RESIDENTIAL SUBDIVISION
LOT 2 JINGELLIC ROAD, HOLBROOK
DEVELOPMENT APPLICATION

PLAN NUMBER	DRAWING TITLE
Plan number	**Drawing Title**
MKR00434-11-C0000	COVER SHEET AND INDEX
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MKR00434-11-C0030	VEGETATION REMOVAL PLAN
MKR00434-11-C0040	CIVIL KEY PLAN
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MKR00434-11-C0100	CIVIL WORKS LAYOUT PLAN 1 OF 2
MKR00434-11-C0101	CIVIL WORKS LAYOUT PLAN 2 OF 2
MKR00434-11-C0200	BULK EARTHWORKS LAYOUT PLAN
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MKR00434-11-C2102	SWEPT PATH ANALYSIS LAYOUT PLAN 3 OF 4
MKR00434-11-C2103	SWEPT PATH ANALYSIS LAYOUT PLAN 4 OF 4

LOCALITY DIAGRAM

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

James Newell, 11/11/2020 4:38 PM

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
COVER SHEET AND INDEX

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0000		A1	1

C:\12dS\data\12DSYNERGY\MKR00434 Lot 2 Jingellic Rd, Holbrook_62\02 Design\Drawings\11 Stage 01\Xrefs\X-MKR00434-11-MKR A1.dwg

GENERAL

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES IN THESE DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
2. THE CONTRACTOR SHALL CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS. ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE SUPERINTENDENT. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING OFF THE PLANS.
3. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT AUSTRALIAN STANDARDS, THE BY-LAWS AND ORDINANCES OF THE RELEVANT AUTHORITIES AND THE SPECIFICATIONS.
4. NO CHANGES SHALL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN CONSENT OF THE SUPERINTENDENT THE SUPERINTENDENT IS TO CONFIRM THE EXACT EXTENTS ON SITE PRIOR TO COMMENCEMENT OF STAGE 1.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SAFE WORK PRACTICES ARE FOLLOWED AT ALL TIMES DURING THE COURSE OF THE CONTRACT. OH&S REGULATIONS AND WORK COVER REQUIREMENTS ARE TO BE COMPLIED WITH. REFER TO THE SPECIFICATION AND CONTRACT DOCUMENTS.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL SURVEY MARKS ARE MAINTAINED. IF THE CONTROL MARKS ARE DESTROYED OR MOVED DURING CONSTRUCTION THE CONTRACTOR MUST SUPPLY ADEQUATE MARKS FOR RE-ESTABLISHMENT AND INFORM THE SUPERINTENDENT.
7. CHANGES, REDUCED LEVELS, CHAINAGES, OFFSETS AND ROAD WIDTHS ARE IN METRES UNLESS OTHERWISE SHOWN.
8. LIAISE WITH THE APPOINTED SITE SUPERINTENDENT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. ALL SITE FILLING SHALL BE COMPACTED TO 98% STANDARD COMPACTION, CONTROLLED BY THE GEOTECHNICAL ENGINEER OR AS INSTRUCTED BY THE SUPERINTENDENT
10. SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT.
11. ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
12. THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE OWNERS.
13. SITE FILL AREAS - THE CONTRACTORS REGISTERED SURVEYOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.
14. DRAINAGE LINES UNDER ROADS SHALL BE BACKFILLED WITH NON-COHESIVE SAND. AND THE SUBSOIL DRAIN WRAPPED IN APPROVED FILTER SOCK, DISCHARGING INTO DOWN STREAM PITS.
15. ALL CONDUITS AND MAINS SHALL BE LAID PRIOR TO LAYING FINAL ASPHALTIC CONCRETE SEAL.
16. STREET NAME SIGNS SHALL BE ERECTED, WHERE SHOWN, IN ACCORDANCE WITH COUNCIL'S STANDARD OR AS DIRECTED BY THE SUPERINTENDENT.
17. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
18. ALL TREES WITHIN LIMIT OF WORKS TO BE REMOVED UNLESS NOTED AS PER LEGEND. TREES OUT OF LIMIT OF WORKS ZONE ARE TO BE LEFT UNTOUCHED. SHOULD THERE BE ANY IMPACTED TREES OUTSIDE OF WORKS ZONE THE SUPERINTENDENT IS TO BE INFORMED IMMEDIATELY.
19. REFER TO GREATER HUME SHIRE COUNCIL'S SPECIFICATION AND STANDARD DRAWINGS OF KERB INLET PIT AND KERB AND GUTTER.
20. CONTRACTOR TO PROVIDE STORMWATER KERB DISCHARGE INCLUDING RECTANGULAR HOLLOW SECTION, ADAPTER AND PIPE EXTENDED 0.5m BEYOND THE PROPERTY BOUNDARY AND CAPPED OFF FOR FUTURE CONNECTION
21. DEWATER AND DESILT EXISTING DAMS TO PREPARE FOR SITE FILLING/OTHER WORKS REFER TO THE GEOTECHNICAL REPORT.
22. PROVIDE FLOODWAY WARNING SIGNS AT APPROPRIATE LOCATIONS AND/OR AS DIRECTED BY COUNCIL'S ENGINEER.

BULK EARTHWORKS NOTES

1. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCKPILE AS DIRECTED BY SUPERINTENDENT
2. COMPACTION, TESTING, FILING, STANDARD DRY DENSITIES & MOISTURE CONTENTS TO BE IN ACCORDANCE WITH SITE GEOTECHNICAL REPORT
3. ALL FILLING WORKS TO BE CARRIED OUT UNDER LEVEL 1 GEOTECH SUPERVISION AS PER AS 3798.

SITE PREPARATION NOTES

1. ORIGIN OF LEVELS: AHD. COORDINATES TO MGA 55 (GDA2020)- MAP GRID AUSTRALIA
2. ASPHALTIC CONCRETE SHALL CONFORM TO R.T.A. FORM R116.
3. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.T.A. FORM 3051 (UNBOUND), R.T.A. FORM 3052 (BOUND) COMPACTED TO A MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF BASECOURSE MATERIAL PLACED.
4. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.T.A. FORM 3051 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF SUB-BASE COURSE MATERIAL PLACED.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATION AND CONTRACT DOCUMENTS.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF WORKS, INCLUDING REPAIR AND/OR REPLACEMENT OF DAMAGED SECTIONS. INSPECTIONS ARE TO BE MADE PERIODICALLY DURING PROLONGED RAINFALL EVENTS AND AFTER STORM EVENTS FOR DAMAGE.
7. ALL EXISTING TREES ON THE SITE ARE NOT TO BE DISTURBED OTHER THAN THOSE DESIGNATED ON THE PLANS FOR REMOVAL. THE SUPERINTENDENT IS TO APPROVE ALL TREES TO BE REMOVED. REMAINING TREES MUST BE PROTECTED IN ACCORDANCE TO THE SPECIFICATION.
8. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED OUT BY OTHERS (EG. ADJUSTMENT OF SERVICES). COORDINATION OF THESE WORKS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SURVEY NOTES

1. ALL SITE SET OUT POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.
2. THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY THE REGISTERED SURVEYOR. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. INDESCO DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
3. CONTACT SUPERINTENDENT IF DISCREPANCIES ARE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND FIELD DATA.
4. PROJECT COORDINATE SYSTEM USED: MGA-55 (GDA2020). ALL SETOUT INFORMATION AND DATUM SHALL BE CONFIRMED BY A REGISTERED SURVEYOR PRIOR TO CONSTRUCTION.
5. DIGITAL DATA PROVIDED FOR INFORMATION ONLY AND IS NOT TO BE FOR SETOUT UNLESS NOTED OTHERWISE
6. PLANS TAKE PRECEDENCE OVER DIGITAL DATA UNLESS NOTED OTHERWISE

ASPHALT PAVEMENT

1. PREPARATION FOR PAVMENT:
   - -- CLEAR SITE
   - -- STRIP TOPSOIL
   - -- CUT AND FILL AND PREPARATIONS OF SUBGRADE SHALL BE AS DESCRIBED IN 'EARTHWORKS'
2. SUBGRADE SHALL BE COMPACTED TO 98% STANDARD DRY DENSITY RATIO AT OPTIMUM MOISTURE CONTENT ± 2% IN ACCORDANCE WITH AS1289.5.1.1
3. LOWER BASE COURSE SHALL BE CONSTRUCTED FROM CRUSHED SANDSTONE COMPACTED TO 98% STANDARD DRY DENSITY RATIO AT OPTIMUM MOISTURE CONTENT ± 2% IN ACCORDANCE WITH AS 1289.5.1.1. OF THICKNESS NOTED ON DRAWINGS.
4. BASE COURSE SHALL BE CONSTRUCTED FROM FINE CRUSHED ROCK DGB20 COMPACTED TO 100% STANDARD DRY DENSITY RATIO AT OPTIMUM MOISTURE CONTENT ± 2% IN ACCORDANCE WITH AS1289.5.1.1. OF THICKNESS NOTED ON DRAWINGS.
5. APPLY TACK COAT 30-120 MINUTES BEFORE ASPHALT SURFACING IS PLACED.
6. COVER THE SURFACE UNIFORMLY AT AN APPLICATION RATE OF 0.10 - 0.30 L/m2 OF RESIDUAL BITUMEN.
7. WEARING SURFACE SHALL BE ASPHALTIC CONCRETE TO STANDARD SPECIFICATION, MINIMUM THICKNESS = 40mm, IN ACCORDANCE WITH THE REQUIREMENTS OF GREATER HUME SHIRE COUNCIL'S SUBDIVISION POLICY

PROPOSED SERVICES

1. ALL SERVICES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND HAVE BEEN LOCATED FROM SITE INVESTIGATION AND RELEVANT AUTHORITIES' PLANS. THESE SERVICES ARE NOT GUARANTEED CORRECT OR COMPLETE.
2. THE CONTRACTOR MUST OBTAIN UP-TO-DATE PLANS FROM 'DIAL BEFORE YOU DIG' BEFORE COMMENCEMENT OF WORKS. THE EXACT LOCATION OF ALL SERVICES ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.
3. EXISTING SERVICES ARE TO BE MAINTAINED OR ADJUSTED AS DETAILED IN THE PLANS. ANY ADJUSTMENT OR PROTECTION MEASURES ARE TO BE CARRIED OUT BY ACCREDITED SERVICE PROVIDERS. REFER ANY CONFLICTS OR UNIDENTIFIED EXISTING SERVICES TO THE SUPERINTENDENT IMMEDIATELY.
4. ELECTRICAL CONDUITS SHOULD BE PROVIDED AND LOCATED TO THE SATISFACTION OF ESSENTIAL ENERGY.
5. WATER CONDUITS SHOULD BE PROVIDED TO SUIT WATER MAIN LOCATIONS.
6. TELSTRA CONDUITS PROVIDED AND LOCATED TO THE SATISFACTION OF THE RELEVANT TELECOMMUNICATIONS AUTHORITY.
7. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE LOCAL AUTHORITY DRAWINGS.
8. ALL SERVICES PIT COVERS AND MARKERS ARE TO BE LAID ENTIRELY WITHIN OR OUTSIDE OF THE CONCRETE FOOTPATH. REFER TO MAKER ENG SERVICE COORDINATION DRAWINGS FOR SERVICE COVER LOCATIONS. CONTACT SUPERINTENDENT SHOULD DIFFICULTIES ARISE.
9. WHERE SERVICES COVERS ARE LOCATED WITHIN THE FOOTPATH & ROADWAYS, INFILL COVERS WITH A PAVEMENT SIMILAR TO THAT OF THE FOOTPATH OR ADJACENT ROADWAY SHALL BE USED. PROVIDE CONCRETE INFILL WHERE COVERS ARE WITHIN LANDSCAPE.
10. ALL SERVICES COVERS TO BE PLACED AT FINISHED SURFACE LEVELS, ENSURE LONGITUDINAL AND CROSS FALL GRADES MATCH PROPOSED GRADES.

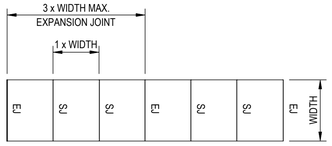
KERBING NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa. OTHERWISE AS PER COUNCIL SPECIFICATIONS.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.11.
3. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. IN THE REPLACEMENT OF ROLL/KERB AND GUTTER, EXISTING ROAD PAVEMENT IS TO BE SAWCUT 500mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW ROLL/KERB AND GUTTER, NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
5. PRAM RAMP GRADES SHALL BE MAX 1 IN 14, IN SPECIAL CIRCUMSTANCES GRADES SHALL BE ABSOLUTE MAX 1 IN 10.
6. WEAKENED PLANE JOINTS TO BE A MINIMUM 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT ON INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS SHALL MATCH THE JOINT LOCATIONS IN THE SLABS.
7. RAMPED AND VEHICULAR CROSSINGS SHALL HAVE AS BROOMED FINISH WITH ALL OTHER KERBING OR DISH GUTTERS TO HAVE STEEL FLOAT FINISHED.

PAVEMENTS AND ROAD WORKS NOTES

PEDESTRIAN PAVEMENT JOINTS

1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS (U.N.O.)
2. EXPANSION JOINTS ARE TO BE LOCATED, WHERE POSSIBLE, AT INTERVALS NOT EXCEEDING 3 x THE WIDTH, AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 12m CENTRES.
3. SAW JOINTS ARE TO BE PLACED LATERALLY AT INTERVALS NOT EXCEEDING 1 x WIDTH AND MAX. SPACING OF 4m.
4. JOINTS SHALL BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS WHERE POSSIBLE.
5. PEDESTRIAN PAVEMENT JOINTING DETAILS SHALL BE AS PER RELEVANT COUNCIL STANDARDS.



6. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS PER THE DRAWINGS.
7. VEHICULAR ACCESS IS TO BE MAINTAINED FOR ALL PROPERTIES DURING THE COURSE OF CONSTRUCTION.
8. THE CONTRACTOR SHALL CONTACT RESIDENTS/OWNERS WITHIN 48 HOURS PRIOR TO COMMENCEMENT OF WORKS UNLESS OTHERWISE DIRECTED.
9. ALL DRIVEWAY ADJUSTMENTS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS
10. SUBSOIL FLUSHING POINTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH D.O.H. STANDARD DRAWING NO RM 14. THEY SHALL BE LOCATED AS DIRECTED
11. PROPOSED SERVICES WHICH CROSS THE EXISTING ROADS SHALL BE THRUST BORED UNDER THE ROAD TO AVOID DAMAGING THE EXISTING SURFACE
12. ALL ROADS ARE TO BE TEMPORARILY SEALED WITH A 1 COAT SEAL. THE FINAL ASPHALT CONCRETE TO BE BONDED AND PLACED FOLLOWING APPROVAL FROM COUNCIL.

ALL NOTES ARE TO BE READ IN CONJUNCTION WITH GREATER HUME SHIRE COUNCIL ENGINEERING SPECIFICATIONS

STORMWATER NOTES

1. PIPE BEDDING MATERIAL SHALL BE CLEAN COURSE RIVER SAND WITH DEPTH AS FOLLOWS:
   - 1.1. CONCRETE AND FRC PIPES: 100mm (175mm IN ROCK)
   - 1.2. UPVC PIPE: 75mm (100mm IN ROCK)
   - 1.3. SUBSOIL 50mm
2. BACKFILL ALL PIPES WITH GRANULAR MATERIAL SUCH AS QUARRY FINES OF COARSE RIVER SAND TO A MINIMUM OF 150mm ABOVE THE PIPE. THE GRANULAR MATERIAL SHALL BE PLACED IN 150mm THICK MAX. LAYERS COMPACTED TO ACHIEVE A DENSITY INDEX OF 70% FREQUENCIES OF COMPACTION TESTS FOR TRENCHES SHALL BE 1 TEST PER 2 LAYERS PER 40 LINEAR METRE.
3. ALL BEDDING TO BE HS3 MINIMUM.
4. PIPES GREATER THAN 300 DIA. TO BE REINFORCED CONCRETE CLASS 'Z' 10/20 COVER APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINT U.N.O.
5. PIPES UP TO AND INCLUDING 300 DIA. SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
6. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS, UNSLOTTED uPVC SEWER GRADE PIPES SHALL BE USED.
7. ALL PITS DEEPER THAN 1.8m ARE TO BE REINFORCED CONCRETE.
8. ALL PITS, INCLUDING COUNCIL PITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa. ALL REINFORCEMENT SHALL HAVE A MINIMUM COVER OF 50mm.
9. COVERS AND GRATES SHALL CONFORM TO A.S. 3996 AND COUNCIL SPECIFICATIONS.
10. BACKFILL THE REMAINDER OF THE TRENCH ABOVE THE SAND TO SUBGRADE LEVEL WITH TRENCH MATERIAL. PLACE AND COMPACT MATERIALS IN LAYERS NOT EXCEEDING 150mm LOOSE THICKNESS. MATERIAL LOWER THAN 50mm BELOW SUBGRADE LEVEL SHALL BE COMPACTED TO A MIN. OF 95% OF STANDARD MAXIMUM DRY DENSITY. TOP 50mm BELOW PAVEMENT SUBGRADE LEVELS SHALL BE COMPACTED TO AT LEAST 100% STANDARD MAXIMUM DRY DENSITY (SMDD).
11. FILTER MATERIAL FOR SUBSOIL SHALL BE COARSE SAND OR CRUSHED STONE WHICH COMPLIES WITH ONE OF THE GRADINGS IN THE TABLE BELOW. AS SPECIFIED ON THE DRAWINGS THE 7mm CRUSHED ROCK FILTER MATERIAL SHALL BE ENCLOSED WITHIN FILTER FABRIC SHEET AS SPECIFIED. FILTER MATERIAL SHALL BE PLACED IN 250mm LAYERS AND COMPACTED TO A DENSITY INDEX OF 60%.

AS SIEVE SIZE (mm)	SAND	70mm ROCK
9.5	100	100
6.7	-	75-100
4.75	90-100	20-55
2.36	75-100	0-15
1.18	50-90	-
0.60	20-60	-
0.30	10-30	-
0.15	2-10	-
0.075	0-3	0-2

12. LINTEL LENGTH SHOWN ON DRAWING INDICATES THE CLEAR OPENING LENGTH
13. PRIOR TO ISSUE OF PRACTICAL COMPLETION CONTRACTOR SHALL CARRY OUT CCTV ON ALL PIPES AND SUBMIT VIDEO AND WRITTEN REPORT CONFIRMING THAT ALL PIPES ARE FREE OF DEFECTS AND ARE LAID TO SPECIFICATION.
14. A MINIMUM GAP OF 0.2m BELOW FENCING TO BE CONSTRUCTED ACROSS THE FULL WIDTH OF ALL DRAINAGE EASEMENTS TO CONVEY DRAINAGE SURCHARGE FLOWS.
15. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
16. GRATES AND COVERS SHALL CONFORM WITH DUBBO REGIONAL COUNCIL'S SPECIFICATION.
17. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
18. BACKFILLING OF TRENCHES SHALL BE IN ACCORDANCE WITH DUBBO REGIONAL COUNCIL'S SPECIFICATIONS.
19. STEP IRONS ARE TO BE PLACED IN PITS GREATER THAN 1.2M DEEP IN ACCORDANCE WITH GREATER HUME SHIRE COUNCIL'S AND MANUFACTURER REQUIREMENTS.
20. SUBSOIL DRAINS ARE TO BE PROVIDED BEHIND ALL KERBS AS DIRECTED.
21. ALL PITS SHALL BE BENCHED AND FLOW STREAMLINED.
22. ALL MILD STEEL FIXTURES INCLUDING (GRATES, FRAMES, STEP IRONS, LADDERS ETC) SHALL BE HOT DIP GALVANISED WHICH SHALL COMPLY WITH THE REQUIREMENTS OF AS 1214 OR AS 1650, AS APPROPRIATE.
23. GEOFABRIC FILTER SHALL BE PERMEABLE, NON-WOVEN FABRIC MANUFACTURED FROM A POLYPROPYLENE OR POLYSTER OF MASS GREATER THAN 135g/m2
24. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH A.S. 3500 3.1 (1998) AND AS/NZ 3500 3.2 (1998)
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MINIMUM COVER OF 600mm DURING CONSTRUCTION.

TREES

THE TREES IDENTIFIED FOR RETENTION SHALL BE PROTECTED BY THE FOLLOWING MEASURES:

1. PROTECTIVE FENCING CONSTRUCTED OF 1.8m HIGH CHAIN WIRE MESH SUPPORTED BY ROBUST POSTS SHALL BE INSTALLED AT A MINIMUM RADIUS OF 3m FROM THE TRUNK OF EACH TREE.THIS FENCING SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY WORKS AND REMAIN IN PLACE UNTIL ALL WORKS ARE COMPLETED.SIGNAGE SHALL BE ERECTED ON THE FENCE IN ACCORDANCE WITH THE ARBORICULTURE REPORT.
2. THE TREE PROTECTION ZONE WITHIN THE PROTECTIVE FENCING SHALL BE MULCHED WITH SUITABLE ORGANIC MULCH (WOOD CHIPS OR COMPOST LEAF CHIP MULCH) AT THE DISCRETION OF THE PROJECT ARBORIST.
3. NO DEVELOPMENT OR ASSOCIATED ACTIVITY IS PERMITTED WITHIN THE FENCED TREE PROTECTION ZONE FOR THE DURATION OF THE WORKS.
4. ANY APPROVED WORKS WITHIN THIS TREE PROTECTION ZONE SHALL BE UNDER THE DIRECTION OF,AND TO THE SATISFACTION OF, A SUITABLY QUALIFIED AND EXPERIENCED ARBORIST.

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MAKER ENG
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DRAWN: J.NEWELL	DESIGNED: H.SMITH
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NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
NOTES

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0010		A1	1

James Newell, 11/11/2020 4:38 PM

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REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 10 20 30 40 50m
SCALE 1:1000 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

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LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
VEGETATION REMOVAL PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0030		A1	1

James Newell, 9/15/2022 10:44 AM

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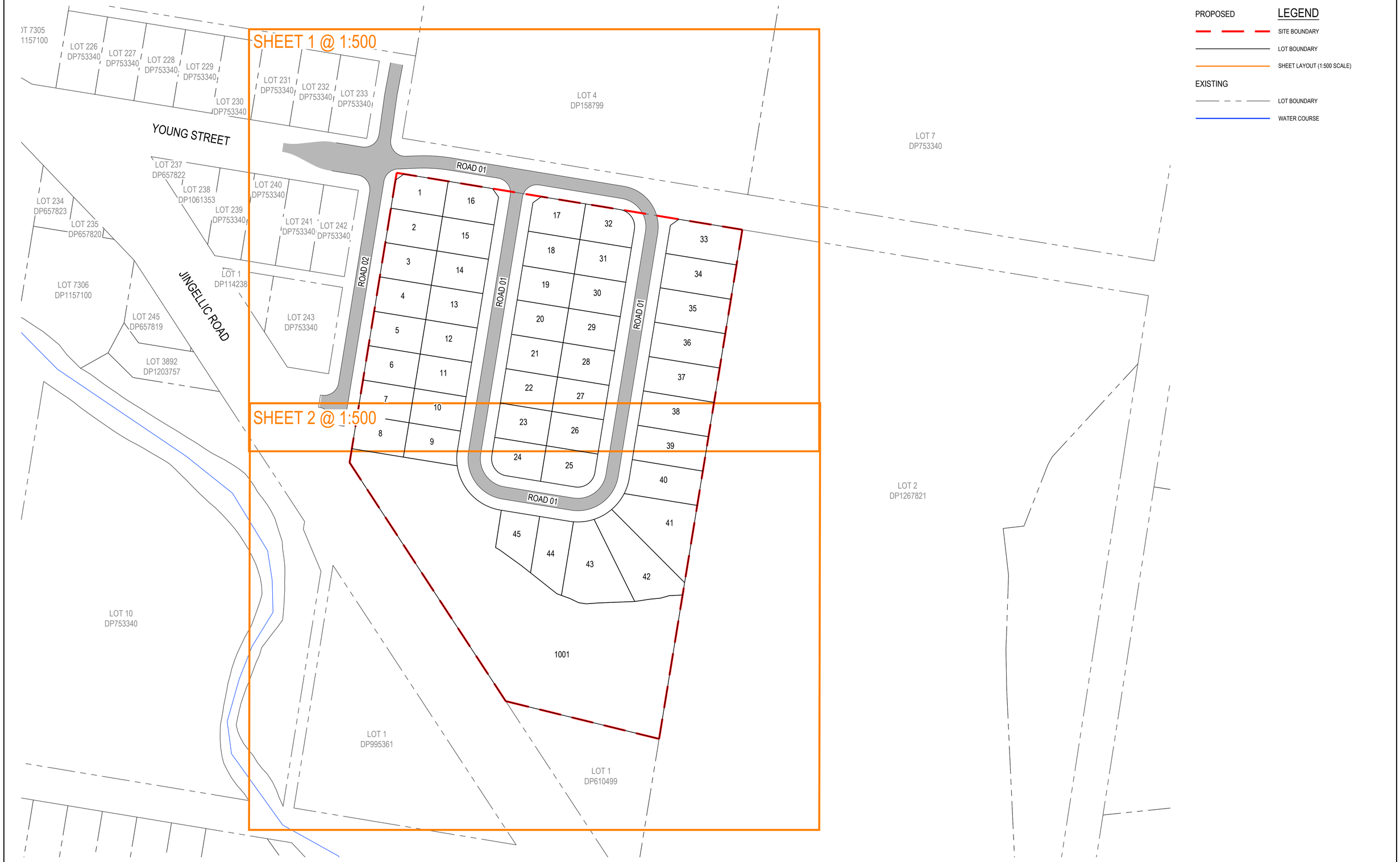

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LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
KEY PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0040		A1	1

James Newell, 11/11/2020 4:38 PM

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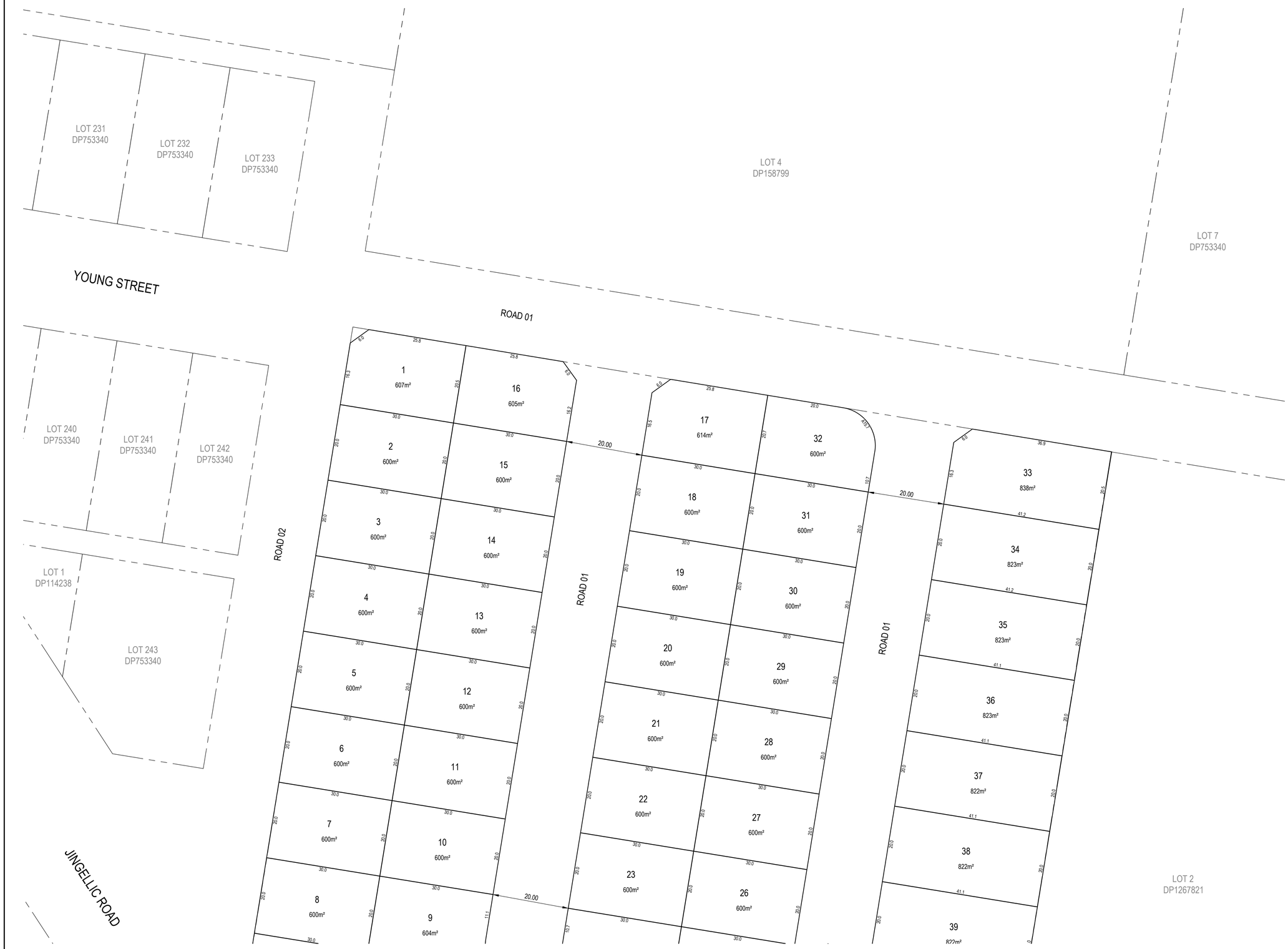

PROPOSED **LEGEND**

LOT BOUNDARY

EASEMENT

EXISTING

LOT BOUNDARY

EASEMENT

NOTES:

1. FURTHER EASEMENT RESTRICTIONS MAY APPLY
2. FINAL BOUNDARY AND EASEMENT ARRANGEMENT SUBJECT TO BOUNDARY DEFINITION BY REGISTERED SURVEYOR
3. INDICATIVE DIMENSIONS ROUNDED TO THE NEAREST 0.1m. REFER TO REGISTERED SURVEY PLANS FOR DIMENSIONS

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m

SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
LOT LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0050	1 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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PROPOSED **LEGEND**

LOT BOUNDARY

EASEMENT

EXISTING

LOT BOUNDARY

EASEMENT

NOTES:

1. FURTHER EASEMENT RESTRICTIONS MAY APPLY
2. FINAL BOUNDARY AND EASEMENT ARRANGEMENT SUBJECT TO BOUNDARY DEFINITION BY REGISTERED SURVEYOR
3. INDICATIVE DIMENSIONS ROUNDED TO THE NEAREST 0.1m. REFER TO REGISTERED SURVEY PLANS FOR DIMENSIONS

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
LOT LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0051	2 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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LEGEND

PROPOSED

- STAGING BOUNDARY
- CIVIL WORKS BOUNDARY
- LOT BOUNDARY
- EASEMENT
- ROAD CENTERLINE AND CHAINAGE
- CONTOURS (0.5m)
- BATTER TOP / BOTTOM
- OPEN DRAIN
- STORMWATER PIPES
- STORMWATER STRUCTURES
- SEWER PUMP STATION LOCATION

EXISTING

- LOT BOUNDARY
- EASEMENT
- CONTOURS (0.5m)
- ELECTRICAL ABOVE GROUND
- WATERS EDGE
- ELECTRICAL POLE
- TREE (TO BE RETAINED)
- TREE (TO BE REMOVED)

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
CIVIL WORKS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0100	1 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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LEGEND

PROPOSED

- STAGING BOUNDARY
- CIVIL WORKS BOUNDARY
- LOT BOUNDARY
- EASEMENT
- ROAD CENTERLINE AND CHAINAGE
- CONTOURS (0.5m)
- BATTER TOP / BOTTOM
- OPEN DRAIN
- STORMWATER PIPES
- STORMWATER STRUCTURES
- SEWER PUMP STATION LOCATION

EXISTING

- LOT BOUNDARY
- EASEMENT
- CONTOURS (0.5m)
- ELECTRICAL ABOVE GROUND
- WATERS EDGE
- ELECTRICAL POLE
- TREE (TO BE RETAINED)
- TREE (TO BE REMOVED)

