# COURTNEY DRIVE
# UPPER COOMERA

## OPERATIONAL WORKS
## STAGE 02
## No. 41901-02

### SCHEDULE OF DRAWINGS

| NUMBER | REV. NO. | TITLE |
|---|---|---|
| GENERAL | | |
| 41901-02-000 | B | COVER SHEET |
| 41901-02-003 | A | SAFETY IN DESIGN |
| 41901-02-004 | A | RISK MATRIX & NOTES |
| 41901-02-005 | B | ROAD HIERARCHY & STAGING PLAN SHEET 01 |
| 41901-02-006 | A | ROAD HIERARCHY & STAGING PLAN SHEET 02 |
| EARTHWORKS: EXISTING FEATURES & DEMOLITION | | |
| 41901-02-020 | B | PLAN SHEET 01 |
| 41901-02-021 | A | PLAN SHEET 02 |
| EARTHWORKS: BULK EARTHWORKS CUT FILL | | |
| 41901-02-040 | B | PLAN SHEET 01 |
| 41901-02-041 | A | PLAN SHEET 02 |
| 41901-02-042 | A | PLAN SHEET 03 |
| 41901-02-045 | A | GEOTECHNICAL REQUIREMENTS PLAN |
| 41901-02-050 | B | EARTHWORKS SECTION KEY PLAN |
| 41901-02-051 | B | SECTIONS-SHEET 01 |
| 41901-02-052 | B | SECTIONS-SHEET 02 |
| EARTHWORKS: RETAINING WALL & DETAIL GRADING | | |
| 41901-02-060 | B | PLAN SHEET 01 |
| 41901-02-061 | B | PLAN SHEET 02 |
| 41901-02-062 | B | PLAN SHEET 03 |
| 41901-02-063 | B | PLAN SHEET 04 |
| 41901-02-070 | B | DETAILS |
| 41901-02-071 | A | FINAL TRIM DETAILS |
| EARTHWORKS: PADMOUNT SECTIONS | | |
| 41901-02-075 | B | PADMOUNT 4 SHEET 01 |
| 41901-02-076 | B | PADMOUNT 6 SHEET 02 |
| EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL | | |
| 41901-02-080 | B | PLAN SHEET 01 |
| 41901-02-081 | B | PLAN SHEET 02 |
| 41901-02-082 | B | PLAN SHEET 03 |
| 41901-02-083 | A | PLAN SHEET 04 |
| ROADS: COMBINED SERVICES | | |
| 41901-02-090 | B | PLAN SHEET 01 |
| 41901-02-091 | B | PLAN SHEET 02 |
| 41901-02-092 | B | PLAN SHEET 03 |
| ROADS: ROADWORKS | | |
| 41901-02-100 | C | PLAN SHEET 01 |
| 41901-02-101 | B | PLAN SHEET 02 |
| 41901-02-102 | A | PLAN SHEET 03 |
| 41901-02-120 | A | DETAILS |
| ROADS: LONGITUDINAL SECTIONS | | |
| 41901-02-200 | B | COURTNEY DRIVE-ROAD 01 SHEET 01 |
| 41901-02-201 | B | COURTNEY DRIVE-ROAD 01 (Cont.) SHEET 02 |
| 41901-02-202 | A | ROAD 03 |
| 41901-02-203 | B | ROAD 04 & ROAD 07 |
| 41901-02-204 | A | ROAD 10 & ACCESS BASIN 01 |
| ROADS: CROSS SECTIONS | | |
| 41901-02-300 | A | COURTNEY DRIVE-ROAD 01 SHEET 01 |
| 41901-02-301 | B | COURTNEY DRIVE-ROAD 01 (Cont.) SHEET 02 |
| 41901-02-302 | B | COURTNEY DRIVE-ROAD 01 (Cont.) SHEET 03 |
| 41901-02-303 | A | ROAD 03 SHEET 01 |
| 41901-02-304 | A | ROAD 03 (Cont.) SHEET 02 |
| 41901-02-305 | A | ROAD 04 |
| 41901-02-306 | B | ROAD 07 & ROAD 10 |
| 41901-02-307 | A | ACCESS BASIN 01 |
| ROADS: INTERSECTION GRADING | | |
| 41901-02-400 | B | DETAILS |
| ROADS: JOINTING DETAILS | | |
| 41901-02-410 | B | DETAILS SHEET 01 |
| 41901-02-411 | B | DETAILS SHEET 02 |
| ROADS: LINEMARKING AND SIGNAGE | | |
| 41901-02-420 | A | PLAN SHEET 01 |
| 41901-02-421 | A | PLAN SHEET 02 |
| SEWER: SEWER RETICULATION | | |
| 41901-02-500 | B | PLAN SHEET 01 |
| 41901-02-501 | B | PLAN SHEET 02 |
| 41901-02-502 | A | PLAN SHEET 03 |
| 41901-02-510 | A | DETAILS |
| SEWER: PROFILES | | |
| 41901-02-530 | B | SHEET 01 |
| 41901-02-531 | B | SHEET 02 |
| 41901-02-532 | B | SHEET 03 |
| 41901-02-533 | B | SHEET 04 |
| 41901-02-534 | B | SHEET 05 |
| 41901-02-535 | B | SHEET 06 |
| SEWER: HOUSE CONNECTION PROFILES | | |
| 41901-02-550 | B | SHEET 01 |
| 41901-02-551 | B | SHEET 02 |
| DRAINAGE: STORMWATER | | |
| 41901-02-600 | B | PLAN SHEET 01 |
| 41901-02-601 | B | PLAN SHEET 02 |
| 41901-02-602 | A | PLAN SHEET 03 |
| DRAINAGE: PROFILES | | |
| 41901-02-620 | C | SHEET 01 |
| 41901-02-621 | B | SHEET 02 |
| 41901-02-622 | B | SHEET 03 |
| 41901-02-623 | B | SHEET 04 |
| 41901-02-624 | A | SHEET 05 |
| 41901-02-625 | A | SHEET 06 |
| 41901-02-626 | C | SHEET 07 |
| DRAINAGE: PIT OUTLETS & TYPICAL DETAILS | | |
| 41901-02-640 | B | OUTLETS & TYPICAL DETAILS SHEET 01 |
| 41901-02-641 | B | RCBC OUTLET |
| DRAINAGE: PIT DETAILS | | |
| 41901-02-650 | B | PIT DETAILS SHEET 01 |
| 41901-02-651 | B | PIT DETAILS SHEET 02 |
| 41901-02-652 | B | PIT DETAILS SHEET 03 |
| DRAINAGE: BASINS & CULVERTS | | |
| 41901-02-660 | B | PLAN SHEET 01 |
| 41901-02-661 | B | PLAN SHEET 02 |
| 41901-02-662 | A | SECTIONS SHEET 01 |
| 41901-02-663 | A | SECTIONS SHEET 02 |
| 41901-02-664 | B | DETAILS SHEET 01 |
| 41901-02-665 | B | DETAILS SHEET 02 |
| DRAINAGE: CATCHMENT | | |
| 41901-02-670 | B | PLAN SHEET 01 |
| 41901-02-671 | A | PLAN SHEET 02 |
| DRAINAGE: CALCULATION TABLES | | |
| 41901-02-680 | B | MINOR CALC TABLE SHET 01 |
| 41901-02-680A | A | MINOR CALC TABLE SHEET 02 |
| 41901-02-681 | B | MAJOR CALC TABLE SHEET 01 |
| 41901-02-681A | A | MAJOR CALC TABLE SHEET 02 |
| WATER: WATER RETICULATION | | |
| 41901-02-700 | B | PLAN SHEET 01 |
| 41901-02-701 | B | PLAN SHEET 02 |
| 41901-02-702 | B | PLAN SHEET 03 |
| 41901-02-710 | A | DETAILS |

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

COMPASS ASSURANCE ISO 9001 QUALITY

CLIENT

HB Land

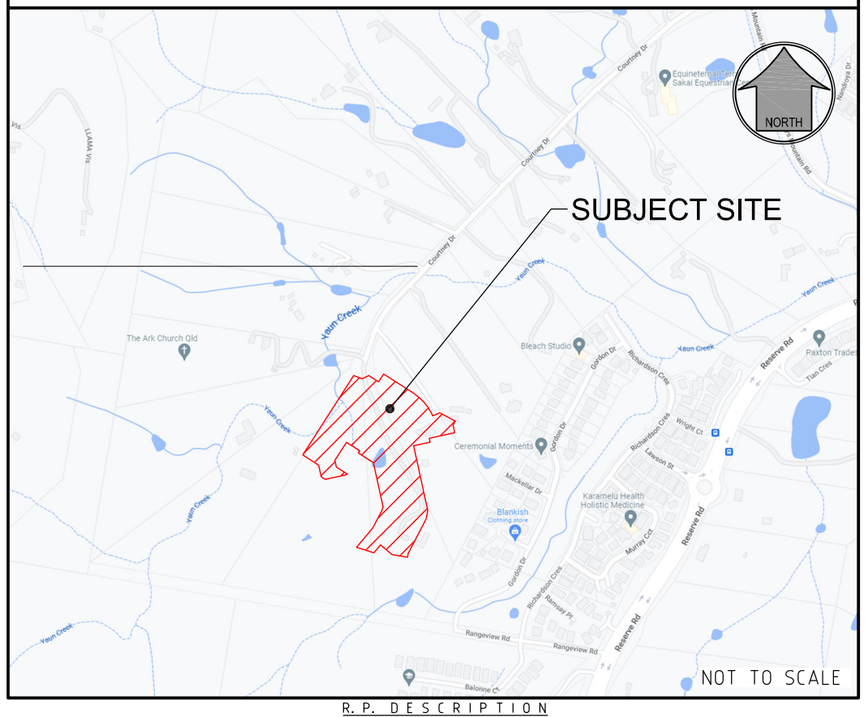
SUB-CONSULTANTS

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. |
|---|---|
| 41901-02-000 | B |

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| DESIGN ITEM | POTENTIAL HAZARD | PHASE | THOSE AT RISK | PRE-TREATMENT RISK ASSESSMENT | | | | TREATMENT OPTIONS | - ADOPTED TREATMENT<br>- REASON<br>- 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.<br>- Lot layout to consider natural slow points in road layout.<br>- Consideration of slow points within Local street network. | Town Planners and Council to ensure original layout reduces risk (i.e. minimise long straight roads).<br>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.<br>- 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.<br>- 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<br>- 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 | Permanent Disability | Possible | 12 | High | - Design to consider existing services and include appropriate clearances or protection measures.<br>- Dial Before You Dig to be performed prior to design commencing.<br>- Developer provide survey of any critical existing infrastructure prior to design.<br>- Design drawings to show known services.<br>- 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.<br><br>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.<br>- 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.<br>- Minimise the number of locations.<br>- 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.<br>- Bench deep trenches appropriately to minimise trench collapse risk.<br>- Design in accordance with relevant standard.<br>- 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.<br>- 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.<br>- Install inlet grates on stormwater inlets where required. | Risk assessment of stormwater inlets undertaken in accordance with QUDM requirements and stormwater inlet grates have been specified where required. | Death | Rare | 5 | Moderate | Closed |
| **Temporary Stormwater Construction Sediment Ponds** | Drowning | Construction and Maintenance | Public, Contractors & Council | Death | Possible | 15 | Significant | - Site fencing and warning signs to be installed.<br>- Minimise depth<br>- 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 |
| **Permanent Stormwater Basin Infrastructure** | Drowning | Maintenance and demolition | Public | Death | Possible | 15 | Significant | - Site fencing and warning signs to be installed.<br>- Minimise depth<br>- 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 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT+BENNETT

DRAWING TITLE

SAFETY IN DESIGN

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Southport QLD 4215

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Suite 9, 19 Short St
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| DESIGNED | RB | DRAWN | EP |
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-003 | 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 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

RISK MATRIX & NOTES

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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-004 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. TRENCH SPOIL
   ALL MATERIALS ARISING FROM ROADS & SERVICES ARE TO BE COMPACTED TO FUTURE STAGES. TO LEVEL 1 IF NO SPOIL AREA IS AVAILABLE THESE MATERIALS SHALL BE TRUCKED TO A LICENSED TIP. THESE WORKS FORM PART OF THE CONTRACTED WORKS.
5. CHECK ELECTRONIC SETOUT
   CONTRACTOR IS RESPONSIBLE TO ENSURE ANY ELECTRONIC DATA FILES MATCH THE DRAWINGS.
6. PRE START
   a. ERECT SITE SIGNAGE. CONSTRUCT ENTRY & EXIT POINT AS INDICATED.
   b. CONSTRUCT VEHICLE WASHDOWN AREA & ASSOCIATED SILT MANAGEMENT DEVICES.
   c. CONSTRUCT SITE OFFICE & STORAGE COMPOUND AREA.
   d. INSTALL EROSION & SEDIMENT CONTROL DEVICES AS PER THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN.
   e. ERECT TEMPORARY TREE PROTECTION FENCING IN ACCORDANCE WITH THE APPROVED VEGETATION MANAGEMENT PLAN & AUTHORITIES APPROVAL CONDITIONS (IF REQUIRED).
7. HEALTH & SAFETY
   ALL WORKS UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH & SAFETY LEGISLATION.
8. STOCKPILING
   STOCKPILING OF ANY SURPLUS MATERIAL IS NOT PERMITTED

## PROJECT SPECIFIC REPORTS

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

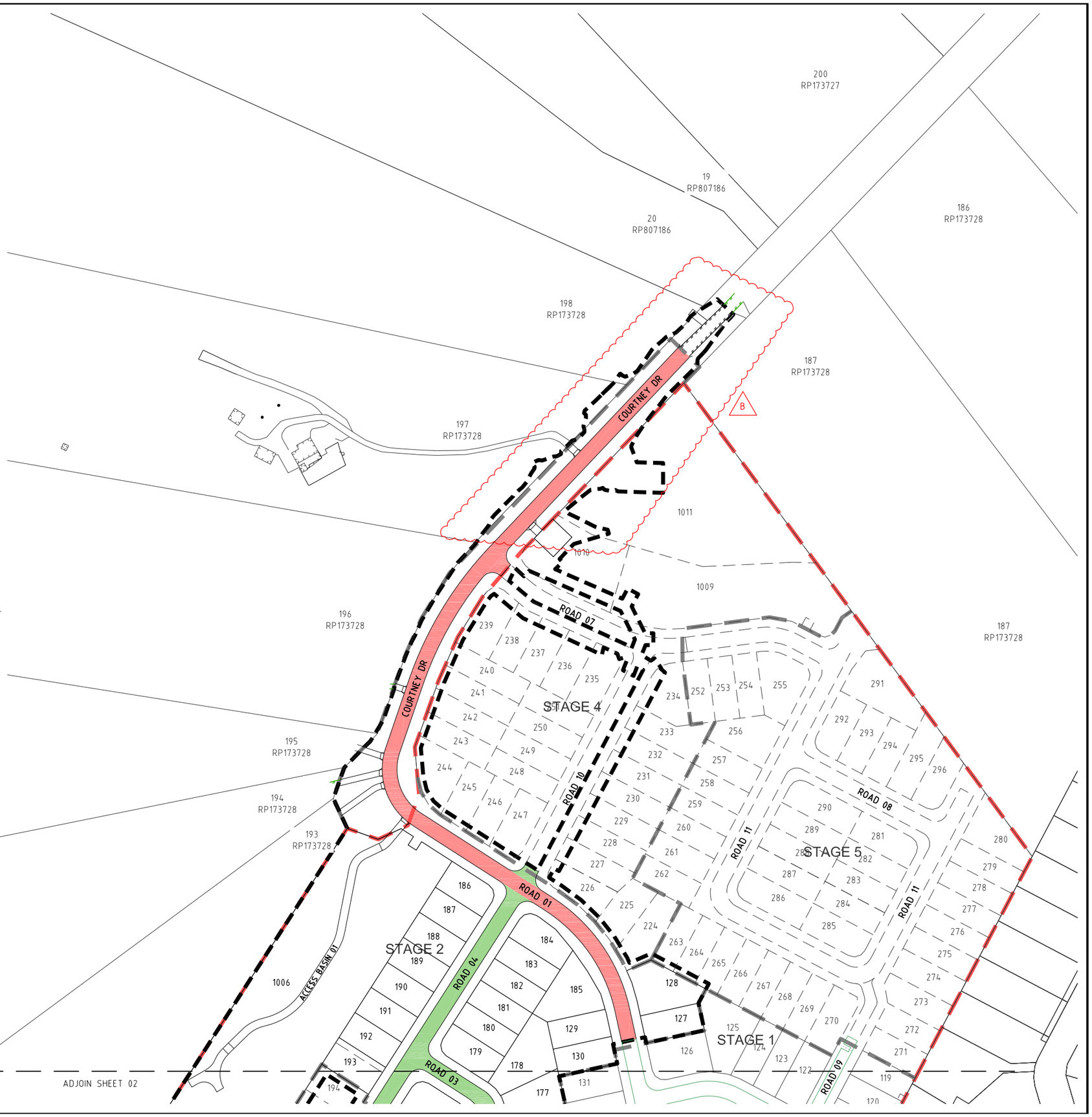
a) GEOTECHNICAL INVESTIGATION REPORTS (INCLUDING ANY ACID SULPHATE OR DISPERSIVE SOIL REPORTING)
b) VEGETATION & FAUNA MANAGEMENT PLANS
c) OTHER MANAGEMENT PLANS NOMINATED IN THE CONTRACT, AUTHORITIES APPROVAL CONDITIONS OR BY THE SUPERINTENDENT.

## LEGEND

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

REFER 120 DRAWING 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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| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| B | 17-01-24 | COURTNEY DR & LIMIT OF WORKS AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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

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

DRAWING TITLE

ROAD HIERARCHY,
STAGING PLAN
&
GENERAL NOTES
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-005
REV B

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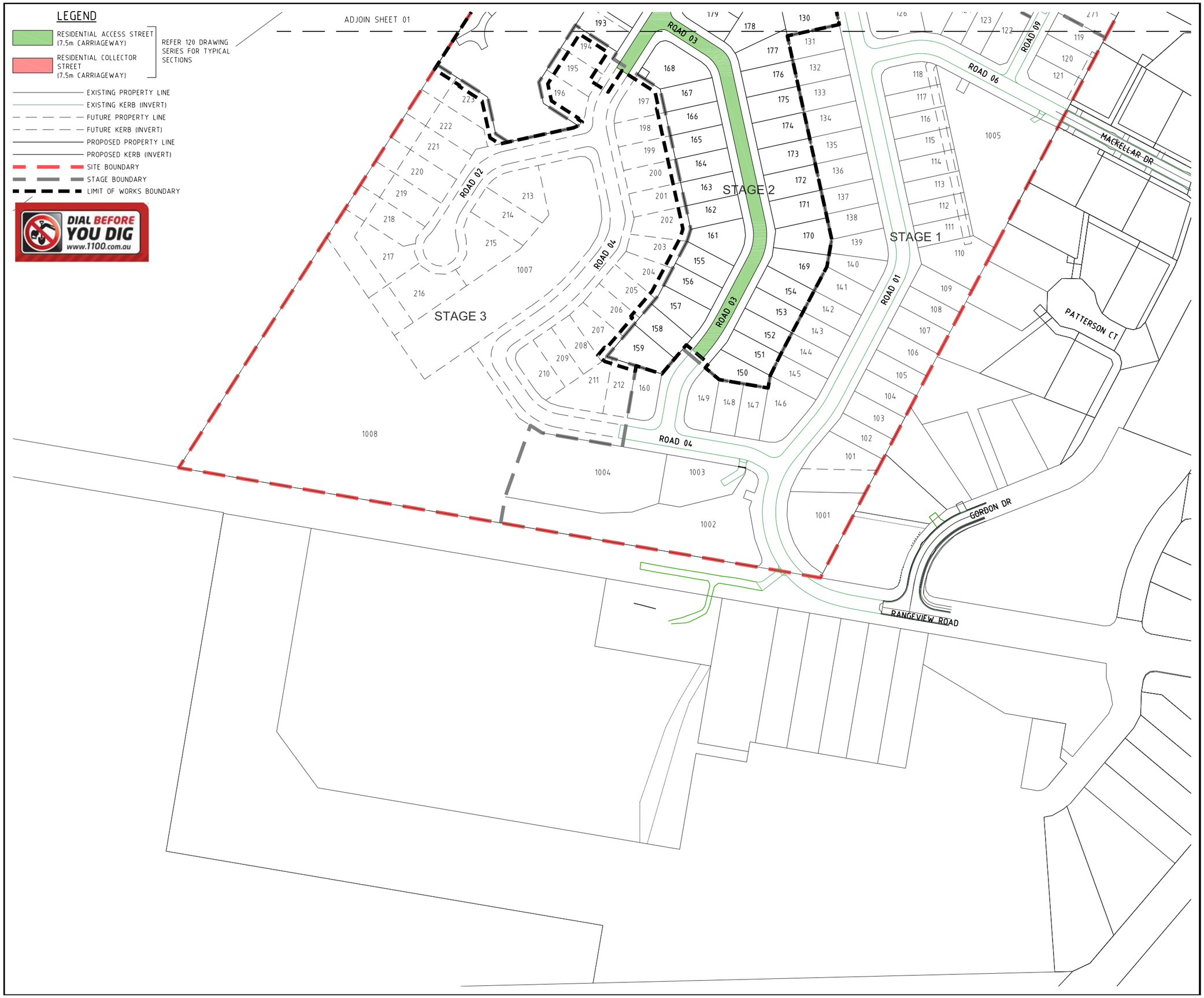
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- RESIDENTIAL COLLECTOR STREET (7.5m CARRIAGEWAY)

REFER 120 DRAWING 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 02

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 |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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DRAWING TITLE

ROAD HIERARCHY,
STAGING PLAN
&
GENERAL NOTES
SHEET 02

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| DESIGNED | RB | DRAWN | EP |
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
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## GENERAL

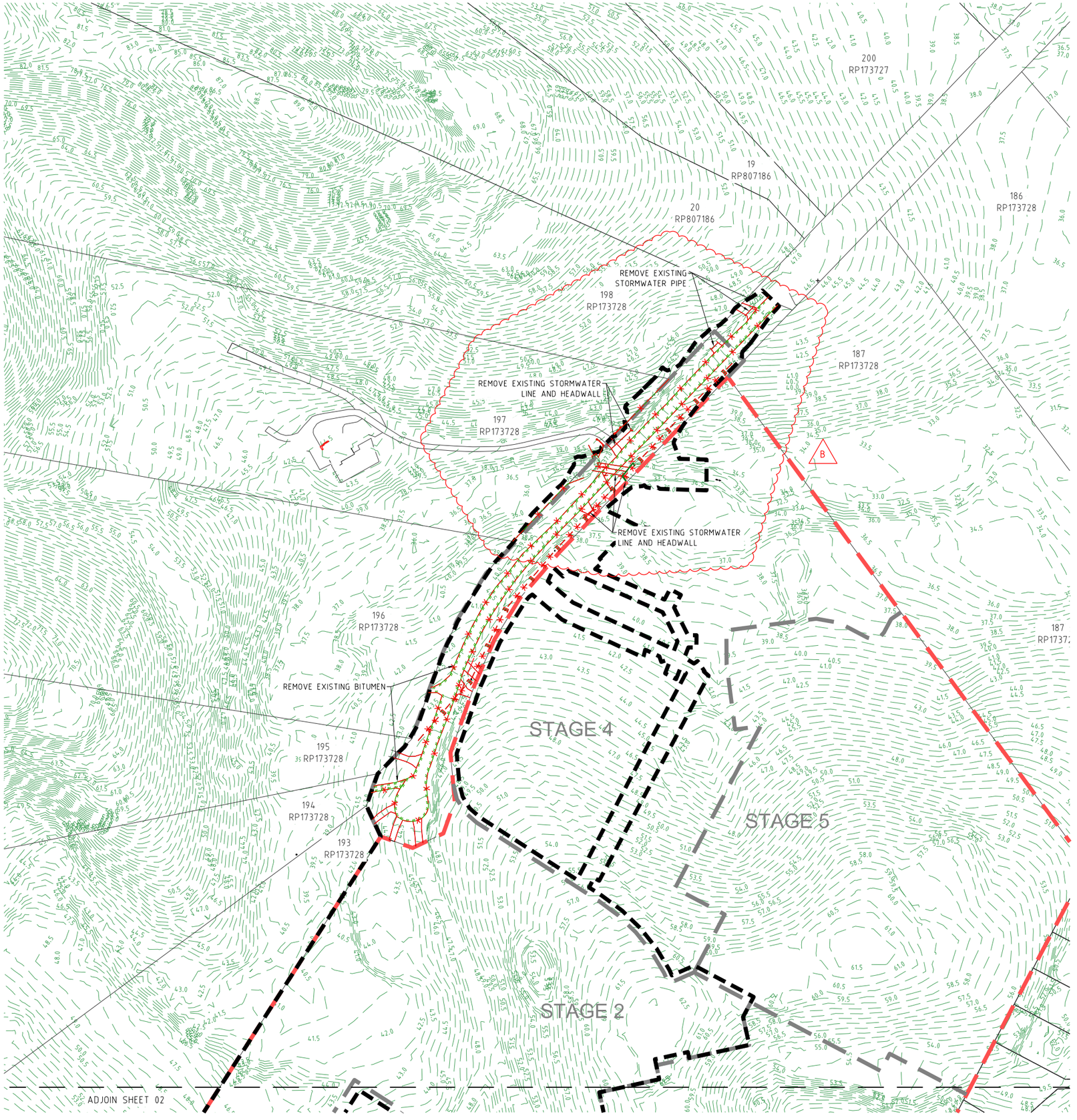
1. EXISTING SERVICES - EXTERNAL WORKS
   THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED 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
- EXISTING RISING MAIN
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING GAS
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING OVERHEAD ELECTRICITY
- EXISTING TELSTRA
- EXISTING COMMUNICATIONS
- EXISTING CONTOURS MAJOR
- 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 02

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 |
|---|---|---|---|
| B | 17-01-24 | LIMIT OF WORKS BDY AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

EXISTING FEATURES AND DEMOLITION PLAN SHEET 01

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Urban & Regional Planning
Civil Engineering
Project Coordination
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Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-020 | REV B

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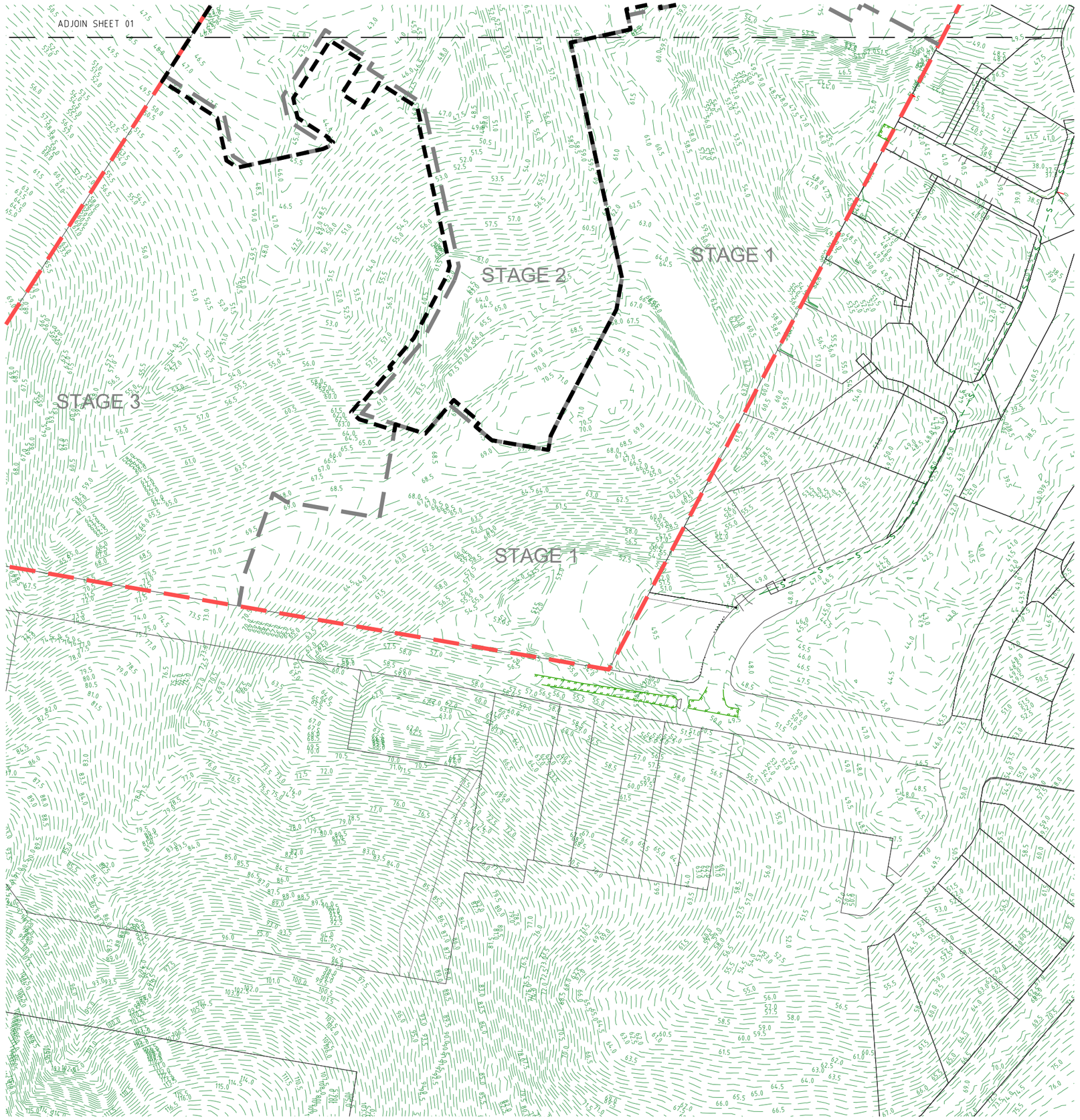
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**NOTE:**
CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR LOCATION AND PROTECTION OF EXISTING SERVICES DURING WORKS.

## 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
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- SW — EXISTING STORMWATER
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING UNDERGROUND ELECTRICITY
- E — EXISTING OVERHEAD ELECTRICITY
- T — EXISTING TELSTRA
- C — EXISTING COMMUNICATIONS
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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
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| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

EXISTING FEATURES AND DEMOLITION PLAN SHEET 02

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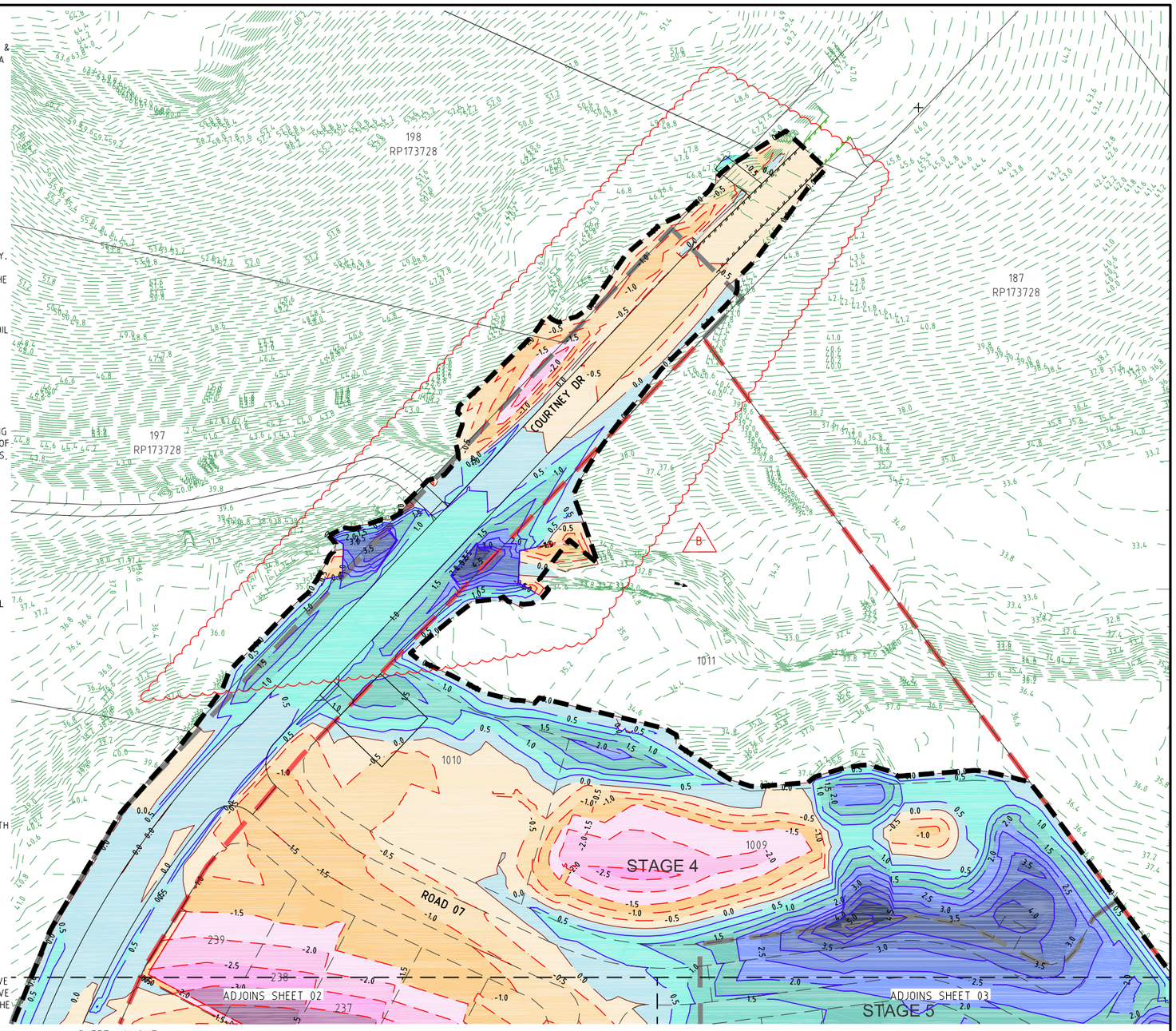
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| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

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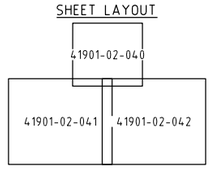
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## EARTHWORKS

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.




SHEET LAYOUT




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

LEGEND

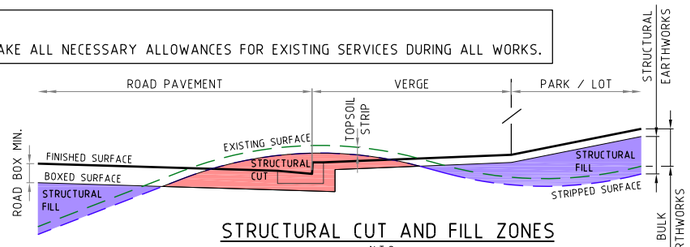
- EXISTING PROPERTY LINE
- EXISTING KERB (INVERT)
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF EARTHWORKS BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- -0.5 CUT CONTOUR
- 0.0 INTERFACE CONTOUR
- 0.5 FILL CONTOUR

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

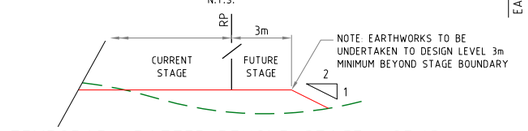
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# BULK EARTHWORKS (EXISTING TO FINISHED SURFACE)

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.




STRUCTURAL CUT AND FILL ZONES
N.T.S.




TEMPORARY BATTER BEYOND STAGE WORKS
N.T.S.

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | INIT |
|---|---|---|---|
| B | 17-01-24 | CONTOURS AMENDED | xx |
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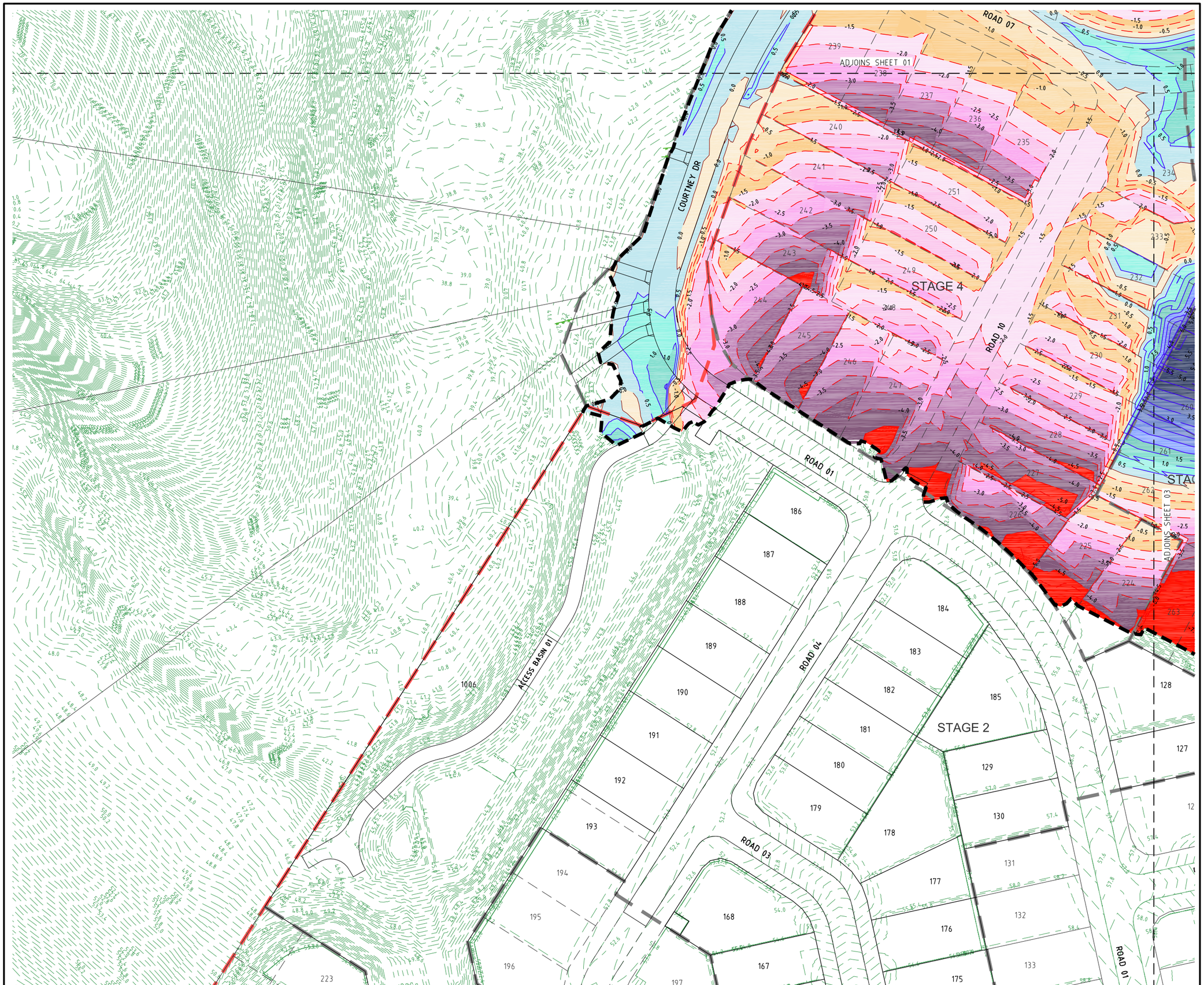
EARTHWORKS
CUT TO FILL
PLAN
SHEET 01

MORTONS urbansolutions
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| DESIGNED | RB | DRAWN | EP |
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| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-040
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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

RP DESCRIPTION

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LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

HB Land

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STAGE 5

ADJOINS SHEET 02

STAGE 5

ROAD 11

ROAD 08

ROAD 09

ROAD 06

ROAD 01

GORDON DR

RICHARDSON

PROJECT NAME

# COURTNEY DR UPPER COOMERA

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BENNETT+BENNETT

DRAWING TITLE

EARTHWORKS
CUT TO FILL
PLAN
SHEET 03

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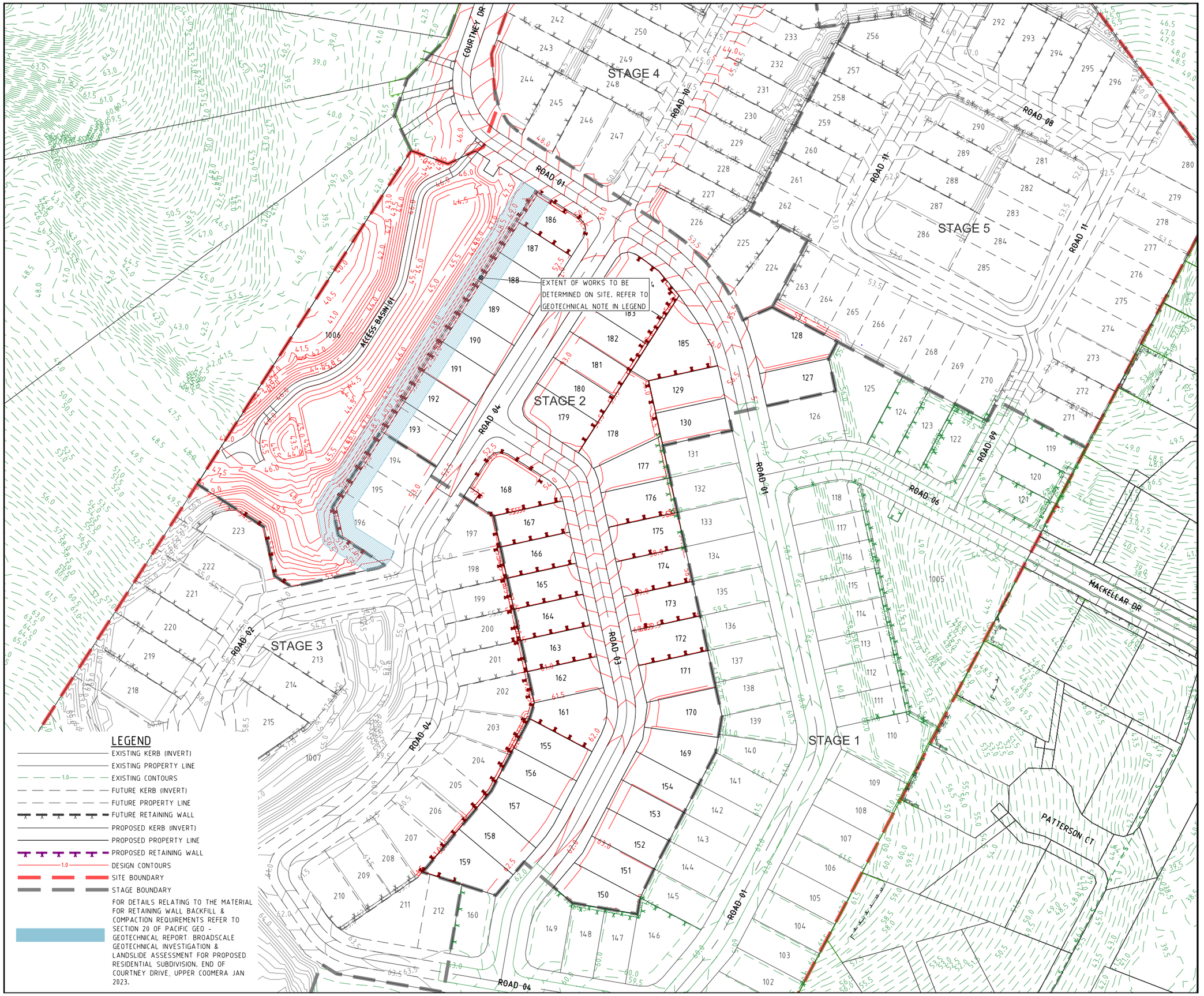
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|---|---|
| 41901-02-042 | A |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

GEOTECHNICAL REQUIREMENTS PLAN

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

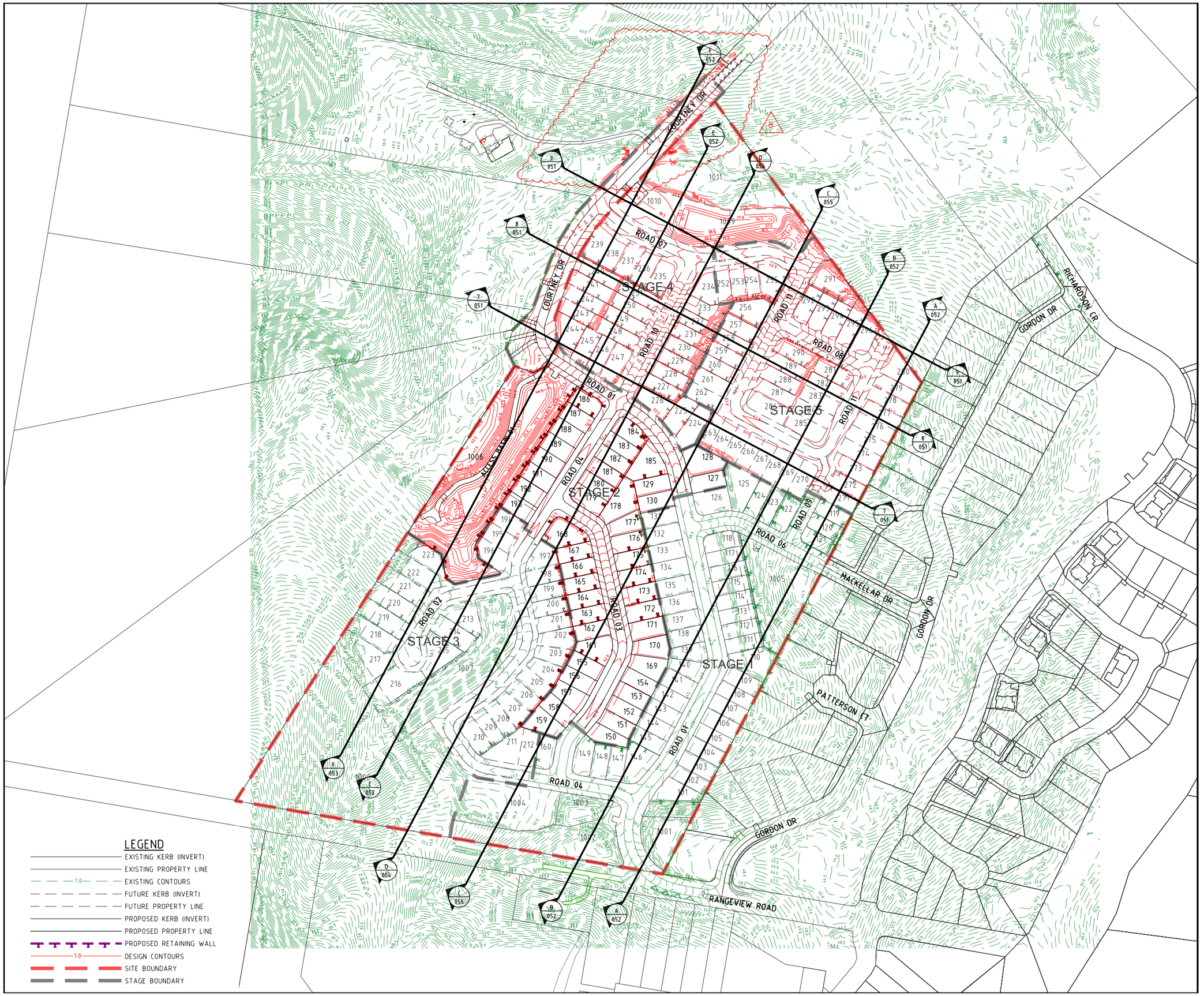
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER: 41901-02-045
REV: A

I:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-045.dwg, GEOTECHNICAL REQUIREMENTS PLAN, 19/01/2024 1:55:26 PM, 1:2




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
|---|---|---|---|
| B | 17-01-24 | CONTOURS AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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

DRAWING TITLE

BULK EARTHWORKS
SECTION KEY PLAN

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

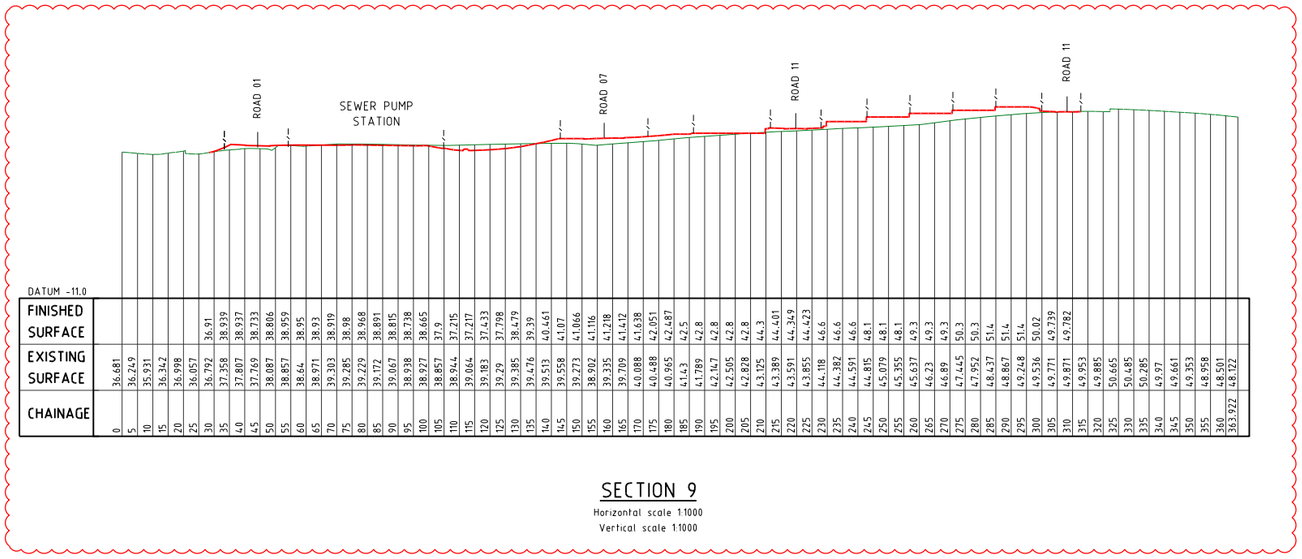
Postal Address
PO Box 2484
Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-050 | B |

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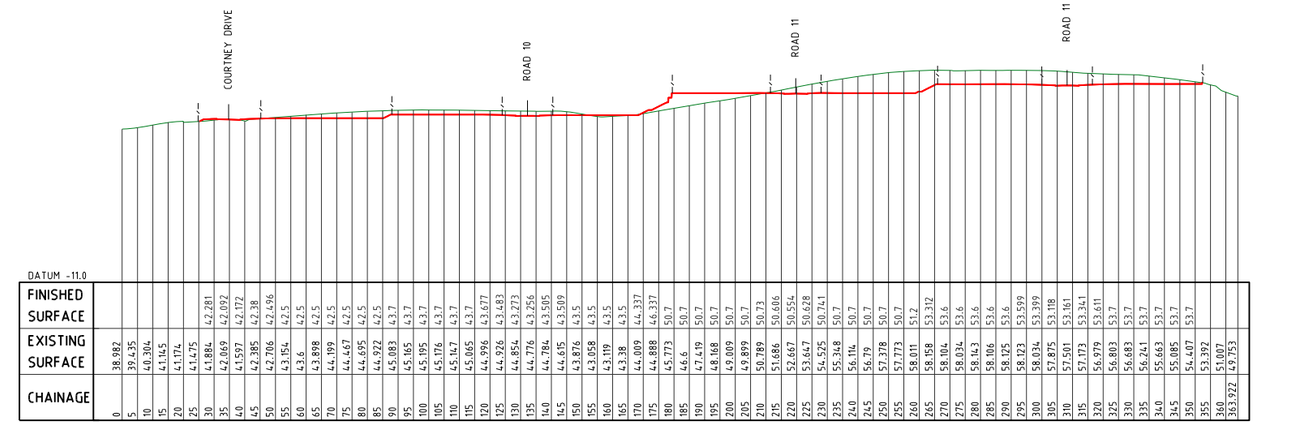

DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 0 | | 36.681 |
| 5 | | 36.249 |
| 10 | | 35.931 |
| 15 | | 36.342 |
| 20 | | 36.998 |
| 25 | | 36.057 |
| 30 | 36.91 | 36.792 |
| 35 | 38.939 | 37.358 |
| 40 | 38.937 | 37.807 |
| 45 | 38.733 | 37.769 |
| 50 | 38.806 | 38.087 |
| 55 | 38.959 | 38.857 |
| 60 | 38.955 | 38.64 |
| 65 | 38.93 | 38.971 |
| 70 | 38.919 | 39.303 |
| 75 | 38.98 | 39.285 |
| 80 | 38.968 | 39.229 |
| 85 | 38.891 | 39.172 |
| 90 | 38.815 | 39.067 |
| 95 | 38.738 | 38.938 |
| 100 | 38.665 | 38.927 |
| 105 | 37.9 | 38.857 |
| 110 | 37.215 | 38.944 |
| 115 | 37.217 | 39.064 |
| 120 | 37.433 | 39.183 |
| 125 | 37.798 | 39.29 |
| 130 | 38.479 | 39.385 |
| 135 | 39.39 | 39.476 |
| 140 | 40.461 | 39.513 |
| 145 | 41.07 | 39.558 |
| 150 | 41.066 | 39.273 |
| 155 | 41.116 | 38.902 |
| 160 | 41.218 | 39.335 |
| 165 | 41.412 | 39.709 |
| 170 | 41.638 | 40.088 |
| 175 | 42.051 | 40.488 |
| 180 | 42.487 | 40.965 |
| 185 | 42.5 | 41.143 |
| 190 | 42.8 | 41.789 |
| 195 | 42.8 | 42.147 |
| 200 | 42.8 | 42.505 |
| 205 | 42.8 | 42.828 |
| 210 | 42.8 | 43.125 |
| 215 | 44.3 | 43.389 |
| 220 | 44.401 | 43.591 |
| 225 | 44.349 | 43.855 |
| 230 | 44.423 | 44.118 |
| 235 | 46.6 | 44.382 |
| 240 | 46.6 | 44.591 |
| 245 | 46.6 | 44.815 |
| 250 | 48.1 | 45.079 |
| 255 | 48.1 | 45.355 |
| 260 | 48.1 | 45.637 |
| 265 | 49.3 | 46.23 |
| 270 | 49.3 | 46.89 |
| 275 | 49.3 | 47.445 |
| 280 | 50.3 | 47.952 |
| 285 | 51.4 | 48.437 |
| 290 | 51.4 | 48.867 |
| 295 | 51.4 | 49.248 |
| 300 | 50.02 | 49.536 |
| 305 | 49.739 | 49.771 |
| 310 | 49.782 | 49.871 |
| 315 | | 49.953 |
| 320 | | 49.885 |
| 325 | | 50.665 |
| 330 | | 50.485 |
| 335 | | 50.285 |
| 340 | | 49.97 |
| 345 | | 49.661 |
| 350 | | 49.353 |
| 355 | | 48.958 |
| 360 | | 48.501 |
| 363.922 | | 48.122 |

## SECTION 9

Horizontal scale 1:1000
Vertical scale 1:1000

B

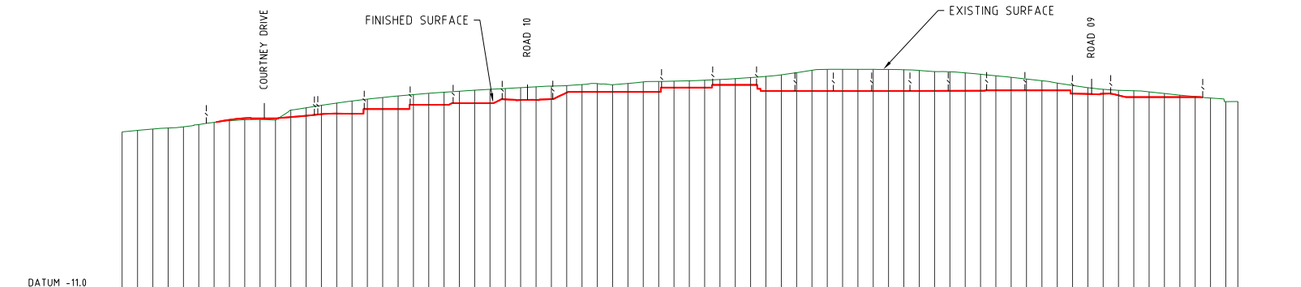



DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 0 | | 38.982 |
| 5 | | 39.435 |
| 10 | | 40.304 |
| 15 | | 41.145 |
| 20 | | 41.174 |
| 25 | | 41.475 |
| 30 | 42.281 | 41.884 |
| 35 | 42.092 | 42.069 |
| 40 | 42.172 | 41.597 |
| 45 | 42.38 | 42.385 |
| 50 | 42.496 | 42.706 |
| 55 | 42.5 | 43.154 |
| 60 | 42.5 | 43.6 |
| 65 | 42.5 | 43.898 |
| 70 | 42.5 | 44.199 |
| 75 | 42.5 | 44.467 |
| 80 | 42.5 | 44.695 |
| 85 | 43.7 | 44.922 |
| 90 | 43.7 | 45.083 |
| 95 | 43.7 | 45.165 |
| 100 | 43.7 | 45.195 |
| 105 | 43.7 | 45.176 |
| 110 | 43.7 | 45.147 |
| 115 | 43.7 | 45.065 |
| 120 | 43.677 | 44.996 |
| 125 | 43.483 | 44.926 |
| 130 | 43.273 | 44.856 |
| 135 | 43.256 | 44.776 |
| 140 | 43.505 | 44.784 |
| 145 | 43.509 | 44.615 |
| 150 | 43.5 | 43.876 |
| 155 | 43.5 | 43.058 |
| 160 | 43.5 | 43.119 |
| 165 | 43.5 | 43.38 |
| 170 | 44.337 | 44.009 |
| 175 | 46.337 | 44.888 |
| 180 | 50.7 | 45.773 |
| 185 | 50.7 | 46.6 |
| 190 | 50.7 | 47.419 |
| 195 | 50.7 | 48.168 |
| 200 | 50.7 | 49.009 |
| 205 | 50.7 | 49.899 |
| 210 | 50.73 | 50.789 |
| 215 | 50.606 | 51.686 |
| 220 | 50.554 | 52.667 |
| 225 | 50.628 | 53.647 |
| 230 | 50.741 | 54.525 |
| 235 | 50.7 | 55.348 |
| 240 | 50.7 | 56.114 |
| 245 | 50.7 | 56.79 |
| 250 | 50.7 | 57.378 |
| 255 | 50.7 | 57.773 |
| 260 | 51.2 | 58.011 |
| 265 | 53.312 | 58.158 |
| 270 | 53.6 | 58.104 |
| 275 | 53.6 | 58.034 |
| 280 | 53.6 | 58.143 |
| 285 | 53.6 | 58.106 |
| 290 | 53.6 | 58.125 |
| 295 | 53.599 | 58.123 |
| 300 | 53.399 | 58.034 |
| 305 | 53.118 | 57.875 |
| 310 | 53.161 | 57.501 |
| 315 | 53.341 | 57.173 |
| 320 | 53.611 | 56.979 |
| 325 | 53.7 | 56.803 |
| 330 | 53.7 | 56.683 |
| 335 | 53.7 | 56.241 |
| 340 | 53.7 | 55.663 |
| 345 | 53.7 | 55.085 |
| 350 | 53.7 | 54.407 |
| 355 | | 53.392 |
| 360 | | 51.007 |
| 363.922 | | 49.753 |

## SECTION 8

Horizontal scale 1:1000
Vertical scale 1:1000




DATUM -11.0

| CHAINAGE | 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 | 44.282 |
| 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 | 51.013 |
| 85 | 47.8 | 51.589 |
| 90 | 47.8 | 52.092 |
| 95 | 49.2 | 52.49 |
| 100 | 49.2 | 52.914 |
| 105 | 49.2 | 53.334 |
| 110 | 49.7 | 53.673 |
| 115 | 49.7 | 54.004 |
| 120 | 49.7 | 54.258 |
| 125 | 50.965 | 54.503 |
| 130 | 50.754 | 54.772 |
| 135 | 50.786 | 55.068 |
| 140 | 51.043 | 55.288 |
| 145 | 53.165 | 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 | 53.177 |
| 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 02

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 | 17-01-24 | SECTION 9 AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

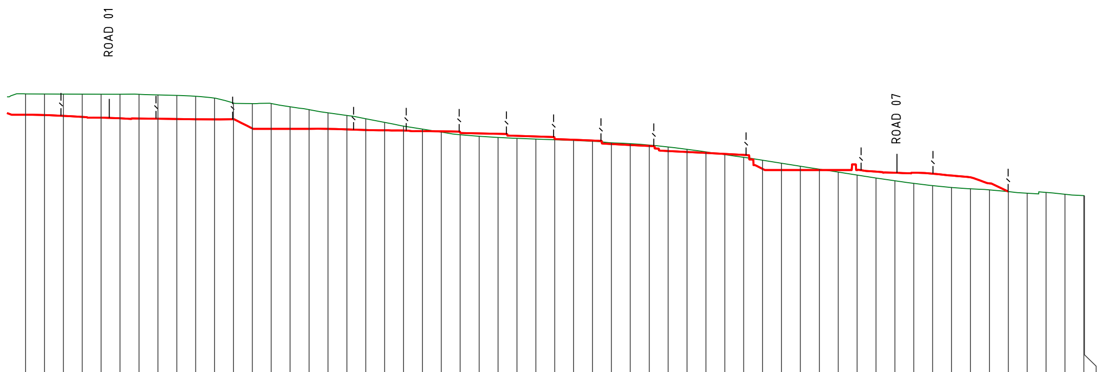
BULK EARTHWORKS
SECTIONS
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER: 41901-02-051
REV: B

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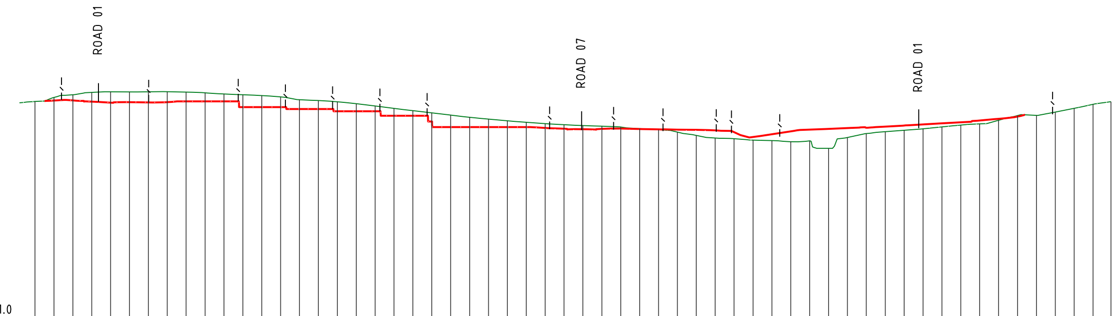

DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 365 | 57.4 | 62.905 |
| 370 | 57.34 | 62.908 |
| 375 | 57.113 | 62.856 |
| 380 | 56.848 | 62.85 |
| 385 | 56.623 | 62.837 |
| 390 | 56.461 | 62.838 |
| 395 | 56.421 | 62.781 |
| 400 | 56.411 | 62.67 |
| 405 | 56.217 | 62.485 |
| 410 | 56.2 | 62.217 |
| 415 | 56.2 | 61.824 |
| 420 | 56.2 | 60.527 |
| 425 | 53.789 | 60.378 |
| 430 | 53.7 | 60.363 |
| 435 | 53.7 | 59.513 |
| 440 | 53.7 | 58.755 |
| 445 | 53.7 | 57.924 |
| 450 | 53.548 | 57.236 |
| 455 | 53.4 | 56.353 |
| 460 | 53.29 | 55.384 |
| 465 | 53.241 | 54.397 |
| 470 | 53.09 | 53.621 |
| 475 | 53.021 | 52.844 |
| 480 | 52.6 | 52.204 |
| 485 | 52.485 | 51.794 |
| 490 | 52.361 | 51.401 |
| 495 | 51.826 | 51.178 |
| 500 | 51.666 | 50.954 |
| 505 | 51.015 | 50.822 |
| 510 | 50.799 | 50.664 |
| 515 | 50.583 | 50.414 |
| 520 | 49.672 | 50.011 |
| 525 | 49.412 | 49.733 |
| 530 | 49.171 | 49.368 |
| 535 | 47.824 | 48.894 |
| 540 | 47.569 | 48.289 |
| 545 | 47.314 | 47.544 |
| 550 | 47.059 | 46.849 |
| 555 | 46.8 | 46.154 |
| 560 | 43.088 | 45.412 |
| 565 | 42.8 | 44.612 |
| 570 | 42.8 | 43.813 |
| 575 | 42.8 | 43.026 |
| 580 | 42.8 | 42.251 |
| 585 | 42.8 | 41.477 |
| 590 | 42.378 | 40.663 |
| 595 | 42.078 | 39.964 |
| 600 | 42.064 | 39.276 |
| 605 | 41.858 | 38.654 |
| 610 | 41.35 | 38.293 |
| 615 | 40.906 | 37.932 |
| 620 | 39.297 | 37.554 |
| 625 | | 37.12 |
| 630 | | 36.689 |
| 635 | | 36.893 |
| 640 | | 36.407 |
| 645 | | 36.024 |
| 645.166 | | 36.014 |

## SECTION C

Horizontal scale 1:1000
Vertical scale 1:1000

B

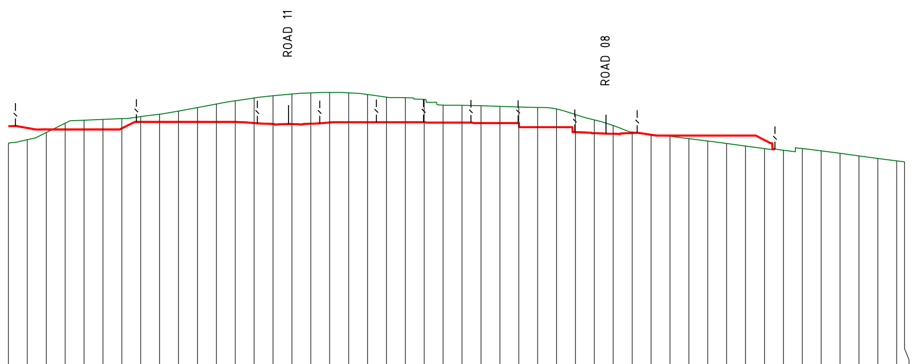



DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 365 | | 46.291 |
| 370 | 46.533 | 47.34 |
| 375 | 46.582 | 48.05 |
| 380 | 46.236 | 48.694 |
| 385 | 45.98 | 48.844 |
| 390 | 46.09 | 48.81 |
| 395 | 46.046 | 48.834 |
| 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 |
| 635 | | 43.49 |
| 640 | | 44.472 |
| 645 | | 45.527 |
| 649.736 | | 46.224 |

## SECTION F

Horizontal scale 1:1000
Vertical scale 1:1000

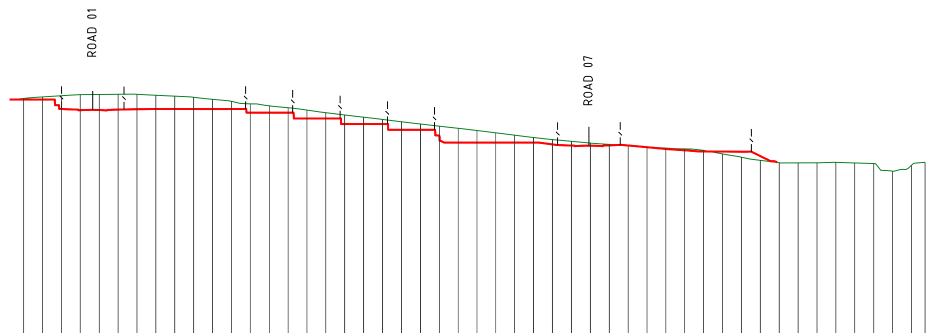



DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 365 | 52.27 | 49.182 |
| 370 | 51.9 | 51.069 |
| 375 | 51.9 | 53.545 |
| 380 | 51.9 | 54.343 |
| 385 | 51.9 | 54.551 |
| 390 | 52.18 | 54.759 |
| 395 | 53.9 | 55.285 |
| 400 | 53.9 | 55.932 |
| 405 | 53.9 | 56.741 |
| 410 | 53.9 | 57.676 |
| 415 | 53.9 | 58.619 |
| 420 | 53.9 | 59.469 |
| 425 | 53.567 | 60.208 |
| 430 | 53.341 | 60.783 |
| 435 | 53.296 | 61.239 |
| 440 | 53.414 | 61.543 |
| 445 | 53.728 | 61.668 |
| 450 | 53.8 | 61.568 |
| 455 | 53.8 | 61.12 |
| 460 | 53.8 | 60.438 |
| 465 | 53.8 | 60.276 |
| 470 | 53.8 | 59.809 |
| 475 | 53.7 | 58.336 |
| 480 | 53.7 | 58.264 |
| 485 | 53.6 | 58.132 |
| 490 | 53.6 | 58.002 |
| 495 | 53.6 | 57.829 |
| 500 | 52.5 | 57.695 |
| 505 | 52.5 | 57.32 |
| 510 | 51.179 | 55.826 |
| 515 | 50.895 | 54.431 |
| 520 | 50.745 | 52.951 |
| 525 | 50.934 | 51.196 |
| 530 | 50.501 | 50.546 |
| 535 | 50.3 | 50.106 |
| 540 | 50.3 | 49.48 |
| 545 | 50.3 | 48.853 |
| 550 | 50.3 | 48.182 |
| 555 | 50.3 | 47.511 |
| 560 | 49.1 | 46.84 |
| 565 | | 46.416 |
| 570 | | 46.841 |
| 575 | | 46.246 |
| 580 | | 45.581 |
| 585 | | 44.913 |
| 590 | | 44.218 |
| 595 | | 43.602 |
| 597.051 | | 43.325 |

## SECTION B

Horizontal scale 1:1000
Vertical scale 1:1000

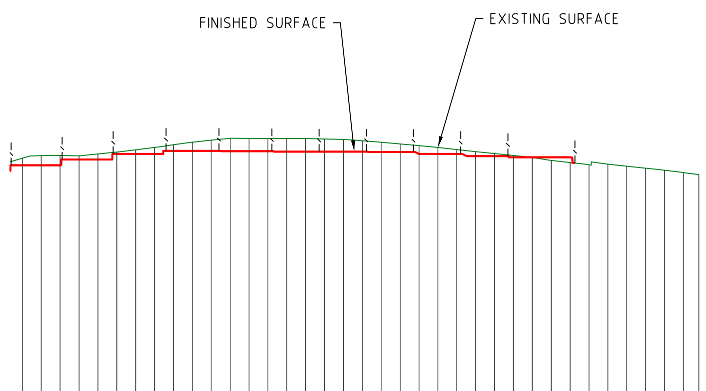



DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 360 | 51.7 | 51.967 |
| 365 | 51.7 | 52.385 |
| 370 | 49.203 | 52.705 |
| 375 | 48.887 | 52.992 |
| 380 | 48.899 | 53.018 |
| 385 | 49.038 | 53.067 |
| 390 | 49.16 | 53.077 |
| 395 | 49.2 | 52.832 |
| 400 | 49.2 | 52.582 |
| 405 | 49.2 | 52.273 |
| 410 | 49.2 | 51.752 |
| 415 | 49.2 | 51.196 |
| 420 | 48.2 | 50.557 |
| 425 | 48.2 | 50.025 |
| 430 | 48.2 | 49.519 |
| 435 | 46.7 | 48.896 |
| 440 | 46.7 | 48.203 |
| 445 | 45.2 | 47.616 |
| 450 | 45.2 | 47.02 |
| 455 | 45.2 | 46.418 |
| 460 | 43.7 | 45.82 |
| 465 | 43.7 | 45.226 |
| 470 | 42.2 | 44.658 |
| 475 | 40.3 | 44.08 |
| 480 | 40.3 | 43.482 |
| 485 | 40.3 | 42.878 |
| 490 | 40.3 | 42.263 |
| 495 | 40.3 | 41.649 |
| 500 | 39.831 | 41.09 |
| 505 | 39.531 | 40.63 |
| 510 | 39.486 | 40.171 |
| 515 | 39.573 | 39.822 |
| 520 | 39.545 | 39.503 |
| 525 | 39.082 | 39.039 |
| 530 | 38.618 | 38.839 |
| 535 | 38.243 | 38.647 |
| 540 | 37.95 | 38.255 |
| 545 | 37.913 | 37.323 |
| 550 | 37.889 | 36.441 |
| 555 | 36.734 | 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 E

Horizontal scale 1:1000
Vertical scale 1:1000

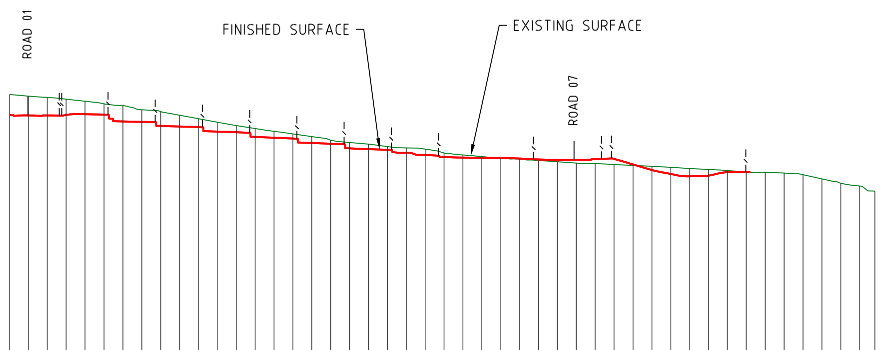



DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 375 | 50.2 | 52.057 |
| 380 | 50.2 | 52.73 |
| 385 | 50.2 | 52.777 |
| 390 | 51.7 | 52.7 |
| 395 | 51.7 | 53.193 |
| 400 | 53.2 | 53.678 |
| 405 | 53.2 | 54.284 |
| 410 | 53.2 | 54.92 |
| 415 | 54 | 55.628 |
| 420 | 54 | 56.3 |
| 425 | 54 | 56.836 |
| 430 | 53.9 | 57.334 |
| 435 | 53.9 | 57.298 |
| 440 | 53.9 | 57.281 |
| 445 | 53.8 | 57.263 |
| 450 | 53.8 | 57.245 |
| 455 | 53.8 | 57.143 |
| 460 | 53.8 | 57 |
| 465 | 53.8 | 56.649 |
| 470 | 53.7 | 56.249 |
| 475 | 53.7 | 55.851 |
| 480 | 53.2 | 55.39 |
| 485 | 53.2 | 54.906 |
| 490 | 53.2 | 54.347 |
| 495 | 52.6 | 53.787 |
| 500 | 52.6 | 53.302 |
| 505 | 52.3 | 52.798 |
| 510 | 52.3 | 52.165 |
| 515 | 52.3 | 51.498 |
| 520 | 52.3 | 50.92 |
| 525 | | 50.338 |
| 530 | | 50.52 |
| 535 | | 49.931 |
| 540 | | 49.432 |
| 545 | | 48.878 |
| 550 | | 48.251 |
| 554.081 | | 47.756 |

## SECTION A

Horizontal scale 1:1000
Vertical scale 1:1000




DATUM -11.0

| CHAINAGE | FINISHED SURFACE | EXISTING SURFACE |
|---|---|---|
| 430 | 52.46 | 57.54 |
| 435 | 52.448 | 57.196 |
| 440 | 52.577 | 56.746 |
| 445 | 52.758 | 56.198 |
| 450 | 52.655 | 55.518 |
| 455 | 50.858 | 55.099 |
| 460 | 50.738 | 53.951 |
| 465 | 49.678 | 53.46 |
| 470 | 49.522 | 52.482 |
| 475 | 49.363 | 51.572 |
| 480 | 48.177 | 50.66 |
| 485 | 47.988 | 49.772 |
| 490 | 46.793 | 48.991 |
| 495 | 46.57 | 48.25 |
| 500 | 46.366 | 47.552 |
| 505 | 45.15 | 46.841 |
| 510 | 44.948 | 45.911 |
| 515 | 43.75 | 45.297 |
| 520 | 43.544 | 44.853 |
| 525 | 43.322 | 44.228 |
| 530 | 42.583 | 43.884 |
| 535 | 41.975 | 43.562 |
| 540 | 41.468 | 42.553 |
| 545 | 41.3 | 42.006 |
| 550 | 41.232 | 41.575 |
| 555 | 41.222 | 41.164 |
| 560 | 41.067 | 40.934 |
| 565 | 40.82 | 40.526 |
| 570 | 40.716 | 40.194 |
| 575 | 40.756 | 39.85 |
| 580 | 40.893 | 39.71 |
| 585 | 40.982 | 39.471 |
| 590 | 39.505 | 39.24 |
| 595 | 38.006 | 38.999 |
| 600 | 36.988 | 38.761 |
| 605 | 36.4 | 38.425 |
| 610 | 36.532 | 38.168 |
| 615 | 37.45 | 37.906 |
| 620 | 37.45 | 37.472 |
| 625 | | 37.409 |
| 630 | | 37.218 |
| 635 | | 36.797 |
| 640 | | 35.693 |
| 645 | | 34.512 |
| 650 | | 33.811 |
| 653.995 | | 32.46 |

## SECTION D

Horizontal scale 1:1000
Vertical scale 1:1000

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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 | 17-01-24 | SECTION F AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

BULK EARTHWORKS
SECTIONS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
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Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED RB | DRAWN EP |
|---|---|
| APPROVED [signature] RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-052
REV B

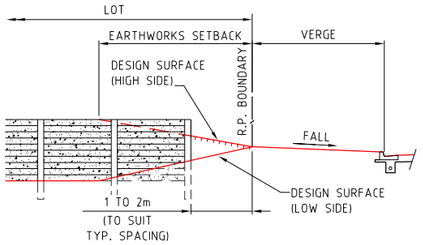
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## GENERAL

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.

