AFFIDAVIT

Planning and Environment Court

David Manteit V Brisbane City Council 2916/24

I, David Manteit of 82 Rowe Tce Darra, developer, under affirmation says:

1. Attached Exhibit "A" Civil Works Engineering, received on 28/3/25, dated 28/3/25. pages 1-14.

Signed:

Deponent David Manteit

Affirmed by David Manteit on

31 MAR 2025

Taken by:

JP(QUAL)

JUSTICE OF THE PEACE (QUALIFIED) QUEENSLAND GOVERNMENT Reg.No. 7334 DEPT. OF JUSTICE & ATTORNEY-GENERAL

Justice of the Peace

In the presence of

Signed:

Deponent – David Manteit

JP(QUAL)

JUSTICE OF THE PEACE (QUALIFIED) QUEENSLAND GOVERNMENT Reg.No. 7334 DEPT. OF JUSTICE & ATTORNEY-GENERAL

31 MAR 2025

John James Stretch JP (Qual)

David Manteit
82 Rowe Tce Darra 4076
Ph 0424739923
Email davidmanteit@hotmail.com

EXHIBIT "A"

Planning and Environment Court

David Manteit V Brisbane City Council 2916/24

Civil Works Engineers Report dated 28/3/25, pages 1-14.

CIVILWORKS ENGINEERS
Property Development Solutions

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28 March 2025

Our Ref: CW24091

Brisbane City Council
Planning and Environment Court

128 Ashridge Road, Darra QLD 4076
Stormwater Technical Assessment
(Applications: A006565555)

1. Introduction

This technical assessment has been prepared to support the formal request for the removal of Condition 18 and Condition 7, which requires the provision of upstream stormwater connections for Lots 98 and 99 RP29723 as well as the implications of easements associated as per the approved plans marked up by Council. Following a detailed review of the site conditions, natural drainage patterns, and Council's indicative sketch, it has been determined that this requirement is not feasible nor necessary. The following points outline the reasons why the upstream connection condition should be removed.

2. Natural Drainage Patterns

The existing topography of the upstream properties will first need to be considered prior to assessing the requirements for the provision of upstream property connections. Refer to diagram 1 for the existing contour plans obtained from Brisbane City Council's interactive mapping.

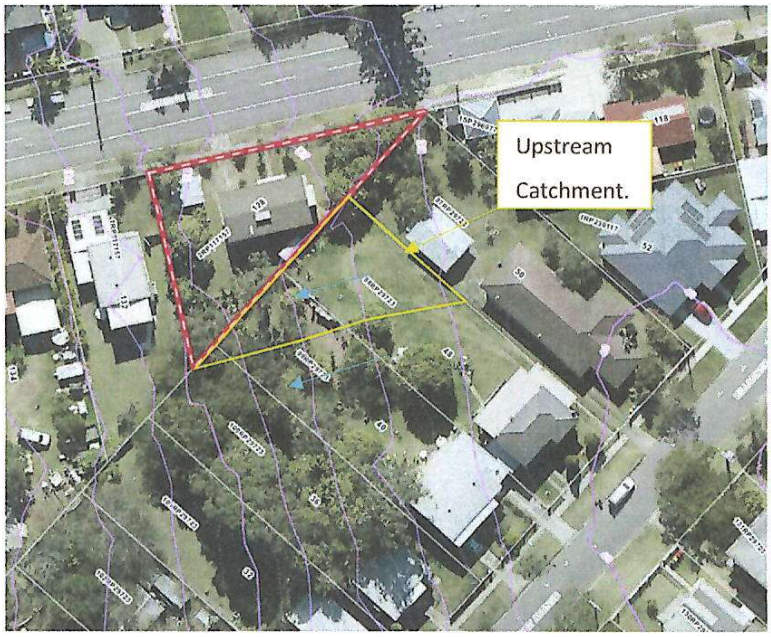


Diagram 1 – Contour Plan (BCC Interactive Mapping)

(2)

Based on the above diagram;

While it is understood that some portions of Lots 98 and 99 do drain towards the subject site, it is critical to note that all of Lot 2 naturally drains towards the downstream neighbouring property (Lot 1 RP117157). In addition to the above, over half of Lot 1 also drains towards the rear of the lot.

As such, any runoff from Lots 98 and 99 that does enter the subject site immediately continues to the downstream neighbouring properties rather than accumulating on site. This will imply that an upstream stormwater connection would serve no practical function as stormwater runoff already naturally drains downstream away from Ashridge Road.

With the above, it can be deduced that Council's request for upstream connections for Lots 98 and 99 are based on an assumed need rather than an assessment of the actual drainage patterns on site.

3. Physical Constraints of Site Topography

Based on the available survey plan, the topography along the western side of Lot 2 is characterized as undulating terrain, which prevents stormwater runoff to naturally be conveyed freely towards Ashridge Road.

As such, installing upstream stormwater connections would require significant modifications to the terrain, which would be impractical and disruptive.

4. Engineering Review of Council's Sketch

A detailed review of Council's indicative stormwater sketch, considering surface levels, invert levels, and grade constraints, confirms that installing an upstream stormwater pipe at the minimum grade would result in an exposed pipe for most of its length along the western side of Lot 2. Refer to diagram 2 obtained from attached concept sketch CW24091-SK01-REVA:

Diagram 2 : Stormwater schematic based on Council's approved sketch with minimum grades

This is a fundamental engineering issue as an exposed stormwater pipe:

- Is structurally vulnerable.
- Would pose maintenance and safety concerns.
- Is not a standard or practical stormwater solution.

(3)

In addition to the above. If the proposed infrastructure was design solely based on providing minimum cover over the entirety of the proposed pipe network illustrated in diagram 3 obtained from attached concept sketch CW24091-SK01-REVA:

Diagram 3: Stormwater schematic based on Council's approved sketch with minimum cover

It will result in a charged system with an approximate drop of 1.181m between the internal network and the kerb outlet resulting in a charged system that would be inefficient.

5. Potential Downstream Flooding Issues

Understanding the lower elevations at the rear of the site due to the existing topography, any surcharging from the upstream drainage system could result in stormwater flowing toward adjacent downstream properties. This would in turn create nuisance flows, which contradicts the "No Worsening" principle of stormwater management upheld by Council.

In addition, an upstream connection does not prevent overland flow risks as the proposed infrastructure will only cater for minor flow storm events, as the primary issue for this development is the existing site terrain, which naturally directs water toward the rear.

6. Future Development Considerations

An assessment of post-development discharge for the upstream fully developed site conditions for Lots 98 and 99 have been undertaken using the Rational Method taking into consideration of the site in its entirety as well as a conservative potential total roof area of 600m^2, in accordance with QUDM and BCC Infrastructure Design PSP – Chapter 7. The below calculations are only for 1 lot considering the lot sizes are the same.

Post Development (Lot 98/99)

The following parameters have been adopted for using the Rational Method:

- **Catchment Area (ha)** – 0.1012 (Total Existing Site Area).
- **Runoff Coefficient (C_{10})** – 0.870 (According to QUDM Section 4.5). This is based on the future lot being fully developed (LMR3).
- **Time of Concentration (t_c)** – 5 minutes (According to QUDM Section 4.6). This is based on 5 minutes travel times from roof to main system connection.
- **Rainfall Intensity (mm/hr) –** Data obtained from BCC Infrastructure Design PSP – Chapter

(4)

7 Table 7.2.2.2.A.

The peak flow rates have been outlined in Table 1 below. Refer to Appendix F for detailed calculation.

Table 1 *– Peak Flow Rates Using Rational Method (Post Development)*

Catchment	Q_1 (m^3/s)	Q_2 (m^3/s)	Q_5 (m^3/s)	Q_{10} (m^3/s)	Q_{20} (m^3/s)	Q_{50} (m^3/s)	Q_{100} (m^3/s)
Existing Site	0.023	0.031	0.044	0.053	0.064	0.082	0.091

Post Development (Lot 98/99)

The following parameters have been adopted for using the Rational Method:

- **Catchment Area (ha)** – 0.060 (Future Roof Areas).
- **Runoff Coefficient (C_{10})** – 0.870 (According to QUDM Section 4.5). This is based on the future lot being fully developed (LMR3).
- **Time of Concentration (t_c)** – 5 minutes (According to QUDM Section 4.6). This is based on 5 minutes travel times from roof to main system connection.
- **Rainfall Intensity (mm/hr) –** Data obtained from BCC Infrastructure Design PSP – Chapter 7 Table 7.2.2.2.A.

The peak flow rates have been outlined in Table 1 below. Refer to Appendix F for detailed calculation.

Table 2 *– Peak Flow Rates Using Rational Method (Post Development- Roof Areas Only)*

Catchment	Q_1 (m^3/s)	Q_2 (m^3/s)	Q_5 (m^3/s)	Q_{10} (m^3/s)	Q_{20} (m^3/s)	Q_{50} (m^3/s)	Q_{100} (m^3/s)
Existing Site	0.014	0.019	0.026	0.031	0.038	0.049	0.054

Based on the above considering the lots are fully developed, it can be determined that the stormwater runoff will increase significantly, and the proposed upstream stormwater infrastructure will not be able support the additional flows based on QUDM Level III drainage.

Furthermore, Council's Planning Scheme Policy states that proposed kerb outlets should have a capacity which is limited to 30L/s for the 5% AEP event. However, runoff volume will exceed this capacity even with the conservative assumption of 600m^2 roof areas for each lot. Understanding Council's 30L/s limitation, even if stormwater infrastructure were to be modified, the proposed connection would still fail to meet compliance standards.

5

7. On-Site Detention (OSD) Feasibility for upstream developments

Understanding that OSD could be conditioned on Lots 98 and 99 to mitigate flows to 30L/s to allow for compliance. However this is viewed as an highly unfavourable outcome to be imposed upon the upstream lots as the provision of OSD for small freehold lots will be impractical, highly inefficient due to the relatively large OSD requirements to achieve the desired mitigation not to mention the costs involved.

Furthermore, under Council's ROL (Reconfiguration of a Lot) guidelines, freehold lots in infill subdivisions are not required to provide on-site detention, meaning there is no mechanism to mitigate upstream flows to 30L/s.

Conclusion

It is our understanding that Condition 18 and associated Condition 7 should never have been imposed based on the below justifications:

- Natural drainage patterns already direct runoff downstream.
- The site's terrain prevents effective upstream drainage.
- A compliant connection would result in an exposed pipe, which is not feasible.
- A compliant connection based on providing minimum cover would result in an inefficient charged system.
- Forcing an upstream connection would lead to downstream nuisance flooding, violating the "No Worsening" principle.
- If the upstream properties are developed, they will generate flows exceeding the allowable kerb discharge limits.
- There is no viable OSD option to mitigate excess runoff, per Council's guidelines.

Given these points, Condition 18 and 7 should be formally removed, as the upstream connection is neither practical nor justifiable from an engineering perspective.

Should you require any further information, please do not hesitate to contact the undersigned.