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
CIVIL WORKS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0101	2 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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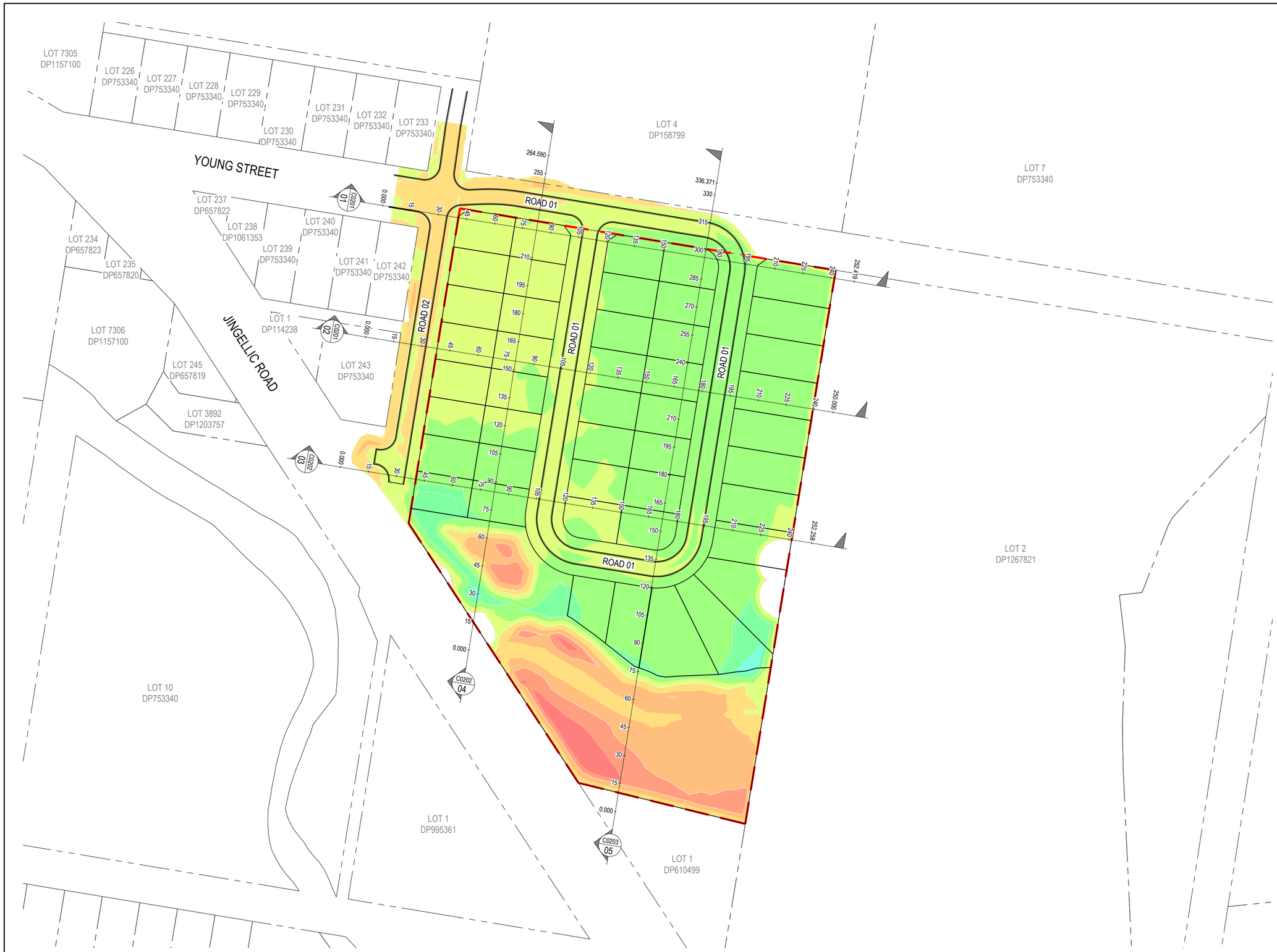

PROPOSED

LEGEND

- SITE BOUNDARY
- STAGING BOUNDARY
- CIVIL WORKS BOUNDARY
- LOT BOUNDARY
- EASEMENT
- OPEN DRAIN
- GREATER THAN -3.0m
- -3.0m TO -2.5m
- -2.5m TO -2.0m
- -2.0m TO -1.5m
- -1.5m TO -1.0m
- -1.0m TO -0.5m
- -0.5m TO 0.0m
- 0.0m TO 0.5m
- 0.5m TO 1.0m
- 1.0m TO 1.5m
- 1.5m TO 2.0m
- 2.0m TO 2.5m
- 2.5m TO 3.0m
- 3.0m TO 3.5m
- 3.5m TO 4.0m
- 4.0m TO 4.5m
- GREATER THAN 4.5m

EXISTING

- LOT BOUNDARY
- EASEMENT

TOTAL EARTHWORKS

CUT	7,755 Cu.m
FILL	25,808 Cu.m
NET <FILL>	18,053 Cu.m

NOTES:

1. VOLUMES EXCLUDE SERVICE TRENCHES AND PAVEMENT

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 10 20 30 40 50m
SCALE 1:1000 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
BULK EARTHWORKS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0200		A1	1

James Newell, 11/11/2020 4:38 PM

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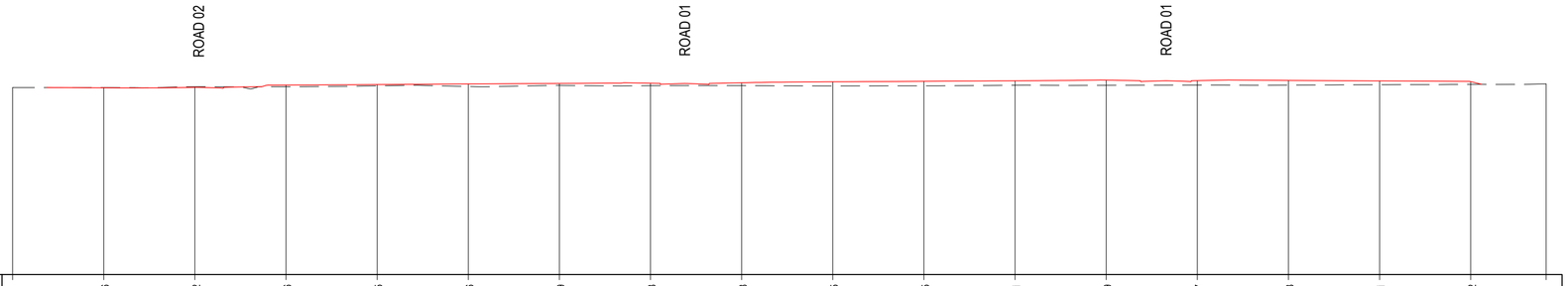
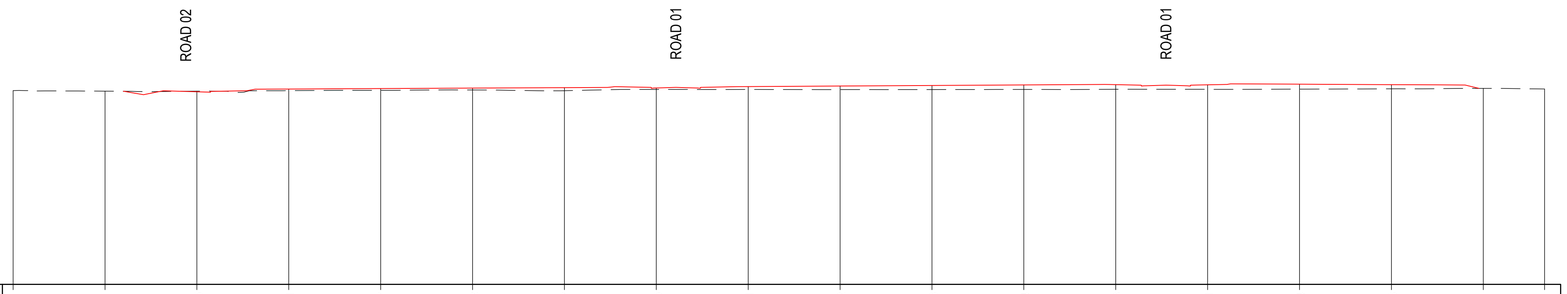


DATUM RL. 232.000																	
DESIGN SURFACE LEVEL		262.686	262.762	263.136	263.225	263.316	263.399	263.433	263.508	263.675	263.755	263.841	263.949	263.867	263.903	263.821	263.692	
EXISTING SURFACE LEVEL	262.734	262.728	262.851	262.867	263.008	262.905	263.086	263.040	263.050	262.985	263.020	263.108	263.093	263.134	263.122	263.206	263.250	263.336
CUT/FILL DEPTHS	0.000	-0.042	-0.088	0.269	0.217	0.411	0.313	0.393	0.457	0.689	0.735	0.733	0.856	0.733	0.781	0.615	0.442	0.000
PEGGED CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	210.000	225.000	240.000	252.419

HOR : 1 IN 500
VERT: 1 IN 500

LONGITUDINAL SECTION - 01



DATUM RL. 231.000																	
DESIGN SURFACE LEVEL			262.435	262.881	262.957	263.032	263.107	263.055	263.281	263.372	263.463	263.554	263.598	263.571	263.674	263.598		
EXISTING SURFACE LEVEL	262.623	262.537	262.539	262.614	262.671	262.726	262.609	262.816	262.817	262.789	262.796	262.820	262.838	262.834	262.871	262.912	262.988	262.892
CUT/FILL DEPTHS		0.000	-0.104	0.267	0.286	0.307	0.498	0.238	0.464	0.583	0.667	0.734	0.760	0.737	0.803	0.687	0.000	0.000
PEGGED CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	210.000	225.000	240.000	250.000

HOR : 1 IN 500
VERT: 1 IN 500

LONGITUDINAL SECTION - 02

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

HORIZONTAL 1:500 AT ORIGINAL SIZE
VERTICAL 1:500 AT ORIGINAL SIZE
0 5 10 15 20 25m

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
BULK EARTHWORKS
LONGITUDINAL SECTIONS

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0201	1 OF 3	A1	1

James Newell, 11/11/2020 4:38 PM

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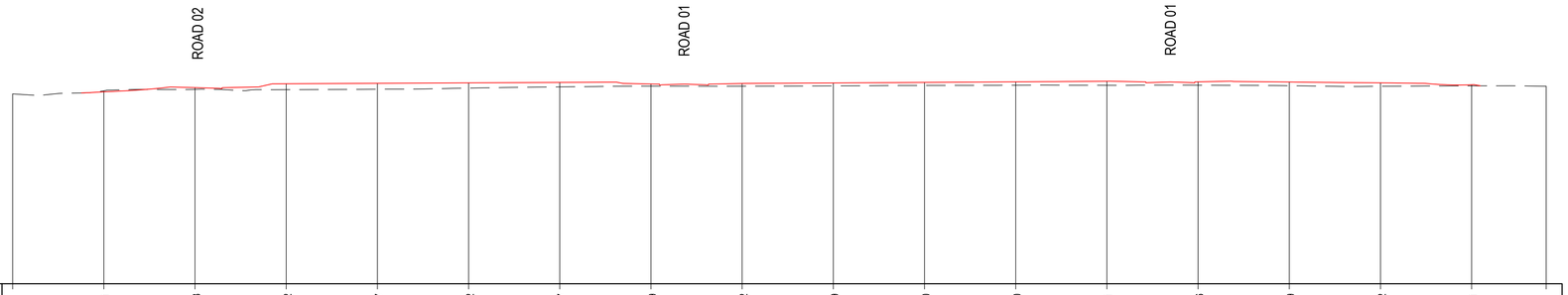
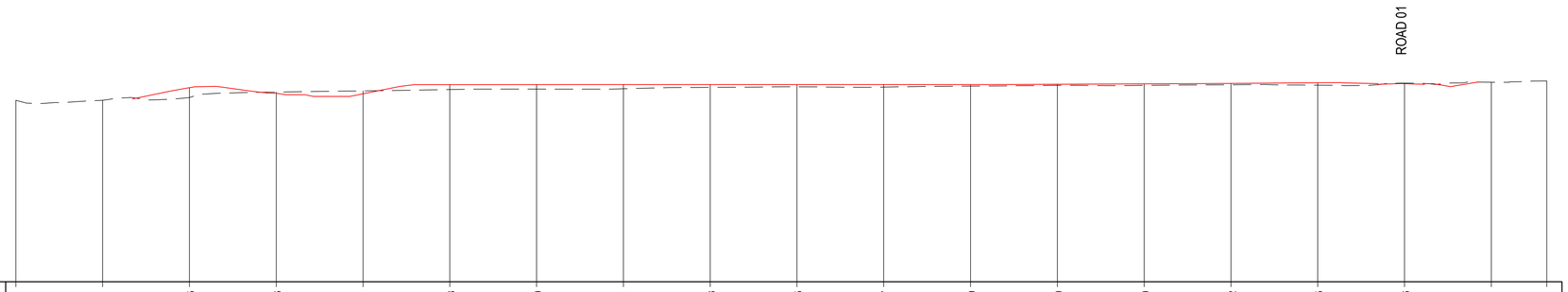


DATUM RL. 230.000

DESIGN SURFACE LEVEL		261.531	262.228	262.862	262.937	263.012	263.087	262.829	262.912	262.999	263.090	263.180	263.281	263.176	263.149	263.012	262.701	
EXISTING SURFACE LEVEL	261.197	261.703	261.952	261.895	261.968	262.150	262.349	262.474	262.459	262.508	262.588	262.625	262.615	262.629	262.545	262.445	262.521	262.450
CUT/FILL DEPTHS	0.000	-0.171	0.275	0.967	0.969	0.863	0.738	0.355	0.453	0.491	0.501	0.555	0.666	0.547	0.605	0.567	0.179	0.000
PEGGED CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	210.000	225.000	240.000	252.258

HOR : 1 IN 500
VERT: 1 IN 500

LONGITUDINAL SECTION - 03



DATUM RL. 229.000

DESIGN SURFACE LEVEL			262.515	261.546	261.461	263.048	263.050	263.051	263.053	263.055	263.057	263.059	263.110	263.180	263.252	263.365	263.206	
EXISTING SURFACE LEVEL	260.335	260.336	260.810	261.760	261.963	262.196	262.268	262.328	262.568	262.668	262.621	262.786	262.914	262.915	263.021	262.950	263.303	263.457	263.669
CUT/FILL DEPTHS	0.000	0.000	1.705	-0.214	-0.501	0.852	0.782	0.724	0.485	0.386	0.435	0.273	0.196	0.265	0.231	0.415	-0.096	0.000	
PEGGED CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	210.000	225.000	240.000	255.000	264.590

HOR : 1 IN 500
VERT: 1 IN 500

LONGITUDINAL SECTION - 04

James Newell, 11/11/2020 4:38 PM

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

HORIZONTAL 1:500 AT ORIGINAL SIZE
VERTICAL 1:500 AT ORIGINAL SIZE
0 5 10 15 20 25m

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
BULK EARTHWORKS
LONGITUDINAL SECTIONS

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0202	2 OF 3	A1	1

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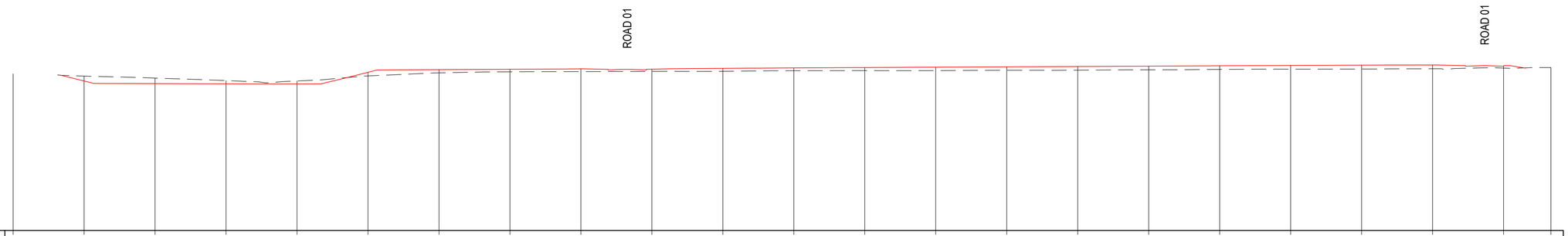

DATUM RL. 229.000																							
DESIGN SURFACE LEVEL		260.511	259.970	259.927	259.913	262.354	262.915	262.990	263.095	263.010	263.188	263.275	263.353	263.428	263.503	263.577	263.652	263.727	263.802	263.858	263.891	263.616	
EXISTING SURFACE LEVEL	262.027	261.555	261.130	260.605	260.522	261.590	262.235	262.451	262.498	262.547	262.559	262.674	262.713	262.717	262.782	262.801	262.879	262.968	263.018	263.043	263.100	263.235	263.356
CUT/FILL DEPTHS		-1.044	-1.160	-0.678	-0.610	0.764	0.680	0.538	0.597	0.464	0.629	0.600	0.640	0.711	0.720	0.777	0.773	0.760	0.784	0.815	0.791	0.381	0.000
PEGGED CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	210.000	225.000	240.000	255.000	270.000	285.000	300.000	315.000	325.000

HOR : 1 IN 500
VERT: 1 IN 500

LONGITUDINAL SECTION - 05

DATUM RL. 233.000			
DESIGN SURFACE LEVEL			
EXISTING SURFACE LEVEL	263.356	263.368	263.450
CUT/FILL DEPTHS	0.000	0.000	
PEGGED CHAINAGE	325.000	330.000	336.371

LONGITUDINAL SECTION - 05

HOR : 1 IN 500
VERT: 1 IN 500

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

HORIZONTAL 1:500 AT ORIGINAL SIZE 0 5 10 15 20 25m
VERTICAL 1:500 AT ORIGINAL SIZE 0 5 10 15 20 25m

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
BULK EARTHWORKS
LONGITUDINAL SECTIONS

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0203	3 OF 3	A1	1

James Newell, 11/11/2020 4:38 PM

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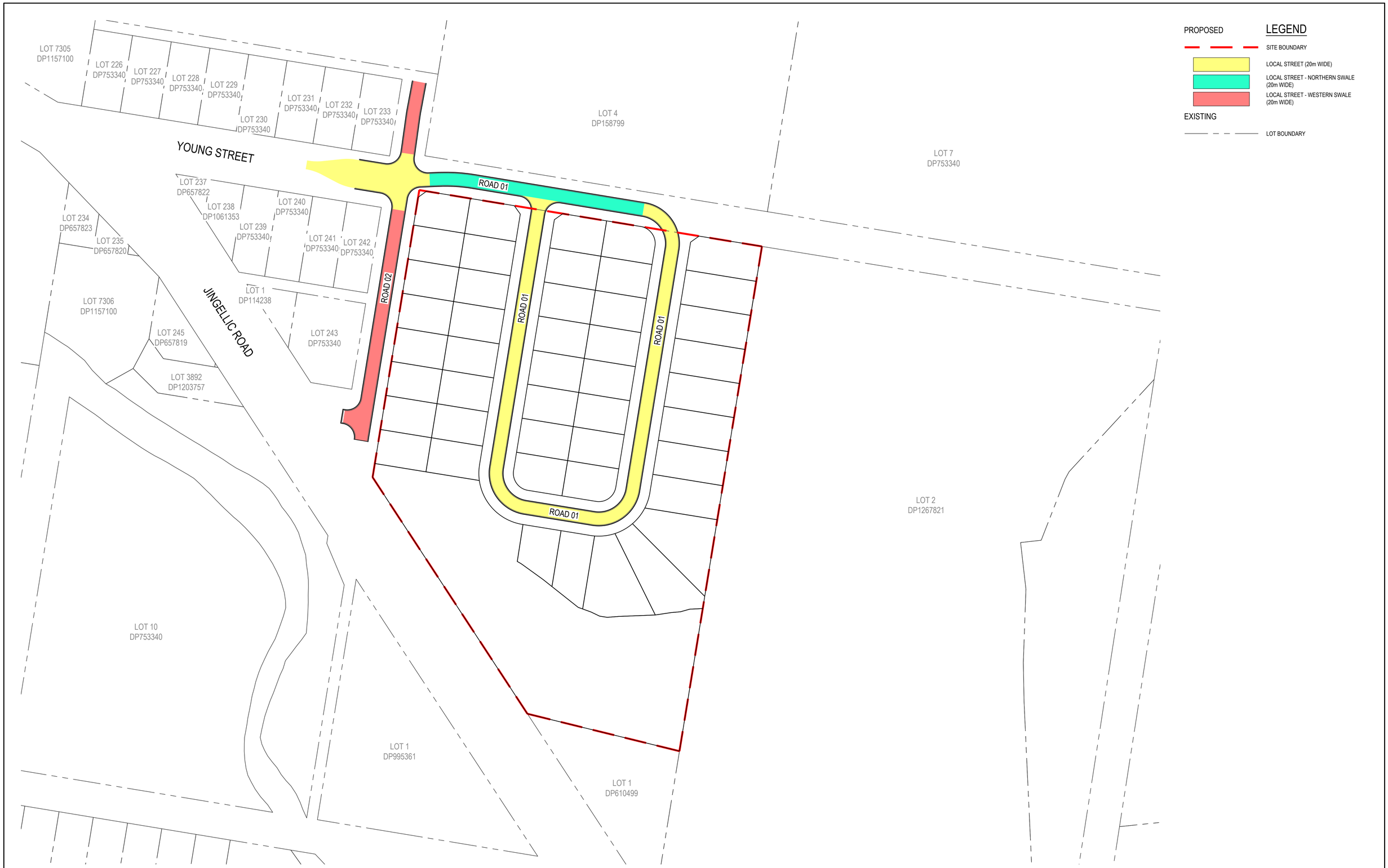

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 10 20 30 40 50m
SCALE 1:1000 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
TYPICAL SECTIONS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0300		A1	1

James Newell, 11/11/2020 4:38 PM

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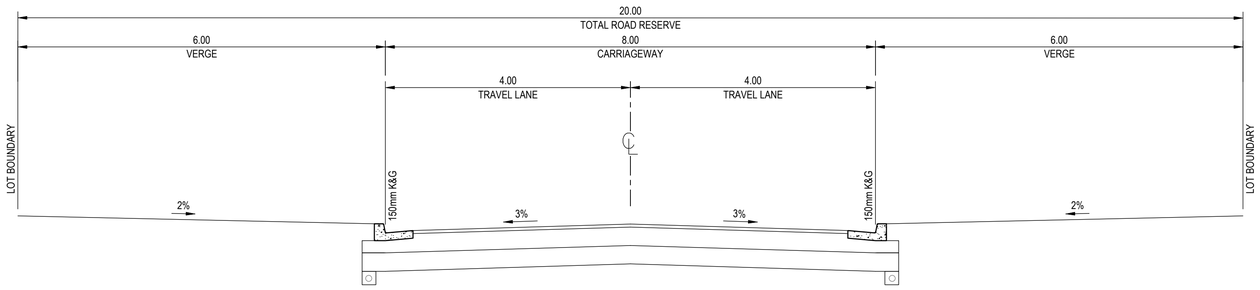
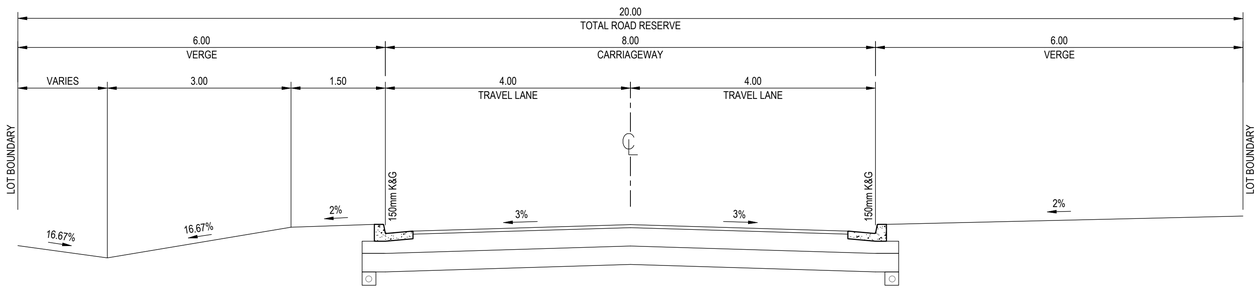


LOCAL STREET (20m WIDE)

1:50



LOCAL STREET - NORTHERN SWALE (20m WIDE)

1:50

James Newell, 11/11/2020 4:38 PM

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 0.5 1.0 1.5 2.0 2.5m

SCALE 1:50 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
TYPICAL SECTIONS
SECTIONS PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0301	1 OF 2	A1	1

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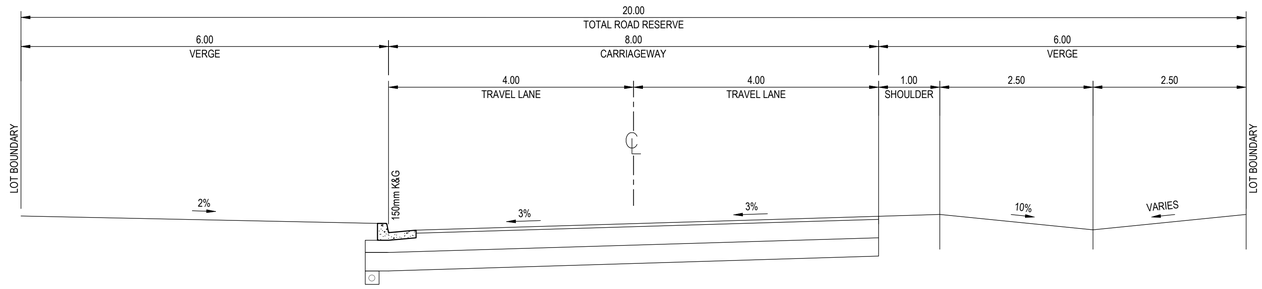

LOCAL STREET - WESTERN SWALE (20m WIDE)

1:50

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 0.5 1.0 1.5 2.0 2.5m

SCALE 1:50 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
TYPICAL SECTIONS
SECTIONS PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0302	2 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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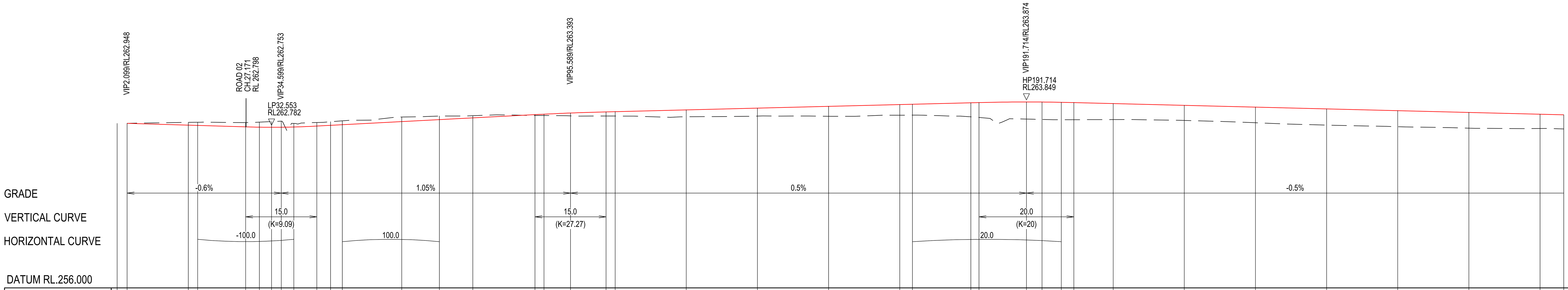
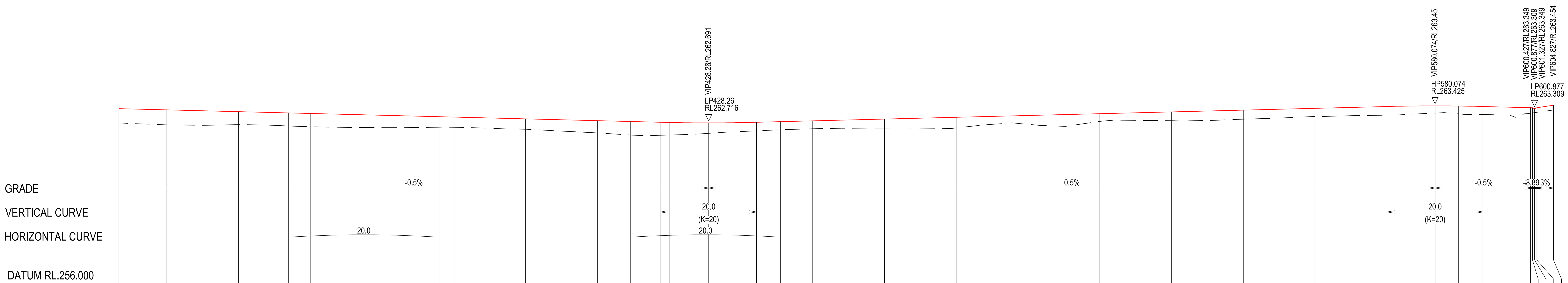


PEGGED CHAINAGE	DESIGN SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT/FILL DEPTHS
0.000		262.942	
2.099	262.948	262.948	-0.000
15.000	262.871	262.990	0.119
16.980	262.859	262.994	0.135
27.099	262.798	262.978	0.180
30.000	262.785	262.999	0.214
32.553	262.782	263.023	0.241
34.599	262.784	263.038	0.254
37.257	262.794	262.944	0.150
42.099	262.832	262.982	0.150
45.000	262.862	263.015	0.152
47.472	262.888	263.052	0.164
60.000	263.020	263.213	0.193
67.947	263.103	263.254	0.151
75.000	263.177	263.269	0.092
88.089	263.315	263.283	-0.032
90.000	263.334	263.279	-0.055
95.589	263.383	263.260	-0.123
103.089	263.431	263.257	-0.174
105.000	263.440	263.255	-0.185
120.000	263.515	263.225	-0.291
135.000	263.590	263.254	-0.336
150.000	263.665	263.246	-0.420
165.000	263.740	263.291	-0.450
167.680	263.754	263.294	-0.460
180.000	263.815	263.223	-0.593
181.714	263.824	263.196	-0.628
191.714	263.849	263.127	-0.722
195.000	263.846	263.112	-0.735
199.057	263.836	263.099	-0.736
201.714	263.824	263.101	-0.723
210.000	263.783	263.105	-0.678
225.000	263.708	263.071	-0.637
240.000	263.633	262.972	-0.660
255.000	263.558	262.872	-0.685
270.000	263.483	262.806	-0.677
285.000	263.408	262.744	-0.664
300.000	263.333	262.728	-0.605
305.000	263.308	262.711	-0.597

HOR : 1 IN 500
VERT: 1 IN 100

LONGITUDINAL SECTION - ROAD 01



PEGGED CHAINAGE	DESIGN SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT/FILL DEPTHS
305.000	263.308	262.711	-0.597
315.000	263.258	262.632	-0.625
330.000	263.183	262.642	-0.540
340.467	263.130	262.588	-0.542
345.000	263.108	262.554	-0.553
360.000	263.033	262.519	-0.514
371.882	262.973	262.535	-0.438
375.000	262.958	262.532	-0.426
390.000	262.883	262.450	-0.433
405.000	262.808	262.297	-0.511
411.882	262.773	262.210	-0.563
418.260	262.741	262.198	-0.544
420.000	262.733	262.207	-0.526
428.260	262.716	262.280	-0.436
435.000	262.728	262.356	-0.372
438.260	262.741	262.386	-0.356
443.298	262.766	262.429	-0.338
450.000	262.800	262.471	-0.329
465.000	262.875	262.499	-0.376
480.000	262.950	262.506	-0.444
495.000	263.025	262.657	-0.368
510.000	263.100	262.777	-0.323
525.000	263.175	262.808	-0.367
540.000	263.250	262.870	-0.380
555.000	263.325	262.981	-0.344
570.000	263.400	263.041	-0.359
580.074	263.425	263.126	-0.299
585.000	263.419	263.091	-0.328
590.074	263.400	263.065	-0.336
600.000	263.351	263.121	-0.230
600.427	263.349	263.132	-0.216
600.877	263.309	263.145	-0.164
601.327	263.349	263.157	-0.192
604.827	263.454	263.253	-0.201

HOR : 1 IN 500
VERT: 1 IN 100

LONGITUDINAL SECTION - ROAD 01

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

HORIZONTAL 1:500 AT ORIGINAL SIZE (0 5 10 15 20 25m)
VERTICAL 1:100 AT ORIGINAL SIZE (0 1 2 3 4 5m)