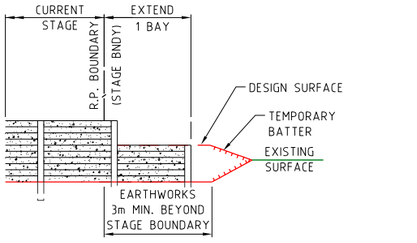
## LEGEND

- 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
- PL50.4 NOMINAL LOT PAD LEVEL
- RH1.0 INDICATIVE WALL HEIGHT
- DETAIL PAD FALL DIRECTION (CONTRACTOR TO ENSURE LOTS FALL TO ROAD AT 1:150 MIN. REFER DRG. 071)




### TYPICAL SIDE BOUNDARY CONSTRUCTION

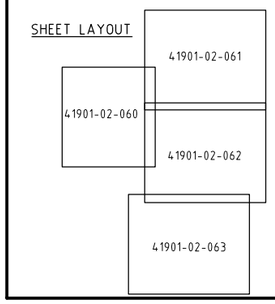
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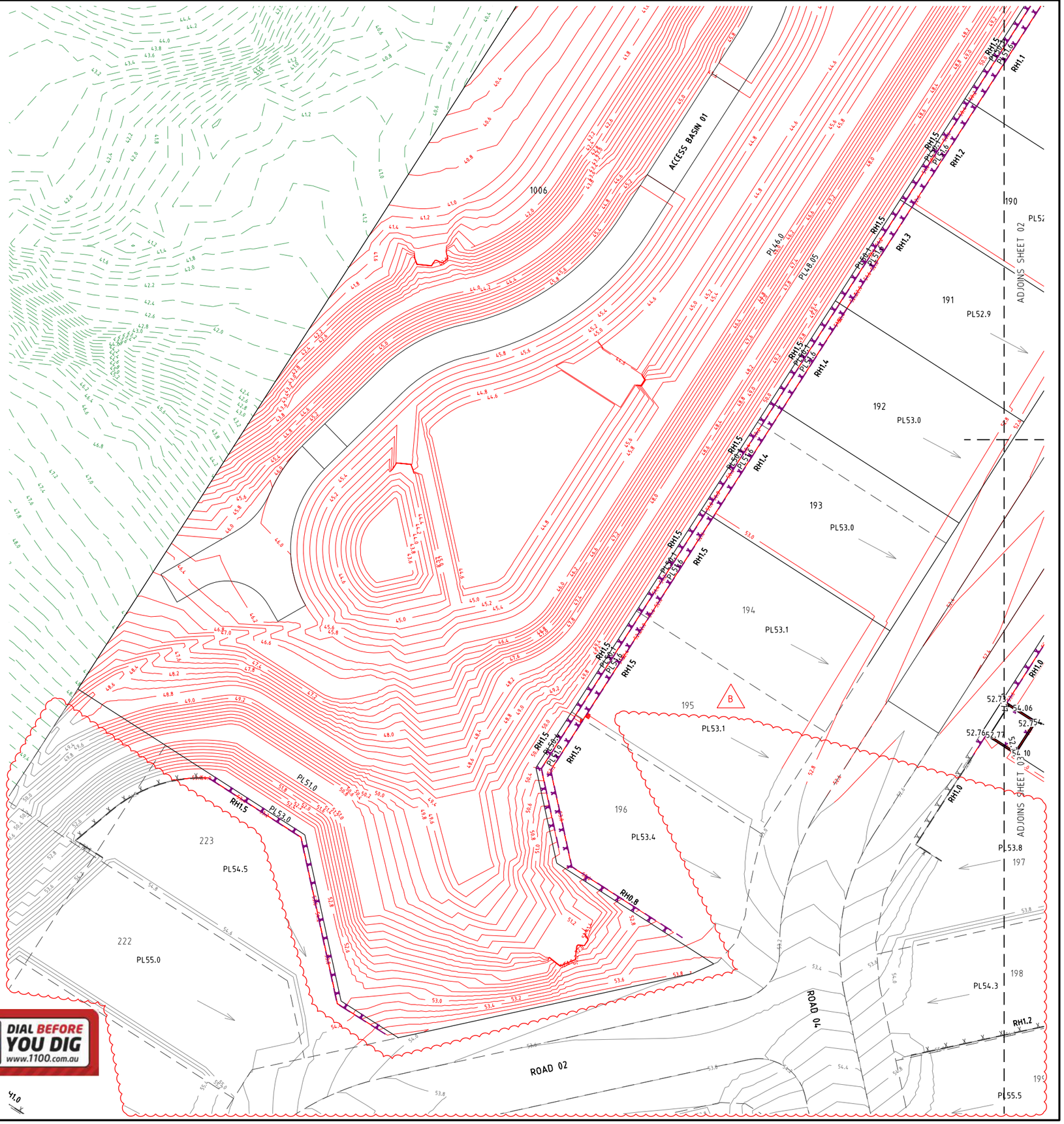



### TYPICAL STAGE BOUNDARY CONSTRUCTION

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

SHEET LAYOUT




DIAL BEFORE YOU DIG www.1100.com.au

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29/11/23 | CONTOURS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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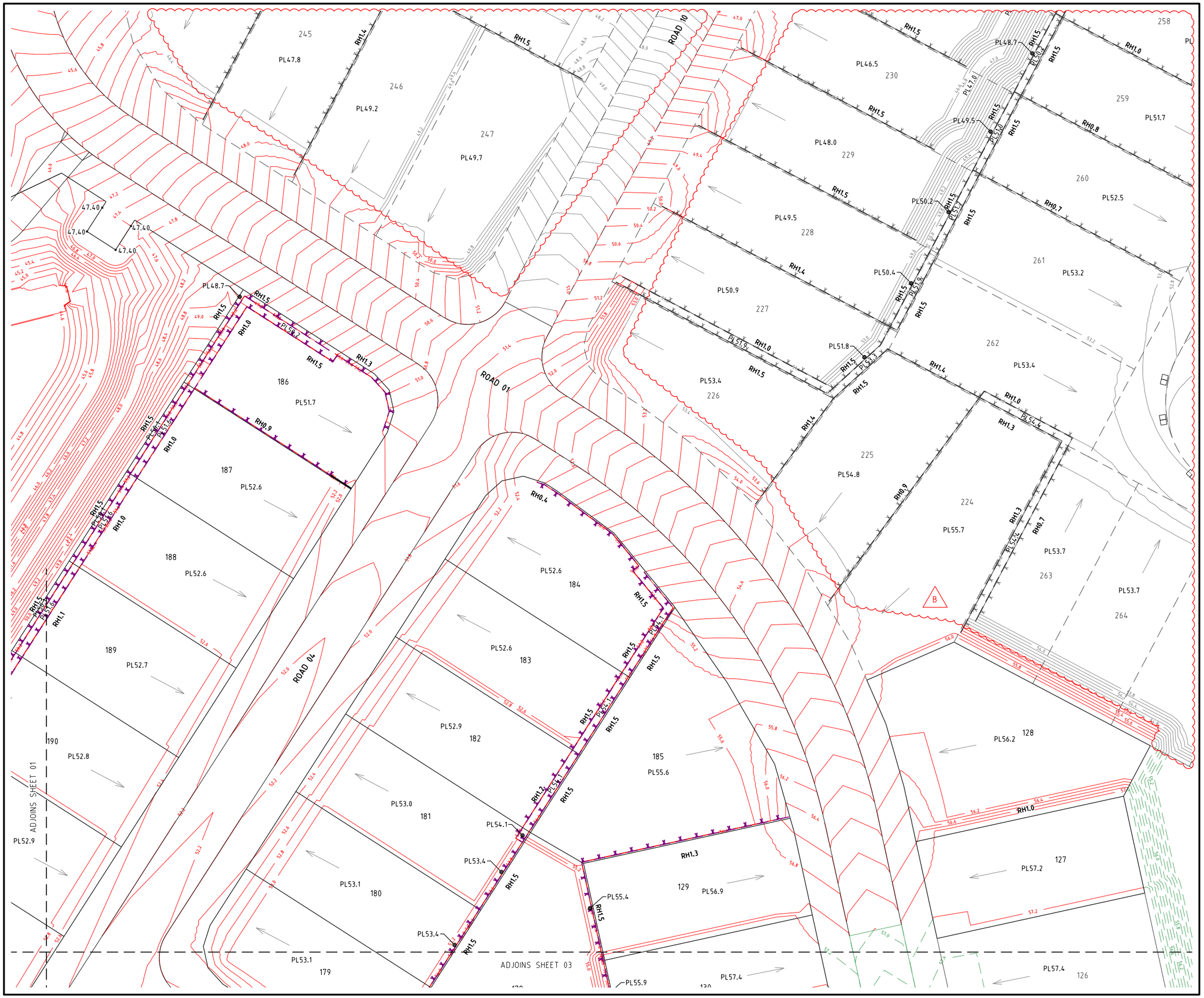
Postal Address
PO Box 2484
Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-060 | B |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | CONTOURS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
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Southport QLD 4215

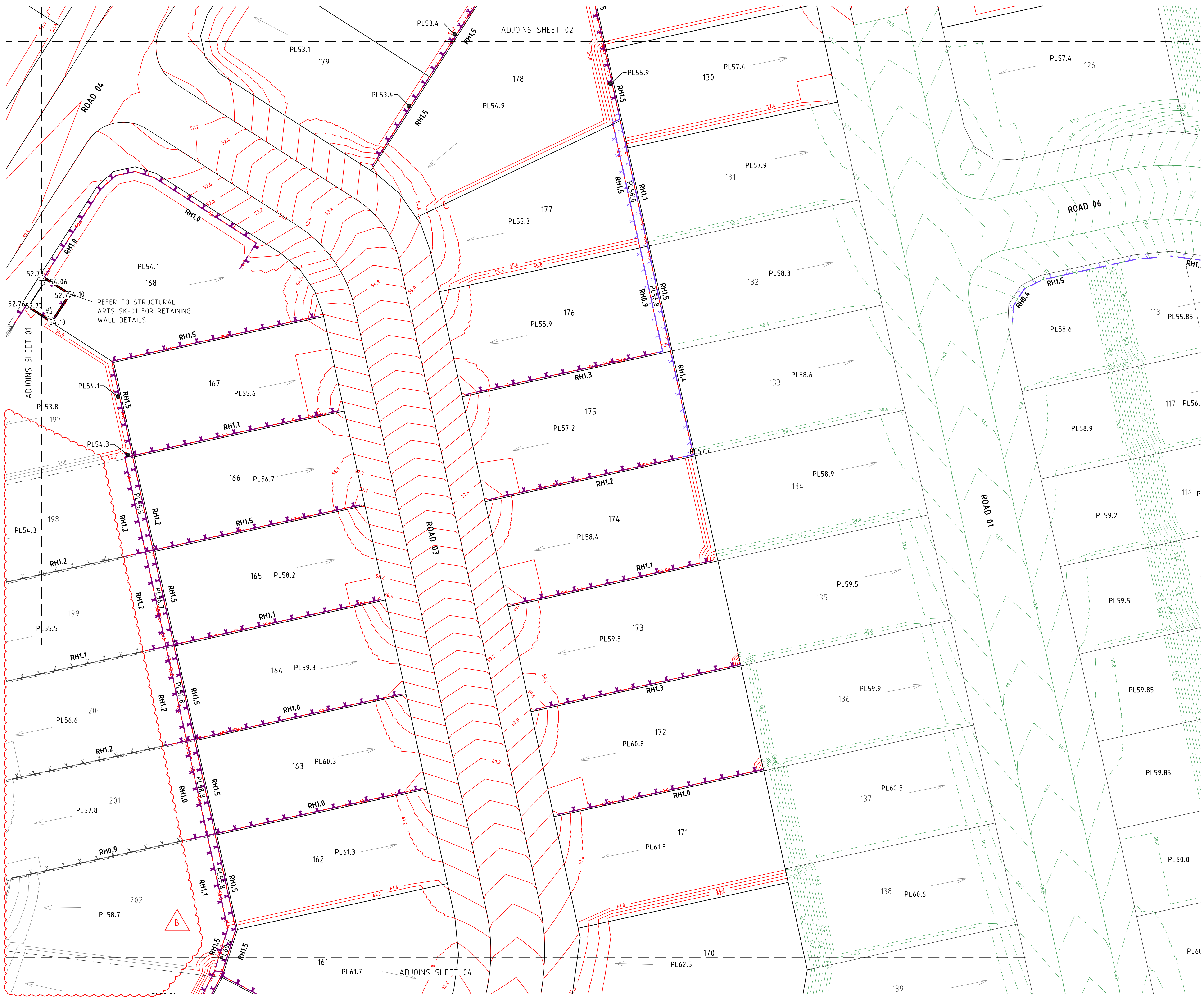
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER: 41901-02-061
REV: B

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | CONTOURS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

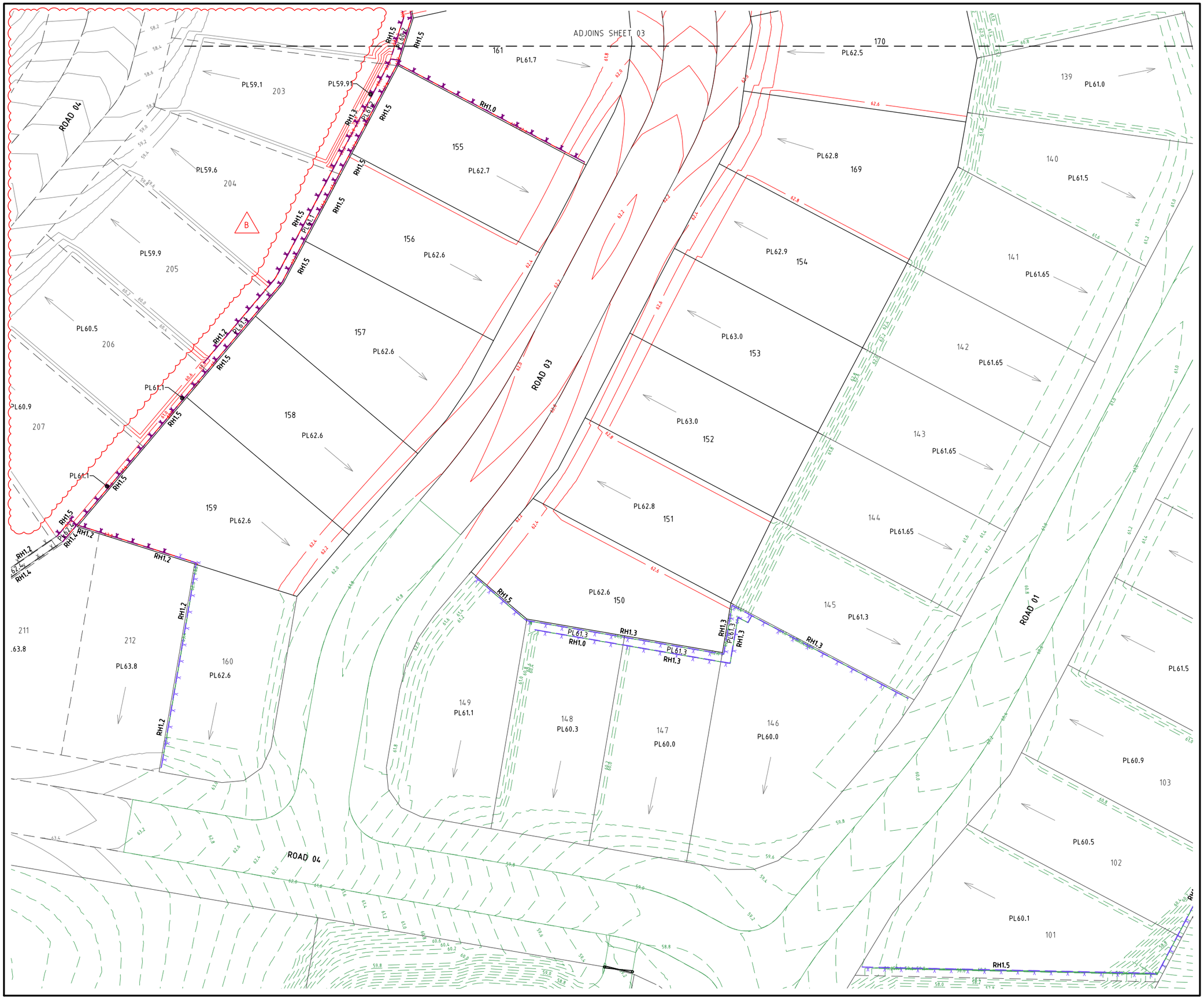
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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

## RETAINING WALL AND DETAIL GRADING PLAN SHEET 03

MORTONS urbansolutions
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| | | |
|---|---|---|
| DESIGNED RB | DRAWN EP | |
| APPROVED [signature] | RPEQ 4706 | DATE 13-10-23 |
| DRAWING NUMBER 41901-02-062 | | REV B |




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | INIT |
|---|---|---|---|
| B | 29-11-23 | CONTOURS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

RETAINING WALL
AND DETAIL GRADING PLAN
SHEET 04

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

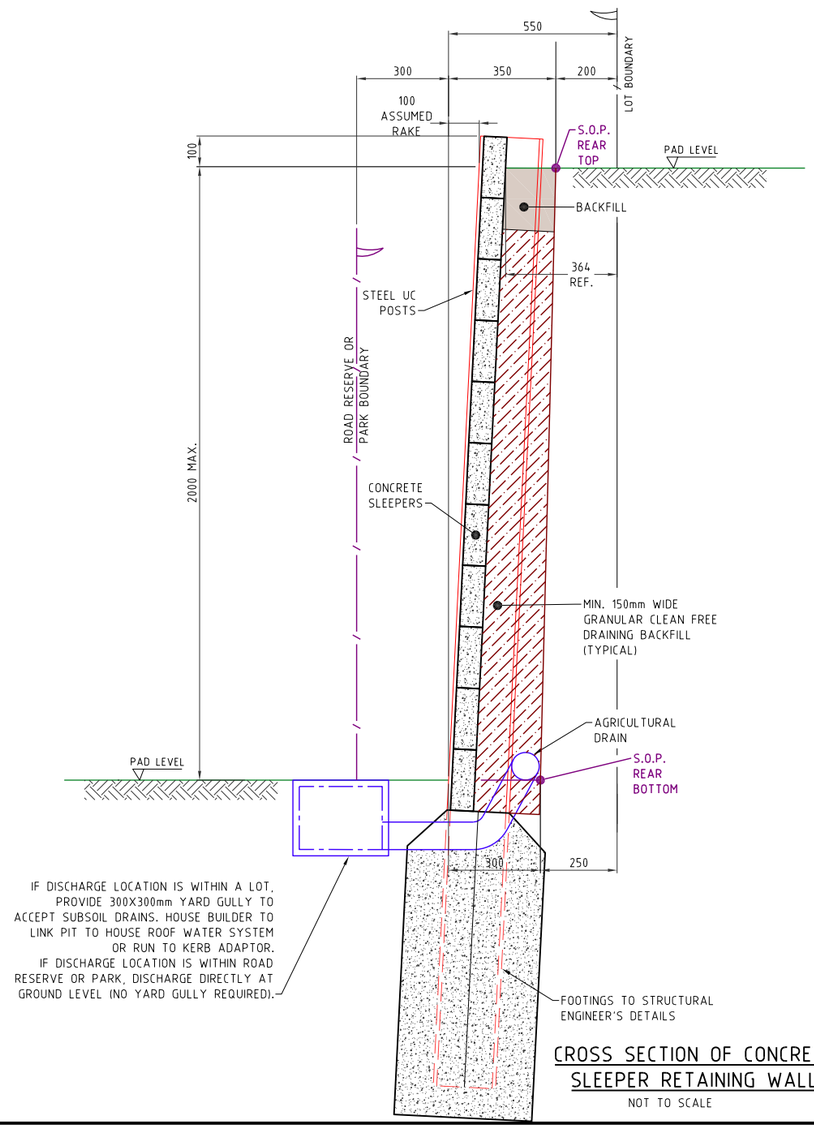
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|---|---|
| 41901-02-063 | B |

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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.
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
    600mm ROAD RESERVE/OPEN SPACE
13. WHERE RETAINING WALLS ARE LOCATED WITHIN 2m OF A PMT SITE THE RETAINING WALL IS TO BE DESIGNED & CONSTRUCTED TO ALLOW EXCAVATION OF THE FULL PMT SITE TO A DEPTH OF 1.3m.
14. FENCE BRACKETS TO BE INSTALLEDON POSTS. NO BRACKETS 5m FROM FRONT BOUNDARY.
15. ALL FOOTINGS MUST BE A MINIMUM OF 200mm FROM PROPERTY BOUNDARY.

B

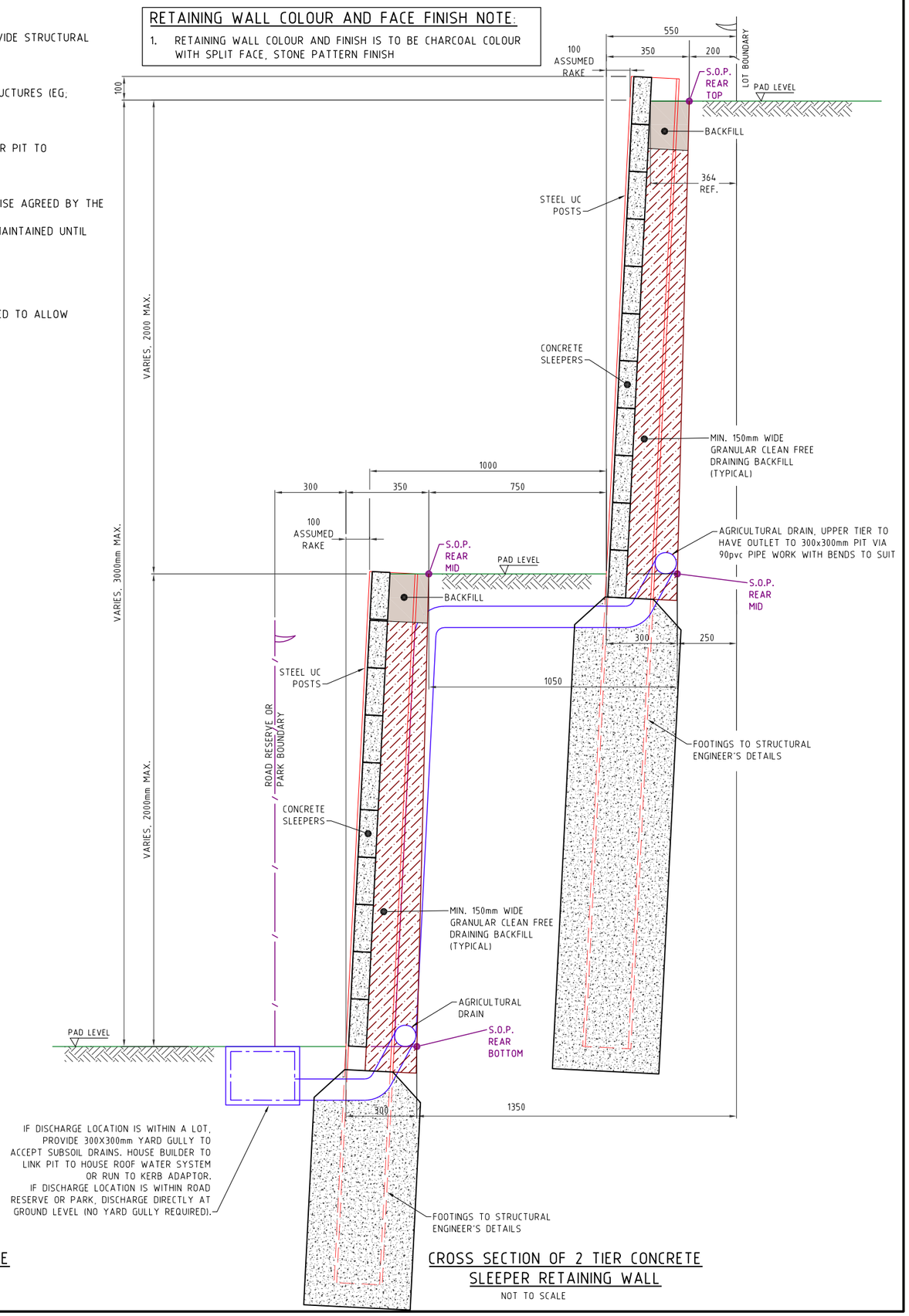



CROSS SECTION OF CONCRETE SLEEPER RETAINING WALL

NOT TO SCALE

### RETAINING WALL COLOUR AND FACE FINISH NOTE:

1. RETAINING WALL COLOUR AND FINISH IS TO BE CHARCOAL COLOUR WITH SPLIT FACE, STONE PATTERN FINISH




CROSS SECTION OF 2 TIER CONCRETE SLEEPER RETAINING WALL

NOT TO SCALE

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 29-11-23 | NOTES DELETED & AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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DRAWING TITLE

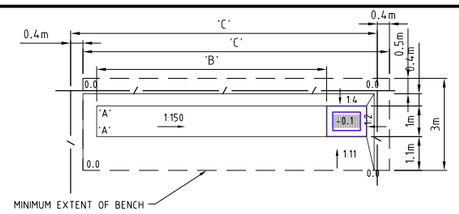
RETAINING WALL DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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Postal Address
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Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER: 41901-02-070
REV: B

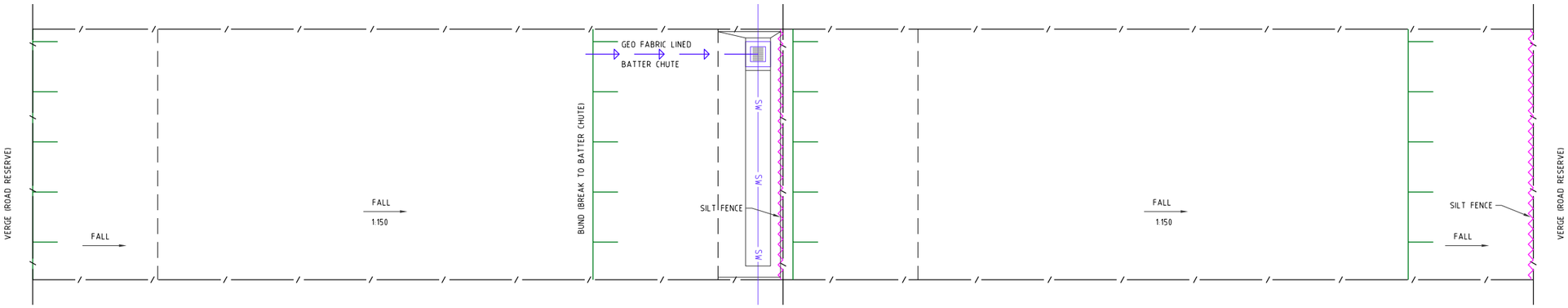
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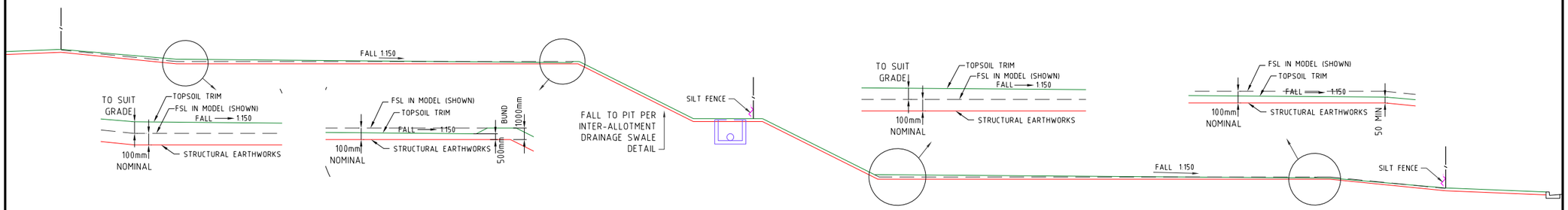



| LOT WIDTH 'C' | HEIGHT 'A' | LENGTH 'B' |
|---|---|---|
| 10 | -0.050 | 7.500 |
| 12.5 | -0.033 | 10.000 |
| 14 | -0.023 | 11.500 |
| 16 | -0.01 | 13.500 |
| 18 | 0.0 | 15.000 |
| 20 | 0.0 | 15.000 |

## INTER-ALLOTMENT DRAINAGE SWALE

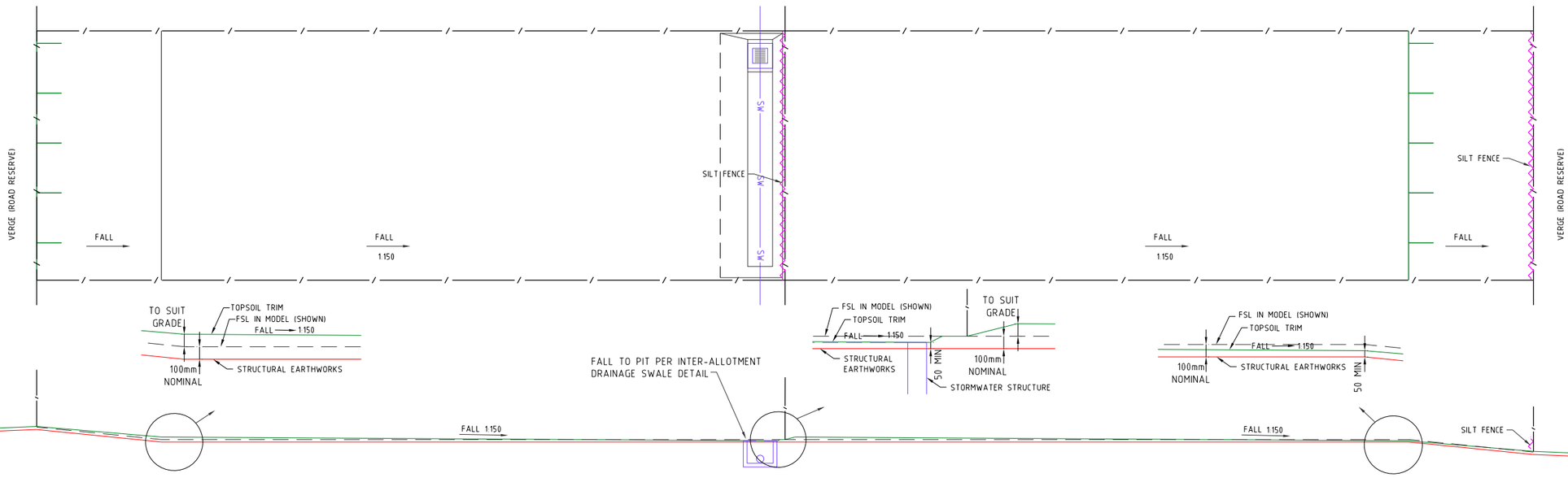
NOTE: GRADING OCCURS WITHIN MODEL, NO ADDITIONAL DEPRESSION OF PIT SURFACE LEVEL REQUIRED.




## TYPICAL TOPSOIL TRIM (BENCHED LOTS)

NOT TO SCALE




## TYPICAL TOPSOIL TRIM (NON BENCHED LOTS)

NOT TO SCALE

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

FINAL TRIM 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

Postal Address
PO Box 2484
Southport QLD 4215

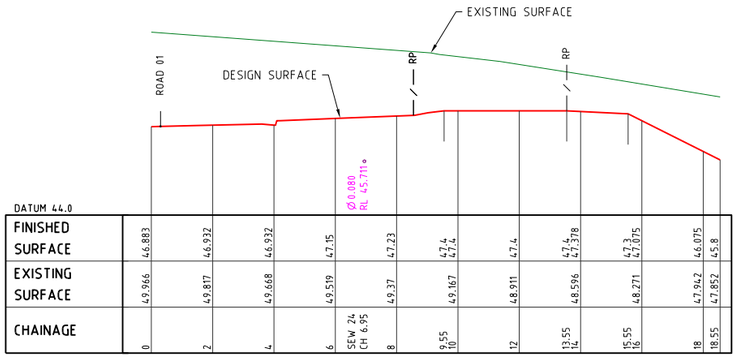
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-071

REV A

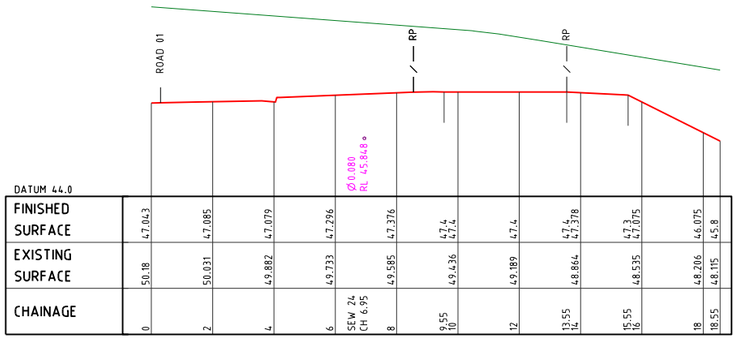
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| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 44.0 | | | | | | | | | | | | | | | | | | | |
| FINISHED SURFACE | 46.883 | | 46.932 | | 46.932 | | 47.15 | | 47.23 | | 47.4<br>47.4 | | 47.4 | | 47.4<br>47.378 | | 47.3<br>47.075 | | 46.075 | 45.8 |
| EXISTING SURFACE | 49.966 | | 49.817 | | 49.668 | | 49.519 | | 49.37 | | 49.167 | | 48.911 | | 48.596 | | 48.271 | | 47.942 | 47.852 |
| CHAINAGE | 0 | | 2 | | 4 | | 6 | SEW 24<br>CH 6.95 | 8 | | 9.55<br>10 | | 12 | | 13.55<br>14 | | 15.55<br>16 | | 18 | 18.55 |

## LONGITUDINAL SECTION 4A

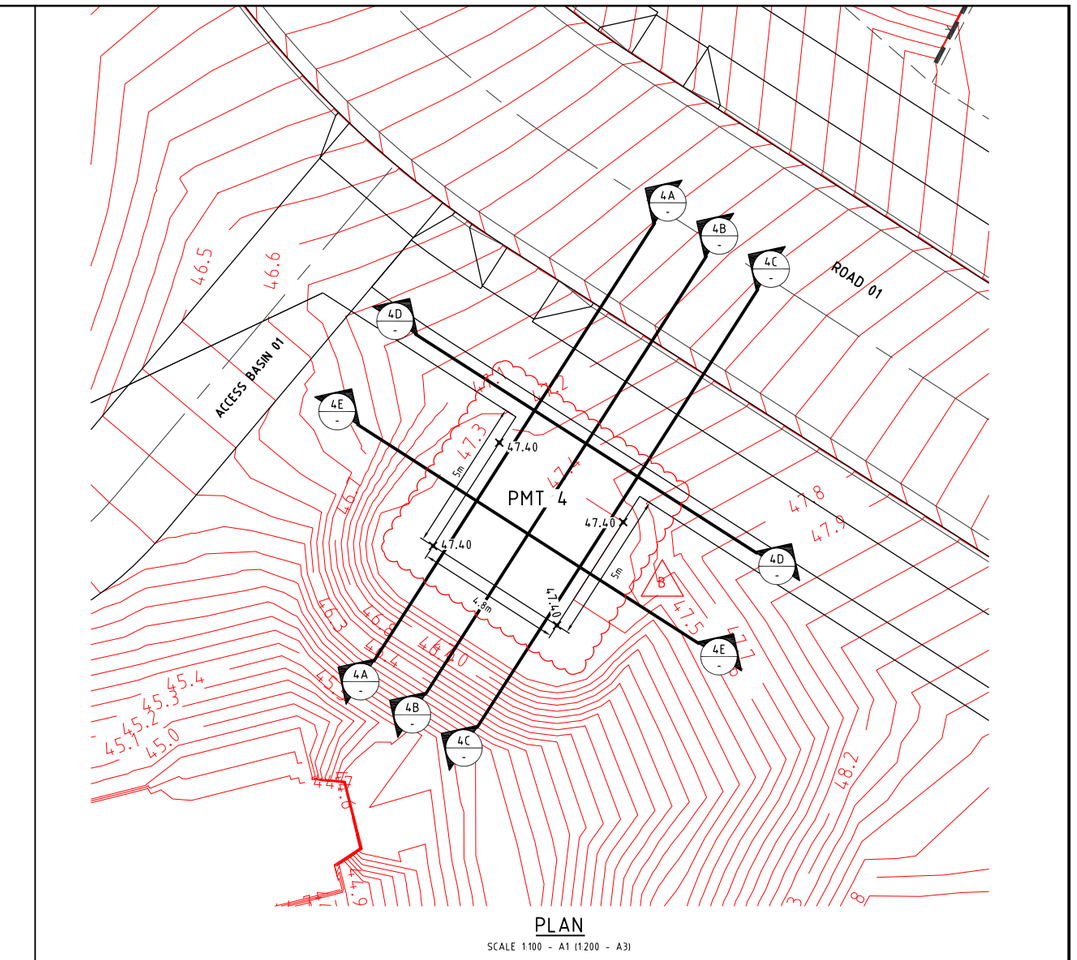
Horizontal scale 1:100
Vertical scale 1:100




| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 44.0 | | | | | | | | | | | | | | | | | | | |
| FINISHED SURFACE | 47.043 | | 47.085 | | 47.079 | | 47.296 | | 47.376 | | 47.4<br>47.4 | | 47.4 | | 47.4<br>47.378 | | 47.3<br>47.075 | | 46.075 | 45.8 |
| EXISTING SURFACE | 50.18 | | 50.031 | | 49.882 | | 49.733 | | 49.585 | | 49.436 | | 49.189 | | 48.864 | | 48.535 | | 48.206 | 48.115 |
| CHAINAGE | 0 | | 2 | | 4 | | 6 | SEW 24<br>CH 6.95 | 8 | | 9.55<br>10 | | 12 | | 13.55<br>14 | | 15.55<br>16 | | 18 | 18.55 |

## LONGITUDINAL SECTION 4B

Horizontal scale 1:100
Vertical scale 1:100

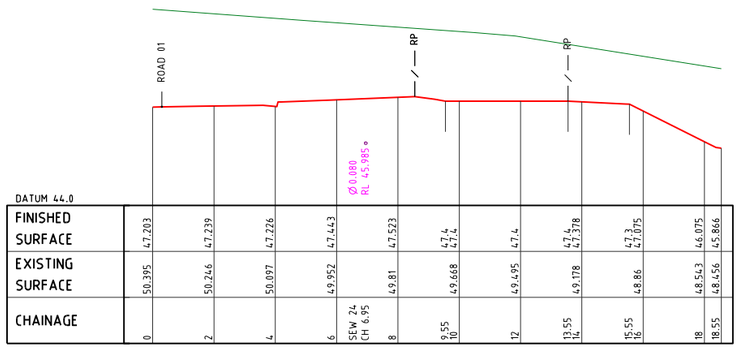



## PLAN

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

## LEGEND

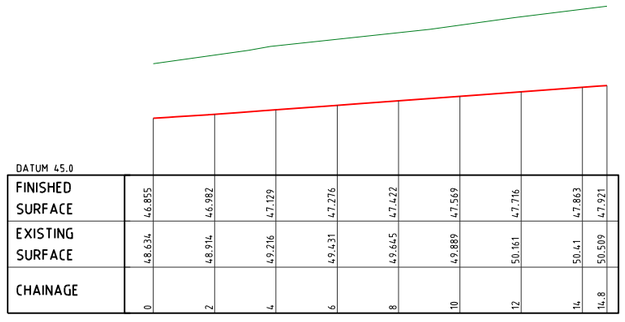
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- PROPOSED RETAINING WALL
- 1.0 DESIGN CONTOURS




| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 44.0 | | | | | | | | | | | | | | | | | | | |
| FINISHED SURFACE | 47.203 | | 47.239 | | 47.226 | | 47.443 | | 47.523 | | 47.4<br>47.4 | | 47.4 | | 47.4<br>47.378 | | 47.3<br>47.075 | | 46.075 | 45.866 |
| EXISTING SURFACE | 50.395 | | 50.246 | | 50.097 | | 49.952 | | 49.81 | | 49.668 | | 49.495 | | 49.178 | | 48.86 | | 48.543 | 48.456 |
| CHAINAGE | 0 | | 2 | | 4 | | 6 | SEW 24<br>CH 6.95 | 8 | | 9.55<br>10 | | 12 | | 13.55<br>14 | | 15.55<br>16 | | 18 | 18.55 |

## LONGITUDINAL SECTION 4C

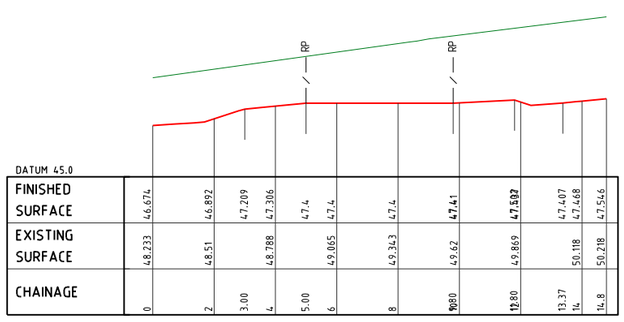
Horizontal scale 1:100
Vertical scale 1:100



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 45.0 | | | | | | | | | | |
| FINISHED SURFACE | 46.855 | 46.982 | 47.129 | 47.276 | 47.422 | 47.569 | 47.716 | 47.863 | 47.921 | |
| EXISTING SURFACE | 48.634 | 48.914 | 49.216 | 49.431 | 49.645 | 49.889 | 50.161 | 50.41 | 50.509 | |
| CHAINAGE | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 14.8 | |

## LONGITUDINAL SECTION 4D

Horizontal scale 1:100
Vertical scale 1:100



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 45.0 | | | | | | | | | | |
| FINISHED SURFACE | 46.674 | 46.892 | 47.209 | 47.306 | 47.4 | 47.4 | 47.4 | 47.4<br>47.4 | 47.4<br>47.378 | 47.546 |
| EXISTING SURFACE | 48.233 | 48.51 | | 48.788 | | 49.065 | | 49.343 | 49.62 | 49.869 | 50.118 | 50.218 |
| CHAINAGE | 0 | 2 | 3.00 | 4 | 5.00 | 6 | 8 | 9.80 | 12.80 | 13.37<br>14 | 14.8 |

## LONGITUDINAL SECTION 4E

Horizontal scale 1:100
Vertical scale 1:100

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
| B | 29-11-23 | SPOT LEVELS ADDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

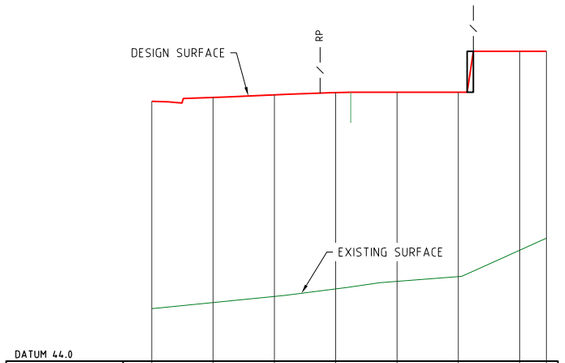
PADMOUNT SECTIONS
PADMOUNT 4
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
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mortons@urbansolutions.net.au
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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 | 13-10-23 |

DRAWING NUMBER 41901-02-075
REV B

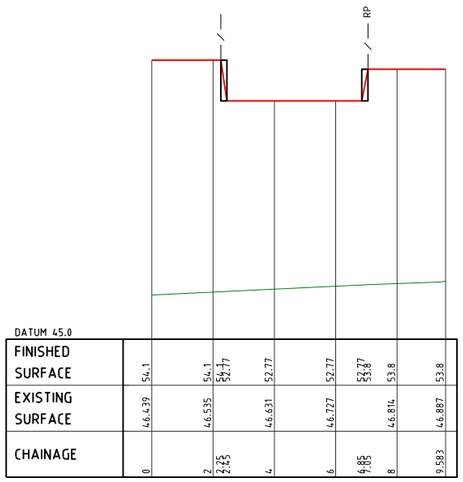
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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 44.0 | | | | | | | | | | | |
| FINISHED SURFACE | 52.471 | 52.599 | 52.679 | 52.756 | 52.77 | 52.77 | 52.77 | 52.77<br>54.1 | 54.1 | 54.1 | |
| EXISTING SURFACE | 45.712 | 45.911 | 46.11 | 46.354 | | 46.602 | 46.757 | | 47.616 | 48.009 | |
| CHAINAGE | 0 | 2 | 4 | 6 | 6.49 | 8 | 10 | 10.29<br>10.49 | 12 | 12.873 | |

## LONGITUDINAL SECTION C

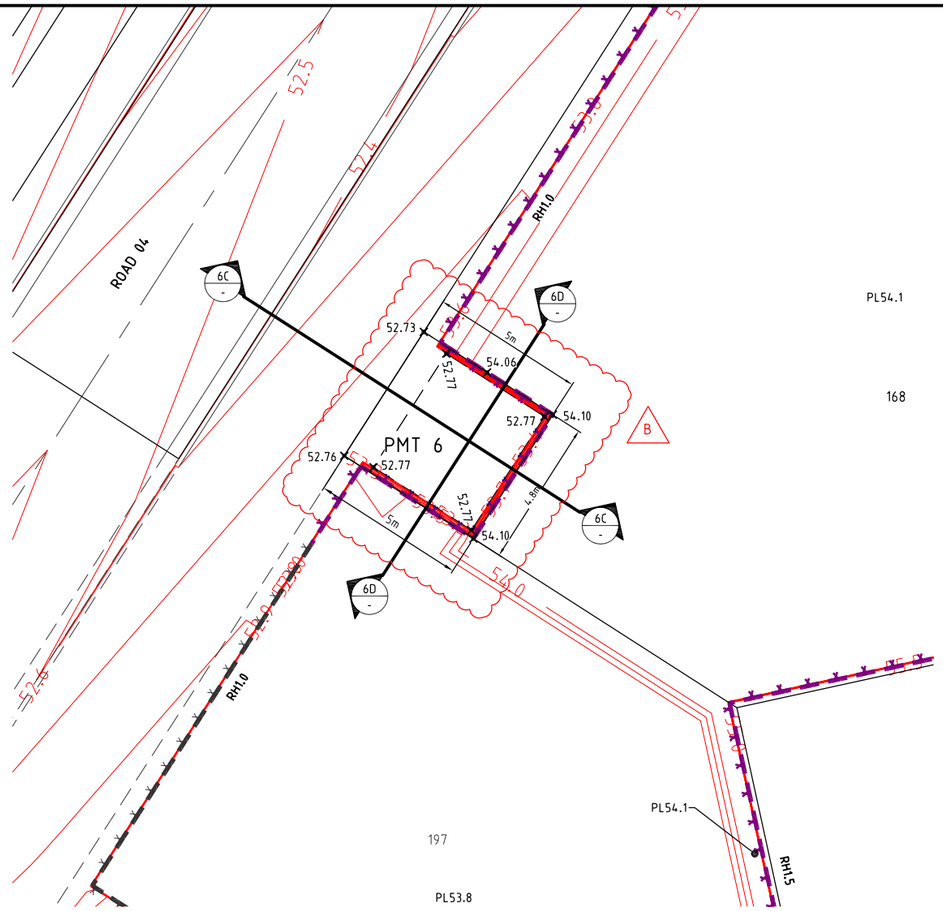
Horizontal scale 1:100
Vertical scale 1:100




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DATUM 45.0 | | | | | | | |
| FINISHED SURFACE | 54.1 | 54.1<br>54.77 | 52.77 | 52.77 | 53.87<br>53.8 | 53.8 | 53.8 |
| EXISTING SURFACE | 46.439 | 46.535 | 46.631 | 46.727 | | 46.814 | 46.887 |
| CHAINAGE | 0 | 2<br>2.45 | 4 | 6 | 8 | 9.583 | |

## LONGITUDINAL SECTION D

Horizontal scale 1:100
Vertical scale 1:100




## PLAN

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

## 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

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
| B | 29-11-23 | SPOT LEVELS ADDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

PADMOUNT SECTIONS
PADMOUNT 6
SHEET 01

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

| DESIGNED | DRAWN | |
|---|---|---|
| RB | EP | |
| APPROVED | RPEQ | DATE |
| | 4706 | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-076 | B |

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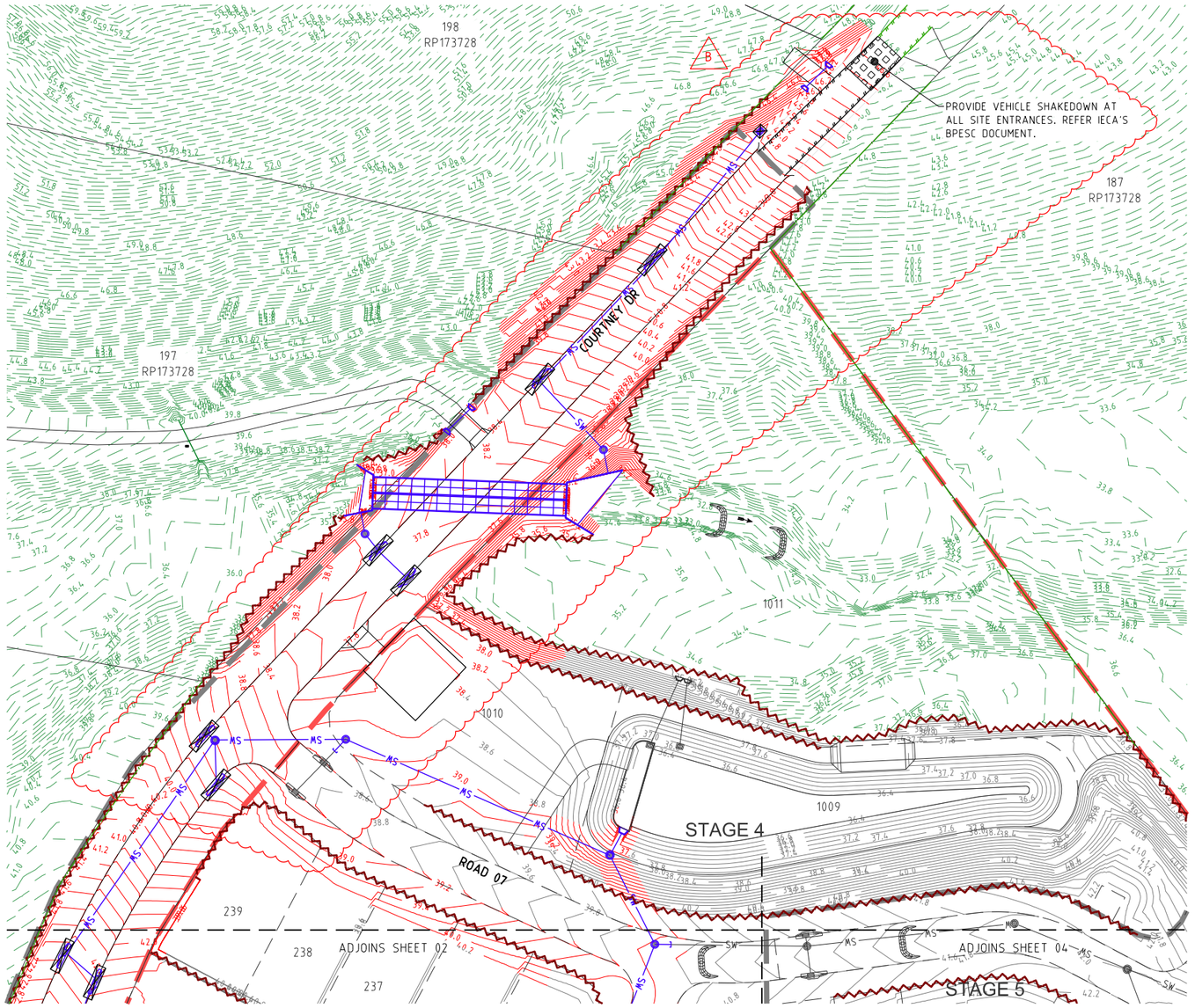
## SEDIMENT AND EROSION

1. THE EROSION & SEDIMENT CONTROL DEVICES SHOWN ON THESE DRAWINGS ARE INDICATIVE & PROVIDED FOR SUBMISSION TO LOCAL AUTHORITY ONLY. NOTWITHSTANDING THE EROSION & CONTROL DEVICES SHOW ON THESE DRAWINGS, THE CONTRACTOR MUST PREPARE & FOLLOW A SITE SPECIFIC EROSION & SEDIMENT CONTROL PLAN TO MEET ALL LOCAL & STATE GOVERNMENT LEGISLATION INCLUDING BUT NOT LIMITED TO:
   a. ENVIRONMENTAL PROTECTION ACT WITH SPECIFIC REFERENCE TO PARTS 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.

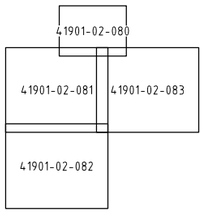



### LEGEND

- 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
- TREES
- SEDIMENT FENCE
- SCOUR PROTECTION
- TEMPORARY SEDIMENT BASIN
- STORMWATER INLET FILTER
- ROCK CHECK DAM
- VEHICLE SHAKEDOWN (AT ALL SITE ENTRANCES MIN.)

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 02

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 | 15-01-24 | CONTOURS & SEDIMENT AND EROSION AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

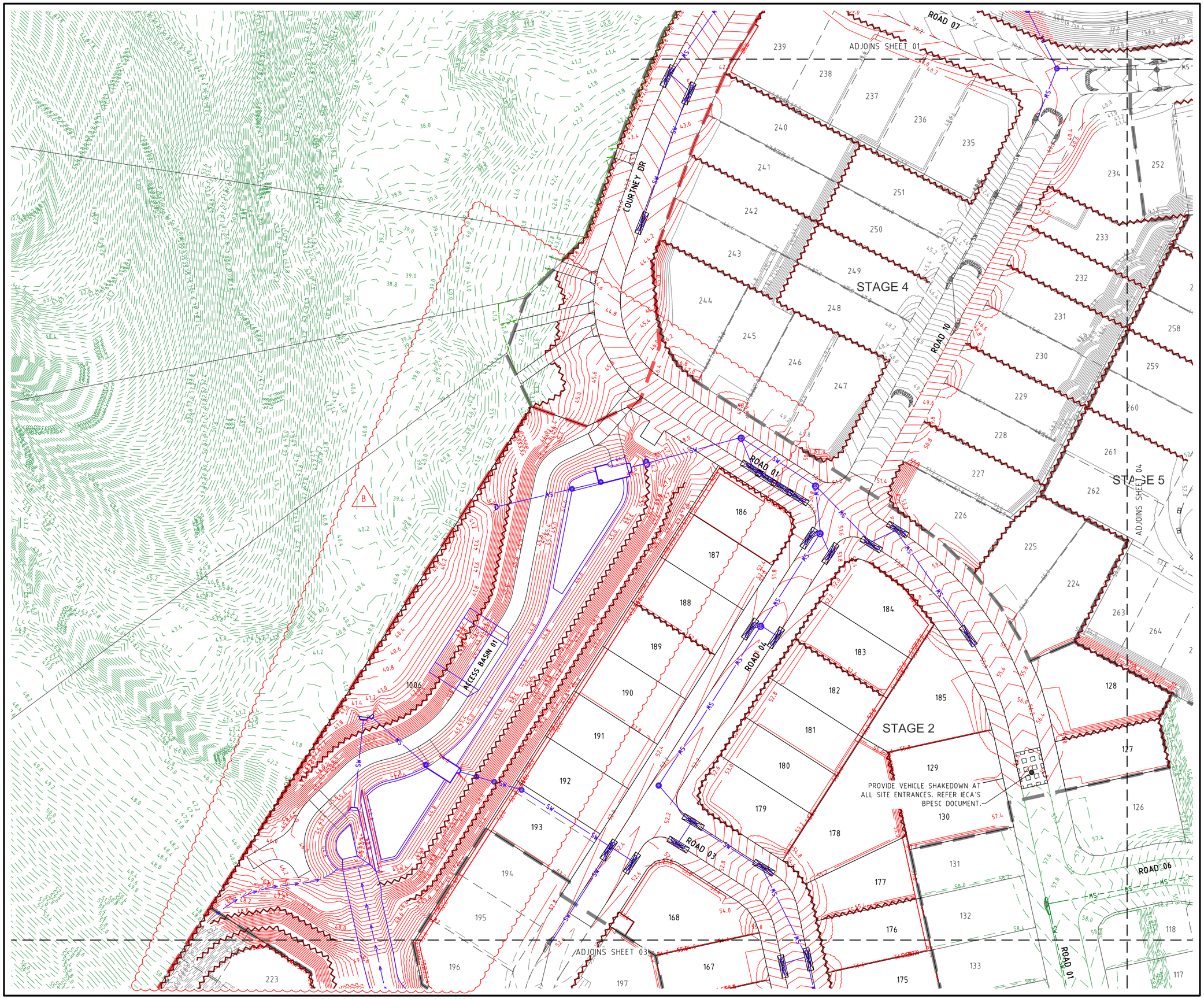
FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 01

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER: 41901-02-080
REV: B

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | BASIN STORMWATER AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-081 | B |

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ADJOINS SHEET 02

LOCALISED EARTHWORKS IN THIS AREA TO MAINTAIN CHANNEL PROFILE THROUGH ROAD 02. STORMWATER CULVERT TO BE INSTALLED AS PART OF STAGE 3 WORKS.