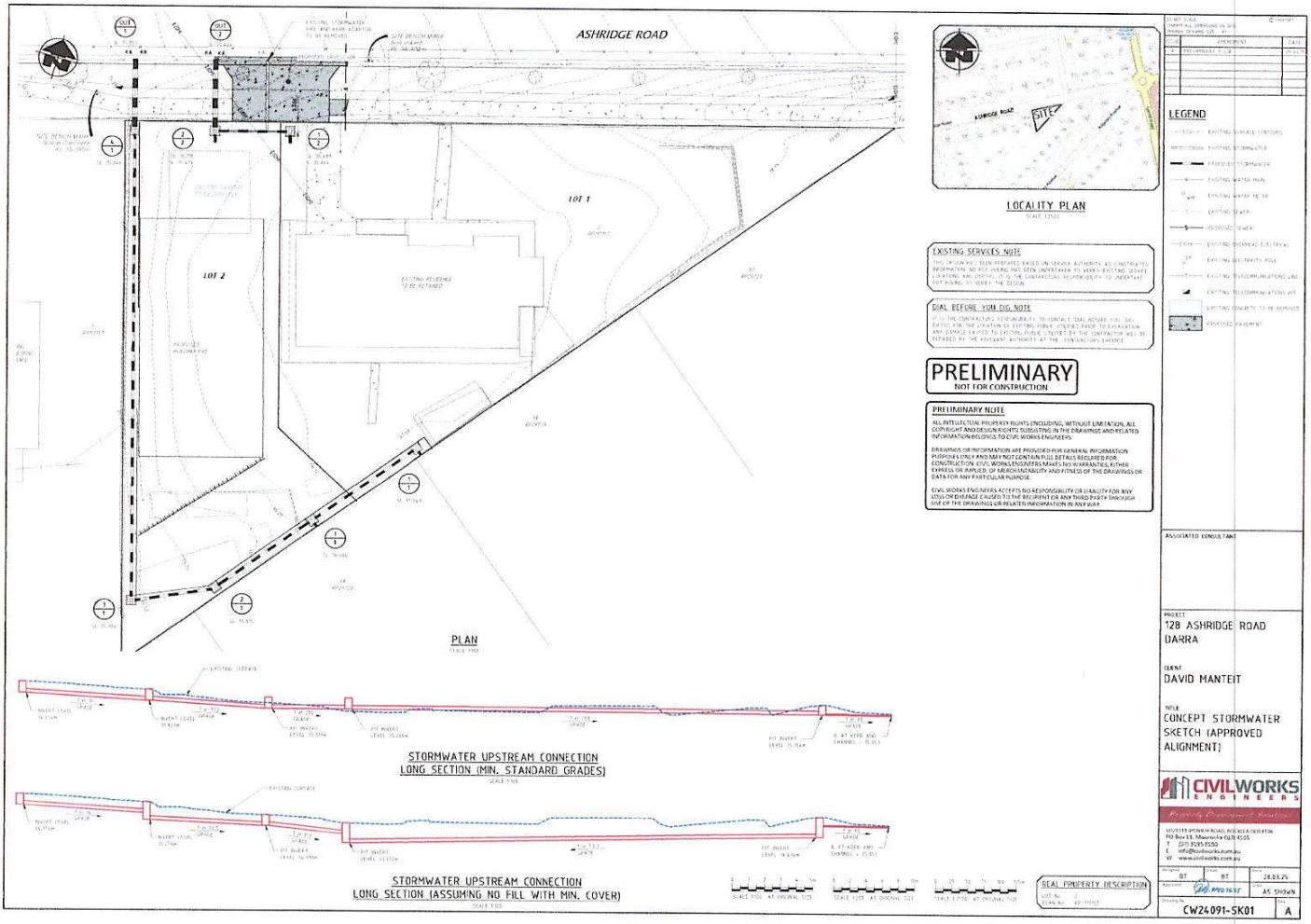
Yours sincerely,

CIVIL WORKS ENGINEERS

Wai Yeow Lee
Senior Civil Engineer

RPEQ 7675

Roger Andrade RPEQ 7675
Principal Civil Engineer


ASHRIDGE ROAD
LOT 1
LOT 2
EXISTING RESIDENCE TO BE RETAINED
PROPOSED DRIVEWAY
PROPOSED HOUSE
PLAN
SITE
LOCALITY PLAN
EXISTING SERVICES NOTE
DIAL BEFORE YOU DIG NOTE
PRELIMINARY
NOT FOR CONSTRUCTION
PRELIMINARY NOTE
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LEGEND
ASSOCIATED CONSULTANT
PROJECT
128 ASHRIDGE ROAD
DARRA
CLIENT
DAVID MANTEIT
TITLE
CONCEPT STORMWATER SKETCH (APPROVED ALIGNMENT)
CIVILWORKS ENGINEERS
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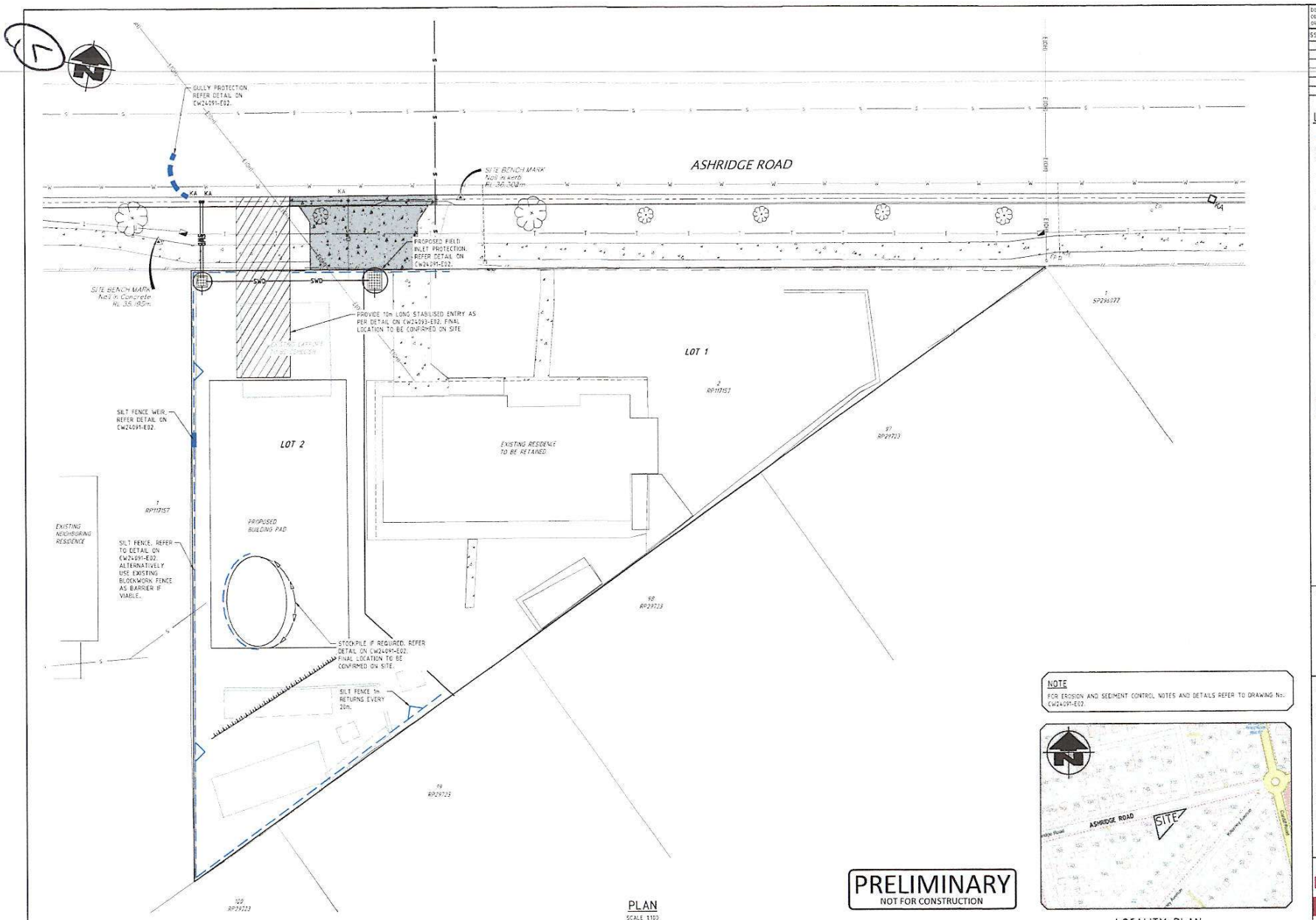
E info@civilworks.com.au
W www.civilworks.com.au
BT
BT
28.03.25
AS SHOWN
CW24091-SK01
A
STORMWATER UPSTREAM CONNECTION
LONG SECTION (MIN. STANDARD GRADES)
STORMWATER UPSTREAM CONNECTION
LONG SECTION (ASSUMING NO FILL WITH MIN. COVER)
REAL PROPERTY DESCRIPTION



PLAN
SCALE 1:100

PRELIMINARY
NOT FOR CONSTRUCTION

NOTE
FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS REFER TO DRAWING No: CW24091-E02.

LOCALITY PLAN
SCALE 1:2500

0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE

0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE

REAL PROPERTY DESCRIPTION
LOT No. 2
PLAN No. RP 117157

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. ORIGINAL DRAWING SIZE - A1
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ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND
- SILT FENCE
- STABILISED ENTRY/EXIT
- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- FIELD INLET PROTECTION
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED PAVEMENT

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD, DARRA

CLIENT
DAVID MANTEIT

TITLE
EROSION AND SEDIMENT CONTROL PLAN

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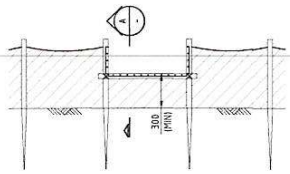
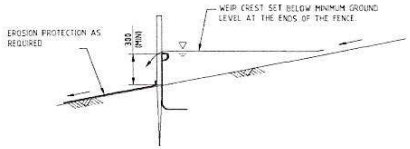
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
RPEQ 7675		AS SHOWN

Drawing No. CW24091-E01 | Rev. A



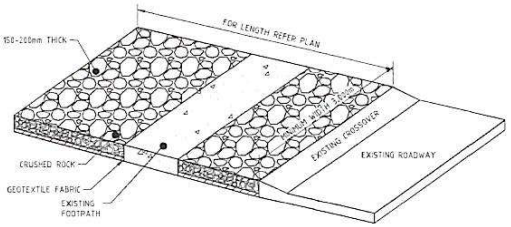
TEMPORARY SILT FENCE SPILL-THROUGH WEIR DETAIL

N.T.S.



SECTION A

N.T.S.



STABILISED ENTRY/EXIT POINT TYPICAL DETAIL

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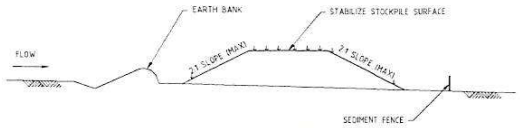
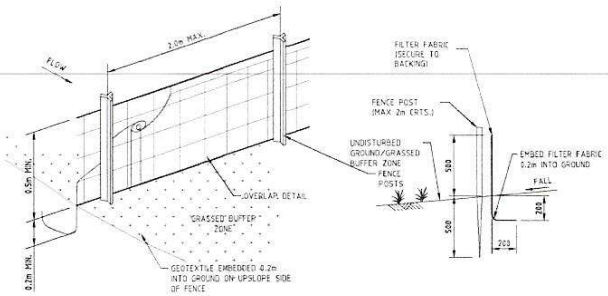


STOCKPILE DETAIL

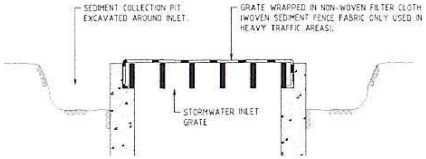
N.T.S.



ISOMETRIC SECTION

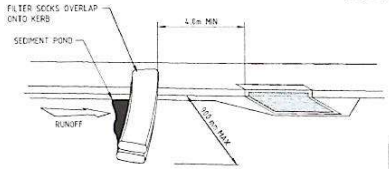
TEMPORARY SILT FENCE DETAIL

N.T.S.



GRATED STORMWATER (FIELD) INLET SEDIMENT TRAP

N.T.S.



GULLY INLET PROTECTION

NOT TO SCALE

PRELIMINARY
NOT FOR CONSTRUCTION

Table 1 - Soil Loss Rates (RUSLE)

CATCHMENT	"AREA (ha)"	MEAN SLOPE %	SLOPE LENGTH (m)	"LS FACTOR"	"R FACTOR"	"K FACTOR"	"C FACTOR"	"P FACTOR "	ESTIMATED SOIL LOSS RATE (t/ha/yr)
PROPOSED SITE	0.035	12.2	12.3	0.968	3705	0.054	1.000	1.300	249.437

TABLE 2 - EROSION HAZARD CATEGORY

SOIL LOSS CLASS	ESTIMATED SOIL LOSS RATE (t/ha/YR)	EROSION HAZARD RISK	CATCHMENT
1	<150	VERY LOW	
2	151-225	LOW	
3	226-350	LOW-MODERATE	CATCHMENT A
4	351-500	MODERATE	
5	501-750	HIGH	
6	751-1500	VERY HIGH	
7	>1501	EXTREME	

NOTE TABLES 1 TO 3 ESTIMATE SOIL LOSS AND ASSOCIATED EROSION HAZARD CATERGORY DUE TO SHEET AND RILL EROSION.

TABLE 3 - SEDIMENT CONTROL STANDARD

SEDIMENT CONTROL TYPE	SUB-CATCHMENT SIZE (ha)	ESTIMATED SOIL LOSS RATE (t/ha/yr)	TYPICAL CONTROL MEASURES	SITE CATCHMENT
1	0.25-1.0	>150	SEDIMENT BASIN (APPROPRIATELY SIZED IN ACCORDANCE WITH IECA BPESC)	
	>1.0	>75		
2	0.1-.25	>75	EXCAVATED SEDIMENT TRAP (LESS THAN DESIGN STD), ROCK FILTER DAM, MULCH FILTER BERM, SEDIMENT TRENCH	
	0.25-1.0	75-150		
3	<0.10	ALL CASES	SEDIMENT FENCES, COIR LOGS CHECK DAMS, FIELD INLET PROTECTION, ROCK CHECK DAMS	CATCHMENT A
	>0.10	<75		

TABLE 5 - MAXIMUM SLOPE LENGTHS

SLOPE	HORIZ. SPACING
1	80m
2	60m
3	40m
4	40m
6	32m
8	28m
12	25m

MAXIMUM ALLOWABLE SLOPE LENGTHS FOR EARTHWORKS AREAS PRIOR TO RAINFALL OR INACTIVE DISTURBED AREAS.

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

NOTE

FOR EROSION AND SEDIMENT CONTROL PLAN REFER TO DRAWING No. CW24091-E01.

STOCKPILE - CONSTRUCTION NOTES

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

PRE-START MEETING NOTE

AT LEAST 10 DAYS PRIOR TO COMMENCEMENT OF ANY SITE WORKS CAUSING EXPOSURE OF SOIL, CONTRACTOR TO CONTACT CIVIL WORKS ENGINEERS TO ORGANISE A PRE-START MEETING WITH AN EROSION AND SEDIMENT CONTROL OFFICER FROM COUNCILS COMPLIANCE AND REGULATORY SERVICES.

THE PLANS3 AND DESIGN CERTIFICATIONS MUST BE AVAILABLE ON SITE AT ALL TIMES FOR INSPECTION BY COUNCIL OFFICER UNTIL ALL EXPOSED SOIL AREAS ARE PERMANENTLY STABILISED AGAINST EROSION.

