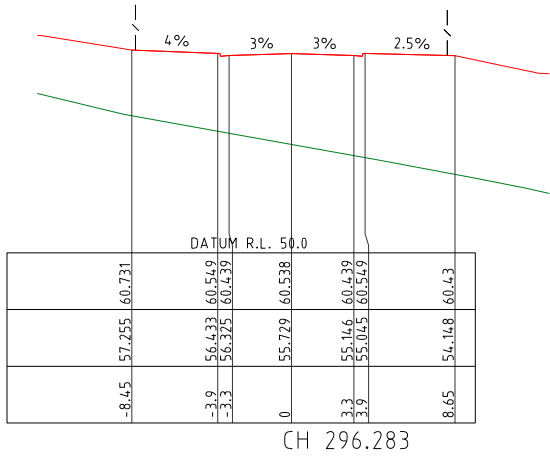
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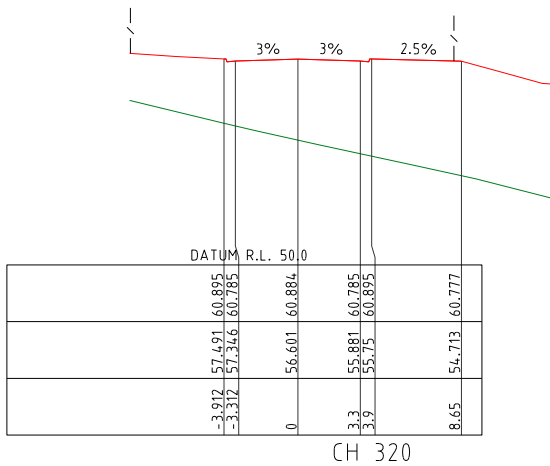
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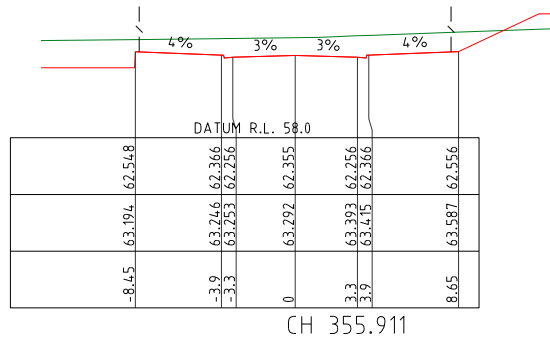
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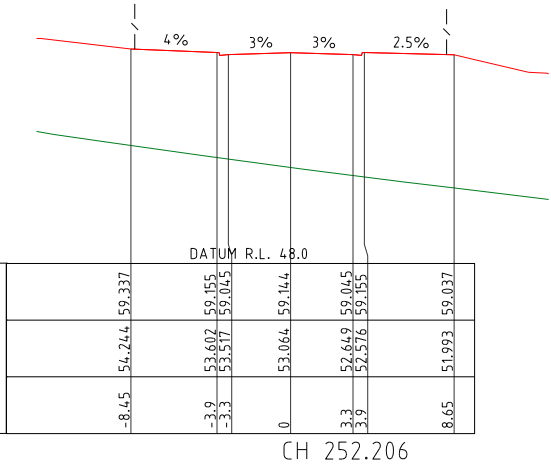
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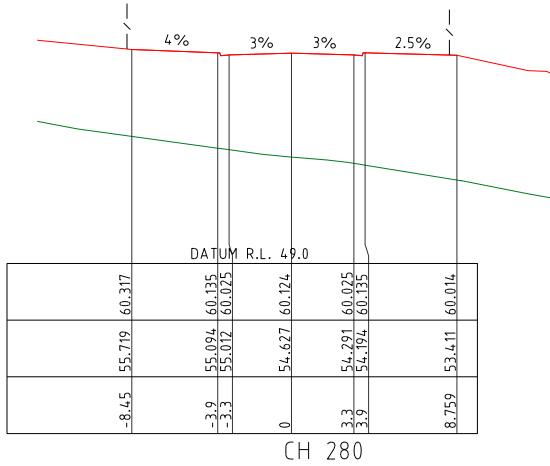
CH 320



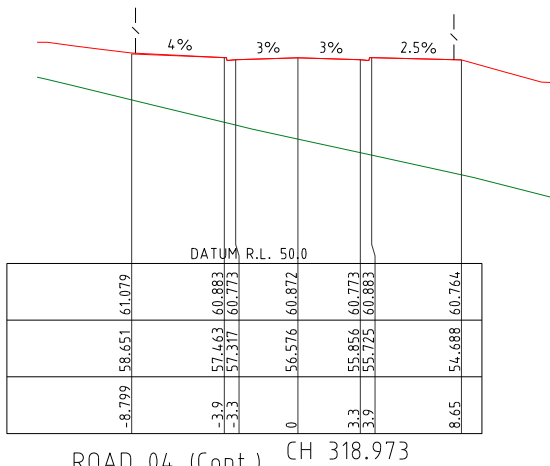
CH 355.911



CH 252.206

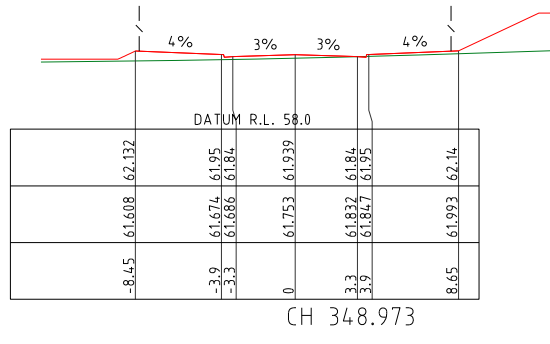


CH 280

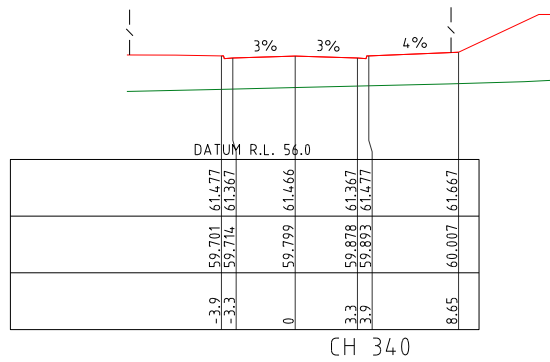


ROAD 04 (Cont.)

CH 318.973



CH 348.973



CH 340

NOTES:

1. REFER TO 080
SERIES FINAL SURFACE
PLAN DWGS FOR
EARTHWORKS BEYOND
ROAD RESERVE.
2. CROSS SECTIONS
WITH NO TEMPLATE
REPRESENT CONTROL
LINE LEVELS AT THAT
CHAINAGE.

DESIGN SURFACE LEVEL	-8.45	54.244	59.337	59.155	59.045	59.144	59.045	59.037
EXISTING SURFACE LEVEL	-8.45	54.244	59.337	59.155	59.045	59.144	59.045	59.037
OFFSET	-8.45	54.244	59.337	59.155	59.045	59.144	59.045	59.037

PROJECT NAME

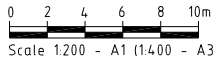
COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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DRAWING TITLE

CROSS SECTIONS
ROAD 04 (Cont.)
SHEET 02



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DESIGNED RB	DRAWN EP
APPROVED <i>RB</i>	RPEQ4706

DRAWING NUMBER

41901-03-302

REV

A

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the
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PROJECT NAME

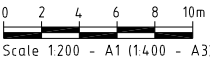
COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

CROSS SECTIONS
ROAD 04 (Cont.)
SHEET 03



MUS Pty Ltd T/As: Postal Address
Mortons-Urban Solutions PO Box 2484
ABN: 39 116 375 065 Southport QLD 4215
mortons@urbansolutions.net.au
www.urbansolutions.net.au Gold Coast Office
Tel: 07 5571 1099 Suite 9, 19 Short St
Southport QLD 4215

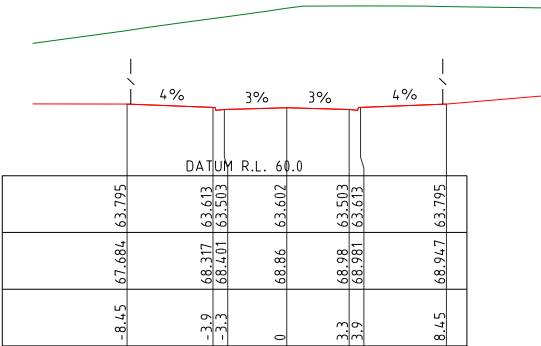
DESIGNED	RB	DRAWN	EP
APPROVED	<i>a.k.m.</i>	RPEQ4706	DATE 16-11-23

DRAWING NUMBER

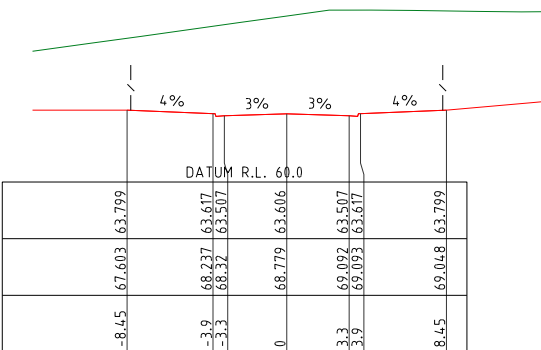
41901-03-303

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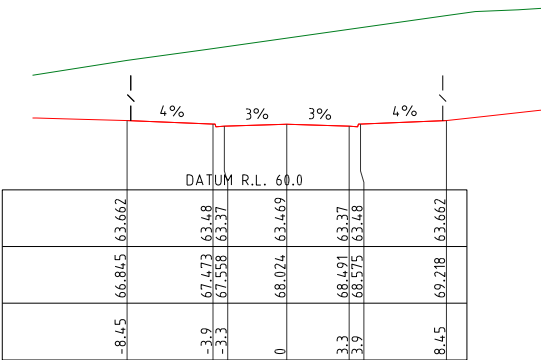
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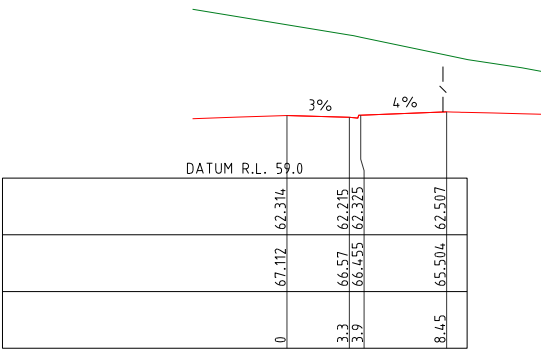
CH 400



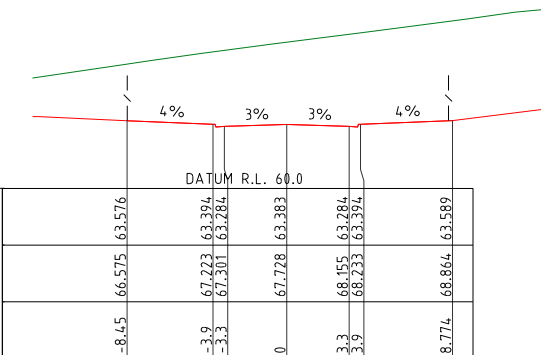
CH 397.611



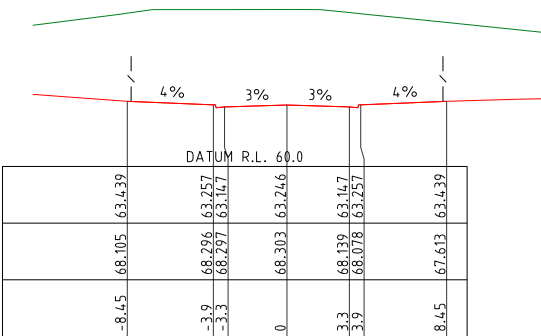
CH 383.814



CH 440



CH 380



ROAD 04 (Cont.)

CH 420

NOTES:

1. REFER TO 080
SERIES FINAL SURFACE
PLAN DWGS FOR
EARTHWORKS BEYOND
ROAD RESERVE.
2. CROSS SECTIONS
WITH NO TEMPLATE
REPRESENT CONTROL
LINE LEVELS AT THAT
CHAINAGE.

DESIGN SURFACE LEVEL	-8.45	66.575	63.576						
EXISTING SURFACE LEVEL		67.223	63.394	63.584					
OFFSET		-3.9	-3.3	0	3.3	3.9	8.774		

LEGEND

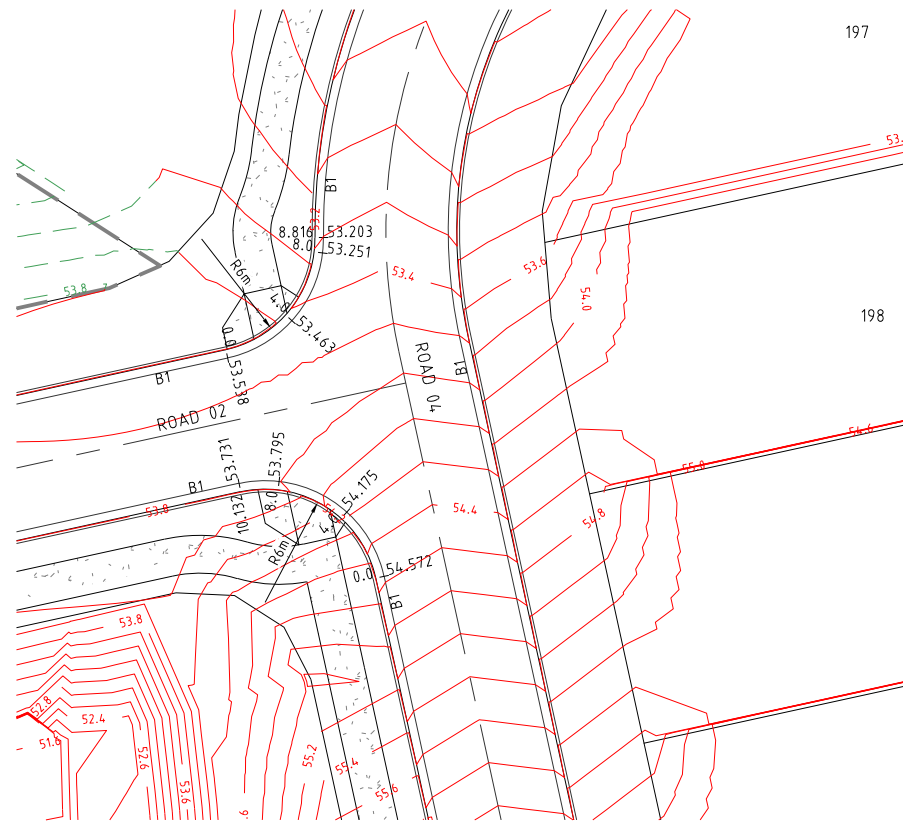
- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- 1.0
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- 1.0
- FUTURE CONTOURS
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- DESIGN CONTOURS
- 1.0
- PROPOSED CONCRETE

24.0 _ 4.1065 INTERSECTION CHAINAGE & LEVEL

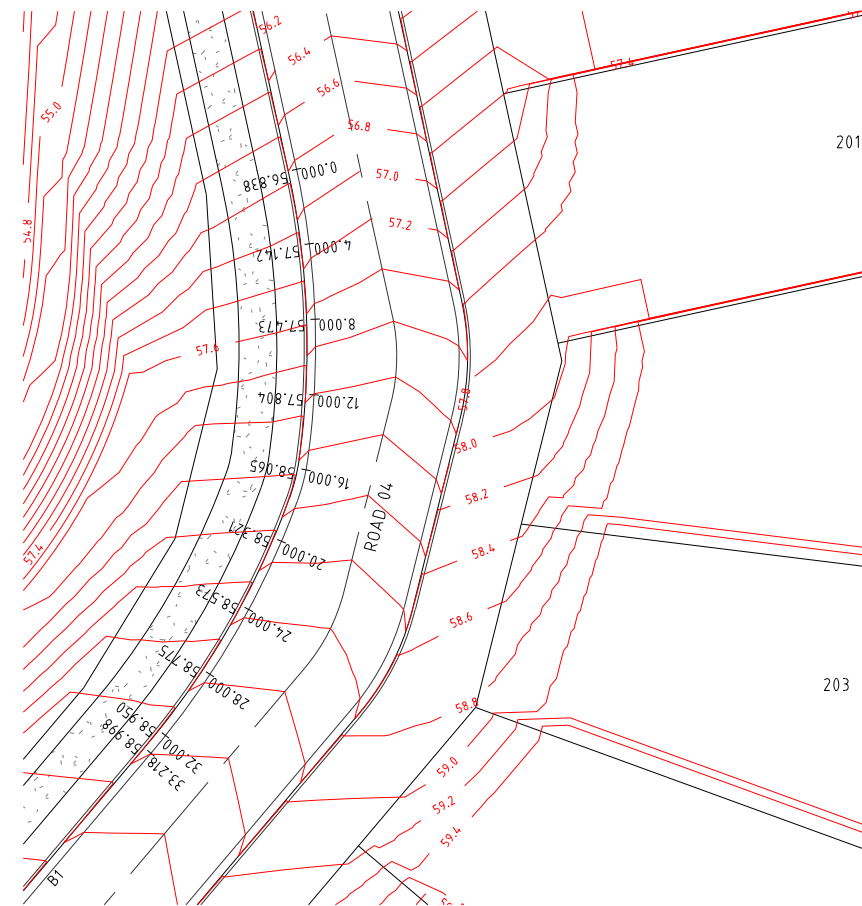
B1 BARRIER KERB & CHANNEL
REFER TO DRG. 120 FOR KERB TYPES

NOTES:

- SETOUT POINT DENOTES LIP OF KERB WHERE LIP OF KERB, OR FACE OF KERB WHERE NO LIP.
- FOR KERB TYPES REFER TO SCHEDULE OF KERB TYPES ON DWG. 120



