COURTNEY DRIVE
UPPER COOMERA

OPERATIONAL WORKS
STAGE 01
No. 41901-01

CONSTRUCTION ISSUE

SCHEDULE OF DRAWINGS

NUMBER	REV. NO.	TITLE
GENERAL		
41901-01-000	K	COVER SHEET
41901-01-003	A	SAFETY IN DESIGN
41901-01-004	A	RISK MATRIX & NOTES
41901-01-005	D	ROAD HIERARCHY STAGING PLAN & GENERAL NOTES
EARTHWORKS: EXISTING FEATURES & DEMOLITION		
41901-01-020	B	PLAN
EARTHWORKS: BULK EARTHWORKS CUT FILL		
41901-01-040	B	PLAN SHEET 01
41901-01-041	D	PLAN SHEET 02
41901-01-042	B	PLAN SHEET 03
41901-01-043	B	PLAN SHEET 04
41901-01-045	D	GEOTECHNICAL REQUIREMENTS PLAN
41901-01-050	D	EARTHWORKS SECTION KEY PLAN
41901-01-051	A	SECTIONS-SHEET 01
41901-01-052	A	SECTIONS-SHEET 02
41901-01-053	A	SECTIONS-SHEET 03
41901-01-054	B	SECTIONS-SHEET 04
41901-01-055	A	SECTIONS-SHEET 05
EARTHWORKS: RETAINING WALL & DETAIL GRADING		
41901-01-060	D	PLAN SHEET 01
41901-01-061	C	PLAN SHEET 02
41901-01-062	C	PLAN SHEET 03
41901-01-063	B	PLAN SHEET 04
41901-01-064	C	PLAN SHEET 05
41901-01-065	C	PLAN SHEET 06
41901-01-070	B	DETAILS SHEET 01
41901-01-070A	B	DETAILS SHEET 02
41901-01-071	A	FINAL TRIM DETAILS
EARTHWORKS: PADMOUNT SECTIONS		
41901-01-076	C	PADMOUNT 5
EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL		
41901-01-080	C	PLAN SHEET 01
41901-01-081	D	PLAN SHEET 02
ROADS: COMBINED SERVICES		
41901-01-090	H	PLAN SHEET 01
41901-01-091	E	PLAN SHEET 02
ROADS: ROADWORKS		
41901-01-100	G	PLAN SHEET 01
41901-01-101	E	PLAN SHEET 02
41901-01-120	C	DETAILS
ROADS: LONGITUDINAL SECTIONS		
41901-01-200	B	SHEET 01
41901-01-201	B	SHEET 02
41901-01-202	C	SHEET 03
41901-01-203	B	SHEET 04
ROADS: CROSS SECTIONS		
41901-01-300	A	SHEET 01
41901-01-301	A	SHEET 02
41901-01-302	A	SHEET 03
41901-01-303	A	SHEET 04
41901-01-304	A	SHEET 05
41901-01-305	B	SHEET 06
ROADS: INTERSECTION GRADING		
41901-01-400	C	DETAILS
ROADS: JOINTING DETAILS		
41901-01-410	C	PLAN AND DETAILS SHEET 01
ROADS: LINEMARKING AND SIGNAGE		
41901-01-420	E	PLAN SHEET 01
41901-01-421	C	PLAN SHEET 02
SEWER: SEWER RETICULATION		
41901-01-500	D	PLAN SHEET 01
41901-01-501	E	PLAN SHEET 02
41901-01-505	B	GORDON DRIVE DETAILS PLAN SHEET 01
41901-01-510	A	DETAILS
SEWER: PROFILES		
41901-01-530	C	SHEET 01
41901-01-531	C	SHEET 02
41901-01-532	C	SHEET 03
41901-01-533	C	SHEET 04
41901-01-534	A	SHEET 05
SEWER: HOUSE CONNECTION PROFILES		
41901-01-550	C	SHEET 01
41901-01-551	C	SHEET 02
DRAINAGE: STORMWATER		
41901-01-600	F	PLAN SHEET 01
41901-01-601	E	PLAN SHEET 02
DRAINAGE: PROFILES		
41901-01-620	C	SHEET 01
41901-01-621	B	SHEET 02
41901-01-622	C	SHEET 03
41901-01-623	D	SHEET 04
DRAINAGE: PIT DETAILS & TYPICAL DETAILS		
41901-01-640	B	OUTLETS & TYPICAL DETAILS SHEET 01
41901-01-650	E	PIT DETAILS SHEET 01
41901-01-651	B	PIT DETAILS SHEET 02
41901-01-652	D	PIT DETAILS SHEET 03
DRAINAGE: BASINS & CULVERTS		
41901-01-660	D	PLAN SHEET 01
41901-01-661	D	PLAN SHEET 02
41901-01-662	A	SECTIONS
41901-01-663	C	DETAILS SHEET 01
41901-01-664	A	DETAILS SHEET 02
DRAINAGE: CATCHMENT		
41901-01-670	D	PLAN SHEET 01
41901-01-671	D	PLAN SHEET 02
DRAINAGE: CALCULATION TABLES		
41901-01-680	C	MINOR TABLE
41901-01-681	C	MAJOR TABLE
WATER: WATER RETICULATION		
41901-01-700	G	PLAN SHEET 01
41901-01-701	D	PLAN SHEET 02
41901-01-710	A	DETAILS
EARTHWORKS BORROW EREA		
41901-01-800	A	PLAN SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

CLIENT

HB Land

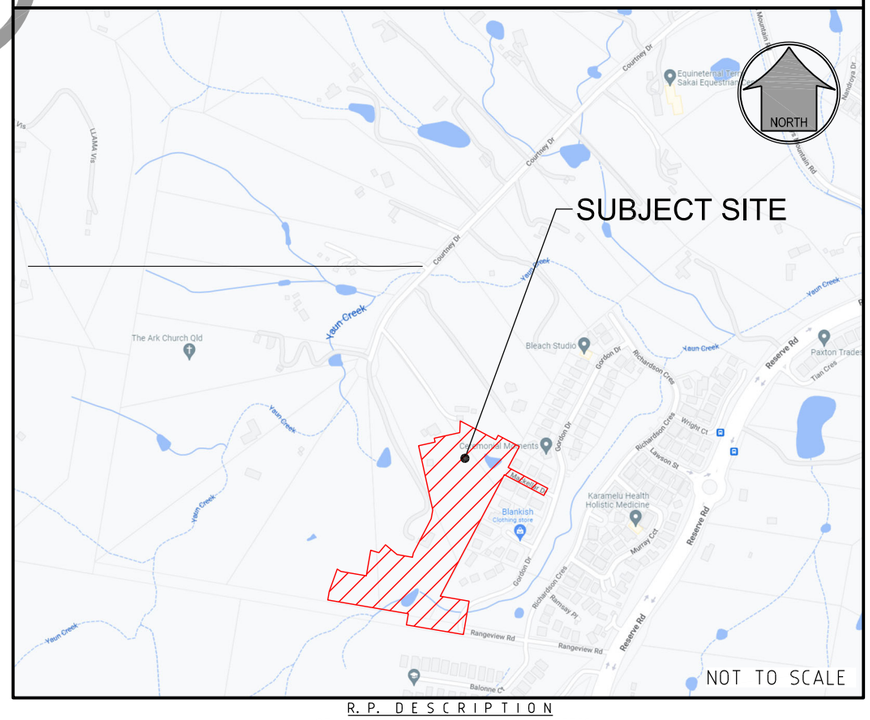
SUB-CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

LOCALITY PLAN



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

DRAWING NUMBER	AMEND.
41901-01-000	K

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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, signals, 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 - Electrocution, disrupt critical services, explosion	Construction	Contractor, Public & Asset Owner	Death	Possible	15	Significant	- 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 confirm service location information. 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 and demolition	Contractor, Public & Asset Owner	Medical Treatment	Possible	9	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.
Deep excavation	Falling or collapse	Construction, Maintenance and demolition	Public, Client, Supervisors, Contractors	Permanent Disability	Possible	12	High	- Minimise depth of structure. - Bench deep trenches appropriately to minimise trench collapse risk. - Design in accordance with relevant standard. - Minimise the number of structures.	Structures designed in accordance with local authority requirements. Utilise RIGS sewer to reduce the number of access points. Graded pipelines as shallow as practical to reduce depth. Contractor to manage open excavations during construction in accordance with their Management Plans.	Permanent Disability	Rare	4	Low	On Going: Contractor to Monitor until end of Construction Phase
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	Possible	15	Significant	- 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
Permanent Stormwater Basin Infrastructure	Drowning	Maintenance and demolition	Public	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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

SAFETY IN DESIGN

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER: 41901-01-003
REV: A

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Likelihood	Consequence: Minor / Insignificant (1)	First Aid Treatment (2)	Medical Treatment (3)	Permanent Disability (4)	Death (5)
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:

1. 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.
2. ALL CONTRACTORS AND ASSET OWNERS REMAIN RESPONSIBLE IN THE PREPARATION OF THEIR OWN SAFETY MANAGEMENT PLANS AND SUITABLE SAFE WORK METHOD STATEMENTS.
3. THIS SID REGISTER IDENTIFIES ATYPICAL FEATURES OF THE DESIGN. COMMON/TYPICAL FEATURES OF THIS DESIGN ARE NOT INCLUDED IN THIS SID REGISTER.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

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

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ASSOCIATED CONSULTANTS

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BENNETT+BENNETT

DRAWING TITLE

RISK MATRIX
& NOTES

CONSTRUCTION ISSUE

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065

Postal Address
PO Box 2484
Southport QLD 4215

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

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

DESIGNED	DRAWN	
RB	EMH	
APPROVED	RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-004	A

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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 (5.5m CARRIAGEWAY)
- RESIDENTIAL ACCESS STREET (7.5m CARRIAGEWAY)
- RESIDENTIAL COLLECTOR STREET (7.5m CARRIAGEWAY)

REFER 120 DRAWINGS SERIES FOR TYPICAL SECTIONS

- 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



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	PAD MOUNTS REMOVED AND DRIVEWAYS ADDED	BL
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	ROAD HIERARCHY AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

ROAD HIERARCHY,
STAGING PLAN
&
GENERAL NOTES

CONSTRUCTION ISSUE

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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ABN: 39 116 375 065
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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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-005	D

GENERAL

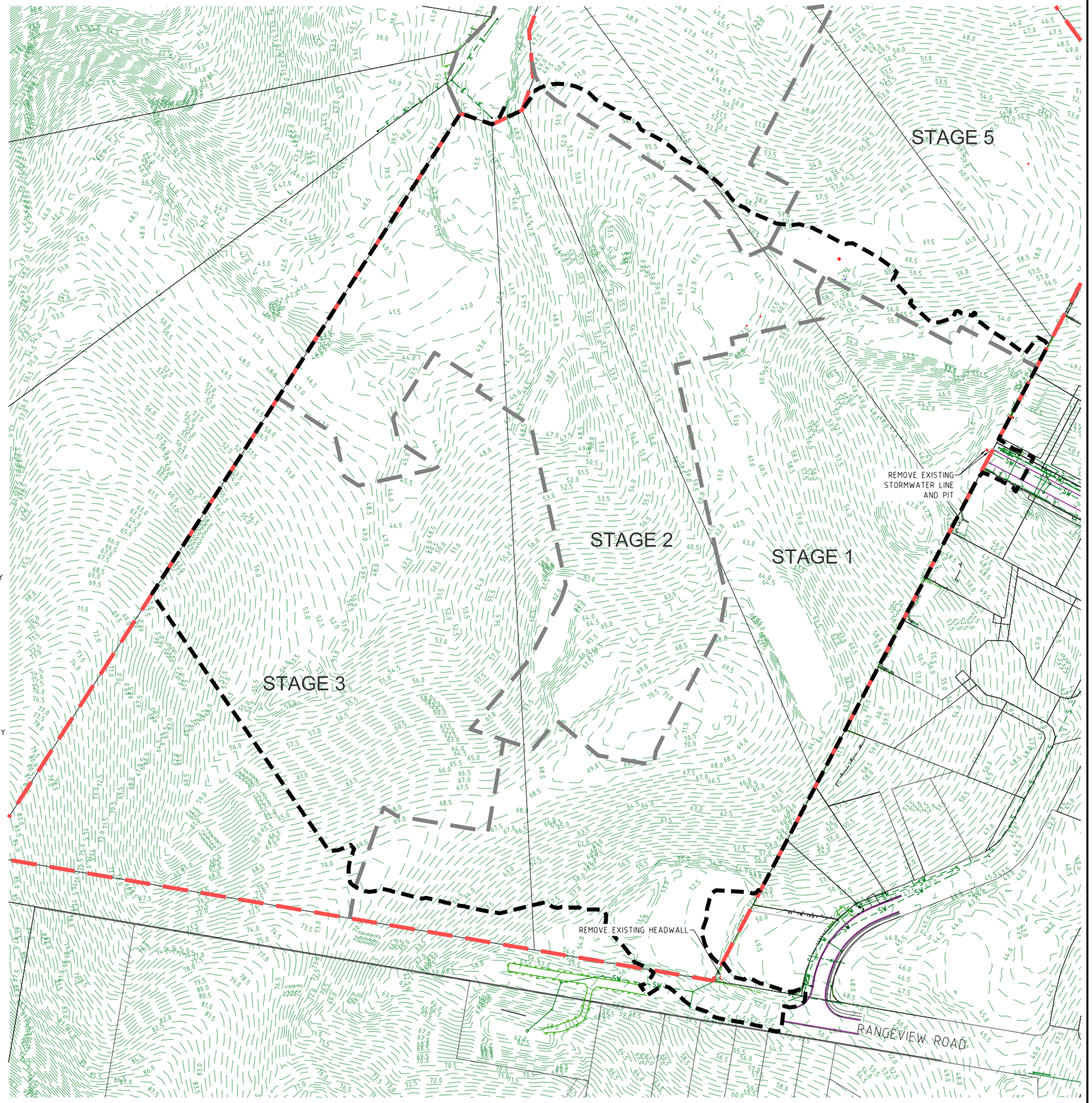
1. EXISTING SERVICES - EXTERNAL WORKS
   THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.
2. EXISTING STRUCTURES
   ALL EXISTING STRUCTURES & ASSOCIATED INFRASTRUCTURE TO BE REMOVED & DISPOSED OF OFF SITE.
3. 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 — EXISTING RISING MAIN
- S — EXISTING SEWER
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING UNDERGROUND ELECTRICITY
- E — EXISTING OVERHEAD ELECTRICITY
- T — EXISTING TELSTRA
- C — EXISTING COMMUNICATIONS
- 1.0 — EXISTING CONTOURS MAJOR
- 1.5 — EXISTING CONTOURS MINOR
- DEMOLISH RISING MAIN
- DEMOLISH SEWER
- DEMOLISH STORMWATER
- DEMOLISH WATER
- DEMOLISH GAS
- DEMOLISH UNDERGROUND ELECTRICITY
- DEMOLISH OVERHEAD ELECTRICITY
- DEMOLISH TELSTRA
- 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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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INIT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

EXISTING FEATURES AND DEMOLITION PLAN

CONSTRUCTION ISSUE

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

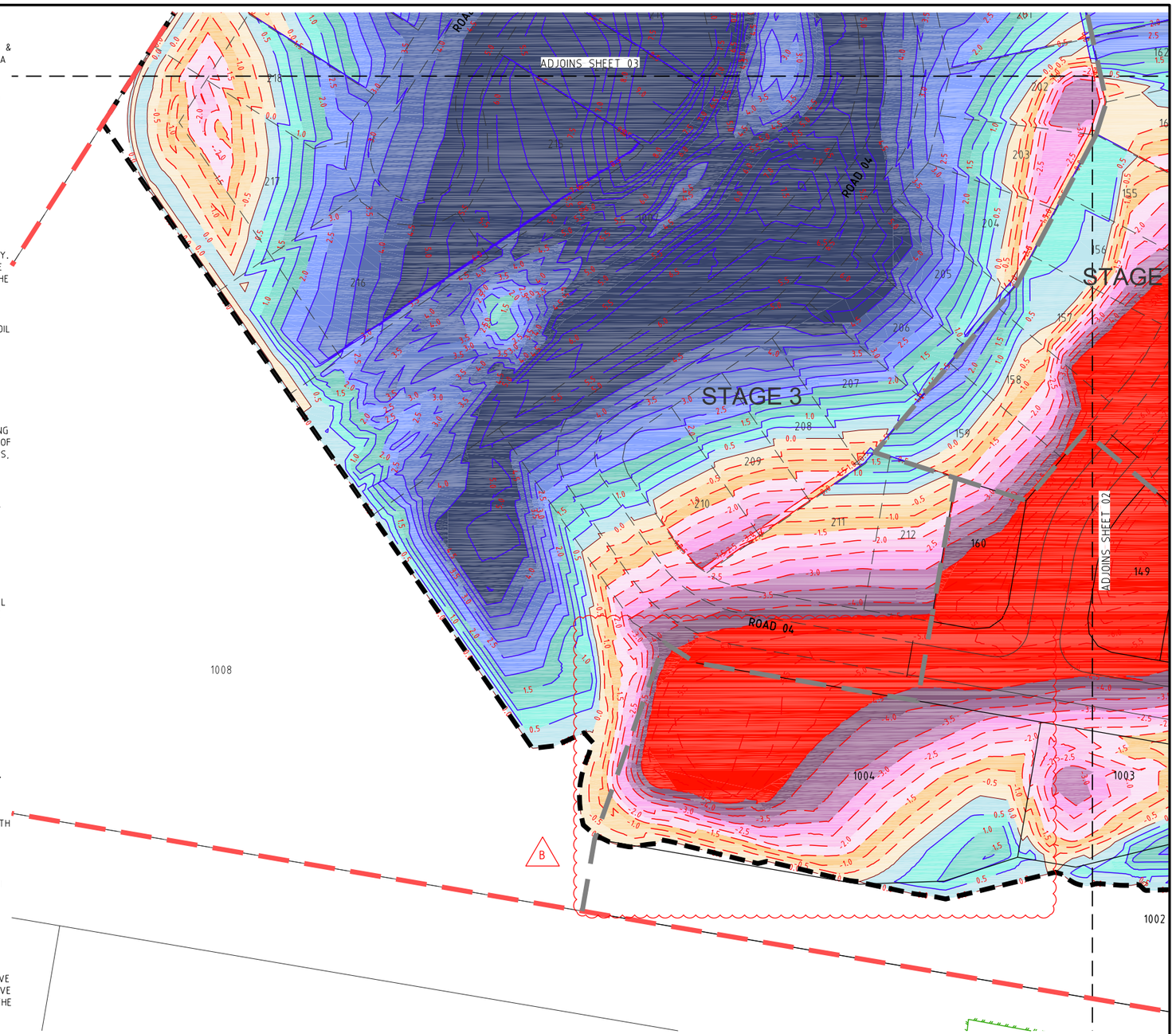
DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-020	B

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EARTHWORKS

1. TOPSOIL STRIPPING
   TOPSOIL SHALL BE STRIPPED ACROSS THE ENTIRE LIMIT OF THE EARTHWORKS CUT & FILL AREAS & SHALL BE STOCKPILED IN A LOCATION APPROVED BY THE SUPERINTENDENT. THE EXISTING STRATA IS TO BE TREATED IN ACCORDANCE WITH THE SPECIFICATION PRIOR TO PLACING ANY FILL.
2. EARTHWORKS LEVELS
   EARTHWORKS LEVELS SHOWN ON DRAWINGS ARE TO FINISHED SURFACE LEVELS & INCLUDE 100mm OF TOPSOIL.
3. COMPACTION STANDARD
   SITE FILLING & TRENCH BACKFILL SHALL BE COMPACTED TO THE STANDARDS OUTLINED IN THE LOCAL AUTHORITY'S SPECIFICATIONS. FILL BATTER FACES ARE TO BE OVERFILLED, COMPACTED & CUT BACK TO DESIGN LEVELS. ALL CUT BATTERS ARE TO BE CUT BACK & TRIMMED TO DESIGN LEVELS.
4. PAVEMENT DEPTHS
   THE DESIGN PAVEMENT DEPTHS ALLOWED IN EARTHWORKS CALCULATIONS ARE BASED ON THE DEPTHS SHOWN IN THE SCHEDULE OF PAVEMENT DEPTHS. THE PAVEMENT DEPTHS GIVEN ARE DESIGN DEPTHS ONLY & MAY BE VARIED AFTER SUB GRADE TESTS ARE TAKEN & AUTHORITY APPROVAL.
5. TESTING & CERTIFICATION
   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. THE CONTRACTOR IS TO PROVIDE ALL REQUIRED EARTHWORKS CERTIFICATIONS IN ACCORDANCE WITH THE APPROVAL CONDITIONS. THE CONTRACTOR IS TO PROVIDE A CONSTRUCTED EARTHWORKS SLOPE STABILITY CERTIFICATION CONFIRMING REQUIRED F.O.S. CERTIFIED BY A RPEQ.
6. TOPSOIL REPLACEMENT
   ALL FOOTPATHS, BATTERS & ALLOTMENT CUT & FILL AREAS SHALL BE TOPSOILED WITH TOPSOIL FROM ONSITE STOCKPILES, & AMELIORATE SOIL AS NECESSARY TO ENSURE GRASS STRIKE.
7. GRASSING
   ALL CUT/FILL AREAS, DISTURBED AREAS & TRENCHED AREAS SHALL BE GRASSED TO THE SATISFACTION OF THE SUPERINTENDENT & LOCAL AUTHORITY.
8. ROCK
   THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR EARTHWORKS RATE.
9. EARTHWORKS ZONE
   THE FOLLOWING ACTIVITIES ARE PROHIBITED OUTSIDE THE EARTHWORKS ZONE - STORAGE & MIXING OF MATERIALS, VEHICLE PARKING, LIQUID DISPOSAL, MACHINERY REPAIRS/REFUELING, PLACEMENT OF SITE OFFICES OR SHEDS, COMBUSTION OF ANY MATERIAL, STOCKPILING OF SOIL, RUBBLE OR DEBRIS, ANY FILLING OR EXCAVATION INCLUDING TRENCHES, TOPSOIL, SKIMMING AND/OR SURFACE EXCAVATION UNLESS OTHERWISE APPROVED BY THE RELEVANT AUTHORITY.
10. CONSTRUCTION - STOCKPILING
    TEMPORARY SILT FENCE TO BE ERECTED 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING. STOCKPILE SITE TO BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES. NO STOCKPILES ARE TO BE LOCATED WITHIN THE TREE PROTECTION ZONE, REFER VEGETATION MANAGEMENT PLAN FOR MORE DETAILS. THE CONTRACTOR SHALL NOT CREATE STOCKPILES OF SURPLUS MATERIALS UNLESS DIRECTED BY THE SUPERINTENDENT. ALL MATERIALS ARISING FROM THE WORKS SHALL BE COMPACTED TO FUTURE FILL AREAS AS NOMINATED OR REMOVED FROM THE SITE.
11. TOPSOIL SCREENING
    TOPSOIL SHALL BE SCREENED BY THE CONTRACTOR WHEN DIRECTED BY THE SUPERINTENDENT. ALL UNSUITABLE MATERIAL SCREENED FROM THE TOPSOIL WILL BE TAKEN TO AN OFFSITE TIP BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.
12. EARTHWORKS MATERIAL SIZE
    ALL EARTHWORKS MATERIAL IS TO BE BROKEN DOWN TO AN ACCEPTABLE SIZE TO BE COMPACTED UNDER LEVEL 1 FILL. WHERE THE RELEVANT GUIDELINES DON'T SPECIFY AN ACCEPTABLE SIZE, EARTHWORKS MATERIAL IS TO BE BROKEN DOWN TO A SIZE NO LARGER THAN 75mm.
13. MOISTURE CONTENT
    EARTHWORKS MOISTURE VARIATION TO NOT EXCEED ±2% OF THE OPTIMUM MOISTURE CONTENT.
14. SURFACE FINISH
    THE FINISHED SURFACE LEVEL IS TO BE CAPPED WITH FINER MATERIAL & SMOOTH DRUM ROLLED & GRADED TO PROMOTE SURFACE WATER RUNOFF IN A CONTROLLED MANNER.
15. EARTHWORKS LIMITS
    THE CONTRACTOR IS TO TIE IN TO THE NATURAL SURFACE AT THE LIMIT OF THE EARTHWORKS. THE TIE IN IS TO BE COMPLETED IN A MANNER TO ENSURE THERE IS NO PONDING OF SURFACE WATER.
16. IMPORTED MATERIAL
    LOTS - ALL IMPORTED MATERIAL FOR PLACEMENT ON LOTS TO BE A MINIMUM CBR 10 MATERIAL & HAVE A SWELL % <1.5.
    ROADS - ALL IMPORTED MATERIAL FOR PLACEMENT ON ROADS TO BE A MINIMUM CBR10 MATERIAL WITH A SWELL % <1.5, LIQUID LIMIT <70 & PLASTICITY IDEX <45.
    SOIL PARAMETERS TO BE REVIEWED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT ON SITE.
17. REACTIVE SOILS
    a) ALL REACTIVE TOPSOIL TO BE IDENTIFIED BY THE GEOTECHNICAL ENGINEER & BE SEPARATED FROM THE NON REACTIVE TOPSOIL.
    b) ALL REACTIVE TOPSOIL TO BE RESPREAD IN THE OPEN SPACE AREA. WHERE REACTIVE TOPSOIL IS REQUIRED TO BE RESPREAD ON DEVELOPABLE AREAS THE CONTRACTOR SHALL LIME TREAT THE TOPSOIL TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
    c) WHEN UNDERTAKING THE EARTHWORKS CUT ALL MATERIALS SHOULD BE SELECTIVELY SORTED SO THAT THE REACTIVE SOILS ARE SEPARATED FROM THE LOW REACTIVE RESIDUAL SOILS & XW BEDROCK
    d) ALL REACTIVE SOILS ARE TO BE PLACED IN THE LOWER SECTIONS OF FILL WITH THE LESS REACTIVE RESIDUAL SOILS & XW BEDROCK TO BE PLACE IN THE UPPER FILLS. ALTERNATIVELY, THE REACTIVE SOILS CAN BE BLENDED WITH THE LESS REACTIVE SOILS & XW ROCK TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
    e) NO REACTIVE CLAY SOILS SHOULD BE PLACED WITHIN THE UPPER 0.75M APPROX. FILL PROFILE WHERE POSSIBLE.
    f) WHEN PLACING FILL OVER HIGHLY REACTIVE SOILS, TREATMENT MAY BE REQUIRED IF THE FILLS ARE ONLY MINOR, 0.3m APPROX. & THE REACTIVE SOIL PROFILE IS GREATER THAN 0.7m APPROX. IN THESE AREAS SUBGRADE REPLACEMENT OF AT LEAST 0.75m OF NON REACTIVE / LOW REACTIVE MATERIAL OVERLYING THE REACTIVE SOILS SHALL BE UNDERTAKEN.
    g) ALL WORKS ASSOCIATED WITH THE IDENTIFICATION, PLACEMENT & TREATMENT OF REACTIVE SOILS SHALL BE UNDERTAKEN TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.



LEGEND

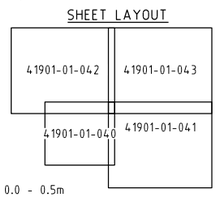
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- EXISTING KERB (INVERT)
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF EARTHWORKS BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- -0.5 CUT CONTOUR
- 0.0 INTERFACE CONTOUR
- 0.5 FILL CONTOUR

CUT#
- 4.5m +
- 4.0 - 4.5m
- 3.5 - 4.0m
- 3.0 - 3.5m
- 2.5 - 3.0m
- 2.0 - 2.5m
- 1.5 - 2.0m
- 1.0 - 1.5m
- 0.5 - 1.0m
- 0.0 - 0.5m

FILL#
- 0.0 - 0.5m
- 0.5 - 1.0m
- 1.0 - 1.5m
- 1.5 - 2.0m
- 2.0 - 2.5m
- 2.5 - 3.0m
- 3.0 - 3.5m
- 3.5 - 4.0m
- 4.0 - 4.5m
- 4.5m +

BULK EARTHWORKS (EXISTING TO FINISHED SURFACE)

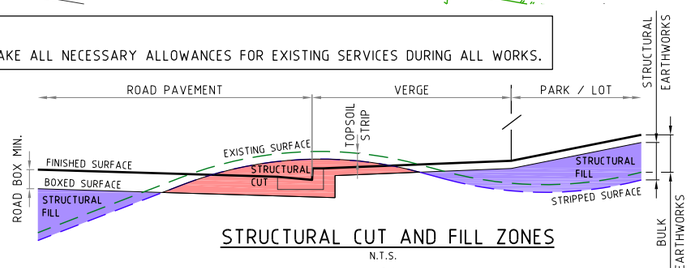
SHEET LAYOUT



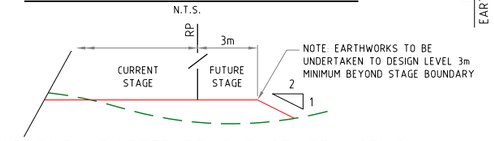
DIAL BEFORE YOU DIG www.1100.com.au

NOTES:
1. EARTHWORKS VOLUMES ARE APPROXIMATE ONLY, CONTRACTOR TO VERIFY & ALLOW FOR ANY DISCREPANCY IN THE CONTRACT VALUE.
2. VOLUMES INDICATE THE STRUCTURAL QUANTITY OF EARTHWORKS, IE BETWEEN THE EXISTING SURFACE & THE UNDERSIDE OF THE MINIMUM BOX & OF THE FSL, AS PROSCRIBED IN THE CONTRACT DOCUMENTATION.
3. NO ALLOWANCE FOR COMPACTION OR BULKING FACTOR IS INCLUDED IN THE EARTHWORKS VOLUMES. THE CONTRACTOR IS TO MAKE ALLOWANCES FOR BULKING/COMPACTION AS PART OF THEIR CONTRACT WORKS.
4. THE CONTRACTOR IS TO VERIFY EXISTING SURFACE & TOPSOIL DISTRIBUTION PRIOR TO SIGNING THE CONTRACT. THE CONTRACTORS PRICE FOR THESE WORKS IS DEEMED TO BE ACCEPTING OF THE NATURAL SURFACE & TOPSOIL DISTRIBUTION.
5. THE CONTRACTOR IS REQUIRED TO EXPORT / IMPORT AS NEEDED TO ACHIEVE THE FINAL SURFACE LEVELS. THE EXPORT/IMPORT AS REQUIRED TO COMPLETE EARTHWORKS FORMS PART OF THE CONTRACT WORKS.
6. WHERE NO SPOIL AREA IS AVAILABLE WITHIN THE PROJECT FOOTPRINT, THE CIVIL CONTRACTOR SHALL EXPORT EXCESS MATERIALS TO A LICENCED TIP OFF SITE. THESE WORKS FORM PART OF THE CONTRACT WORKS.

NOTE:
CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR EXISTING SERVICES DURING ALL WORKS.



STRUCTURAL CUT AND FILL ZONES
N.T.S.



TEMPORARY BATTER BEYOND STAGE WORKS
N.T.S.

PROJECT NAME
COURTNEY DR
UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
B	19-06-24	EARTHWORKS UPDATED	BL
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS
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DRAWING TITLE
EARTHWORKS
CUT TO FILL
PLAN
SHEET 01

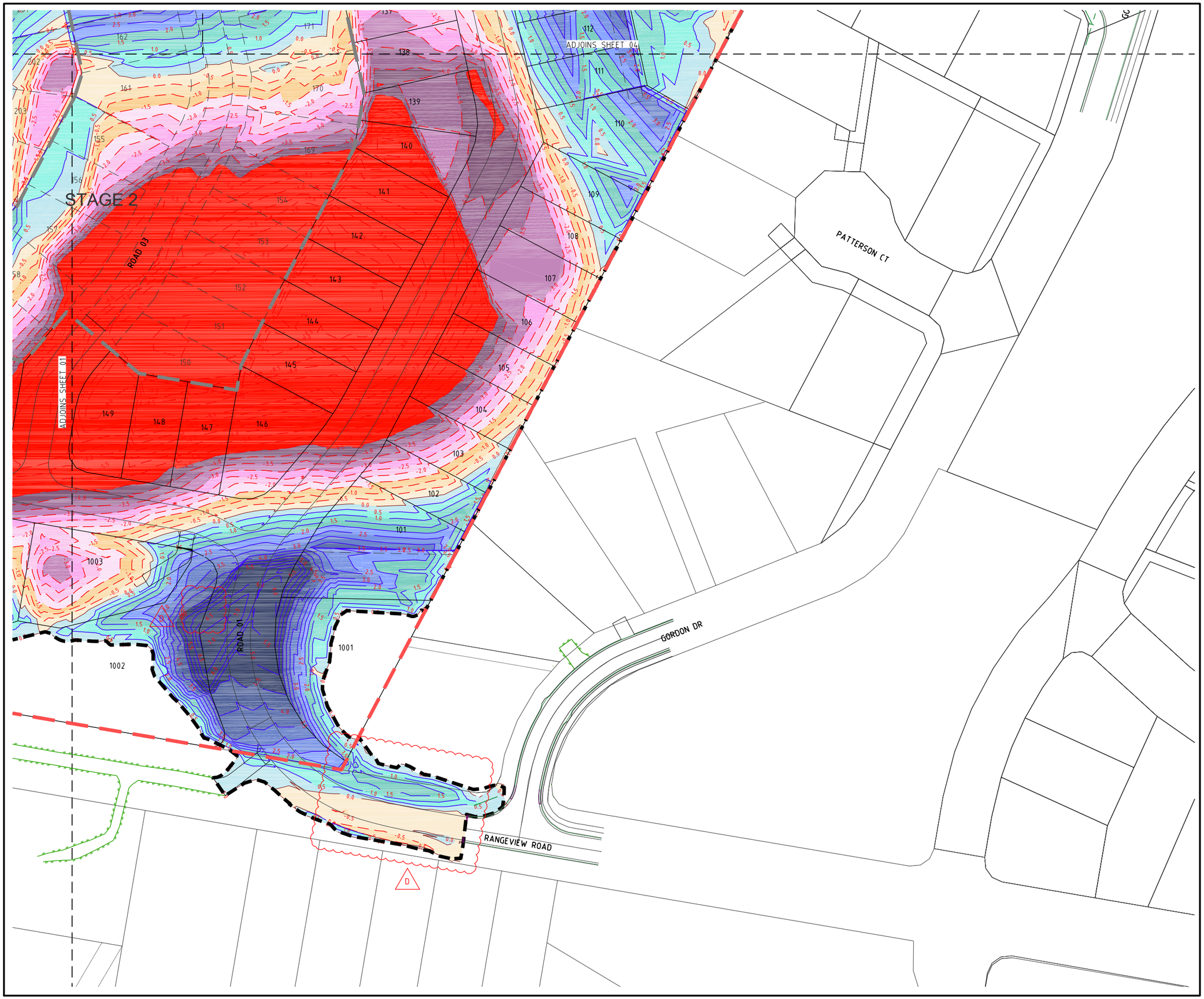
CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-040	B

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	PAD MOUNT REMOVED AND EARTHWORKS UPDATED	BL
C	15-04-24	E.WORKS EXTENDED TO TIE INTO EXISTING	EP
B	23-02-24	EARTHWORKS AMENDED LOT 110	BL
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

EARTHWORKS
CUT TO FILL
PLAN
SHEET 02

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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

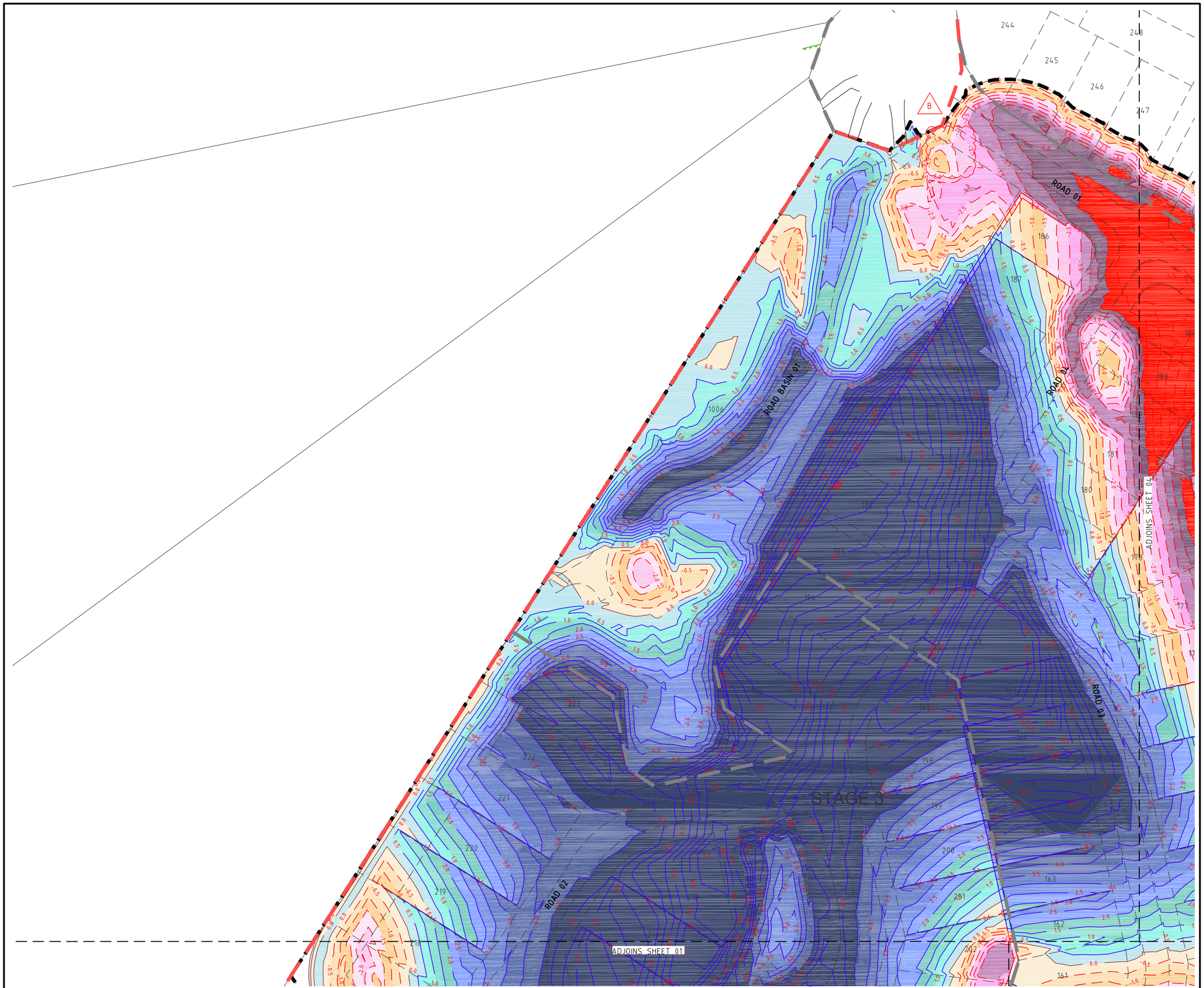
Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-041	D

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
B	19-06-24	PAD MOUNT REMOVED	BL
A	03-03-23	COUNCIL ISSUE	JB

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EARTHWORKS
CUT TO FILL
PLAN
SHEET 03

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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

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-042	B

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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EARTHWORKS
CUT TO FILL
PLAN
SHEET 04

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Urban & Regional Planning
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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

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-043	B

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EXTENT OF WORKS TO BE DETERMINED ON SITE. REFER TO GEOTECHNICAL NOTE IN LEGEND

EXTENT OF WORKS TO BE DETERMINED ON SITE. REFER TO GEOTECHNICAL NOTE IN LEGEND

STAGE 1

STAGE 2

STAGE 3

ROAD 01

ROAD 02

ROAD 03

ROAD 04

ROAD 06

ROAD 09

ROAD 11

ROAD BASIN 01

PATTERSON CT

GORDON DR

MACKELLA

LEGEND

- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY

FOR DETAILS RELATING TO THE MATERIAL FOR RETAINING WALL BACKFILL & COMPACTION REQUIREMENTS REFER TO SECTION 20 OF PACIFIC GEO - GEOTECHNICAL REPORT: BROADSCALE GEOTECHNICAL INVESTIGATION & LANDSLIDE ASSESSMENT FOR PROPOSED RESIDENTIAL SUBDIVISION. END OF COURTNEY DRIVE, UPPER COOMERA JAN 2023.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 7.5 15 22.5 30 37.5m

Scale 1:750 - A1 (1:1500 - A3)

REV	DATE	DESCRIPTION	INT
D	19-06-24	PMT REMOVED, CONTS UPDATED & DRIVEWAYS ADDED	BL
C	23-02-24	CONTOURS & RETAINING WALL AMENDED LOT 110	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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GEOTECHNICAL REQUIREMENTS PLAN

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Mortons-Urban Solutions
ABN: 39 116 375 065

Postal Address
PO Box 2484
Southport QLD 4215

mortons@urbansolutions.net.au
www.urbansolutions.net.au
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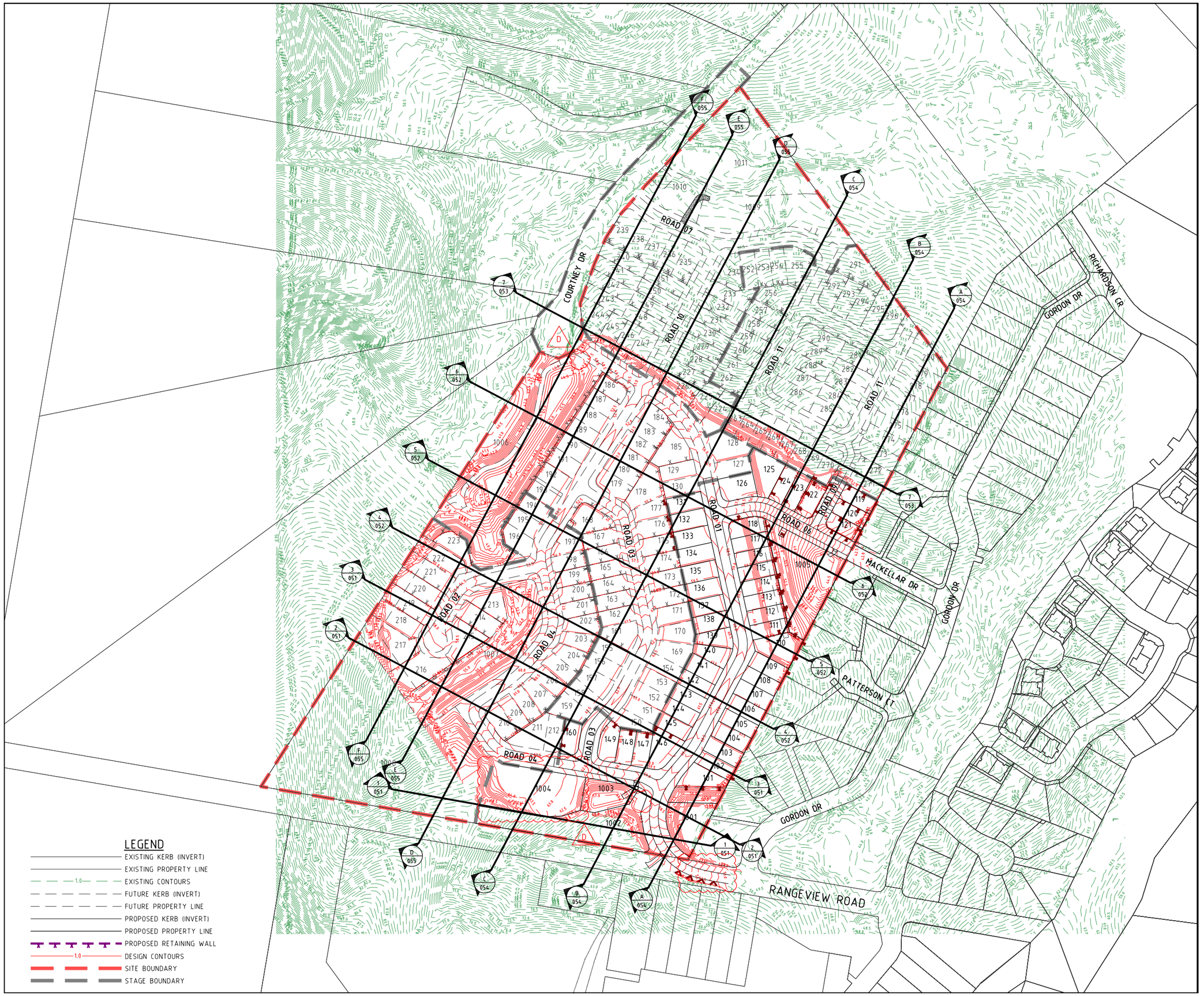
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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-045

REV: D

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 15 30 45 60 75m

Scale 1:1500 - A1 (1:3000 - A3)

REV	DATE	DESCRIPTION	INT
D	19-06-24	PAD MOUNTS REMOVED & CONTOURS UPDATED	BL
C	23-02-24	CONTOURS & RETAINING WALL LOT 110 AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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BULK EARTHWORKS
SECTION KEY PLAN

CONSTRUCTION ISSUE

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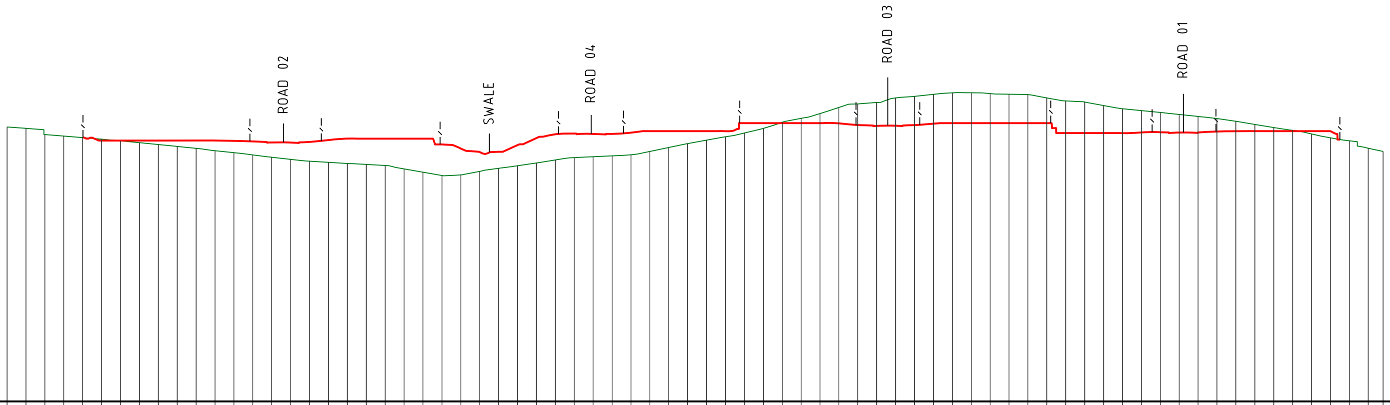
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ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED RB	DRAWN EMH
APPROVED	RPEQ 4706 DATE 03-03-23
DRAWING NUMBER 41901-01-050	REV D

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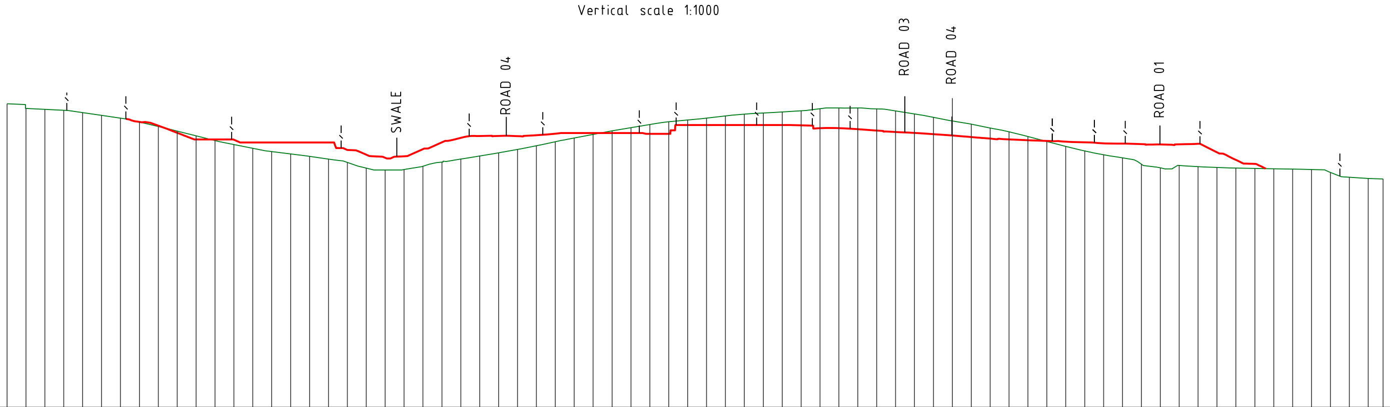


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
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5		61.255
10		59.589
15		59.195
20		58.798
25	58	58.354
30	58	57.943
35	58	57.491
40	58	56.99
45	58	56.436
50	58	55.942
55	58	55.326
60	57.969	54.806
65	57.78	54.201
70	57.507	53.596
75	57.475	53.051
80	57.681	52.558
85	58.171	52.26
90	58.5	51.962
95	58.5	51.683
100	58.5	51.407
105	58.5	50.511
110	58.5	49.65
115	57	48.789
120	55.909	48.928
125	54.974	49.84
130	55.03	50.664
135	56.811	51.344
140	58.678	52.073
145	59.697	52.879
150	59.843	53.496
155	59.78	53.735
160	59.818	53.96
165	60.111	54.236
170	60.5	55.123
175	60.5	56.182
180	60.5	57.214
185	60.5	58.125
190	60.5	59.018
195	62.6	60.029
200	62.6	61.238
205	62.6	62.84
210	62.6	63.869
215	62.6	65.147
220	62.545	66.771
225	62.133	67.71
230	61.887	68.091
235	61.921	69.289
240	62.117	69.711
245	62.471	70.242
250	62.6	70.646
255	62.6	70.664
260	62.6	70.441
265	62.6	70.274
270	62.6	70.179
275	62.6	69.298
280	60	68.498
285	60	68.216
290	60	67.273
295	60	66.437
300	60.133	65.934
305	60.224	65.432
310	60.118	64.914
315	60.181	64.369
320	60.394	63.776
325	60.5	63.079
330	60.5	62.291
335	60.5	61.454
340	60.5	60.71
345	60.5	59.762
350	60.488	58.732
355		57.957
360		55.989
363.922		55.131

SECTION 3

Horizontal scale 1:1000
Vertical scale 1:1000

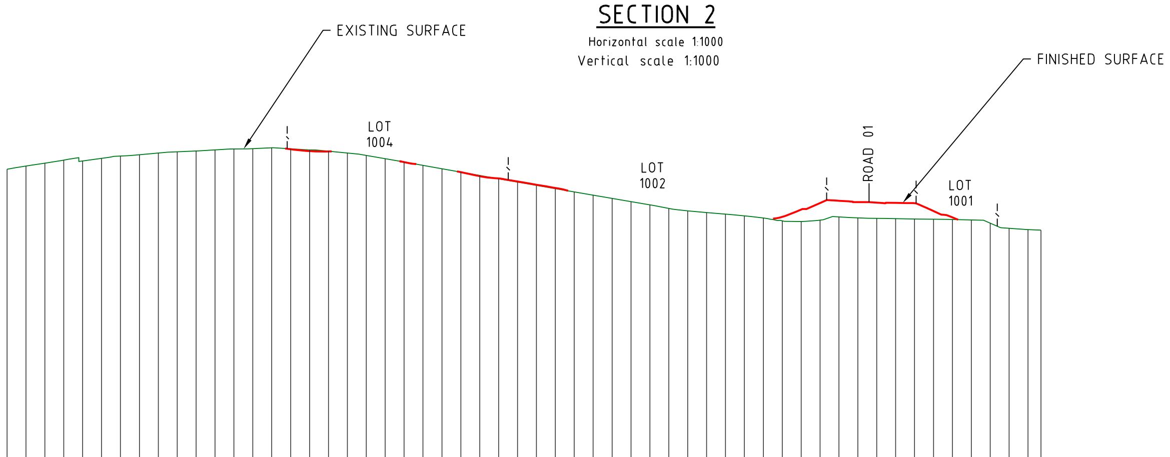


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		69.422
5		68.218
10		67.956
15		67.7
20		67.099
25		66.388
30		65.636
35	64.624	64.615
40	63.642	63.429
45	61.753	62.198
50	60	60.957
55	60	59.716
60	59.93	58.663
65	59.2	57.664
70	59.2	56.801
75	59.2	56.163
80	59.2	55.512
85	59.2	54.794
90	57.222	53.926
95	55.964	52.411
100	55.154	51.927
105	55.548	52.033
110	57.439	52.913
115	59.227	54.002
120	60.422	54.816
125	60.91	55.627
130	60.914	56.456
135	60.867	57.382
140	61.133	58.399
145	61.518	59.416
150	61.7	60.383
155	61.7	61.32
160	61.7	62.256
165	61.7	63.102
170	61.5	63.947
175	61.5	64.674
180	63.8	65.149
185	63.8	65.654
190	63.8	66.225
195	63.8	66.678
200	63.8	66.989
205	63.8	67.277
210	63.742	67.58
215	62.943	68.122
220	63.011	68.351
225	62.69	68.337
230	62.346	68.077
235	61.967	67.527
240	61.724	66.73
245	61.396	65.835
250	61.057	64.878
255	60.63	64.038
260	60.215	63.032
265	60.022	62.024
270	59.793	60.741
275	59.604	59.42
280	59.405	58.165
285	59.268	56.98
290	59.026	56.003
295	58.911	55.139
300	58.776	53.446
305	58.699	52.472
310	58.708	53.144
315	58.843	52.816
320	56.591	52.579
325	54.584	52.45
330	53.524	52.318
335		52.241
340		52.169
345		52.054
350		51.259
355		50.002
360		49.69
363.922		49.529