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL
DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN
DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
LONGITUDINAL SECTIONS
ROAD 01

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0500	1 OF 2	A1	1

James Newell, 9/15/2022 9:17 AM

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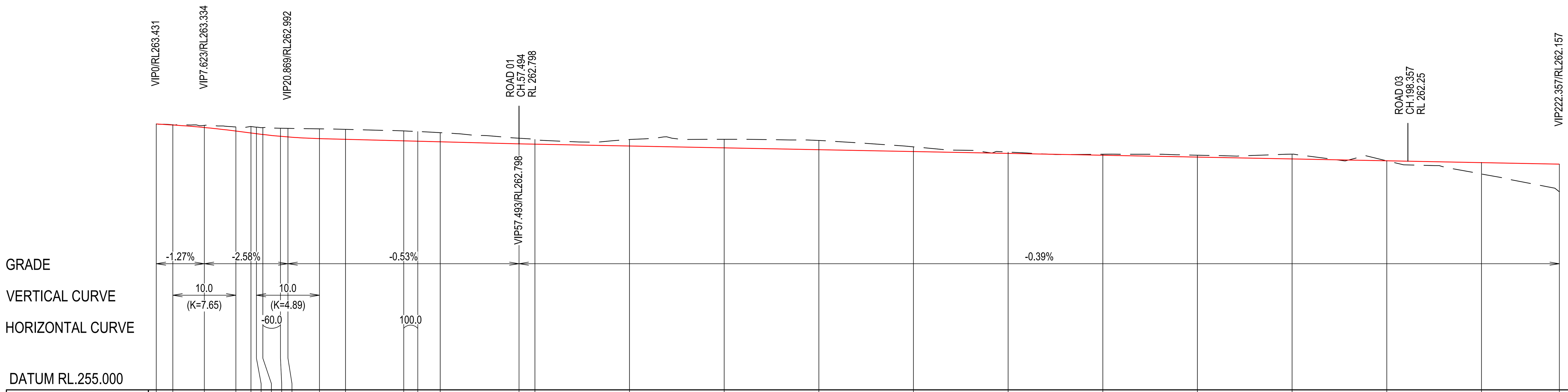
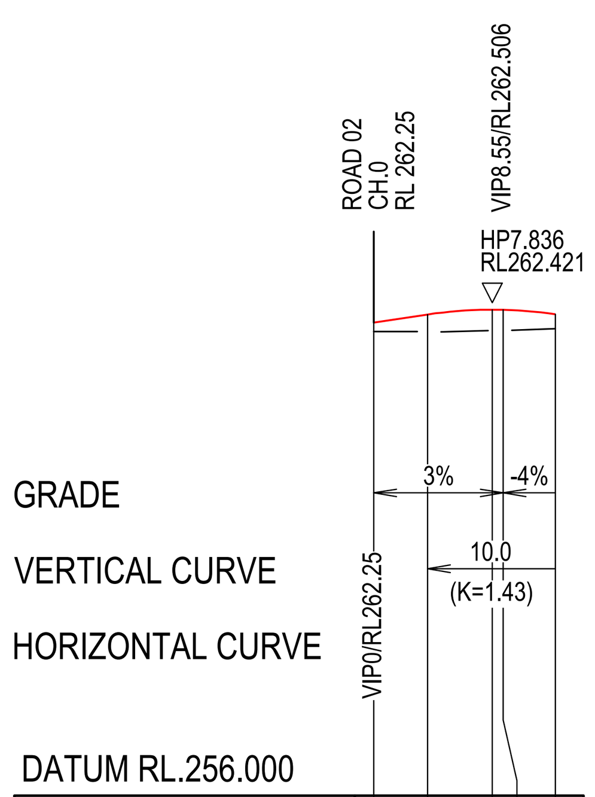


PEGGED CHAINAGE	DESIGN SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT/FILL DEPTHS
0.000	263.431	263.431	0.000
2.623	263.397	263.404	0.007
7.623	263.318	263.386	0.069
12.623	263.205	263.334	0.129
15.000	263.144	263.348	0.204
15.869	263.121	263.328	0.206
16.892	263.096	263.314	0.218
19.693	263.038	263.294	0.256
20.869	263.018	263.290	0.272
25.869	262.966	263.276	0.310
30.000	262.944	263.259	0.315
39.226	262.895	263.209	0.314
41.443	262.883	263.189	0.306
45.000	262.864	263.154	0.290
57.493	262.798	262.978	0.181
60.000	262.788	262.940	0.152
75.000	262.730	262.936	0.206
90.000	262.671	262.944	0.273
105.000	262.613	262.908	0.295
120.000	262.555	262.705	0.151
135.000	262.496	262.538	0.042
150.000	262.438	262.468	0.030
165.000	262.380	262.440	0.061
180.000	262.321	262.471	0.150
195.000	262.263	262.263	-0.000
210.000	262.205	261.844	-0.361
222.357	262.157	261.279	-0.877

HOR : 1 IN 500
VERT: 1 IN 100

LONGITUDINAL SECTION - ROAD 02



PEGGED CHAINAGE	DESIGN SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT/FILL DEPTHS
0.000	262.250	262.132	-0.118
3.550	262.356	262.129	-0.228
7.836	262.421	262.143	-0.277
8.550	262.419	262.147	-0.272
12.000	262.360	262.169	-0.191

HOR : 1 IN 500
VERT: 1 IN 100

LONGITUDINAL SECTION - ROAD 03

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

HORIZONTAL 1:500 AT ORIGINAL SIZE — 0 5 10 15 20 25m
VERTICAL 1:100 AT ORIGINAL SIZE — 0 1 2 3 4 5m

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL
DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN
DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
LONGITUDINAL SECTIONS
ROAD 02 & 03

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C0501	2 OF 2	A1	1

James Newell, 9/15/2022 9:18 AM

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LEGEND

PROPOSED

- STAGE BOUNDARY
- LOT BOUNDARY
- EASEMENT
- BATTER TOP / BOTTOM
- STORMWATER PIPES
- STORMWATER STRUCTURES
- OPEN DRAIN
- BASIN
- CONTOURS (0.5m) — 7.0
- SEWER (GRAVITY) — S
- SEWER (PRESSURE) — S
- SEWER PUMP STATION LOCATION
- POTABLE WATER — W
- CONCEPTUAL ELECTRICAL AND TELECOMMUNICATIONS SHARED TRENCH ARRANGEMENT — ETG

EXISTING

- LOT BOUNDARY
- EASEMENT
- CONTOURS (0.5m) — 7.0
- ELECTRICAL ABOVE GROUND — E
- ELECTRICAL POLE
- WATER — W
- SEWER AND STRUCTURE — S
- TREE (TO BE RETAINED)
- TREE (TO BE REMOVED)

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK DEVELOPMENT APPLICATION STORMWATER AND UTILITIES LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C1100	1 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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LEGEND

PROPOSED

- STAGE BOUNDARY
- LOT BOUNDARY
- EASEMENT
- BATTER TOP / BOTTOM
- STORMWATER PIPES
- STORMWATER STRUCTURES
- OPEN DRAIN
- BASIN
- CONTOURS (0.5m)
- SEWER (GRAVITY)
- SEWER (PRESSURE)
- SEWER PUMP STATION LOCATION
- POTABLE WATER
- CONCEPTUAL ELECTRICAL AND TELECOMMUNICATIONS SHARED TRENCH ARRANGEMENT

EXISTING

- LOT BOUNDARY
- EASEMENT
- CONTOURS (0.5m)
- ELECTRICAL ABOVE GROUND
- ELECTRICAL POLE
- WATER
- SEWER AND STRUCTURE
- TREE (TO BE RETAINED)
- TREE (TO BE REMOVED)

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	
NOT FOR CONSTRUCTION	

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
STORMWATER AND UTILITIES
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C1101	2 OF 2	A1	1

James Newell, 11/11/2020 4:38 PM

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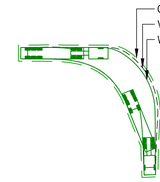
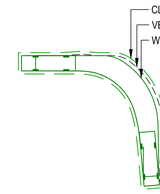
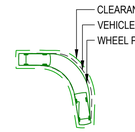
SWEPT PATH ANALYSIS - DESIGN VEHICLE
1:500

LEGEND







VEHICLE ENVELOPE - B85

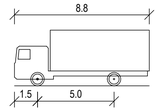
VEHICLE ENVELOPE - B99

VEHICLE ENVELOPE - 5.2m

VEHICLE ENVELOPE - 8.8m

VEHICLE ENVELOPE - 12.5m

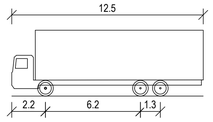
VEHICLE ENVELOPE - 19.0m



MRV - MEDIUM RIGID VEHICLE

OVERALL LENGTH	8.800m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	3.633m
MIN BODY GROUND CLEARANCE	0.428m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	4.00s
KERB TO KERB TURNING RADIUS	10.000m

DESIGN VEHICLE



SINGLE UNIT TRUCK/BUS

OVERALL LENGTH	12.500m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	4.300m
MIN BODY GROUND CLEARANCE	0.490m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	12.500m

CHECK VEHICLE

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
SWEPT PATH ANALYSIS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C2100	1 OF 4	A1	1

James Newell, 11/11/2020 4:38 PM

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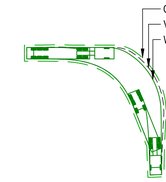
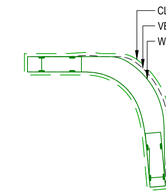
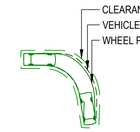
SWEPT PATH ANALYSIS - DESIGN VEHICLE
1:500

LEGEND







B85 VEHICLE ENVELOPE - B85

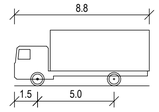
B99 VEHICLE ENVELOPE - B99

VEHICLE ENVELOPE - 5.2m

VEHICLE ENVELOPE - 8.8m

VEHICLE ENVELOPE - 12.5m

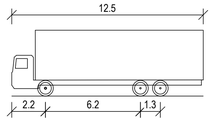
VEHICLE ENVELOPE - 19.0m



MRV - MEDIUM RIGID VEHICLE

OVERALL LENGTH	8.800m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	3.633m
MIN BODY GROUND CLEARANCE	0.428m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	4.00s
KERB TO KERB TURNING RADIUS	10.000m

DESIGN VEHICLE



SINGLE UNIT TRUCK/BUS

OVERALL LENGTH	12.500m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	4.300m
MIN BODY GROUND CLEARANCE	0.490m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	12.500m

CHECK VEHICLE

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
SWEPT PATH ANALYSIS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C2101	2 OF 4	A1	1

James Newell, 11/11/2020 4:38 PM

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SWEPT PATH ANALYSIS - CHECK VEHICLE
1:500

LEGEND

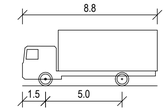
CLEARANCE ENVELOP
VEHICLE OVERHANG
WHEEL PATH

CLEARANCE ENVELOP
VEHICLE OVERHANG
WHEEL PATH

CLEARANCE ENVELOP
VEHICLE OVERHANG
WHEEL PATH

B85 VEHICLE ENVELOPE - B85
B99 VEHICLE ENVELOPE - B99

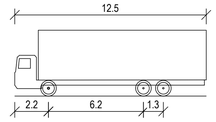
VEHICLE ENVELOPE - 5.2m
VEHICLE ENVELOPE - 8.8m
VEHICLE ENVELOPE - 12.5m
VEHICLE ENVELOPE - 19.0m



MRV - MEDIUM RIGID VEHICLE

OVERALL LENGTH	8.800m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	3.633m
MIN BODY GROUND CLEARANCE	0.428m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	4.00s
KERB TO KERB TURNING RADIUS	10.000m

DESIGN VEHICLE



SINGLE UNIT TRUCK/BUS

OVERALL LENGTH	12.500m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	4.300m
MIN BODY GROUND CLEARANCE	0.490m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	12.500m

CHECK VEHICLE

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
SWEPT PATH ANALYSIS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C2102	3 OF 4	A1	1

James Newell, 11/11/2020 4:38 PM

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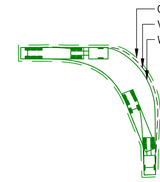
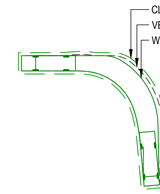
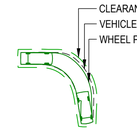
SWEPT PATH ANALYSIS - CHECK VEHICLE
1:500

LEGEND







VEHICLE ENVELOPE - B85

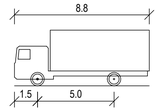
VEHICLE ENVELOPE - B99

VEHICLE ENVELOPE - 5.2m

VEHICLE ENVELOPE - 8.8m

VEHICLE ENVELOPE - 12.5m

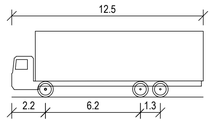
VEHICLE ENVELOPE - 19.0m



MRV - MEDIUM RIGID VEHICLE

OVERALL LENGTH	8.800m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	3.633m
MIN BODY GROUND CLEARANCE	0.428m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	4.00s
KERB TO KERB TURNING RADIUS	10.000m

DESIGN VEHICLE



SINGLE UNIT TRUCK/BUS

OVERALL LENGTH	12.500m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	4.300m
MIN BODY GROUND CLEARANCE	0.490m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
KERB TO KERB TURNING RADIUS	12.500m

CHECK VEHICLE

REV	DATE	DESCRIPTION	AMD BY	APP BY
1	15.09.2022	ISSUED FOR APPROVAL	JMN	RXT

0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

Bathla

MAKER ENG
SURVEY DESIGN DELIVER

DRAWN: J.NEWELL	DESIGNED: H.SMITH
DRAFT CHECK: J.AGUSTIN	DESIGN CHECK: J.AGUSTIN
APPROVED: R.THOMSON	

NOT FOR CONSTRUCTION

LOT 2 JINGELLIC ROAD HOLBROOK
DEVELOPMENT APPLICATION
SWEPT PATH ANALYSIS
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00434-11-C2103	4 OF 4	A1	1

James Newell, 11/11/2020 4:38 PM

C:\12dS\data\12DSYNERGY\MKR00434 Lot 2 Jingellic Rd, Holbrook_6Z\02 Design\Drawings\11 Stage 01\Xrefs\X-MKR00434-11-MKR A1.dwg

17 November 2022

Matt Johnson
Senior Planner
Habitat Planning
409 Kiewa St
Albury NSW 2640

Cc: Paul Solomon (The Bathla Group)

Dear Matt

Re: Flora and fauna assessment for proposed subdivision of Lot 2 Jingellic Road, Holbrook NSW

Project no. 37606

Biosis Pty Ltd was commissioned by Habitat Planning on behalf of The Bathla Group to complete a flora and fauna assessment for a proposed subdivision at Lot 2 Jingellic Road, Holbrook, New South Wales (NSW) (Figure 1; Appendix 1).

Biosis understands that The Bathla Group proposes to develop a 45 lot residential subdivision with new internal roads, drainage areas and an intersection with Young Street in the north-west corner or the site on former agricultural land zoned RU5 – Village Zone (RU5) under the *Greater Hume Council Local Environmental Plan 2012* (Hume LEP). The proposed subdivision area is within the Greater Hume Shire Local Government Area (LGA) and is described as Lot 2 DP610499.

Based on preliminarily ecological research, the study area is not designated within the NSW Biodiversity Values Map and Threshold Tool (BV Map) (OEH 2019), has a Biodiversity Offset Scheme (BOS) minimum native vegetation clearing threshold of 0.25 hectares, and has nearby records of threatened flora, fauna or ecological communities (entities) listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the NSW *Biodiversity Conservation Act 2016* (BC Act). The objective of this flora and fauna assessment is to determine the presence of any threatened ecological communities (TECs) within the study area and, where applicable, assess the impacts of the project on any threatened species, populations and/or ecological communities (entities), or their habitat, listed under the EPBC Act and the BC Act.

Due to the presence of suitable habitat in a drainage line in the north of the proposed subdivision area and three farm dams on neighbouring properties, a targeted survey for Sloane's Froglet *Crinia sloanei* (Endangered under the EPBC Act and Vulnerable under the BC Act), was undertaken in conjunction with the standard flora and fauna assessment.

Background

The study area is approximately 5.7 hectares and is bounded by the Holbrook Golf course to the north and east, Jingellic Road to the south and houses and undeveloped agricultural land to the east.

The study area is within a residential and recreational area where native vegetation has been modified by past (and present) land uses and residential developments. Native vegetation is still present in the broader landscape in the form of reserves, patches on road sides, isolated paddock trees and unimproved pasture.

Method

Database and literature review

Prior to completing the field investigation, information provided by Habitat Planning/The Baltha Group as well as other key information was reviewed, including:

- Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool for matters protected by the EPBC Act.
- NSW Environment, Energy and Science Group (EES) BioNet Atlas of NSW Wildlife, for items listed under the BC Act.
- The NSW Department of Primary Industries (DPI) Spatial Data Portal for FM Act listed threatened species, populations and communities.
- NSW DPI *Biosecurity Act 2015* for priority listed weeds for the Murray Local Land Services (LLS) area.
- EES Vegetation Information System (VIS) mapping through the Spatial Information eXchange (SIX) Vegetation Map Viewer.

The implications for the project were assessed in relation to key biodiversity legislation and policy including:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *Biodiversity Conservation Act 2016* (BC Act).
- *Biosecurity Act 2015* (Biosecurity Act).

Field investigation

A field investigation of the study area was undertaken on 20 July 2022 by Ewan Kelly (Team Leader - Ecology) and Nicholas Lloyd (Botanist). Vegetation within the study area was surveyed using the random meander technique (Cropper 1993).

General classification of native vegetation in NSW used in this report is based on the classification system in Keith (2004) which uses three groupings of vegetation: vegetation formation, vegetation class and vegetation type, with vegetation type the finest grouping. The grouping referred to in this report is Plant Community Type (PCT) as defined by the Biodiversity Assessment Method (BAM) (DPIE 2020).

The vegetation types, within the study area, were stratified into PCTs broadly based on previous vegetation mapping, and the vegetation boundaries marked with a hand-held GPS in the field. Appropriate PCTs were selected on the basis of species composition and structure, known geographical distribution, landscape position, underlying geology, soil type, and any other diagnostic features.

A habitat-based assessment was completed to determine the presence of suitable habitat for threatened species previously recorded (EES 2022) or predicted to occur (Commonwealth of Australia 2022) within 5 kilometres. This list was filtered according to species descriptions, life history, habitat preference and soil preference to determine those species most likely to be present within the study area.

Sloane's Froglet targeted survey

Reference population and weather

Reference populations within Thurgoona were visited prior to survey commencement to confirm the calling of male Sloane's Froglet each survey night. This ensured conditions were considered optimal for survey with male Sloane's Froglet active and calling. Surveys were undertaken on 2, 3 and 4 August and focused on the drainage line and neighbouring farm dams in the south of the site and the wet pasture throughout the site (Figure 2: Appendix 2). Weather conditions on all three nights were considered appropriate for the detection of the species (Table 1).

Table 1 Weather data during survey

Survey Night*	Date	Start time	Finish time	Temperature at start	Temperature at finish	Wind speed (km/h)	Rainfall last 72 hours (mm)	Sunset
1	2 August 2022	2110h	2145h	5.6 °C	5.4 °C	1.3	16.4	1734h
2	3 August 2022	2055h	2130h	7.1 °C	7.2 °C	0.2	28.4	1738h
3	4 August 2022	2100h	2132h	14.5 °C	13 °C	0.5	32.1	1742h

*Rainfall data courtesy of Bureau of Meteorology Holbrook station no. 072142 and weather records taken on site using Kestrel weather Meter 3000.

Targeted surveys

Surveys took place after sunset and involved one observer listening for calls and scanning the area using torches to detect frogs within the transect area and/or waterbody. Call playback was undertaken in suitable habitat and included a quiet listening period followed by call playback in accordance with relevant Commonwealth guidelines. Call playback was completed at all farm dams and roughly every 30 metres along drainage lines.

The surveys were undertaken in August 2022 in order to coincide with the Sloane's Froglet breeding season when males would be making advertising calls. Nocturnal listening surveys were the primary measure used to detect Sloane's Froglet and were undertaken at all suitable habitat within or adjacent to the study area. Observers spent at least 10 minutes listening for calling frogs. Where no Sloane's Froglet were heard after 10 minutes, call play back was used to elicit a response for a further 10 minutes. Transect surveys were also used and consisted of one observer walking through suitable habitat. As the observer moved, visual encounter searches were undertaken for frogs perching on in-stream or fringing vegetation, algae, logs and exposed banks. Nocturnal searches were undertaken using LED headlamps and hand torches.

Measures to reduce the risk of spreading infectious pathogens such as chytrid fungus between sites were implemented (Murray et al. 2011). These measures included cleaning and disinfecting gumboots and other field equipment before commencing the surveys and between sites, parking vehicles outside the study area and no handling of any frog species.

Results

The study area is located approximately 500 metres east of Holbrook central, in a peri-urban area comprised of residential, recreational and small-scale agricultural land on the fringes of Holbrook. Surrounding the study area, the majority of remaining native vegetation is isolated in road side reserves or scattered amongst recreation facilities such as the neighbouring Golf Course.

Regional soil landscape mapping indicates that the study area occurs on the Brokong Plains landscape of the NSW South West Slopes Bioregion (Mitchell 2002). The Brokong Plains soils landscape is characterised by Quaternary alluvial plains at a general elevation of 170 meters (Mitchell 2002). Red-brown texture-contrast soils are present on extensively cleared and cropped, formerly native woodland. The composition of the soil is highly influential on the woodland and open forest communities observed.

The study area is a flat formerly agricultural paddock with a long history of grazing (Photo 1; Appendix 2). Scattered remnant Yellow Box *Eucalyptus melliodora* and Blakely's Red-gum *Eucalyptus blakelyi* trees are present consistent with PCT 277 – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion (PCT 277) along with numerous stumps (Photos 2, 3 and 4; Appendix 2). All trees on site were found to be hollow-bearing, potentially providing habitat for locally common avian species. A low-quality tributary is present in the south of the study area and contains two dams to the east and west on neighbouring properties (Photo 5: Appendix 2). Vegetation within the study area is symptomatic of a long agricultural history with the generally fertile soils resulting in the proliferation of introduced pasture grasses including Phalaris *Phalaris aquatica*, Paspalum *Paspalum dilatatum* and herbaceous weeds such as White clover *Trifolium repens* and Capeweed *Arctotheca calendula* (Photo 6: Appendix 2). A gilgai land form is present throughout the study area but these areas were generally damaged by soil compaction and the presence of the aforementioned pasture species (Photo 7; Appendix 2). Scattered native species were present and included *Lachnagrostis filiformis* but were considered to be at too lower densities to be considered a native PCT.

Targeted survey results

No Sloane's Froglet were recorded in or around either of the farm dams, drainage lines or wet pasture areas on or adjacent to the property on any survey night. See Table 2 below for summary. Given the favourable survey conditions and the presence of strong male calling at reference sites in Thurgoona it is considered unlikely that this species would be present on the site and undetected.

Table 2 Sloane's Froglet survey results

Waterbody	Estimate of likely disturbance	Sloane's Froglet recorded?	Estimated number of calling males	Notes
Farm dam, adjacent to Jingellic Road, west of the site.	No disturbance anticipated.	No	n/a	Habitat is degraded and no known records of the species from the search area. Given presence and strong calling of Sloane's Froglet throughout Albury on survey nights, unlikely to be present at the site and undetected.
Farm dam, adjacent to Jingellic Road, east of the site.	No disturbance anticipated.	No	n/a	As above
Drainage line adjacent to Jingellic Road, south of the site	Likely to be incorporated in the subdivision drainage strategy, will be modified.	No	n/a	As above
Wet pasture areas throughout the site	To be removed.	No	n/a	As above

Vegetation communities

Prior to the field investigation, Biosis confirmed that various native vegetation communities including three TECs have been mapped in the broader landscape (Tozer 2003, EES 2020), these include:

- *White Box Yellow Box Blakely's Red Gum Woodland* (Critically Endangered, EPBC Act and Endangered, BC Act).
- *Inland Grey Box Woodland* (Endangered, EPBC Act and Endangered, BC Act).
- *Sandhill Pine Woodland* (Critically Endangered, EPBC Act and Endangered, BC Act).

A key focus of the field investigation was to assess the vegetation of the study area against the final determinations for the above listed TECs to determine presence or absence.

The vegetation in the surrounding landscape consists of communities which are associated with the *White Box Yellow Box Blakely's Red Gum Woodland* TEC. However, field observations and findings determined that the vegetation within the site did not meet the EPBC Act thresholds to classify as this community. This was due to there being less than 12 native understorey species (excluding grasses) present, with the presence of 12 or more understorey species other than grasses also being a minimum threshold for this community. A list of flora and fauna recorded within the study area as well as associated photos are provided in Appendix 2, Appendix 3 and Appendix 4.

The canopy species present within the site are consistent with PCT 277. This PCT forms part of the broader BC Act listed *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (Box Gum Grassy Woodlands) community listed as critically endangered. A Test of Significance in accordance with the BC Act has been prepared for this community and is found in Appendix 5.

Threatened species

Background searches identified five threatened flora species and 48 threatened fauna species recorded (EES 2022) or predicted to occur (Commonwealth of Australia 2022) within 5 kilometres of the study area.

Threatened EPBC Act flora species are considered to have a low likelihood of occurrence within the former agricultural land zoned RU5 due to the sites agricultural and grazing history.

Sloane's Froglet was considered to have suitable habitat but after the completion of targeted surveys is considered a low likelihood of being present and undetected within the site.

The remainder of EPBC Act species predicted to occur by database searches are relatively generalist avian, microbat or flying-fox species that would at best be occasional visitors to the RU5 zoned portion of the site, given the tree species present and the level of fragmentation within the site.

Overall, the site contains relatively few ecological values for species listed under the EPBC Act and Significant Impact Criteria assessments are not considered necessary.

Similarly to EPBC Act listed species, a number of BC Act listed fauna species (predominantly avian) are predicted to occur within the 5 kilometre search area. These are predominantly relatively generalist raptors or avian species and the site is not considered to contain any habitat resource that is of particular value or would attract a significant number of individuals to the site given its history and level of fragmentation.

Overall, the site contains relatively few ecological values for species listed under the EPBC Act or BC Act and Significant Impact Criteria assessments and Tests of Significance are not considered necessary (See Appendix 3 and 4 for likelihoods of occurrence).

Priority weeds

Bathurst Burr *Xanthium spinosum*, was the only priority weed for the Murray LLS region, which includes the Greater Hume Shire LGA, to be recorded in the study area. Bathurst Burr falls under *General Biosecurity Duty* in accordance with the Biosecurity Act.

The Biosecurity Act provides for the identification, classification and control of priority weeds with the purpose of determining if a biosecurity risk is likely to occur. A priority weed is any weed identified in a local strategic plan, for a region that includes that land or area, as a weed that is or should be prevented, managed, controlled or eradicated in the region.

The General Biosecurity Duty as outlined in the Biosecurity Act states:

> *All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.*

To prevent biosecurity impacts from occurring as a result of the presence of the above listed priority weeds within the study area, all practical steps should be taken to control and eradicated the weeds from the study area as per the relevant biosecurity duties outlined above, or prior to or during any future vegetation removal.

Impact assessment

- The permanent removal of seven hollow-bearing trees and one non-hollow bearing tree including a total of 0.23 hectares of PCT 277 which is considered to form part of a BC Act listed Threatened Ecological Community Box Gum Grassy Woodlands.
- Changes to the natural drainage patterns of the land and increase in surface water run-off.

Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act is the Australian Government's key piece of environmental legislation. The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (NES) protected under the Act. Under the EPBC Act, activities that have potential to result in significant impacts on Matters of NES must be referred to the Commonwealth Minister for the Environment and Energy for assessment.

No threatened ecological communities or threatened species listed under the EPBC Act were recorded or assessed to have a medium or greater potential to occur within the study area.

On the basis of criteria outlined in Commonwealth of Australia (2013) it is considered unlikely that a significant impact on a Matter of NES would result from the project.

Biodiversity Conservation Act 2016

No threatened species listed under the BC Act are likely to be significantly impacted by the proposed development within the study area.

The Box Gum Grassy Woodlands TEC is present on the property. Test of Significance indicates that the impacts from the proposed subdivision are unlikely to be significant (Appendix 5).

Biodiversity Offsets Scheme

The proposed subdivision does not trigger the Biodiversity Offset Scheme (BOS) under the BC Act as described in Table 3 below, and consideration of the BOS is not warranted, and a Biodiversity development Assessment report (BDAR) is not required.

Table 3 Biodiversity Offset Scheme assessment

BOS Trigger	Yes/No	Justification
Clearing threshold	No	The total clearing of vegetation 0.23 hectares (based on a 15-metre tree radius for hollow bearing trees and a 10 metre radius for small non-hollow bearing trees) does not exceed the minimum clearing threshold of 0.25 hectares, based on a minimum lot size of 0.06 ha. Two hollow bearing trees adjacent to the eastern boundary of the site are expected to be retained.
BV Map	No	The project will not impact on areas mapped within the BV Map.
Significant impact	No	The project is unlikely to result in a significant impact on threatened species, populations or communities listed under the BC Act (see Appendix 5).

Recommendations

The focus of the recommendations is to minimise disturbance to any surrounding native vegetation and fauna habitat. These recommendations are:

- To the fullest extent practicable, minimise disturbance to any native vegetation surrounding the development area and protect trees adjacent to the site boundaries.
- Incorporate the second order stream in the south of the property into the developments drainage strategy.
- Incorporate rehabilitation of the second order stream and planting with native, locally sourced species into the subdivision design.
- Avoid disturbance to native vegetation on surrounding road reserves when assigning Asset Protection Zones.
- Where possible, any trees to be retained should be protected in accordance with Australian Standard AS4970 – 2009 Protection of trees on development sites, during construction, operation and decommissioning of the site compound.
- In the unlikely event that unexpected threatened species are identified during the project, works should cease and an ecologist contacted.
- Soil transportation should be minimised within, into or out of the study area to reduce the spread of weeds.
- One priority weed within the Greater Hume Shire LGA were identified within the study area. Appropriate measures should be implemented to minimise the spread of these species.
- Appropriate erosion and sediment control measures should be installed at all sites to avoid sedimentation of receiving water bodies or other indirect impacts to surrounding biodiversity values.
- Hollow-bearing trees are to be removed in a two-stage process:
  - Stage 1: All surrounding vegetation to be cleared and grubbed.
  - Stage 2: 24 to 48 hours later (or in accordance with approval documentation) the hollow-bearing trees to be inspected by an ecologist. If resident fauna is observed, the hollow section is to be lowered to the ground and the animal allowed to move on of its own volition. If injured, the fauna to be taken to a WIRES carer or appropriate veterinarian for care.

I trust that this advice is of assistance to you however please contact me on 0438 210 030 if you would like to discuss any elements of this ecological advice further.