INTERSECTION
ROAD 02 & 04



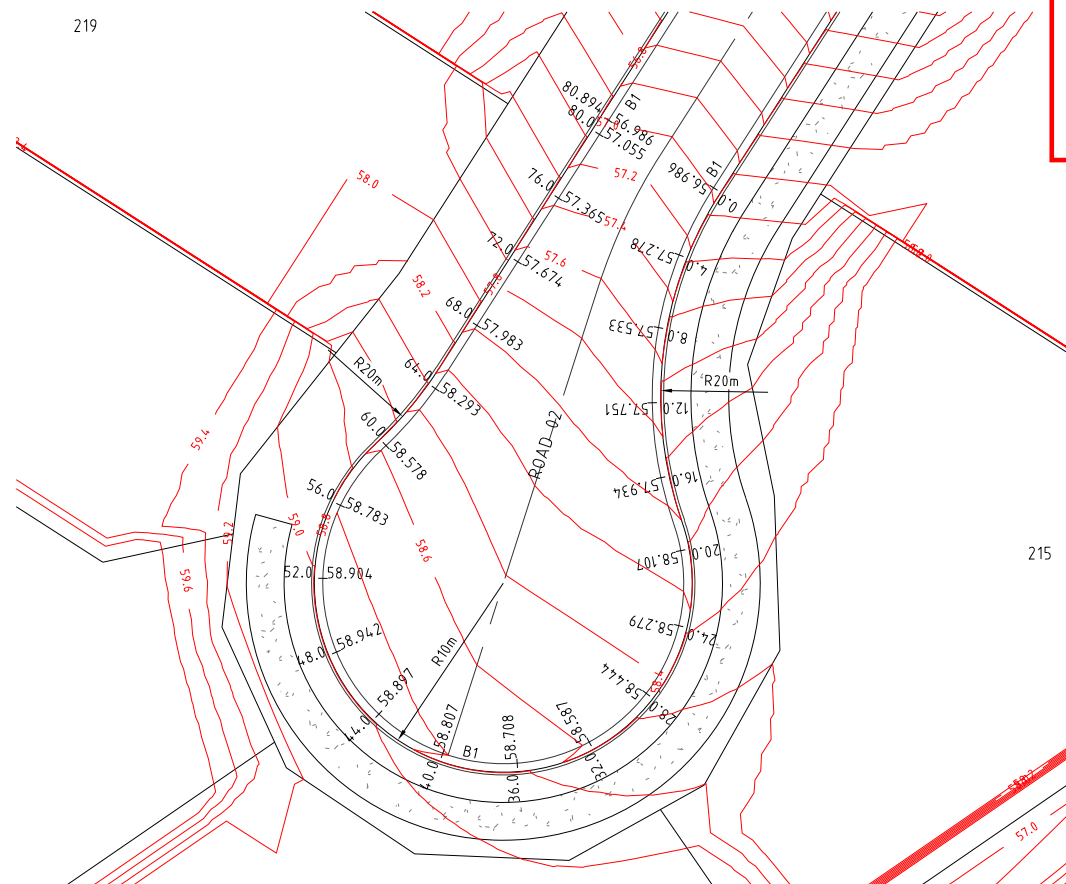
ROAD WIDENING
ROAD 04

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

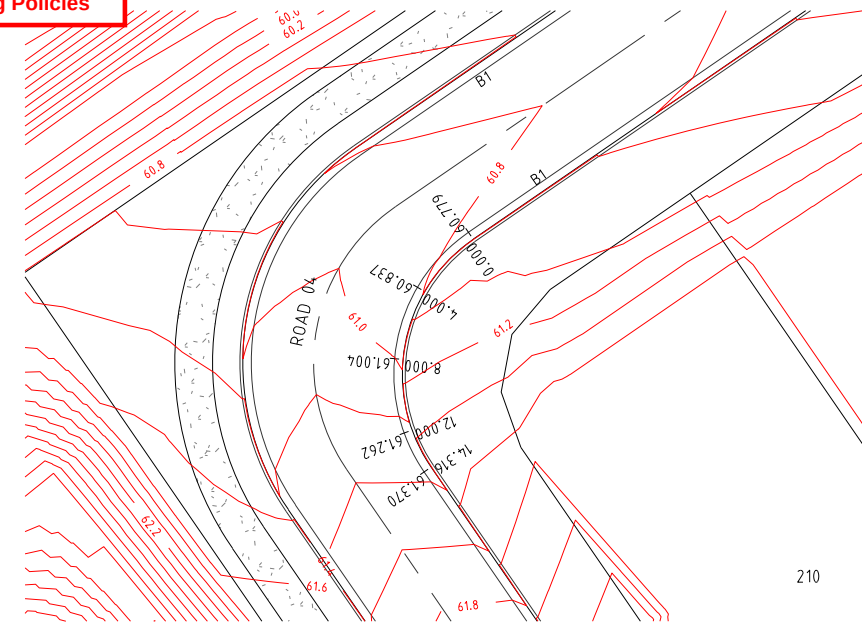
Application No.: OPW/2023/1350

Dated: 18 March 2024

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CUL-DE-SAC
ROAD 02



ROAD WIDENING
ROAD 04

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
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ASSOCIATED CONSULTANTS



DRAWING TITLE

INTERSECTION
GRADING DETAILS
SHEET 01

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	REQ 4706 DATE 16-11-23

DRAWING NUMBER
41901-03-400

REV
A

CONCRETE PAVEMENT DRIVEWAY:

1. CONCRETE MIX
THE CONCRETE SHALL HAVE A MINIMUM 28 DAY CHARACTERISTIC COMPRESSIVE STRENGTH AS SPECIFIED IN THE SCHEDULE OF CONCRETE PAVEMENTS TABLE. MAXIMUM WATER/CEMENT RATIO OF 0.45 & A MINIMUM CEMENT CONTENT OF 300kg/m³.
2. SUBGRADE PREPARATION
THE SUBGRADE TO THE CONCRETE PAVEMENT AREAS SHALL BE PREPARED THE SAME AS CONVENTIONAL ROADS. REFER TO SCHEDULE OF CONCRETE PAVEMENTS TABLE.
3. TRAFFIC
TRAFFIC SHALL NOT BE ALLOWED ON THE FINISHED CONCRETE PAVEMENT FOR AT LEAST 14 DAYS AFTER COMPLETION OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING MEASURES TO PREVENT UNAUTHORISED ACCESS.
4. JOINTS
ALL JOINTS SHALL BE LOCATED GENERALLY PERPENDICULAR TO THE CENTRELINE. ALL CONTROL JOINTS TO BE COMPLETED AS SOON AS CONCRETE HAS CURED SUFFICIENTLY SO AS NOT TO DAMAGE THE SLAB SURFACE.
ALL JOINTS ARE TO BE INSTALLED AS DETAILED ON IPWEAQ STD DWG RS-065.
5. GENERAL
THE GRAVEL PAVEMENT SHALL BE NEATLY PROFILED & TRIMMED TO ENSURE CONSTANT CONCRETE DEPTHS & PROFILES. ACTUAL CONSTRUCTION REQUIREMENTS MAY VARY FROM THE DETAILS SHOWN & THEREFORE ALL CONSTRUCTION DETAILS SHOULD BE VERIFIED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION COMMENCING. PROVIDE ABLEFLEX BETWEEN KERB & DRIVEWAY.
6. COMPLIANCE STANDARDS
SLIP RESISTANCE OF SURFACE MATERIALS IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
AS/NZS 4586 2013 SLIP RESISTANCE OF NEW PEDESTRIAN SURFACE MATERIALS.
AS/NZS 4663 2013 SLIP RESISTANCE MEASUREMENT OF EXISTING PEDESTRIAN SURFACES
HB A A 197: 1999 "AN INTRODUCTORY GUIDE TO THE SLIP RESISTANCE OF PEDESTRIAN SURFACE MATERIALS"



LEGEND

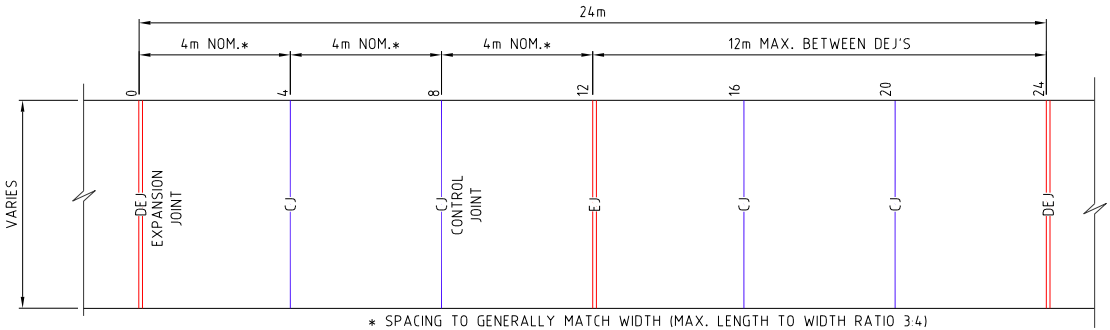
- — — — — EXISTING PROPERTY LINE
— — — — — EXISTING KERB
- - - - - FUTURE KERB
- - - - - FUTURE PROPERTY LINE
— — — — — PROPERTY LINE
— — — — — FACE OF KERB, FOOTPATHS
— — — — — LIP AND BACK OF KERB
- — — — — SITE BOUNDARY
— — — — — STAGE BOUNDARY
- — — — — E J — — — — — EXPANSION JOINT
— — — — — DE J — — — — — DOWELED EXPANSION JOINT
— — — — — I J — — — — — ISOLATION JOINT
— — — — — S J — — — — — SAW JOINT
— — — — — C J — — — — — CONTROL JOINT
— — — — — K J — — — — — KEY JOINT
- 2xN12 BARS AROUND PENETRATIONS TYP.

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

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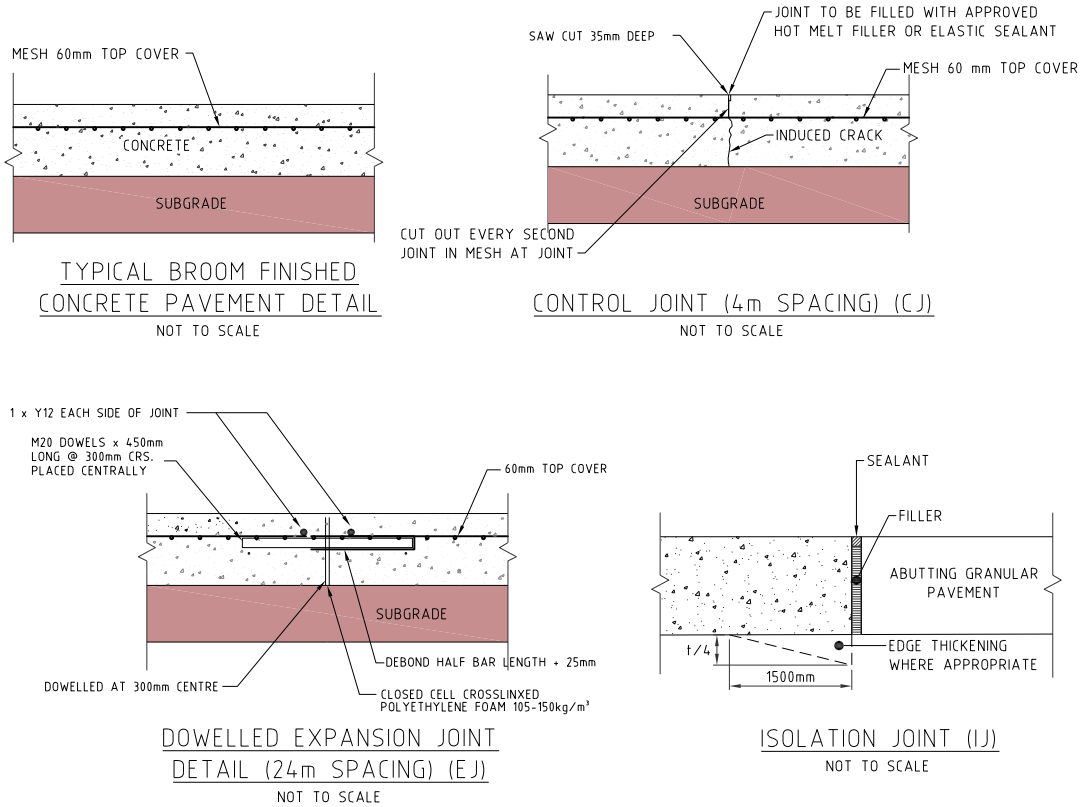


TYPICAL CONCRETE PAVEMENT DETAIL FOR DRIVEWAYS AND ROADS

SCALE 1:50 - A1 (1:100 - A3)
0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

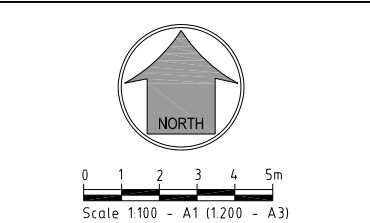
SCHEDULE OF CONCRETE PAVEMENTS					
FUNCTION	SURFACING	SUBGRADE PREPARATION	THICKNESS 'T'	STRENGTH	REINFORCING
FOOTPATH 2.0M WIDE	HEAVY BROOM FINISH	50mm SAND BLINDING LAYER	100mm	32 mPa	SL 72 MESH

NOTE: FOOTPATH JOINTING TO BE IN ACCORDANCE WITH IPWEAQ DWG RS-065
SUPERINTENDENT TO CONFIRM SUBGRADE PREPARATION



PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03
RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
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DRAWING TITLE
**CONCRETE
JOINTING DETAILS
SHEET 01**

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As: Mortons-Urban Solutions
ABN: 39 116 375 065
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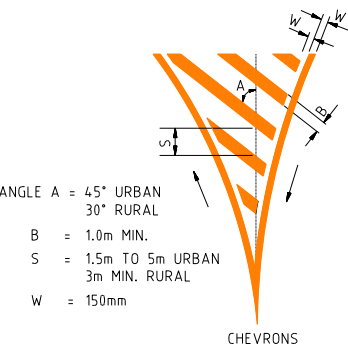
DESIGNED RB	DRAWN EMH	DATE 16-11-23
APPROVED <i>AK</i>	REQ 4706	REV
DRAWING NUMBER 41901-03-410		A

- NOTES
1. LINEMARKING & SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES". ALL SIGNAGE SHOWN IS DIAGRAMMATIC ONLY, & MUST BE INSTALLED AT THE HEIGHT, ORIENTATION & WITH APPROPRIATE POLE SUPPORT AS SPECIFIED IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 2. ALL SIGN POSTS & SIGN RAILS TO BE GALVANISED UNLESS NOTED OTHERWISE.

PAVEMENT MARKING LEGEND

- EXISTING EDGE LINE - EL
- EXISTING EDGE LINE YELLOW - EL(Y)
- EXISTING CONTINUITY LINE - CL
- EXISTING TURN LINE - TL
- EXISTING BARRIER LINE - BL(B)
- EXISTING BARRIER LINE - BL
- EXISTING LANE LINE - LL
- EXISTING LANE LINE - LL(B)
- EXISTING GIVE WAY LINE - GWL
- EXISTING STOP LINE - SL
- EDGE LINE - EL
- EDGE LINE YELLOW - EL(Y)
- CONTINUITY LINE - CL
- TURN LINE - TL
- BARRIER LINE - BL(B)
- BARRIER LINE - BL
- LANE LINE - LL
- LANE LINE - LL(B)
- GIVE WAY LINE - GWL
- STOP LINE - SL

NOTE: REFER TO: MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ALL LINEMARKING AND SIGN STANDARDS



LEGEND

- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- EXISTING FOOTPATH
- FUTURE KERB (INVERT)
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- SIGN POST
- SIGN POST
- SIGN POST

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

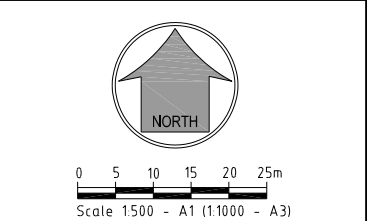
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DRAWING TITLE
**LINEMARKING & SIGNAGE
PLAN
SHEET 01**

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
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PO Box 2484
Southport QLD 4215

Gold Coast Office:
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EMH
APPROVED <i>AK</i>	RPEQ4706 DATE 16-11-23
DRAWING NUMBER 41901-03-420	REV A

SEQ CODE SEWER NOTES

SEQ CODE NOTES COPIED DIRECTLY FROM DRAWING SEQ-SEW-1101-3.
VEGETATION PROTECTION

- A. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
- B. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8 m BATTENS CLOSELY SPACED & ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION & REMAIN UNTIL COMPLETION.
- C. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
- D. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

- A. TOPSOIL & SUBSOIL SHALL BE STOCKPILED SEPARATELY.
- B. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
- C. IF ACID SULPHATE SOILS EXIST IN THE WORKS AREA. THE CONTRACTOR MUST PREPARE A RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL & MANAGE THE ACID SULPHATE SOILS AS PER THE MANUAL.

CREEK CROSSINGS

- A. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
- B. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
- C. NO SOIL SHALL BE STOCKPILED WITHIN 5 m OF THE CREEK.

REHABILITATION

- A. PREDISTURBANCE SOIL PROFILES & COMPACTION LEVELS SHALL BE REINSTATED.
- B. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

SAFETY

- A. THE DESIGN & CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

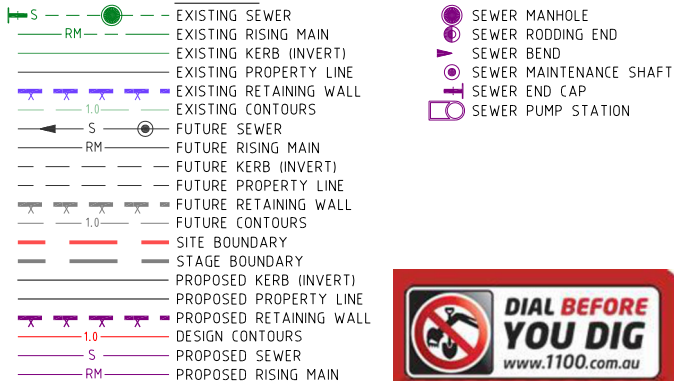
GENERAL

1. ALL WORK & MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE SPECIFICATIONS & STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS & WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE SEQ SERVICE PROVIDER SEWERAGE SYSTEM.
4. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY DEVELOPER'S APPROVED CONTRACTOR UNDER THE SUPERVISION OF SEQ'S AGENT AT THE DEVELOPER'S COST.
5. ALL PIPES & MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS & MATERIALS" LIST.
6. EACH ALLOTMENT SHALL BE SERVED BY A DN100 PVC PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL, A DN160 PE (OR DN150 PVC) PROPERTY CONNECTION SHALL BE PROVIDED.
7. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
8. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300 mm & A MAXIMUM OF 750 mm. UNITYWATER REQUIRES MINIMUM EXTENSION OF 500 mm INTO PROPERTY.
9. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300 mm (LOOSE) IN DEPTH & SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S. 1289 (MODIFIED COMPACTION). TESTING SHALL BE CARRIED OUT AFTER EACH ALTERNATE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY THE SEQ SERVICE PROVIDER UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
10. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER,BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION & DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
12. SEWERS SHALL BE DISUSED /ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ SEWER CODE.
13. BENCH MARK & LEVELS TO AHD.
- ~~14. THE EXISTING DWELLING ON LOT 3, REFER SEQ-SEW-1100, SERVED BY A SEPTIC SYSTEM, SHALL BE CONNECTED TO THE NEW SEWER BY A LICENCED PLUMBER IN ACCORDANCE WITH THE RELEVANT STATUTORY & COUNCIL REQUIREMENTS. THE SEPTIC SYSTEM, INCLUDING TRENCHES,SHALL BE REMOVED AT THE DEVELOPER'S COST. ALL FIXTURES SHALL BE UPGRADED IF REQUIRED BY PLUMBING CODE. STANDARD NOTE NOT APPLICABLE & THEREFORE DELETED.~~
15. EXISTING ALLOTMENTS REQUIRING A PROPERTY CONNECTION FROM EXISTING SEWERS SHALL BE PROVIDED BY THE SEQ SERVICE PROVIDER AT THE DEVELOPERS COST.