SECTION 2

Horizontal scale 1:1000
Vertical scale 1:1000



DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		65.75
5		66.582
10		67.345
15		68.177
20		67.952
25		68.616
30		69.242
35		69.59
40		70.028
45		70.358
50		70.585
55		70.879
60		71.123
65		71.19
70		71.419
75	71.043	71.153
80	70.54	70.854
85	70.454	70.533
90		70.038
95		69.396
100		68.535
105	67.63	67.675
110		66.775
115		65.876
120	64.965	65.012
125	63.92	64.116
130	63.303	63.218
135	62.501	62.315
140	61.642	61.408
145	60.784	60.604
150		59.772
155		58.936
160		58.09
165		57.184
170		56.321
175		55.371
180		54.685
185		54.29
190		53.87
195		53.373
200		52.841
205	53.17	52.091
210	55.071	51.922
215	56.818	52.283
220	57.406	53.14
225	57.054	52.878
230	56.91	52.748
235	56.843	52.664
240	56.742	52.582
245	54.69	52.527
250	53.004	52.438
255		52.327
260		51.486
265		50.125
270		49.769
273.439		49.656

SECTION 1

Horizontal scale 1:1000
Vertical scale 1:1000

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-050.dwg, SECTIONS-SHEET 01, 2/07/2024 11:58:26 AM, 1:2

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

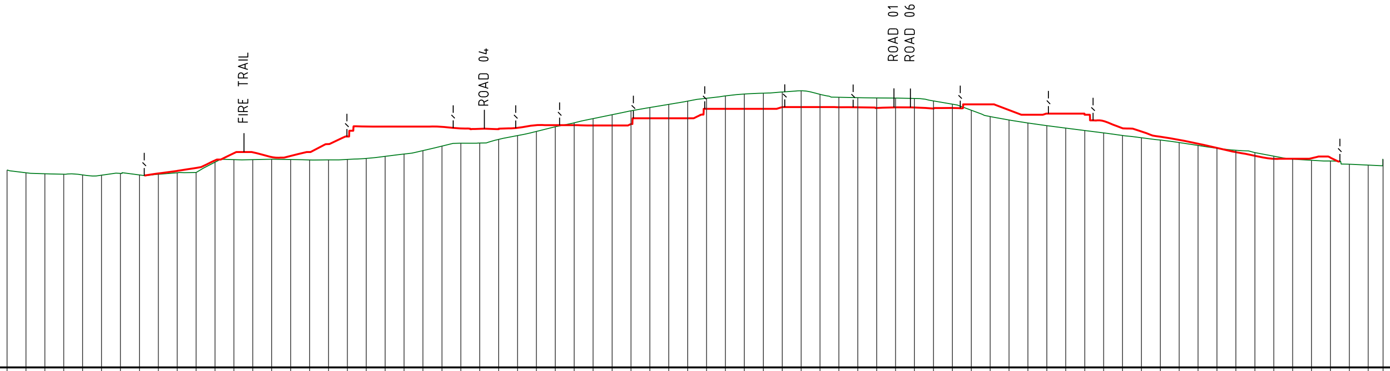
BULK EARTHWORKS
SECTIONS
SHEET 01

CONSTRUCTION ISSUE

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 EMH	
APPROVED [signature]	RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-051
REV A

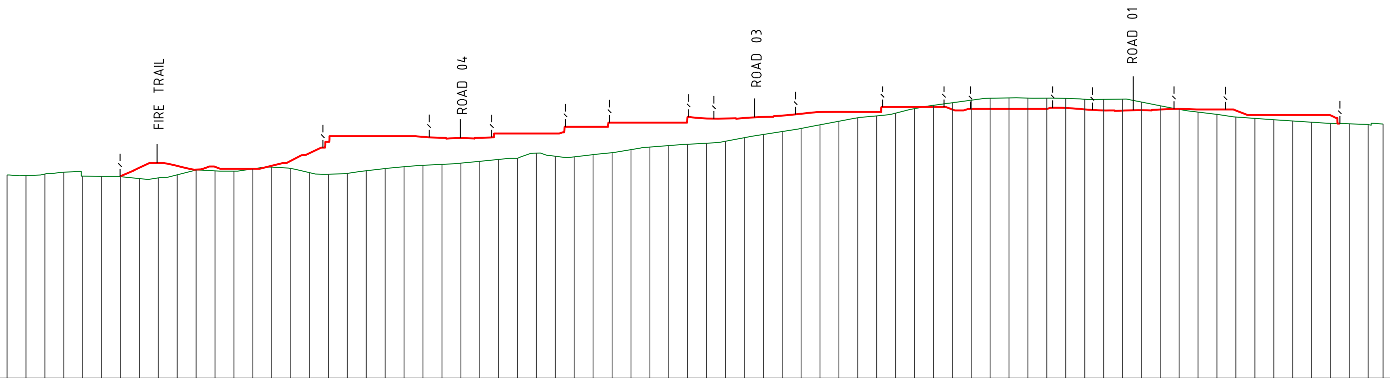


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		41.229
5		40.492
10		40.23
15		40.102
20		39.95
25		39.841
30		40.33
35		39.928
40	40.316	40.103
45	40.993	40.503
50	41.79	40.552
55	43.764	43.299
60	45.694	43.98
65	45.925	43.969
70	44.69	44.066
75	44.942	43.986
80	46	43.878
85	48.087	43.917
90	50.1	44.019
95	52.714	44.295
100	52.7	44.86
105	52.7	45.441
110	52.7	46.357
115	52.645	47.536
120	52.265	48.297
125	52.12	48.345
130	52.018	49.351
135	52.387	50.345
140	53.1	51.43
145	53.1	52.677
150	53.1	53.718
155	53	54.822
160	53	55.863
165	53.4	56.898
170	54.9	57.759
175	54.9	58.6
180	54.9	59.467
185	57.4	60.223
190	57.4	60.82
195	57.4	61.33
200	57.4	61.539
205	57.878	61.863
210	57.9	62.152
215	57.9	61.285
220	57.846	60.476
225	57.82	60.377
230	57.636	60.295
235	57.814	60.248
240	57.756	60.143
245	57.497	59.503
250	57.631	58.635
255	58.6	57.041
260	58.6	55.396
265	57.091	54.434
270	55.85	53.697
275	56.15	52.988
280	56.15	52.26
285	55.85	51.704
290	54.203	51.042
295	52.293	50.361
300	51.401	49.77
305	50.022	49.127
310	49.231	48.478
315	48.18	47.743
320	47.063	47.018
325	45.947	46.454
330	44.985	45.85
335	44.2	44.904
340	44.2	44.101
345	44.346	43.798
350	44.508	43.599
355		42.751
360		42.53
363.922		44.086

SECTION 6

Horizontal scale 1:1000
Vertical scale 1:1000

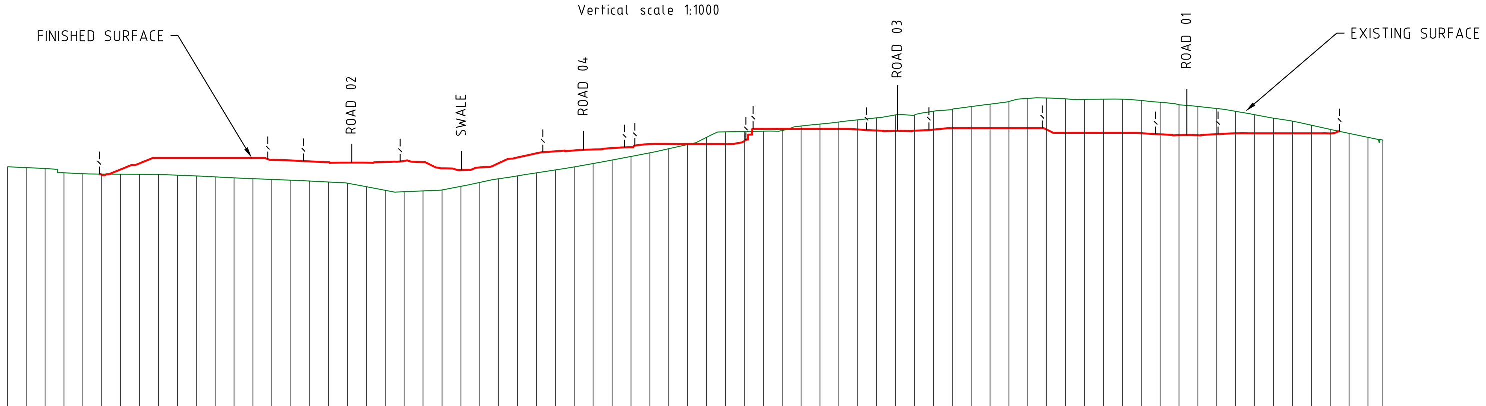


DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		42.868
5		42.694
10		43.117
15		43.595
20		42.561
25		42.524
30	42.543	42.469
35	44.77	41.907
40	46	42.086
45	45.236	42.883
50	44.262	44.155
55	45.016	43.924
60	44.5	43.862
65	44.5	44.454
70	45.289	44.941
75	46.583	44.578
80	48.63	43.465
85	51.6	43.057
90	53.1	43.266
95	53.1	43.98
100	53.1	44.551
105	53.1	45.033
110	52.932	45.396
115	52.662	45.66
120	52.606	45.999
125	52.665	46.473
130	53.8	46.956
135	53.8	47.287
140	53.8	48.643
145	53.8	47.792
150	55.6	47.647
155	55.6	48.223
160	56.7	48.752
165	56.7	49.552
170	56.7	50.252
175	56.7	50.638
180	58.2	50.978
185	57.787	51.253
190	57.794	51.776
195	57.897	52.71
200	58.166	53.558
205	58.553	54.345
210	59.037	55.152
215	59.496	56.101
220	59.5	57.055
225	59.5	57.968
230	59.5	58.451
235	60.8	59.183
240	60.8	60.389
245	60.8	61.246
250	60.156	61.923
255	60.3	62.599
260	60.3	63.122
265	60.3	63.22
270	60.3	63.17
275	60.309	63.171
280	60.6	63.082
285	60.162	62.868
290	59.961	62.824
295	59.872	62.892
300	59.958	62.126
305	60.153	61.142
310	60.309	60.196
315	60.158	59.469
320	60.15	58.857
325	59.89	58.179
330	58.7	57.825
335	58.7	57.441
340	58.7	57.126
345	58.7	56.811
350	58.645	56.495
355		56.386
360		56.166
363.922		56.298

SECTION 5

Horizontal scale 1:1000
Vertical scale 1:1000



DATUM -11.0

CHAINAGE	FINISHED SURFACE	EXISTING SURFACE
0		52.682
5		52.468
10		52.207
15		51.076
20		50.852
25	50.573	50.738
30	51.979	50.721
35	53.591	50.703
40	55	50.633
45	55	50.442
50	55	50.242
55	55	49.999
60	55	49.744
65	55	49.508
70	54.5	49.319
75	54.356	49.124
80	54.099	48.902
85	53.876	48.64
90	53.783	48.325
95	53.762	47.406
100	53.954	46.455
105	54.218	46.063
110	53.912	46.295
115	52.24	46.545
120	51.807	47.494
125	52.49	48.544
130	53.616	49.51
135	55.141	50.269
140	56.239	51.057
145	56.772	51.829
150	57.004	52.656
155	57.247	53.539
160	57.621	54.474
165	57.848	55.422
170	58.7	56.371
175	58.7	57.444
180	58.7	58.565
185	58.7	60.463
190	58.7	61.925
195	59.521	62.011
200	62.7	62.087
205	62.7	62.283
210	62.7	63.458
215	62.7	63.989
220	62.7	64.532
225	62.53	65.108
230	62.281	65.646
235	62.186	66.388
240	62.236	66.391
245	62.499	67.359
250	62.9	67.919
255	62.9	68.597
260	62.9	69.223
265	62.9	69.957
270	62.9	70.759
275	62.509	70.867
280	61.65	70.645
285	61.65	70.494
290	61.65	70.565
295	61.65	70.547
300	61.566	70.209
305	61.25	69.73
310	61.05	69.082
315	61.025	68.626
320	61.285	68.071
325	61.55	67.343
330	61.55	66.444
335	61.55	65.548
340	61.55	64.754
345	61.55	63.661
350	61.55	62.56
355		61.51
360		60.469
363.922		59.773

SECTION 4

Horizontal scale 1:1000
Vertical scale 1:1000

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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

DRAWING TITLE

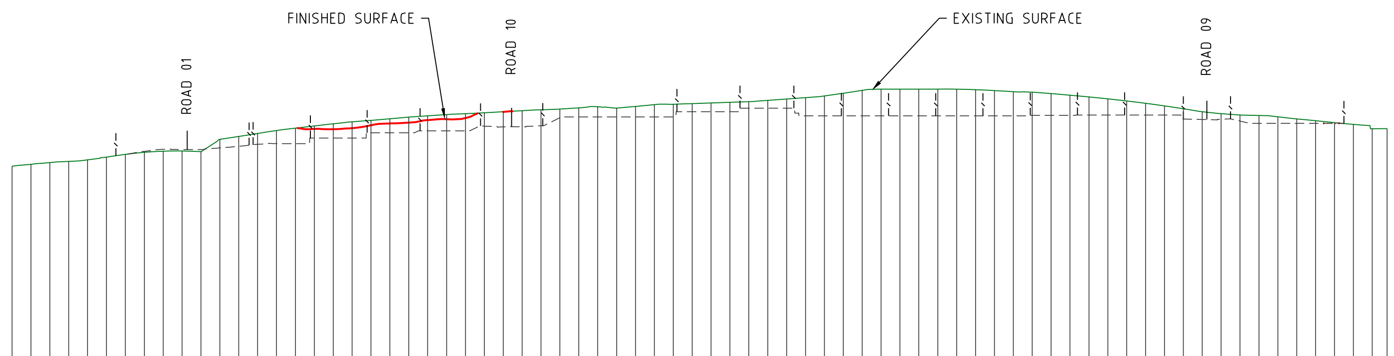
BULK EARTHWORKS
SECTIONS
SHEET 02

CONSTRUCTION ISSUE

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 EMH
APPROVED [signature] RPEQ 4706
DATE 03-03-23

DRAWING NUMBER 41901-01-052
REV A



CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
0			40.35
5			40.857
10			41.302
15			41.628
20			42.027
25			42.729
30			43.475
35	44.27		44.069
40	44.808		44.312
45	44.766		44.354
50	44.767		44.202
55	45.184		47.453
60	45.617		48.216
65	46.142		49.01
70	46.354		49.796
75	46.3		50.429
80	47.8	50.211	51.013
85	47.8	50.137	51.589
90	47.8	50.441	52.092
95	49.2	51.189	52.49
100	49.2	51.666	52.914
105	49.2	51.891	53.334
110	49.7	52.56	53.673
115	49.7	52.796	54.004
120	49.7	53.107	54.258
125	50.965		54.503
130	50.754	54.744	54.772
135	50.786		55.068
140	51.043		55.288
145	53.167		55.462
150	53.4		55.8
155	53.4		56.111
160	53.4		55.749
165	53.4		56.165
170	53.4		56.647
175	53.4		56.769
180	54.8		56.928
185	54.8		57.088
190	54.8		57.27
195	55.7		57.451
200	55.7		57.773
205	55.7		58.138
210	53.7		58.504
215	53.7		58.965
220	53.7		59.667
225	53.7		60.441
230	53.7		60.76
235	53.7		60.75
240	53.7		60.75
245	53.7		60.75
250	53.7		60.734
255	53.7		60.628
260	53.7		60.382
265	53.7		60.02
270	53.8		59.964
275	53.8		59.618
280	53.8		59.161
285	53.9		58.671
290	53.9		58.151
295	53.9		57.599
300	53.9		57.047
305	53.9		56.272
310	52.85		55.507
315	52.725		54.778
320	52.782		54.258
325	52.299		53.906
330	51.7		53.77
335	51.7		53.416
340	51.7		52.875
345	51.7		52.356
350	51.7		51.904
355			51.402
360			50.242
363.922			50.277

SECTION 7

Horizontal scale 1:1000
Vertical scale 1:1000

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
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BULK EARTHWORKS
SECTIONS
SHEET 03

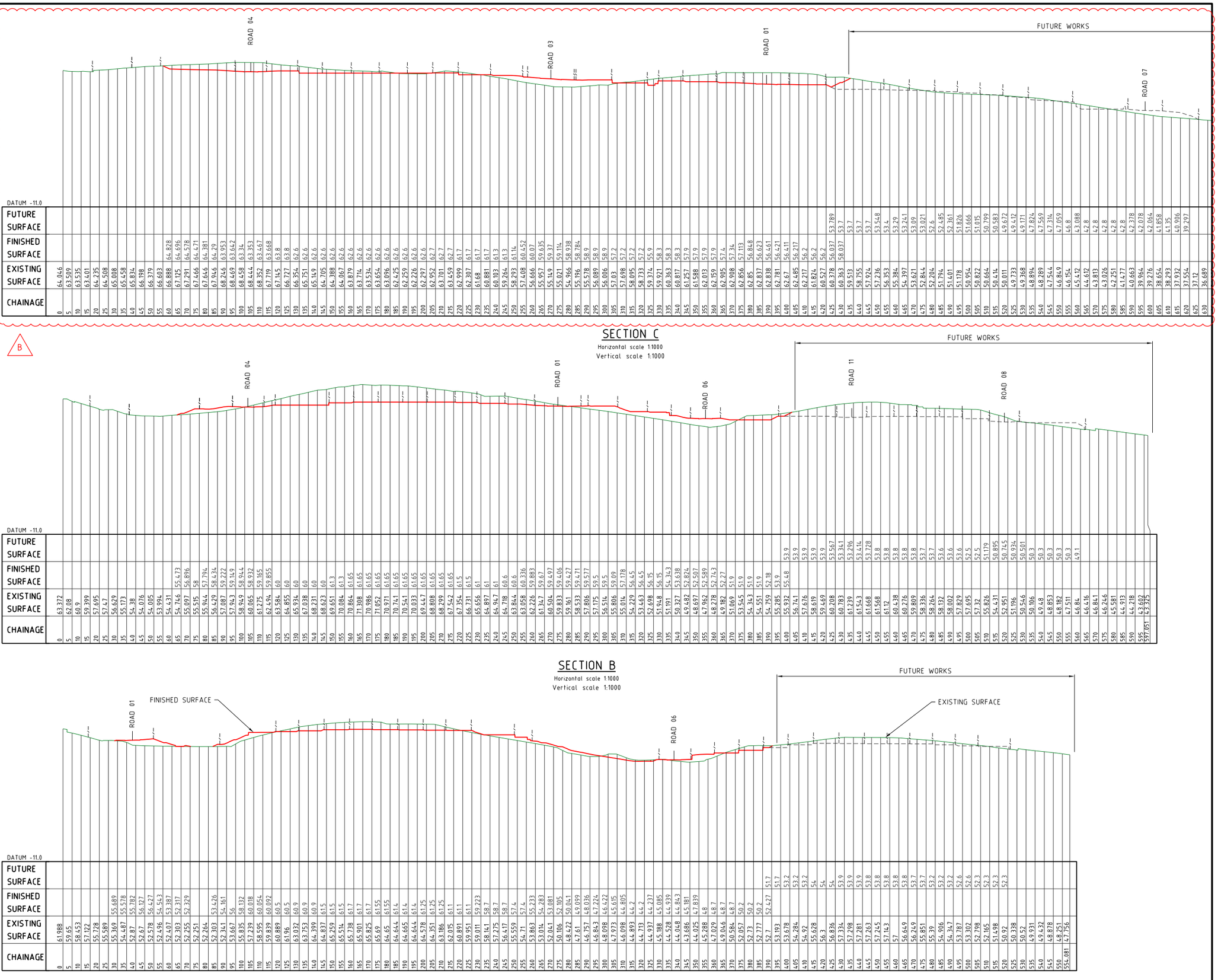
CONSTRUCTION ISSUE

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 EMH
APPROVED | RPEQ 4706 | DATE 03-03-23

DRAWING NUMBER 41901-01-053 | REV A

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B

SECTION C

Horizontal scale 1:1000
Vertical scale 1:1000

SECTION B

Horizontal scale 1:1000
Vertical scale 1:1000

SECTION A

Horizontal scale 1:1000
Vertical scale 1:1000

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
B	19-06-24	SECTION UPDATED	BL
A	03-03-23	COUNCIL ISSUE	JB

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BULK EARTHWORKS
SECTIONS
SHEET 04

CONSTRUCTION ISSUE

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

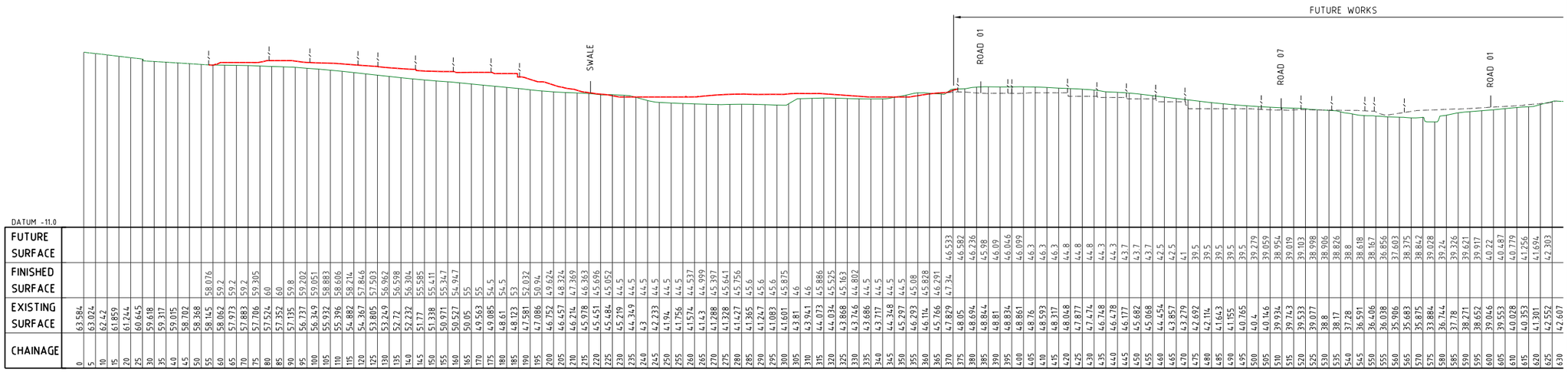
Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-054
REV: B

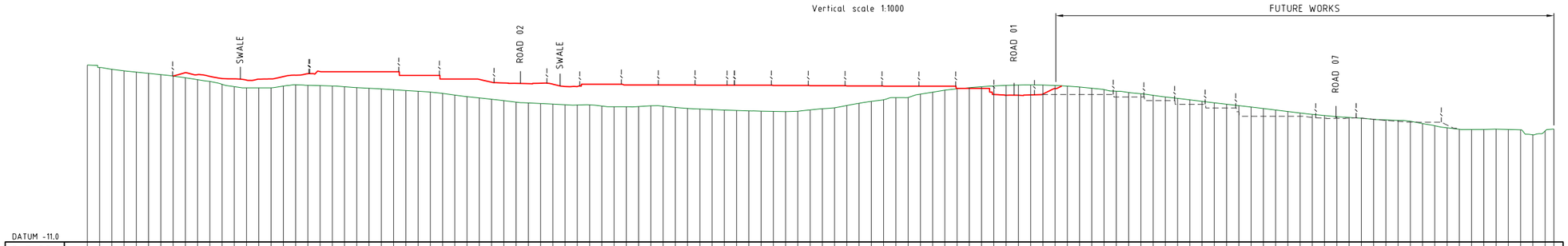
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CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0			63.584
5			63.024
10			62.42
15			61.859
20			61.244
25			60.645
30			59.618
35			59.317
40			59.015
45			58.702
50			58.368
55			58.145
60		58.076	58.062
65		59.2	57.973
70		59.2	57.883
75		59.2	57.706
80		59.305	57.524
85		60	57.352
90		59.8	57.135
95		59.202	56.737
100		59.051	56.349
105		58.883	55.932
110		58.606	55.396
115		58.214	54.882
120		57.846	54.367
125		57.503	53.805
130		56.962	53.249
135		56.598	52.72
140		56.304	52.232
145		55.585	51.77
150		55.411	51.338
155		55.347	50.971
160		54.947	50.527
165		55	50.05
170			49.563
175		54.5	49.085
180		54.5	48.61
185		53	48.123
190		52.032	47.581
195		50.94	47.086
200		49.624	46.752
205		48.324	46.457
210		47.369	46.214
215		46.363	45.978
220		45.696	45.451
225		45.052	45.484
230		44.5	45.219
235		44.5	44.349
240		44.5	43
245		44.5	42.233
250		44.5	41.94
255		44.5	41.756
260		44.537	41.574
265		44.999	41.43
270		45.397	41.288
275		45.641	41.328
280		45.756	41.427
285		45.6	41.365
290		45.6	41.247
295		45.6	41.083
300		45.875	41.601
305		46	43.81
310		46	43.941
315		45.886	44.073
320		45.525	44.034
325		45.163	43.868
330		44.802	43.746
335		44.5	43.686
340		44.5	43.717
345		44.5	44.348
350		44.5	45.297
355		45.08	46.293
360		45.828	46.114
365		46.291	45.766
370	46.533	47.34	47.829
375	46.582		48.05
380	46.236		48.694
385	45.98		48.844
390	46.09		48.81
395	46.046		48.824
400	46.099		48.861
405	46.3		48.76
410	46.3		48.593
415	46.3		48.317
420	44.8		48.048
425	44.8		47.877
430	44.8		47.474
435	44.3		46.748
440	44.3		46.478
445	43.7		46.177
450	43.7		45.682
455	43.7		45.068
460	42.5		44.454
465	42.5		43.857
470	41		43.279
475	39.5		42.692
480	39.5		42.114
485	39.5		41.643
490	39.5		41.155
495	39.5		40.765
500	39.279		40.4
505	39.059		40.146
510	38.954		39.934
515	39.019		39.743
520	39.103		39.533
525	38.998		39.077
530	38.906		38.8
535	38.826		38.17
540	38.8		37.28
545	38.618		36.591
550	38.167		36.406
555	36.856		36.038
560	37.603		35.906
565	38.375		35.683
570	38.842		35.875
575	39.028		33.884
580	39.24		36.744
585	39.326		37.78
590	39.621		38.271
595	39.917		38.652
600	40.22		39.046
605	40.487		39.553
610	40.779		40.028
615	41.256		40.353
620	41.694		41.301
625	42.303		42.552
630			42.607

SECTION F

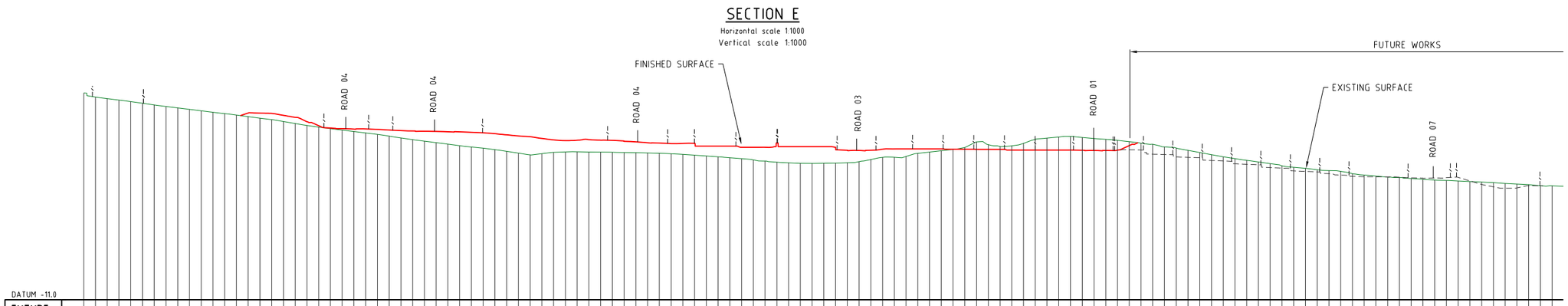
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Vertical scale 1:1000



CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0			76.906
5			75.166
10			74.493
15			73.867
20			73.222
25			72.533
30			71.816
35			71.146
40			70.552
45			69.91
50			69.325
55			68.7
60			68.104
65			67.489
70			66.833
75			66.177
80			65.566
85			64.749
90			63.89
95			63.078
100			62.389
105			61.733
110			61.115
115			60.509
120			59.913
125			59.277
130			58.567
135			57.759
140			57.036
145			56.416
150			55.775
155			55.107
160			54.48
165			53.918
170			53.413
175			52.779
180			52.064
185			51.307
190			50.593
195			51.081
200			51.637
205			51.813
210			51.887
215			51.8
220			51.74
225			51.68
230			51.571
235			51.492
240			51.404
245			51.267
250			51.038
255			50.791
260			50.453
265			50.098
270			49.743
275			49.37
280			48.981
285			48.456
290			47.954
295			47.464
300			47.198
305			46.995
310			46.967
315			47.001
320			47.083
325			47.223
330			47.707
335			48.583
340			49.521
345			49.539
350			49.905
355			51.208
360			51.765
365			52.338
370			52.868
375			53.735
380			56.108
385			54.912
390			54.133
395			54.43
400			55.464
405			57.183
410			57.716
415			58.169
420			58.392
425			57.983
430			57.54
435			57.196
440			56.746
445			56.198
450			55.518
455			55.099
460			53.951
465			53.46
470			52.482
475			51.572
480			50.66
485			49.772
490			48.991
495			48.25
500			47.552
505			46.841
510			45.911
515			45.297
520			44.853
525			44.228
530			43.884
535			43.562
540			42.553
545			42.006
550			41.575
555			41.164
560			40.526
565			40.194
570			39.85
575			39.71
580			39.471
585			39.24
590			38.999
595			38.761
600			38.425
605			38.188
610			37.906
615			37.472
620			37.409
625			37.409
630			37.218

SECTION E

Horizontal scale 1:1000
Vertical scale 1:1000



CHAINAGE	FUTURE SURFACE	FINISHED SURFACE	EXISTING SURFACE
DATUM -11.0			
0			61.242
5			60.2
10			59.476
15			58.861
20			58.332
25			57.818
30			57.304
35			56.711
40			56.039
45			55.25
50			54.538
55			53.36
60			52.393
65			51.927
70			51.927
75			51.927
80			52.636
85			53.177
90			52.965
95			52.85
100			52.699
105			52.363
110			52.008
115			51.744
120			51.48
125			51.146
130			50.831
135			50.533
140			50.175
145			49.647
150			48.968
155			48.316
160			47.797
165			47.255
170			46.684
175			46.091
180			45.754
185			45.531
190			45.294
195			45.023
200			44.905
205			44.961
210			44.501
215			44.216
220			44.221
225			44.292
230			44.593
235			44.447
240			43.947
245			43.538
250			43.289
255			43.086
260			42.834
265			42.67
270			42.507
275			42.406
280			42.323
285			42.244
290			42.364
295			42.916
300			43.394
305			43.769
310			44.696
315			45.619
320			46.393
325			47.053
330			47.941
335			47.959
340			49.34
345			50.147
350			50.951
355			51.471
360			51.967
365			52.385
370			52.705
375			52.992
380			53.018
385			53.067
390			53.077
395			52.832
400			52.582
405			52.273
410			51.752
415			51.196
420			50.557
425			50.025
430			49.519
435			48.896
440			48.203
445			47.616
450			47.02
455			46.418
460			45.82
465			45.226
470			44.658
475			44.08
480			43.482
485			42.878
490			42.263
495			41.649
500			41.09
505			40.63
510			40.171
515			39.822
520			39.503
525			39.039
530			38.839
535			38.647
540			38.255
545			37.323
550			36.441
555			35.609
560			34.984
565			34.929
570			34.957
575			35.063
580			34.922
585			34.774
590			32.755
595			34.296
598.595			35.092

SECTION D

Horizontal scale 1:1000
Vertical scale 1:1000

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 05

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-055
REV: A

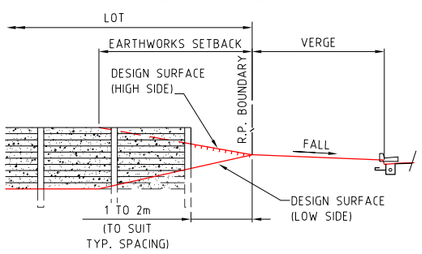
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GENERAL

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. 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.

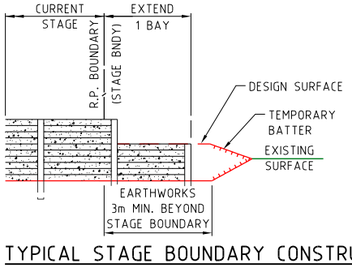
LEGEND

- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- EXISTING RETAINING WALL
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- 1.0 FUTURE CONTOURS
- FUTURE RETAINING WALL
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- 1.0 DESIGN CONTOURS
- PROPOSED SINGLE TIER RETAINING WALL
- PROPOSED TWO TIER RETAINING WALL
- PROPOSED SINGLE TIER "A" GRADE SANDSTONE BLOCK 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 DWG. 461)



TYPICAL SIDE BOUNDARY CONSTRUCTION

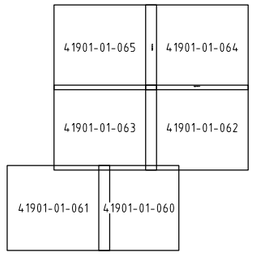
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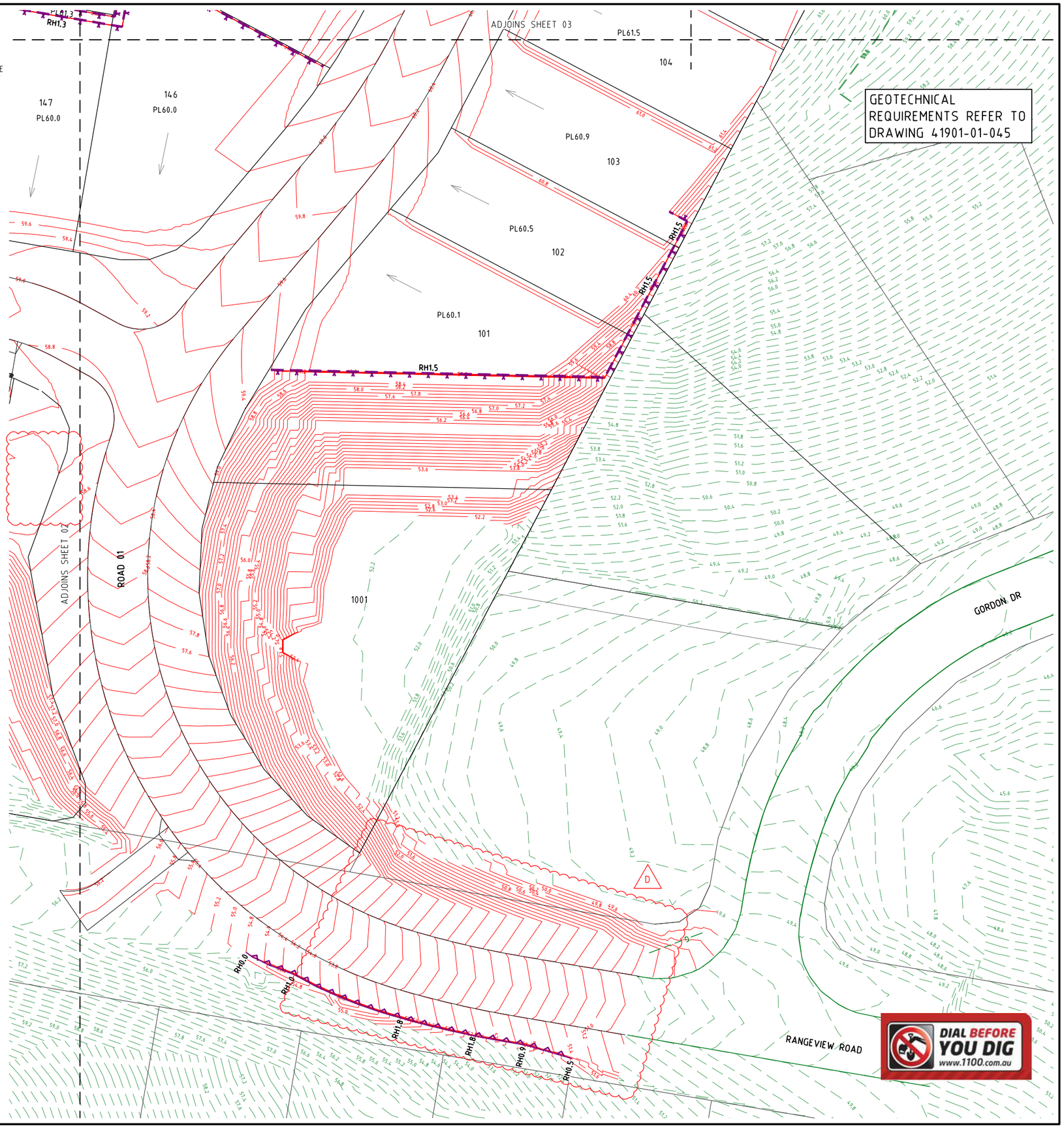


TYPICAL STAGE BOUNDARY CONSTRUCTION

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

SHEET LAYOUT





PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 2.5 5 7.5 10 12.5m

Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
D	19-06-24	PMT REMOVED, RET WALL AMENDED & CONTS REVISED	BL
C	15-04-24	E.WORKS EXTENDED TO TIE INTO EXISTING	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

RETAINING WALL AND DETAIL GRADING PLAN SHEET 01

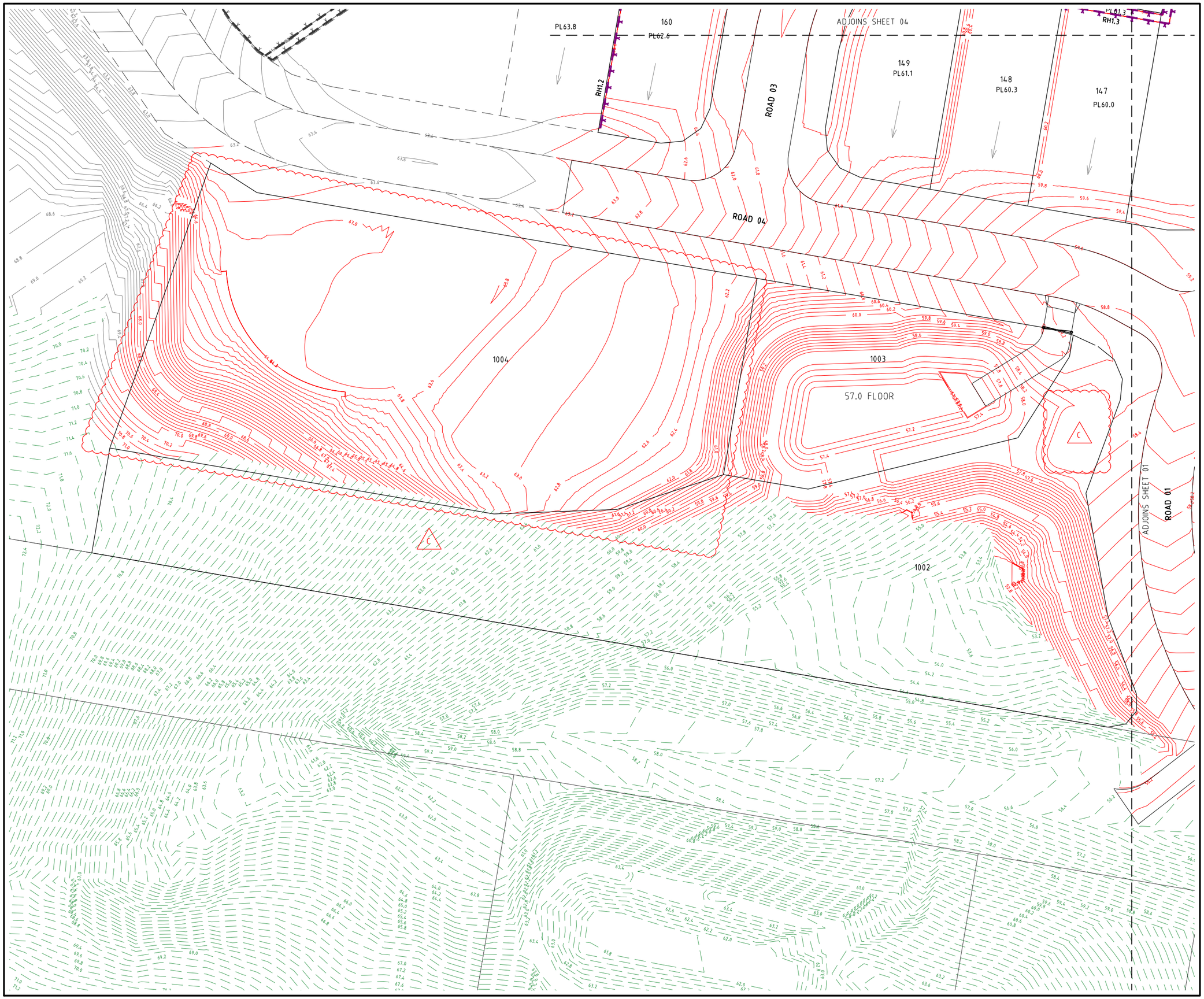
CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-060 REV D

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 2.5 5 7.5 10 12.5m

Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
C	19-06-24	PMT REMOVED & CONTOURS UPDATED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 02

CONSTRUCTION ISSUE

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

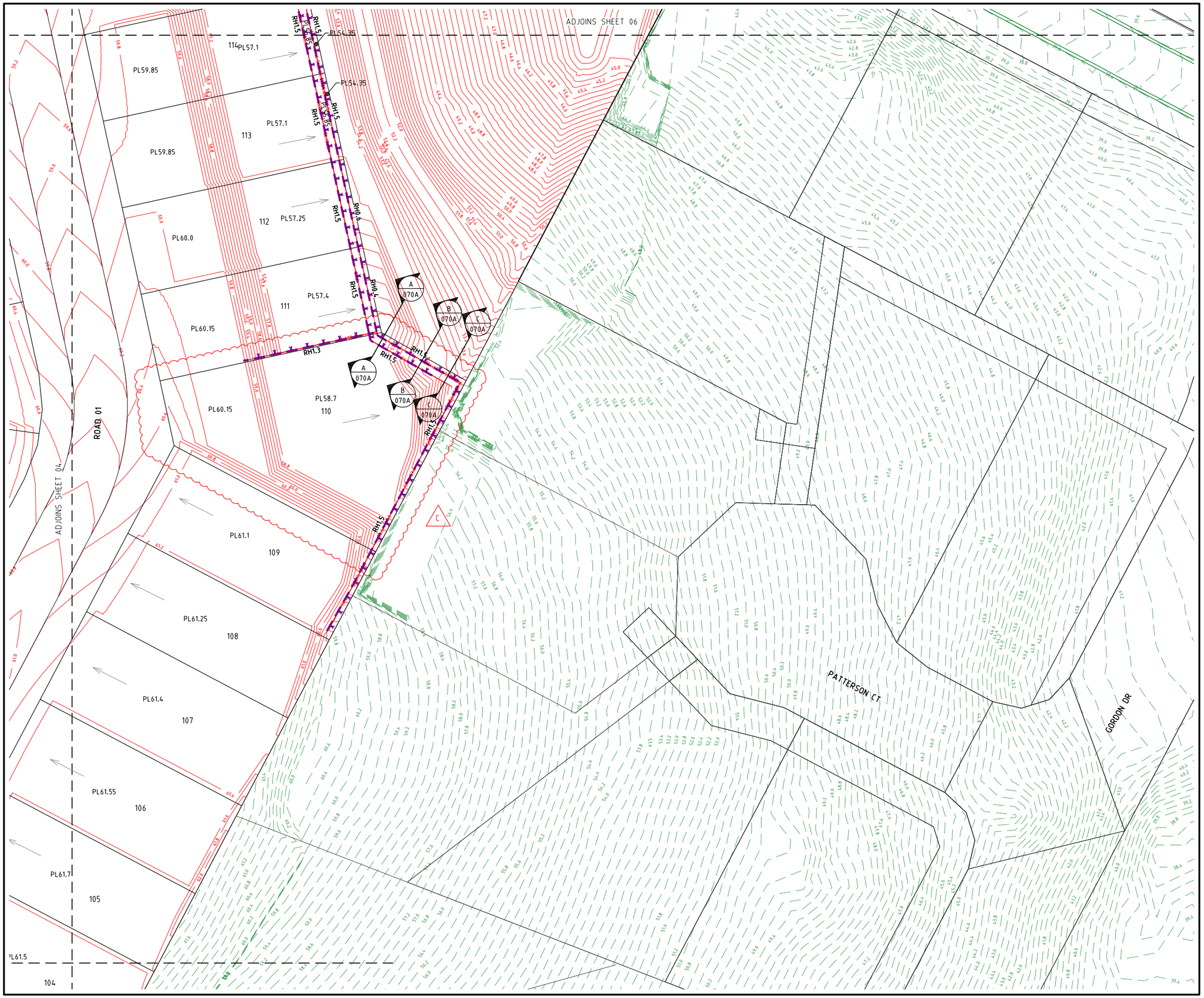
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Southport QLD 4215

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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-061	C

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 2.5 5 7.5 10 12.5m

Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
C	23-02-24	CONTOURS & RETAINING WALLS AMENDED-SECTIONS ADDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 03

CONSTRUCTION ISSUE

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Urban & Regional Planning
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Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065

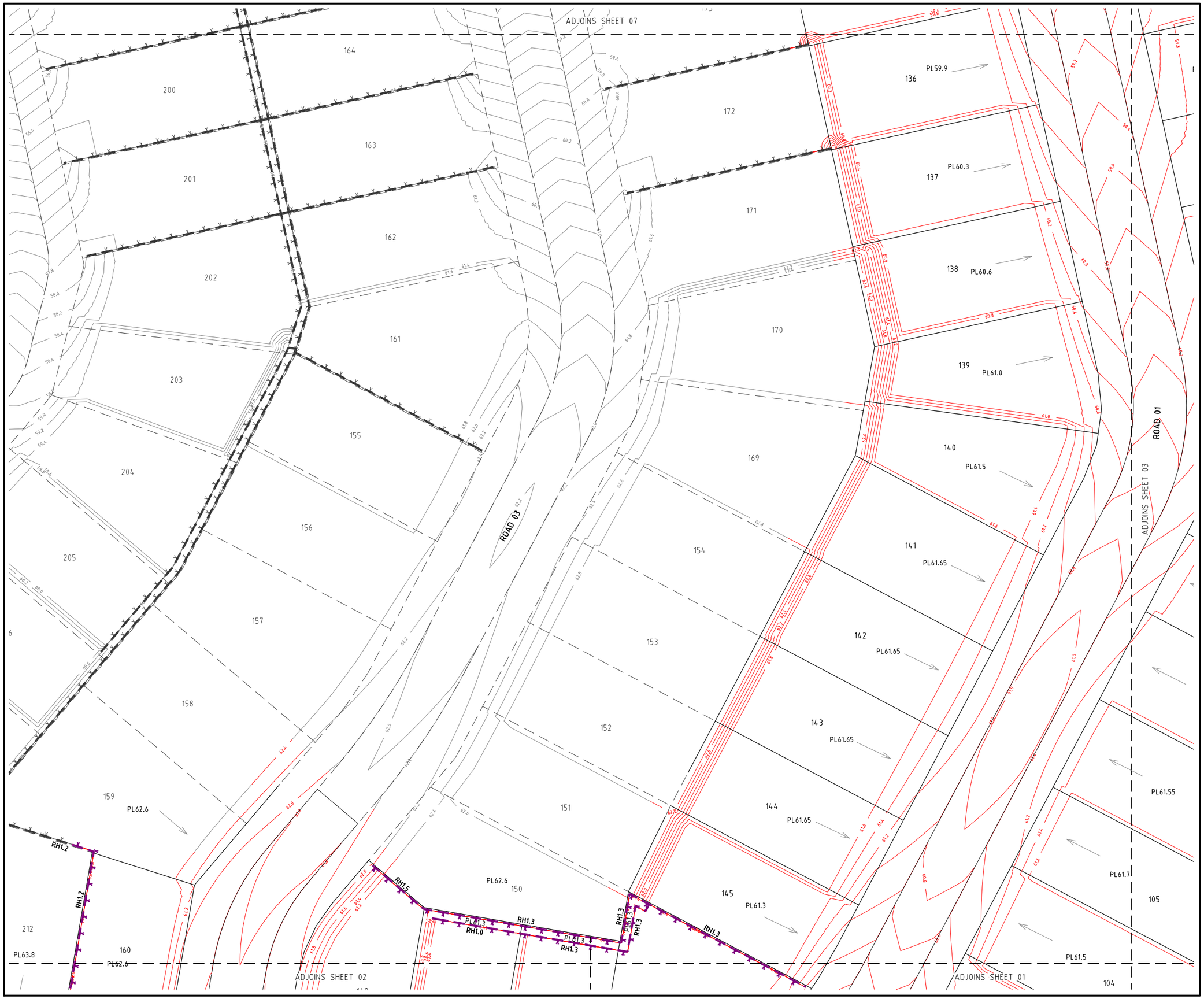
Postal Address
PO Box 2484
Southport QLD 4215

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

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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-062	C



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 04

CONSTRUCTION ISSUE

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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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-063	B

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 2.5 5 7.5 10 12.5m

Scale 1:250 - A1 (1:500 - A3)

REV	DATE	DESCRIPTION	INT
C	11-10-23	CONTOURS & WALLS AMENDED	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 05

CONSTRUCTION ISSUE

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

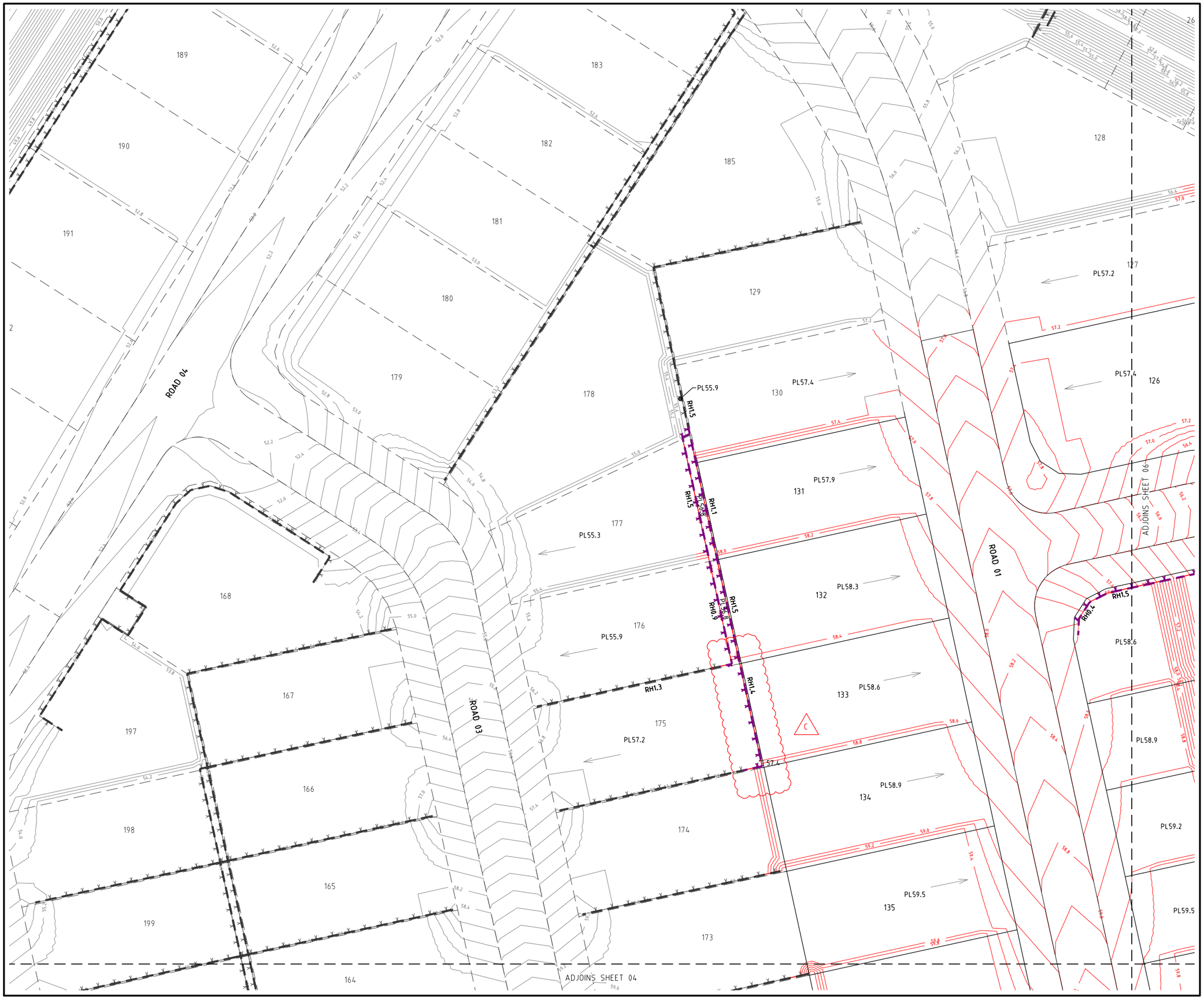
Postal Address
PO Box 2484
Southport QLD 4215

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

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-064	C

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
C	11-10-23	CONTOURS & WALLS AMENDED	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 06

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
DATE	03-03-23		

DRAWING NUMBER 41901-01-065
REV C

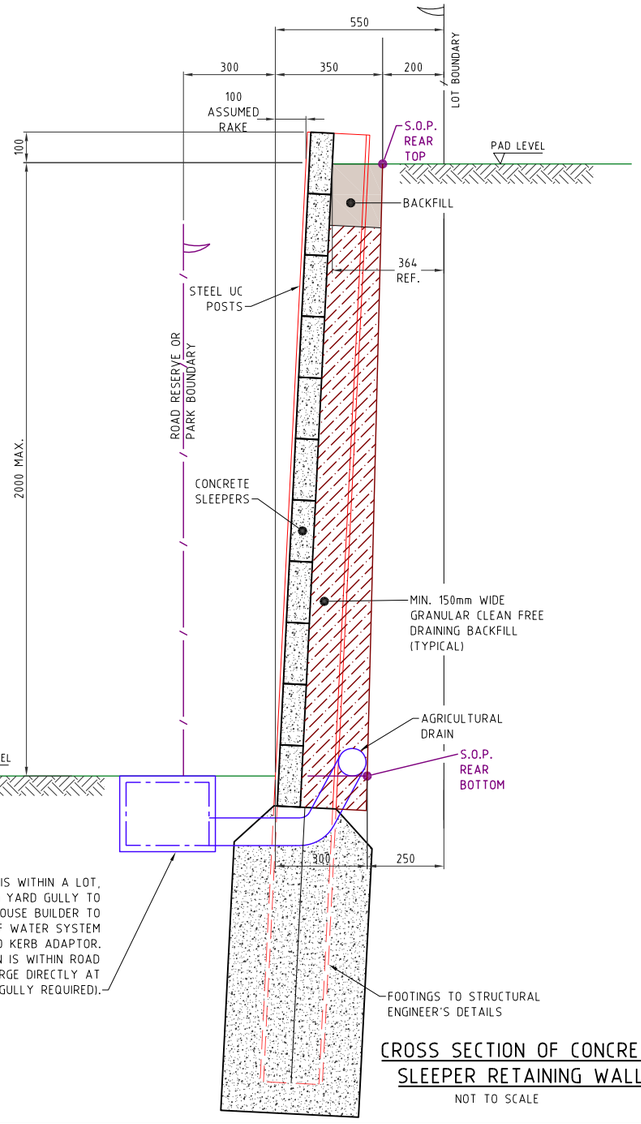
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NOTES:

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
    - 400mm REAR BOUNDARY
    - 600mm ROAD RESERVE
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.