Yours sincerely

Ewan Kelly
Team Leader – Ecology (Regional)

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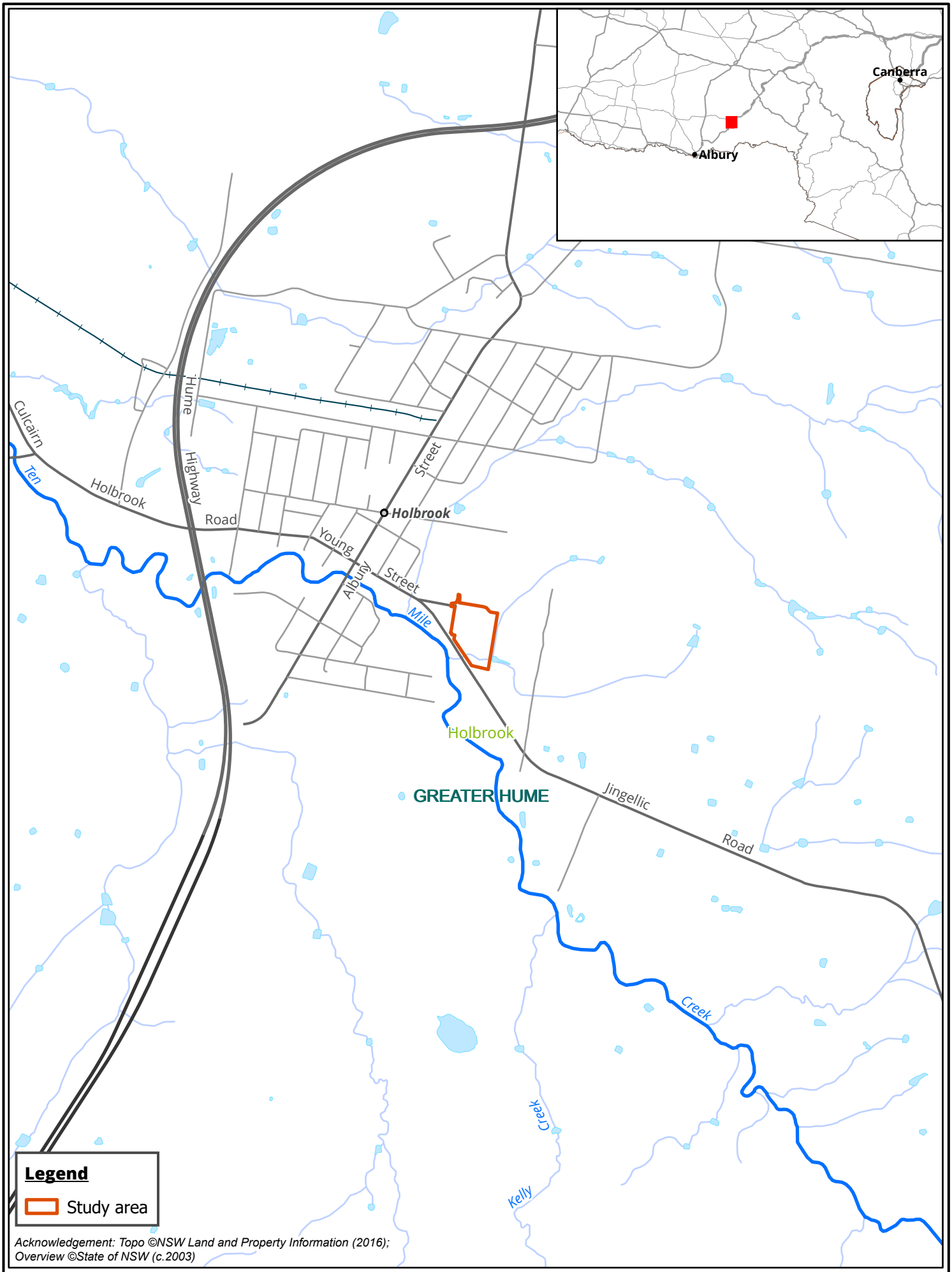

Acknowledgement: Topo ©NSW Land and Property Information (2016); Overview ©State of NSW (c.2003)

biosis

Figure 1 Location of the study area

Matter: 37606,
Date: 29 August 2022,
Drawn by: JB, Checked by: EK, Last edited by: jbeckius
Location:P:\37600s\37606\Mapping\
37606_JingelicRd_Holbrook

0 200 400 600 800 1,000
Metres

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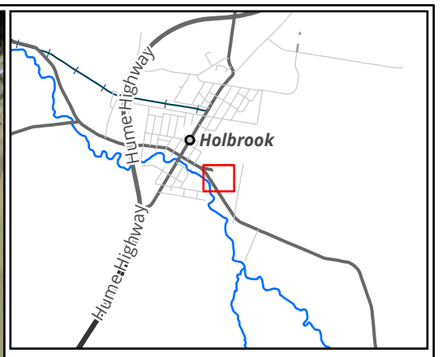
Scale 1:25,000 @ A4, GDA 1994 MGA Zone 55



Legend

- Study area
- Sloane's Froglet survey area
- Sloane's Froglet survey area
- Native tree

Plant Community Type

- 277 - Blakelys Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Figure 2 Ecological features of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

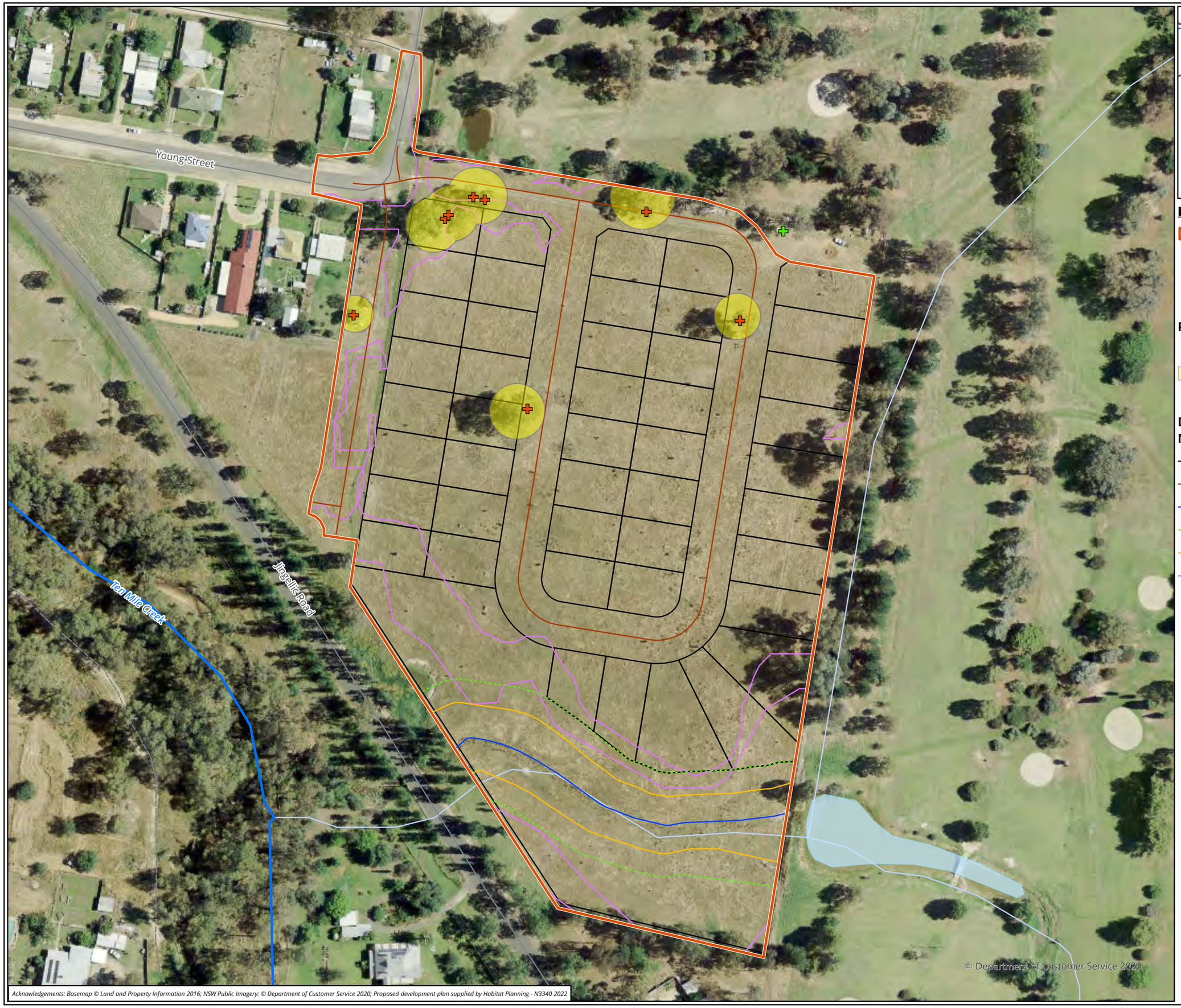
Coordinate System: GDA 1994 MGA Zone 55

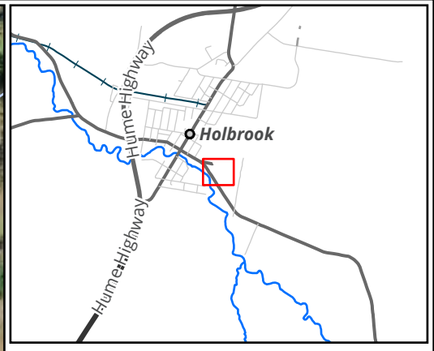
N

biosis

Matter: 37606, Date: 15 November 2022,
Prepared for: EK, Prepared by: JB, Last edited by: jbeckius
Layout: 37606_F2_EcoFeatures
Project: P:\37600s\37606\Mapping\
37606_JingelicRd_Holbrook.aprx

Acknowledgements: Basemap © Land and Property Information 2016; NSW Public Imagery: © Department of Customer Service 2020





Legend

- Study area

Native tree

- Removed
- Retained

Plant Community Type

- 277 - Blakelys Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Data supplied by Habitat Planning - N3340 (2022)

- Proposed lot layout
- Proposed road
- Water course
- Riparian zone outer boundary
- Riparian zone inner boundary
- Flood extents 100 year

Figure 3 Vegetation removal within the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 55

N

biosis

Matter: 37606, Date: 16 November 2022,
Prepared for: EK, Prepared by: JB, Last edited by: jbeckius
Layout: 37606_F3_VegRemoval
Project: P:\37600s\37606\Mapping\
37606_JingelicRd_Holbrook.aprx

Acknowledgements: Basemap © Land and Property Information 2016; NSW Public Imagery: © Department of Customer Service 2020; Proposed development plan supplied by Habitat Planning - N3340 2022

Appendix 2 Photos

Photo 1 **Former agricultural land typical of the majority of the study area (photo taken 20 July 2022 centre of the study area facing east)**

Photo 2 **Typical scattered tree consistent with PCT 277 (photo taken 20 July 2022 centre of the study area facing south)**

Photo 3 **Typical scattered tree consistent with PCT 277 (photo taken 20 July 2022 north of the study area facing north)**

Photo 4 **Typical scattered tree consistent with PCT 277 (photo taken 20 July 2022 north of the study area facing east)**

Photo 5 **Drainage feature in south of the study area (photo taken 20 July 2022 south of the study area facing east)**

Photo 6 **Former agricultural land typical of the majority of the study area (photo taken 20 July 2022 centre of the study area facing south)**

Photo 6 **Disturbed Gilgai land formations throughout the study area (photo taken 20 July 2022 centre of the study area facing south)**

Appendix 3 Flora

Flora species recorded from the study area

Table A3.1 Flora species recorded by Biosis, 20/07/2022

Status	Scientific name	Common name
Native species		
	Chloris truncata	Windmill Grass
	Cynodon dactylon	Common Couch
	Eucalyptus blakelyi	Blakely's Red Gum
	Eucalyptus melliodora	Yellow Box
	Juncus spp.	A Rush
	Lachnagrostis filiformis	
	Lythrum hyssopifolia	Hyssop Loosestrife
	Oxalis spp.	
	Rumex brownii	Swamp Dock
	Veronica spp.	
Exotic species		
	Acetosella vulgaris	Sheep Sorrel
	Arctotheca calendula	Capeweed
	Bromus catharticus	Praire Grass
	Bromus hordeaceus	Soft Brome
	Cenchrus clandestinus	Kikuyu Grass
	Cerastium glomeratum	Mouse-ear Chickweed
	Cirsium vulgare	Spear Thistle
	Cyperus eragrostis	Umbrella Sedge
	Echium plantagineum	Patterson's Curse
	Ehrharta longiflora	Annual Veldtgrass
	Eleusine indica	Crowsfoot Grass
	Galium aparine	Goosegrass
	Hordeum spp.	A Barley Grass
	Hypochaeris radicata	Catsear
	Lolium rigidum	Wimmera Ryegrass
	Malva parviflora	Small-flowered Mallow
	Marrubium vulgare	White Horehound
	Medicago spp.	A Medic
	Panicum capillare	Witchgrass
	Paspalum dilatatum	Paspalum
	Phalaris aquatica	Phalaris
	Phalaris arundinacea	
	Plantago lanceolata	Lamb's Tongues

Status	Scientific name	Common name
	Poa annua	Winter Grass
	Poa bulbosa	Bulbous Poa
	Romulea rosea var. *australis*	Onion Grass
	Rumex crispus	Curled Dock
	Sonchus oleraceus	Common Sowthistle
	Trifolium dubium	Yellow Suckling Clover
	Trifolium repens	White Clover
	Vulpia bromoides	Squirrel Tail Fesque
	Xanthium spinosum	Bathurst Burr

Table A3.2 Threatened flora species recorded / predicted to occur within 5 kilometres of the study area

Scientific name	Common name	Conservation status		Most recent record	Other sources	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC					
Ammobium craspedioides	Yass Daisy	VU	VU	#		Low	No recent records and habitat within the study area severely degraded.	Rosette-forming perennial herb growing between Crookwell and Wagga Wagga with most populations found in the Yass region. Grows in a variety of communities including Upper Riverina Dry Sclerophyll Forests, Western Slopes Dry Sclerophyll Forests, Temperate Montane Grasslands and Western Slopes Grassy Woodlands. Also found growing in derived grasslands and on roadsides.
Amphibromus fluitans	Floating Swamp Wallaby-grass	VU	VU	#		Low	No records form the search area and habitat within the study area severely degraded.	Perennial grass growing throughout the Murray Region between Cooks Lagoon and Mathoura, with isolated populations in Upper Lachlan Shire. Grows in permanent swamps and wetlands in Temperate Montane Grasslands, Inland Riverine Forests, Inland Floodplain Shrublands, and Inland Floodplain Swamps. Grows along swamp margins in mud and hard clay soils.
Prasophyllum petilum	Tarengo Leek Orchid	EN	EN	#		Low	No records form the search area and habitat within the study area severely degraded.	Terrestrial orchid restricted to five sites within NSW at Boorowa, Captains Flat, Ilford, a Travelling Stock Route at Delegate and 10 kilometres south-east of Muswellbrook. Found growing in open sites and patchy forest in Natural Temperate Grassland, Box-Gum Woodlands, Temperate Montane Grasslands, Southern Tableland Grassy Woodlands, Subalpine Woodlands, Tableland Clay Grassy Woodlands, Western Slopes Grassy Woodlands. This species is

Scientific name	Common name	Conservation status		Most recent record	Other sources	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC					
								cryptic and most visible when flowering between October and December. Grows in fertile soils.
Senecio macrocarpus	Large-fruit Fireweed, Large-fruit Groundsel	VU	--	#		Low	No records form the search area and habitat within the study area severely degraded.	Small erect perennial herb or shrub with one small population recently discovered at Gunderoo in NSW and other populations occurring in South Australia and Victoria. Found growing in partly cleared dry forests and Box-Gum Woodlands which transition to Brittle Gum Forest with relatively undisturbed understories comprising of grasses, herbs and forbs. Grows in soils ranging from clay to loamy sands.
Swainsona recta	Small Purple-pea	EN	EN	#		Low	No records form the search area and habitat within the study area severely degraded.	Small erect perennial herb with a scattered distribution at Carcoar, Culcairn and Wagga Wagga from which it is possibly extinct and from Queanbeyan and Wellington - Mudgee areas where it is still extant. Found growing on stony hillsides and in the grassy understorey of Upper Riverina Dry Sclerophyll Forests, Western Slopes Dry Sclerophyll Forests, Temperate Montane Grasslands, Floodplain Transition Woodlands, Southern Tableland Grassy Woodlands and Western Slopes Grassy Woodlands.

* - habitat descriptions have been adapted by qualified ecologists from the DEE Species Profile and Threats (SPRAT) Database, OEH Threatened Species online profiles and the NSW Scientific Committee final determinations for listed species, references within the above table are provided within the report reference list.

Table A4.1 Threatened fauna species recorded, or predicted to occur, within 5 kilometres of the study area

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
Mammals								
***Dasyurus maculatus maculatus* (SE mainland population)**	Spotted-tailed Quoll	EN	--	0	#	Negligible	No habitat or records form the search area.	Occurs along the east coast of Australia and the Great Dividing Range. Uses a range of habitats including sclerophyll forests and woodlands, coastal heathlands and rainforests. Occasional sightings have been made in open country, grazing lands, rocky outcrops and other treeless areas. Habitat requirements include suitable den sites, including hollow logs, rock crevices and caves, an abundance of food and an area of intact vegetation in which to forage. Seventy per cent of the diet is medium-sized mammals, and also feeds on invertebrates, reptiles and birds. Individuals require large areas of relatively intact vegetation through which to forage. The home range of a female is between 180 and 1000 ha, while males have larger home ranges of between 2000 and 5000 ha.

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								Breeding occurs from May to August.
Nyctophilus corbeni	Corben's Long-eared Bat	VU	VU	0	#	Low	No records from the search area and limited habitat.	Restricted to the Murray-Darling basin and western slopes. Found in a range of habitats including tall Eucalypt forests, mallee, open savanna and Black Box woodland, preferring habitats with a distinct canopy and cluttered, dense understorey. Roost in tree hollows and fissures and under exfoliating bark.
Petaurus norfolcensis	Squirrel Glider	--	VU	0	2015	Low	Remnant eucalypts are generally beyond this species gliding distance from suitable remnant patches.	Generally occurs in dry sclerophyll forests and woodlands but is absent from dense coastal ranges in the southern part of its range. Requires abundant hollow-bearing trees and a mix of eucalypts, banksias and acacias. Within a suitable vegetation community at least one species should flower heavily in winter and one species of eucalypt should be smooth barked.
Phascolarctos cinereus	Koala	EN	--	0	#	Negligible	No records from the search area or suitable well connected habitat.	In NSW the Koala mainly occurs on the central and north coasts with some populations in the western region. Koalas feed almost exclusively on eucalypt foliage, and their preferences vary regionally. Primary feed trees include *Eucalyptus robusta, E. tereticornis, E. punctata, E. haemostoma* and *E. signata*. They are solitary with

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								varying home ranges.
Pteropus poliocephalus	Grey-headed Flying-fox	VU	VU	0	2016#	Low	May occasionally fly over the site but limited suitable habitat to attract this species to the site.	Occurs along the NSW coast, extending further inland in the north. This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Roosts in large colonies, commonly in dense riparian vegetation.
Scoteanax rueppellii	Greater Broad-nosed Bat	--	VU	0	2011	Low	May occasionally fly over the site but limited suitable habitat to attract this species to the site.	Occurs along the Great Dividing Range and in coastal areas. Occurs in woodland and rainforest, preferring open habitats or openings in wetter forests. Often hunts along creeks or river corridors. Preys upon beetles and other large, flying insects, other bats and spiders. Roosts in hollow tree trunks and branches.
Birds								
Anseranas semipalmata	Magpie Goose		VU	0	2015	Low	Limited suitable habitat.	Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. They are often seen walking and grazing on land; feeds on grasses, bulbs and rhizomes. Breeding can occur in both summer and winter dominated rainfall areas and is strongly influenced by water level. Nests are formed in trees over deep water; breeding is unlikely in south-

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								eastern NSW. Often seen in trios or flocks on shallow wetlands, dry ephemeral swamps, wet grasslands and floodplains; roosts in tall vegetation.
Anthochaera phrygia	Regent Honeyeater	CR	CR	0	1965#	Negligible	No suitable habitat	Regent Honeyeaters are semi-nomadic, occurring in temperate eucalypt woodlands and open forests. Most records are from box-ironbark eucalypt forest associations and wet lowland coastal forests. Nectar and fruit from mistletoes are also eaten. This species usually nest in tall mature eucalypts and sheoaks.
Botaurus poiciloptilus	Australasian Bittern	EN	EN	0	#	Negligible	No suitable habitat	The Australasian Bittern is distributed across south-eastern Australia. Often found in terrestrial and estuarine wetlands, generally where there is permanent water with tall, dense vegetation including *Typha spp*. and *Eleoacharis spp*.. Typically this bird forages at night on frogs, fish and invertebrates, and remains inconspicuous during the day. The breeding season extends from October to January with nests being built amongst dense vegetation on a flattened platform of reeds.
Calidris ferruginea	Curlew Sandpiper	CR	EN	0	#	Negligible	No suitable habitat	Inhabits sheltered intertidal mudflats. Also non-tidal swamps, lagoons and

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								lakes near the coast. Infrequently recorded inland.
Callocephalon fimbriatum	Gang-gang Cockatoo	EN	VU	0	#	Low	Limited suitable habitat.	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine Snow Gum woodland and occasionally in temperate or regenerating forest. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. It requires tree hollows in which to breed.
Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	--	VU	0	1980	Low	Limited suitable habitat.	Lives in eucalypt woodlands, especially areas of relatively flat open woodland typically lacking a dense shrub layer, with short grass or bare ground and with fallen logs or dead trees present.
Falco hypoleucos	Grey Falcon	VU	EN	0	#	Negligible	No suitable habitat.	Found over open country and wooded lands of tropical and temperate Australia. Mainly found on sandy and stony plains of inland drainage systems with lightly timbered acacia scrub.
Glossopsitta pusilla	Little Lorikeet	--	VU	0	2001	Low	Limited suitable habitat.	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked eucalypts. Most breeding records come from the western slopes.
Grantiella picta	Painted Honeyeater	VU	VU	0	#	Negligible	No suitable habitat.	Found mainly in dry open woodlands and forests, where it is strongly associated with mistletoe. Often found on plains with scattered eucalypts and remnant trees on farmlands.
Haliaeetus leucogaster	White-bellied Sea-Eagle	--	VU	0	#	Negligible	No suitable habitat.	A migratory species that is generally sedentary in Australia, although immature individuals and some adults are dispersive. Found in terrestrial and coastal wetlands; favouring deep freshwater swamps, lakes and reservoirs; shallow coastal lagoons and saltmarshes. It hunts over open terrestrial habitats. Feeds on birds, reptiles, fish, mammals, crustaceans and carrion. Roosts and makes nest in trees.
Hirundapus caudacutus	White-throated Needletail	VU	--	0	#	Low	Almost exclusively aerial species would not be present in terrestrial vegetation,.	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges. Breeds in Asia.

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
Lathamus discolor	Swift Parrot	CR	EN	0	#	Low	Limited suitable habitat.	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW. Favoured feed trees include winter flowering species such as Swamp Mahogany *Eucalyptus robusta*, Spotted Gum *Corymbia maculata*, Red *Bloodwood C. gummifera*, Mugga *Ironbark E. sideroxylon*, and White Box *E. albens*. Commonly used lerp infested trees include Grey Box *E. microcarpa*, Grey Box *E. moluccana* and *Blackbutt E. pilularis*. This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.
Numenius madagascariensis	Eastern Curlew	CR	--	0	#	Negligible	No suitable habitat.	Occurs in sheltered coasts, especially estuaries, embayments, harbours, inlets and coastal lagoons with large intertidal mudflats or sandflats often with beds of seagrass.
Polytelis swainsonii	Superb Parrot	VU	VU	0	1999#	Low	Limited suitable habitat..	Found mainly in open, tall riparian River Red Gum forest or woodland. Often found in farmland including grazing land with patches of remnant

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								vegetation. Forages primarily in grassy box woodland, feeding in trees and understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plants.
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	--	VU	0	2010	Negligible	No suitable habitat.	The eastern sub-species occurs on the western slopes of the Great Dividing Range, the western plains, woodlands in the Hunter Valley and locations on the north coast of NSW. Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine, open Box Woodlands on alluvial plains and woodlands on fertile soils in coastal regions. Feeds on invertebrates and builds dome-shaped nests.
Rostratula australis	Australian Painted Snipe	EN	EN	0	#	Negligible	No suitable habitat.	Usually found in shallow inland wetlands including farm dams, lakes, rice crops, swamps and waterlogged grassland. They prefer freshwater wetlands, but have been recorded in brackish waters. Forages on mud-flats and in shallow water. Feeds on worms, molluscs, insects and some plant-matter.
Frogs								
Crinia sloanei	Sloane's Froglet	EN	VU	0	#	Low	Not detected during targeted survey and unlikely to present and undetected.	Sloane's Froglet is a cryptic species, usually found only after rain. This species has a widely scattered distribution throughout the

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								floodplains of the Murray-Darling Basin in NSW and has been recorded mostly in the Darling Riverine Plains, NSW South Western Slopes, and the Riverina bioregions. It is typically associated with periodically inundated grassland, woodland and disturbed areas.
Litoria raniformis	Southern Bell Frog	VU	EN	0	#	Negligible	No suitable habitat.	In NSW the species is known to exist only in isolated populations in the Coleambally Irrigation Area, the Lowbidgee floodplain and around Lake Victoria. Usually found in or around permanent or ephemeral swamps or billabongs with an abundance of bulrushes and other emergent vegetation along floodplains and river valleys. They are also found in irrigated rice crops, particularly where there is no available natural habitat. Outside the breeding season animals disperse away from the water and take shelter beneath ground debris such as fallen timber and bark, rocks, grass clumps and in deep soil cracks.
Fish								
Galaxias rostratus	Flathead Galaxias	CR	--	CE	#	Negligible	No suitable habitat.	Flathead Galaxias are found in still or slow moving water bodies such as wetlands and lowland streams. The

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								species has been recorded forming shoals. They have been associated with a range of habitats including rock and sandy bottoms and aquatic vegetation. Flathead Galaxias spawn in spring and lay slightly adhesive demersal eggs.
Maccullochella macquariensis	Trout Cod	EN	--	EN	#	Negligible	No suitable habitat.	The Trout Cod is endemic to the southern Murray-Darling river system, including the Murrumbidgee and Murray Rivers, and the Macquarie River in central NSW. Trout cod are often found close to cover and in relatively fast currents, especially in fairly deep water close to the bank, and often congregate around large woody debris (snags). They tend to remain at the one site and have small home ranges.
Maccullochella peelii	Murray Cod	VU	--	0	#	Negligible	No suitable habitat.	The Murray Cods natural distribution extends throughout the Murray-Darling basin ranging west of the divide from south east Queensland, through NSW into Victoria and South Australia. It is found in the waterways of the Murray–Darling Basin in a wide range of warm water habitats that range from clear, rocky streams to slow flowing turbid rivers, billabongs and large deep holes. Murray Cod is

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								entirely a freshwater species and will not tolerate high salinity levels.
Macquaria australasica	Macquarie Perch	EN	--	EN	#	Negligible	No suitable habitat.	Macquarie Perch are found in the Murray-Darling Basin (particularly upstream reaches) of the Lachlan, Murrumbidgee and Murray rivers, and parts of south-eastern coastal NSW, including the Hawkesbury and Shoalhaven catchments. Macquarie perch are found in both river and lake habitats, especially the upper reaches of rivers and their tributaries
***Nannoperca australis* (Murray-Darling Basin lineage)**	Southern Pygmy Perch	VU	--	0	#	Negligible	No suitable habitat.	Southern Pygmy Perch were formerly found in the Murray and lower Murrumbidgee River systems. There have been large-scale reductions in their range since European settlement, particularly inland. Populations of Southern Pygmy Perch have recently been discovered in tributaries of the upper Lachlan and upper Murray River catchments.
Reptiles								
Aprasia parapulchella	Pink-tailed Legless Lizard	VU	VU	0	#	Negligible	No suitable habitat.	Fossorial species, which lives beneath surface rocks and occupies ant burrows. It feed on ants, particularly their eggs and larvae. Thought to lay eggs within the ant nests under rocks that it uses as a source of food and shelter. Key habitat features are a

Scientific name	Common name	Conservation status			Most recent record	Likely occurrence in study area	Rationale for likelihood ranking	Habitat description*
		EPBC	BC	FM				
								cover of native grasses, particularly Kangaroo Grass (*Themeda australis*), sparse or no tree cover, little or no leaf litter, and scattered small rock with shallow embedment in the soil surface.
Delma impar	Striped Legless Lizard	VU	VU	0	#	Negligible	No suitable habitat.	Generally occurs in lowland native grasslands occurring on gently undulating plains having soils of basaltic origin. Grasses are dominated by perennial, tussock-forming grasses such as *Themeda triandra, Austrostipa spp*. and *Austrodanothonia spp*. Inhabits secondary grasslands only when they occur within 2km of primary grassland.
Insects								
Synemon plana	Golden Sun Moth	VU	EN	0	#	Negligible	No suitable habitat.	The Golden Sun Moth is found in the area between Queanbeyan, Gunning, Young and Tumut. Occurs in Natural Temperate Grasslands and grassy Box-Gum Woodlands, with groundlayer dominated by wallaby grasses of the genus *Austrodanthonia*.

Appendix 5 Test of Significance

Box Gum Woodlands

Table A5.1 Test of Significance for White Box, Yellow Box, and Blakely's Red-gum Woodland

ToS Criteria	Outcome
a) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	Not applicable to threatened ecological communities.
b) In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: ***(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*** ***(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.***	This community occurs as scattered canopy trees consisting of Yellow Box and/or Blakely's Red-gum. Impacts to this community are likely to include permanent removal of up to 0.23 hectares of vegetation within the site. Given the localised scale of the vegetation removal and the presence of woodland vegetation consistent with this community more broadly throughout Holbrook and surrounding areas, the removal of 0.23 hectares consisting of eight isolated canopy trees will not lead to a broader decline to the point where local occurrences of the CEEC in the Holbrook area would be placed at risk of extinction. Across this community's natural range it occurs in fragmented landscapes where introduced vegetation cover is significant, grazing pressures are high and intensive land clearing has taken place over the past 150 years. Land use impacts from clearing, cropping and grazing have reduced community integrity and functionality in southern NSW (e.g. loss of small native mammals, reduced flora species richness, reduced genetic exchange across the community due to fragmentation). Clearing of the scale and extent required for the subdivision is unlikely to further modify the composition of the community such that its local occurrence in the broader Holbrook area would be placed at risk of extinction, as the adjacent areas of the community within the broader area will remain intact and are unlikely to suffer changes in community composition.

ToS Criteria	Outcome
c) In relation to the habitat of a threatened species or ecological community: ***(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and*** ***(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and*** ***(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,***	The proposed subdivision will result in the removal of 0.23 hectares of vegetation from within the community. The community's occurrence within the study area is confined to isolated scattered trees within former agricultural lands. The removal of four canopy trees will not affect functional connectivity of the community in the broader area as these individuals were not contributing to larger or connected patches in the landscape. The vegetation to be disturbed for the subdivision includes eight scattered trees. The extent and type of vegetation removal required for the development will not jeopardise the long term survival of this CEEC in the broader Holbrook locality.
d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	Under the BC Act, the Minister for the Environment has the power to declare Areas of Outstanding Biodiversity Value (AOBVs). To date no AOBVs have been declared within the project's impact area.
e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	Clearing of native vegetation and loss of hollow bearing trees is identified as a key threatening processes in Schedule 4 of the BC Act. The disturbance of up to 0.23 hectares of woodland vegetation that classifies as a CEEC and loss of seven hollow bearing trees and one non-hollow bearing tree will contribute to the two threatening process listed above.

ToS Criteria	Outcome
Conclusion for Box Gum Woodlands	
In consideration of the above five factors (a-e), the proposed activity is unlikely to significantly impact Box Gum Woodlands within the study area or broader locality, as: • The proposal will remove up to 0.23 hectares of this community consisting of eight scattered trees from an area containing patches of the community within the broader Holbrook area. • The proposed subdivision will not further fragment the community beyond its current state. • The proposal will exacerbate two KTP for this CEEC.	

Flood Impact Assessment

Lot 2 Jingellic Road, Holbrook

304600715

Prepared for
The Bathla Group

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Figures

1 Introduction

Cardno Now Stantec was engaged by the Bathla Group to undertake the Flood Impact Assessment (FIA) for the development at Lot 2 Jingellic Road, Holbrook (Figure 1-1) based on the requirement from Greater Hume Shire Council (GHSC).

The proposed development includes a 45 lot residential subdivision with lot sizes ranging from 600 m^2 to 12,686 m^2. The lots are to be connected to the Young Street to the northwest of the site via an internal road network.

Based on the discussions with GHSC, the required FIA was undertaken based on the scenario which is assumed Holbrook levee shown in Figure 1-1 being constructed as per the Issue for Design Levee Design Plans delivered by Cardno in 2020. A sensitivity analysis was undertaken to understand the impacts of flooding at the site as a result of the proposed levee to understand whether further assessments would be required to be undertaken as part of this assessment. Figure 1-2 shows a comparison of the 1% AEP flood extents at the site with and without the inclusion of the proposed levee design. As can be seen, there is no impact on flooding at the site as a result of the inclusion of the levee due to the steep drop-off in the terrain at the southern end of the site. As such, undertaking this assessment for scenarios with and without the levee is not required.