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

STAGE 3

STAGE 2

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

B

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | CHECK DAMS ADDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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 03

MORTONS urbansolutions
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Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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Suite 9, 19 Short St
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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-082

REV B

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

FINAL SURFACE AND SEDIMENT AND EROSION PLAN
SHEET 04

MORTONS urbansolutions
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Project Coordination

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Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-083 | A |

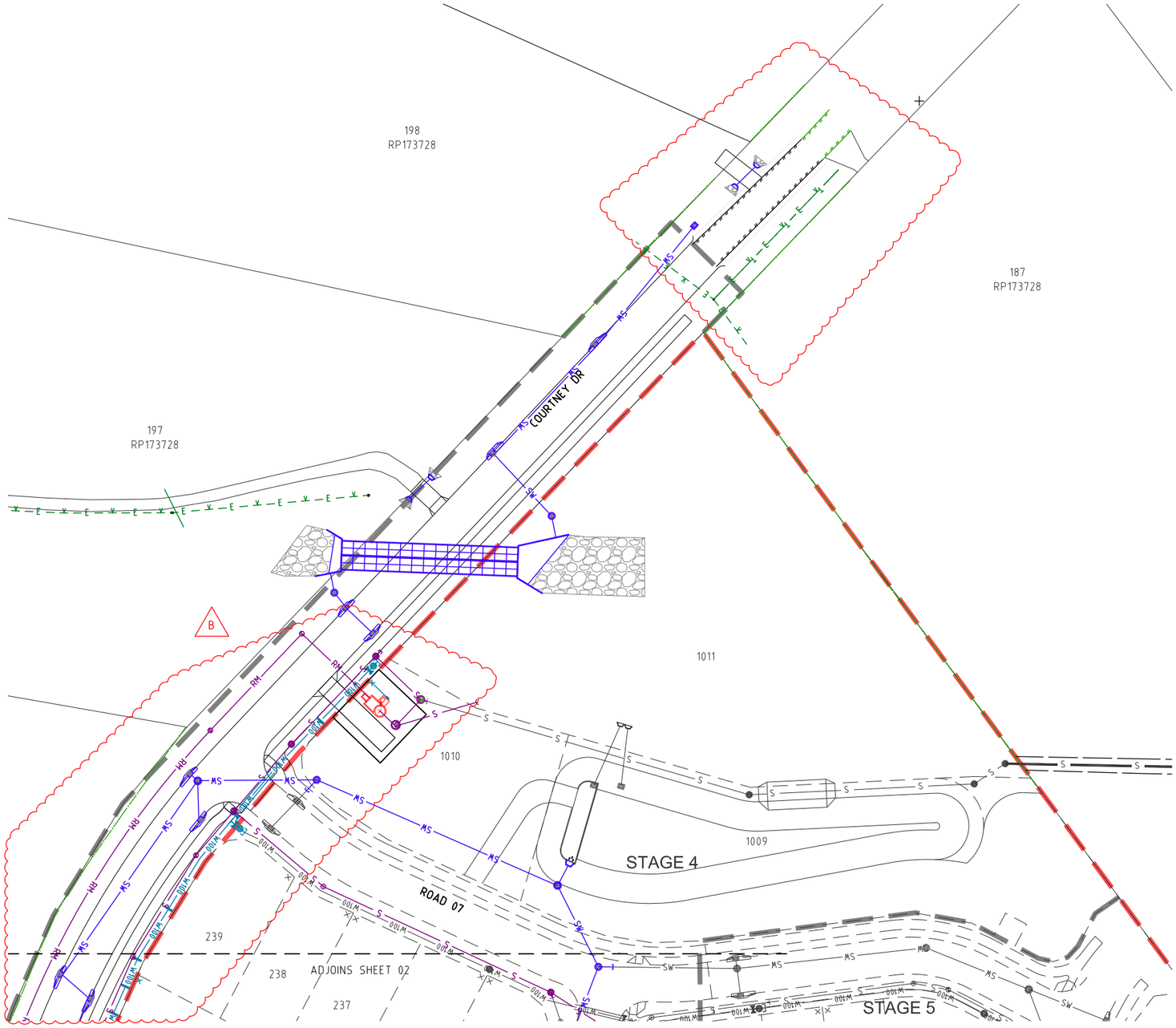
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## CONSTRUCTION SERVICES

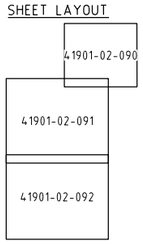
1. CONSTRUCTION OF SEWER/ROOFWATER/STORMWATER/SERVICES
   EXCAVATED MATERIAL TO BE PLACED ON HIGH SIDE OF TRENCH & TO PROTECT PIPE WORK & DIRECT SURFACE MATERIAL AWAY FROM EXCAVATIONS. TOPSOIL & GRASS SEED AREAS IN ALLOTMENTS IMMEDIATELY AFTER COMPLETING THE SEWER & ROOFWATER DRAINAGE CONSTRUCTION. DEPRESS 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
- EXISTING RISING MAIN (RM)
- EXISTING SEWER (S)
- EXISTING STORMWATER (SW)
- EXISTING ROOFWATER (RW)
- EXISTING SUBSOIL (SS)
- EXISTING WATER (W100)
- EXISTING WATER (W150)
- EXISTING WATER (W200)
- EXISTING WATER (W225)
- EXISTING WATER (W250)
- EXISTING WATER (W300)
- EXISTING WATER CONDUIT
- PROPOSED PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED FOOTPATH
- PROPOSED RISING MAIN (RM)
- PROPOSED SEWER (S)
- PROPOSED STORMWATER (SW)
- PROPOSED ROOFWATER (RW)
- PROPOSED SUBSOIL (SS)
- PROPOSED WATER (W100)
- PROPOSED WATER (W150)
- PROPOSED WATER (W200)
- PROPOSED WATER (W225)
- PROPOSED WATER (W250)
- PROPOSED WATER (W300)
- PROPOSED WATER CONDUIT
- FUTURE PROPERTY LINE
- FUTURE KERB (INVERT)
- FUTURE FOOTPATH
- FUTURE RISING MAIN (RM)
- FUTURE SEWER (S)
- FUTURE STORMWATER (SW)
- FUTURE ROOFWATER (RW)
- FUTURE SUBSOIL (SS)
- FUTURE WATER (W100)
- FUTURE WATER (W150)
- FUTURE WATER (W200)
- FUTURE WATER (W225)
- FUTURE WATER (W250)
- FUTURE WATER (W300)
- FUTURE WATER CONDUIT
- SITE BOUNDARY
- STAGE BOUNDARY




SHEET LAYOUT




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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 29-11-23 | WATERMAIN LINETYPE AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT+BENNETT

DRAWING TITLE

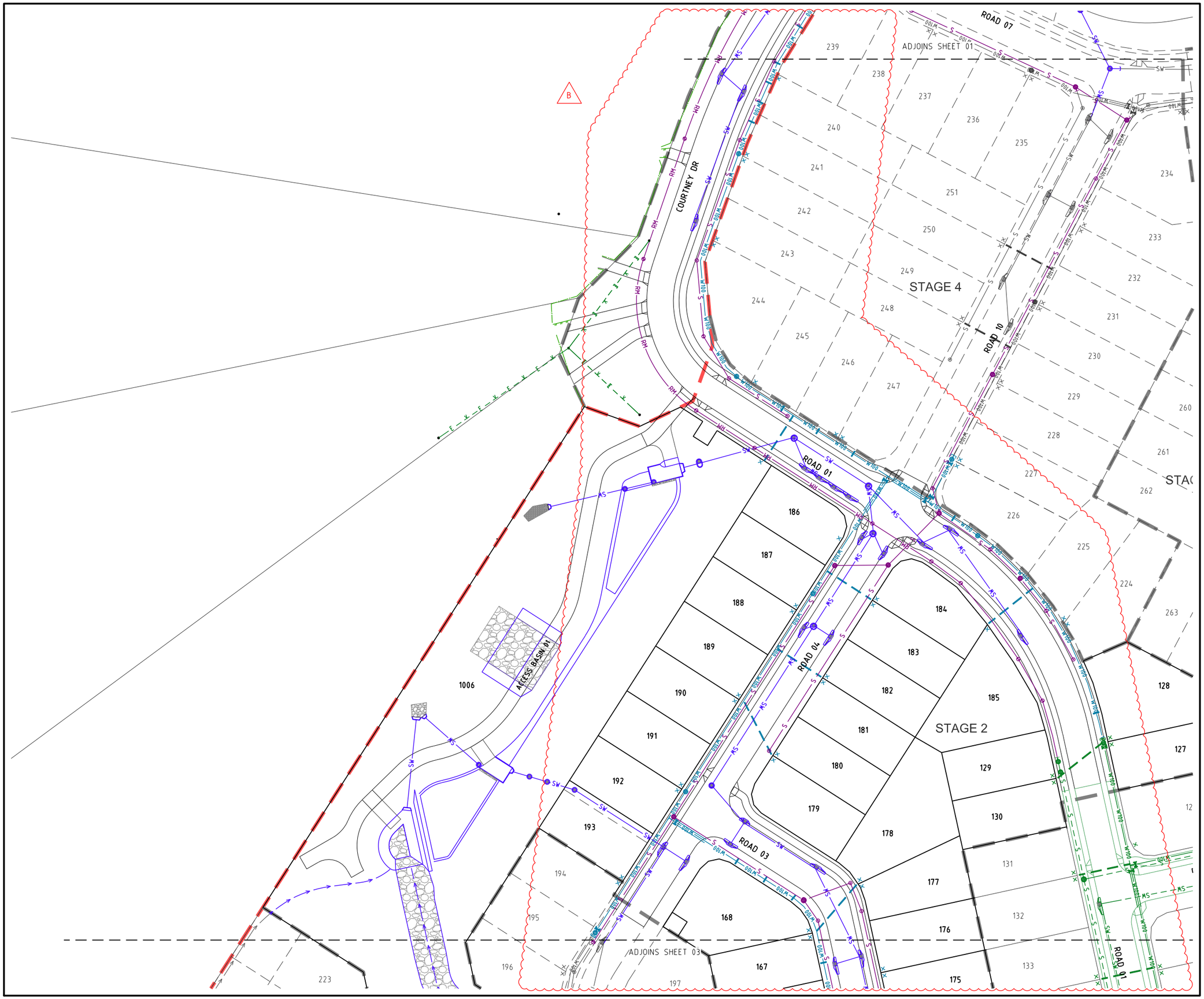
COMBINED SERVICES PLAN
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
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| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-090 | B |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | WATERMAIN LINETYPE AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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COMBINED SERVICES PLAN
SHEET 02

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Urban & Regional Planning
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Project Coordination

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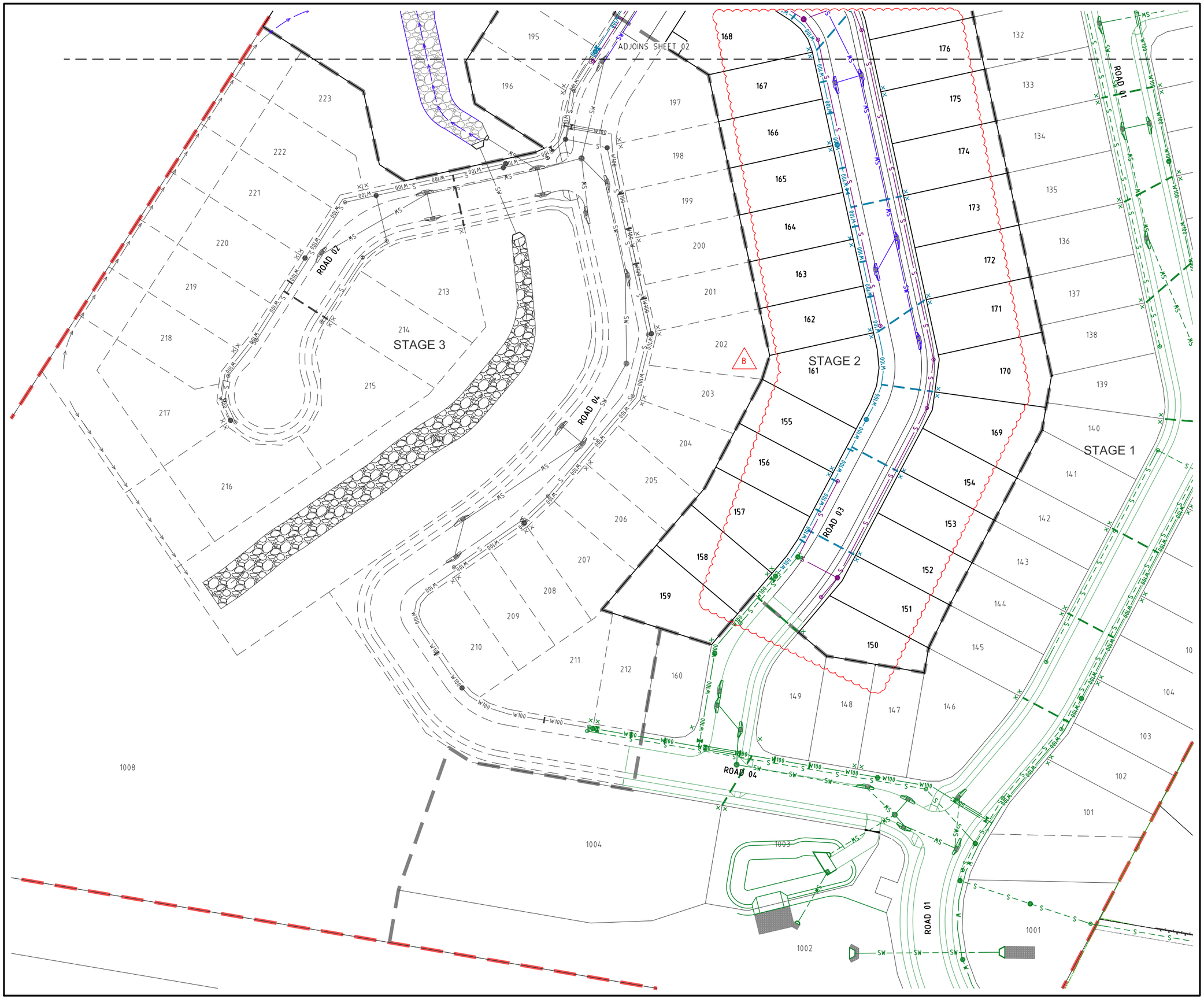
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-091 | B |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | WATERMAIN LINETYPE AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

COMBINED SERVICES PLAN
SHEET 03

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Project Coordination

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Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-092 | B |

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## ROADWORKS

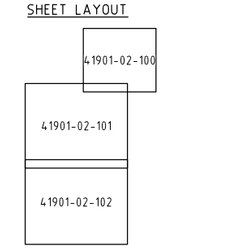
1. PAVEMENT DEPTHS
   a) THE DESIGN PAVEMENT DEPTHS ALLOWED IN EARTHWORKS CALCULATIONS ARE BASED ON THE DEPTHS SHOWN IN THE SCHEDULE OF PAVEMENT DEPTHS ON DRAWING 120.
   b) THE PAVEMENT DEPTHS GIVEN ARE DESIGN DEPTHS ONLY & MAY BE VARIED AFTER SUB-GRADE TESTS ARE TAKEN. THE CONTRACTOR IS TO PROVIDE 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

## LEGEND

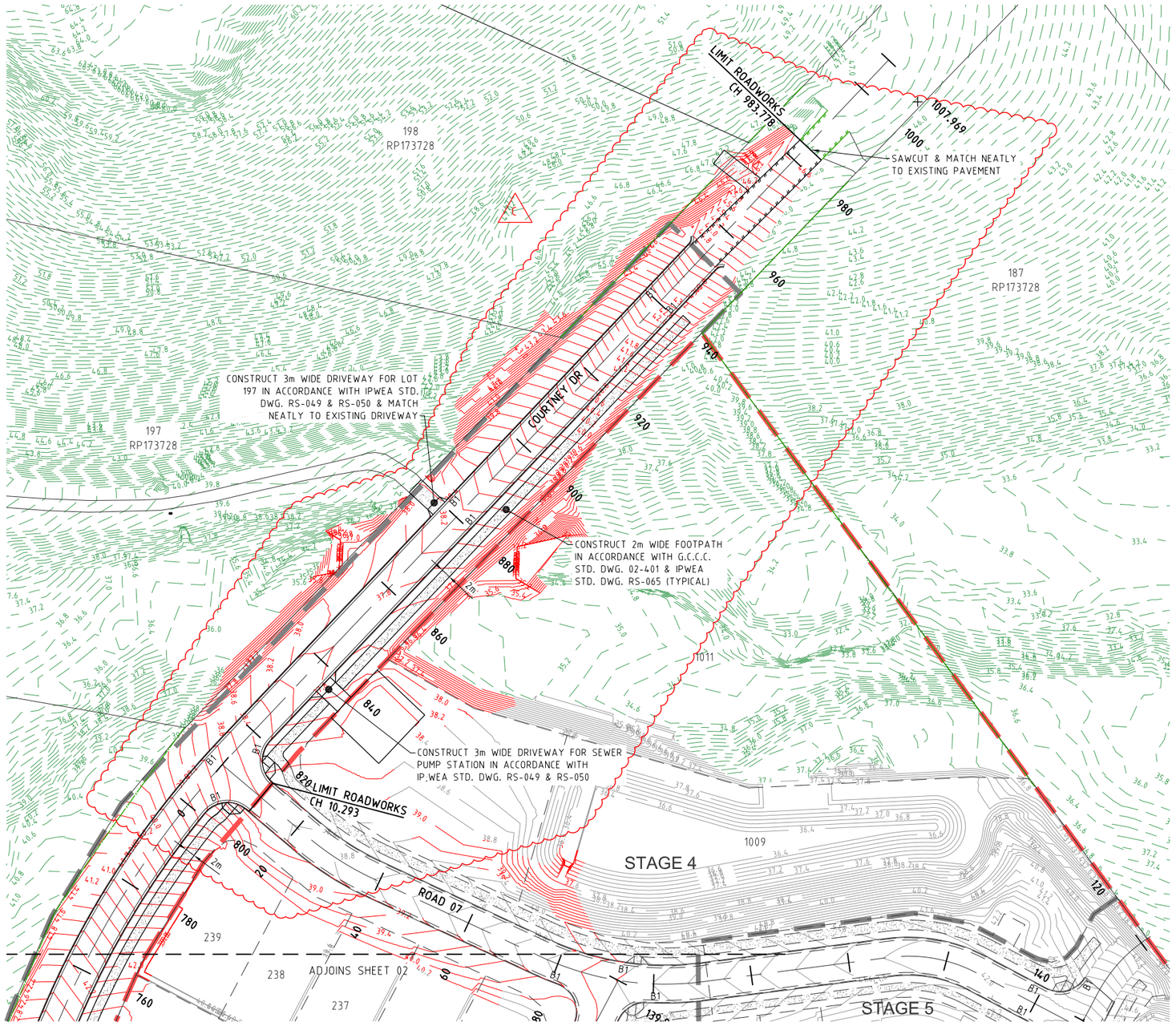
- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- 1.0 EXISTING CONTOURS
- FUTURE KERB
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- 1.0 FUTURE CONTOURS
- CONTROL LINE / CENTER OF ROAD
- PROPOSED KERB (INVERT)
- PROPOSED KERB (LIP & BACK)
- PROPOSED FOOTPATH
- PROPOSED PROPERTY LINE
- SITE BOUNDARY
- STAGE BOUNDARY
- 1.0 DESIGN CONTOURS
- PROPOSED CONCRETE
- 41.065 CENTRELINE CHAINAGE
- B1 BARRIER KERB & CHANNEL

REFER TO DRG. 120 FOR KERB TYPES

SHEET LAYOUT




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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 15-01-24 | CONTOURS & LIMIT OF WORKS AMENDED | BL |
| B | 29-11-23 | FOOTPATH DIMENSIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

ROADWORKS
PLAN
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-100
REV C

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CONSTRUCT 3m WIDE DRIVEWAY FOR LOT 196 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050 & MATCH NEATLY TO EXISTING DRIVEWAY

CONSTRUCT 3m WIDE DRIVEWAY FOR LOT 195 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050 & MATCH NEATLY TO EXISTING DRIVEWAY

CONSTRUCT 3m WIDE DRIVEWAY FOR LOT 193 & 194 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050 & MATCH NEATLY TO EXISTING DRIVEWAY

CONSTRUCT 4m WIDE DRIVEWAY FOR ACCESS BASIN 01 IN ACCORDANCE WITH IPWEA STD. DWG. RS-049 & RS-050

CONSTRUCT 2m WIDE FOOTPATH IN ACCORDANCE WITH G.C.C.C. STD. DWG. 02-401 & IPWEA STD. DWG. RS-065 (TYPICAL)

JOIN NEATLY TO EXISTING FOOTPATH

SAWCUT & MATCH NEATLY TO EXISTING PAVEMENT

JOIN NEATLY TO EXISTING FOOTPATH

LIMIT ROADWORKS CH 12.339

LIMIT ROADWORKS CH 137.722

LIMIT ROADWORKS CH 499.518

ADJOINS SHEET 01

ADJOINS SHEET 03

STAGE 2

STAGE 4

STAGE 5

COURTNEY DR

ROAD 01

ROAD 03

ROAD 04

ROAD 05

ROAD 06

ROAD 07

ROAD 10

ACCESS BASIN 01

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | BASIN HATCH AMENDED & DRIVEWAY HATCH ADDED | BL |
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DRAWING TITLE

ROADWORKS
PLAN
SHEET 02

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Civil Engineering
Project Coordination

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| 41901-02-101 | B |

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ADJOINS SHEET 02

LOCALISED EARTHWORKS IN THIS AREA TO MAINTAIN CHANNEL PROFILE THROUGH ROAD 02. STORMWATER CULVERT TO BE INSTALLED AS PART OF STAGE 3 WORKS.

CONSTRUCT 2m WIDE FOOTPATH IN ACCORDANCE WITH G.C.C.C. STD. DWG. 02-401 & IPWEA STD. DWG. RS-065 (TYPICAL)

JOIN NEATLY TO EXISTING FOOTPATH

SAWCUT & MATCH NEATLY TO EXISTING PAVEMENT

LIMIT ROADWORKS CH 222.133

STAGE 1

STAGE 2

STAGE 3

ROAD 01

ROAD 02

ROAD 03

ROAD 04

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
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DRAWING TITLE

ROADWORKS
PLAN
SHEET 03

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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-102

REV A

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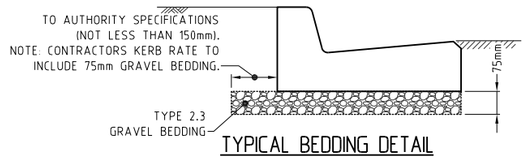
## SCHEDULE OF PAVEMENT DEPTHS

| ROAD NAME | SURFACING | BASE | SUB-BASE | LOWER SUB-BASE | CLASSIFICATION | DESA OR VPD | DESIGN GUIDE |
|---|---|---|---|---|---|---|---|
| ROAD 03, ROAD 04 & ROAD 10 | 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 |
| COURTNEY DRIVE & ROAD 01 & ROAD 07 | 25mm ASPHALT | 100mm TYPE 2.1 (CBR 60) | 100mm TYPE 2.3 (CBR 45) | 100mm TYPE 2.5 (CBR 15) | RESIDENTIAL COLLECTOR ST | 751-3000 | 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.

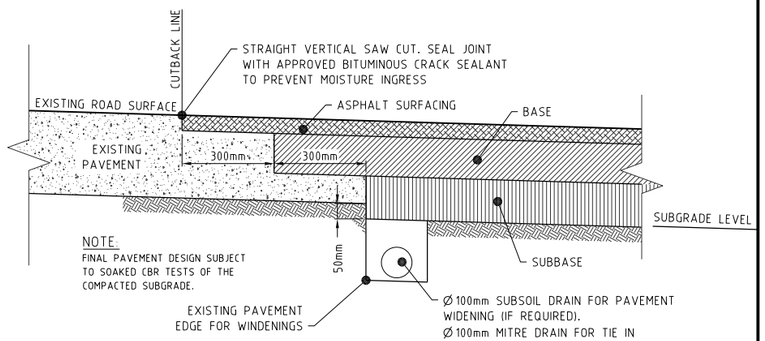
## SCHEDULE OF KERB TYPES

| KERB TYPE | IMAGE | REFERENCE |
|---|---|---|
| B1 |  | IPWEA DWG. RS-080<br>NOTE:<br>SUBSOIL DRAINS TO BE PLACED UNDER ALL KERBS. |



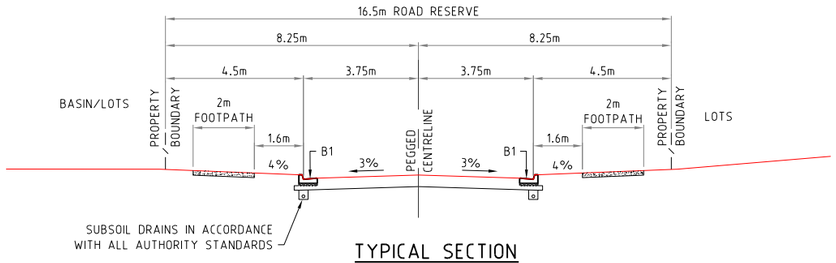

TYPICAL BEDDING DETAIL

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



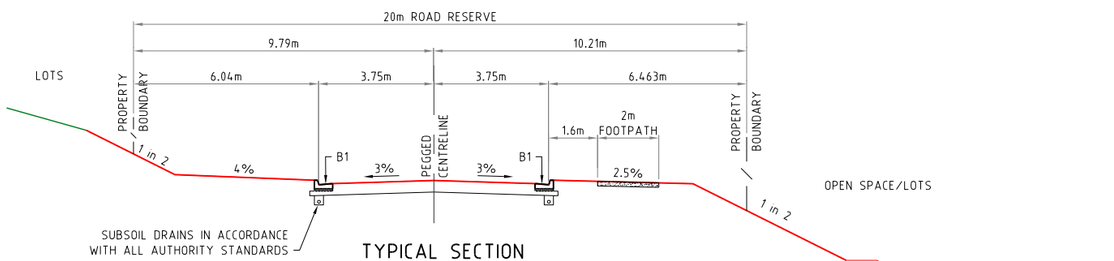

PAVEMENT WIDENING AND TIE-IN DETAIL

NOT TO SCALE



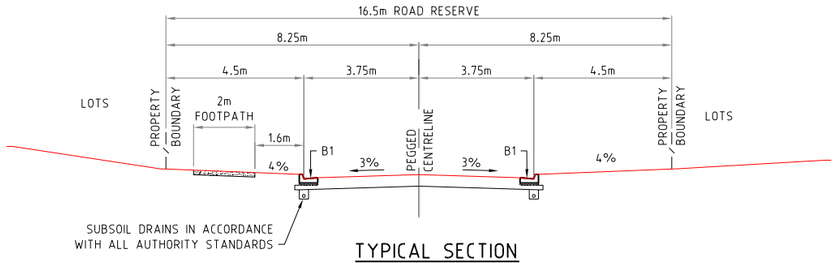

TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 01

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



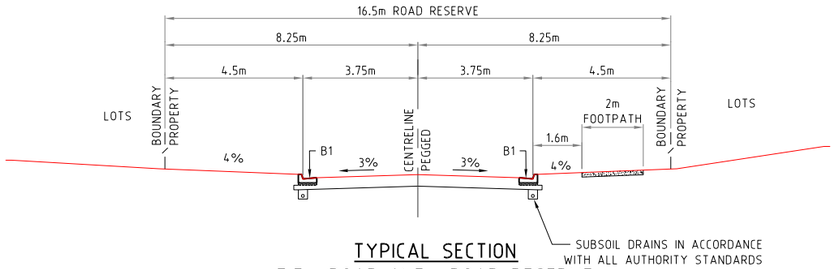

TYPICAL SECTION
7.5m ROAD-20m ROAD RESERVE
COURTNEY DRIVE

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




TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 03 & ROAD 07

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




TYPICAL SECTION
7.5m ROAD-16.5m ROAD RESERVE
ROAD 04 & ROAD 10

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

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
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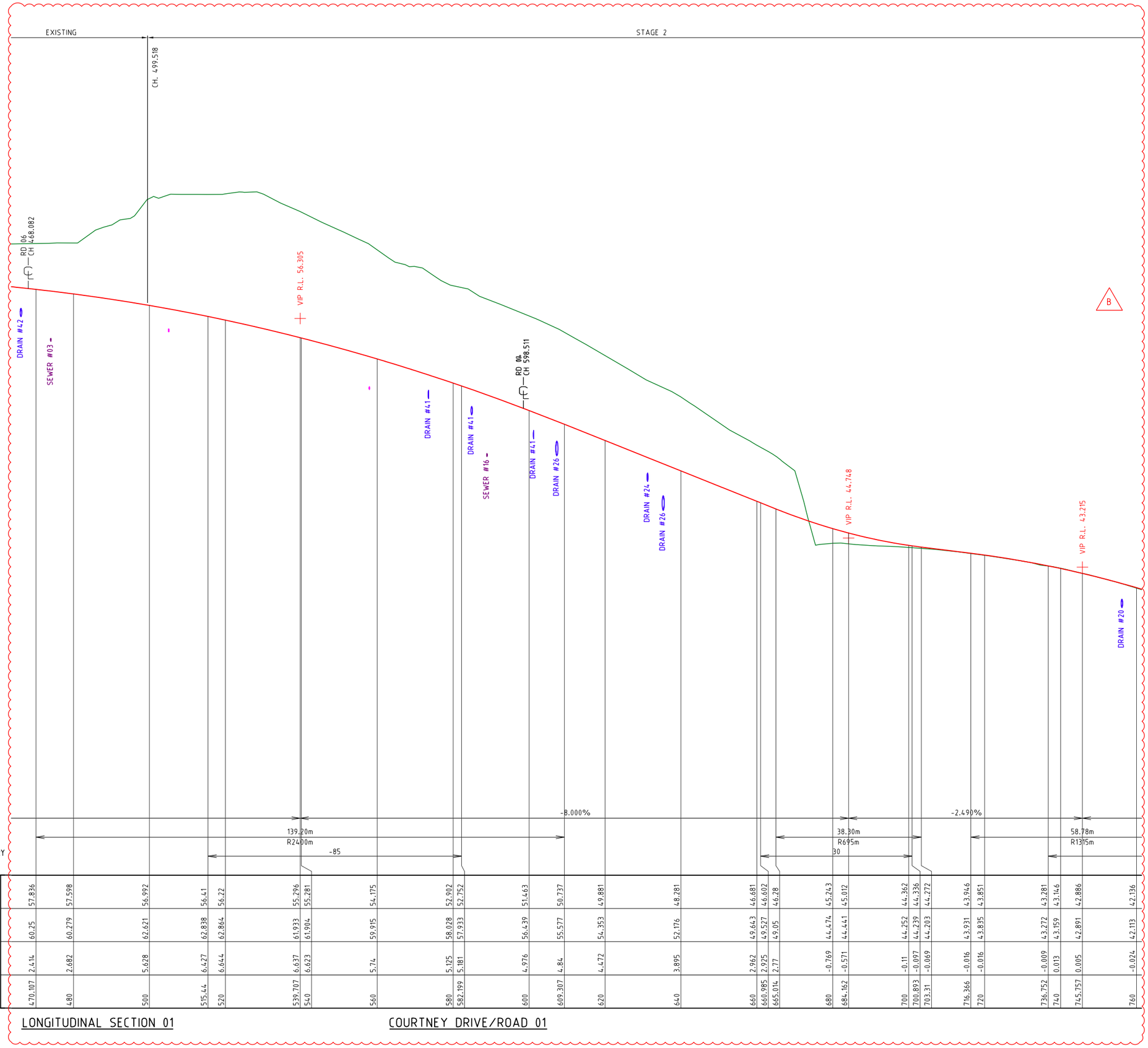
ROADWORKS DETAILS

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|---|---|
| APPROVED [signature] RPEQ 4706 | DATE 13-10-23 |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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)

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DRAWING TITLE

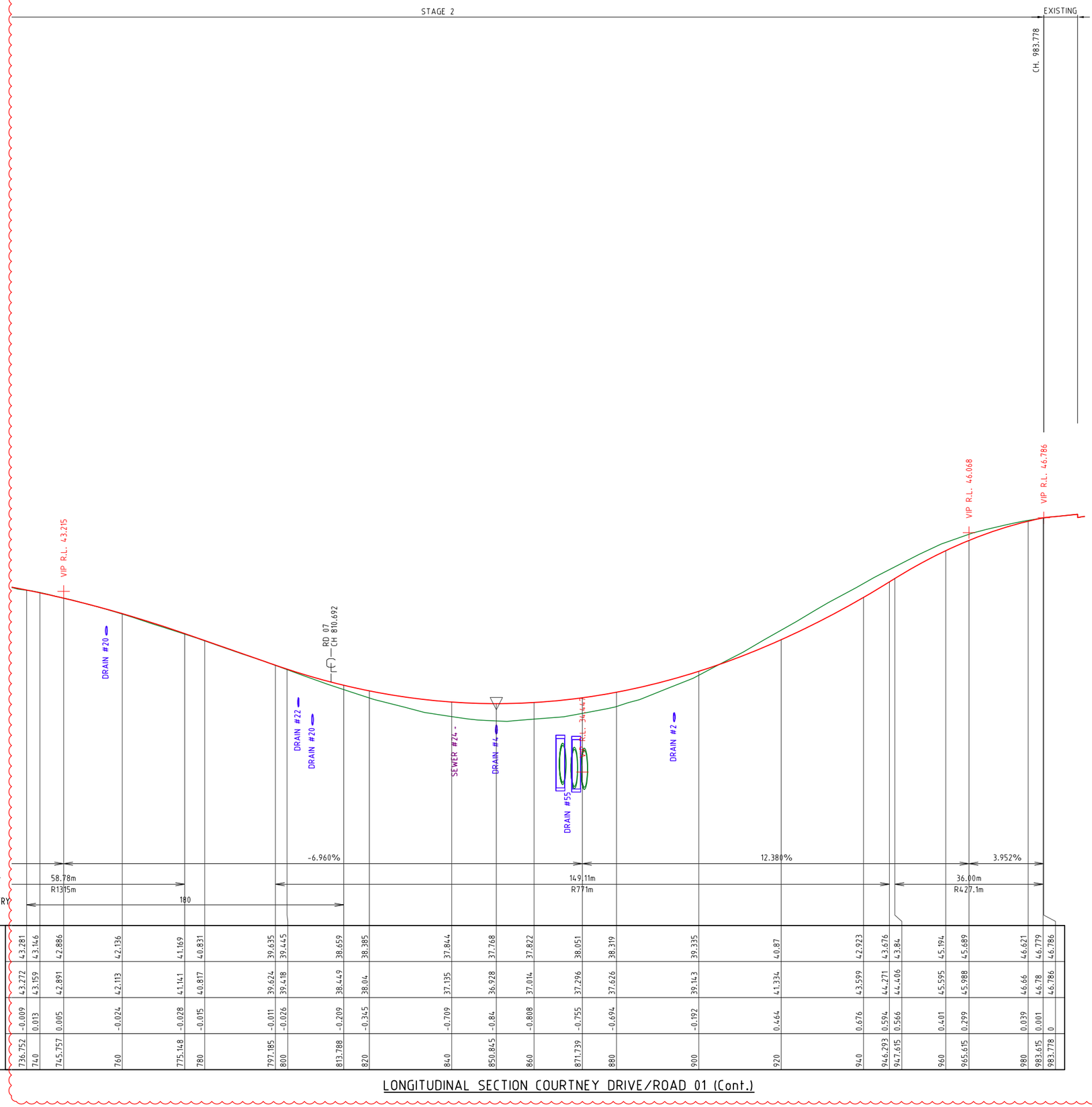
LONGITUDINAL SECTIONS
COURTNEY DRIVE/ROAD 01
SHEET 01

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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-200
REV B

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| CHAINAGE | 736.752 | 740 | 745.757 | 760 | 775.148 | 780 | 797.185 | 800 | 813.788 | 820 | 840 | 850.845 | 860 | 871.739 | 880 | 900 | 920 | 940 | 946.293 | 947.615 | 960 | 965.615 | 980 | 983.615 | 983.778 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONTROL LINE LEVELS | 43.281 | 43.146 | 42.886 | 42.136 | 41.169 | 40.831 | 39.635 | 39.445 | 38.659 | 38.385 | 37.844 | 37.768 | 37.822 | 38.051 | 38.319 | 39.335 | 40.87 | 42.923 | 43.676 | 43.84 | 45.194 | 45.689 | 46.621 | 46.779 | 46.786 |
| EXISTING SURFACE | 43.272 | 43.159 | 42.891 | 42.113 | 41.141 | 40.817 | 39.624 | 39.418 | 38.449 | 38.04 | 37.135 | 36.928 | 37.014 | 37.296 | 37.626 | 39.143 | 41.334 | 43.599 | 44.271 | 44.406 | 45.595 | 45.988 | 46.66 | 46.78 | 46.786 |
| DEPTH | -0.009 | 0.013 | 0.005 | -0.024 | -0.028 | -0.015 | -0.011 | -0.026 | -0.209 | -0.345 | -0.709 | -0.84 | -0.808 | -0.755 | -0.694 | -0.192 | 0.464 | 0.676 | 0.594 | 0.566 | 0.401 | 0.299 | 0.039 | 0.001 | 0 |

LONGITUDINAL SECTION COURTNEY DRIVE/ROAD 01 (Cont.)

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
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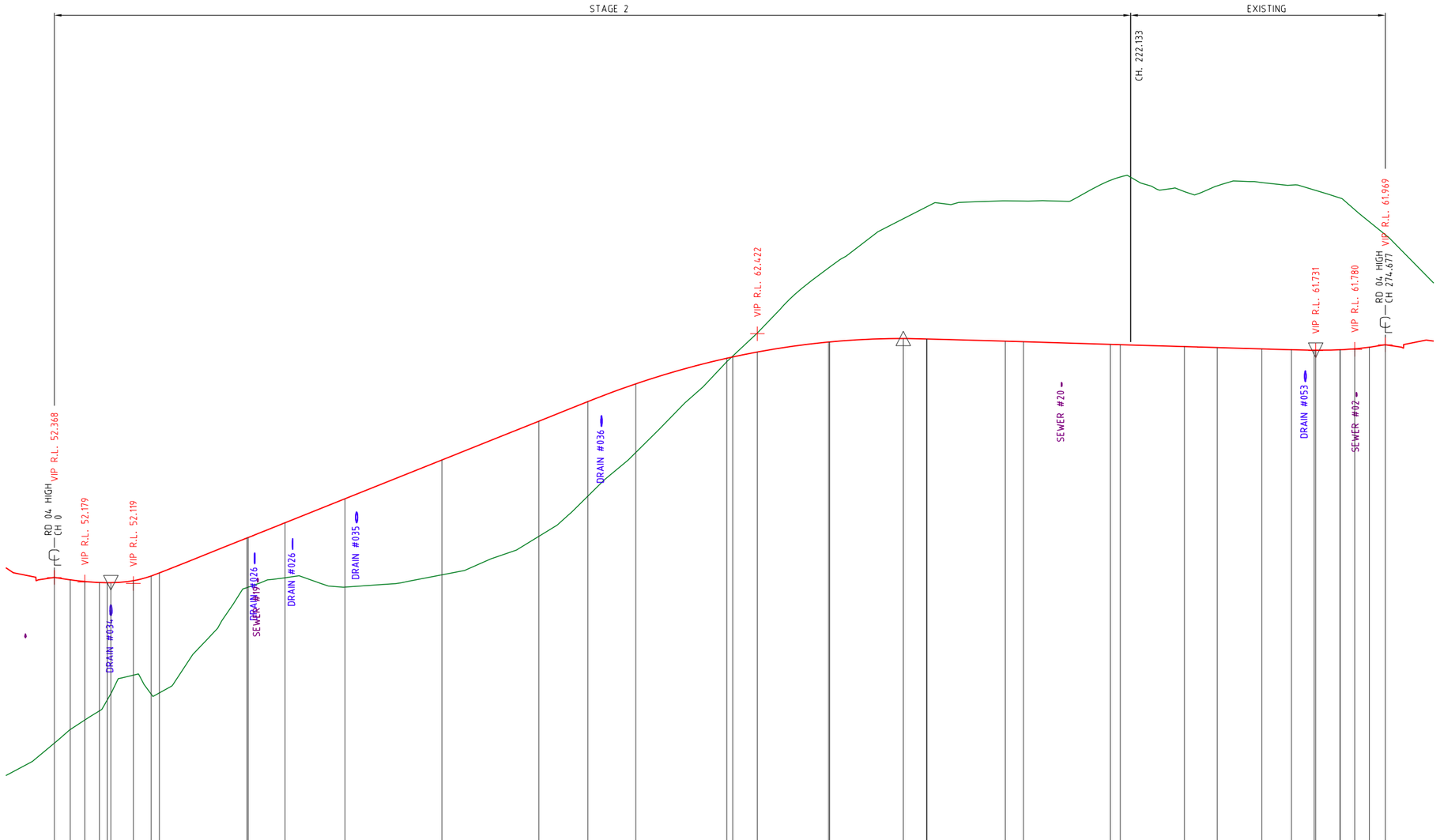
LONGITUDINAL SECTIONS
COURTNEY DRIVE/ROAD 01 (Cont.)
SHEET 02

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DRAWING NUMBER 41901-02-201 REV B

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| CHAINAGE | DEPTH | EXISTING SURFACE | CONTROL LINE LEVELS |
|---|---|---|---|
| 0 | -6.838 | 45.53 | 52.368 |
| 3.3 | -6.175 | 46.094 | 52.269 |
| 6.3 | -5.71 | 46.487 | 52.197 |
| 9.3 | -5.3 | 46.861 | 52.161 |
| 10.926 | -4.837 | 47.314 | 52.151 |
| 11.676 | -4.573 | 47.576 | 52.149 |
| 16.3 | -3.898 | 48.336 | 52.235 |
| 20 | -4.877 | 47.549 | 52.426 |
| 21.674 | -4.946 | 47.603 | 52.549 |
| 39.752 | -2.048 | 51.947 | 53.995 |
| 40 | -2.052 | 51.963 | 54.015 |
| 47.606 | -2.271 | 52.353 | 54.623 |
| 60 | -3.647 | 51.968 | 55.615 |
| 80 | -4.739 | 52.476 | 57.215 |
| 100 | -4.751 | 54.064 | 58.815 |
| 110.094 | -3.904 | 55.718 | 59.622 |
| 120 | -2.829 | 57.525 | 60.355 |
| 138.772 | -0.145 | 61.267 | 61.412 |
| 140 | 0.034 | 61.5 | 61.466 |
| 145.094 | 0.785 | 62.455 | 61.67 |
| 159.797 | 3.061 | 65.142 | 62.081 |
| 160 | 3.087 | 65.172 | 62.085 |
| 175.21 | 4.941 | 67.168 | 62.227 |
| 180 | 5.442 | 67.655 | 62.213 |
| 180.094 | 5.452 | 67.665 | 62.212 |
| 196.259 | 5.792 | 67.907 | 62.115 |
| 200 | 5.805 | 67.898 | 62.093 |
| 217.931 | 6.762 | 68.748 | 61.985 |
| 220 | 6.902 | 68.875 | 61.973 |
| 233.222 | 6.393 | 68.287 | 61.894 |
| 240 | 6.67 | 68.523 | 61.853 |
| 249.206 | 6.863 | 68.661 | 61.798 |
| 255.315 | 6.794 | 68.555 | 61.761 |
| 260 | 6.61 | 68.356 | 61.746 |
| 260.315 | 6.591 | 68.337 | 61.746 |
| 265.315 | 6.265 | 68.026 | 61.761 |
| 265.377 | 6.261 | 68.022 | 61.762 |
| 268.377 | 5.746 | 67.543 | 61.798 |
| 271.377 | 5.176 | 67.046 | 61.87 |
| 274.677 | 4.541 | 66.51 | 61.969 |

LONGITUDINAL SECTION ROAD 03

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | INI |
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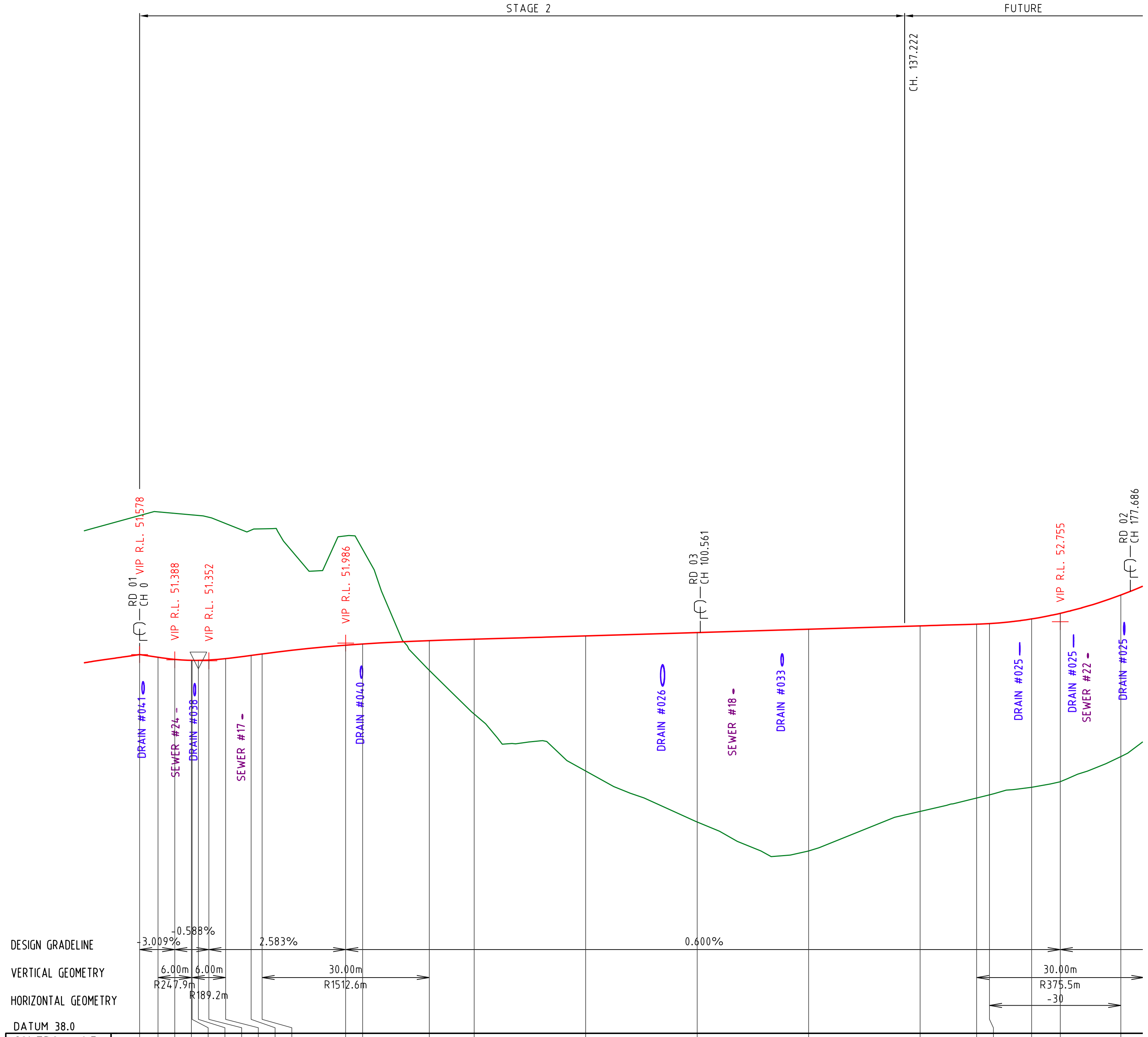
LONGITUDINAL SECTIONS
ROAD 03

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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-202 | A |

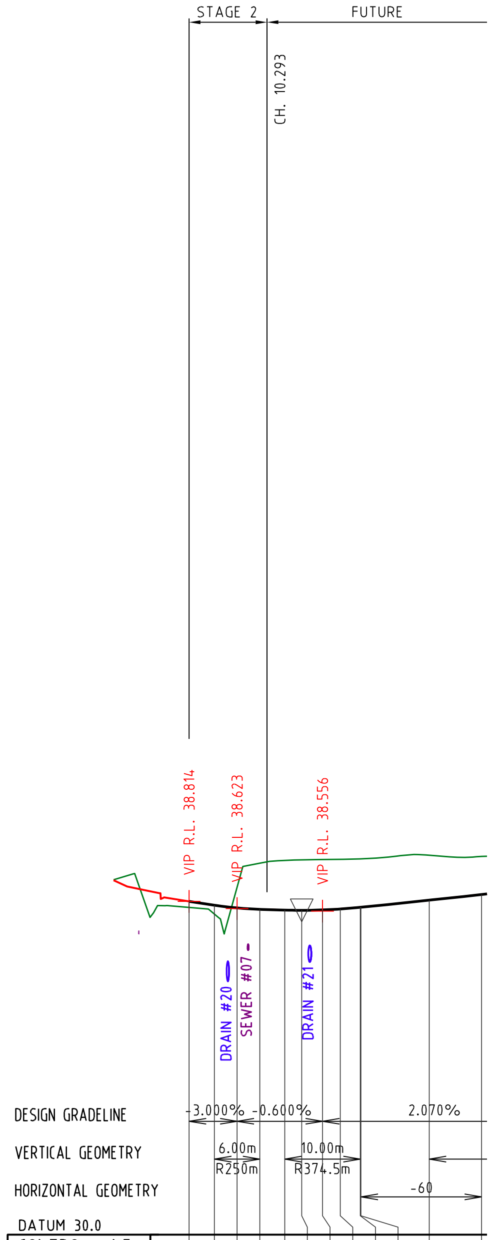
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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONTROL LINE LEVELS | 51.578 | 51.478 | 51.406 | 51.37 | 51.37 | 51.366 | 51.376 | 51.429 | 51.548 | 51.599 | 51.912 | 51.957 |
| EXISTING SURFACE | 56.559 | 56.692 | 56.638 | 56.584 | 56.582 | 56.562 | 56.496 | 56.272 | 56.035 | 56.082 | 55.832 | 55.351 |
| DEPTH | 4.982 | 5.214 | 5.232 | 5.213 | 5.212 | 5.195 | 5.121 | 4.843 | 4.487 | 4.483 | 3.92 | 3.394 |
| CHAINAGE | 0 | 3.3 | 6.3 | 9.3 | 9.422 | 10.535 | 12.422 | 15.422 | 20 | 21.964 | 36.964 | 40 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONTROL LINE LEVELS | 52.076 | 52.124 | 52.244 | 52.364 | 52.484 | 52.604 | 52.665 | 52.686 | 52.854 | 53.055 | 53.711 | 54.033 |
| EXISTING SURFACE | 51.008 | 49.445 | 47.402 | 45.576 | 44.539 | 45.953 | 46.436 | 46.549 | 46.819 | 47.015 | 47.917 | 48.457 |
| DEPTH | -1.068 | -2.679 | -4.842 | -6.788 | -7.945 | -6.652 | -6.229 | -6.137 | -6.035 | -6.039 | -5.793 | -5.575 |
| CHAINAGE | 51.964 | 60 | 80 | 100 | 120 | 140 | 150.127 | 152.428 | 160 | 165.127 | 175.989 | 180 |

LONGITUDINAL SECTION ROAD 04




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONTROL LINE LEVELS | 38.814 | 38.713 | 38.641 | 38.605 | 38.586 | 38.579 | 38.589 | 38.614 | 38.659 | 38.661 | 38.848 | 38.997 |
| EXISTING SURFACE | 38.654 | 38.478 | 39.192 | 39.827 | 39.895 | 39.911 | 39.922 | 39.931 | 39.942 | 39.942 | 40.034 | 40.003 |
| DEPTH | -0.16 | -0.236 | 0.551 | 1.222 | 1.309 | 1.332 | 1.333 | 1.317 | 1.283 | 1.281 | 1.186 | 1.006 |
| CHAINAGE | 0 | 3.344 | 6.344 | 9.344 | 12.639 | 14.886 | 17.639 | 20 | 22.639 | 22.728 | 31.753 | 38.685 |

LONGITUDINAL SECTION ROAD 07

B

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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 |
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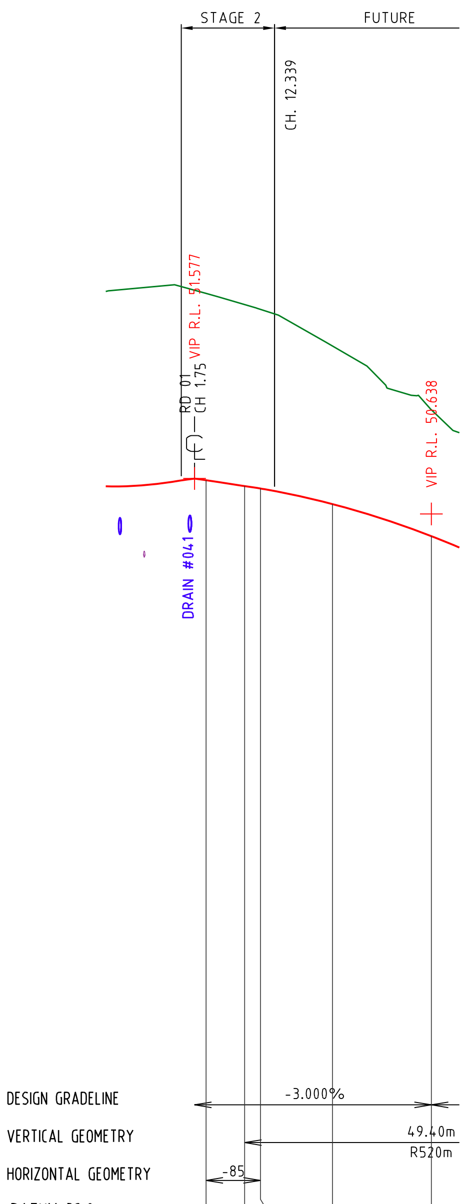
DRAWING TITLE

LONGITUDINAL SECTIONS
ROAD 04
&
ROAD 07

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

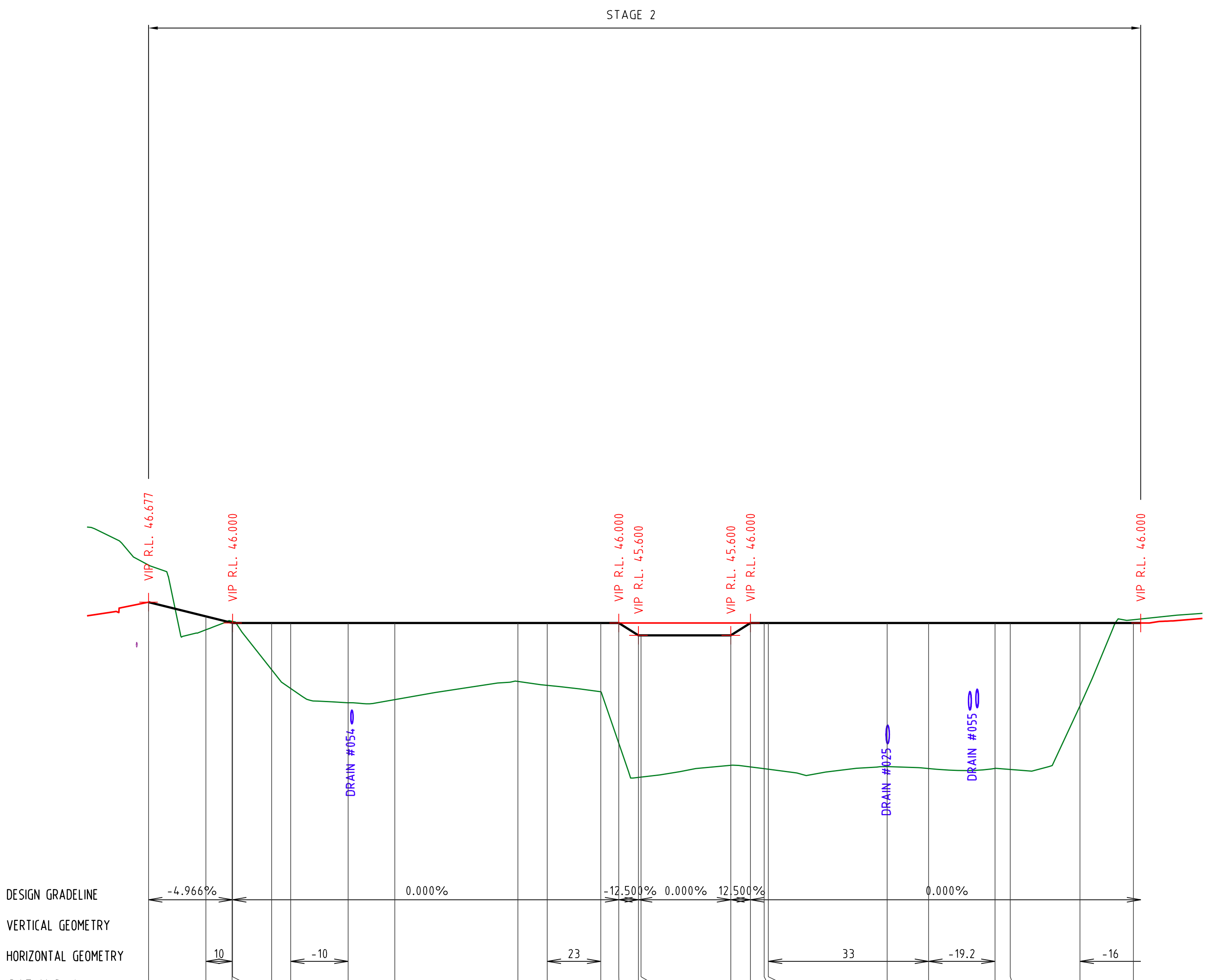
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| DRAWING NUMBER 41901-02-203 | | REV B | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CONTROL LINE LEVELS | | 51.532 | 51.379 | 51.312 | 50.9 | 50.051 |
| EXISTING SURFACE | 56.655 | 56.475 | 56.183 | 56.055 | 55.082 | 53.394 |
| DEPTH | | 4.944 | 4.805 | 4.743 | 4.182 | 3.343 |
| CHAINAGE | 0 | 3.277 | 8.374 | 10.464 | 20 | 33.074 |

LONGITUDINAL SECTION ROAD 10




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHAINAGE | 0 | 9.318 | 13.562 | 13.641 | 20 | 23.09 | 32.419 | 40 | 60 | 64.769 | 73.472 | 76.383 | 79.583 |
| CONTROL LINE LEVELS | 46.677 | 46.215 | 46.004 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 45.6 |
| EXISTING SURFACE | 47.886 | 45.78 | 46.056 | 46.052 | 44.481 | 43.87 | 43.406 | 43.509 | 44.102 | 43.972 | 43.76 | 42.094 | 40.98 |
| DEPTH | 1.209 | -0.435 | 0.052 | 0.052 | -1.519 | -2.13 | -2.594 | -2.491 | -1.898 | -2.028 | -2.24 | -3.906 | -4.62 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHAINAGE | 80 | 94.583 | 97.783 | 100 | 100.695 | 120 | 126.728 | 137.523 | 140 | 151.324 | 160 | 161.209 |
| CONTROL LINE LEVELS | 45.6 | 45.6 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | |
| EXISTING SURFACE | 40.99 | 41.374 | 41.322 | 41.266 | 41.248 | 41.329 | 41.267 | 41.273 | 41.236 | 43.306 | 46.107 | 46.132 |
| DEPTH | -4.61 | -4.226 | -4.678 | -4.734 | -4.752 | -4.671 | -4.733 | -4.727 | -4.764 | -2.694 | 0.107 | |

LONGITUDINAL SECTION ACCESS BASIN 01

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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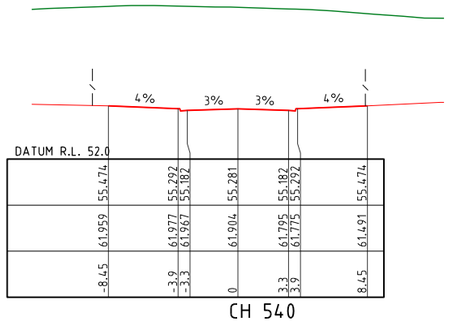
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LONGITUDINAL SECTIONS
ROAD 10
&
ACCESS BASIN 01

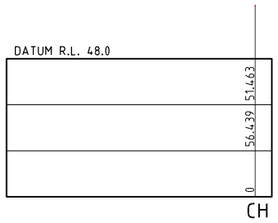
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Urban & Regional Planning
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Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
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PO Box 2484
Southport QLD 4215
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Suite 9, 19 Short St
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| APPROVED | | RPEQ 4706 | DATE 13-10-23 |
| DRAWING NUMBER 41901-02-204 | | | REV A |

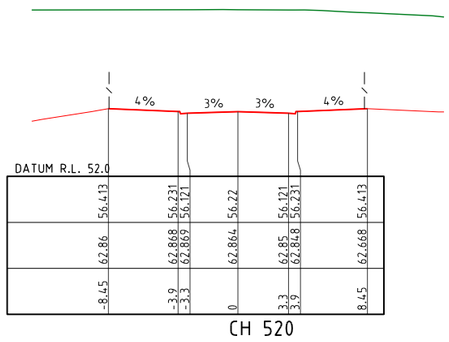
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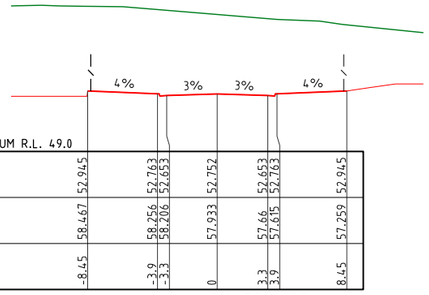

CH 540




CH 600



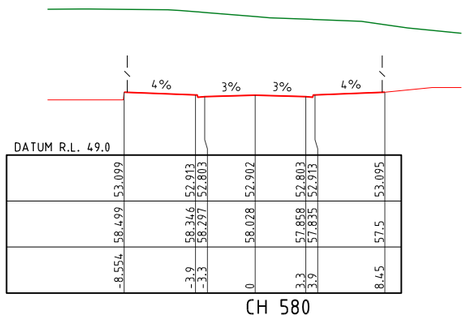

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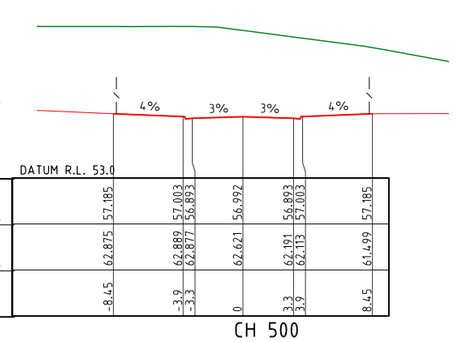

CH 582.199



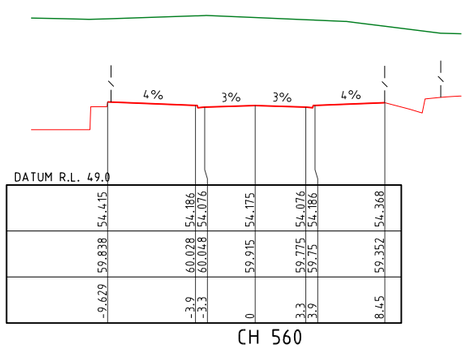

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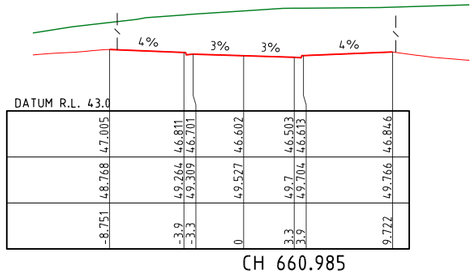

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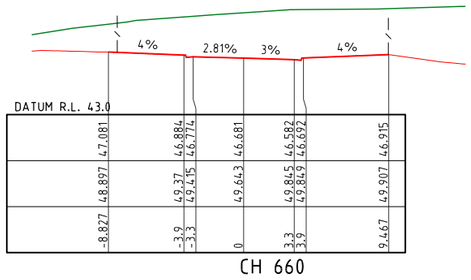

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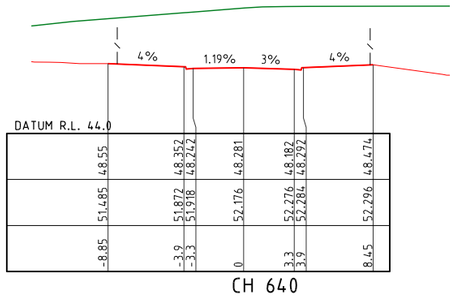

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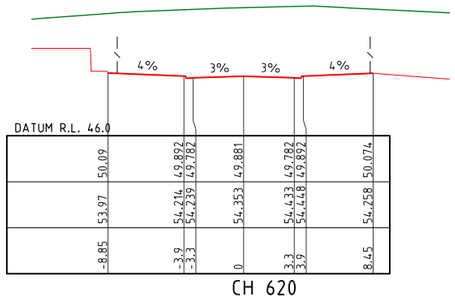

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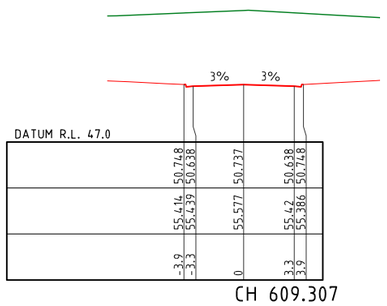

CH 660



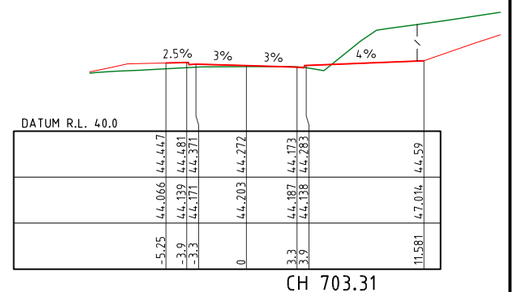

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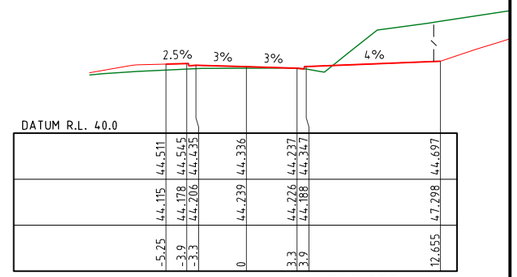

CH 620



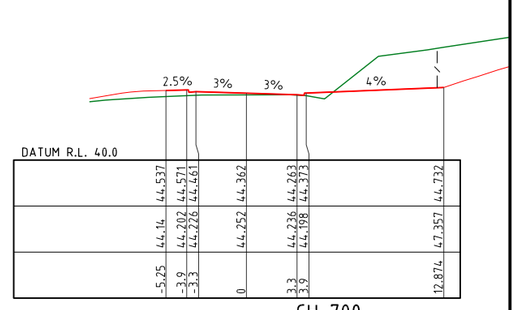

CH 609.307



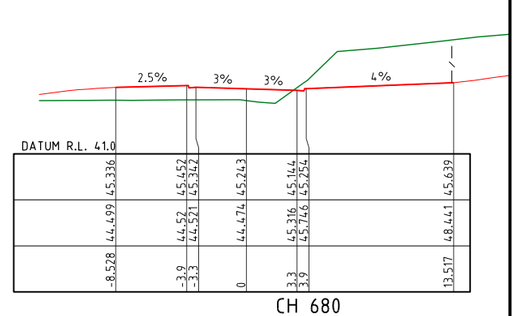

CH 703.31



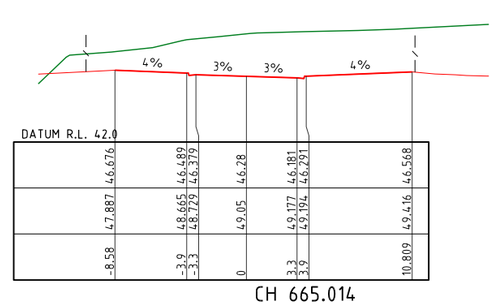

CH 700.893




CH 700




CH 680




CH 665.014

## 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 |

COURTNEY DRIVE/ROAD 01

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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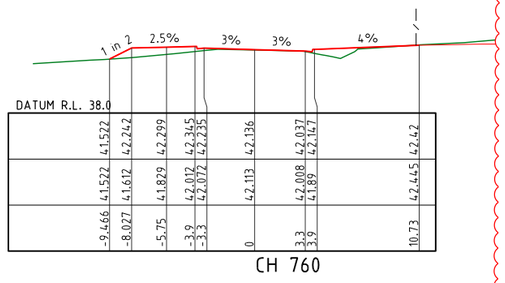
CROSS SECTIONS
COURTNEY DRIVE/ROAD 01
SHEET 01

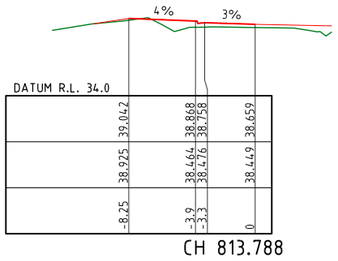
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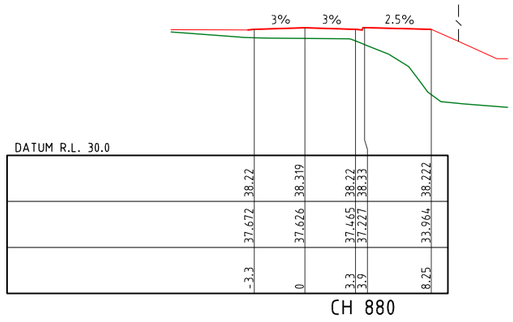
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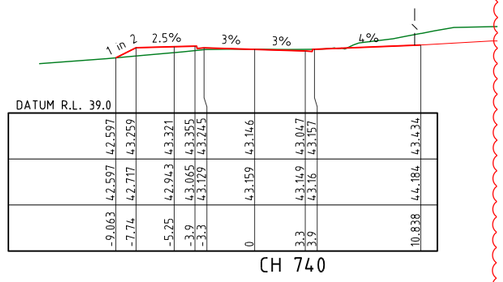
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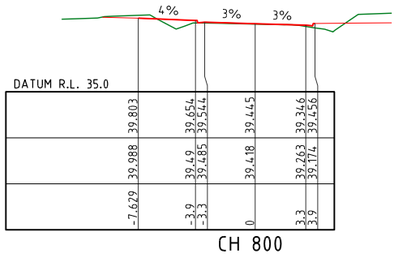
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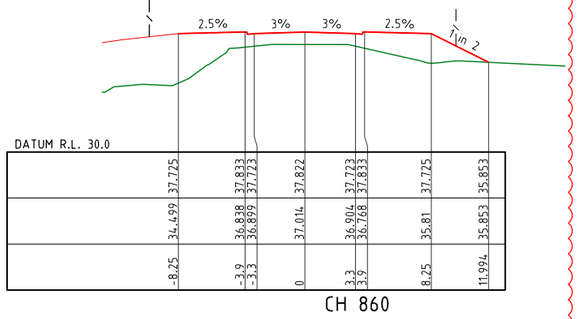


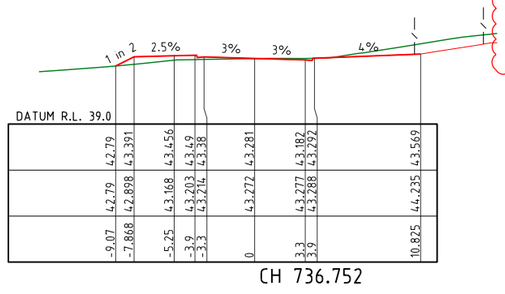



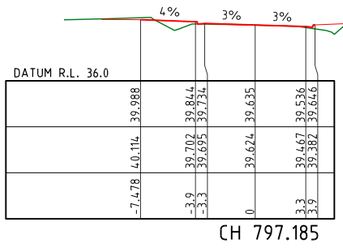



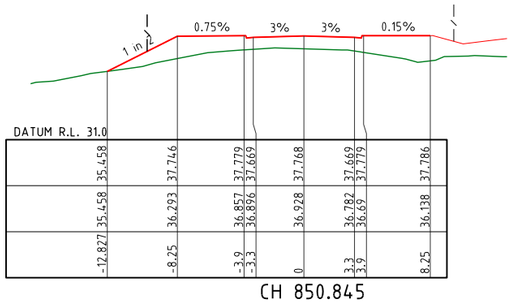



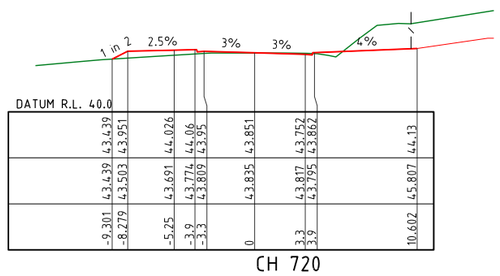



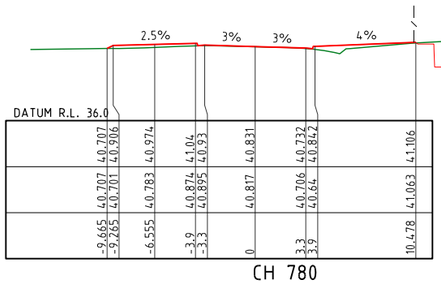



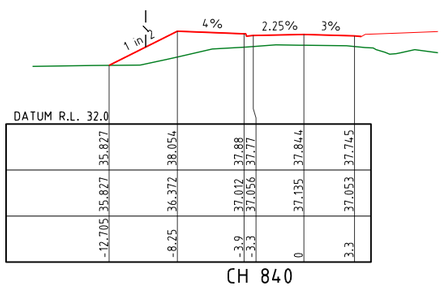



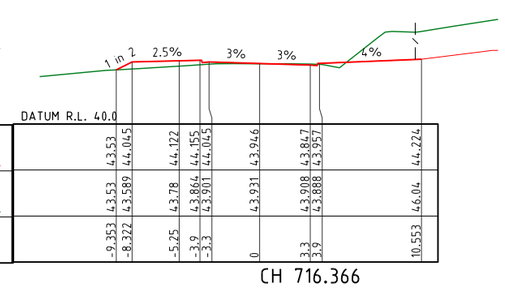



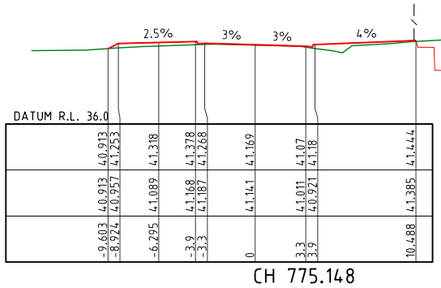



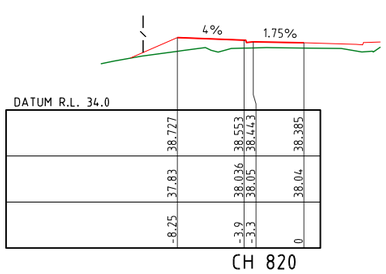




B

## 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 |

COURTNEY DRIVE/ROAD 01 (Cont.)