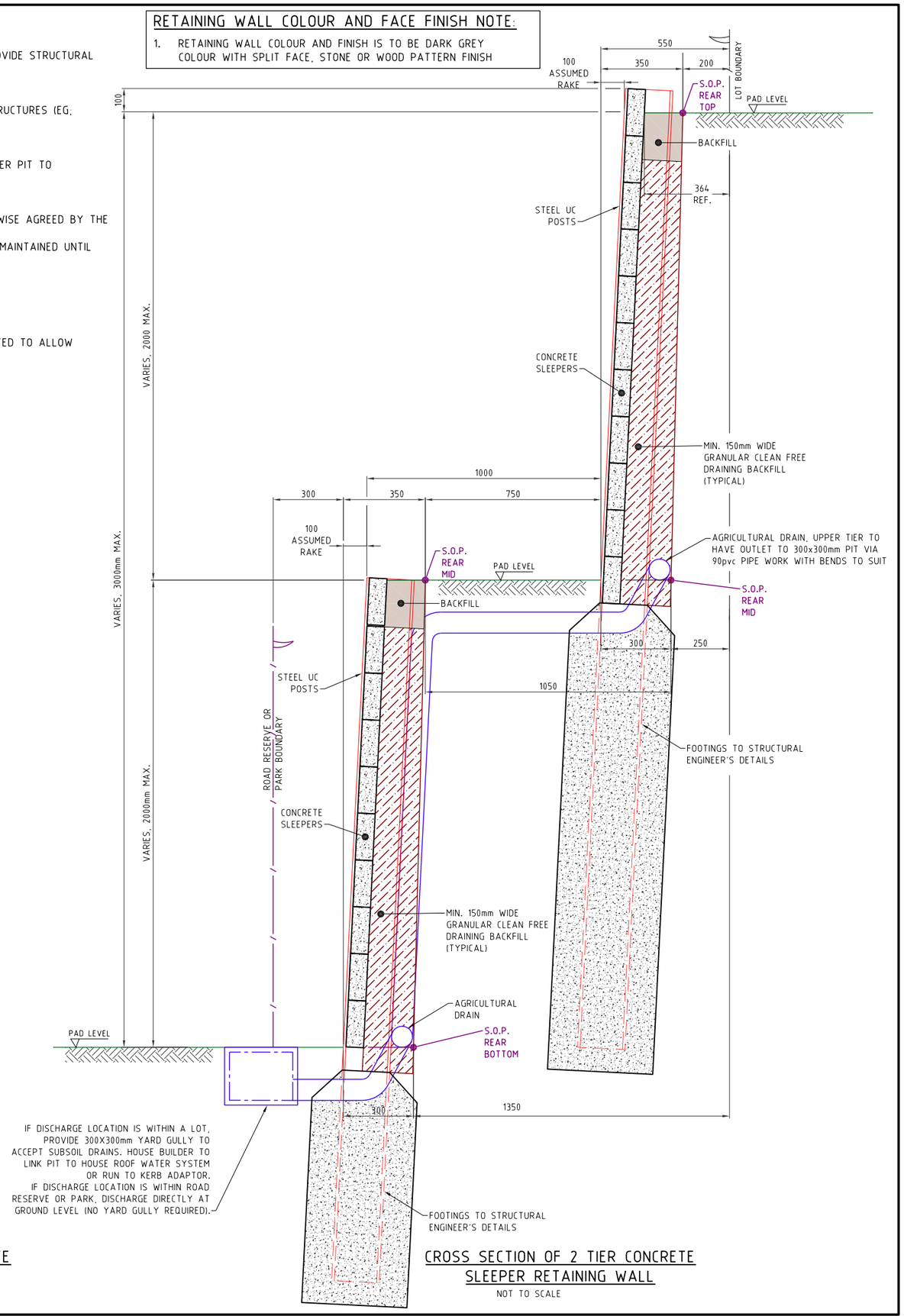
RETAINING WALL COLOUR AND FACE FINISH NOTE:

1. RETAINING WALL COLOUR AND FINISH IS TO BE DARK GREY COLOUR WITH SPLIT FACE, STONE OR WOOD PATTERN FINISH



CROSS SECTION OF CONCRETE SLEEPER RETAINING WALL

NOT TO SCALE



CROSS SECTION OF 2 TIER CONCRETE SLEEPER RETAINING WALL

NOT TO SCALE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

RETAINING WALL DETAILS SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-070
REV: B

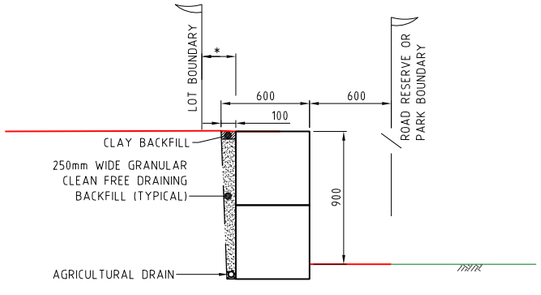
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NOTES:

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.
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    400mm REAR BOUNDARY
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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.

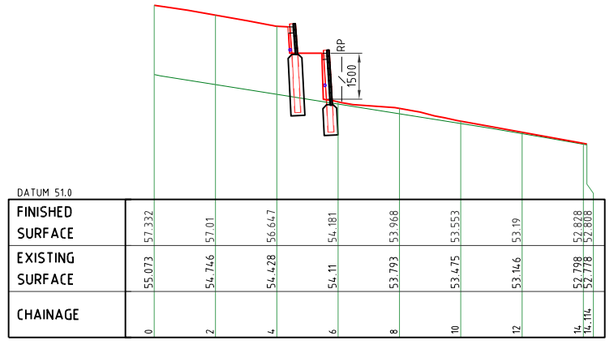
BOULDER WALL SPECIFIC NOTES

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



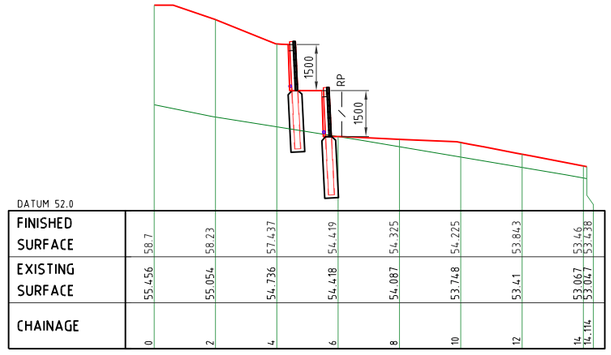
GRADE 'A' SANDSTONE BLOCK WALL DETAIL

NOT TO SCALE

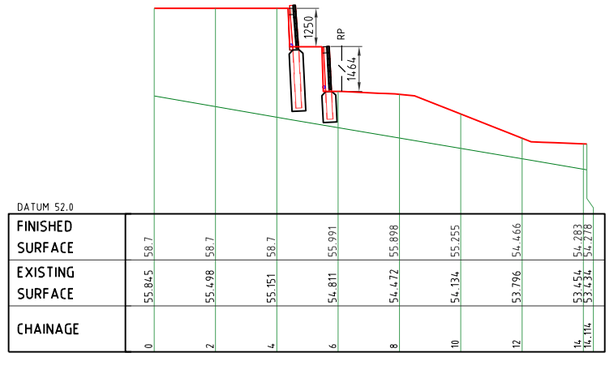


LONGITUDINAL SECTION C

B



LONGITUDINAL SECTION B



LONGITUDINAL SECTION A

Horizontal scale 1:100
Vertical scale 1:100

RETAINING WALL LOT 110 SECTIONS

0 1 2 3 4 5m

Horiz. Scale 1:100 - A1 (1:200 - A3)

0 1 2 3 4 5m

Vert. Scale 1:100 - A1 (1:200 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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
B	23-02-24	LOT 110 RETAINING WALL SECTIONS ADDED	BL
A	01-08-23	COUNCIL ISSUE	EP

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DRAWING TITLE

RETAINING WALL DETAILS SHEET 02

CONSTRUCTION ISSUE

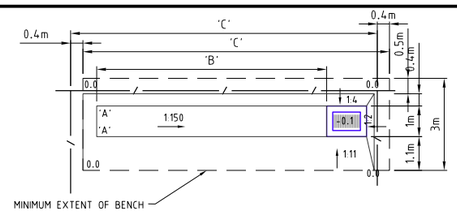
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short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

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-070A

REV B

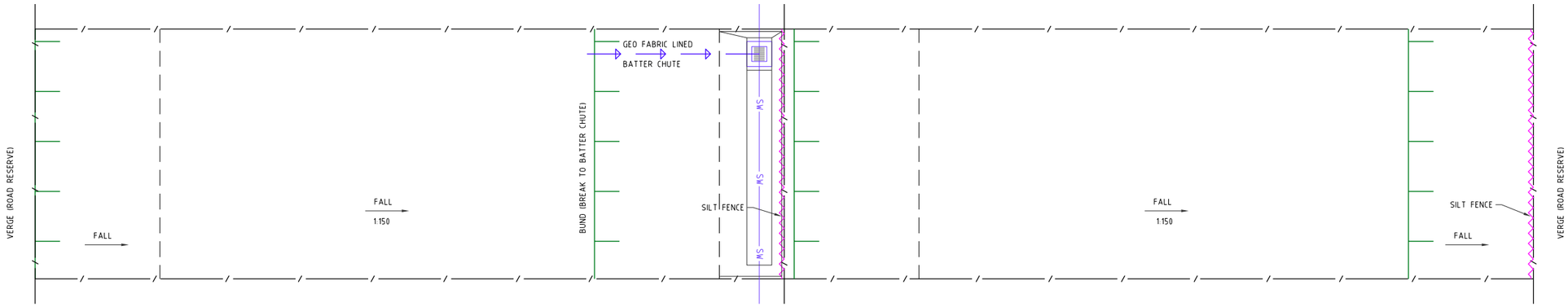
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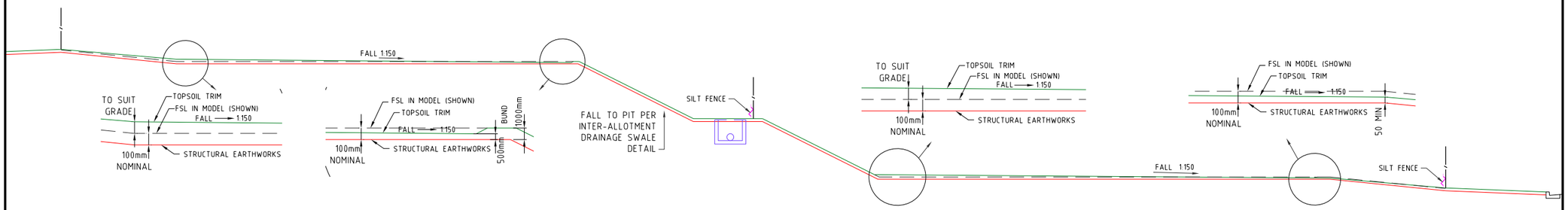


LOT WIDTH 'C'	HEIGHT 'A'	LENGTH 'B'
10	-0.050	7.500
12.5	-0.033	10.000
14	-0.023	11.500
16	-0.01	13.500
18	0.0	15.000
20	0.0	15.000

INTER-ALLOTMENT DRAINAGE SWALE

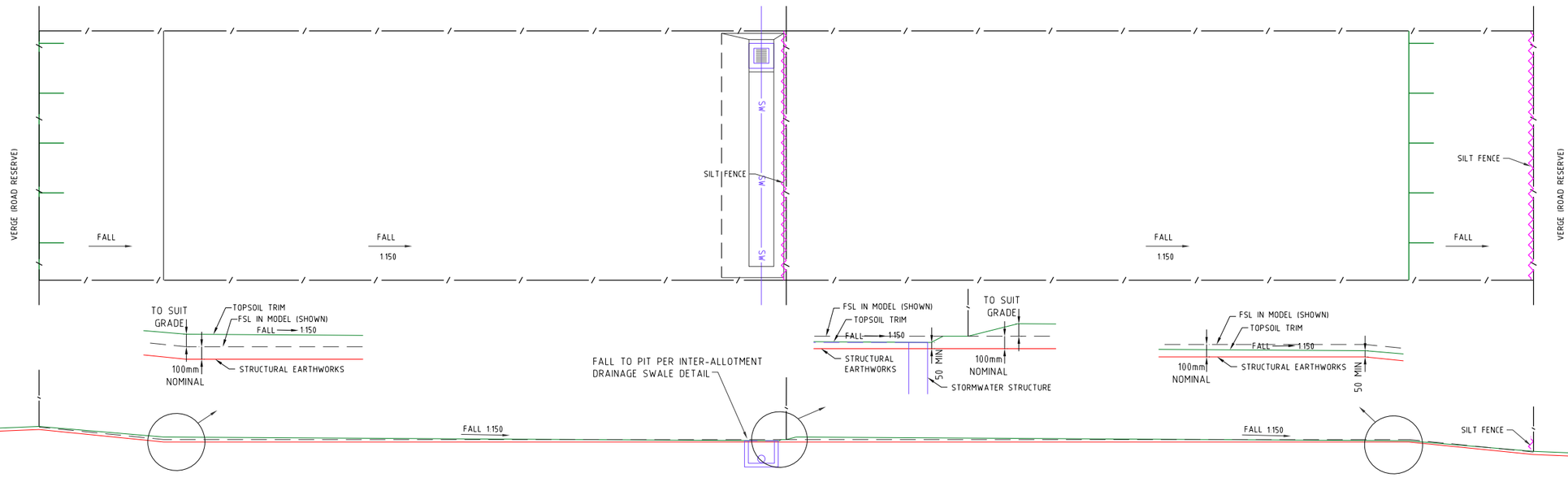
NOTE: GRADING OCCURS WITHIN MODEL, NO ADDITIONAL DEPRESSION OF PIT SURFACE LEVEL REQUIRED.





TYPICAL TOPSOIL TRIM (BENCHED LOTS)

NOT TO SCALE



TYPICAL TOPSOIL TRIM (NON BENCHED LOTS)

NOT TO SCALE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

FINAL TRIM DETAILS SHEET 01

CONSTRUCTION ISSUE

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

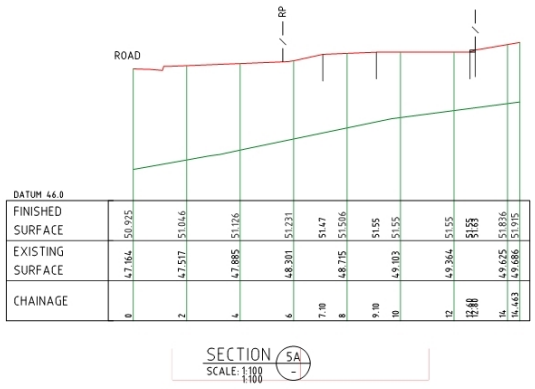
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PO Box 2484
Southport QLD 4215

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Suite 9, 19 Short St
Southport QLD 4215

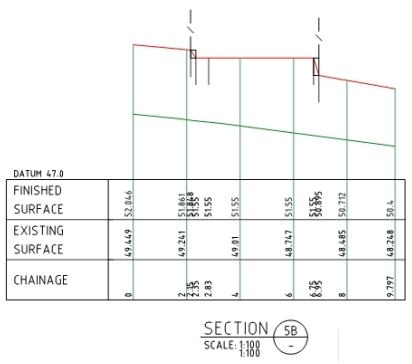
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APPROVED		RPEQ	4706
DATE	03-03-23		

DRAWING NUMBER	REV
41901-01-071	A

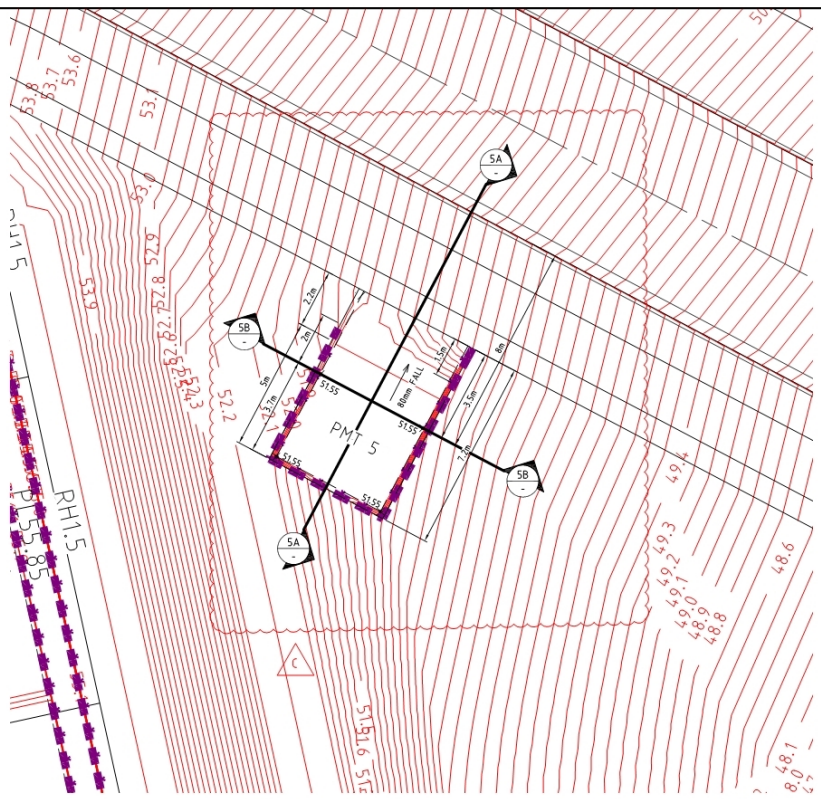
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SECTION 5A
SCALE: 1:100
1:100



SECTION 5B
SCALE: 1:100
1:100



PLAN

LEGEND
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- 1.0 DESIGN CONTOURS

NOTE:
FOR DETAILS RELATING TO RETAINING WALLS REFER TO STRUCTURAL ARTS DRAWING SK-01 ENERGEX PADMOUNT TRANSFORMER 5 PLAN & DETAILS

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
C	01-12-23	LEVELS AMENDED & ADDED	EP
B	27-11-23	DIMENSION DETAILS ADDED	BL
A	01-08-23	COUNCIL ISSUE	EP

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ASSOCIATED CONSULTANTS

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BENNETT+BENNETT

DRAWING TITLE

PADMOUNT SECTIONS
PADMOUNT 5
SHEET 01

CONSTRUCTION ISSUE

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	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-076	C

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   a. ENVIRONMENTAL PROTECTION ACT WITH SPECIFIC REFERENCE TO PARTS S440G & S319
   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.
    c) PLACE A MINIMUM 1.0m WIDE TURF STRIP BEHIND ALL KERBS & IN A HERRINGBONE LAYOUT WITHIN THE ROAD VERGE.
    d) MAINTENANCE (INCLUDING FLOCCULATION IF REQUIRED & PUMP OUT) OF ALL CONSTRUCTION SEDIMENT BASINS (WHETHER EXISTING OR NEW).
    e) 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.

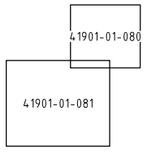


LEGEND

- 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
- ROCK CHECK DAM
- VEHICLE SHAKEDOWN (AT ALL SITE ENTRANCES MIN.)
- TREES

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

SHEET LAYOUT



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
C	20-12-23	STORMWATER LINE REMOVED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 01

CONSTRUCTION ISSUE

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065

Postal Address
PO Box 2484
Southport QLD 4215

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

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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-080 | REV C

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ADJOINS SHEET 01

STAGE 2

STAGE 3

ROAD 01

ROAD 02

ROAD 03

ROAD 04

GORDON DR

RANGEVIEW ROAD

PROVIDE VEHICLE SHAKEDOWN AT ALL SITE ENTRANCES. REFER IECA'S BPESC DOCUMENT.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	PMT REMOVED & CONTOURS UPDATED	BL
C	23-02-24	CONTOURS LOT 110 AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

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DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 02

CONSTRUCTION ISSUE

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
Mortons-Urban Solutions
ABN: 39 116 375 065

Postal Address
PO Box 2484
Southport QLD 4215

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

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

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APPROVED		RPEQ	4706
DATE	03-03-23		

DRAWING NUMBER	REV
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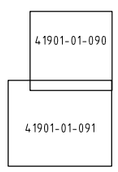
CONSTRUCTION SERVICES

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
- W225 — 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
- W225 — 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
- W225 — FUTURE WATER
- W250 — FUTURE WATER
- W300 — FUTURE WATER
- FUTURE WATER CONDUIT
- SITE BOUNDARY
- STAGE BOUNDARY

SHEET LAYOUT



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
H	19-06-24	DRIVEWAYS ADDED	BL
G	17-06-24	FOOTPATH WIDTH AMENDED	EP
F	31-05-24	FOOTPATH ROAD 06 CHANGED	JB
E	20-12-23	STORMWATER LINE REMOVED	BL
D	16-10-23	WM LOT 126, FH & TS MOVED	JB
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	STORMWATER BASIN ACCESS AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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COMBINED SERVICES PLAN
SHEET 01

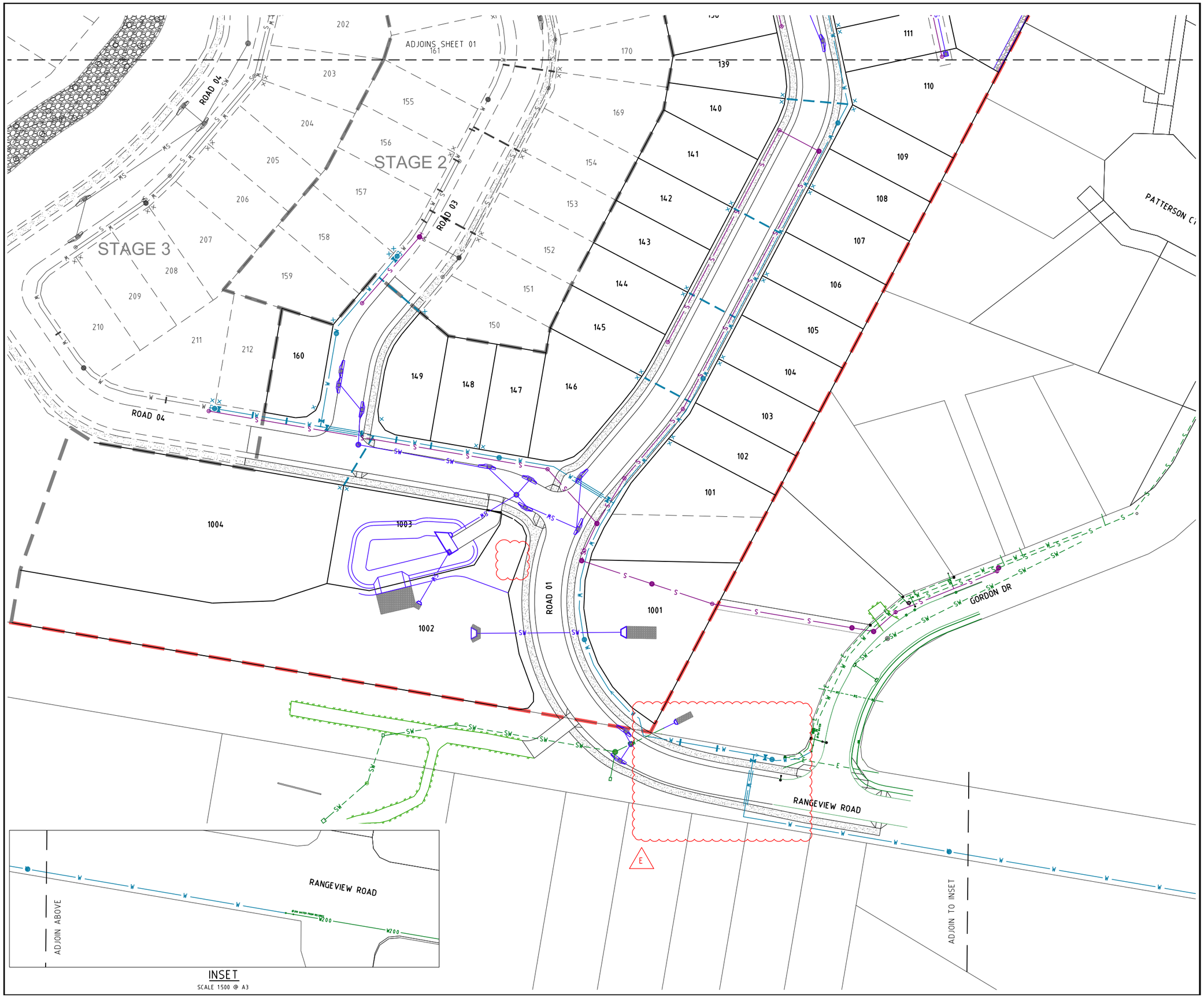
CONSTRUCTION ISSUE

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

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DATE	03-03-23		

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
E	19-06-24	PMT REMOVED & WATER UPDATED	BL
D	06-03-24	SEWER AMENDED	MLJ
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	STORMWATER AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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COMBINED SERVICES
PLAN
SHEET 02

CONSTRUCTION ISSUE

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

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-091 REV E

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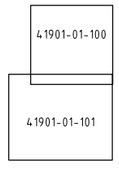
ROADWORKS

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
9. FOOTPATH IN MACKELLAR DRIVE
   FOOTPATH EXTERNAL TO STAGE 1 WORKS (APPROX 90m) IS TO BE 1.5m WIDE. PLEASE ENSURE THAT FOOTPATHS TIE NEATLY INTO EXISTING DRIVEWAYS (x3) AND MINIMISE IMPACT TO EXISTING LANDOWNERS OF LOTS 91-93 SP174234.

LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- 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
- PROPOSED CONCRETE
- 41.065 CENTRELINE CHAINAGE

SHEET LAYOUT

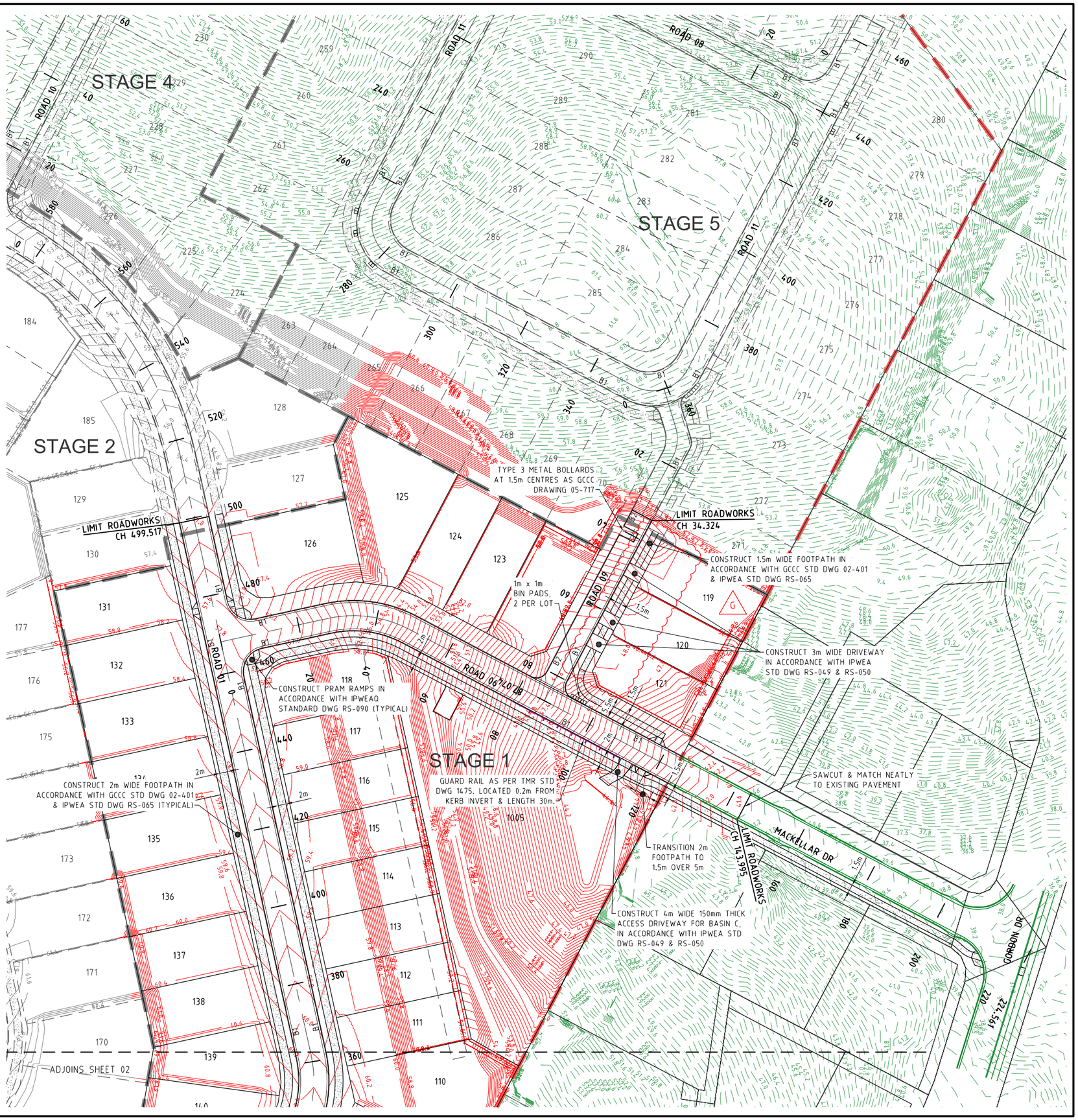


G

B1 BARRIER KERB & CHANNEL
B2 BARRIER KERB

REFER TO DRG. 120 FOR KERB TYPES

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
G	19-06-24	DRIVEWAYS ADDED & LEGEND AMENDED	BL
F	17-06-24	FOOTPATH EXT TO STAGE 1 CHANGED TO 1.5m	EP
E	31-05-24	FOOTPATH ROAD 06 CHANGED	EP
D	23-02-24	CONTOURS LOT 110 AMENDED	BL
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	DRIVEWAY ACCESS LOCATION AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

ROADWORKS
PLAN
SHEET 01

CONSTRUCTION ISSUE

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

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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-100 REV G

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
E	19-06-24	PMT REMOVED & CONTOURS UPDATED	BL
D	15-04-24	E.WORKS EXTENDED TO TIE INTO EXISTING	JB
C	23-02-24	CONTOURS LOT 110 AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

ROADWORKS
PLAN
SHEET 02

CONSTRUCTION ISSUE

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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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-101	E

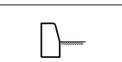
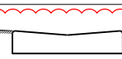
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SCHEDULE OF PAVEMENT DEPTHS

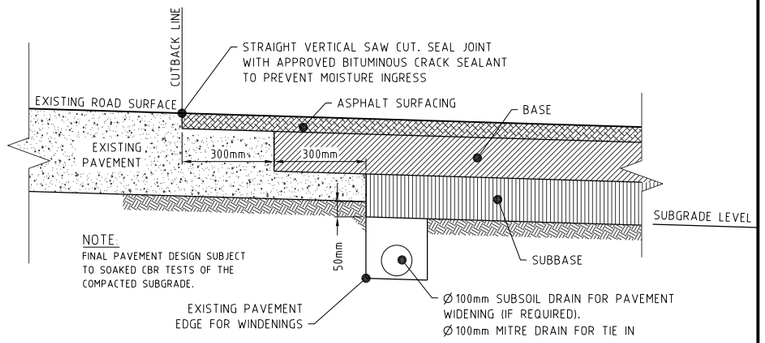
ROAD NAME	SURFACING	BASE	SUB-BASE	LOWER SUB-BASE	CLASSIFICATION	DESA OR VPD	DESIGN GUIDE
ROAD 01	25mm ASPHALT	100mm TYPE 2.1 (CBR 60)	100mm TYPE 2.3 (CBR 45)	100mm TYPE 2.5 (CBR 15)	RESIDENTIAL COLLECTOR ST	3000	GCCC TABLE 2.11
ROAD 03, 04 & 06	25mm ASPHALT	100mm TYPE 2.1 (CBR 60)	100mm TYPE 2.3 (CBR 45)	100mm TYPE 2.5 (CBR 15)	RESIDENTIAL ACCESS ST	401-750	GCCC 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

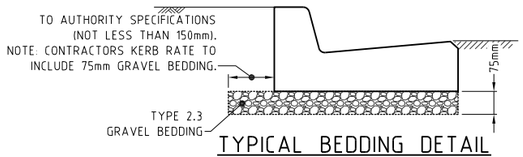
KERB TYPE	IMAGE	REFERENCE
B1		IPWEA DWG. RS-080
B2		NOTE: SUBSOIL DRAINS TO BE PLACED UNDER ALL KERBS.
CHANNEL 900		

C



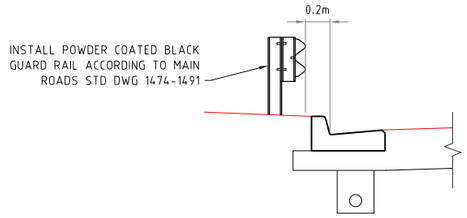
PAVEMENT WIDENING AND TIE-IN DETAIL

NOT TO SCALE



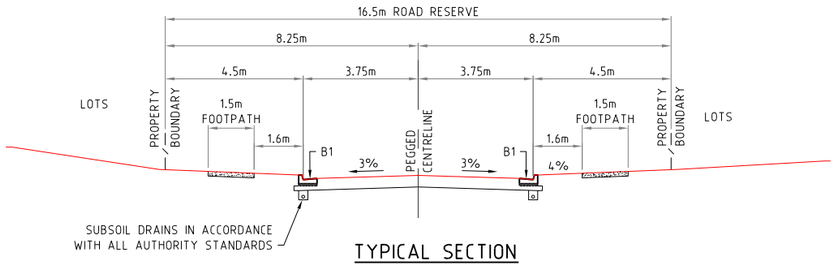
TYPICAL BEDDING DETAIL

SCALE 1:10 - A1 (1:20 - A3)



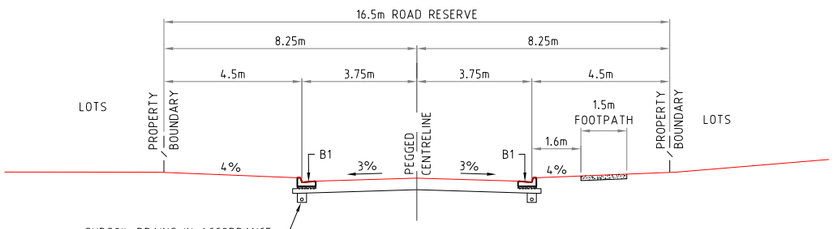
GUARDRAIL DETAIL

SCALE: 1.25 - A1 (1.50 - A3)



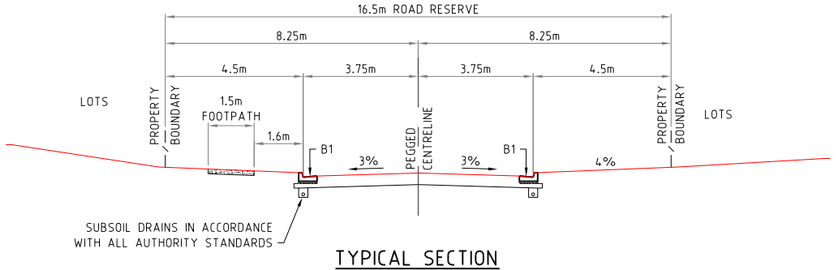
TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 01 & 04

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



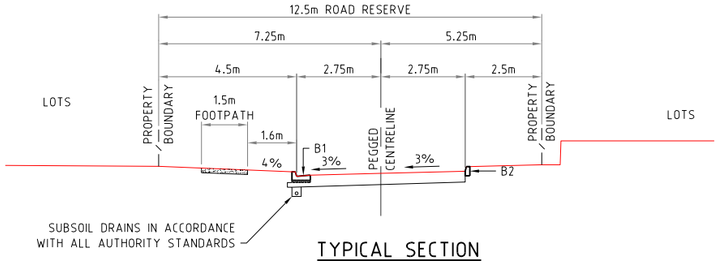
TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 04

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



TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 03 & 06

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



TYPICAL SECTION
5.5m ROAD-12.5m ROAD RESERVE
ROAD 09

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

0 0.1 0.2 0.3 0.4 0.5m
Scale 1:10 - A1 (1:20 - A3)
0 1 2 3 4 5m
Scale 1:100 - A1 (1:200 - A3)

REV	DATE	DESCRIPTION	INT
C	19-06-24	INVERT ADDED TO KERB LEGEND	BL
B	14-07-23	RFI AMENDMENTS	EP
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DRAWING TITLE

ROADWORKS DETAILS

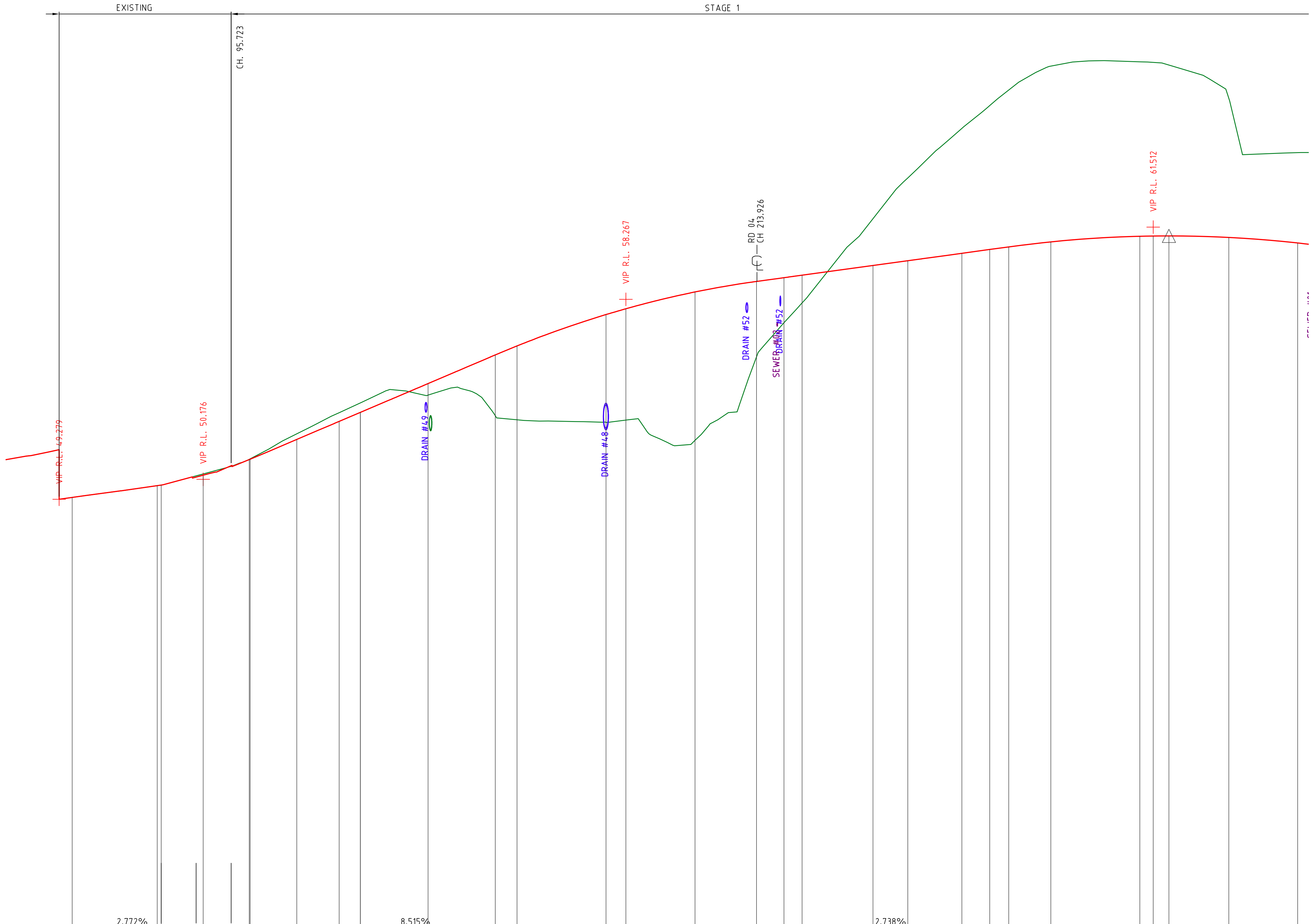
CONSTRUCTION ISSUE

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Urban & Regional Planning
Civil Engineering
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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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-120
REV: C

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DESIGN GRADELINE: 2.772% | 8.515% | 2.738%

VERTICAL GEOMETRY: 20.67m R360m | 58.71m R1016.3m | 64.94m R1315m

HORIZONTAL GEOMETRY: 120 | 50 | -85

DATUM 27.0

CHAINAGE	CONTROL LINE LEVELS	EXISTING SURFACE	DEPTH
60	49.36	49.36	0
79.115	49.89	49.889	-0.001
80	49.915	49.914	-0.002
89.451	50.325	50.417	0.092
99.788	51.057	51.072	0.016
100	51.075	51.094	0.02
110.493	51.968	52.218	0.25
120	52.778	53.17	0.392
124.782	53.185	53.609	0.424
124.783	53.185	53.609	0.424
140	54.48	53.961	-0.519
155.109	55.767	53.035	-2.732
160	56.172	52.853	-3.319
180	57.582	52.735	-4.846
184.464	57.843	52.839	-5.003
200	58.598	51.926	-6.671
213.819	59.07	55.689	-3.381
220	59.24	57.214	-2.025
224.073	59.351	58.106	-1.245
240	59.787	61.887	2.1
247.841	60.002	63.723	3.721
260	60.335	65.949	5.614
266.262	60.506	66.978	6.472
270.534	60.623	67.676	7.053
280	60.848	68.75	7.902
300	61.1	68.941	7.842
303.002	61.111	68.917	7.806
306.54	61.116	68.797	7.681
320	61.047	67.304	6.257
335.47	60.798	64.862	4.064

LONGITUDINAL SECTION ROAD 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

LONGITUDINAL SECTIONS
ROAD 01

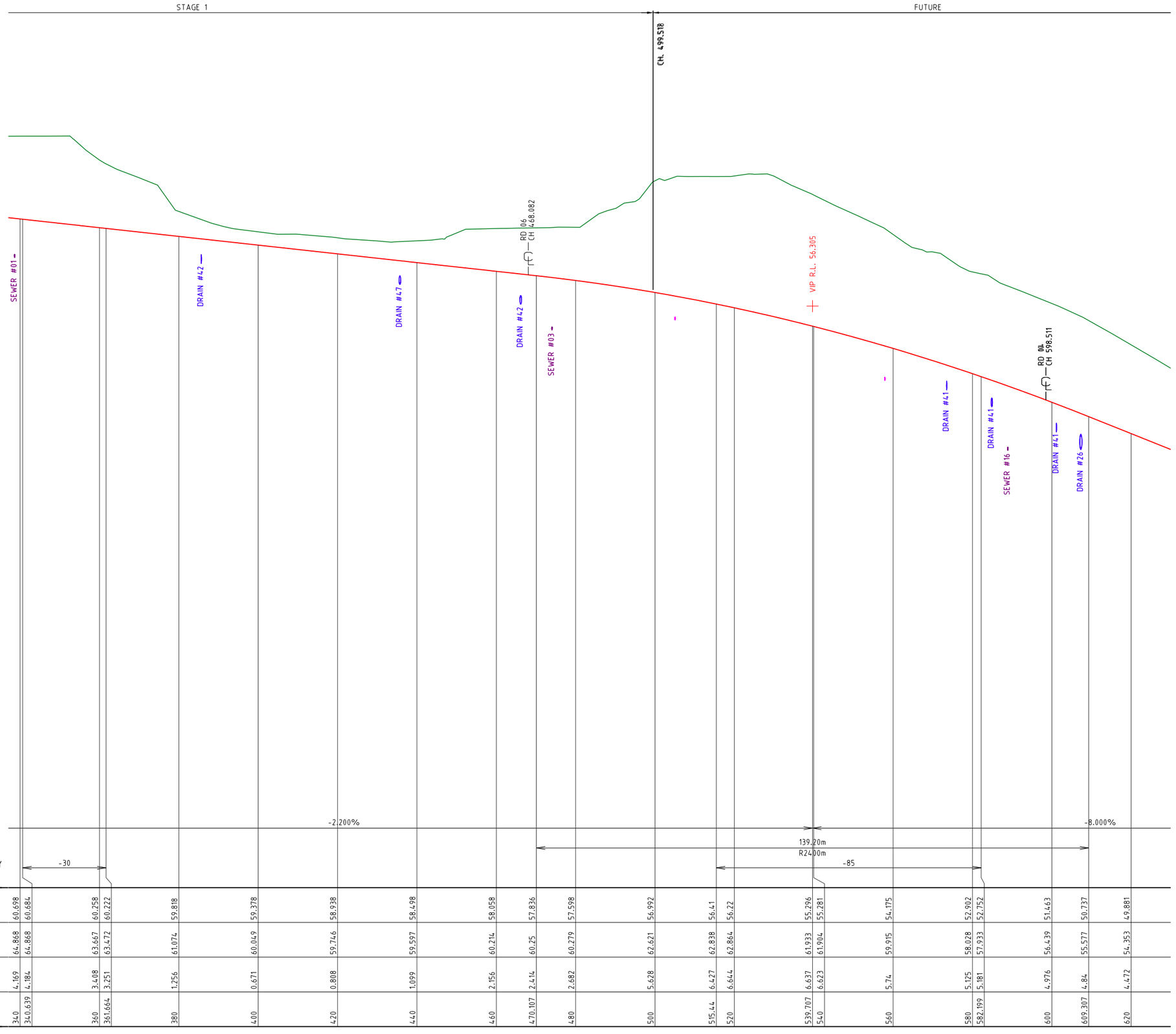
CONSTRUCTION ISSUE

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 EMH
APPROVED [signature] | RPEQ 4706 | DATE 03-03-23

DRAWING NUMBER 41901-01-200 | REV B

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LONGITUDINAL SECTION 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

LONGITUDINAL SECTIONS
ROAD 01

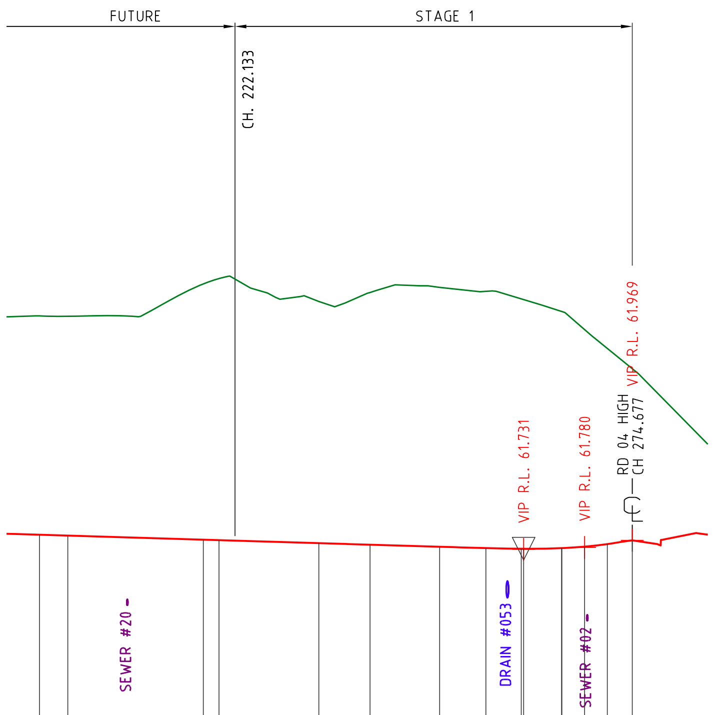
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Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold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

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APPROVED RPEQ 4706 | DATE 03-03-23

DRAWING NUMBER 41901-01-201 | REV B

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DESIGN GRADELINE: -0.600% | 0.600% | 3.000%

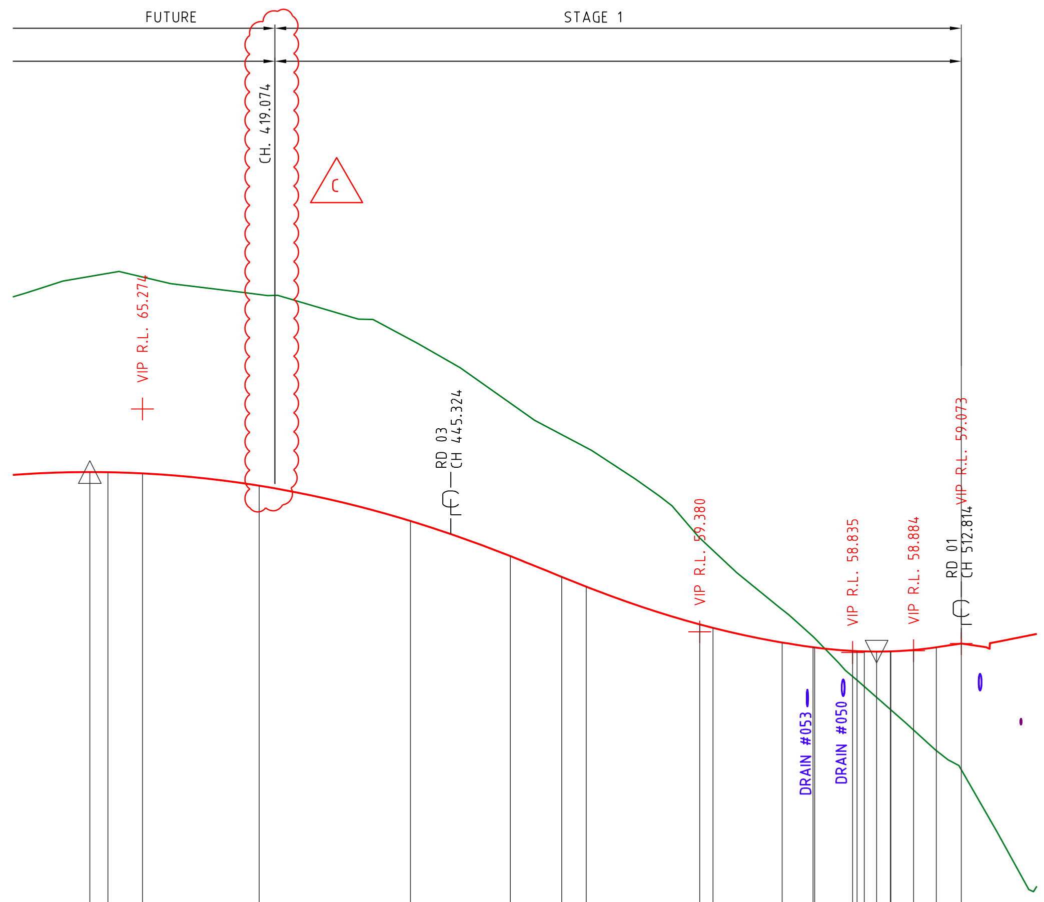
VERTICAL GEOMETRY: 10.00m R833.3m | 6.00m R250m

HORIZONTAL GEOMETRY: 100 | -30

DATUM 38.0

CHAINAGE	CONTROL LINE LEVELS	EXISTING SURFACE	DEPTH
196.259	62.115	67.907	5.792
200	62.093	67.898	5.805
217.931	61.985	68.748	6.762
220	61.973	68.875	6.902
233.222	61.894	68.287	6.393
240	61.853	68.523	6.67
249.206	61.798	68.661	6.863
255.315	61.761	68.555	6.794
260	61.746	68.356	6.61
260.315	61.746	68.337	6.591
265.315	61.761	68.026	6.265
265.377	61.762	68.022	6.261
268.377	61.798	67.543	5.746
271.377	61.87	67.046	5.176
274.677	61.969	66.51	4.541

LONGITUDINAL SECTION ROAD 03



DESIGN GRADELINE: -8.000% | -2.697% | 0.600% | 3.000%

VERTICAL GEOMETRY: 97.30m R695m | 30.00m R565.7m | 10.00m R303.3m | 6.00m R250m

HORIZONTAL GEOMETRY: 30

DATUM 38.0

CHAINAGE	CONTROL LINE LEVELS	EXISTING SURFACE	DEPTH
397.611	63.606	68.779	5.173
400	63.602	68.86	5.258
404.561	63.572	68.764	5.192
420	63.246	68.303	5.057
440	62.314	67.112	4.799
453.211	61.382	65.428	4.046
460	60.839	64.596	3.757
463.234	60.58	64.254	3.674
478.234	59.579	61.868	2.289
480	59.488	61.537	2.049
489.144	59.101	59.971	0.87
493.234	58.976	59.258	0.283
493.445	58.97	59.218	0.248
498.445	58.877	58.209	-0.667
499.04	58.871	58.106	-0.765
500	58.864	57.937	-0.927
501.625	58.86	57.652	-1.208
503.445	58.865	57.332	-1.534
503.512	58.866	57.32	-1.546
506.512	58.902	56.786	-2.116
509.512	58.974	56.243	-2.731
512.814	59.073	55.745	-3.327