PROJECT SPECIFIC SEWER NOTES

- a. ALL SEWER MAINS TO BE AS PER SEWER PIPE SPECIFICATIONS TABLE.
- b. NOTWITHSTANDING THE STANDARD SEQ NOTES ABOVE, ALL MATERIALS & WORKS MUST BE IN ACCORDANCE WITH THE SERVICE PROVIDER'S APPROVAL CONDITIONS & THE SEQ WS&S D&C CODE.
- c. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR SEWER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
- d. THE CONTRACTOR TO PROVIDE CALCAREOUS CONCRETE WHERE SPECIFIED IN THE SEQ CODE BY THE RELEVANT AUTHORITY.
- e. WATER & ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE. SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENT'S INSTRUCTION
- f. ALL BENDS TO BE LONG RADIUS BEND TO MEET MANUFACTURER'S MINIMUM RADIUS REQUIREMENTS U.N.O.
- g. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF WORKS ON-SITE.
- h. PROPERTY CONNECTIONS HAVE BEEN DESIGNED TO CONTROL THE REQUIRED SERVICE AREA OF EACH LOT AT A GRADE OF 160 & A MAXIMUM DEPTH OF PROPERTY CONNECTION AT 1.5m. UNLESS OTHERWISE STATED.
- i. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.

LEGEND

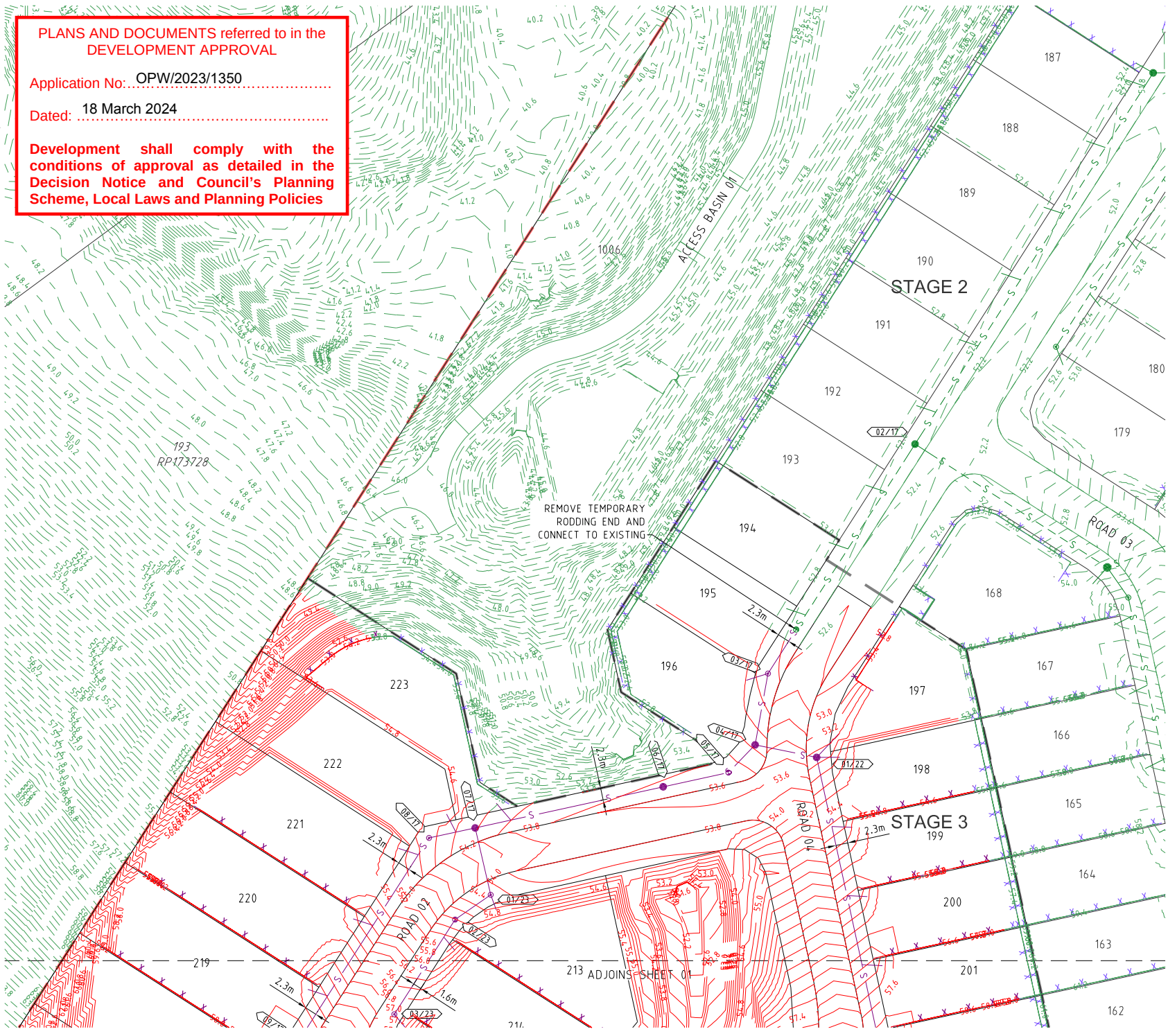


PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

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Dated: 18 March 2024

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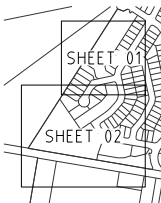


ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR
TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

SEWER PIPE SPECIFICATIONS

SEWER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
GRAVITY VERGE	PVC-U SN8
GRAVITY ROAD CROSSING	PVC-U SN8
HOUSE CONNECTIONS	PVC-U SN10
ISING MAIN TRENCHED	PVC-m SN16
ISING MAIN BORED	PVC-m SN16

SHEET LAYOUT



SERVICE PROVIDER AND CONSTRUCTOR LIVE SEWER WORKS SCHEDULE

No.	Description	Dia. Sewer	MH No.	MH/MS Type	Cover Type	Lot no	F.S.L	E.S.L	I.L	Depth to invert
1(A)	CIVIL CONTRACTOR TO MAKE APPLICATION TO GOLD COAST WATER AND WASTE WATER FOR THE LIVE CONNECTION TO DOWNSTREAM SEWER MANHOLE AT EACH LOCATION	150	TEMP RODDING END @BDY 194/195	TEMP RE	B	194/195	52.720	52.720	50.330	2.390
1(B)	0.5m FROM STUB END CAP, CONTRACTOR TO LAY NEW LINES. AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE.									
1(C)	LOGAN WATER TO REMOVE TEMPORARY END CAPS ON STUB & LINES AND MAKE LIVE CONNECTION AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.									

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
A	16-11-23	COUNCIL ISSUE	RK

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DRAWING TITLE

SEWER RETICULATION
PLAN
SHEET 01

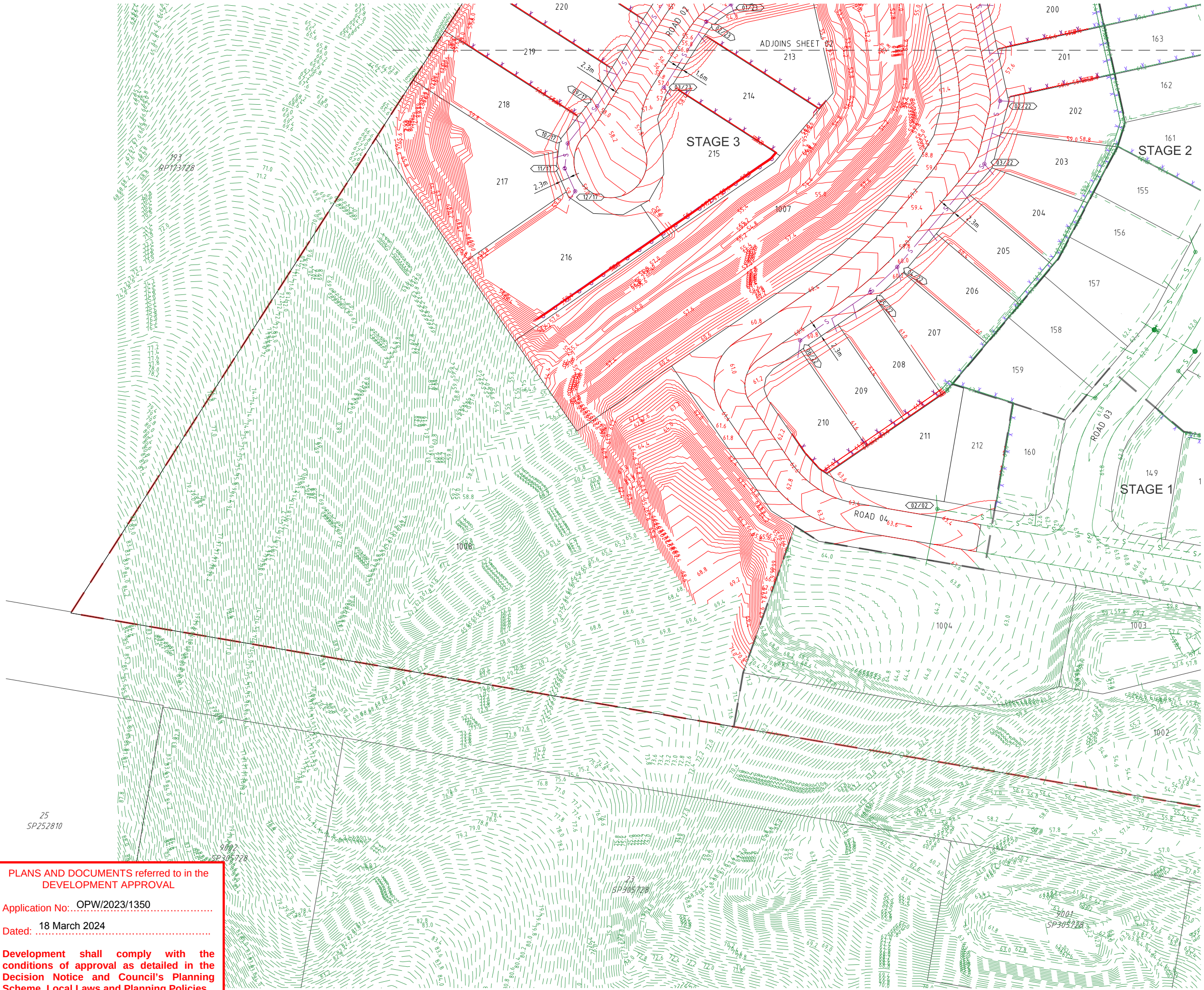


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mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

Postal Address
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Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	RPEQ 4706 DATE 16-11-23
DRAWING NUMBER 41901-03-500	REV A



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Date: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

A	11-10-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS

WATER AND ENVIRONMENTAL CONSULTING

DRAWING TITLE

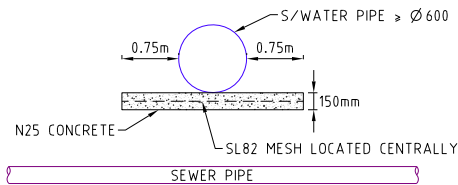
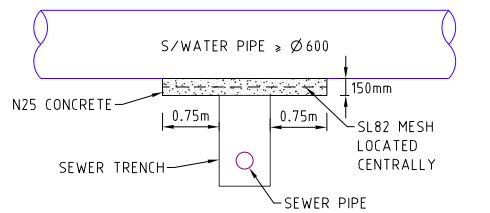
SEWER RETICULATION
PLAN
SHEET 02

Urban & Regional Planning
Civil Engineering
Project Coordination

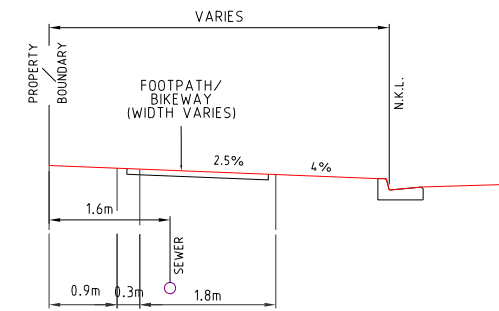
MUS Pty Ltd T/As:
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Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EMH
APPROVED	RPEQ4706 DATE 16-11-23
DRAWING NUMBER 41901-03-501	REV A



BRIDGING DETAILS FOR
STORMWATER PIPES $\geq \varnothing 600$
NOT TO SCALE

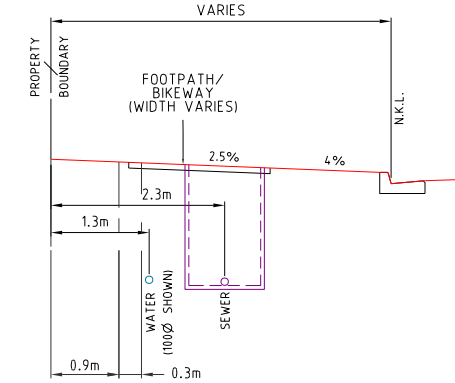


U/G POWER GAS
TELECOMMUNICATIONS
AND CABLE T.V.

G.C.C.C. TYPICAL SERVICES
SEWER RETICULATION ONLY

SCALE 1:50 - A1 (1:100 - A3)

1. PUBLIC UTILITIES ALLOCATIONS ARE MEASURED FROM THE REAL PROPERTY BOUNDARY.
2. LIGHT POLE, TREE ALLOCATIONS AND FOOTPATHS ARE MEASURED FROM THE NOMINAL KERB LINE.



U/G POWER GAS
TELECOMMUNICATIONS
AND CABLE T.V.

G.C.C.C. TYPICAL POTABLE WATER AND
SEWER RETICULATION (SAME SIDE)

SCALE 1:50

PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03

RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

REV	DATE	DESCRIPTION	INT
A	16-11-23	COUNCIL ISSUE	RK

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ASSOCIATED CONSULTANTS



DRAWING TITLE

SEWER RETICULATION
DETAILS

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As: Postal Address
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www.urbansolutions.net.au Gold Coast Office
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Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	REQ 4706 DATE 16-11-23
DRAWING NUMBER 41901-03-510	REV A

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the
conditions of approval as detailed in the
Decision Notice and Council's Planning
Scheme, Local Laws and Planning Policies

DATUM R.L.

LINE NO.

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



0 5 10 15 20 25m
Horiz. Scale 1:500 - A1 (1:1000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

SEWER RETICULATION
PROFILES
SHEET 02

APPROVED <i>W.R. [Signature]</i>		RFREQ4706	DATE 14-11-23
DRAWING NUMBER 41901-03-531			REV B

RIGS STRUCTURE DROPS	
A	SEWER PROPERTY CONNECTION (STANDARD & EXTENDED) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
B	SEWER PROPERTY CONNECTION (SLOPED CONNECTION) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
D	SEWER PROPERTY CONNECTION (VERTICAL RISER) REFER TO SEQ STD DWG SEQ-SEW-1105-1
V	SEWER PROPERTY CONNECTION (STRAIGHT THROUGH SEWER) REFER TO SEQ STD DWG SEQ-SEW-1303-1
X	SEWER PROPERTY CONNECTION (INTERNAL BACKDROP) REFER TO SEQ STD DWG SEQ-SEW-1303-1
Z	RISER CONNECTION TO PORTION OF MAINTENANCE SHAFT

NOTES

1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION.

2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN10 UNLESS NOTED OTHERWISE

PIPE DIAMETER (mm)

PIPE GRADE

DATUM R.L.