MATERIALS

FABRIC (LIGHT TRAFFIC AREAS):
HEAVY-DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH (BIDIM A34 OR EQUIVALENT).

FABRIC (HEAVY TRAFFIC AREAS):
POLY-PROPYLENE, POLYAMIDE NYLON, POLYESTER, OR POLYETHYLENE WOVEN OR NON-WOVEN REINFORCED FABRIC. THE FABRIC WIDTH SHOULD BE AT LEAST 700mm WITH A MINIMUM UNIT . FABRICS SHOULD CONTAIN ULTRAVIOLET INHIBITORS AND STABILISERS TO A WEIGHT OF 140g/m PROVIDE A MINIMUM OF 6 MONTHS OF USEABLE CONSTRUCTION LIFE (ULTRAVIOLET STABILITY EXCEEDING 70%).

EROSION AND SEDIMENT CONTROL NOTES

1. OBTAIN ALL NECESSARY PERMITS AND APPROVALS BEFORE SITE ESTABLISHMENT.
2. THE SEQUENCE OF OPERATIONS SHALL BE AS FOLLOWS:
   - 2.1. DELINEATION OF BUFFER AREAS AND DRAINAGE RESERVES, ERECTION OF BARRICADE FENCING.
   - 2.2. LOCATION OF TOPSOIL STOCKPILES AND ERECTION OF DOWNHILL SILT FENCE.
   - 2.3. CONSTRUCTION OF DIVERSION WORKS NECESSARY TO MINIMISE RUNOFF FROM ENTERING THE SITE.
   - 2.4. THE CONSTRUCTION OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (e.g. SILT FENCES).
   - 2.5. LAND CLEARING AND TOPSOIL STRIPPING.
   - 2.6. CONSTRUCTION OF STORMWATER DRAINAGE FACILITIES.
   - 2.7. LAND SHAPING.
   - 2.8. CONSTRUCTION OF ROADS AND ACCESS WAYS, INSTALLATION OF SERVICES.
   - 2.9. FINAL REHABILITATION AND LANDSCAPING.
   - 2.10. MAINTENANCE.
3. ALL SILT FENCES ARE TO BE INSTALLED PARALLEL TO CONTOURS UNLESS SHOWN OTHERWISE.
4. SILT FENCES ARE TO BE INSTALLED DOWNHILL AND DIVERSION BANKS UPHILL OF TOPSOIL STOCKPILES.
5. TOPSOIL STOCKPILES ARE TO BE MULCHED OR TEMPORARILY VEGETATED IF THEY ARE TO REMAIN FOR MORE THAN 30 DAYS.
6. MOVEMENT OF CONSTRUCTION EQUIPMENT SHALL BE LIMITED TO THE AREA OF WORK AND EXISTING ROADS.
7. DISTURBED AREAS ARE TO BE GRASSED FOLLOWING FINAL TRIMMING, AREAS ARE TO BE DISTURBED AND RESTORED PROGRESSIVELY.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED AND RE-INSPECTED AT THE END OF EACH DAYS WORK DUE TO THE POSSIBILITY OF OVERNIGHT RAINS AND IMMEDIATELY PRIOR TO ANY POSSIBLE STORM EVENT.
9. KERB AND/OR SURFACE INLET SEDIMENT TRAPS ARE TO BE PROVIDED AT EACH DRAINAGE PIT UNTIL ADJACENT DISTURBED AREAS ARE FULLY RESTORED.
10. FILTER ROLLS TO BE PROVIDED AT ALL STORMWATER INLET PITS.
11. ANY DIRT/ MUD/ MATERIALS SPILT OR TRACKED ONTO THE COUNCIL'S ROADS IS TO BE BROOMED UP AND COLLECTED - NOT WASHED DOWN INTO THE STORM WATER DRAINS.

EROSION AND SEDIMENT CONTROL NOTES - TRENCHING

THE CONTRACTOR SHALL FOLLOW THE PROCEDURES BELOW TO MINIMISE SCOURING OF TRENCHES DURING RAINFALL EVENTS THAT OCCUR THROUGH THE CONSTRUCTION PHASE.

1. OPEN ONLY AS MUCH GROUND AS REQUIRED TO UNDERTAKE THE WORK AT HAND.
2. WHEREVER POSSIBLE CONSTRUCT LINES FROM UPSTREAM TO DOWNSTREAM.
3. PLACE BEDDING MATERIAL AS SOON AS PRACTICAL AFTER OPENING TRENCH.
4. CLOSE TRENCH AS SOON AS PRACTICABLE AFTER LAYING PIPE.
5. INSTALL SAND BAGS IN TRENCHES AT 10m CENTRES WHENEVER TRENCHES ARE PROPOSED TO BE LEFT OPEN AND UNATTENDED e.g. OVERNIGHT.

DEMOLITION NOTES

1. ALL DEMOLITION WORKS, INCLUDING THE PROCUREMENT OF ANY STATUTORY APPROVALS, IS THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR. ALL DEMOLITION WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CURRENT LEGISLATION.
2. THE ENTITY RESPONSIBLE FOR THE DEMOLITION WORKS SHALL ENSURE THAT ALL VEHICLES LEAVING THE SITE CARRYING DEMOLITION MATERIALS HAVE THEIR LOADS COVERED AND DO NOT TRACK SOIL OR WASTE MATERIALS ONTO THE ROAD.

PEDESTRIAN SAFETY NOTE

CONTRACTOR TO CLOSE FOOTPATH AND BARRICADE STABILISED ENTRY/EXIT. PROVIDE SAFE PEDESTRIAN ACCESS IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES.

EXISTING SERVICES NOTE

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

ASBESTOS NOTE

SHOULD ASBESTOS BE PRESENT, ITS REMOVAL SHALL BE CARRIED OUT IN ACCORDANCE WITH THE NATIONAL OH&S COMMITTEE - CODE OF PRACTICE FOR SAFE REMOVAL OF ASBESTOS AND ITS CODE OF PRACTICE FOR THE MANAGEMENT AND CONTROL OF ASBESTOS IN THE WORKPLACE.

SILT FENCE MAINTENANCE

- REGULAR INSPECTIONS AND MAINTENANCE ARE REQUIRED TO REPAIR DAMAGE CAUSED BY ON-SITE VEHICLES OR THE MOVEMENT OF STOCKPILE MATERIALS.
- INSPECT AT THE END OF EACH DAYS WORK DUE TO THE POSSIBILITY OF OVERNIGHT RAIN AND IMMEDIATELY PRIOR TO AND AFTER EACH STORM EVENT.
- REMOVE EXCESSIVE SEDIMENT DEPOSITS.
- INVESTIGATE THE SOURCE OF EXCESSIVE SEDIMENT.
- IF THE FENCE IS REGULARLY DAMAGED, INSTALL A SECOND FENCE AT LEAST 1 METRE DOWN SLOPE OF THE EXISTING FENCE.

DO NOT SCALE
CONFIRM ALL DIMENSIONS ON SITE
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD, DARRA

CLIENT
DAVID MANTEIT

TITLE
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

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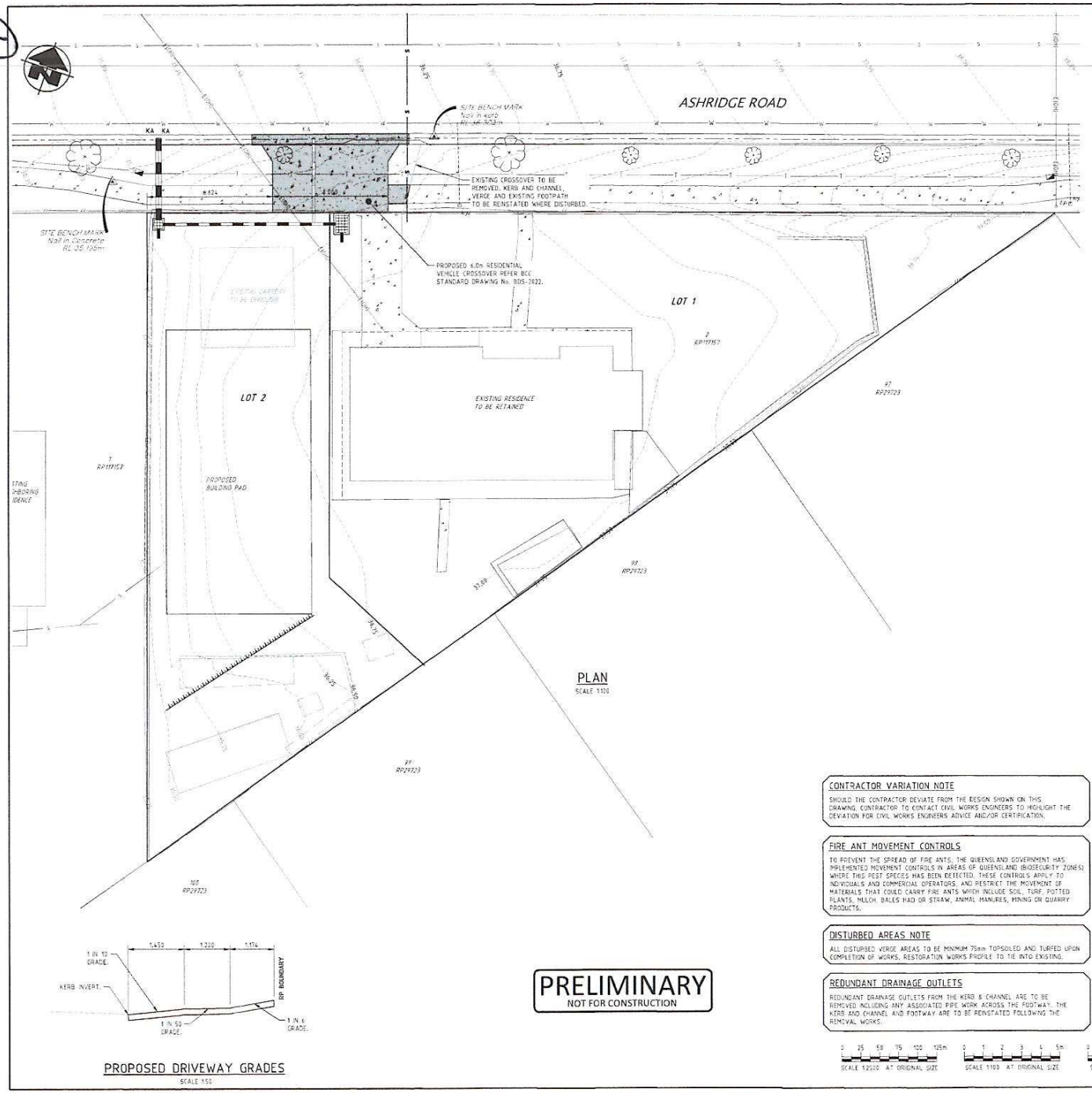
W www.civilworks.com.au

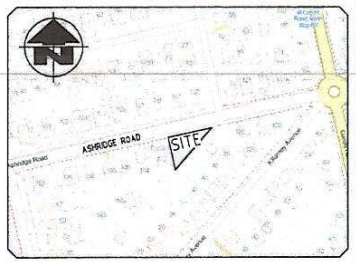
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
		AS SHOWN

Drawing No. CW24091-E02 Rev. A



PROPOSED DRIVEWAY GRADES
SCALE 1:50

PRELIMINARY
NOT FOR CONSTRUCTION



LOCALITY PLAN
SCALE 1:2500

EXISTING SERVICES NOTE

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

CONTRACTOR'S NOTE - DAMAGE TO EXISTING

CONTRACTOR TO REPAIR ANY DAMAGE TO EXISTING KERB AND CHANNEL OR ROADWAY, INCLUDING THE REMOVAL OF CONCRETE SLURRY FROM FOOTWAYS, ROADS, KERB & CHANNEL, STORMWATER GULLIES AND DRAIN LINES)

DIAL BEFORE YOU DIG NOTE

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT 'DIAL BEFORE YOU DIG' PH.1100 FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTORS EXPENSE