LONGITUDINAL SECTION ROAD 04

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	19-06-24	PROFILE AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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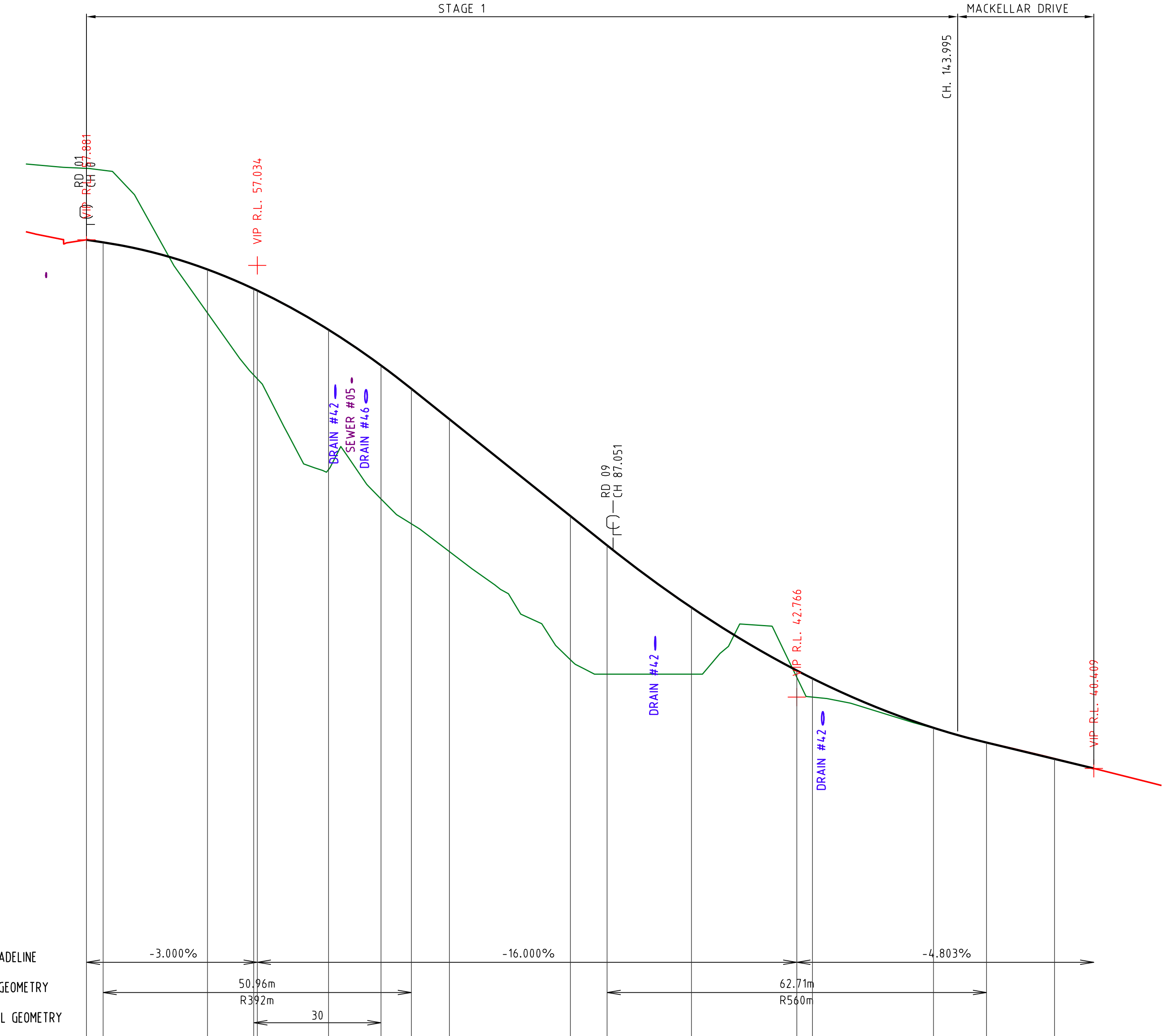
LONGITUDINAL SECTIONS ROADS 03 & 04

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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
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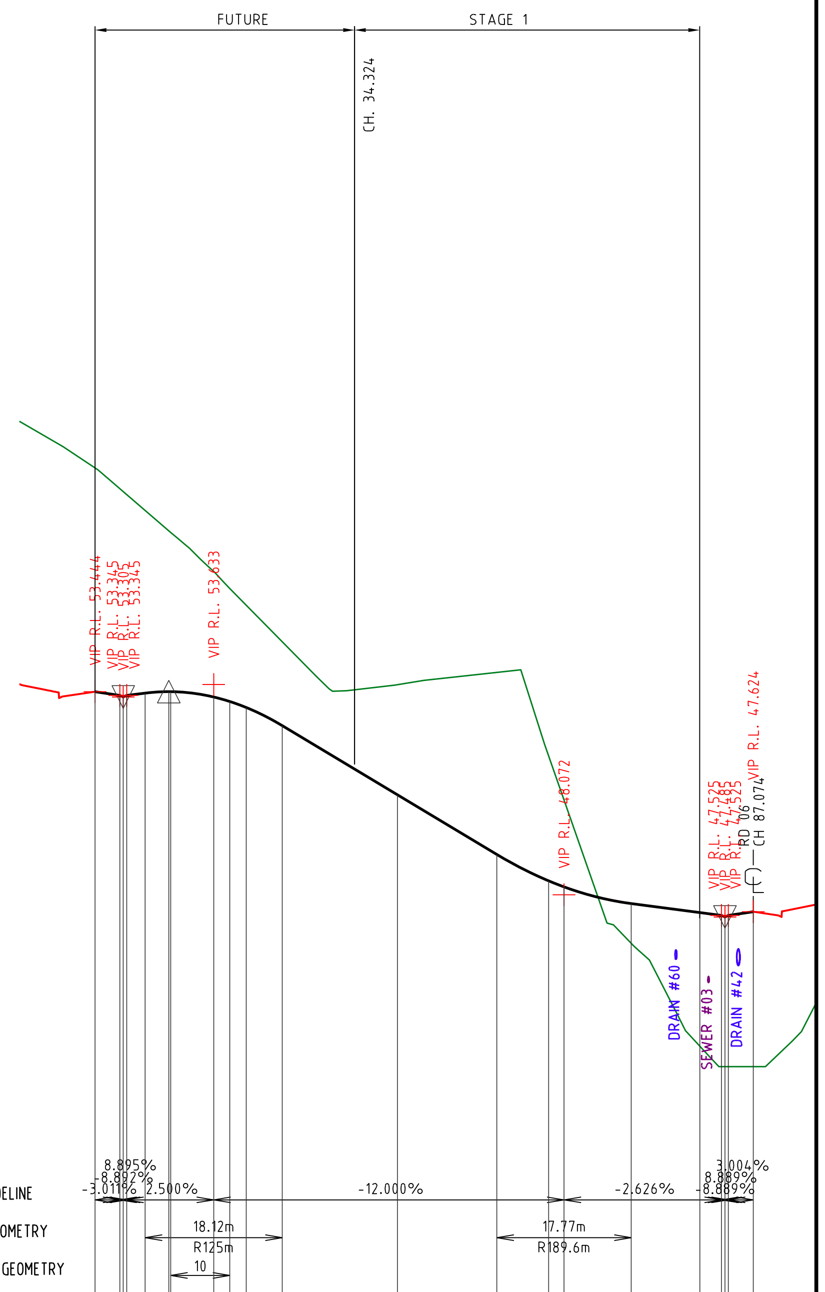
DESIGNED RB | DRAWN EMH
APPROVED [signature] RPEQ 4706 | DATE 03-03-23

DRAWING NUMBER 41901-01-202 | REV C



CONTROL LINE LEVELS	57.881	57.798	56.901	56.26	56.206	54.911	53.729	52.957	51.951	48.751	47.783	45.725	43.644	43.38	41.749	41.26	40.72
EXISTING SURFACE	60.243	60.181	55.462	53.412	53.29	50.282	49.313	48.491	47.571	43.998	43.523	43.523	43.422	42.765	41.736	41.26	40.731
DEPTH	2.362	2.383	-1.44	-2.848	-2.916	-4.63	-4.417	-4.466	-4.38	-4.753	-4.26	-2.202	-0.222	-0.615	-0.013	0	0.011
CHAINAGE	0	2.753	20	27.659	28.233	40	48.684	53.714	60	80	86.052	100	117.406	120	140	148.76	160

LONGITUDINAL SECTION 06



CONTROL LINE LEVELS	53.444	53.345	53.305	53.345	53.406	53.445	53.445	53.304	53.185	53.026	52.545	50.717	49.138	48.44	48.28	47.838	47.6	47.525	47.485	47.525	47.624
EXISTING SURFACE	59.367	58.816	58.739	58.661	58.238	57.699	57.657	56.623	56.175	55.733	54.765	53.629	53.955	51.749	50.578	46.784	44.066	43.523	43.523	43.523	43.523
DEPTH	5.924	5.471	5.434	5.316	4.832	4.254	4.212	3.319	2.99	2.707	2.22	2.912	4.817	3.308	2.298	-1.054	-3.534	-4.002	-3.962	-4.002	-4.101
CHAINAGE	0	3.289	3.739	4.189	6.639	9.764	10.008	15.701	17.824	20	24.764	40	53.156	60	62.043	70.929	80	82.874	83.324	83.774	87.074

LONGITUDINAL SECTION 09

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMETS	EP
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LONGITUDINAL SECTIONS
ROADS 06 & 09

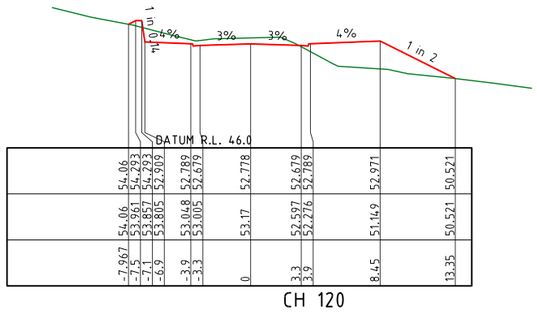
CONSTRUCTION ISSUE

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ABN: 39 116 375 065
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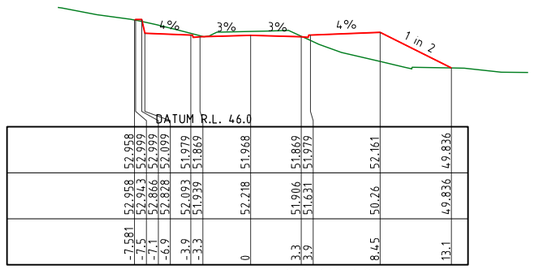
DESIGNED RB	DRAWN EMH	
APPROVED W.K. Morton	RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-203 | REV B

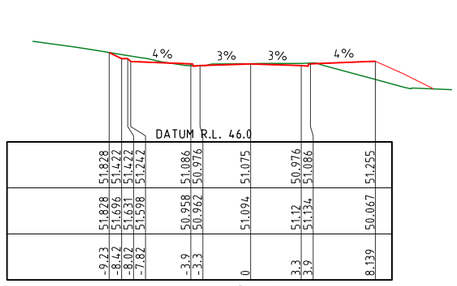
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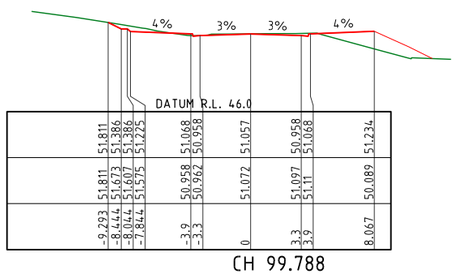
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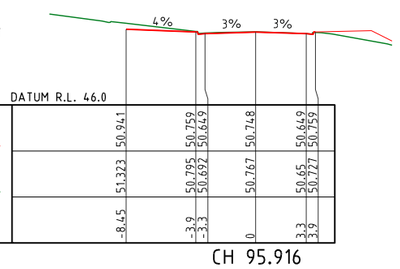
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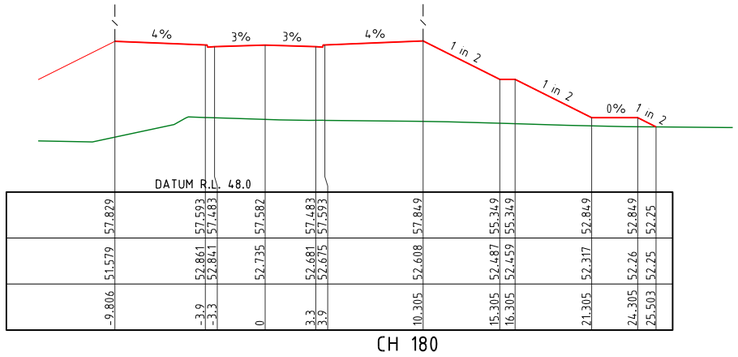
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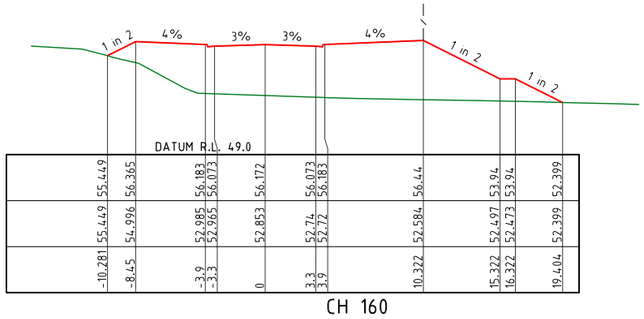
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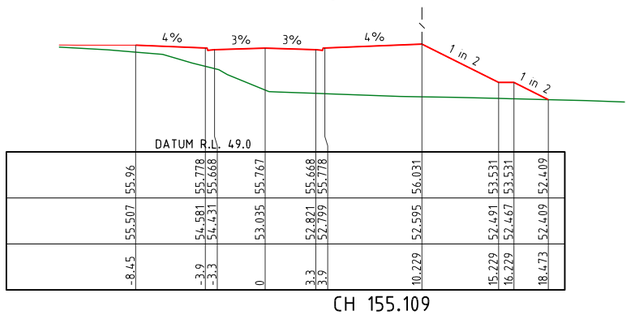
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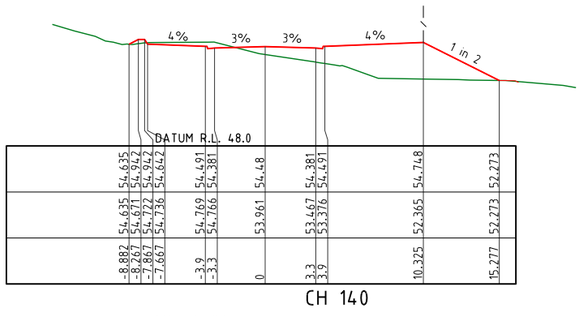
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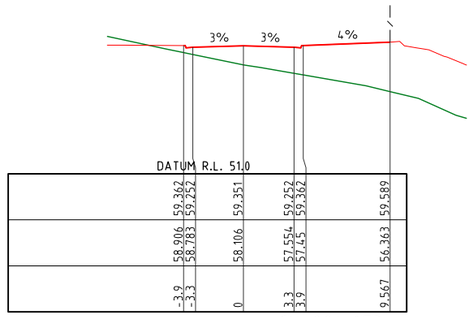
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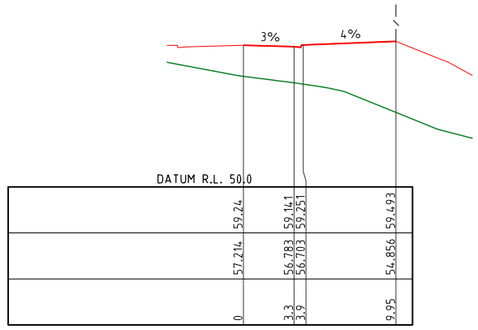
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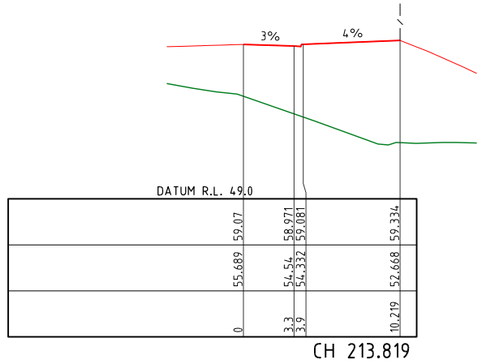
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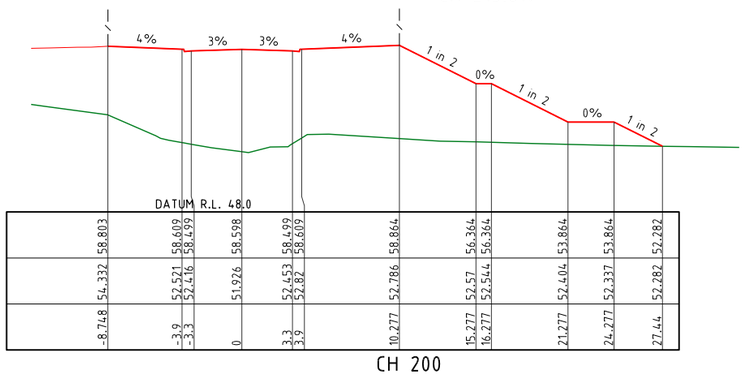
CH 224.073



CH 220



CH 213.819



CH 200

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.

ROAD 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

CROSS SECTIONS
ROAD 01

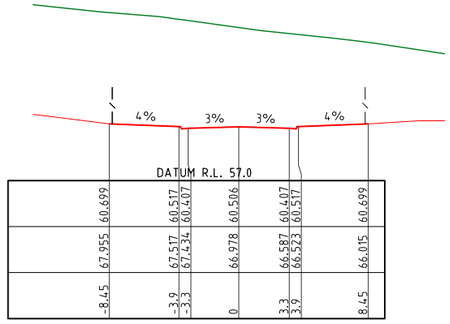
CONSTRUCTION ISSUE

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

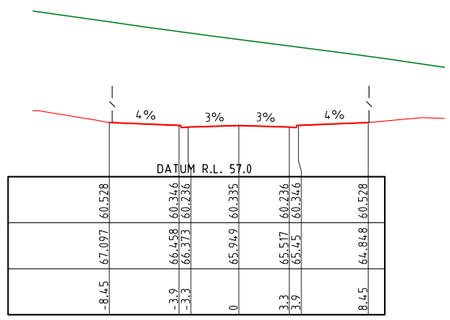
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APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER	REV
41901-01-300	A

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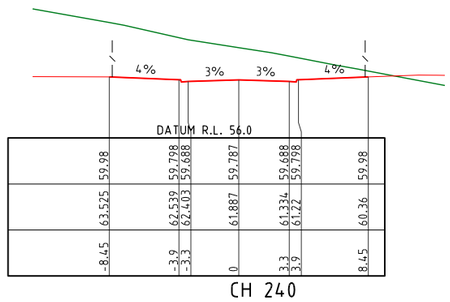


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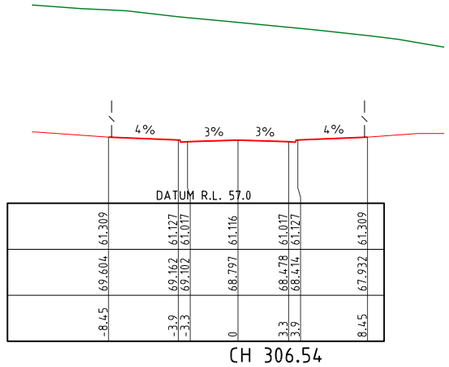


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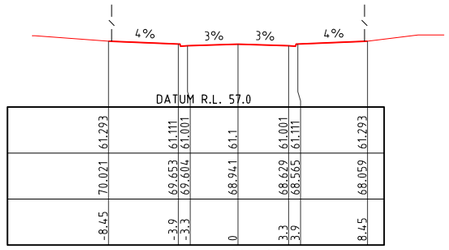
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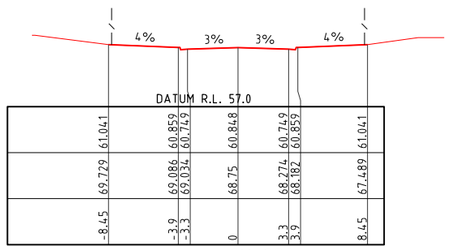
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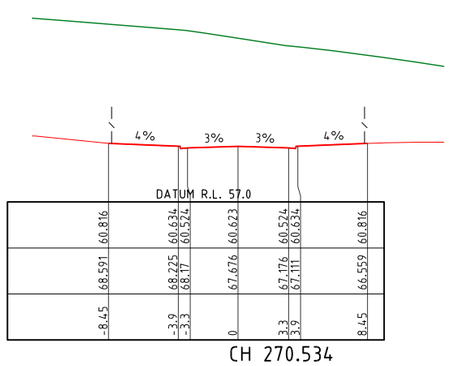
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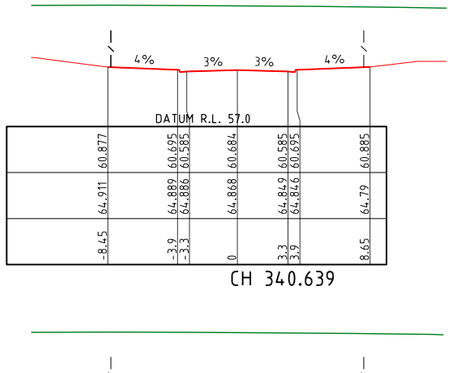
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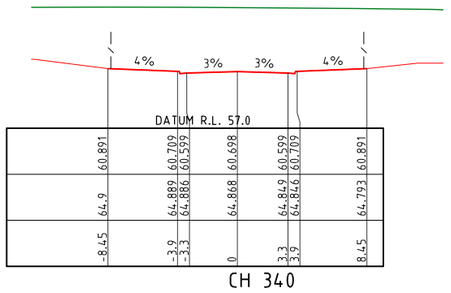
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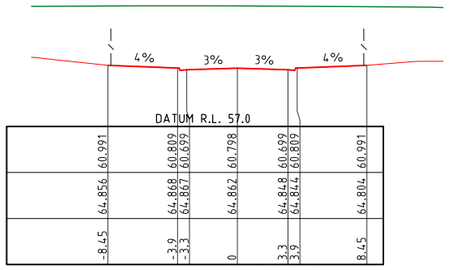
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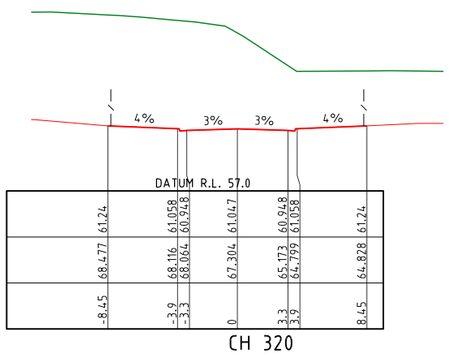
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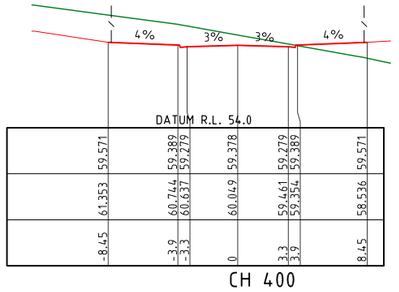
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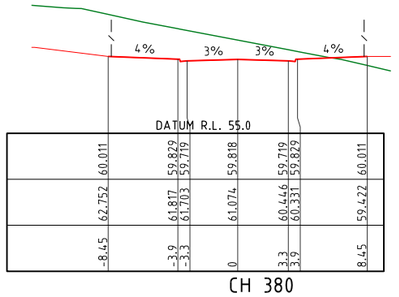
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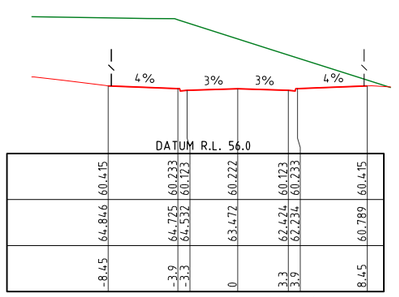
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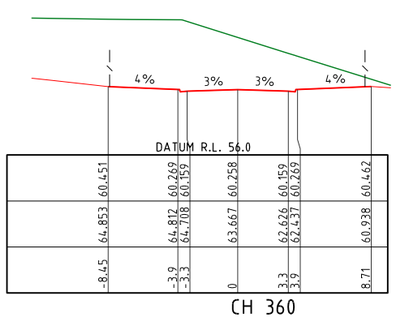
CH 400



CH 380



CH 361.664



CH 360

ROAD 01

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

EXISTING SURFACE LEVEL

OFFSET

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

CROSS SECTIONS
ROAD 01
CONTINUED

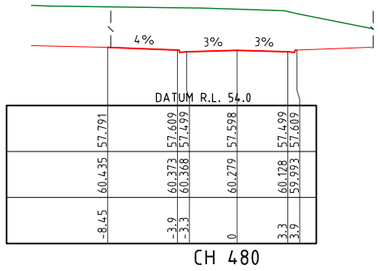
CONSTRUCTION ISSUE

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

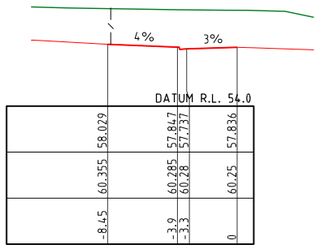
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APPROVED	RPEQ 4706	DATE	03-03-23

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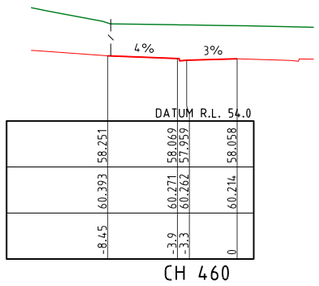
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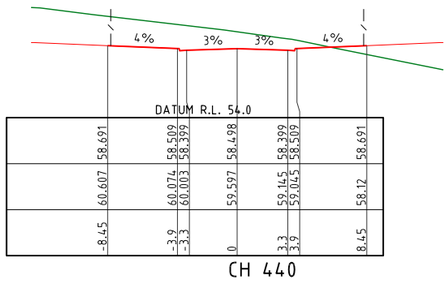
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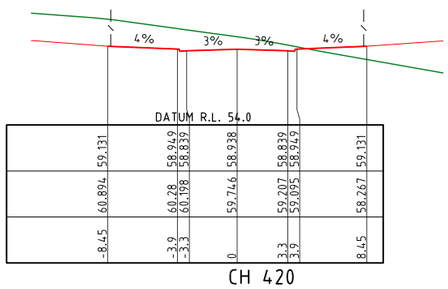
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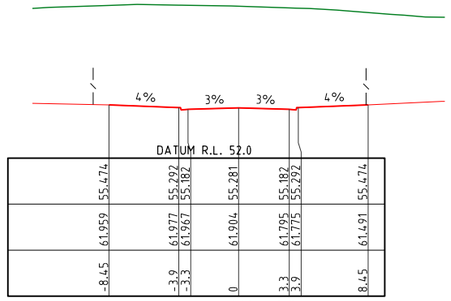
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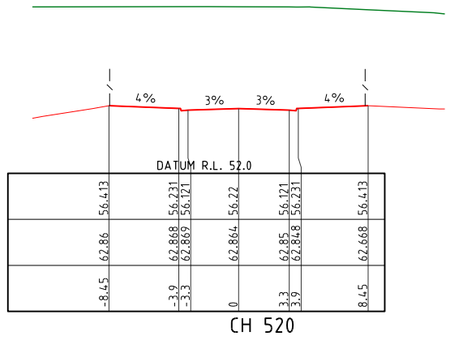
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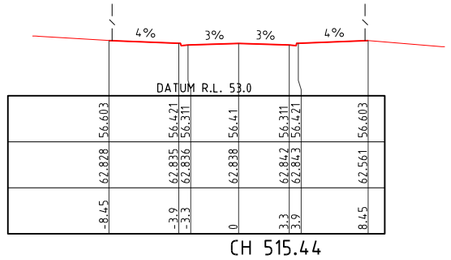
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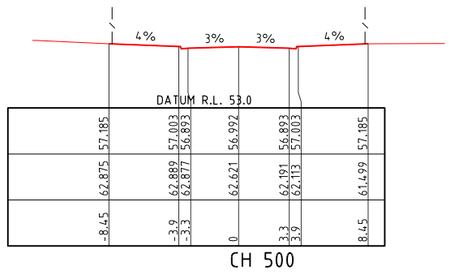
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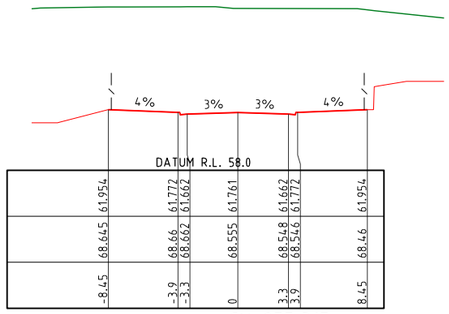
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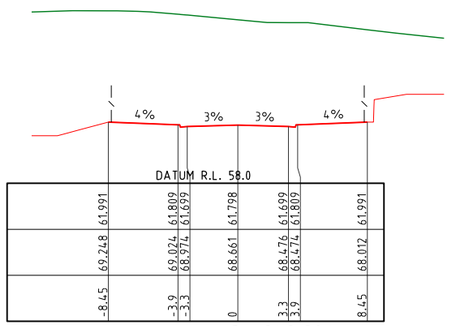
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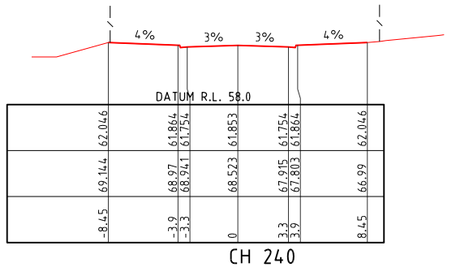
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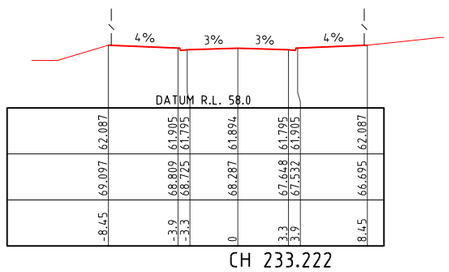
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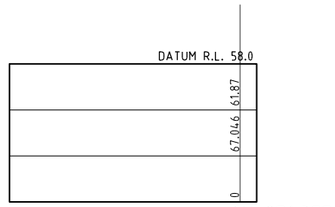
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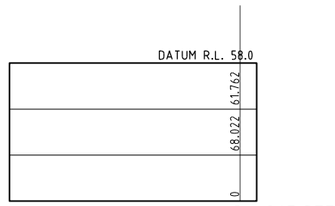
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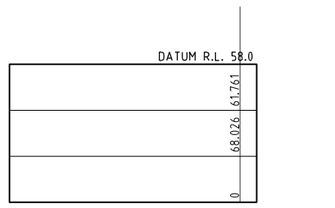
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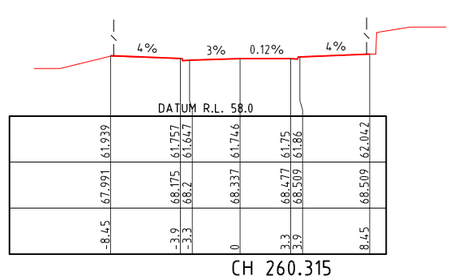
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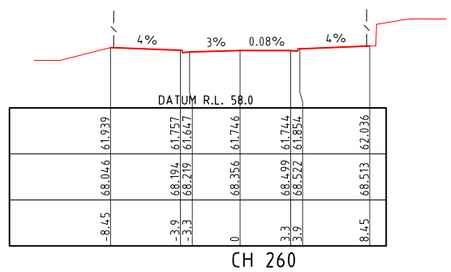
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CH 265.315



CH 260.315



CH 260

ROAD 01

ROAD 03

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

EXISTING SURFACE LEVEL

OFFSET

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INIT
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

CROSS SECTIONS
ROAD 01 CONTINUED
AND ROAD 03

CONSTRUCTION ISSUE

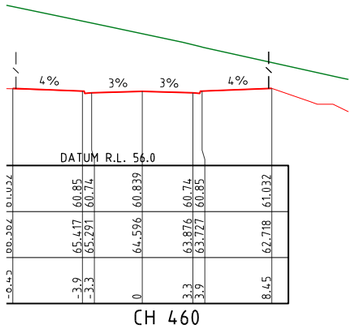
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215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

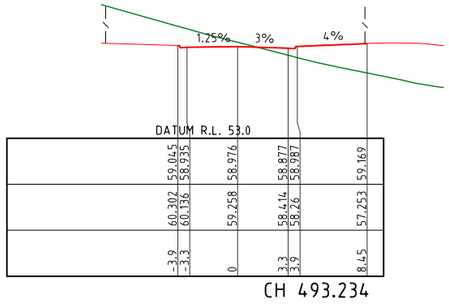
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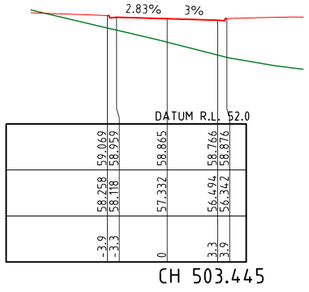
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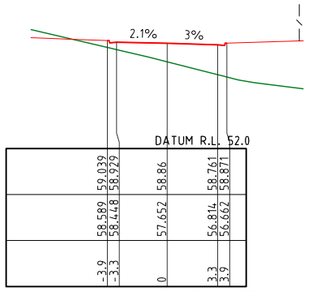
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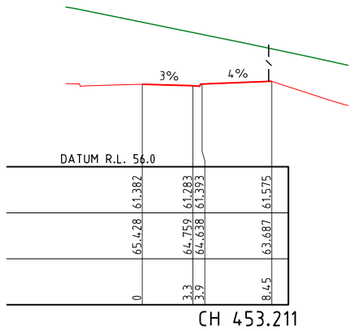
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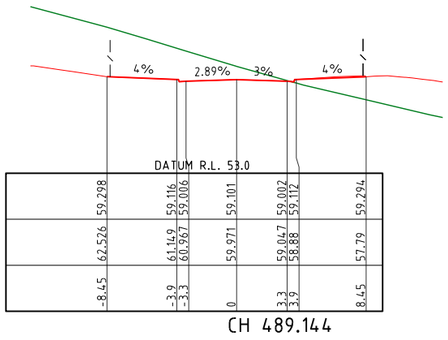


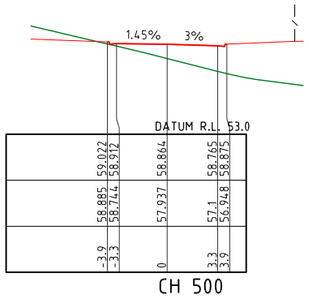


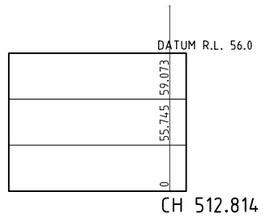


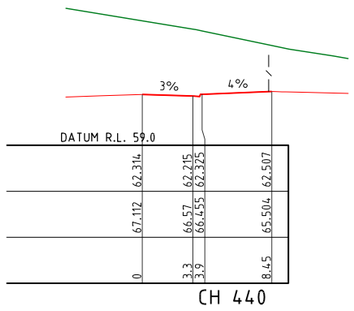


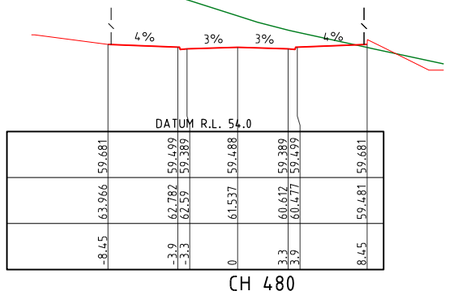


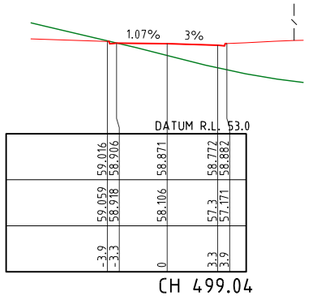


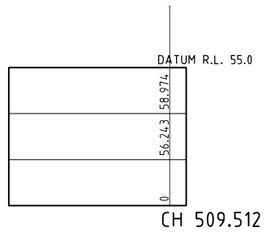


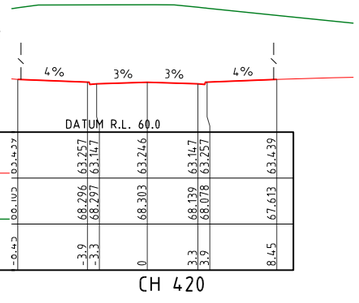


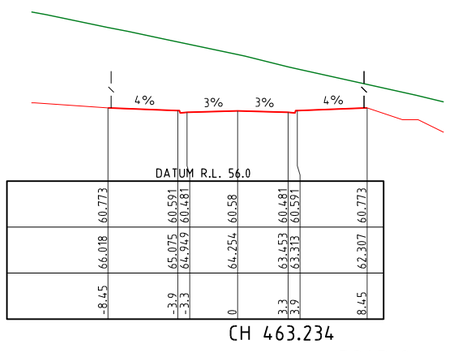


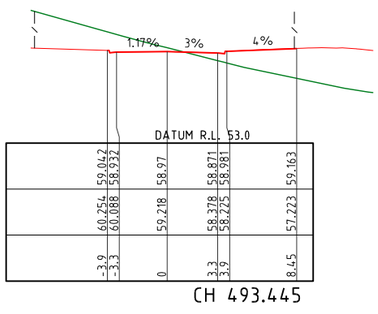


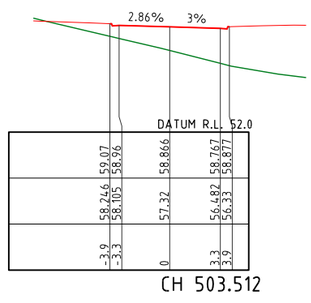












NOTES:

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.

ROAD 04

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

CROSS SECTIONS
ROAD 04

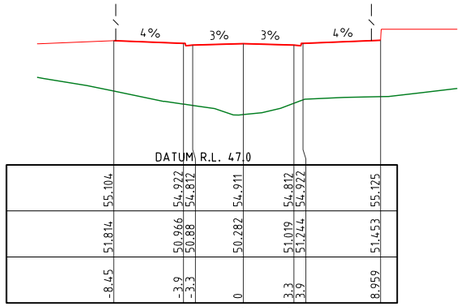
CONSTRUCTION ISSUE

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

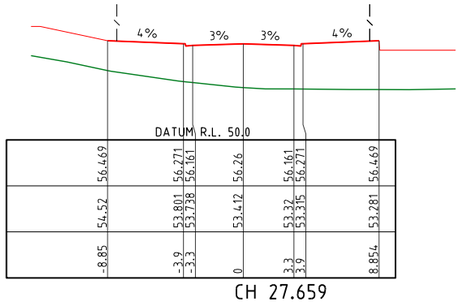
DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-303 REV A

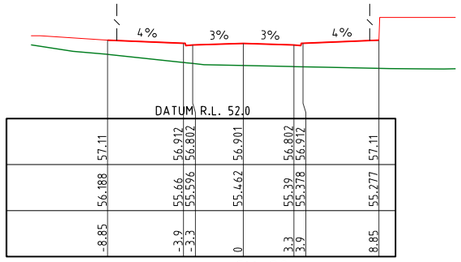
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CH 40

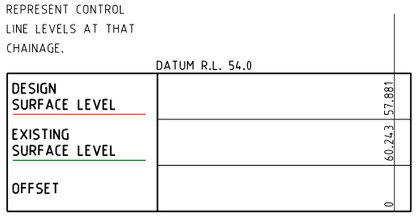


CH 27.659



CH 20

CH 2.753

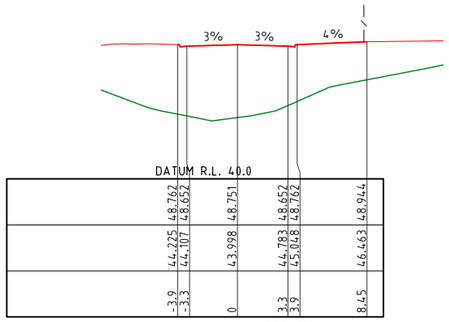


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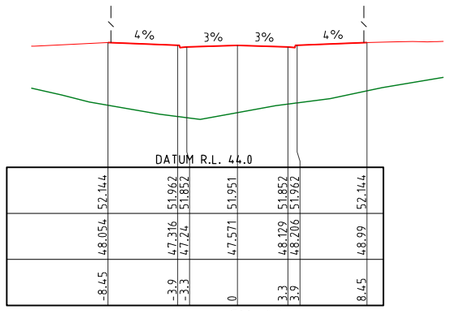
NOTES:

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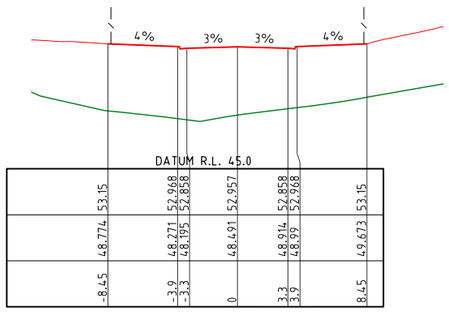
2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.



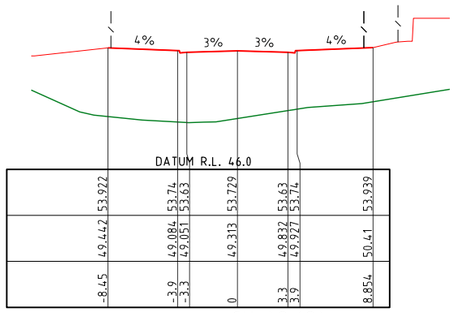
CH 80



CH 60

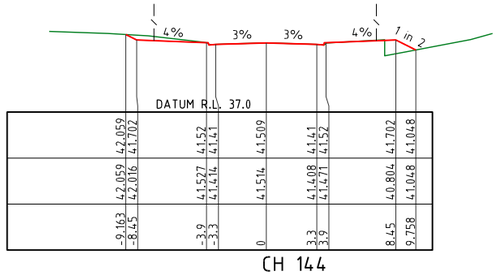


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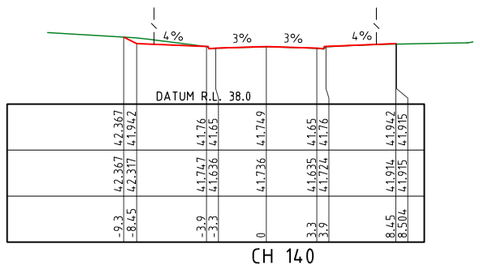


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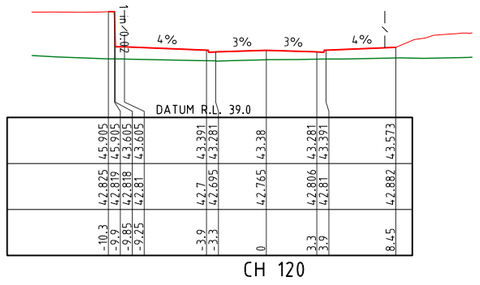
ROAD 06



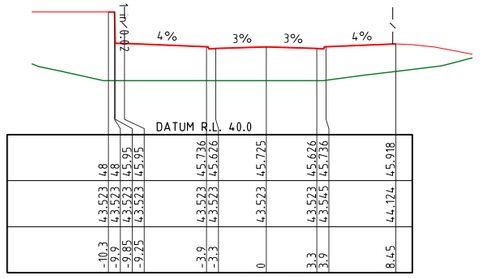
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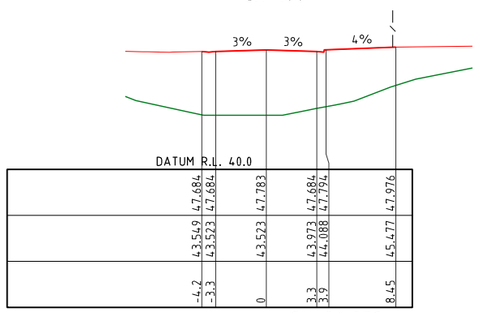
CH 140



CH 120



CH 100



CH 86.052

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

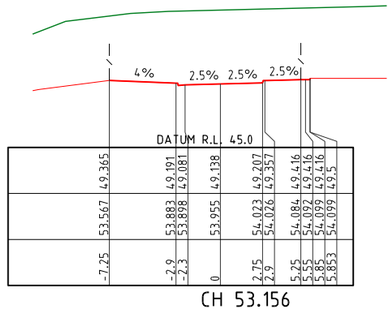
CROSS SECTIONS
ROAD 06

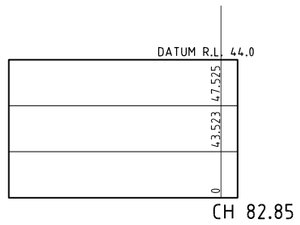
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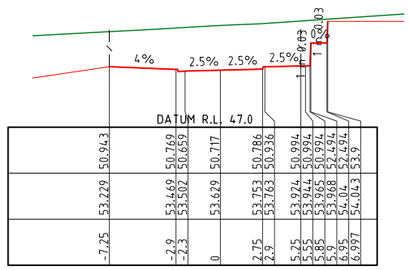
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short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

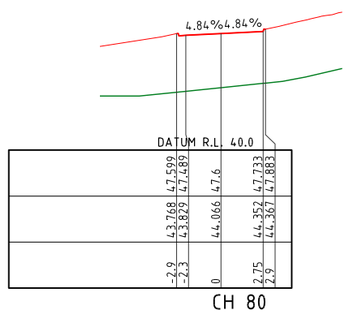
DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

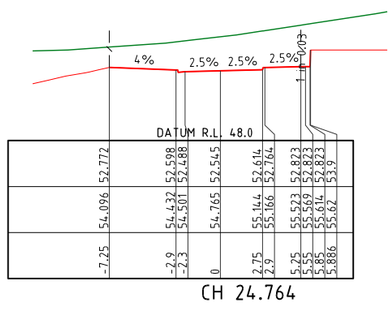
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REV A

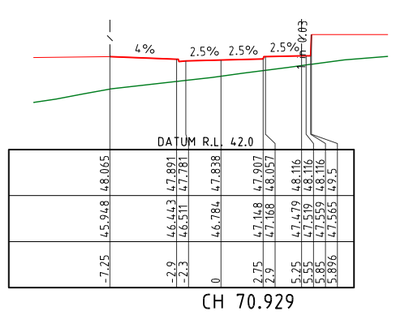


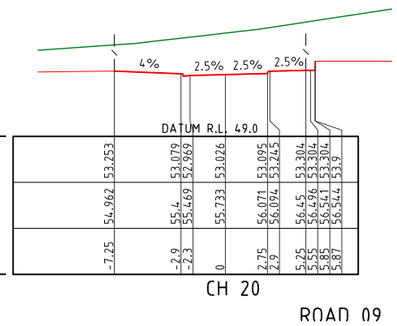


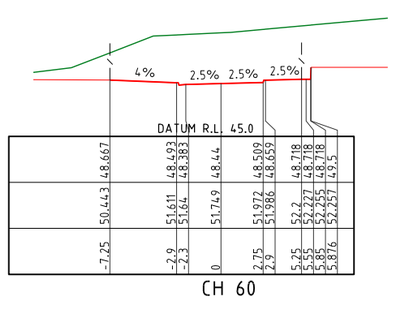












NOTES:

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

EXISTING SURFACE LEVEL

OFFSET

ROAD 09

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

CROSS SECTIONS
ROAD 09

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-305
REV B

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LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- 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
- PROPOSED CONCRETE

24.0 _41.065 INTERSECTION CHAINAGE & LEVEL

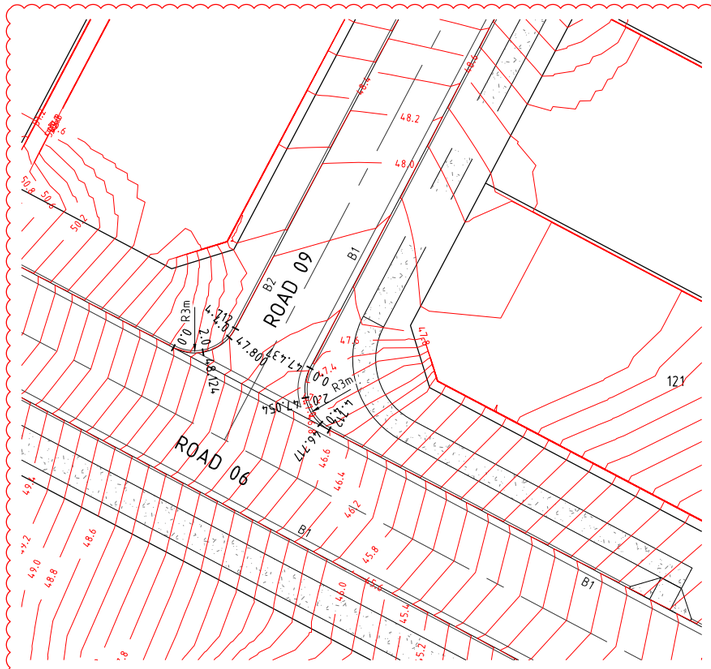
B1 BARRIER KERB & CHANNEL
B2 BARRIER KERB

INVERT CHANNEL 900

REFER TO DRG. 120 FOR KERB TYPES

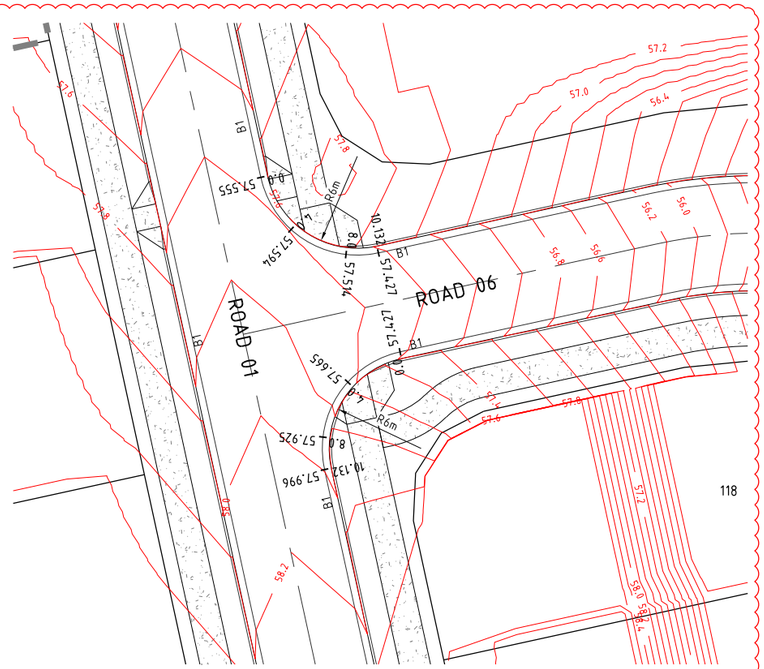
NOTES:

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

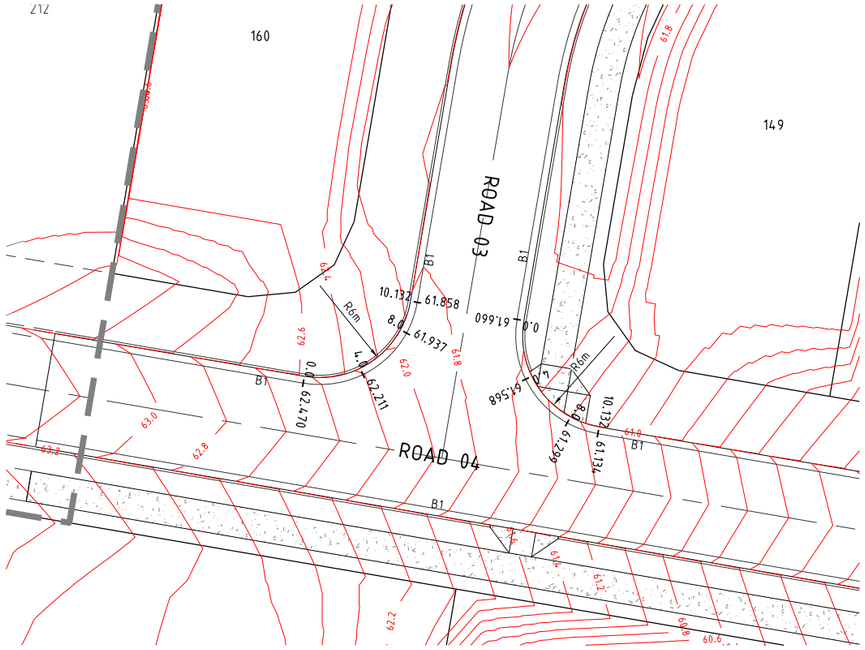


INTERSECTION
ROAD 06 & ROAD 09

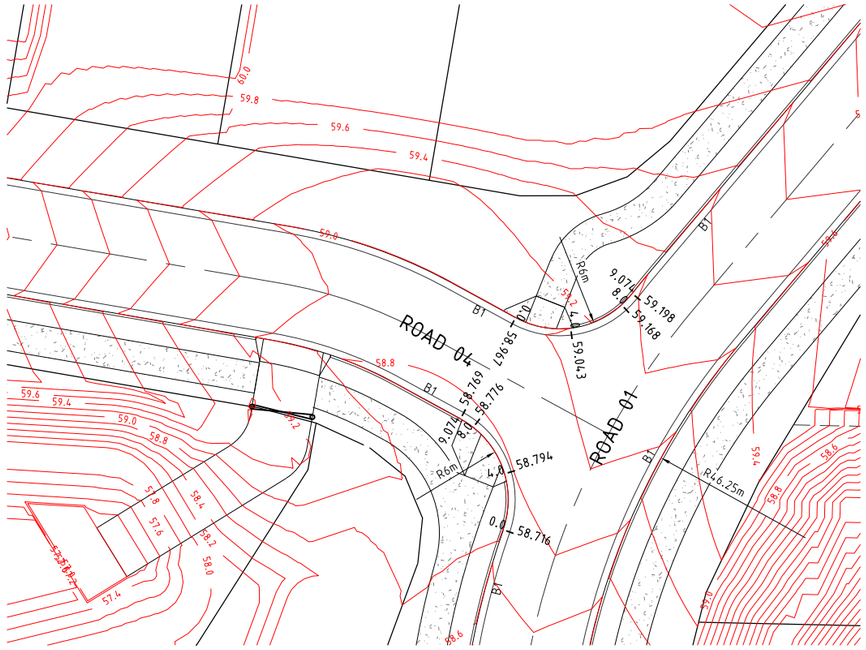
C



INTERSECTION
ROAD 01 & ROAD 06



INTERSECTION
ROAD 03 & ROAD 04



INTERSECTION
ROAD 01 & ROAD 04

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
C	31-05-24	FOOTPATH ROAD 06 CHANGED	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

INTERSECTION
GRADING DETAILS

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

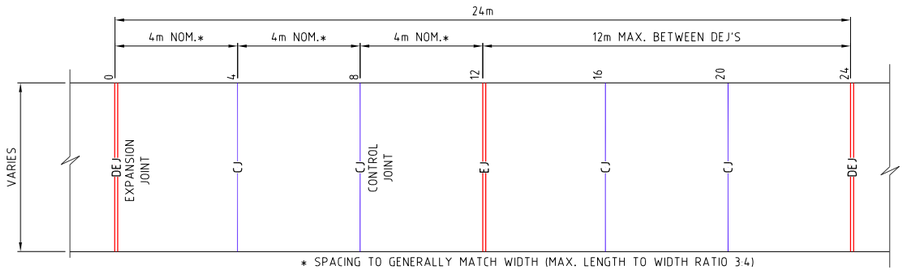
DRAWING NUMBER 41901-01-400
REV C

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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 ST&ARDS
   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"

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TYPICAL CONCRETE PAVEMENT DETAIL FOR DRIVEWAYS AND ROADS

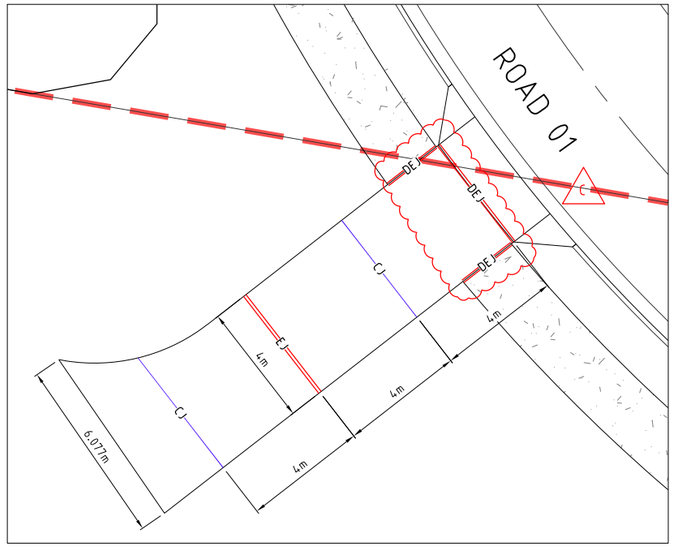
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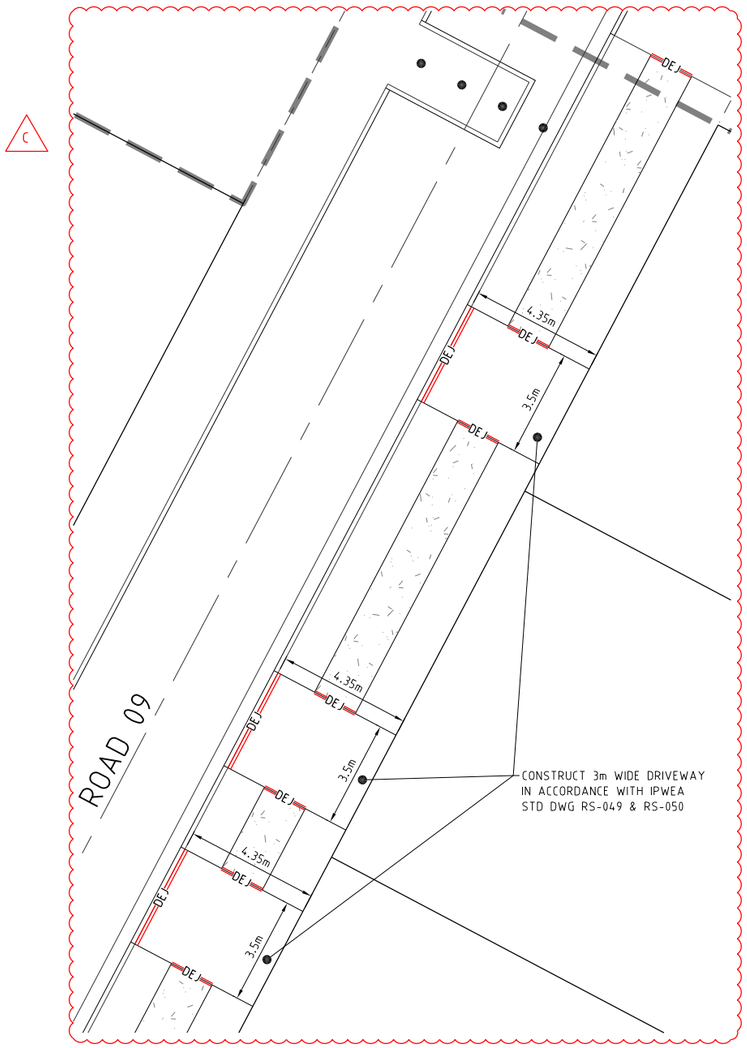
0 0.5 1.0 1.5 2.0 2.5m

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

SCHEDULE OF CONCRETE PAVEMENTS					
FUNCTION	SURFACING	SUBGRADE PREPARATION	THICKNESS 'T'	STRENGTH	REINCORCING
FOOTPATH 1.5 AND 2.0M WIDE	HEAVY BROOM FINISH	50mm SAND BLINDING LAYER	100mm	32 mPa	SL 72 MESH
DRIVEWAY STORMWATER BASIN	HEAVY BROOM FINISH	100mm (CBR 15)	175mm	32 mPa	SL 72 MESH

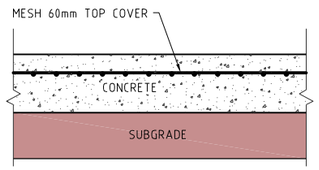
NOTE: FOOTPATH JOINTING TO BE IN ACCORDANCE WITH IPWEAQ DWG RS-065
SUPERINTENDENT TO CONFIRM SUBGRADE PREPARATION





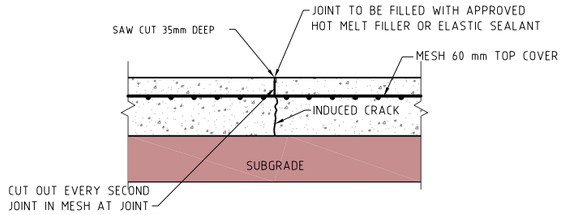
LEGEND

- 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
- EJ — EXPANSION JOINT
- DEJ — DOWELED EXPANSION JOINT
- IJ — ISOLATION JOINT
- SJ — SAW JOINT
- CJ — CONTROL JOINT
- KJ — KEY JOINT
- 2xN12 BARS AROUND PENETRATIONS TYP.