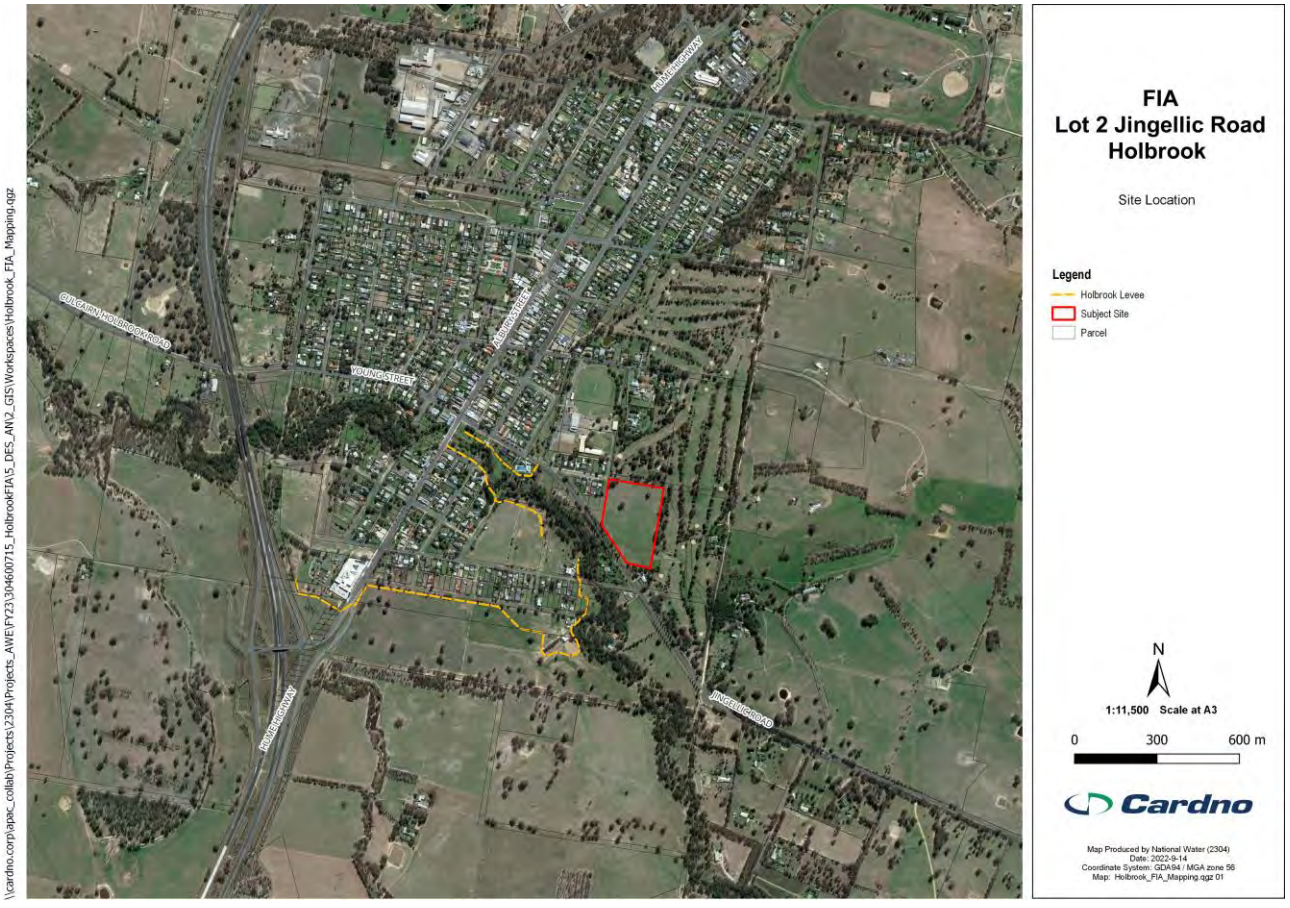


Figure 1-1 Site Location – Lot 2 Jingellic Road, Holbrook

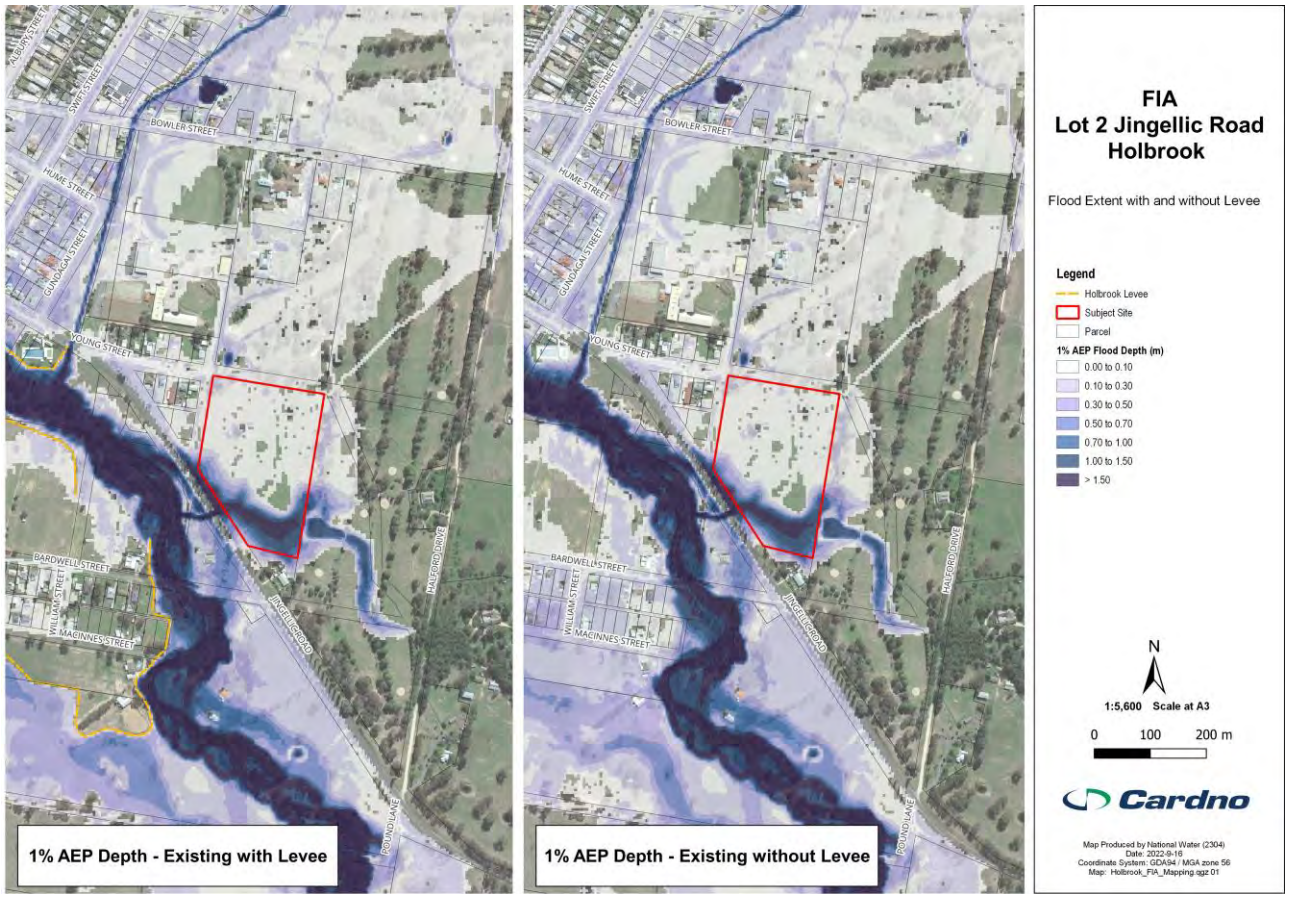


Figure 1-2 Sensitivity Assessment of Impact of Proposed Levee at the Site

2 Flood Modelling

2.1 Flood Model Overview

The flood modelling for this study was based the existing flood model developed by WMAwater in 2013 for Culcairn, Henty, Holbrook Flood Studies (WMAwater 2013).

The overall modelling approach adopted by WMAwater (2013) has been to establish a hydrological model in conjunction with a 1D/2D hydraulic model. The hydrological model was used to generate flow hydrographs for input to the hydraulic model. The 1D/2D hydraulic model then utilised flows from the hydrologic model to calculate flood levels and velocities within the study areas. The hydrological model used in the study is the Watershed Bounded Network Model (WBNM). The hydraulic model used is TUFLOW, which is a 1D/2D fully dynamic fixed grid-based model.

This study adopted the same critical duration for the modelled storm events identified in Culcairn, Henty, Holbrook Flood Studies (WMAwater 2013), which include the combination of:

> 6 hour event for Guardians Creek catchment and

> 1 hour event for local catchment

The sections below discuss the changes made to these existing models for the purposes of this assessment.

2.2 Existing Conditions Modelling

The existing hydraulic model discussed above was developed using a 5 m cell size for the purpose of identifying the floodplain risk and mitigation strategies within Holbrook. The cell size was reduced to 2 m for this study in order to capture the key hydraulic features within the subject site such as swales and road kerbs. This allows the hydraulic model to assess the impacts on flood levels more accurately based on the changes in topography within the proposed design surface.

Given the model run times are increased significantly due to the refined model resolution from 5 m to 2 m cell size, the Heavily Parallelised Compute (HPC) method of TUFLOW has been used to undertake the hydraulic modelling for this assessment. The major benefit of running the hydraulic model in HPC instead of it's "Classic" option is the significant reduction in model run time from use of the GPU to achieve the project timeline. The adopted will provides a more accurate representation of flooding at the site and its surrounds due to the finer grid cell resolution which can be achieved using the advanced HPC method.

In addition to the model updates described above, it is noted that the site survey was incorporated into the hydraulic model for existing conditions.

Figure 2-1 shows the comparative flood depths between the original model with 5 m cell size and the updated HPC model with 2 m cell size. Both results suggest similar flood extents around the subject site which is inundated by overland flows from the north with shallow depths. However, the HPC model with 2 m cell size provides more detailed results at a finer resolution and as such, smaller flow paths are able to be picked up in the modelled surface.

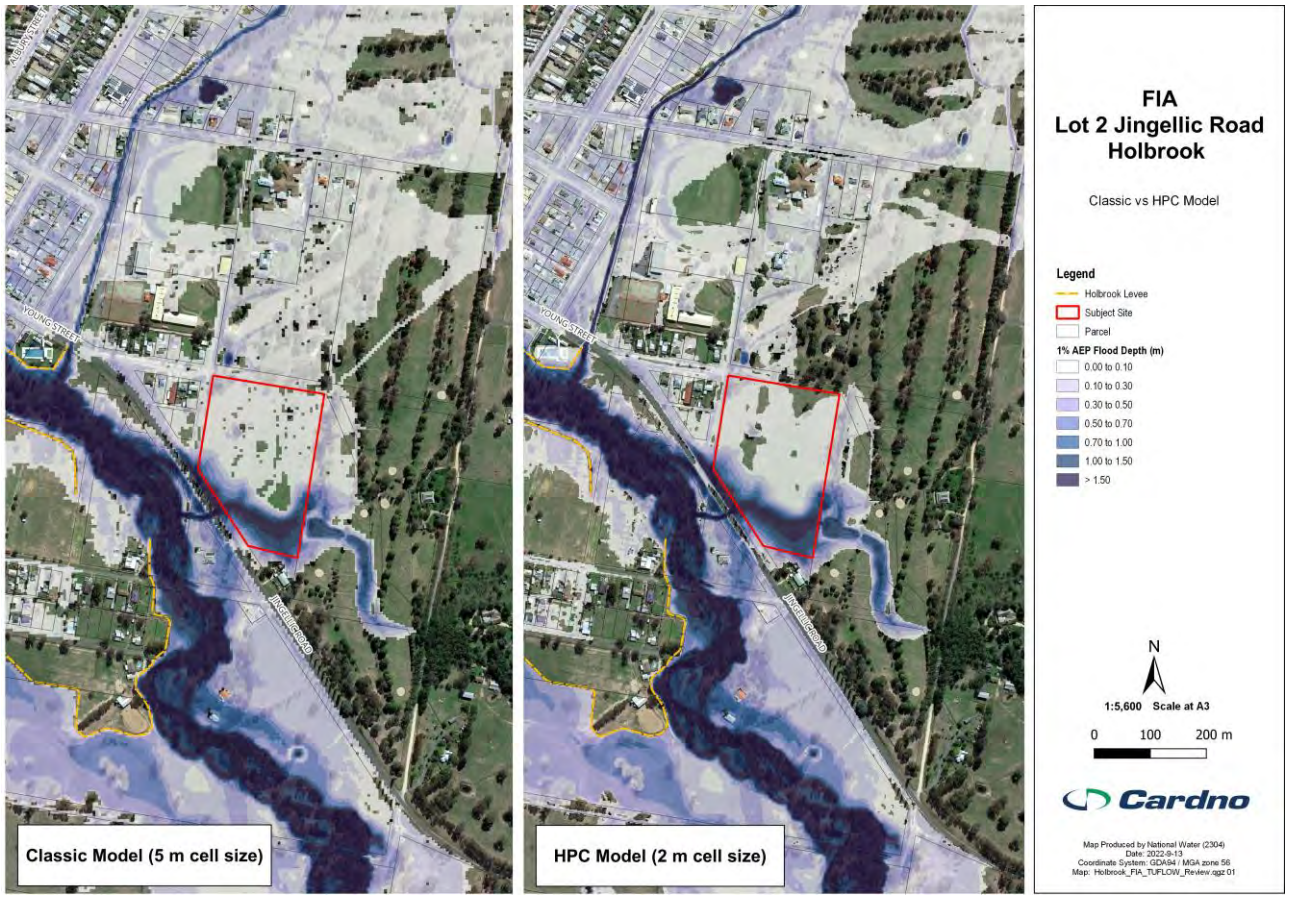


Figure 2-1 1% AEP Existing Conditions Results Comparison

2.3 Developed Conditions Modelling

The key differences between the existing and proposed developed conditions models (Figure 2-2) include:

- The inclusion of the design surface covering the subject site and roads to the north and west
- A 900 mm pipe running along the roadway which is diverting flow from the north and discharging to the low point of the drain located to the south
- Proposed lots were blocked-out to assess the flood levels adjacent to the lots. The aim is to determine the required finished level for each lot, which is 500 mm above the peak 1% AEP flood level as stipulated by Council

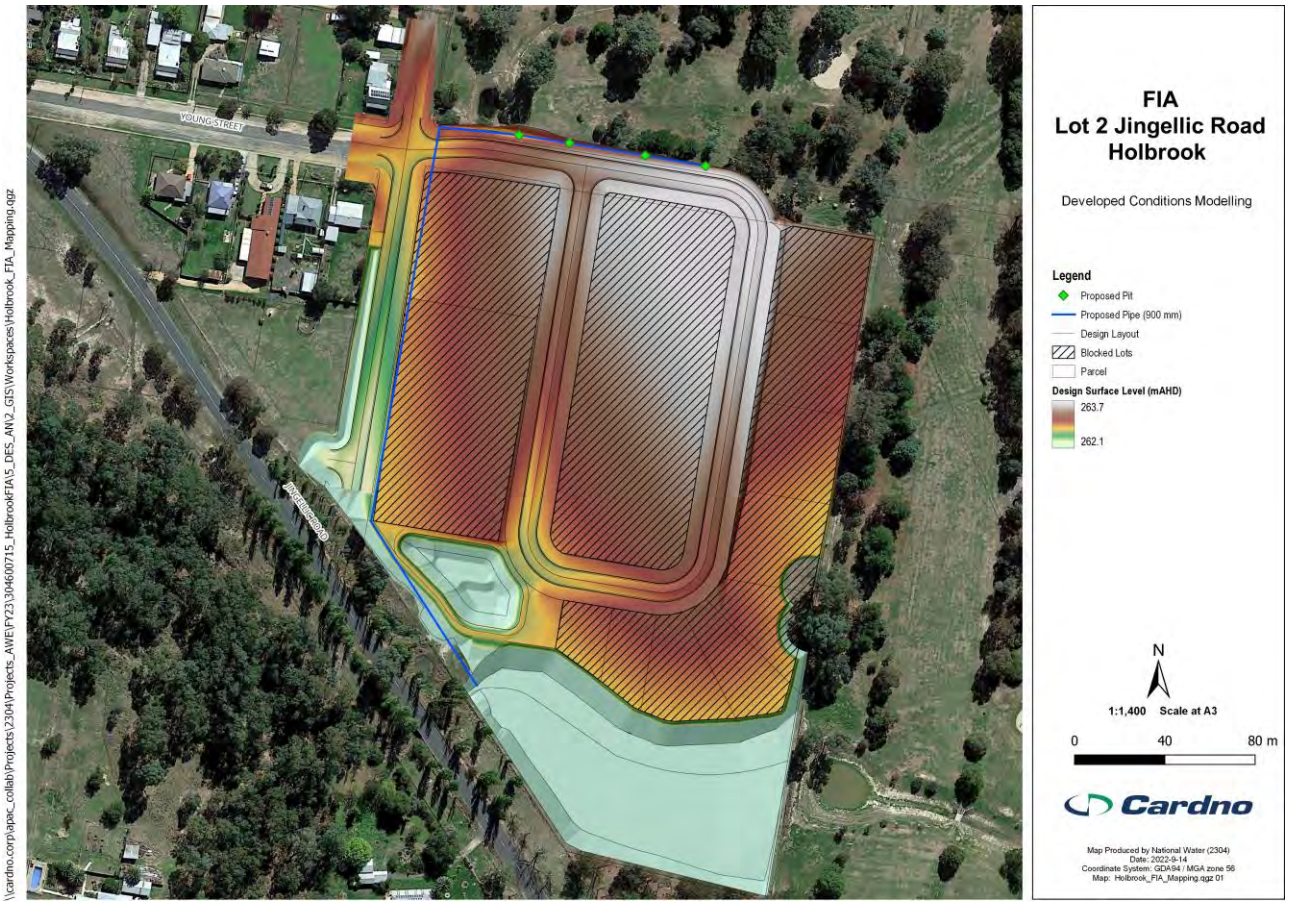


Figure 2-2 Proposed Developed Conditions Modelling

3 Results

3.1 Maximum Flood Depths

The 1% and 20% AEP maximum flood depths for the existing and developed conditions are shown in Figure 3-1, Figure 3-2, Figure 3-3 and Figure 3-4, respectively.

Under existing conditions, the subject site is inundated by external flows coming from the north and east toward the depressed overland flow path located to the south. An existing drain located within the golf course conveys the flow adjacent to the eastern boundary of the site. Water is generally confined within the road reserve on the Young Street, however, it does impact several parcels to the west of the subject site with shallow depths of flooding.

Under the proposed developed conditions, flows from the north are partially diverted by the proposed 900 mm pipe along the Young Street. The rest of the flows are contained within the road reserve along the western boundary. It was assumed that the 1% AEP flood has no impact to the lots within the site as the finished levels are to be set 500 mm above the applicable 1% AEP flood levels.

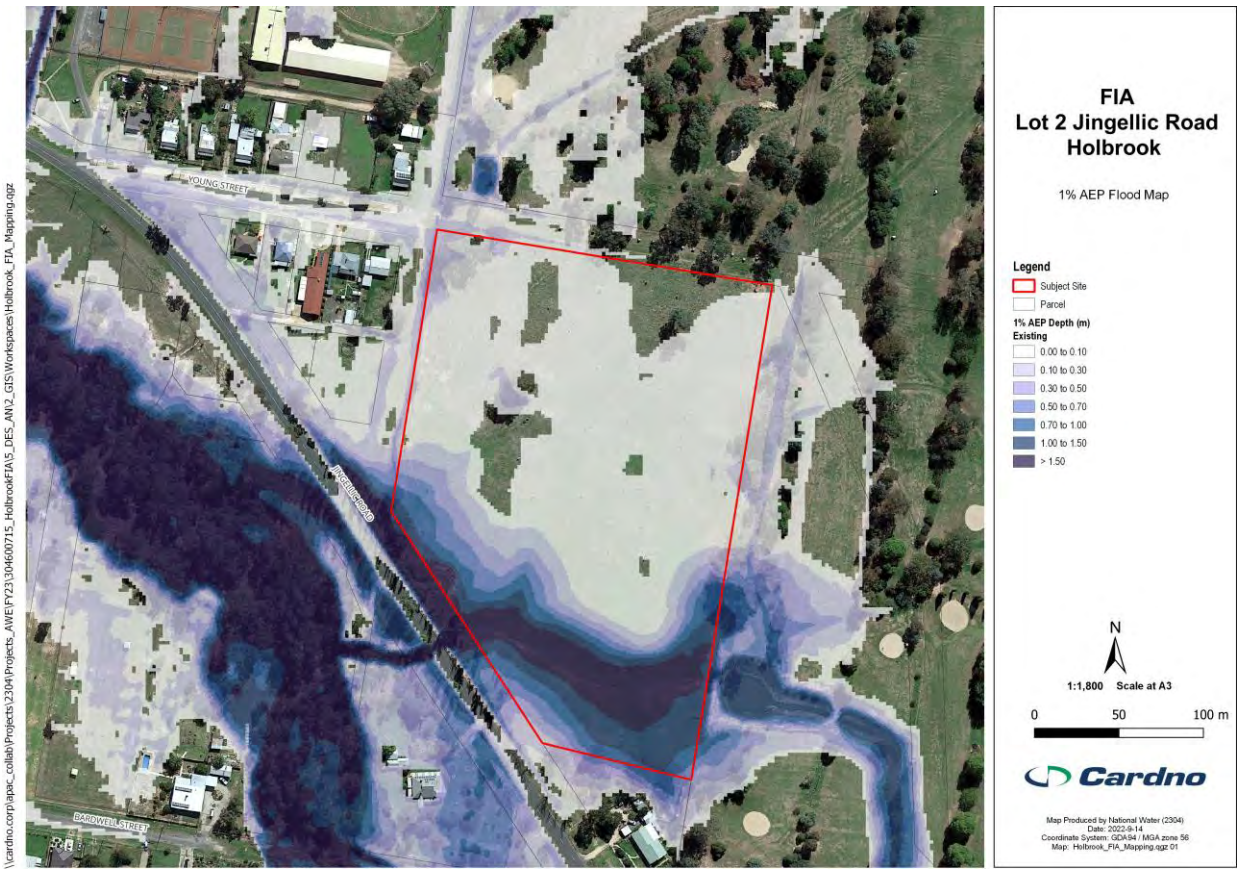


Figure 3-1 1% AEP Flood Depth – Existing Conditions

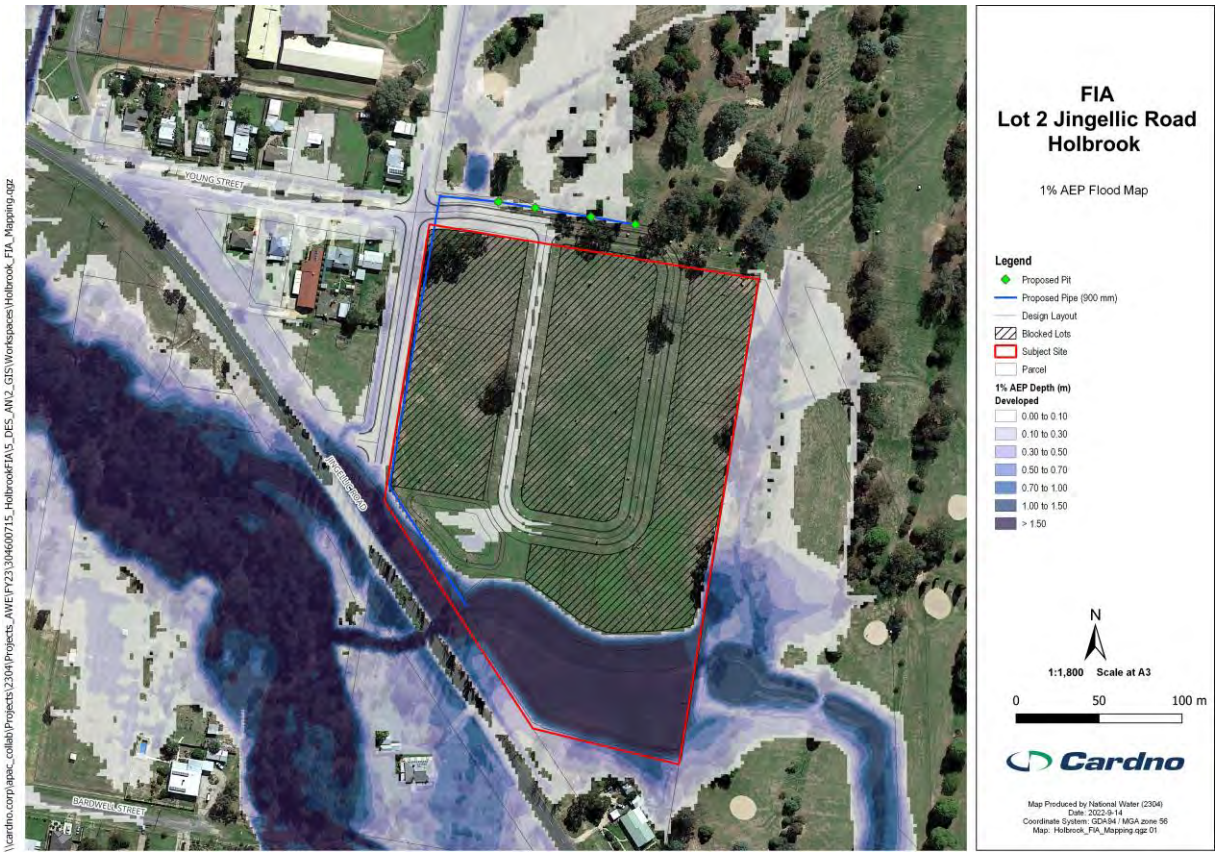


Figure 3-2 1% AEP Flood Depth – Developed Conditions

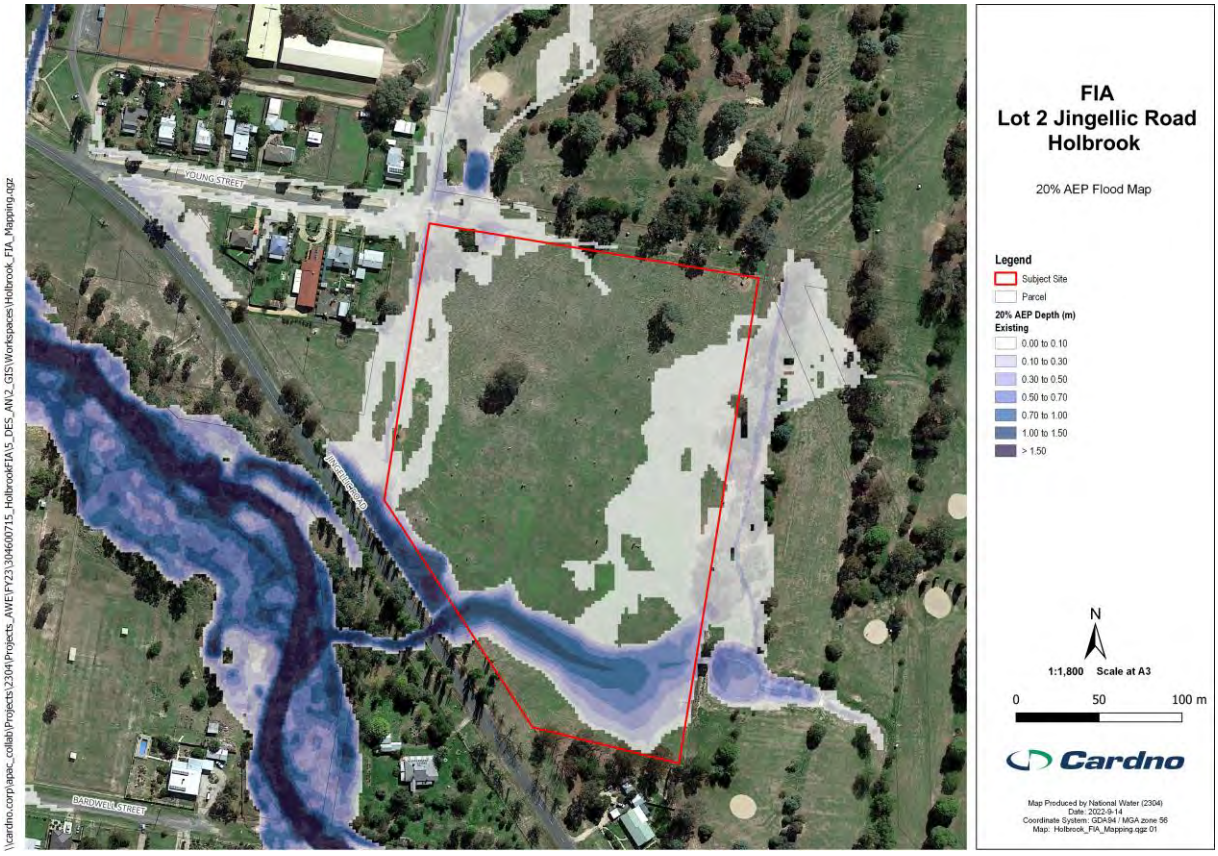


Figure 3-3 20% AEP Flood Depth – Existing Conditions

Figure 3-4 20% AEP Flood Depth – Developed Conditions

3.2 Hazard Classes

To assess the impact of the proposed development on safety profile of the area, each flooded grid cell was assigned a Hazard Category based on ARR 2016 Book 6 Chapter 7. The criteria for each hazard category is shown in Figure 3-5.

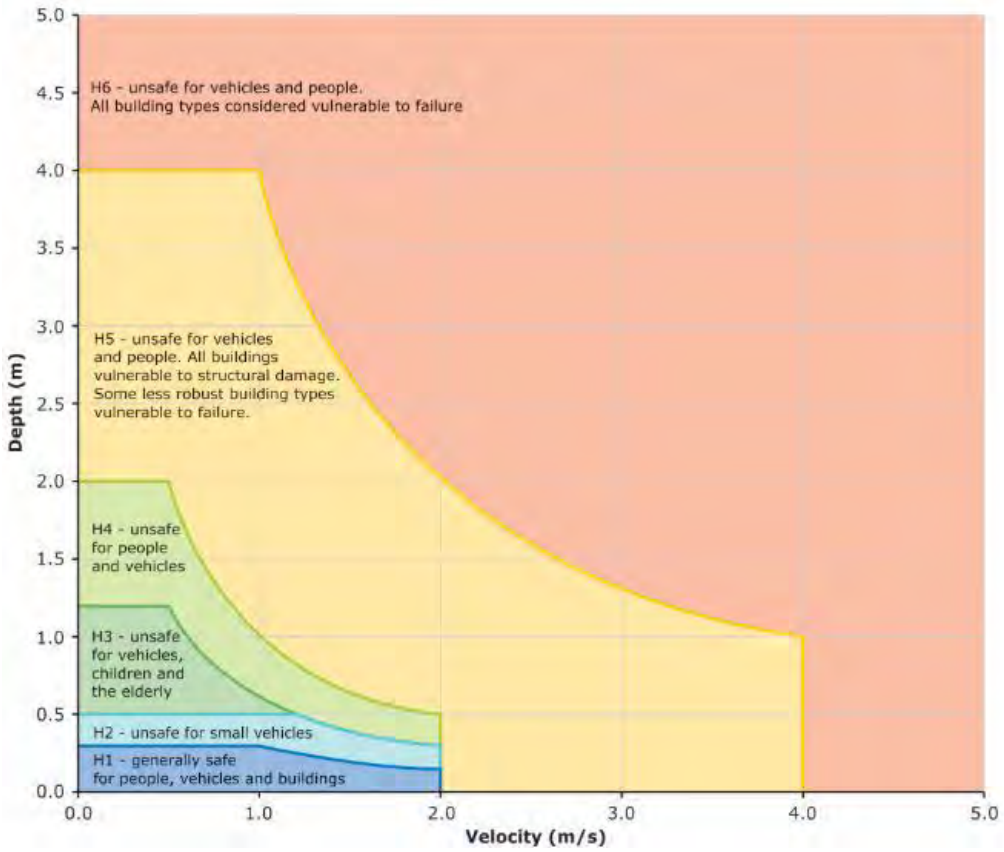


Figure 3-5 ARR 2016 Hazard Category

The 1% and 20% AEP hazard classes in proximity to the subject site for the existing and developed conditions are shown in Figure 3-6 and Figure 3-7.