CONCRETE NOTES

1. ALL CONCRETE SUPPLY AND WORK SHALL MEET THE REQUIREMENTS OF AS3600.
2. CONCRETE GRADE SHALL BE N32.
3. AGGREGATE FOR CONCRETE SHALL BE CLEAN AND FREE OF CLAY PARTICLES.
4. NO ADMIXTURES TO THE CONCRETE SHALL BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT.
5. COMPLIANCE OF CONCRETE SUPPLY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 20 OF AS3600.
6. CONCRETE SURFACE SHALL BE BROOM FINISHED.
7. CONCRETE SHALL NOT BE PLACED WHEN HOT DRY WIND CONDITIONS PREVAIL.
8. CONCRETE PLACED IN TEMPERATURES OVER 25 CENTIGRADE SHALL IMMEDIATELY AFTER PLACEMENT BE COATED WITH AN EVAPORATION RETARDANT AND/OR CURING OIL APPROVED BY THE ARCHITECT.
9. CONCRETE PAVEMENTS SHALL BE JOINTED AS DETAILED ON THE DRAWINGS. ALL SHRINKAGE CRACK CONTROL JOINTS SHALL BE SAWN WITHIN 24 HOURS OF CONCRETE PLACEMENT. ALL JOINTS SHALL BE SEALED WITH A PURPOSE MADE PROPRIETARY SEALANT. JOINT SEALANT SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
10. CONCRETE SHALL BE FULLY COMPACTED BEFORE SCREEDING, WITH PARTICULAR CARE TAKEN AT EACH EXPANSION JOINT.
11. JOINT PREPARATION - BEFORE FRESH CONCRETE IS PLACED AT A CONSTRUCTION JOINT, ROUGHEN AND CLEAN THE HARDENED CONCRETE SURFACE OF THE JOINT SO THAT ALL LOOSE OR SOFT FREE WATER FORIEGN MATTER IS REMOVED. ALL JOINTS HOWEVER MADE SHALL BE PROVIDED WITH A GROOVE TO ACCOMMODATE SEALING MATERIAL.
12. DIMENSIONAL TOLERANCES.
    LENGTH SLAB (UP TO 16m) +or- 6mm
    WIDTH SLAB +or- 6mm
    THICKNESS SLAB +12mm -3mm
13. CURING
    DURING THE CURING PERIOD MAINTAIN THE CONCRETE AT A REASONABLY CONSTANT TEMPERATURE, NOT EXCESSIVELY HOT OR COLD, TO MINIMISE MOISTURE LOSS. BY A SUITABLE METHOD WHICH MAY INCLUDE
    - PONDING OR CONTINUOUS SPRINKLING WITH WATER (MOIST CURING)
    - AN IMPERMEABLE CLEAR MEMBRANE, TAPED AT JOINS AND SEALED AT THE EDGES
    - AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET
    - AN APPROVED CURING COMPOUND (SUBMIT DETAILS FOR APPROVAL PRIOR TO CONCRETING OPERATIONS TAKING PLACE), APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
14. CURING PERIOD
    CURE CONTINUOUSLY UNTIL THE CUMULATIVE NUMBER OF DAYS OR FRACTIONS THEREOF (NOT NECESSARILY CONSECUTIVE) DURING WHICH THE AIR TEMPERATURE IN CONTACT WITH THE CONCRETE IS ABOVE 10°C, TOTALS NOT LESS THAN 7 DAYS.

CONTRACTOR VARIATION NOTE

SHOULD THE CONTRACTOR DEVIATE FROM THE DESIGN SHOWN ON THIS DRAWING, CONTRACTOR TO CONTACT CIVIL WORKS ENGINEERS TO HIGHLIGHT THE DEVIATION FOR CIVIL WORKS ENGINEERS ADVICE AND/OR CERTIFICATION.

FIRE ANT MOVEMENT CONTROLS

TO PREVENT THE SPREAD OF FIRE ANTS, THE QUEENSLAND GOVERNMENT HAS IMPLEMENTED MOVEMENT CONTROLS IN AREAS OF QUEENSLAND (BIOSECURITY ZONES) WHERE THIS PEST SPECIES HAS BEEN DETECTED. THESE CONTROLS APPLY TO INDIVIDUALS AND COMMERCIAL OPERATORS, AND RESTRICT THE MOVEMENT OF MATERIALS THAT COULD CARRY FIRE ANTS WHICH INCLUDE SOIL, TURF, POTTED PLANTS, MULCH, BALES PAD OR STRAW, ANIMAL MANURES, MINING OR QUARRY PRODUCTS.

DISTURBED AREAS NOTE

ALL DISTURBED VERGE AREAS TO BE MINIMUM 75mm TOPSOILED AND TURFED UPON COMPLETION OF WORKS. RESTORATION WORKS PROFILE TO TIE INTO EXISTING.

REDUNDANT DRAINAGE OUTLETS

REDUNDANT DRAINAGE OUTLETS FROM THE KERB & CHANNEL ARE TO BE REMOVED INCLUDING ANY ASSOCIATED PIPE WORK ACROSS THE FOOTWAY. THE KERB AND CHANNEL AND FOOTWAY ARE TO BE REINSTATED FOLLOWING THE REMOVAL WORKS.

0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE

0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 AT ORIGINAL SIZE

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 111157

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED PAVEMENT

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CROSSOVER PLAN

CIVILWORKS ENGINEERS
Property Development Solutions
U3/1311 IPSWICH ROAD, ROCKLEA QLD 4106
PO Box 13, Moorooka QLD 4105
T (07) 3195 8180
E info@civilworks.com.au
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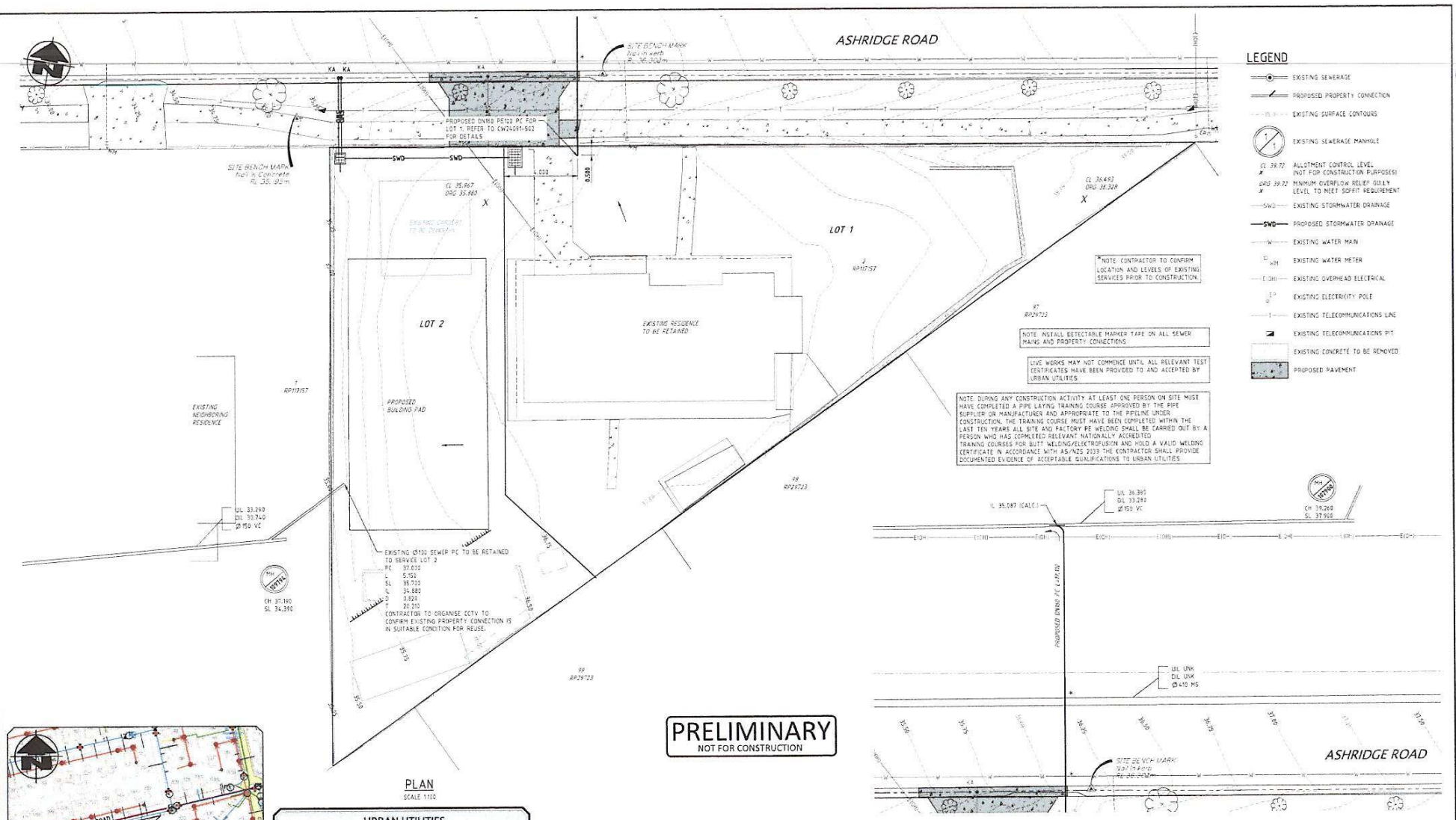
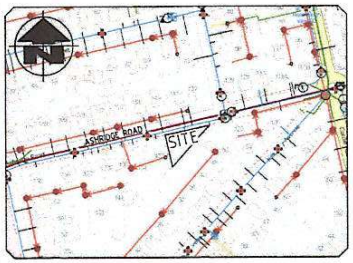
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
RPEQ 26775		AS SHOWN

Drawing No. CW24091-R01 Rev. A



PRELIMINARY
NOT FOR CONSTRUCTION

PLAN
SCALE 1:100



LOCALITY PLAN
SCALE 1:2500

URBAN UTILITIES
CERTIFICATION SCHEME ENDORSED CONSULTANT

(PLANS SUBMITTED ARE TO 'URBAN UTILITIES' STANDARDS AND SATISFY THE WATER APPROVAL CONDITIONS)

WATER APPROVAL REF. NUMBER: 25-PNT-79784
ENDORSED CONSULTANT: CIVIL WORKS ENGINEERS
NOMINATED RPEQ: ROGER ANDRADE 7675

RPEQ SIGNATURE _____
RPEQ CONTACT DETAILS 07 3195 8180

AS CONSTRUCTED INFORMATION

ALL WORKS DELIVERED UNDER THE URBAN UTILITIES CERTIFICATION SCHEME REQUIRE AS CONSTRUCTED DETAILS TO BE PROVIDED. THE CONTRACTOR IS RESPONSIBLE TO CO-ORDINATE WITH THE PROJECT SURVEYOR TO ENSURE ALL REQUIRED DETAILS ARE OBTAINED AND PROVIDED TO 'CIVIL WORKS ENGINEERS'.

FOR SPECIFIC PROJECT AS CONSTRUCTED REQUIREMENTS PLEASE CONTACT 'CIVIL WORKS ENGINEERS'.

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

WATER AND SEWER INSPECTIONS

THESE WORKS ARE CONSIDERED MINOR WORKS AND ARE TO BE DELIVERED UNDER THE URBAN UTILITIES CERTIFICATION SCHEME.

INSPECTIONS ARE TO BE ARRANGED WITH 'CIVIL WORKS ENGINEERS'.

0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE

0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE

A1

REV. NO	DATE	REVISION PURPOSE/DESCRIPTION	DRAWN	RPEQ	RPEQ No.
A	28.03.25	PRELIMINARY ISSUE	BT	RA	7675

	INITIALS	DATE
DRAWN	BT	28.03.25
CHECKED	JM	28.03.25
PASSED	RA	28.03.25

CIVILWORKS ENGINEERS
Property Development Solutions
U3, 1311 IPSWICH ROAD, ROCKLEA QLD 4106
PO Box 13, Moorooka QLD 4105
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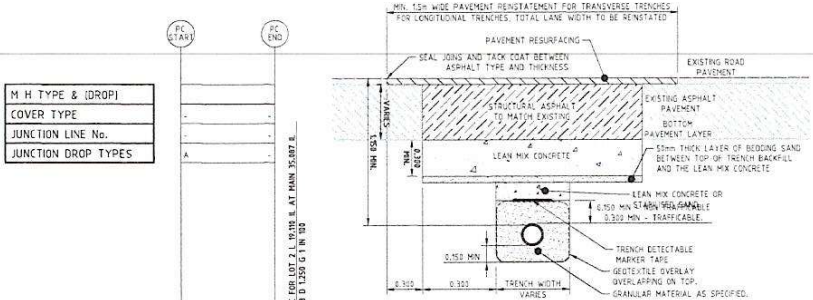
W www.civilworks.com.au

128 ASHRIDGE ROAD, DARRA

SEWERAGE RETICULATION PLAN

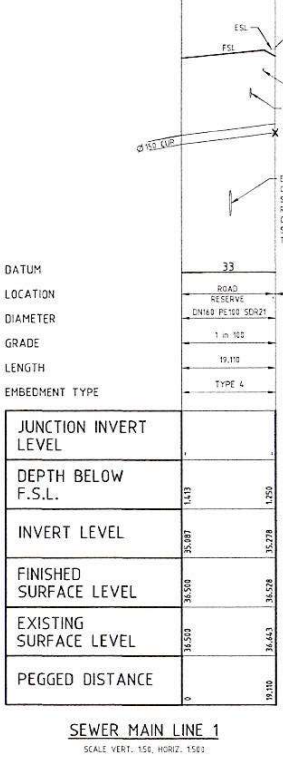
DRAWING STATUS: PRELIMINARY
SHEET 1 OF 2 SHEETS
DRAWING NO. CW24091-S01
REV. A



* FOR FURTHER CONSTRUCTION NOTES REFER BCC STD DRG BSD-2042 AND SEQ-SEW-1205-1.