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 15-01-24 | CROSS SECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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DRAWING TITLE

CROSS SECTIONS
COURTNEY DRIVE/ROAD 01 (Cont.)
SHEET 02

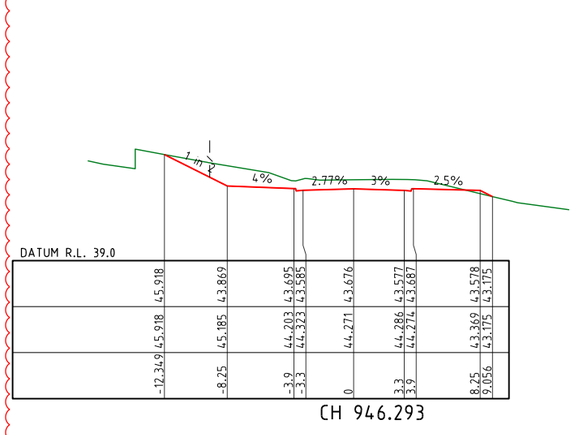
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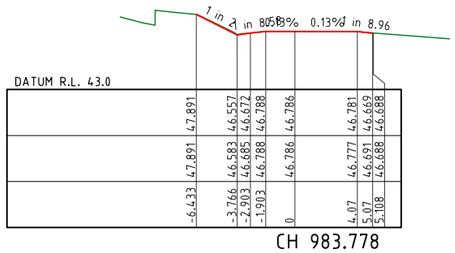
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| APPROVED RPEQ 4706 | DATE 13-10-23 |

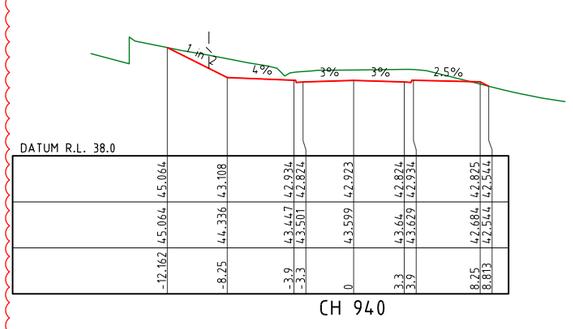
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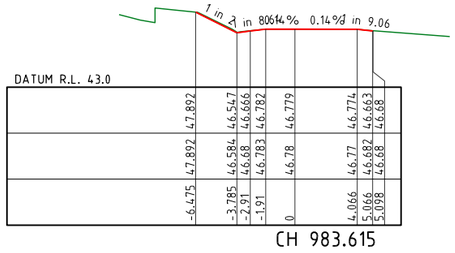
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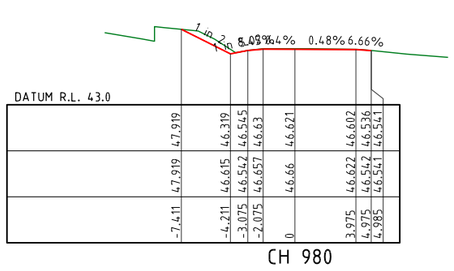
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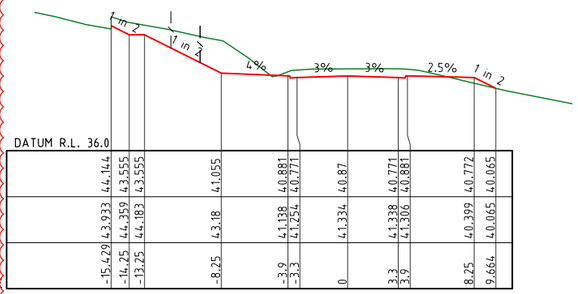


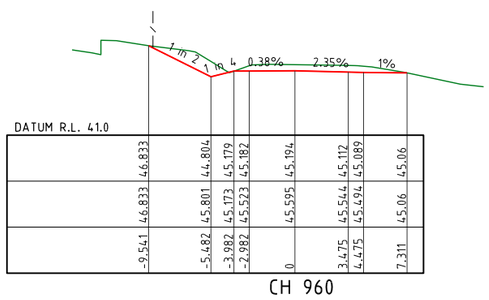



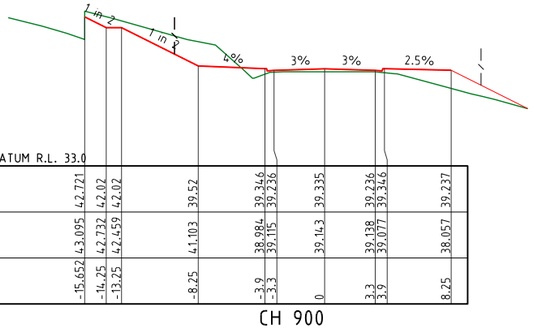



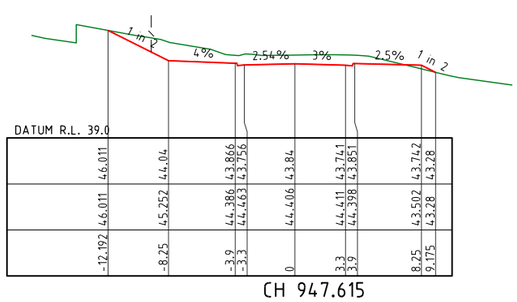




## NOTES:

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.

COURTNEY DRIVE/ROAD 01 (Cont.)

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 15-01-24 | CROSS SECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

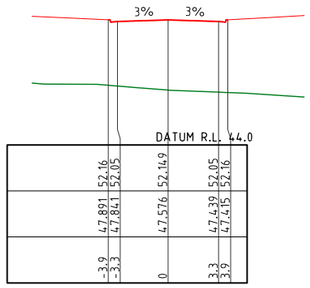
CROSS SECTIONS
COURTNEY DRIVE/ROAD 01 (Cont.)
SHEET 03

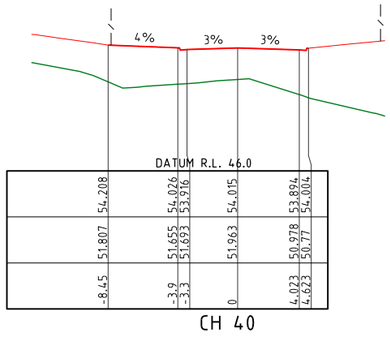
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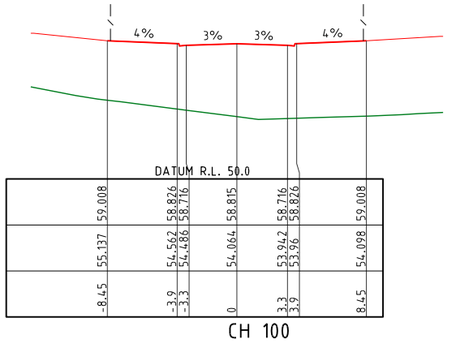
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

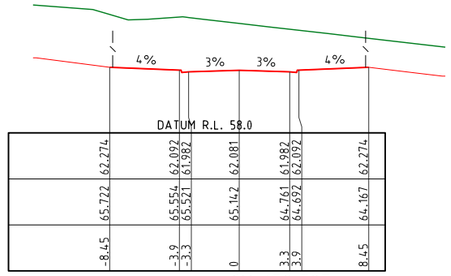
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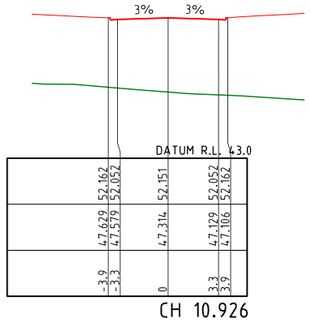
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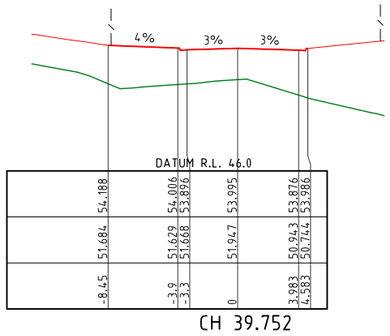


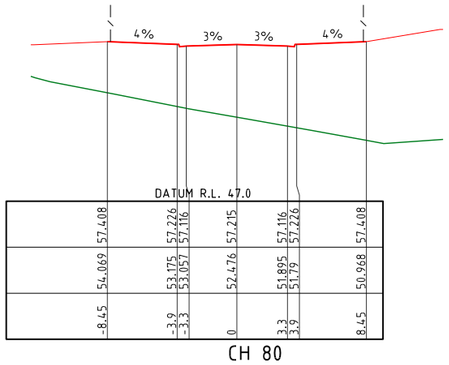



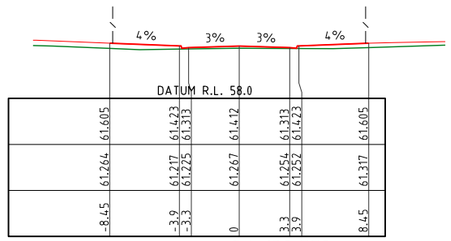



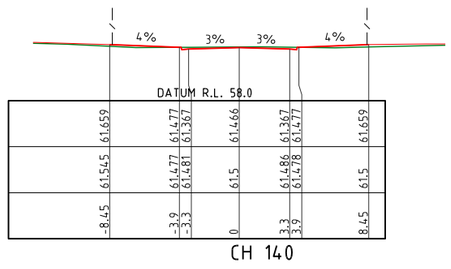



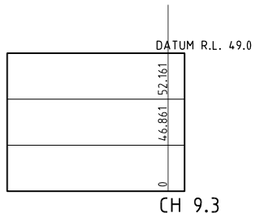



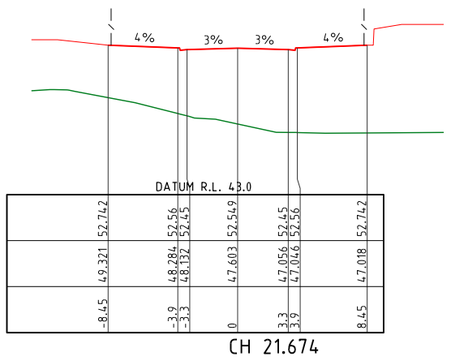



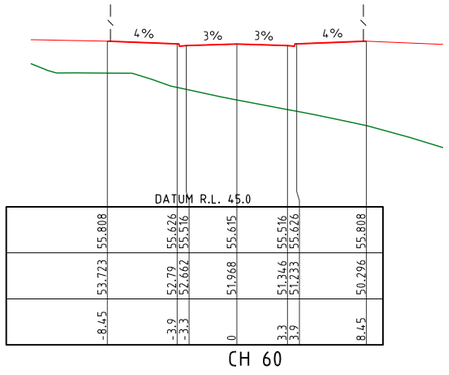



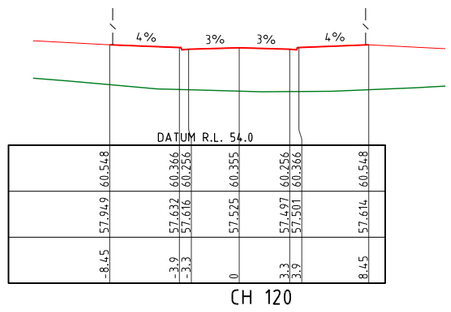



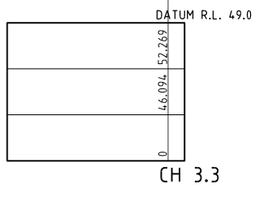



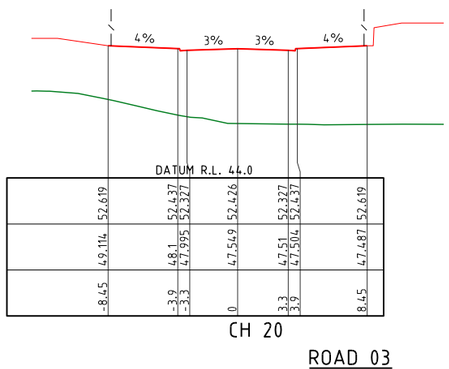



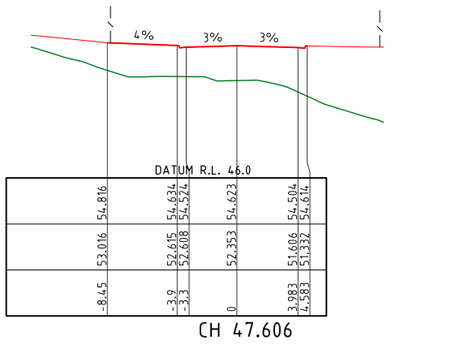



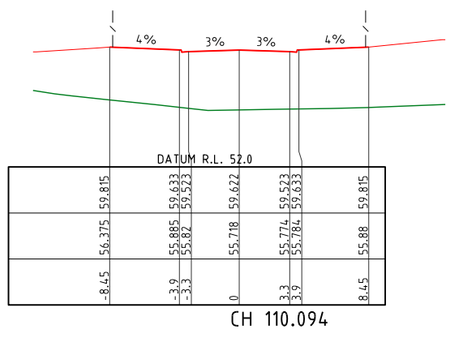







NOTES:

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 03

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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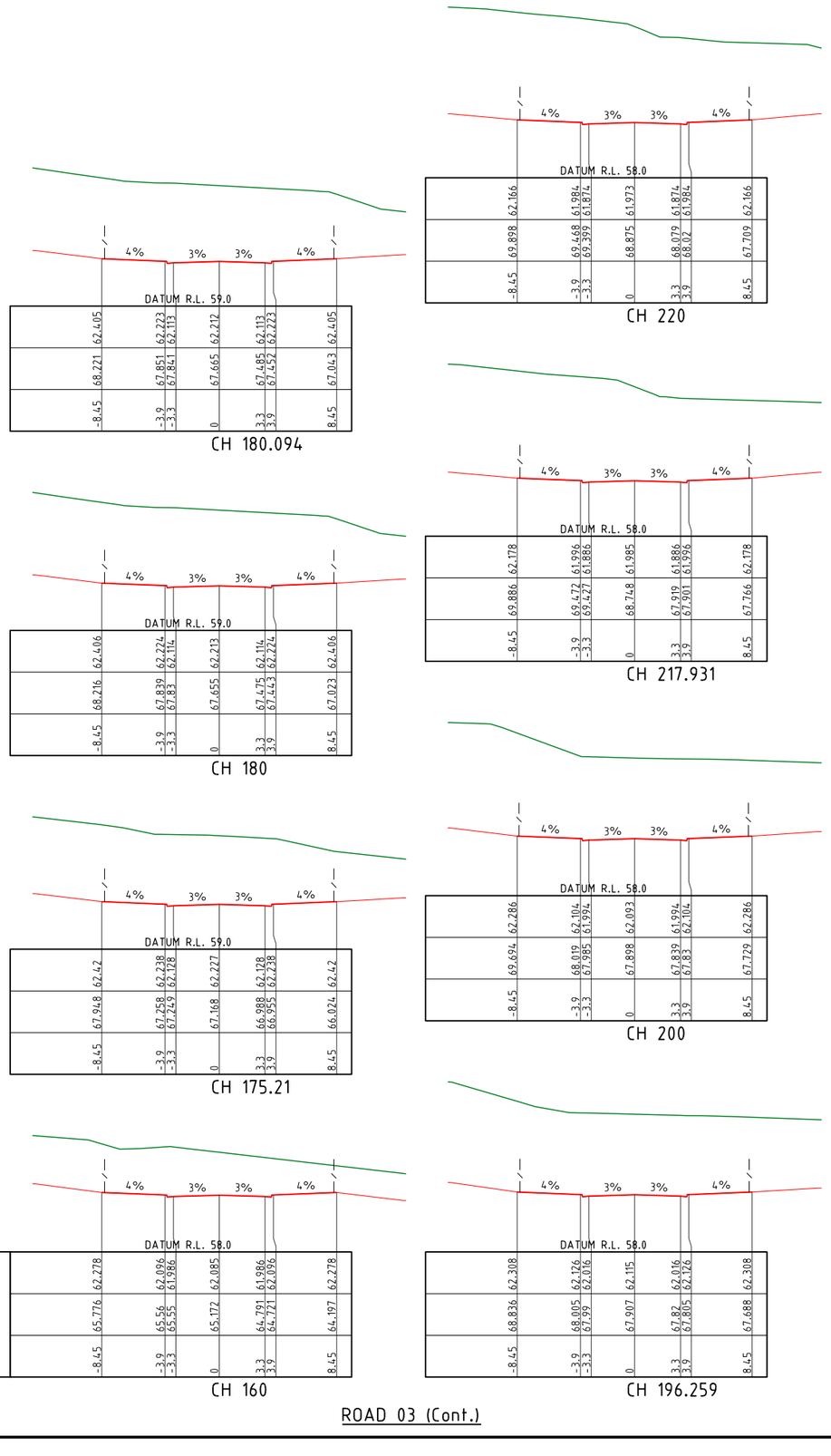
CROSS SECTIONS
ROAD 03
SHEET 01

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MUS Pty Ltd T/As
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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-303
REV A

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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 03 (Cont.)

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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Robin Russell & ASSOCIATES PTY. LTD.
BENNETT + BENNETT

DRAWING TITLE

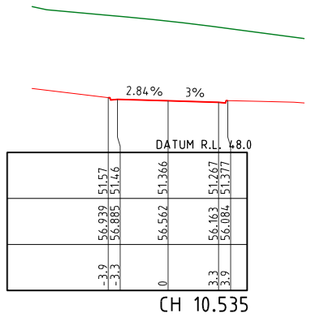
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SHEET 02

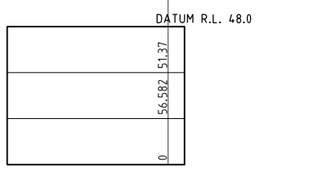
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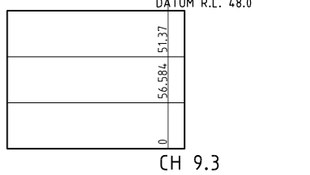
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

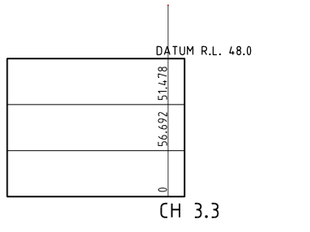
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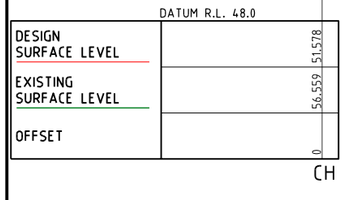



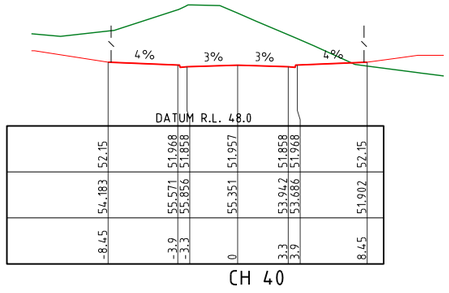



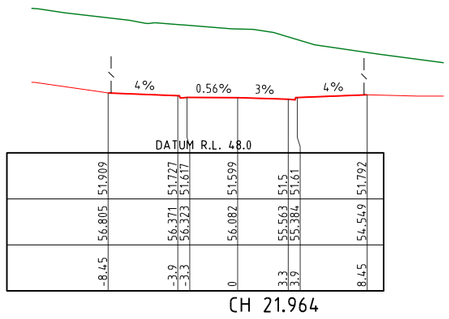

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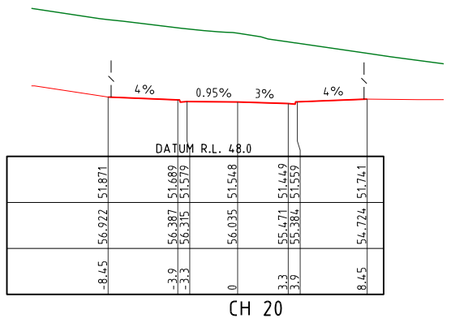
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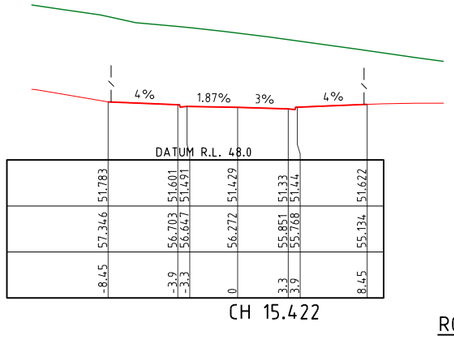
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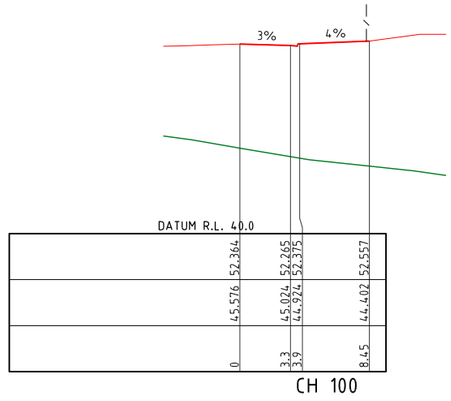


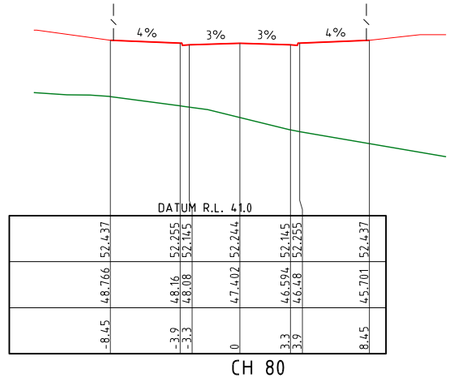



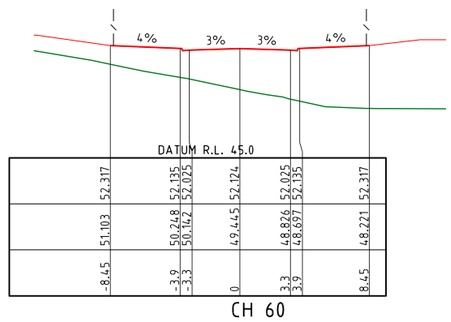



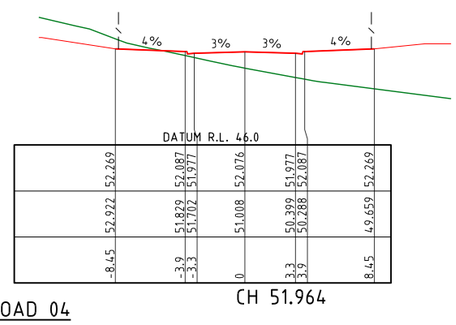



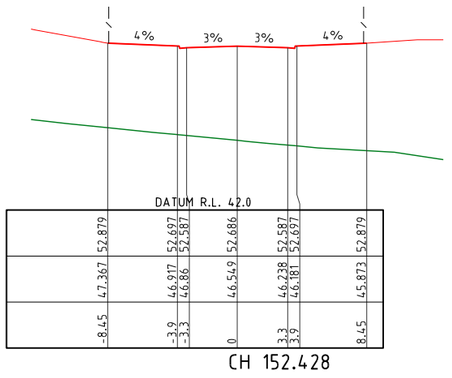



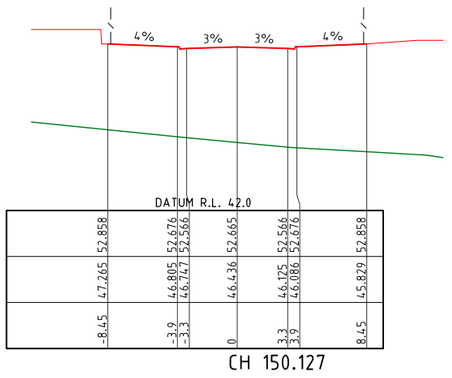



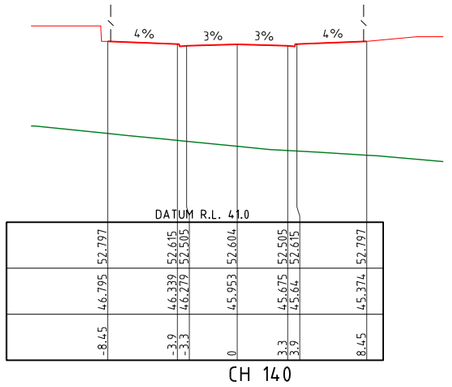



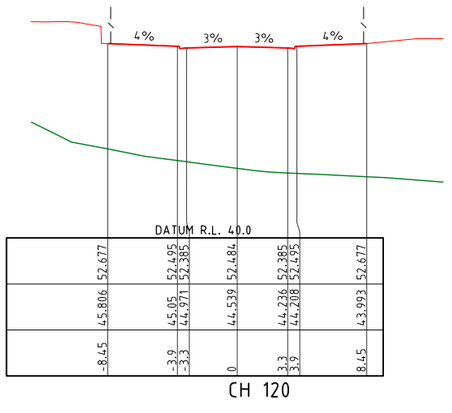




ROAD 04




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

CROSS SECTIONS
ROAD 04

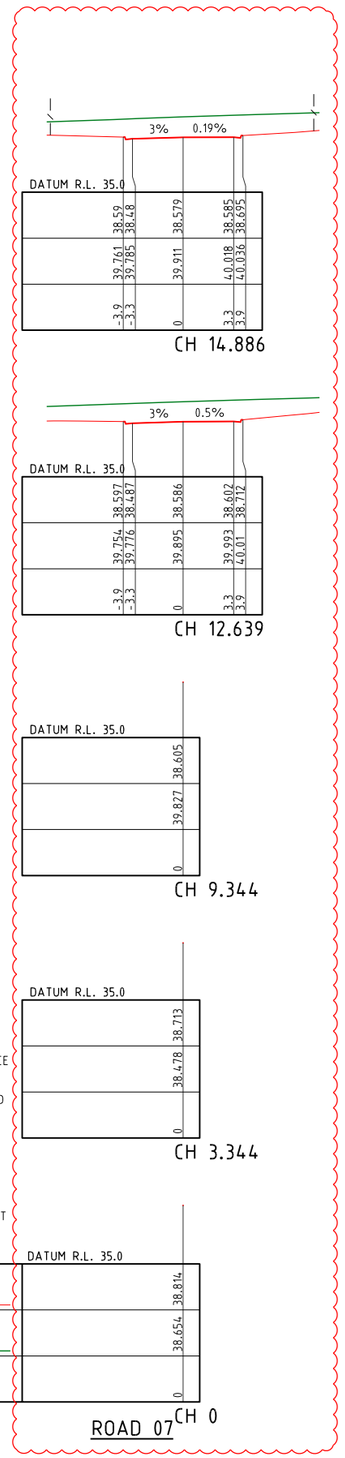
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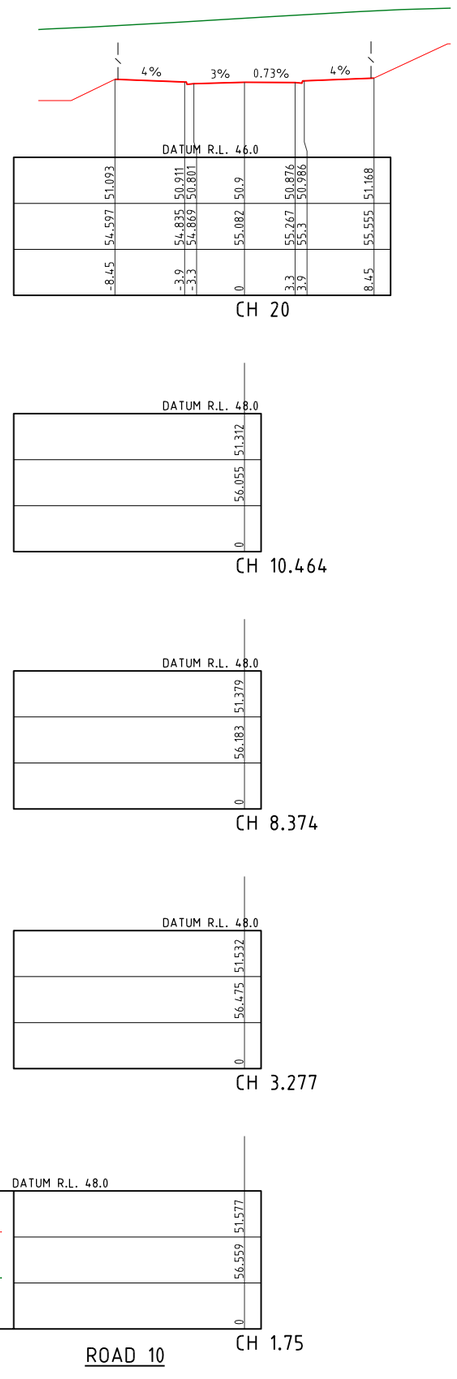
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DRAWING NUMBER 41901-02-305
REV A

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B




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.

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 15-01-24 | CROSS SECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

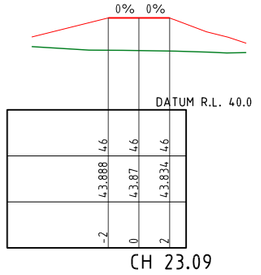
CROSS SECTIONS
ROAD 07
&
ROAD 10

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Project Coordination
MUS Pty Ltd T/As:
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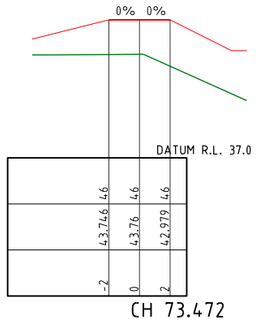
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| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-306 REV B

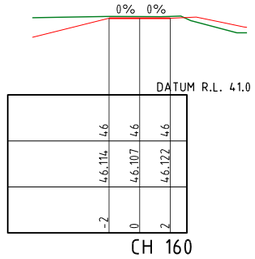
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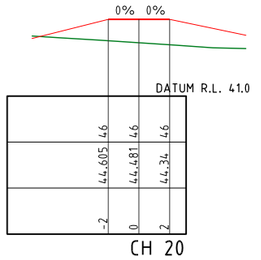
CH 23.09



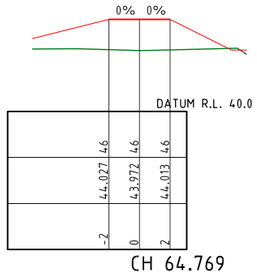
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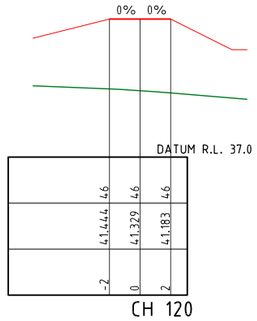
CH 160



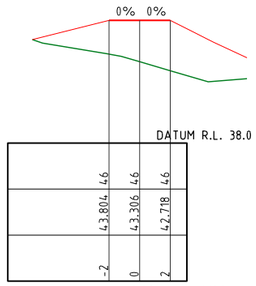
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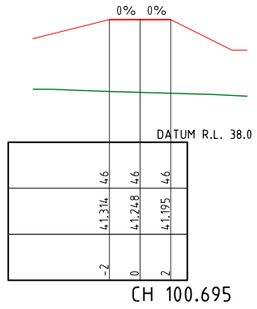
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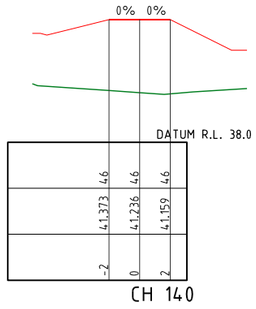
CH 120



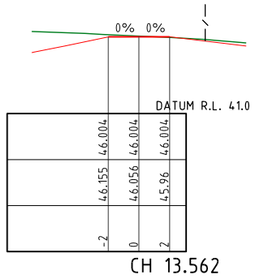
CH 151.324



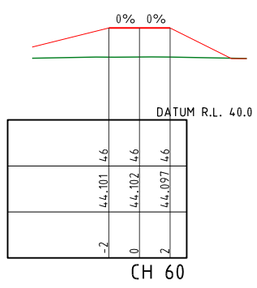
CH 100.695



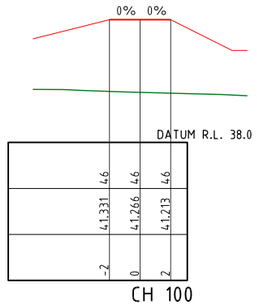
CH 140



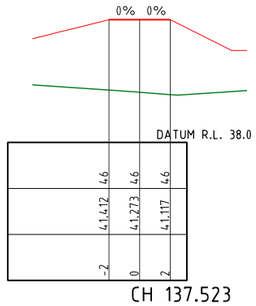
CH 13.562



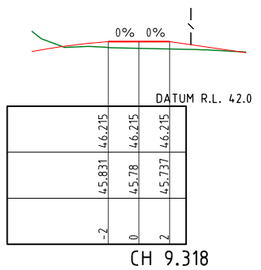
CH 60



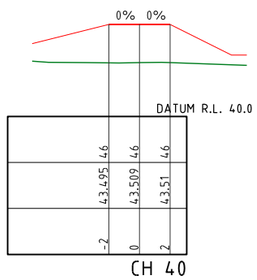
CH 100



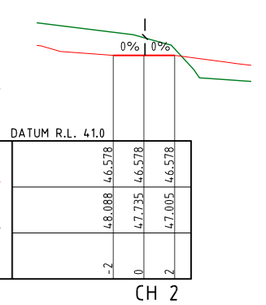
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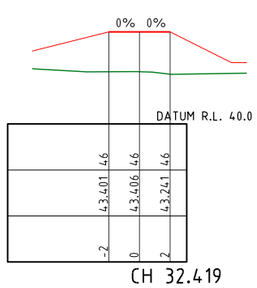
CH 9.318



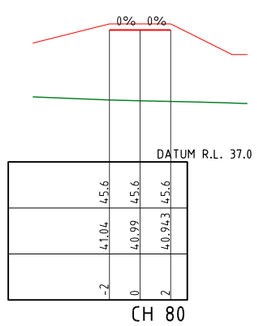
CH 40



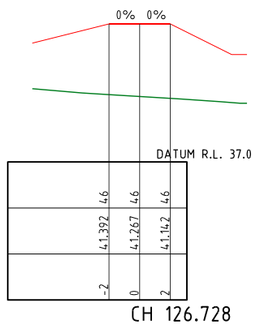
CH 2



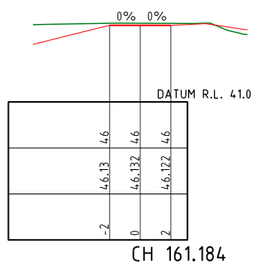
CH 32.419



CH 80



CH 126.728



CH 161.184

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.

ACCESS BASIN 01

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

CROSS SECTIONS
ACCESS BASIN 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
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Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-307
REV A

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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

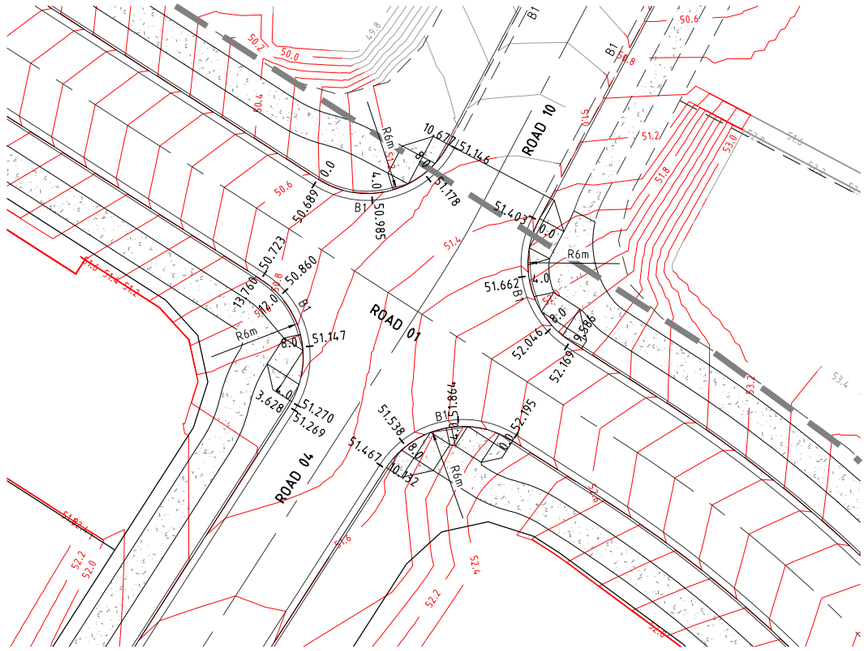
24.0 _41.065 INTERSECTION CHAINAGE & LEVEL

B1 BARRIER KERB & CHANNEL

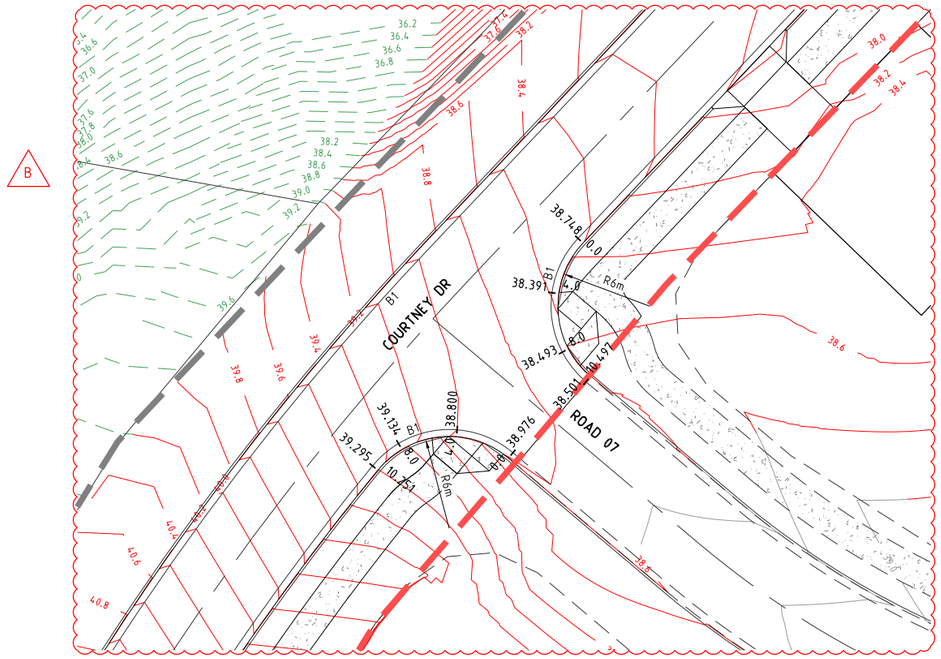
REFER TO DRG. 120 FOR KERB TYPES

## NOTES:

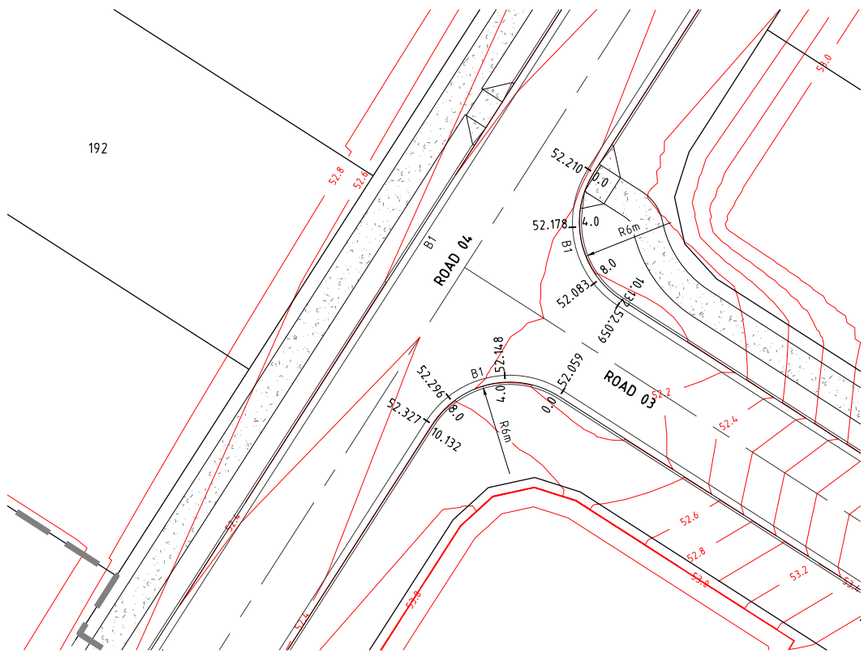
1. SETOUT POINT DENOTES LIP OF KERB WHERE LIP OF KERB, OR FACE OF KERB WHERE NO LIP.
2. FOR KERB TYPES REFER TO SCHEDULE OF KERB TYPES ON DWG. 120




INTERSECTION
ROAD 01, 04 & 10




INTERSECTION
COURTNEY DRIVE & ROAD 07




INTERSECTION
ROAD 03 & ROAD 04

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
| B | 15-01-24 | CONTOURS & GRADING AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

INTERSECTION
GRADING DETAILS

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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Tel 07 5571 1099

Postal Address
PO Box 2484
Southport QLD 4215

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

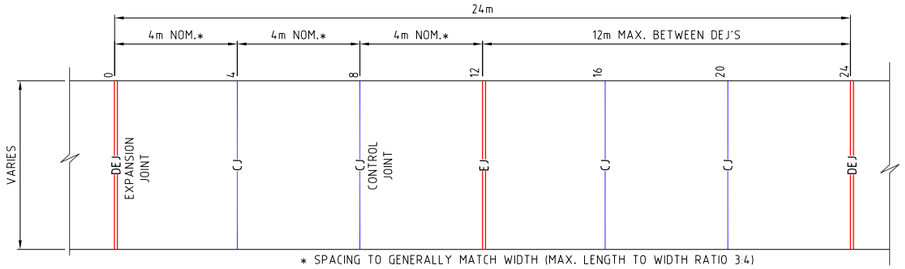
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-400 REV B

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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 STANDARDS
   SLIP RESISTANCE OF SURFACE MATERIALS IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
   AS/NZS 4586: 2013 SLIP RESISTANCE OF NEW PEDESTRIAN SURFACE MATERIALS.
   AS/NZS 4663: 2013 SLIP RESISTANCE MEASUREMENT OF EXISTING PEDESTRIAN SURFACES
   HB:A:A 197: 1999 "AN INTRODUCTORY GUIDE TO THE SLIP RESISTANCE OF PEDESTRIAN SURFACE MATERIALS"




### TYPICAL CONCRETE PAVEMENT DETAIL FOR DRIVEWAYS AND ROADS

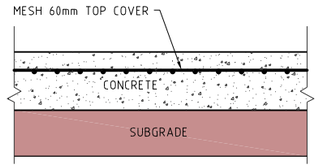
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0 0.5 1.0 1.5 2.0 2.5m

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

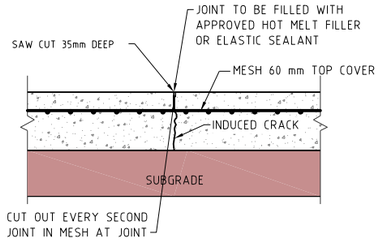
| SCHEDULE OF CONCRETE PAVEMENTS | | | | | |
|---|---|---|---|---|---|
| FUNCTION | SURFACING | SUBGRADE PREPARATION | THICKNESS 'T' | STRENGTH | REINCORCING |
| FOOTPATH 2m WIDE | HEAVY BROOM FINISH | 50mm SAND BLINDING LAYER | 100mm | 32 mPa | SL 72 MESH |
| DRIVEWAY STORMWATER BASIN | HEAVY BROOM 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



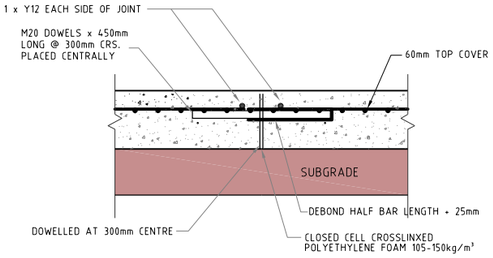

TYPICAL BROOM FINISHED CONCRETE PAVEMENT DETAIL

NOT TO SCALE



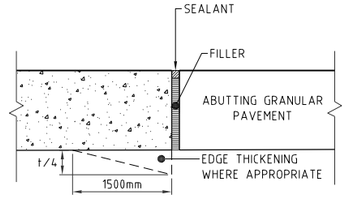

CONTROL JOINT (4m SPACING) (CJ)

NOT TO SCALE




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

NOT TO SCALE

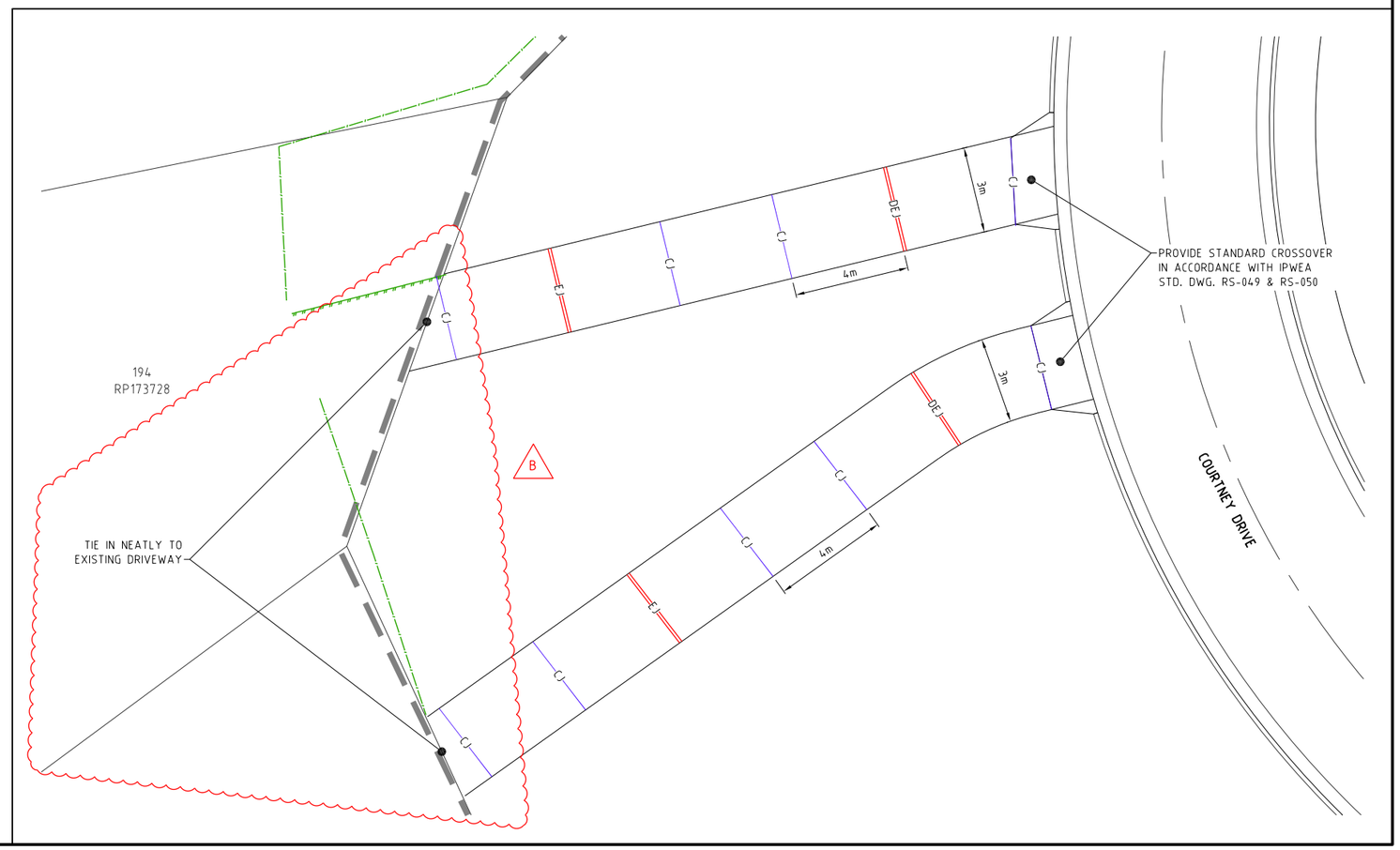



ISOLATION JOINT (IJ)

NOT TO SCALE

### LEGEND

- EXISTING PROPERTY LINE
- EXISTING KERB
- FUTURE KERB
- FUTURE PROPERTY LINE
- PROPERTY LINE
- FACE OF KERB, FOOTPATHS
- LIP AND BACK OF KERB
- CONTROL LINE / CENTER OF ROAD
- 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.




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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
|---|---|---|---|
| B | 17-01-24 | NOTE ADDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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BENNETT + BENNETT

DRAWING TITLE

CONCRETE JOINTING DETAILS SHEET 01

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Urban & Regional Planning
Civil Engineering
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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-410 | B |

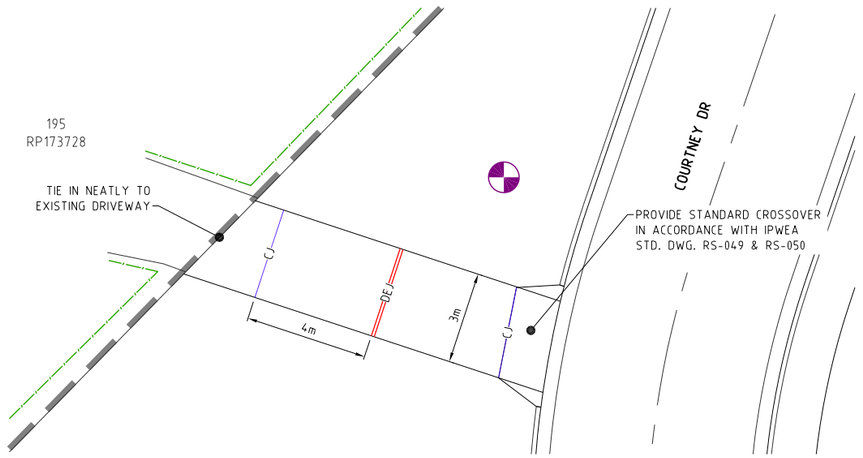
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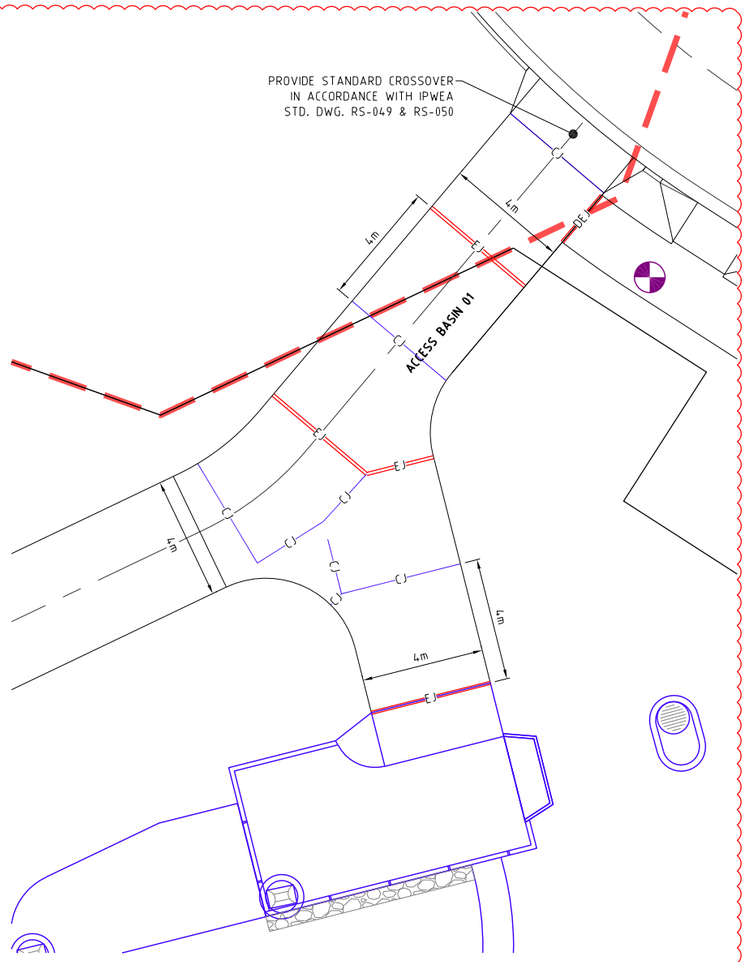
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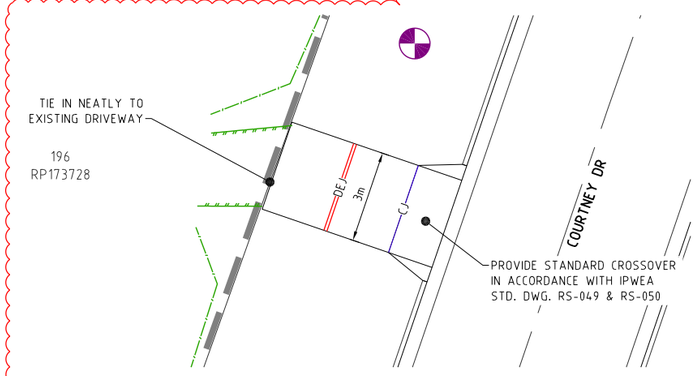
- EXISTING PROPERTY LINE
- EXISTING KERB
- FUTURE KERB
- FUTURE PROPERTY LINE
- PROPERTY LINE
- FACE OF KERB, FOOTPATHS
- LIP AND BACK OF KERB
- CONTROL LINE / CENTER OF ROAD
- SITE BOUNDARY
- STAGE BOUNDARY
- EJ — EXPANSION JOINT
- DEJ — DOWELED EXPANSION JOINT
- IJ — ISOLATION JOINT
- SJ — SAW JOINT
- CJ — CONTROL JOINT
- KJ — KEY JOINT
- 2xN12 BARS AROUND PENETRATIONS TYP.

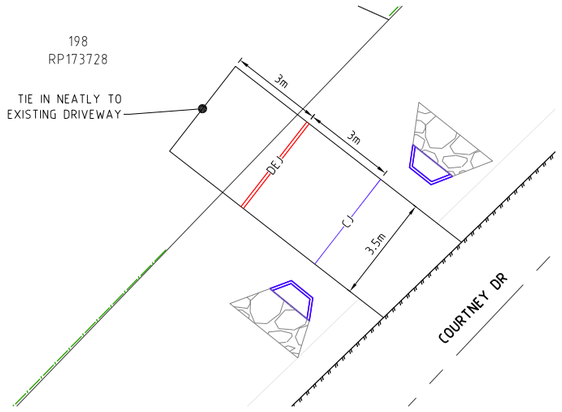
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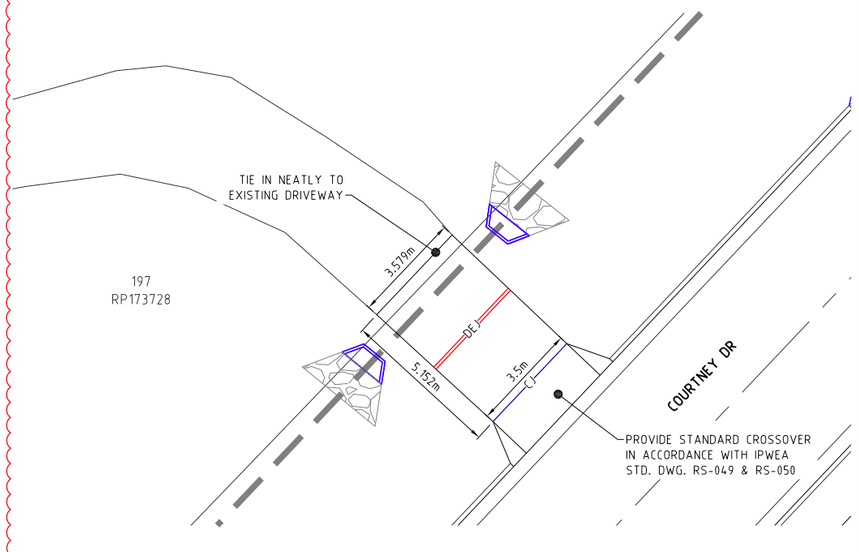
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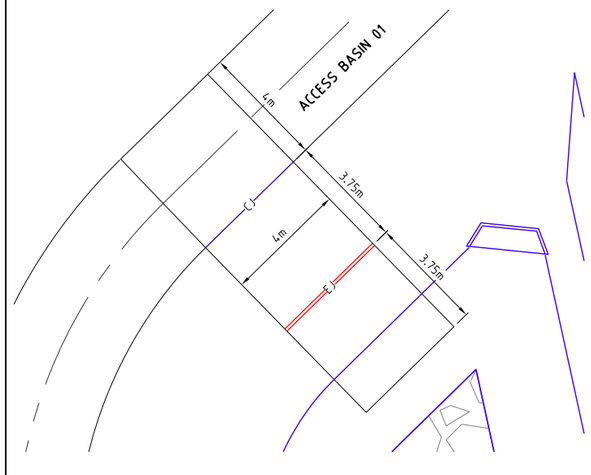


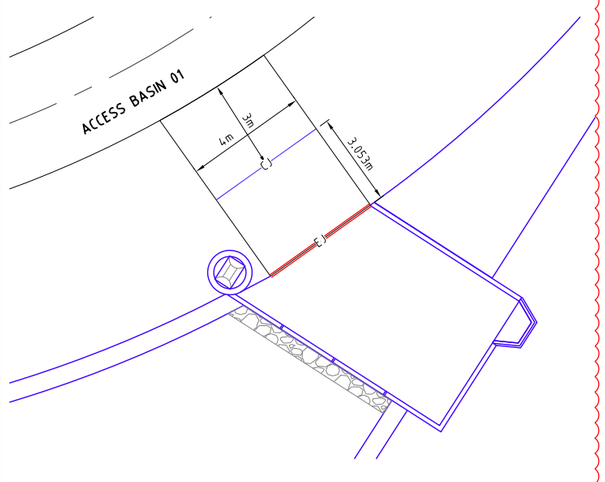




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
|---|---|---|---|
| B | 29-11-23 | JOINTING AMENDED, D.WAY ADDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

CONCRETE
JOINTING DETAILS
SHEET 02

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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-411 REV B

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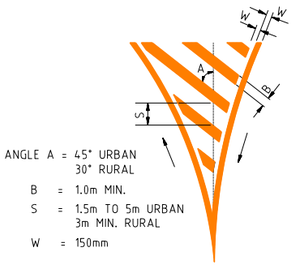
## NOTES

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



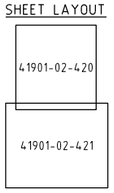

ANGLE A = 45° URBAN
30° RURAL
B = 1.0m MIN.
S = 1.5m TO 5m URBAN
3m MIN. RURAL
W = 150mm

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

SHEET LAYOUT




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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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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

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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
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ADJOINS SHEET 01

ACCESS BASIN 01

ROAD 03

G5-1

GIVE WAY

R1-2

D4-5 TEMPORARY HAZARD MARKER

ROAD 01

ROAD 02

ROAD 04

ROAD 06

STAGE 1

STAGE 2

STAGE 3

1005

1006

1007

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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LOT 188, 189, 190, 191 & 192 ON RP173728
COURTNEY DRIVE
LOCALITY OF UPPER COOMERA
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BENNETT + BENNETT

DRAWING TITLE

LINEMARKING & SIGNAGE
PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
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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

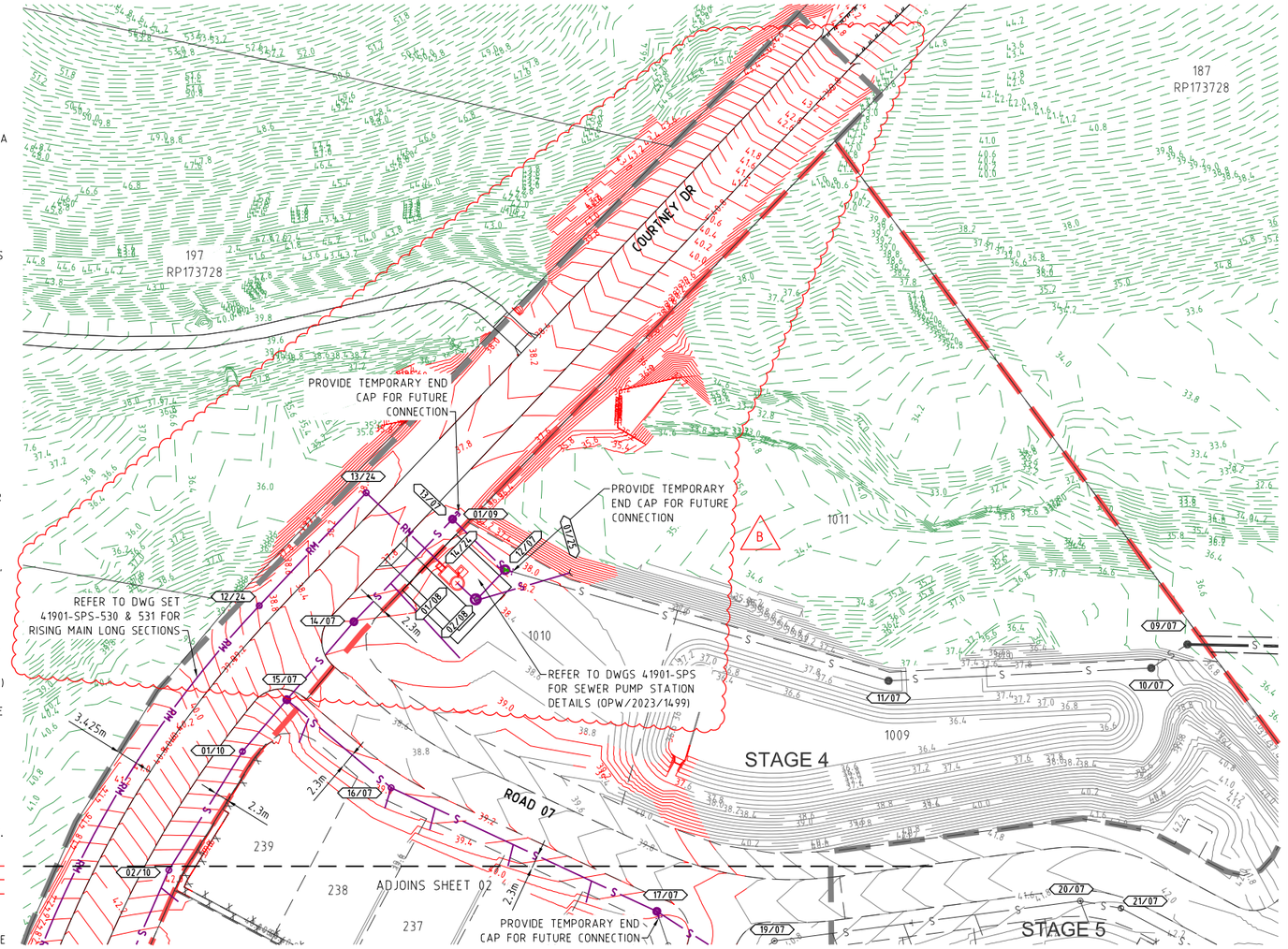
A. THE DESIGN & CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

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 DN160 PE (OR DN150 PVC) PROPERTY CONNECTION SHALL BE PROVIDED.
7. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
8. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300 mm & A MAXIMUM OF 750 mm. UNITYWATER REQUIRES MINIMUM EXTENSION OF 500 mm INTO PROPERTY.
9. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300 mm (LOOSE) IN DEPTH & SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S. 1289 (MODIFIED COMPACTION). TESTING SHALL BE CARRIED OUT AFTER EACH ALTERNATE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY THE SEQ SERVICE PROVIDER UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
10. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER,BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION & DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
12. SEWERS SHALL BE DISUSED /ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ SEWER CODE.
13. BENCH MARK & LEVELS TO AHD.
14. ~~THE EXISTING DWELLING ON LOT 3, REFER SEQ-SEW-1100, SERVED BY A SEPTIC SYSTEM, SHALL BE CONNECTED TO THE NEW SEWER BY A LICENCED PLUMBER IN ACCORDANCE WITH THE RELEVANT STATUTORY & COUNCIL REQUIREMENTS. THE SEPTIC SYSTEM, INCLUDING TRENCHES,SHALL BE REMOVED AT THE DEVELOPER'S COST. ALL FIXTURES SHALL BE UPGRADED IF REQUIRED BY PLUMBING CODE.~~ STANDARD NOTE NOT APPLICABLE & THEREFORE DELETED.
15. EXISTING ALLOTMENTS REQUIRING A PROPERTY CONNECTION FROM EXISTING SEWERS SHALL BE PROVIDED BY THE SEQ SERVICE PROVIDER AT THE DEVELOPERS COST.

