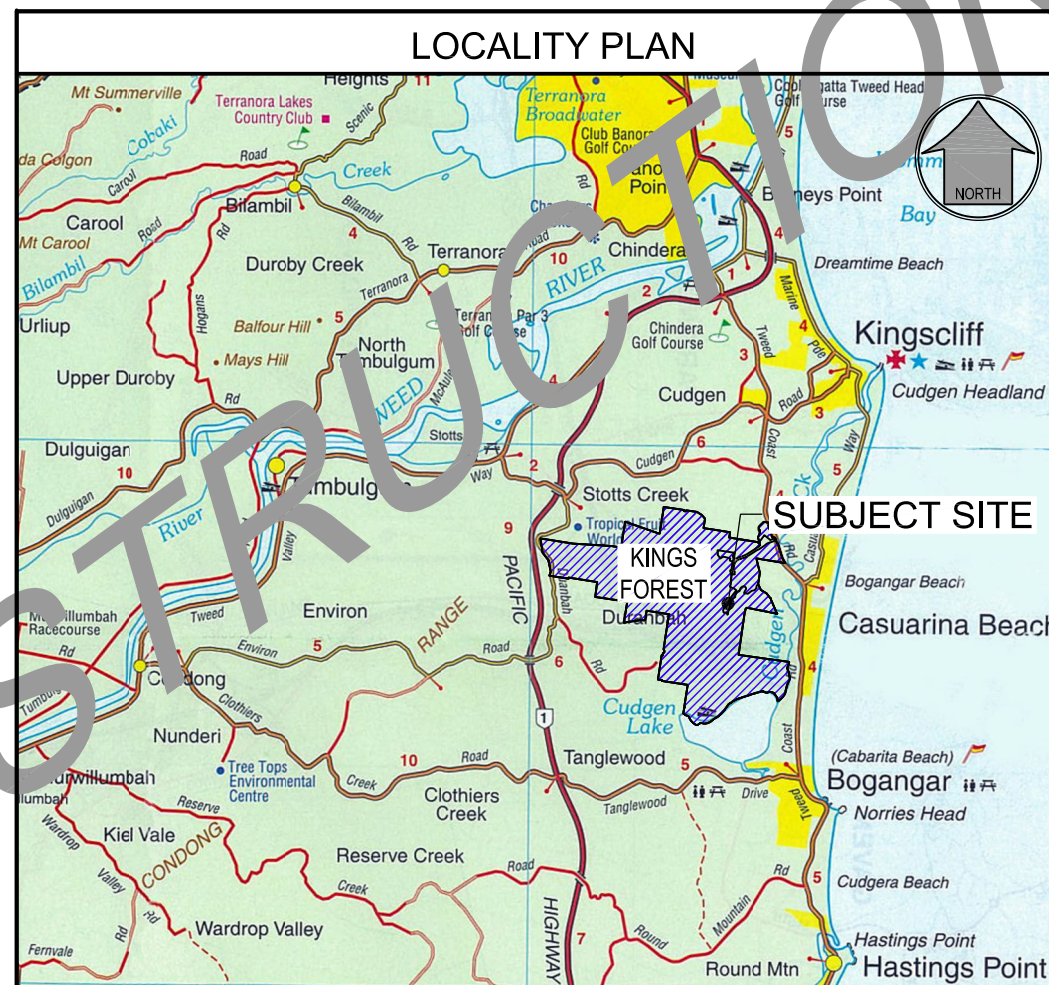


KINGS FOREST

PRECINCT 5
CONSTRUCTION CERTIFICATE STAGES 8 & 9
No. 12301-P5-8&9

MORTONS
urban**solutions**
Urban & Regional Planning
Civil Engineering
Project Coordination



REAL PROPERTY DESCRIPTION:
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDGEN .
COUNTY OF ROUS .

CLIENT:
PROJECT 28
PTY LTD

ASSOCIATED CONSULTANTS:

LANDSURV
+GILBERT
SUTHERLAND

DRAWING NUMBER
12301-P5-8&9-000

AMEND.
A

SCHEDULE OF DRAWINGS								
NUMBER	REV. NO.	TITLE	NUMBER	REV. NO.	TITLE	SHEET NO.	REV NO.	SHEET TITLE
GENERAL			12301-P5-8&9-400	B	DETAILS	TWEED SHIRE		COUNCIL STANDARD DRAWINGS
12301-P5-8&9-000	A	COVER SHEET	ROADWORKS: LINEMARKING & SIGNAGE			S.D 007	D	STANDARD KERB DETAILS SHEET 1
12301-P5-8&9-001	C	SCHEDULE	12301-P5-8&9-420	C	PLAN SHEET 01	S.D 012	H	SUB SOIL DRAINAGE DETAILS
12301-P5-8&9-002	B	GENERAL NOTES	12301-P5-8&9-421	B	PLAN SHEET 02	S.D 013	E	FOOTPATH AND CYCLEWAY DETAILS
12301-P5-8&9-005	B	ROAD HIERARCHY & STAGING PLAN	SEWER: RETICULATION PLAN			S.D 014	F	STANDARD KERB RAMP DETAILS
12301-P5-8&9-007	A	DEEMED COMMENCEMENT PEGGED SURVEY SHEET 1	12301-P5-8&9-500	B	NOTES AND DETAILS	S.D 103	B	STANDARD GULLY PIT - ROLL TOP KERB
12301-P5-8&8-008	A	DEEMED COMMENCEMENT PEGGED SURVEY SHEET 2	12301-P5-8&9-501	A	SHEET 1 OF 2	S.D 104	C	STANDARD GULLY PIT - BARRIER KERB
FENCES			12301-P5-8&9-502	A	SHEET 2 OF 2	S.D 240	C	SLUICE VALVE INSTALLATION DETAILS
12301-P5-8&9-010	B	FENCING PLAN	SEWER: PROFILES			S.D 242	C	DN50 & DN80 AUTOMATIC AIR RELEASE VALVE FOR USE IN DIFFICULT TO ACCESS LOCATIONS OR SPECIFIC APPLICATIONS
12301-P5-8&9-011	A	ACOUSTIC FENCE	12301-P5-8&9-530	A	SHEET 1			
12301-P5-8&9-012	A	RETAINING WALL DETAIL	12301-P5-8&9-531	A	SHEET 2			
EARTHWORKS: FINAL SURFACE AND SEDIMENT CONTROL			12301-P5-8&9-532	A	SHEET 3	S.D 243	C	MANUAL AIR VALVE INSTALLATION DETAILS
12301-P5-8&9-070	B	PLAN SHEET 01	12301-P5-8&9-533	A	SHEET 4	S.D 250	C	PROPERTY CONNECTION DETAILS TYPE A & TYPE B
12301-P5-8&9-071	B	PLAN SHEET 02	12301-P5-8&9-534	A	SHEET 5			
12301-P5-8&9-075	A	DETAIL SHEET 1	SEWER: HOUSE CONNECTION PROFILES			S.D 251	D	PROPERTY CONNECTION DETAILS TYPE C1 & TYPE C2
EARTHWORKS: COMBINED SERVICES			12301-P5-8&9-570	A	SHEET 1 OF 2			
12301-P5-8&9-090	B	PLAN SHEET 01	12301-P5-8&9-571	A	SHEET 2 OF 2	S.D 261	E	PRESSURE SEWERAGE SYSTEMS TYPICAL DETAILS
12301-P5-8&9-091	A	PLAN SHEET 02	SEWER: THRUST BLOCKS			S.D 276	C	TRENCH DRAINAGE BULKHEADS & TRENCH STOPS
ROADWORKS: PLAN			12301-P5-8&9-590	A	TYPICAL THRUST & ANCHOR BLOCKS	S.D 278	B	MAINTENANCE HOLES FOR SEWERS
12301-P5-8&9-100	B	SHEET 1 OF 2	12301-P5-8&9-591	A	SEWER HORIZONTAL THRUST BLOCK DETAIL	S.D 301	C	WATER RETICULATION LAYOUT CUL-DE-SACS
12301-P5-8&9-101	C	SHEET 2 OF 2	12301-P5-8&9-592	A	SEWER VERTICAL THRUST BLOCK	S.D 311	A	AUTOMATIC AIR RELEASE VALVE INSTALLATION DETAILS
ROADWORKS: DETAILS			STORMWATER: PLAN			S.D 312	C	TYPICAL VALVE INSTALLATION DETAILS
12301-P5-8&9-120	D	DETAILS	12301-P5-8&9-600	B	PLAN SHEET 01	S.D 320	C	PROPERTY SERVICES CONNECTION TO MAIN
12301-P5-8&9-121	A	ROADWORKS DETAILS SHEET 2	12301-P5-8&9-601	A	PLAN SHEET 02	S.D 341	E	TRENCH DRAINAGE BULKHEADS & TRENCH STOPS
ROADWORKS: KERB SECTIONS			STORMWATER: PROFILES			S.D 501	C	EROSION & SILTATION PREVENTION DEVICES SHEET 1
12301-P5-8&9-122	A	KERB LONGITUDINAL SECTIONS SHEET 1	12301-P5-8&9-620	A	SHEET 1	S.D 502	B	EROSION & SILTATION PREVENTION DEVICES SHEET 2
12301-P5-8&9-123	A	KERB LONGITUDINAL SECTIONS SHEET 2	12301-P5-8&9-621	A	SHEET 2			
ROADWORKS: SWEPth PATHS			12301-P5-8&9-622	A	SHEET 3			
12301-P5-8&9-160	A	INTERSECTION ATURN PASSENGER CAR	12301-P5-8&9-623	A	SHEET 4			
12301-P5-8&9-161	A	INTERSECTION ATURN 12.5 TRUCK	STORMWATER: STRUCTURE DETAILS					
ROADWORKS: LONGITUDINAL SECTIONS			12301-P5-8&9-640	A	DETAILS SHEET 01			
12301-P5-8&9-200	A	ROAD 08	12301-P5-8&9-641	A	DETAILS SHEET 02			
12301-P5-8&9-201	A	ROAD 08 AND ROAD 09	STORMWATER: CATCHMENT					
12301-P5-8&9-202	A	ROAD 13	12301-P5-8&9-670	A	PLAN SHEET 1			
12301-P5-8&9-203	A	ROAD 13 AND 47	STORMWATER: CAULCULATIONS TABLES					
12301-P5-8&9-204	A	ROAD 49	12301-P5-8&9-680	A	MINOR & MAJOR STORM EVENT			
ROADWORKS: CROSS SECTIONS			WATER: RETICULATION PLAN					
12301-P5-8&9-300	A	ROAD 08	12301-P5-8&9-700	B	SHEET 1 OF 2	SEW 1200	V2.1	SOIL CLASSIFICATION GUIDELINES AND ALLOWABLE BEARING PRESSURES FOR BULKHEADS
12301-P5-8&9-301	A	ROAD 08 AND ROAD 09	12301-P5-8&9-701	A	SHEET 2 OF 2	WAT 1205	V2.2	THRUST BLOCK DETAILS CONCRETE BLOCKS
12301-P5-8&9-302	A	ROAD 09 AND ROAD 13	WATER: PROFILES			WAT 1207	V2.2	THRUST AND ANCHOR BLOCKS GATE VALVES AND VERTICAL BENDS
12301-P5-8&9-303	A	ROAD 13	12301-P5-8&9-720	A	PLAN SHEET 1 OF 2	WAT 1208	V2.1	RESTRAINED JOINT SYSTEM DN100 TO DN375 DI MAINS
12301-P5-8&9-304	A	ROAD 13 AND ROAD 47	12301-P5-8&9-721	A	PLAN SHEET 2 OF 2	SPS 1602	V1.1	SCOUR ARRANGEMENT PUMP AND GRAVITY
12301-P5-8&9-305	A	ROAD 49	WATER: THRUST BLOCKS			SPS 1603	V1.1	SCOUR ARRANGEMENTS PRESSURE MAINS <300 <2.2 INVERT
ROADWORKS: INTERSECTION GRADING DETAIL			12301-P5-8&9-743	A	TYPICAL THRUST & ANCHOR BLOCKS			

GENERAL

1. CONTRACT SPECIFICATIONS
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
2. SETOUT
- SURVEY SETOUT INFORMATION HAS BEEN ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR TO ENABLE THE CONTRACTOR TO ACCURATELY SETOUT THE WORKS TO THE CO-ORDINATES SHOWN. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. DATUM
- LEVELS SHOWN ARE TO A.H.D.
4. EXISTING SERVICES - External Works
- THE LOCATIONS OF ALL EXISTING SERVICES HAVE BEEN CONFIRMED BY VACUUM EXCAVATIONS AND SURVEY. THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING SHALL CONFIRM THE LOCATION OF ALL SERVICES AND REPORT ANY DISCREPANCIES TO THE SUPERINTENDENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES AND TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY.
- a. ALL MATERIALS ARISING FROM ROADS AND SERVICES ARE TO BE COMPACTED TO FUTURE STAGES, TO LEVEL 1 OR IF DIRECTED BY THE SUPERINTENDENT SHALL BE TRUCKED TO A LICENSED TIP.
- b. CONTRACTOR IS RESPONSIBLE TO ENSURE ANY ELECTRONIC DATA FILES MATCH THE DRAWINGS
5. SITE ARRANGEMENTS
- a. HOURS OF WORKS ARE TO BE IN 7.00am TO 6.00pm MONDAY - FRIDAY, 8.00am TO 5.00pm SATURDAY, NO WORK SUNDAYS OR PUBLIC HOLIDAYS.
- b. COMPLAINTS ARE TO BE REGISTERED AND DEALT WITH PROMPTLY IN A PROFESSIONAL MANNER.
- c. COMMUNITY LIAISON -DETAILS OF THE CONTACT PERSON AND TELEPHONE NUMBER SHALL BE CLEARLY DISPLAYED AT THE SITE ENTRY. A SIGN IS TO BE ERECTED AT THE ENTRY OF THE SITE TO CLEARLY ADVISE THE COMMUNITY LIAISON OFFICER'S DETAILS AND CONTACT NUMBER. THESE DETAILS ARE TO BE DOCUMENTED IN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN.
6. SAFETY MANAGEMENT
- PRIOR TO THE COMMENCEMENT OF WORKS, A SITE-SPECIFIC SAFETY MANAGEMENT PLAN AND SAFE WORK METHODS FOR THE SUBJECT SITE HAVE BEEN PREPARED AND PUT IN PLACE IN ACCORDANCE WITH TWEED SHIRE COUNCIL GUIDELINES.
7. ABORIGINAL HERITAGE
- ABORIGINAL CULTURAL HERITAGE PROGRAM -RECORDS ARE TO BE KEPT OF WHICH STAFF / CONTRACTORS WERE INDUCTED UNDER THE ABORIGINAL CULTURAL HERITAGE PROGRAM FOR THE DURATION OF THE PROJECT.

EARTHWORKS/ROADWORKS

1. PAVEMENT
- a. BEFORE THE COMMENCEMENT OF THE RELEVANT STAGES OF ROAD CONSTRUCTION, PAVEMENT DESIGN DETAIL INCLUDING REPORTS FROM A REGISTERED NATA CONSULTANT SHALL BE SUBMITTED TO THE PRINCIPAL CERTIFIER FOR APPROVAL AND DEMONSTRATING.
- b. UPON RECEIPT OF THE CRB RESULTS THE ENGINEER HAS DESIGNED THE PAVEMENT IN ACCORDANCE WITH COUNCIL'S DEVELOPMENT DESIGN SPECIFICATION, D2.
- c. THE PAVEMENT MATERIALS TO BE USED COMPLY WITH THE SPECIFICATIONS TABLED IN TWEED SHIRE COUNCILS CONSTRUCTION SPECIFICATIONS, C242-C245, C247, C248 AND C255 (AS IN FORCE AT THE DATE OF THIS APPROVAL).
- d. THE SITE FILL AREAS HAVE BEEN COMPACTED TO THE SPECIFIED STANDARD.
- e. THE SUPERVISION OF BULK EARTHWORKS HAS BEEN TO LEVEL 1 AND FREQUENCY OF FIELD DENSITY TESTING HAS BEEN COMPLETED IN ACCORDANCE WITH TABLE 8.1 OF AS 3798-2007. DURING THE RELEVANT STAGES OF ROAD CONSTRUCTION, TESTS SHALL BE UNDERTAKEN BY A REGISTERED NATA GEOTECHNICAL FIRM. A REPORT INCLUDING COPIES OF TEST RESULTS SHALL BE SUBMITTED TO THE PRINCIPAL CERTIFIER PRIOR TO THE PLACEMENT OF THE WEARING SURFACE DEMONSTRATING:
- THAT THE PAVEMENT LAYERS HAVE BEEN COMPACTED IN ACCORDANCE WITH COUNCIL'S DEVELOPMENT DESIGN AND CONSTRUCTION SPECIFICATIONS (AS IN FORCE AT THE DATE OF THIS APPROVAL).
- THAT PAVEMENT TESTING HAS BEEN COMPLETED IN ACCORDANCE WITH TABLE 8.1 OF AS 3798 INCLUDING THE PROVISION OF A CORE PROFILE FOR THE FULL DEPTH OF THE PAVEMENT.
- f. ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).
2. SOILS
- ALL WORKS THAT INVOLVE THE DISTURBANCE OF SOILS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED ACID SULFATE MANAGEMENT PLAN, AS REQUIRED BY CONDITION 17 OF MP08_0194.
3. MAINTAIN WORKS
- a. THE SURROUNDING ROAD CARRIAGEWAYS ARE TO BE KEPT CLEAN OF ANY MATERIAL CARRIED ONTO THE ROADWAY BY CONSTRUCTION VEHICLES. ANY WORK CARRIED OUT BY COUNCIL TO REMOVE MATERIAL FROM THE ROADWAY WILL BE TAKEN OUT OF THE 1% COMPLIANCE BOND.
- b. COMPULSORY INSPECTIONS ARE REQUIRED THROUGHOUT THE WORKS AS PER CONDITION 88 OF MP08_0194.



CONSTRUCTION SEQUENCE/SILT MANAGEMENT PROGRAM

1. CONSTRUCTION - NOISE
- CONSTRUCTION NOISE MANAGEMENT SHALL COMPLY WITH THE APPROVED NOISE AND VIBRATION MANAGEMENT PLAN AND CONDITIONS 79 & 80 OF MP08_0194.
2. CONSTRUCTION - SEDIMENT
- EROSION AND SEDIMENT CONTROL SHALL COMPLY WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND CONDITION 78 OF MP08_0194.
3. CONSTRUCTION - MACHINERY
- THE USE OF CRUSHING PLANT MACHINERY, MECHANICAL SCREENING OR MECHANICAL BLENDING OF MATERIALS IS NOT APPROVED. SEPARATE APPROVAL MUST BE OBTAINED FOR ANY SUCH USE OF THE SITE.