TYPICAL TRENCH REINSTATEMENT UNDER ROAD CROSS-SECTION

SCALE 1:20



M H TYPE & (DROP)			
COVER TYPE	-	-	
JUNCTION LINE No.	-	-	
JUNCTION DROP TYPES	A	-	
DATUM	33		
LOCATION	ROAD RESERVE	PRIVATE PROPERTY	
DIAMETER	DN160 PE100 SDR21		
GRADE	1 in 100		
LENGTH	19.110		
EMBEDMENT TYPE	TYPE 4		
JUNCTION INVERT LEVEL	-	-	
DEPTH BELOW F.S.L.	1.413	1.250	
INVERT LEVEL	35.087	35.278	
FINISHED SURFACE LEVEL	36.500	36.528	
EXISTING SURFACE LEVEL	36.500	36.643	
PEGGED DISTANCE	0	19.110	

SEWER MAIN LINE 1

SCALE VERT. 1:50, HORIZ. 1:500

0 0.25 0.5 0.75 1.0 1.25m — SCALE 1:25 AT ORIGINAL SIZE
0 0.5 1.0 1.5 2.0 2.5m — SCALE 1:50 AT ORIGINAL SIZE
0 5 10 15 20 25m — SCALE 1:500 AT ORIGINAL SIZE

PRELIMINARY
NOT FOR CONSTRUCTION

REUSE OF EXISTING SEWER PROPERTY CONNECTION NOTE

EXISTING Ø100 SEWER PROPERTY CONNECTION TO BE RETAINED PROVIDED THAT IT:

1. IS SUITABLY LOCATED;
2. MEETS HYDRAULIC CAPACITY REQUIREMENTS;
3. IS IN SOUND CONDITION ASSESSED BY CCTV;
4. IS OF A MATERIAL THAT IS ACCEPTABLE TO THE SEQ-SP, AND;
5. HAS A REMAINING ASSET LIFE EXPECTANCY IN EXCESS OF 25 YEARS.

IF THE EXISTING SEWER PROPERTY CONNECTION IS NOT SUITABLE FOR REUSE IT SHOULD BE REPLACED WITH A NEW DN110 PROPERTY CONNECTION.

SEWERAGE SEQ STANDARD DRAWINGS

- FOR TYPICAL ARRANGEMENTS AND PROPERTY CONNECTIONS REFER SEQ-SEW-1103-2, SEQ-SEW-1106-1 TO SEQ-SEW-1106-6.
- FOR SOIL CLASSIFICATION, EMBANKMENTS, BEDDING, TRENCHING, TRENCHING DRAINAGE, TRENCH STOPS AND BULKHEADS REFER SEQ-SEW-1200-1, SEQ-SEW-1200-2, AND SEQ-SEW-1201-1 TO SEQ-SEW-1207-2
- FOR MAINTENANCE STRUCTURES AND MANHOLES REFER SEQ-SEW-1301-1 TO SEQ-SEW-1301-27, SEQ-SEW-1305-1, SEQ-SEW-1305-1, SEQ-SEW-1309-1 TO SEQ-SEW-1309-4, SEQ-SEW-1313-1, SEQ-SEW-1315-1, SEQ-SEW-1315-1.
- FOR MAINTENANCE HOLE SULPHIDE CONTROL REFER SEQ-SEW-1307-2 TO SEQ-SEW-1307-7.
- FOR MAINTENANCE HOLE COVERS REFER SEQ-SEW-1308-2 TO SEQ-SEW-1308-11.
- FOR BURIED AND AERIAL CROSSINGS REFER SEQ-SEW-1401-1 TO SEQ-SEW-1406-1.
- FOR STANDARD OVERFLOW FLAP VALVE REFER SEQ-SEW-1409-1 TO SEQ-SEW-1411-5.
- FOR INVERTIONS AND REPAIR SYSTEMS REFER SEQ-SEW-1500-1 TO SEQ-SEW-1502-1.

EXISTING SERVICES NOTE

THE CONTRACTOR SHALL VERIFY THE POSITION OF ALL UNDERGROUND SERVICES BEFORE COMMENCING WORKS AND SHALL BE RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGE CAUSED AS A RESULT OF THE WORKS. SHOULD THE CONTRACTOR ENCOUNTER SERVICES NOT DOCUMENTED, OR INCORRECTLY DOCUMENTED REGARDING LOCATION, DEPTH, TYPE OR SIZE ON THE APPROVED DESIGN, THE CONTRACTOR MUST IMMEDIATELY CONTACT THE RESPONSIBLE RPEQ AND AWAIT DIRECTION. URBAN UTILITIES RECOMMENDS SITE AND GEOTECHNICAL INVESTIGATIONS INCLUDING SERVICE LOCATION BE CARRIED OUT AS PART OF THE DESIGN PROCESS TO AVOID THE NEED FOR DESIGN VARIATIONS DURING CONSTRUCTION. URBAN UTILITIES TIMEFRAMES APPLY FOR THE ASSESSMENT OF EVERY DESIGN ITERATION. URBAN UTILITIES ACCEPTS NO LIABILITY FOR ANY DELAYS ASSOCIATED WITH INSUFFICIENT SITE INVESTIGATION AND SERVICES LOCATION BY THE DESIGN.

EMBEDMENT NOTE

CONSTRUCT EMBEDMENT AND TRENCHFILL TO SEQ-SEW-1200-2, 1201-1 (TYPE 4, SUPPORT MINIMUM) AND BRISBANE CITY COUNCIL STANDARDS FOR ROAD CROSSINGS REINSTATEMENT IN ACCORDANCE WITH BCC STD DRAWING BSD-2042), OR WHICHEVER IS MORE ONEROUS.

TRENCH AND VERGE REINSTATEMENT NOTE

REINSTATE VERGE IN ACCORDANCE WITH BCC STANDARDS. TOPSOIL 75mm AND TURF ALL DISTURBED AREAS AS A MINIMUM. WORKS TO MATCH EXISTING.

EXISTING ROADWAY TO BE REINSTATED IN ACCORDANCE WITH BCC STD DRAWING BSD-2042 AFTER TRENCH WORKS COMPLETE FOR WORKS WITHIN ROAD.

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

LIVE SEWER WORKS TABLE

No.	DESCRIPTION	DIA. SEWER	MH No.	MH TYPE	COVER TYPE	LOT No.	F.S.L.	E.S.L.	IL	JUL	DEPTH
1	CONTRACTOR TO PROVIDE NEW DN160 PROPERTY CONNECTION INTO EXISTING SEWER MAIN	Ø150	-	-	-	VERGE	36.500	36.580	35.087	-	1.413

ROAD SURFACE REINSTATE NOTE

WHERE THE TRENCH HAS BEEN CONSTRUCTED LONGITUDINALLY IN THE ROAD, THEN THE FINAL SURFACE REPAIR WIDTH IS TO MATCH THE EXISTING LANE WIDTH AND TERMINATE 50mm CLEAR OF THE ROAD CENTRELINE OR LANE LINE LINE MARKING TO ALLOW FOR THE BITUMEN EMULSION JOINT SEAL.

A PART LANE RESURFACING MAY BE APPROVED WHERE THE FULL REINSTATEMENT IS ABLE TO BE COMPLETED BETWEEN THE INNER AND/OR OUTER EDGE AND CENTRE OF THE LANE, WHERE THIS IS TO OCCUR THE RESURFACING MAY EXTEND 300 BEYOND THE CENTRE OF THE LANE.

DIAL BEFORE YOU DIG NOTE

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT 'DIAL BEFORE YOU DIG' (1M1100) FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTORS EXPENSE.

EXCAVATING NEAR ELECTRICAL LINES

CAUTION TO BE TAKEN WHEN EXCAVATING NEAR ELECTRICAL POLES. WHERE EXCAVATING DEEPER THAN 250mm WITHIN 5m FROM ELECTRICAL POLES CONTACT THE ELECTRICITY ENTITY FOR REQUIREMENTS. EXCAVATION GREATER THAN 250mm TO ENSURE THE MAXIMUM TRENCH DEPTHS ARE COMPLIED WITH, OF A 1m VERT. AND 1m HORIZ. RATIO 145° FROM THE GROUND LEVELS. KEEPING CLEAR OF THE 'DO NOT DISTURB ZONE'. IF CLEARANCE CANNOT BE MAINTAINED FOR ADEQUATE POLE SUPPORT THAN DE-ENERGISING THE ELECTRICAL LINE MAY BE REQUIRED. EXCAVATION MUST NOT BE ATTEMPTED IN ADVERSE CONDITIONS SUCH AS SATURATED SOIL AND SEVERE WEATHER. CERTIFIED ENGINEERING ASSESSMENT MAY BE REQUIRED IN SOME SCENARIOS, FOR MORE DETAILS REFER JOINT REFERENCE DOCUMENT BETWEEN ENERGEX AND ERGON ENERGY, 'ELECTRICITY ENTITY REQUIREMENTS: WORKING NEAR OVERHEAD AND UNDERGROUND ELECTRIC LINES'; ALSO REFER ELECTRICAL SAFETY ACT 2002, ELECTRICAL SAFETY REGULATION 2013, AND CODE OF PRACTICE – WORKING NEAR OVERHEAD AND UNDERGROUND ELECTRICAL LINES 2010.

EXISTING HOUSE DRAIN NOTE

AFTER SUCCESSFUL 'ON MAINTENANCE' EXISTING HOUSE DRAIN FOR HOUSE ON LOT 1 TO BE RECONNECTED TO NEW HC's BY A LICENSED PLUMBER IN ACCORDANCE WITH NEW DRAINAGE PLAN. AN APPLICATION IS REQUIRED TO BE LODGED BY CONTRACTOR WITH THE PRINCIPAL PLUMBING OFFICER, PLUMBING SERVICES, AND APPROVAL OBTAINED PRIOR TO RE-CONNECTING THE HOUSE DRAINAGE. THIS WORK IS TO BE CARRIED OUT AT THE DEVELOPERS EXPENSE.

NAME OF ESTATE		- 128 ASHRIDGE ROAD, DARRA
SUBDIVIDER		DAVID MANTEIT
APPLICATION No.		25-PNT-79784
URBAN UTILITIES DELEGATES APPROVAL DATE		TBD
DRAWING/PLAN No.		CW24091-S01 & S02
No. OF ALLOTS.		2
AREA IN ha.		0.0802
LENGTH OF SEWER	DN110mm	-
	DN160mm	19.110

URBAN UTILITIES CERTIFICATION SCHEME ENDORSED CONSULTANT

(PLANS SUBMITTED ARE TO 'URBAN UTILITIES' STANDARDS AND SATISFY THE WATER APPROVAL CONDITION)

WATER APPROVAL REF. NUMBER: 25-PNT-79784
ENDORSED CONSULTANT: CIVIL WORKS ENGINEERS
NOMINATED RPEQ: ROGER ANDRADE 7675

RPEQ SIGNATURE _____

RPEQ CONTACT DETAILS: 07 3195 8180

WATER AND SEWER INSPECTIONS

THESE WORKS ARE CONSIDERED MINOR WORKS AND ARE TO BE DELIVERED UNDER THE URBAN UTILITIES CERTIFICATION SCHEME.

INSPECTIONS ARE TO BE ARRANGED WITH 'CIVIL WORKS ENGINEERS'.

AS CONSTRUCTED INFORMATION

ALL WORKS DELIVERED UNDER THE URBAN UTILITIES CERTIFICATION SCHEME REQUIRE AS CONSTRUCTED DETAILS TO BE PROVIDED. THE CONTRACTOR IS RESPONSIBLE TO CO-ORDINATE WITH THE PROJECT SURVEYOR TO ENSURE ALL REQUIRED DETAILS ARE OBTAINED AND PROVIDED TO 'CIVIL WORKS ENGINEERS'.

FOR SPECIFIC PROJECT AS CONSTRUCTED REQUIREMENTS PLEASE CONTACT 'CIVIL WORKS ENGINEERS'.

EXISTING SERVICES NOTE

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS, IT IS THE CONTRACTORS PESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

ADAC AS CONSTRUCTED SUBMISSION

ADAC XML IS REQUIRED FOR A SEWER DEVELOPMENT WITH:

- MORE THAN 10METERS OF PIPE
- MORE THAN 4 LOTS
- INTERNAL DIAMETER GREATER THAN 150mm.

IT IS A REQUIREMENT THAT ALL AS-CON PACKAGES ARE TO COMPLY WITH THE SEQ CODE'S ASSETS INFORMATION SPECIFICATION.

CONTRACTOR VARIATION NOTE

SHOULD THE CONTRACTOR DEVIATE FROM THE DESIGN SHOWN ON THIS DRAWING, CONTRACTOR TO CONTACT CIVIL WORKS ENGINEERS TO HIGHLIGHT THE DEVIATION FOR CIVIL WORKS ENGINEERS ADVICE AND/OR CERTIFICATION.

FIRE ANT MOVEMENT CONTROLS

TO PREVENT THE SPREAD OF FIRE ANTS, THE QUEENSLAND GOVERNMENT HAS IMPLEMENTED MOVEMENT CONTROLS IN AREAS OF QUEENSLAND (BIOSECURITY ZONES) WHERE THIS PEST SPECIES HAS BEEN DETECTED. THESE CONTROLS APPLY TO INDIVIDUALS AND COMMERCIAL OPERATORS, AND RESTRICT THE MOVEMENT OF MATERIALS THAT COULD CARRY FIRE ANTS WHICH INCLUDE SOIL, TURF, POTTED PLANTS, MULCH, BALES HAD OR STRAW, ANIMAL MANURES, MINING OR QUARRY PRODUCTS.

MATERIAL COMPLIANCE NOTE

CONTRACTOR TO ENSURE ALL THE MATERIALS USED FOR THIS WORK ARE OBTAINED FROM THE APPROVED SUPPLIERS AS PER CURRENT SEQ CIVIL IPAM LIST. ALL THE MATERIALS ARE ALSO TO COMPLY WITH THE CURRENT SEQ CIVIL IPAM LIST.