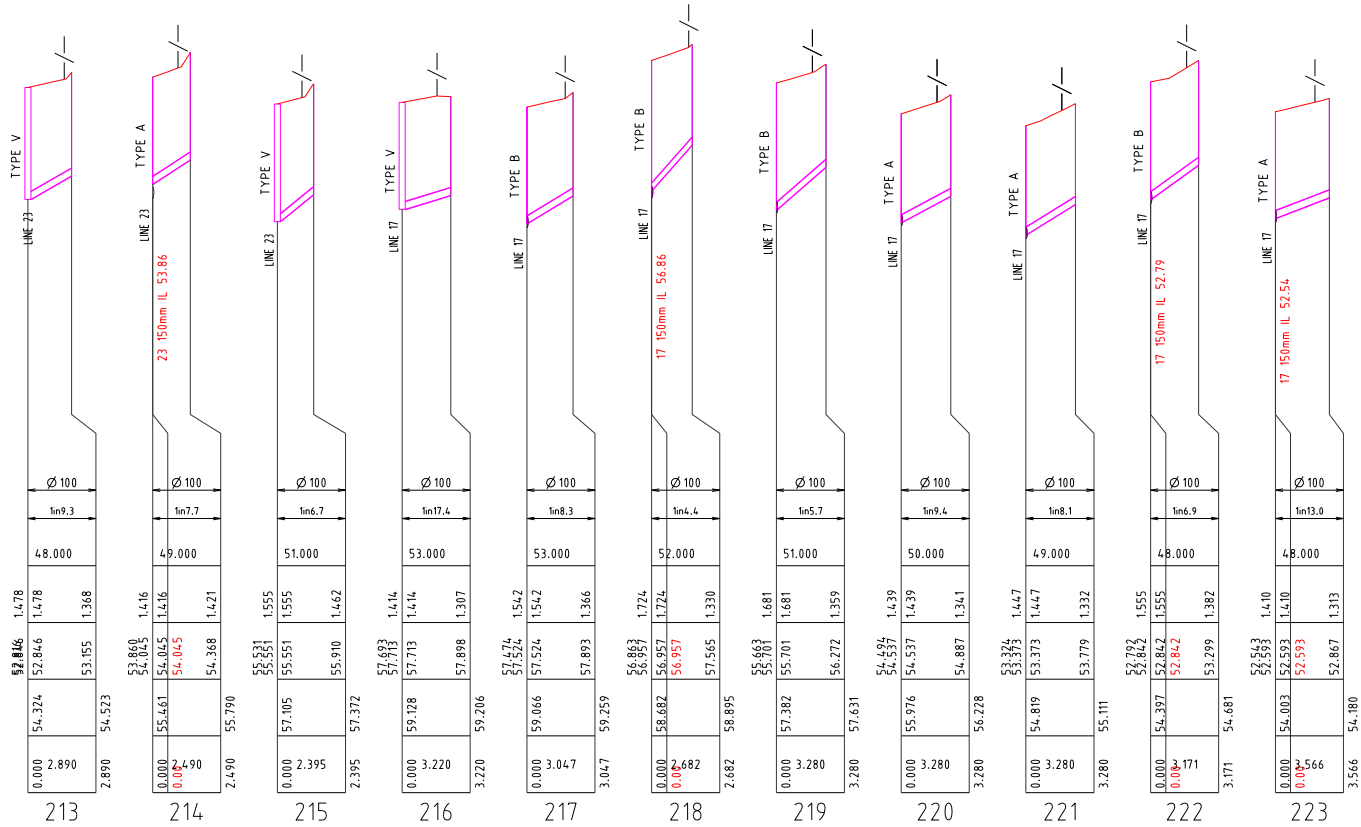
DEPTH TO INVERT

PIPE INVERT LEVELS

DESIGN SURFACE LEVELS

CHAINAGE

LOT NO.



NOTES

1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION.

2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN10 UNLESS NOTED OTHERWISE

PIPE DIAMETER (mm)

PIPE GRADE

DATUM R.L.

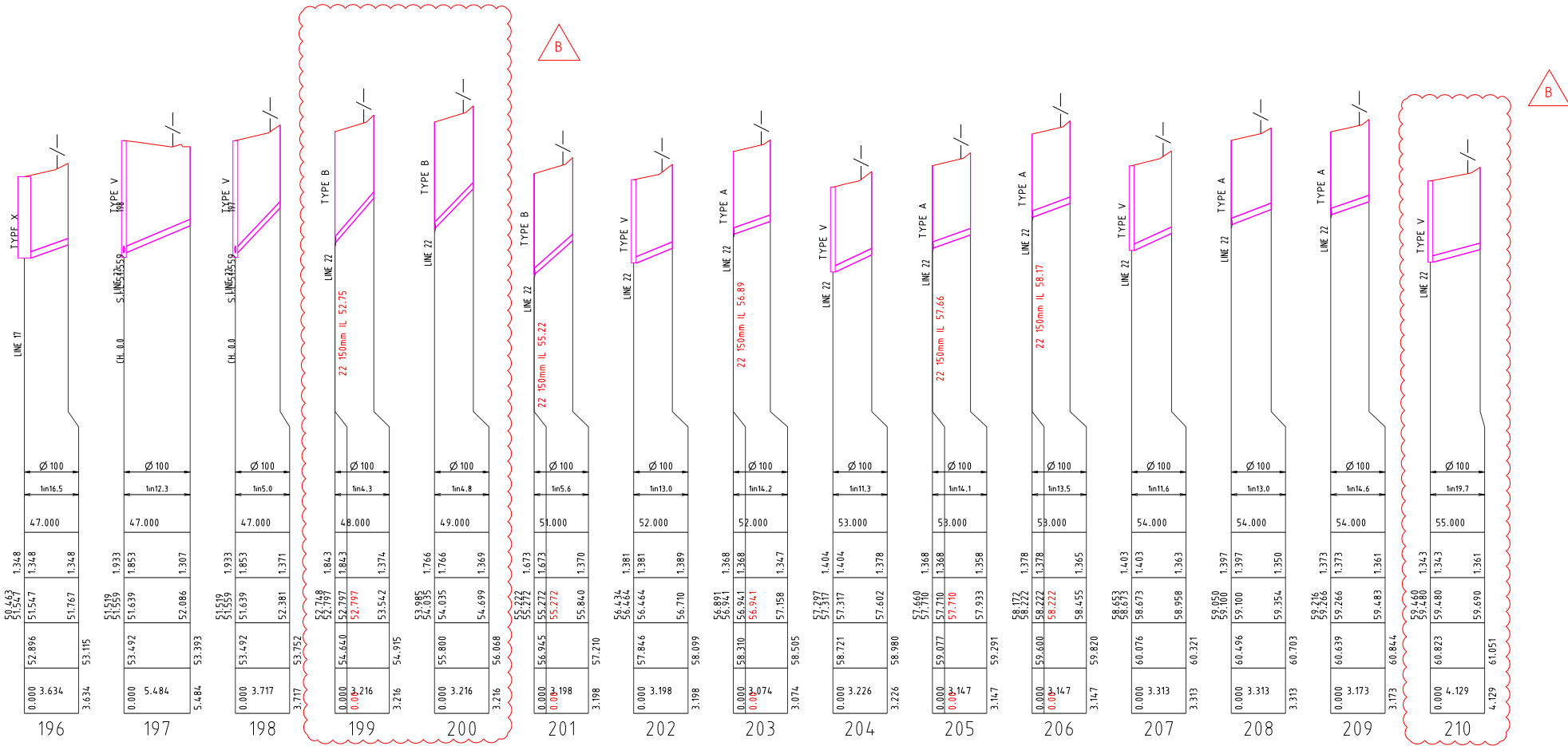
DEPTH TO INVERT

PIPE INVERT LEVELS

DESIGN SURFACE LEVELS

CHAINAGE

LOT NO.



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

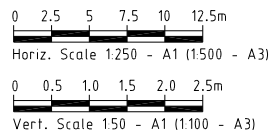
LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



B	27-11-23	HOUSE CONNECTIONS AMENDED	BL
A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES



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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	RPEQ4706 DATE 16-11-23
DRAWING NUMBER 41901-03-550	REV B

STORMWATER

- ALL FIELD GULLIES SHALL CONTAIN A 150mm DIA STUB 600mm BELOW GRADE LEVEL FOR FUTURE ROOFWATER DRAINAGE.
- MANHOLES TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING No DS-010, DS-015, DS-018, DS-019, DS-020, DS-021 OR STRUCTURAL DRAWINGS (STRUCTURAL DRAWINGS TAKE PRECEDENCE).
- OUTLET HEADWALLS TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARD DRAWINGS.
- ALL HEADWALLS WITH A FALL GREATER THAN 900mm HIGH REQUIRE INSTALLATION OF PEDESTRIAN SAFETY FENCES.
- PIPE JOINT TYPES TO BE IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.
- ALL ALLOTMENTS TO BE GRADED SUCH THAT FUTURE ROOFWATER DRAINAGE DISCHARGES TO KERB OR TO PIPED DRAINAGE SYSTEM.
- ALL PIPE 300mm DIA & GREATER SHALL BE CONSTRUCTED USING SRC OR FRC PIPES. CONTRACTOR MAY ELECT TO USE PVC PIPES WITHIN ALLOTMENTS FOR PIPES SMALLER THAN 300mm DIA.
- FOR SETOUT DETAILS REFER TO 640 SERIES DRAWINGS (PROFILES & PIT DETAILS).
- GULLY PITS TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING No DS-060, DS-061, DS-062, DS-063. WHERE PITS ARE CONSTRUCTED AS DRAINWAY PITS, TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWINGS No 05-068.
- LOTS WHICH CAN DRAIN OVERLAND FLOW TO THE STREET SWALE / DRAINAGE WITHOUT FLOWING THROUGH ADJOINING PROPERTIES NEED TO PROVIDE FOR Q100 OVERLAND FLOW TO THE ROAD
- LOT EARTHWORKS DURING BUILDING CONSTRUCTION MUST NOT CHANGE FLOW PATH DIRECTION UNLESS IT IS REPLACED WITH ANOTHER FLOW PATH DRAINING TO THE ROAD SWALE / DRAINAGE.
- THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR STORMWATER RATE.
- PIPE CLASS - PIPE CLASSES/TRENCH BEDDING SHOWN ON THE DRAWINGS ARE SUBJECT TO THE CONTRACTORS PREFERRED INSTALLATION METHOD. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE APPROPRIATE PIPE CLASSES & BEDDING, & CONSIDERING CONSTRUCTION LOADING.
- KERB ADAPTORS ARE TO BE INSTALLED TO AUTHORITIES REQUIREMENTS.
- ALL RCBC SLABS ARE TO BE CAST INSITU.

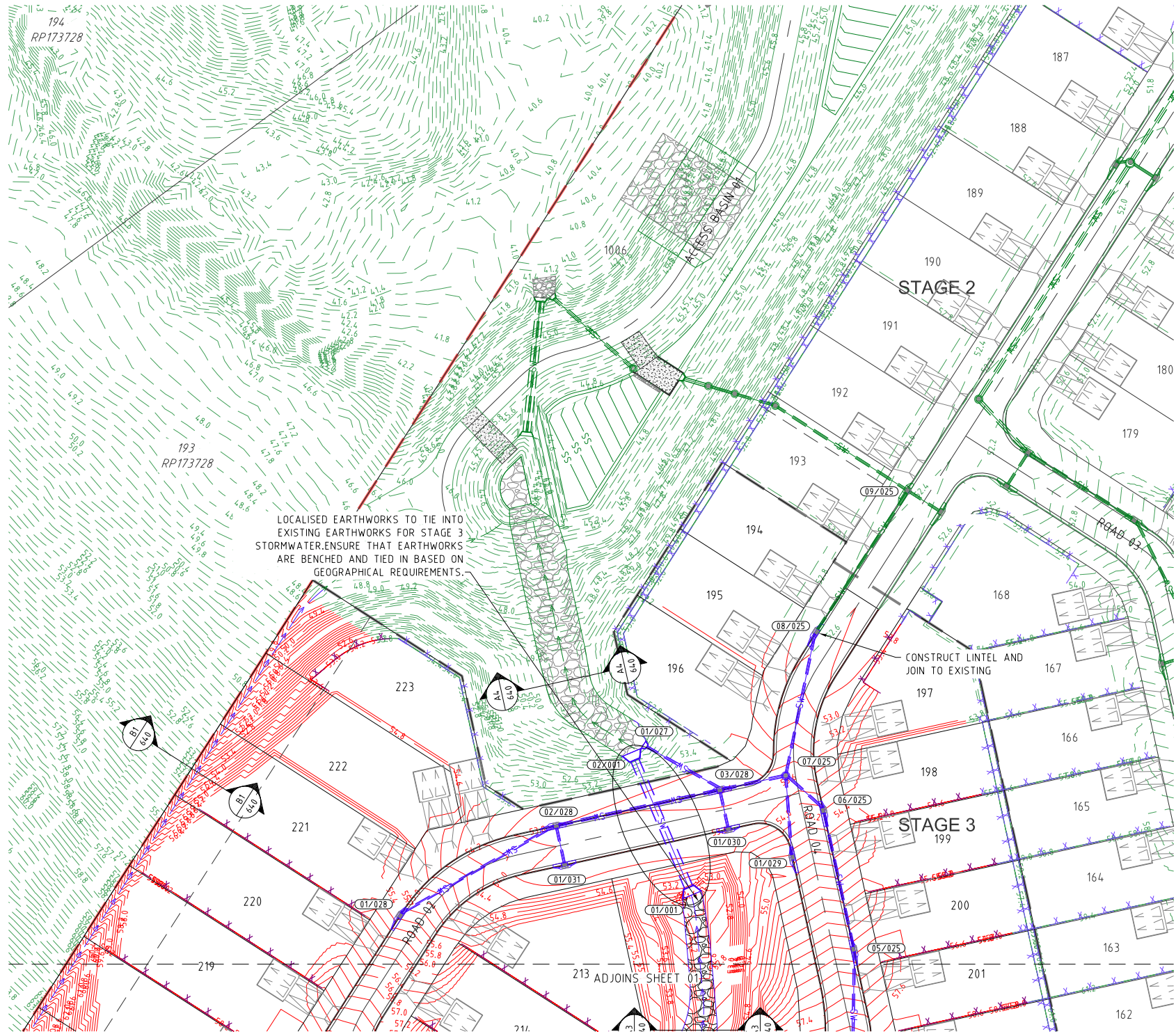
LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING PROPERTY LINE
- EXISTING RETAINING WALL
- EXISTING STORMWATER
- EXISTING ROOFWATER
- EXISTING SUBSOIL
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- FUTURE STORMWATER
- FUTURE ROOFWATER
- FUTURE SUBSOIL
- SITE BOUNDARY
- STAGE BOUNDARY
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS
- PROPOSED STORMWATER
- PROPOSED ROOFWATER
- PROPOSED SWALE
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION

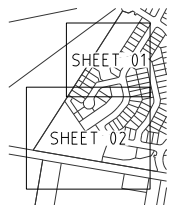
REFERENCE POINT LOCATION FOR DRAINAGE STRUCTURES

STRUCTURE TYPE	HORIZONTAL CONTROL (Reference Point Location)	VERTICAL CONTROL (Reference Level)
MANHOLE / GRATED PIT	CENTRE OF MANHOLE / PIT	FINISHED SURFACE LEVEL
GULLY PIT	LIP AT CENTRE OF PIT	FINISHED SURFACE LEVEL (LIP OF CHANNEL)
HEADWALL	INTERSECTION OF HEADWALL FACE & PIPE CENTRELINE	INVERT LEVEL

REFER TO DWG SERIES 640 FOR ALL DRAINAGE STRUCTURE SETOUT AND/OR CUSTOM DETAILS.



SHEET LAYOUT



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
-----	------	-------------	-----

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ASSOCIATED CONSULTANTS



DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 01

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

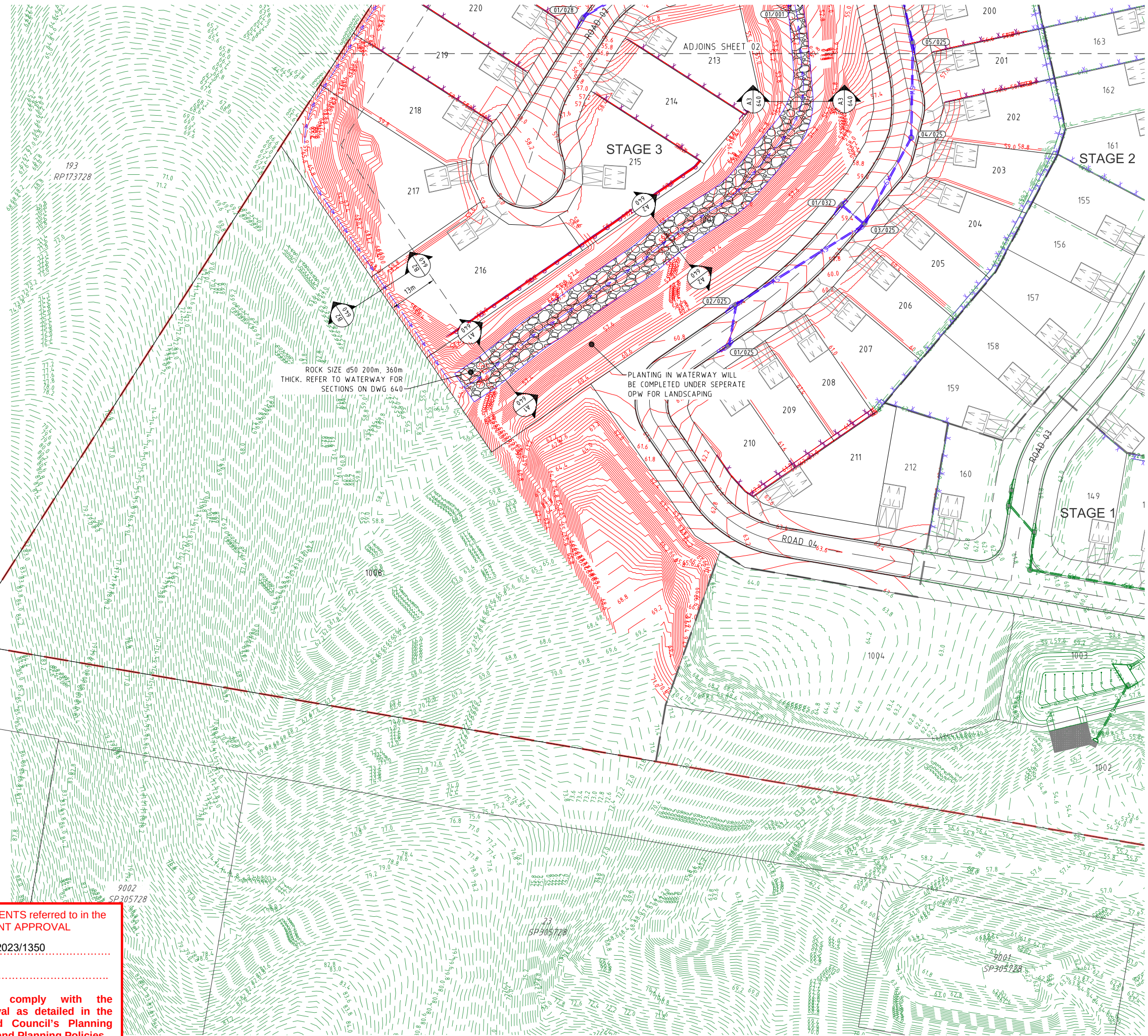
MUS Pty Ltd T/As:
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Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED RB	DATE 16-11-23
DRAWING NUMBER 41901-03-600	REV A

F:\Autocad Client\19 - HB Land\01 - Courtney Drive\Project\Stage 03\Engineering Drawings\Current\1901-03-600.dwg, PLAN SHEET 02, 23/01/2024 11:28:16 AM, 1:2



PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Date: 18 March 2024

Development shall comply with the
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PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
A	11-10-23	COUNCIL ISSUE	RK

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DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 02



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DESIGNED RB	DRAWN EMH
APPROVED A.K.M.	RPE 4706
DRAWING NUMBER	REV
41901-03-601	A

STRUCTURE NAME

STRUCTURE DESCRIPTION



NOTES

- WHERE STRUCTURE DEPTHS ARE 0m TO 3m REFER TO IPWEA STANDARD DRAWINGS FOR STRUCTURE DETAILS.
WHERE STRUCTURE DEPTHS ARE 3m TO 5m REFER TO TMR STANDARD DRAWINGS FOR STRUCTURE DETAILS.
WHERE STRUCTURE DEPTHS EXCEED 5m STRUCTURES ARE NON-STANDARD AND STRUCTURAL DESIGN IS REQUIRED.
- STRUCTURAL DESIGN IS NOT PROVIDED AS PART OF THE TENDER DOCUMENTS, THE CONTRACTOR SHALL INCLUDE IN THEIR PRICE THE STRUCTURAL DESIGN AND CERTIFICATION OF THESE STRUCTURES.