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28

PTY LTD

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

B	02-09-21	NOTES AMENDED
A	08-04-21	ISSUE FOR INFORMATION
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

GENERAL NOTES

MORTONS urbansolutions

Urban & Regional Planning
Civil Engineering
Project Coordination

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Southport QLD 4215

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

DESIGNED RB

DRAWN JB

APPROVED

NER 906726

DATE 08-04-21

DRAWING NUMBER

12301-P5-8&9-002

AMEND.

B

ACCESS STREET

NEIGHBOURHOOD CONNECTOR (MINOR)

NEIGHBOURHOOD CONNECTOR

REFER 120 SERIES DRAWINGS FOR TYPICAL SECTIONS

EXISTING PROPERTY LINE

EXISTING KERB (INVERT)

FUTURE PROPERTY LINE

FUTURE KERB (INVERT)

PROPOSED PROPERTY LINE

PROPOSED KERB (INVERT)

LIMIT OF WORKS

PRECINCT BOUNDARY

STAGE BOUNDARY

EXISTING PERMANENT KOALA EXCLUSION FENCE

EXISTING TEMPORARY FENCE

ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-8&9-011.

HERITAGE LOCATION

ECOLOGICAL BUFFER

HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)

GENERAL

1. CONTRACT SPECIFICATIONS

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.

2. SETOUT

SURVEY SETOUT INFORMATION HAS BEEN ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR TO ENABLE THE CONTRACTOR TO ACCURATELY SETOUT THE WORKS TO THE CO-ORDINATES SHOWN. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.

3. DATUM

LEVELS SHOWN ARE TO A.H.D.

4. TRENCH SPOIL

a. ALL MATERIALS ARISING FROM ROADS AND SERVICES ARE TO BE COMPACTED TO FUTURE STAGES, TO LEVEL 1.

b. ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).

5. CHECK ELECTRONIC SETOUT

CONTRACTOR IS RESPONSIBLE TO ENSURE ANY ELECTRONIC DATA FILES MATCH THE DRAWINGS.

6. PRE START

a. ERECT SITE SIGNAGE, CONSTRUCT ENTRY AND EXIT POINT AS INDICATED.

b. CONSTRUCT VEHICLE WASHDOWN AREA AND ASSOCIATED SILT MANAGEMENT DEVICES.

c. CONSTRUCT SITE OFFICE AND STORAGE COMPOUND AREA.

d. INSTALL EROSION AND SEDIMENT CONTROL CONTROL DEVICES AS PER THE EROSION AND SEDIMENT CONTROL PLAN.

e. ERECT TEMPORARY TREE PROTECTION FENCING IN ACCORDANCE WITH THE APPROVED VEGETATION MANAGEMENT PLAN AND AUTHORITIES APPROVAL CONDITIONS.

7. WATER

DRAWING RETICULATED WATER - WHERE WATER IS TO BE DRAWN FROM COUNCILS RETICULATED SYSTEM, AN APPLICATION FOR THE HIRE OF A COUNCIL METERED STANDPIPE INCLUDING COUNCILS NOMINATED POINT OF EXTRACTION IS TO BE SUBMITTED TO COUNCIL AND PAYMENT OF RELEVANT FEES IN ACCORDANCE WITH COUNCILS ADOPTED FEES AND CHARGES.

8. MAINTENANCE

ALL WARNING SIGNS, LIGHTS, BARRIERS AND FENCES SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH AS 1742 (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES). THE CONTRACTOR SHALL BE ADEQUATELY INSURED AGAINST PUBLIC RISK LIABILITY AND BE RESPONSIBLE FOR ANY CLAIMS ARISING FROM THESE WORKS.

9. HEALTH AND SAFETY

ALL WORKS UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH AND SAFETY LEGISLATION.

PROJECT SPECIFIC REPORTS

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

a) GEOTECHNICAL INVESTIGATION REPORTS (INCLUDING ANY ACID SULPHATE OR DISPERSIVE SOIL REPORTING)

b) VEGETATION & FAUNA MANAGEMENT PLANS

c) OTHER MANAGEMENT PLANS NOMINATED IN THE CONTRACT, AUTHORITIES APPROVAL CONDITIONS OR BY THE SUPERINTENDENT.

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
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Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

NORTH

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

ISSUES	DATE
TENDER	...
COUNCIL	08-04-21
CONSTRUCTION	..

PRE DATE	AMENDMENT
B 02-09-21	LEGEND AMENDED
A 08-04-21	ISSUE FOR INFORMATION

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROAD HIERARCHY AND STAGING PLAN

MORTONS

urbansolutions

Urban & Regional Planning

Civil Engineering

Project Coordination

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Southport QLD 4215

DESIGNED	RB	DRAWN	JB
APPROVED		NER 906726	DATE 08-04-21

DRAWING NUMBER	AMEND.
12301-P5-8&9-005	B

Y:\123 - Lelia Developments Pty Ltd\01 - Kings Forest\PRECIS\Engineering Drawings\OPW Stages 8 & 9\Current\12301-P5-8&9-005.dwg, 12/10/2021 12:25:55 PM, 1:2

NOTE:
PEGS PHYSICALLY INGROUND ON ROAD
CONTROL LINE AS DEEMED START OF
PROJECT. LEVEL INFORMATION USED
FOR DESIGN PURPOSES.

STG 9

STG 10

ROAD 13

ROAD 49

ROAD 09

LOT 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 920, 921, 922, 923, 924, 927

PT 1003

PT 1001

PT 1002

ADJOINS SHEET 1

SH 1

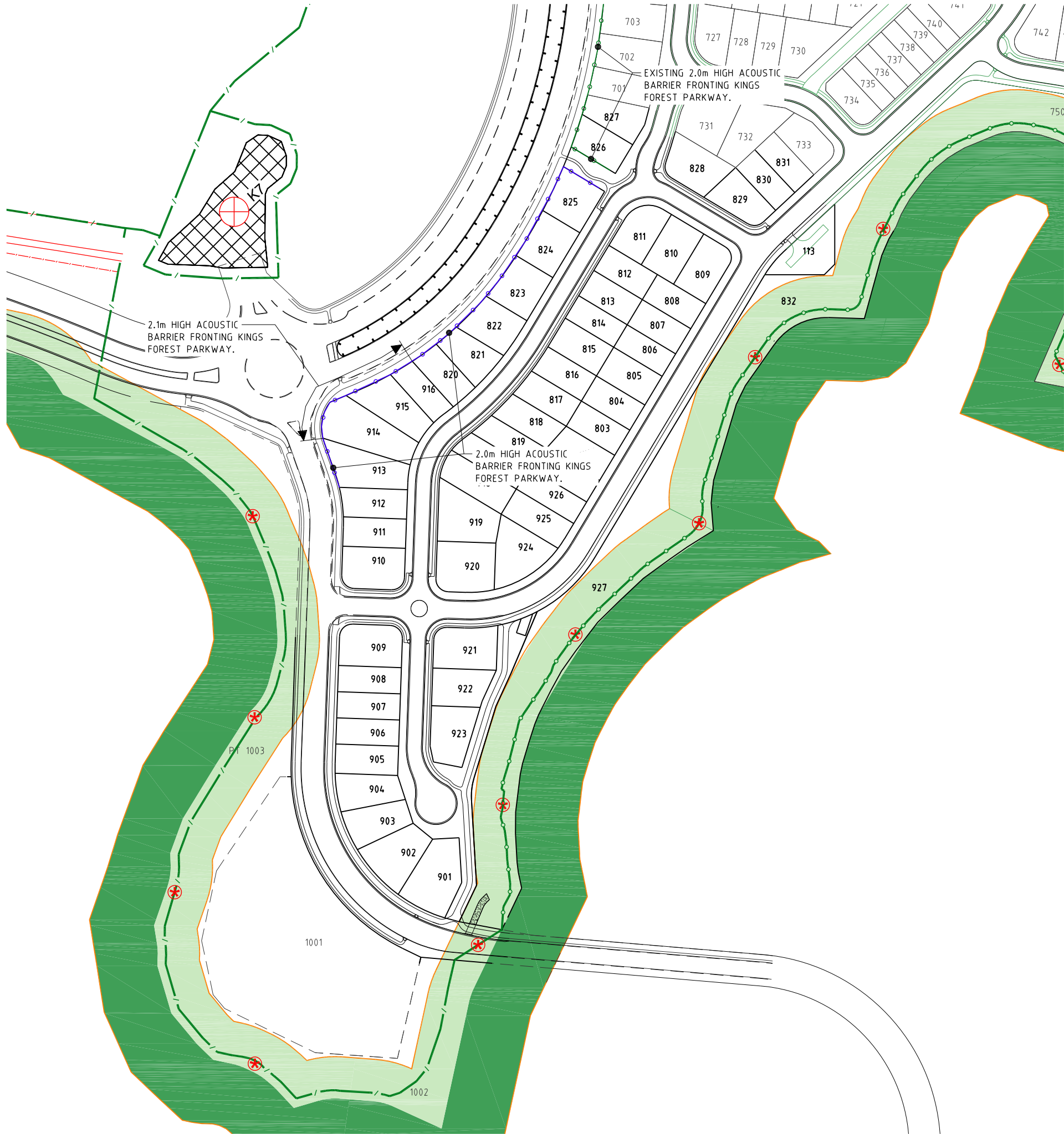
SH 2

SHEET LAYOUT

DRAWING NUMBER	AMEND.
12301-P5-8&8-008	A

LEGEND

- EXISTING PROPERTY LINE
- EXISTING KOALA EXCLUSION FENCE
- EXISTING TEMPORARY FENCE
- EXISTING TEMPORARY NO-GO FENCE
- ACCESS GATE IN ACCORDANCE WITH TSC STD DWG S.D.020
- 2m ACOUSTIC FENCE UNLESS OTHERWISE SPECIFIED IN ACCORDANCE WITH DRAWING 12301-P5-8&9-011.
- HERITAGE LOCATION
- HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
- ECOLOGICAL BUFFER



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION

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PARISH OF CUDDEN

COUNTY OF ROUS

CLIENT

PROJECT 28 PTY LTD

0 10 20 30 40 50m

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

B	02-09-21	LEGEND AND NOTES AMENDED
A	08-04-21	ISSUE FOR INFORMATION
PRE DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS

DRAWING TITLE

FENCING PLAN

Urban & Regional Planning

Civil Engineering

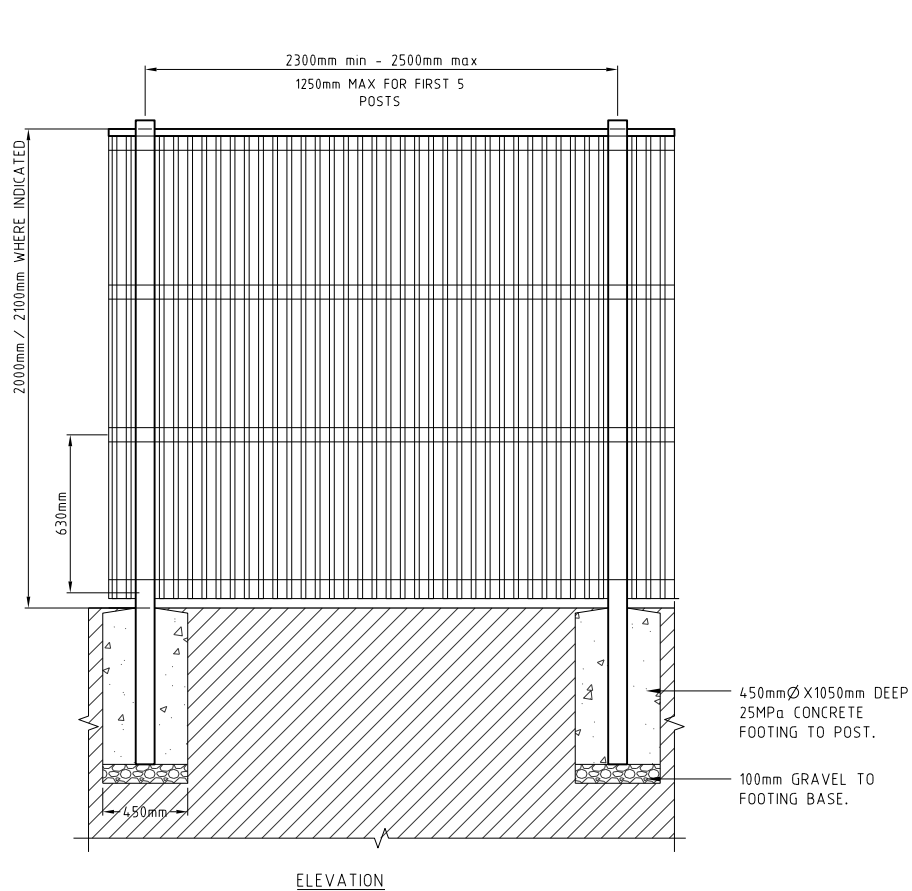
Project Coordination

MUS Pty Ltd T/As: Mortons-Urban Solutions ABN: 39 116 375 065 mortons@urbansolutions.net.au www.urbansolutions.net.au Tel 07 5571 1099 Fax 07 5571 1088

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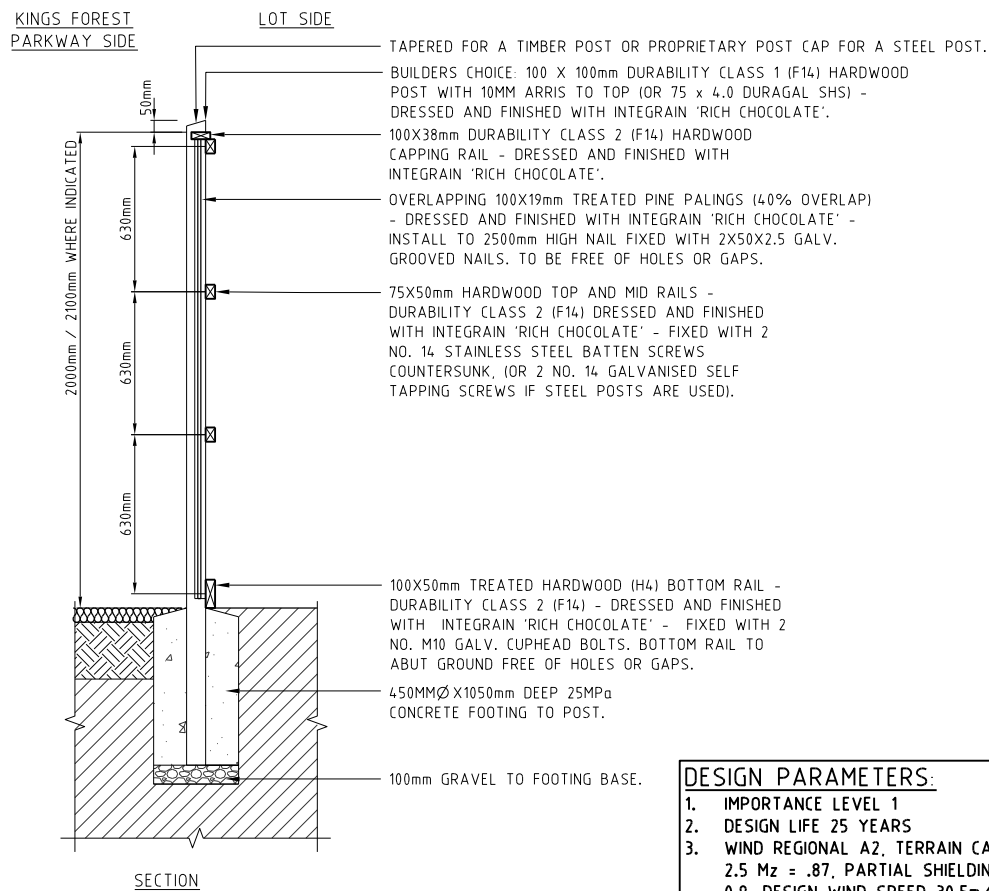
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DESIGNED RB	DRAWN JB
APPROVED	NER 906726 DATE 08-04-21
DRAWING NUMBER	AMEND.
12301-P5-8&9-010	B



ELEVATION

ACOUSTIC FENCE
N.T.S



SECTION

DESIGN PARAMETERS:

1. IMPORTANCE LEVEL 1
2. DESIGN LIFE 25 YEARS
3. WIND REGIONAL A2, TERRAIN CATEGORY 2.5 Mz = .87, PARTIAL SHIELDING Ms = 0.9, DESIGN WIND SPEED 30.5m/s
4. SOIL TYPE: DENSE SAND.

PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
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Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
PROJECT 28
PTY LTD


0 20 40 60 80 100m
Scale 1:2000 - A1 (1:4000 - A3)

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

A	08-04-21	ISSUE FOR INFORMATION
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS


GILBERT SUTHERLAND

DRAWING TITLE

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FENCE DETAILS


MORTONS
urban**solutions**
Urban & Regional Planning
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DESIGNED RB	DRAWN JB
APPROVED 	NER 906726 DATE 08-04-21
DRAWING NUMBER	AMEND.
12301-P5-8&9-011	A

- THE OBJECTIVE OF THE EROSION AND SEDIMENT CONTROL PLAN IS TO ENSURE THAT ALL REASONABLE AND PRACTICABLE MEASURES ARE IMPLEMENTED TO MINIMISE SHORT AND LONG-TERM EROSION AND ADVERSE EFFECTS OF SEDIMENT TRANSPORT.
2. THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN MUST INCLUDE WATER QUALITY MONITORING REQUIREMENTS IN ACCORDANCE WITH THE APPROVED GILBERT & SUTHERLAND STORMWATER MANAGEMENT PLAN (SMP). THE CONTRACTOR MUST CONFIRM THE PROPOSED PROCEDURES FOR THE TESTING, FLOCKING AND TRIGGERS FOR PUMP OUT OF ALL SEDIMENT BASINS IN ACCORDANCE WITH THE APPROVED SMP.
3. ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).
4. PRIOR TO THE COMMENCEMENT OF WORKS ONSITE THE CONTRACTOR MUST MAKE THEMSELVES AWARE OF ALL PREVIOUS GEOTECHNICAL REPORTS AND DETERMINE THE DISPERSIVE CHARACTERISTICS OF THE SOIL (INCLUDING PERFORMING ANY SOIL TESTS IF REQUIRED). A COPY OF ALL TEST RESULTS MUST BE PROVIDED TO THE SUPERINTENDENT.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION (INCLUDING THE MAINTENANCE PERIOD). NOTWITHSTANDING THE CONTROL MEASURES OR FINISHED EARTHWORKS DESIGN SHOWN ON THESE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ADDITIONAL OR ALTERNATIVE EROSION & SEDIMENT CONTROL MEASURES TO MINIMISE SEDIMENT ACROSS OR LEAVING THE SITE.
6. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS (INCLUDING WEEKENDS AND PUBLIC HOLIDAYS) AND AT ALL TIMES REMAINS RESPONSIBLE TO:
 - a) CLEAN AND REPAIR CONTROL DEVICES WHENEVER THE ACCUMULATED SEDIMENT REDUCES THEIR CAPACITY BY 50%.
 - b) MAINTAIN POSITIVE GRADES OF ALL PERIMETER BANKS AND SWALES TO AN OUTLET.
 - c) PROTECT ANY DOWNSTREAM CONSTRUCTION.
 - d) CONTROLLING DUST.
 - e) MEASURES HAVE BEEN INSTALLED IN ACCORDANCE WITH DETAILS OUTLINED IN THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND AS DIRECTED BY THE SUPERINTENDENT.
7. THE CONTRACTOR'S PLAN SHALL ALLOW FOR SUITABLE ACCESS TO ALLOW MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. NO ADDITIONAL VEGETATION CLEARING IS PERMITTED FOR GAINING ACCESS UNLESS APPROVED BY THE SUPERINTENDENT.
8. THE CONTRACTOR MAY REQUEST APPROVAL FROM THE SUPERINTENDENT TO REUSE THE STOCKPILED MULCH FOR STABILISING BATTERS ONLY IN LOCATIONS WHERE THE APPROVED LANDSCAPE OPW DESIGN REQUIRES MULCH ULTIMATELY.
9. CONSTRUCTION STOCKPILING
 - a) TOPSOIL SHALL BE STRIPPED AND STOCKPILED IN LOCATIONS NOMINATED ON THE CONSTRUCTION DRAWINGS OR IN LOCATIONS AGREED WITH THE SUPERINTENDENT.
 - b) ADDITIONAL VEGETATION CLEARING IS NOT PERMITTED TO FACILITATE THE STOCKPILING OF MATERIALS UNLESS SHOWN ON THE APPROVED VEGETATION MANAGEMENT PLAN.
 - c) ANY STOCKPILE SITE MUST BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES.
 - d) NO STOCKPILES ARE TO BE LOCATED WITHIN THE TREE PROTECTION ZONE OF VEGETATION.
 - e) A TEMPORARY SILT FENCE IS TO BE ERECTED APPROXIMATELY 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING.
10. NOTWITHSTANDING THE DETAILS SHOWN IN THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN DURING CONSTRUCTION THE CONTRACTOR MUST
 - a) ENSURE ALL SEDIMENT BASINS ARE ADEQUATELY SIZED. THE SEDIMENT BASINS ARE TO ACCOUNT FOR ON-SITE AND UPSTREAM CATCHMENT AREAS. CALCULATIONS ARE TO BE PROVIDED TO DEMONSTRATE THE SEDIMENT BASINS CAN FUNCTION AS DESIGNED.
 - b) PLACE A ROCK BOND AROUND ALL HEADWALLS DURING CONSTRUCTION.
 - c) PROVIDE KERB INLET PROTECTION TO ALL GULLIES.
 - d) PLACE A MINIMUM 1.0m wide TURF STRIP BEHIND ALL KERBS AND IN A HERRINGBONE LAYOUT WITHIN THE ROAD VERGE.
 - e) MAINTENANCE (INCLUDING FLOCCULATION IF REQUIRED AND PUMP OUT) OF ALL CONSTRUCTION SEDIMENT BASINS (WHETHER EXISTING OR NEW).
 - f) CLEAN OUT OF ALL GROSS POLLUTANT TRAPS, SEDIMENT FOREBAYS AND ALL OTHER PERMANENT SEDIMENT CONTROL DEVICES AT BOTH ON AND OFF MAINTENANCE.
11. CONTRACTOR TO CONFIRM THE EXTENTS OF REQUIRED GRASSING TREATMENTS WITH THE SUPERINTENDENT ATLEAST 7 DAYS PRIOR TO FINAL TRIMMING.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT GRASSING STRIKE RATES ARE ACHIEVED AT THE ON AND OFF MAINTENANCE INSPECTIONS IN ACCORDANCE WITH COUNCIL REQUIREMENTS. THIS INCLUDES THE SUPPLY AND INSTALLATION OF ANY REQUIRED CHEMICAL/FERTILIZER AMELIORATION TO ACHIEVE THE SPECIFIED GRASS STRIKE RATES.
13. GEOFABRIC LINING OF CHANNELS AND CHECK DAMS MAY BE REQUIRED SUBJECT TO THE SITE CONDITIONS.
14. BATTERS WITHIN PUBLIC OPEN SPACE TO BE VEGETATED IN ACCORDANCE WITH APPROVED OPEN SPACE MANAGEMENT PLAN AND LANDSCAPING OPW. CONTRACT DOCUMENTATION WILL SPECIFY WHETHER THIS IS THE CIVIL CONTRACTOR OR THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO SUPPLY AND INSTALL. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUITABLE ACCESS FOR THE LANDSCAPE CONTRACTOR TO PERFORM THEIR WORKS.
15. MAINTENANCE PERIOD (PRE TO POST CONSTRUCTION)
 - a) ALL PROTECTION MEASURES ARE TO BE INSPECTED AND MAINTAINED REGULARLY.
 - b) REPAIRS ARE TO BE EFFECTED IMMEDIATELY.
 - c) SILT AFTER RAIN IS TO BE CLEANED FROM STREETS AND ALLOTMENTS IMMEDIATELY AND CORRECTIVE ACTION TAKEN TO AVOID A RE-OCCURRENCE.
 - d) AT OFF-MAINTENANCE AND ONLY WHEN DIRECTED BY COUNCIL, REMOVE AND DISPOSE OFFSITE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.
16. REFER TO LANDSCAPE ARCHITECT PLANS FOR PLANTING DETAILS OF ALL BATTERED AND NON BATTERED AREAS.
17. REFER TO T.S.C S.D 501 & 502 FOR EROSION AND SILTATION PREVENTION DEVICES.
18. EACH PHASE MUST BE TOPSOILED, DRILL SEEDED AND HYDRO MULCHED BEFORE MOVING TO THE NEXT PHASE OR NO MORE THAN 5ha OF EARTHWORKS SHALL BE EXPOSED AT ANY TIME.

 EXISTING PROPERTY LINE
 EXISTING KERB (INVERT)
 EXISTING STORMWATER
 EXISTING CONTOURS
 FUTURE PROPERTY LINE
 FUTURE KERB (INVERT)
 FUTURE STORMWATER
 FUTURE CONTOURS
 PROPOSED PROPERTY LINE
 PROPOSED KERB (INVERT)
 PROPOSED STORMWATER
 DESIGN CONTOURS
 SITE BOUNDARY
 PRECINCT BOUNDARY
 STAGE BOUNDARY
 SEDIMENT FENCE

SEDIMENT AND EROSION CONTROL MEASURES SHOWN RELATES TO THE FINISHED SURFACE ONLY. THE CONTRACTOR IS TO PREPARE PROGRESSIVE CONSTRUCTION PHASE SEDIMENT AND EROSION CONTROL PLANS THROUGHOUT CONSTRUCTION.

A map of the SH 2 corridor showing the proposed alignment and surrounding land use. The map includes a street grid, a red line indicating the proposed alignment, and labels for 'SH 2' and 'SH 1'.

SHEET LAYOUT

-
- EXISTING KOALA EXCLUSION FENCE
 EXISTING TEMPORARY FENCE
 EXISTING TEMPORARY NO-GO FENCE
 ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-889-011.
 HERITAGE LOCATION
 HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
 ECOLOGICAL BUFFER
 SCOUR PROTECTION
 TEMPORARY SEDIMENT BASIN
 STORMWATER INLET FILTER
 VEHICLE SHAKEDOWN

-  MANHOLE
-  KERB INLET (ON GRADE) PIT
-  KERB INLET (SAG) PIT
-  HEADWALL
- PL50.4 NOMINAL FINISHED SURFACE PAD LEVEL
-  FALL DIRECTION
-  ROCK CHECK DAM



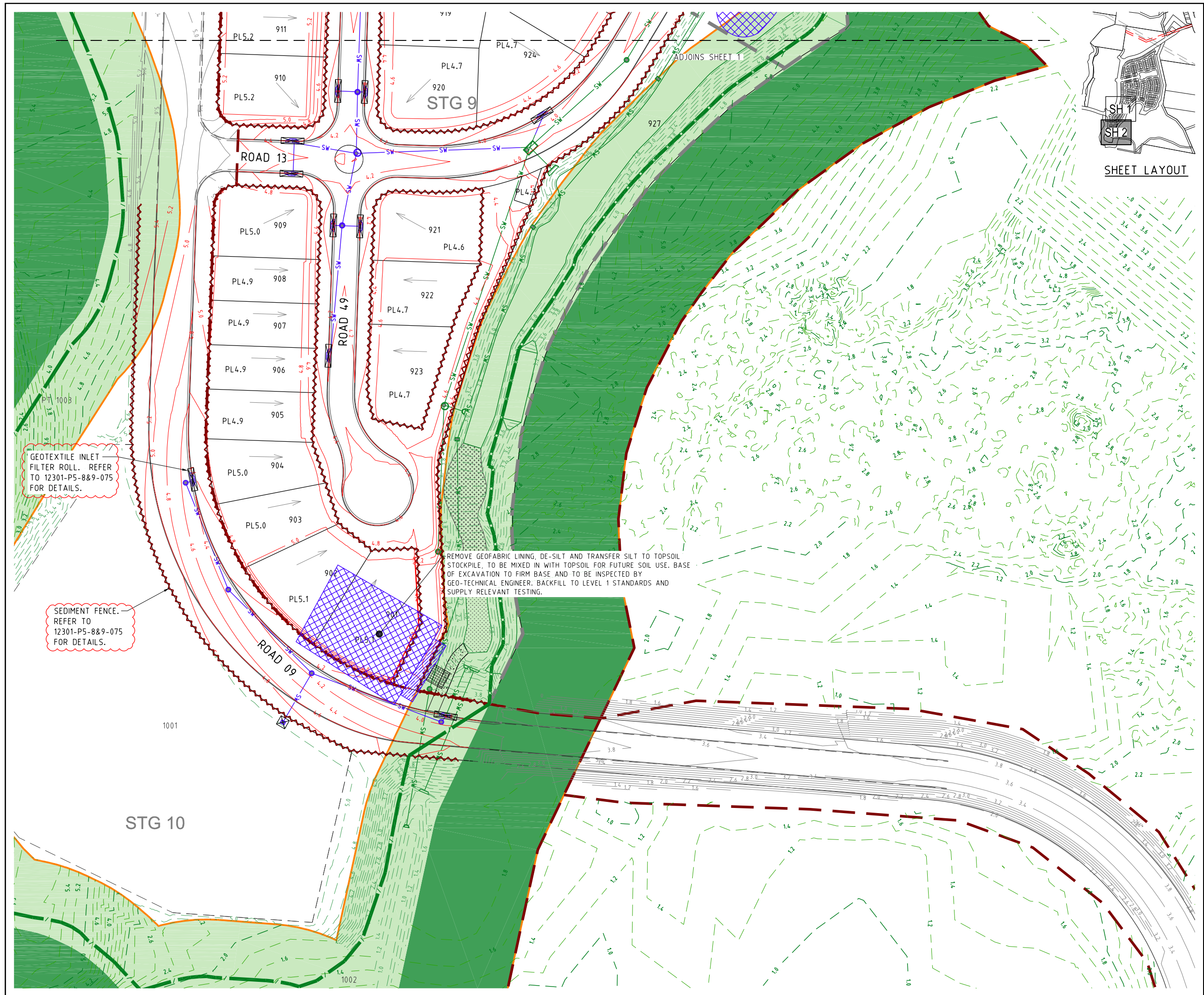
SEDIMENT FENCE. REFER TO —
12301-P5-8&9-075 FOR DETAILS.

GEOTEXTILE INLET
FILTER ROLL. REFER
TO 12301-P5-8&9-075
FOR DETAILS.

REMOVE GEOTEXTILE LINING, DE-SILT AND TRANSFER SILT TO TOPSOIL STOCKPILE, TO BE MIXED IN WITH TOPSOIL FOR FUTURE SOIL USE. BASE OF EXCAVATION TO FIRM BASE AND TO BE INSPECTED BY GEO-TECHNICAL ENGINEER. BACKFILL TO LEVEL 1 STANDARDS AND SUPPLY RELEVANT TESTING.

ADJOINS SHEET 2

PROJECT NAME KINGS FOREST PRECINCT 5 CONSTRUCTION CERTIFICATE - STAGES 8 & 9	
REAL PROPERTY DESCRIPTION Lot 7 on DP875447, Part of Lot 6 on DP875446, Lot 1 on DP781633, Lot 40 on DP7482, Lot 2 on DP819015, Lot 1 on DP129737, Lot 37A on DP13727, Lot 38A on DP13727, Lot 38B on DP13727, Lot 1 on DP706497, Lot 76 on DP755701, Lot 323 on DP755701, Lot 272 on DP755701, Lot 96 on DP755701 & Lot 326 on DP755701 PARISH OF CUDGEN . COUNTY OF ROUS .	
CLIENT PROJECT 28 PTY LTD	
 0 5 10 15 20 25m Scale 1:500 – A1 (1:1000 – A3)	
ISSUES	DATE
TENDER	...
COUNCIL	08-04-21
CONSTRUCTION	..
B 02-09-21	LEGENDS AND NOTES
A 08-04-21	ISSUE FOR INFORMATION
PRE DATE	AMENDMENT
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ASSOCIATED CONSULTANTS  LANDSURV AN AUSTRALIAN PROFESSIONAL SURVEYING COMPANY 	
DRAWING TITLE EARTHWORKS FINAL SURFACE AND SEDIMENT AND EROSION PLAN SHEET 1 OF 2	
 MORTONS urban solutions Urban & Regional Planning Civil Engineering Project Coordination	
MUS Pty Ltd T/A: Mortons-Urban Solutions ABN 39 116 375 065 mortons@urbansolutions.net.au www.urbansolutions.net.au Tel 07 5571 1099 Fax 07 5571 1088	Postal Address PO Box 2484 Southport QLD 4215 Gold Coast Office Suite 9, 19 Short St Southport QLD 4215
DESIGNED RB	DRAWN JB
APPROVED 	CHECKED NER 906726 DATE 08-04-21
DRAWING NUMBER	
12301-P5-8&9-070	
AMEND. B	



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

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Lot 1 on DP781633, Lot 40 on DP7482,
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& Lot 326 on DP755701
PARISH OF CUDDEN
COUNTY OF ROUS

CLIENT

PROJECT 28 PTY LTD

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

ISSUES		DATE
TENDER		...
COUNCIL		08-04-21
CONSTRUCTION		..

B	03-09-21	NOTES AMENDED
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ASSOCIATED CONSULTANTS

GILBERT SUTHERLAND

DRAWING TITLE

EARTHWORKS
FINAL SURFACE AND
SEDIMENT AND EROSION
PLAN
SHEET 2 OF 2

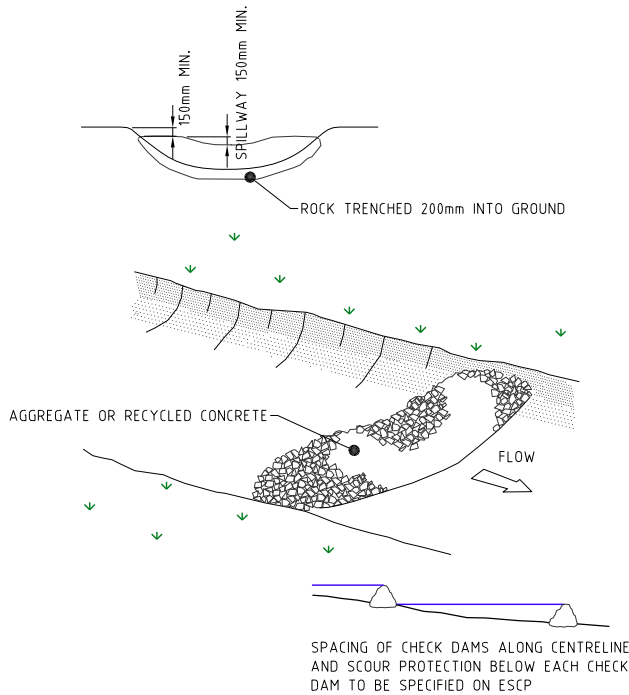
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Civil Engineering
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DRAWING NUMBER		AMEND.	
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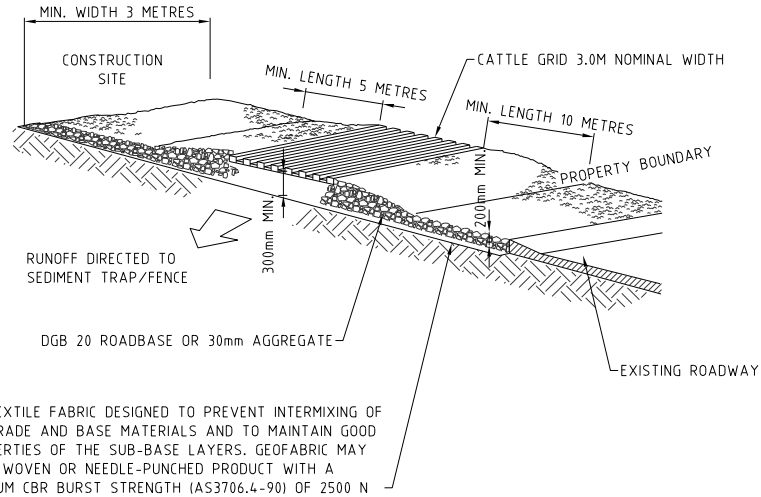


CONSTRUCTION NOTES:

- CHECK DAMS CAN BE BUILT WITH VARIOUS MATERIALS, INCLUDING ROCKS, LOGS, SANDBAGS AND STRAW BALES. THE MAINTENANCE PROGRAM SHOULD ENSURE THEIR INTEGRITY IS RETAINED (ESPECIALLY WHERE CONSTRUCTED WITH STRAW BALES) WHERE BALES ARE USED, REPLACEMENT MAY BE REQUIRED EVERY TWO TO FOUR MONTHS
- TRENCH CHECK DAM 200mm INTO THE GROUND ACROSS WHOLE WIDTH. WHERE ROCK IS USED, FILL TRENCHES TO AT LEAST 100mm ABOVE GROUND SURFACE TO REDUCE RISK OF UNDERCUTTING.
- TRENCH MAXIMUM HEIGHT SHOULD NOT EXCEED 600mm ABOVE GULLY FLOOR. THE CENTRE SHOULD ACT AS A SPILLWAY, BEING AT LEAST 150mm LOWER THAN OUTER EDGES
- SPACE DAMS SO THE TOE OF THE UPSTREAM DAM IS LEVEL WITH THE SPILLWAY OF THE FOLLOWING DOWNSTREAM DAM.