## PROJECT SPECIFIC SEWER NOTES

a. ALL SEWER MAINS TO BE AS PER SEWER PIPE SPECIFICATIONS TABLE.
b. NOTWITHSTANDING THE STANDARD SEQ NOTES ABOVE, ALL MATERIALS & WORKS MUST BE IN ACCORDANCE WITH THE SERVICE PROVIDER'S APPROVAL CONDITIONS & THE SEQ WS&S D&C CODE.
c. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR SEWER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
d. THE CONTRACTOR TO PROVIDE CALCAREOUS CONCRETE WHERE SPECIFIED IN THE SEQ CODE BY THE RELEVANT AUTHORITY.
e. WATER & ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENT'S INSTRUCTION
f. ALL BENDS TO BE LONG RADIUS BEND TO MEET MANUFACTURER'S MINIMUM RADIUS REQUIREMENTS U.N.O.
g. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF WORKS ON-SITE.
h. PROPERTY CONNECTIONS HAVE BEEN DESIGNED TO CONTROL THE REQUIRED SERVICE AREA OF EACH LOT AT A GRADE OF 1:60 & A MAXIMUM DEPTH OF PROPERTY CONNECTION AT 1.5m. UNLESS OTHERWISE STATED.
i. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.



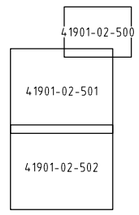

ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

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### SEWER PIPE SPECIFICATIONS

| SEWER MAIN LOCATION | PIPE MATERIAL SPECIFICATION |
|---|---|
| GRAVITY VERGE | PVC-U SN8 |
| GRAVITY ROAD CROSSING | PVC-U SN8 |
| HOUSE CONNECTIONS | PVC-U SN10 |
| RISING MAIN TRENCHED | PE100 PN16 SDR11 |
| | |

SHEET LAYOUT




### 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

### 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 | Alteration to existing MH benching required (y/n) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1(A) | PLUG EXISTING STUB FROM MH 10/03 CIVIL CONTRACTOR TO LAY NEW LINE 24 AFTER TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE AND PROVIDE ALL NECESSARY DOCUMENTATION. | 150 | 10/03 | Stub from receiving MH | B | - | 56.824 | 56.824 | 55.383 | 1.440 | N |
| 1(B) | CONTRACTOR TO MAKE LIVE CONNECTIONS UNDER SUPERVISION OF GOLD COAST WATER AND WASTE. AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION. | | | | | | | | | | |
| 2(A) | PLUG EXISTING STUB FROM MH 01/20 CIVIL CONTRACTOR TO LAY NEW LINE 20 AFTER TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE AND PROVIDE ALL NECESSARY DOCUMENTATION. | 150 | 01/20 | Stub from MH | B | - | 62.106 | 62.106 | 60.304 | 1.803 | N |
| 2(B) | CONTRACTOR TO MAKE LIVE CONNECTIONS UNDER SUPERVISION OF GOLD COAST WATER AND WASTE. AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION. | | | | | | | | | | |
| 3(A) | PLUG EXISTING STUB FROM MH 01/20 CIVIL CONTRACTOR TO LAY NEW LINE 21 AFTER TESTING AND INSPECTING, NOTIFY GOLD COAST WATER AND WASTE AND PROVIDE ALL NECESSARY DOCUMENTATION. | 150 | 01/20 | Stub from MH | B | - | 62.106 | 62.106 | 60.3843 | 1.723 | N |
| 3(B) | CONTRACTOR TO MAKE LIVE CONNECTIONS UNDER SUPERVISION OF GOLD COAST WATER AND WASTE. AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION. | | | | | | | | | | |

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 29-11-23 | NOTES ADDED & CONTOURS AMENDED | BL |
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ASSOCIATED CONSULTANTS

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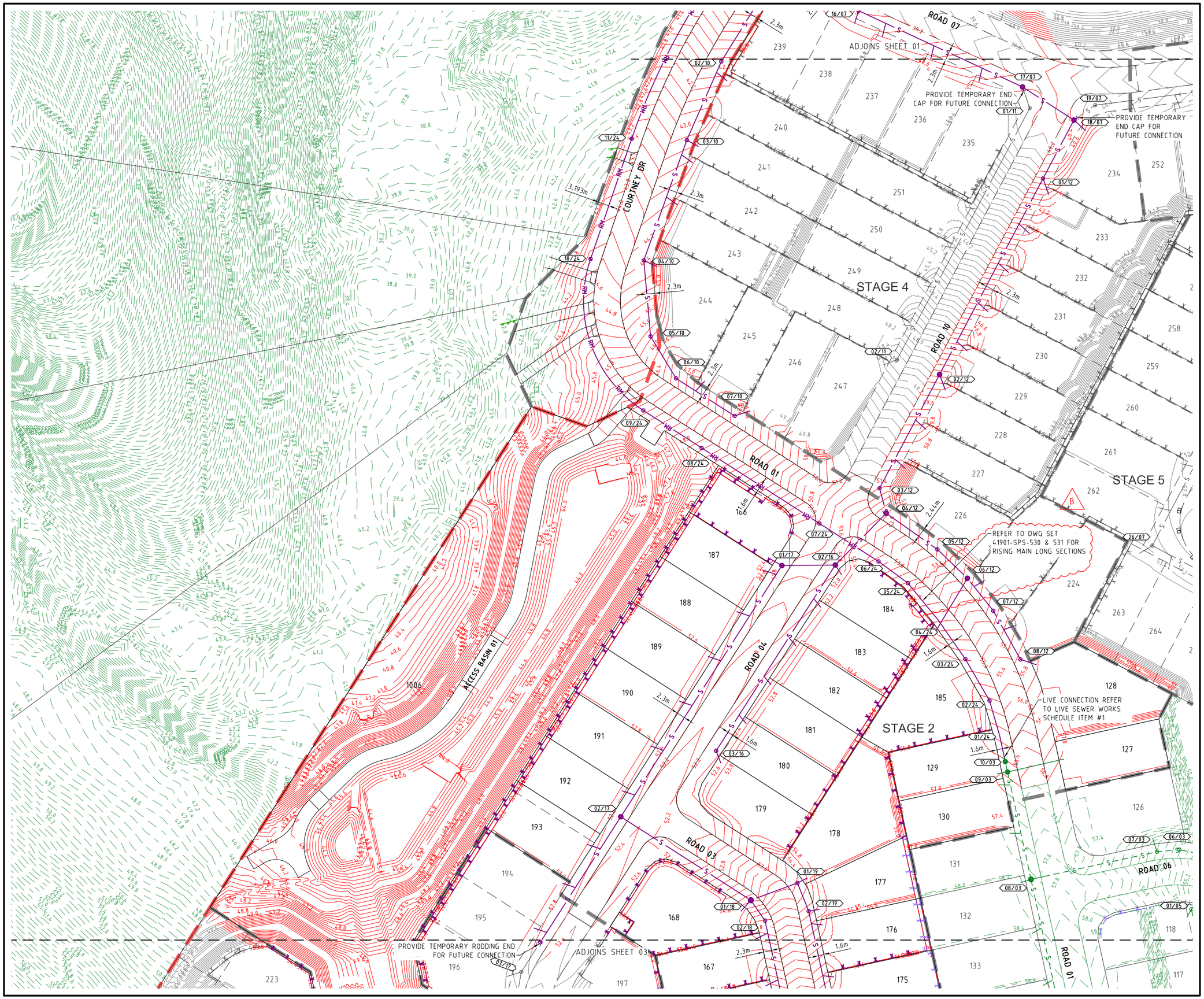
SEWER RETICULATION PLAN
SHEET 01

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

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SEWER RETICULATION PLAN
SHEET 02

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| 41901-02-501 | B |

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ADJOINS SHEET 02

PROVIDE TEMPORARY RODDING END FOR FUTURE CONNECTION

LIVE CONNECTION REFER TO LIVE SEWER WORKS SCHEDULE ITEM #3

LIVE CONNECTION REFER TO LIVE SEWER WORKS SCHEDULE ITEM #2

ROAD 01

ROAD 02

ROAD 03

ROAD 04

STAGE 1

STAGE 2

STAGE 3

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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DRAWING TITLE

SEWER RETICULATION
PLAN
SHEET 03

MORTONS urbansolutions
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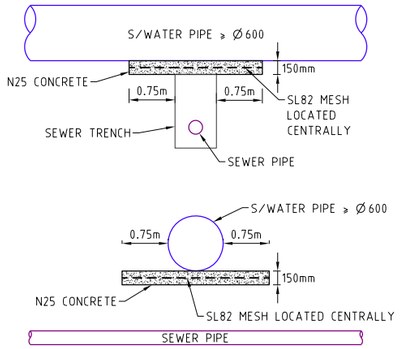
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-502

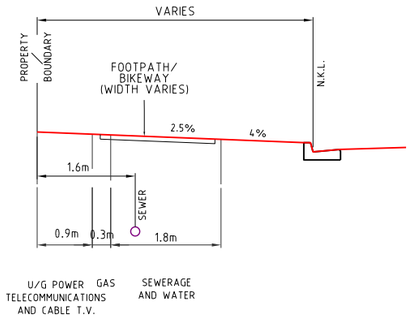
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## BRIDGING DETAILS FOR STORMWATER PIPES ≥ Ø600

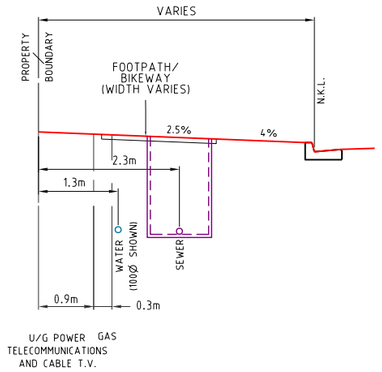
NOT TO SCALE




## 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 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION 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
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 | 13-10-23 |

DRAWING NUMBER: 41901-02-510
REV: 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<br>REFER TO SEQ STD DWG SEQ-SEW-1300-1 |
| A | TYPE 'A' 1050mm DIA. MAINTENANCE STRUCTURE<br>REFER TO SEQ STD DWGS SEQ-SEW-1307-1 |
| B | TYPE 'B' 1200mm DIA. MAINTENANCE STRUCTURE<br>REFER TO SEQ STD DWGS SEQ-SEW-1307-1 |
| C | TYPE 'C' 1500mm DIA. MAINTENANCE STRUCTURE<br>REFER TO SEQ STD DWGS SEQ-SEW-1307-1 |
| J1 | TYPE 'J1' MAINTENANCE STRUCTURE<br>REFER TO SEQ STD DWGS SEQ-SEW-1314-2 |
| BND | BEND<br>REFER TO SEQ STD DWGS SEQ-SEW-1314-3 |
| RE | RODDING END MAINTENANCE STRUCTURE<br>REFER TO SEQ STD DWGS SEQ-SEW-1314-1 |
| END | PROPRIETORY END CAP |
| PS | SEWER PUMP STATION<br>REFER TO RELEVANT SEQ STD DWGS |
| RCM | RECEIVING MAINTENANCE STRUCTURE<br>REFER TO RELEVANT SEQ STD SEWER PUMP STATION DWGS |
| G6 | TYPE 'G6' TERMINAL MAINTENANCE SHAFT<br>REFER TO SEQ STD DWGS SEQ-SEW-1314-1 |

## RIGS STRUCTURE DROPS

| | |
|---|---|
| V | STRAIGHT THROUGH SEWER<br>REFER TO SEQ STD DWG SEQ-SEW-1303-1 |
| W | OBLIQUE BACKDROP<br>REFER TO SEQ STD DWG SEQ-SEW-1303-1 |
| X | INTERNAL BACKDROP<br>REFER TO SEQ STD DWG SEQ-SEW-1303-1 |
| Y | EXTERNAL BACKDROP<br>REFER TO SEQ STD DWG SEQ-SEW-1303-1 |

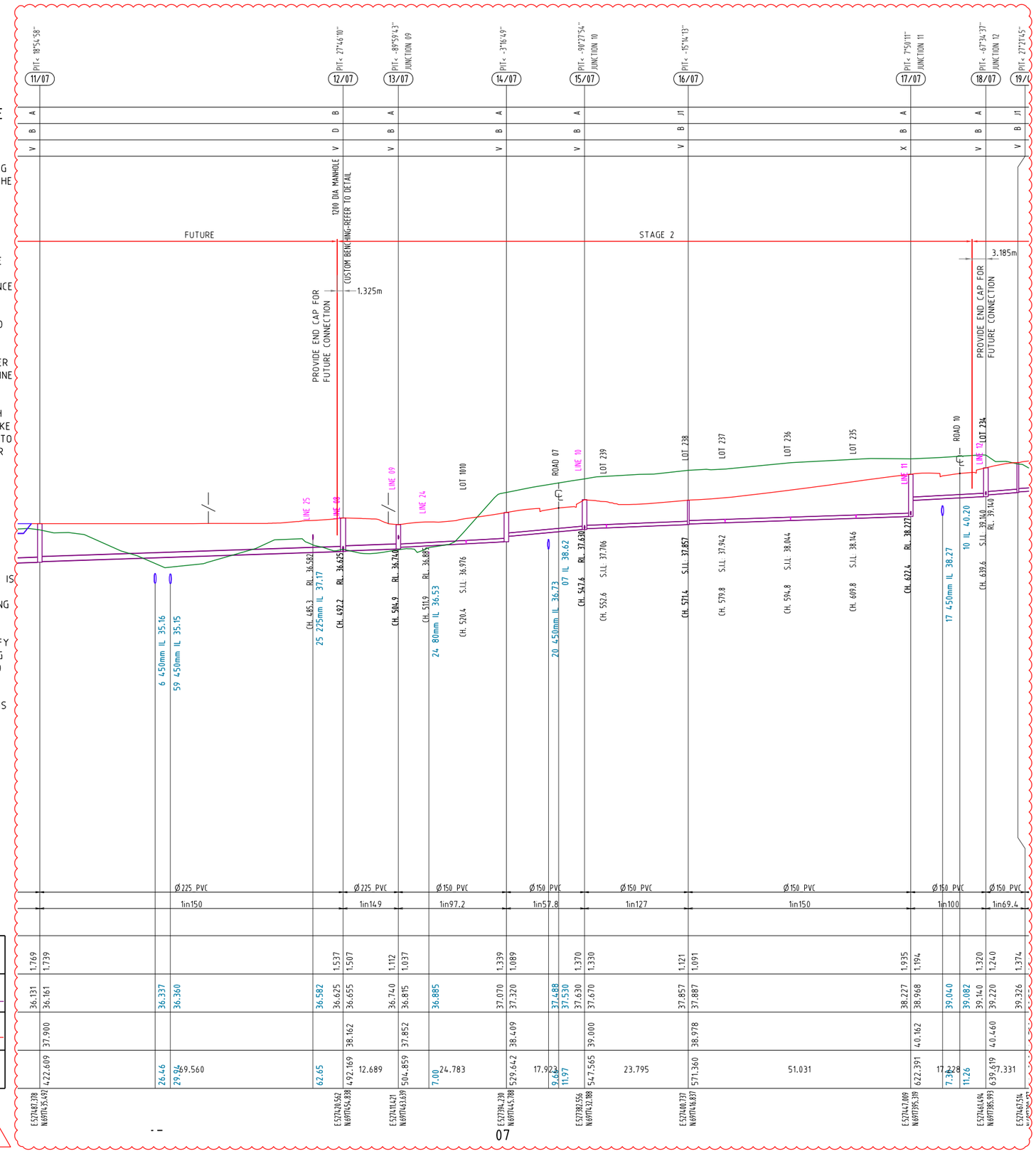
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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




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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 17-01-24 | PROFILE AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
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MUS Pty Ltd T/As:
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Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-530
REV B

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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

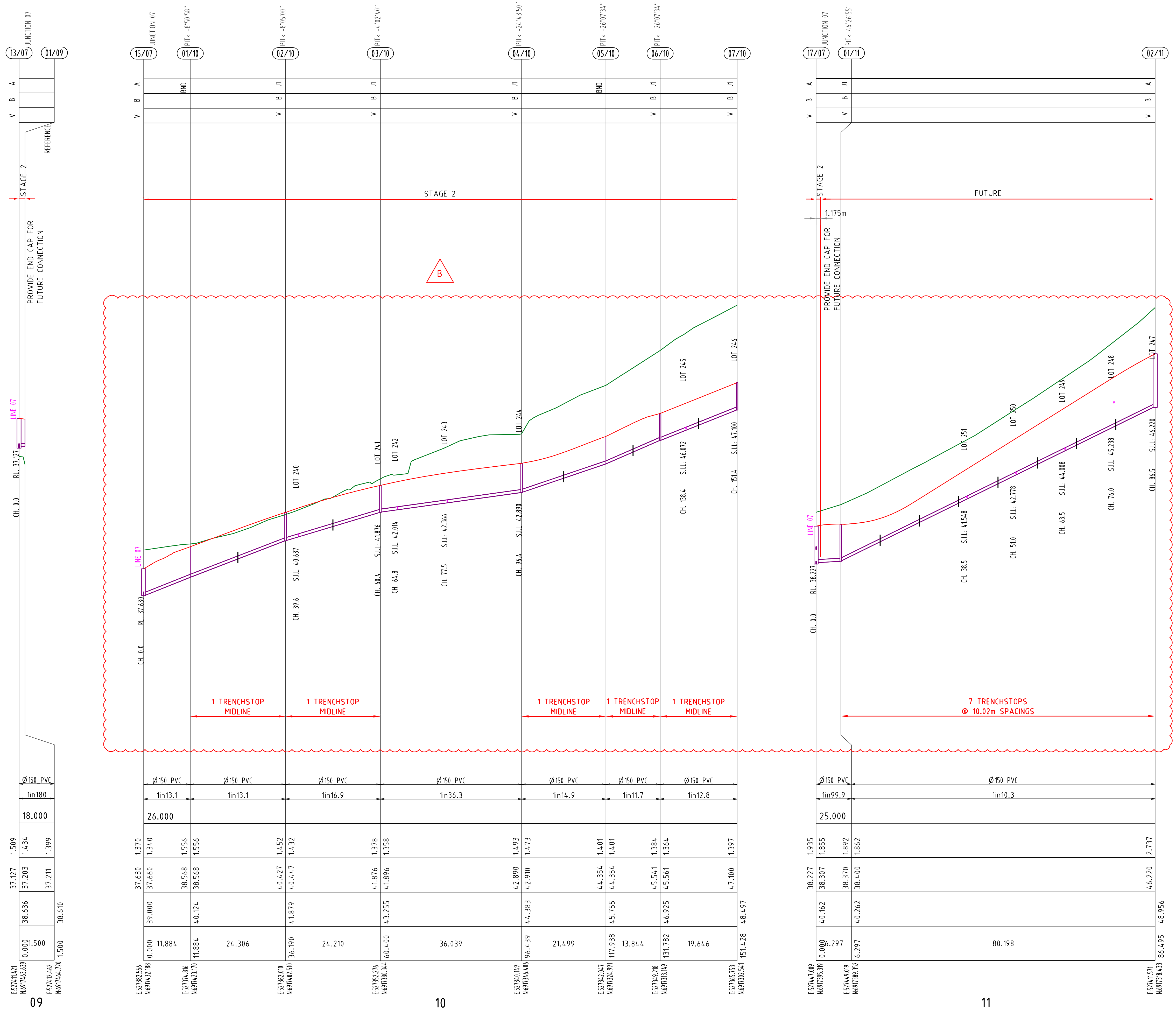
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2. ALL GRAVITY uPVC SEWER PIPE TO BE CLASS SN8 U.N.O.
3. ALL PRESSURE MAINS PE100 PN16 SDR11
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6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
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8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1

PIPE DIAMETER (mm)
PIPE GRADE
DATUM R.L.

DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
CHAINAGE

LINE NO.





PROJECT NAME
COURTNEY DR UPPER COOMERA
STAGE 02
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 | 29-11-23 | TRENCH STOPS ADDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |


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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


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


| DESIGNED RB | DRAWN EP |
|---|---|
| APPROVED | RPEQ 4706 · DATE 13-10-23 |

DRAWING NUMBER 41901-02-531 REV B


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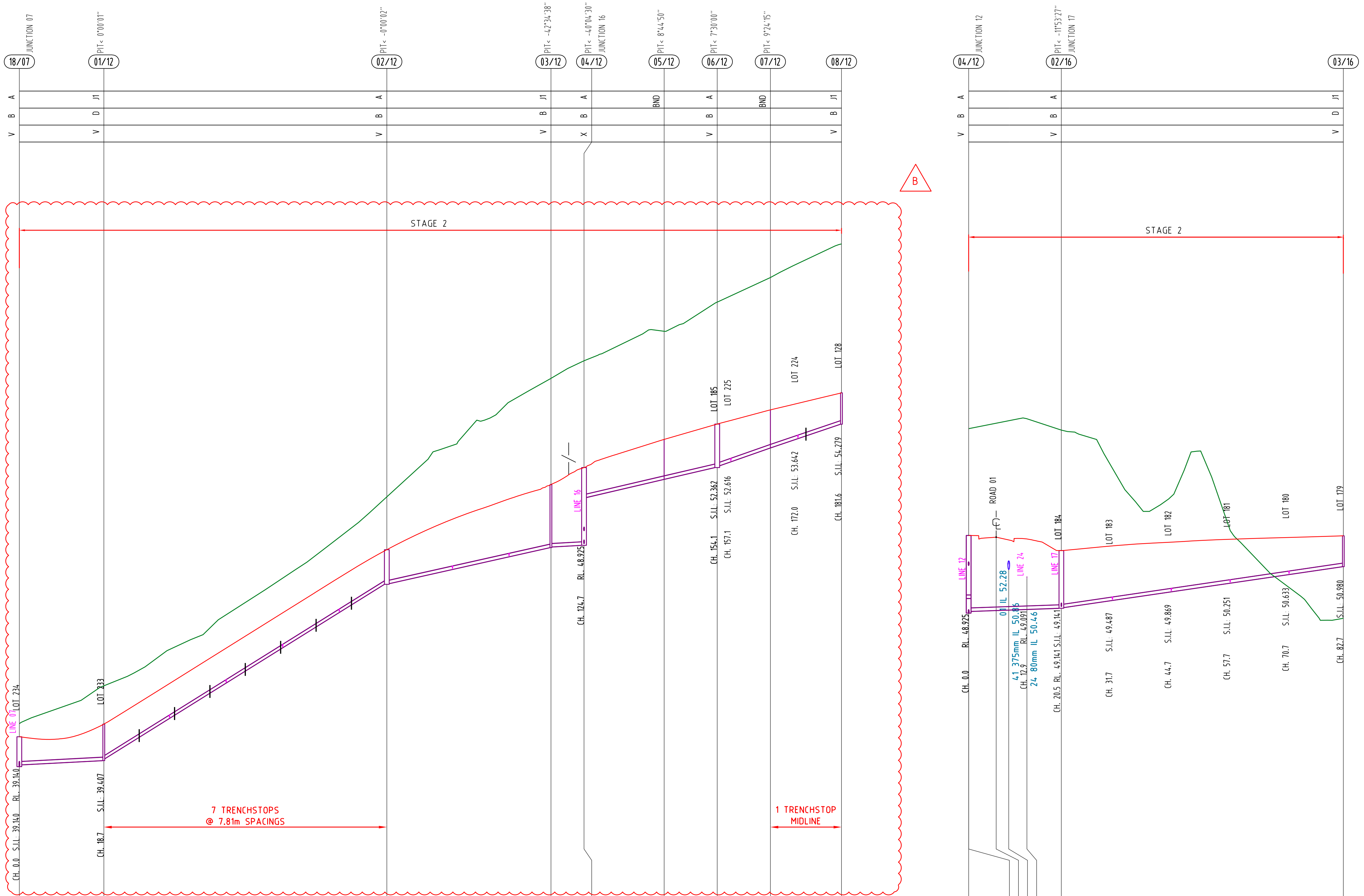
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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

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8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1




PIPE DIAMETER (mm)
PIPE GRADE
DATUM R.L.

**LINE NO. 12** (DATUM R.L. 31.000)

| Structure | Depth to invert | Pipe invert levels | Design surface levels | Chainage | Coordinates |
|---|---|---|---|---|---|
| 18/07 | 1.320 / 1.240 | 39.140 / 39.220 | 40.460 | 0.000 | E:527461.494 N:6917385.993 |
| Ø150 PVC, 1in100 | | | | 18.657 | |
| 01/12 | 1.614 / 1.534 | 39.407 / 39.487 | 41.021 | 18.657 | E:527452.782 N:6917369.495 |
| Ø150 PVC, 1in8.1 | | | | 62.500 | |
| 02/12 | 1.529 / 1.499 | 47.200 / 47.230 | 48.729 | 81.157 | E:527423.598 N:6917314.227 |
| Ø150 PVC, 1in22.8 | | | | 36.250 | |
| 03/12 | 2.786 / 2.756 | 48.821 / 48.851 | 51.608 | 117.407 | E:527406.671 N:6917282.171 |
| Ø150 PVC, 1in100.0 | | | | 7.315 | |
| 04/12 | 3.435 / 1.321 | 48.925 / 51.039 | 52.359 | 124.723 | E:527408.533 N:6917275.097 |
| Ø150 PVC, 1in22.1 | | | | 17.686 | |
| 05/12 | 1.766 / 1.766 | 51.840 / 51.840 | 53.606 | 142.409 | E:527422.988 N:6917264.906 |
| Ø150 PVC, 1in22.5 | | | | 11.733 | |
| 06/12 | 1.922 / 1.842 | 52.362 / 52.442 | 54.285 | 154.142 | E:527431.438 N:6917256.766 |
| Ø150 PVC, 1in14.9 | | | | 11.733 | |
| 07/12 | 1.680 / 1.680 | 53.230 / 53.230 | 54.910 | 165.874 | E:527438.753 N:6917247.593 |
| Ø150 PVC, 1in15.0 | | | | 15.705 | |
| 08/12 | 1.384 | 54.279 | 55.663 | 181.579 | E:527446.406 N:6917233.879 |

**LINE NO. 16** (DATUM R.L. 34.000)

| Structure | Depth to invert | Pipe invert levels | Design surface levels | Chainage | Coordinates |
|---|---|---|---|---|---|
| 04/12 | 3.435 / 2.784 | 48.925 / 49.575 | 52.359 | 0.000 | E:527408.533 N:6917275.097 |
| Ø150 PVC, 1in0.0 | 2.784 | 49.575 | | | |
| Ø150 PVC, 1in150 | 3.435 / 3.355 | 48.925 / 49.005 / 49.063 / 49.091 | 52.359 | 0.000 / 6.08 / 8.85 / 12.88 / 20.473 | |
| 02/16 | 2.549 / 2.519 | 49.141 / 49.171 | 51.690 | 20.473 | E:527394.165 N:6917260.513 |
| Ø150 PVC, 1in34.4 | | | | 62.274 | |
| 03/16 | 1.363 | 50.980 | 52.343 | 82.747 | E:527360.540 N:6917208.097 |

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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 | 17-01-24 | TEXT ADDED & TRENCHSTOPS AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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

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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 13-10-23

DRAWING NUMBER 41901-02-532 | REV B

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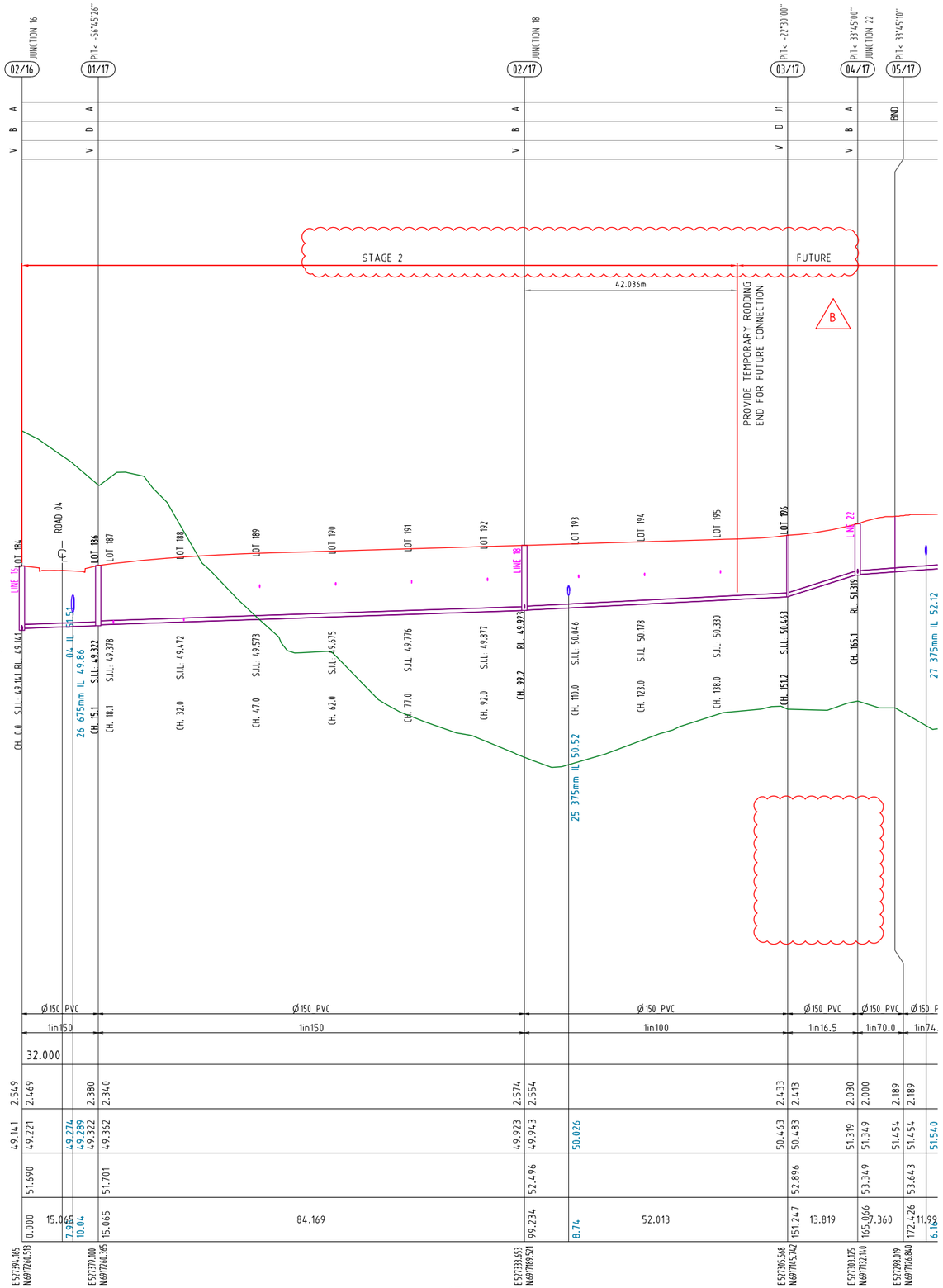
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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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6. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK
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8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1




LINE NO.



PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 17-01-24 | TEXT ADDED & TRENCHSTOPS REMOVED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-533
REV B

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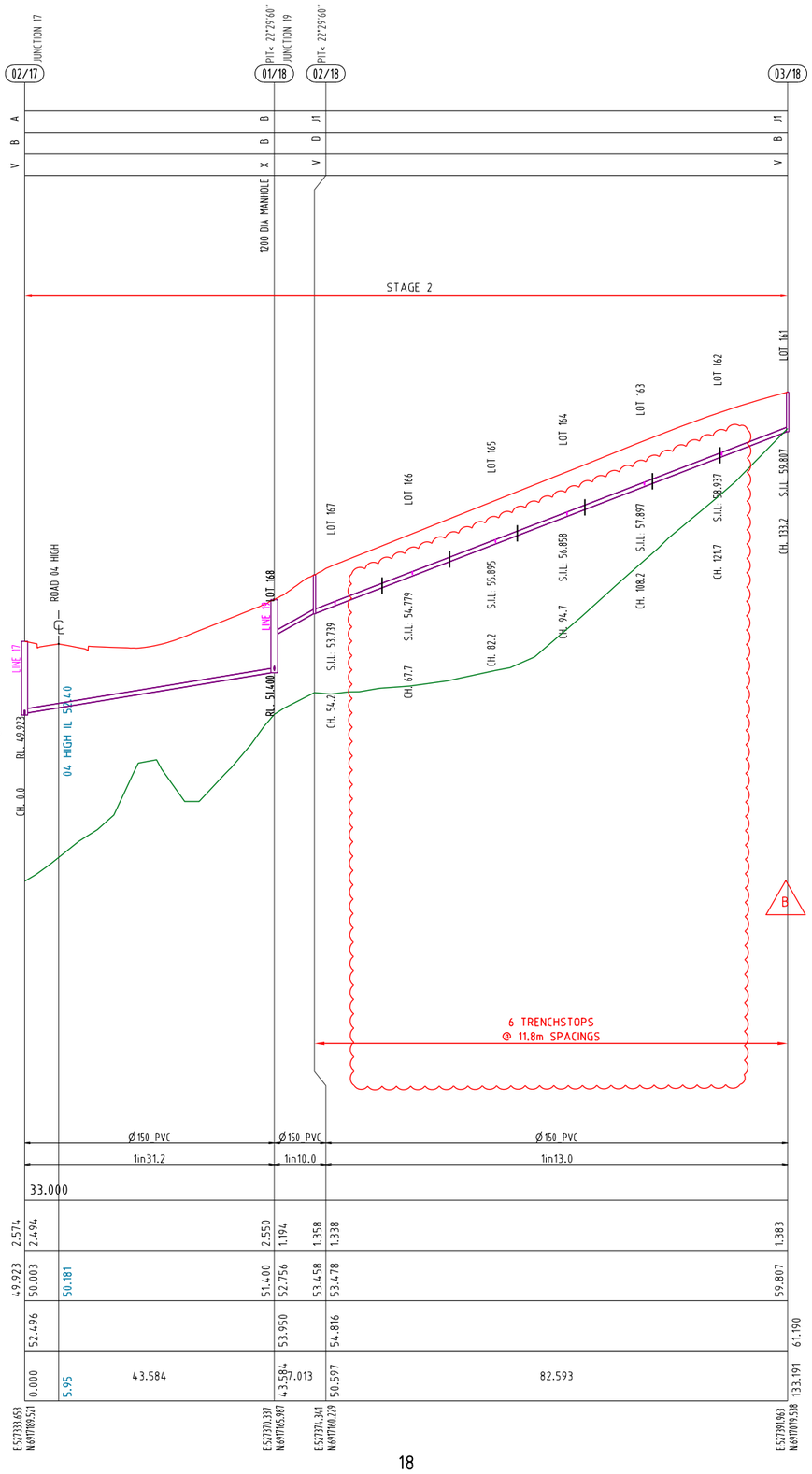
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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

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8. TRENCHSTOPS IN ACCORDANCE WITHSEQ-WAT-1209-1




| | | | |
|---|---|---|---|
| PIPE DIAMETER (mm) | Ø150 PVC | Ø150 PVC | Ø150 PVC |
| PIPE GRADE | 1in31.2 | 1in10.0 | 1in13.0 |
| DATUM R.L. | 33.000 | | |
| DEPTH TO INVERT | 2.574 / 2.494 | 2.550 / 1.194 | 1.358 / 1.338 / 1.383 |
| PIPE INVERT LEVELS | 49.923 / 50.003 | 51.400 / 52.756 | 53.458 / 53.478 / 59.807 |
| | 50.181 | | |
| DESIGN SURFACE LEVELS | 52.496 | 53.950 | 54.816 |
| CHAINAGE | 0.000 / 5.95 | 43.584 / 43.584 | 57.013 / 50.597 / 82.593 / 133.191 |
| | E 527333.653 N 6917789.521 | E 527370.337 N 6917765.987 | E 527374.341 N 6917760.229 / E 527391.963 N 6917079.538 |
| LINE NO. | | 18 | |

| | | | |
|---|---|---|---|
| PIPE DIAMETER (mm) | Ø150 PVC | Ø150 PVC | |
| PIPE GRADE | 1in100.0 | 1in100.0 | |
| DATUM R.L. | 46.000 | | |
| DEPTH TO INVERT | 2.099 / 2.019 | 1.803 / 1.723 | 1.353 |
| PIPE INVERT LEVELS | 60.098 / 60.178 | 60.252 / 60.304 | 60.384 / 60.631 |
| | | 60.304 | |
| DESIGN SURFACE LEVELS | 62.197 | | 62.106 |
| CHAINAGE | 0.000 / 12.600 | 7.33 | 12.600 / 24.742 / 37.342 |
| | E 527379.810 N 6917088.485 | E 527368.668 N 6917114.368 | E 527352.457 N 6916995.677 / 61.984 |
| LINE NO. | | 20 | |

| | | | |
|---|---|---|---|
| PIPE DIAMETER (mm) | Ø150 PVC | | |
| PIPE GRADE | 1in44.5 | | |
| DATUM R.L. | 45.000 | | |
| DEPTH TO INVERT | 1.803 / 1.723 | 1.358 | |
| PIPE INVERT LEVELS | 60.304 / 60.384 | 60.925 | |
| DESIGN SURFACE LEVELS | 62.106 | 62.283 | |
| CHAINAGE | 0.000 | 24.093 | |
| | E 527368.668 N 6917114.368 | E 527379.918 N 6917035.673 / 24.093 | |
| LINE NO. | | 21 | |

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | INIT |
|---|---|---|---|
| B | 17-01-24 | TRENCHSTOPS AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 05

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Southport QLD 4215

| | | | |
|---|---|---|---|
| DESIGNED | RB | DRAWN | EP |
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-534
REV B

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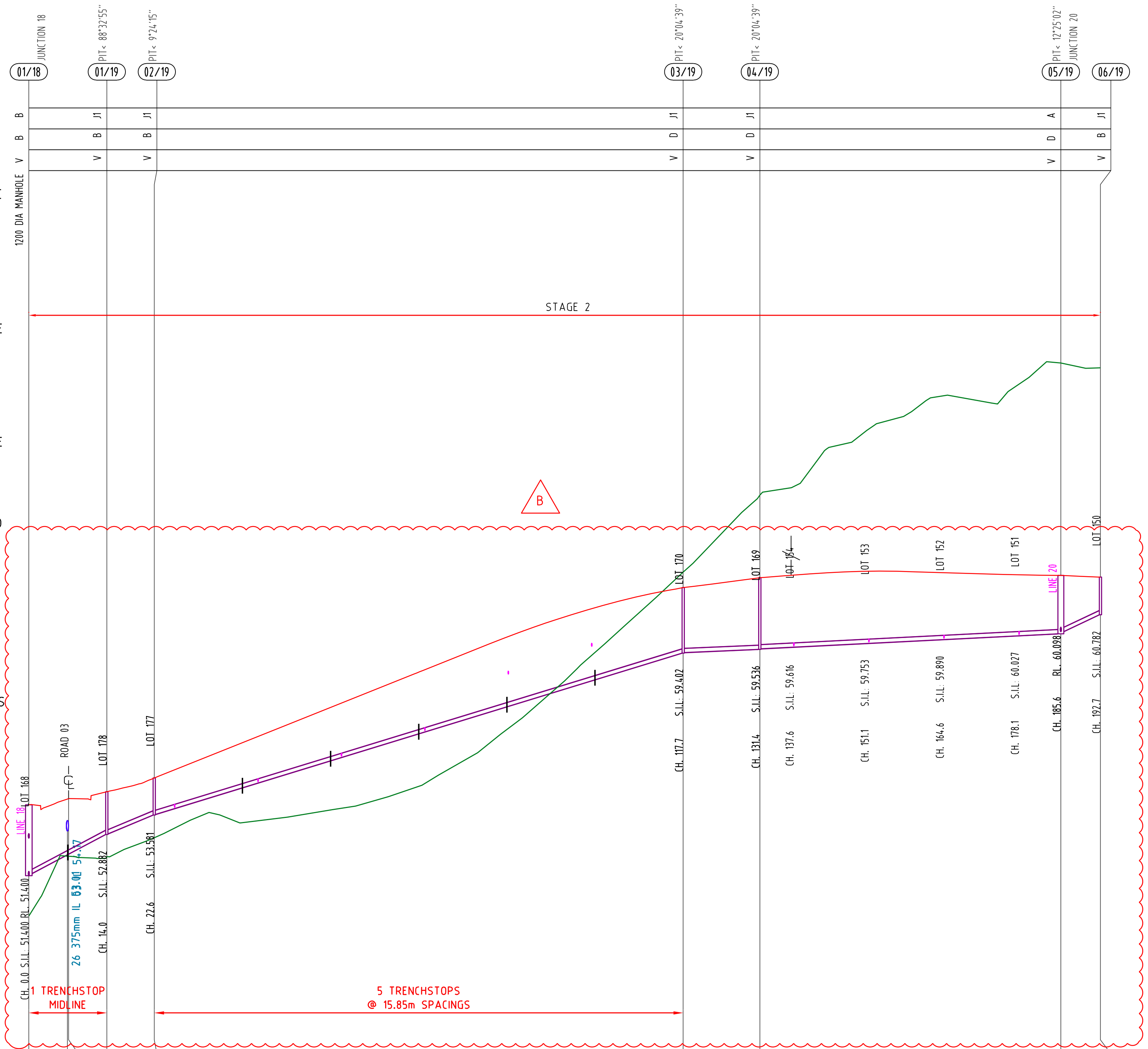
STRUCTURE TYPE
LID CLASS
DROP TYPE

* 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




| | 01/18 to 01/19 | 01/19 to 02/19 | 02/19 to 03/19 | 03/19 to 04/19 | 04/19 to 05/19 | 05/19 to 06/19 |
|---|---|---|---|---|---|---|
| PIPE DIAMETER (mm) | Ø150 PVC | Ø150 PVC | Ø150 PVC | Ø150 PVC | Ø150 PVC | Ø150 PVC |
| PIPE GRADE | 1in10.0 | 1in12.6 | 1in16.4 | 1in120 | 1in100.0 | 1in11.8 |
| LENGTH | 14.024 | 8.534 | 95.104 | 13.787 | 54.120 | 7.119 |

DATUM R.L. 41.000

| | 01/18 | Crossing | 01/19 | 02/19 | 03/19 | 04/19 | 05/19 | 06/19 |
|---|---|---|---|---|---|---|---|---|
| DEPTH TO INVERT | 2.550 / 2.470 | | 1.539 / 1.519 | 1.333 / 1.313 | 2.356 / 2.336 | 2.577 / 2.557 | 2.099 / 2.019 | 1.354 |
| PIPE INVERT LEVELS | 51.400 / 51.480 | 52.153 / 52.175 | 52.882 / 52.902 | 53.581 / 53.601 | 59.402 / 59.422 | 59.536 / 59.556 | 60.098 / 60.178 | 60.782 |
| DESIGN SURFACE LEVELS | 53.950 | | 54.421 | 54.914 | 61.758 | 62.114 | 62.197 | 62.135 |
| CHAINAGE | 0.000 | 6.95 / 7.15 | 14.024 | 22.559 | 117.663 | 131.450 | 185.570 | 192.688 |
| COORDINATES | E:527370.337 N:6917165.987 | | E:527383.493 N:6917170.846 | E:527386.651 N:6917162.918 | E:527406.942 N:6917070.003 | E:527405.081 N:6917056.343 | E:527379.810 N:6917008.485 | E:527375.210 N:6917003.052 |

LINE NO. 19

PROJECT NAME
COURTNEY DR UPPER COOMERA
STAGE 02

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 | 17-01-24 | TRENCHSTOPS AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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

DRAWING TITLE
SEWER RETICULATION PROFILES SHEET 06

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Southport QLD 4215

DESIGNED RB | DRAWN EP
APPROVED (signature) | RPEQ 4706 | DATE 13-10-23
DRAWING NUMBER 41901-02-535 | REV B

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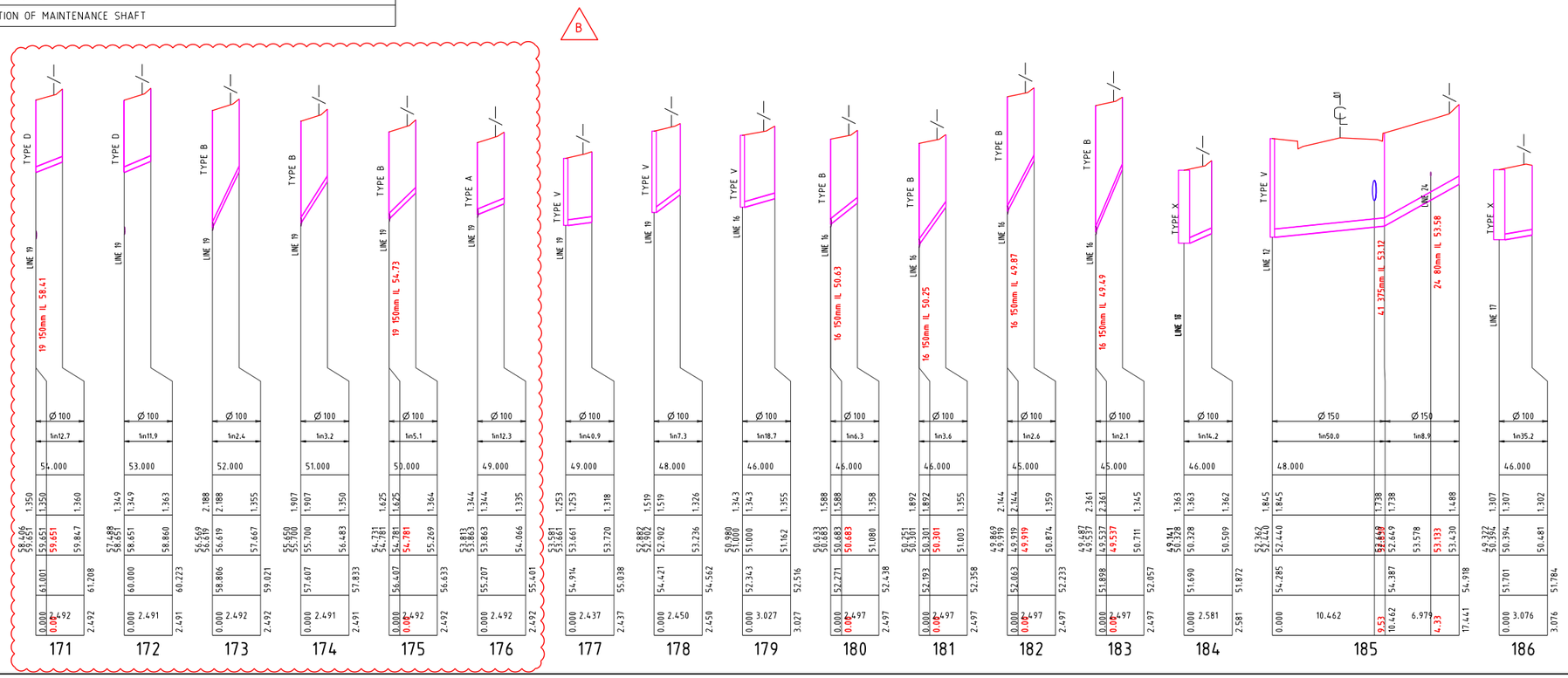
## RIGS STRUCTURE DROPS

| | |
|---|---|
| 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 |

**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.

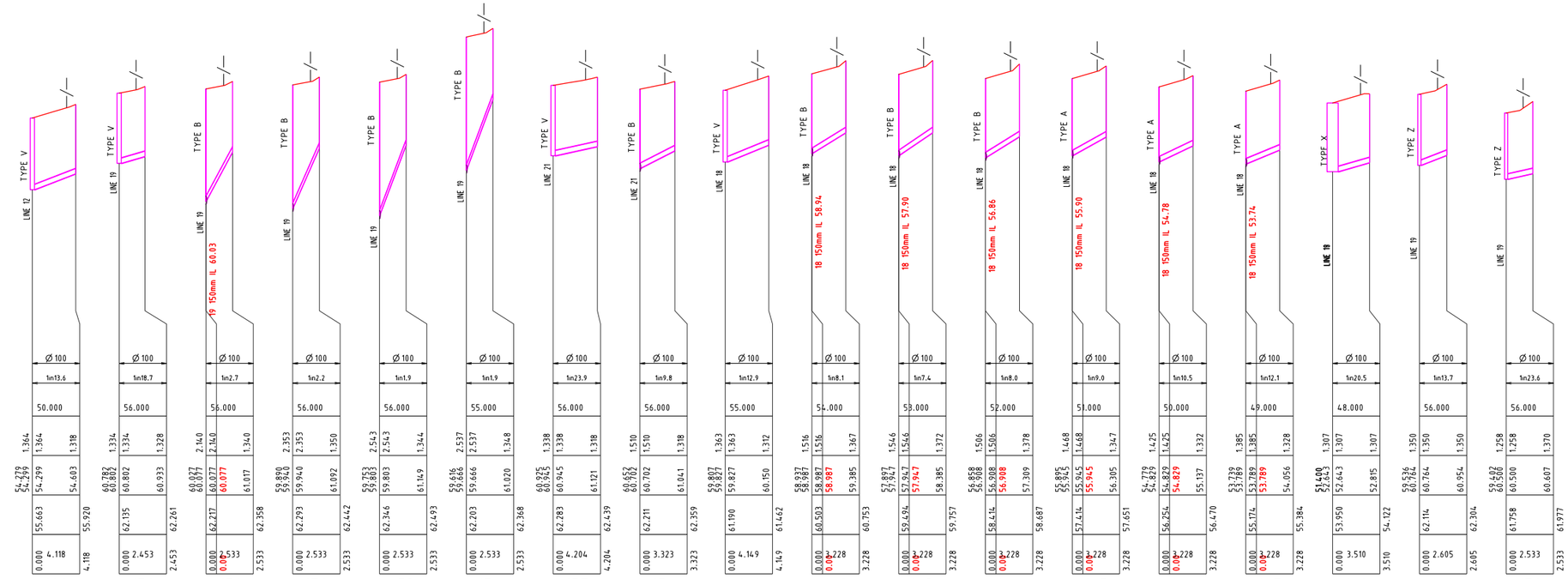
2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE




**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




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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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

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

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

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| B | 27-11-23 | HOUSE CONNECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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

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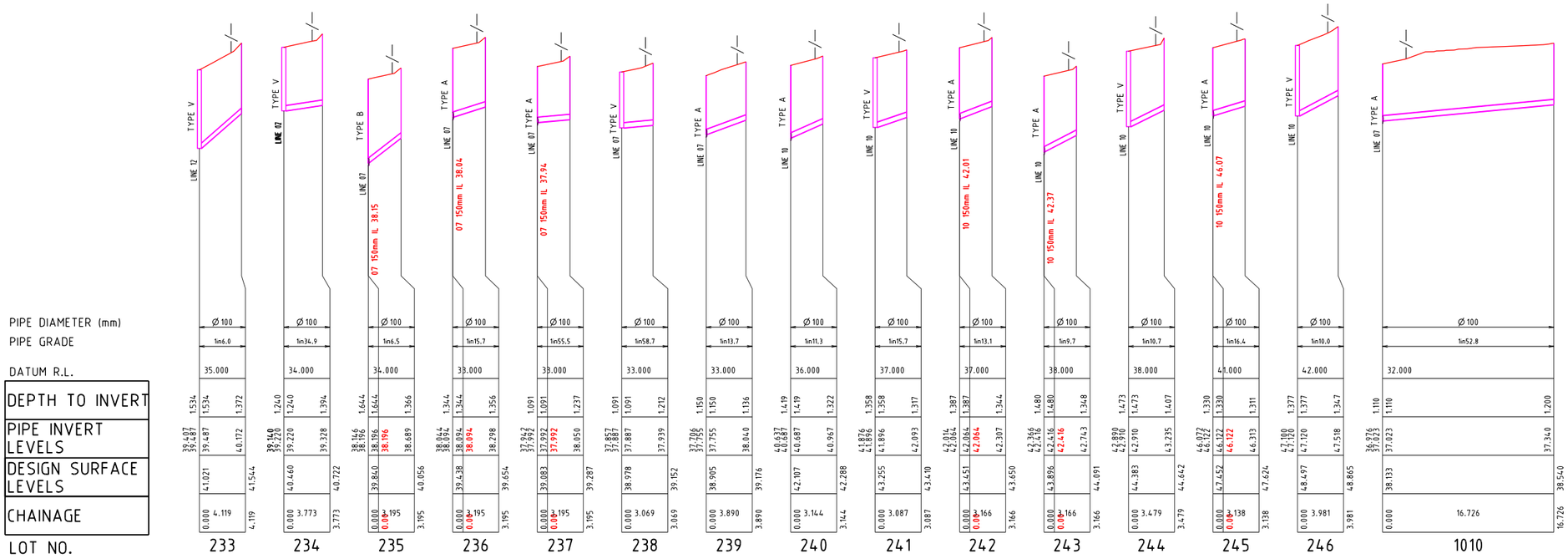
Postal Address
PO Box 2484
Southport QLD 4215

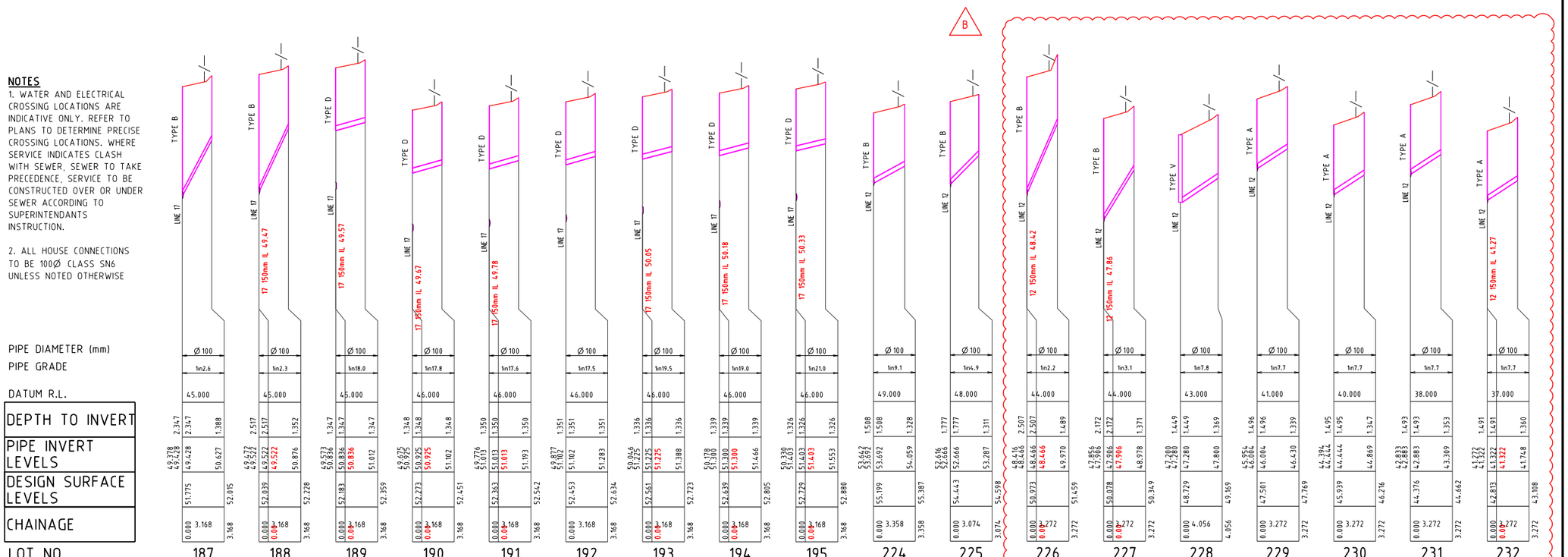
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Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-550 REV B

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| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| B | 27-11-23 | HOUSE CONNECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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)

ASSOCIATED CONSULTANTS

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

DRAWING TITLE

SEWER RETICULATION
HOUSE CONNECTION
PROFILES
SHEET 02

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Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-551 REV B

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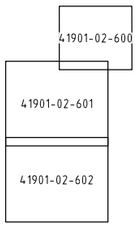
## STORMWATER

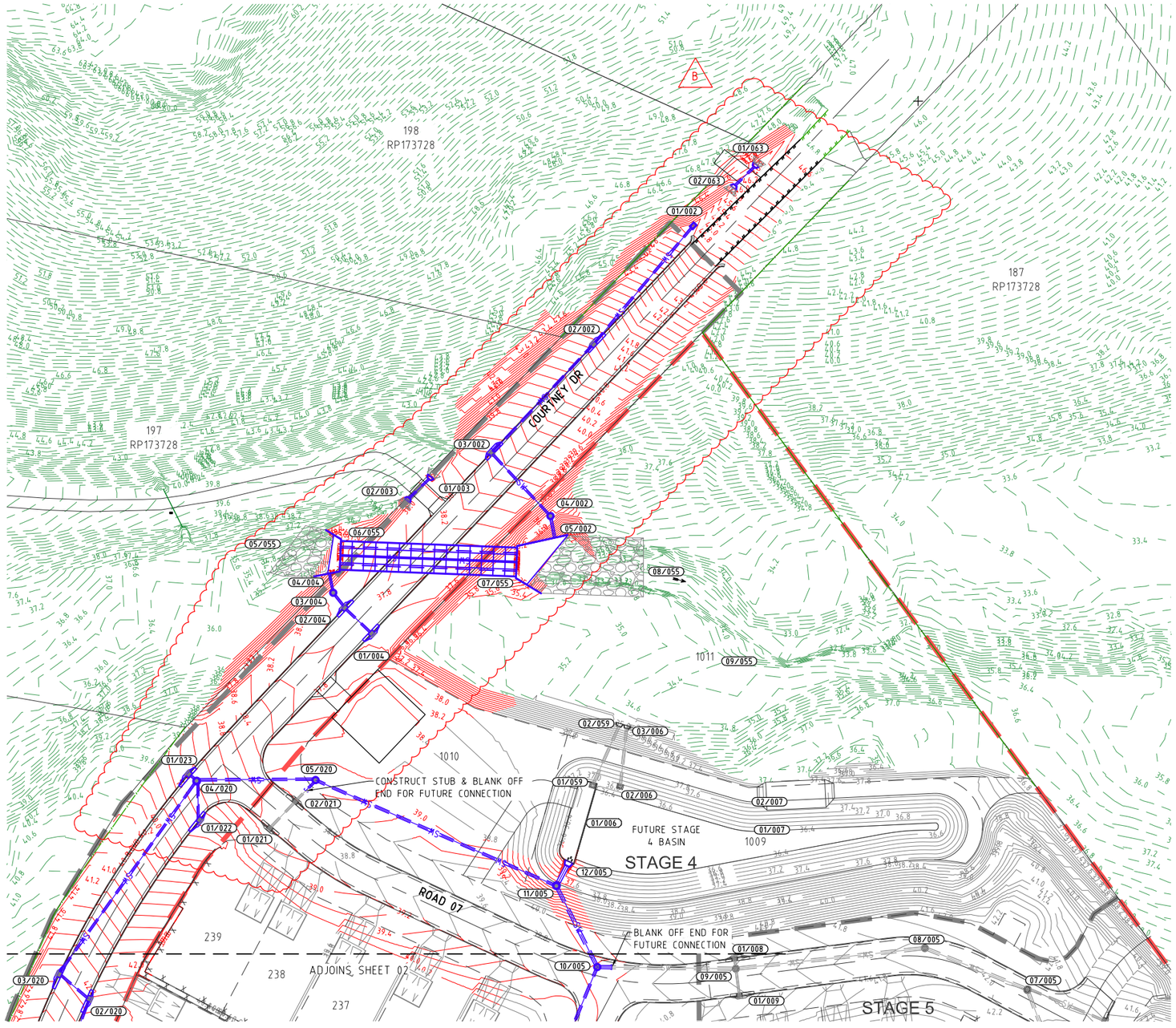
1. ALL FIELD GULLIES SHALL CONTAIN A 150mm DIA STUB 600mm BELOW GRADE LEVEL FOR FUTURE ROOFWATER DRAINAGE.
2. MANHOLES TO BE IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING No DS-010, DS-015, DS-018, DS-019, DS-020, DS-021 OR STRUCTURAL DRAWINGS (STRUCTURAL DRAWINGS TAKE PRECEDENCE).
3. OUTLET HEADWALLS TO 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

## SHEET LAYOUT




## 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.

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 15-01-24 | CONTOURS & STORMWATER AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER DRAINAGE PLAN SHEET 01

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Civil Engineering
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PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-600 | B |

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ADJOINS SHEET 01

ADJOINS SHEET 03

COURTNEY DR

ROAD 01

ROAD 02

ROAD 03

ROAD 04

ROAD 06

ROAD 07

ROAD 10

ACCESS BASIN 01

STAGE 2

STAGE 4

STAGE 5

BLANK OFF END FOR FUTURE CONNECTION

BLANK OFF END FOR FUTURE CONNECTION. PIT & LINTEL TO BE CONSTRUCTED AS PART OF FUTURE WORKS.

BLANK OFF END. LINTEL TO BE CONSTRUCTED AS PART OF FUTURE WORKS.

BIORETENTION BASIN A2b REFER TO DETAILS ON DWG 41901-02-660

BIORETENTION BASIN A2b FILTER MEDIA= 290m²

BIORETENTION BASIN A DETENTION VOLUME= 1966m³

BIORETENTION BASIN A2a REFER TO DETAILS ON DWG 41901-02-661

BIORETENTION BASIN A2a FILTER AREA = 290m²

4m WIDE GRAVEL MAINTENANCE ACCESS

15m WIDE HIGHFLOW WEIR

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | BASIN STORMWATER AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER
DRAINAGE
PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-601 | B |

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BLANK OFF END. LINTEL TO BE CONSTRUCTED AS PART OF FUTURE WORKS.

ADJOINS SHEET 02

LOCALISED EARTHWORKS IN THIS AREA TO MAINTAIN CHANNEL PROFILE THROUGH ROAD 02. STORMWATER CULVERT TO BE INSTALLED AS PART OF STAGE 3 WORKS.