The 1% AEP maximum hazard class within the site is H5 at the depressed overland flow path located at south of the site due to the depths exceeding 2 m. It should be noted that the modelling shows no adverse impacts to flood hazard categories within the surrounding roadways as a result of the proposed works and hazard within the development roads has been maintained as Hazard Class 1.

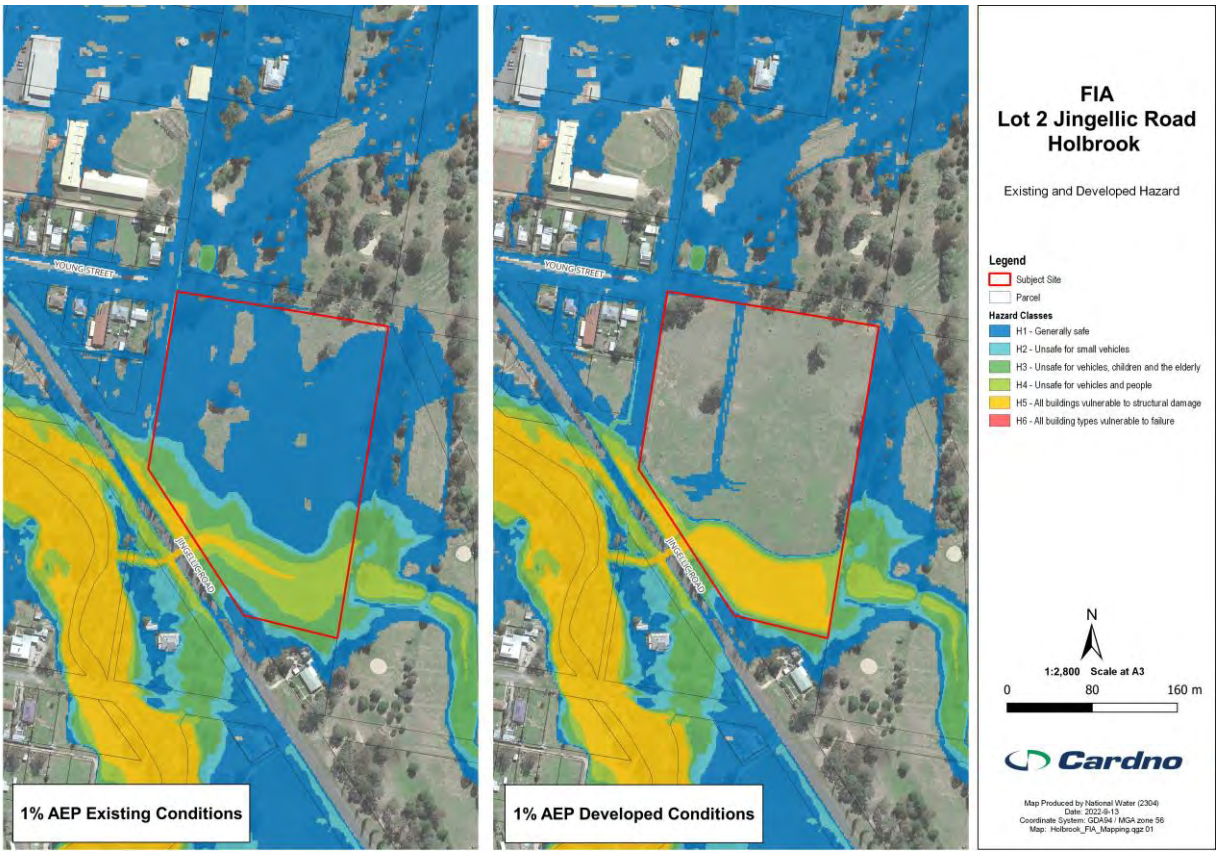


Figure 3-6 1% AEP Existing and Developed Hazard

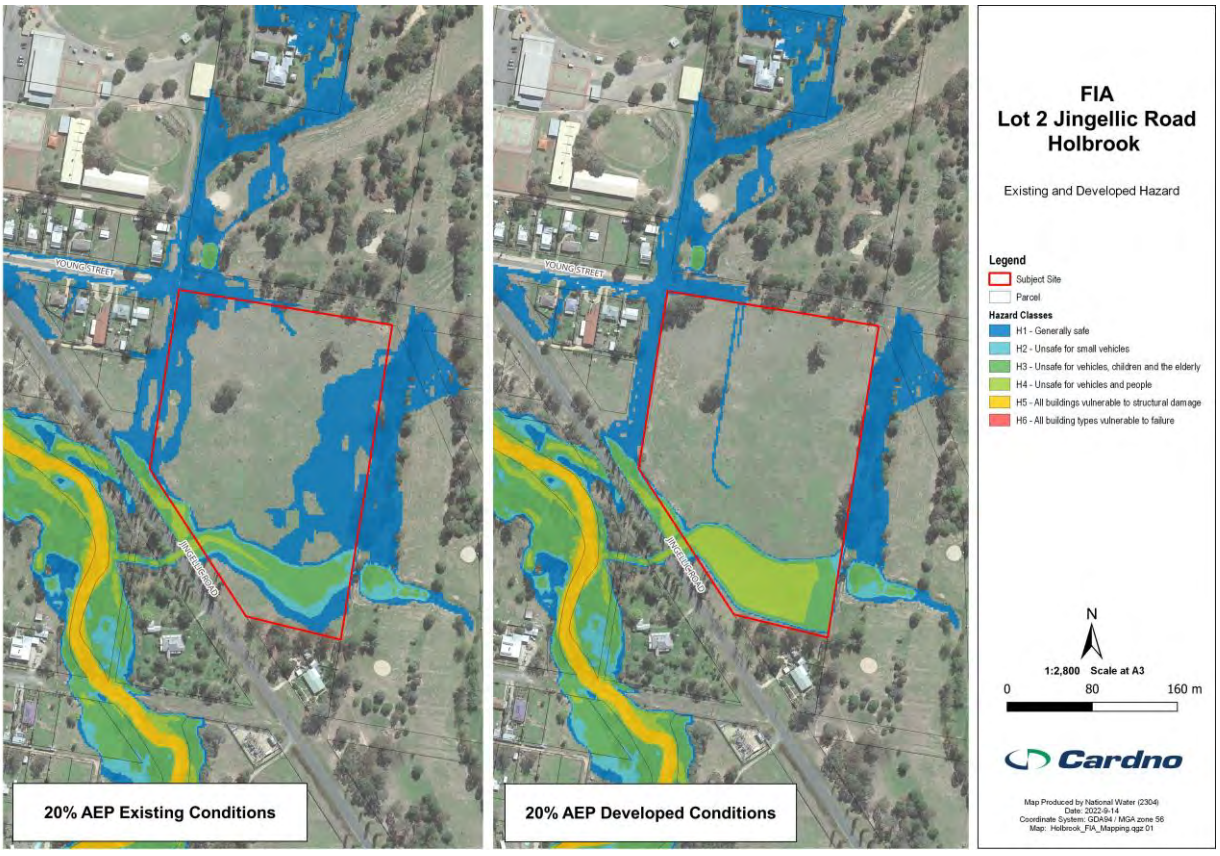


Figure 3-7 20% AEP Existing and Developed Hazard

3.3 Changes in Flood Level

The maximum changes in flood level between the existing and developed conditions for 1% and 20% AEP are shown in Figure 3-8 and Figure 3-9.

The modelling shows increases in flood levels are generally confined within the road reserve and has demonstrated that the proposed development has no adverse impact to the surrounding private parcels as required by the Council. In fact, there are several areas of decreased flooding on neighbouring private properties to the west of the site as a result of the proposed works.

It should be noted that there are some increases to flood levels within the Council owned golf course to the east of the site as a result of the proposed works. This is fairly minor in nature and is a maximum of 0.08 m higher in the 1% AEP flood event. As shown in the figures above, there is no change to the flood hazard category within the golf course as a result of the proposed works, which remain as Class H1 (safe for all people and vehicles).

In addition, it is noted that the duration of inundation in the study area (including within the golf course) remains unchanged at approximately 2.5 hours with the inclusion of the proposed development.

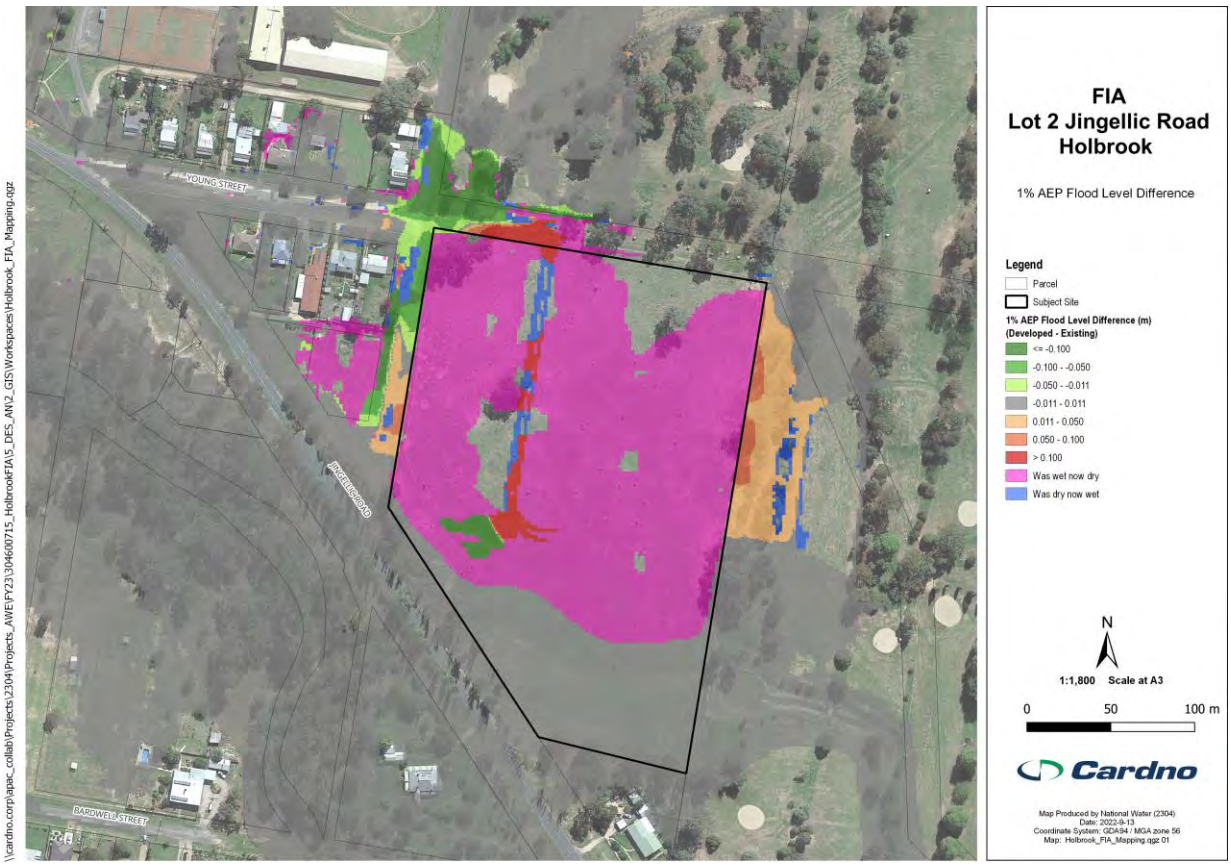


Figure 3-8 1% AEP Change in Flood Level

Figure 3-9 20% AEP Change in Flood Level

4 Conclusion

The Flood Impact Assessment (FIA) was undertaken for the development located at Lot 2 Jingellic Road, Holbrook. The adopted underlying hydrological and hydraulic modelling were based on the Culcairn, Henty, Holbrook Flood Studies completed by WMAwater in 2013 with minor changes made for the purposes of this assessment.

The analysis undertaken has demonstrated that the proposed development has no adverse flood impacts to neighbouring private properties for both the 1% and 20% AEP storm events. However, there are some minor localised flood level increases on the neighbouring golf course which are required to be discussed and approved by Council. However, it is noted that there is no change to the flood hazard category within the golf course as a result of the proposed works, which remain as Class H1 (safe for all people and vehicles).

ANNEXURE 4

Amber

Traffic & Transportation Direction

Residential Subdivision

Lot 2 Jingellic Road, Holbrook

Traffic Impact Assessment

September 2022

Reference: 453 rep 220920 final

Residential Subdivision

Lot 2 Jingellic Road, Holbrook

Traffic Impact Assessment

Prepared for: The Bathla Group

Status: Final report

Date: 20 September 2022

Reference: 453 rep 220920 final

Contact

Website: www.amberorg.com.au E: info@amberorg.com.au Phone: 1800 022 363

Table of Contents

1. Introduction

Amber Organisation has been engaged by The Bathla Group to advise on the traffic and parking matters of the proposed residential subdivision located at Lot 2 Jingellic Road, Holbrook.

The proposal involves the subdivision of land to provide 45 residential lots and construction of the associated internal road network. Access to the site is proposed via a connection with Young Street which connects to the wider road network via Jingellic Road.

This report has been prepared to address the traffic and parking impacts of the proposed development. It is based on surveys and observations at the site and our experience of similar developments elsewhere.

2. Transport Environment

2.1 Site Location

The site is located on land at Lot 2 Jingellic Road, Holbrook, and is situated at the eastern end of Young Street approximately 200 metres east of its connection with Jingellic Road. Figure 1 shows the location of the site in relation to the surrounding transport network.

Figure 1: Site Location

Source: OpenStreetMap

The site is located at the south-eastern extents of the Holbrook township which is zoned RU5 – Village and predominantly occupied by residential properties. Land to the east and north of the site is zoned RE2 – Private Recreation which is associated with the Holbrook Golf Club. Land further south and east of the site is occupied by RU1 – Primary Production land and is occupied by agricultural use. Other notable land uses in the area include the following:

- The Holbrook Sporting Complex is located approximately 80 metres northwest of the site;
- The Holbrook Hospital is located approximately 280 metres north of the site; and
- The Holbrook War Memorial Swimming Pool is located approximately 250 metres west of the site.

Figure 2 shows an aerial photograph view of the site and the surrounding area.

Figure 2: Aerial Photograph

Source: Nearmap

2.2 Road Network

Jingellic Road is a Regional road under the care and management of Council. It runs in a general northwest-southeast alignment between Young Street in Holbrook and Murray River Road in Jingellic. Adjacent to the site it has a carriageway width of approximately 8 metres which accommodates one lane of traffic in each direction, and wide grassed berms on both sides of the road. It has a speed limit of 50km/hr which increases to 100km/hr approximately 280 metres southeast of Young Street.

Young Street runs in a general east-west alignment within the Holbrook township. Between Railway Parade and Jingellic Road it is classified as a Regional Road and is a municipal local road east of Jingellic Road. It extends east from Jingellic Road to the north-western corner of the site then extends north to provide access to the Holbrook Sporting Complex.

East of Jingellic Road it has a sealed carriageway width of approximately 5 metres which accommodates two-way vehicle movement, with wide unsealed shoulders provided on both sides of the road which accommodates on-street car parking. West of Jingellic Road it widens to have a sealed carriageway width of 19 metres which accommodates one lane of traffic in each direction and angled car parking on both sides of the road.

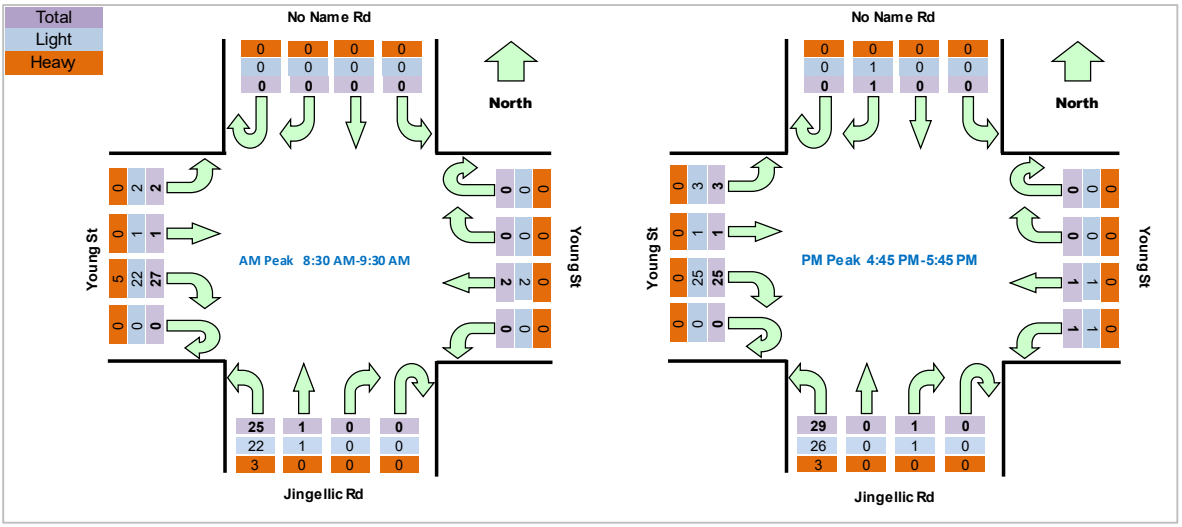
A footpath is provided on the northern side of the road within the Holbrook township and a wide unsealed path is provided on the southern side of the road. Young Street has a speed limit of 50km/hr.

The intersection of Jingellic Road and Young Street is priority controlled with Give Way signage provided for vehicles exiting the north-eastern leg of Jingellic Road. An additional leg of the intersection is provided to the north which connects with the Holbrook Sporting Complex.

2.3 Traffic Conditions

Amber Organisation commissioned turning movement count surveys at the intersection of Jingellic Road and Young Street in order to determine the traffic conditions within the vicinity of the site. The surveys were undertaken on Wednesday 29 June 2022 from 7:30am to 9:30am and 4:30pm to 6:30pm. The results of the surveys are summarised in Figure 3 with the detailed survey results presented within Appendix A.

Figure 3: Turning Movement Count Survey Results



Source: Trans Traffic Solutions

The results of the survey indicate that Jingellic Road currently carries in the order of 55 vehicle movements in the peak hour adjacent to the site, which represents a low level of traffic. Young Street currently accommodates a minimal level of traffic which is in the order of 6 vehicles per hour.

2.4 Sustainable Transport

The site has no convenient access to the public transport network.

No dedicated pedestrian or bicycle facilities are currently provided within the vicinity of the site given the rural nature of the surrounding area, excluding the footpaths on the northern side of Young Street within the township.

2.5 Crash History

Amber has conducted a review of the TfNSW Centre for Road Safety Crash and Casualty Statistics database for all injury crashes within 500 metres of the intersection of Jingellic Road and Young Street. The crash database provides the location and severity of all injury and fatal crashes for the five-year period from 2016 to 2020. The crash search revealed no crashes in the search area. Accordingly, it is concluded that the road network is currently operating in a safe manner.

3. Development Proposal

The proposal involves the subdivision of land at Lot 2 in DP610499 and construction of the associated road network. The subdivision would provide a total of 45 residential lots which would be accessed via two new roads that would run along the northern and western boundary of the site within existing Council road reserves. A central loop road would also be provided within the site. The layout for the site is shown within Figure 4.

Figure 4: Site Layout

Source: MakerENG

The roads are proposed to be constructed as local roads with a reserve width of 20 metres. The roads are proposed to be provided with a carriageway width of 8 metres which would accommodate two-way vehicle movement and kerbside parallel parking. Road 02 is proposed to be provided with a turning head to allow a fire truck to turn around.

No pedestrian or cyclist facilities are proposed within the site with pedestrians expected to utilise the wide grassed berms and cyclists able to utilise the road carriageway.

4. Traffic Assessment

4.1 Traffic Generation

The *Roads & Maritime Services Technical Direction 04a: Guide to Traffic Engineering Developments - Updated Traffic Surveys*, dated August 2013, provides traffic generating information for various land uses. The traffic generation rates for low density residential land use are as follows:

- Daily vehicle trips: 10.7 movements per dwelling;
- Weekday average morning peak hour vehicle trips: 0.95 movements per dwelling; and
- Weekday average evening peak hour vehicle trips: 0.99 movements per dwelling.

All the residential lots within the subdivision have been assessed on the basis they generate traffic at the rates specified within the RMS Technical Direction.

Application of the above rates to the 45 residential lots results in a future traffic generation of 482 vehicle movements per day, and 43 and 45 vehicle movements (two-way total) in the morning and evening peak hours respectively.

4.2 Trip Distribution

It is typical for traffic movements associated with residential activities to predominantly be outbound in the morning peak and inbound in the evening peak. The following traffic distribution has been used for the purposes of this assessment:

- Morning Peak: 80% outbound and 20% inbound
- Evening Peak: 30% outbound and 70% inbound

As such, the site is expected to generate the following traffic volumes during the morning and evening peak periods.

Table 1: Site Peak Hour Traffic Generation

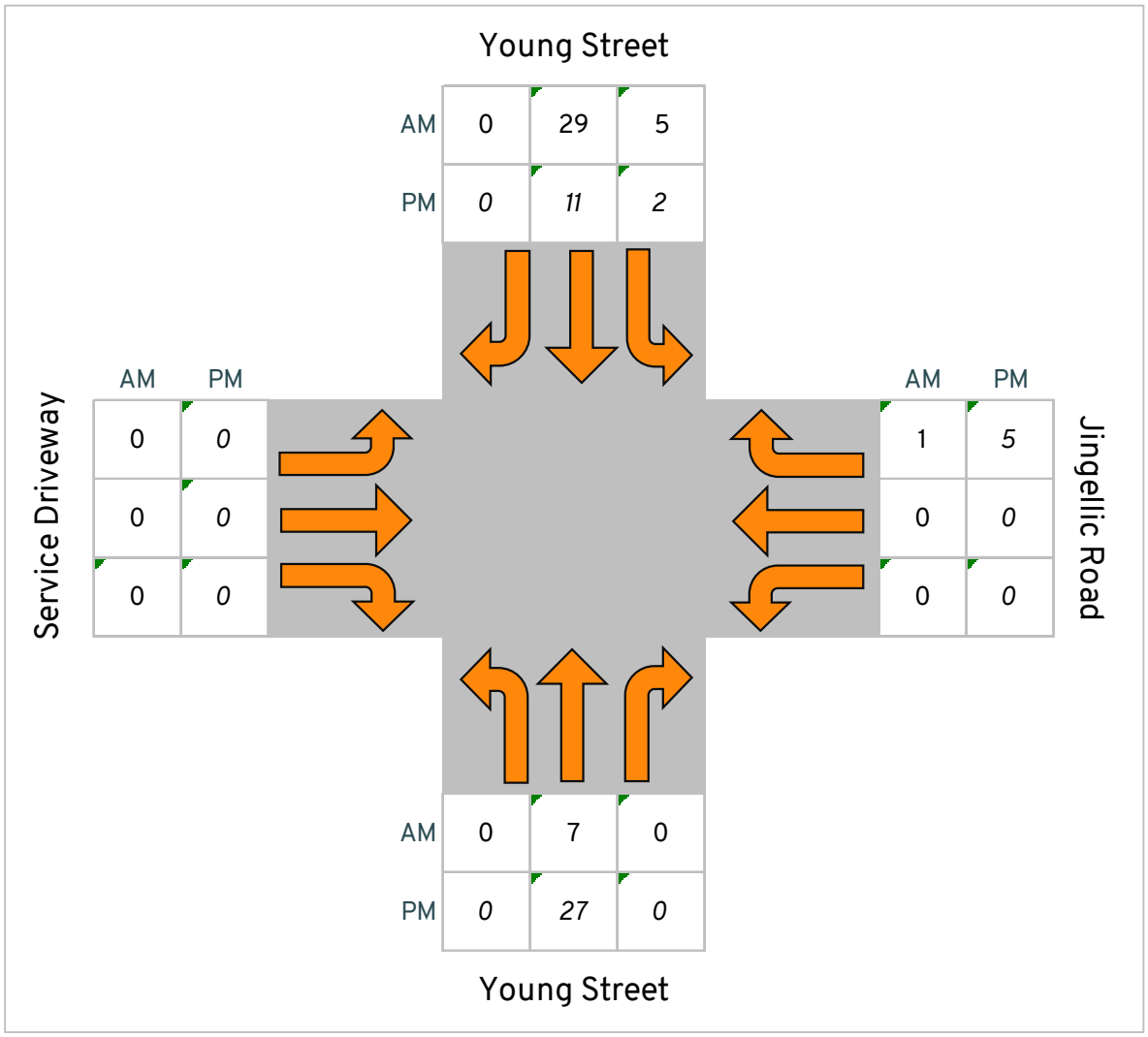
	AM Peak (vph)	PM Peak (vph)
Arriving Trips	9	31
Departing Trips	34	13
Total	**43**	**45**

The traffic movements are expected to be distributed from the internal roads to Young Street and Jingellic Road.

The existing turning movements at the intersection, presented within Figure 3, indicate that the majority of vehicle movements travel to/from the west which is unsurprising given the Holbrook township is located to the west. Further, the Hume Highway is also located to the west which provides access to other nearby larger centres such as Wagga Wagga and Albury.

For the purposes of this assessment, it has been assumed that 85% of vehicle movements are to/from the west. The resulting site traffic distribution at the intersection of Jingellic Road and Young Street is provided within Figure 5.

Figure 5: Site Traffic Generation and Distribution



4.3 Traffic Assessment

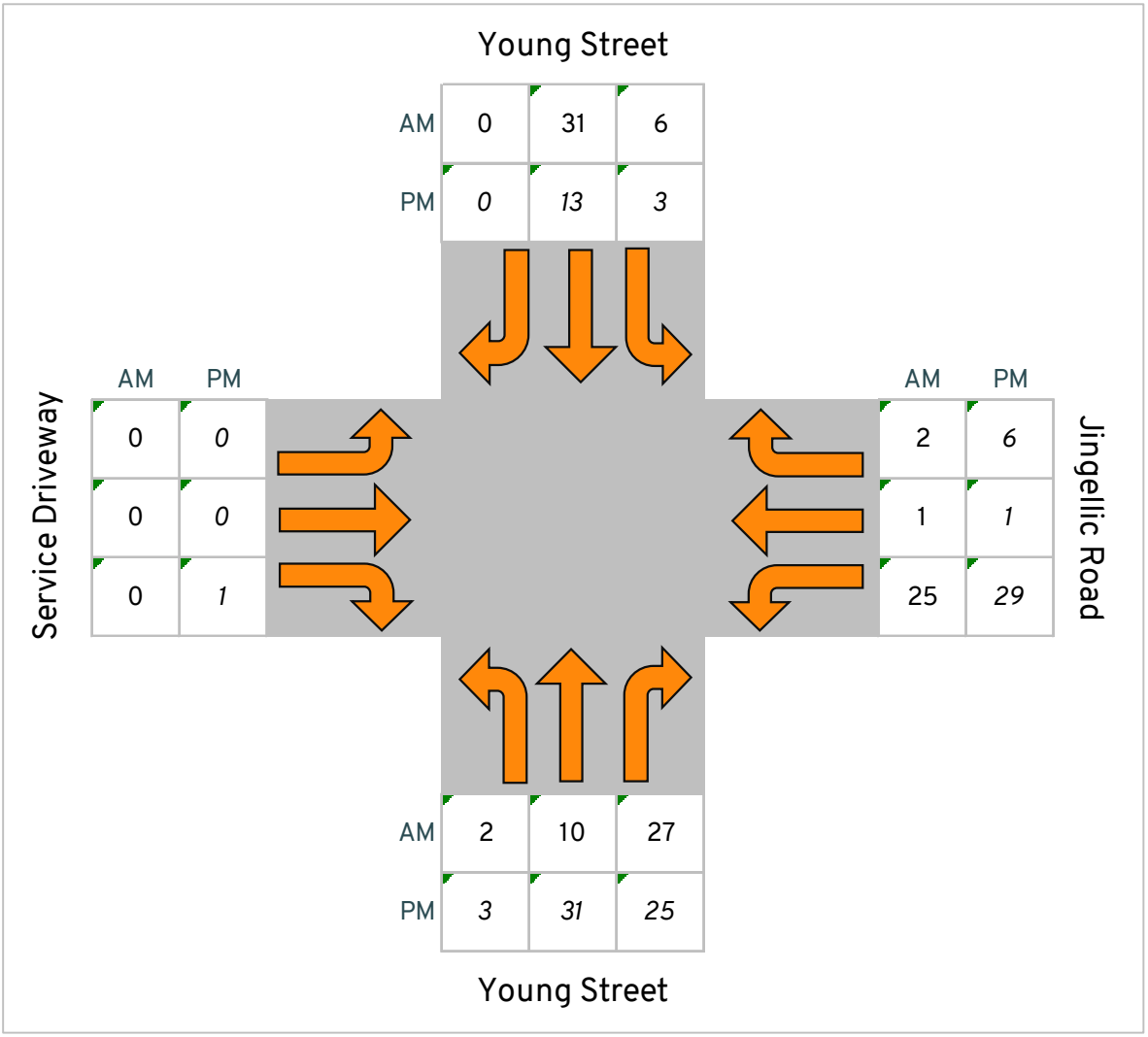
In order to determine the ability of the external road network to accommodate the traffic expected to be generated by the site a traffic modelling exercise has been undertaken for the intersection of Jingellic Road and Young Street using the SIDRA intersection modelling software. The assessment has been undertaken in accordance with the TfNSW Traffic Modelling Guidelines. The concepts of intersection capacity and level of service, as defined in the guidelines published by the RTA Guide, are discussed in Appendix B together with the criteria for their assessment.

Level of Service is a qualitative measure used to describe the operating conditions of a section of road or an intersection. Levels of Service are designated from A to F from best (free flow conditions) to worst (forced flow with stop start operation, long queues and delays) and represent the perception of the road conditions by motorists including speed and travel time, freedom to manoeuvre, traffic interruptions, comfort and convenience, and safety. The assessment of the level of service for sign-controlled intersections is based on the average delay (seconds/vehicle) of the critical movement.

The traffic volumes used for the assessment have been based on the morning and evening peak hour survey results presented within Section 2.3 in order to determine the existing operation of

the intersection. A future scenario has also been assessed which adds the development traffic to the existing traffic volumes. The future scenario traffic volumes are shown in Figure 6.

Figure 6: Traffic Volumes at Jingellic Road / Young Street with Development Traffic



The results of the SIDRA analysis for the morning peak hour for the intersection of Jingellic Road and Young Street are provided within Appendix C and are summarised in Table 2.

Table 2: SIDRA Analysis Results Summary – AM Peak 2022

Movement		Existing Conditions			Future Traffic Conditions (2022)		
		Average Delay (sec)	95% Queue (m)	Level of Service	Average Delay (sec)	95% Queue (m)	Level of Service
Jingellic Road	Left Turn	0	0.1	LOS A	0	0.2	LOS A
	Through	4.5	0.1	LOS A	4.6	0.2	LOS A
	Right Turn	5.5	0.1	LOS A	5.6	0.2	LOS A
Young Street	Left Turn	8.1	0.9	LOS A	8.2	1.0	LOS A
	Through	7.8	0.9	LOS A	7.9	1.0	LOS A
	Right Turn	7.9	0.9	LOS A	7.9	1.0	LOS A

Service Driveway	Left Turn	9	0.1	LOS A	9	0.1	LOS A
	Through	8	0.1	LOS A	8.1	0.1	LOS A
	Right Turn	8.1	0.1	LOS A	8.2	0.1	LOS A
Young Street	Left Turn	6.5	0	LOS A	6.5	0	LOS A
	Through	5.5	0	LOS A	5.5	0	LOS A
	Right Turn	0	0	LOS A	0	0	LOS A

The SIDRA analysis for the AM peak indicates the following:

- The intersection is expected to continue to operate with minimal queue lengths on all legs of the intersection;
- The overall average delay at the intersection remains less than 4 seconds; and
- The intersection is expected to continue to operate with a good level of service.

The results of the SIDRA analysis for the evening peak hour for the intersection of Jingellic Road and Young Street are provided within Appendix C and are summarised in Table 3.