ROCK CHECK DAM

NOT TO SCALE

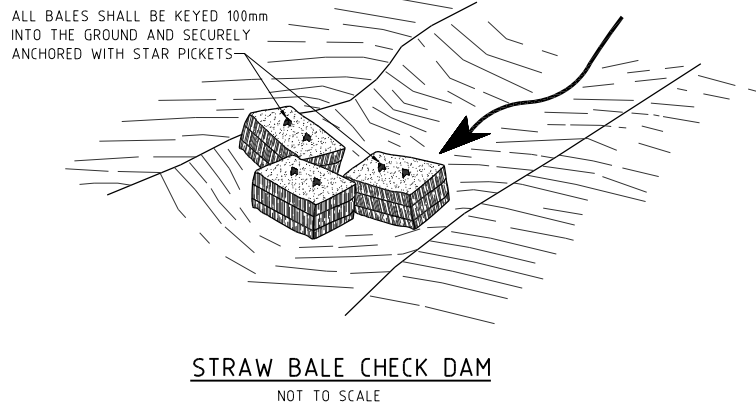


CONSTRUCTION NOTES:

- STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
- COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
- CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
- ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
- WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS SHAKER GRID

NOT TO SCALE

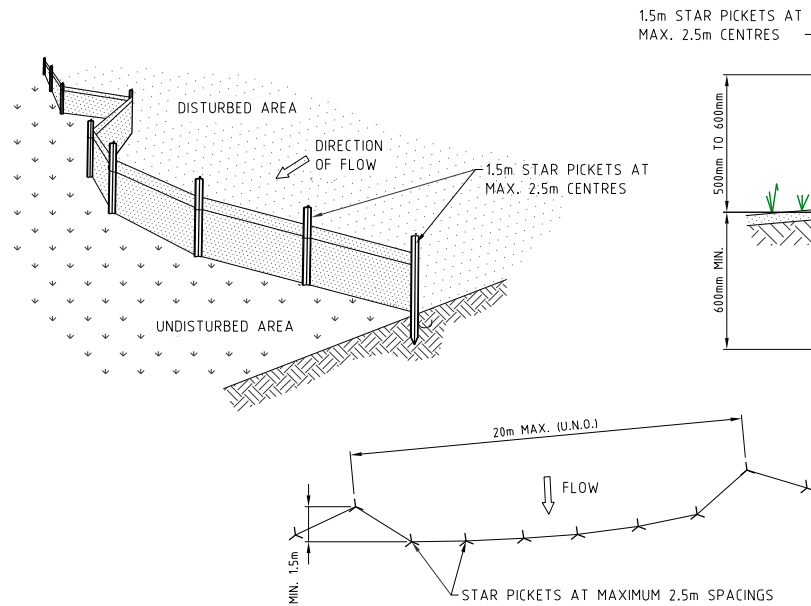


STRAW BALE CHECK DAM

NOT TO SCALE

CONSTRUCTION NOTES:

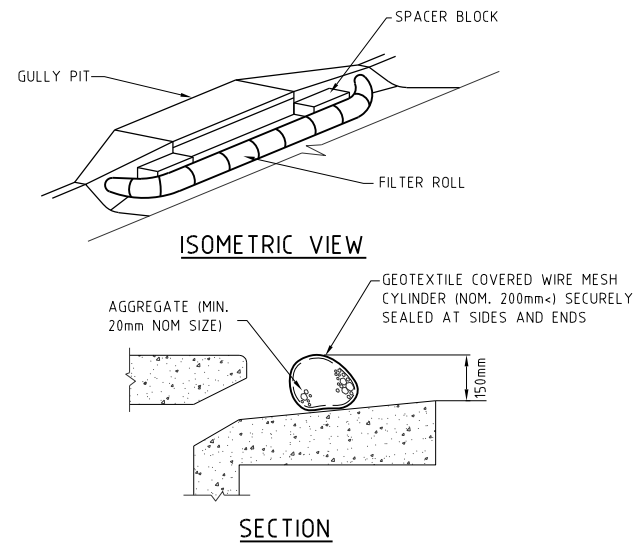
- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED
- DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS
- FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE



PLAN

SEDIMENT FENCE

NOT TO SCALE



SECTION

GEOTEXTILE FILTER ROLL

NOT TO SCALE

PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9
REAL PROPERTY DESCRIPTION
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Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
PROJECT 28
PTY LTD

ISSUES	DATE	
TENDER	13-11-19	
COUNCIL	XX-XX-XX	
CONSTRUCTION	..	

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ASSOCIATED CONSULTANTS

LANDSURV
GILBERT SUTHERLAND

DRAWING TITLE

SEDIMENT & EROSION DETAILS

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DESIGNED RB	DRAWN CB
APPROVED <i>[Signature]</i>	NER 906726 DATE 07-02-19
DRAWING NUMBER	AMEND.
12301-P5-8&9-075	A

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

	EXISTING PROPERTY LINE		PROPOSED SEWER MAIN
	EXISTING KERB (INVERT)		PROPOSED STORMWATER
	EXISTING FOOTPATH		PROPOSED SUBSOIL
	EXISTING STORMWATER		PROPOSED WATER MAIN
	EXISTING WATER MAIN		EXISTING KOALA EXCLUSION FENCE
	FUTURE PROPERTY LINE		EXISTING TEMPORARY FENCE
	FUTURE KERB (INVERT)		EXISTING TEMPORARY NO-GO FENCE
	FUTURE FOOTPATH		ACCESS GATE IN ACCORDANCE WITH TSC STD DWG S.D.020
	FUTURE KERB (INVERT)		ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-B&9-011.
	FUTURE FOOTPATH		HERITAGE LOCATION
	FUTURE SEWER		HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
	FUTURE STORMWATER		ECOLOGICAL BUFFER
	FUTURE WATER MAIN		FUTURE DRIVEWAY/GARAGE (BY OTHERS)
	PROPOSED PROPERTY LINE		
	PROPOSED KERB (INVERT)		
	PROPOSED FOOTPATH		
	PROPOSED RISING MAIN		

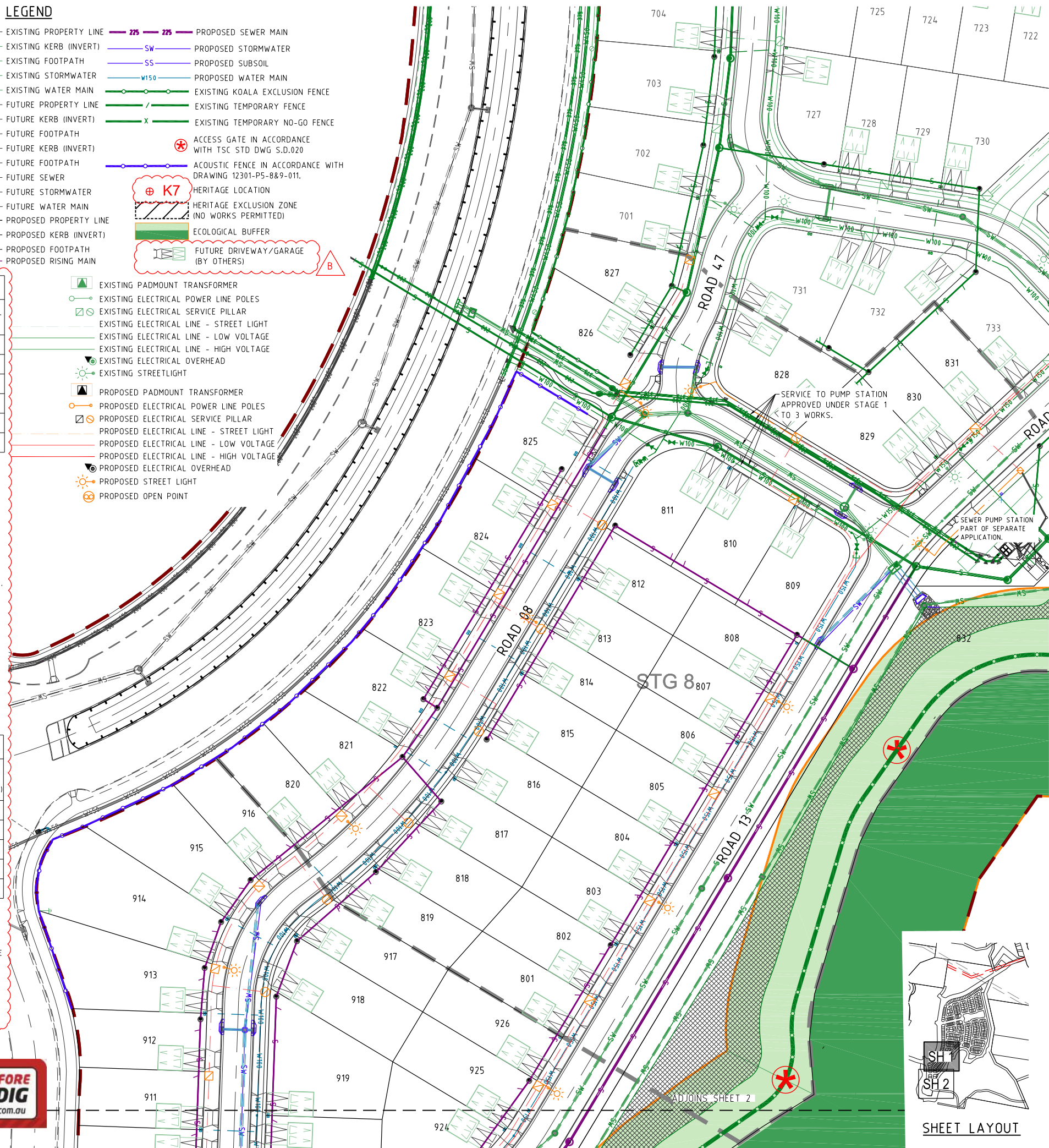
CLEARANCE BETWEEN WATER MAINS AND UNDERGROUND SERVICES			
UTILITY (EXISTING OR PROPOSED SERVICES)	MINIMUM HORIZONTAL CLEARANCES (mm) NEW MAIN SIZE $\leq$ DN 200	MINIMUM HORIZONTAL CLEARANCES (mm) NEW MAIN SIZE $>$ DN 200	MINIMUM VERTICAL CLEARANCE (mm)
TELECOMMUNICATION CONDUITS AND CABLES	300 ²	600	150
ELECTRICITY CONDUITS AND CABLES	500	1000	225 ⁶
STORMWATER DRAINS	300 ²	600	150 ³
SEWER - GRAVITY	1000 ⁴ /600	100 ⁴ /600	500 ³
SEWERS - PRESSURE AND VACUUM	600	600	300
KERBS	150	600 ⁵	150 (WHERE POSSIBLE)

1. VERTICAL CLEARANCE SHALL APPLY WHERE WATER MAINS CROSS ONE ANOTHER AND OTHER UTILITY SERVICES, EXCEPT IN THE CASE OF SEWERS WHERE A VERTICAL SEPARATION SHALL ALWAYS BE MAINTAINED, EVEN WHEN THE MAIN AND SEWER ARE PARALLEL. THE MAIN SHOULD ALWAYS BE LOCATED ABOVE THE SEWER TO MINIMISE THE POSSIBILITY OF BACKFLOW CONTAMINATION IN THE EVENT OF A MAIN BREAK.
2. CLEARANCES CAN BE FURTHER REDUCED TO 150mm FOR DISTANCES UP TO 2m WHERE MAINS ARE TO BE LAID PAST INSTALLATIONS SUCH AS CONCRETE BASES FOR POLES, PITS AND SMALL STRUCTURES, PROVIDING THE STRUCTURE WILL NOT BE DESTABILISED IN THE PROCESS. THE CLEARANCE FROM TIMBER POLES SHOULD BE AT LEAST 200mm AND PREFERABLY 300mm.
3. WATER MAINS SHOULD ALWAYS CROSS OVER SEWERS AND STORMWATER DRAINS. FOR CASES WHERE THERE IS NO ALTERNATIVE AND THE MAIN MUST CROSS UNDER THE SEWER THE DESIGN SHALL NOMINATE AN APPROPRIATE TRENCHLESS CONSTRUCTION TECHNIQUE IN ACCORDANCE WITH CLAUSE 5.5 OR OTHER WATER MAIN CONSTRUCTION AND PROTECTION TREATMENT, EFFECTIVELY JOINT-FREE IN THE VICINITY OF THE SEWER.
4. WHERE A PARALLEL SEWER IS AT THE MINIMUM VERTICAL CLEARANCE LOWER THAN THE WATER MAIN (500mm), MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 1000mm. THIS MINIMUM HORIZONTAL CLEARANCE CAN BE PROGRESSIVELY REDUCED TO 600mm AS THE VERTICAL CLEARANCE IS INCREASED TO 750mm.
5. CLEARANCE FROM KERBS SHALL BE MEASURED FROM THE NEAREST POINT OF THE KERB. FOR WATER MAINS <DN 375 CLEARANCES FROM KERBS CAN BE PROGRESSIVELY REDUCED UNTIL THE MINIMUM OF 150mm IS REACHED FOR MAINS <DN 200.
6. AN ADDITIONAL CLEARANCE FROM HIGH VOLTAGE ELECTRICAL INSTALLATIONS SHOULD BE MAINTAINED ABOVE THE CONDUITS OR CABLES TO ALLOW FOR A PROTECTIVE BARRIER AND MARKING TO BE PROVIDED.

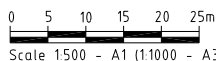
CLEARANCE BETWEEN PRESSURE MAINS AND UNDERGROUND SERVICES			
UTILITY (EXISTING SERVICES)	MINIMUM HORIZONTAL CLEARANCES (mm) PRESSURE MAIN SIZE ≤DN 200	MINIMUM HORIZONTAL CLEARANCES (mm) PRESSURE MAIN SIZE >DN 200	MINIMUM VERTICAL CLEARANCE (mm)
WATER MAINS	1000	1000	500
TELECOMMUNICATION CONDUITS AND CABLES	300 ²	600	150
ELECTRICITY CONDUITS AND CABLES	500	1000	225
SEWERS AND DRAIN	300 ²	600	150 ³
KERBS	150	600 ³	150 (WHERE POSSIBLE)

1. VERTICAL CLEARANCES APPLY WHERE PRESSURE MAINS CROSS OTHER UTILITY SERVICES, EXCEPT IN THE CASE OF WATER MAINS WHEN A VERTICAL SEPARATION SHALL ALWAYS BE MAINTAINED, EVEN WHEN THE PRESSURE MAIN AND WATER MAIN ARE PARALLEL. THE PRESSURE MAIN SHOULD ALWAYS BE LOCATED BELOW THE WATER MAIN TO MINIMISE THE POSSIBILITY OF BACKFLOW CONTAMINATION IN THE EVENT OF A PRESSURE MAIN BREAK.
2. CLEARANCES CAN BE FURTHER REDUCED TO 150mm FOR DISTANCES UP TO 2m WHEN PASSING OVER SMALL STRUCTURES OR SMALL STRUCTURES, PROVIDING THE STRUCTURE IS NOT DESTABILISED IN THE PROCESS.
3. CLEARANCE FROM KERBS SHALL BE MEASURED FROM THE NEAREST POINT OF THE KERB. FOR PRESSURE MAINS <DN 375 CLEARANCES FROM KERB CAN BE PROGRESSIVELY REDUCED UNTIL THE MINIMUM OF 150mm IS REACHED FOR MAINS <DN 200.

ANY SEWER PIPES LESS THAN 900mm COVER
REQUIRED BY WSAA TO BE STABILISED SAND.



REAL PROPERTY DESCRIPTION
 Lot 7 on DP875447, Part of Lot 6 on DP875446
 Lot 1 on DP781633, Lot 40 on DP7482,
 Lot 2 on DP819015, Lot 1 on DP129737,
 Lot 37A on DP13727, Lot 38A on DP13727,
 Lot 38B on DP13727, Lot 1 on DP706497,
 Lot 76 on DP755701, Lot 323 on DP755701,
 Lot 272 on DP755701, Lot 96 on DP755701
 & Lot 326 on DP755701
 PARISH OF CUDGEN .
 COUNTY OF ROUS .



I S S U E S	D A T E	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

B	03-09-21	LEGEND, TABLE AND NOTES AMENDED	
A	08-04-21	ISSUE FOR INFORMATION	
PRE	DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS



+GILBERT SUTHERLAND

D R A W I N G T I T L E

COMBINED SERVICES
PLAN
SHEET 1 OF 2



MUS Pty Ltd T/As:
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ABN: 39 116 375 065
mortons@urbansolutions.net.au
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Tel 07 5571 1099
Fax 07 5571 1088

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

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726 DATE 08-04-21

DRAWING NUMBER
12301-P5-8&9-090

B



PROJECT NAME

**KINGS
FOREST**

PRECINCT 5

**CONSTRUCTION CERTIFICATE -
STAGES 8 & 9**

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP137727, Lot 38A on DP137327,
Lot 38B on DP137327, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 84 on DP755701
& Lot 326 on DP755701

PARISH OF CUDGEN
COUNTY OF ROUS .

CLIENT
PROJECT 28
PTY LTD



ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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DRAWING TITLE	
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COMBINED SERVICES
PLAN
SHEET 2 OF 2



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 Fax 07 5571 1088 Southport QLD 4215

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APPROVED <i>[Signature]</i>	NER 906726	DATE 08-04-21	
DRAWING NUMBER			AMEND.
12301-P5-8&9-091			A



PROJECT NAME

**KINGS
FOREST**

PRECINCT 5

**CONSTRUCTION CERTIFICATE -
STAGES 8 & 9**

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 86 on DP755701
& Lot 326 on DP755701

PARISH OF CUDGEN
COUNTY OF ROUS.

ISSUES	DATE	
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COUNCIL	08-04-21	
CONSTRUCTION	..	