STAGE 3

STAGE 2

STAGE 1

ROAD 01

ROAD 02

ROAD 03

ROAD 04

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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

ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER DRAINAGE PLAN SHEET 03

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Civil Engineering
Project Coordination

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Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-602 | A |

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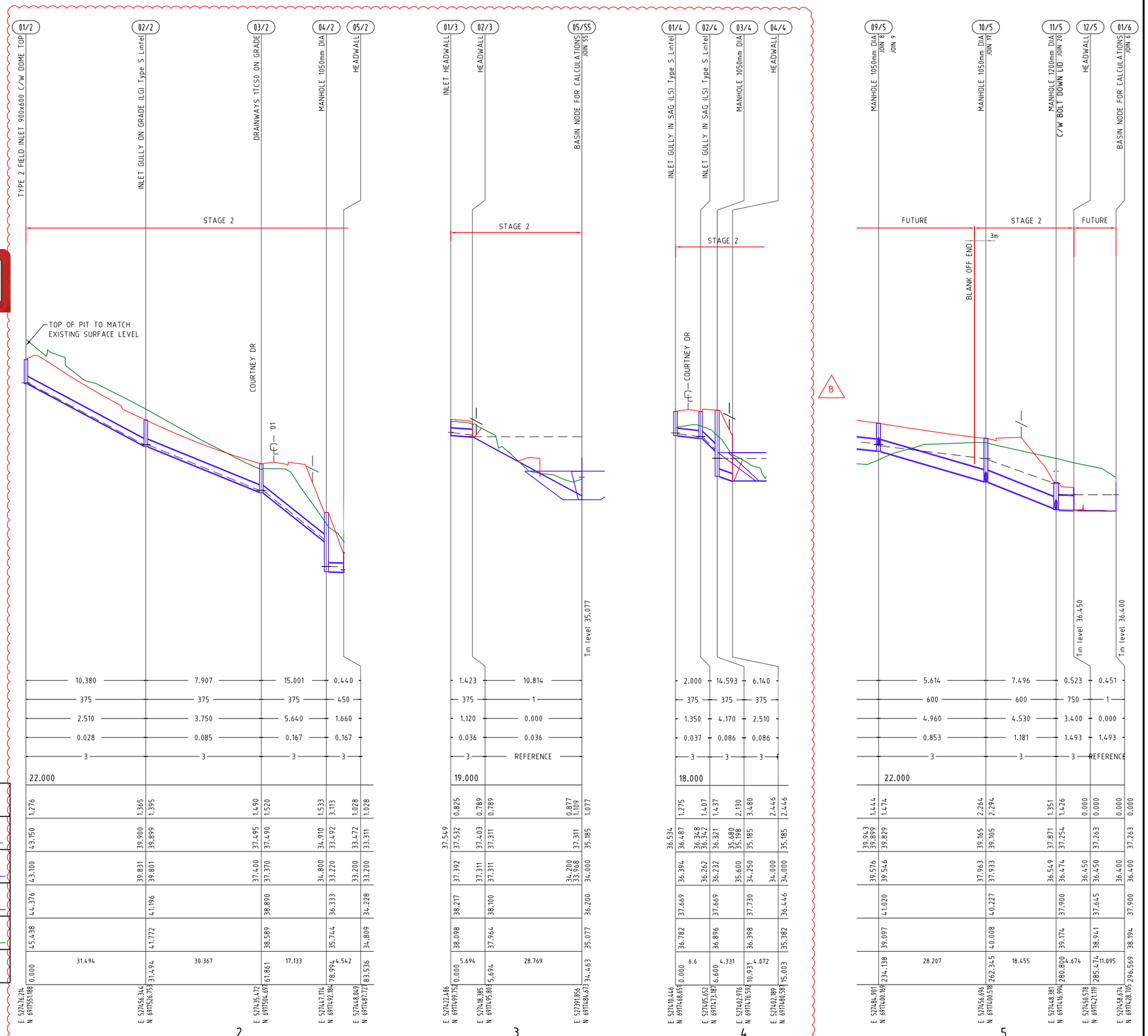
STRUCTURE NAME

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 02

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 | 15-01-24 | LONG SECTIONS AMENDED | BL |
| B | 29-11-23 | LONG SECTIONS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 01

MORTONS urbansolutions
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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-620 REV C

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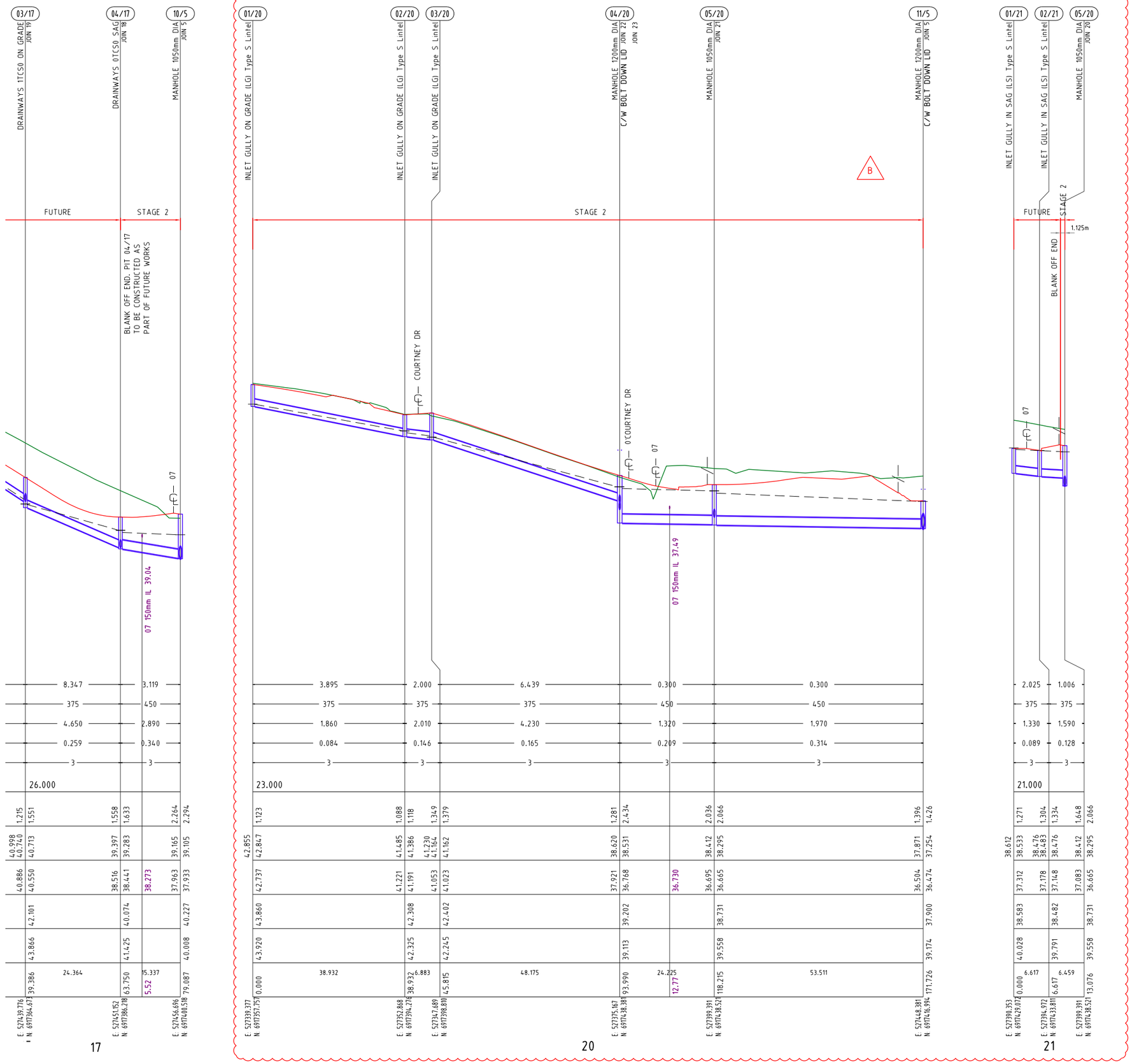
STRUCTURE NAME

STRUCTURE DESCRIPTION




**NOTES**

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DRAINAGE LINE

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 15-01-24 | LONG SECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| DATE | 13-10-23 | | |

DRAWING NUMBER 41901-02-621

REV B

STRUCTURE NAME

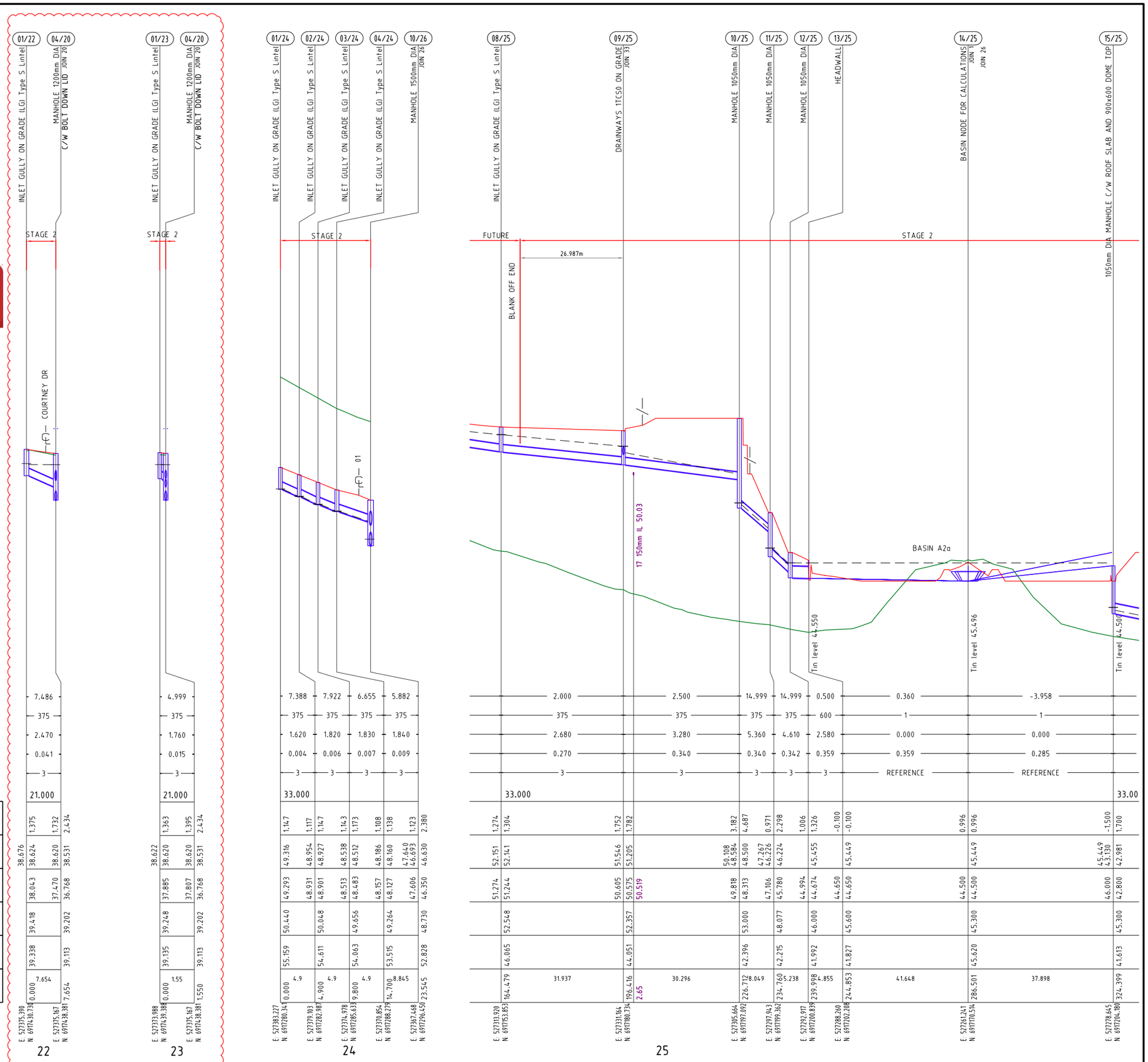
STRUCTURE DESCRIPTION

B




**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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01/22
INLET GULLY ON GRADE (LG) Type S Lintel
04/20
MANHOLE 1200mm DIA
C/W BOLT DOWN LID JOIN 20
01/23
INLET GULLY ON GRADE (LG) Type S Lintel
04/20
MANHOLE 1200mm DIA
C/W BOLT DOWN LID JOIN 20
01/24
INLET GULLY ON GRADE (LG) Type S Lintel
02/24
INLET GULLY ON GRADE (LG) Type S Lintel
03/24
INLET GULLY ON GRADE (LG) Type S Lintel
04/24
INLET GULLY ON GRADE (LG) Type S Lintel
10/26
MANHOLE 1500mm DIA
JOIN 26
08/25
INLET GULLY ON GRADE (LG) Type S Lintel
09/25
DRAINWAYS 1TC50 ON GRADE
JOIN 33
10/25
MANHOLE 1050mm DIA
11/25
MANHOLE 1050mm DIA
12/25
MANHOLE 1050mm DIA
13/25
HEADWALL
14/25
BASIN NODE FOR CALCULATIONS
JOIN 1
JOIN 26
15/25
1050mm DIA MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP
STAGE 2
STAGE 2
STAGE 2
FUTURE
STAGE 2
COURTNEY DR
01
BLANK OFF END
26.987m
17 150mm IL 50.03
BASIN A2a
Tin level 44.550
Tin level 45.496
Tin level 44.500
PIPE GRADE (%)
PIPE DIAMETER (mm)
VELOCITY (m/s)
PIPE FLOW (m3/s)
PIPE CLASS
DATUM R.L.
DEPTH TO INVERT
HYDRAULIC GRADE LINE
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
EXISTING SURFACE LEVELS
CHAINAGE
7.486 375 2.470 0.041 3 21.000
4.999 375 1.760 0.015 3 21.000
7.388 375 1.620 0.004 3 33.000
7.922 375 1.820 0.006 3 33.000
6.655 375 1.830 0.007 3 33.000
5.882 375 1.840 0.009 3 33.000
2.000 375 2.680 0.270 3 33.000
2.500 375 3.280 0.340 3
14.999 375 5.360 0.340 3
14.999 375 4.610 0.342 3
0.500 600 2.580 0.359 3
0.360 1 0.000 0.359 REFERENCE
-3.958 1 0.000 0.285 REFERENCE
33.00
38.676 38.624 38.620 38.531
38.622 38.620 38.620 38.531
49.316 49.293 50.440 55.159
48.954 48.931 50.048 54.611
48.927 48.901 48.513 54.063
48.538 48.513 48.483 48.157
48.512 48.483 49.656 49.264
48.186 48.157 48.127 53.515
48.160 48.127 47.606 47.700
47.640 47.606 46.693 46.630
51.546 50.605 50.575 50.519 52.357 44.051
50.108 48.584 49.818 48.313 53.000 42.396
48.500 47.267 47.106 45.780 48.077 42.215
48.455 46.226 46.224 44.994 46.000 41.992
48.449 45.455 44.674 44.650 45.600 41.827
45.449 43.130 42.981 46.000 42.800 45.300 41.613
1.375 1.732 2.434
1.363 1.395 2.434
1.147 1.117 1.147 1.143 1.173 1.108 1.138 1.123 2.380
1.274 1.304
1.752 1.782
3.182 4.687 0.971 2.298 1.006 1.326 -0.100 -0.100
0.996 0.996
-1.500 1.700
38.418 38.043 39.248 39.135
37.470 36.768 37.885 37.807 39.202 36.768
39.202 39.113
39.338 39.113
7.654 1.55
0.000 7.654 0.000 1.550
4.9 4.900 9.800 14.700 8.845 23.545
52.828 48.730 46.350
52.548 52.151 51.274 51.244
52.141 51.274 51.244
46.065 164.479
31.937 196.416 2.65
30.296 226.712 234.760
8.049 5.238 239.998 4.855 244.853
41.648 286.501
37.898 324.399
E 527375.390 N 6917430.734
E 527375.167 N 6917438.381
E 527373.988 N 6917439.384
E 527375.167 N 6917438.381
E 527383.227 N 6917280.341
E 527379.102 N 6917282.987
E 527374.978 N 6917285.633
E 527370.854 N 6917288.279
E 527367.468 N 6917296.450
E 527313.920 N 6917153.853
E 527331.164 N 6917180.734
E 527305.664 N 6917197.092
E 527297.943 N 6917199.362
E 527292.917 N 6917200.839
E 527288.260 N 6917202.208
E 527261.241 N 6917170.514
E 527278.645 N 6917204.180
22
23
24
25

DRAINAGE LINE

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 15-01-24 | LONG SECTIONS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 03

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-622

REV B

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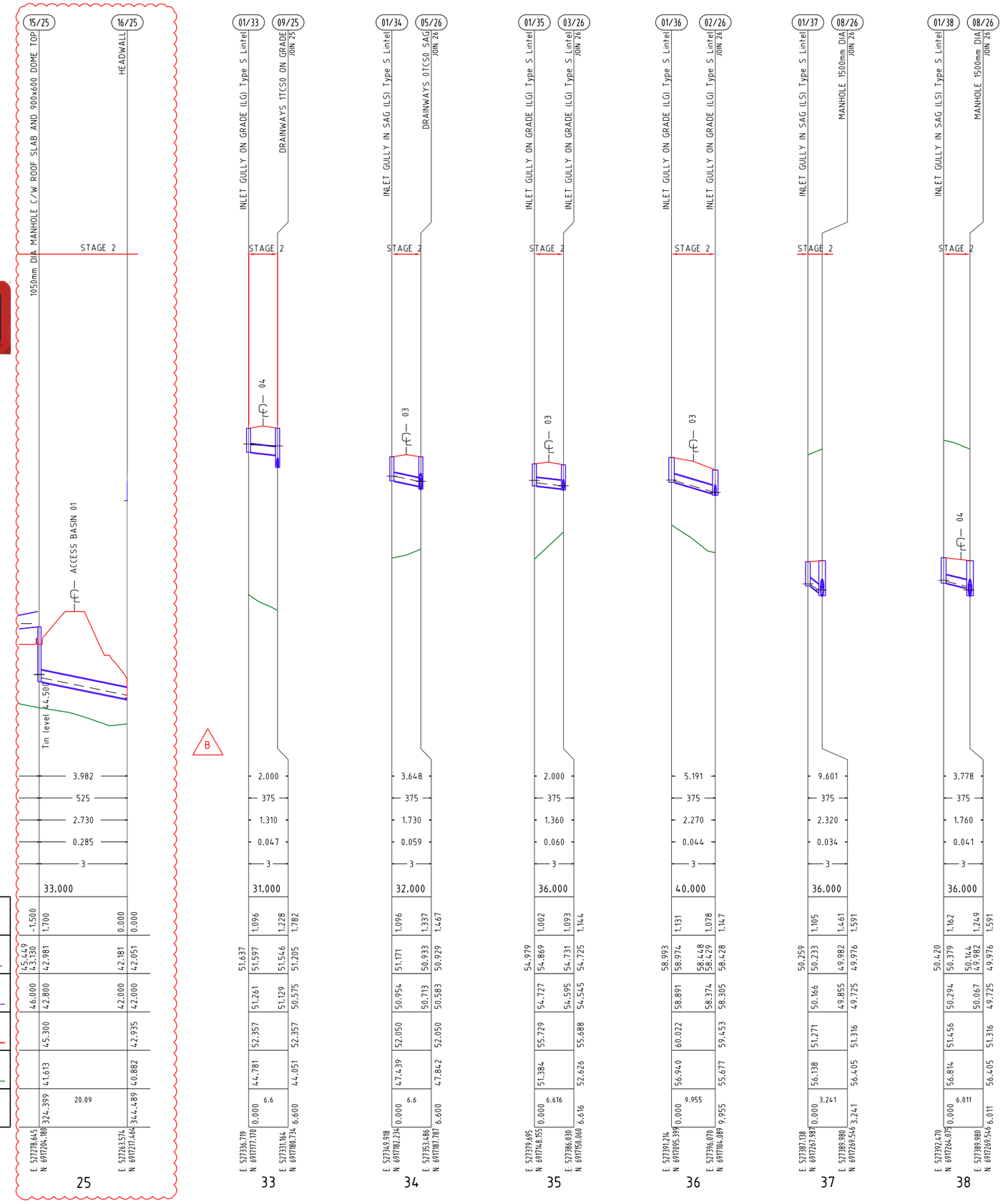
STRUCTURE NAME

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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| | 25 | 33 | 34 | 35 | 36 | 37 | 38 |
|---|---|---|---|---|---|---|---|
| PIPE GRADE (%) | 3.982 | 2.000 | 3.648 | 2.000 | 5.191 | 9.601 | 3.778 |
| PIPE DIAMETER (mm) | 525 | 375 | 375 | 375 | 375 | 375 | 375 |
| VELOCITY (m/s) | 2.730 | 1.310 | 1.730 | 1.360 | 2.270 | 2.320 | 1.760 |
| PIPE FLOW (m3/s) | 0.285 | 0.047 | 0.059 | 0.060 | 0.044 | 0.034 | 0.041 |
| PIPE CLASS | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| DATUM R.L. | 33.000 | 31.000 | 32.000 | 36.000 | 40.000 | 36.000 | 36.000 |
| DEPTH TO INVERT | -1.500 / 1.700 | 1.096 / 1.228 | 1.096 / 1.337 | 1.002 / 1.093 | 1.131 / 1.078 | 1.105 / 1.461 | 1.162 / 1.249 |
| HYDRAULIC GRADE LINE | 45.449 / 43.130 / 42.981 | 51.637 / 51.597 / 51.546 | 51.171 / 50.933 | 54.869 / 54.731 | 58.974 / 58.448 / 58.429 | 50.259 / 50.233 / 49.982 | 50.420 / 50.379 / 50.144 / 49.982 |
| PIPE INVERT LEVELS | 46.000 / 42.800 | 51.261 / 51.129 | 50.954 / 50.713 | 54.727 / 54.595 | 58.891 / 58.374 | 50.166 / 49.855 | 50.294 / 50.067 |
| DESIGN SURFACE LEVELS | 45.300 | 52.357 | 52.050 | 55.729 | 60.022 | 51.271 | 51.456 |
| EXISTING SURFACE LEVELS | 41.613 | 44.781 | 47.439 | 51.384 | 56.940 | 56.138 | 56.814 |
| CHAINAGE | 324.399 / 20.09 / 344.489 | 0.000 / 6.6 / 6.600 | 0.000 / 6.6 / 6.600 | 0.000 / 6.616 / 6.616 | 0.000 / 9.955 / 9.955 | 0.000 / 3.241 / 3.241 | 0.000 / 6.011 / 6.011 |
| | E 527278.645 N 6917204.189 | E 527336.719 N 6917177.170 | E 527349.918 N 6917182.234 | E 527379.695 N 6917148.155 | E 527391.214 N 6917095.394 | E 527387.138 N 6917267.987 | E 527392.478 N 6917264.079 |
| | E 527263.574 N 6917217.464 | E 527331.964 N 6917180.734 | E 527353.486 N 6917187.787 | E 527386.030 N 6917150.060 | E 527396.070 N 6917104.089 | E 527389.980 N 6917269.546 | E 527389.980 N 6917269.546 |

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | LONG SECTIONS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 04

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Urban & Regional Planning
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Postal Address
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Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-623 REV B

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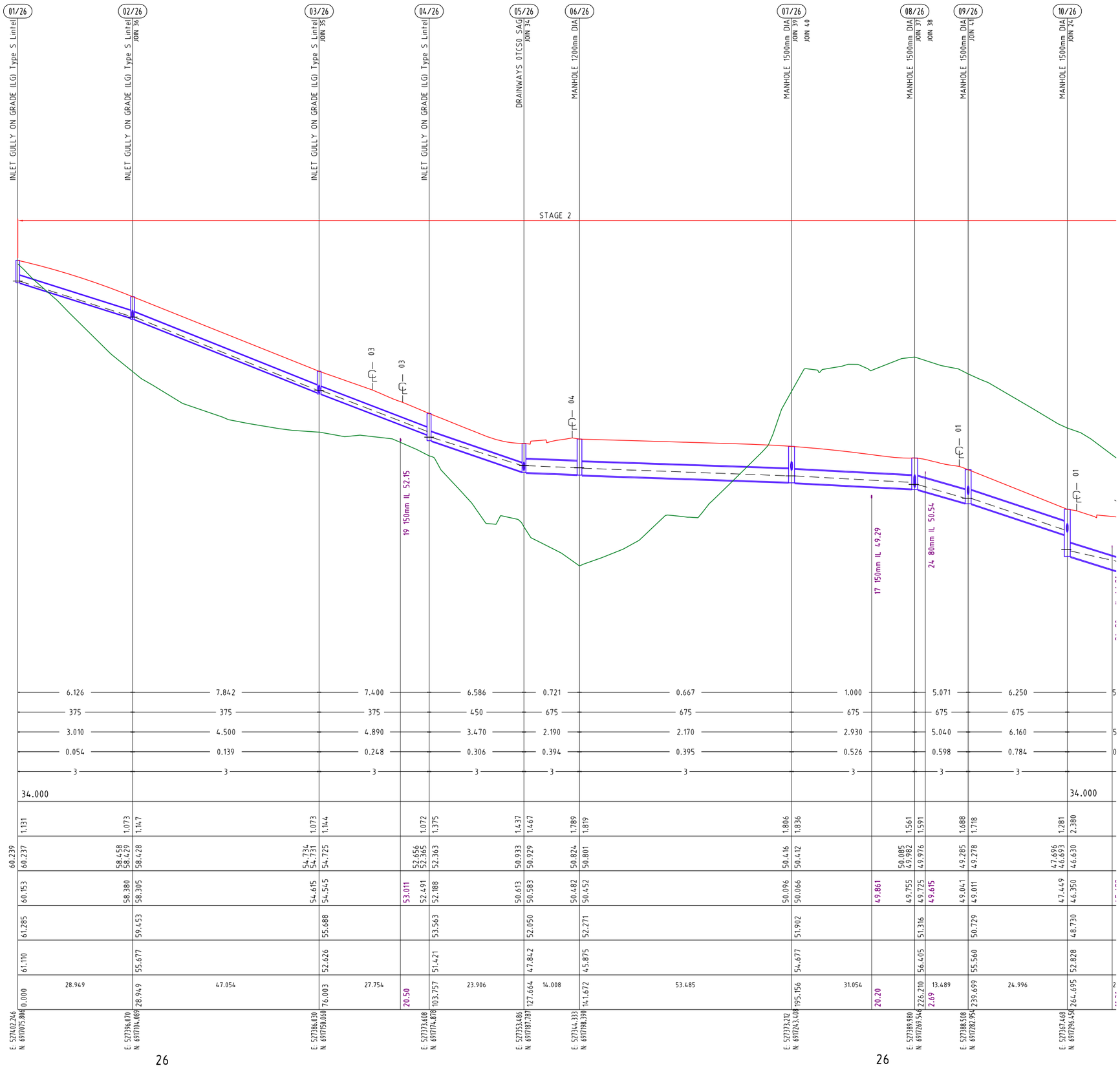
STRUCTURE NAME

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

26

26

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 17-01-24 | PROFILES REVISED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER PROFILES SHEET 05

MORTONS urbansolutions
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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 | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

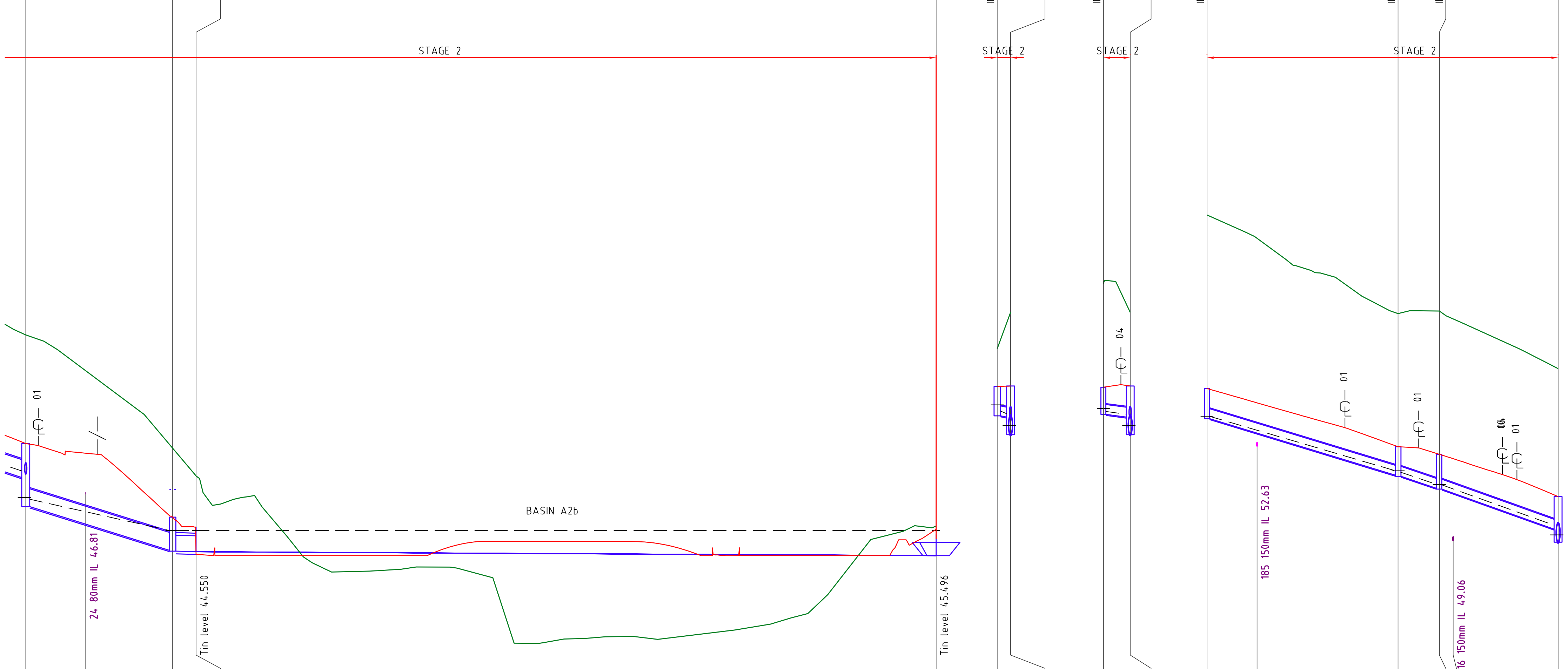
DRAWING NUMBER 41901-02-624

REV A

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STRUCTURE NAME / STRUCTURE DESCRIPTION

| Structure | Description |
|---|---|
| 10/26 | MANHOLE 1500mm DIA, JOIN 24 |
| 11/26 | 1200 DIA MANHOLE EXTENDED 600mm |
| 12/26 | HEADWALL |
| 14/25 | BASIN NODE FOR CALCULATIONS, JOIN 25 |
| 01/39 | INLET GULLY ON GRADE (LG) Type S Lintel |
| 07/26 | MANHOLE 1500mm DIA, JOIN 26 |
| 01/40 | INLET GULLY ON GRADE (LG) Type S Lintel |
| 07/26 | MANHOLE 1500mm DIA, JOIN 26 |
| 01/41 | INLET GULLY ON GRADE (LG) Type S Lintel |
| 02/41 | INLET GULLY ON GRADE (LG) Type S Lintel |
| 03/41 | INLET GULLY ON GRADE (LG) Type S Lintel |
| 09/26 | MANHOLE 1500mm DIA, JOIN 26 |




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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.
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## DRAINAGE LINE 26

DATUM R.L. 34.000

| Pipe | 10/26 – 11/26 | 11/26 – 12/26 | 12/26 – 14/25 |
|---|---|---|---|
| PIPE GRADE (%) | 5.949 | 0.500 | 0.108 |
| PIPE DIAMETER (mm) | 675 | 1500x600 | 1 |
| VELOCITY (m/s) | 5.300 | 2.410 | 0.000 |
| PIPE FLOW (m3/s) | 0.793 | 0.793 | 0.793 |
| PIPE CLASS | 3 | RCBC | REFERENCE |
| Length | 27.698 | 4.42 | 139.526 |

| | 10/26 | 24 80mm IL 46.81 | 11/26 | 12/26 | 14/25 |
|---|---|---|---|---|---|
| DEPTH TO INVERT | 1.281, 2.380 | | 1.251, 1.281 | -0.100, -0.100 | 0.996, 0.996 |
| HYDRAULIC GRADE LINE | 47.696, 46.693, 46.630 | | 45.451 | 45.449 | 45.449 |
| PIPE INVERT LEVELS | 47.449, 46.350 | 45.689 | 44.702, 44.672 | 44.650, 44.650 | 44.500, 44.500 |
| DESIGN SURFACE LEVELS | 48.730 | | 45.953 | 45.580 | 45.300 |
| EXISTING SURFACE LEVELS | 52.828 | | 48.556 | 47.509 | 45.620 |
| CHAINAGE | 264.695 | 11.31 | 292.393 | 296.814 | 436.340 |
| Coordinates | E: 527367.468 N: 6917296.450 | | E: 527340.749 N: 6917289.153 | E: 527336.477 N: 6917288.018 | E: 527261.241 N: 6917170.514 |

## DRAINAGE LINE 39

DATUM R.L. 35.000

PIPE GRADE (%) 1.915; PIPE DIAMETER (mm) 375; VELOCITY (m/s) 1.150; PIPE FLOW (m3/s) 0.079; PIPE CLASS 3; Length 2.518

| | 01/39 | 07/26 |
|---|---|---|
| DEPTH TO INVERT | 1.105 | 1.173, 1.836 |
| HYDRAULIC GRADE LINE | 51.193, 50.970 | 50.856, 50.416, 50.412 |
| PIPE INVERT LEVELS | 50.776 | 50.728, 50.066 |
| DESIGN SURFACE LEVELS | 51.882 | 51.902 |
| EXISTING SURFACE LEVELS | 53.308 | 54.677 |
| CHAINAGE | 0.000 | 2.518 |
| Coordinates | E: 527370.836 N: 6917242.574 | E: 527373.212 N: 6917243.408 |

## DRAINAGE LINE 40

DATUM R.L. 35.000

PIPE GRADE (%) 2.000; PIPE DIAMETER (mm) 375; VELOCITY (m/s) 1.290; PIPE FLOW (m3/s) 0.057; PIPE CLASS 3; Length 5.05

| | 01/40 | 07/26 |
|---|---|---|
| DEPTH TO INVERT | 1.026 | 1.173, 1.836 |
| HYDRAULIC GRADE LINE | 51.055, 50.942 | 50.835, 50.416, 50.412 |
| PIPE INVERT LEVELS | 50.829 | 50.728, 50.066 |
| DESIGN SURFACE LEVELS | 51.855 | 51.902 |
| EXISTING SURFACE LEVELS | 55.765 | 54.677 |
| CHAINAGE | 0.000 | 5.050 |
| Coordinates | E: 527377.463 N: 6917240.681 | E: 527373.212 N: 6917243.408 |

## DRAINAGE LINE 41

DATUM R.L. 38.000

| Pipe | 01/41 – 02/41 | 02/41 – 03/41 | 03/41 – 09/26 |
|---|---|---|---|
| PIPE GRADE (%) | 5.928 | 5.837 | 6.748 |
| PIPE DIAMETER (mm) | 375 | 375 | 375 |
| VELOCITY (m/s) | 2.470 | 3.230 | 4.300 |
| PIPE FLOW (m3/s) | 0.067 | 0.150 | 0.193 |
| PIPE CLASS | 3 | 3 | 3 |
| Length | 36.022 | 7.776 | 22.393 |

| | 01/41 | 185 150mm IL 52.63 | 02/41 | 03/41 | 16 150mm IL 49.06 | 09/26 |
|---|---|---|---|---|---|---|
| DEPTH TO INVERT | 1.137 | | 1.075, 1.116 | 1.283, 1.313 | | 1.229, 1.718 |
| HYDRAULIC GRADE LINE | 53.759 | | 51.703, 51.649 | 51.185, 51.174 | | 49.647, 49.285, 49.278 |
| PIPE INVERT LEVELS | 53.671 | 53.125 | 51.536, 51.495 | 51.041, 51.011 | 50.858 | 49.500, 49.011 |
| DESIGN SURFACE LEVELS | 54.809 | | 52.611 | 52.324 | | 50.729 |
| EXISTING SURFACE LEVELS | 61.352 | | 57.634 | 57.732 | | 55.560 |
| CHAINAGE | 0.000 | 9.45 | 36.022 | 43.798 | 2.61 | 66.190 |
| Coordinates | E: 527432.013 N: 6917240.881 | | E: 527411.167 N: 6917270.259 | E: 527404.143 N: 6917266.923 | | E: 527388.508 N: 6917282.954 |

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

## STORMWATER PROFILES SHEET 06

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | [signature] | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-625 — REV A

f:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-620.dwg, SHEET 06, 19/01/2024 2:01:20 PM, 1:2

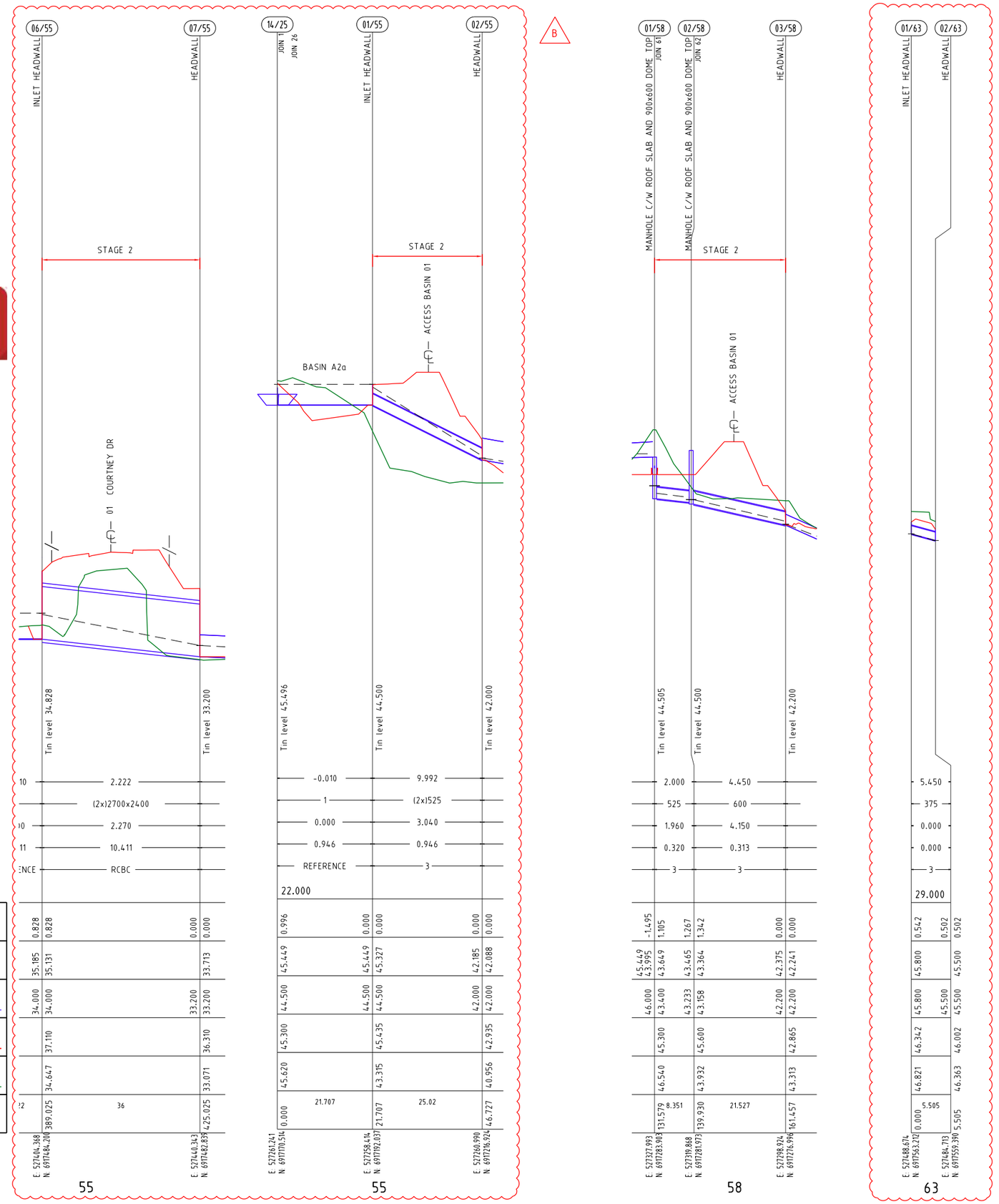
STRUCTURE NAME

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

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 15-01-24 | LONG SECTIONS AMENDED, LINE 63 ADDED | BL |
| B | 29-11-23 | LONG SECTIONS UPDATED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

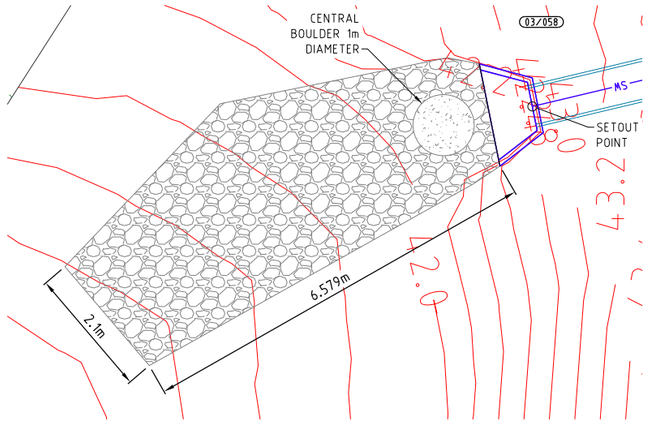
STORMWATER PROFILES SHEET 06

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

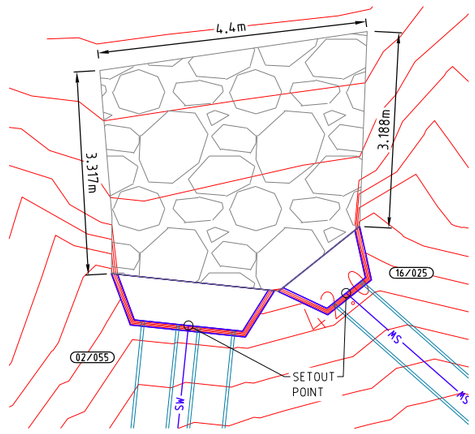
DRAWING NUMBER: 41901-02-626
REV: C

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| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 03/058 | SIZE 600mm |
| VELOCITY = 4.15m/s | |
| LENGTH = 6.579m | d50 300mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 300mm THICK | |

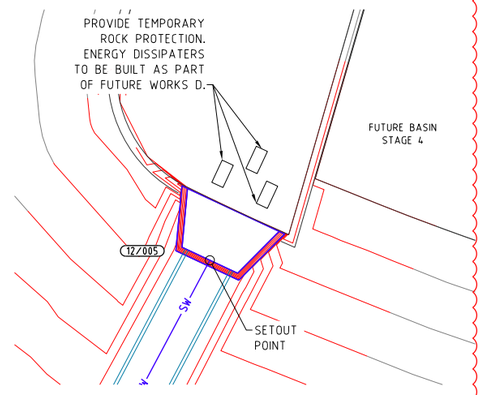
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

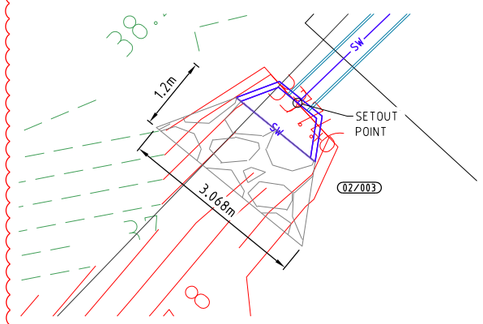



| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 02/055 | SIZE 525mm |
| VELOCITY = 3.04m/s | |
| LENGTH = 3.317m | d50 300mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK | |

| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 16/025 | SIZE 600mm |
| VELOCITY = 2.73m/s | |
| LENGTH = 3.188m | d50 300mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK | |

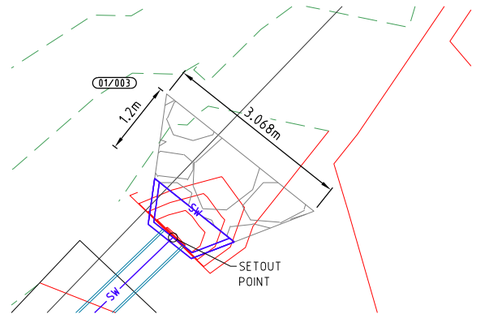
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA



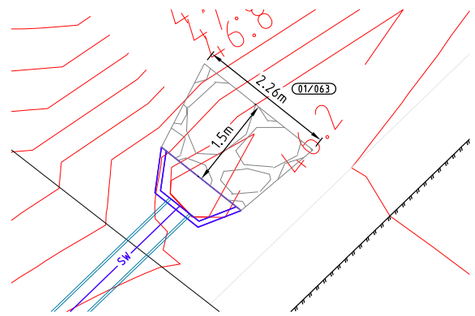

| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 02/003 | SIZE 375mm |
| VELOCITY = 1.12m/s | |
| LENGTH = 1m | d50 100mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK | |

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA




| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 01/003 | SIZE 375mm |
| VELOCITY = 1.12m/s | |
| LENGTH = 1m | d50 100mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK | |

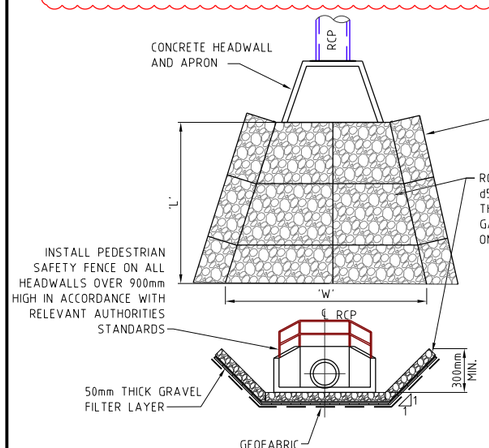
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA




| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 01/063 | SIZE 375mm |
| VELOCITY = 1.38m/s | |
| LENGTH = 1.5m | d50 100mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK | |

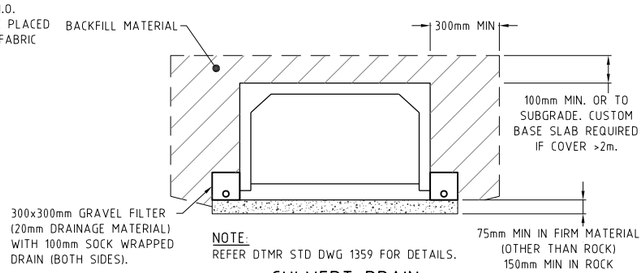
CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

B




TYPICAL GABION SCOUR PROTECTION DETAIL

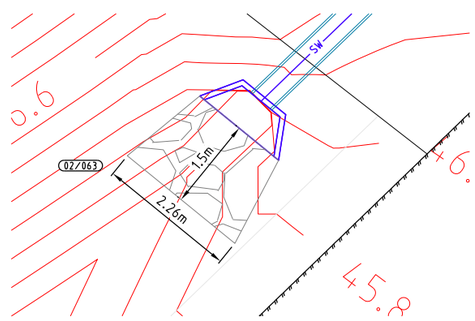
SCALE 1 : 100 - A1 (1:200 - A3)




NOTE:
REFER DTMR STD DWG 1359 FOR DETAILS.

CULVERT DRAIN

NOT TO SCALE




| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 02/063 | SIZE 375mm |
| VELOCITY = 1.38m/s | |
| LENGTH = 1.5m | d50 100mm |
| SCOUR PROTECTION TYPE = RENO MATTRESS 170mm THICK | |

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| B | 29-11-23 | PIPE COORDINATES AMENDED, HW'S ADDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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

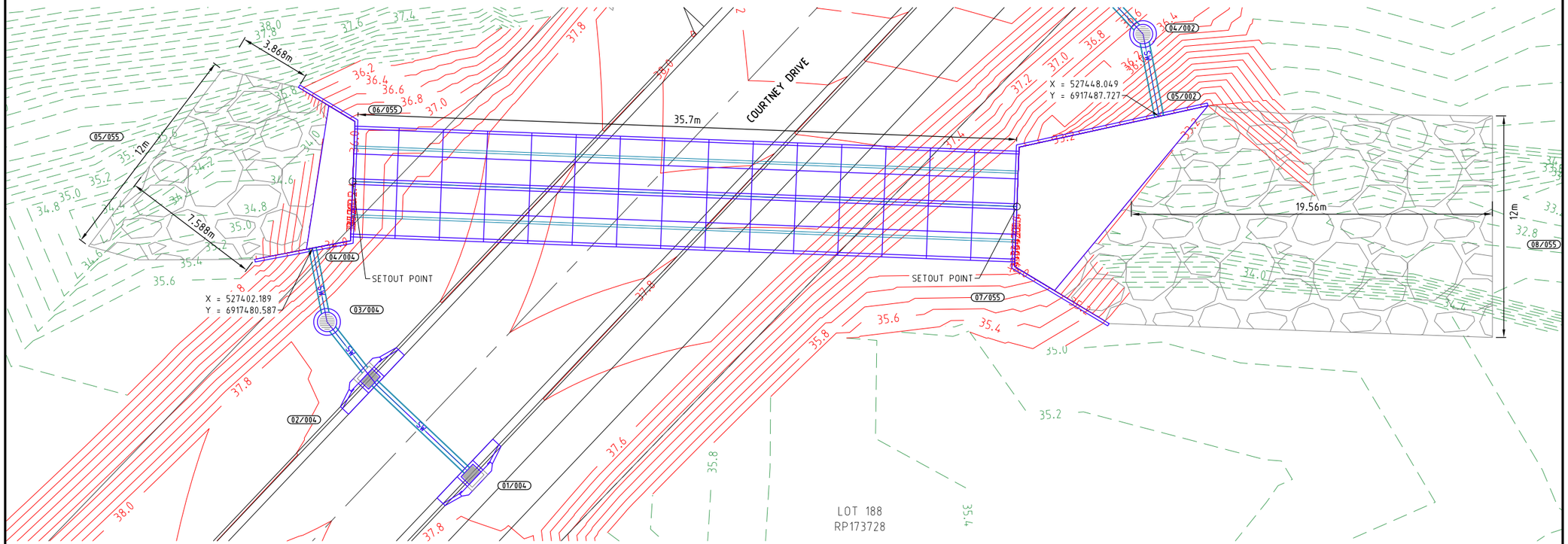
MORTONS urbansolutions
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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

DRAWING NUMBER 41901-02-640 | REV B

f:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-640.dwg, OUTLETS & TYPICAL DETAILS SHEET 01, 19/01/2024 3:48:24 PM, 1:2

**NOTE**
RCBC TO BE INSTALLED IN ACCORDANCE WITH DTMR REQUIREMENTS. HEADWALLS ARE NON STANDARD, CONTRACTOR TO ARRANGE STRUCTURAL DESIGN, CERTIFICATION & FINAL CONSTRUCTION.




| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 06/055 | SIZE 2.7m x 2.4m RCBC (x2) |
| VELOCITY = 2.27m/s | |
| LENGTH = 12m x 4m | d50 = 500mm |
| SCOUR PROTECTION TYPE<br>= LOOSE ROCK 500mm THICK | |

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

| SCOUR PROTECTION DESIGN | |
|---|---|
| HW 07/055 | SIZE 2.7m x 2.4m RCBC (x2) |
| VELOCITY = 2.27m/s | |
| LENGTH = 18m x 12m | d50 = 500mm |
| SCOUR PROTECTION TYPE<br>= LOOSE ROCK 900mm THICK | |

CALCULATIONS UNDERTAKEN USING PROPRIETARY PRODUCT DATA

PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 1.25 1.5 3.75 5 6.25m

Scale 1:125 - A1 (1:250 - A3)

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| B | 15-01-24 | STORMWATER CULVERT AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
RCBC
OUTLET
SHEET 01

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Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-641 | B |

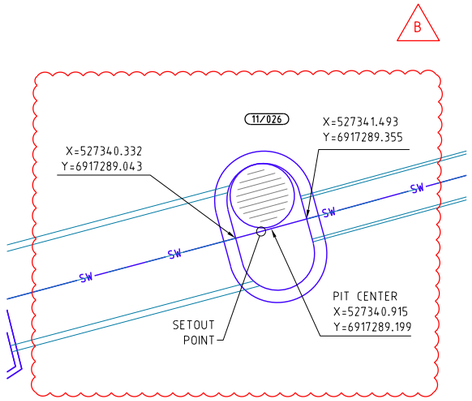
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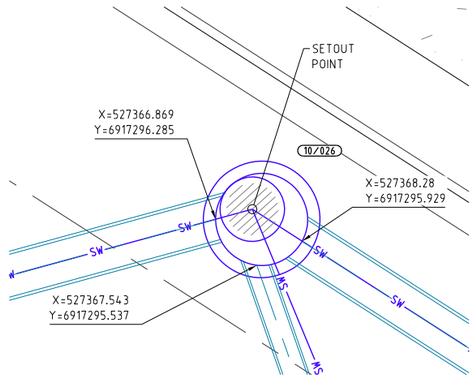
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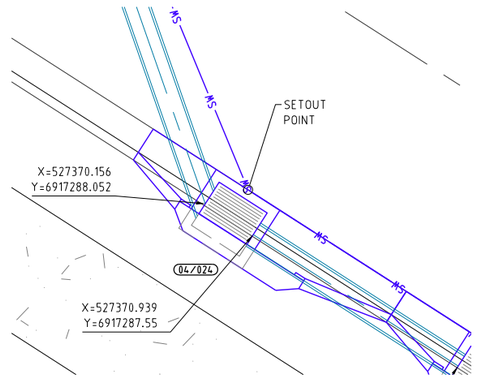
- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING FOOTPATH
- EXISTING PROPERTY LINE
- SW EXISTING STORMWATER
- RW EXISTING ROOFWATER
- EXISTING STORMWATER PIPES
- EXISTING ROOFWATER PIPES
- FUTURE KERB (INVERT)
- FUTURE KERB (LIP & BACK)
- FUTURE FOOTPATH
- FUTURE PROPERTY LINE
- SW FUTURE STORMWATER
- RW 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
- SW PROPOSED STORMWATER
- RW 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

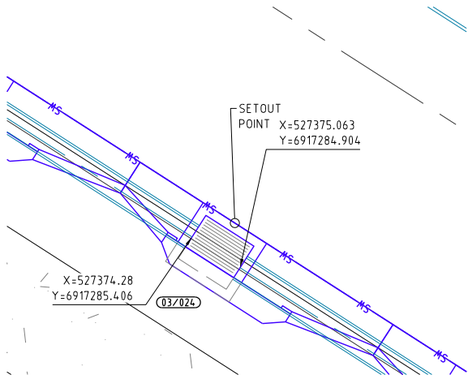
**NOTE**

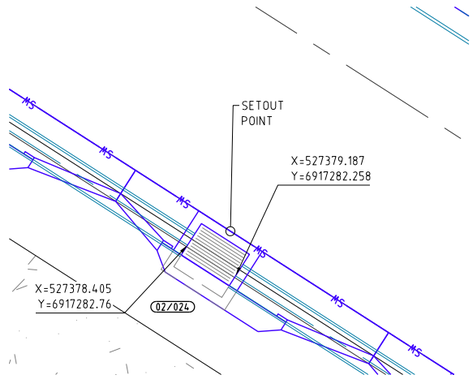
THE STORMWATER PIT IMAGE ARE DIAGRAMATIC ONLY & THE CONTRACTOR MUST ENSURE THEY MATCH NEATLY INTO THE WORKS

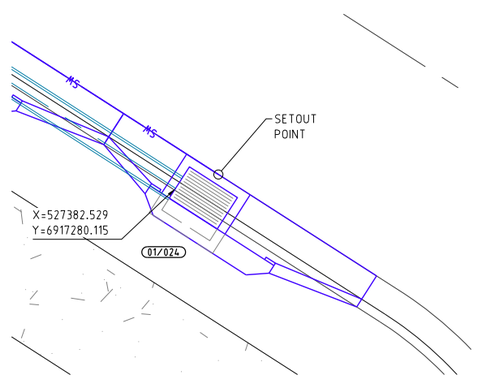


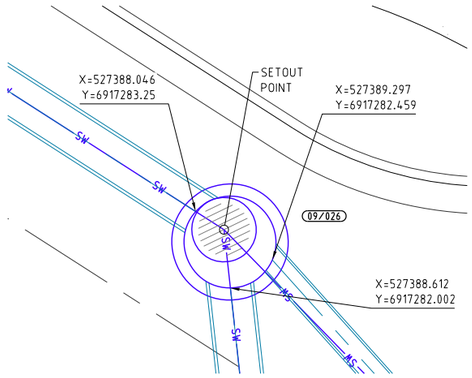



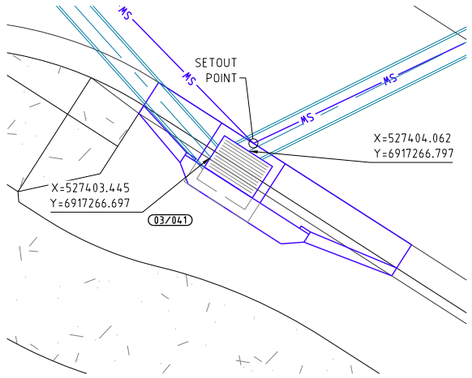



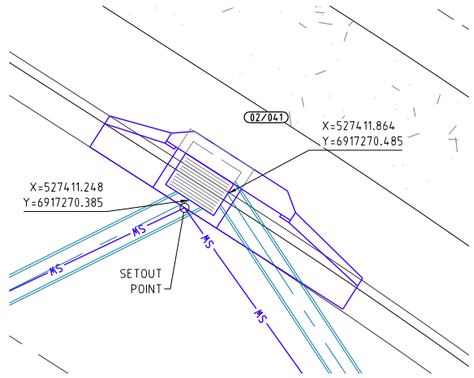



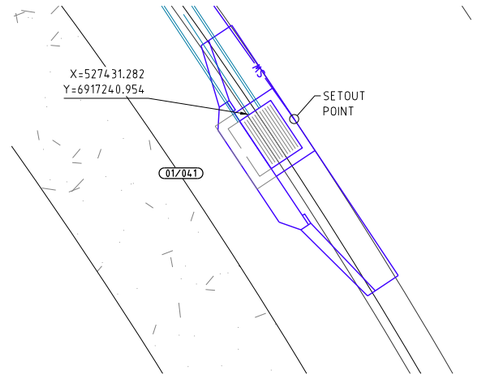



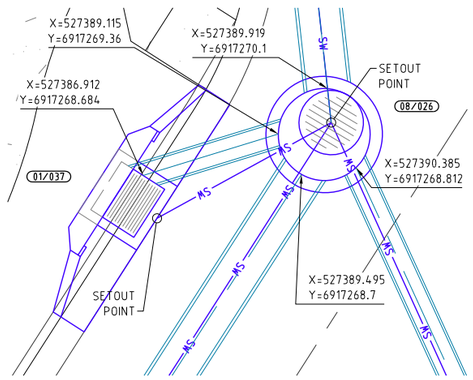



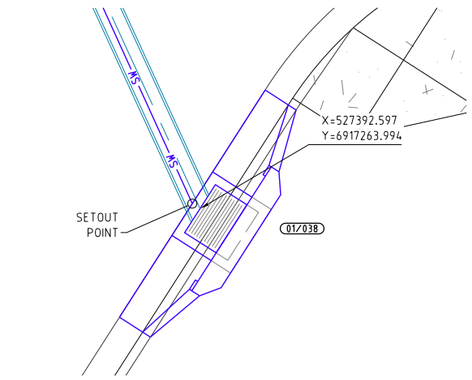



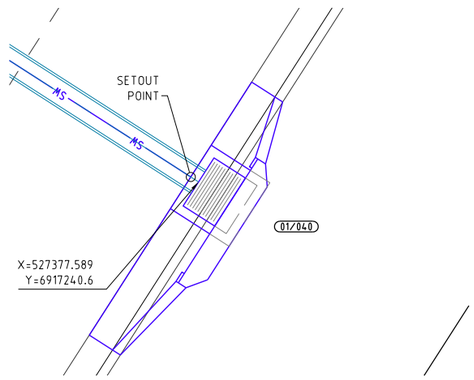



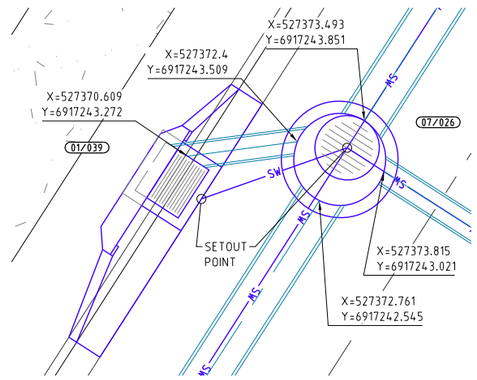




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 29-11-23 | COORDINATES REVISED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

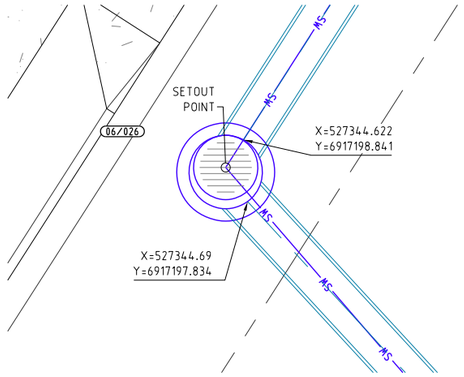
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Southport QLD 4215

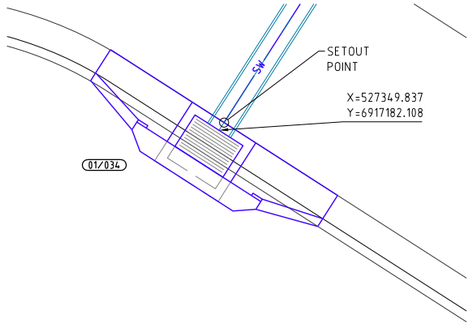
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Southport QLD 4215

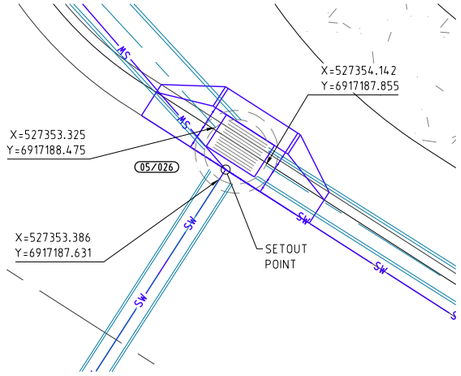
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| APPROVED | | RPEQ 4706 | DATE 13-10-23 |

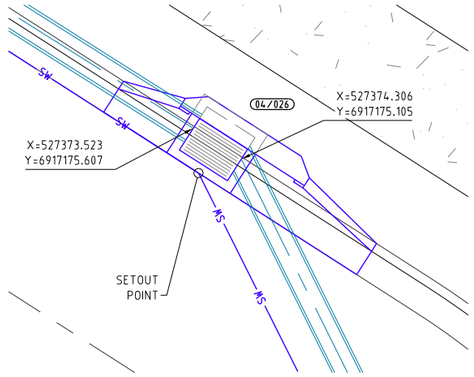
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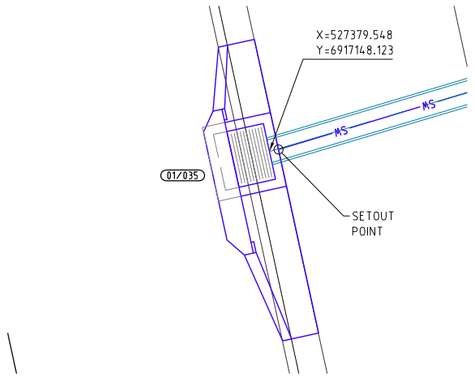
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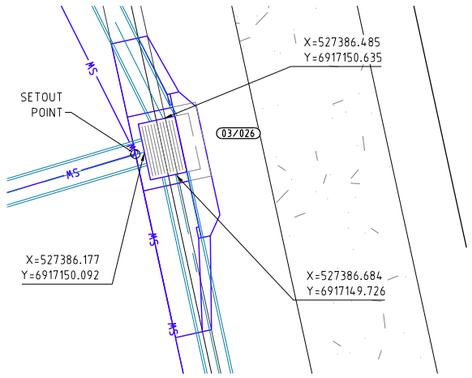


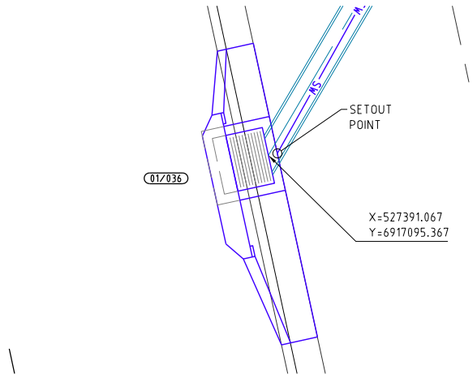



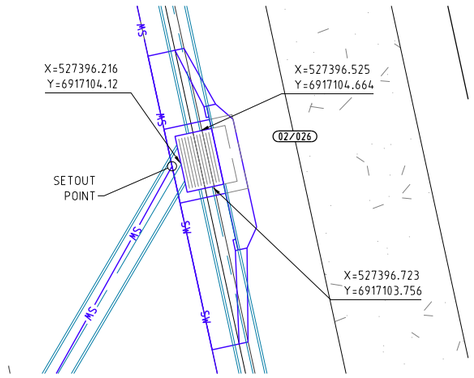



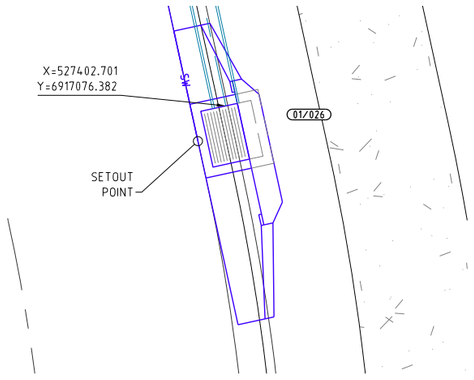



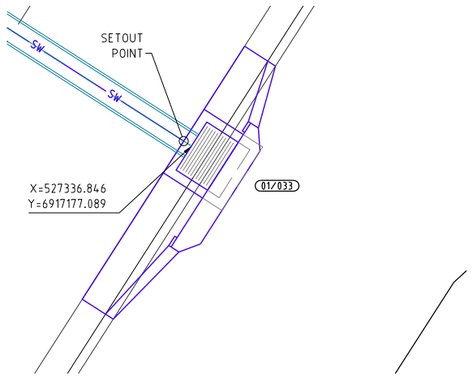



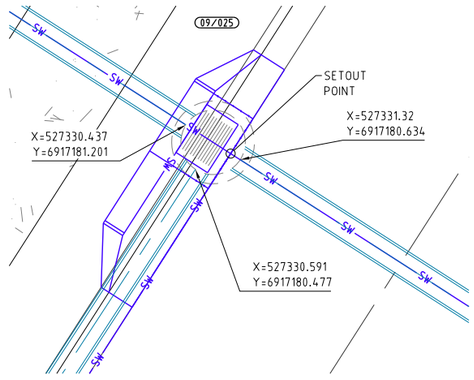



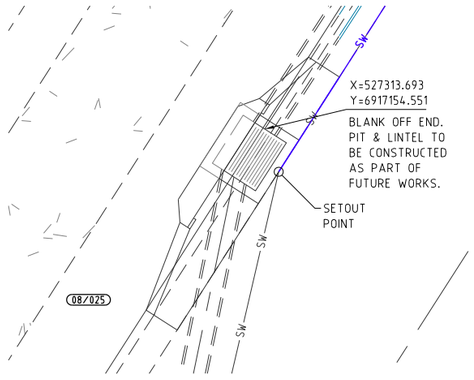



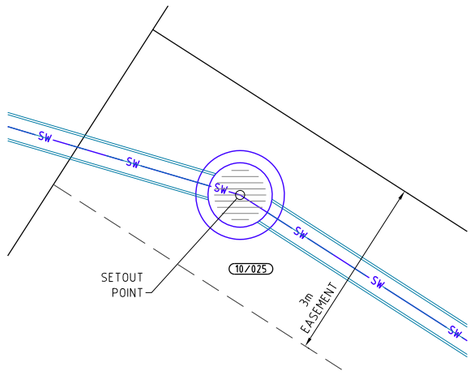



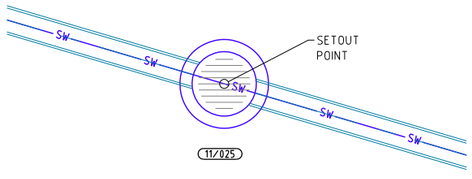



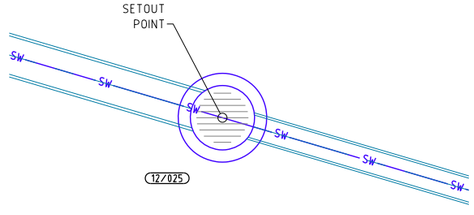



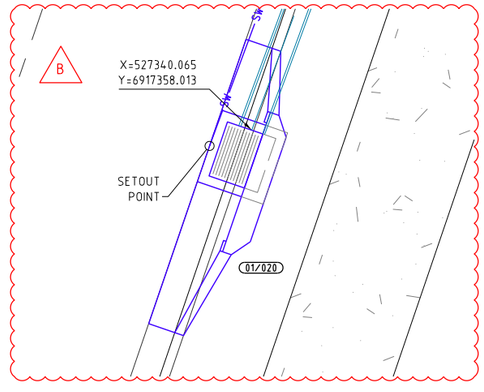




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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)

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| B | 15-01-24 | PIT DETAILS AMENDED | BL |
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DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 02

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ABN: 39 116 375 065
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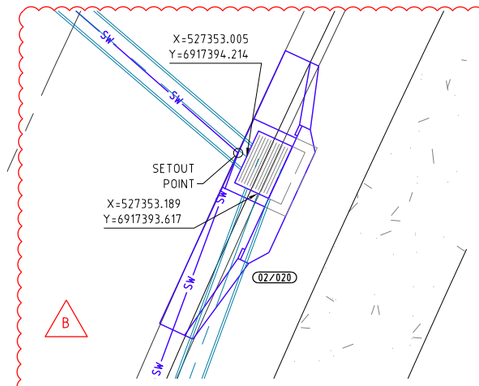
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PO Box 2484
Southport QLD 4215

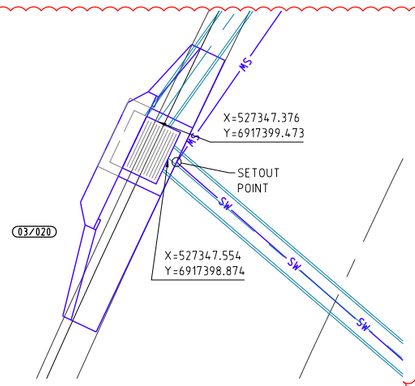
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

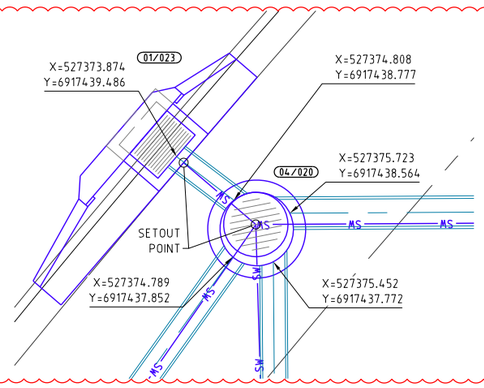
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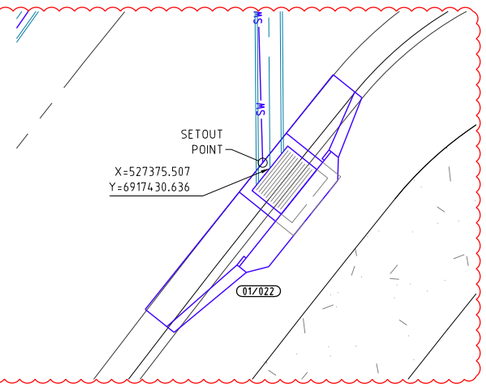
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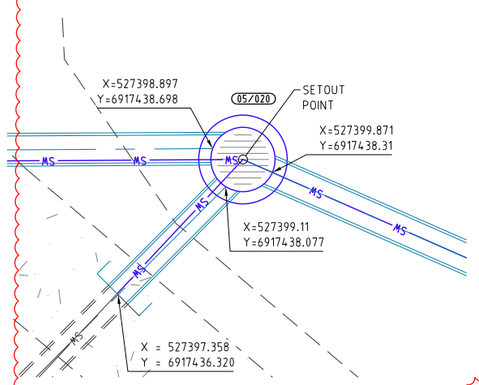
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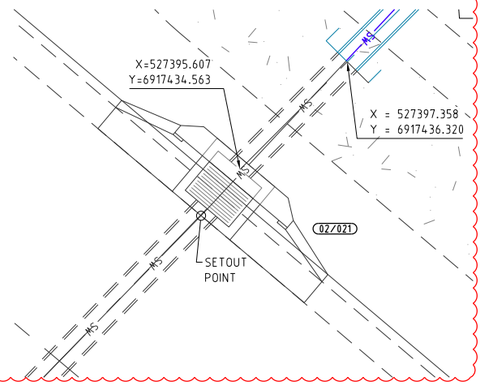