PROPERTY CONNECTION GRADE

HOUSE CONNECTIONS HAVE BEEN DESIGNED TO CONTROL ALL OF THE LOT AT A GRADE OF 1:60.

CONSULTANT DETAILS

CONSULTANT:	CIVIL WORKS ENGINEERS	TELEPHONE:	07 3195 8180
CONTACT:	ROGER ANDRADE	EMAIL:	info@civilworks.com.au

HEALTH AND SAFETY NOTE

ALL WATER AND SEWERAGE CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE QLD WORK HEALTH AND SAFETY ACT 2011. CONTACT THE DIVISION OF WORK HEALTH AND SAFETY FOR INFORMATION. PHONE 1300 362 128

ENVIRONMENTAL NOTES

VEGETATION PROTECTION

1. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
2. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 18m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
3. 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.
4. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.
5. ALL ENVIRONMENTAL PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO COMMENCING ANY CONSTRUCTION WORK INCLUDING CLEARING.

SOIL

6. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
7. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.

CREEK CROSSINGS

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

REHABILITATION

11. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
12. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

SAFETY

13. THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

LIVE WORKS NOTE

ALL LIVE WORKS SHALL BE UNDERTAKEN BY A CONTRACTOR IN ACCORDANCE WITH A VALID NETWORK ACCESS PERMIT, UNDER THE SUPERVISION OF URBAN UTILITIES, AT THE DEVELOPER'S EXPENSE.

SEWER NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND 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 URBAN UTILITIES SEWERAGE SYSTEM.
4. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY A CONTRACTOR UNDER URBAN UTILITIES AND ENDORSED CONSULTANT SUPERVISION AT THE DEVELOPER'S COST.
5. ALL PIPES AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS AND MATERIALS" LIST.
6. ALL SEWER PIPES SHALL BE PE100 SDR21 UNLESS NOTED OTHERWISE.
7. EACH ALLOTMENT SHALL BE SERVED BY A DN110 PE100 PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL, A DN160 PE100 PROPERTY CONNECTION SHALL BE PROVIDED.
8. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
9. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300mm AND A MAXIMUM OF 750mm.
10. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300mm (LOOSE) IN DEPTH AND 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 URBAN UTILITIES UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION AND 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 AND LEVELS TO AHD.
14. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER, BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE.

MINOR SEWER INSPECTIONS

1. THESE WORKS ARE CONSIDERED MINOR WORKS AND ARE TO BE CONSTRUCTED BY A PRIVATE CONTRACTOR. INSPECTIONS ARE TO BE ARRANGED BY CONTACTING THE ENDORSED MINOR WATER AND SEWER PROVIDER IDENTIFIED ON THIS PLAN, CIVIL WORKS ENGINEERS.
2. THE MANDATORY HOLD POINTS REQUIRED FOR THE WORKS DEPICTED ON THIS PLAN ARE:
   - ☑ PRESTART MEETING (TO BE CONFIRMED WITH SUPERINTENDENT).
   - ☑ LIVE WORKS CONNECTION (WITNESSED BY URBAN UTILITIES).
   - ☑ TRENCH INSPECTION PRIOR TO BACKFILL.
   - ☐ CAST IN SITU MANHOLE BETWEEN POURS.
   - ☑ ON MAINTENANCE.
3. AN ON MAINTENANCE INSPECTION WILL ONLY BE UNDERTAKEN UPON RECEPT OF THE FOLLOWING DOCUMENTS:
   - ☑ CCTV SURVEY (IN DUPLICATE).
   - ☑ PRESSURE TEST OR VACUUM TEST.
   - ☑ DEFLECTION (OVALITY) TEST REPORT.
   - ☑ TRENCH BACKFILL COMPACTION TEST.
   - ☑ BEDDING GRAVEL DOCKETS (5mm GRAVEL TO BE USED ONLY).
   - ☑ CONCRETE TEST CERTIFICATES FOR EACH BATCH, AND MANHOLE CONCRETE DOCKETS (SPECIAL CLASS SCC40).
   - ☑ AS CONSTRUCTED SURVEY PREPARED BY A LICENSED SURVEYOR.
   - ☑ PHOTOGRAPHIC EVIDENCE AT ALL STAGES OF CONSTRUCTION.
4. UNDER NO CIRCUMSTANCES WILL NEW SEWER BE PERMITTED TO BE MADE "LIVE" UNTIL ALL TESTING HAS BEEN RECEIVED AND APPROVED BY THE ENDORSED MINOR WATER AND SEWER PROVIDER IDENTIFIED ON THIS PLAN.
5. SHOULD THE CONTRACTOR MAKE THE NEW SEWER "LIVE" EITHER UNDER THE DIRECTION OF URBAN UTILITIES OR ANY OTHER ENTITY THAN THE ENDORSED MINOR WATER AND SEWER PROVIDER IDENTIFIED ON THIS PLAN, THE CONTRACTOR WILL BE ASKED TO TEMPORARILY RECTIFY THE WORKS TO THE SATISFACTION OF THE ENDORSED MINOR WATER AND SEWER PROVIDER IDENTIFIED ON THIS PLAN UNTIL DIRECTION IS MADE FOR THE NEW SEWER TO BE MADE "LIVE".
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE THE TESTING AND WORKS TO ALLOW THIS PROCESS TO BE FOLLOWED.
7. IN CASES WHERE THE AS CONSTRUCTED SURVEY IS NOT PART OF THE CONTRACTOR'S SCOPE OF WORKS, THE CONTRACTOR MUST COORDINATE ITS WORKS WITH THE NOMINATED SURVEYOR. THE CONTRACTOR SHALL GIVE THE SURVEYOR AS MUCH NOTICE AS PRACTICABLE TO PROGRAM SURVEY WORKS.

REV. NO	DATE	REVISION PURPOSE/DESCRIPTION	DRAWN	RPEQ	RPEQ No.
A	28.03.25	PRELIMINARY ISSUE	BT	RA	7675

DRAWN	BT	28.03.25	
CHECKED	JM	28.03.25	
PASSED	RA	28.03.25	
	INITIALS	DATE	

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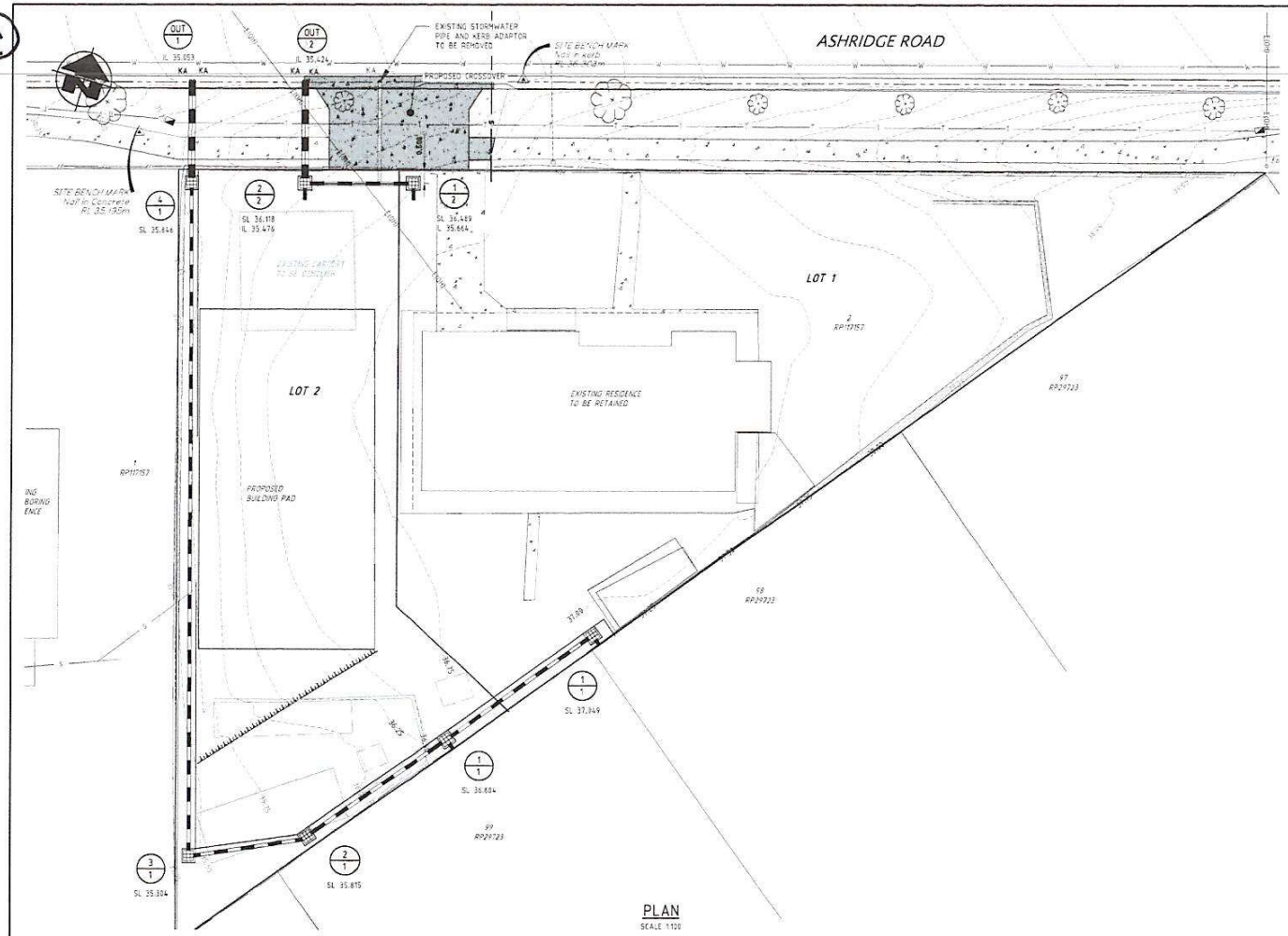
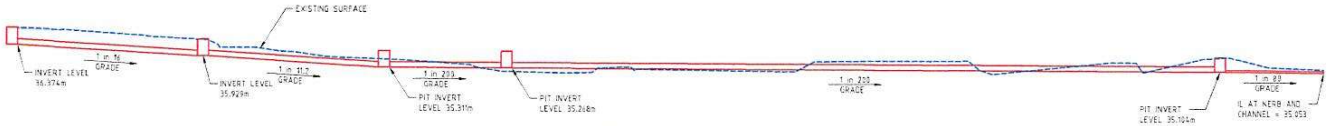
128 ASHRIDGE ROAD, DARRA

SEWERAGE LONGITUDINAL SECTION AND NOTES

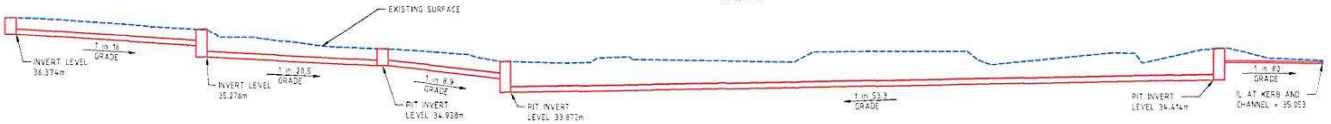
DRAWING STATUS: PRELIMINARY
SHEET 2 OF 2 SHEETS
DRAWING NO: CW24091-S02
REV: A

A1

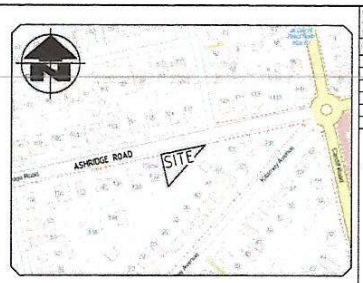




STORMWATER UPSTREAM CONNECTION
LONG SECTION (MIN. STANDARD GRADES)
SCALE 1:100



STORMWATER UPSTREAM CONNECTION
LONG SECTION (ASSUMING NO FILL WITH MIN. COVER)
SCALE 1:100



LOCALITY PLAN
SCALE 1:2500

EXISTING SERVICES NOTE

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DIAL BEFORE YOU DIG NOTE

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PRELIMINARY
NOT FOR CONSTRUCTION

PRELIMINARY NOTE

SCALE 1:100 AT ORIGINAL SIZE

SCALE 1:200 AT ORIGINAL SIZE

SCALE 1:2500 AT ORIGINAL SIZE

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE = A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED PAVEMENT

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CONCEPT STORMWATER SKETCH (APPROVED ALIGNMENT)