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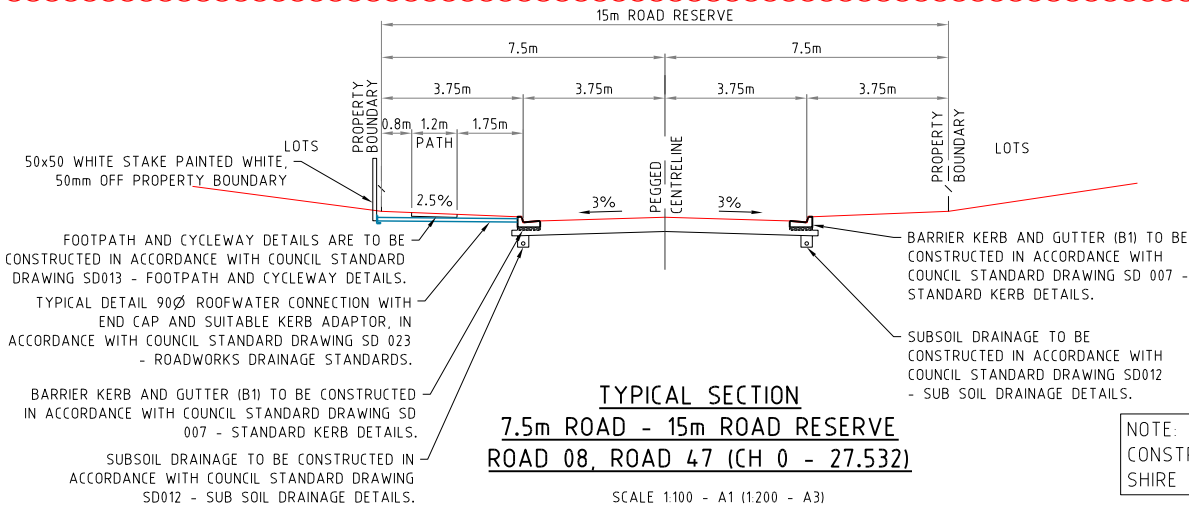
D R A W I N G T I T L E



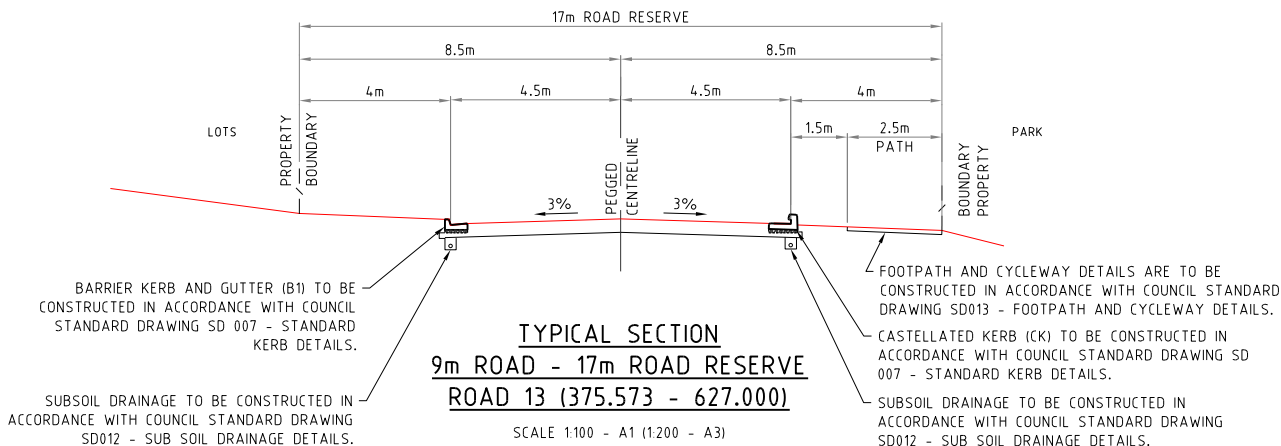
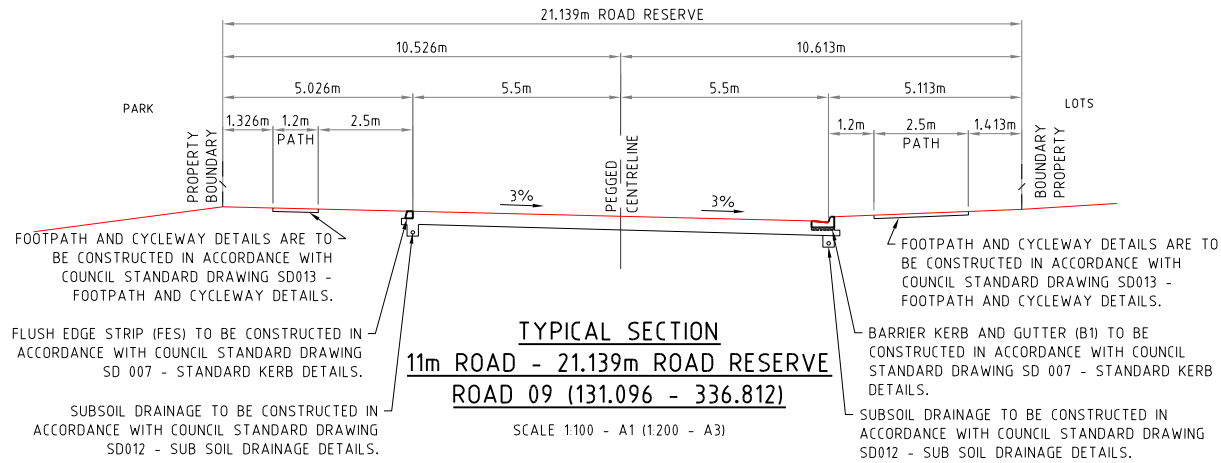
MORTONS
urban**solutions**
Urban & Regional Planning
Civil Engineering
Project Coordination

SCHEDULE OF PAVEMENT DEPTHS							
ROAD NAME	SURFACING	BASE	SUB-BASE	CBR	CLASSIFICATION	DESA OR VPD	DESIGN GUIDE
ROAD 09	25mm DG10 ON PRIMER SEAL *	150mm TYPE 2.1 (CBR 80)	165mm TYPE 2.3 (CBR 45)	9	NEIGHBOURHOOD CONNECTOR ST	7.5x10 ⁵	D2 PAVEMENT DESIGN MANUAL
ROAD 13	25mm DG10 ON PRIMER SEAL *	150mm TYPE 2.1 (CBR 80)	165mm TYPE 2.3 (CBR 45)	9	NEIGHBOURHOOD CONNECTOR ST (MINOR)	7.5x10 ⁵	D2 PAVEMENT DESIGN MANUAL
ROAD 08, ROAD 47 & ROAD 49	25mm FGG7 ON PRIMER SEAL *	150mm TYPE 2.1 (CBR 150)	150mm TYPE 2.4 (CBR 45)	9	LOCAL ACCESS ST	3.7x10 ⁴	D2 PAVEMENT DESIGN MANUAL
* 7mm PRIMER SEAL TACK COAT 0.22l/m ² RES. BITUMEN PRIOR TO ASPHALT LAYING.							

THE PAVEMENT DEPTHS ARE A GUIDE ONLY. FINAL PAVEMENT DESIGN IS SUBJECT TO INSITU SUBGRADE TESTING AND PRIVATE CERTIFIER APPROVAL.

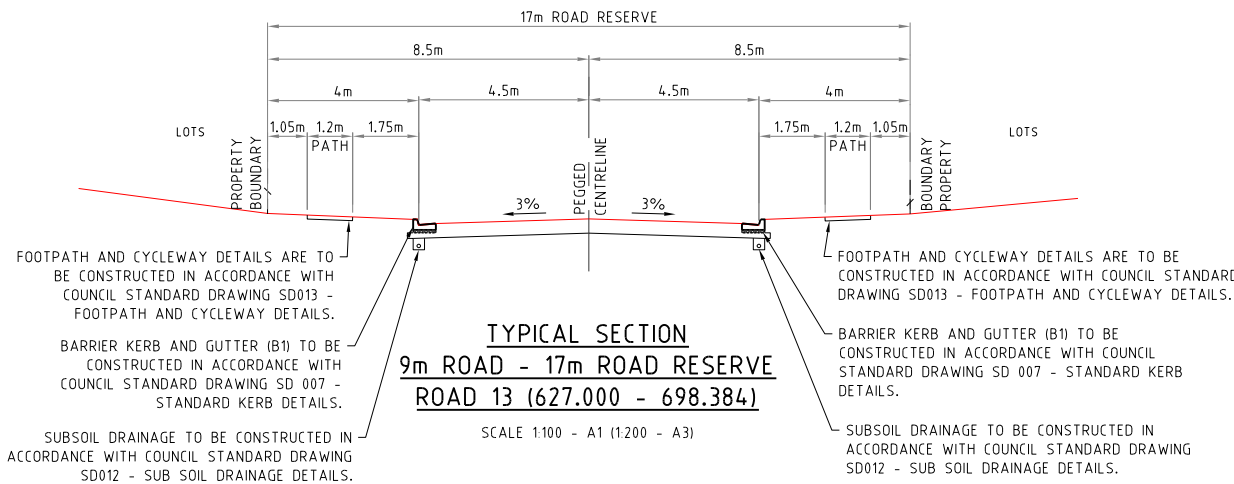
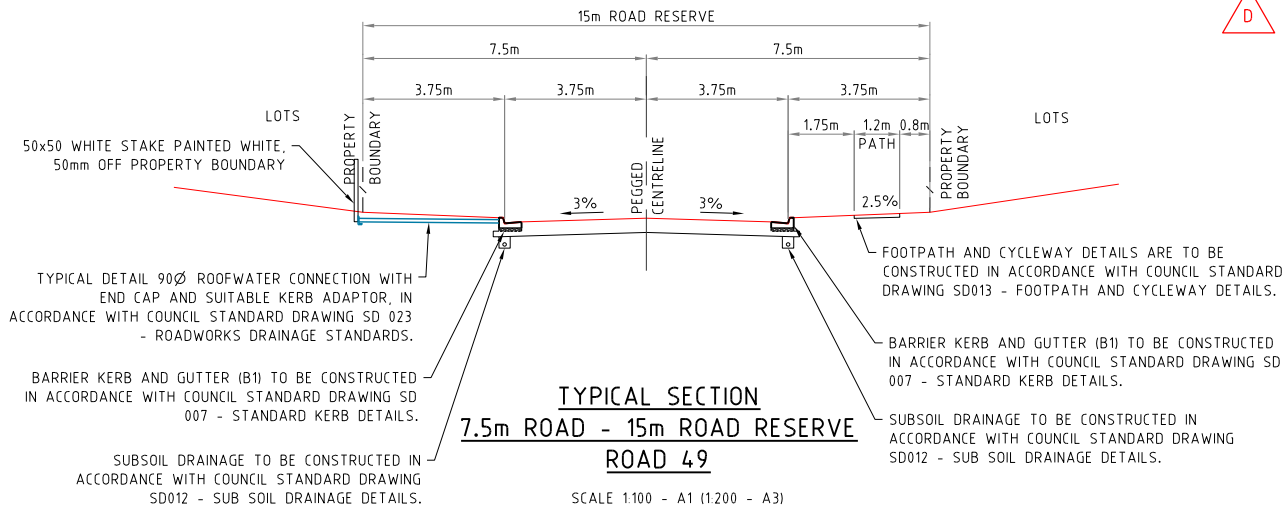


NOTE: FOOTPATH AND CYCLEWAYS TO BE CONSTRUCTED IN ACCORDANCE WITH TWEED SHIRE COUNCIL STANDARD DRAWING SD013.



SCHEDULE OF KERB TYPES		
KERB TYPE	IMAGE	REFERENCE
B1 BARRIER KERB AND GUTTER		TSC DRG. SD-007
MK MOUNTABLE KERB		
FES FLUSH EDGING STRIP		
RKG ROLL TOP KERB AND GUTTER		
DD CONCRETE DISH DRAIN		TSC DRG. SD-008
CK CASTELLATED KERB		
B2 BARRIER KERB		
		IPWEA DRG. RS-080

NOTE:
SUBSOIL DRAINS
TO BE PLACED
UNDER ALL KERBS.



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28

PTY LTD

0 0.1 0.2 0.3 0.4 0.5m

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

0 0.2 0.4 0.6 0.8 1.0m

Scale 1:20 - A1 (1:40 - A3)

0 0.5 1.0 1.5 2.0 2.5m

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

0 1 2 3 4 5m

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

D	11-10-21	DETAILS AMENDED
C	01-09-21	NOTES AND DETAILS AMENDED
B	15-06-21	TABLE AMENDED
A	08-04-21	ISSUE FOR INFORMATION

PRE DATE	AMENDMENT

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ROADWORKS
DETAILS
SHEET 1

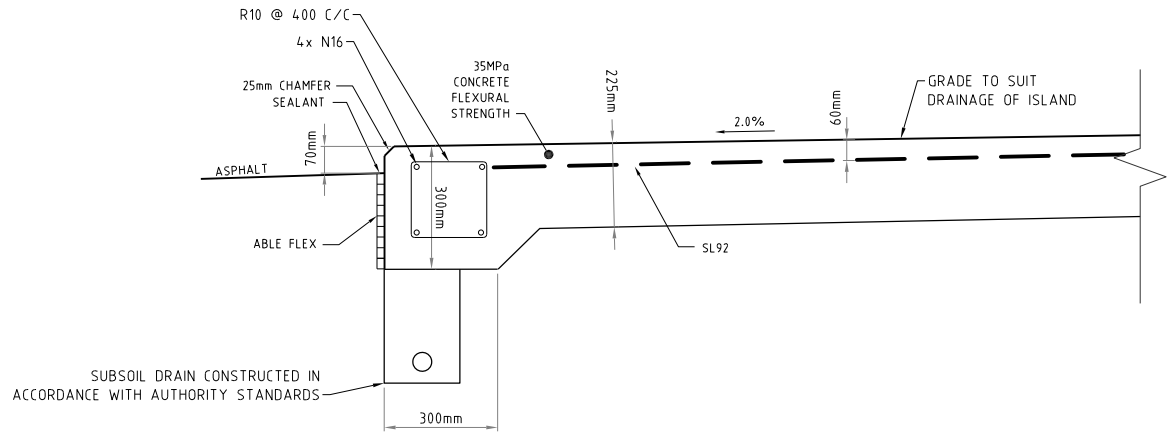
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088

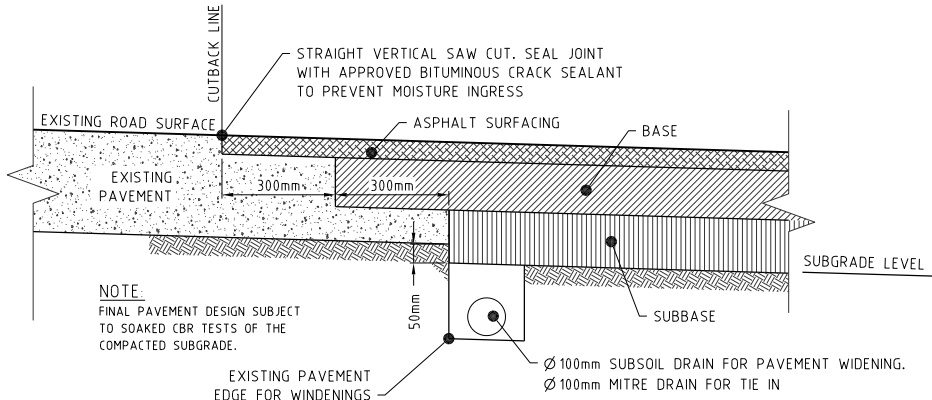
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Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

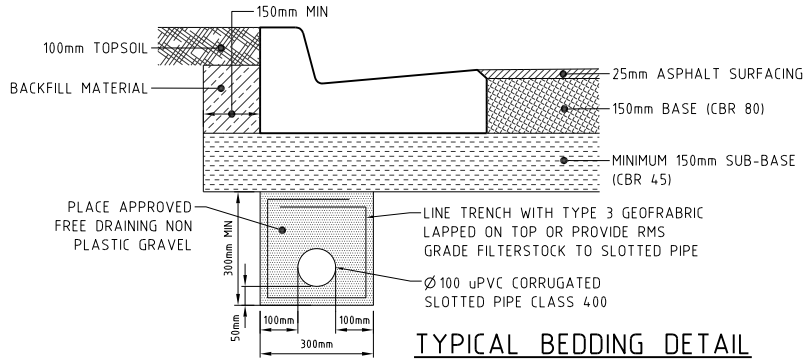
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APPROVED		NER	906726
DRAWING NUMBER		DATE 08-04-21	
12301-P5-8&9-120		AMEND.	
		D	



ROUNDABOUT SECTION
SCALE 1:10



PAVEMENT WIDENING AND TIE-IN DETAIL
NOT TO SCALE



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

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28
PTY LTD

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

0 0.2 0.4 0.6 0.8 1.0m
Scale 1:20 - A1 (1:40 - A3)

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

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

ISSUES		DATE
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS
DETAILS
SHEET 2

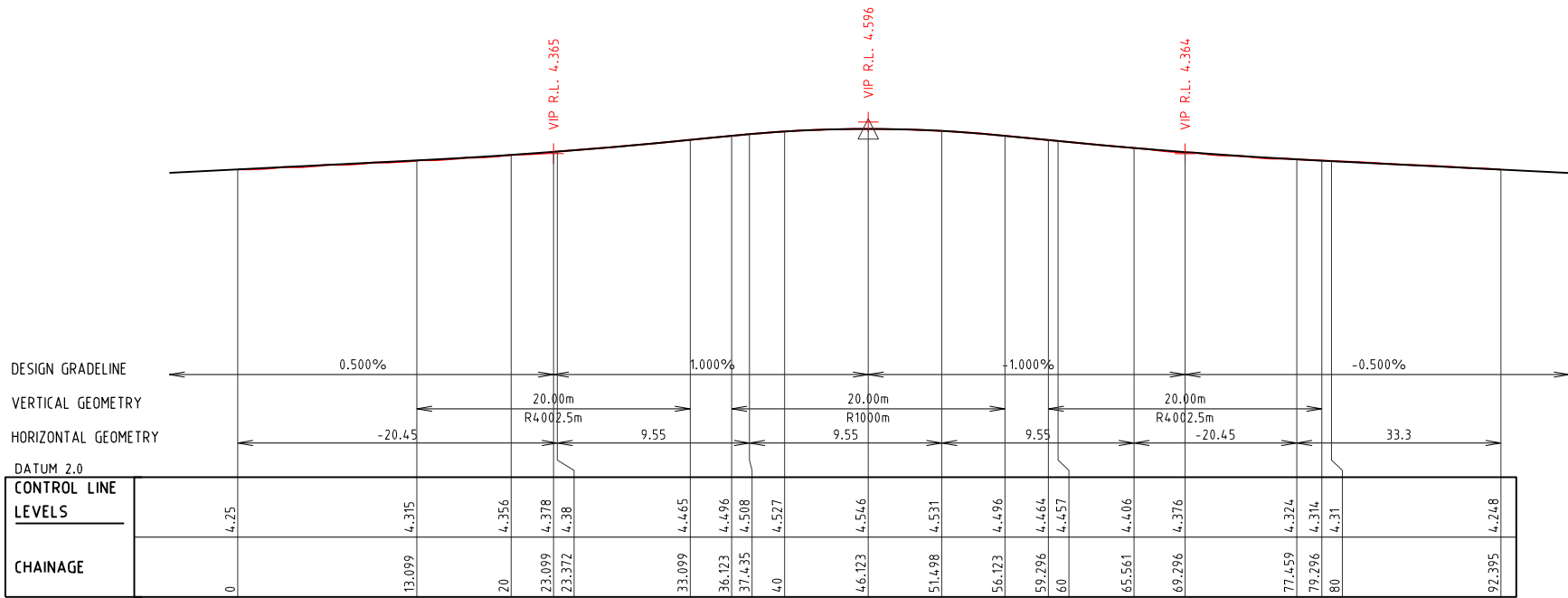
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urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
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ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088