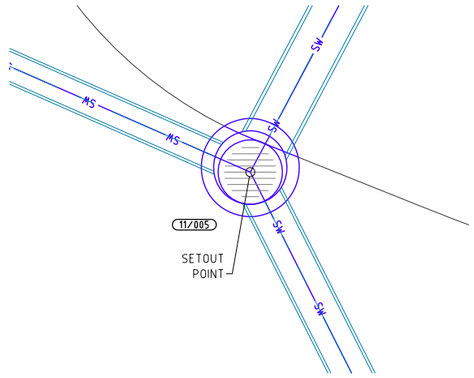



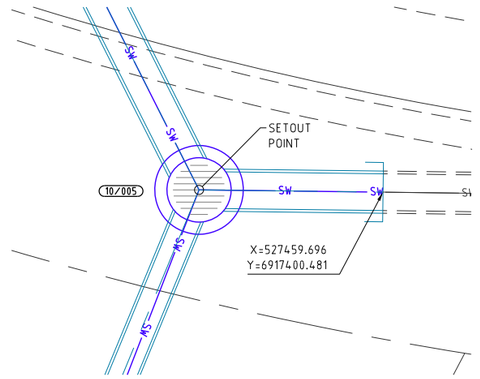



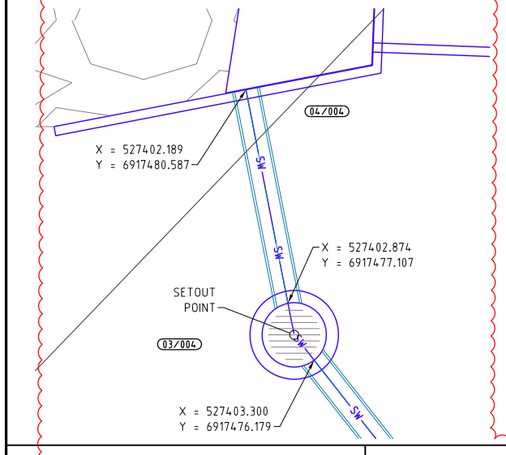



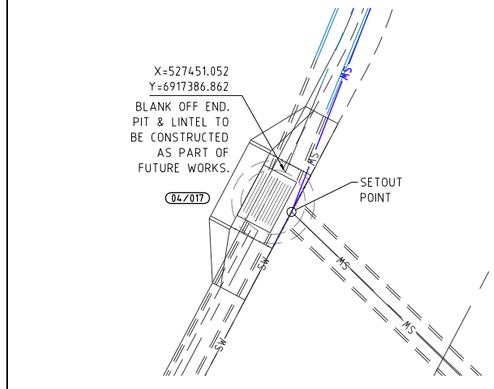



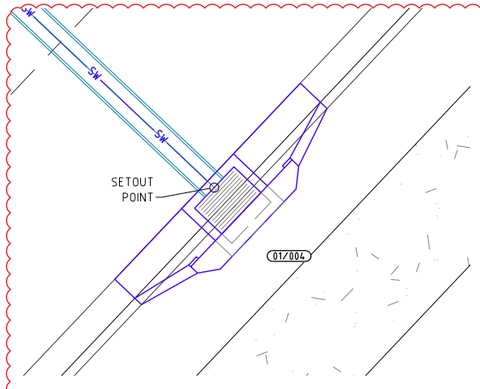



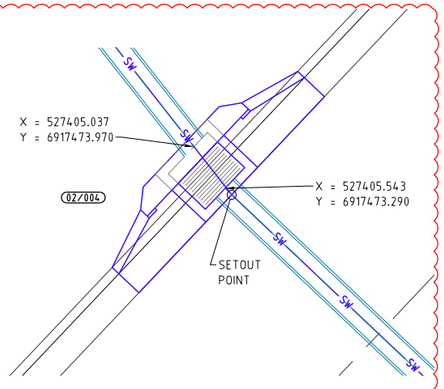



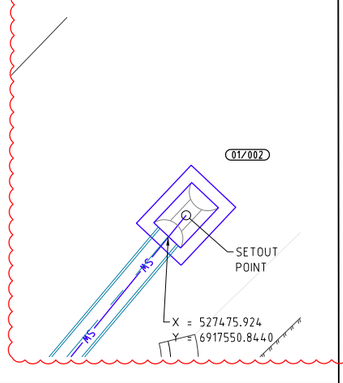



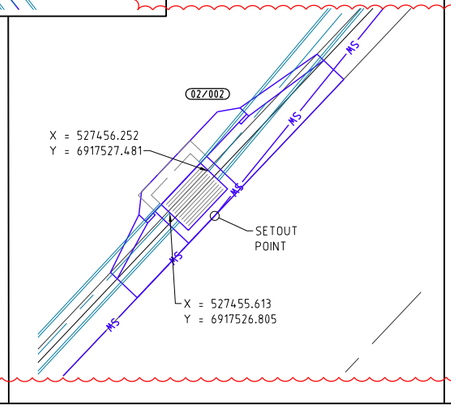



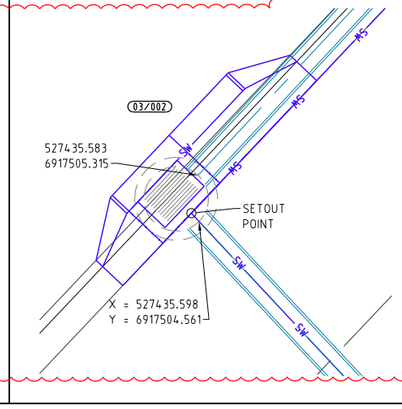



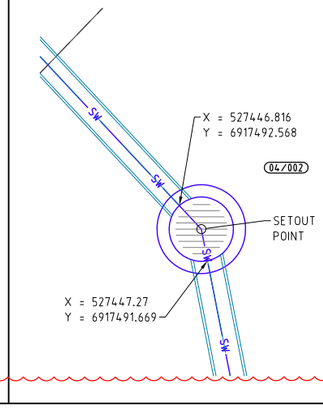



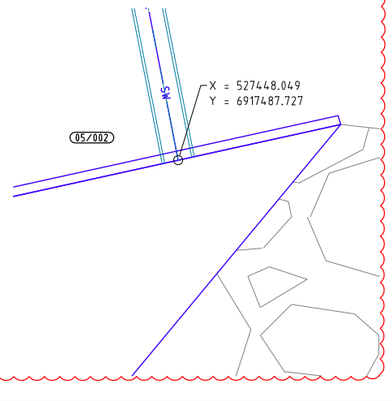




PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 | 15-01-24 | PIT DETAILS AMENDED | BL |
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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
PIT DETAILS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-652 | B |

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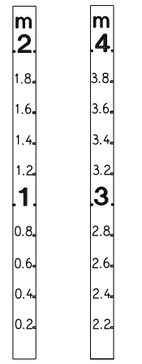
## BASIN CONSTRUCTION

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

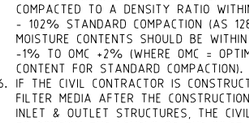
- EXISTING PROPERTY LINE
- EXISTING CONTOURS
- EXISTING STORMWATER
- FUTURE PROPERTY LINE
- FUTURE STORMWATER
- SITE BOUNDARY
- STAGE BOUNDARY
- PROPERTY LINE
- PROPOSED KERB
- DESIGN CONTOURS
- PROPOSED STORMWATER
- MANHOLE
- FIELD INLET
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL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




FLOOD DEPTH INDICATORS
NOT TO SCALE




WARNING SIGN
NOT TO SCALE







BASIN PLAN A2a
SCALE 1:200 - A1 (1:400 - A3)

## BIO FILTRATION BASIN NOTES

- BIO FILTRATION BASIN TO BE EXCAVTED TO LEVEL BELOW FILTRATION MEDIA
- UNSUITABLE MATERIAL TO BE REMOVED OFF SITE AND BASIN TRIMMED TO FINAL PROFILE PRIOR TO PLACEMENT OF FILTER MEDIA AT 80% COMPLETION OF HOUSING

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
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| B | 29-11-23 | STORMWATER AMENDED | BL |
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ASSOCIATED CONSULTANTS

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DRAWING TITLE

STORMWATER
BASIN
PLAN AND DETAILS
SHEET 01

MORTONS urbansolutions
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|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

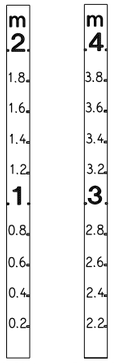
DRAWING NUMBER: 41901-02-660
REV: B

f:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-660.dwg, PLAN SHEET 01, 19/01/2024 2:25:21 PM, 1:2

## 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
- 10/001 STORMWATER PIT & LINE NO.

DIAL BEFORE YOU DIG www.1100.com.au




G9-22-1 G9-22-2

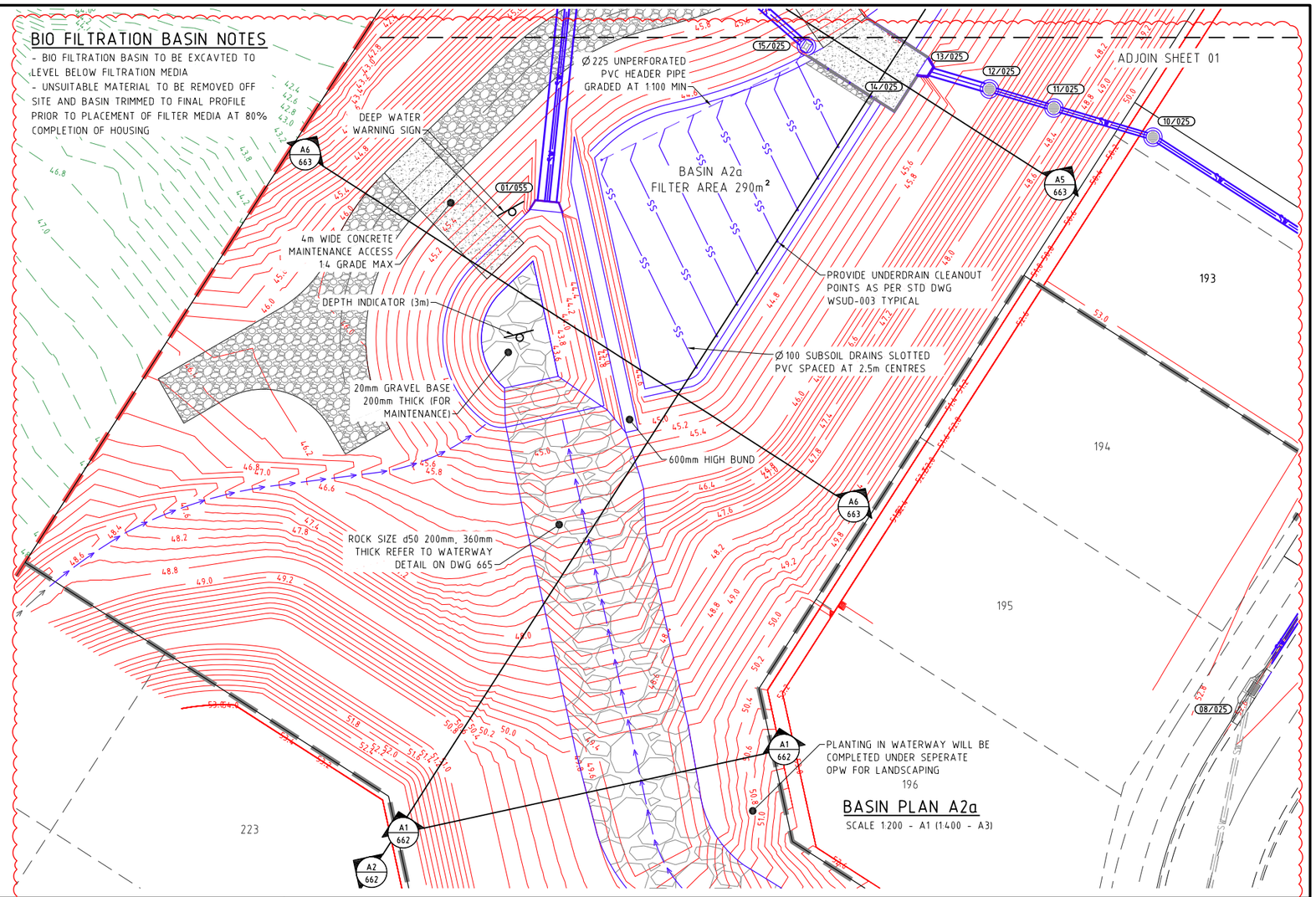
FLOOD DEPTH INDICATORS
NOT TO SCALE



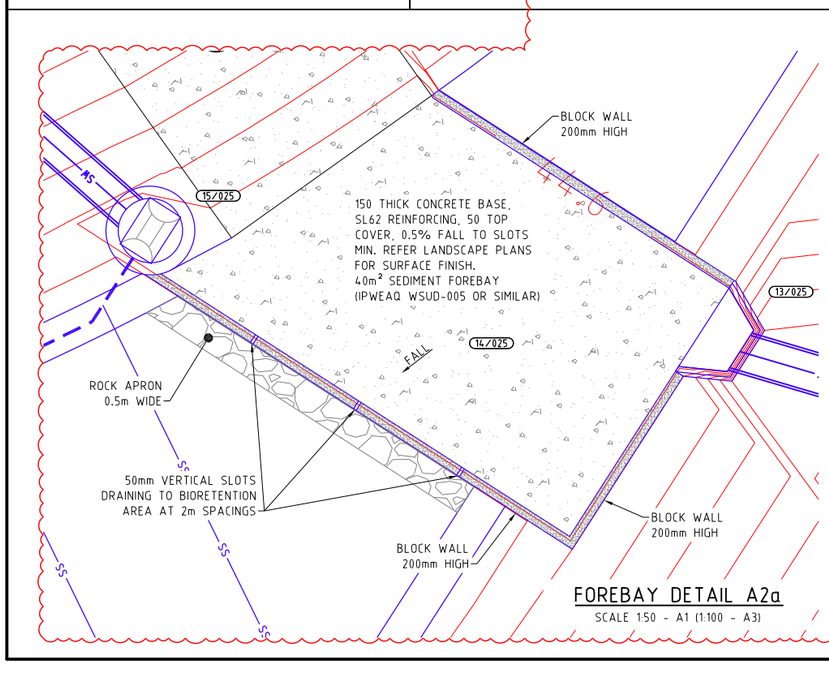

WARNING SIGN
NOT TO SCALE

## BIO FILTRATION BASIN NOTES

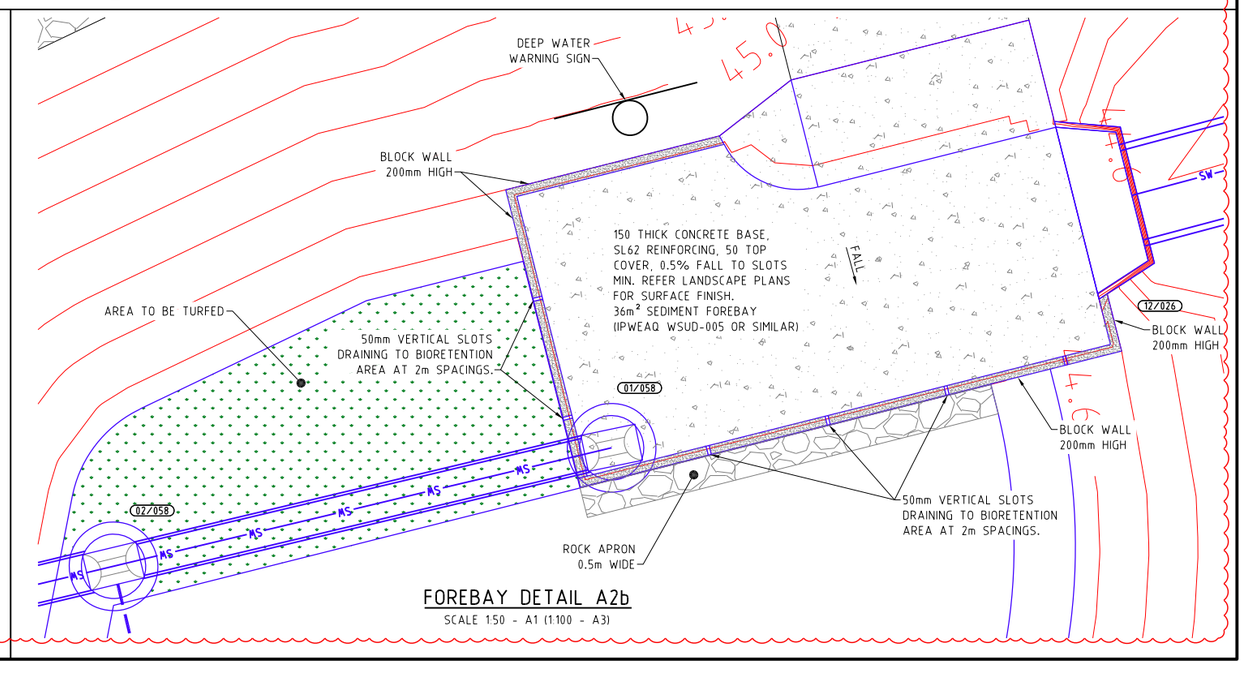
- BIO FILTRATION BASIN TO BE EXCAVTED TO LEVEL BELOW FILTRATION MEDIA
- UNSUITABLE MATERIAL TO BE REMOVED OFF SITE AND BASIN TRIMMED TO FINAL PROFILE PRIOR TO PLACEMENT OF FILTER MEDIA AT 80% COMPLETION OF HOUSING




BASIN PLAN A2a
SCALE 1:200 - A1 (1:400 - A3)




FOREBAY DETAIL A2a
SCALE 1:50 - A1 (1:100 - A3)




FOREBAY DETAIL A2b
SCALE 1:50 - A1 (1:100 - A3)

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
| B | 29-11-23 | STORMEATER AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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 02

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

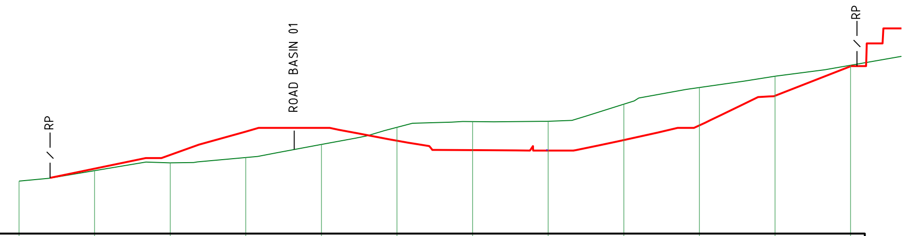
Postal Address
PO Box 2484
Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-661
REV B

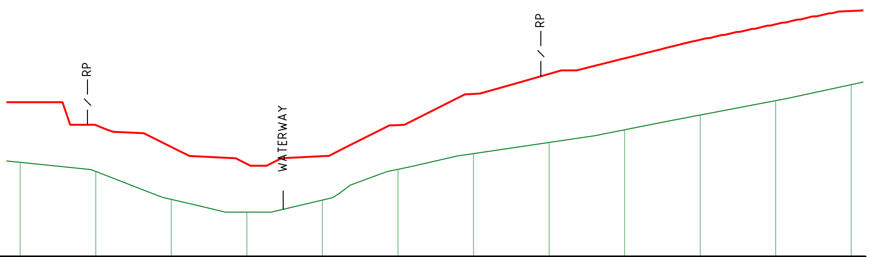
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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FINISHED SURFACE | | 43.303 | 44.21 | 45.762 | 46 | 45.151 | 44.534 | 44.5 | 45.2 | 46.166 | 48.129 | 50.091 |
| EXISTING SURFACE | 42.484 | 43.171 | 43.687 | 44.042 | 44.91 | 46.047 | 46.417 | 46.446 | 47.578 | 48.675 | 49.429 | 50.158 |
| CHAINAGE | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |

## LONGITUDINAL SECTION A3

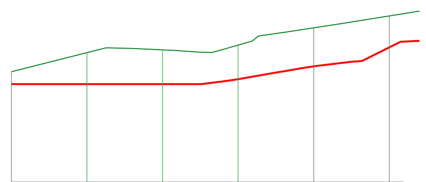
Horizontal scale 1:250
Vertical scale 1:250




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FINISHED SURFACE | 59.2 | 57.68 | 56.24 | 55.117 | 55.634 | 57.688 | 59.742 | 61.072 | 62.099 | 63.328 | 64.353 | 65.23 |
| EXISTING SURFACE | 55.221 | 54.616 | 52.769 | 51.927 | 52.722 | 54.755 | 55.8 | 56.535 | 57.374 | 58.349 | 59.3 | 60.356 |
| CHAINAGE | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |

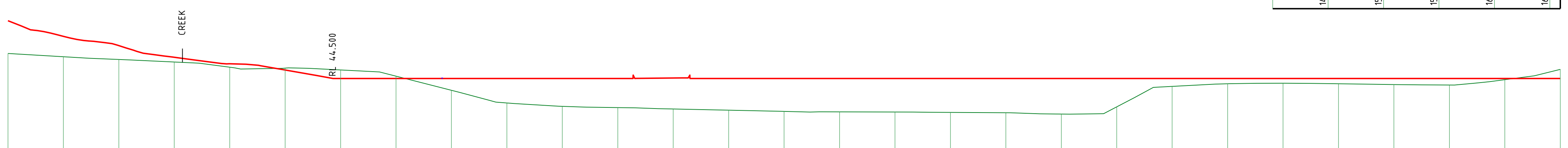
## LONGITUDINAL SECTION A1

Horizontal scale 1:250
Vertical scale 1:250



CONTINUE BELOW

| | | | | | |
|---|---|---|---|---|---|
| FINISHED SURFACE | 44.5 | 44.5 | 44.832 | 45.672 | 46.927 |
| EXISTING SURFACE | 46.581 | 46.763 | 47.075 | 48.216 | 49 |
| CHAINAGE | 145 | 150 | 155 | 160 | 165 |




| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FINISHED SURFACE | 49.727 | 48.303 | 47.467 | 46.413 | 45.832 | 45.263 | 44.5 (CH 29.318) | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.539 | 44.5 |
| EXISTING SURFACE | 46.763 | 46.467 | 46.221 | 45.992 | 45.514 | 45.433 | 45.267 | 44.707 | 43.426 | 42.28 | 41.977 | 41.861 | 41.737 | 41.628 |
| CHAINAGE | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FINISHED SURFACE | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 | 44.5 |
| EXISTING SURFACE | 41.519 | 41.477 | 41.464 | 41.423 | 41.398 | 41.274 | 41.931 | 43.777 | 44.025 | 44.058 | 44.01 | 43.961 | 43.905 | 44.387 | 45.323 |
| CHAINAGE | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 |

CONTINUE ABOVE

## LONGITUDINAL SECTION A2

Horizontal scale 1:250
Vertical scale 1:250

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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
Scale 1:1000 - A1 (1:2000 - A3)

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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DRAWING TITLE

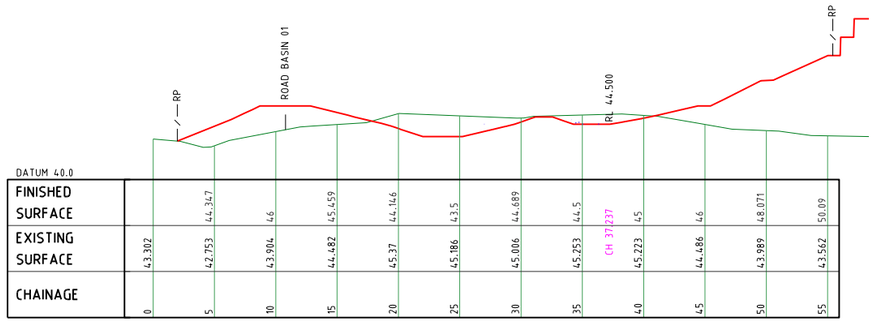
STORMWATER BASIN SECTIONS SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
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mortons@urbansolutions.net.au
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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 13-10-23

DRAWING NUMBER 41901-02-662 | REV A

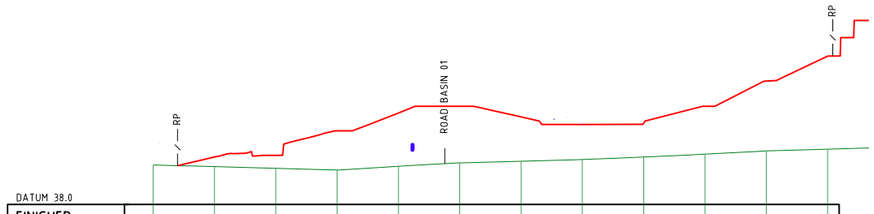
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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 40.0 | | | | | | | | | | | | |
| FINISHED SURFACE | | 44.347 | 46 | 45.459 | 44.146 | 43.5 | 44.689 | 44.5 | CH 37.237 | 45 | 46 | 48.071 | 50.09 |
| EXISTING SURFACE | 43.302 | 42.753 | 43.904 | 44.482 | 45.37 | 45.186 | 45.006 | 45.253 | | 45.223 | 44.486 | 43.989 | 43.562 |
| CHAINAGE | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | | 40 | 45 | 50 | 55 |

## LONGITUDINAL SECTION A6

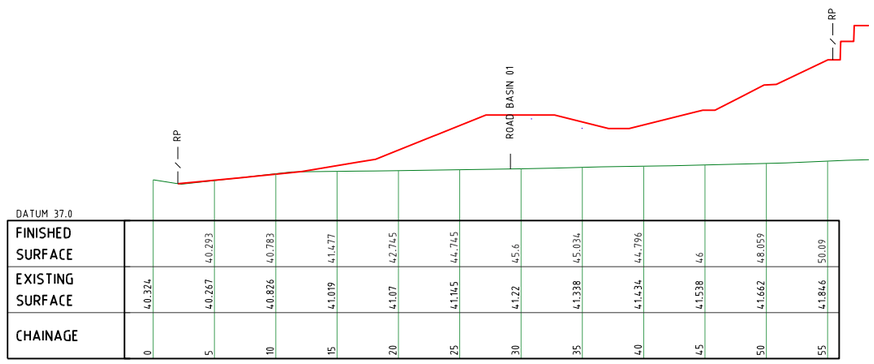
Horizontal scale 1:250
Vertical scale 1:250




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 38.0 | | | | | | | | | | | | |
| FINISHED SURFACE | | 41.872 | 42 | 44 | 45.454 | 46 | 45.141 | 44.522 | 44.616 | 46 | 48.06 | 50.09 |
| EXISTING SURFACE | 41.223 | 41.085 | 40.945 | 40.815 | 41.11 | 41.387 | 41.518 | 41.665 | 41.864 | 42.101 | 42.362 | 42.507 |
| CHAINAGE | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |

## LONGITUDINAL SECTION A5

Horizontal scale 1:250
Vertical scale 1:250




| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATUM 37.0 | | | | | | | | | | | | |
| FINISHED SURFACE | | 40.293 | 40.783 | 41.477 | 42.745 | 44.745 | 45.6 | 45.034 | 44.796 | 46 | 48.059 | 50.09 |
| EXISTING SURFACE | 40.324 | 40.267 | 40.826 | 41.019 | 41.07 | 41.145 | 41.22 | 41.338 | 41.434 | 41.538 | 41.662 | 41.846 |
| CHAINAGE | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |

## LONGITUDINAL SECTION A4

Horizontal scale 1:250
Vertical scale 1:250

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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
Scale 1:1000 - A1 (1:2000 - A3)

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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Robin Russell & ASSOCIATES PTY. LTD.
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DRAWING TITLE

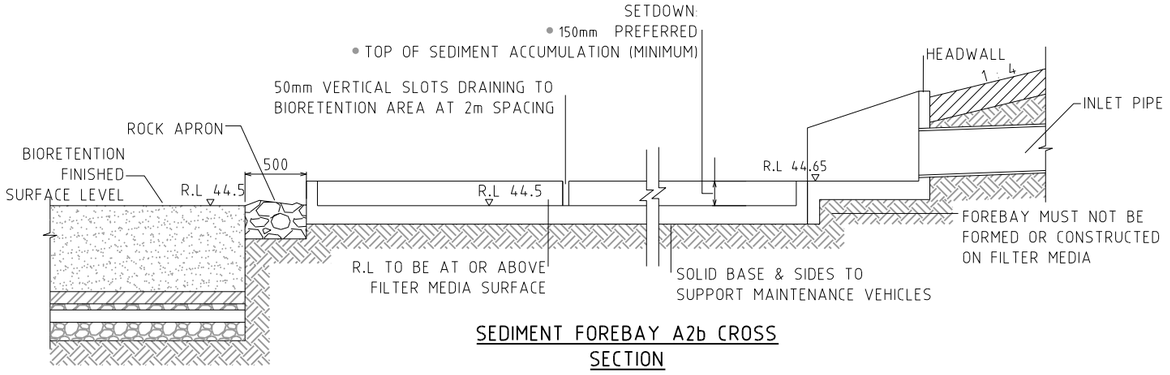
STORMWATER
BASIN
SECTIONS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
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Tel 07 5571 1099
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Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

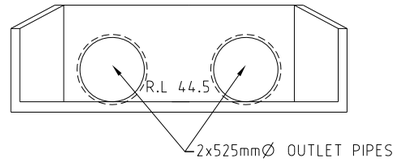
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|---|---|---|---|
| DESIGNED RB | | DRAWN EP | |
| APPROVED | RPEQ 4706 | DATE 13-10-23 | |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-663 | A |

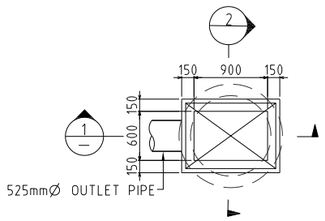
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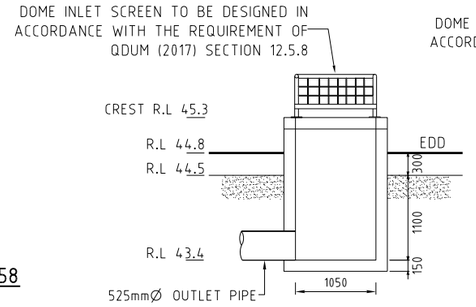

SEDIMENT FOREBAY A2b CROSS SECTION



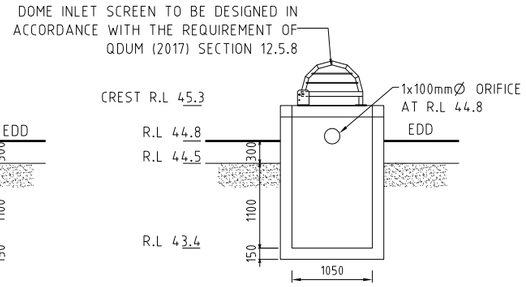

HEADWALL 01/055
(2x525mm OUTLET PIPES)



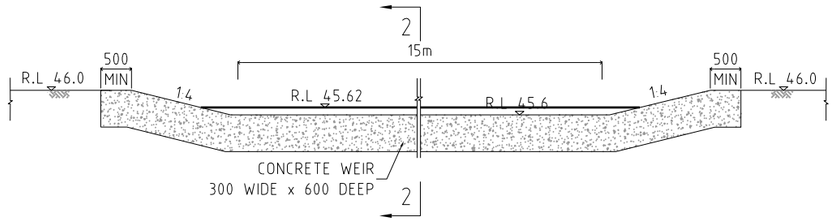

OVERFLOW STRUCTURE 01/058



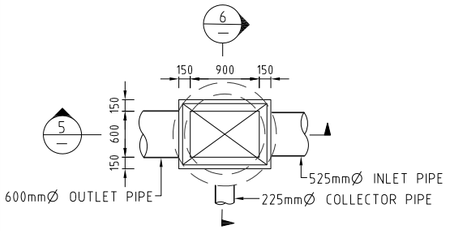

SECTION 1-1



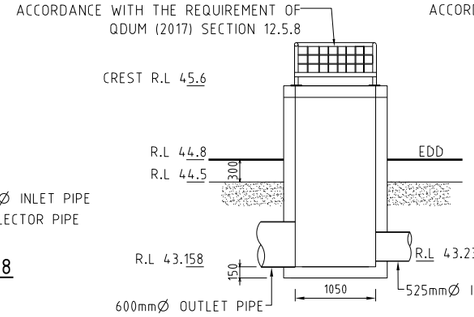

SECTION 2-2



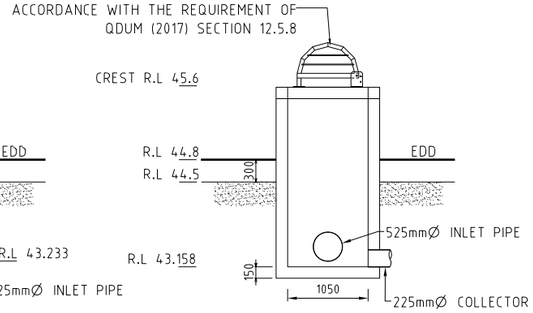

WEIR DETAIL SECTION 1-1



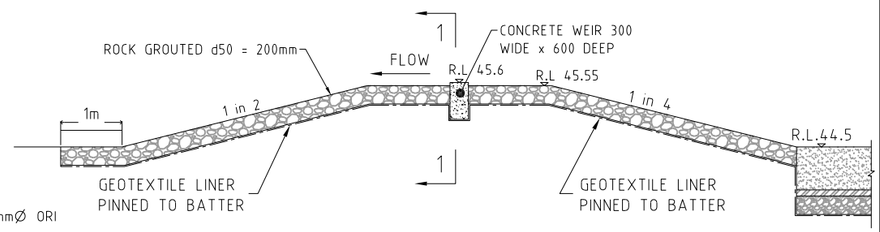

OVERFLOW STRUCTURE 02/058



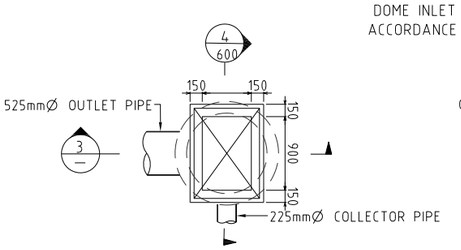

SECTION 5-5



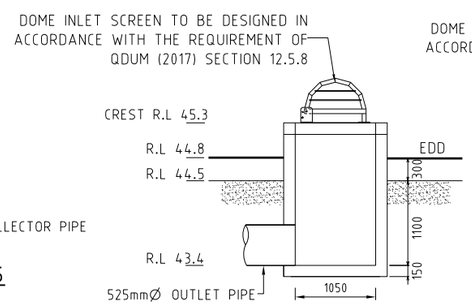

SECTION 6-6



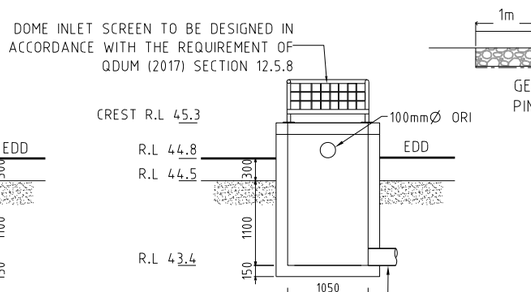

WEIR CROSS SECTION 2-2




OVERFLOW STRUCTURE 15-025




SECTION 3-3




SECTION 4-4

PROJECT NAME

COURTNEY DR UPPER COOMERA

STAGE 02

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

NTS

| REV | DATE | DESCRIPTION | INT |
|---|---|---|---|
| B | 29-11-23 | DETAILS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT • BENNETT

DRAWING TITLE

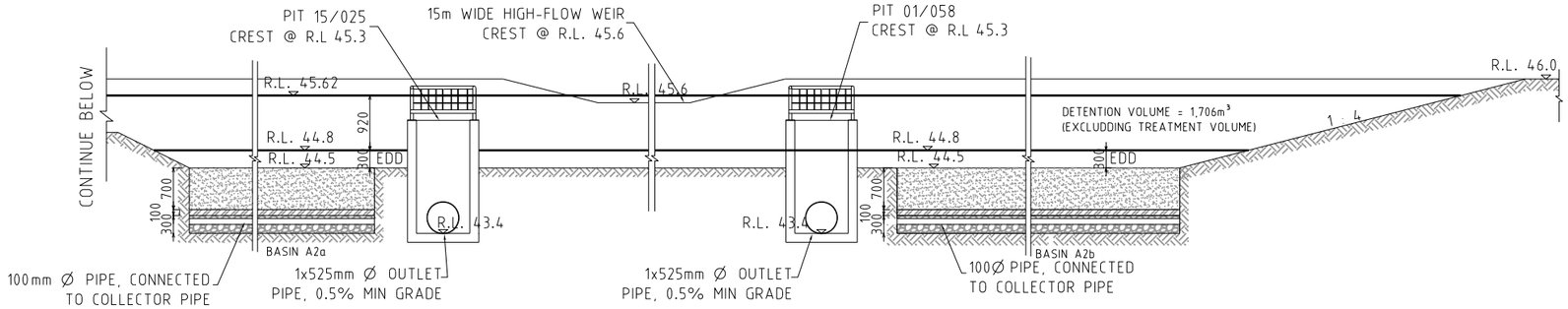
STORMWATER
BASIN
DETAILS & SECTIONS
SHEET 01

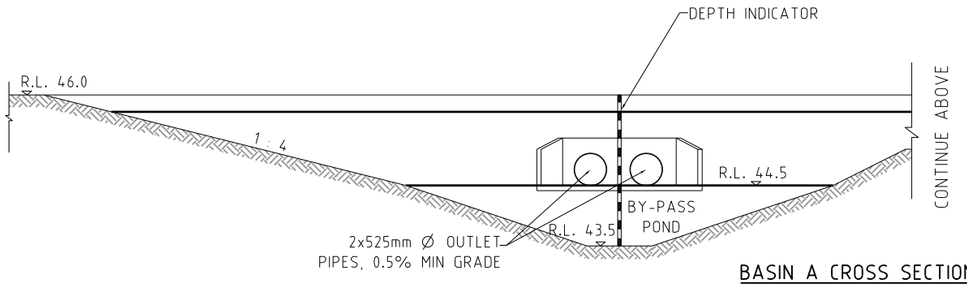
MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
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PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St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

| DESIGNED RB | DRAWN EP |
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| APPROVED | RPEQ 4706 DATE 13-10-23 |

DRAWING NUMBER 41901-02-664 REV B

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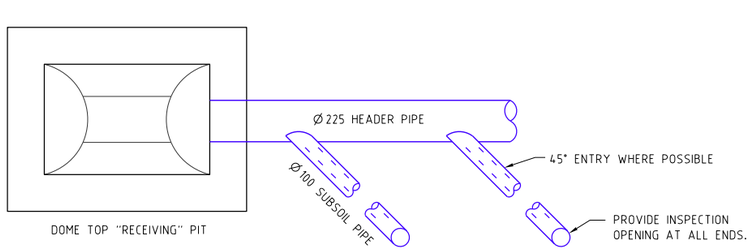



BASIN A CROSS SECTION A-A

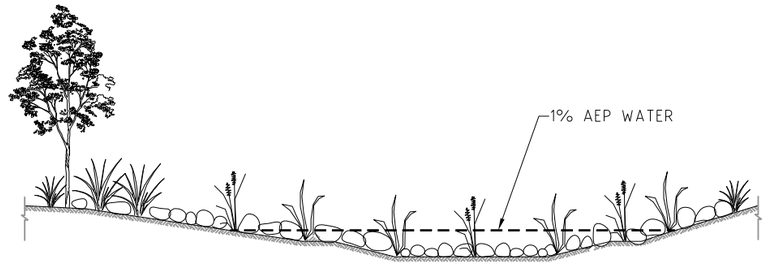
SCALE 1:50

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



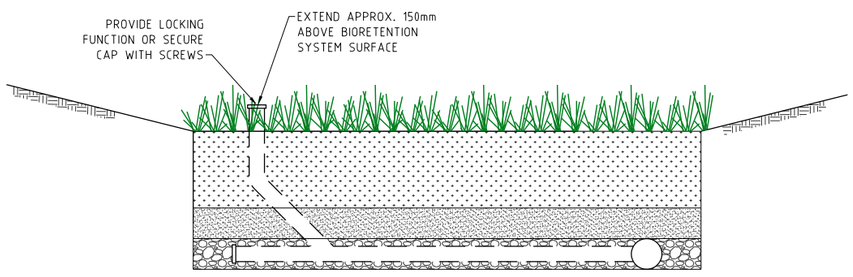

TYPICAL HEADER & SUBSOIL DETAILS

N.T.S.



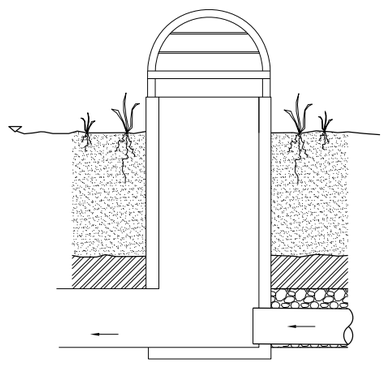

WATERWAY SECTION A1-661

N.T.S.



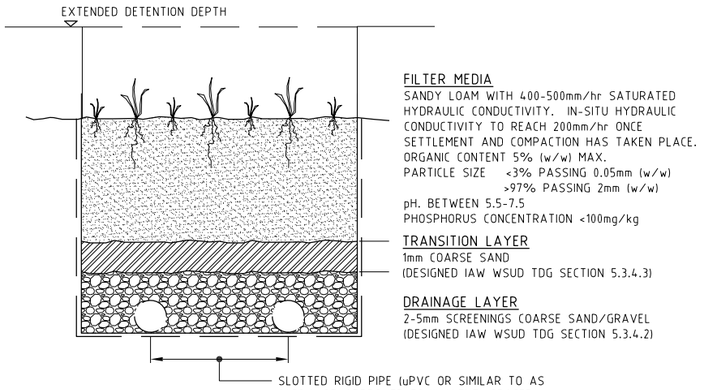

BIORETENTION FILTER TYPICAL SECTION

N.T.S.



TYPPICAL 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 02

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 | 29-11-23 | DETAILS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

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

DRAWING TITLE

STORMWATER
BASIN
DETAILS & SECTIONS
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER: 41901-02-665

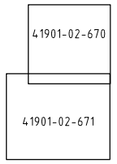
REV: B

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## LEGEND

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

## SHEET LAYOUT




B

02/002(3) 0.1438ha
01/002(3) 0.3735ha
03/002(3) 0.4319ha
02/002 0.0212ha
01/003(3) 0.1739ha
02/004 0.0480ha
03/002 0.0285ha
02/004 0.0705ha
01/004 0.1118ha
01/023 0.0211ha
113/059(3) 0.3159ha
02/021 0.0921ha
01/008 0.0561ha
01/021 0.2915ha
01/022 0.1088ha
04/017 0.0791ha
01/009 0.2083ha
01/010 0.1142ha
01/018 0.2078ha
02/020 0.1999ha
03/017 0.1112ha
01/011 0.1044ha
01/013 0.2728ha
03/020 0.0608ha
01/019 0.1772ha
01/020 0.2812ha
02/017 0.1969ha
04/005 0.2074ha
02/016 0.1090ha
01/014 0.1412ha
01/024 0.0136ha
04/024 0.0048ha
01/017 0.2544ha
01/015 0.1670ha
03/024 0.0042ha
02/024 0.0045ha
03/005 0.2047ha
01/016 0.2563ha
02/012 0.2301ha
01/037 0.0994ha
01/038 0.1243ha
01/012 0.2786ha
02/041 0.3138ha
02/005 0.1013ha
01/039 0.2558ha
03/041 0.1026ha
01/005 0.2221ha
14/025(3) 1.0157ha
01/040 0.1737ha
05/026 0.0687ha
05/042 0.1726ha
06/042 0.0995ha
02/045 0.2239ha
01/041 0.2387ha
01/043 0.0075ha
09/025 0.1073ha
04/026 0.1883ha
02/043 0.0091ha
07/042 0.1133ha
04/042 0.1046ha
01/045 0.0195ha
01/034 0.1647ha
09/046 0.0413ha
08/046 0.0374ha
03/043 0.0197ha
08/025 0.1121ha
07/046 0.0374ha
04/042 0.1152ha
01/033 0.1433ha
06/046 0.0373ha
03/026 0.1733ha
09/042(3) 0.2863ha
03/028 0.0348ha
02/028 0.1827ha
01/035 0.2062ha
03/042 0.1156ha
06/025
03/055(3) 110.0757ha
ADJOINS SI
LOT 10

PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
| B | 15-01-24 | CATCHMENT NUMBER & AREAS AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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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

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As
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ABN: 39 116 375 065

mortons@urbansolutions.net.au
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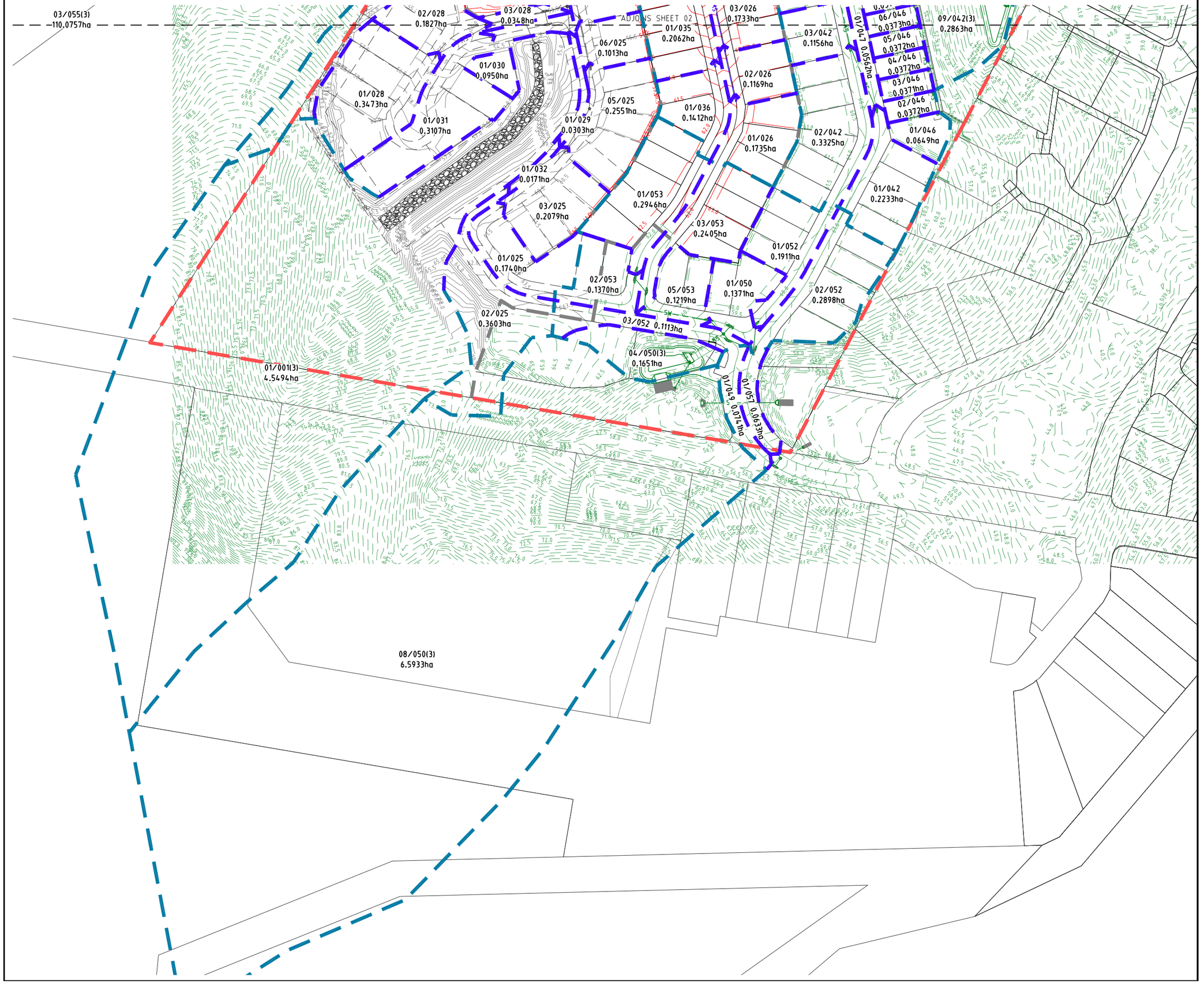
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Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-670 REV B

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
|---|---|---|---|
| A | 13-10-23 | COUNCIL ISSUE | EP |

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ASSOCIATED CONSULTANTS

BIOME WATER AND ENVIRONMENTAL CONSULTING

Robin Russell & ASSOCIATES PTY. LTD.

BENNETT + BENNETT

DRAWING TITLE

STORMWATER
CATCHMENT PLAN
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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ABN: 39 116 375 065

mortons@urbansolutions.net.au
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Postal Address
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Southport QLD 4215

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

| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
|---|---|
| 41901-02-671 | A |

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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

| NODE | | | CATCHMENT AREA | | | RAINFALL VOLUME* | | RAINFALL Coef. | | CATCHMENT FLOW | | | | APPROACH FLOW | | | | FLOW AT PIT | | | | PIT | | HGL | | | PIPE | HEADLOSSES | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A.1 | A.2 | A.3 | CRITICAL | INTENSITY | | CURRENT | A.1 | A.2 | A.3 | CRITICAL | GRADE | FLOW | | | CAPTURED | BYPASS | | | GRADE | GRADE | PIT | PIPE | | GRADE | FLOW | COEFFICIENT | | HEADLOSS | | CAPACITY | VELOCITY | |
| 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 | |
| 01/2 | 02/2 | TYPE 2 FIELD INLET 900x600 C/W DOME TOP | | | 0.274 | | | 0.877 | | | | 0.057 | 60 | 1.0 | 57 | 1.48 | 0.02 | 28 | 29 | 0.02 | 02/2 | 1.000 | 44.376 | 43.15 | 43.15 | 39.90 | 10.32 | 0.03 | 9.7 | 0.0 | 0.0 | 0.0 | 0.040 | 2.510 | 01/2 |
| 02/2 | 03/2 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.021 | | 0.144 | 90 | 61.3 | 0.877 | 0.830 | 0.007 | | 0.030 | 60 | 9.7 | 65 | 1.25 | 0.01 | 57 | 8 | 0.01 | 03/2 | 9.683 | 41.196 | 39.90 | 39.90 | 37.49 | 7.92 | 0.09 | 3.9 | 0.0 | 0.0 | 0.0 | 0.130 | 3.750 | 02/2 |
| 03/2 | 04/2 | DRAINWAYS 1TCS0 ON GRADE | 0.029 | | 0.432 | 90 | 61.3 | | 0.830 | 0.009 | | 0.090 | 60 | 5.8 | 106 | 1.60 | 0.02 | 83 | 22 | 0.02 | 02/4 | 5.792 | 38.890 | 37.50 | 37.49 | 34.91 | 15.06 | 0.17 | 2.3 | 0.0 | 0.0 | 0.0 | 0.190 | 5.640 | 03/2 |
| 04/2 | 05/2 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 36.333 | 33.49 | 33.49 | 33.47 | 0.44 | 0.17 | 2.1 | 0.0 | 0.0 | 0.0 | 0.680 | 1.660 | 04/2 |
| 05/2 | 08/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.228 | 33.31 | 33.31 | 33.29 | 0.07 | 0.19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.000 | 0.910 | 05/2 |
| 08/55 | 09/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.000 | 33.29 | | | | | | | | | | | 08/55 |
| 01/3 | 02/3 | INLET HEADWALL | | | 0.174 | | | | | | | 0.036 | 60 | 1.0 | 36 | | | 36 | | | | 1.000 | 38.217 | 37.55 | 37.53 | 37.40 | 2.27 | 0.04 | 0.5 | 0.0 | 0.0 | 0.0 | 0.130 | 1.120 | 01/3 |
| 02/3 | 05/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 38.100 | 37.31 | 37.31 | 37.31 | 0.00 | 0.04 | 0.0 | 0.0 | 0.0 | 0.0 | | | 02/3 |
| 05/55 | 06/55 | BASIN NODE FOR CALCULATIONS | | | 20.019 | | | | | | | 4.638 | 90 | 1.0 | 4638 | | | 4638 | | | | 1.000 | 36.200 | 35.19 | | | | | | | | | | | 05/55 |
| 01/4 | 02/4 | INLET GULLY IN SAG (LS) Type S Lintel | 0.112 | | | 90 | 61.3 | 0.877 | 0.830 | 0.037 | | | 60 | 0.2 | 37 | 1.07 | 0.00 | 37 | 0 | 0.00 | O 01/4 | 0.174 | 37.669 | 36.53 | 36.49 | 36.35 | 2.11 | 0.04 | 9.7 | 0.0 | 0.0 | 0.0 | 0.110 | 1.350 | 01/4 |
| 02/4 | 03/4 | INLET GULLY IN SAG (LS) Type S Lintel | 0.071 | | 0.048 | 90 | 61.3 | 0.877 | 0.830 | 0.023 | | 0.010 | 60 | 0.2 | 51 | 1.07 | 0.00 | 51 | 0 | 0.00 | O 02/4 | 0.174 | 37.669 | 36.34 | 36.32 | 35.68 | 14.80 | 0.09 | 4.2 | 0.0 | 0.0 | 0.0 | 0.100 | 4.170 | 02/4 |
| 03/4 | 04/4 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.730 | 35.20 | 35.19 | 35.19 | 0.00 | 0.09 | 2.1 | 0.0 | 0.1 | 0.0 | 0.150 | 2.510 | 03/4 |
| 04/4 | 05/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 36.446 | 35.19 | 35.19 | 35.19 | 0.00 | 0.09 | 0.0 | 0.0 | 0.0 | 0.0 | | | 04/4 |
| 05/55 | 06/55 | BASIN NODE FOR CALCULATIONS | | | 20.019 | | | | | | | 4.638 | 90 | 1.0 | 4638 | | | 4638 | | | | 1.000 | 36.200 | 35.19 | | | | | | | | | | | 05/55 |
| 01/5 | 02/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.222 | | | 90 | 61.3 | 0.877 | 0.830 | 0.073 | | | 60 | 1.0 | 73 | 1.07 | 0.00 | 72 | 0 | 0.00 | 02/5 | 1.000 | 53.037 | 52.15 | 52.09 | 51.77 | 1.30 | 0.07 | 9.7 | 0.0 | 0.1 | 0.0 | 0.280 | 1.420 | 01/5 |
| 02/5 | 03/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.101 | | | 90 | 61.3 | 0.877 | 0.830 | 0.033 | | | 60 | 1.0 | 33 | 1.07 | 0.00 | 33 | 0 | 0.00 | 03/5 | 1.000 | 52.886 | 51.77 | 51.76 | 51.33 | 1.49 | 0.11 | 1.9 | 0.0 | 0.0 | 0.0 | 0.380 | 2.080 | 02/5 |
| 03/5 | 04/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.205 | | | 90 | 61.3 | 0.877 | 0.830 | 0.067 | | | 60 | 1.0 | 67 | 0.00 | 0.00 | 67 | 0 | 0.00 | 04/5 | 1.000 | 52.252 | 51.26 | 51.26 | 47.23 | 7.82 | 0.17 | 2.0 | 0.0 | 0.0 | 0.0 | 0.270 | 4.600 | 03/5 |
| 04/5 | 05/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.207 | | | 90 | 61.3 | 0.877 | 0.830 | 0.068 | | | 60 | 1.0 | 68 | 0.00 | 0.00 | 68 | 0 | 0.00 | 01/11 | 1.000 | 48.247 | 47.23 | 47.20 | 46.08 | 10.21 | 0.36 | 1.3 | 0.0 | 0.0 | 0.0 | 0.300 | 5.400 | 04/5 |
| 05/5 | 06/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 47.204 | 45.83 | 45.81 | 42.11 | 8.82 | 0.70 | 1.0 | 0.0 | 0.0 | 0.0 | 0.640 | 6.530 | 05/5 |
| 06/5 | 07/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.982 | 42.05 | 41.93 | 41.34 | 4.08 | 0.73 | 2.0 | 0.0 | 0.1 | 0.0 | 0.460 | 2.790 | 06/5 |
| 07/5 | 08/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 41.996 | 41.34 | 41.17 | 40.93 | 1.08 | 0.79 | 0.7 | 0.0 | 0.2 | 0.0 | 1.020 | 2.850 | 07/5 |
| 08/5 | 09/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 41.853 | 40.76 | 40.75 | 39.94 | 2.08 | 0.78 | 0.4 | 0.0 | 0.0 | 0.0 | 0.690 | 4.060 | 08/5 |
| 09/5 | 10/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 41.020 | 39.90 | 39.83 | 39.17 | 2.35 | 0.85 | 0.3 | 0.0 | 0.1 | 0.0 | 0.450 | 4.960 | 09/5 |
| 10/5 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 40.227 | 39.17 | 39.11 | 37.87 | 6.69 | 1.18 | 1.1 | 0.0 | 0.4 | 0.0 | 0.540 | 4.530 | 10/5 |
| 11/5 | 12/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.900 | 37.87 | 37.25 | 37.26 | -0.19 | 1.49 | 1.2 | 0.0 | 0.6 | 0.0 | 1.430 | 3.400 | 11/5 |
| 12/5 | 01/6 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.645 | 37.26 | 37.26 | 37.26 | 0.00 | 1.49 | 0.0 | 0.0 | 0.0 | 0.0 | | | 12/5 |
| 01/17 | 02/17 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.254 | | | 90 | 61.3 | 0.877 | 0.830 | 0.084 | | | 60 | 1.0 | 107 | 1.25 | 0.01 | 94 | 10 | 0.01 | 01/19 | 1.000 | 46.789 | 45.77 | 45.74 | 44.42 | 10.58 | 0.09 | 9.1 | 0.0 | 0.0 | 0.0 | 0.130 | 3.480 | 01/17 |
| 02/17 | 03/17 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.197 | | | 90 | 61.3 | 0.877 | 0.830 | 0.065 | | | 60 | 1.0 | 65 | 0.00 | 0.00 | 65 | 0 | 0.00 | 03/17 | 1.000 | 45.463 | 44.42 | 44.41 | 41.00 | 12.70 | 0.16 | 2.0 | 0.0 | 0.0 | 0.0 | 0.190 | 5.410 | 02/17 |
| 03/17 | 04/17 | DRAINWAYS 1TCS0 ON GRADE | 0.111 | | | 90 | 61.3 | 0.877 | 0.830 | 0.037 | | | 60 | 1.0 | 37 | 0.00 | 0.00 | 37 | 0 | 0.00 | 04/17 | 1.000 | 42.101 | 40.74 | 40.71 | 39.40 | 5.40 | 0.26 | 1.3 | 0.0 | 0.0 | 0.0 | 0.390 | 4.650 | 03/17 |
| 04/17 | 10/5 | DRAINWAYS 0TCS0 SAG | 0.079 | | | 90 | 61.3 | 0.877 | 0.830 | 0.026 | | | 60 | 1.0 | 28 | 1.12 | 0.00 | 27 | 1 | 0.00 | 01/21 | 1.000 | 40.074 | 39.40 | 39.28 | 39.17 | 0.77 | 0.34 | 0.7 | 0.0 | 0.2 | 0.0 | 0.520 | 2.890 | 04/17 |
| 10/5 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 40.227 | 39.17 | | | | | | | | | | | 10/5 |
| 01/20 | 02/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.281 | | | 90 | 61.3 | 0.877 | 0.830 | 0.093 | | | 60 | 2.5 | 93 | 1.29 | 0.01 | 84 | 8 | 0.01 | 02/20 | 2.490 | 43.860 | 42.86 | 42.85 | 41.49 | 3.50 | 0.08 | 7.0 | 0.0 | 0.0 | 0.0 | 0.190 | 1.860 | 01/20 |
| 02/20 | 03/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.200 | | | 90 | 61.3 | 0.877 | 0.830 | 0.066 | | | 60 | 5.5 | 73 | 1.23 | 0.01 | 64 | 7 | 0.01 | 01/22 | 5.500 | 42.308 | 41.49 | 41.39 | 41.23 | 2.27 | 0.15 | 2.0 | 0.0 | 0.1 | 0.0 | 0.450 | 2.010 | 02/20 |
| 03/20 | 04/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.061 | | | 90 | 61.3 | 0.877 | 0.830 | 0.020 | | | 60 | 5.4 | 20 | 0.00 | 0.00 | 20 | 0 | 0.00 | 01/23 | 5.434 | 42.402 | 41.16 | 41.16 | 38.62 | 5.28 | 0.17 | 2.0 | 0.0 | 0.0 | 0.0 | 0.290 | 4.230 | 03/20 |
| 04/20 | 05/20 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.202 | 38.62 | 38.53 | 38.41 | 0.49 | 0.21 | 1.8 | 0.0 | 0.1 | 0.0 | 1.030 | 1.320 | 04/20 |
| 05/20 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 38.731 | 38.41 | 38.29 | 37.87 | 0.79 | 0.31 | 0.9 | 0.0 | 0.1 | 0.0 | 1.540 | 1.970 | 05/20 |
| 11/5 | 12/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.900 | 37.87 | | | | | | | | | | | 11/5 |
| 01/21 | 02/21 | INLET GULLY IN SAG (LS) Type S Lintel | 0.291 | | | 90 | 61.3 | 0.877 | 0.830 | 0.096 | | | 60 | 0.6 | 97 | 1.47 | 0.01 | 85 | 9 | 0.01 | 02/21 | 0.561 | 38.583 | 38.61 | 38.53 | 38.48 | 0.86 | 0.09 | 9.7 | 0.0 | 0.1 | 0.0 | 0.280 | 1.330 | 01/21 |
| 02/21 | 05/20 | INLET GULLY IN SAG (LS) Type S Lintel | 0.092 | | | 90 | 61.3 | 0.877 | 0.830 | 0.030 | | | 60 | 0.7 | 38 | 1.07 | 0.00 | 38 | 0 | 0.00 | 01/4 | 0.698 | 38.482 | 38.48 | 38.48 | 38.41 | 0.99 | 0.13 | 1.7 | 0.0 | 0.0 | 0.0 | 0.560 | 1.590 | 02/21 |
| 05/20 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 38.731 | 38.41 | | | | | | | | | | | 05/20 |
| 01/22 | 04/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.109 | | | 90 | 61.3 | 0.877 | 0.830 | 0.036 | | | 60 | 7.0 | 42 | 1.07 | 0.00 | 41 | 0 | 0.00 | 01/21 | 7.036 | 39.418 | 38.68 | 38.62 | 38.62 | 0.05 | 0.04 | 9.7 | 0.0 | 0.1 | 0.0 | 0.070 | 2.470 | 01/22 |
| 04/20 | 05/20 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.202 | 38.62 | | | | | | | | | | | 04/20 |
| 01/23 | 04/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.021 | | | 90 | 61.3 | 0.877 | 0.830 | 0.007 | | | 60 | 6.0 | 7 | 0.00 | 0.00 | 7 | 0 | 0.00 | 02/4 | 6.030 | 39.248 | 38.62 | 38.62 | 38.62 | 0.00 | 0.02 | 6.1 | 0.0 | 0.0 | 0.0 | 0.030 | 1.760 | 01/23 |
| 04/20 | 05/20 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.202 | 38.62 | | | | | | | | | | | 04/20 |
| 01/24 | 02/24 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.014 | | | 90 | 61.3 | 0.877 | 0.830 | 0.004 | | | 60 | 8.0 | 5 | 1.07 | 0.00 | 5 | 0 | 0.00 | 02/24 | 8.000 | 50.440 | 49.32 | 49.32 | 48.95 | 7.39 | 0.00 | 7.0 | 0.0 | 0.0 | 0.0 | 0.010 | 1.620 | 01/24 |
| 02/24 | 03/24 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.005 | | | 90 | 61.3 | 0.877 | 0.830 | 0.001 | | | 25 | 8.0 | 1 | 0.00 | 0.00 | 1 | 0 | 0.00 | 03/24 | 8.000 | 50.048 | 48.93 | 48.93 | 48.54 | 7.94 | 0.01 | 1.3 | 0.0 | 0.0 | 0.0 | 0.010 | 1.820 | 02/24 |
| 03/24 | 04/24 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.004 | | | 90 | 61.3 | 0.877 | 0.830 | 0.001 | | | 25 | 8.0 | 1 | 0.00 | 0.00 | 1 | 0 | 0.00 | 04/24 | 8.000 | 49.656 | 48.51 | 48.51 | 48.19 | 6.65 | 0.01 | 1.0 | 0.0 | 0.0 | 0.0 | 0.010 | 1.830 | 03/24 |
| 04/24 | 10/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.005 | | | 90 | 61.3 | 0.877 | 0.830 | 0.002 | | | 60 | 8.0 | 2 | 0.00 | 0.00 | 2 | 0 | 0.00 | 03/20 | 8.000 | 49.264 | 48.16 | 48.16 | 47.64 | 5.88 | 0.01 | 1.3 | 0.0 | 0.0 | 0.0 | 0.020 | 1.840 | 04/24 |
| 10/26 | 11/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 48.730 | 46.69 | | | | | | | | | | | 10/26 |
| 01/25 | 02/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.174 | | | 90 | 61.3 | 0.877 | 0.830 | 0.057 | | | 60 | 1.5 | 57 | 0.00 | 0.00 | 57 | 0 | 0.00 | 03/25 | 1.497 | 60.599 | 59.72 | 59.67 | 59.46 | 2.04 | 0.06 | 9.7 | 0.0 | 0.0 | 0.0 | 0.180 | 1.280 | 01/25 |
| 02/25 | 03/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.360 | | | 90 | 61.3 | 0.877 | 0.830 | 0.119 | | | 60 | 2.0 | 119 | 1.52 | 0.01 | 99 | 18 | 0.01 | 01/32 | 1.951 | 60.461 | 59.46 | 59.46 | 58.34 | 2.82 | 0.16 | 4.2 | 0.0 | 0.0 | 0.0 | 0.410 | 2.670 | 02/25 |
| 03/25 | 04/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.208 | | | 90 | 61.3 | 0.877 | 0.830 | 0.069 | | | 60 | 3.7 | 69 | 1.20 | 0.00 | 61 | 5 | 0.00 | 05/25 | 3.667 | 59.255 | 58.34 | 58.32 | 57.26 | 4.14 | 0.24 | 1.4 | 0.0 | 0.0 | 0.0 | 0.520 | 3.670 | 03/25 |
| 04/25 | 05/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 58.171 | 57.21 | 57.21 | 55.50 | 6.91 | 0.24 | 0.4 | 0.0 | 0.0 | 0.0 | 0.400 | 4.950 | 04/25 |
| 05/25 | 06/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.255 | | | 90 | 61.3 | 0.877 | 0.830 | 0.084 | | | 60 | 8.4 | 88 | 1.36 | 0.01 | 70 | 17 | 0.01 | 06/25 | 8.412 | 56.410 | 55.49 | 55.48 | 53.44 | 7.57 | 0.31 | 1.4 | 0.0 | 0.0 | 0.0 | 0.450 | 4.830 | 05/25 |
| 06/25 | 07/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.101 | | | 90 | 61.3 | 0.877 | 0.830 | 0.033 | | | 60 | 8.6 | 49 | 1.11 | 0.00 | 46 | 1 | 0.00 | 01/33 | 8.590 | 54.091 | 53.44 | 53.37 | 52.78 | 6.28 | 0.35 | 1.0 | 0.0 | 0.2 | 0.0 | 0.550 | 3.200 | 06/25 |
| 07/25 | 08/25 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 53.534 | 52.78 | 52.69 | 52.15 | 1.93 | 0.27 | 1.3 | 0.0 | 0.1 | 0.0 | 0.710 | 3.090 | 07/25 |
| 08/25 | 09/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.112 | | | 90 | 61.3 | 0.877 | 0.830 | 0.037 | | | 60 | 0.6 | 37 | 0.00 | 0.00 | 37 | 0 | 0.00 | 09/25 | 0.600 | 52.548 | 52.15 | 52.14 | 51.55 | 1.86 | 0.27 | 0.7 | 0.0 | 0.1 | 0.0 | 0.840 | 2.680 | 08/25 |
| 09/25 | 10/25 | DRAINWAYS 1TCS0 ON GRADE | 0.107 | | | 90 | 61.3 | 0.877 | 0.830 | 0.035 | | | 60 | 0.6 | 35 | 0.00 | 0.00 | 35 | 0 | 0.00 | 01/39 | 0.600 | 52.357 | 51.55 | 51.21 | 50.11 | 3.62 | 0.34 | 1.5 | 0.0 | 0.3 | 0.0 | 0.940 | 3.280 | 09/25 |
| 10/25 | 11/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 53.000 | 48.58 | 48.50 | 47.27 | 15.32 | 0.34 | 1.6 | 0.0 | 0.1 | 0.0 | 0.380 | 5.360 | 10/25 |
| 11/25 | 12/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 48.077 | 46.23 | 46.22 | 45.46 | 14.68 | 0.34 | 1.6 | 0.0 | 0.1 | 0.0 | 0.380 | 4.610 | 11/25 |
| 12/25 | 13/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 46.000 | 45.46 | 45.46 | 45.45 | 0.12 | 0.36 | 0.0 | 0.0 | 0.0 | 0.0 | 0.640 | 2.580 | 12/25 |
| 13/25 | 14/25 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.600 | 45.45 | 45.45 | 45.45 | 0.00 | 0.36 | 0.0 | 0.0 | 0.0 | 0.0 | | | 13/25 |
| 14/25 | 15/25 | BASIN NODE FOR CALCULATIONS | | | 1.016 | | | | | | | 0.211 | 60 | 1.0 | 211 | | | 211 | | | | 1.000 | 45.300 | 45.45 | 45.45 | 45.45 | 0.00 | 0.29 | 0.0 | 0.0 | 0.0 | 0.0 | | | 14/25 |
| 15/25 | 16/25 | MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP | | | | | | | | | | | 60 | 1.0 | 285 | 0.00 | 0.00 | 285 | 0 | 0.00 | 03/55 | 1.000 | 45.300 | 43.13 | 42.98 | 42.18 | 3.98 | 0.29 | 9.7 | 0.0 | 0.1 | 0.0 | 0.260 | 2.730 | 15/25 |
| 16/25 | 03/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.935 | 42.05 | 42.05 | 39.99 | 3.00 | 0.28 | 0.0 | 0.0 | 0.0 | 0.0 | 0.010 | 0.400 | 16/25 |
| 03/55 | 04/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | 110.076 | | | | | | | 9.110 | 90 | 1.0 | 9110 | | | 9110 | | | | 1.000 | 41.083 | 39.99 | | | | | | | | | | | 03/55 |