Table 3: SIDRA Analysis Results Summary – PM Peak 2022

Movement		Existing Conditions			Future Traffic Conditions (2022)		
		Average Delay (sec)	95% Queue (m)	Level of Service	Average Delay (sec)	95% Queue (m)	Level of Service
Jingellic Road	Left Turn	0	0.3	LOS A	0	0.3	LOS A
	Through	4.6	0.3	LOS A	4.6	0.3	LOS A
	Right Turn	5.6	0.3	LOS A	5.6	0.3	LOS A
Young Street	Left Turn	8.1	0.4	LOS A	8.1	0.5	LOS A
	Through	7.8	0.4	LOS A	7.9	0.5	LOS A
	Right Turn	8	0.4	LOS A	8	0.5	LOS A
Service Driveway	Left Turn	9.1	0.1	LOS A	9.1	0.1	LOS A
	Through	8.1	0.1	LOS A	8.1	0.1	LOS A
	Right Turn	8.2	0.1	LOS A	8.4	0.1	LOS A
Young Street	Left Turn	6.5	0	LOS A	6.5	0	LOS A
	Through	5.5	0	LOS A	5.5	0	LOS A
	Right Turn	0	0	LOS A	0	0	LOS A

The SIDRA analysis for the PM peak indicates the following:

- The intersection is expected to continue to operate with minimal queue lengths on all legs of the intersection;
- The overall average delay at the intersection remains less than 4 seconds; and
- The intersection is expected to continue to operate with a good level of service.

Overall, the increase in traffic generated by the subdivision is expected to have a negligible impact to the operation of the intersection of Jingellic Road and Young Street which is expected to continue to operate with a good level of service.

5. Access and Internal Road Layout

The subdivision proposes to provide access via two new roads that would run along the northern and western boundary of the site within existing Council road reserves. A central loop road would also be provided within the site.

The road layout is considered to meet the Purpose of Clause 6.0 Subdivisions of the Greater Hume Development Control Plan 2013 (DCP) which states:

> *'Provide a road network that places a high priority upon vehicular and pedestrian connectivity, convenience and safety.'*

The road layout allows vehicles to suitably circulate within the site and to the wider road network.

An assessment of the project against the Standards outlined within Clause 6.2 of the is provided within Table 4.

Table 4: DCP Standards Assessment

Standard	Assessment
Compliance with the Greater Hume Shire Engineering Guidelines for Subdivisions and Development Standards.	It is understood that Council has removed the Engineering Guidelines from the website. The subdivision has been developed based on the information provided by Council at the time of preparing the Traffic Impact Assessment.
All development for subdivision must comply with the Council's standards for road design.	It is understood that Council's road design requirement for local roads is a 20 metre road reserve which is proposed for all roads associated with subdivision. A carriageway width of 8.0 metres has been provided for all roads which is suitable to accommodate two-way vehicle movement.
For lots fronting a main road, access shall be from a secondary road where the opportunity exists.	Access to the site is proposed via a connection with Young Street which is classified as a local road adjacent to the site.
All lots are to be provided with access to a public road. Easements for access will only be considered in extraordinary circumstances.	All access is proposed via public roads.
Any upgrade or construction of a public road to provide access to a lot shall be at the applicant's expense.	The road upgrades are proposed to be constructed by the Applicant

No pedestrian or cyclist facilities are proposed within the site with pedestrians expected to utilise the wide grassed berms and cyclists able to utilise the road carriageway.

All lots are proposed to gain access via the external road to the north and west or via the internal loop road with access able to be provided in accordance with Figure 5.2 of AS/NZS 2890.1:2004.

6. Car Parking

The subdivision proposed to provide 'average density' lots based on the description outlined within the DCP which states:

> *'Average density being generally but not exclusively single detached dwellings located on conventional urban sized lots within the RU5 Village zone. The majority of residential development undertaken within the Shire will fall within this category.'*

The subsequent parking requirement for an average density lot is to be provided *as per Part 3, Division 2, Subdivision 5 of the General Housing Code in the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.* Clause 3.6 of the SEPP states the following in relation to car parking provision:

At least 1 off-street car parking space, being an open hard stand space or a carport or garage, must be provided on a lot unless—

a) *the lot has a width of less than 8m measured at the building line, or*

b) *the complying development is the alteration of, or an addition to, a dwelling house and the lot does not contain an off-street car parking space, or*

c) *the complying development is the erection or alteration of, or an addition to, attached development and the lot does not contain an off-street car parking space.*

The lots are considered to be a sufficient size to accommodate the resident parking requirement on-site. In addition, the carriageway width of the internal road network is 8 metres which allows for two-way traffic and on-street parallel parking once fully constructed. Accordingly, the subdivision is not expected to generate any parking impacts in the surrounding area.

7. Alternative Transport Modes

No public transport services are currently provided within the site or are expected to be provided within the proposed road network.

No pedestrian or cyclist facilities are proposed within the site with pedestrians expected to utilise the wide grassed berms and cyclists able to utilise the road carriageway. Accordingly, the proposed alternative transport facilities are considered appropriate and link with the wider existing and future network.

8. Conclusions

Amber has reviewed the traffic and parking matters of the proposed residential subdivision located at Lot 2 Jingellic Road, Holbrook. The proposal involves the subdivision of land to provide 45 residential lots and construction of the associated internal road network. Access to the site is proposed via a connection with Young Street which connects to the wider road network via Jingellic Road.

Based on the above assessment, it is concluded that:

- The development will generate approximately 43 and 45 vehicle movements during the morning and evening peak periods, respectively, which can be readily accommodated on the road network.
- The internal road layout is considered to meet the objectives of the DCP by providing a road network that places a high priority upon vehicular and pedestrian connectivity, convenience and safety.
- The road reserve width required by the DCP has been provided for the internal roads and a carriageway width of 8 metres is proposed which is suitable to accommodate two-way vehicle movement.
- The intersections have been designed to provide suitable sight distance in accordance with Austroads Guidelines.
- Car parking for the individual lots is to be provided in accordance with the DCP, with on-street parking provided for visitors.

Overall, it is concluded that the proposed subdivision is in a form that meets the objectives of the DCP, and the car parking and traffic demands generated by the site can be readily accommodated on the surrounding and internal road network.

Appendix A

Survey Results

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Young St and No Name Rd, Holbrook

GPS -35.726849,147.316581

Date:	Wed 29/06/22
Weather:	Fine
Suburban:	Holbrook
Customer:	Amber

North:	No Name Rd
East:	Young St
South:	Jingellic Rd
West:	Young St

Survey Period	AM:	7:30 AM-9:30 AM
	PM:	4:30 PM-6:30 PM
Traffic Peak	AM:	8:30 AM-9:30 AM
	PM:	4:45 PM-5:45 PM

All Vehicles

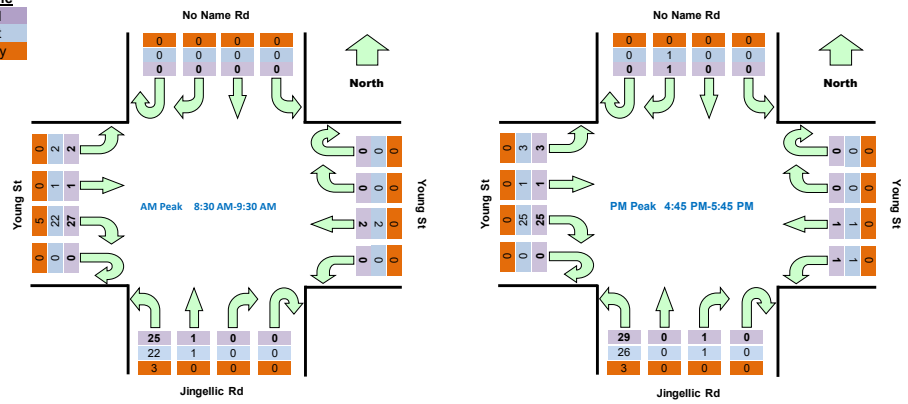
Time		North Approach No Name Rd				East Approach Young St				South Approach Jingellic Rd				West Approach Young St				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:30	7:45	0	1	0	0	0	0	0	0	0	0	0	3	0	6	0	0	43	
7:45	8:00	0	0	0	0	0	0	2	0	0	0	0	5	1	3	1	0	46	
8:00	8:15	0	0	0	1	0	0	1	0	0	0	0	6	0	5	0	0	56	
8:15	8:30	0	0	0	0	0	0	2	0	0	0	0	2	0	3	1	0	55	
8:30	8:45	0	0	0	0	0	0	1	0	0	0	0	5	0	7	0	0	58	Peak
8:45	9:00	0	0	0	0	0	0	1	0	0	0	1	7	0	12	0	1		
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	9	0	3	0	0		
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	4	0	5	1	1		
16:30	16:45	0	0	0	0	0	0	1	0	0	0	0	3	0	3	0	0	54	
16:45	17:00	0	0	0	0	0	0	0	0	0	0	0	8	0	7	0	0	62	Peak
17:00	17:15	0	1	0	0	0	0	1	0	0	0	0	8	0	9	0	0	58	
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	8	0	4	0	1	49	
17:30	17:45	0	0	0	0	0	0	0	1	0	1	0	5	0	5	1	2	42	
17:45	18:00	0	1	0	0	0	0	0	0	0	0	0	5	0	4	0	1		
18:00	18:15	0	0	1	0	0	0	0	0	0	0	0	3	0	6	0	0		
18:15	18:30	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	0		

Peak Time		North Approach No Name Rd				East Approach Young St				South Approach Jingellic Rd				West Approach Young St				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:30	9:30	0	0	0	0	0	0	2	0	0	0	1	25	0	27	1	2	58
16:45	17:45	0	1	0	0	0	0	1	1	0	1	0	29	0	25	1	3	62

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Appendix B

Guidelines for Assessing Intersection Performance

The *RTA Guide to Traffic Generating Developments* (October 2002, Issue 2.2), details the assessment of intersections. The assessment of the level of service of an intersection is based on the evaluation of the following Measures of Effectiveness:

- Average delay (seconds/veh) (all forms of control)
- Delay to critical movement (seconds/veh) (all forms of control)
- Degree of saturation (traffic signals and roundabouts)
- Cycle length (traffic signals)

SIDRA was used to calculate the relevant intersection parameters. The SIDRA software is an advanced lane-based micro-analytical tool for design and evaluation of individual intersections and networks of intersections including modelling of separate movement classes (light vehicles, heavy vehicles, buses, cyclists, large trucks, light rail / trams and so on). It provides estimates of capacity, level of service and a wide range of performance measures, including; delay, queue length and stops for vehicles and pedestrians, as well as fuel consumption, pollution emissions and operating costs.

It can be used to analyse signalised intersections (fixed-time / pretimed and actuated), signalised and unsignalised pedestrian crossings, roundabouts (unsignalised), roundabouts with metering signals, fully-signalised roundabouts, two-way stop sign and give-way / yield sign control, all-way stop sign control, single point interchanges (signalised), freeway diamond interchanges (signalised, roundabout, sign control), diverging diamond interchanges and other alternative intersections and interchanges. It can also be used for uninterrupted traffic flow conditions and merge analysis.

The best indicator of the level of service at an intersection is the average delay experienced by vehicles at that intersection. For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (with Stop and Give Way signs or operating under the T-junction rule) the critical movement for level of service assessment should be that with the highest average delay.

With traffic signals, delays per approach tend to be equalised, subject to any over-riding requirements of signal co-ordination as well as to variations within individual movements. With roundabouts and priority control intersections, the critical criterion for assessment is the movement with the highest delay per vehicle. With this type of control the volume balance might be such that some movements suffer high levels of delay while other movements have minimal delay. An overall average delay for the intersection of 25 seconds might not be satisfactory if the average delay on one movement is 60 seconds.

The average delay for level of service E should be no more than 70 seconds. The accepted maximum practical cycle length for traffic signals under saturated conditions is 120 - 140 seconds. Under these conditions 120 seconds is near maximum for two and three phase intersections and 140 seconds near maximum for more complex phase designs. Drivers and pedestrians expect cycle lengths of these magnitudes and their inherent delays in peak hours. A cycle length of 140 seconds for an intersection which is almost saturated has an average vehicle delay of about 70 seconds, although this can vary. If the average vehicle delay is more than 70 seconds, the intersection is assumed to be at Level of Service F.

Table 5 sets out average delays for different levels of service. There is no consistent correlation between definitions of levels of service for road links as defined elsewhere in this section, and the ranges set out in Table 5. In assigning a level of service, the average delay to the motoring public needs to be considered, keeping in mind the location of the intersection. For example, drivers in

inner urban areas of Sydney have a higher tolerance of delay than drivers in country areas. Table 5 provides a recommended baseline for assessment.

Table 5: Level of Service Criteria for Intersections

Level of Service	Average Delay per Vehicle (sec/veh)	Traffic Signals, Roundabouts	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 – 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 – 42	Satisfactory	Satisfactory, but accident study required
D	43 – 56	Operating near capacity	Near capacity and accident study required
E	57 - 70	At capacity Signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, require other control mode

The figures in Table 5 are intended as a guide only. Any particular assessment should take into account site-specific factors including maximum queue lengths (and their effect on lane blocking), the influence of nearby intersections and the sensitivity of the location to delays. In many situations, a comparison of the current and future average delay provides a better appreciation of the impact of a proposal, and not simply the change in the level of service.

Appendix C

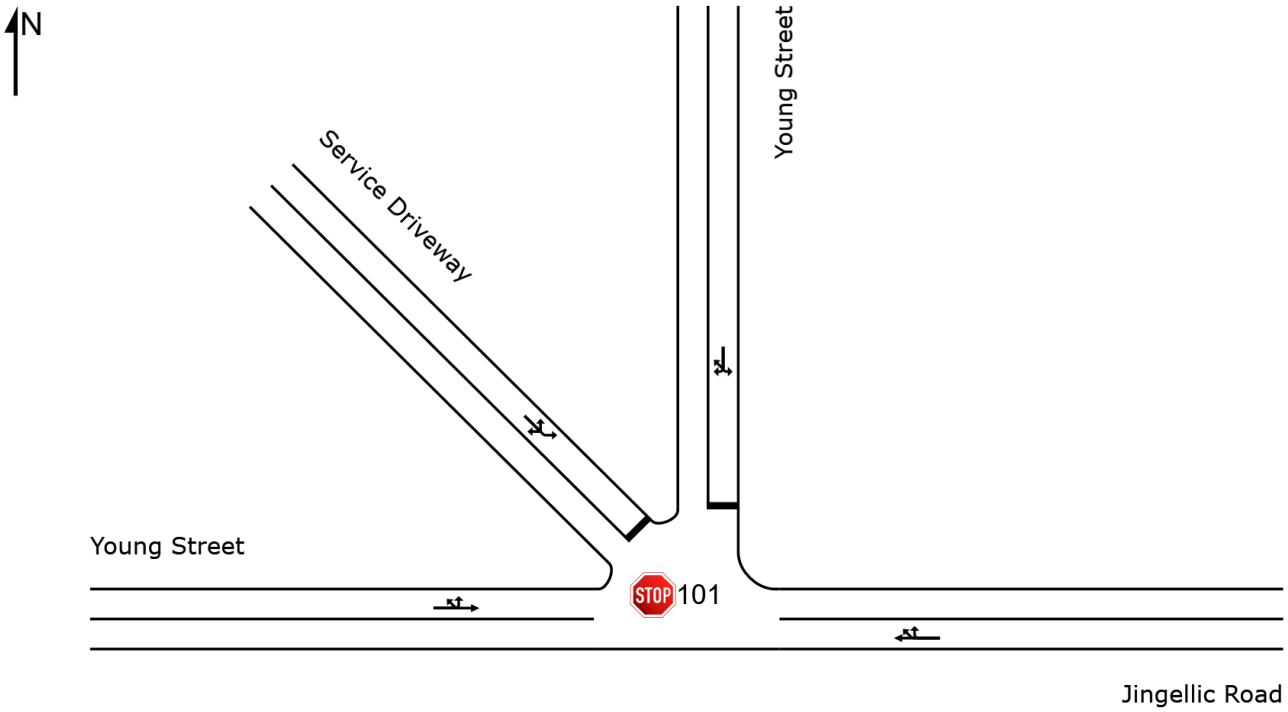
SIDRA Results

SITE LAYOUT

Site: 101 [Existing AM (Site Folder: General)]

New Site
Site Category: (None)
Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Existing AM (Site Folder: General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Jingellic Road														
5	T1	25	0.0	26	0.0	0.016	0.0	LOS A	0.0	0.1	0.03	0.07	0.03	59.3
6a	R1	1	0.0	1	0.0	0.016	4.5	LOS A	0.0	0.1	0.03	0.07	0.03	58.3
6	R2	2	0.0	2	0.0	0.016	5.5	LOS A	0.0	0.1	0.03	0.07	0.03	57.1
Approach		28	0.0	30	0.0	0.016	0.6	NA	0.0	0.1	0.03	0.07	0.03	59.1
North: Young Street														
7	L2	6	0.0	6	0.0	0.040	8.1	LOS A	0.1	0.9	0.13	0.92	0.13	52.0
9	R2	31	0.0	33	0.0	0.040	7.8	LOS A	0.1	0.9	0.13	0.92	0.13	51.5
9b	R3	1	0.0	1	0.0	0.040	7.9	LOS A	0.1	0.9	0.13	0.92	0.13	51.5
Approach		38	0.0	40	0.0	0.040	7.8	LOS A	0.1	0.9	0.13	0.92	0.13	51.6
NorthWest: Service Driveway														
27b	L3	1	0.0	1	0.0	0.003	9.0	LOS A	0.0	0.1	0.07	1.00	0.07	51.9
27a	L1	1	0.0	1	0.0	0.003	8.0	LOS A	0.0	0.1	0.07	1.00	0.07	51.4
29b	R3	1	0.0	1	0.0	0.003	8.1	LOS A	0.0	0.1	0.07	1.00	0.07	51.0
Approach		3	0.0	3	0.0	0.003	8.4	LOS A	0.0	0.1	0.07	1.00	0.07	51.5
West: Young Street														
10b	L3	2	0.0	2	0.0	0.022	6.5	LOS A	0.0	0.0	0.00	0.19	0.00	57.2
10	L2	10	0.0	11	0.0	0.022	5.5	LOS A	0.0	0.0	0.00	0.19	0.00	56.7
11	T1	27	0.0	28	0.0	0.022	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	58.3
Approach		39	0.0	41	0.0	0.022	1.8	NA	0.0	0.0	0.00	0.19	0.00	57.8
All Vehicles		109	0.0	115	0.0	0.040	3.8	NA	0.1	0.9	0.05	0.44	0.05	55.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Existing PM (Site Folder: General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Jingellic Road														
5	T1	29	0.0	31	0.0	0.020	0.0	LOS A	0.0	0.3	0.06	0.11	0.06	58.8
6a	R1	1	0.0	1	0.0	0.020	4.6	LOS A	0.0	0.3	0.06	0.11	0.06	57.8
6	R2	6	0.0	6	0.0	0.020	5.6	LOS A	0.0	0.3	0.06	0.11	0.06	56.6
Approach		36	0.0	38	0.0	0.020	1.1	NA	0.0	0.3	0.06	0.11	0.06	58.4
North: Young Street														
7	L2	3	0.0	3	0.0	0.018	8.1	LOS A	0.1	0.4	0.13	0.91	0.13	52.0
9	R2	13	0.0	14	0.0	0.018	7.8	LOS A	0.1	0.4	0.13	0.91	0.13	51.5
9b	R3	1	0.0	1	0.0	0.018	8.0	LOS A	0.1	0.4	0.13	0.91	0.13	51.4
Approach		17	0.0	18	0.0	0.018	7.9	LOS A	0.1	0.4	0.13	0.91	0.13	51.6
NorthWest: Service Driveway														
27b	L3	1	0.0	1	0.0	0.003	9.1	LOS A	0.0	0.1	0.13	0.95	0.13	52.0
27a	L1	1	0.0	1	0.0	0.003	8.1	LOS A	0.0	0.1	0.13	0.95	0.13	51.5
29b	R3	1	0.0	1	0.0	0.003	8.2	LOS A	0.0	0.1	0.13	0.95	0.13	51.0
Approach		3	0.0	3	0.0	0.003	8.5	LOS A	0.0	0.1	0.13	0.95	0.13	51.5
West: Young Street														
10b	L3	3	0.0	3	0.0	0.033	6.5	LOS A	0.0	0.0	0.00	0.34	0.00	55.9
10	L2	31	0.0	32	0.0	0.033	5.5	LOS A	0.0	0.0	0.00	0.34	0.00	55.5
11	T1	25	0.0	26	0.0	0.033	0.0	LOS A	0.0	0.0	0.00	0.34	0.00	57.0
Approach		59	0.0	62	0.0	0.033	3.2	NA	0.0	0.0	0.00	0.34	0.00	56.1
All Vehicles		115	0.0	121	0.0	0.033	3.4	NA	0.1	0.4	0.04	0.37	0.04	55.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Future AM (Site Folder: General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Jingellic Road														
5	T1	34	0.0	35	0.0	0.021	0.0	LOS A	0.0	0.2	0.04	0.07	0.04	59.3
6a	R1	2	0.0	2	0.0	0.021	4.6	LOS A	0.0	0.2	0.04	0.07	0.04	58.2
6	R2	3	0.0	3	0.0	0.021	5.6	LOS A	0.0	0.2	0.04	0.07	0.04	57.1
Approach		38	0.0	40	0.0	0.021	0.6	NA	0.0	0.2	0.04	0.07	0.04	59.0
North: Young Street														
7	L2	7	0.0	7	0.0	0.043	8.2	LOS A	0.1	1.0	0.15	0.91	0.15	52.0
9	R2	32	0.0	33	0.0	0.043	7.9	LOS A	0.1	1.0	0.15	0.91	0.15	51.5
9b	R3	2	0.0	2	0.0	0.043	7.9	LOS A	0.1	1.0	0.15	0.91	0.15	51.4
Approach		40	0.0	42	0.0	0.043	7.9	LOS A	0.1	1.0	0.15	0.91	0.15	51.6
NorthWest: Service Driveway														
27b	L3	2	0.0	2	0.0	0.005	9.0	LOS A	0.0	0.1	0.08	1.00	0.08	51.9
27a	L1	2	0.0	2	0.0	0.005	8.1	LOS A	0.0	0.1	0.08	1.00	0.08	51.4
29b	R3	2	0.0	2	0.0	0.005	8.2	LOS A	0.0	0.1	0.08	1.00	0.08	51.0
Approach		6	0.0	6	0.0	0.005	8.4	LOS A	0.0	0.1	0.08	1.00	0.08	51.4
West: Young Street														
10b	L3	3	0.0	3	0.0	0.028	6.5	LOS A	0.0	0.0	0.00	0.17	0.00	57.3
10	L2	11	0.0	12	0.0	0.028	5.5	LOS A	0.0	0.0	0.00	0.17	0.00	56.9
11	T1	36	0.0	38	0.0	0.028	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	58.4
Approach		51	0.0	53	0.0	0.028	1.6	NA	0.0	0.0	0.00	0.17	0.00	58.0
All Vehicles		135	0.0	142	0.0	0.043	3.5	NA	0.1	1.0	0.06	0.40	0.06	55.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Future PM (Site Folder: General)]

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Jingellic Road														
5	T1	39	0.0	41	0.0	0.026	0.0	LOS A	0.0	0.3	0.06	0.10	0.06	58.9
6a	R1	2	0.0	2	0.0	0.026	4.6	LOS A	0.0	0.3	0.06	0.10	0.06	57.9
6	R2	6	0.0	6	0.0	0.026	5.6	LOS A	0.0	0.3	0.06	0.10	0.06	56.7
Approach		47	0.0	49	0.0	0.026	1.0	NA	0.0	0.3	0.06	0.10	0.06	58.6
North: Young Street														
7	L2	3	0.0	3	0.0	0.020	8.1	LOS A	0.1	0.5	0.15	0.91	0.15	52.0
9	R2	14	0.0	15	0.0	0.020	7.9	LOS A	0.1	0.5	0.15	0.91	0.15	51.5
9b	R3	2	0.0	2	0.0	0.020	8.0	LOS A	0.1	0.5	0.15	0.91	0.15	51.4
Approach		19	0.0	20	0.0	0.020	8.0	LOS A	0.1	0.5	0.15	0.91	0.15	51.5
NorthWest: Service Driveway														
27b	L3	2	0.0	2	0.0	0.005	9.1	LOS A	0.0	0.1	0.14	0.95	0.14	51.9
27a	L1	2	0.0	2	0.0	0.005	8.1	LOS A	0.0	0.1	0.14	0.95	0.14	51.4
29b	R3	2	0.0	2	0.0	0.005	8.4	LOS A	0.0	0.1	0.14	0.95	0.14	51.0
Approach		6	0.0	6	0.0	0.005	8.5	LOS A	0.0	0.1	0.14	0.95	0.14	51.5
West: Young Street														
10b	L3	4	0.0	4	0.0	0.039	6.5	LOS A	0.0	0.0	0.00	0.31	0.00	56.2
10	L2	32	0.0	34	0.0	0.039	5.5	LOS A	0.0	0.0	0.00	0.31	0.00	55.8
11	T1	34	0.0	35	0.0	0.039	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	57.2
Approach		70	0.0	73	0.0	0.039	2.9	NA	0.0	0.0	0.00	0.31	0.00	56.5
All Vehicles		142	0.0	149	0.0	0.039	3.2	NA	0.1	0.5	0.05	0.35	0.05	56.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pleasant Hills
Rand
Walbundrie
Balldale
Brocklesby
Burrumbuttock
Howlong
Bungowannah
Ruthergien
Henty
Cookardinia
Westby
Humula
Little Billabong
Carabost
Rosewood
Morven
Culcairn
Walla Walla
Holbrook
Lankeys Creek
Mannus
Munderoo
Woomargama
Gerogery
Gerogery West
Mullengandra
Bowna
Jindera
Table Top
Lavington
Thurgoona
Talmalmo
Jingellic
Wymah

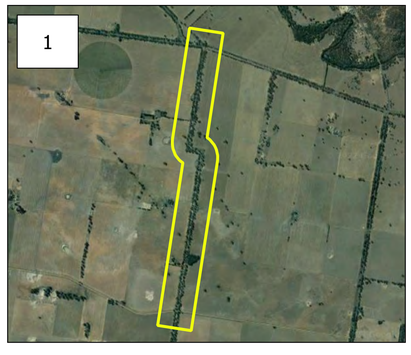
1
2
3
4
5

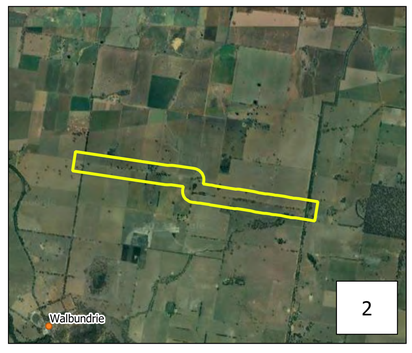
LEGEND

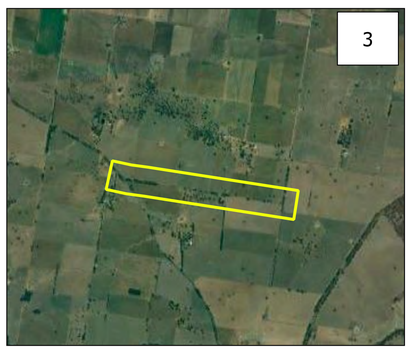
- LGA Boundary
- Locality
- Proposed Resheet Priority
- Non Greater Hume Roads
- National Road
- State Road
- Private Road

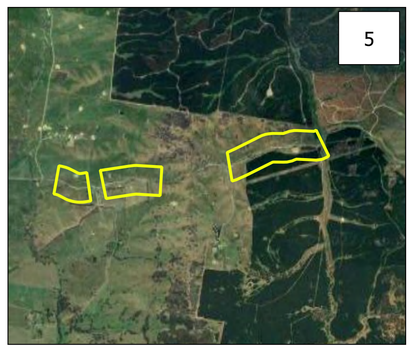
Greater Hume Council

Proposed for Priority Resheeting









Electronic Version is the controlled version. Printed copies are considered uncontrolled. Before using a printed copy verify that it is the current version.	Document Name	Working doc file path	Version Number	Date of Issue	Review Date
	ENG - Greater Hume LGA	G:\Projects&Maps\2022-12-12 Resheeting fund map\Map.qgz	1.0	2022-12-13	2023-12-13

GREATER HUME SHIRE COUNCIL

Schedule of the Director Corporate Community Services' Schedule of Information to Council Meeting - Wednesday 21st December, 2022

COMBINED BANK ACCOUNT FOR THE MONTH ENDED 30th November, 2022

CASHBOOK RECONCILIATION

	General Fund	Trust Fund
General Ledger Cashbook Balance as at 1st November, 2022	**-67,585.16**	**47,008.22**
Cashbook Movement as at 30th November, 2022	47.33	450.40
Less: Term Deposits included in Cashbook Balance (Trust only)	0.00	0.00
General Ledger Cashbook Balance as at 30th November, 2022	**-67,537.83**	**47,458.62**

BANK STATEMENT RECONCILIATION

Bank Statement Balance as at 30th November, 2022	NAB	$0.00	47,458.62
	Hume	$13,412.80	
	Bendigo	$2,839.80	
	WAW	$5,007.00	
	Total	21,259.60	47,458.62
(LESS) Unpresented Cheques as at 30th November, 2022		-46,248.82	0.00
(LESS) Unpresented EFT Payments as at 30th November, 2022		0.00	0.00
PLUS Outstanding Deposits as at 30th November, 2022		-42,548.61	0.00
PLUS / (LESS) Unmatched Cashbook Transactions 30th November, 2022		0.00	0.00
Cashbook Balance as at 30th November, 2022		**-67,537.83**	**47,458.62**

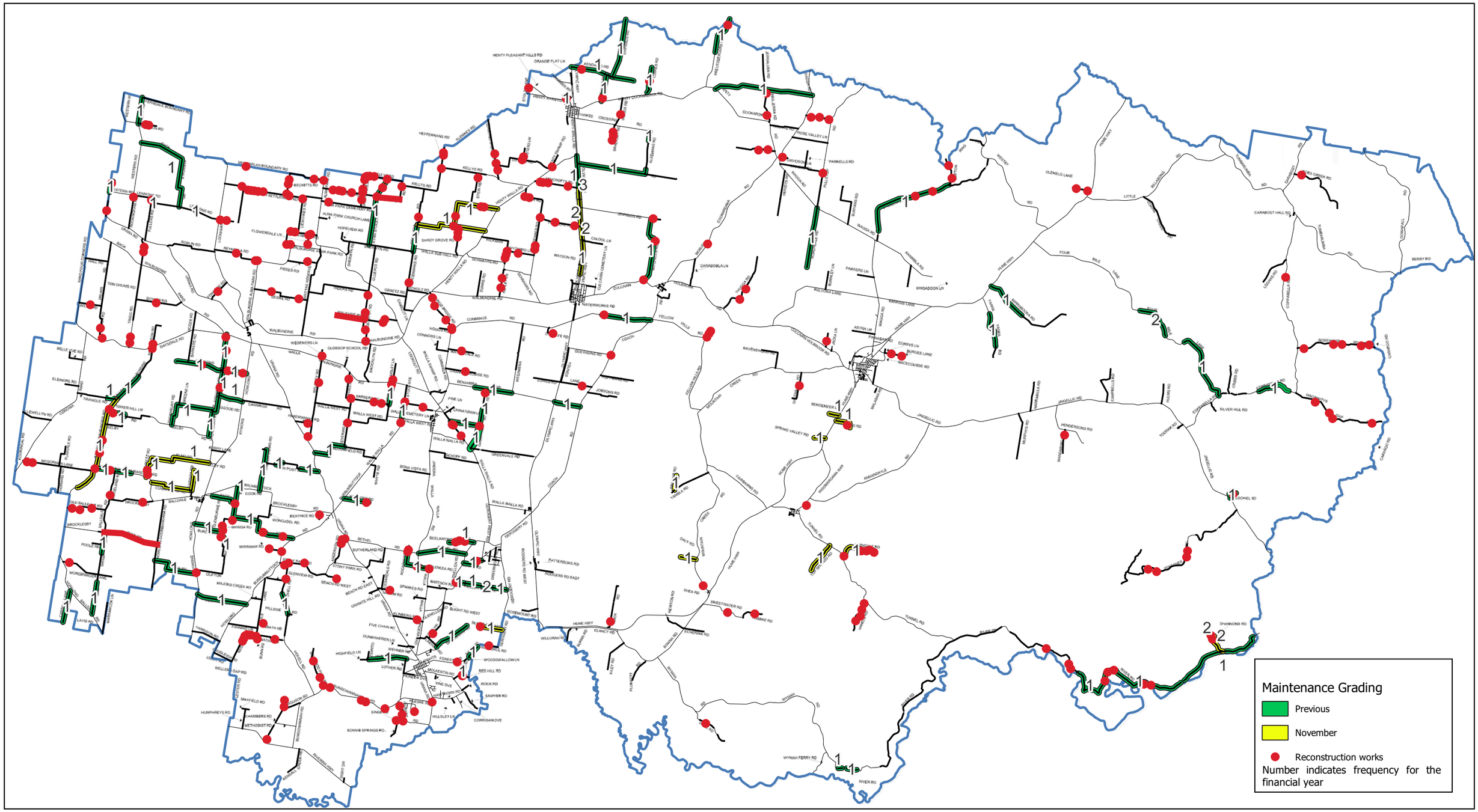
I certify that all of Council's surplus funds have been invested in accordance with the Act, the regulations and Council's investment policies and that all cheques drawn have been checked and are fully supported by vouchers and invoices and have been certified for payment.