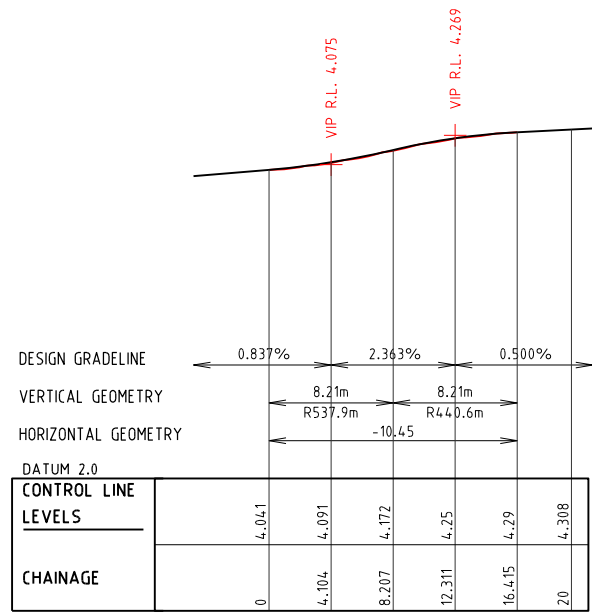
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APPROVED		NER 906726	DATE 08-04-21
DRAWING NUMBER		AMEND.	
12301-P5-8&9-121		A	

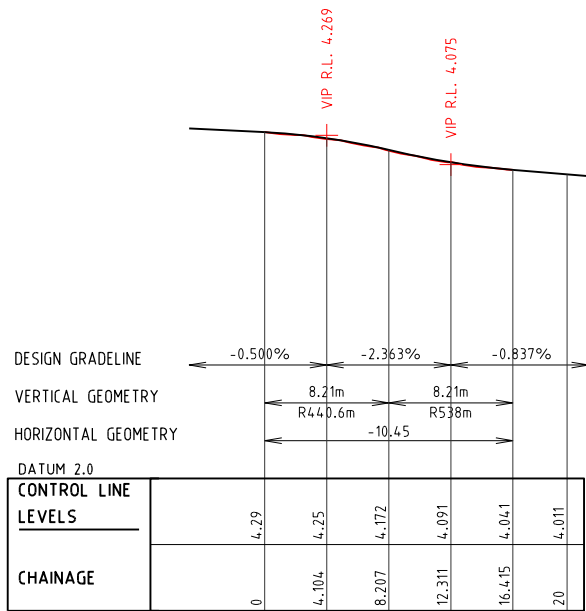
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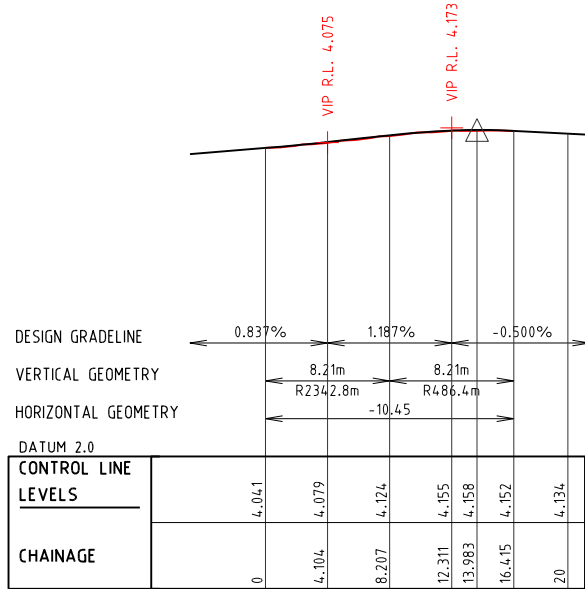
KERB SECTION 21



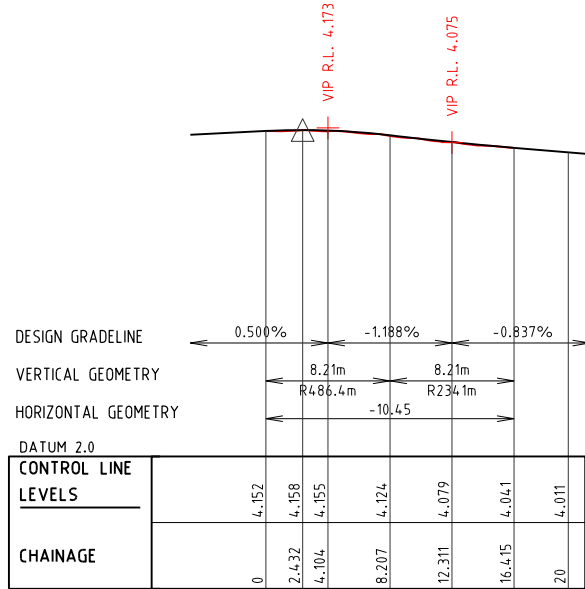
KERB SECTION 030



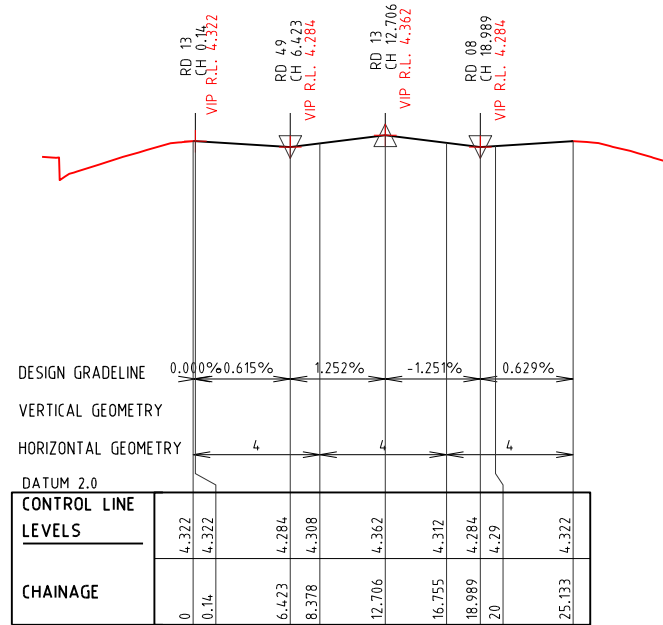
KERB SECTION 031



KERB SECTION 032



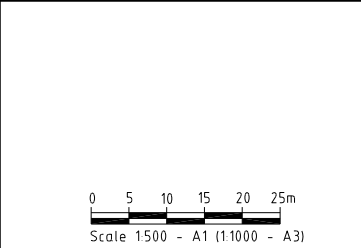
KERB SECTION 033



KERB SECTION 034

PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9
REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
PROJECT 28
PTY LTD



ISSUES	DATE
TENDER	13-11-19
COUNCIL	XX-XX-XX
CONSTRUCTION	..

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DRAWING TITLE
ROADWORKS
KERB LONGSECTIONS

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Urban & Regional Planning
Civil Engineering
Project Coordination

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Tel 07 5571 1099
Fax 07 5571 1088

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

DESIGNED RB	DRAWN CB
APPROVED <i>[Signature]</i>	NER 906726
DRAWING NUMBER	AMEND.
12301-P5-8&9-122	A

— BODY OF VEHICLE
— FRONT TIRES
— 0.5m CLEARANCE FROM
BODY OF VEHICLE

EDGE LINE - EL
GIVE WAY LINE - GWL

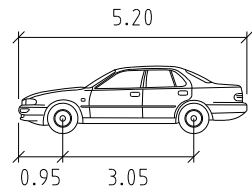
Diagram illustrating the cross-section of a V-shaped road. The diagram shows a central vertical axis with two sloped sides. The width of the road at the top is labeled W . The angle of the slope is labeled A . The horizontal distance from the centerline to the edge of the road is labeled B . The vertical distance from the centerline to the edge of the road is labeled S .

Angle A = 45° urban
 30° rural

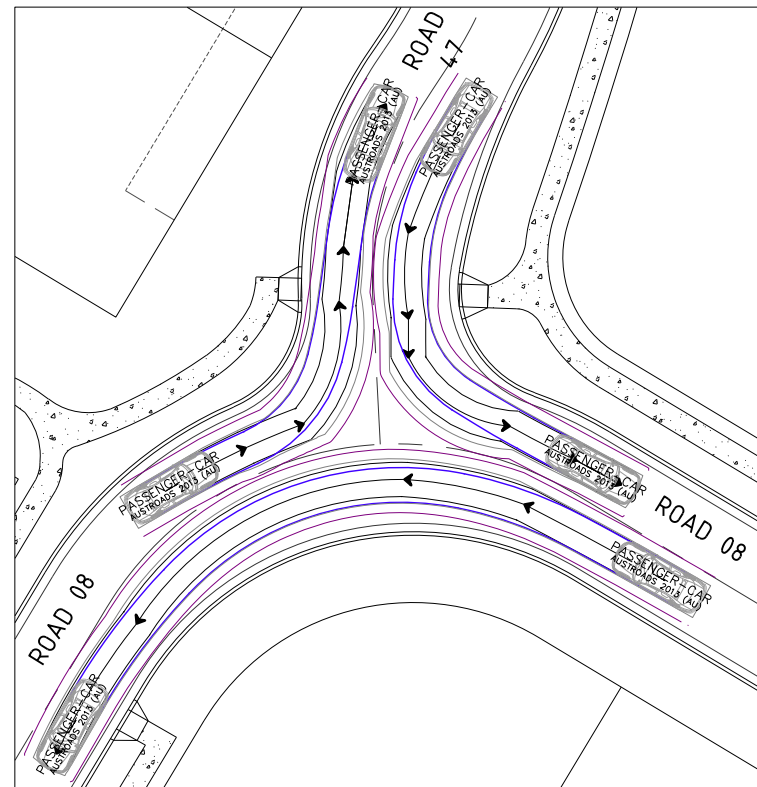
B = 1.0m min

S = 1.5m to 5m urban
 3m min rural

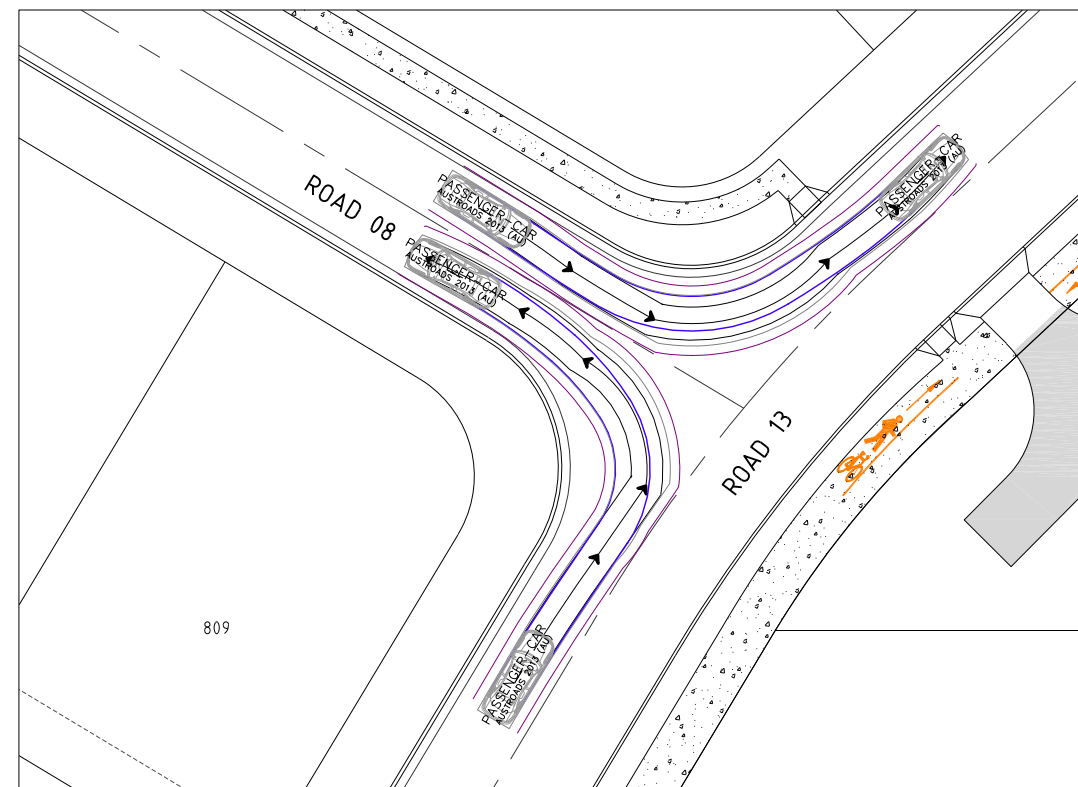
W = 150mm



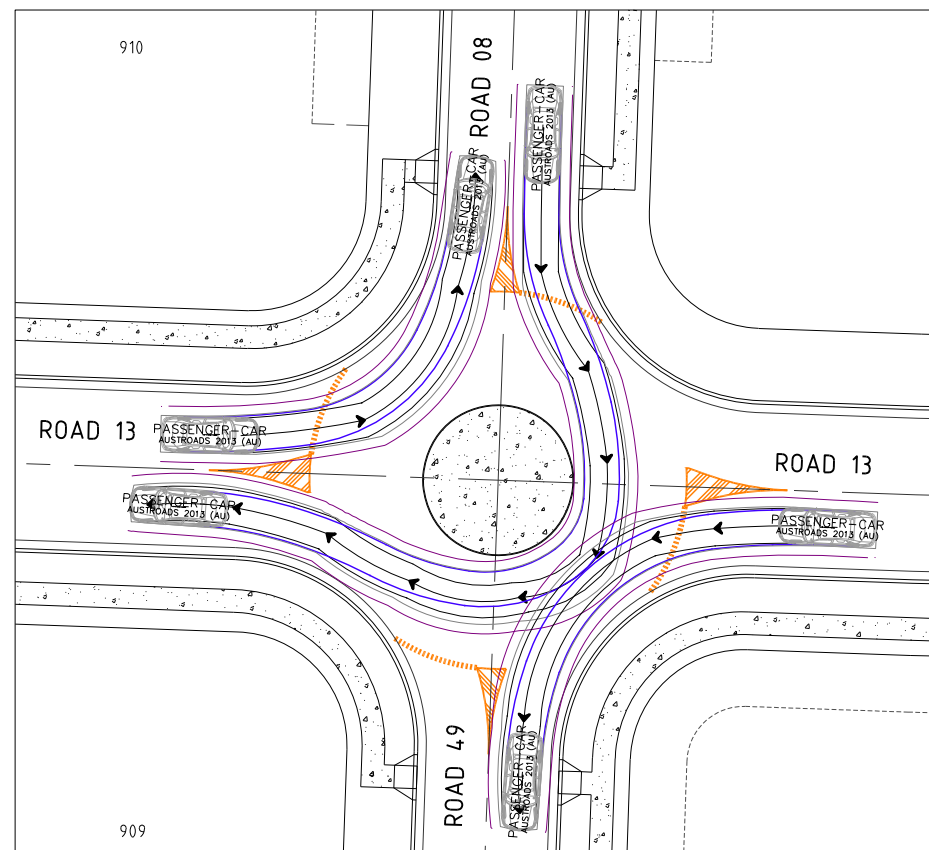
	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6



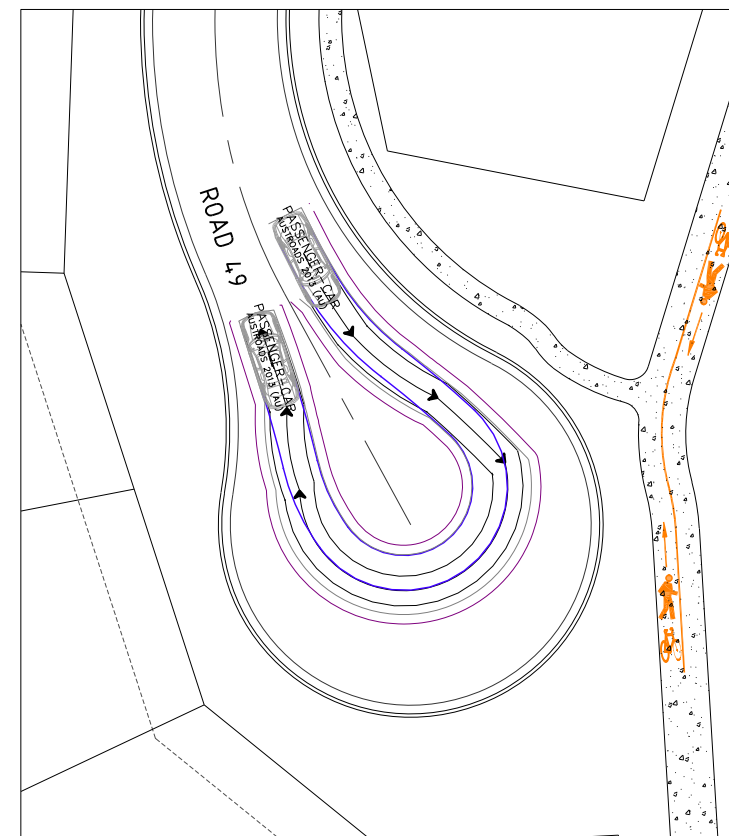
INTERSECTION 1



INTERSECTION 2



INTERSECTION 3



INTERSECTION 6



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

ISSUES	DATE	
TENDER		
COUNCIL		
CONSTRUCTION		

[illegible]

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SPACE & ROAD SURVEYING

**+GILBERT
SUTHERLAND**

D R A W I N G T I T L E

PRECINCT 5
STAGES 8 & 9
INTERSECTION ATURN
PASSENGER CAR



MORTONS
urban**solutions**
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As: Postal Address
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Fax 07 5571 1088 Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	RB	DRAWN	JB
APPROVED <i>[Signature]</i>	NER 906726	DATE 10-06-21	

DRAWING NUMBER
12301-P5-8&9-160

RECOMMEND.