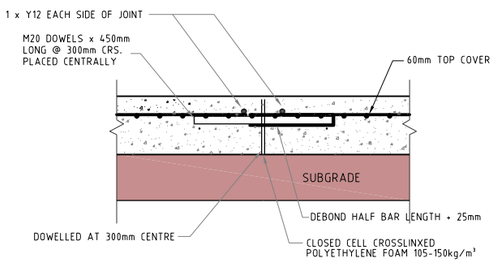
TYPICAL BROOM FINISHED CONCRETE PAVEMENT DETAIL

NOT TO SCALE



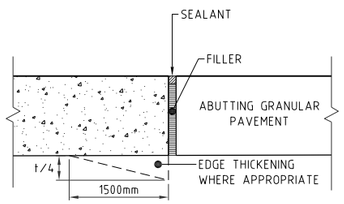
CONTROL JOINT (4m SPACING) (CJ)

NOT TO SCALE



DOWELLED EXPANSION JOINT DETAIL (24m SPACING) (EJ)

NOT TO SCALE



ISOLATION JOINT (IJ)

NOT TO SCALE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 1 2 3 4 5m

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

REV	DATE	DESCRIPTION	INT
C	19-06-24	DRIVEWAYS ADDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

CONCRETE JOINTING PLAN AND DETAILS

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
		DATE	03-03-23

DRAWING NUMBER 41901-01-410

REV C

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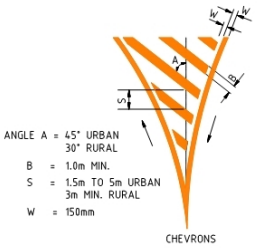
NOTES

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



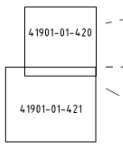
CHEVRONS

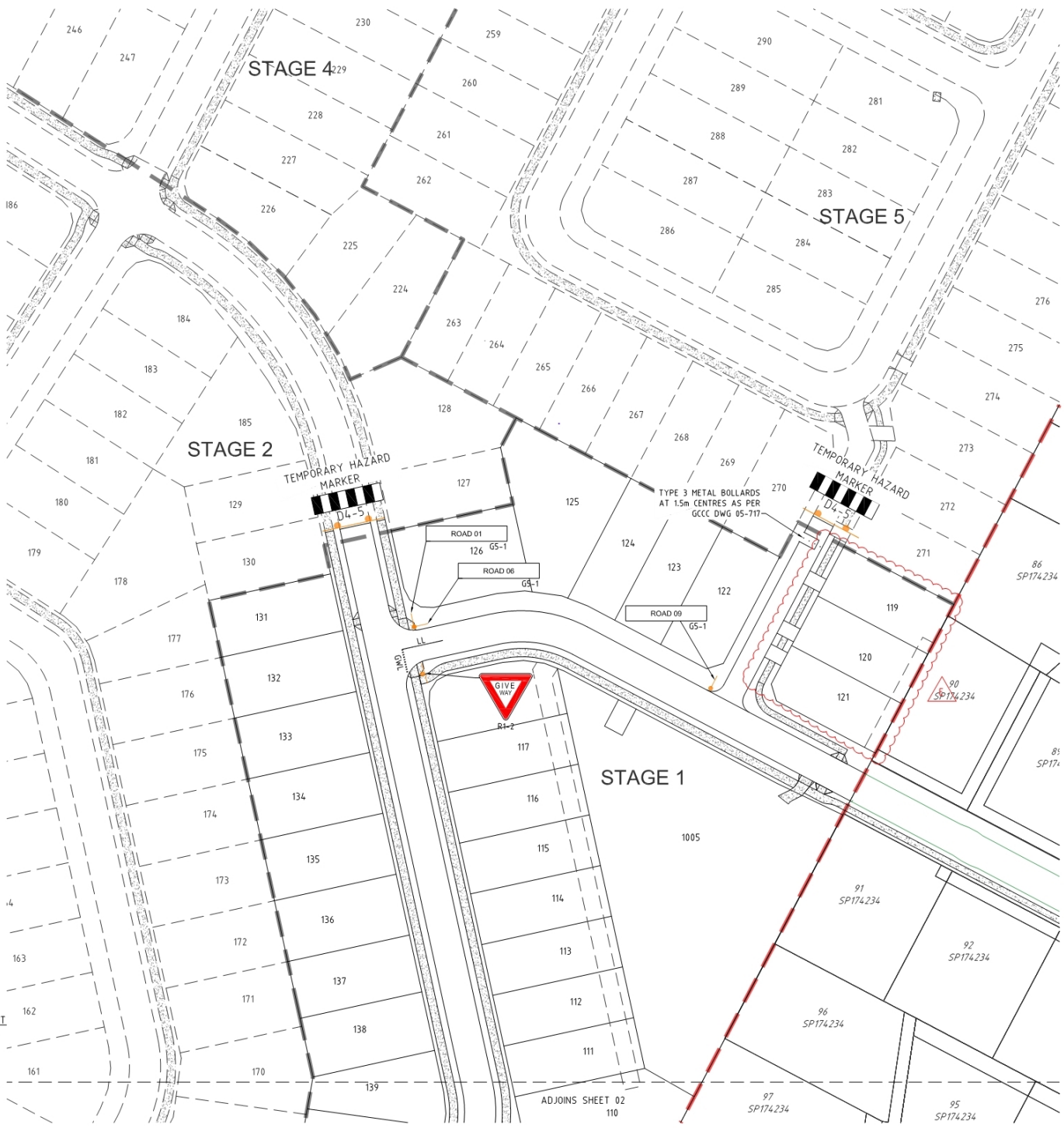
LEGEND

- 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

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SHEET LAYOUT





PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
E	19-06-24	DRIVEWAYS ADDED	BL
D	17-06-24	FOOTPATH WIDTH AMENDED	EP
C	31-05-24	FOOTPATH ROAD 06 CHANGED	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

LINEMARKING & SIGNAGE PLAN SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-420 REV E

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
C	19-06-24	PAD MOUNT REMOVED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

LINEMARKING & SIGNAGE
PLAN
SHEET 02

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-421	C

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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 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 1:60 & A MAXIMUM DEPTH OF PROPERTY CONNECTION AT 1.5m. UNLESS OTHERWISE STATED.
i. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.



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 SN6

SHEET LAYOUT

41901-01-500
41901-01-501

LEGEND

- EXISTING SEWER
- EXISTING RISING MAIN
- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- EXISTING RETAINING WALL
- EXISTING CONTOURS
- FUTURE SEWER
- FUTURE RISING MAIN
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- FUTURE CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- DESIGN CONTOURS
- PROPOSED SEWER
- PROPOSED RISING MAIN

- SEWER MANHOLE
- SEWER RODDING END
- SEWER BEND
- SEWER MAINTENANCE SHAFT
- SEWER END CAP
- SEWER PUMP STATION

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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)	CONTRACTOR TO BREAK INTO EXISTING MAINTENANCE HOLE 01/01 AND CONSTRUCT SEWER MAIN AND PLUG PRIOR TO START OF CONSTRUCTION.	150	EXISTING 1/01	MH	B	LOT 19 ON SP292346	48.535	48.535	47.690	0.845
1(B)	CONTRACTOR TO LAY NEW LINES 1 AND 2 AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE.	150	1/01	MH			48.535	48.535	47.690	0.845
1(C)	GOLD COAST WATER AND WASTE TO CONFIRM THE REMOVAL OF PLUG LINE 1 AND MAKE LIVE CONNECTIONS AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.									
2(A)	CONTRACTOR TO BREAK INTO EXISTING MAINTENANCE HOLE 02/03 AND CONSTRUCT SEWER MAIN AND PLUG PRIOR TO START OF CONSTRUCTION.	150	EXISTING 02/03	MH	B	LOT 19 ON SP292346	42.710	42.710	40.760	1.950
2(B)	CONSTRUCTOR TO LAY NEW LINE 3 AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE.									
2(C)	GOLD COAST WATER AND WASTE TO CONFIRM THE REMOVAL OF PLUG LINE 3 AND MAKE LIVE CONNECTIONS AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.									

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	DRIVEWAYS ADDED	BL
C	23-02-24	CONTOURS & RETAINING WALLS LOT 110 AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION PLAN SHEET 01

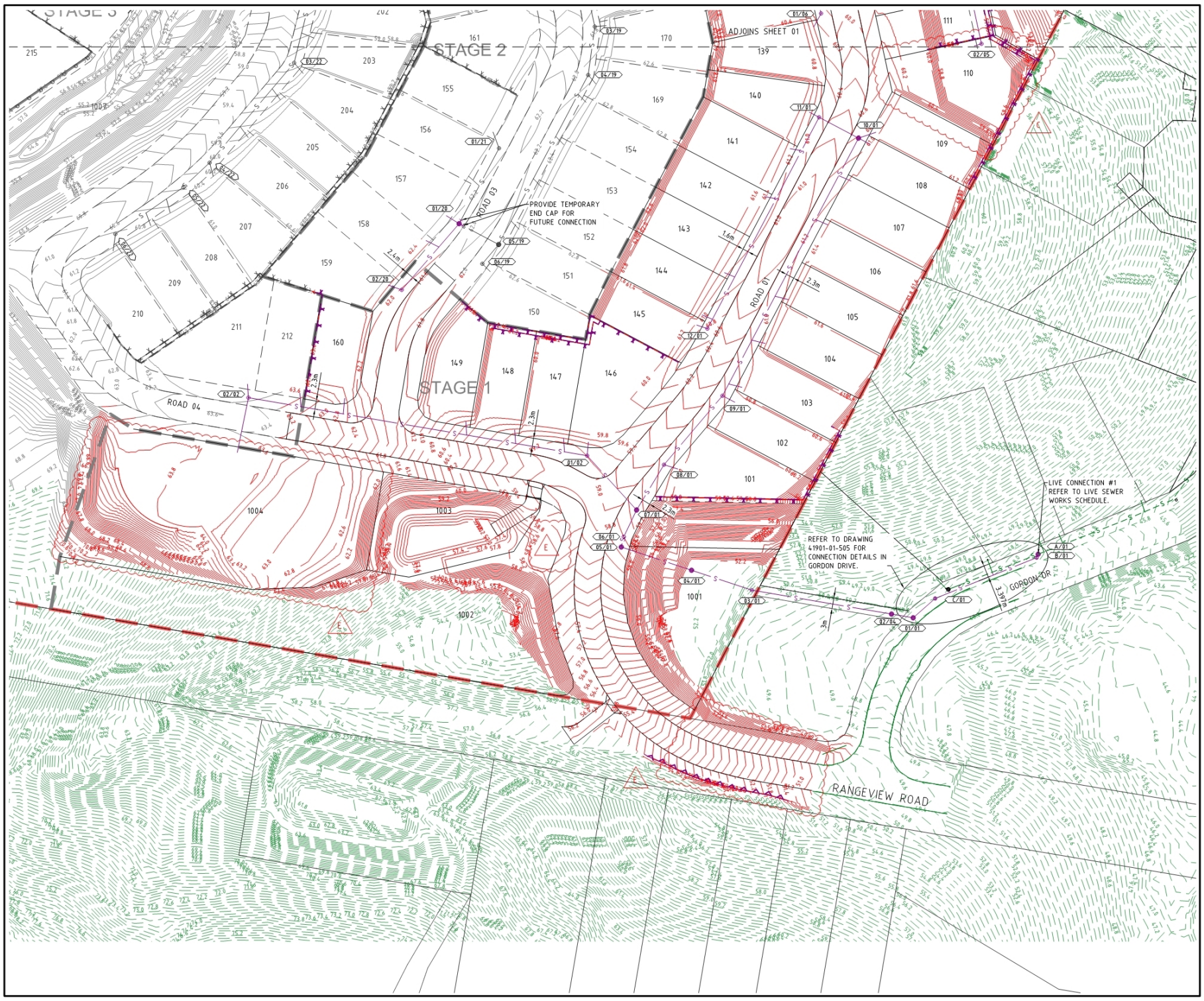
CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-500 REV D

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
E	19-06-24	PMT REMOVED & CONTOURS UPDATED	BL
D	06-03-24	SEWER AMENDED	MLJ
C	23-02-24	CONTOURS & RETAINING WALLS LOT 110 AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION PLAN
SHEET 02

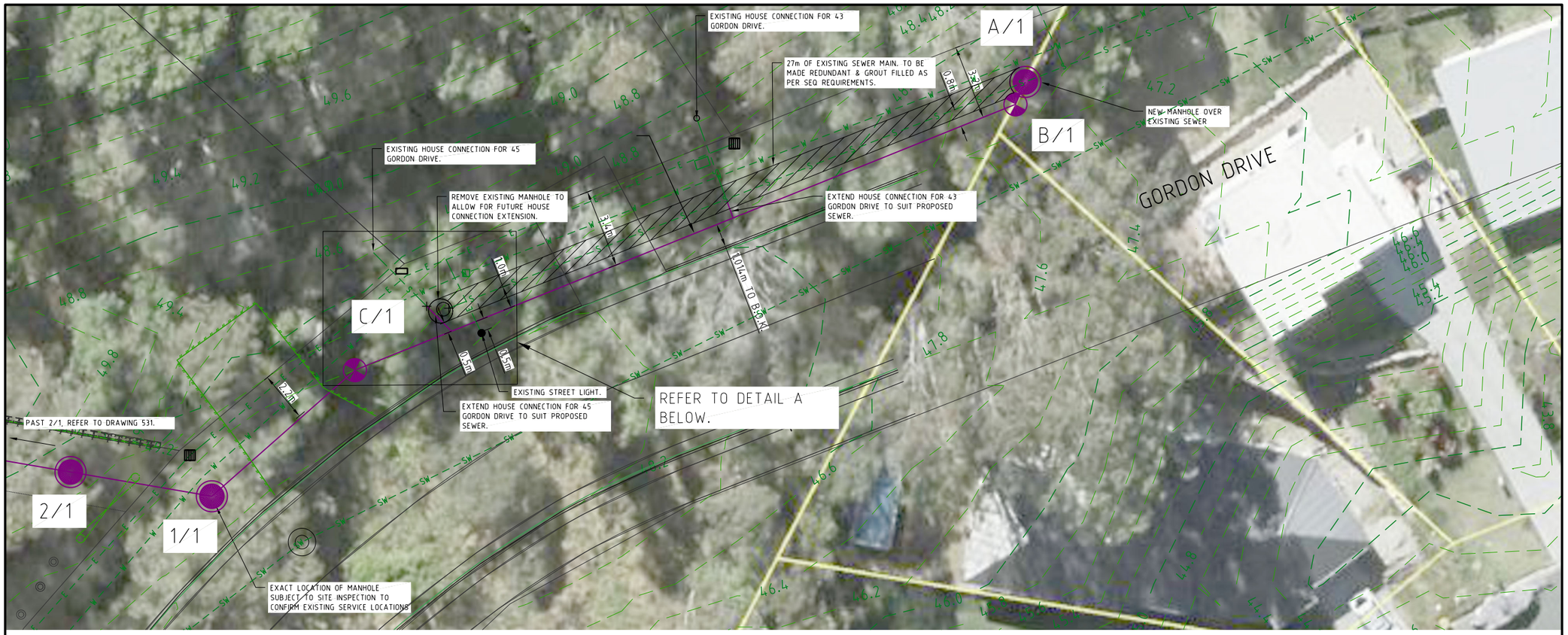
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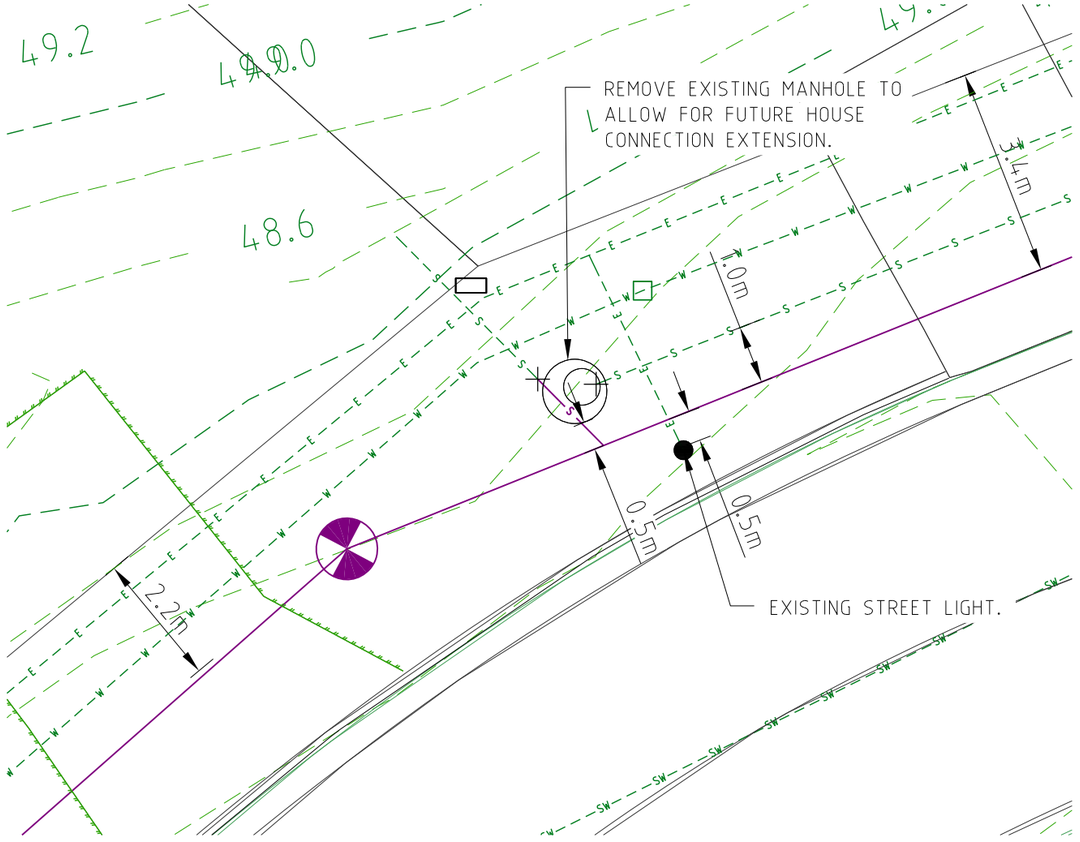
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-501	E

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct\Stage 01\Engineering Drawings\Civil\41901-01-500.dwg, PLAN SHEET 02, 20/7/2024 13:20:17 PM, 1:2





DETAIL A.

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

ISSUES	DATE	
TENDER	....	
COUNCIL	...	
CONSTRUCTION	..	

PRE	DATE	AMENDMENT
B	06-03-24	ISSUE FOR CONSTRUCTION
A	15-02-24	ISSUE FOR INFORMATION

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BIOME WATER AND ENVIRONMENTAL CONSULTING

zone Planning Group

DRAWING TITLE

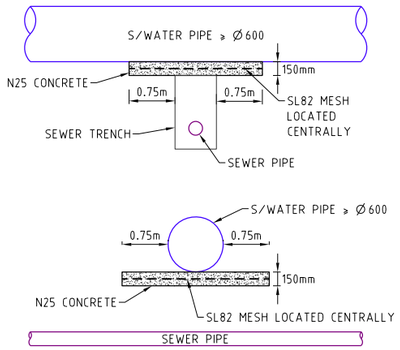
GORDON DRIVE
SEWER RETICULATION
CONNECTION DETAILS

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
Fax 07 5571 1088
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	RB
APPROVED		RPEQ 4706	DATE 06-03-24

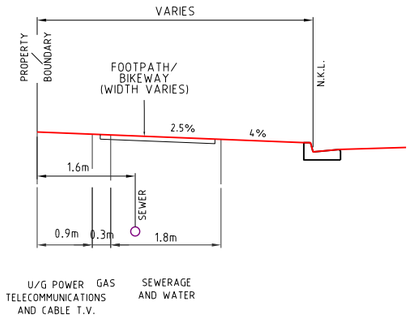
DRAWING NUMBER: 41901-01-505
AMEND.: B

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BRIDGING DETAILS FOR STORMWATER PIPES ≥ Ø600

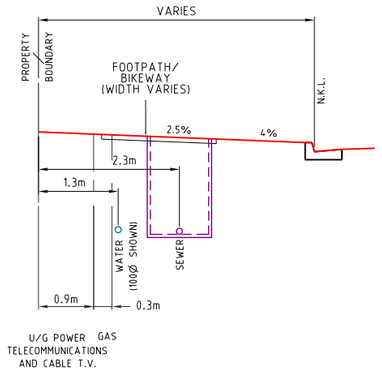
NOT TO SCALE



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.



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

SCALE 1:50

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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

DRAWING TITLE

SEWER RETICULATION DETAILS

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-510	A

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SEWER STRUCTURE LIDS	
D	TRAFFICABLE LID
B	NON-TRAFFICABLE LID
M	'M' PREFIX DESIGNATES BOLT DOWN LID

RIGS STRUCTURE TYPES	
P(x)	PRECAST CONCRETE SEWER MAINTENANCE STRUCTURE REFER TO SEQ STD DWG SEQ-SEW-1300-1
A	TYPE 'A' 1050mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
B	TYPE 'B' 1200mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
C	TYPE 'C' 1500mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
J1	TYPE 'J1' MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1314-2
BND	BEND REFER TO SEQ STD DWGS SEQ-SEW-1314-3
RE	RODDING END MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1314-1
END	PROPRIETORY END CAP
PS	SEWER PUMP STATION REFER TO RELEVANT SEQ STD DWGS
RCM	RECEIVING MAINTENANCE STRUCTURE REFER TO RELEVANT SEQ STD SEWER PUMP STATION DWGS
G6	TYPE 'G6' TERMINAL MAINTENANCE SHAFT REFER TO SEQ STD DWGS SEQ-SEW-1314-1

RIGS STRUCTURE DROPS	
V	STRAIGHT THROUGH SEWER REFER TO SEQ STD DWG SEQ-SEW-1303-1
W	OBLIQUE BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1
X	INTERNAL BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1
Y	EXTERNAL BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1

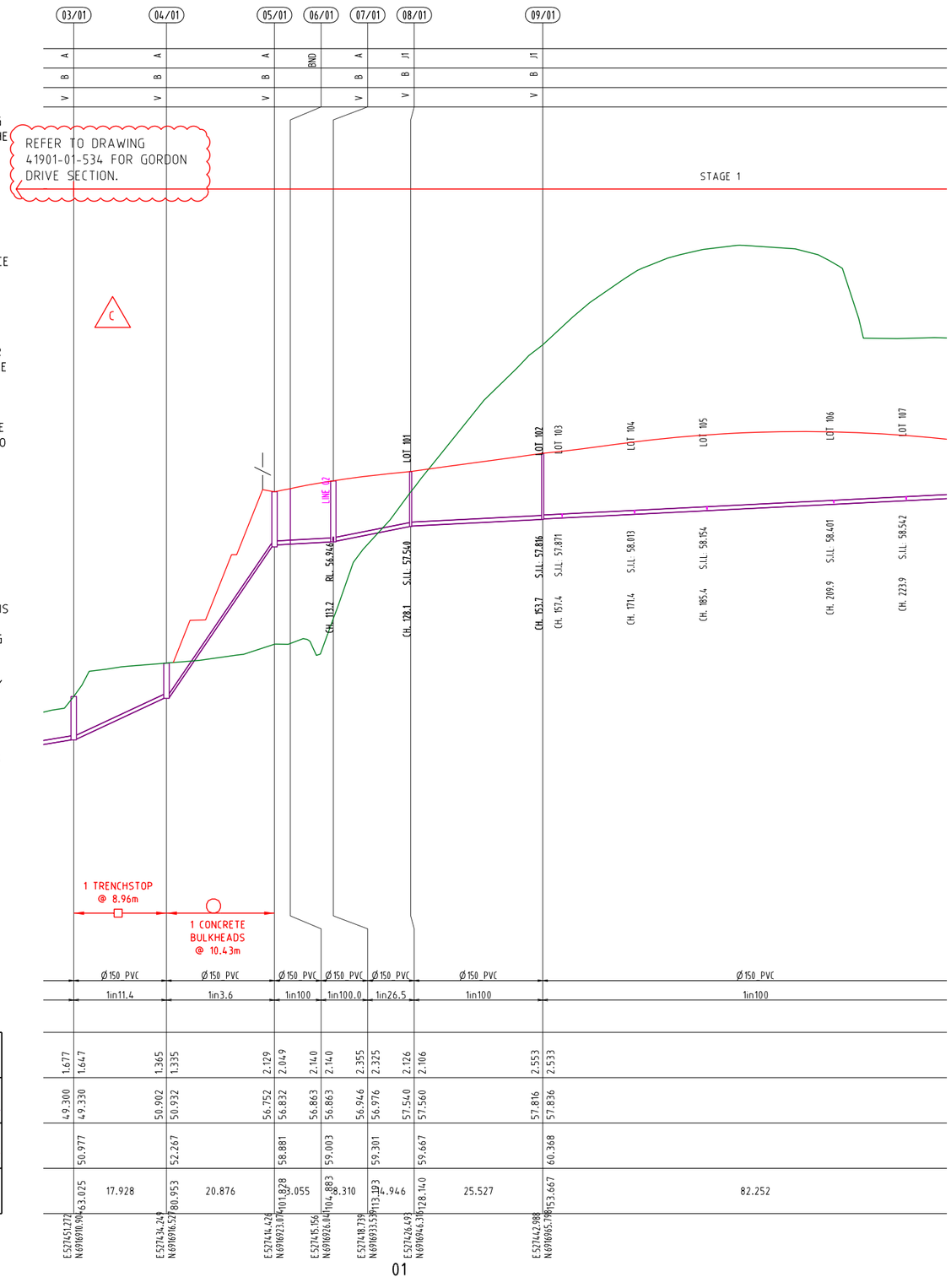
STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

1. IF SHOWN, WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAINS PE100 PN16 SDR11
4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
5. ALL BENDS TO BE LONG RADIUS BEND, 1.2m RADIUS MIN.
6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
7. PROTECTIVE COATING IS TO BE INSTALLED TO MAINTENANCE STRUCTURES (WHERE REQUIRED) IN ACCORDANCE WITH CLAUSE 4.7.2 OF SEQ SEWERAGE CODE.
8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1



LINE NO. 01

DIAL BEFORE YOU DIG www.1100.com.au

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	06-03-24	NOTE ADDED.	MLJ
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT • BENNETT

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-530	C

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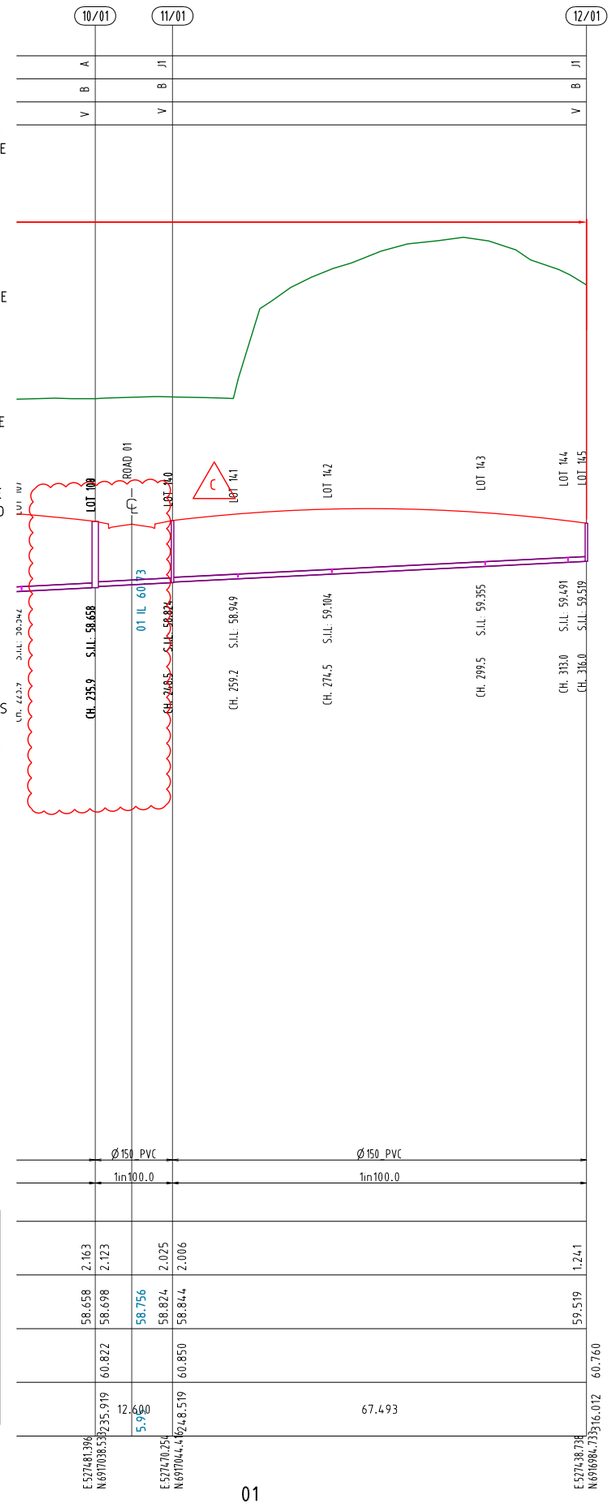
STRUCTURE TYPE
LID CLASS
DROP TYPE

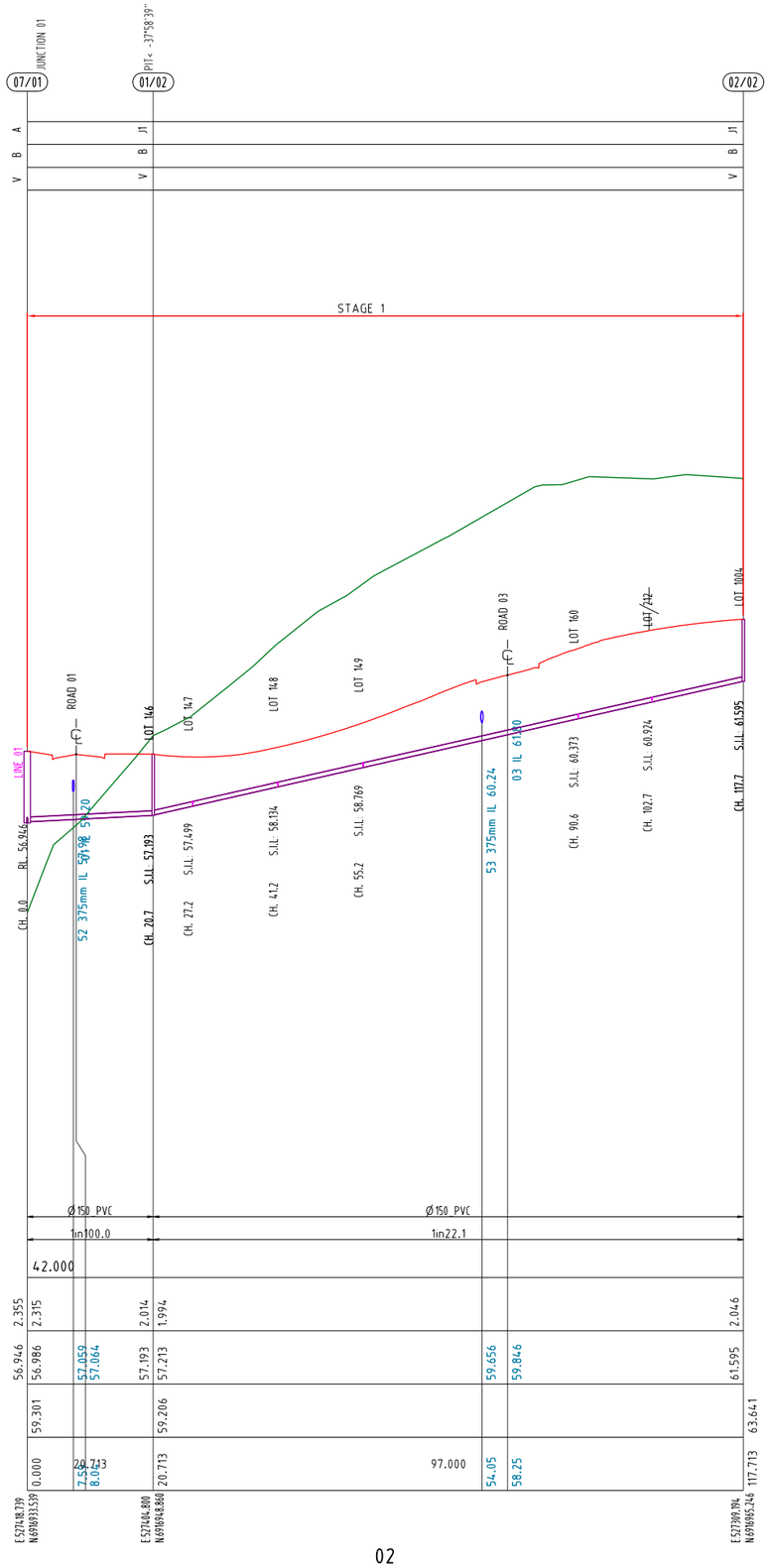
* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

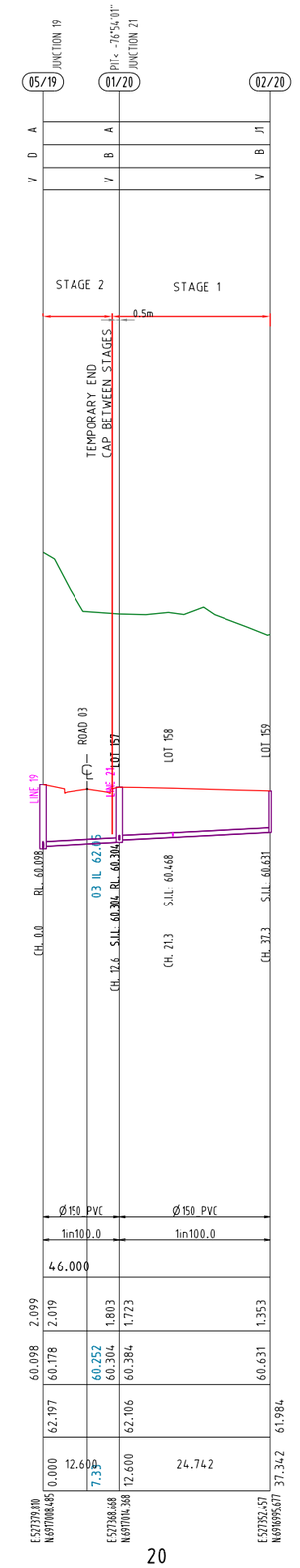
| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

1. IF SHOWN, WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAINS PE100 PN16 SDR11
4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
5. ALL BENDS TO BE LONG RADIUS BEND, 1.2m RADIUS MIN.
6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
7. PROTECTIVE COATING IS TO BE INSTALLED TO MAINTENANCE STRUCTURES (WHERE REQUIRED) IN ACCORDANCE WITH CLAUSE 4.7.2 OF SEQ SEWERAGE CODE.
8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1







PIPE DIAMETER (mm)	Ø150 PVC / Ø150 PVC
PIPE GRADE	1in100.0 / 1in100.0
DATUM R.L.	
DEPTH TO INVERT	2.163, 2.123, 2.025, 2.006, 1.241
PIPE INVERT LEVELS	58.658, 58.698, 58.756, 58.824, 58.844, 59.519
DESIGN SURFACE LEVELS	60.822, 60.850, 60.760
CHAINAGE	0.000, 12.600, 80.093, 92.693

LINE NO. 01 02 20

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	27-11-23	LOT NUMBER & CHAINAGE ADDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 02

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
		DATE	03-03-23

DRAWING NUMBER 41901-01-531 REV C

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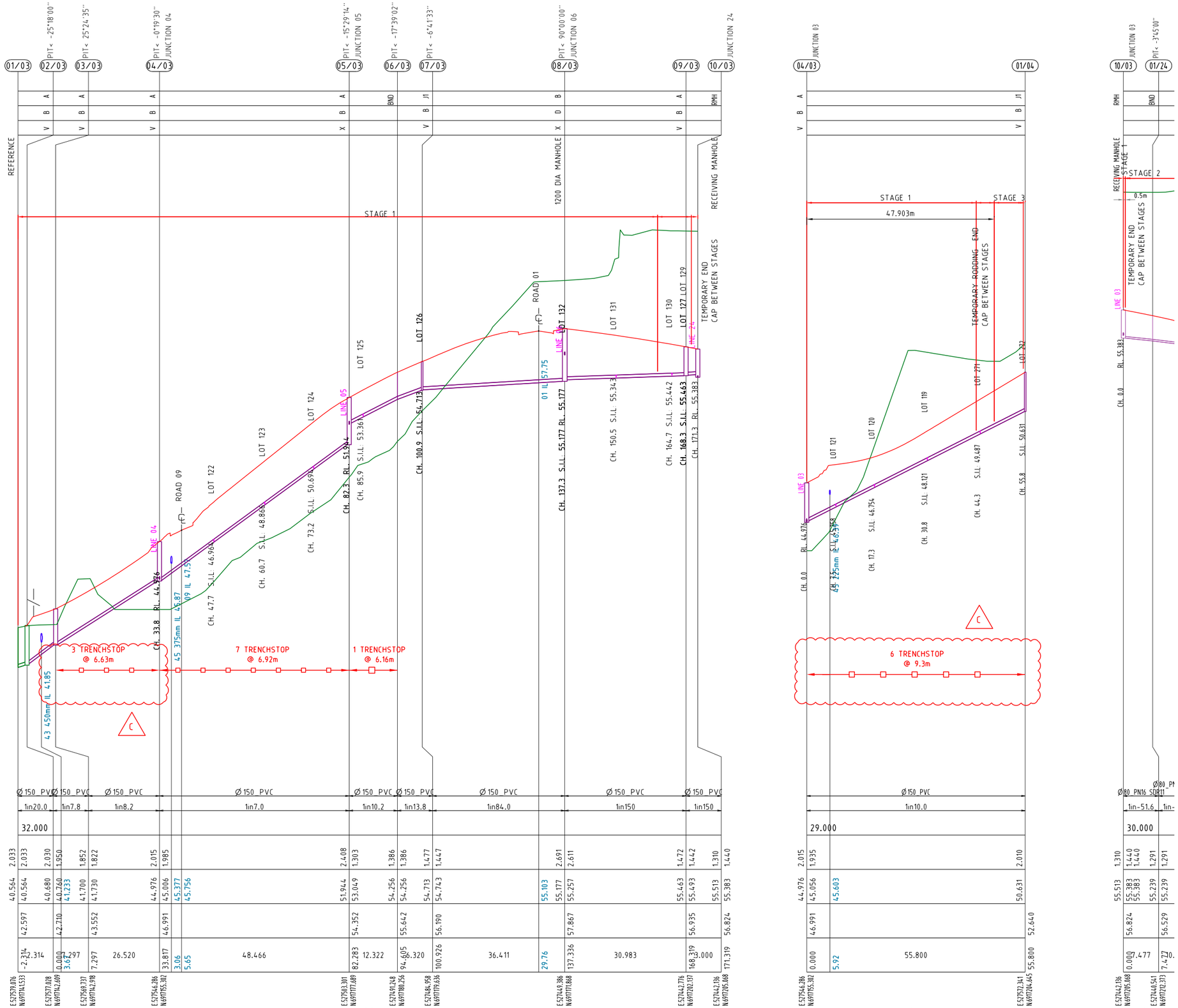
STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

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4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
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8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	27-11-23	TRENCH STOPS AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 03

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
		DATE	03-03-23

DRAWING NUMBER: 41901-01-532
REV: C

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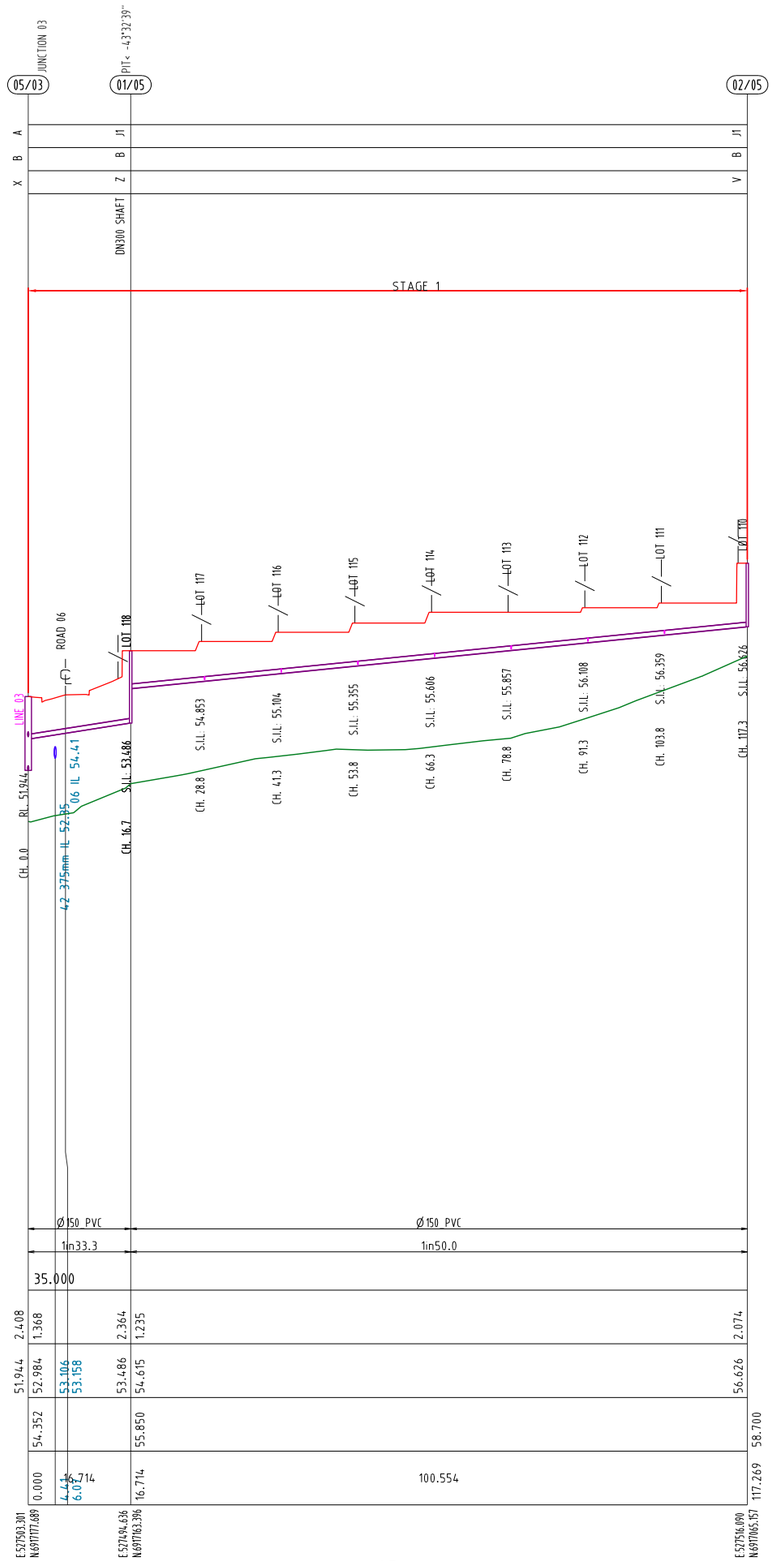
STRUCTURE TYPE
LID CLASS
DROP TYPE

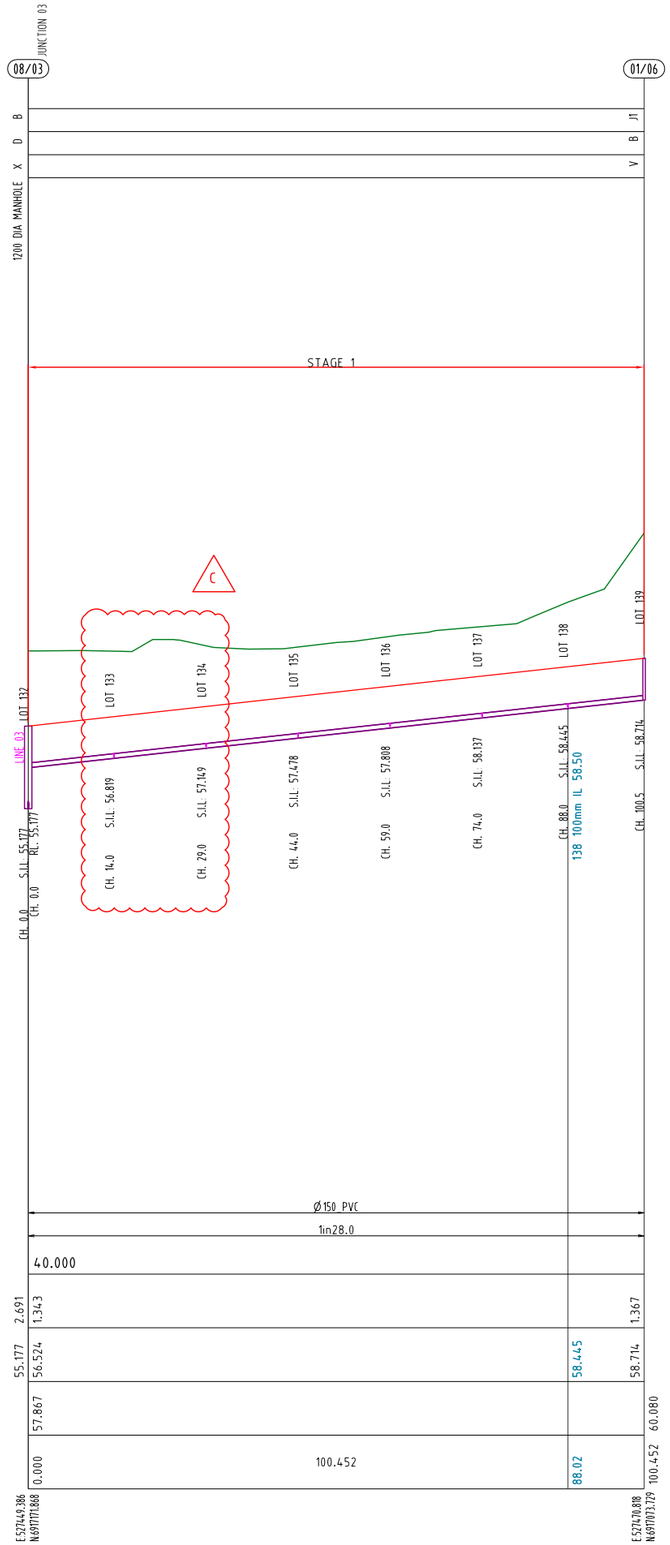
* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