CIVILWORKS ENGINEERS
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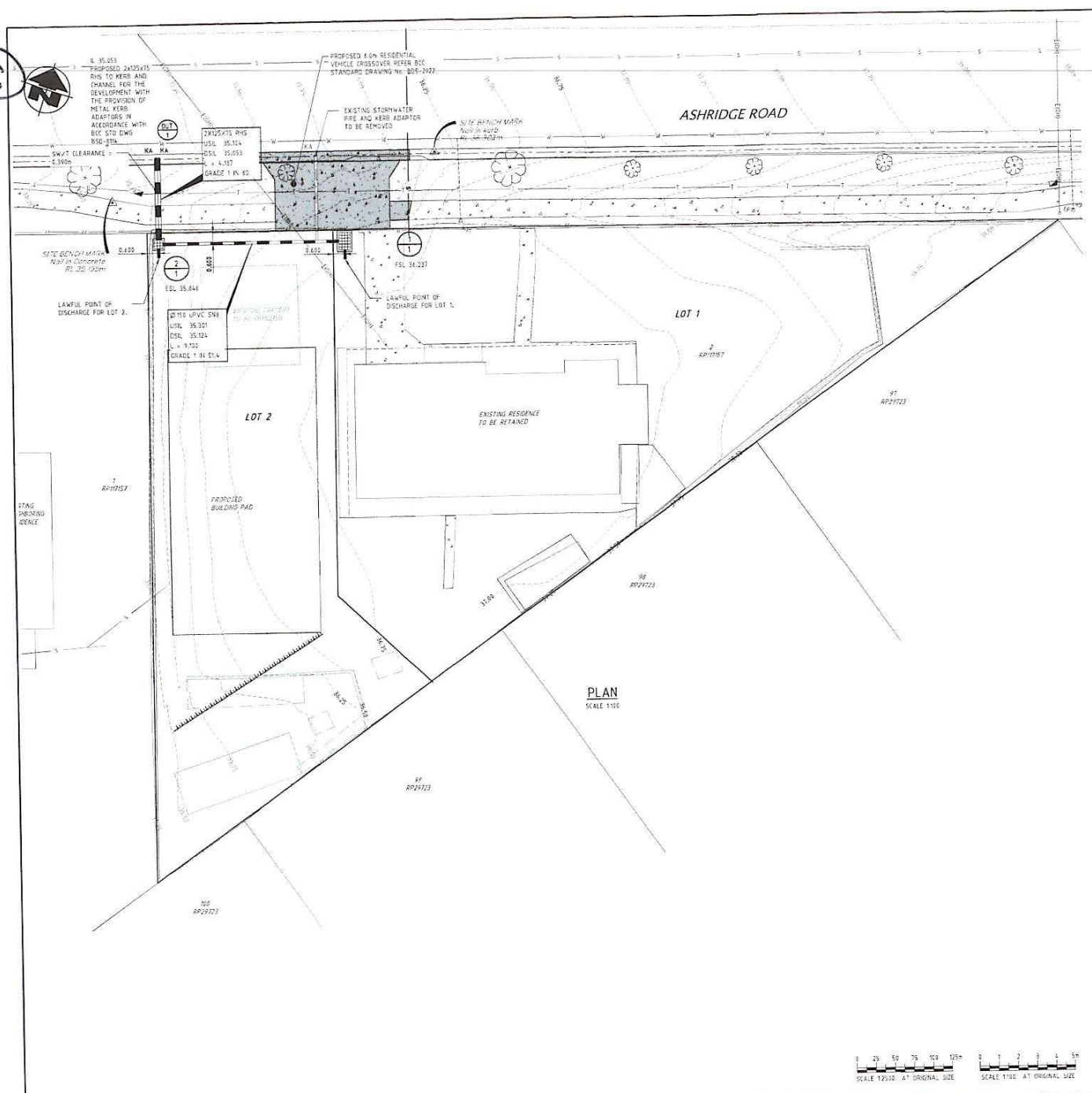
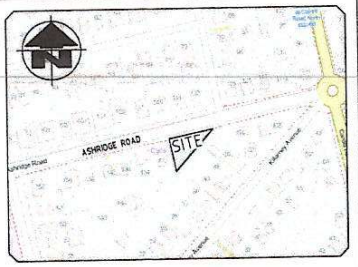
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
		AS SHOWN

Drawing No. CW24091-SK01 | Rev. A



PLAN
SCALE 1:100



LOCALITY PLAN
SCALE 1:2500

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

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ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED PAVEMENT

ASSOCIATED CONSULTANT

SCALE 1:250 AT ORIGINAL SIZE

SCALE 1:100 AT ORIGINAL SIZE

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REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CONCEPT STORMWATER SKETCH

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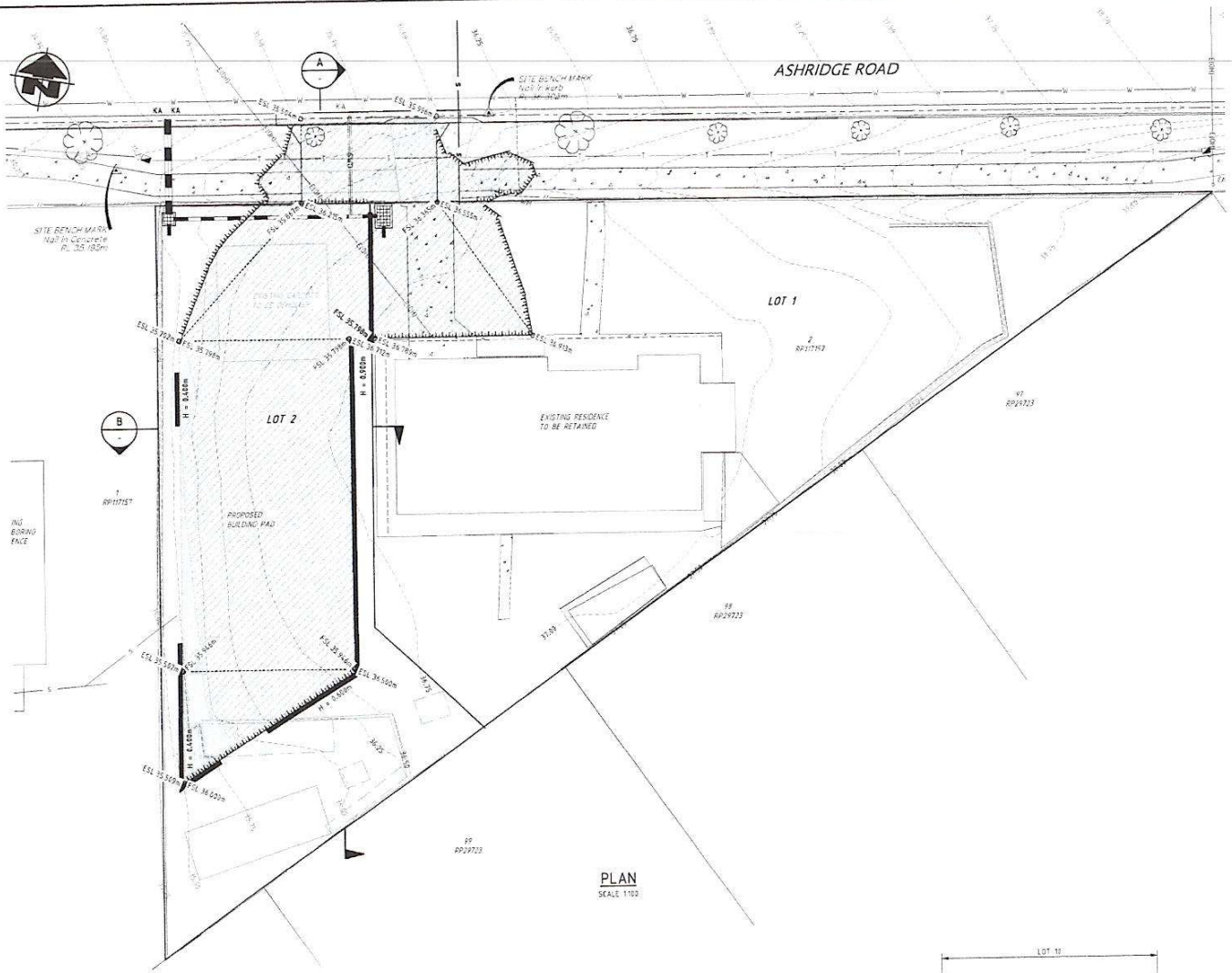
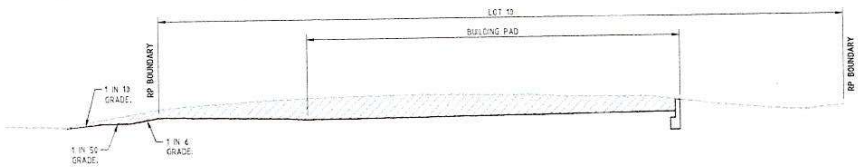
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
MDD7675		AS SHOWN

Drawing No. CW24091-SK02 Rev. A



PLAN
SCALE 1:100



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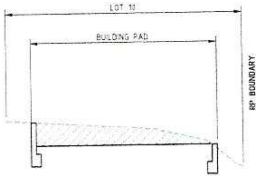

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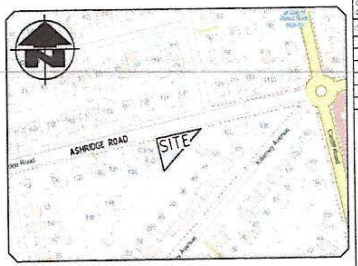

LOCALITY PLAN
SCALE 1:2500

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PRELIMINARY
NOT FOR CONSTRUCTION

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SCALE 1:100 AT ORIGINAL SIZE

SCALE 1:2500 AT ORIGINAL SIZE

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED AREA OF CUT
- PROPOSED AREA OF FILL
- PROPOSED RETAINING WALL
- EXISTING SURFACE LEVEL
- FINISHED SURFACE LEVEL

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CONCEPT EARTHWORKS
SKETCH

CIVILWORKS ENGINEERS
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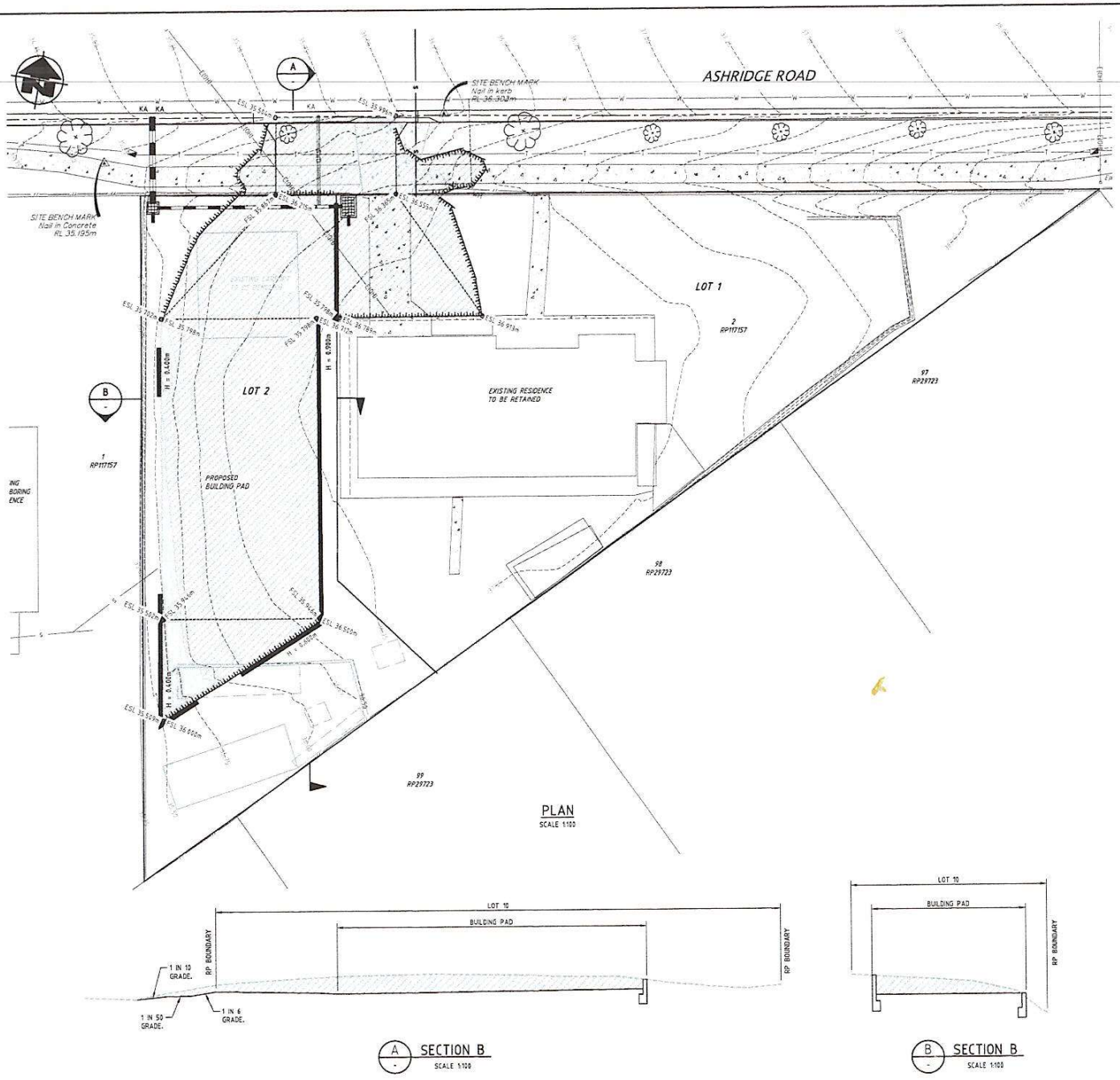
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
BT 28/03/25		AS SHOWN