A

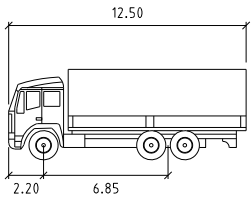
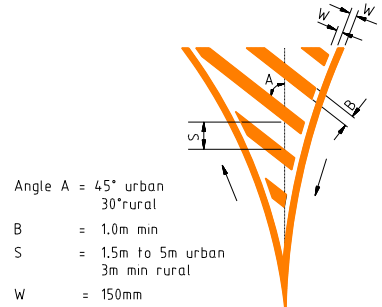
LEGEND

- BODY OF VEHICLE
- FRONT TIRES
- REAR TIRES
- 0.5m CLEARANCE FROM BODY OF VEHICLE

PAVEMENT MARKING LEGEND

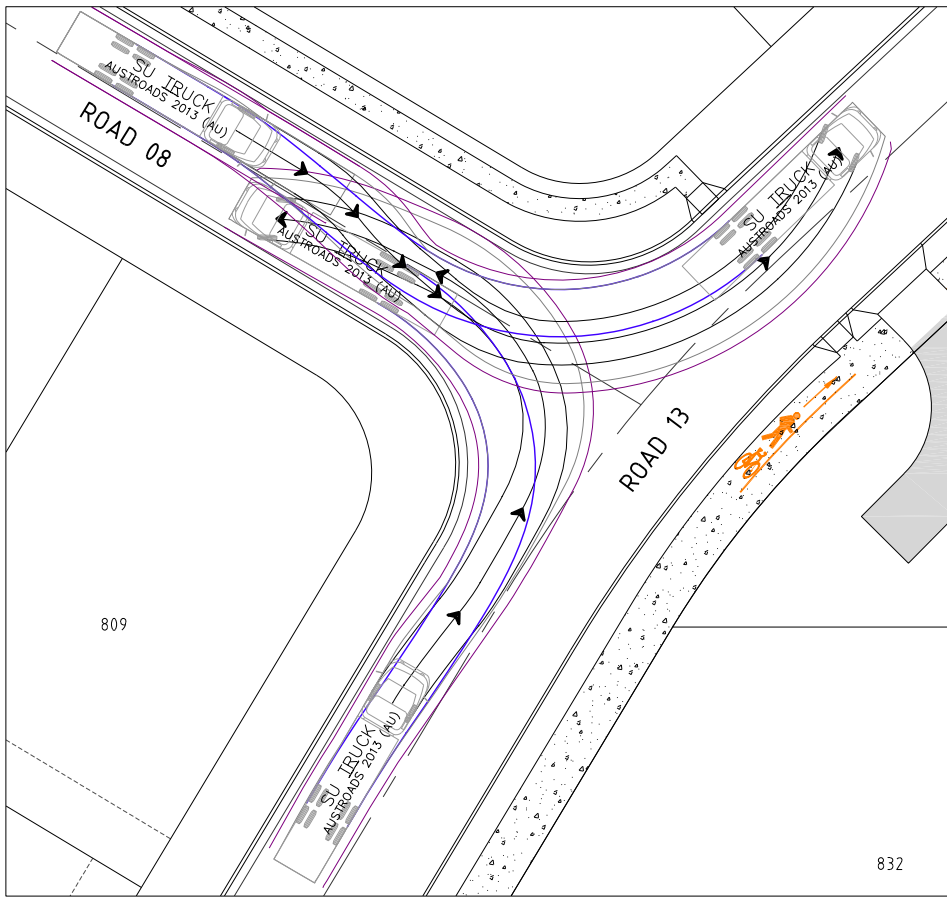
- EDGE LINE - EL
- - - GIVE WAY LINE - GWL

NOTE: REFER TO RMS/TRANSPORT FOR NSW DELINEATION GUIDELINES FOR ALL LINEMARKING AND SIGN STANDARDS.

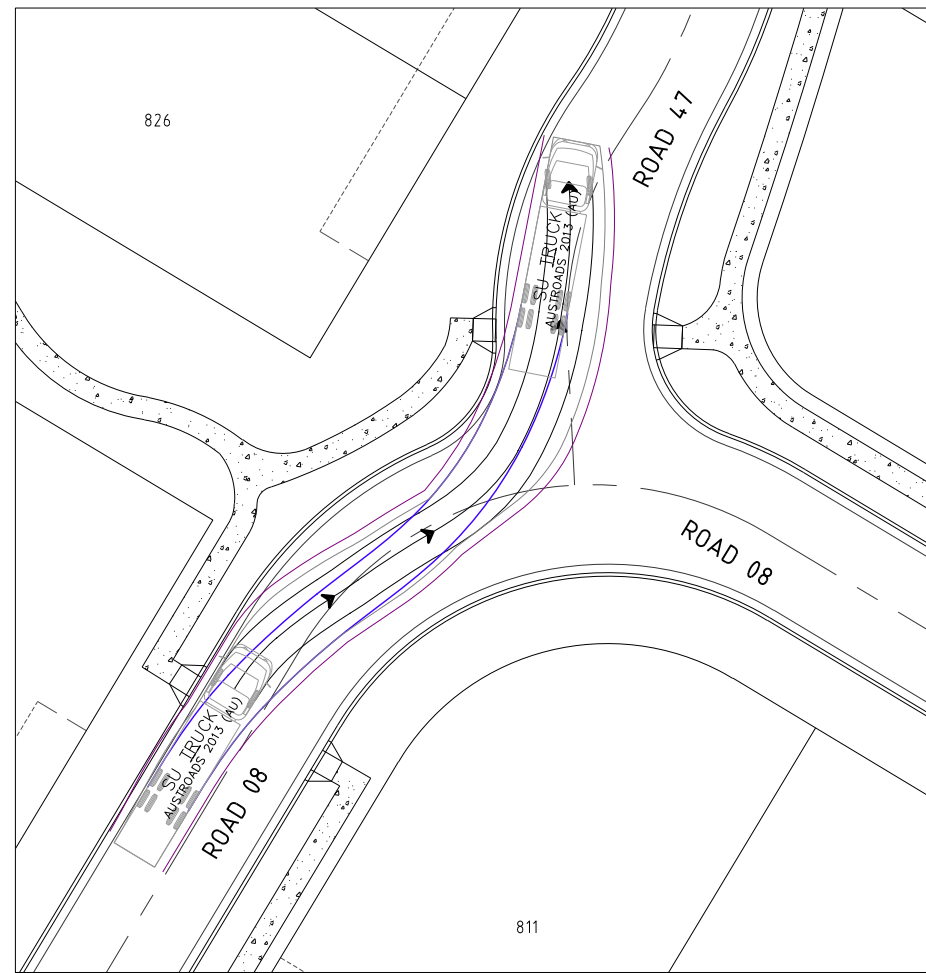


HRV

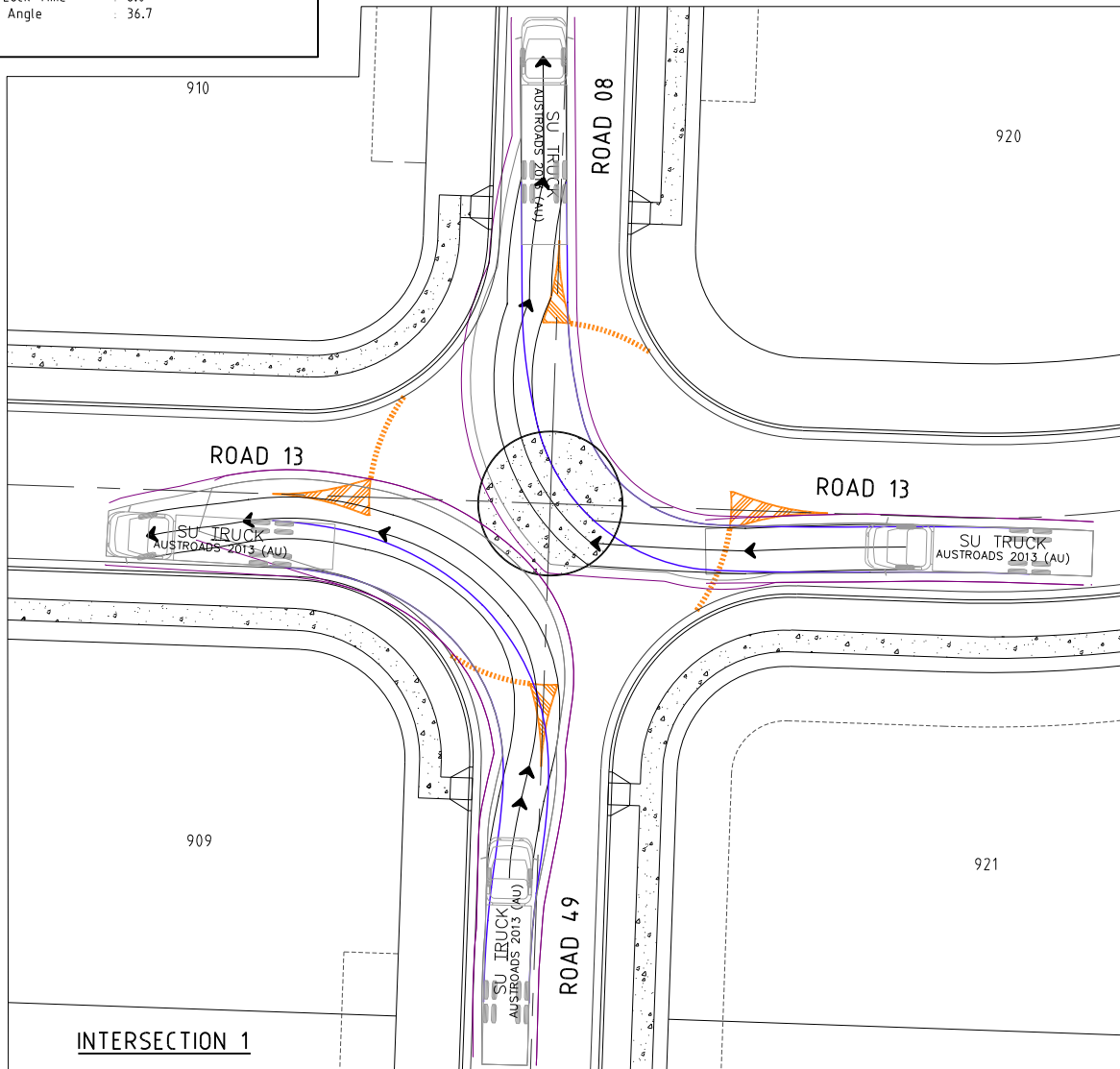
	metres
Width	2.50
Track	2.50
Lock to Lock Time	6.0
Steering Angle	36.7



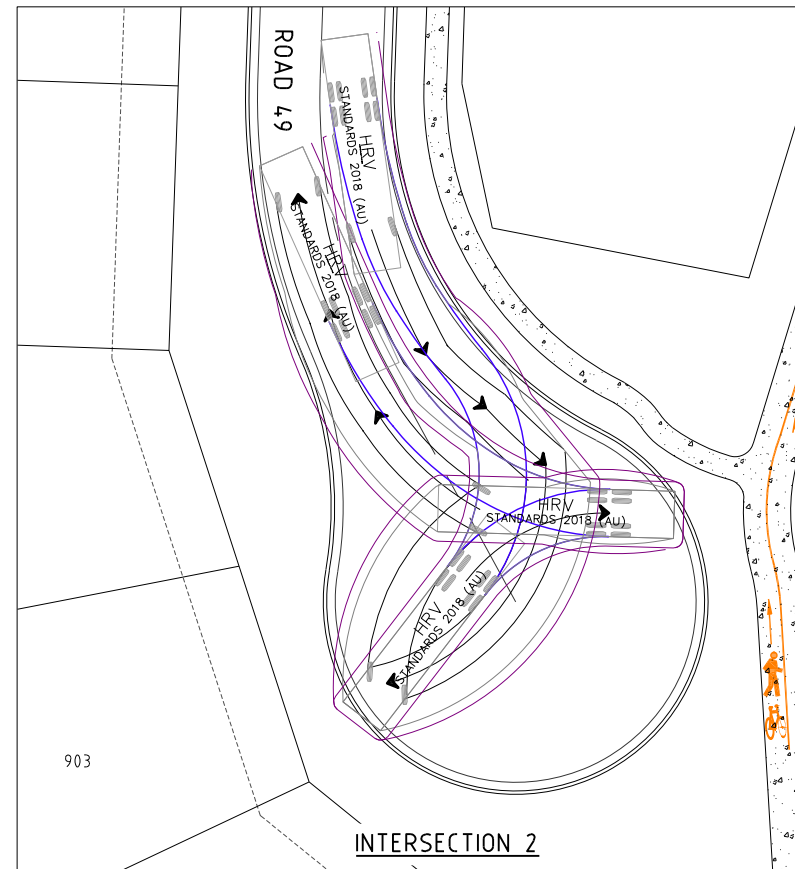
INTERSECTION 3



INTERSECTION 4



INTERSECTION 1



INTERSECTION 2

PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9
REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
PROJECT 28 PTY LTD



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

ISSUES	DATE	
TENDER		
COUNCIL		
CONSTRUCTION		

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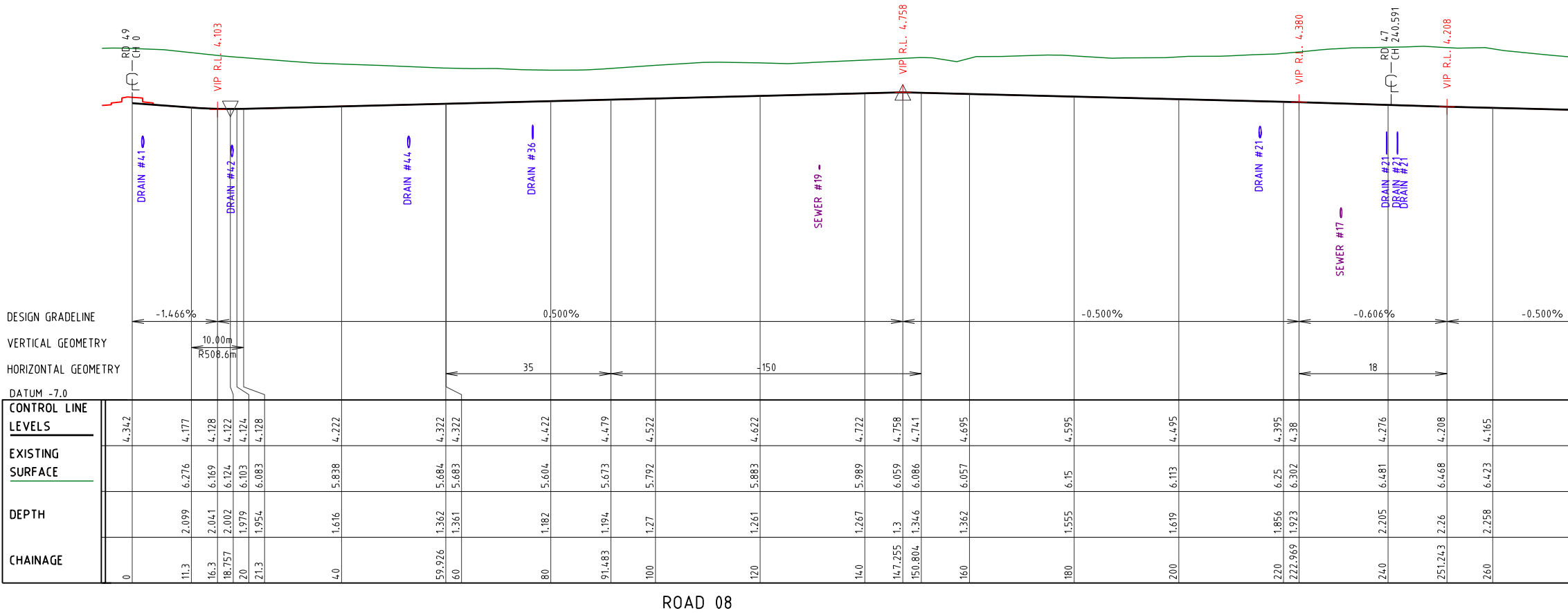
ASSOCIATED CONSULTANTS



DRAWING TITLE
**PRECINCT 5
STAGES 8 & 9
INTERSECTION ATURN
12.5m TRUCK**

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

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726
DRAWING NUMBER	AMEND.
12301-P5-8&9-161	A



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

0 5 10 15 20 25m

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

0 1 2 3 4 5m

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS LONGITUDINAL SECTION ROAD 08

MORTONS urban solutions

Urban & Regional Planning
Civil Engineering
Project Coordination

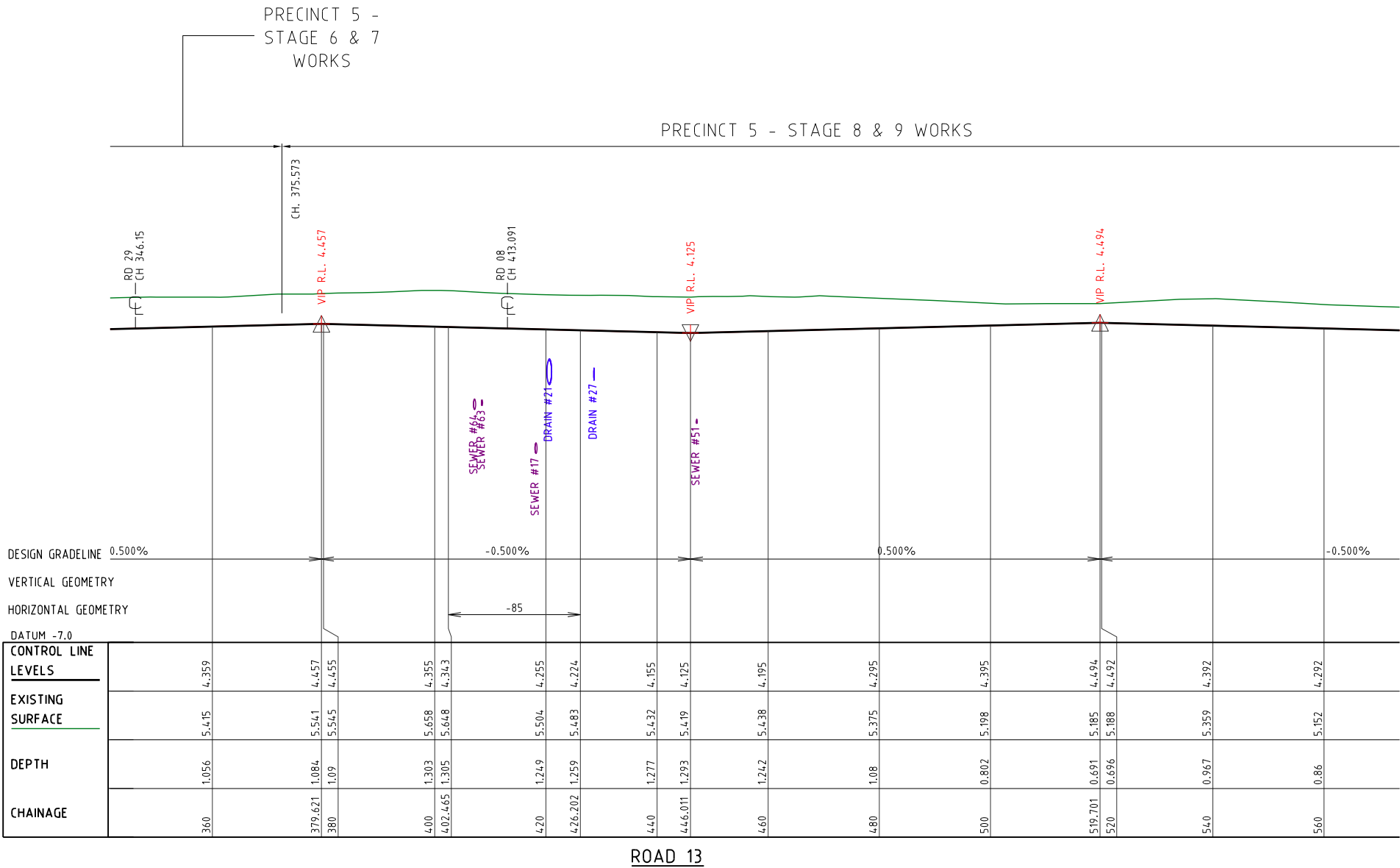
MUS Pty Ltd T/As:
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mortons@urbansolutions.net.au
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APPROVED <i>RB</i>	NER 906726
DATE 08-04-21	
DRAWING NUMBER	
12301-P5-8&9-200	
AMEND.	
A	