PIPE GRADE (%)

PIPE DIAMETER (mm)

VELOCITY (m/s)

PIPE FLOW (m³/s)

PIPE CLASS

DATUM R.L.

DEPTH TO INVERT

HYDRAULIC GRADE LINE

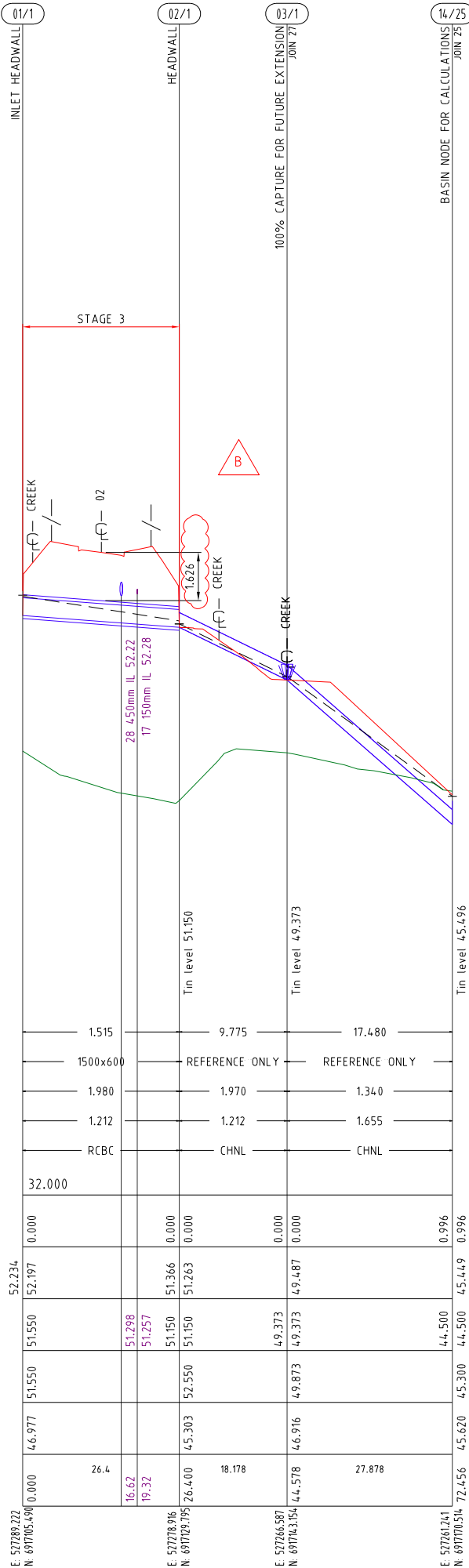
PIPE INVERT LEVELS

DESIGN SURFACE LEVELS

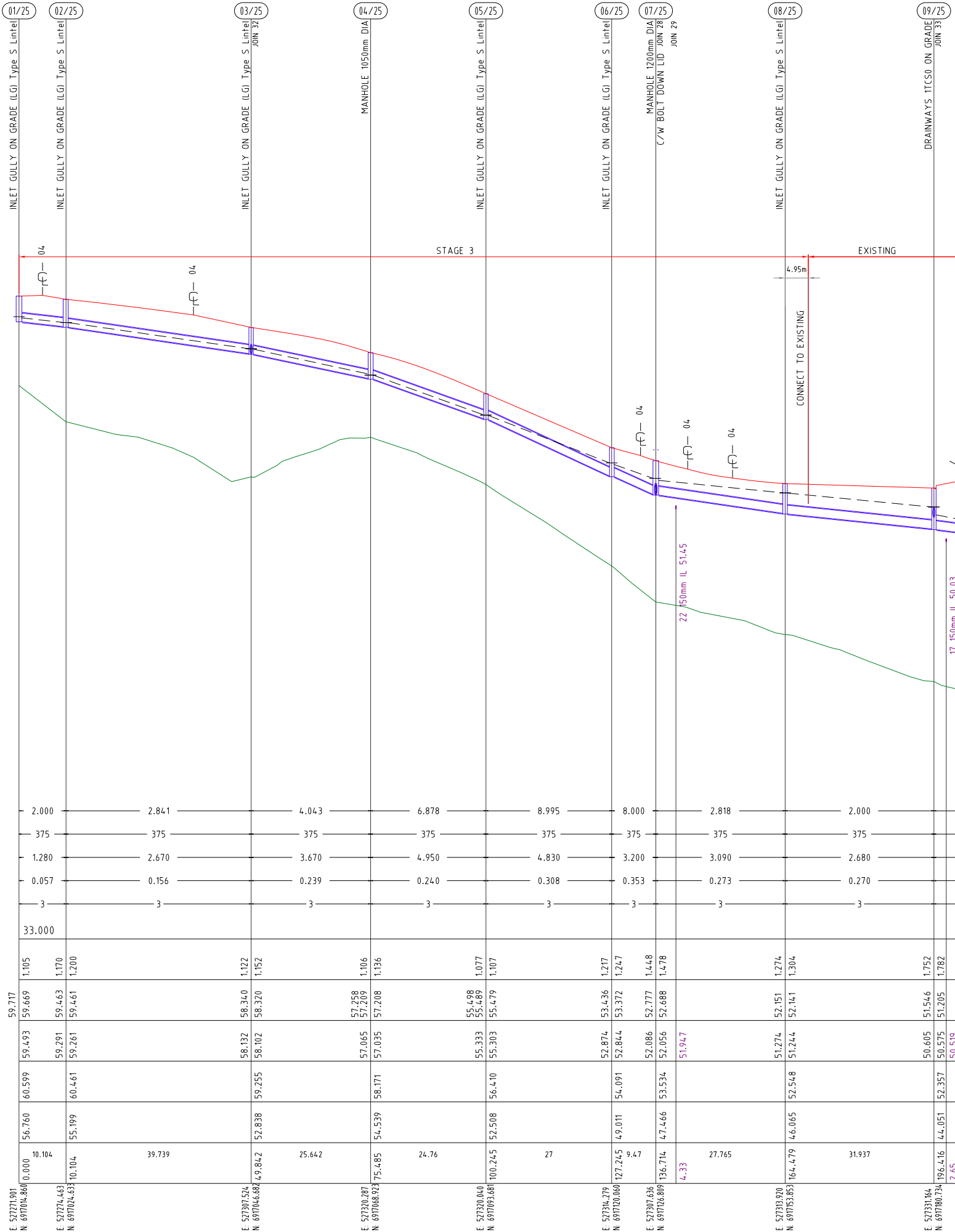
EXISTING SURFACE LEVELS

CHAINAGE

DRAINAGE LINE



1



25

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

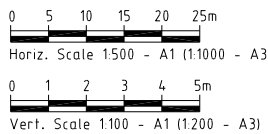
LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



B	23-01-24	DIMENSION ADDED	BL
A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.: OPW/2023/1350

Dated: 18 March 2024

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STORMWATER
PROFILES
SHEET 01



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DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	REPEATED 4706
DRAWING NUMBER 41901-03-620	REV B

STRUCTURE NAME

STRUCTURE DESCRIPTION



NOTES

1. WHERE STRUCTURE DEPTHS ARE 0m TO 3m REFER TO IPWEA STANDARD DRAWINGS FOR STRUCTURE DETAILS.
WHERE STRUCTURE DEPTHS ARE 3m TO 5m REFER TO TMR STANDARD DRAWINGS FOR STRUCTURE DETAILS.
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PIPE GRADE (%)

PIPE DIAMETER (mm)

VELOCITY (m/s)

PIPE FLOW (m³/s)

PIPE CLASS

DATUM R.L.

DEPTH TO INVERT

HYDRAULIC GRADE LINE

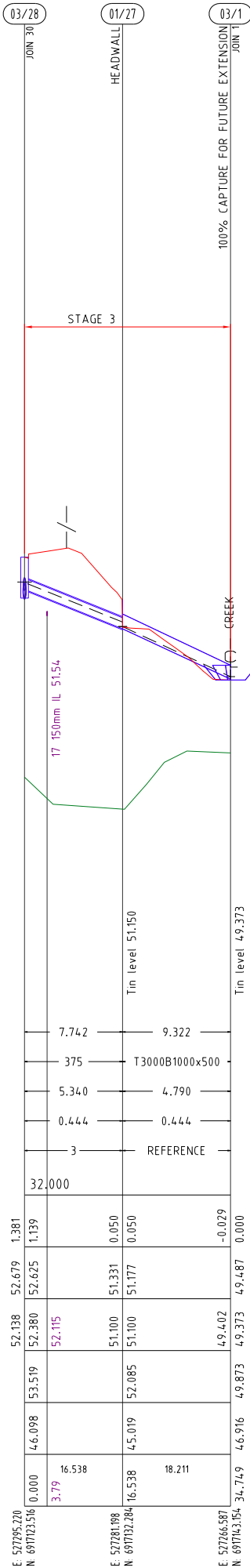
PIPE INVERT LEVELS

DESIGN SURFACE LEVELS

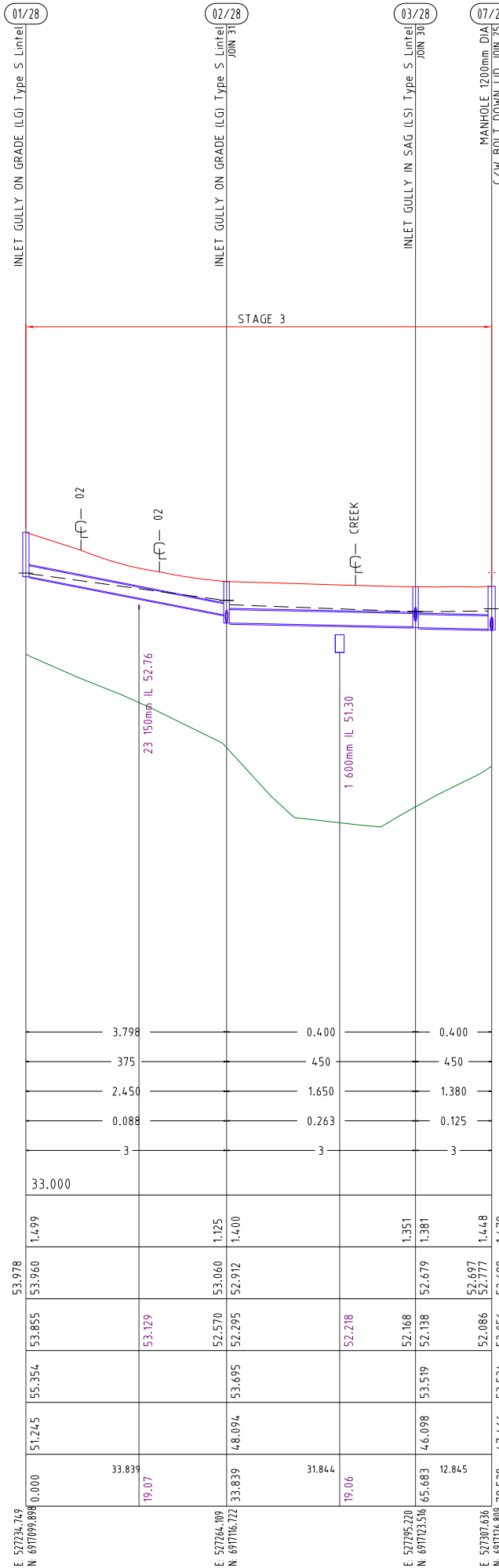
EXISTING SURFACE LEVELS

CHAINAGE

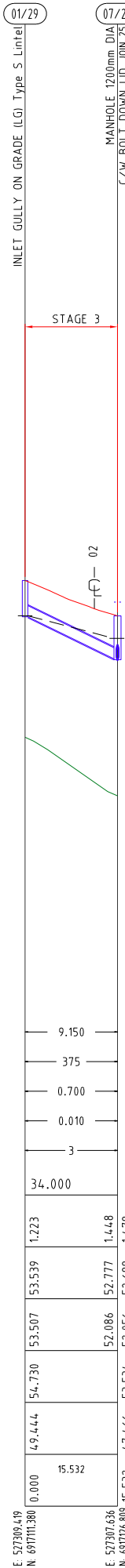
DRAINAGE LINE



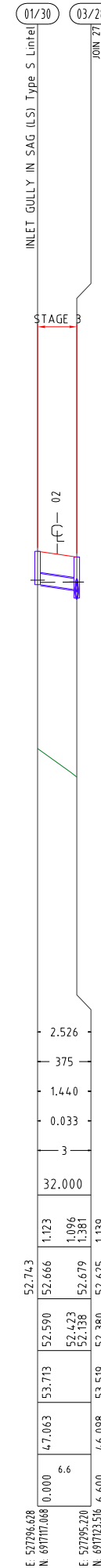
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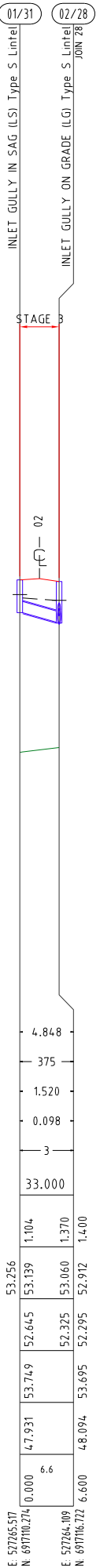
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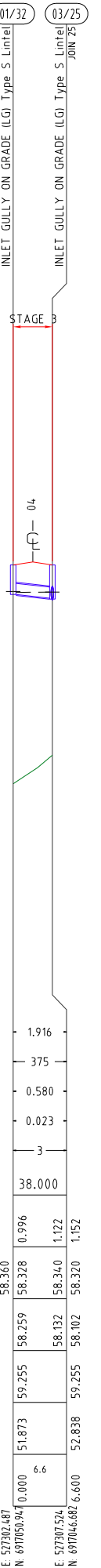
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30



31

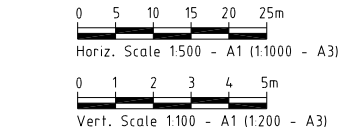


32

PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03

RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL



A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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Application No.: OPW/2023/1350

Dated: 18 March 2024

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STORMWATER
PROFILES
SHEET 02

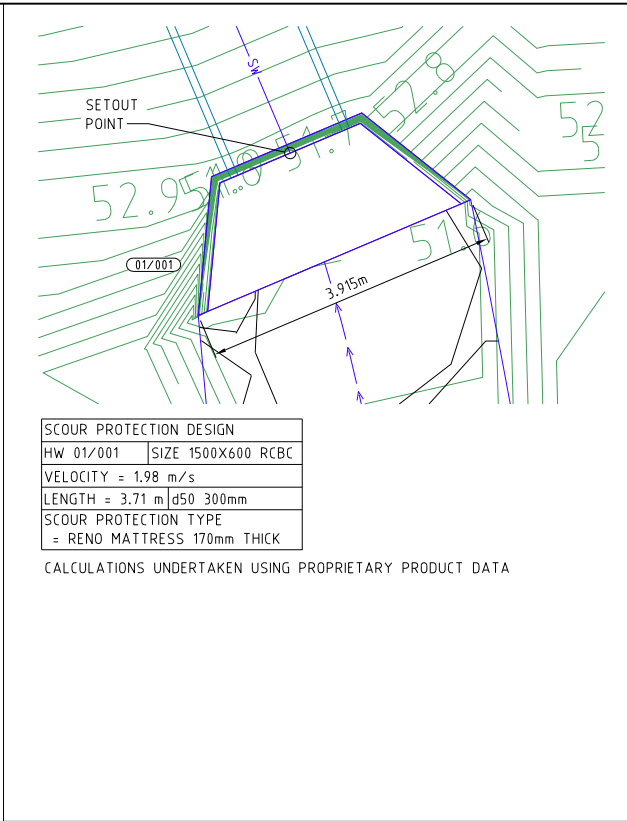
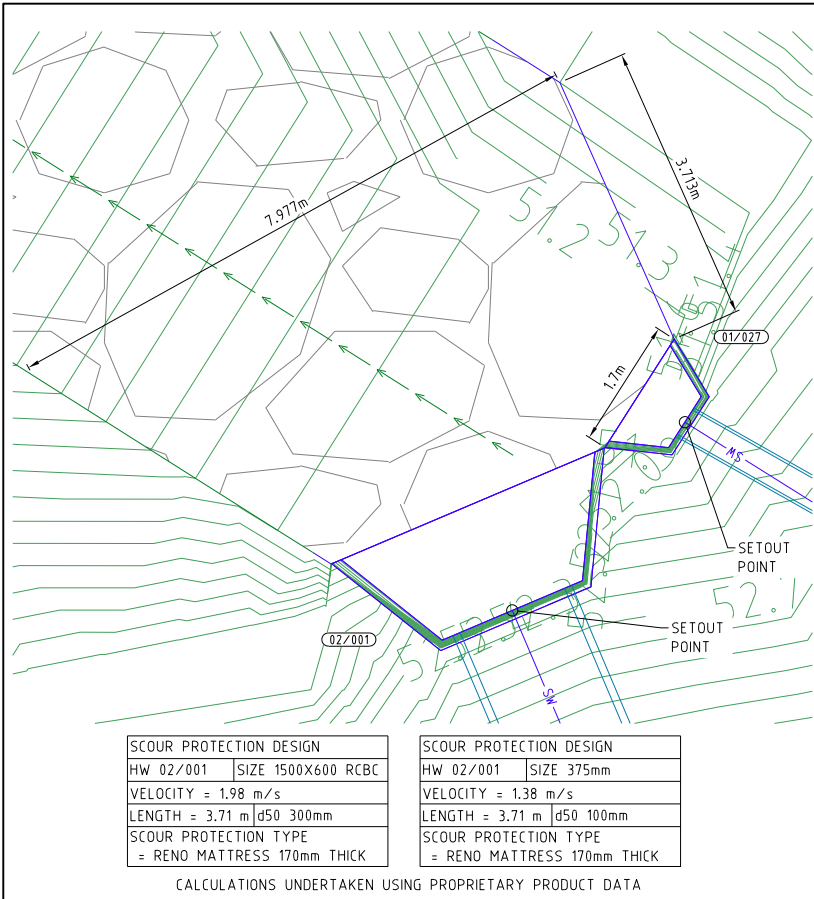
MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED RB	DRAWN EP
APPROVED <i>RB</i>	RPE 4706
DRAWING NUMBER 41901-03-621	REV A



PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the
conditions of approval as detailed in the
Decision Notice and Council's Planning
Scheme, Local Laws and Planning Policies

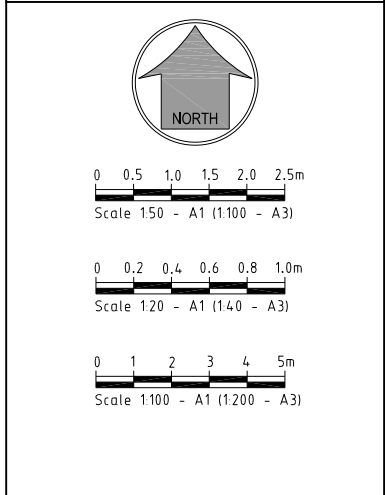
PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL



REV	DATE	DESCRIPTION	INT
A	16-11-23	COUNCIL ISSUE	BK

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DRAWING TITLE

STORMWATER
OUTLETS AND
TYPICAL DETAILS
SHEET 01

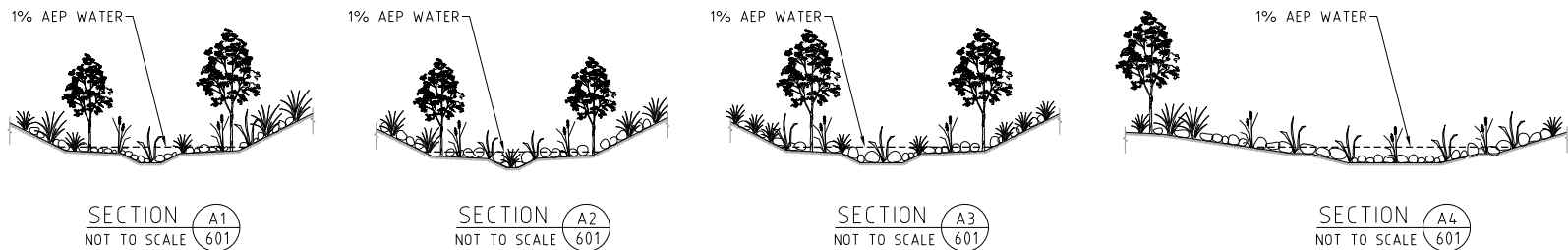
MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel: 07 5571 1099

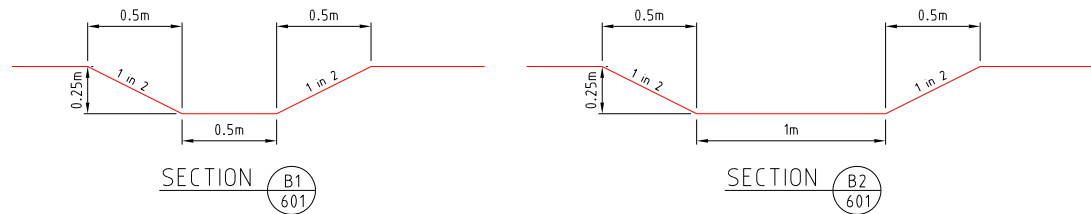
Postal Address:
PO Box 2484
Southport QLD 4215

Gold Coast Office:
Suite 9, 19 Short St
Southport QLD 4215

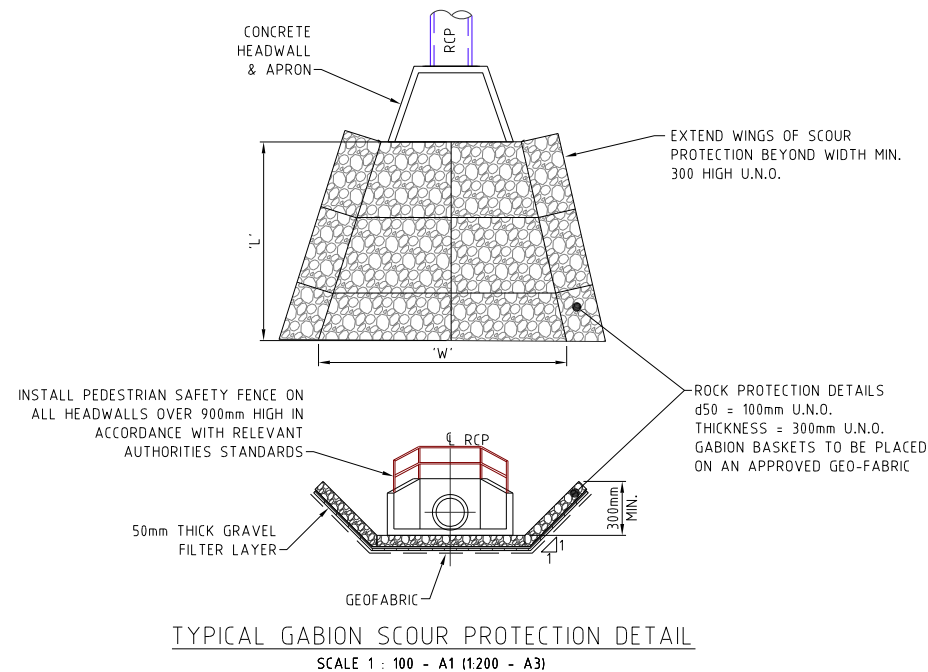
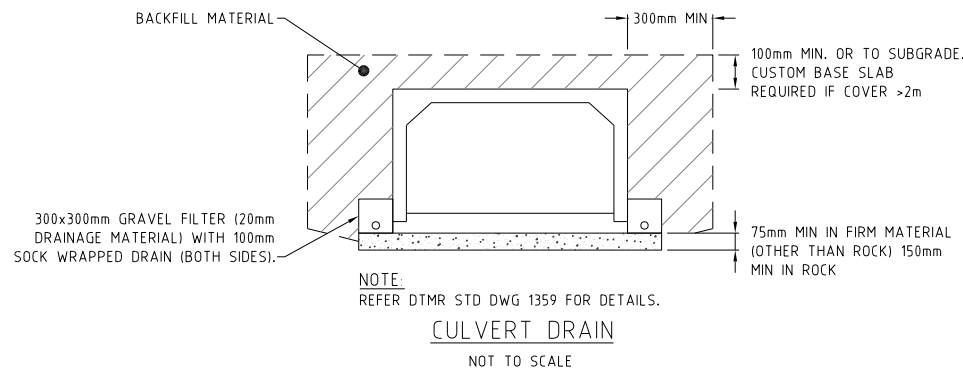
DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	DATE 16-11-23
DRAWING NUMBER 41901-03-640	REV A



LANDSCAPE TO BE COMPLETED UNDER A SEPARATE OPW
WATERWAY SECTIONS
NOT TO SCALE



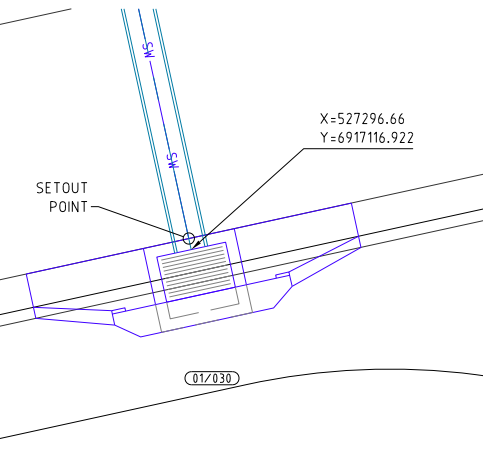
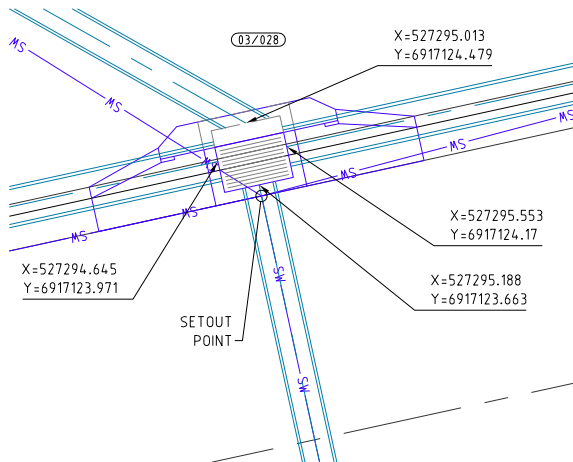
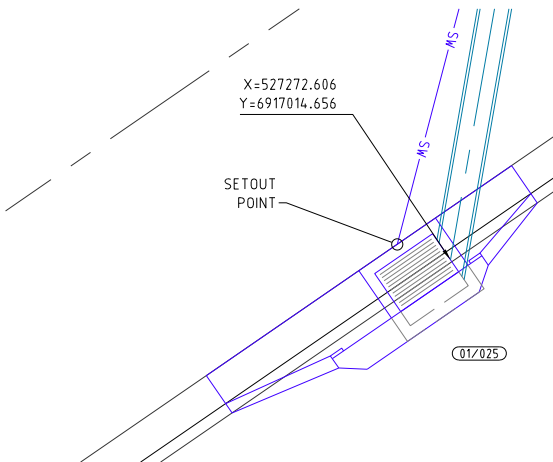
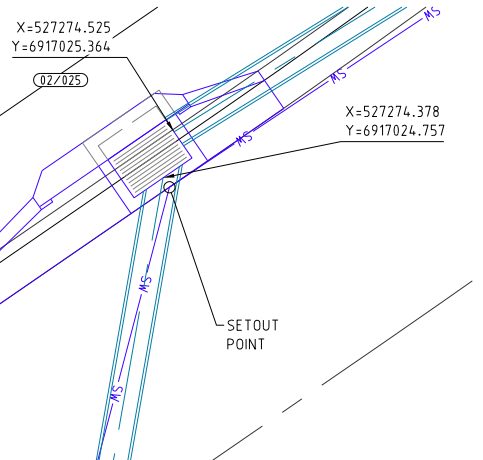
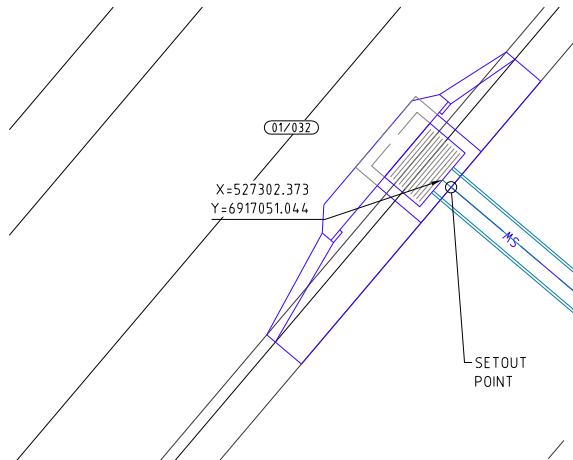
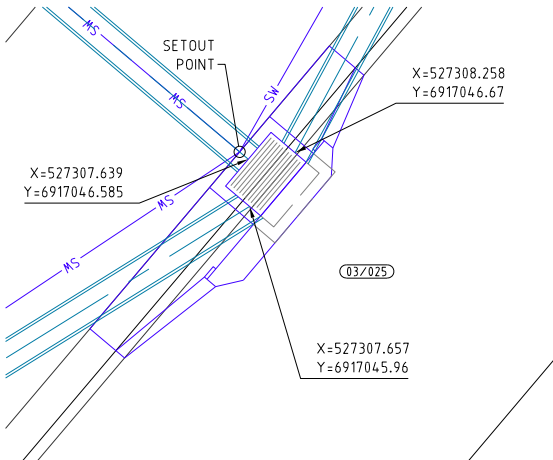
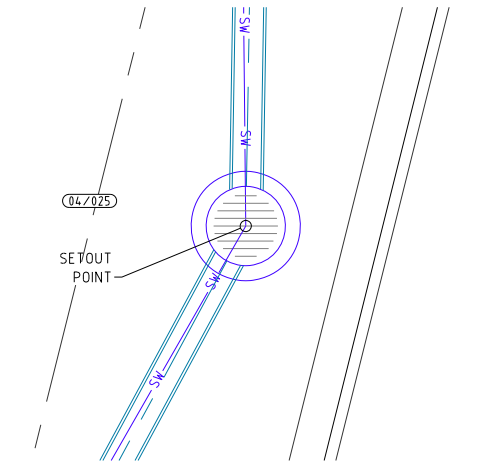
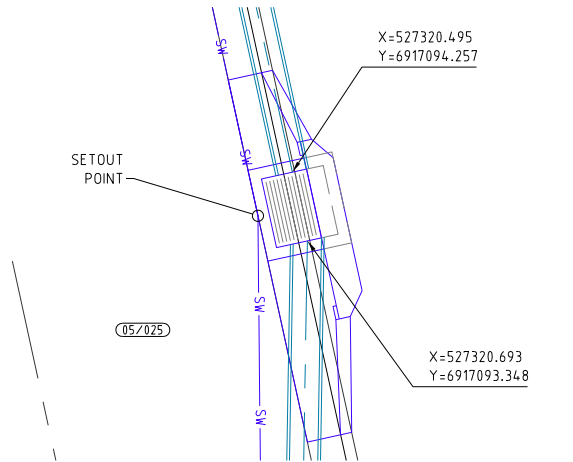
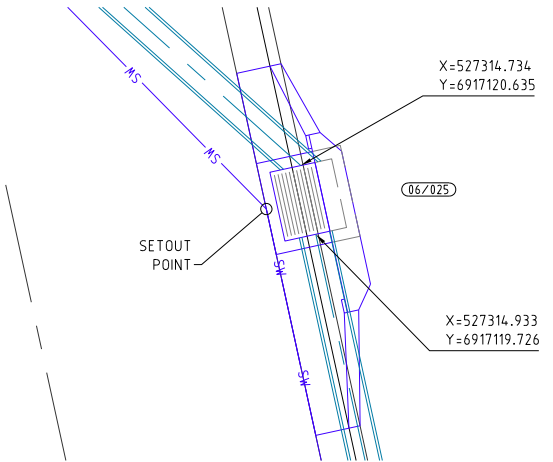
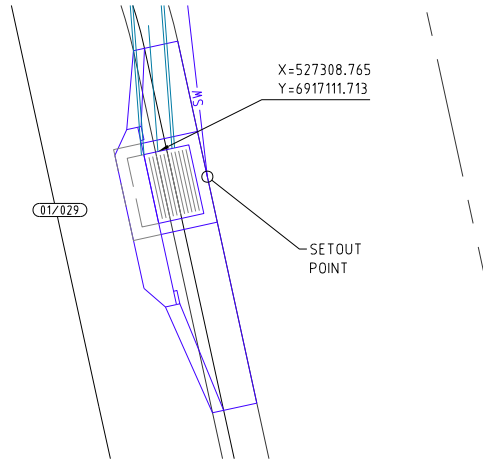
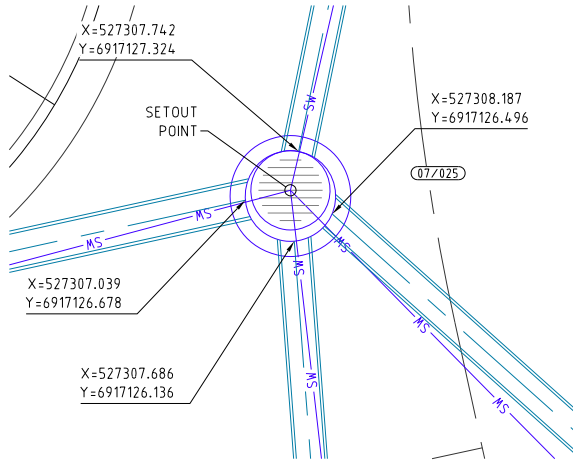
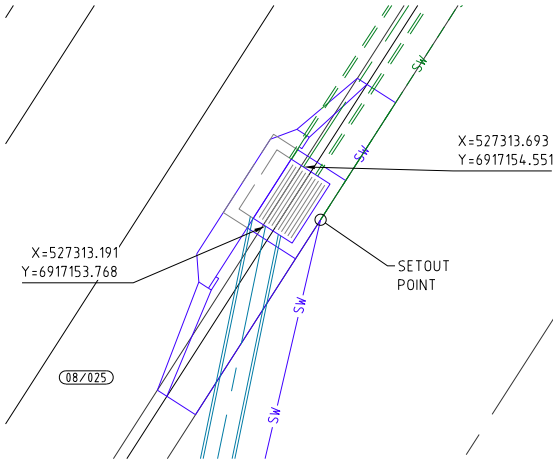
TYPICAL SWALE DETAIL
SCALE 1:20 - A1 (1:40 - A3)



LEGEND

- EXISTING KERB (INVERT)
EXISTING KERB (LIP & BACK)
EXISTING FOOTPATH
EXISTING PROPERTY LINE
EXISTING STORMWATER
EXISTING ROOFWATER
EXISTING STORMWATER PIPES
EXISTING ROOFWATER PIPES
FUTURE KERB (INVERT)
FUTURE KERB (LIP & BACK)
FUTURE FOOTPATH
FUTURE PROPERTY LINE
FUTURE STORMWATER
FUTURE ROOFWATER
FUTURE STORMWATER PIPES
FUTURE ROOFWATER PIPES
CONTROL LINE / CENTER OF ROAD
PROPOSED KERB (INVERT)
PROPOSED KERB (LIP & BACK)
PROPOSED FOOTPATH
PROPOSED PROPERTY LINE
PROPOSED STORMWATER
PROPOSED ROOFWATER
PROPOSED STORMWATER PIPES
PROPOSED ROOFWATER PIPES
MANHOLE
FIELD INLET
KERB INLET (ON GRADE) PIT
KERB INLET (SAG) PIT
HEADWALL
SCOUR PROTECTION
DRAINAGE PIT & LINE NO.
CONCRETE