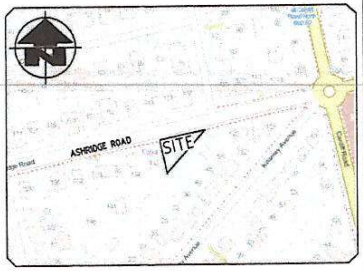
Drawing No. CW24091-SK10 Rev. A



PLAN
SCALE 1:100

A SECTION B
SCALE 1:100

B SECTION B
SCALE 1:100



LOCALITY PLAN
SCALE 1:2500

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0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE

0 25 50 75 100 125m
SCALE 1:2500 AT ORIGINAL SIZE

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
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- PROPOSED AREA OF CUT
- PROPOSED AREA OF FILL
- PROPOSED RETAINING WALL
- EXISTING SURFACE LEVEL
- FINISHED SURFACE LEVEL

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CONCEPT EARTHWORKS
SKETCH

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Property Development Solutions
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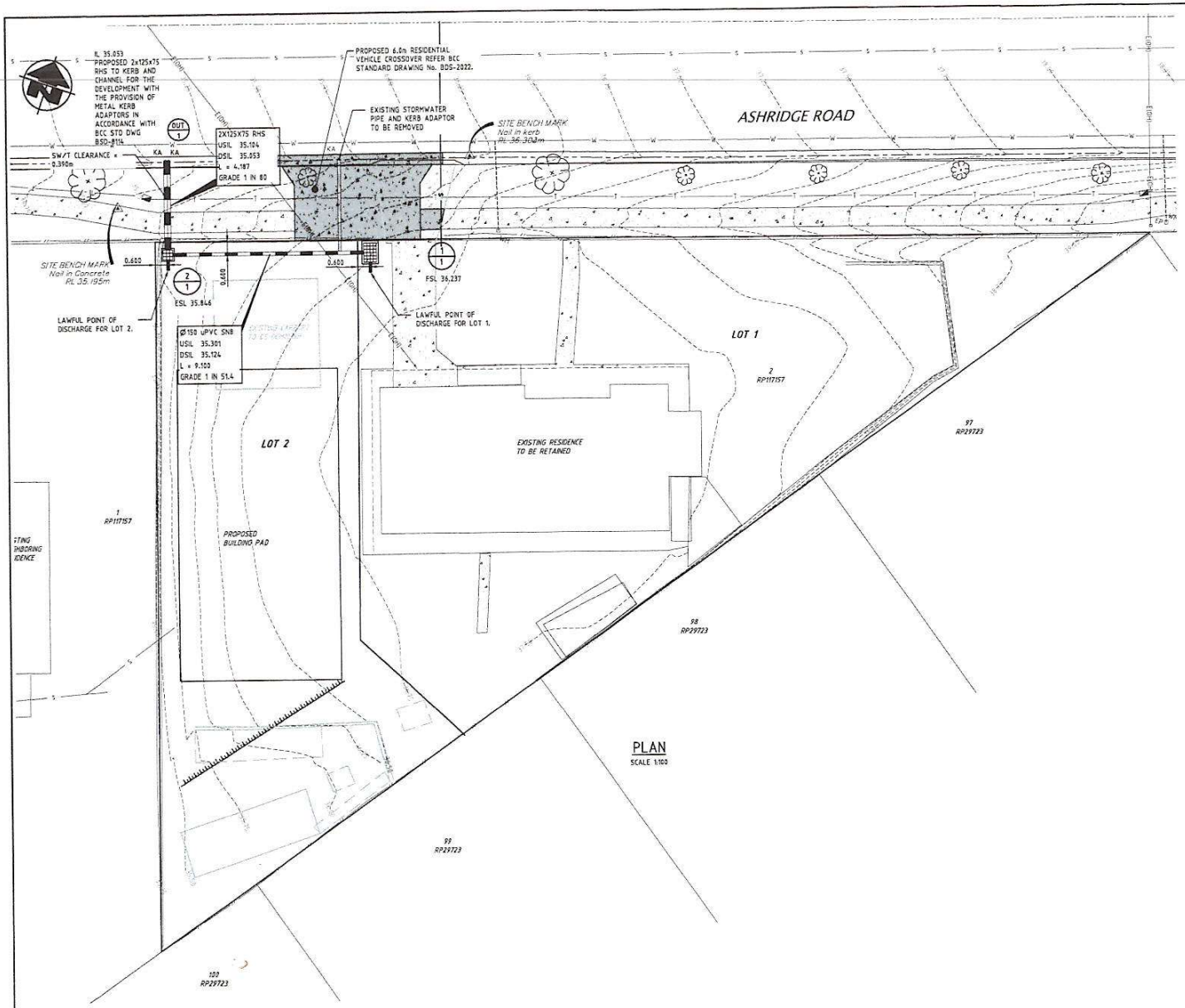
Designed	Drawn	Date
BT	BT	28.03.25

Approved: RPEQ 7675
Scale: AS SHOWN
Drawing No.: CW24091-SK10
Rev.: A



PLAN
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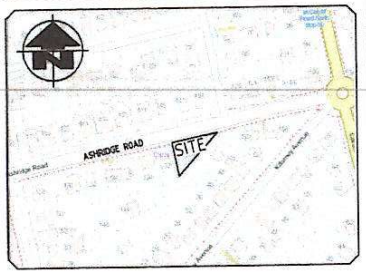

LOCALITY PLAN
SCALE 1:2500

SCALE 1:2500 AT ORIGINAL SIZE

SCALE 1:100 AT ORIGINAL SIZE

PRELIMINARY
NOT FOR CONSTRUCTION

PRELIMINARY NOTE
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REAL PROPERTY DESCRIPTION
LOT No. 2
PLAN No. RP 117157

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE - A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND
- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED PAVEMENT

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CONCEPT STORMWATER SKETCH

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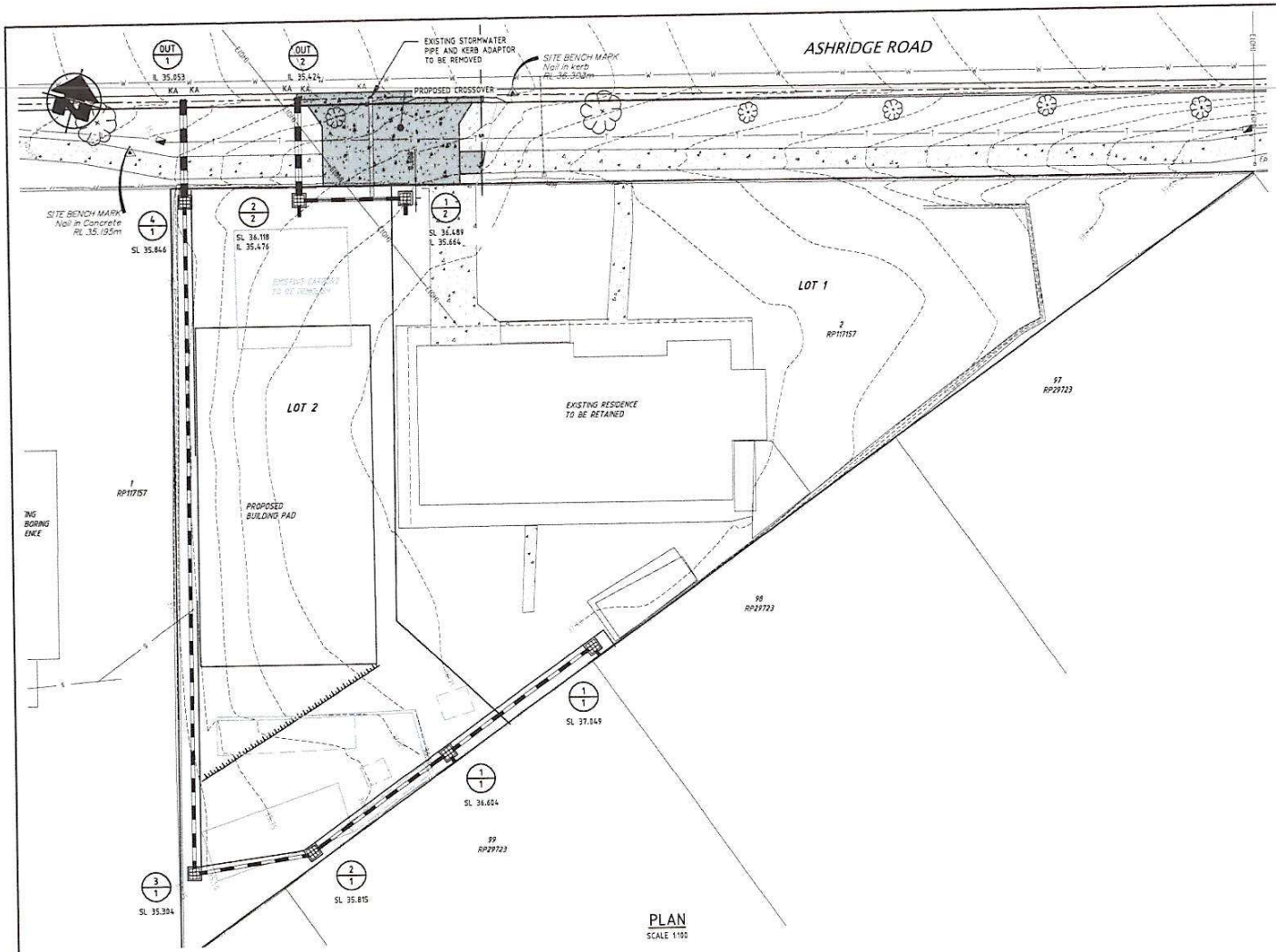
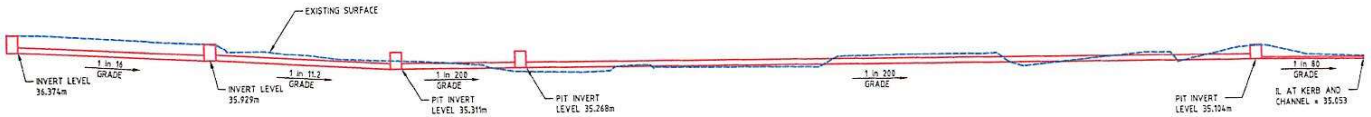
Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
RPEQ 16175		AS SHOWN

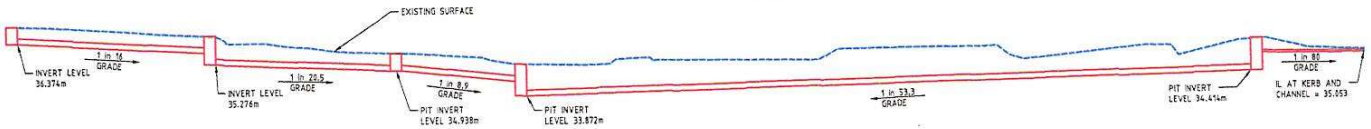
Drawing No. CW24091-SK02
Rev. A



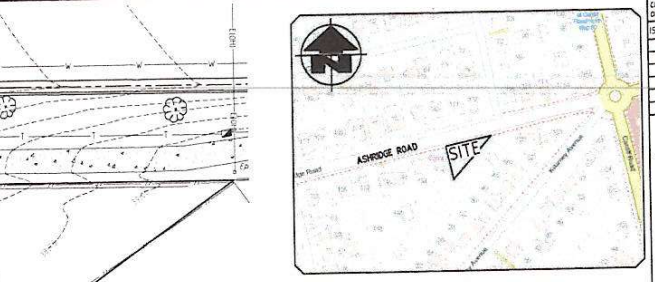
PLAN
SCALE 1:100



STORMWATER UPSTREAM CONNECTION
LONG SECTION (MIN. STANDARD GRADES)
SCALE 1:100



STORMWATER UPSTREAM CONNECTION
LONG SECTION (ASSUMING NO FILL WITH MIN. COVER)
SCALE 1:100



LOCALITY PLAN
SCALE 12500

EXISTING SERVICES NOTE

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

DIAL BEFORE YOU DIG NOTE

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT 'DIAL BEFORE YOU DIG' PH.1100 FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTORS EXPENSE.

PRELIMINARY
NOT FOR CONSTRUCTION

PRELIMINARY NOTE

SCALE 1:100 AT ORIGINAL SIZE
SCALE 1:200 AT ORIGINAL SIZE
SCALE 1:2500 AT ORIGINAL SIZE

REAL PROPERTY DESCRIPTION

LOT No. 2
PLAN No. RP 117157

DO NOT SCALE.
CONFIRM ALL DIMENSIONS ON SITE.
ORIGINAL DRAWING SIZE = A1

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	28.03.25

LEGEND

- EXISTING SURFACE CONTOURS
- EXISTING STORMWATER
- PROPOSED STORMWATER
- EXISTING WATER MAIN
- EXISTING WATER METER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICITY POLE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TELECOMMUNICATIONS PIT
- EXISTING CONCRETE TO BE REMOVED
- PROPOSED PAVEMENT

ASSOCIATED CONSULTANT

PROJECT
128 ASHRIDGE ROAD
DARRA

CLIENT
DAVID MANTEIT

TITLE
CONCEPT STORMWATER SKETCH (APPROVED ALIGNMENT)

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Designed	Drawn	Date
BT	BT	28.03.25
Approved		Scale
		AS SHOWN

Drawing No. CW24091-SK01
Rev. A