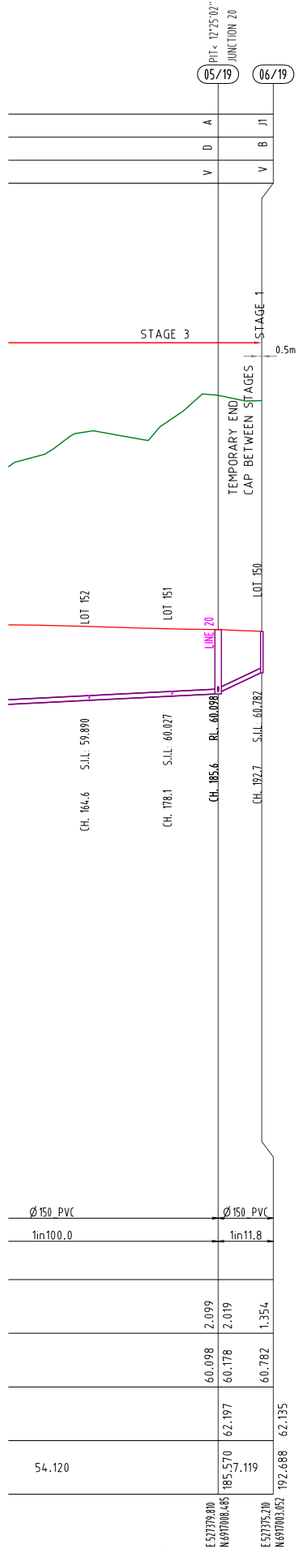
| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

1. IF SHOWN, WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAINS PE100 PN16 SDR11
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6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
7. PROTECTIVE COATING IS TO BE INSTALLED TO MAINTENANCE STRUCTURES (WHERE REQUIRED) IN ACCORDANCE WITH CLAUSE 4.7.2 OF SEQ SEWERAGE CODE.
8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1







PIPE DIAMETER (mm)	Ø150 PVC	Ø150 PVC
PIPE GRADE	1in33.3	1in50.0
DATUM R.L.	35.000	
DEPTH TO INVERT	2.408 / 1.368	2.364 / 1.235 / 2.074
PIPE INVERT LEVELS	51.944 / 52.984 / 53.106 / 53.158	53.486 / 54.615 / 56.626
DESIGN SURFACE LEVELS	54.352	55.850
CHAINAGE	0.000 / 4.41 / 6.0 / 16.714	16.714 / 100.554 / 117.269
LINE NO.	05	

PIPE DIAMETER (mm)	Ø150 PVC
PIPE GRADE	1in28.0
DATUM R.L.	40.000
DEPTH TO INVERT	2.691 / 1.343 / 1.367
PIPE INVERT LEVELS	55.177 / 56.524 / 58.445 / 58.714
DESIGN SURFACE LEVELS	57.867
CHAINAGE	0.000 / 88.02 / 100.452
LINE NO.	06

PIPE DIAMETER (mm)	Ø150 PVC	Ø150 PVC
PIPE GRADE	1in100.0	1in11.8
DATUM R.L.		
DEPTH TO INVERT	2.099 / 2.019 / 1.354	
PIPE INVERT LEVELS	60.098 / 60.178 / 60.782	
DESIGN SURFACE LEVELS	62.197	
CHAINAGE	54.120 / 185.570	192.688
LINE NO.	19	

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	27-11-23	LOT NUMBERS & CHAINAGES ADDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 04

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-533 | REV C

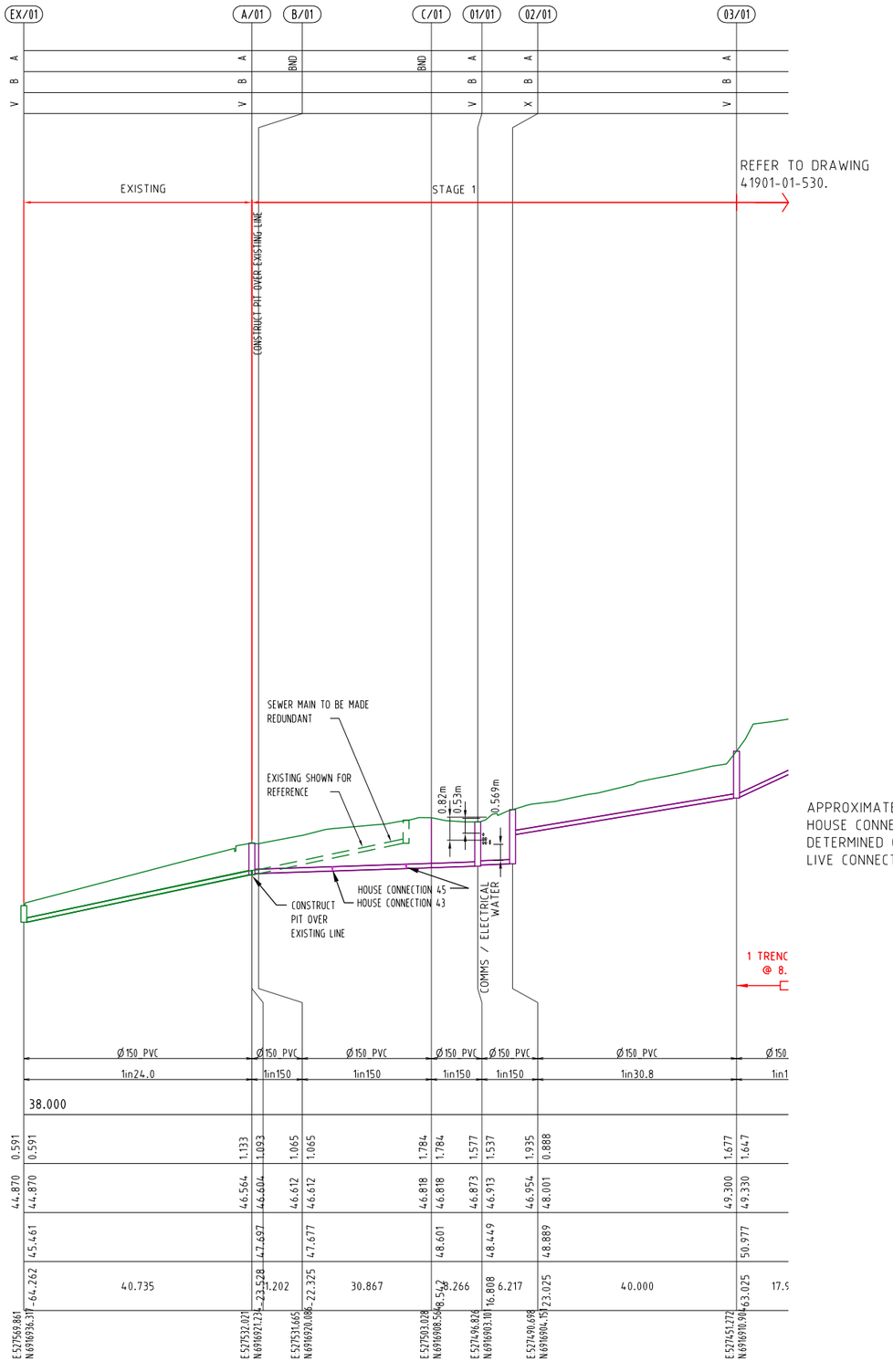
STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER TYPICAL SECTIONS & DETAILS FOR BRIDGING STRUCTURE DETAILS

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

NOTES

1. IF SHOWN, WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAINS PE100 PN16 SDR11
4. ALL EMBEDMENT TYPE IS TO BE TYPE 3 U.N.O
5. ALL BENDS TO BE LONG RADIUS BEND, 1.2m RADIUS MIN.
6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
7. PROTECTIVE COATING IS TO BE INSTALLED TO MAINTENANCE STRUCTURES (WHERE REQUIRED) IN ACCORDANCE WITH CLAUSE 4.7.2 OF SEQ SEWERAGE CODE.
8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1



APPROXIMATE LOCATION OF HOUSE CONNECTION TO BE DETERMINED ONSITE DURING LIVE CONNECTION.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
A	06-03-24	COUNCIL ISSUE	MLJ

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 05

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-534	A

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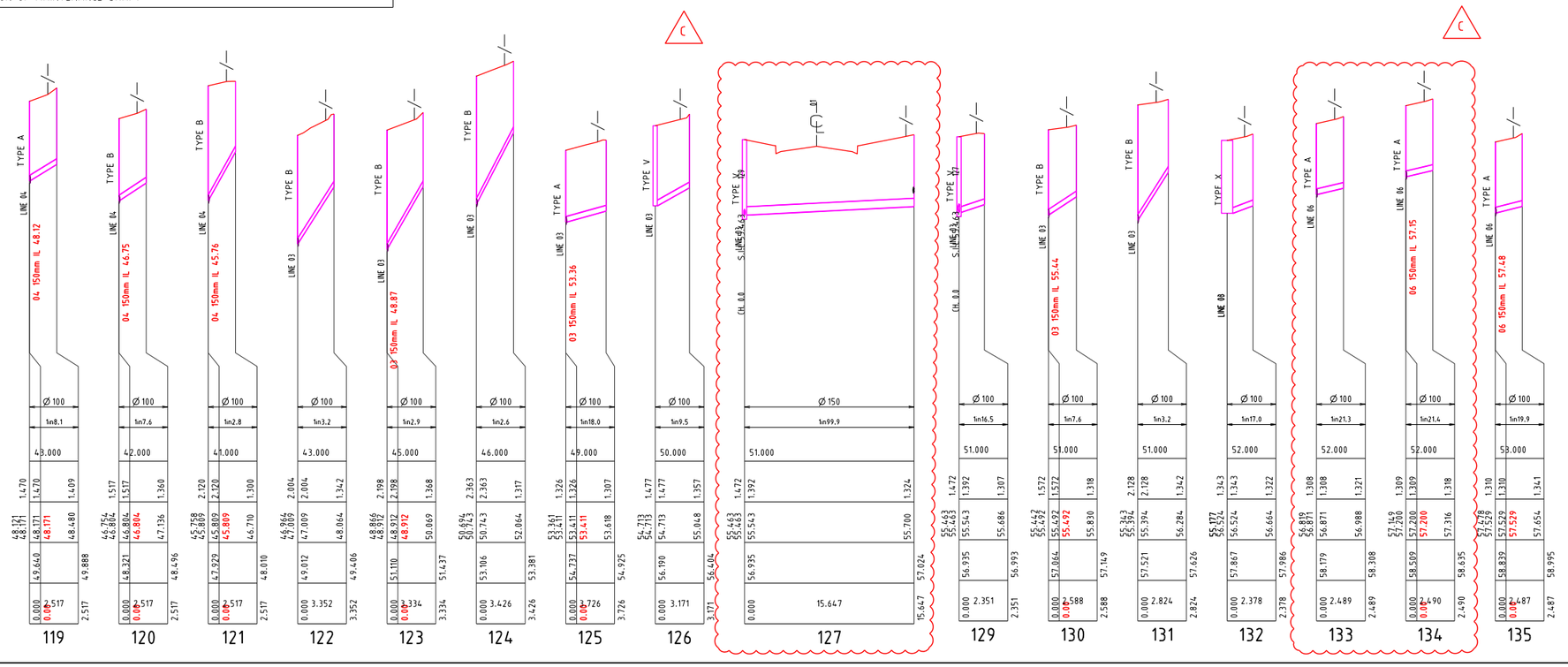
RIGS STRUCTURE DROPS	
A	SEWER PROPERTY CONNECTION (STANDARD & EXTENDED) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
B	SEWER PROPERTY CONNECTION (SLOPED CONNECTION) REFER TO SEQ STD DWGS SEQ-SEW-1104-1
D	SEWER PROPERTY CONNECTION (VERTICAL RISER) REFER TO SEQ STD DWG SEQ-SEW-1105-1
V	SEWER PROPERTY CONNECTION (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

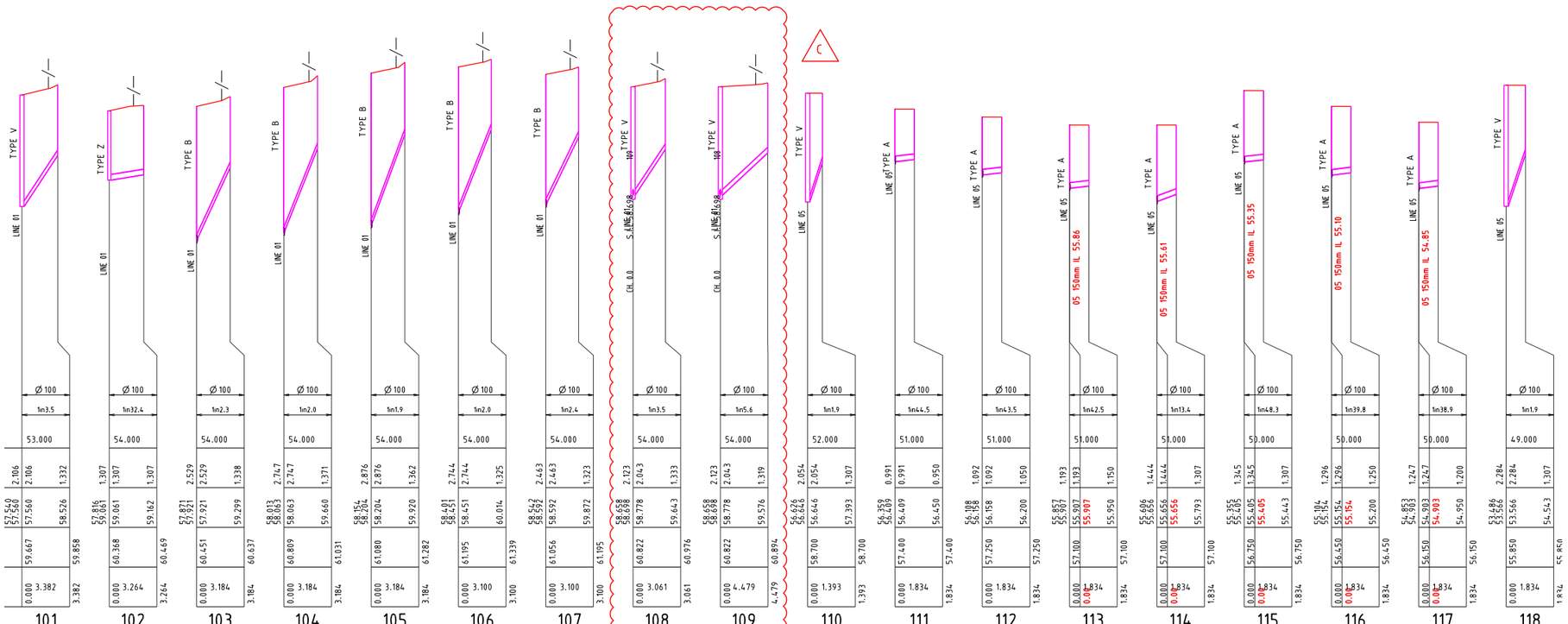
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NOTES

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 SN6 UNLESS NOTED OTHERWISE





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 SN6 UNLESS NOTED OTHERWISE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
C	27-11-23	HOUSE CONNECTIONS AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
		DATE	03-03-23

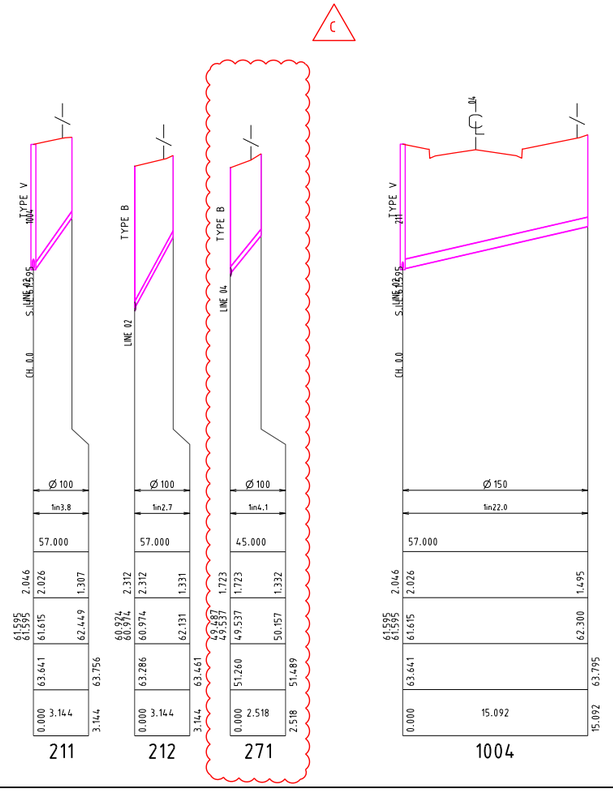
DRAWING NUMBER 41901-01-550 REV C

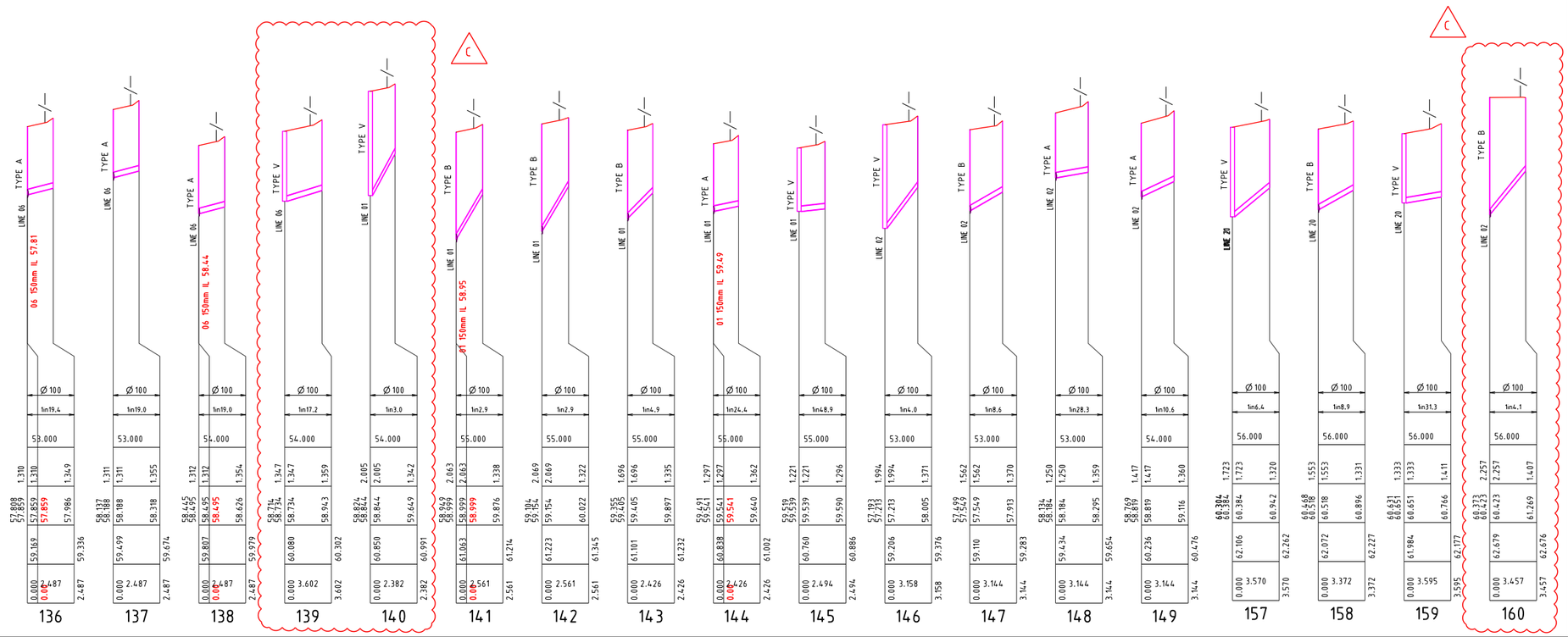
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NOTES

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2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE





PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

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

REV	DATE	DESCRIPTION	INT
C	27-11-23	HOUSE CONNECTION AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 02

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
		DATE	03-03-23

DRAWING NUMBER 41901-01-551 REV C

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STORMWATER

1. ALL FIELD GULLIES SHALL CONTAIN A 150mm DIA STUB 600mm BELOW GRADE LEVEL FOR FUTURE ROOFWATER DRAINAGE.
2. 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).
3. OUTLET HEADWALLS TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARD DRAWINGS.
4. ALL HEADWALLS WITH A FALL GREATER THAN 900mm HIGH REQUIRE INSTALLATION OF PEDESTRIAN SAFETY FENCES.
5. PIPE JOINT TYPES TO BE IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.
6. ALL ALLOTMENTS TO BE GRADED SUCH THAT FUTURE ROOFWATER DRAINAGE DISCHARGES TO KERB OR TO PIPED DRAINAGE SYSTEM.
7. 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.
8. FOR SETOUT DETAILS REFER TO 640 SERIES DRAWINGS (PROFILES & PIT DETAILS).
9. 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.
10. 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
11. 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.
12. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR STORMWATER RATE.
13. 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.
14. KERB ADAPTORS ARE TO BE INSTALLED TO AUTHORITIES REQUIREMENTS.
15. ALL RCBC SLABS ARE TO BE CAST INSITU.

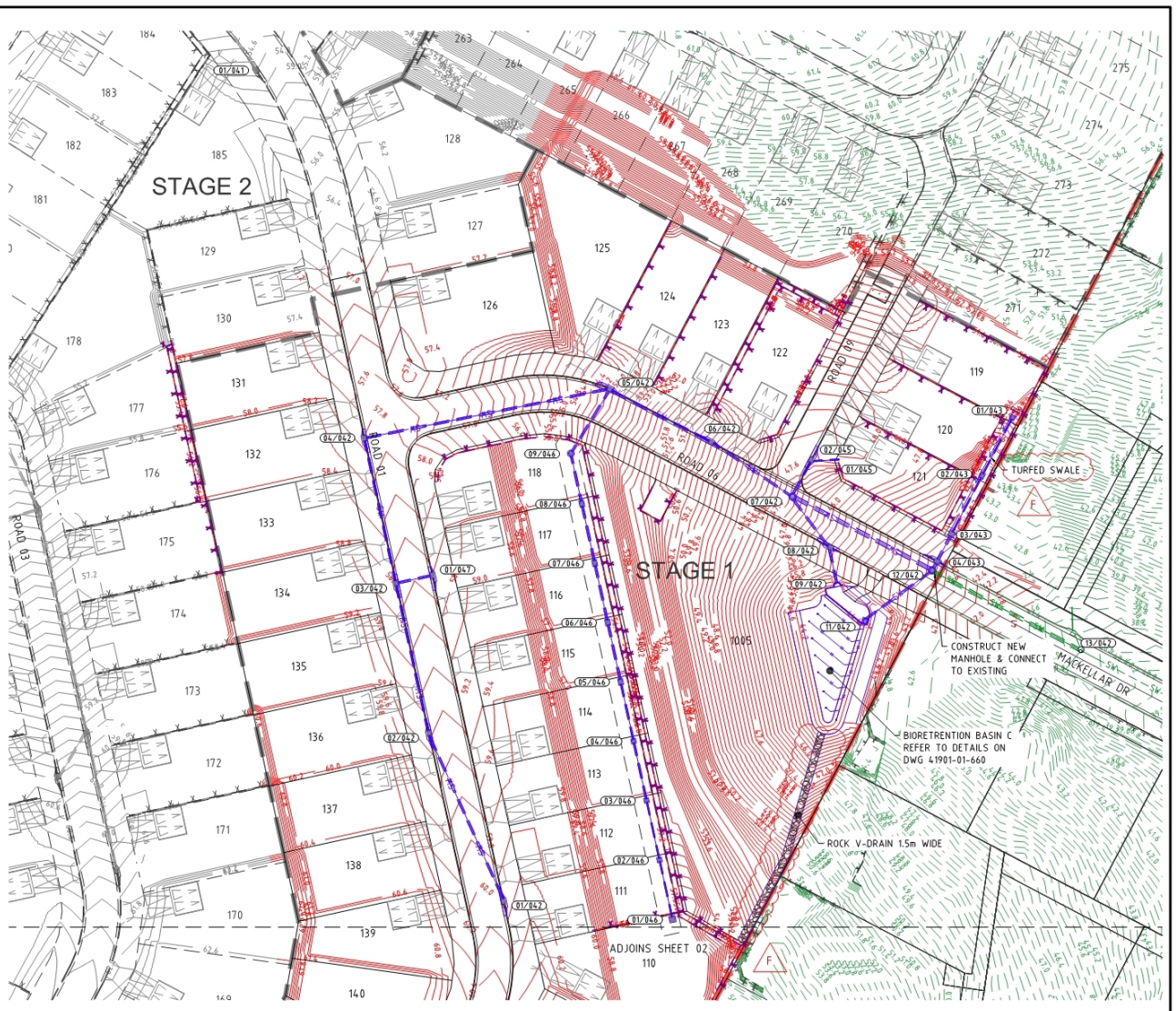
LEGEND

- 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 SUBSOIL
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION

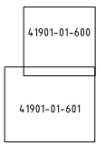
REFERENCE POINT LOCATION FOR DRAINAGE STRUCTURES

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



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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
F	19-06-24	ROCK V-DRAIN & NOTE ADDED	BL
E	23-02-24	CONTOURS & RETAINING WALLS LOT 110 AMENDED	BL
D	20-12-23	STORMWATER LINE 60 REMOVED	BL
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	STORMWATER BASIN ACCESS AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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BENNETT + BENNETT

DRAWING TITLE

STORMWATER DRAINAGE PLAN SHEET 01

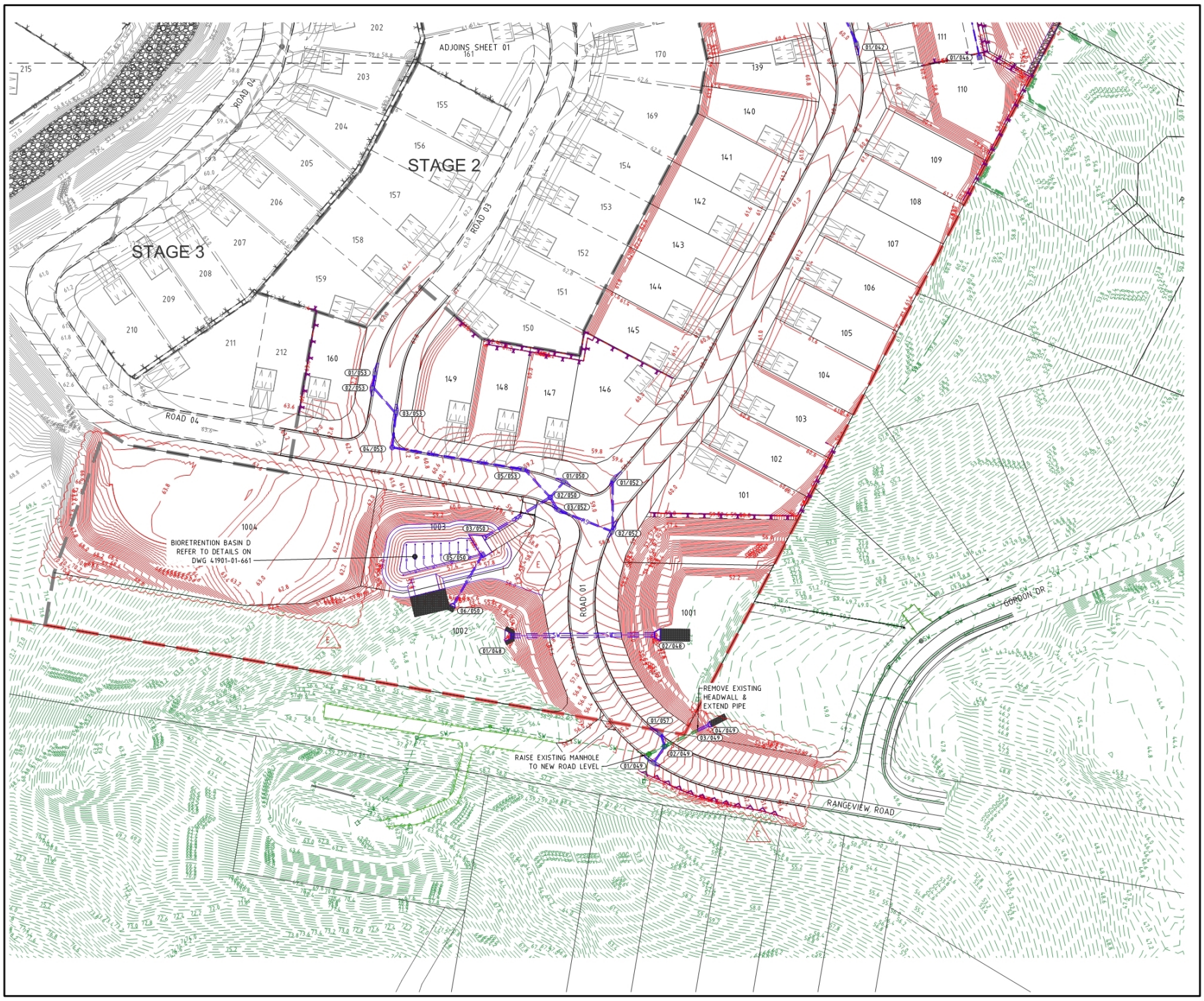
CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-600	F

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
E	19-06-24	PMT REMOVED & CONTOURS UPDATED	BL
D	23-02-24	CONTOURS& RETAINING WALLS LOT 110 AMENDED	BL
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	STORMWATER PIPE AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

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DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 02

CONSTRUCTION ISSUE

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
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Postal Address
PO Box 2484
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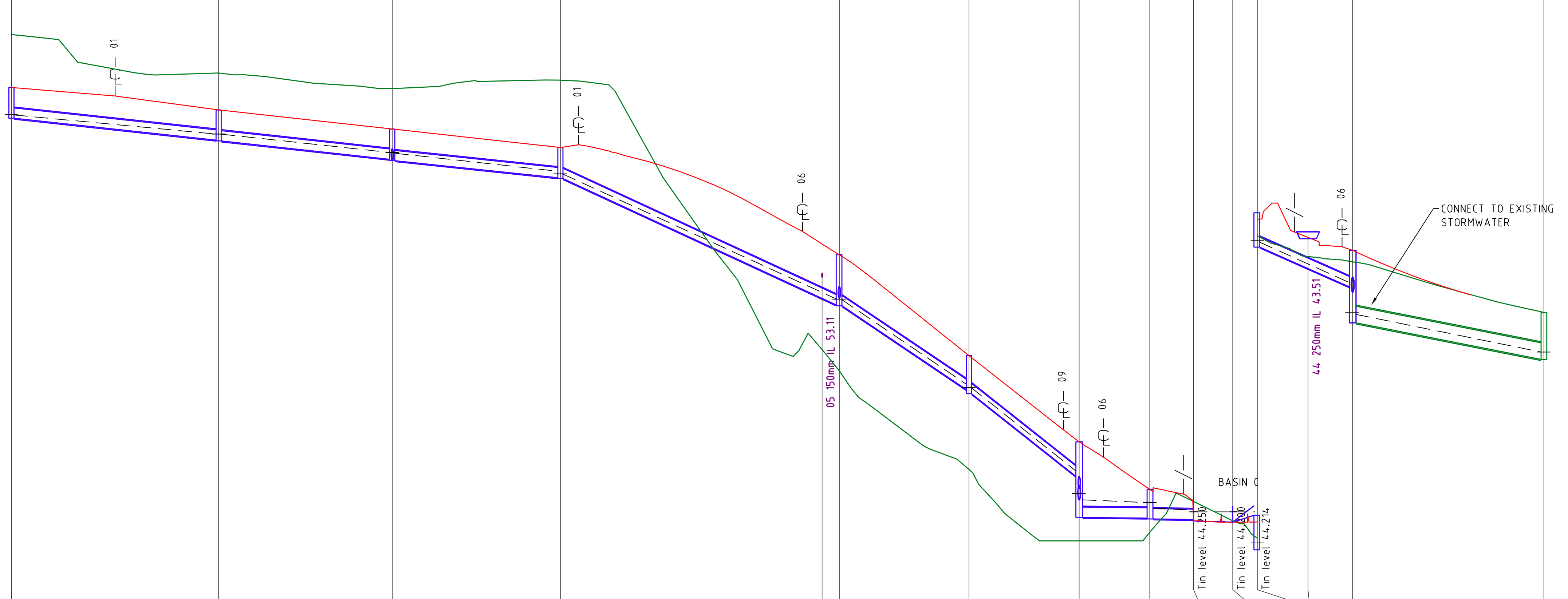
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EMH
APPROVED	RPEQ 4706
DATE 03-03-23	

DRAWING NUMBER	REV
41901-01-601	E

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Structure name	Structure description
01/42	INLET GULLY ON GRADE (LG) Type S Lintel
02/42	INLET GULLY ON GRADE (LG) Type S Lintel
03/42	INLET GULLY ON GRADE (LG) Type S Lintel JOIN 47
04/42	INLET GULLY ON GRADE (LG) Type S Lintel
05/42	DRAINWAYS 1TCS0 ON GRADE JOIN 46
06/42	INLET GULLY ON GRADE (LG) Type S Lintel
07/42	MANHOLE 1200mm DIA JOIN 45
08/42	INLET GULLY ON GRADE (LG) Type S Lintel
09/42	HEADWALL
10/42	BASIN NODE FOR CALCULATIONS
11/42	TYPE 2 FIELD INLET 900x900 GRATE
12/42	MANHOLE 1200mm DIA JOIN 43 JOIN 56
13/42	MANHOLE 1050mm DIA



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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. WHERE STRUCTURE DEPTHS EXCEED 5m STRUCTURES ARE NON-STANDARD AND STRUCTURAL DESIGN IS REQUIRED.
2. 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	PIPE GRADE (%)	PIPE DIAMETER (mm)	VELOCITY (m/s)	PIPE FLOW (m3/s)	PIPE CLASS	Length
01/42 – 02/42	2.112	375	1.450	0.072	3	37.642
02/42 – 03/42	2.112	375	2.430	0.166	3	31.54
03/42 – 04/42	2.027	375	2.810	0.235	3	30.534
04/42 – 05/42	9.063	375	4.820	0.271	3	50.667
05/42 – 06/42	12.943	375	6.610	0.437	3	23.547
06/42 – 07/42	14.999	375	7.610	0.471	4	20.029
07/42 – 08/42	0.200	375	1.680	0.186	3	12.829
08/42 – 09/42	0.256	375	2.040	0.220	4	7.944
09/42 – 10/42	0.703	1		0.220	REFERENCE	7.109
10/42 – 11/42	-13.400	1		0.233	REFERENCE	4.477
11/42 – 12/42	8.319	375	3.840	0.233	3	17.324
12/42 – 13/42	3.829	600	4.290	0.642	3	34.733

DATUM R.L. 35.000 (01/42 – 11/42); 24.000 (from 11/42)

Structure	DEPTH TO INVERT	HYDRAULIC GRADE LINE	PIPE INVERT LEVELS	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CHAINAGE	Coordinates
01/42	1.118	59.028 / 59.004	58.885	60.003	61.925	0.000	E: 527481.920 N: 6917069.530
02/42	1.098 / 1.128	58.310 / 58.307	58.090 / 58.060	59.188	60.531	37.642	E: 527467.571 N: 6917104.330
03/42	1.100 / 1.152	57.642 / 57.613	57.394 / 57.341	58.494	59.962	69.182	E: 527460.836 N: 6917135.143
04/42	1.100 / 1.130	56.959 56.864 / 56.856	56.722 / 56.692	57.822	60.272	99.716	E: 527454.321 N: 6917164.973
05/42	1.825 / 1.855	52.310 / 52.290	52.346 / 52.070	53.925	49.700	47.54 / 150.383	E: 527504.084 N: 6917174.502
06/42	1.236 / 1.383	49.216 49.091 / 49.085	49.022 / 48.874	50.258	46.122	173.930	E: 527524.942 N: 6917163.575
07/42	1.252 / 2.747	46.064 45.244 / 45.016	45.870 / 44.376	47.123	43.523	193.960	E: 527541.877 N: 6917152.880
08/42	1.045 / 1.075	44.917 / 44.720	44.350 / 44.320	45.395	43.836	206.789	E: 527549.948 N: 6917142.907
09/42	-0.050 / 0.000	44.635 / 44.579	44.300 / 44.250	44.800	44.958	214.733	E: 527551.017 N: 6917135.036
10/42	0.000 / 0.000	44.579	44.200 / 44.200	44.800	44.254	221.842	E: 527552.453 N: 6917128.074
11/42	-0.586 / 1.014	44.579 43.449 / 43.378	44.800 / 43.200 42.425	44.450	43.617	226.319 9.21	E: 527556.851 N: 6917127.233
12/42	1.326 / 2.635	41.913 40.812 / 40.756	41.759 / 40.450	43.085	42.662	243.643	E: 527570.676 N: 6917137.673
13/42	1.707 / 1.707	39.388	39.120 / 39.120	40.827	40.827	278.376	E: 527601.179 N: 6917121.061

DRAINAGE LINE 42

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	27-11-23	COORDINATES AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

STORMWATER PROFILES SHEET 01

CONSTRUCTION ISSUE

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

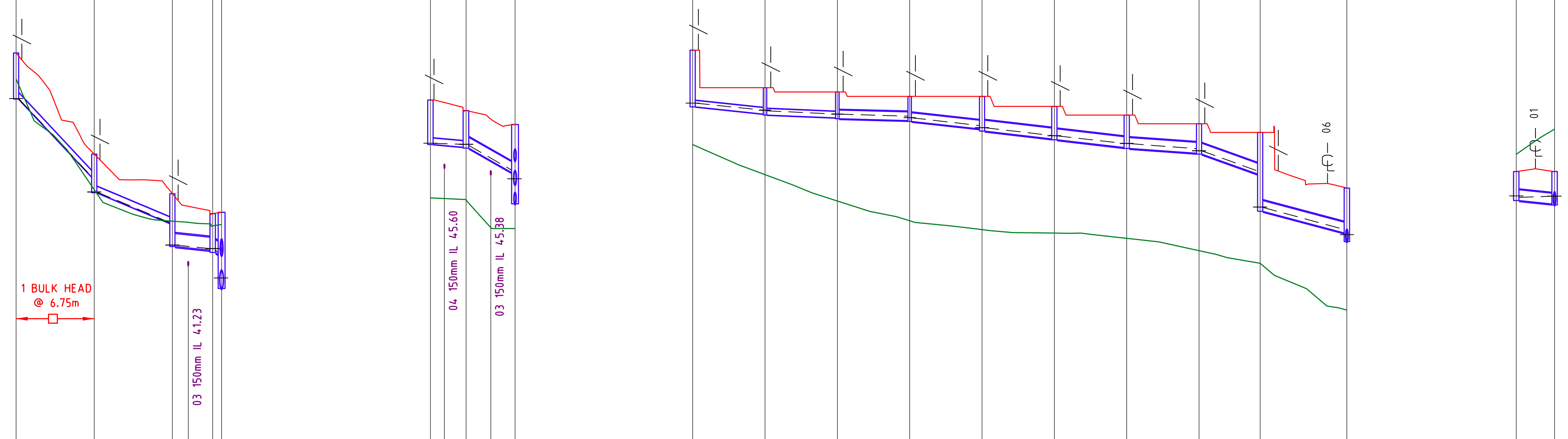
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APPROVED	[signature]	RPEQ	4706
DATE	03-03-23		

DRAWING NUMBER 41901-01-620 REV C

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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. WHERE STRUCTURE DEPTHS EXCEED 5m STRUCTURES ARE NON-STANDARD AND STRUCTURAL DESIGN IS REQUIRED.
2. 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.

DRAINAGE LINE 43

Structure	Description
01/43	TYPE 2 FIELD INLET 900x600 GRATE
02/43	TYPE 2 FIELD INLET 900x600 GRATE
03/43	TYPE 2 FIELD INLET 900x900 GRATE
04/43	INLET GULLY ON GRADE (LG) Type S Lintel
12/42	MANHOLE 1200mm DIA JOIN 42

Pipe	PIPE GRADE (%)	PIPE DIAMETER (mm)	VELOCITY (m/s)	PIPE FLOW (m3/s)	PIPE CLASS
01/43 – 02/43	20.000	225	2.070	0.002	PVC
02/43 – 03/43	7.853	225	1.890	0.005	PVC
03/43 – 04/43	1.835	450	1.250	0.012	3
04/43 – 12/42	5.000	450	1.920	0.049	3

DATUM R.L. 27.000

	01/43		02/43		03/43			04/43		12/42
DEPTH TO INVERT	1.595	0.795	1.339	1.026	1.827		1.266	1.341	1.465	2.635
HYDRAULIC GRADE LINE	47.020	44.321	43.789	42.729 / 41.949	41.950		41.827	41.776	41.694 / 40.812	40.756
PIPE INVERT LEVELS	47.005	44.305	43.761	42.701	41.900	41.852	41.772	41.697	41.620	40.450
DESIGN SURFACE LEVELS	48.600		45.100		43.727			43.038		43.085
EXISTING SURFACE LEVELS	47.696		43.867		42.778			42.611		42.662
CHAINAGE	0.000	13.498	13.498	13.5	26.997	2.74	6.95	33.947	1.55	35.497

Structure	E	N
01/43	527587.173	6917169.104
02/43	527580.912	6917157.146
03/43	527574.645	6917145.189
04/43	527571.400	6917139.043
12/42	527570.676	6917137.673

DRAINAGE LINE 45

Structure	Description
01/45	Ø225 RISER (EXTEND 300mm ABOVE FSL)
02/45	INLET GULLY ON GRADE (LG) Type S Lintel
07/42	MANHOLE 1200mm DIA JOIN 42

Pipe	PIPE GRADE (%)	PIPE DIAMETER (mm)	VELOCITY (m/s)	PIPE FLOW (m3/s)	PIPE CLASS
01/45 – 02/45	1.489	225	0.800	0.006	PVC
02/45 – 07/42	10.000	375	3.130	0.079	3

DATUM R.L. 28.000

		01/45			02/45			07/42
DEPTH TO INVERT		1.542		1.270	1.300		1.662	2.747
HYDRAULIC GRADE LINE	46.478	46.474		46.438	46.401		45.545 / 45.244	45.016
PIPE INVERT LEVELS		46.428	46.394	46.337	46.307	45.872	45.461	44.376
DESIGN SURFACE LEVELS		47.971			47.606			47.123
EXISTING SURFACE LEVELS		44.584			44.525			43.523
CHAINAGE		0.000	2.41	6.158	6.158	4.26	8.457	14.614

Structure	E	N
01/45	527551.458	6917160.492
02/45	527545.302	6917160.612
07/42	527541.877	6917152.880

DRAINAGE LINE 46

Structure	Description
01/46	TYPE 2 FIELD INLET 900x900 GRATE
02/46	TYPE 2 FIELD INLET 600x600 GRATE
03/46	TYPE 2 FIELD INLET 600x600 GRATE
04/46	TYPE 2 FIELD INLET 600x600 GRATE
05/46	TYPE 2 FIELD INLET 900x600 GRATE
06/46	TYPE 2 FIELD INLET 900x600 GRATE
07/46	TYPE 2 FIELD INLET 900x600 GRATE
08/46	TYPE 2 FIELD INLET 900x600 GRATE
09/46	MANHOLE C/W CONVERTER SLAB 600x600 GRATE
05/42	DRAINWAYS 1TCS0 ON GRADE JOIN 42

Pipe	PIPE GRADE (%)	PIPE DIAMETER (mm)	VELOCITY (m/s)	PIPE FLOW (m3/s)	PIPE CLASS
01/46 – 02/46	2.000	225	1.150	0.021	PVC
02/46 – 03/46	0.785	225	1.200	0.033	PVC
03/46 – 04/46	0.500	300	1.230	0.046	3
04/46 – 05/46	2.078	300	2.110	0.058	3
05/46 – 06/46	2.163	375	2.370	0.069	3
06/46 – 07/46	2.160	375	2.200	0.081	3
07/46 – 08/46	1.326	375	2.030	0.094	3
08/46 – 09/46	6.561	375	3.840	0.106	3
09/46 – 05/42	5.000	375	3.310	0.119	3

DATUM R.L. 37.000

Structure	DEPTH TO INVERT	HYDRAULIC GRADE LINE	PIPE INVERT LEVELS	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CHAINAGE	E	N
01/46	1.967	56.867 / 56.865	56.733	58.700	55.428	0.000	527517.204	6917065.912
(pipe)	0.917	56.619	56.483			12.5		
02/46	0.947	56.599	56.453	57.400	54.390	12.500	527514.537	6917078.124
(pipe)	0.896	56.486	56.354			12.5		
03/46	0.926	56.484	56.324	57.250	53.473	25.000	527511.870	6917090.336
(pipe)	0.838	56.414 / 56.362	56.262			12.5		
04/46	0.868	56.358	56.232	57.100	52.791	37.500	527509.203	6917102.548
(pipe)	1.128	56.088	55.972			12.5		
05/46	1.203	56.015	55.897	57.100	52.485	50.000	527506.536	6917114.760
(pipe)	1.123	55.743 / 55.734	55.627			12.5		
06/46	1.153	55.732	55.597	56.750	52.365	62.500	527503.870	6917126.973
(pipe)	1.123	55.470	55.327			12.5		
07/46	1.153	55.463	55.297	56.450	52.183	75.000	527501.203	6917139.185
(pipe)	1.019	55.286 / 55.216	55.131			12.5		
08/46	1.049	55.214	55.101	56.150	51.756	87.500	527498.536	6917151.397
(pipe)	1.442	54.516 / 53.266	54.408			10.56		
09/46	2.732	53.255	53.118	55.850	51.319	98.060	527496.283	6917161.714
(pipe)	1.556	52.492 / 52.310	52.369			14.98		
05/42	1.855	52.290	52.070	53.925	49.700	113.040	527504.084	6917174.502

DRAINAGE LINE 47

Structure	Description
01/47	INLET GULLY ON GRADE (LG) Type S Lintel
03/42	INLET GULLY ON GRADE (LG) Type S Lintel JOIN 42

Pipe	PIPE GRADE (%)	PIPE DIAMETER (mm)	VELOCITY (m/s)	PIPE FLOW (m3/s)	PIPE CLASS
01/47 – 03/42	1.802	375	0.690	0.018	3

DATUM R.L. 41.000

Structure	DEPTH TO INVERT	HYDRAULIC GRADE LINE	PIPE INVERT LEVELS	DESIGN SURFACE LEVELS	EXISTING SURFACE LEVELS	CHAINAGE	E	N
01/47	1.004	57.654 / 57.602	57.490	58.494	59.090	0.000	527467.284	6917136.551
(pipe)	1.123	57.642	57.371			6.6		
03/42	1.152	57.613	57.341	58.494	59.962	6.600	527460.836	6917135.143

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	STORMWATER PROFILE AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 02

CONSTRUCTION ISSUE

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 EMH
APPROVED [signature] RPEQ 4706 | DATE 03-03-23

DRAWING NUMBER 41901-01-621 | REV C

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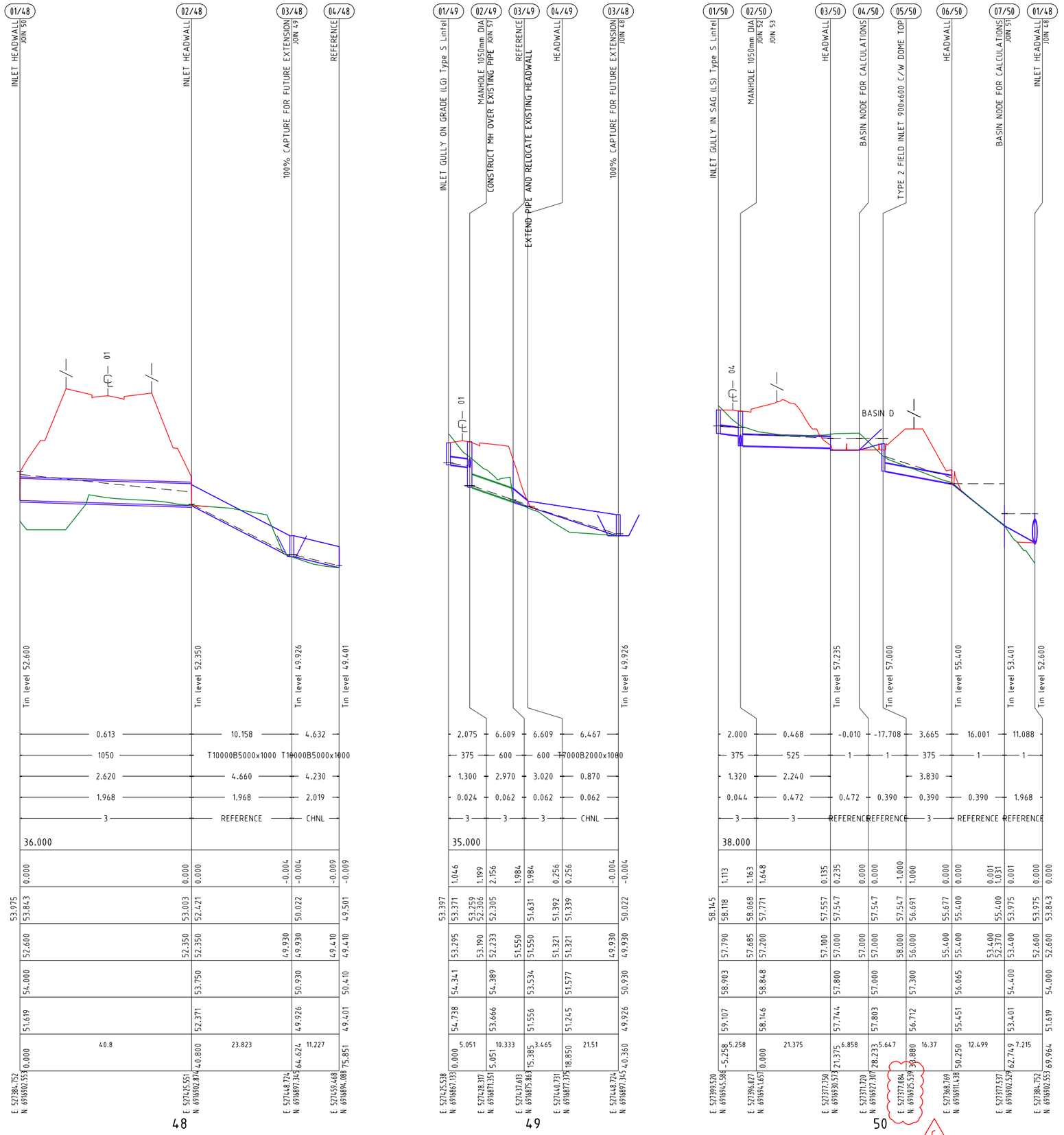
STRUCTURE NAME

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. WHERE STRUCTURE DEPTHS EXCEED 5m STRUCTURES ARE NON-STANDARD AND STRUCTURAL DESIGN IS REQUIRED.
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DRAINAGE LINE

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
C	27-11-23	COORDINATES AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 03

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-622

REV C

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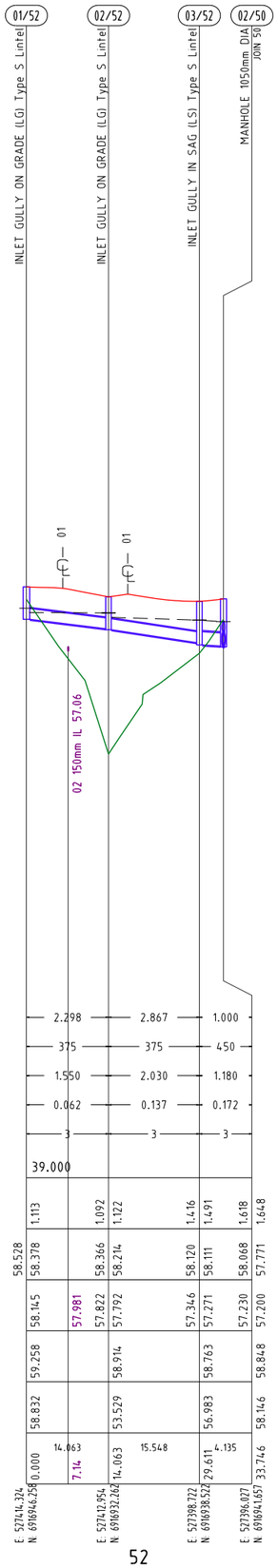
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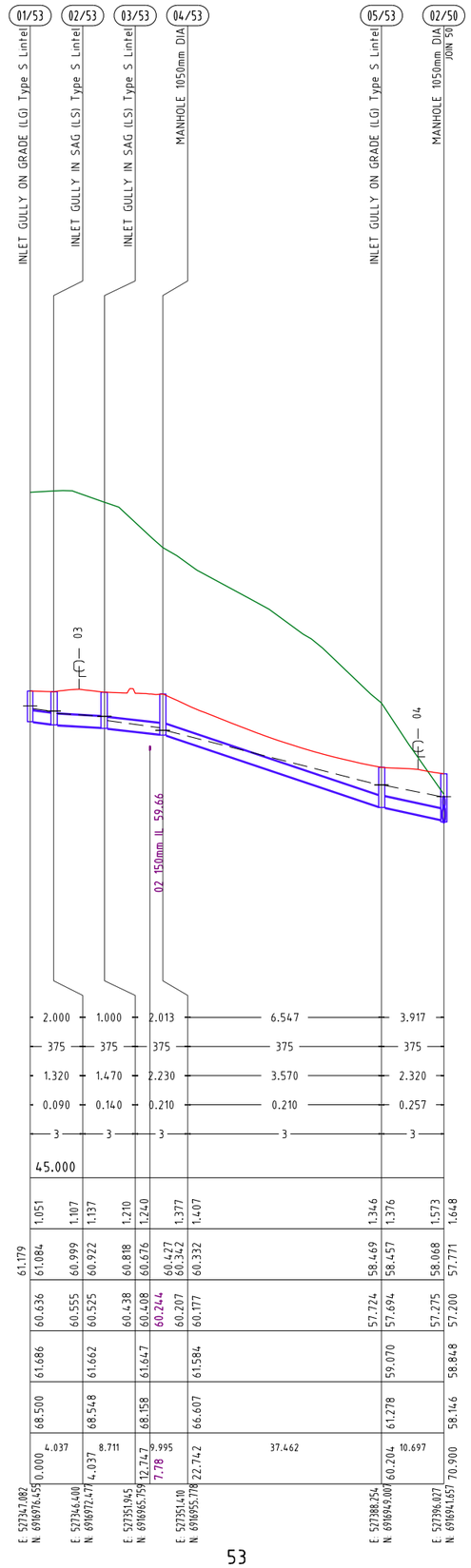