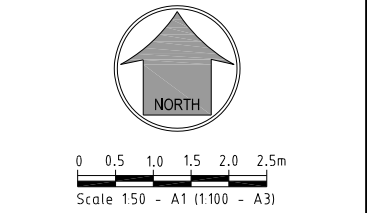
NOTE
THE STORMWATER PIT IMAGE ARE DIAGRAMATIC ONLY & THE CONTRACTOR MUST ENSURE THEY MATCH NEATLY INTO THE WORKS



PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03
RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT
HB Land



REV	DATE	DESCRIPTION	INT
A	16-11-23	COUNCIL ISSUE	RK

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ASSOCIATED CONSULTANTS
BIOME
WATER AND ENVIRONMENTAL CONSULTING
Robin Russell
& ASSOCIATES PTY. LTD.
BENNETT • BENNETT

DRAWING TITLE
**STORMWATER
PIT DETAILS
SHEET 01**

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
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Gold Coast Office
Suite 9, 19 Short St
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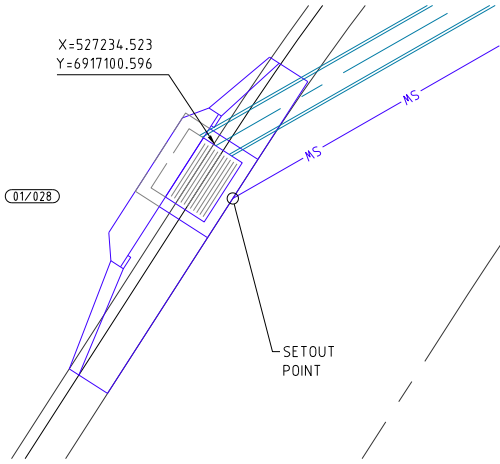
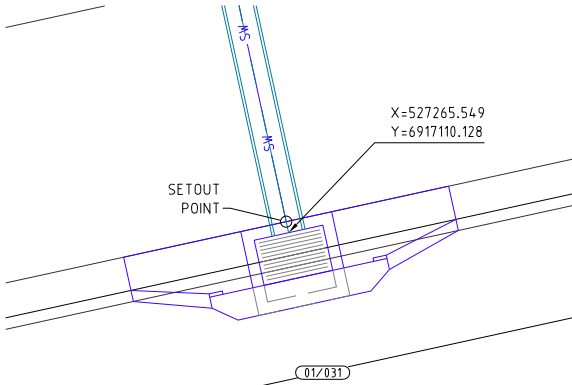
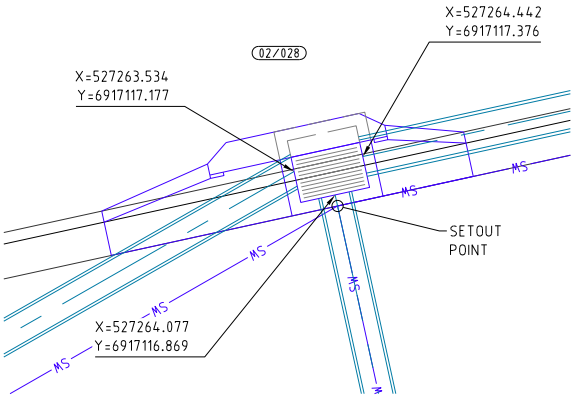
DESIGNED RB	DRAWN EP
APPROVED <i>AK</i>	RPEQ 4706 DATE 16-11-23
DRAWING NUMBER 41901-03-650	REV A

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



PROJECT NAME
**COURTNEY DR
UPPER COOMERA**

STAGE 03
RP DESCRIPTION
LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

A	16-11-23	COUNCIL ISSUE	BA
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 02



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Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED <i>a.k.m.</i>	RPE 4706 DATE 16-11-23
DRAWING NUMBER 41901-03-651	REV A

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

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DESIGNED	RB	DRAWN	EP
APPROVED <i>dr. K. m...</i>		RPEQ4706	DATE 14-11-23
DRAWING NUMBER			REV
41901-03-671			A

INTENSITY - FREQUENCY - DURATION (IFD) TABLE								
DURATION		ARI INTENSITY (YEAR)						
MINUTES	TREAT	1	2	5	10	20	50	100
5	59.5	119.0	151.0	186.0	206.0	234.0	270.0	298.0
6	55.5	111.0	141.0	174.0	193.0	219.0	253.0	279.0
10	45.5	91.0	116.0	143.0	159.0	181.0	209.0	231.0
20	33.4	66.8	85.1	106.0	117.0	134.0	155.0	171.0
30	27.3	54.5	69.4	86.4	96.2	110.0	127.0	141.0
60	18.4	36.7	46.8	58.6	65.5	74.8	87.1	96.5
120	11.7	23.4	30.0	37.8	42.4	48.6	56.9	63.2
180	8.9	17.7	22.7	28.8	32.4	37.3	43.7	48.6
360	5.5	10.9	14.0	18.0	20.3	23.5	27.7	30.9
720	3.4	6.9	8.9	11.4	13.0	15.0	17.8	20.0
1440	2.2	4.5	5.8	7.5	8.6	9.9	11.8	13.2
2880	1.5	2.9	3.8	4.9	5.6	6.5	7.7	8.7
4320	1.1	2.2	2.8	3.7	4.2	4.9	5.8	6.6

DERIVED FROM BUREAU OF METEOROLOGY

NOTES:

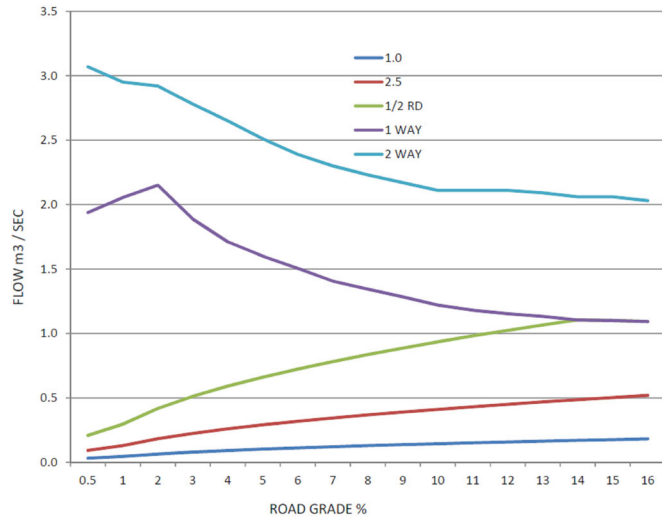
- THESE CALCULATIONS ARE BASED ON IISAX2 DYNAMIC DRAINAGE ANALYSIS USING 12D SOFTWARE ANALYSIS.
- INDIVIDUAL TIMES OF CONCENTRATION ARE GENERATED FOR EACH NODE & CATCHMENT TYPE USING TEMPORAL PATTERNS DETERMINED FROM THE RELEVANT AUTHORITY.
- "TREAT" IN THE IFD TABLE REFERS TO 0.5x1 YEAR ARI, USED TO DETERMINE WATER QUALITY TREATMENT FLOWS.
- CATCHMENT 1 REFERS TO TYPICAL URBANISED CATCHMENTS WITH LOTS <1000m2. THE IMPERVIOUS PORTION OF THE CATCHMENT TIME OF CONCENTRATION (TC) IS TYPICALLY 5 MINUTES & THE PERVIOUS PORTION OF THE CATCHMENT TYPICALLY HAS AN 8 MINUTE TC.
- CATCHMENT 2 IS TYPICALLY USED TO MODEL LOTS >1000m2, WITH INDIVIDUAL PERCENTAGES OF IMPERVIOUS SURFACE & TC'S.
- CATCHMENT 3 IS TYPICALLY USED TO MODEL OPEN SPACE & RURAL CATCHMENTS WITH INDIVIDUAL PERCENTAGES OF IMPERVIOUS SURFACE & TC'S.

FLOW CAPACITY m3/s 7.5m RD (KERB AND CHANNEL)

	KR	LANE	1/2 RD	1 WAY	2 WAY
MAX. WIDTH	1.0	2.5	3.75	11.175	14.8
MAX. AREA m2	0.021	0.101	0.219	1.421	2.104
Rd Grade %					
0.5	0.032	0.092	0.209	1.938	3.070
1	0.046	0.130	0.296	2.054	2.950
2	0.064	0.184	0.418	2.150	2.920
3	0.079	0.225	0.512	1.886	2.780
4	0.091	0.260	0.591	1.711	2.650
5	0.102	0.291	0.661	1.600	2.510
6	0.112	0.318	0.724	1.505	2.390
7	0.120	0.344	0.782	1.407	2.300
8	0.129	0.368	0.836	1.345	2.230
9	0.137	0.390	0.887	1.285	2.170
10	0.144	0.411	0.935	1.220	2.110
11	0.151	0.431	0.981	1.180	2.110
12	0.158	0.450	1.024	1.154	2.110
13	0.164	0.469	1.066	1.133	2.090
14	0.170	0.486	1.106	1.105	2.060
15	0.176	0.503	1.101	1.101	2.060
16	0.182	0.520	1.093	1.093	2.030

NOTES:

- FLOW CONSTRAINED TO 0.4 DvV
FLOW CONSTRAINED TO 250mm DEEP MAX.
CAPACITY COMPOUND CROSS SECTION (ARR 1987, 4.38) (n varies)



PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No.....OPW/2023/1350.....

Dated: 18 March 2024.....

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CALCULATION TABLES-MINOR 2YR ARI

0.5 ARI (Q2) MINOR FLOW - 12D DYNAMIC DRAINAGE RESULTS

NOTE: NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS										CATCHMENT AREA										RAINFALL VOLUME*		RAINFALL Coef.		CATCHMENT FLOW				APPROACH FLOW				FLOW AT PIT				PIT		HGL				PIPE		HEADLOSSES				CAPACITY	VELOCITY	NODE
NODE				A1		A2		A3		CRITICAL	INTENSITY	10 YR	CURRENT	A1	A2	A3	CRITICAL	GRADE	FLOW			CAPTURED	BYPASS		GRADE	GRATE	PIT	PIPE		GRADE	PIPE	COEFFICIENT		HEADLOSS																
FROM:	TO:	NODE TYPE		HA	HA	HA	HA	HA	HA										HA	HA	HA		HA	HA				HA	HA			HA	L/S	WIDTH	DxV	L/S	L/S	DxV	NODE	RL	RL	U/S RL	D/S RL	%	M3/S	Ku	Kw			
01/001	02/001	INLET HEADWALL				4.549											1.230	60	1.0	1230		1230.000				1.000	52.950	52.232	52.196	51.366	3.144	1.209	0.4	0.0	0	0.00	0.3	1.98	01/001											
02/001	03/001	HEADWALL															25	1.0	0			0			1.000	52.550	51.26	51.26	49.49	9.76	1.21	0.0	0.0	0.0	0.07	1.96	02/001													
03/001	14/025	100% CAPTURE FOR FUTURE EXTENSION															25	1.0	0			0			1.000	49.873	49.49	49.49	45.22	15.32	1.65	0.0	0.0	0.0	0.07	1.34	03/001													
01/025	02/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.174				90	61.3	0.877	0.830	0.057					60	1.5	57	0.00	0.00	57	0	0.00	03/025	1.497	60.599	59.72	59.67	59.46	2.04	0.06	9.7	0.0	0.0	0.0	0.18	1.28	01/025											
02/025	03/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.360				90	61.3	0.877	0.830	0.119					60	2.0	119	1.52	0.01	99	18	0.01	01/032	1.951	60.461	59.46	59.46	58.34	2.82	0.16	4.2	0.0	0.0	0.0	0.41	2.67	02/025											
03/025	04/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.208				90	61.3	0.877	0.830	0.069					60	3.7	69	1.20	0.00	61	5	0.00	05/025	3.667	59.255	58.34	58.32	57.26	4.14	0.24	1.4	0.0	0.0	0.0	0.52	3.67	03/025											
04/025	05/025	MANHOLE 1050mm DIA															25	1.0	0			0			1.000	58.171	57.21	57.21	55.50	6.91	0.24	0.4	0.0	0.0	0.0	0.4	4.95	04/025												
05/025	06/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.255				90	61.3	0.877	0.830	0.084					60	8.4	88	1.36	0.01	70	17	0.01	06/025	8.412	56.410	55.49	55.48	53.44	7.57	0.31	1.4	0.0	0.0	0.0	0.45	4.83	05/025											
06/025	07/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.101				90	61.3	0.877	0.830	0.033					60	8.6	49	1.11	0.00	46	1	0.00	01/033	8.590	54.091	53.44	53.37	52.78	6.29	0.35	1.0	0.0	0.2	0.0	0.55	3.2	06/025											
01/027	03/001	HEADWALL															25	1.0	0			0			1.000	52.085	51.18	51.18	49.49	9.28	0.44	0.0	0.0	0.0	0.0	0.03	4.79	01/027												
01/028	02/028	INLET GULLY ON GRADE (LG) Type S Lintel		0.347				90	61.3	0.877	0.830	0.115					60	9.8	115	1.60	0.02	84	29	0.02	02/028	9.787	55.354	53.98	53.96	53.06	2.67	0.09	9.7	0.0	0.0	0.0	0.2	2.45	01/028											
02/028	03/028	INLET GULLY ON GRADE (LG) Type S Lintel		0.183				90	61.3	0.877	0.830	0.060					60	0.9	89	1.29	0.00	82	1	0.00	03/028	0.898	53.695	53.06	52.91	52.68	0.73	0.26	1.7	0.0	0.1	0.0	1.12	1.65	02/028											
03/028	07/025	INLET GULLY IN SAG (LS) Type S Lintel		0.035				90	61.3	0.877	0.830	0.011					60	0.1	12	1.07	0.00	12	0	0.00	08/025	0.130	53.519	52.68	52.68	52.70	-0.14	-0.14	2.1	0.0	0.1	0.0	-0.59	1.38	03/028											
01/029	07/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.030				90	61.3	0.877	0.830	0.010					60	8.6	10	0.00	0.00	10	0	0.00	01/030	8.590	54.730	53.54	53.54	52.78	4.92	0.01	6.1	0.0	0.0	0.0	0.01	0.68	01/029											
01/030	03/028	INLET GULLY IN SAG (LS) Type S Lintel		0.095				90	61.3	0.877	0.830	0.031					60	0.2	34	1.07	0.00	34	0	0.00	03/028	0.217	53.713	52.74	52.67	52.68	-0.17	0.03	9.7	0.0	0.1	0.0	0.09	1.44	01/030											
01/031	02/028	INLET GULLY IN SAG (LS) Type S Lintel		0.311				90	61.3	0.877	0.830	0.102					60	0.3	102	1.63	0.00	98	3	0.00	01/030	0.348	53.749	53.25	53.14	53.06	1.20	0.10	7.0	0.0	0.2	0.0	0.2	1.51	01/031											
01/032	03/025	INLET GULLY ON GRADE (LG) Type S Lintel		0.017				90	61.3	0.877	0.830	0.006					60	3.7	24	0.00	0.00	24	0	0.00	01/029	3.667	59.255	58.36	58.33	58.34	-0.18	0.02	7.0	0.0	0.0	0.0	0.07	0.58	01/032											

CALCULATION TABLES-MAJOR 100YR ARI

0.01 ARI (Q100) Major FLOW - 12D DYNAMIC DRAINAGE RESULTS

NOTE: NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS										CATCHMENT AREA			RAINFALL VOLUME*		RAINFALL Coef		CATCHMENT FLOW			APPROACH FLOW				FLOW AT PIT				PIT		HGL				PIPE		HEADLOSSES				CAPACITY	VELOCITY	NODE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
NODE					A1	A2	A3	CRITICAL INTENSITY		10 YR	CURRENT Storm	A1	A2	A3	CRITICAL ARI/MIN.	GRADE %	FLOW			CAPTURED L/S	BYPASS			GRADE %	GRATE RL	PIT RL	PIPE		GRADE %	PIPE FLOW M3/S	COEFFICIENT		HEADLOSS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
FROM:	TO:	NODE TYPE			HA	HA	HA	STORM	MMHR			HA	HA	HA			L/S	WIDTH	Dx/V		L/S	L/S	Dx/V				NODE	L/S			L/S	Dx/V	NODE	RL	RL	U/S RL	D/S RL	Ku	Kw				Ku	Kw	RATIO	SM2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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SEQ CODE WATER NOTES

SEQ CODE NOTES COPIED DIRECTLY FROM DRAWING SEQ-WAT-1101-3.

VEGETATION PROTECTION

- A. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
- B. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED & ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION & REMAIN UNTIL COMPLETION.
- C. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
- D. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

- A. TOPSOIL & SUBSOIL SHALL BE STOCKPILED SEPARATELY.
- B. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
- C. IF ACID SULPHATE SOILS EXIST IN THE WORKS AREA, THE CONTRACTOR MUST PREPARE A RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL & MANAGE THE ACID SULPHATE SOILS AS PER THE MANUAL.

CREEK CROSSINGS

- A. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
- B. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
- C. NO SOIL SHALL BE STOCKPILED WITHIN 5m OF THE CREEK.

REHABILITATION

- A. PREDISTURBANCE SOIL PROFILES & COMPACTION LEVELS SHALL BE REINSTATED.
- B. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

GENERAL NOTES

1. ALL WORK & MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND WATER SUPPLY CODE SPECIFICATIONS & STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS & WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN SEQ-WAT-1200-2.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.
6. A WATER METER SUPPLIED AT THE DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE STANDARD DRAWING FOR THE SEQ-SP.
7. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE SEQ-SP'S ACCEPTED PRODUCTS & MATERIALS LIST OR BE APPROPRIATELY SHOWN, LISTED & DEFINED IN THE ENGINEERING SUBMISSION SO THAT THE ALTERNATIVE PRODUCT OR MATERIAL CAN BE ASSESSED & IF APPROPRIATE, APPROVED BY THE SEQ-SP.
8. ALL CONCRETE FOOTPATHS TO BE CLEAR OF WATER MAINS.
9. TEST/CHLORINATION POINTS TO BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING NO. SEQ-WAT-1410-1.
10. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.

ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

PROJECT SPECIFIC WATER NOTES

- a. ALL PROPERTY CONNECTION ROAD CROSSINGS TO BE SLEEVED WITH DN100 uPVC FOR COGC CONDUIT.
- b. ALL MATERIALS ARE TO BE SUPPLIED & CONSTRUCTED IN ACCORDANCE WITH SEQ CODE.
- c. WATER METERS ARE TO BE SUPPLIED & INSTALLED AT ALL WATER SERVICE / CONNECTION POINTS IN ACCORDANCE WITH SEQ-WAT-1106-1. READYTAPS ARE CURRENTLY NOT ACCEPTED BY C.O.G.C. TAPPING BANDS TO BE INSTALLED WITH MIN. DISTANCE OF 600mm BETWEEN EACH TAPPING BAND IS REQUIRED.
- d. THRUST BLOCKS TO BE LOCATED & INSTALLED BY CONTRACTOR IN ACCORDANCE WITH SEQ CODE.
- e. TRENCH STOPS & BULKHEADS TO BE IN ACCORDANCE WITH WATER AUTHORITY REQUIREMENTS.
- f. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR WATER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
- g. FOOTPATHS SHOWN FOR INFORMATION PURPOSES ONLY.
- h. ALL WATER CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH & SAFETY LEGISLATION.
- i. MINIMUM WATERMAIN COVER TO BE IN ACCORDANCE WITH SECTION 7.4.2 TABLE 7.2 OF THE SEQ AMENDMENT TO WATER SUPPLY CODE OF AUSTRALIA.
- j. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.
- k. END OF LINE ARRANGEMENTS (EG. CUL-DE-SAC HEADS) TO BE CONSTRUCTED IN ACCORDANCE WITH SEQ-WAT-1104-1.
- l. TEMPORARY CONSTRUCTION HYDRANTS TO BE PROVIDED IN ACCORDANCE WITH SEQ-WAT-1303-1 AT ALL CONNECTIONS.
- m. ALL LIVE CONNECTIONS ARE TO BE ORGANISED BY THE CIVIL CONTRACTOR & UNDERTAKEN BY COUNCIL AT THE DEVELOPERS EXPENSE.

LEGEND

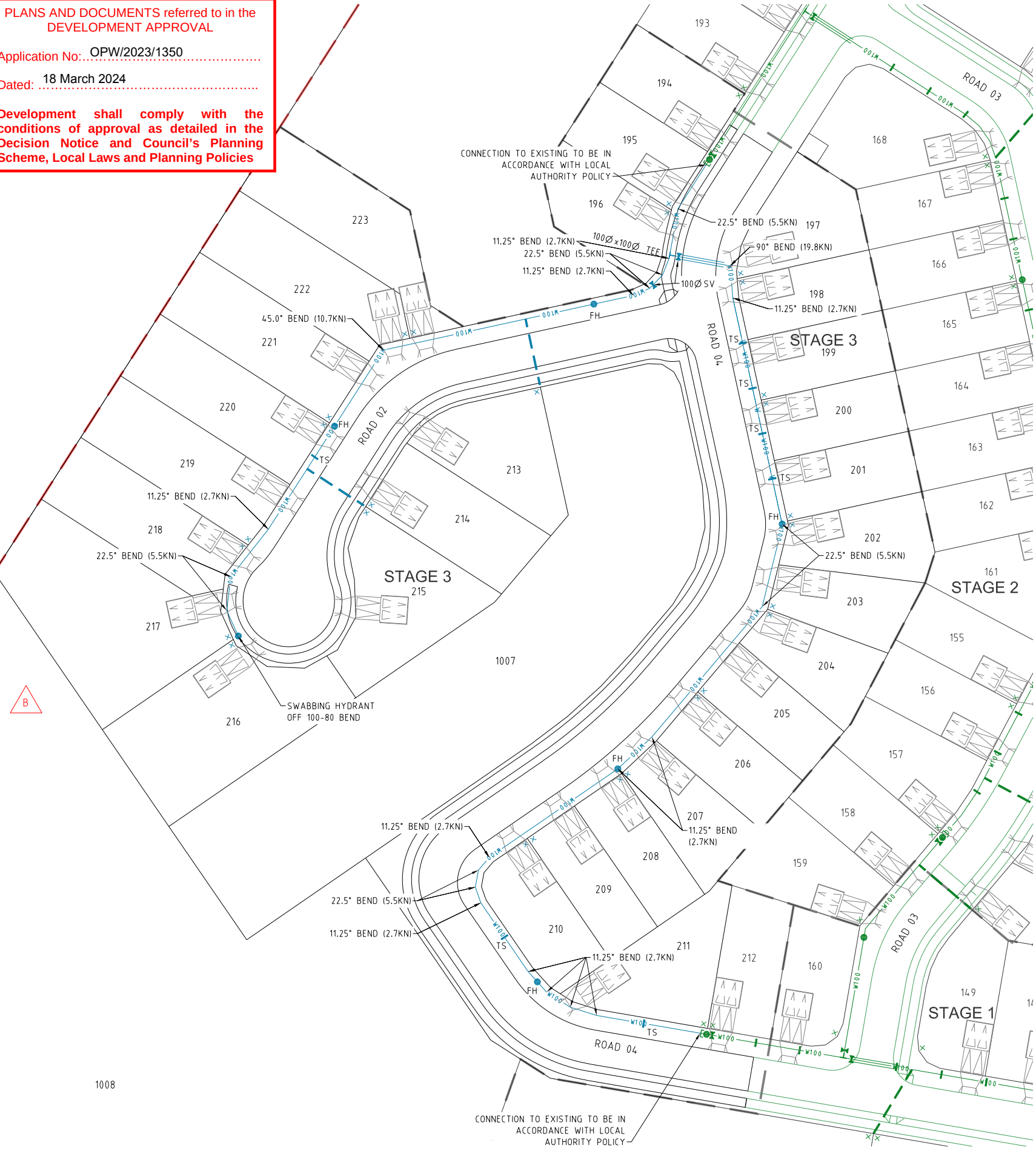
	EXISTING 100Ø WATER MAIN		SITE BOUNDARY
	EXISTING 150Ø WATER MAIN		STAGE BOUNDARY
	EXISTING 200Ø WATER MAIN		PROPOSED 100Ø WATER MAIN
	EXISTING 225Ø WATER MAIN		PROPOSED 150Ø WATER MAIN
	EXISTING 250Ø WATER MAIN		PROPOSED 200Ø WATER MAIN
	EXISTING 300Ø WATER MAIN		PROPOSED 225Ø WATER MAIN
	EXISTING FOOTPATH		PROPOSED 250Ø WATER MAIN
	EXISTING KERB (INVERT)		PROPOSED 300Ø WATER MAIN
	EXISTING PROPERTY LINE		HYDRANT
	FUTURE 100Ø WATER MAIN		TEE
	FUTURE 150Ø WATER MAIN		REDUCER
	FUTURE 200Ø WATER MAIN		SLUICE VALVE
	FUTURE 225Ø WATER MAIN		ENDCAP
	FUTURE 250Ø WATER MAIN		SCOUR VALVE
	FUTURE 300Ø WATER MAIN		AIR VALVE
	FUTURE KERB (INVERT)		METER LOCATION
	FUTURE PROPERTY LINE		TRENCH STOP
	FUTURE FOOTPATH		SERVICE CONDUIT
	PROPOSED KERB (INVERT)		DICL ROAD CROSSING
	PROPOSED PROPERTY LINE		
	PROPOSED FOOTPATH		

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies



WATER PIPE SPECIFICATIONS

WATER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
FOOTPATH VERGE	PVC-M SERIES 2 PN16
ROAD CROSSING	DICL PN35



PROJECT NAME

**COURTNEY DR
UPPER COOMERA**

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728

COURTNEY DRIVE

LOCALITY OF UPPER COOMERA

LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

B	23-01-24	NOTE AMENDED	BL
A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS

BIOME
WATER AND ENVIRONMENTAL CONSULTING

Robin Russell
& ASSOCIATES PTY. LTD.

BENNETT-BENNETT

DRAWING TITLE

**WATER
RETICULATION
PLAN
SHEET 01**

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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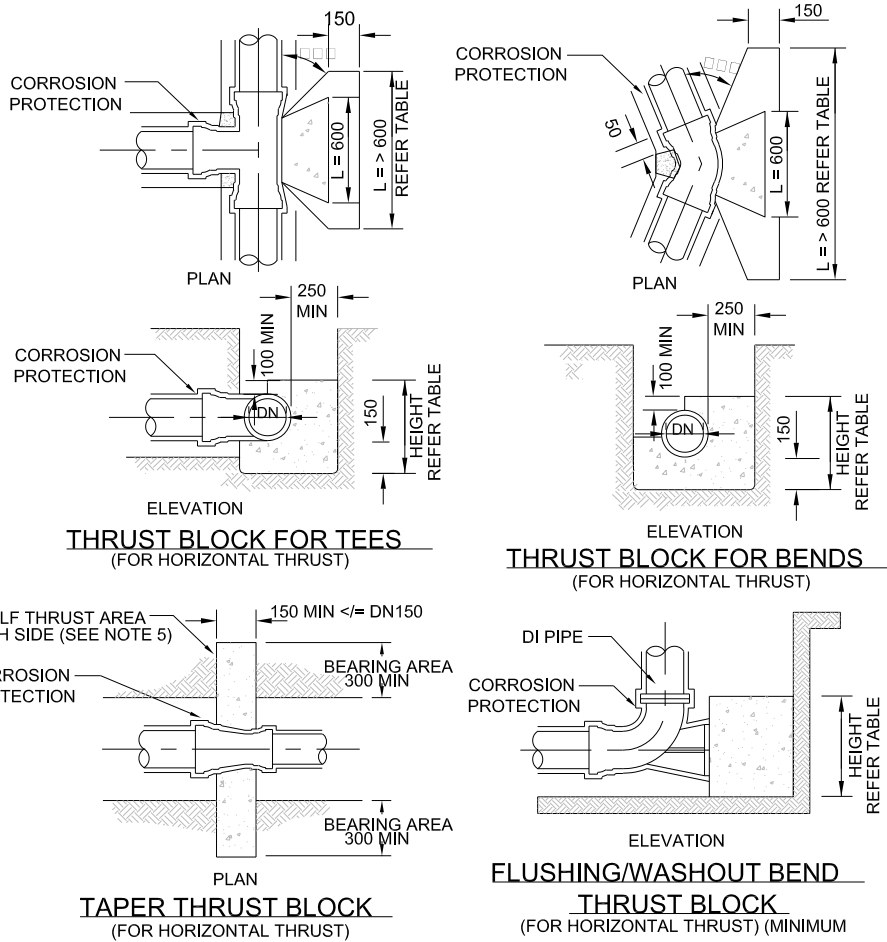
DESIGNED RB	DRAWN EP
APPROVED	RPEQ 4706 DATE 16-11-23
DRAWING NUMBER	
41901-03-700	
REV	
B	

THRUST BLOCK LENGTH

PIPE DN.	FITTING	MAX. THRUST IN KN	THRUST BLOCK HEIGHT	STIFF CLAY 50 KPa.	VERY STIFF CLAY SANDY LOAM 100KPa.	SAND & GRAVEL HARDCLAY 150KPa.	SAND & GRAVEL CEMENTED WITH CLAY 200KPa.	ROCK 240KPa
100	90° BEND	19.8	400	1000	●	●	●	●
	60° BEND	14.0		700	●	●	●	●
	45° BEND	10.7		●	●	●	●	●
	22.5° BEND	5.5		●	●	●	●	●
	11.25° BEND	2.7		●	●	●	●	●
	TEE OR CLOSED END	14.0		700	●	●	●	●
150	90° BEND	41.7	450	1860	930	●	●	●
	60° BEND	29.5		1320	660	●	●	●
	45° BEND	22.6		1000	●	●	●	●
	22.5° BEND	11.5		●	●	●	●	●
	11.25° BEND	5.8		●	●	●	●	●
	TEE OR CLOSED END	29.5		1300	660	●	●	●
200	90° BEND	71.7	550	*	1300	870	650	●
	60° BEND	50.7		1850	920	●	●	●
	45° BEND	38.8		1410	700	●	●	●
	22.5° BEND	19.8		720	●	●	●	●
	11.25° BEND	9.9		●	●	●	●	●
	TEE OR CLOSED END	50.7		1850	920	●	●	●
225	90° BEND	89.4	600	*	1500	1000	750	●
	60° BEND	63.2		2110	1060	700	●	●
	45° BEND	48.4		1620	810	●	●	●
	22.5° BEND	24.6		830	●	●	●	●
	11.25° BEND	12.4		●	●	●	●	●
	TEE OR CLOSED END	63.2		210	1060	700	●	●
250	90° BEND	109.0	650	*	1700	1120	840	700
	60° BEND	77.1		2400	1200	800	●	●
	45° BEND	59.0		1820	910	●	●	●
	22.5° BEND	30.1		930	●	●	●	●
	11.25° BEND	15.1		●	●	●	●	●
	TEE OR CLOSED END	77.1		2400	1200	800	●	●
300	90° BEND	158.6	700	*	2270	1510	1140	950
	60° BEND	112.2		*	1600	1070	800	670
	45° BEND	85.9		2453	1230	820	●	●
	22.5° BEND	43.8		1250	630	●	●	●
	11.25° BEND	22.0		630	●	●	●	●
	TEE OR CLOSED END	112.2		*	1600	1070	800	750

THRUST BLOCK LENGTH

PIPE DN.	FITTING	MAX. THRUST IN KN	THRUST BLOCK HEIGHT	STIFF CLAY 50 KPa.	VERY STIFF CLAY SANDY LOAM 100KPa.	SAND & GRAVEL HARDCLAY 150KPa.	SAND & GRAVEL CEMENTED WITH CLAY 200KPa.	ROCK 240KPa
375	90° BEND	241.9	800	*	*	2220	1510	1260
	60° BEND	171.0		*	2140	1430	1070	890
	45° BEND	130.9		*	1640	1090	820	680
	22.5° BEND	66.7		1670	840	●	●	●
	11.25° BEND	33.5		840	●	●	●	●
	TEE OR CLOSED END	171.0		*	2140	1430	1070	890
450	90° BEND	342.6	900	*	*	2540	1900	1590
	60° BEND	242.3		*	2690	1800	1350	1120
	45° BEND	185.4		*	2060	1375	1030	860
	22.5° BEND	94.5		2100	1050	700	●	●
	11.25° BEND	47.5		1060	●	●	●	●
	TEE OR CLOSED END	242.3		*	2690	1800	1350	1120
500	90° BEND	418	1000	*	*	2790	2090	1740
	60° BEND	295.6		*	*	1970	1480	1230
	45° BEND	226.2		*	2260	1510	1130	940
	22.5° BEND	115.3		2310	1150	770	●	●
	11.25° BEND	58.0		1160	●	●	●	●
	TEE OR CLOSED END	295.5		*	*	1970	1480	1230
600	90° BEND	593	1100	*	*	*	2700	2250
	60° BEND	419		*	*	2540	1910	1590
	45° BEND	320		*	2920	1950	1460	1220
	22.5° BEND	164		2980	1490	990	750	620
	11.25° BEND	82.2		1500	750	●	●	●
	TEE OR CLOSED END	419		*	*	2540	1910	1590
750	90° BEND	909	1300	*	*	*	*	2920
	60° BEND	643		*	*	*	2480	2060
	45° BEND	492		*	*	2530	1890	1580
	22.5° BEND	251		*	1930	1290	970	810
	11.25° BEND	126.1		1940	970	650	●	●
	TEE OR CLOSED END	643		*	*	*	2480	2060
900 (Ø960 MSCL)	90° BEND	1.228	1500	*	*	*	*	3420
	60° BEND	868		*	*	*	2900	2420
	45° BEND	664		*	*	2960	2220	1850
	22.5° BEND	339		*	2260	1510	1130	940
	11.25° BEND	170		2270	1140	760	●	●
	TEE OR CLOSED END	868		*	*	*	3300	2650



NOTES

- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
- CAST THE THRUST AREA OF ALL THRUST BLOCKS AGAINST A CLEAN FACE OF UNDISTURBED NATURAL SOIL. SOIL CLASSIFICATIONS USED ON THIS DRAWING ARE EXPLAINED IN SEQ-WAT-12110-1. DO NOT USE STANDARD THRUST BLOCKS AS SPECIFIED IN THIS DRAWING IN SOILS WITH < 50kPa BEARING CAPACITY EG;
–VERY SOFT, SOFT OR FIRM CLAY.
–LOOSE CLEAN SAND.
–UNCOMPACTED FILL OR REFUSE.
A GEOTECHNICAL ASSESSMENT AND INDIVIDUAL DESIGN IS REQUIRED FOR THESE SOILS.
- THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES OR BE LOCATED OUTSIDE THE WATER MAIN ALLOCATION WITHOUT WATER AGENCY APPROVAL.
- ALL CONCRETE GRADE N20. TABLE OF DIMENSIONS BASED ON REQUIRED TEST PRESSURE OF 1200kPa AND ACTUAL DICL PIPE DIAMETERS.
- THE MINIMUM THRUST AREA FOR TAPER THRUST BLOCKS TO BE EQUAL TO THE DIFFERENCE BETWEEN THE THRUST AREAS FOR TEES OR CLOSED ENDS OF EQUIVALENT DIAMETER TO THOSE EACH SIDE OF TAPER. THE DETAIL SHOWN IS FOR < OR = DN150 MAINS. FOR LARGER MAINS, THE TAPER THRUST BLOCK SHALL BE REINFORCED AND OF A SIZE AS SHOWN IN SEQ-WAT-1206-1.
- FOR DOWNWARD VERTICAL THRUST, THE ALLOWABLE BEARING PRESSURE FOR VARIOUS SOILS MAY BE TAKEN AS TWICE THAT FOR HORIZONTAL THRUST SHOWN.
- WHEN POURING CONCRETE AGAINST FITTINGS PLACE A MEMBRANE OF POLYETHYLENE, PVC OR FELT BETWEEN THE FITTING AND CONCRETE TO PREVENT DAMAGE TO THE FITTING. PIPE JOINTS TO BE CLEAR OF CONCRETE.
- CONCRETE THRUST BLOCK ANCHORS FOR VALVES TO BE AS DETAILED ON SEQ-WAT-1206-1.

THRUST BLOCK DIMENSIONS - 1200kPa

- INDICATES BLOCK LENGTH OF 600
- * = SPECIAL DESIGN

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2023/1350

Dated: 18 March 2024

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PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 03

RP DESCRIPTION

LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



A	16-11-23	COUNCIL ISSUE	RK
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

WATER
RETICULATION
DETAILS



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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ4706	DATE 16-11-23

DRAWING NUMBER

41901-03-710

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