Responsible Accounting Officer
2 December 2022

This is page no.1 of Schedule No.1 of the Director Corporate & Community Services' Schedule of Information to Ordinary Council Meeting held on 21st December, 2022

GENERAL MANAGER

MAYOR



Greater Hume Council

Greater Hume Local Government Area

Maintenance Grading 2022 - November

0 10 20 km

Electronic Version is the controlled version. Printed copies are considered uncontrolled. Before using a printed copy verify that it is the current version.	Document Name	Working doc file path	Version Number	Date of Issue	Review Date
	Maintenance grading - November	G:\Projects&Maps\~works 2022\Maintenance Grading\Maintenance Grading.qgz	1	2022-12-13	2023-12-13

Applications Approved

AUTHORITY

c_dm073 | Approved Between1/11/2022 and 30/11/2022 | 07/12/2022

Application No.	Location	Development Type	Est. Cost	Received	Determination		Total Elapsed Days	Stop Days	Adjusted Elapsed Days
DA/2021/105	Applicant: Incredible Ideas Pty Ltd 15 Jarick WY JINDERA Lot: 110 DP: 1238348	New Industrial Factory & Office - As Modified	$0	6/10/2022	Approved	1/11/2022	27	0	27
DA/2021/156	Applicant: J Lanfranchi 46 Stan DR JINDERA Lot: 30 DP: 1283607	44 Lot Staged Subdivision – Revised Subdivision Layout Modification	$2,000	20/10/2022	Approved	29/11/2022	41	0	41
DA/2022/139	Applicant: Ten Mile Engineering 48 Wallace ST HOLBROOK Lot: 25 DP: 4045	New Shed & Carport	$89,069	27/07/2022	Approved	8/11/2022	105	0	105
DA/2022/150	Applicant: P J Prendergast 30 Henty Street East CULCAIRN Lot: 9 DP: 1111255	New Shed	$19,600	29/08/2022	Approved	23/11/2022	59	28	59
DA/2022/164	Applicant: S J Hunter 27 Townview AVE WALLA WALLA Lot: 14 DP: 247656	Home Business & Use of Part of Existing Dwelling as B&B Accommodation	$0	1/09/2022	Approved	30/11/2022	22	69	22
DA/2022/170	Applicant: G R Snell Smith ST HENTY Lot: 163 DP: 753741	New Shed	$50,000	12/09/2022	Approved	1/11/2022	27	24	27
DA/2022/173	Applicant: G N Fisher 170 Coogera CCT JINDERA Lot: 919 DP: 1264008	Two New Sheds	$123,120	25/10/2022	Approved	18/11/2022	25	0	25
DA/2022/174	Applicant: Dennis Family Homes 7 Stan DR JINDERA Lot: 24 DP: 1283607	New Dwelling & Garage	$359,053	9/09/2022	Approved	8/11/2022	20	41	20

ANNEXURE 8

Applications Approved

AUTHORITY

c_dm073 | Approved Between1/11/2022 and 30/11/2022 | 07/12/2022

Application No.	Location	Development Type	Est. Cost	Received	Determination		Total Elapsed Days	Stop Days	Adjusted Elapsed Days
DA/2022/176	Applicant: Incredible Ideas Pty Ltd 1650 Cummings RD WALLA WALLA Lot: 941 DP: 731830	New Dwelling & Shed	$193,256	2/11/2022	Approved	29/11/2022	28	0	28
DA/2022/177	Applicant: NB Homes Pty Ltd 2 Klein CT JINDERA Lot: 96 DP: 1266634	Two Dwellings & Garages - Dual Occupancy	$490,000	12/10/2022	Approved	9/11/2022	29	0	29
DA/2022/179	Applicant: Klaar Projects Pty Ltd 1 Krause CT JINDERA Lot: 29 DP: 1283607	New Dwelling Garage and Shed	$310,000	25/08/2022	Approved	11/11/2022	37	42	37
DA/2022/180	Applicant: B & H Homes Pty Ltd 137 Coogera CCT JINDERA Lot: 912 DP: 1264008	New Dwelling	$504,004	6/10/2022	Approved	1/11/2022	27	0	27
DA/2022/189	Applicant: Phil Wilkins Building Design 74 Albury ST HOLBROOK Lot: 32 DP: 566695	Change of Use to Multi Dwelling Housing, Alterations & Additions	$460,684	11/10/2022	Approved	10/11/2022	31	0	31
DA/2022/191	Applicant: Avenue Constructions 107 Coogera CCT JINDERA Lot: 914 DP: 1264008	New Dwelling & Garage	$660,000	21/10/2022	Approved	17/11/2022	28	0	28
DA/2022/195	Applicant: C D Genter 4064 Olympic HWY HENTY Lot: 240 DP: 753741	New Shed	$123,120	12/10/2022	Approved	9/11/2022	20	9	20
DA/2022/196	Applicant: Walpole Surveying Pty Ltd 87 Huon ST JINDERA Lot: 62 DP: 603338	Two (2) Lot Torrens Title Subdivision	$0	11/10/2022	Approved	3/11/2022	24	0	24

ANNEXURE 8

Applications Approved

AUTHORITY

c_dm073 | Approved Between1/11/2022 and 30/11/2022 | 07/12/2022

Application No.	Location	Development Type	Est. Cost	Received	Determination		Total Elapsed Days	Stop Days	Adjusted Elapsed Days
DA/2022/197	Applicant: Metricon Homes 7 Holly Tree CT JINDERA Lot: 110 DP: 1277003	New Dwelling & Garage	$383,185	6/10/2022	Approved	1/11/2022	27	0	27
DA/2022/198	Applicant: B & H Homes Pty Ltd 42 Beatrice RD BURRUMBUTTOCK Lot: 4 DP: 1057430	New Dwelling & Garage	$611,562	7/10/2022	Approved	2/11/2022	27	0	27
DA/2022/202	Applicant: K E Griffiths 8 Protea CT JINDERA Lot: 905 DP: 1264008	Part Deck & Verandah	$18,349	27/10/2022	Approved	28/11/2022	20	13	20
DA/2022/204	Applicant: Maxand Pty Ltd 2 Krause CT JINDERA Lot: 27 DP: 1283607	New Shed	$61,563	28/10/2022	Approved	18/11/2022	22	0	22
DA/2022/207	Applicant: S J Walsh 146 Greenwood RD GEROGERY Lot: 5 DP: 1273275	Earthworks	$25,000	24/10/2022	Approved	2/11/2022	10	0	10
DA/2022/208	Applicant: Maxand Pty Ltd 14 Wagner DR JINDERA Lot: 220 DP: 1280394	New Shed	$36,189	28/10/2022	Approved	18/11/2022	22	0	22
DA/2022/209	Applicant: B C Hearn 19 King ST CULCAIRN Lot: 4 Sec: 36 DP: 9695 Lot: 3 Sec: 36 DP: 9695	Two (2) Lot Torrens Title Subdivision- Boundary Adjustment	$5,000	3/11/2022	Approved	29/11/2022	27	0	27
DA/2022/219	Applicant: Lewis Dickson Homes Pty Ltd 40 Pech AVE JINDERA Lot: 74 DP: 1224019	New Dwelling & Garage	$399,977	27/10/2022	Approved	17/11/2022	22	0	22

ANNEXURE 8

Applications Approved

aUTHORITY

c_dm073 | Approved Between1/11/2022 and 30/11/2022 | 07/12/2022

Application No.	Location	Development Type	Est. Cost	Received	Determination		Total Elapsed Days	Stop Days	Adjusted Elapsed Days
CDC/2022/71	Applicant: Bridgewood Homes 2 Polack ST JINDERA Lot: 111 DP: 1267384	New Dwelling and Garage	$478,871	9/11/2022	Approved – Private Certifier	9/11/2022	1	0	1
CDC/2022/72	Applicant: Hadar Homes 121 Thomas ST GEROGERY Lot: 2 DP: 1111887	New Dwelling and Garage	$650,000	14/11/2022	Approved – Private Certifier	14/11/2022	1	0	1
CDC/2022/73	Applicant: I & M Pools Pty Ltd 3074 Jingellic RD LANKEYS CREEK Lot: 7 DP: 811721	New Swimming Pool	$46,995	16/11/2022	Approved – Private Certifier	16/11/2022	1	0	1
CDC/2022/75	Applicant: I & M Pools Pty Ltd 263 Jelbart RD JINDERA Lot: 703 DP: 1078621	New Swimming Pool	$59,845	23/11/2022	Approved – Private Certifier	23/11/2022	1	0	1

Report Totals & Averages
Total Number of Applications : 28
Total Estimated Cost : 6,160,442.00

Average Elapsed Calendar Days: 34.18
Average Calendar Stop Days: 8.07
Average Adjusted Calendar Days: 26.11

Total Elapsed Calendar Days: 957.00
Total Calendar Stop Days: 226.00
Total Adjusted Calendar Days: 731.00

Director Environment & Planning
Greater Hume Shire Council

ANNEXURE 8

GREATER HUME COUNCIL

AUDIT, RISK & IMPROVEMENT COMMITTEE

Chairman's Report – 8 November 2022

External Audit

All of the normal annual correspondence from the external auditor (bar one item) came to this meeting for consideration. These included the interim and final management letters and Engagement Closing Report, as well as the formal Audit Reports accompanying the Annual Financial Statements.

As expected, the Audit Report for Council's general purpose statements included an "*except for"* qualification in relation to the non-recognition of RFS assets. The Committee has reported its views on this issue to Council on a number of occasions, and repetition here will serve no useful purpose.

The management letters included a total of 7 matters, of which 6 were repeat issues (one of which has since been completed). Another 2 items, previously raised, were finalised during the year. Apart from the RFS issue, all of the other items – including the new item – have been influenced by Council's inability to allocate staff resources to resolve them. Council's external audit contractor, Brad Bohun, advised that delays in resolving repeat issues will see an escalation in assessed risks, which may result in specific mention in the Auditor-General's report to Parliament.

Internal Audit

No completed assignment reports were available for review, and the authorised program is now well behind schedule – less than half of the 2021/22 program has been completed, and the 2022/23 program has not been commenced.

The Committee was advised that the principal cause is that relevant staff have been committed to projects with a higher priority and have been unable to allocate the time necessary to provide the information requested by internal audit. The Committee is concerned that this is limiting our ability to discharge the functions allocated to us by Council, and to provide the assurances to Council that comprise our principal responsibility. As Chairman, I have been requested to formally report this situation to the Mayor (after approval of the draft by Committee members out of session).

Other Reports

<u>Statecover WHS Self-Audit Report</u>

The Statecover 2022 WHS Self-Audit Report was considered and members feel that the Council is performing very creditably. No WHS system is perfect and there is always room for improvement, but the main areas noted for improvement were those that have not previously been assessed. However the Committee was concerned that the full incentive rebate for next year may have been placed in jeopardy by the late lodgement of the WHS Action Plan, which again has been affected by the resourcing issue.

<u>Risk Register</u>

The Committee had previously noted that Council's Risk Register did not appear to cover risks arising from engineering, planning and a number of other areas of Council operations. The DCCS, David Smith, reported that a major revamp of the Risk Register was in process, and would be completed in time for report to the Committee's February 2023 meeting.

In the absence of the General Manager no confidential report was received.

Committee Operations

Audit Follow-up Matrix

The Audit Follow-up Matrix is a key report in the process whereby the Committee ensures that various report recommendations – accepted by management as being necessary – are followed through to completion within a reasonable time. At its May meeting the Committee requested that the Directors of Engineering and Planning attend at a future meeting to provide further information on progress on matters affecting their responsibilities.

The Director of Engineering, Greg Blackie, attended at our August meeting and the Committee was very appreciative of the information that he provided, and accepted revised completion dates of 31 December 2022 for a number of items. However, there has been no evidence of any further progress in order to meet these commitments, no doubt influenced by the continued heavy rainfall and flooding which has placed such strain on infrastructure.

The key point is that management has accepted that these actions are necessary to protect Council's assets and to minimise risks, and in many cases Council has voted the funds to complete the work. But the work has not been completed, the risks continue and Council's assets remain vulnerable.

The Director of Planning has not yet attended at a Committee meeting.

The Director of Corporate & Community Services, who has attended at our meetings, reports that he is under extreme pressure and this no doubt contributed to certain omissions from the copy of the matrix supplied to this meeting.

Committee Forward Plan

The Committee reviewed and revised its meeting plan for the 2023 calendar year, and included some items that are contingent on the contents of the proposed guidelines yet to be released by OLG. These items will only be undertaken if and when they are included in the final version of the guidelines.

As this was the final scheduled meeting for 2022, I wished all participants the compliments of the season, and extend these wishes to all Councillors and staff.

David G Maxwell
Chairman

MINUTES
GREATER HUME COUNCIL AUDIT, RISK AND IMPROVEMENT COMMITTEE, HELD ON 8 NOVEMBER 2022

Present: Mr David Maxwell – Independent Chairperson
Mr John Batchelor – Independent Committee Member (via Zoom)
Cr Heather Wilton –Greater Hume Council

Observers: David Smith – Director Corporate and Community Service, Greater Hume Council
Dean Hart – Chief Financial Officer, Greater Hume Council
Phil Swaffield – National Audits Group (via Zoom)
Brad Bohun – Crowe (via Zoom)

Apologies: Mayor, Cr Tony Quinn – Greater Hume Council
Cr Lea Parker – Greater Hume Council
Evelyn Arnold – General Manager

Meeting Commenced 10.02am

ITEM 1 Welcome and Apologies

RESOLVED [Cr Wilton / John Batchelor]

That the apology from Crs Quinn and Parker and Evelyn Arnold be accepted

ITEM 2 Acknowledgement of Country

The Chair offered an acknowledgement of Country

ITEM 3 Declarations of Interest

Nil

ITEM 4 Confirmation of Minutes from the meeting held on 6 September 2022

RESOLVED [John Batchelor / Cr Wilton]

That the Minutes of the Greater Hume Council Audit, Risk and Improvement Committee meeting held on 6 September 2022 as printed and circulated be confirmed as a true and correct record of the proceedings of the meeting.

ITEM 5 Business Arising From Previous Minutes

Nil

ITEM 6 ANNUAL FINANCIAL STATEMENTS AND EXTERNAL AUDIT

a. **Interim Management Letter**
b. **Independent Audit Reports and Report on the Conduct of the Audit**
c. **Engagement Closing Report**
d. **Final Management Letter**

.

Brad Bohun, Crowe, presented relevant audit reports for 2021/2022 financial year

RESOLVED [Cr Wilton / John Batchelor]

That the Interim Management Letter be received and noted and Items 1, 2 & 4 be added to the Audit Follow-up Matrix

RESOLVED [Cr Wilton / John Batchelor]

That:

MINUTES
GREATER HUME COUNCIL AUDIT, RISK AND IMPROVEMENT COMMITTEE, HELD ON 8 NOVEMBER 2022

1. The Committee notes that the Except For audit qualification anticipated at the September 2022 meeting has been applied.
2. The Independent Audit Reports and Report on the Conduct of the Audit be received and noted.

RESOLVED [/ John Batchelor / Cr Wilton]
That the Engagement Closing Report be received and noted.

RESOLVED [Cr Wilton / John Batchelor]
That the Final Management Letter be received and noted and the Audit Follow-up Matrix be updated.

The Chairman reported that he had received a copy of the independent audit report for the Roads to Recovery program.

ITEM 7 Internal Audit

The Committee discussed the Internal Audit Status Report and noted that the program is well behind schedule. The Committee was advised that lack of resourcing was a significant contributor to delays in this and other areas affecting Committee operations.

RESOLVED [Mr Batchelor/Cr Wilton]

That the Internal Audit Status report be received and noted.

RESOLVED [Mr Batchelor/Cr Wilton]

That the Chair prepare a draft letter to the Mayor regarding current resourcing issues and the impact on the operations of the Committee and that the letter be forwarded following concurrence of the remaining committee members.

ITEM 8 Reports from Other Agencies

a. Risk Officer Report

David Smith tabled the StateCover Self Audit Report to the General Manager and spoke to the major items.

RESOLVED [Mr Batchelor/Cr Wilton]
That the StateCover Self Audit Report be received and noted.

ITEM 9 Committee Operations

a. Audit Follow-up Matrix

Completed actions from Accounts Payable be included in the Audit Follow-up Matrix and marked as completed.

RESOLVED [Mr Batchelor/Cr Wilton]
That:

MINUTES
GREATER HUME COUNCIL AUDIT, RISK AND IMPROVEMENT COMMITTEE, HELD ON 8 NOVEMBER 2022

i. The Audit Follow-up Matrix be received and noted and that the Committee notes that resourcing issues have inhibited completion of a number of outstanding actions from the Matrix
ii. The item of the ARIC Performance Review be removed from the Matrix pending release of the OLG ARIC guidelines

b. Forward Meeting Plan

RESOLVED [Mr Batchelor/Cr Wilton]
That the revised Forward Meeting Plan be adopted

Next meeting dates Tuesday 7 February 2023

There being no further business the meeting closed at 11.32am

Holbrook Community and District Development Group

1st November 2022 Meeting

Present: Elizabeth Maclean, Graham and Marilyn Perritt, Kayleen Laffen, Stephen Lum, Gail Chynoweth, Rita Bowler, Vicki Schuur.

Apologies: Sam Pincott.

Minutes: Read by Vicki Schuur. Moved Elizabeth Maclean. Seconded Gail Chynoweth.

Discussion:

Grant confirmation for Paddock to Plate and markets: $33,000

Kayleen Laffen: After application restrictions put in place by council and had to alter it. For example it couldn't be a ticketed event. $33,000 for a farmers market. Event must be by the end of March.

Stephen Lum to send attachment in minutes.

Dates are as follows: 19th March Holbrook Show
25th and 26th February Tumba Festival.
April: Easter.
We will do the markets on the 25th March 2023.

Maybe change if 'Better Homes and Gardens' change.
Kathryn Plunkett and Sophie were in MKR 'The Dinner Ladies'. Interested in cooking on the day.

Venue? Near the submarine.

Morning time is the best time to do it.

Have a sub-group to organise it: Raylene Webb keen.

Open to ideas and suggestions and entertainment.

Twilight markets: Rotary initiative

Christmas Open night. Contacted markets.
9th December 5.30pm-8.30pm (Friday)
Rotary have a $5000 grant on music: Murray Conservatorium of Music.
Approached council to close street from Post office to Service Station.
Jacki: Quote $2400 to block street: traffic control.

Rotary was going to cover $1200 so we are short.
Write letter to ask council: Stephen Lum to do this, or sponsorship for markets.

Sarah King: Street food for the night.

Leanne Bickley to do Santa photo's.

Matt Toll: Being Santa Claus roaming around giving lollies out.

Face painting at hairdressers.

Mikala Gammage: Dancing in the main street.

Bubble blowers in the street.

Market Stalls: local only.

Riverina Hotel: jumping castle.

Pony Rides.

Riverina Gin and Benambra Wines.

J&B's open.

Bakery open: fish and chips.

Approach Lachlan Cossor about horse and cart rides: Vicki Schuur to ask.

Charging stall holders $35.

Sarah King is doing Christmas market posters which are general in nature, she is paying the cost, very grateful for that.

Elizabeth Maclean: Stickers, anything more about it? Vicki Schuur to buy her own.

Rotary: They did red bows last time for Christmas. This year they are doing Christmas Wreaths, they are being put up this year.

On the 9th November (Tuesday night) Vicki Schuur and Sam pincott are going to GHS to present Strategic Plan because they have a new General Manager (they have 9 minutes to present).

Discussion: we need to open a bank account at Bendigo Bank. So council can pay our grant money. Vicki Schuur, Kayleen Laffen and Rita Bowler are going to be the signatories on the account.

Greater Hume Council

Reconnecting Regional NSW Community Events Program Funding Agreement

Event Details – Please update if not correct	
Name of Event	Holbrook Regional Producers and Farmers Market
Proposed Date of Event	
Name of Event Organiser/Committee	
Email	
Mobile/Landline	

Deliverables – as included in Reconnecting Regional NSW – Community Events Program Greater Hume Council Application and Funding Agreement	Cost
Special guests/speakers are being sourced from Better Homes and Gardens for segments on the programme that will showcase our producers and our region. We intend on sourcing other high profile celebrity chefs / catering teams.	$15,000.00
Advertising, marketing and branding materials. Including but not limited to Radio/newspaper/social media campaign/flyers/posters/flags etc. for Holbrook and District.	$10,000.00
Hire of Marquees, tables lighting etc.	$3,000.00
Sound and lighting technician	$5,000.00
TOTAL COSTS (excluding GST)	**$33,000.00**

The Event Organiser/Committee must ensure the following:

- The Event will be held before 31 March 2023, open to all members of the public, free to attend, have a primary purpose of reconnecting communities and improving social cohesion of the local community, be planned and delivered in accordance with applicable Public Health Orders and a COVID-19 safety plan; and ideally be accessible and inclusive.
- Acknowledge that you have not received additional funding from the NSW Government or any other source for the above Event.
- The funding is only spent on eligible costs as shown in the Deliverables Section above. Costs which you incurred prior to 7 April 2022 cannot be funded by this Funding Agreement.
- Approval from and submission to Greater Hume Council via Event Notification and Application Form, Risk Assessment Application, Event Day Running Sheet.
- Ensure the health and safety of all people whom the activities may affect, in compliance with work health and safety laws.
- If applicable to the Event, ensure that your officers, employees, agents, subcontractors and volunteers engaged in child-related work have working with children check clearance.
- If you wish to vary the Event, including any activity, you must first make a written request via email to Greater Hume Council (mail@greaterhume.nsw.gov.au) providing such information as is reasonably required by the Council to inform Reconnecting Regional NSW.
- You must provide a Completion of Event Report within four weeks from end of event (see Completion of Event below)
- Acknowledge the support of the NSW Government in accordance with the NSW Government Funding Acknowledgement Guidelines (see attached), in any public statements about the Event and on the home page of any web site established in connection with the Event.

- Include the NSW Government logo (see attached) on all marketing collateral and advertising associated with the Event; and obtain written consent from the NSW Government via Greater Hume Council of all marketing and advertising material containing the NSW Government logo at the artwork stage (prior to printing or publication).
- Provide the NSW Government via Greater Hume Council with at least 15 Business Days' notice of any proposed announcements, launches or public events relating to the Event ("Promotions").
- Provide an opportunity for a representative of the NSW Government to attend and speak at any such Promotion; and offer the NSW Government signage opportunities at any Promotion and then at the Event.

Funding – 80% (excluding GST) of your allocation will be transferred upon receipt of an invoice from you. The balance (20% - excluding GST) will be transferred upon receipt of an invoice from you at the completion of the event.	
Bank and Branch Name	
BSB Number	
Account Number	
Account Name	

Completion of Event Report (to be provided by Event Organiser/Committee four weeks from the end of your event) (tick to agree to provide this information)	
	Summary of Activities that were funded – (at least 200 to 500 words only)
	Evidence of expenditure – including invoices, estimates and/or statements of expenditure
	Outcome 1 - number of local businesses sub-contracted to deliver the event, and the value of the grant provided to those businesses.
	Outcome 2 - number of local businesses that participated in the event
	Outcome 3 - number of local community members who participated in each event
	Outcome 4 - participant satisfaction and outcomes – A form has been created called Reconnecting Regional NSW – CEP – Greater Hume Participant Responses Form, this is available as an online form, https://au.openforms.com/Form/24a5b9e5-fbcd-4b47-bd8e-31e27f01925f which you can including in your marketing collateral or a hardcopy of the form is attached to this document. **At least 10 responses are required as part of the final report**.

Declaration - The funding agreement must be signed by a person legally authorised to do so.	
I have read, acknowledge and agree to the Reconnecting Regional NSW – Community Events Program Funding Agreement and certify that we will provide the information listed above at the completion of the event. I am legally authorised to sign on behalf of:	
Name of Event	Holbrook Regional Producers and Farmers Market
Full Name	
Position	
Signature	
Date	

MINUTES OF THE WALLA WALLA COMMUNITY DEVELOPMENT COMMITTEE HELD ON MONDAY 26TH SEPTEMBER 2022 AT THE WALLA WALLA HALL AT 7 P.M.

PRESENT

Daniel Nadebaum (Chairman), Leonie Carey (Secretary), John Sainsbury, Anthony Lieschke, Anya Williams, Dawn Beachcroft, Kim Lieschke, Selina Kohlhagen, Karen Wenke

Councilors – Tony Quinn

APOLOGIES

Trevor Schroeter, Raquel Kotzur, Ben Kotzur, Karen Schoff, Leon Schoff, Marj Rayner, Janet Paech,

Councilors – Ashley Lindner, Jenny O'Neill, Heather Wilton, Ian Forrest

Resignation of Committee Member – Raquel Kotzur

CONFIRMATION OF THE MINUTES

Moved that the minutes of the 25th July 2022 meeting, as circulated, be accepted.

Moved	John Sainsbury	Seconded	Selina Kohlhagen	Carried

BUSINESS ARISING

Old Town Entrance Signs

We as a town have been allocated these signs. If these signs are to be erected somewhere in Walla Walla these are the steps we need to take – *Check signs to see if they are worth updating, as they need to be upgraded to a good acceptable standard, * decide who we can get to upgrade signs, *with community consultation we need to decide where we would like these signs erected. At entrances or somewhere else in town? *If we decide to put somewhere at entrances to town, will have to work out exact location to advise Council. *Letter will need to be written to Council to let them know where we would like signs placed. The request will go to a panel to approve requested location – local roads authority, police, Council etc.

Give thought to where we would like signs to be placed and Daniel will bring signs to next meeting.

Community Garage Sale – 23rd October 2022

Ray White Real Estate will again sponsor our Community Garage Sale and they have already produced Flyers for Walla Walla Residents and posters for in town and out of town. Virgina Scholz (Ray White Real Estate agent) will have Garage Sale signs made to put in front of houses holding Garage Sales. Advertising for Garage Sale in well underway. We have used Facebook, Community Newsletters and press releases have been sent to Radio & TV Stations. Notification has been sent to Greater Hume Council and event has been approved. Walla Walla Public School has offered to host BBQ with Bacon & Eggs for breakfast and a BBQ lunch. Quite a few residents have already put their names down to host a Garage Sale at their homes.

List of Garage Sales and Walla Walla will be produced and printed by Ray White Real Estate, these will be given out for a gold coin donation. John Sainsbury, Anya Williams, Anthony Lieschke & Daniel Nadebaum have offered to give maps out on the day. Roster will be sent out before day. More advertising will be done and Kim Lieschke and Daniel Nadebaum with put sign/arrows up around town to direct people to places with Garage Sales.

Community Suggestions – Prioritise projects/ideas/initiatives

From all suggestions received over the last few years, we need to prioritise what we need to work on as a committee. We have also been requested by Greater Hume Council to attend a meeting on 9th November 2022 to present an introduction to Walla Walla and advise them of our current & future plans for our town.

Trevor Schroeter compiled a list of ideas/projects/initiatives that have been brought to our attention (through various forums etc) over the last few years, for our consideration. This document was emailed to committee members, so they were able to give ideas some thought before this meeting.

Members present at the meeting prioritised the ideas they thought were important to Walla Walla. We worked with two categories – List of projects we can pursue and projects/issues we need Council to take responsibility for.
Most important projects/issues we can pursue are – Swimming Pool upgrade, Beautification around Water Tower, Develop Gum Swamp, Seats & shade at sportsground, near play equipment & bike pump track
Most important projects/issues we need Council to pursue – Pine trees at cemetery, removed & replaced, Keeping roads in good order, Removing & replacing trees in side streets, Keeping path in Commercial Street in good repair and safe for pedestrians, Cover drain corner of Commercial & Edward Streets
A high priority was also a Supermarket.

TREASURER'S REPORT - Report attached
Balance in S18 Main working account $19761.03
Balance in S16 $5914.11
Grant money received from Greater Hume Council, which is from Shade Cloth over exercise park grant, from Riverina Water - $13049.22

Moved Treasurer Report

Moved Anthony Lieschke Seconded Anya Williams Carried

CORRESPONENCE

In-
Email – Raquel Kotzur – Resigning from Committee
Email – Kerrie Wise – Meeting Wednesday 9th November – Plans for Walla Walla
Email – Kerrie Wise – Request for support letter, grant application Walla Walla Hall
Email – Trevor Schroeter – Short-term & long-term plans for Walla Walla
Email – Marj Rayner – Old town entrance signs

Out –
Community Newsletter – Articles for Newsletter
Greater Hume Council – Support letter – Grant for Walla Walla Hall restorations
Events Notification – Greater Hume Council
Community – Garage Sale flyers to Walla Walla residents

GENERAL BUSINESS

Meeting with Greater Hume Council – 9th November 2022
Three representatives have been invited to Culcairn Hall to give a ten-minute presentation that will include an introduction to Walla Walla and advise of current and future plans for our community. We need to submit a document that includes everything the community would like to see developed in our town, whether by Council, through grant funding opportunities or other agencies. Prioritise plans for both short- & long-term. Trevor Schroeter has offered to assist with organizing the development of the document. Daniel Nadebaum, Leonie Carey and Anya Williams will attend this meeting.

2nd Stage Subdivision Jacob Wenke Drive
Works have started on the 2nd Stage

Turn around near Water Tower
Check with Greg Blackie regards turn around to be constructed by Greater Hume Council, at end of Short Street, near newly painted Water Tower.

New Shop in Walla Walla
New gift shop has opened in Walla Walla by Linda Lieschke, called Sidedoor Giftware. Check if she would like us to advertise on Community Facebook Site.

Meeting Closed – 8.30pm **Next Meeting –** Monday 28th November 2022

Projects/Initiatives in Progress…

Recreation/walking track from Walla Walla to Gum swamp

The walking/bike track is finished, waiting to organise seating.

Supermarket

As advised by Michelle Schulz, that reopening of the Supermarket/Newsagent/Take-away at previous premises is not a viable proposition for the Schulz Family. Kim Lieschke & Daniel Nadebaum have been exploring different avenues that could be a viable option in setting up a supermarket in Walla Walla. We have decided that a small working group of committee members should be formed to investigate options for a supermarket. Kim Lieschke, Daniel Nadebaum, Trevor Schroeter, Ben Kotzur, Andrew Kotzur and Karen Schoff have offered to be part of this group.

Refugee program for Walla Walla

We are still investigating refugees, based in cities, to settle in Walla Walla, as some have shown interest in resettling in a rural community. A committee has been set up under the Greater Hume Council. Daniel Nadebaum has been elected Chairman and Dan Mueller elected Secretary. The drought is affecting job opportunities and there is a lack of rentals at the present time.

Fundraising

Battery collection & sale of stubby holders is on-going.

Facebook Page

Facebook page name is “Walla Walla Community News” we have approx 1414 people like our page at this stage. Some of our posts have reached over 4000 people.

Community Markets – Now in recess

Welcome Packs

Jenny Jacob and Leonie Carey will organise welcome packs for new residents of Walla Walla. Booklets and pamphlets relating to Walla Walla, Greater Hume Shire and Albury area are put in these packs.

Grants – Projects to be considered

Christmas/advertising flags , undercover seating near playground, at Sportsground.