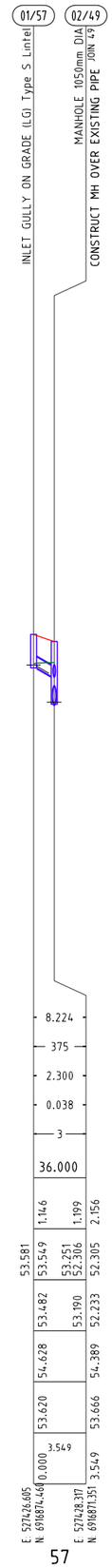
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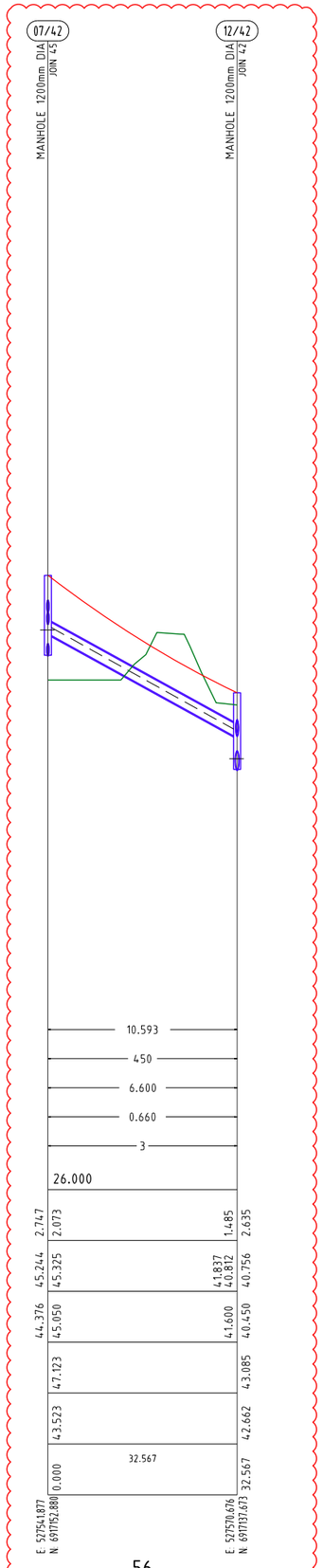
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DRAINAGE LINE









D

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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)

REV	DATE	DESCRIPTION	INT
D	20-12-23	LINE 56 ADDED & LINE 60 REMOVED	BL
C	20-09-23	LINE 60 ADDED	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
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STORMWATER PROFILES SHEET 04

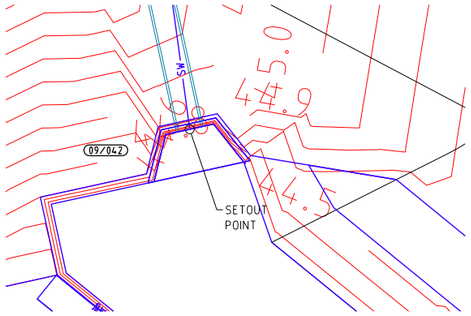
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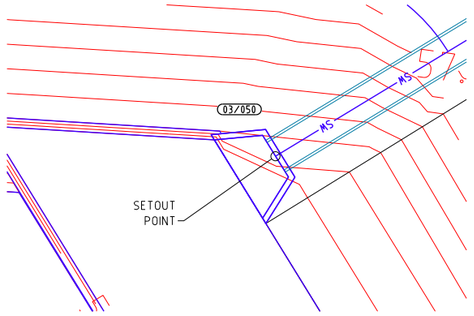
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short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

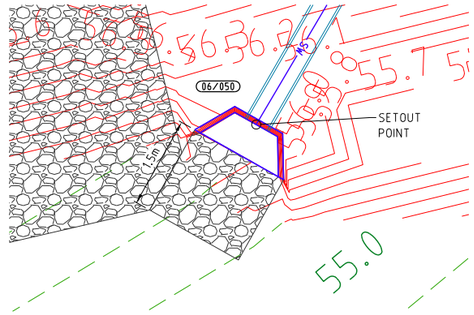
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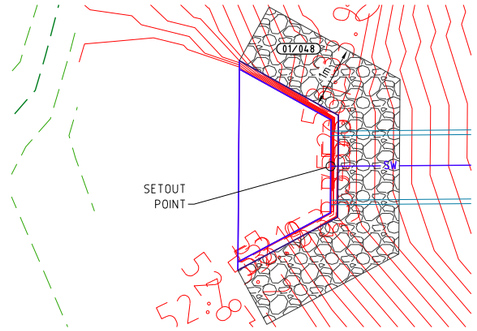






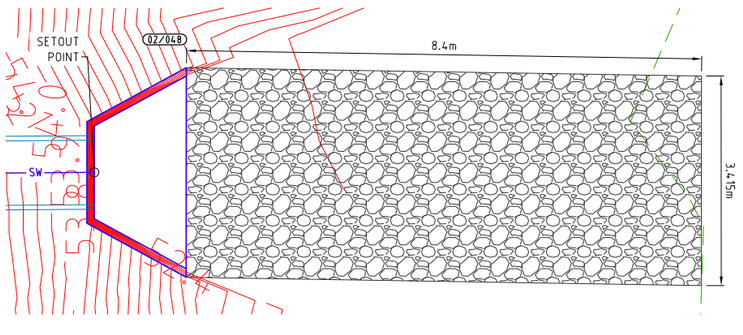
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HW 06/050	SIZE 375mm
VELOCITY = 3.91m/s	
LENGTH = 1.5m	d50 = 200mm
SCOUR PROTECTION TYPE = RENO MATTRESS 400mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



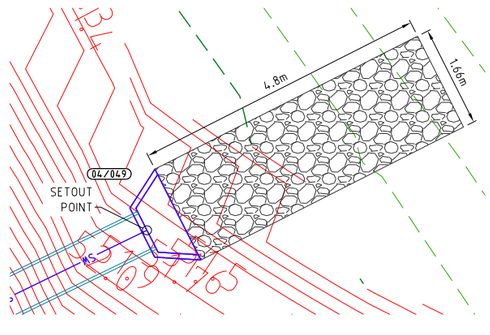
SCOUR PROTECTION DESIGN	
HW 01/048	SIZE 1050mm
VELOCITY = 3.91 m/s	
WIDTH = 1m	d50 = 200mm
SCOUR PROTECTION TYPE = GROUTED ROCK PITCHING 400mm THICK	

CALCULATIONS UNDERTAKEN USING FIGURE 8.12 FROM QUDM 2016



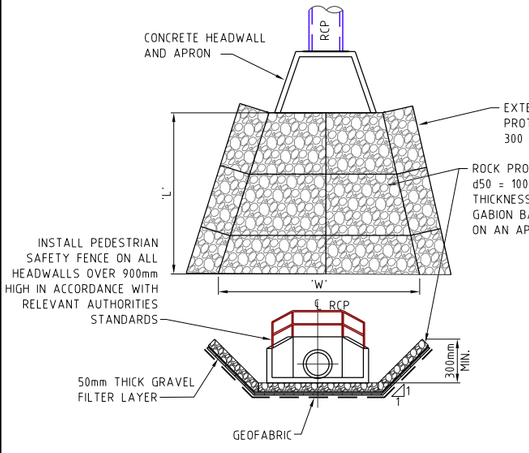
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VELOCITY = 3.6m/s	
LENGTH = 8.4m	d50 = 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 600mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



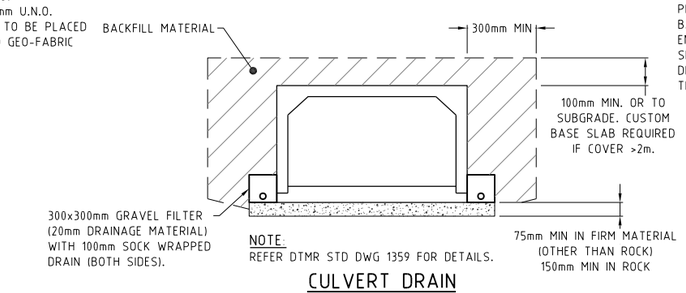
SCOUR PROTECTION DESIGN	
HW 04/049	SIZE 375mm
VELOCITY = 4.2m/s	
LENGTH = 4.8m	d50 = 300mm
SCOUR PROTECTION TYPE = RENO MATTRESS 600mm THICK	

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



TYPICAL GABION SCOUR PROTECTION DETAIL

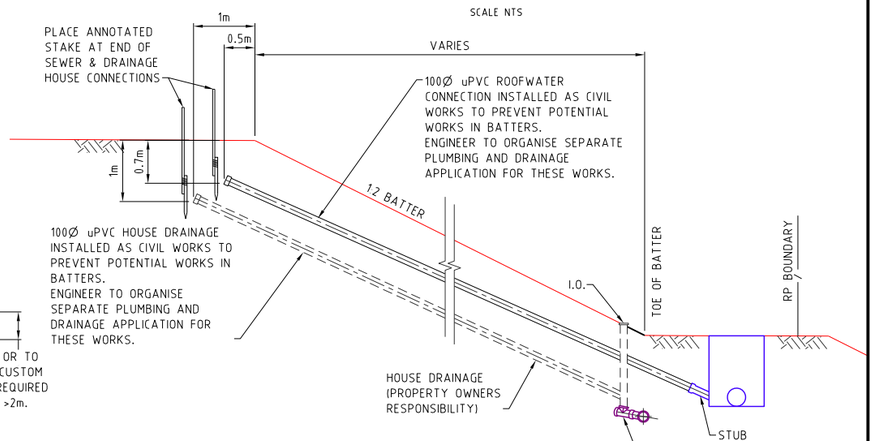
SCALE 1 : 100 - A1 (1:200 - A3)



NOTE:
REFER DTMR STD DWG 1359 FOR DETAILS.

CULVERT DRAIN

SCALE NTS



SEWER & STORMWATER HOUSE CONNECTION DETAIL

(WHERE INDICATED ON PLAN)

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

Scale 1:10 - A1 (1:20 - A3) 0 0.1 0.2 0.3 0.4 0.5m

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

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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER OUTLETS AND TYPICAL DETAILS SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

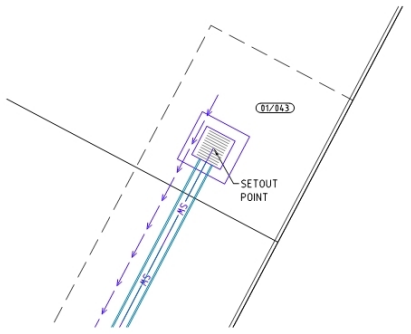
DRAWING NUMBER 41901-01-640 REV B

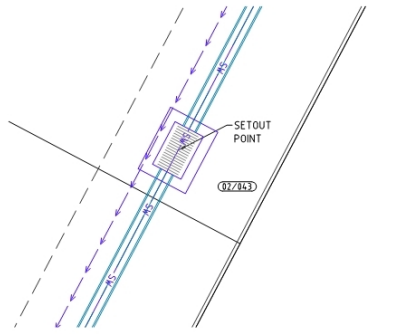
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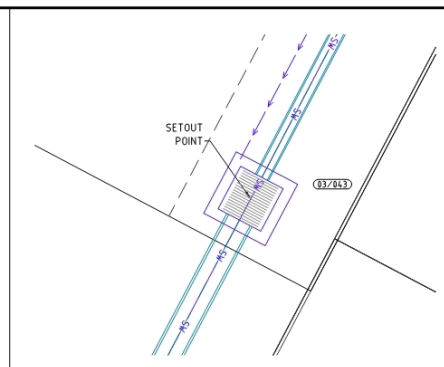
LEGEND

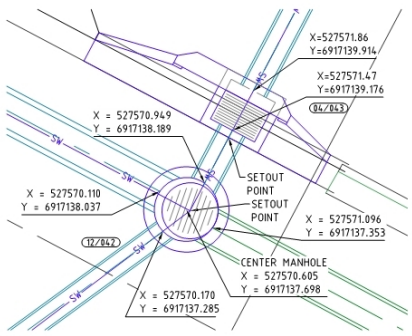
- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- EXISTING STORMWATER
- EXISTING ROOFWATER
- EXISTING STORMWATER PIPES
- EXISTING ROOFWATER PIPES
- FUTURE KERB (INVERT)
- FUTURE KERB (LIP & BACK)
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- FUTURE STORMWATER
- 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
- 10/001 DRAINAGE PIT & LINE NO.
- CONCRETE

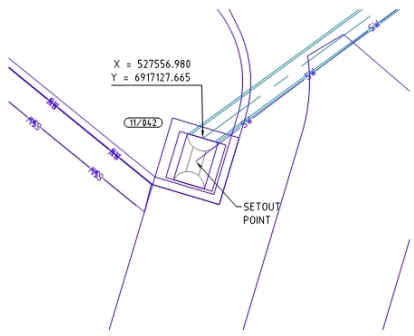
NOTE
THE STORMWATER PIT IMAGE ARE DIAGRAMATIC ONLY & THE CONTRACTOR MUST ENSURE THEY MATCH NEATLY INTO THE WORKS

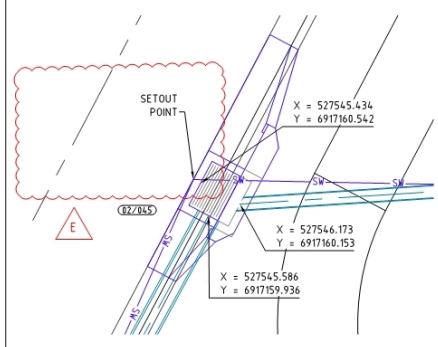


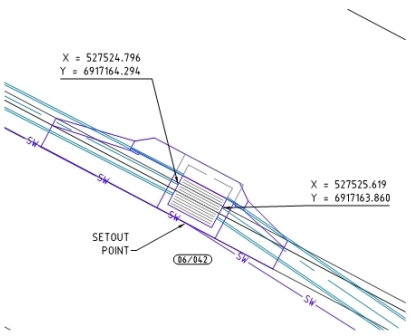


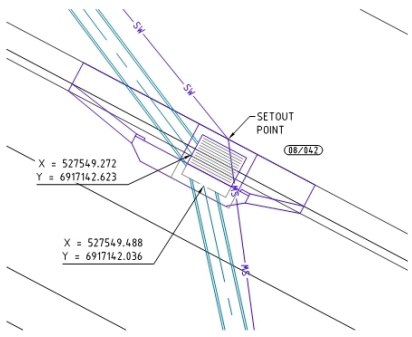


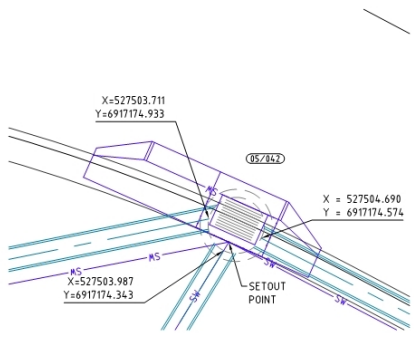


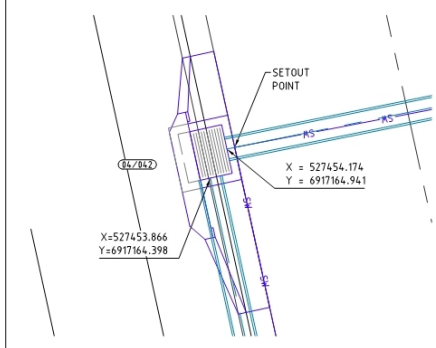


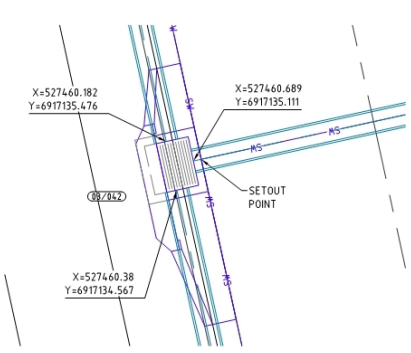


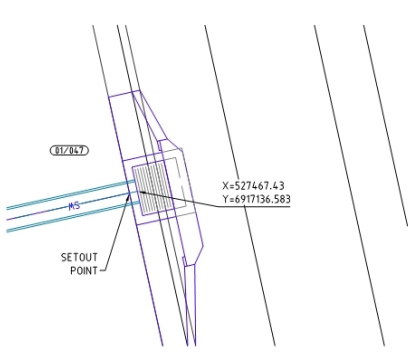


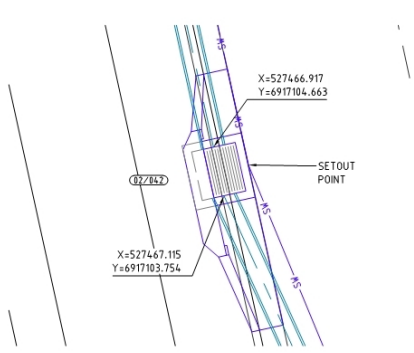


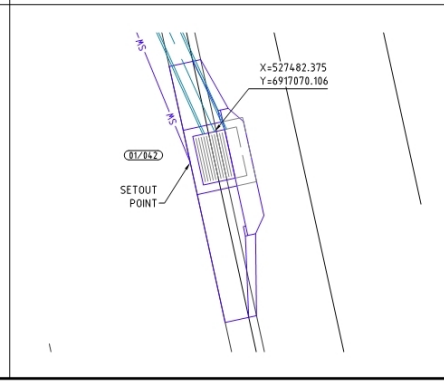












PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
E	20-12-23	LINE 68 REMOVED	BL
D	27-11-23	CEN MH COORDS ADDED & SETOUT POINT ADJUSTED	BL
C	06-10-23	CO-ORDS PIT 08/042 AMENDED	JB
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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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

CONSTRUCTION ISSUE

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

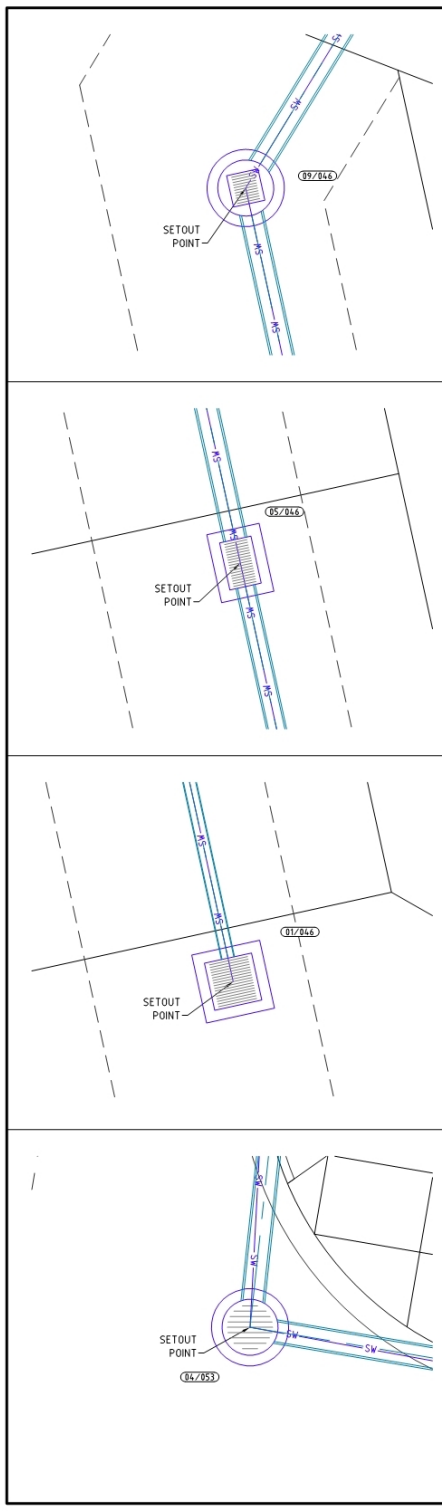
Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED	RB	DRAWN	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-650	E

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

REV	DATE	DESCRIPTION	INT
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 02

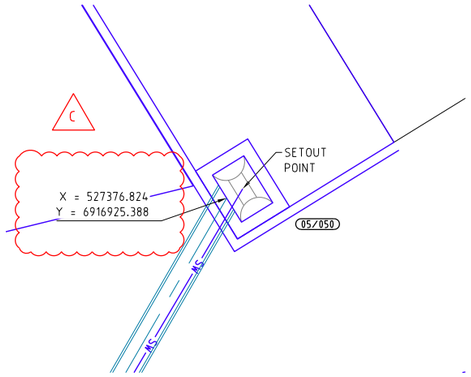
CONSTRUCTION ISSUE

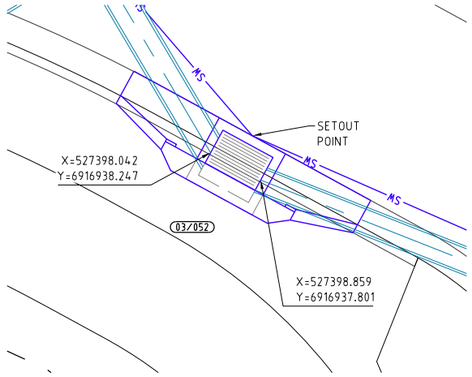
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short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

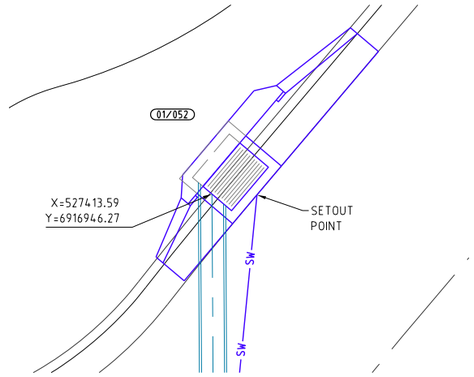
DESIGNED	RB	DRAWN	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

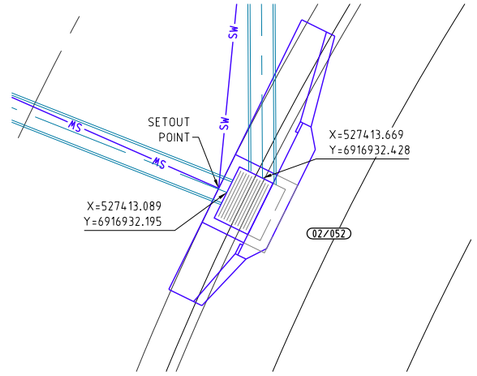
DRAWING NUMBER 41901-01-651 | REV B

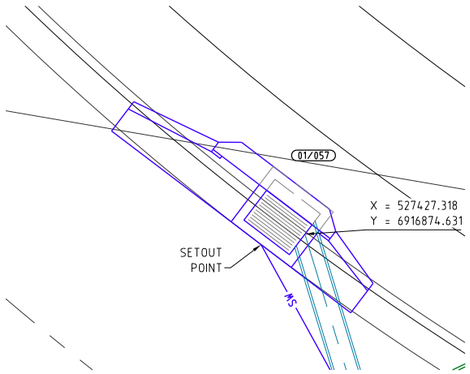
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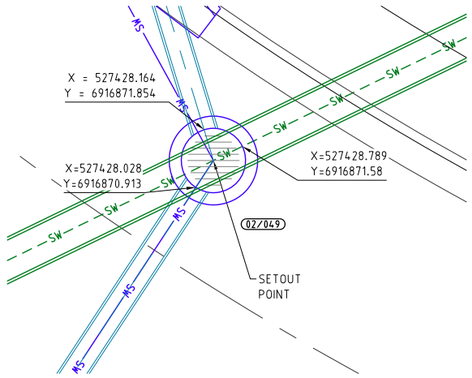


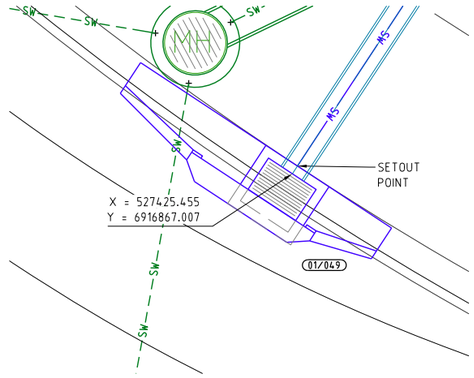


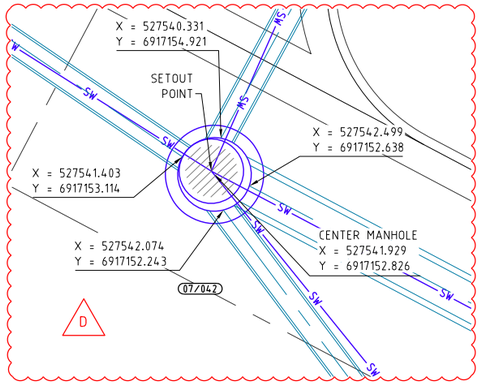












PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 0.5 1.0 1.5 2.0 2.5m

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

REV	DATE	DESCRIPTION	INT
D	27-11-23	DETAILS FOR MANHOLE 7/42 ADDED	BL
C	06-10-23	CO-ORDS PIT 05/050 AMENDED	JB
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 03

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-652	D

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BASIN CONSTRUCTION

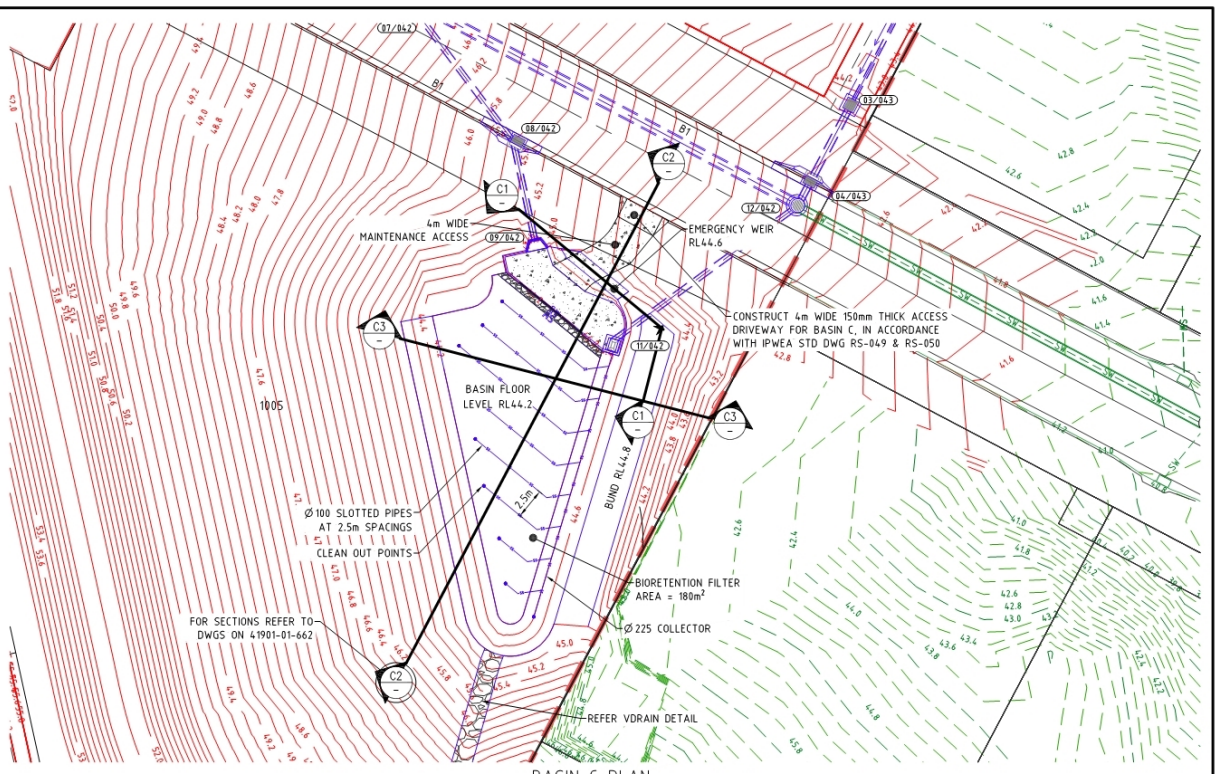
1. PRIOR TO COMMENCING CONSTRUCTION OF THE DETENTION BASIN THE DIVERSION OF SURFACE WATER FROM THE PROPOSED WORKS AREA, USING MEASURES SUCH AS OPEN DRAINS/SUMPS, ARE REQUIRED TO AID IN SITE DEWATERING.
2. FOR THE ENTIRE EMBANKMENT AREA STRIPPING OF VEGETATION & ANY HIGHLY ORGANIC TOP SOILS & ANY SOFT CLAYS TO DEPTHS OF APPROXIMATELY 0.3m IS REQUIRED.
3. THE STRIPPED SURFACE IS TO BE INSPECTED & TESTED BY A GEOTECHNICAL ENGINEER.
4. SUBJECT TO GEOTECHNICAL ENGINEER'S INSPECTION EXCAVATION OF A CUTOFF KEY ALONG THE EMBANKMENT CENTERLINE AT LEAST 0.5m - 1.0m INTO THE FOUNDATION MATERIALS SHALL BE REQUIRED.
5. THE CLAY FILLING FOR THE BASIN WALLS SHALL BE PLACED IN HORIZONTAL LAYERS OF 200mm THICKNESS & COMPACTED TO A DENSITY RATIO WITHIN THE RANGE 98% - 102% STANDARD COMPACTION (AS 1289.5.1.1). PLACEMENT MOISTURE CONTENTS SHOULD BE WITHIN THE RANGE OMC -1% TO OMC +2% (WHERE OMC = OPTIMUM MOISTURE CONTENT FOR STANDARD COMPACTION).
6. IF THE CIVIL CONTRACTOR IS CONSTRUCTING THE BIO BASIN FILTER MEDIA AFTER THE CONSTRUCTION OF THE BASIN INLET & OUTLET STRUCTURES, THE CIVIL CONTRACTOR IS TO CONFIRM THE LEVELS OF THE INLET & OUTLET STRUCTURES PRIOR TO COMMENCING BASIN CONSTRUCTION.

WALL DETAILS CONTAINED WITH THIS SET ARE INDICATIVE ONLY.
ALL RETAINING WALLS AND FOOTINGS ARE SUBJECT TO DETAILED DESIGN AND CERTIFICATION BY AN APPROPRIATELY QUALIFIED R.P.E.Q CERTIFIED ENGINEER.

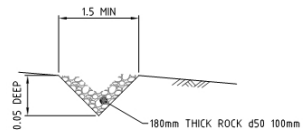
LEGEND

- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- SW EXISTING STORMWATER
- FUTURE PROPERTY LINE
- SW FUTURE STORMWATER
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPERTY LINE
- PROPOSED KERB
- 1.0 DESIGN CONTOURS
- SW PROPOSED STORMWATER
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- 10/001 STORMWATER PIT & LINE NO.

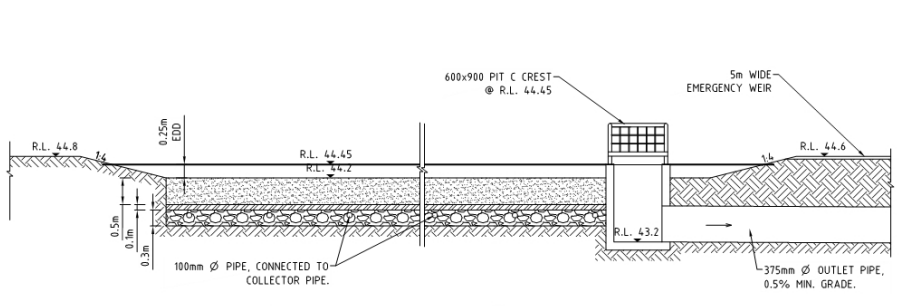
DIAL BEFORE YOU DIG www.1100.com.au



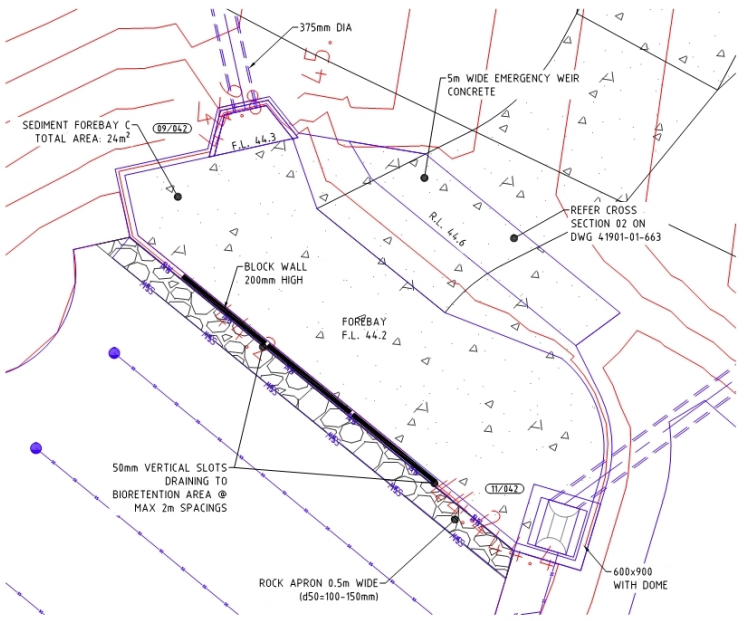
BASIN C PLAN
SCALE 1:200 - A1 (1:400 - A3)



ROCK VDRAIN TO BASIN
NOT TO SCALE



BASIN C CROSS SECTION
SCALE 1:50 - A1 (1:100 - A3)



SEDIMENT FOREBAY C DETAIL
SCALE 1:50 - A1 (1:100 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)
0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
D	19-06-24	VDRAIN TO BASIN ADDED	BL
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	NOTES & SCOUR PROTECTION AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER BASIN PLAN AND DETAILS SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-660	D

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Practice\Stage 01\Engineering Drawings\Current\41901-01-660.dwg, PLAN SHEET 01, 20/7/2024 12:05:20 PM, 1:2

BASIN CONSTRUCTION

1. PRIOR TO COMMENCING CONSTRUCTION OF THE DETENTION BASIN THE DIVERSION OF SURFACE WATER FROM THE PROPOSED WORKS AREA, USING MEASURES SUCH AS OPEN DRAINS/SUMPS, ARE REQUIRED TO AID IN SITE DEWATERING.
2. FOR THE ENTIRE EMBANKMENT AREA STRIPPING OF VEGETATION & ANY HIGHLY ORGANIC TOP SOILS & ANY SOFT CLAYS TO DEPTHS OF APPROXIMATELY 0.3m IS REQUIRED.
3. THE STRIPPED SURFACE IS TO BE INSPECTED & TESTED BY A GEOTECHNICAL ENGINEER.
4. SUBJECT TO GEOTECHNICAL ENGINEER'S INSPECTION EXCAVATION OF A CUTOFF KEY ALONG THE EMBANKMENT CENTERLINE AT LEAST 0.5m - 1.0m INTO THE FOUNDATION MATERIALS SHALL BE REQUIRED.
5. THE CLAY FILLING FOR THE BASIN WALLS SHALL BE PLACED IN HORIZONTAL LAYERS OF 200mm THICKNESS & COMPACTED TO A DENSITY RATIO WITHIN THE RANGE 98% - 102% STANDARD COMPACTION (AS 1289.5.1.1). PLACEMENT MOISTURE CONTENTS SHOULD BE WITHIN THE RANGE OMC -1% TO OMC +2% (WHERE OMC = OPTIMUM MOISTURE CONTENT FOR STANDARD COMPACTION).
6. IF THE CIVIL CONTRACTOR IS CONSTRUCTING THE BIO BASIN FILTER MEDIA AFTER THE CONSTRUCTION OF THE BASIN INLET & OUTLET STRUCTURES, THE CIVIL CONTRACTOR IS TO CONFIRM THE LEVELS OF THE INLET & OUTLET STRUCTURES PRIOR TO COMMENCING BASIN CONSTRUCTION.

WALL DETAILS CONTAINED WITH THIS SET ARE INDICATIVE ONLY. ALL RETAINING WALLS AND FOOTINGS ARE SUBJECT TO DETAILED DESIGN AND CERTIFICATION BY AN APPROPRIATELY QUALIFIED R.P.E.Q CERTIFIED ENGINEER.

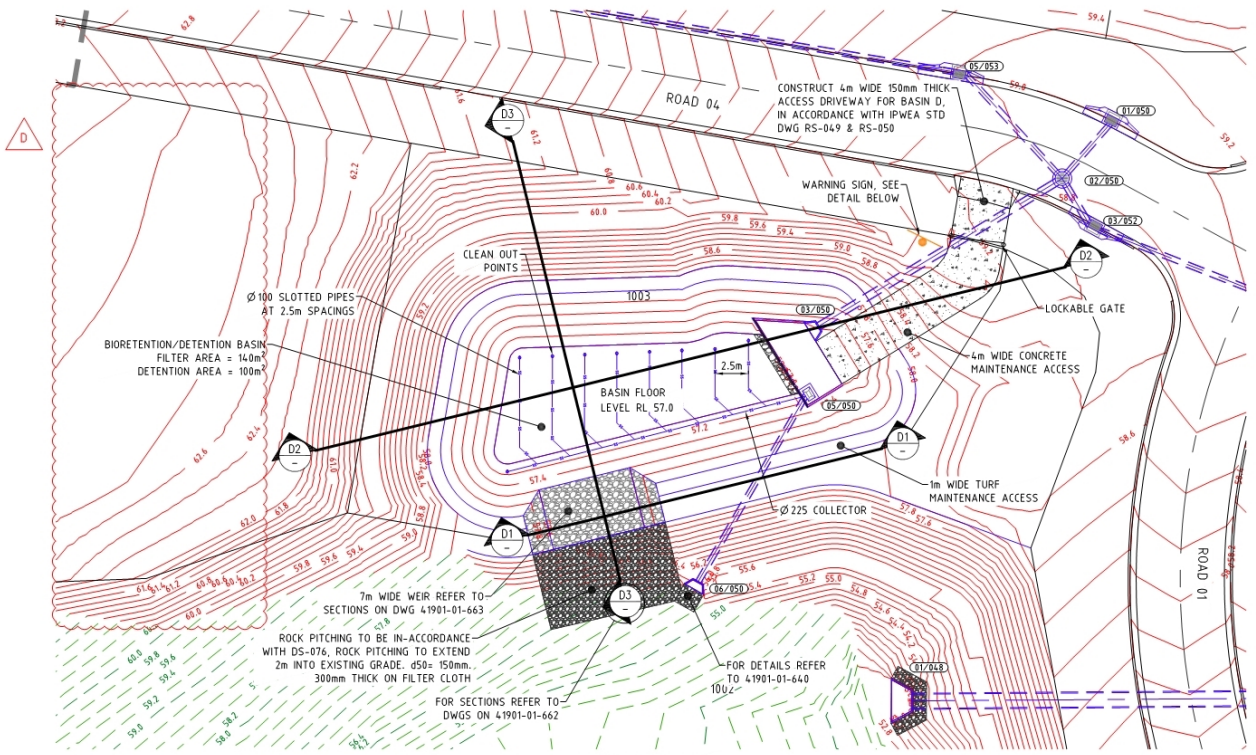
LEGEND

- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- EXISTING STORMWATER
- FUTURE PROPERTY LINE
- FUTURE STORMWATER
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPERTY LINE
- PROPOSED KERB
- DESIGN CONTOURS
- PROPOSED STORMWATER
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- STORMWATER PIT & LINE NO.

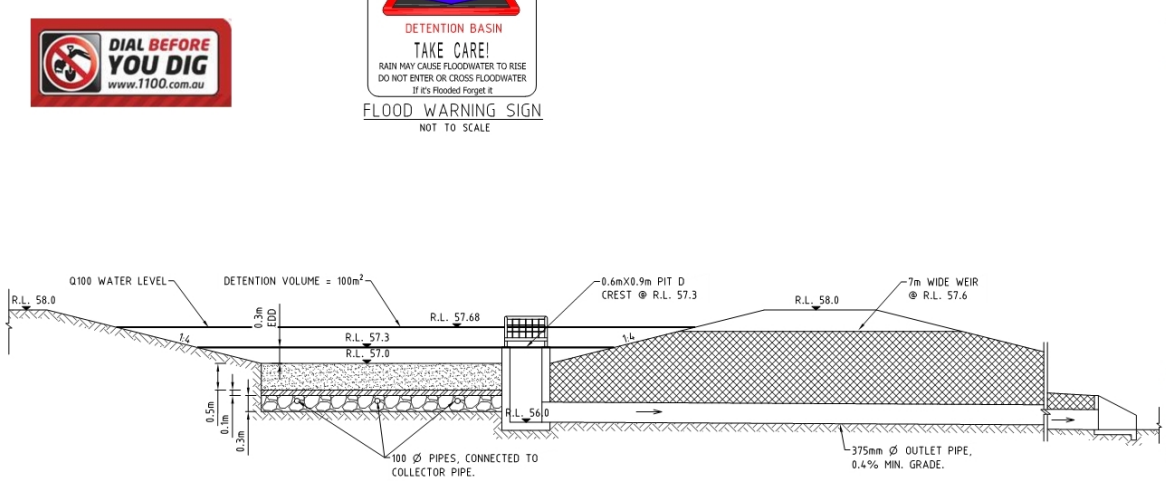
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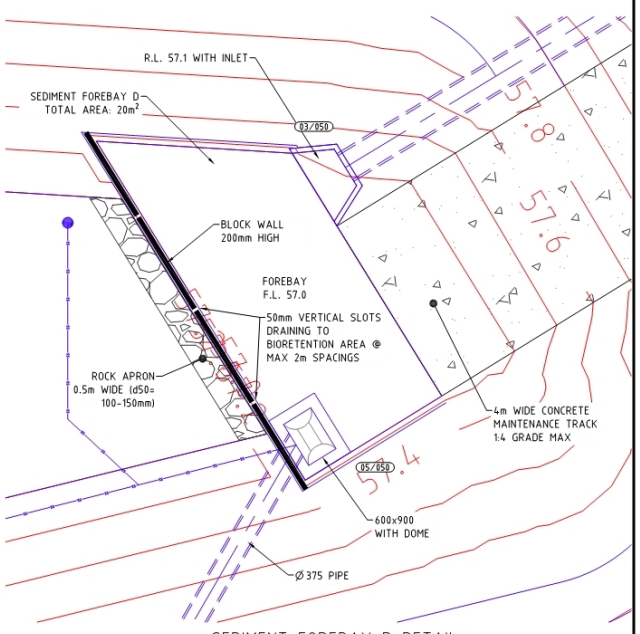
FLOOD WARNING SIGN
NOT TO SCALE



BASIN D PLAN
SCALE 1:200 - A1 (1:400 - A3)



BASIN D CROSS SECTION
SCALE 1:50 - A1 (1:100 - A3)



SEDIMENT FOREBAY D DETAIL
SCALE 1:50 - A1 (1:100 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)
0 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

REV	DATE	DESCRIPTION	INT
D	19-06-24	CONTOURS REVISED	BL
C	14-07-23	RFI AMENDMENTS	EP
B	20-03-23	LOCKABLE GATE AND NOTES ADDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

STORMWATER BASIN PLAN AND DETAILS SHEET 02

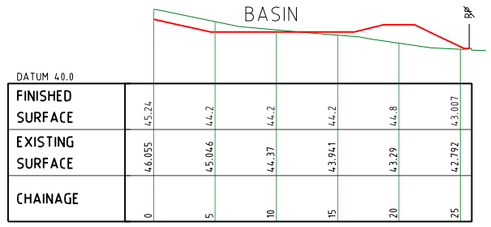
CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-661
REV: D

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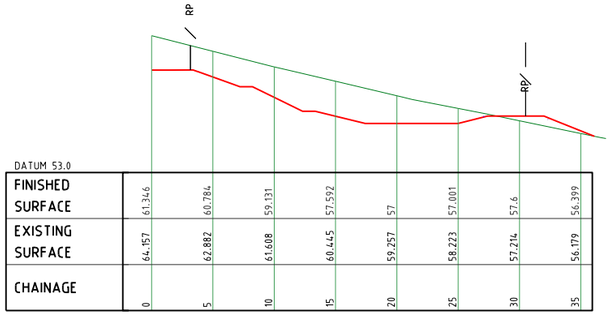


DATUM 40.0

FINISHED SURFACE	45.24	44.2	44.2	44.2	44.8	43.007
EXISTING SURFACE	46.055	45.046	44.37	43.941	43.29	42.792
CHAINAGE	0	5	10	15	20	25

LONGITUDINAL SECTION C3

Horizontal scale 1:250
Vertical scale 1:250

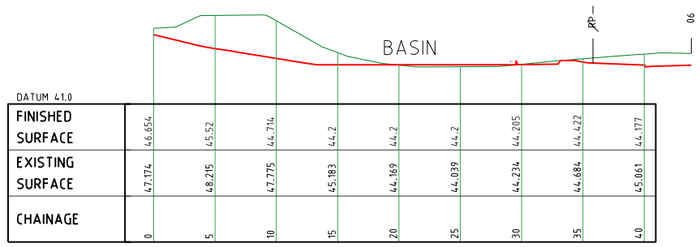


DATUM 53.0

FINISHED SURFACE	61.346	60.784	59.131	57.592	57	57.001	57.6	56.399
EXISTING SURFACE	64.157	62.882	61.608	60.445	59.257	58.223	57.214	56.179
CHAINAGE	0	5	10	15	20	25	30	35

LONGITUDINAL SECTION D3

Horizontal scale 1:250
Vertical scale 1:250

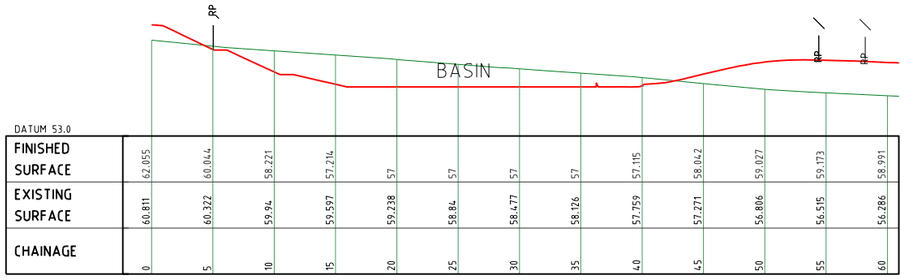


DATUM 41.0

FINISHED SURFACE	46.654	45.52	44.714	44.2	44.2	44.2	44.205	44.422	44.177
EXISTING SURFACE	47.174	48.215	47.775	45.183	44.169	44.039	44.234	44.684	45.061
CHAINAGE	0	5	10	15	20	25	30	35	40

LONGITUDINAL SECTION C2

Horizontal scale 1:250
Vertical scale 1:250

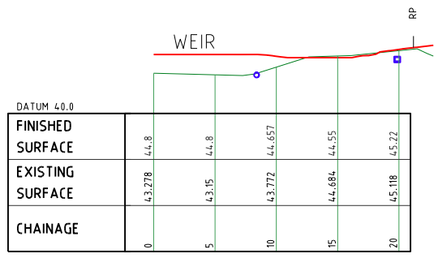


DATUM 53.0

FINISHED SURFACE	62.055	60.044	58.221	57.214	57	57	57	57	57.115	58.042	59.027	59.173	58.991
EXISTING SURFACE	60.811	60.322	59.94	59.597	59.238	58.84	58.477	58.126	57.759	57.271	56.806	56.515	56.286
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60

LONGITUDINAL SECTION D2

Horizontal scale 1:250
Vertical scale 1:250

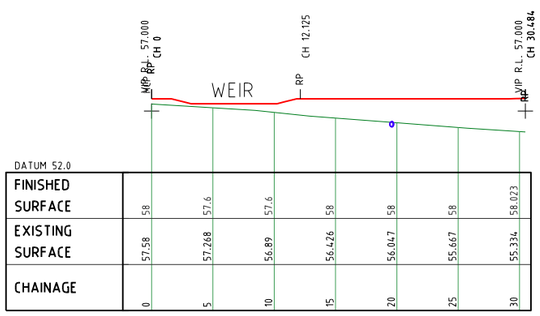


DATUM 40.0

FINISHED SURFACE	44.8	44.8	44.657	44.55	45.22
EXISTING SURFACE	43.278	43.15	43.772	44.684	45.118
CHAINAGE	0	5	10	15	20

LONGITUDINAL SECTION C1

Horizontal scale 1:250
Vertical scale 1:250



DATUM 52.0

FINISHED SURFACE	58	57.6	57.6	58	58	58	58.023
EXISTING SURFACE	57.58	57.268	56.89	56.426	56.047	55.667	55.334
CHAINAGE	0	5	10	15	20	25	30

LONGITUDINAL SECTION D1

Horizontal scale 1:250
Vertical scale 1:250

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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

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

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

STORMWATER
BASIN
SECTIONS

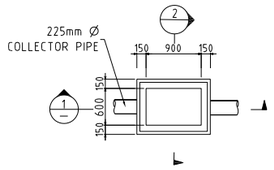
CONSTRUCTION ISSUE

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

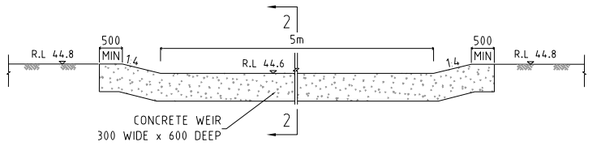
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APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER: 41901-01-662
REV: A

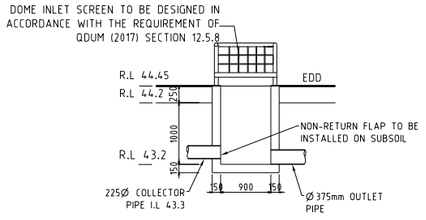
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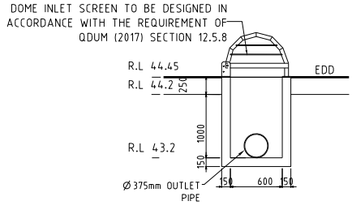
OVERFLOW STRUCTURE PLAN - PIT C



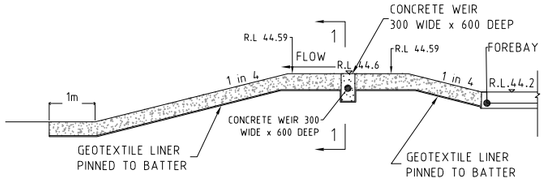
WEIR DETAIL SECTION 1-1



SECTION 1 - 1

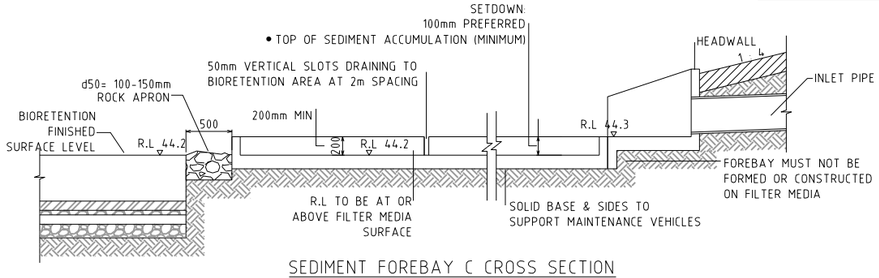


SECTION 2 - 2



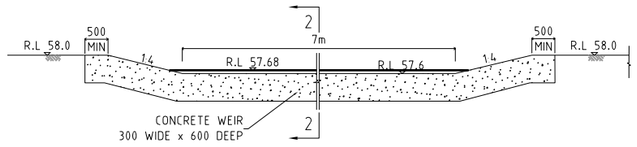
WEIR CROSS SECTION 2-2

BASIN C OUTLET DETAILS

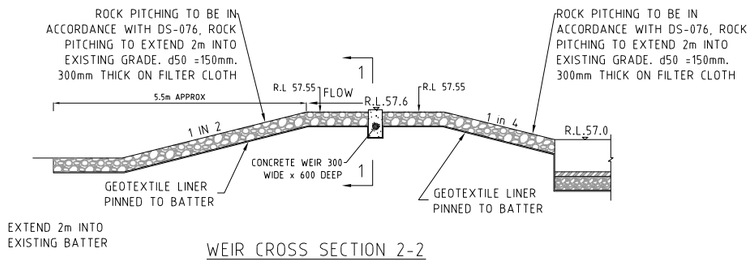


SEDIMENT FOREBAY C CROSS SECTION

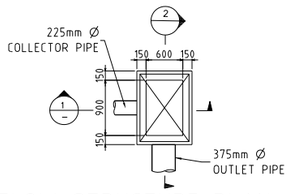
BASIN C INLET DETAILS



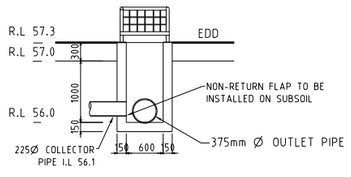
WEIR DETAIL SECTION 1-1



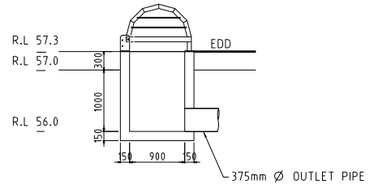
WEIR CROSS SECTION 2-2



OVERFLOW STRUCTURE PLAN - PIT D

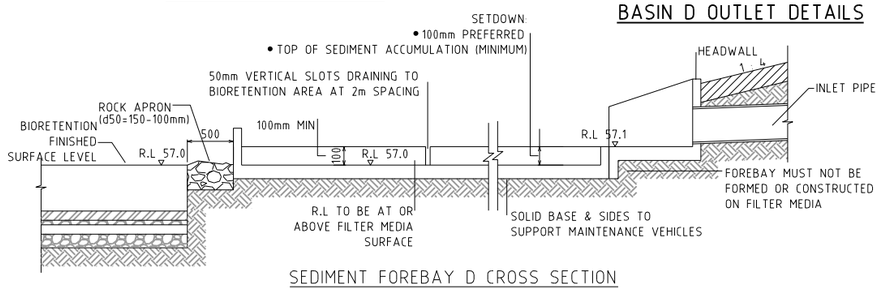


SECTION 1 - 1



SECTION 2 - 2

BASIN D OUTLET DETAILS



SEDIMENT FOREBAY D CROSS SECTION

BASIN D INLET DETAILS

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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
C	14-07-23	RFI AMENDMENTS	EP
B	09-03-23	NOTES AND DETAILS AMENDED	JB
A	03-03-23	COUNCIL ISSUE	JB

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BENNETT+BENNETT

DRAWING TITLE

STORMWATER BASIN DETAILS SHEET 01

CONSTRUCTION ISSUE

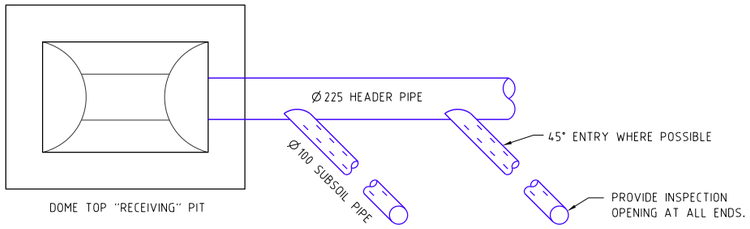
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short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

DESIGNED RB	DRAWN EMH
APPROVED RPEQ 4706	DATE 03-03-23

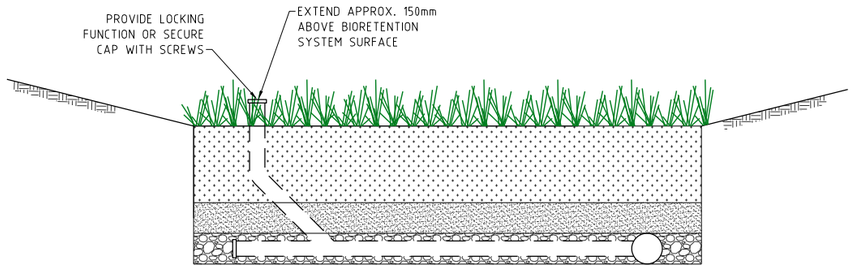
DRAWING NUMBER 41901-01-663 | REV C

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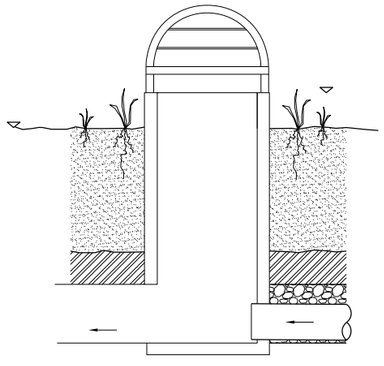
NOTES:
1. STRUCTURAL STABILITY AND PERMEABILITY OF WATER RETENTION BUNDS TO BE DESIGNED BY GEOTECHNICAL ENGINEER.
2. CONSTRUCTION TIMING OF BIO-RETENTION MEDIA DETAILED IN CONTRACT. PLANTING OF MEDIA TO OCCUR AFTER 80% DWELLING COMPLETION



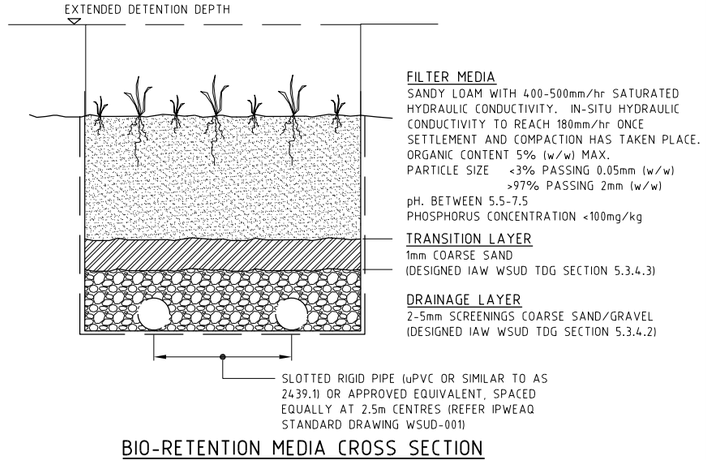
HEADER & SUBSOIL DETAILS
N.T.S.