## 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 |

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B

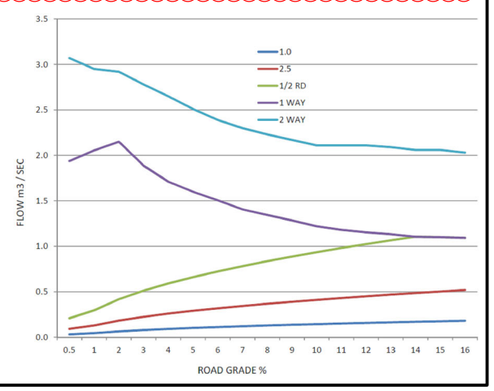
## NOTES:

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)




PROJECT NAME

*COURTNEY DR UPPER COOMERA*

STAGE 02

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 | 17-01-24 | CALC TABLE AMENDED | EP |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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BENNETT+BENNETT

DRAWING TITLE

STORMWATER
CALCULATION TABLES
MINOR
STORM EVENT
SHEET 01

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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-680

REV B

K:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-680.dwg, MINOR CALC TABLE SHEET 01, 19/01/2024 3:50:00 PM, 1:2

# 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

| NODE | | | CATCHMENT AREA | | | RAINFALL VOLUME* | | RAINFALL Coef. | | CATCHMENT FLOW | | | | APPROACH FLOW | | | | FLOW AT PIT | | | | PIT | | HGL | | | PIPE | HEADLOSSES | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A.1 | A.2 | A.3 | CRITICAL | INTENSITY | | CURRENT | A.1 | A.2 | A.3 | CRITICAL | GRADE | FLOW | | | CAPTURED | BYPASS | | | GRADE | GRADE | PIT | PIPE | | | GRADE | FLOW | COEFFICIENT | | HEADLOSS | | CAPACITY | VELOCITY | |
| 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 | NODE |
| 01/26 | 02/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.174 | | | 90 | 61.3 | 0.877 | 0.830 | 0.057 | | | 60 | 4.0 | 57 | 1.15 | 0.00 | 54 | 3 | 0.00 | 02/26 | 3.953 | 61.285 | 60.24 | 60.24 | 58.46 | 6.15 | 0.05 | 7.0 | 0.0 | 0.0 | 0.0 | 0.100 | 3.010 | 01/26 |
| ~~02/26~~ | ~~03/26~~ | ~~INLET GULLY ON GRADE (LG) Type S Lintel~~ | ~~0.117~~ | | | ~~90~~ | ~~61.3~~ | ~~0.877~~ | ~~0.830~~ | ~~0.039~~ | | | ~~60~~ | ~~7.9~~ | ~~41~~ | ~~1.07~~ | ~~0.00~~ | ~~41~~ | ~~0~~ | ~~0.00~~ | ~~03/26~~ | ~~7.944~~ | ~~59.453~~ | ~~58.43~~ | ~~58.43~~ | ~~54.73~~ | ~~7.85~~ | ~~0.14~~ | ~~1.5~~ | ~~0.0~~ | ~~0.0~~ | ~~0.0~~ | ~~0.220~~ | ~~4.500~~ | ~~02/26~~ |
| 03/26 | 04/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.173 | | | 90 | 61.3 | 0.877 | 0.830 | 0.057 | | | 60 | 8.0 | 57 | 1.19 | 0.00 | 51 | 5 | 0.00 | 04/26 | 8.000 | 55.688 | 54.73 | 54.72 | 52.66 | 7.45 | 0.25 | 1.3 | 0.0 | 0.0 | 0.0 | 0.400 | 4.890 | 03/26 |
| 04/26 | 05/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.188 | | | 90 | 61.3 | 0.877 | 0.830 | 0.062 | | | 60 | 8.0 | 67 | 1.27 | 0.01 | 58 | 9 | 0.01 | 05/26 | 8.000 | 53.563 | 52.37 | 52.36 | 50.93 | 5.98 | 0.31 | 0.9 | 0.0 | 0.0 | 0.0 | 0.320 | 3.470 | 04/26 |
| 05/26 | 06/26 | DRAINWAYS 0TC50 SAG | 0.069 | | | 90 | 61.3 | 0.877 | 0.830 | 0.023 | | | 60 | 0.7 | 31 | 0.00 | 0.00 | 31 | 0 | 0.00 | 01/40 | 0.659 | 52.050 | 50.93 | 50.93 | 50.82 | 0.75 | 0.39 | 0.4 | 0.0 | 0.0 | 0.0 | 0.420 | 2.190 | 05/26 |
| 06/26 | 07/26 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 52.271 | 50.82 | 50.80 | 50.42 | 0.72 | 0.40 | 1.7 | 0.0 | 0.0 | 0.0 | 0.440 | 2.170 | 06/26 |
| 07/26 | 08/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.902 | 50.42 | 50.41 | 50.08 | 1.05 | 0.53 | 0.4 | 0.0 | 0.0 | 0.0 | 0.480 | 2.930 | 07/26 |
| 08/26 | 09/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.316 | 49.98 | 49.98 | 49.29 | 5.12 | 0.60 | 0.6 | 0.0 | 0.0 | 0.0 | 0.240 | 5.040 | 08/26 |
| 09/26 | 10/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 50.729 | 49.29 | 49.28 | 47.70 | 6.33 | 0.78 | 0.7 | 0.0 | 0.0 | 0.0 | 0.290 | 6.160 | 09/26 |
| 10/26 | 11/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 48.730 | 46.69 | 46.63 | 45.45 | 4.26 | 0.79 | 2.1 | 0.0 | 0.1 | 0.0 | 0.300 | 5.300 | 10/26 |
| 11/26 | 12/26 | 1200 DIA MANHOLE EXTENDED 600mm | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.953 | 45.45 | 45.45 | 45.45 | 0.05 | 0.79 | 0.2 | 0.0 | 0.0 | 0.0 | 0.350 | 2.410 | 11/26 |
| 12/26 | 14/25 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.580 | 45.45 | 45.45 | 45.45 | 0.00 | 0.79 | 0.0 | 0.0 | 0.0 | 0.0 | | | 12/26 |
| 14/25 | 15/25 | BASIN NODE FOR CALCULATIONS | | | 1.016 | | | | | | | 0.211 | 60 | 1.0 | 211 | | | 211 | | | | 1.000 | 45.300 | 45.45 | | | | | | | | | | | 14/25 |
| 01/33 | 09/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.143 | | | 90 | 61.3 | 0.877 | 0.830 | 0.047 | | | 60 | 0.6 | 48 | 1.07 | 0.00 | 48 | 0 | 0.00 | 01/34 | 0.600 | 52.357 | 51.64 | 51.60 | 51.55 | 0.77 | 0.05 | 9.7 | 0.0 | 0.1 | 0.0 | 0.140 | 1.310 | 01/33 |
| 09/25 | 10/25 | DRAINWAYS 1TC50 ON GRADE | 0.107 | | | 90 | 61.3 | 0.877 | 0.830 | 0.035 | | | 60 | 0.6 | 35 | 0.00 | 0.00 | 35 | 0 | 0.00 | 01/39 | 0.600 | 52.357 | 51.55 | | | | | | | | | | | 09/25 |
| 01/34 | 05/26 | INLET GULLY IN SAG (LS) Type S Lintel | 0.165 | | | 90 | 61.3 | 0.877 | 0.830 | 0.054 | | | 60 | 0.7 | 61 | 1.15 | 0.00 | 59 | 0 | 0.00 | 05/26 | 0.659 | 52.050 | 51.17 | 51.17 | 50.93 | 3.61 | 0.06 | 9.7 | 0.0 | 0.0 | 0.0 | 0.130 | 1.730 | 01/34 |
| 05/26 | 06/26 | DRAINWAYS 0TC50 SAG | 0.069 | | | 90 | 61.3 | 0.877 | 0.830 | 0.023 | | | 60 | 0.7 | 31 | 0.00 | 0.00 | 31 | 0 | 0.00 | 01/40 | 0.659 | 52.050 | 50.93 | | | | | | | | | | | 05/26 |
| 01/35 | 03/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.206 | | | 90 | 61.3 | 0.877 | 0.830 | 0.068 | | | 60 | 8.0 | 69 | 1.24 | 0.01 | 59 | 7 | 0.01 | 01/34 | 8.000 | 55.729 | 54.98 | 54.87 | 54.73 | 2.09 | 0.06 | 9.7 | 0.0 | 0.1 | 0.0 | 0.190 | 1.360 | 01/35 |
| 03/26 | 04/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.173 | | | 90 | 61.3 | 0.877 | 0.830 | 0.057 | | | 60 | 8.0 | 57 | 1.19 | 0.00 | 51 | 5 | 0.00 | 04/26 | 8.000 | 55.688 | 54.73 | | | | | | | | | | | 03/26 |
| 01/36 | 02/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.141 | | | 90 | 61.3 | 0.877 | 0.830 | 0.047 | | | 60 | 7.1 | 47 | 1.09 | 0.00 | 44 | 2 | 0.00 | 01/35 | 7.090 | 60.022 | 58.99 | 58.97 | 58.45 | 5.28 | 0.04 | 9.7 | 0.0 | 0.0 | 0.0 | 0.090 | 2.270 | 01/36 |
| 02/26 | 03/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.117 | | | 90 | 61.3 | 0.877 | 0.830 | 0.039 | | | 60 | 7.9 | 41 | 1.07 | 0.00 | 41 | 0 | 0.00 | 03/26 | 7.944 | 59.453 | 58.43 | | | | | | | | | | | 02/26 |
| 01/37 | 08/26 | INLET GULLY IN SAG (LS) Type S Lintel | 0.099 | | | 90 | 61.3 | 0.877 | 0.830 | 0.033 | | | 60 | 1.0 | 34 | 1.07 | 0.00 | 34 | 0 | 0.00 | 01/24 | 1.039 | 51.271 | 50.26 | 50.23 | 49.98 | 7.74 | 0.03 | 9.7 | 0.0 | 0.0 | 0.0 | 0.050 | 2.320 | 01/37 |
| 08/26 | 09/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.316 | 49.98 | | | | | | | | | | | 08/26 |
| 01/38 | 08/26 | INLET GULLY IN SAG (LS) Type S Lintel | 0.124 | | | 90 | 61.3 | 0.877 | 0.830 | 0.041 | | | 60 | 0.9 | 41 | 1.07 | 0.00 | 41 | 0 | 0.00 | 01/37 | 0.907 | 51.456 | 50.42 | 50.38 | 50.14 | 3.91 | 0.04 | 9.7 | 0.0 | 0.0 | 0.0 | 0.090 | 1.760 | 01/38 |
| 08/26 | 09/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.316 | 49.98 | | | | | | | | | | | 08/26 |
| 01/39 | 07/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.256 | | | 90 | 61.3 | 0.877 | 0.830 | 0.084 | | | 60 | 1.2 | 84 | 1.22 | 0.00 | 79 | 2 | 0.00 | 01/37 | 1.226 | 51.882 | 51.19 | 50.97 | 50.86 | 4.53 | 0.08 | 9.2 | 0.0 | 0.2 | 0.0 | 0.250 | 1.150 | 01/39 |
| 07/26 | 08/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.902 | 50.42 | | | | | | | | | | | 07/26 |
| 01/40 | 07/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.174 | | | 90 | 61.3 | 0.877 | 0.830 | 0.057 | | | 60 | 1.4 | 57 | 0.00 | 0.00 | 57 | 0 | 0.00 | 01/38 | 1.358 | 51.855 | 51.06 | 50.94 | 50.83 | 2.12 | 0.06 | 9.7 | 0.0 | 0.1 | 0.0 | 0.180 | 1.290 | 01/40 |
| 07/26 | 08/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.902 | 50.42 | | | | | | | | | | | 07/26 |
| 01/41 | 02/41 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.239 | | | 90 | 61.3 | 0.877 | 0.830 | 0.079 | | | 60 | 5.6 | 79 | 1.31 | 0.01 | 67 | 11 | 0.01 | 03/41 | 5.609 | 54.809 | 53.76 | 53.76 | 51.70 | 5.71 | 0.07 | 7.0 | 0.0 | 0.0 | 0.0 | 0.120 | 2.470 | 01/41 |
| 02/41 | 03/41 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.314 | | | 90 | 61.3 | 0.877 | 0.830 | 0.103 | | | 60 | 6.6 | 103 | 1.45 | 0.02 | 78 | 24 | 0.02 | 01/17 | 6.586 | 52.611 | 51.70 | 51.65 | 51.19 | 5.97 | 0.15 | 2.9 | 0.0 | 0.1 | 0.0 | 0.270 | 3.230 | 02/41 |
| 03/41 | 09/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.103 | | | 90 | 61.3 | 0.877 | 0.830 | 0.034 | | | 60 | 7.0 | 44 | 1.07 | 0.00 | 43 | 0 | 0.00 | 01/38 | 7.008 | 52.324 | 51.19 | 51.17 | 49.65 | 6.82 | 0.19 | 1.8 | 0.0 | 0.0 | 0.0 | 0.330 | 4.300 | 03/41 |
| 09/26 | 10/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 50.729 | 49.29 | | | | | | | | | | | 09/26 |
| 01/55 | 02/55 | INLET HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.435 | 45.45 | 45.33 | 42.19 | 12.56 | 0.95 | 0.5 | 0.0 | 0.1 | 0.0 | 0.270 | 3.040 | 01/55 |
| 02/55 | 03/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.935 | 42.09 | 42.09 | 39.99 | 3.01 | 0.95 | 0.0 | 0.0 | 0.0 | 0.0 | 0.010 | 0.410 | 02/55 |
| 03/55 | 04/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | 110.076 | | | | | | | 9.110 | 90 | 1.0 | 9110 | | | 9110 | | | | 1.000 | 41.083 | 39.99 | 39.99 | 37.63 | 1.90 | 9.70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.080 | 1.880 | 03/55 |
| 04/55 | 05/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.250 | 37.60 | 37.60 | 35.19 | 1.78 | 9.70 | 0.0 | 0.0 | 0.0 | 0.0 | 0.070 | 0.830 | 04/55 |
| 05/55 | 06/55 | BASIN NODE FOR CALCULATIONS | | | 20.019 | | | | | | | 4.638 | 90 | 1.0 | 4638 | | | 4638 | | | | 1.000 | 36.200 | 35.19 | 35.19 | 35.19 | 0.00 | 10.41 | 0.0 | 0.0 | 0.0 | 0.0 | | | 05/55 |
| 06/55 | 07/55 | INLET HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.110 | 35.19 | 35.13 | 33.71 | 3.94 | 10.41 | 0.4 | 0.0 | 0.1 | 0.0 | 0.070 | 2.270 | 06/55 |
| 07/55 | 08/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 36.310 | 33.71 | 33.71 | 33.34 | 1.06 | 10.42 | 0.0 | 0.0 | 0.0 | 0.0 | 0.320 | 1.760 | 07/55 |
| 08/55 | 09/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.000 | 33.29 | 33.29 | 33.24 | 0.26 | 11.43 | 0.0 | 0.0 | 0.0 | 0.0 | 0.180 | 2.440 | 08/55 |
| 09/55 | | REFERENCE | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.000 | 33.24 | | | | | | | | | | | 09/55 |
| 01/58 | 02/58 | MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP | | | | | | | | | | | 60 | 1.0 | 285 | 0.00 | 0.00 | 285 | 0 | 0.00 | 03/55 | 1.000 | 45.300 | 44.00 | 43.65 | 43.47 | 2.20 | 0.32 | 5.5 | 0.0 | 0.3 | 0.0 | 0.400 | 1.960 | 01/58 |
| 02/58 | 03/58 | MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP | | | | | | | | | | | 25 | 1.0 | 0 | 0.00 | 0.00 | 0 | 0 | 0.00 | 03/55 | 1.000 | 45.600 | 43.36 | 43.36 | 42.38 | 4.59 | 0.31 | 0.0 | 0.0 | 0.0 | 0.0 | 0.190 | 4.150 | 02/58 |
| 03/58 | 03/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.865 | 42.24 | 42.24 | 39.99 | 7.56 | 0.31 | 0.0 | 0.0 | 0.0 | 0.0 | 0.010 | 0.460 | 03/58 |
| 03/55 | 04/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | 110.076 | | | | | | | 9.110 | 90 | 1.0 | 9110 | | | 9110 | | | | 1.000 | 41.083 | 39.99 | | | | | | | | | | | 03/55 |
| 01/6 | 02/6 | BASIN NODE FOR CALCULATIONS | | | | | | | | | | | 60 | 1.0 | 66 | | | 66 | | | | 1.000 | 37.900 | 37.26 | 37.45 | 37.45 | 0.00 | 0.64 | 0.0 | 0.0 | 0.0 | 0.0 | | | 01/6 |
| 01/63 | 02/63 | INLET HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 46.342 | 45.80 | 45.80 | 45.50 | 5.45 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.000 | 0.000 | 01/63 |
| 02/63 | | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 46.002 | 45.50 | | | | | | | | | | | 02/63 |

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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 | 19-01-24 | COUNCIL ISSUE | EP |

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DRAWING TITLE

STORMWATER
CALCULATION TABLES
MINOR
STORM EVENT
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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APPROVED | RPEQ 4706 | DATE 13-10-23

DRAWING NUMBER 41901-02-680A | REV A

K:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-680.dwg, MINOR CALC TABLE SHEET 02, 19/01/2024 3:57:03 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 | |
| 01/2 | 02/2 | TYPE 2 FIELD INLET 900x600 C/W DOME TOP | | | 0.274 | | | 0.877 | | | | 0.122 | 25 | 1.0 | 122 | 1.89 | 0.06 | 33 | 89 | 0.06 | 02/2 | 1.000 | 44.376 | 43.15 | 43.15 | 39.93 | 10.24 | 0.03 | 9.7 | 0.0 | 0.0 | 0.0 | 0.050 | 2.060 | 01/2 |
| 02/2 | 03/2 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.021 | | 0.144 | 120 | 133.6 | 0.877 | 0.916 | 0.012 | | 0.064 | 25 | 9.7 | 162 | 1.81 | 0.05 | 96 | 65 | 0.04 | 03/2 | 9.683 | 41.196 | 39.93 | 39.92 | 37.54 | 7.84 | 0.13 | 4.6 | 0.0 | 0.0 | 0.0 | 0.200 | 3.610 | 02/2 |
| 03/2 | 04/2 | DRAINWAYS 1TCS0 ON GRADE | 0.029 | | 0.432 | 120 | 133.6 | | 0.916 | 0.016 | | 0.193 | 25 | 5.8 | 270 | 2.97 | 0.07 | 140 | 129 | 0.07 | 02/4 | 5.792 | 38.890 | 37.54 | 37.53 | 34.94 | 15.10 | 0.27 | 2.0 | 0.0 | 0.0 | 0.0 | 0.300 | 6.130 | 03/2 |
| 04/2 | 05/2 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 36.333 | 33.86 | 33.61 | 33.57 | 0.97 | 0.28 | 2.0 | 0.0 | 0.3 | 0.0 | 1.120 | 1.810 | 04/2 |
| 05/2 | 08/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.228 | 33.56 | 33.56 | 33.56 | 0.01 | 0.54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.010 | 1.020 | 05/2 |
| 08/55 | 09/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.000 | 33.56 | | | | | | | | | | | 08/55 |
| 01/3 | 02/3 | INLET HEADWALL | | | 0.174 | | | | | | | 0.078 | 25 | 1.0 | 78 | | | 78 | | | | 1.000 | 38.217 | 37.70 | 37.68 | 37.45 | 4.06 | 0.08 | 0.5 | 0.0 | 0.0 | 0.0 | 0.290 | 1.150 | 01/3 |
| 02/3 | 05/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 38.100 | 37.31 | 37.31 | 37.31 | 0.00 | 0.08 | 0.0 | 0.0 | 0.0 | 0.0 | | | 02/3 |
| 05/55 | 06/55 | BASIN NODE FOR CALCULATIONS | | | 20.019 | | | | | | | 9.478 | 25 | 1.0 | 9478 | | | 9478 | | | | 1.000 | 36.200 | 36.34 | | | | | | | | | | | 05/55 |
| 01/4 | 02/4 | INLET GULLY IN SAG (LS) Type S Lintel | 0.112 | | | 120 | 133.6 | 0.877 | 0.916 | 0.062 | | | 60 | 0.2 | 554 | 4.38 | 0.14 | 174 | 376 | 0.16 | O 01/4 | 0.174 | 37.669 | 37.55 | 37.32 | 37.16 | 2.38 | 0.17 | 4.7 | 0.0 | 0.4 | 0.0 | 0.540 | 1.860 | 01/4 |
| 02/4 | 03/4 | INLET GULLY IN SAG (LS) Type S Lintel | 0.071 | | 0.048 | 120 | 133.6 | 0.877 | 0.916 | 0.039 | | 0.021 | 25 | 0.2 | 180 | 2.98 | 0.03 | 113 | 65 | 0.04 | O 02/4 | 0.174 | 37.669 | 37.16 | 36.98 | 36.75 | 5.43 | 0.28 | 1.5 | 0.0 | 0.3 | 0.0 | 0.320 | 4.730 | 02/4 |
| 03/4 | 04/4 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.730 | 36.75 | 36.51 | 36.34 | 3.98 | 0.28 | 1.5 | 0.0 | 0.3 | 0.0 | 0.490 | 2.590 | 03/4 |
| 04/4 | 05/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 36.446 | 36.34 | 36.34 | 36.34 | 0.00 | 0.28 | 0.0 | 0.0 | 0.0 | 0.0 | | | 04/4 |
| 05/55 | 06/55 | BASIN NODE FOR CALCULATIONS | | | 20.019 | | | | | | | 9.478 | 25 | 1.0 | 9478 | | | 9478 | | | | 1.000 | 36.200 | 36.34 | | | | | | | | | | | 05/55 |
| 01/5 | 02/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.222 | | | 120 | 133.6 | 0.877 | 0.916 | 0.124 | | | 25 | 1.0 | 124 | 2.47 | 0.01 | 98 | 24 | 0.02 | 02/5 | 1.000 | 53.037 | 52.29 | 52.20 | 51.87 | 1.30 | 0.10 | 8.8 | 0.0 | 0.1 | 0.0 | 0.380 | 1.400 | 01/5 |
| 02/5 | 03/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.101 | | | 120 | 133.6 | 0.877 | 0.916 | 0.056 | | | 25 | 1.0 | 80 | 1.36 | 0.01 | 71 | 8 | 0.01 | 03/5 | 1.000 | 52.886 | 51.87 | 51.83 | 51.38 | 1.54 | 0.17 | 2.0 | 0.0 | 0.0 | 0.0 | 0.620 | 2.150 | 02/5 |
| 03/5 | 04/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.205 | | | 120 | 133.6 | 0.877 | 0.916 | 0.114 | | | 25 | 1.0 | 118 | 1.45 | 0.02 | 95 | 23 | 0.02 | 04/5 | 1.000 | 52.252 | 51.29 | 51.29 | 47.90 | 6.57 | 0.26 | 1.9 | 0.0 | 0.0 | 0.0 | 0.410 | 4.600 | 03/5 |
| 04/5 | 05/5 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.207 | | | 120 | 133.6 | 0.877 | 0.916 | 0.115 | | | 25 | 1.0 | 137 | 1.50 | 0.02 | 106 | 31 | 0.02 | 01/11 | 1.000 | 48.247 | 47.91 | 47.74 | 47.06 | 6.16 | 0.56 | 1.1 | 0.0 | 0.3 | 0.0 | 0.480 | 5.540 | 04/5 |
| 05/5 | 06/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 47.204 | 47.06 | 46.95 | 43.16 | 9.01 | 0.89 | 1.0 | 0.0 | 0.2 | 0.0 | 0.810 | 6.520 | 05/5 |
| 06/5 | 07/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.982 | 43.16 | 42.73 | 42.05 | 4.70 | 0.97 | 1.5 | 0.0 | 0.4 | 0.0 | 0.610 | 3.430 | 06/5 |
| 07/5 | 08/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 41.996 | 42.05 | 41.73 | 41.31 | 1.85 | 0.98 | 0.9 | 0.0 | 0.3 | 0.0 | 1.280 | 3.480 | 07/5 |
| 08/5 | 09/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 41.853 | 41.32 | 41.29 | 40.62 | 1.76 | 0.96 | 0.4 | 0.0 | 0.1 | 0.0 | 0.850 | 4.060 | 08/5 |
| 09/5 | 10/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 41.020 | 40.62 | 40.45 | 39.99 | 1.62 | 1.04 | 0.2 | 0.0 | 0.2 | 0.0 | 0.550 | 4.880 | 09/5 |
| 10/5 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 40.227 | 39.99 | 39.75 | 38.29 | 7.88 | 1.45 | 1.1 | 0.0 | 0.5 | 0.0 | 0.660 | 5.140 | 10/5 |
| 11/5 | 12/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.900 | 38.30 | 37.61 | 37.54 | 1.56 | 1.81 | 1.0 | 0.0 | 0.9 | 0.0 | 1.730 | 4.090 | 11/5 |
| 12/5 | 01/6 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.645 | 37.54 | 37.54 | 37.54 | 0.00 | 1.81 | 0.0 | 0.0 | 0.0 | 0.0 | | | 12/5 |
| 01/6 | 02/6 | BASIN NODE FOR CALCULATIONS | | | | | | | | | | | 25 | 1.0 | 141 | | | 141 | | | | 1.000 | 37.900 | 37.54 | | | | | | | | | | | 01/6 |
| 01/17 | 02/17 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.254 | | | 120 | 133.6 | 0.877 | 0.916 | 0.142 | | | 25 | 1.0 | 213 | 1.74 | 0.05 | 142 | 69 | 0.05 | 01/19 | 1.000 | 46.789 | 45.81 | 45.76 | 44.44 | 10.61 | 0.14 | 6.7 | 0.0 | 0.0 | 0.0 | 0.190 | 3.660 | 01/17 |
| 02/17 | 03/17 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.197 | | | 120 | 133.6 | 0.877 | 0.916 | 0.110 | | | 25 | 1.0 | 110 | 1.36 | 0.02 | 90 | 20 | 0.02 | 03/17 | 1.000 | 45.463 | 44.44 | 44.44 | 41.88 | 9.50 | 0.23 | 1.9 | 0.0 | 0.0 | 0.0 | 0.280 | 5.740 | 02/17 |
| 03/17 | 04/17 | DRAINWAYS 1TCS0 ON GRADE | 0.111 | | | 120 | 133.6 | 0.877 | 0.916 | 0.062 | | | 25 | 1.0 | 81 | 1.25 | 0.01 | 72 | 8 | 0.00 | 04/17 | 1.000 | 42.101 | 41.88 | 41.70 | 40.23 | 6.04 | 0.42 | 1.3 | 0.0 | 0.6 | 0.0 | 0.640 | 4.680 | 03/17 |
| 04/17 | 10/5 | DRAINWAYS 0TCS0 SAG | 0.079 | | | 120 | 133.6 | 0.877 | 0.916 | 0.044 | | | 25 | 1.0 | 177 | 3.48 | 0.13 | -168 | 315 | 0.12 | 01/21 | 1.000 | 40.074 | 40.23 | 40.14 | 39.99 | 1.00 | 0.44 | 1.0 | 0.0 | 0.2 | 0.0 | 0.670 | 2.880 | 04/17 |
| 10/5 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 40.227 | 39.99 | | | | | | | | | | | 10/5 |
| 01/20 | 02/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.281 | | | 120 | 133.6 | 0.877 | 0.916 | 0.156 | | | 25 | 2.5 | 156 | 1.80 | 0.03 | 110 | 46 | 0.03 | 02/20 | 2.490 | 43.860 | 42.87 | 42.86 | 41.69 | 3.02 | 0.11 | 7.0 | 0.0 | 0.0 | 0.0 | 0.240 | 1.860 | 01/20 |
| 02/20 | 03/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.200 | | | 120 | 133.6 | 0.877 | 0.916 | 0.111 | | | 25 | 5.5 | 156 | 1.76 | 0.04 | 101 | 54 | 0.04 | 01/22 | 5.500 | 42.308 | 41.69 | 41.46 | 41.27 | 2.66 | 0.21 | 2.0 | 0.0 | 0.2 | 0.0 | 0.650 | 2.230 | 02/20 |
| 03/20 | 04/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.061 | | | 120 | 133.6 | 0.877 | 0.916 | 0.034 | | | 25 | 5.4 | 34 | 0.00 | 0.00 | 34 | 0 | 0.00 | 01/23 | 5.434 | 42.402 | 41.22 | 41.19 | 39.18 | 4.18 | 0.24 | 1.9 | 0.0 | 0.0 | 0.0 | 0.420 | 4.400 | 03/20 |
| 04/20 | 05/20 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.202 | 39.18 | 38.91 | 38.68 | 0.92 | 0.33 | 1.5 | 0.0 | 0.3 | 0.0 | 1.620 | 2.070 | 04/20 |
| 05/20 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 38.731 | 38.68 | 38.65 | 38.29 | 0.67 | 0.36 | 0.9 | 0.0 | 0.1 | 0.0 | 1.760 | 2.250 | 05/20 |
| 11/5 | 12/5 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.900 | 38.30 | | | | | | | | | | | 11/5 |
| 01/21 | 02/21 | INLET GULLY IN SAG (LS) Type S Lintel | 0.291 | | | 120 | 133.6 | 0.877 | 0.916 | 0.162 | | | 60 | 0.6 | 490 | 3.90 | 0.15 | 102 | 395 | 0.15 | 02/21 | 0.561 | 38.583 | 38.77 | 38.72 | 38.69 | 0.47 | 0.10 | 9.7 | 0.0 | 0.1 | 0.0 | 0.300 | 1.350 | 01/21 |
| 02/21 | 05/20 | INLET GULLY IN SAG (LS) Type S Lintel | 0.092 | | | 120 | 133.6 | 0.877 | 0.916 | 0.051 | | | 60 | 0.7 | 438 | 4.57 | 0.18 | -113 | 506 | 0.19 | 01/4 | 0.698 | 38.482 | 38.69 | 38.69 | 38.68 | 0.03 | 0.13 | 2.7 | 0.0 | 0.1 | 0.0 | 0.590 | 1.520 | 02/21 |
| 05/20 | 11/5 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 38.731 | 38.68 | | | | | | | | | | | 05/20 |
| 01/22 | 04/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.109 | | | 120 | 133.6 | 0.877 | 0.916 | 0.061 | | | 25 | 7.0 | 114 | 1.67 | 0.03 | 77 | 36 | 0.02 | 01/21 | 7.036 | 39.418 | 39.26 | 39.19 | 39.18 | 0.12 | 0.08 | 9.7 | 0.0 | 0.2 | 0.0 | 0.120 | 2.510 | 01/22 |
| 04/20 | 05/20 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.202 | 39.18 | | | | | | | | | | | 04/20 |
| 01/23 | 04/20 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.021 | | | 120 | 133.6 | 0.877 | 0.916 | 0.012 | | | 25 | 6.0 | 12 | 0.00 | 0.00 | 12 | 0 | 0.00 | 02/4 | 6.030 | 39.248 | 39.18 | 39.18 | 39.18 | 0.06 | -0.04 | 6.7 | 0.0 | 0.0 | 0.0 | -0.070 | 1.430 | 01/23 |
| 04/20 | 05/20 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.202 | 39.18 | | | | | | | | | | | 04/20 |
| 01/24 | 02/24 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.014 | | | 120 | 133.6 | 0.877 | 0.916 | 0.008 | | | 25 | 8.0 | 93 | 1.47 | 0.02 | 68 | 25 | 0.02 | 02/24 | 8.000 | 50.440 | 49.44 | 49.39 | 49.02 | 7.55 | 0.07 | 7.0 | 0.0 | 0.1 | 0.0 | 0.110 | 2.510 | 01/24 |
| 02/24 | 03/24 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.005 | | | 120 | 133.6 | 0.877 | 0.916 | 0.003 | | | 25 | 8.0 | 27 | 0.00 | 0.00 | 27 | 0 | 0.00 | 03/24 | 8.000 | 50.048 | 49.02 | 49.01 | 48.61 | 8.14 | 0.10 | 1.4 | 0.0 | 0.0 | 0.0 | 0.150 | 3.640 | 02/24 |
| 03/24 | 04/24 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.004 | | | 120 | 133.6 | 0.877 | 0.916 | 0.002 | | | 25 | 8.0 | 2 | 0.00 | 0.00 | 2 | 0 | 0.00 | 04/24 | 8.000 | 49.656 | 48.59 | 48.59 | 48.26 | 6.76 | 0.10 | 0.4 | 0.0 | 0.0 | 0.0 | 0.160 | 3.810 | 03/24 |
| 04/24 | 10/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.005 | | | 120 | 133.6 | 0.877 | 0.916 | 0.003 | | | 25 | 8.0 | 3 | 0.00 | 0.00 | 3 | 0 | 0.00 | 03/20 | 8.000 | 49.264 | 48.24 | 48.24 | 47.71 | 5.94 | 0.10 | 0.7 | 0.0 | 0.0 | 0.0 | 0.180 | 3.620 | 04/24 |
| 10/26 | 11/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 48.730 | 47.39 | | | | | | | | | | | 10/26 |
| 01/25 | 02/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.174 | | | 120 | 133.6 | 0.877 | 0.916 | 0.097 | | | 25 | 1.5 | 97 | 1.45 | 0.01 | 82 | 14 | 0.01 | 03/25 | 1.497 | 60.599 | 59.86 | 59.74 | 59.54 | 2.05 | 0.08 | 9.6 | 0.0 | 0.1 | 0.0 | 0.250 | 1.280 | 01/25 |
| 02/25 | 03/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.360 | | | 120 | 133.6 | 0.877 | 0.916 | 0.200 | | | 25 | 2.0 | 200 | 2.21 | 0.05 | 127 | 72 | 0.05 | 01/32 | 1.951 | 60.461 | 59.54 | 59.46 | 58.63 | 2.08 | 0.21 | 2.6 | 0.0 | 0.1 | 0.0 | 0.540 | 2.620 | 02/25 |
| 03/25 | 04/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.208 | | | 120 | 133.6 | 0.877 | 0.916 | 0.116 | | | 25 | 3.7 | 128 | 1.67 | 0.03 | 89 | 38 | 0.03 | 05/25 | 3.667 | 59.255 | 58.64 | 58.51 | 57.32 | 4.64 | 0.36 | 1.2 | 0.0 | 0.1 | 0.0 | 0.780 | 3.740 | 03/25 |
| 04/25 | 05/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 58.171 | 57.27 | 57.24 | 56.03 | 4.92 | 0.36 | 0.4 | 0.0 | 0.0 | 0.0 | 0.600 | 4.970 | 04/25 |
| 05/25 | 06/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.255 | | | 120 | 133.6 | 0.877 | 0.916 | 0.142 | | | 25 | 8.4 | 177 | 1.85 | 0.05 | 102 | 75 | 0.04 | 06/25 | 8.412 | 56.410 | 56.03 | 55.79 | 54.21 | 5.85 | 0.46 | 0.9 | 0.0 | 0.4 | 0.0 | 0.670 | 4.780 | 05/25 |
| 06/25 | 07/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.101 | | | 120 | 133.6 | 0.877 | 0.916 | 0.056 | | | 25 | 8.6 | 130 | 3.14 | 0.10 | -90 | 204 | 0.10 | 01/33 | 8.590 | 54.091 | 54.21 | 54.19 | 53.64 | 5.78 | 0.42 | 0.9 | 0.0 | 0.2 | 0.0 | 0.650 | 3.830 | 06/25 |
| 07/25 | 08/25 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 53.534 | 53.64 | 53.59 | 52.77 | 2.98 | 0.28 | 1.7 | 0.0 | 0.2 | 0.0 | 0.740 | 3.070 | 07/25 |
| 08/25 | 09/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.112 | | | 120 | 133.6 | 0.877 | 0.916 | 0.062 | | | 25 | 0.6 | 162 | 5.19 | 0.10 | -123 | 284 | 0.13 | 09/25 | 0.600 | 52.548 | 52.77 | 52.61 | 52.42 | 0.58 | 0.27 | 1.9 | 0.0 | 0.2 | 0.0 | 0.840 | 2.680 | 08/25 |
| 09/25 | 10/25 | DRAINWAYS 1TCS0 ON GRADE | 0.107 | | | 120 | 133.6 | 0.877 | 0.916 | 0.060 | | | 25 | 0.6 | 336 | 3.44 | 0.05 | 213 | 110 | 0.06 | 01/39 | 0.600 | 52.357 | 52.51 | 51.68 | 50.19 | 4.90 | 0.44 | 1.5 | 0.0 | 0.7 | 0.0 | 1.210 | 3.940 | 09/25 |
| 10/25 | 11/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 53.000 | 48.86 | 48.58 | 47.29 | 16.04 | 0.44 | 1.5 | 0.0 | 0.3 | 0.0 | 0.490 | 5.390 | 10/25 |
| 11/25 | 12/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 48.077 | 47.12 | 46.62 | 45.76 | 16.48 | 0.43 | 1.5 | 0.0 | 0.5 | 0.0 | 0.490 | 4.760 | 11/25 |
| 12/25 | 13/25 | MANHOLE 1050mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 46.000 | 45.76 | 45.76 | 45.75 | 0.29 | 0.43 | 0.2 | 0.0 | 0.0 | 0.0 | 0.770 | 2.590 | 12/25 |
| 13/25 | 14/25 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.600 | 45.75 | 45.75 | 45.75 | 0.00 | 0.43 | 0.0 | 0.0 | 0.0 | 0.0 | | | 13/25 |
| 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 | 0.73 | 0.0 | 0.0 | 0.0 | 0.0 | | | 14/25 |
| 15/25 | 16/25 | MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP | | | | | | | | | | | 60 | 1.0 | 728 | 0.00 | 0.00 | 728 | 0 | 0.00 | 03/55 | 1.000 | 45.300 | 43.98 | 43.21 | 42.31 | 4.49 | 0.73 | 2.9 | 0.0 | 0.8 | 0.0 | 0.650 | 3.950 | 15/25 |
| 16/25 | 03/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.935 | 42.09 | 42.09 | 40.28 | 2.62 | 0.73 | 0.0 | 0.0 | 0.0 | 0.0 | 0.030 | 0.570 | 16/25 |
| 03/55 | 04/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | 110.076 | | | | | | | 24.596 | 90 | 1.0 | 24596 | | | 24596 | | | | 1.000 | 41.083 | 40.28 | | | | | | | | | | | 03/55 |

B

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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 | 15-01-24 | CALC TABLE AMENDED | BL |
| A | 13-10-23 | COUNCIL ISSUE | EP |

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DRAWING TITLE

STORMWATER
CALCULATION TABLES
MAJOR
STORM EVENT
SHEET 01

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|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| | | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-681

REV B

K:\autocad client\419 - hb land\01 - courtney drive\precinct-stage 02\engineering drawings\Current\41901-02-681.dwg, MAJOR CALC TABLE SHEET 01, 19/01/2024 3:26:04 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

| NODE | | | CATCHMENT AREA | | | RAINFALL VOLUME* | | RAINFALL Coef. | | CATCHMENT FLOW | | | | APPROACH FLOW | | | | | FLOW AT PIT | | | | PIT | | | HGL | | | PIPE | | HEADLOSSES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FROM: | TO: | NODE TYPE | 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 |
| | | | 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 | |
| 01/26 | 02/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.174 | | | 120 | 133.6 | 0.877 | 0.916 | 0.097 | | | 25 | 4.0 | 97 | 1.48 | 0.02 | 73 | 23 | 0.02 | 02/26 | 3.953 | 61.285 | 60.26 | 60.25 | 58.47 | 6.16 | 0.07 | 7.0 | 0.0 | 0.0 | 0.0 | 0.130 | 3.170 | 01/26 |
| 02/26 | 03/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.117 | | | 120 | 133.6 | 0.877 | 0.916 | 0.065 | | | 25 | 7.9 | 88 | 1.44 | 0.02 | 65 | 22 | 0.02 | 03/26 | 7.944 | 59.453 | 58.45 | 58.45 | 54.79 | 7.77 | 0.20 | 1.6 | 0.0 | 0.0 | 0.0 | 0.310 | 4.520 | 02/26 |
| 03/26 | 04/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.173 | | | 120 | 133.6 | 0.877 | 0.916 | 0.096 | | | 25 | 8.0 | 117 | 1.61 | 0.03 | 79 | 38 | 0.03 | 04/26 | 8.000 | 55.688 | 54.80 | 54.78 | 52.70 | 7.49 | 0.36 | 1.1 | 0.0 | 0.0 | 0.0 | 0.580 | 5.150 | 03/26 |
| 04/26 | 05/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.188 | | | 120 | 133.6 | 0.877 | 0.916 | 0.105 | | | 25 | 8.0 | 141 | 1.75 | 0.04 | 89 | 51 | 0.03 | 05/26 | 8.000 | 53.563 | 52.48 | 52.40 | 51.51 | 3.73 | 0.45 | 0.9 | 0.0 | 0.1 | 0.0 | 0.470 | 3.470 | 04/26 |
| 05/26 | 06/26 | DRAINWAYS 0TC50 SAG | 0.069 | | | 120 | 133.6 | 0.877 | 0.916 | 0.038 | | | 25 | 0.7 | 181 | 2.54 | 0.01 | 135 | 12 | 0.03 | 01/40 | 0.659 | 52.050 | 51.51 | 51.39 | 51.24 | 1.01 | 0.74 | 1.2 | 0.0 | 0.1 | 0.0 | 0.800 | 2.150 | 05/26 |
| 06/26 | 07/26 | MANHOLE 1200mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 52.271 | 51.25 | 51.08 | 50.61 | 0.88 | 0.74 | 1.7 | 0.0 | 0.2 | 0.0 | 0.830 | 2.260 | 06/26 |
| 07/26 | 08/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.902 | 50.61 | 50.59 | 50.24 | 1.13 | 0.95 | 0.3 | 0.0 | 0.0 | 0.0 | 0.870 | 3.240 | 07/26 |
| 08/26 | 09/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.316 | 50.15 | 50.13 | 49.43 | 5.16 | 1.08 | 0.6 | 0.0 | 0.0 | 0.0 | 0.440 | 5.180 | 08/26 |
| 09/26 | 10/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 50.729 | 49.43 | 49.39 | 47.78 | 6.42 | 1.34 | 0.7 | 0.0 | 0.0 | 0.0 | 0.490 | 6.540 | 09/26 |
| 10/26 | 11/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 48.730 | 47.39 | 47.38 | 45.75 | 5.88 | 1.43 | 1.8 | 0.0 | 0.3 | 0.0 | 0.540 | 5.310 | 10/26 |
| 11/26 | 12/26 | 1200 DIA MANHOLE EXTENDED 600mm | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.953 | 45.75 | 45.75 | 45.75 | 0.16 | 1.43 | 0.0 | 0.0 | 0.0 | 0.0 | 0.630 | 2.460 | 11/26 |
| 12/26 | 14/25 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.580 | 45.75 | 45.75 | 45.75 | 0.00 | 1.43 | 0.0 | 0.0 | 0.0 | 0.0 | | | 12/26 |
| 14/25 | 15/25 | BASIN NODE FOR CALCULATIONS | | | 1.016 | | | | | | | 0.455 | 25 | 1.0 | 455 | | | 455 | | | | 1.000 | 45.300 | 45.75 | | | | | | | | | | | 14/25 |
| 01/33 | 09/25 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.143 | | | 120 | 133.6 | 0.877 | 0.916 | 0.080 | | | 60 | 0.6 | 274 | 3.22 | 0.09 | 133 | 197 | 0.08 | 01/34 | 0.600 | 52.357 | 52.48 | 52.46 | 52.42 | 0.65 | 0.11 | 9.7 | 0.0 | 0.1 | 0.0 | 0.350 | 1.320 | 01/33 |
| 09/25 | 10/25 | DRAINWAYS 1TC50 ON GRADE | 0.107 | | | 120 | 133.6 | 0.877 | 0.916 | 0.060 | | | 25 | 0.6 | 336 | 3.44 | 0.05 | 213 | 110 | 0.06 | 01/39 | 0.600 | 52.357 | 52.51 | | | | | | | | | | | 09/25 |
| 01/34 | 05/26 | INLET GULLY IN SAG (LS) Type S Lintel | 0.165 | | | 120 | 133.6 | 0.877 | 0.916 | 0.092 | | | 25 | 0.7 | 324 | 5.53 | 0.04 | 179 | 99 | 0.04 | 05/26 | 0.659 | 52.050 | 51.94 | 51.76 | 51.51 | 3.80 | 0.18 | 5.5 | 0.0 | 0.2 | 0.0 | 0.410 | 1.730 | 01/34 |
| 05/26 | 06/26 | DRAINWAYS 0TC50 SAG | 0.069 | | | 120 | 133.6 | 0.877 | 0.916 | 0.038 | | | 25 | 0.7 | 181 | 2.54 | 0.01 | 135 | 12 | 0.03 | 01/40 | 0.659 | 52.050 | 51.51 | | | | | | | | | | | 05/26 |
| 01/35 | 03/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.206 | | | 120 | 133.6 | 0.877 | 0.916 | 0.115 | | | 25 | 8.0 | 133 | 1.66 | 0.03 | 85 | 45 | 0.02 | 01/34 | 8.000 | 55.729 | 55.14 | 54.94 | 54.79 | 2.12 | 0.09 | 9.4 | 0.0 | 0.2 | 0.0 | 0.260 | 1.360 | 01/35 |
| 03/26 | 04/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.173 | | | 120 | 133.6 | 0.877 | 0.916 | 0.096 | | | 25 | 8.0 | 117 | 1.61 | 0.03 | 79 | 38 | 0.03 | 04/26 | 8.000 | 55.688 | 54.80 | | | | | | | | | | | 03/26 |
| 01/36 | 02/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.141 | | | 120 | 133.6 | 0.877 | 0.916 | 0.079 | | | 25 | 7.1 | 79 | 1.39 | 0.02 | 60 | 18 | 0.01 | 01/35 | 7.090 | 60.022 | 59.03 | 58.99 | 58.46 | 5.29 | 0.06 | 9.7 | 0.0 | 0.0 | 0.0 | 0.120 | 2.270 | 01/36 |
| 02/26 | 03/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.117 | | | 120 | 133.6 | 0.877 | 0.916 | 0.065 | | | 25 | 7.9 | 88 | 1.44 | 0.02 | 65 | 22 | 0.02 | 03/26 | 7.944 | 59.453 | 58.45 | | | | | | | | | | | 02/26 |
| 01/37 | 08/26 | INLET GULLY IN SAG (LS) Type S Lintel | 0.099 | | | 120 | 133.6 | 0.877 | 0.916 | 0.055 | | | 25 | 1.0 | 155 | 2.09 | 0.06 | 68 | 86 | 0.06 | 01/24 | 1.039 | 51.271 | 50.39 | 50.34 | 50.15 | 5.99 | 0.07 | 9.7 | 0.0 | 0.1 | 0.0 | 0.100 | 2.330 | 01/37 |
| 08/26 | 09/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.316 | 50.15 | | | | | | | | | | | 08/26 |
| 01/38 | 08/26 | INLET GULLY IN SAG (LS) Type S Lintel | 0.124 | | | 120 | 133.6 | 0.877 | 0.916 | 0.069 | | | 25 | 0.9 | 110 | 1.91 | 0.03 | 61 | 49 | 0.03 | 01/37 | 0.907 | 51.456 | 50.48 | 50.40 | 50.16 | 3.89 | 0.06 | 9.7 | 0.0 | 0.1 | 0.0 | 0.140 | 1.770 | 01/38 |
| 08/26 | 09/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.316 | 50.15 | | | | | | | | | | | 08/26 |
| 01/39 | 07/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.256 | | | 120 | 133.6 | 0.877 | 0.916 | 0.142 | | | 25 | 1.2 | 227 | 2.69 | 0.04 | 148 | 75 | 0.05 | 01/37 | 1.226 | 51.882 | 51.34 | 50.97 | 50.91 | 2.38 | 0.15 | 7.1 | 0.0 | 0.4 | 0.0 | 0.470 | 1.690 | 01/39 |
| 07/26 | 08/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.902 | 50.61 | | | | | | | | | | | 07/26 |
| 01/40 | 07/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.174 | | | 120 | 133.6 | 0.877 | 0.916 | 0.097 | | | 25 | 1.4 | 97 | 1.55 | 0.01 | 82 | 14 | 0.01 | 01/38 | 1.358 | 51.855 | 51.22 | 50.97 | 50.86 | 2.32 | 0.08 | 9.6 | 0.0 | 0.2 | 0.0 | 0.250 | 1.300 | 01/40 |
| 07/26 | 08/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 51.902 | 50.61 | | | | | | | | | | | 07/26 |
| 01/41 | 02/41 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.239 | | | 120 | 133.6 | 0.877 | 0.916 | 0.133 | | | 25 | 5.6 | 143 | 1.71 | 0.03 | 95 | 47 | 0.03 | 03/41 | 5.609 | 54.809 | 53.78 | 53.78 | 51.76 | 5.58 | 0.10 | 7.0 | 0.0 | 0.0 | 0.0 | 0.170 | 2.490 | 01/41 |
| 02/41 | 03/41 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.314 | | | 120 | 133.6 | 0.877 | 0.916 | 0.175 | | | 25 | 6.6 | 175 | 1.84 | 0.05 | 101 | 72 | 0.05 | 01/17 | 6.586 | 52.611 | 51.77 | 51.70 | 51.24 | 5.95 | 0.20 | 2.5 | 0.0 | 0.1 | 0.0 | 0.360 | 3.220 | 02/41 |
| 03/41 | 09/26 | INLET GULLY ON GRADE (LG) Type S Lintel | 0.103 | | | 120 | 133.6 | 0.877 | 0.916 | 0.057 | | | 25 | 7.0 | 102 | 1.56 | 0.02 | 72 | 29 | 0.02 | 01/38 | 7.008 | 52.324 | 51.24 | 51.21 | 49.68 | 6.85 | 0.27 | 1.8 | 0.0 | 0.0 | 0.0 | 0.450 | 4.440 | 03/41 |
| 09/26 | 10/26 | MANHOLE 1500mm DIA | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 50.729 | 49.43 | | | | | | | | | | | 09/26 |
| 01/55 | 02/55 | INLET HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 45.435 | 45.75 | 45.57 | 42.21 | 13.43 | 1.15 | 0.5 | 0.0 | 0.2 | 0.0 | 0.320 | 3.580 | 01/55 |
| 02/55 | 03/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.935 | 42.10 | 42.10 | 40.28 | 2.61 | 1.15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.020 | 0.380 | 02/55 |
| 03/55 | 04/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | 110.076 | | | | | | | 24.596 | 90 | 1.0 | 24596 | | | 24596 | | | | 1.000 | 41.083 | 40.28 | 40.28 | 37.92 | 1.90 | 25.98 | 0.0 | 0.0 | 0.0 | 0.0 | 0.220 | 2.550 | 03/55 |
| 04/55 | 05/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 39.250 | 37.87 | 37.87 | 36.34 | 1.13 | 25.97 | 0.0 | 0.0 | 0.0 | 0.0 | 0.200 | 1.400 | 04/55 |
| 05/55 | 06/55 | BASIN NODE FOR CALCULATIONS | | | 20.019 | | | | | | | 9.478 | 25 | 1.0 | 9478 | | | 9478 | | | | 1.000 | 36.200 | 36.34 | 36.34 | 36.34 | 0.00 | 27.97 | 0.0 | 0.0 | 0.0 | 0.0 | | | 05/55 |
| 06/55 | 07/55 | INLET HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 37.110 | 36.34 | 36.24 | 34.04 | 6.11 | 27.97 | 0.4 | 0.0 | 0.1 | 0.0 | 0.200 | 3.250 | 06/55 |
| 07/55 | 08/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 36.310 | 34.04 | 34.04 | 33.71 | 0.97 | 27.97 | 0.0 | 0.0 | 0.0 | 0.0 | 0.860 | 2.400 | 07/55 |
| 08/55 | 09/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.000 | 33.56 | 33.56 | 33.51 | 0.26 | 28.79 | 0.0 | 0.0 | 0.0 | 0.0 | 0.460 | 3.300 | 08/55 |
| 09/55 | | REFERENCE | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 34.000 | 33.51 | | | | | | | | | | | 09/55 |
| 01/58 | 02/58 | MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP | | | | | | | | | | | 60 | 1.0 | 728 | 0.00 | 0.00 | 728 | 0 | 0.00 | 03/55 | 1.000 | 45.300 | 45.02 | 43.95 | 43.64 | 3.69 | 0.75 | 2.2 | 0.0 | 1.1 | 0.0 | 0.950 | 3.700 | 01/58 |
| 02/58 | 03/58 | MANHOLE C/W ROOF SLAB AND 900x600 DOME TOP | | | | | | | | | | | 60 | 1.0 | 140 | 0.00 | 0.00 | 140 | 0 | 0.00 | 03/55 | 1.000 | 45.600 | 43.58 | 43.47 | 42.51 | 4.45 | 0.89 | 0.8 | 0.0 | 0.1 | 0.0 | 0.530 | 5.010 | 02/58 |
| 03/58 | 03/55 | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 42.865 | 42.28 | 42.28 | 40.28 | 6.70 | 0.89 | 0.0 | 0.0 | 0.0 | 0.0 | 0.020 | 0.720 | 03/58 |
| 03/55 | 04/55 | 100% CAPTURE FOR FUTURE EXTENSION | | | 110.076 | | | | | | | 24.596 | 90 | 1.0 | 24596 | | | 24596 | | | | 1.000 | 41.083 | 40.28 | | | | | | | | | | | 03/55 |
| 01/63 | 02/63 | INLET HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 46.342 | 45.80 | 45.80 | 45.50 | 5.45 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.000 | 0.000 | 01/63 |
| 02/63 | | HEADWALL | | | | | | | | | | | 25 | 1.0 | 0 | | | 0 | | | | 1.000 | 46.002 | 45.50 | | | | | | | | | | | 02/63 |

PROJECT NAME

COURTNEY DR
UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
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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
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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ABN: 39 116 375 065

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|---|---|---|---|
| APPROVED | | RPEQ | 4706 |
| DATE | 13-10-23 | | |

DRAWING NUMBER: 41901-02-681A

REV: A

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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.

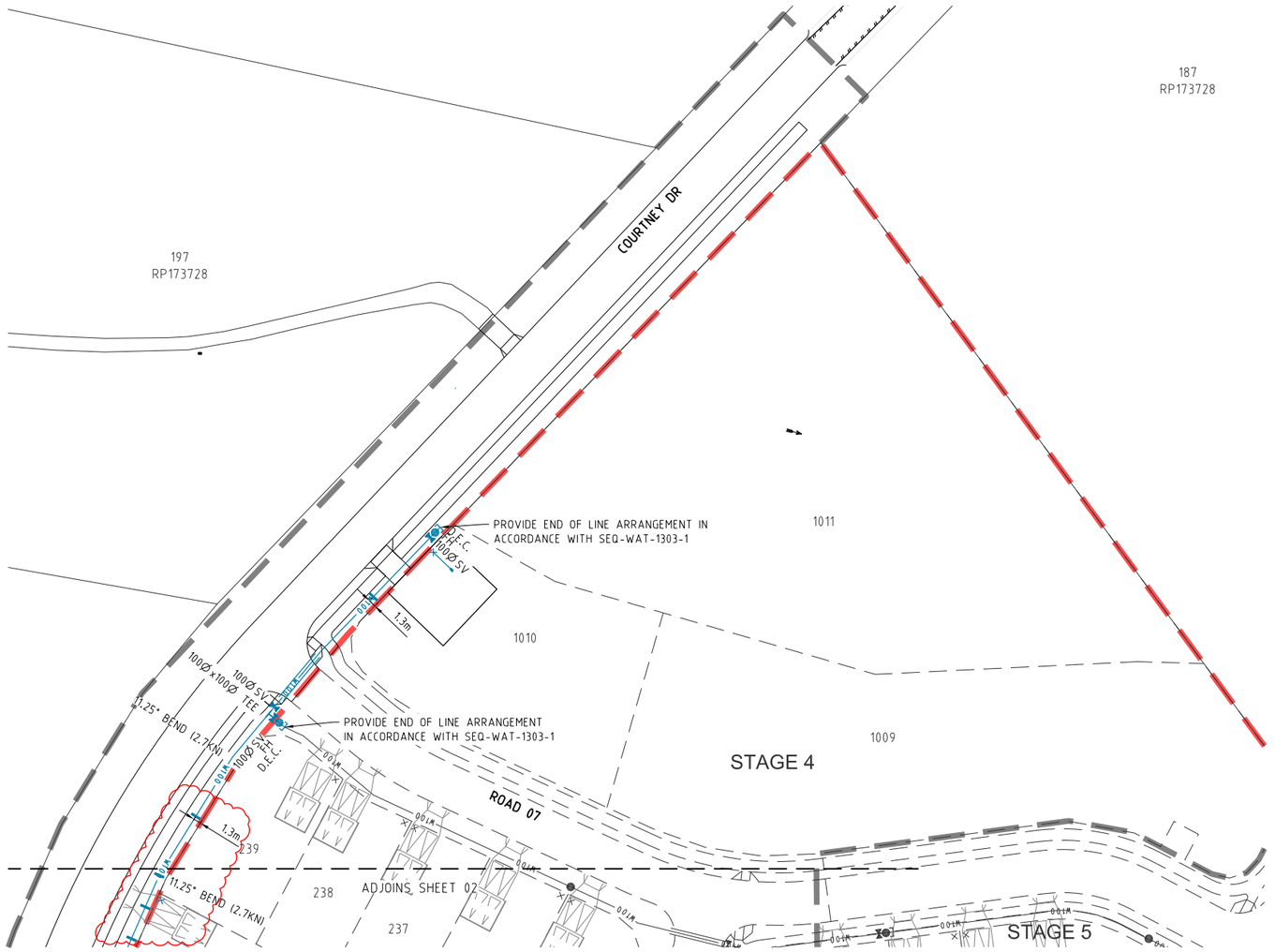
# PROJECT SPECIFIC WATER NOTES

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

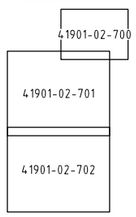
B

## 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 225Ø WATER MAIN
- FUTURE 250Ø WATER MAIN
- FUTURE 300Ø 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
- PROPOSED 225Ø WATER MAIN
- PROPOSED 250Ø WATER MAIN
- PROPOSED 300Ø WATER MAIN
- HYDRANT
- TEE
- REDUCER
- SLUICE VALVE
- ENDCAP
- SCOUR VALVE
- AIR VALVE
- METER LOCATION
- TRENCH STOP
- SERVICE CONDUIT
- DICL ROAD CROSSING




SHEET LAYOUT




## WATER PIPE SPECIFICATIONS

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

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 | 29-11-23 | TRENCHSTOPS ADDED & NOTE AMENDED | BL |
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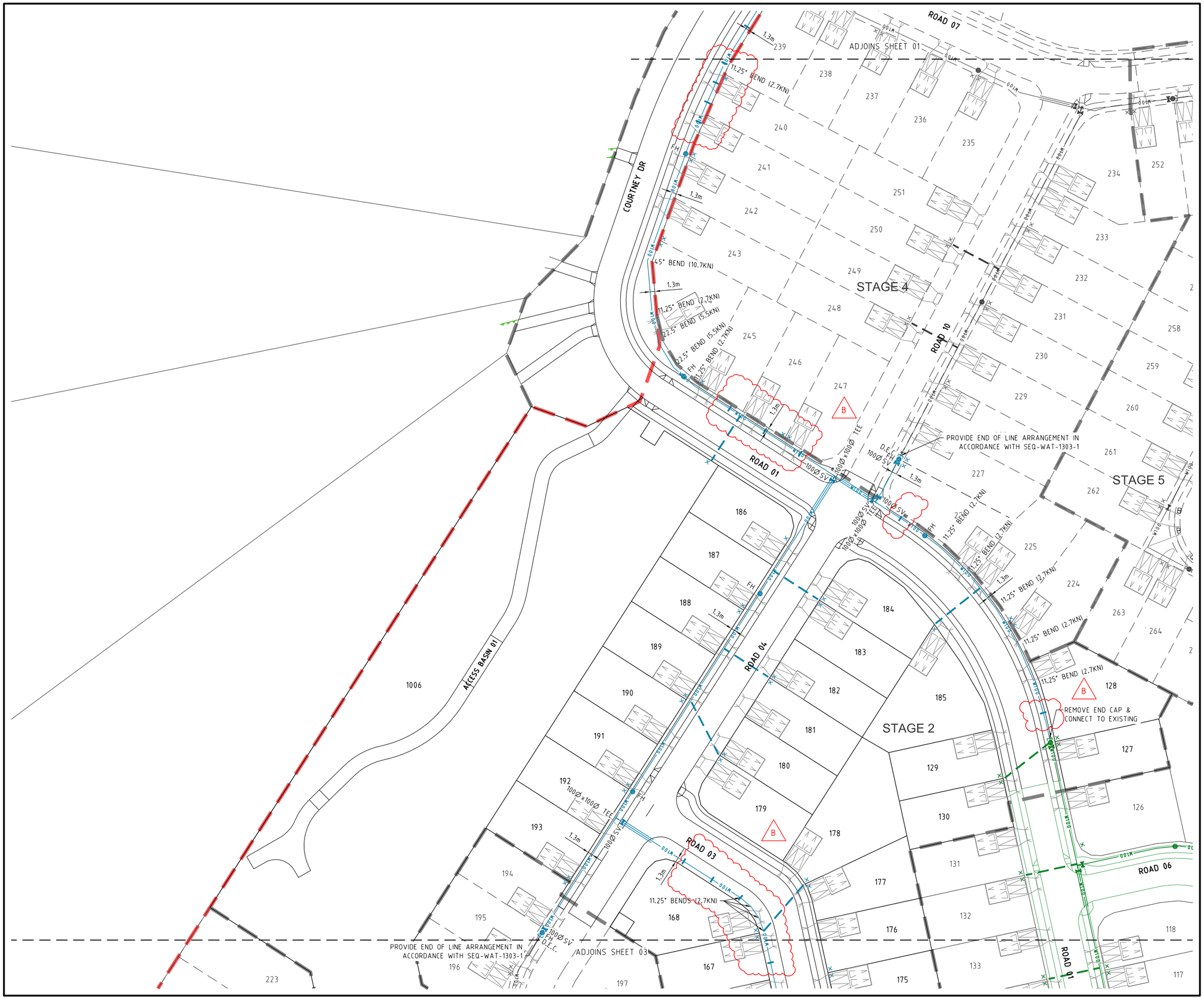
WATER RETICULATION PLAN SHEET 01

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| | | DATE | 13-10-23 |

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

STAGE 02

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 |
|---|---|---|---|
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WATER RETICULATION PLAN SHEET 02

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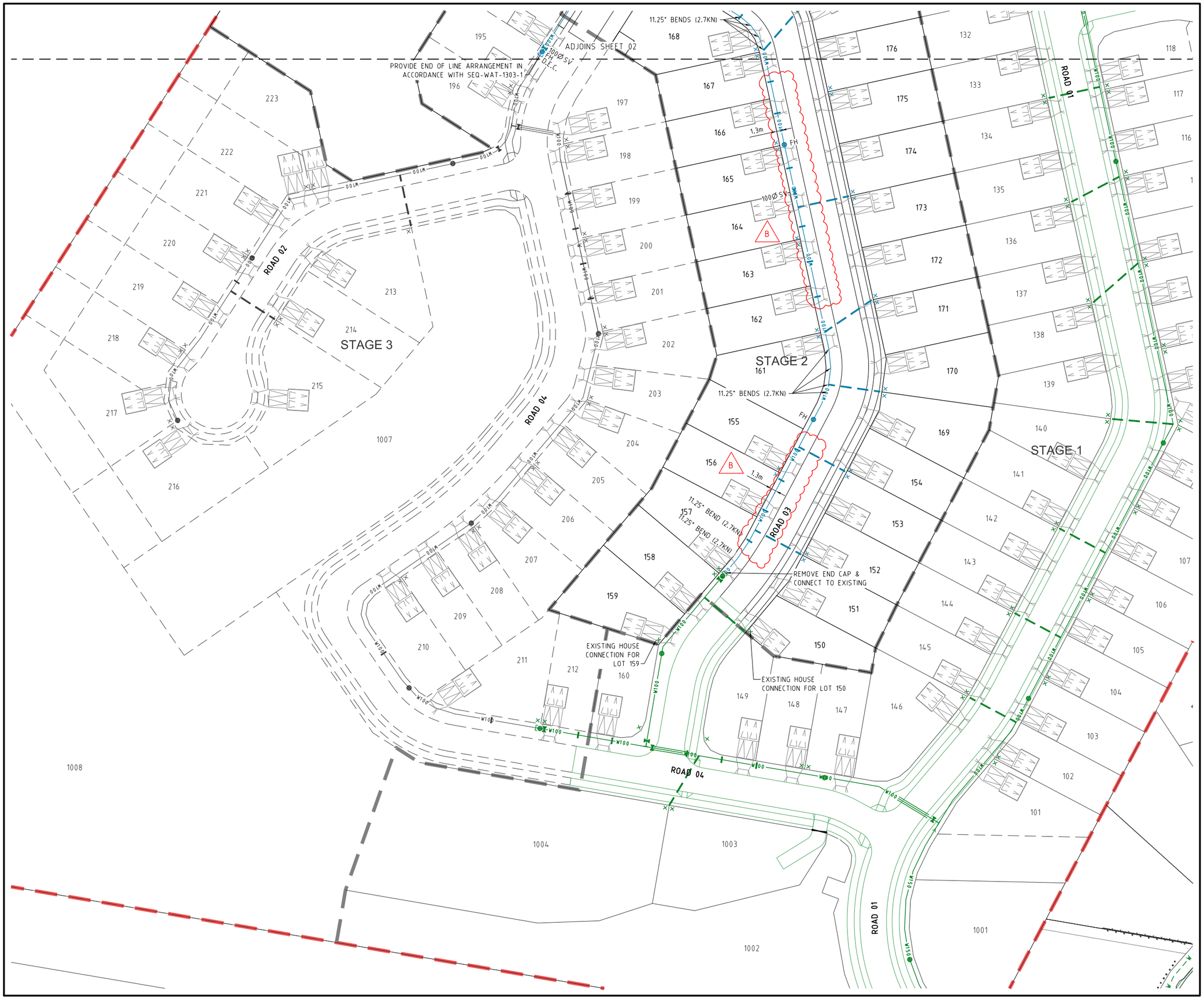
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DRAWING NUMBER 41901-02-701 REV B

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PROJECT NAME

# COURTNEY DR UPPER COOMERA

## STAGE 02

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 |
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WATER RETICULATION PLAN SHEET 03

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| DESIGNED | RB | DRAWN | EP |
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| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

| DRAWING NUMBER | REV |
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| 41901-02-702 | B |

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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 |

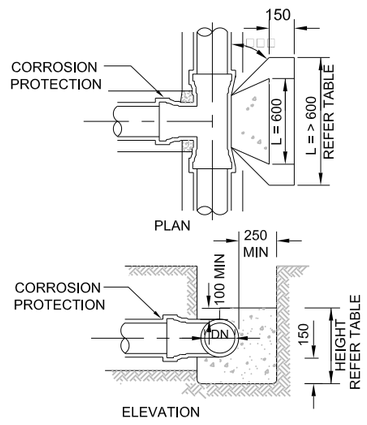
## THRUST BLOCK LENGTH

| 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 |

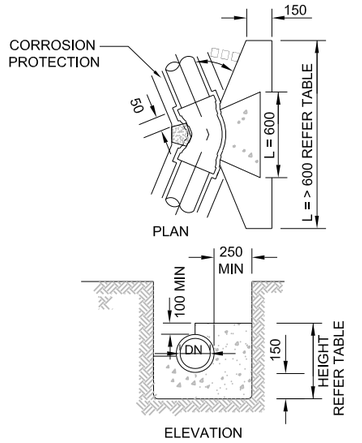
## THRUST BLOCK DIMENSIONS - 1200kPa

● INDICATES BLOCK LENGTH OF 600

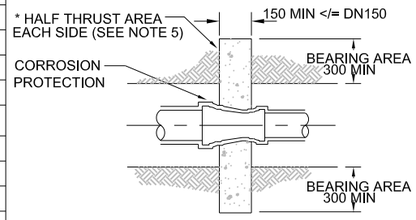
* = SPECIAL DESIGN



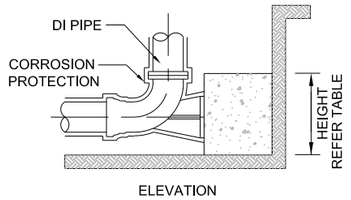

THRUST BLOCK FOR TEES
(FOR HORIZONTAL THRUST)




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 CLEAN 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 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 02

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 | 13-10-23 | COUNCIL ISSUE | EP |

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BENNETT+BENNETT

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| DESIGNED | RB | DRAWN | EP |
|---|---|---|---|
| APPROVED | RPEQ 4706 | DATE | 13-10-23 |

DRAWING NUMBER 41901-02-710
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