BIORETENTION FILTER TYPICAL SECTION
N.T.S.



HEADER PIPE CONNECTION DETAIL
N.T.S.



BIO-RETENTION MEDIA CROSS SECTION
N.T.S.

* LAYER THICKNESSES AND MATERIAL SPECIFICATIONS ARE INDICATIVE ONLY, REFER TO APPROVED STORMWATER MANAGEMENT PLAN.

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

STORMWATER BASIN DETAILS SHEET 02

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

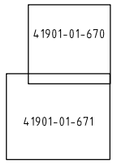
DRAWING NUMBER 41901-01-664
REV A

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LEGEND

- EXISTING STORMWATER
- EXISTING ROOFWATER
- EXISTING SUBSOIL
- EXISTING KERB (INVERT)
- EXISTING CONTOURS
- EXISTING PROPERTY LINE
- FUTURE STORMWATER
- FUTURE ROOFWATER
- FUTURE SUBSOIL
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- FUTURE CONTOURS
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- DESIGN CONTOURS
- CATCHMENT BOUNDARY (MINOR)
- CATCHMENT BOUNDARY (MAJOR)
- OVERLAND FLOW
- PROPOSED STORMWATER
- PROPOSED ROOFWATER
- PROPOSED SUBSOIL
- MANHOLE
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- SCOUR PROTECTION
- 01/015 0.2552ha CATCHMENT NUMBER & AREA

SHEET LAYOUT



PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	LAYOUT & CONTOURS AMENDED	BL
C	20-12-23	CATCHMENT 01/60 REMOVED & 04/43 UPDATED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
CATCHMENT PLAN
SHEET 01

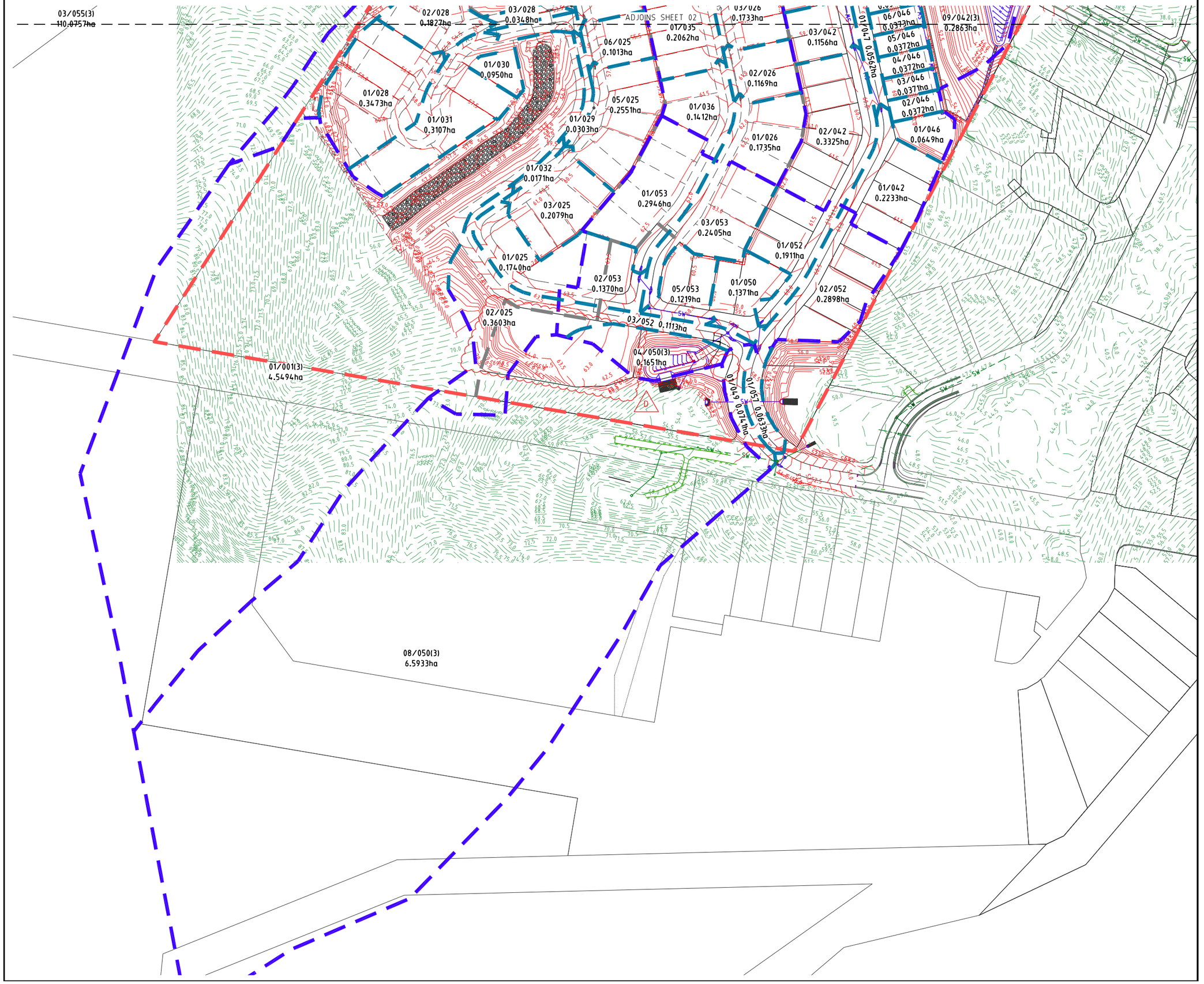
CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-670	D

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PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	LAYOUT & CONTOURS AMENDED	BL
C	23-02-24	CONTOURS LOT 110 AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

STORMWATER
CATCHMENT PLAN
SHEET 02

CONSTRUCTION ISSUE

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
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CALCULATION TABLES-MINOR 2YR ARI

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

* REFER TO IFD TABLE FOR MAXIMUM INTENSITY DURING STORM

NOTE: NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS			CATCHMENT AREA			RAINFALL VOLUME*		RAINFALL Coef.		CATCHMENT FLOW				APPROACH FLOW					FLOW AT PIT				PIT		HGL			PIPE	HEADLOSSES							
NODE			A.1	A.2	A.3	CRITICAL	INTENSITY		CURRENT	A.1	A.2	A.3	CRITICAL	GRADE	FLOW				CAPTURED	BYPASS			GRADE	GRATE	PIT	PIPE		GRADE	FLOW	COEFFICIENT		HEADLOSS		CAPACITY	VELOCITY	NODE
FROM	TO	NODE TYPE	HA	HA	HA	STORM	MM/HR	10 YR	Storm	HA	HA	HA	ARI MIN	%	L/S	WIDTH	DxV		L/S	L/S	DxV	NODE	%	RL	RL	U/S RL	D/S RL	%	M3/S	Ku	Kw	Ku	Kw	RATIO	M/S	
01/42	02/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.223			90	61.3	0.877	0.830	0.074			60	2.2	74	1.07	0.00		72	0	0.00	01/47	2.200	60.003	59.03	59.00	58.31	1.84	0.07	7.0	0.0	0.0	0.0	0.220	1.450	01/42
02/42	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.333			90	61.3	0.877	0.830	0.110			60	2.2	110	1.53	0.01		94	14	0.01	03/42	2.200	59.188	58.31	58.31	57.64	2.11	0.17	3.3	0.0	0.0	0.0	0.500	2.430	02/42
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			90	61.3	0.877	0.830	0.038			60	2.2	52	1.07	0.00		52	0	0.00	04/42	2.200	58.494	57.64	57.61	56.96	2.14	0.24	1.1	0.0	0.0	0.0	0.720	2.810	03/42
04/42	05/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.115			90	61.3	0.877	0.830	0.038			60	2.2	38	0.00	0.00		38	0	0.00	01/41	2.200	57.822	56.86	56.86	52.31	8.97	0.27	1.8	0.0	0.0	0.0	0.390	4.820	04/42
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			90	61.3	0.877	0.830	0.057			60	12.5	57	1.19	0.01		50	7	0.01	06/42	12.528	53.925	52.31	52.29	49.22	13.05	0.44	1.1	0.0	0.0	0.0	0.530	6.610	05/42
06/42	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.100			90	61.3	0.877	0.830	0.033			60	16.0	40	1.13	0.00		36	3	0.00	04/43	16.000	50.258	49.09	49.08	46.06	15.08	0.47	0.5	0.0	0.0	0.0	0.530	7.610	06/42
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0				0				1.000	47.123	45.24	45.02	44.92	0.77	0.19	1.8	0.0	0.2	0.0	1.820	1.680	07/42
08/42	09/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.113			90	61.3	0.877	0.830	0.037			60	13.4	37	0.00	0.00		37	0	0.00	O 08/42	13.420	45.395	44.92	44.72	44.63	1.07	0.22	1.0	0.0	0.2	0.0	1.910	2.040	08/42
09/42	10/42	HEADWALL											25	1.0	0				0				1.000	44.800	44.58	44.58	44.58	0.00	0.22	0.0	0.0	0.0	0.0			09/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.060	60	1.0	60				60				1.000	44.800	44.58	44.58	44.58	0.00	0.23	0.0	0.0	0.0	0.0			10/42
11/42	12/42	TYPE 2 FIELD INLET 900x900 GRATE											60	1.0	233	0.00	0.00		233	0	0.00	O 11/42	1.000	44.450	43.45	43.38	41.91	8.46	0.23	3.7	0.0	0.1	0.0	0.350	3.840	11/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0				0				1.000	43.085	40.81	40.76	39.39	3.94	0.64	2.1	0.0	0.1	0.0	0.410	4.290	12/42
13/42		MANHOLE 1050mm DIA											25	1.0	0				0				1.000	40.827	39.39											13/42
01/43	02/43	TYPE 2 FIELD INLET 900x600 GRATE	0.008			90	61.3	0.877	0.830	0.002			25	1.0	2	0.00	0.00		2	0	0.00	02/43	1.000	48.600	47.02	47.02	44.32	20.00	0.00	9.7	0.0	0.0	0.0	0.010	2.070	01/43
02/43	03/43	TYPE 2 FIELD INLET 900x600 GRATE	0.009			90	61.3	0.877	0.830	0.003			25	1.0	3	0.00	0.00		3	0	0.00	03/43	1.000	45.100	43.79	43.79	42.73	7.85	0.01	3.3	0.0	0.0	0.0	0.030	1.890	02/43
03/43	04/43	TYPE 2 FIELD INLET 900x900 GRATE	0.020			90	61.3	0.877	0.830	0.006			25	1.0	6	0.00	0.00		6	0	0.00	04/43	1.000	43.727	41.95	41.95	41.83	1.77	0.01	3.2	0.0	0.0	0.0	0.020	1.250	03/43
04/43	12/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.102			90	61.3	0.877	0.830	0.034			60	9.7	36	0.00	0.00		36	0	0.00	O 04/43	9.670	43.038	41.83	41.78	41.69	5.29	0.05	6.0	0.0	0.1	0.0	0.060	1.920	04/43
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0				0				1.000	43.085	40.81											12/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.060	60	1.0	60				60				1.000	44.800	44.58	44.58	44.58	0.00	0.04	0.0	0.0	0.0	0.0			10/42
01/44	02/44	WEIR FOR CALCULATIONS											25	1.0	0				0				1.000	44.800	44.58	44.58	44.57	0.90	0.04	0.0	0.0	0.0	0.0	0.130	0.360	01/44
02/44	03/44	WEIR FOR CALCULATIONS											25	1.0	0				0				1.000	44.800	44.56	44.56	43.01	13.07	0.04	0.0	0.0	0.0	0.0	0.000	1.290	02/44
03/44		REFERENCE											25	9.7	0				0				9.670	43.000	43.01											03/44
01/45	02/45	Ø225 RISER (EXTEND 300mm ABOVE FSL)	0.020			90	61.3	0.877	0.830	0.006			25	1.0	6				6				1.000	47.971	46.48	46.47	46.44	0.58	0.01	6.9	0.0	0.0	0.0	0.090	0.800	01/45
02/45	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.224			90	61.3	0.877	0.830	0.074			60	1.0	74	1.14	0.00		72	1	0.00	O 02/45	1.000	47.606	46.44	46.40	45.54	10.12	0.08	8.6	0.0	0.0	0.0	0.110	3.130	02/45
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0				0				1.000	47.123	45.24											07/42
01/46	02/46	TYPE 2 FIELD INLET 900x900 GRATE	0.065			90	61.3	0.877	0.830	0.021			60	1.0	21				21				1.000	58.700	56.87	56.87	56.62	1.97	0.02	9.7	0.0	0.0	0.0	0.260	1.150	01/46
02/46	03/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	57.400	56.62	56.60	56.49	0.90	0.03	1.7	0.0	0.0	0.0	0.650	1.200	02/46
03/46	04/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	57.250	56.49	56.48	56.41	0.56	0.05	0.6	0.0	0.0	0.0	0.510	1.230	03/46
04/46	05/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	57.100	56.36	56.36	56.09	2.16	0.06	1.1	0.0	0.0	0.0	0.320	2.110	04/46
05/46	06/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	57.100	56.02	56.01	55.74	2.18	0.07	0.4	0.0	0.0	0.0	0.210	2.370	05/46
06/46	07/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	56.750	55.73	55.73	55.47	2.10	0.08	0.9	0.0	0.0	0.0	0.240	2.200	06/46
07/46	08/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	56.450	55.47	55.46	55.29	1.42	0.09	0.8	0.0	0.0	0.0	0.360	2.030	07/46
08/46	09/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			90	61.3	0.877	0.830	0.012			60	1.0	12				12				1.000	56.150	55.22	55.21	54.52	6.61	0.11	0.8	0.0	0.0	0.0	0.180	3.840	08/46
09/46	05/42	MANHOLE C/W CONVERTER SLAB 600x600 GRATE	0.041			90	61.3	0.877	0.830	0.014			60	1.0	14				14				1.000	55.850	53.27	53.26	52.49	5.09	0.12	2.2	0.0	0.0	0.0	0.230	3.310	09/46
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			90	61.3	0.877	0.830	0.057			60	12.5	57	1.19	0.01		50	7	0.01	06/42	12.528	53.925	52.31											05/42
01/47	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.056			90	61.3	0.877	0.830	0.019			60	2.2	19	0.00	0.00		19	0	0.00	08/42	2.200	58.494	57.65	57.60	57.64	-0.61	0.02	7.0	0.0	0.1	0.0	0.060	0.690	01/47
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			90	61.3	0.877	0.830	0.038			60	2.2	52	1.07	0.00		52	0	0.00	04/42	2.200	58.494	57.64											03/42
01/48	02/48	INLET HEADWALL											25	1.0	0				0				1.000	54.000	53.98	53.84	53.00	2.06	1.97	0.5	0.0	0.1	0.0	0.710	2.620	01/48
02/48	03/48	INLET HEADWALL											25	1.0	0				0				1.000	53.750	52.42	52.42	50.02	10.07	1.97	0.0	0.0	0.0	0.0	0.010	4.660	02/48
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0				0				1.000	50.930	50.02	50.02	49.50	4.64	2.02	0.0	0.0	0.0	0.0	0.020	4.230	03/48
04/48		REFERENCE											25	1.0	0				0				1.000	50.410	49.50											04/48
01/49	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.074			90	61.3	0.877	0.830	0.024			60	8.0	24				24				7.988	54.341	53.40	53.37	53.26	2.22	0.02	9.7	0.0	0.0	0.0	0.070	1.300	01/49
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0				0				1.000	54.389	52.31	52.31	51.63	6.52	0.06	2.1	0.0	0.0	0.0	0.030	2.970	02/49
03/49	04/49	REFERENCE											25	1.0	0				0				1.000	53.534	51.63	51.63	51.39	6.90	0.06	0.0	0.0	0.0	0.0	0.030	3.020	03/49
04/49	03/48	HEADWALL											25	1.0	0				0				1.000	51.577	51.34	51.34	50.02	6.12	0.06	0.0	0.0	0.0	0.0	0.000	0.870	04/49
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0				0				1.000	50.930	50.02											03/48
01/50	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.137			90	61.3	0.877	0.830	0.045			60	0.5	45	1.07	0.00		45	0	0.00	03/52	0.479	58.903	58.15	58.12	58.07	0.95	0.04	9.7	0.0	0.0	0.0	0.140	1.320	01/50
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0				0				1.000	58.848	58.07	57.77	57.56	1.00	0.47	1.5	0.0	0.3	0.0	1.230	2.240	02/50
03/50	04/50	HEADWALL											25	1.0	0				0				1.000	57.800	57.55	57.55	57.55	0.00	0.47	0.0	0.0	0.0	0.0			03/50
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.034	60	1.0	34				34				1.000	57.000	57.55	57.55	57.55	0.00	0.39	0.0	0.0	0.0	0.0			04/50
05/50	06/50	TYPE 2 FIELD INLET 900x600 C/W DOME TOP											60	1.0	390	0.00	0.00		390	0	0.00	07/50	1.000	57.300	57.55	56.69	55.68	6.19	0.39	1.9	0.0	0.9	0.0	0.890	3.830	05/50
06/50	07/50	HEADWALL											25	1.0	0				0				1.000	56.065	55.40	55.40	55.40	0.00	0.39	0.0	0.0	0.0	0.0			06/50
07/50	01/48	BASIN NODE FOR CALCULATIONS			6.593							1.814	60	1.0	1814				1814				1.000	54.400	53.98	53.97	53.97	0.00	1.97	0.0	0.0	0.0	0.0			07/50
01/48	02/48	INLET HEADWALL											25	1.0	0				0				1.000	54.000	53.98											01/48
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.034	60	1.0	34				34				1.000	57.000	57.55	57.60	57.60	0.00	0.00	0.0	0.0	0.0	0.0			04/50
07/50	01/48	BASIN NODE FOR CALCULATIONS			6.593							1.814	60	1.0	1814				1814				1.000	54.400	53.98											07/50
01/52	02/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.191			90	61.3	0.877	0.830	0.063			60	2.7	63	0.00	0.00		63	0	0.00	01/50	2.738	59.258	58.53	58.38	58.37	0.09	0.06	9.7	0.0	0.2	0.0	0.180	1.550	01/52
02/52	03/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.290			90	61.3	0.877	0.830	0.096			60	3.1	96	1.40	0.01		77	17	0.01	01/57	3.071	58.914	58.37	58.21	58.12	0.60	0.14	4.9	0.0	0.2	0.0	0.350	2.030	02/52
03/52	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.111			90	61.3	0.877	0.830	0.037			60	0.7	37	1.07	0.00		37	0	0.00	01/49	0.694	58.763	58.12	58.11	58.07	1.04	0.17	1.0	0.0	0.0	0.0	0.460	1.180	03/52
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0				0				1.000	58.848	58.07											02/50
01/53	02/53	INLET GULLY ON GRADE (LG) Type S Lintel	0.295			90	61.3	0.877	0.830	0.097			60	0.6	97	1.53	0.00		91	6	0.01	02/53	0.600	61.686	61.18	61.08	61.00	2.11	0.09	6.9	0.0	0.1	0.0	0.280	1.320	01/53
02/53	03/53	INLET GULLY IN SAG (LS) Type S Lintel	0.137			90	61.3	0.877	0.830	0.045			60	1.6	51	1.07	0.00		51	0	0.00	03/53	1.602	61.662	61.00	60.92	60.82	1.19	0.14	1.9	0.0	0.1	0.0	0.610	1.470	02/53
03/53	04/53	INLET GULLY IN SAG (LS) Type S Lintel	0.241			90	61.3	0.877	0.830	0.079			60	0.3	79	1.28	0.01		69	9	0.01	05/53	0.262	61.647	60.82	60.68	60.43	2.49	0.21	1.7	0.0	0.1	0.0	0.650	2.230	03/53
04/53	05/53	MANHOLE 1050mm DIA											25	1.0	0				0				1.000	61.584	60.34	60.33	58.47	4.97	0.21	1.9	0.0	0.0	0.0	0.360	3.570	04/53
05/53	02/50	INLET GULLY ON GRADE (LG) Type S Lintel	0.122			90	61.3	0.877	0.830	0.040			60	3.9	49	0.00	0.00		48	0	0.00	01/50	3.888	59.070	58.47	58.46	58.07	3.64	0.26	1.4	0.0	0.2	0.0	0.570	2.320	05/53
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0				0				1.000	58.848	58.07											02/50
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0				0				1.000	47.123	45.24	45.24	41.77	10.65	0.36	2.0	0.0	0.0	0.0	0.300	6.030	07/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0				0				1.000	43.085	40.81											12/42
01/57	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.063			90	61.3	0.877	0.830	0.021			60	9.2	38	0.00	0.00		38	0	0.00	O 01/57	9.205	54.628	53.58	53.55	53.25	8.40	0.04	9.7	0.0	0.0	0.0	0.060	2.300	01/57
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0				0				1.000	54.389	52.31											02/49

INTENSITY - FREQUENCY - DURATION (IFD) TABLE

DURATION	ARI INTENSITY (YEAR)							
MINUTES	TREAT	1	2	5	10	20	50	100
5	62.5	125	158	193	212	239	275	301
6	58.5	117	148	181	199	225	258	284
10	48	96	122	149	164	186	214	235
20	35.2	70.4	89.3	110	122	138	159	175
30	28.7	57.4	72.9	90.1	99.8	113	131	144
60	19.45	38.9	49.5	61.7	68.6	78.1	90.6	100
120	12.6	25.2	32.2	40.5	45.3	51.8	60.3	66.8
180	9.6	19.2	24.7	31.2	35	40.2	46.9	52.1
360	6.05	12.1	15.6	20	22.5	26	30.5	34
720	3.89	7.78	10.1	13	14.8	17.1	20.3	22.7
1440	2.595	5.19	6.73	8.8	10.1	11.7	13.9	15.6
2880	1.74	3.48	4.53	5.98	6.87	8.04	9.59	10.8
4320	1.325	2.65	3.46	4.61	5.3	6.23	7.45	8.42

DERIVED FROM BUREAU OF METEOROLOGY

NOTES:

1. THESE CALCULATIONS ARE BASED ON IISAX2 DYNAMIC DRAINAGE ANALYSIS USING 12D SOFTWARE ANALYSIS.
2. INDIVIDUAL TIMES OF CONCENTRATION ARE GENERATED FOR EACH NODE & CATCHMENT TYPE USING TEMPORAL PATTERNS DETERMINED FROM THE RELEVANT AUTHORITY.
3. "TREAT" IN THE IFD TABLE REFERS TO 0.5x1 YEAR ARI, USED TO DETERMINE WATER QUALITY TREATMENT FLOWS.
4. 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.
5. CATCHMENT 2 IS TYPICALLY USED TO MODEL LOTS >1000m2, WITH INDIVIDUAL PERCENTAGES OF IMPERVIOUS SURFACE & TC'S.
6. 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)

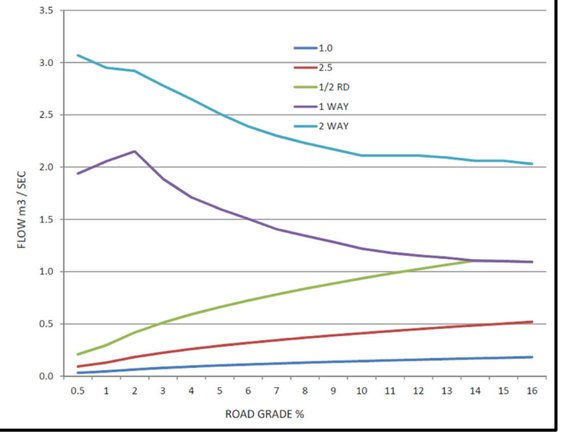
	KR	LANE	1/2 RD	1 WAY	2 WAY
MAX. WIDTH	1.0	2.5	3.75	11.175	14.8
MAX. AREA m2	0.021	0.101	0.219	1.421	2.104
Rd Grade %					
0.5	0.032	0.092	0.209	1.938	3.070
1	0.046	0.130	0.296	2.054	2.950
2	0.064	0.184	0.418	2.150	2.920
3	0.079	0.225	0.512	1.886	2.780
4	0.091	0.260	0.591	1.711	2.650
5	0.102	0.291	0.661	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 DxV

FLOW CONSTRAINED TO 250mm DEEP MAX.

CAPACITY COMPOUND CROSS SECTION (ARR 1987 , 4.38) (n varies)



C

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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
C	20-12-23	CALC TABLES AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER
CALCULATION TABLES
MINOR STORM EVENT

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
DATE	03-03-23		

DRAWING NUMBER: 41901-01-680

REV: C

F:\Autocad Client\419 - HB Land\01 - Courtney Drive\Precinct-Stage 01\Engineering Drawings\Current\41901-01-680.dwg, MINOR, 2/07/2024 12:06:13 PM, 1:2

CALCULATION TABLES-MAJOR 100YR ARI

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

* REFER TO IFD TABLE FOR MAXIMUM INTENSITY DURING STORM

NOTE	NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS		CATCHMENT AREA			RAINFALL VOLUME*		RAINFALL Coef.		CATCHMENT FLOW				APPROACH FLOW					FLOW AT PIT					PIT		HGL			PIPE	HEADLOSSES							
NODE			A.1	A.2	A.3	CRITICAL	INTENSITY		CURRENT	A.1	A.2	A.3	CRITICAL	GRADE	FLOW				CAPTURED	BYPASS			GRADE	GRATE	PIT	PIPE		GRADE	FLOW	COEFFICIENT		HEADLOSS		CAPACITY	VELOCITY	NODE
FROM	TO	NODE TYPE	HA	HA	HA	STORM	MM/HR	10 YR	Storm	HA	HA	HA	ARI MIN.	%	L/S	WIDTH	DxV	L/S	L/S	DxV	NODE	%	RL.	RL	U/S RL.	D/S RL.	%	M3/S	Ku	Kw	Ku	Kw	RATIO	M/S	
01/42	02/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.223			120	133.6	0.877	0.916	0.124			25	2.2	124	1.74	0.02	96	27	0.02	01/47	2.200	60.003	59.26	59.02	58.96	0.17	0.10	7.0	0.0	0.2	0.0	0.300	1.470	01/42
02/42	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.333			120	133.6	0.877	0.916	0.185			25	2.2	185	2.35	0.04	121	62	0.04	03/42	2.200	59.188	58.96	58.91	58.39	1.65	0.21	2.8	0.0	0.1	0.0	0.640	2.380	02/42
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			120	133.6	0.877	0.916	0.064			25	2.2	126	1.76	0.02	96	28	0.02	04/42	2.200	58.494	58.39	58.12	57.10	3.35	0.36	1.0	0.0	0.3	0.0	1.120	3.290	03/42
04/42	05/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.115			120	133.6	0.877	0.916	0.064			25	2.2	91	1.41	0.01	77	14	0.01	01/41	2.200	57.822	57.01	56.91	53.89	5.96	0.44	1.5	0.0	0.1	0.0	0.640	4.940	04/42
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			120	133.6	0.877	0.916	0.096			25	12.5	96	1.44	0.03	65	31	0.03	06/42	12.528	53.925	53.89	53.16	49.50	15.53	0.73	1.1	0.0	0.8	0.0	0.880	6.950	05/42
06/42	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.100			120	133.6	0.877	0.916	0.055			25	16.0	86	1.44	0.02	56	29	0.02	04/43	16.000	50.258	49.50	49.40	46.13	16.28	0.75	0.4	0.0	0.1	0.0	0.850	8.130	06/42
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.37	45.11	45.00	0.90	0.20	1.7	0.0	0.3	0.0	1.950	1.800	07/42
08/42	09/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.113			120	133.6	0.877	0.916	0.063			25	13.4	63	1.65	0.01	49	11	0.01	O 08/42	13.420	45.395	45.00	44.75	44.65	1.30	0.25	1.0	0.0	0.2	0.0	2.140	2.260	08/42
09/42	10/42	HEADWALL											25	1.0	0			0				1.000	44.800	44.61	44.61	44.61	0.00	0.25	0.0	0.0	0.0	0.0			09/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.128	25	1.0	128			128				1.000	44.800	44.61	44.61	44.61	0.00	0.16	0.0	0.0	0.0	0.0			10/42
11/42	12/42	TYPE 2 FIELD INLET 900x900 GRATE											25	1.0	157	0.00	0.00	157	0	0.00	O 11/42	1.000	44.450	43.39	43.34	41.88	8.42	0.16	5.4	0.0	0.0	0.0	0.240	3.620	11/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	40.96	40.84	39.45	4.00	0.89	1.9	0.0	0.1	0.0	0.570	4.400	12/42
13/42		MANHOLE 1050mm DIA											25	1.0	0			0				1.000	40.827	39.45												13/42
01/43	02/43	TYPE 2 FIELD INLET 900x600 GRATE	0.008			120	133.6	0.877	0.916	0.004			25	1.0	4	0.00	0.00	4	0	0.00	02/43	1.000	48.600	47.03	47.03	44.33	20.00	0.00	9.7	0.0	0.0	0.0	0.020	2.400	01/43
02/43	03/43	TYPE 2 FIELD INLET 900x600 GRATE	0.009			120	133.6	0.877	0.916	0.005			25	1.0	5	0.00	0.00	5	0	0.00	03/43	1.000	45.100	43.80	43.80	42.74	7.86	0.01	3.1	0.0	0.0	0.0	0.060	2.190	02/43
03/43	04/43	TYPE 2 FIELD INLET 900x900 GRATE	0.020			120	133.6	0.877	0.916	0.011			25	1.0	11	0.00	0.00	11	0	0.00	04/43	1.000	43.727	41.97	41.96	41.91	0.72	0.02	3.1	0.0	0.0	0.0	0.040	1.230	03/43
04/43	12/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.102			120	133.6	0.877	0.916	0.057			25	9.7	85	1.87	0.01	64	19	0.02	O 04/43	9.670	43.038	41.91	41.80	41.72	5.23	0.08	6.1	0.0	0.1	0.0	0.100	1.920	04/43
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	40.96												12/42
10/42	11/42	BASIN NODE FOR CALCULATIONS			0.286							0.128	25	1.0	128			128				1.000	44.800	44.61	44.61	44.61	0.00	0.21	0.0	0.0	0.0	0.0			10/42
01/44	02/44	WEIR FOR CALCULATIONS											25	1.0	0			0				1.000	44.800	44.61	44.61	44.60	0.40	0.21	0.0	0.0	0.0	0.0	0.600	0.700	01/44
02/44	03/44	WEIR FOR CALCULATIONS											25	1.0	0			0				1.000	44.800	44.57	44.57	43.02	13.07	0.21	0.0	0.0	0.0	0.0	0.010	2.370	02/44
03/44		REFERENCE											25	9.7	0			0				9.670	43.000	43.02												03/44
01/45	02/45	Ø225 RISER (EXTEND 300mm ABOVE FSL)	0.020			120	133.6	0.877	0.916	0.011			25	1.0	11			11				1.000	47.971	46.52	46.49	46.47	0.23	0.01	7.0	0.0	0.0	0.0	0.150	0.800	01/45
02/45	07/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.224			120	133.6	0.877	0.916	0.125			25	1.0	125	1.99	0.02	99	26	0.02	O 02/45	1.000	47.606	46.47	46.42	45.56	10.13	0.11	7.8	0.0	0.1	0.0	0.150	3.150	02/45
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.37												07/42
01/46	02/46	TYPE 2 FIELD INLET 900x900 GRATE	0.065			120	133.6	0.877	0.916	0.036			25	1.0	36			36				1.000	58.700	57.08	57.07	56.82	2.02	0.04	8.0	0.0	0.0	0.0	0.430	1.160	01/46
02/46	03/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.400	56.82	56.74	56.57	1.34	0.06	1.6	0.0	0.1	0.0	1.090	1.430	02/46
03/46	04/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.250	56.57	56.56	56.48	0.63	0.08	0.6	0.0	0.0	0.0	0.870	1.340	03/46
04/46	05/46	TYPE 2 FIELD INLET 600x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.100	56.43	56.41	56.13	2.23	0.10	1.1	0.0	0.0	0.0	0.540	2.250	04/46
05/46	06/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	57.100	56.06	56.06	55.81	2.00	0.12	0.3	0.0	0.0	0.0	0.350	2.540	05/46
06/46	07/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	56.750	55.81	55.79	55.56	1.90	0.14	0.9	0.0	0.0	0.0	0.410	2.210	06/46
07/46	08/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	56.450	55.56	55.53	55.34	1.51	0.16	0.8	0.0	0.0	0.0	0.610	2.190	07/46
08/46	09/46	TYPE 2 FIELD INLET 900x600 GRATE	0.037			120	133.6	0.877	0.916	0.021			25	1.0	21			21				1.000	56.150	55.26	55.26	54.55	6.69	0.18	0.8	0.0	0.0	0.0	0.310	4.270	08/46
09/46	05/42	MANHOLE C/W CONVERTER SLAB 600x600 GRATE	0.041			120	133.6	0.877	0.916	0.023			25	1.0	23			23				1.000	55.850	54.25	54.00	53.89	0.75	0.21	2.1	0.0	0.3	0.0	0.410	3.400	09/46
05/42	06/42	DRAINWAYS 1TCS0 ON GRADE	0.173			120	133.6	0.877	0.916	0.096			25	12.5	96	1.44	0.03	65	31	0.03	06/42	12.528	53.925	53.89												05/42
01/47	03/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.056			120	133.6	0.877	0.916	0.031			25	2.2	57	1.07	0.00	57	0	0.00	08/42	2.200	58.494	58.44	58.39	58.39	0.08	0.06	7.0	0.0	0.1	0.0	0.180	0.700	01/47
03/42	04/42	INLET GULLY ON GRADE (LG) Type S Lintel	0.116			120	133.6	0.877	0.916	0.064			25	2.2	126	1.76	0.02	96	28	0.02	04/42	2.200	58.494	58.39												03/42
01/48	02/48	INLET HEADWALL											25	1.0	0			0				1.000	54.000	54.94	54.62	53.31	3.22	3.07	0.5	0.0	0.3	0.0	1.100	3.600	01/48
02/48	03/48	INLET HEADWALL											25	1.0	0			0				1.000	53.750	52.44	52.44	50.05	10.04	3.07	0.0	0.0	0.0	0.0	0.020	5.490	02/48
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	50.930	50.05	50.05	49.53	4.63	3.17	0.0	0.0	0.0	0.0	0.020	5.010	03/48
04/48		REFERENCE											25	1.0	0			0				1.000	50.410	49.53												04/48
01/49	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.074			120	133.6	0.877	0.916	0.041			25	8.0	121			80				7.988	54.341	53.67	53.43	53.32	2.34	0.08	9.7	0.0	0.2	0.0	0.240	1.310	01/49
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	54.389	52.35	52.35	51.67	6.62	0.15	2.1	0.0	0.0	0.0	0.070	3.750	02/49
03/49	04/49	REFERENCE											25	1.0	0			0				1.000	53.534	51.67	51.67	51.43	6.90	0.15	0.0	0.0	0.0	0.0	0.070	4.000	03/49
04/49	03/48	HEADWALL											25	1.0	0			0				1.000	51.577	51.35	51.35	50.05	6.05	0.15	0.0	0.0	0.0	0.0	0.000	0.970	04/49
03/48	04/48	100% CAPTURE FOR FUTURE EXTENSION											25	1.0	0			0				1.000	50.930	50.05												03/48
01/50	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.137			120	133.6	0.877	0.916	0.076			25	0.5	188	2.89	0.05	100	89	0.05	03/52	0.479	58.903	58.74	58.68	58.58	2.05	0.10	9.7	0.0	0.1	0.0	0.310	1.290	01/50
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.58	58.05	57.68	1.70	0.67	1.3	0.0	0.6	0.0	1.760	3.120	02/50
03/50	04/50	HEADWALL											25	1.0	0			0				1.000	57.800	57.68	57.68	57.68	0.00	0.67	0.0	0.0	0.0	0.0			03/50
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.074	25	1.0	74			74				1.000	57.000	57.68	57.68	57.68	0.00	0.40	0.0	0.0	0.0	0.0			04/50
05/50	06/50	TYPE 2 FIELD INLET 900x600 C/W DOME TOP											25	1.0	402	0.00	0.00	402	0	0.00	07/50	1.000	57.300	57.68	56.75	55.68	6.52	0.40	1.9	0.0	0.9	0.0	0.920	3.910	05/50
06/50	07/50	HEADWALL											25	1.0	0			0				1.000	56.065	55.40	55.40	55.40	0.00	0.40	0.0	0.0	0.0	0.0			06/50
07/50	01/48	BASIN NODE FOR CALCULATIONS			6.593							3.391	25	1.0	3391			3391				1.000	54.400	54.94	54.94	54.94	0.00	3.07	0.0	0.0	0.0	0.0			07/50
01/48	02/48	INLET HEADWALL											25	1.0	0			0				1.000	54.000	54.94												01/48
04/50	05/50	BASIN NODE FOR CALCULATIONS			0.165							0.074	25	1.0	74			74				1.000	57.000	57.68	57.68	57.68	0.00	0.31	0.0	0.0	0.0	0.0			04/50
07/50	01/48	BASIN NODE FOR CALCULATIONS			6.593							3.391	25	1.0	3391			3391				1.000	54.400	54.94												07/50
01/52	02/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.191			120	133.6	0.877	0.916	0.106			25	2.7	106	1.61	0.02	86	20	0.01	01/50	2.738	59.258	59.11	58.99	58.97	0.14	0.09	9.7	0.0	0.2	0.0	0.250	1.560	01/52
02/52	03/52	INLET GULLY ON GRADE (LG) Type S Lintel	0.290			120	133.6	0.877	0.916	0.161			25	3.1	161	1.90	0.05	102	73	0.05	01/57	3.071	58.914	58.97	58.88	58.68	1.31	0.18	5.2	0.0	0.2	0.0	0.470	2.030	02/52
03/52	02/50	INLET GULLY IN SAG (LS) Type S Lintel	0.111			120	133.6	0.877	0.916	0.062			25	0.7	148	2.03	0.05	67	81	0.05	01/49	0.694	58.763	58.68	58.63	58.58	1.21	0.24	0.7	0.0	0.1	0.0	0.660	1.530	03/52
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.58												02/50
01/53	02/53	INLET GULLY ON GRADE (LG) Type S Lintel	0.295			120	133.6	0.877	0.916	0.164			25	0.6	164	2.46	0.02	127	37	0.02	02/53	0.600	61.686	61.60	61.47	61.38	2.18	0.13	4.2	0.0	0.1	0.0	0.390	1.330	01/53
02/53	03/53	INLET GULLY IN SAG (LS) Type S Lintel	0.137			120	133.6	0.877	0.916	0.076			25	1.6	113	2.62	0.02	86	26	0.02	03/53	1.602	61.662	61.38	61.18	61.04	1.64	0.21	1.6	0.0	0.2	0.0	0.930	1.920	02/53
03/53	04/53	INLET GULLY IN SAG (LS) Type S Lintel	0.241			120	133.6	0.877	0.916	0.134			25	0.3	160	2.11	0.06	69	90	0.05	05/53	0.262	61.647	61.04	60.79	60.48	3.08	0.28	1.4	0.0	0.3	0.0	0.870	2.780	03/53
04/53	05/53	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	61.584	60.45	60.36	59.17	3.17	0.28	1.7	0.0	0.1	0.0	0.480	3.490	04/53
05/53	02/50	INLET GULLY ON GRADE (LG) Type S Lintel	0.122			120	133.6	0.877	0.916	0.068			25	3.9	157	3.02	0.05	94	97	0.06	01/50	3.888	59.070	59.17	59.05	58.58	4.41	0.35	1.4	0.0	0.2	0.0	0.770	3.150	05/53
02/50	03/50	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	58.848	58.58												02/50
14/25	15/25	BASIN NODE FOR CALCULATIONS			1.016							0.455	25	1.0	455			455				1.000	45.300	45.75	45.75	45.75	0.00	1.92	0.0	0.0	0.0	0.0			14/25
07/42	08/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	47.123	45.37	45.33	41.84	10.71	0.66	1.6	0.0	0.0	0.0	0.550	6.600	07/42
12/42	13/42	MANHOLE 1200mm DIA											25	1.0	0			0				1.000	43.085	40.96												12/42
01/57	02/49	INLET GULLY ON GRADE (LG) Type S Lintel	0.063			120	133.6	0.877	0.916	0.035			25	9.2	106	2.21	0.02	71	32	0.02	O 01/57	9.205	54.628	53.68	53.57	53.27	8.37	0.07	9.7	0.0	0.1	0.0	0.110	2.300	01/57
02/49	03/49	MANHOLE 1050mm DIA											25	1.0	0			0				1.000	54.389	52.35												02/49

C

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

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
C	20-12-23	CALC TABLES AMENDED	BL
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER
CALCULATION TABLES
MAJOR STORM EVENT

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ 4706	DATE 03-03-23

DRAWING NUMBER 41901-01-681

REV C

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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 PN12 CONDUIT IN ACCORDANCE WITH SEQ-WAT-1106-1.
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.
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.

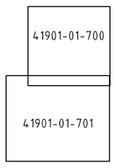


LEGEND

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

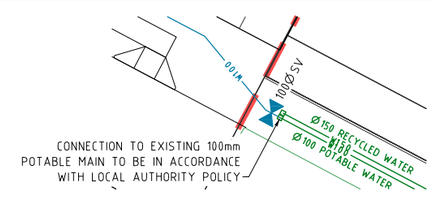
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SHEET LAYOUT



WATER PIPE SPECIFICATIONS

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



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

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
G	19-06-24	DRIVEWAYS ADDED	BL
F	17-06-24	FOOTPATH WIDTH AMENDED	EP
E	31-05-24	FOOTPATH ROAD 06 CHANGED	EP
D	16-10-23	WM LOT 126 MOVED	EP
C	20-09-23	FH & TS MOVED	EP
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING
Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

WATER RETICULATION PLAN SHEET 01

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
DATE	03-03-23		

DRAWING NUMBER 41901-01-700
REV G

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ADJOINS SHEET 01

STAGE 2

STAGE 3

ROAD 04

ROAD 03

ROAD 01

PATTERSON CT

GORDON DR

RANGEVIEW ROAD

PROVIDE END OF LINE ARRANGEMENT IN ACCORDANCE WITH SEQ-WAT-1303-1

45° BEND (10.7KN)

11.25° BEND (2.7KN)

22.5° BEND (5.5KN)

11.25° BENDS (2.7KN)

11.25° BEND (9.9KN)

45° BEND (38.8KN)

200Ø x 150Ø REDUCER

200Ø - 150Ø REDUCER

200Ø x 200Ø TEE

22.5° BEND (12.6KN)

90° BEND (71.7KN)

100Ø x 100Ø TEE

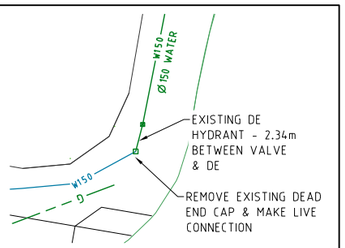
150Ø - 100Ø REDUCER

REMOVE EXISTING DEAD END CAP & MAKE LIVE CONNECTION. REFER CONNECTION DETAIL 2.

VALVE TO BE CLOSED TO MAINTAIN SECURITY OF SUPPLY BETWEEN HLZ/LLZ

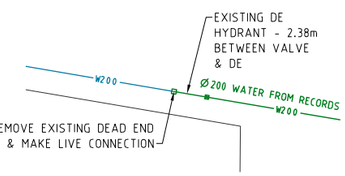
APPROXIMATE LOCATION OF STREET LIGHT CONDUIT.

REMOVE EXISTING DEAD END CAP & MAKE LIVE CONNECTION. REFER CONNECTION DETAIL 3.



CONNECTION DETAIL 2

SCALE 1:200 - A1 (1:400 - A3)



CONNECTION DETAIL 3

SCALE 1:200 - A1 (1:400 - A3)

0 2 4 6 8 10m

Scale 1:200 - A1 (1:400 - A3)

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
D	19-06-24	LAYOUT & ALIGNMENT CHANGE	BL
C	14-03-24	INSERT ADDED	MLJ
B	14-07-23	RFI AMENDMENTS	EP
A	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.

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DRAWING TITLE

WATER RETICULATION PLAN SHEET 02

CONSTRUCTION ISSUE

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	EMH
APPROVED		RPEQ	4706
		DATE	03-03-23

DRAWING NUMBER	REV
41901-01-701	D

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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

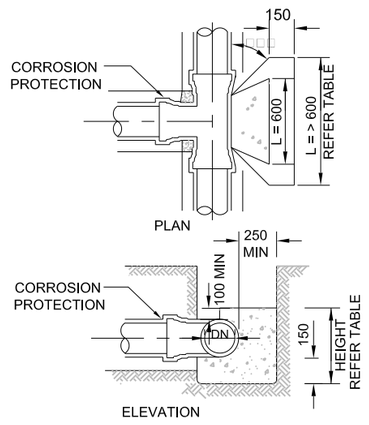
THRUST BLOCK LENGTH

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

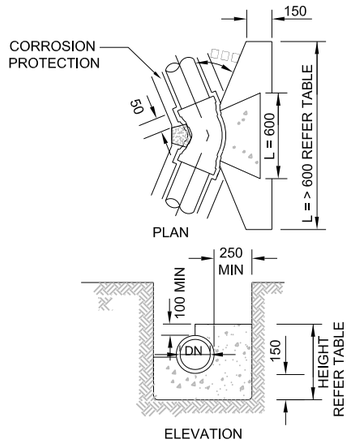
THRUST BLOCK DIMENSIONS - 1200kPa

● INDICATES BLOCK LENGTH OF 600

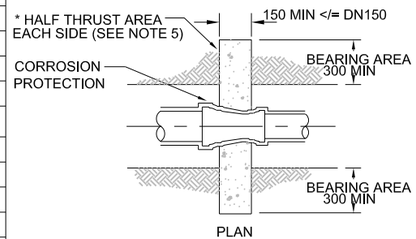
* = SPECIAL DESIGN



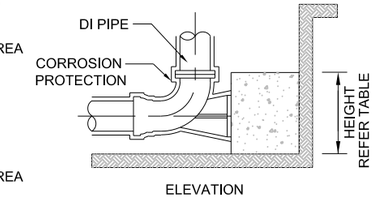
THRUST BLOCK FOR TEES
(FOR HORIZONTAL THRUST)



THRUST BLOCK FOR BENDS
(FOR HORIZONTAL THRUST)



TAPER THRUST BLOCK
(FOR HORIZONTAL THRUST)



FLUSHING/WASHOUT BEND THRUST BLOCK
(FOR HORIZONTAL THRUST) (MINIMUM REQUIRED THRUST AREA AS PER TEE OR CLOSED END)

NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. 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 < 5OkPa BEARING CAPACITY EG;
   –VERY SOFT, SOFT OR FIRM CLAY.
   –LOOSE SOIL SAND.
   –UNCOMPACTED FILL OR REFUSE.
   A GEOTECHNICAL ASSESSMENT AND INDIVIDUAL DESIGN IS REQUIRED FOR THESE SOILS.
3. THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES OR BE LOCATED OUTSIDE THE WATER MAIN ALLOCATION WITHOUT WATER AGENCY APPROVAL.
4. ALL CONCRETE GRADE N20. TABLE OF DIMENSIONS BASED ON REQUIRED TEST PRESSURE OF 1200kPa AND ACTUAL DICL PIPE DIAMETERS.
5. 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.
6. FOR DOWNWARD VERTICAL THRUST, THE ALLOWABLE BEARING PRESSURE FOR VARIOUS SOILS MAY BE TAKEN AS TWICE THAT FOR HORIZONTAL THRUST SHOWN.
7. 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
8. JOINTS TO BE CLEAR OF CONCRETE.
   CONCRETE THRUST BLOCK ANCHORS FOR VALVES TO BE AS DETAILED ON SEQ-WAT-1206-1.

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

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	03-03-23	COUNCIL ISSUE	JB

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

WATER RETICULATION DETAILS

CONSTRUCTION ISSUE

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	EMH
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER 41901-01-710 REV A

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NOTES:

1. CUT TO BORROW AREA TO OCCUR IN PLANES WITHIN BORROW AREA BOUNDARY
2. NO STEEP BATTERS OR CONCENTRATED AREAS OF CUT TO OCCUR.
3. MAXIMUM ALLOWABLE CUT SHOWN. ONLY WHAT IS REQUIRED FOR STAGE 1 EARTHWORKS IS REQUIRED TO BE EXCAVATED.
4. THE CIVIL CONTRACTOR IS TO RESPREAD TOPSOIL AND SATISFACTORILY STABILISE BORROW AREAS ONCE BORROW EARTHWORKS HAS BEEN COMPLETED.

DIAL BEFORE YOU DIG www.1100.com.au

LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- EXISTING EDGE OF BITUMEN
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF EARTHWORKS BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED EDGE OF BITUMEN
- BORROW AREA OUTLINE
- -0.5 CUT CONTOUR
- 0.0 INTERFACE CONTOUR
- 0.5 FILL CONTOUR



PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 01

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)

REV	DATE	DESCRIPTION	INT
A	03-03-23	COUNCIL ISSUE	JB

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DRAWING TITLE

BORROW AREA
PLAN
SHEET 01

CONSTRUCTION ISSUE

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	BL
APPROVED	RPEQ 4706	DATE	03-03-23

DRAWING NUMBER	REV
41901-01-800	A

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