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PROJECT NAME
**KINGS
FOREST**
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9
REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
**PROJECT 28
PTY LTD**

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

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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LANDSURV

**+GILBERT
SUTHERLAND**

DRAWING TITLE

ROADWORKS
LONGITUDINAL SECTION
ROAD 13

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

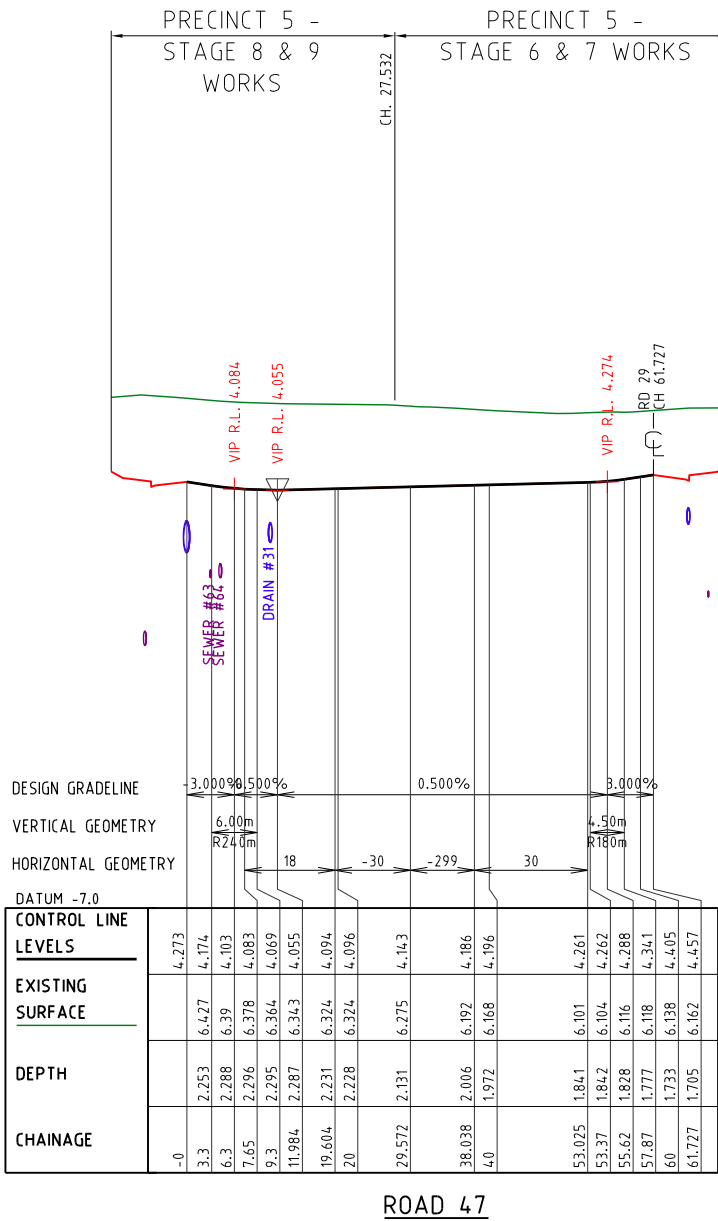
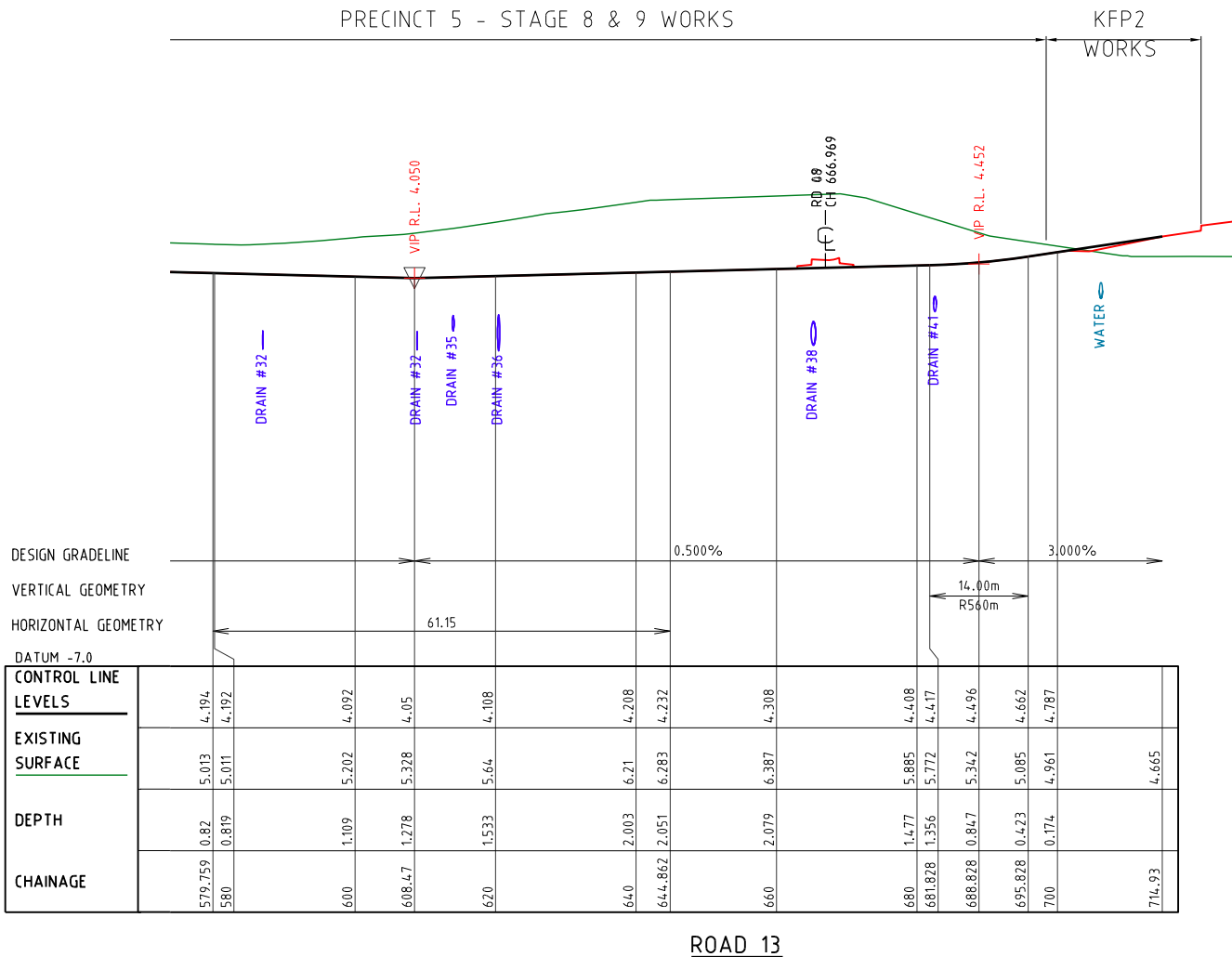
MUS Pty Ltd T/As:
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APPROVED <i>RB</i>	NER 906726
DATE 08-04-21	
DRAWING NUMBER	AMEND.
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Y:\123 - Lela Developments Pty Ltd\01 - Kings Forest\PRECOS\Engineering Drawings\OPW Stages 8 & 9\Current\12301-P5-8&9-200.dwg, 12/10/2021 1:24:13 PM, 1:2



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28

PTY LTD

0 5 10 15 20 25m

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

0 1 2 3 4 5m

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS

LONGITUDINAL SECTION

ROAD 13

& ROAD 47

MORTONS

urbansolutions

Urban & Regional Planning

Civil Engineering

Project Coordination

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DESIGNED RB

DRAWN JB

APPROVED *RB* NER 906726

DATE 08-04-21

DRAWING NUMBER

12301-P5-8&9-203

AMEND.

A

PROJECT NAME

**KINGS
FOREST**

PRECINCT 5

**CONSTRUCTION CERTIFICATE -
STAGES 8 & 9**

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP878633, Lot 40 on DP7482,
Lot 2 on DP891905, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDGEN .
COUNTY OF ROUS .

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

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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D R A W I N G T I T L E

ROADWORKS
LONGITUDINAL SECTION
ROAD 49



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Suite 9, 19 Short St
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DESIGNED RB		DRAWN JB	
APPROVED <i>[Signature]</i>	NER 906726	DATE 08-04-21	
DRAWING NUMBER			AMEND.
12301-P5-8&9-204			A

NOTES:

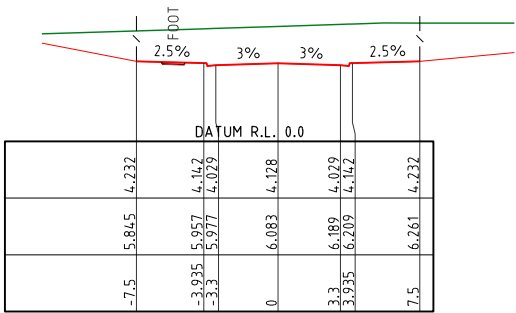
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2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.

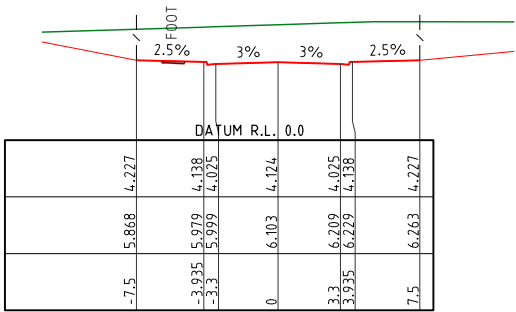
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	4.269
EXISTING SURFACE LEVEL	6.397
OFFSET	0

ROAD 08

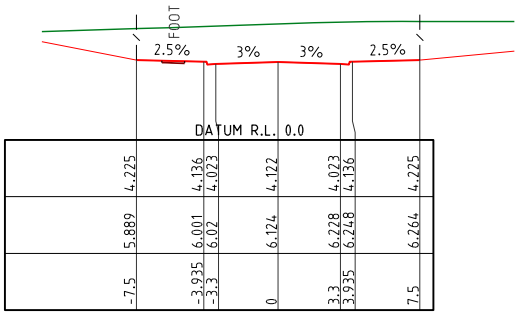
CH 5



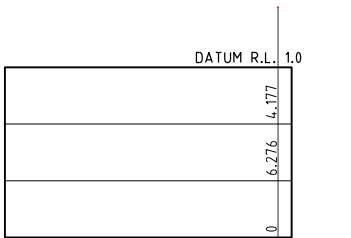
CH 21.3



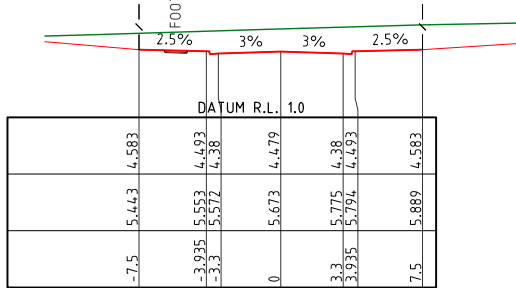
CH 20



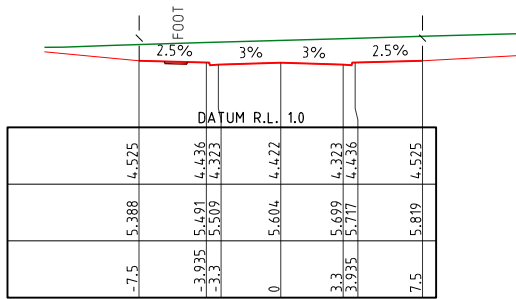
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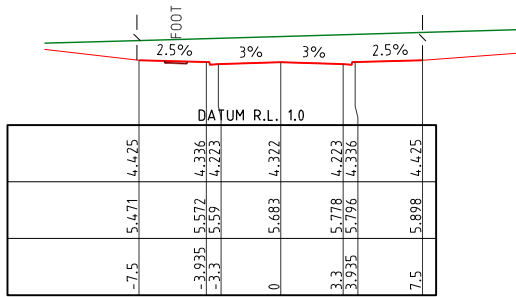
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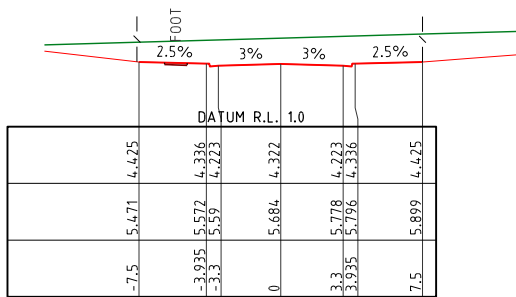
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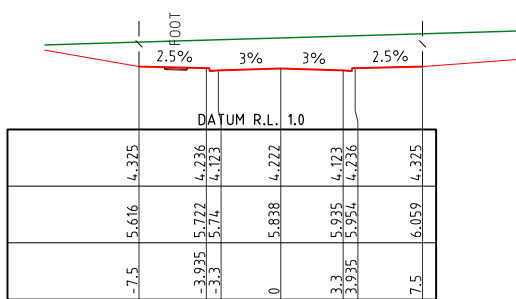
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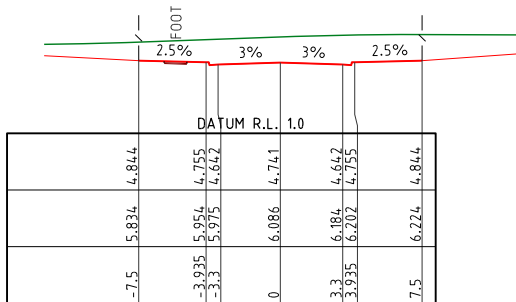
CH 60



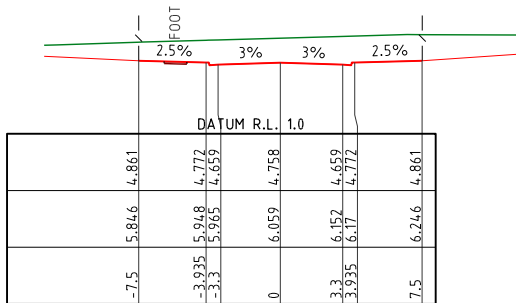
CH 59.926



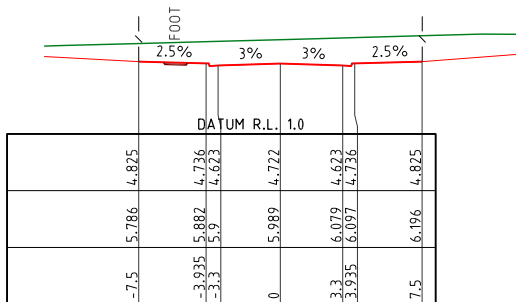
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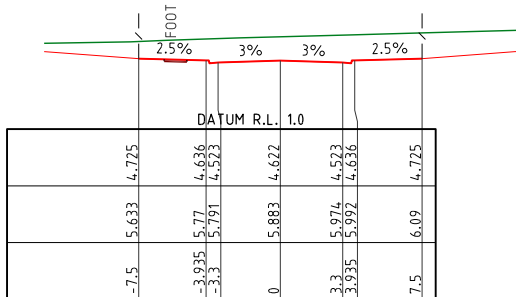
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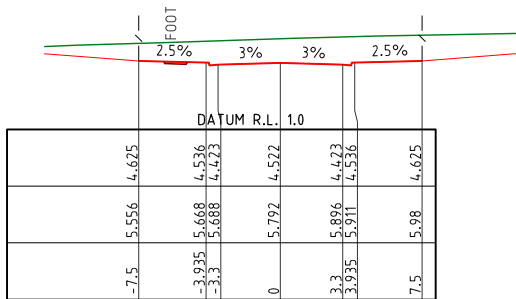
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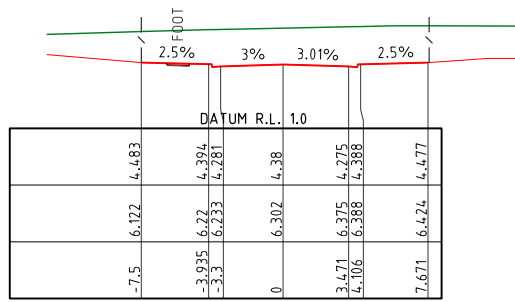
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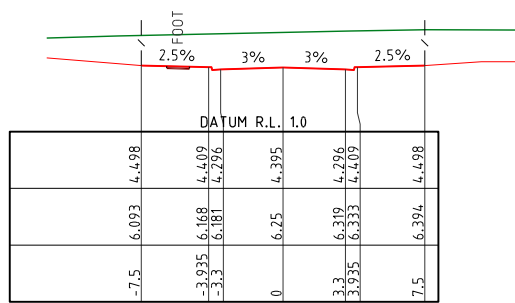
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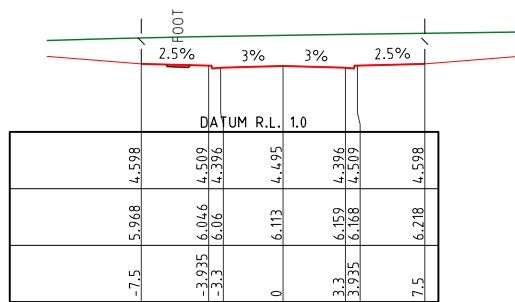
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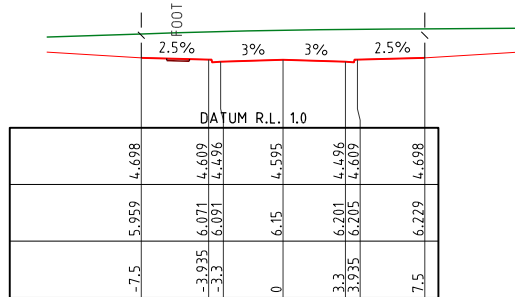
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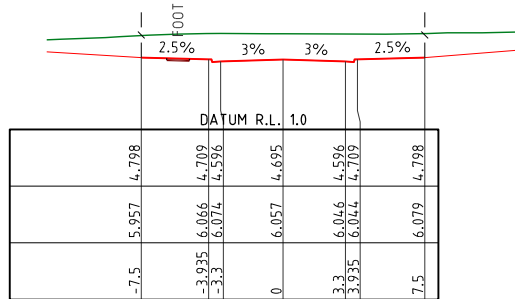
CH 220



CH 200



CH 180



CH 160

NOTES:

1. REFER TO 070 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.
2. CROSS SECTIONS SHOWN INDICATIVELY, INTERFACE TO MATCH EXISTING LEVEL.

CYCLEWAY

CYCLEWAY ON ROAD

FOOTPATH

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

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ASSOCIATED CONSULTANTS



GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS CROSS SECTIONS ROAD 08

MORTONS
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Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED RB	DRAWN JB
APPROVED <i>RB</i>	NER 906726

DRAWING NUMBER 12301-P5-8&9-300

AMEND. A

DRAWING NUMBER	AMEND.
12301-P5-8&9-303	A

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NOTES:

1. REFER TO 070 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.
2. CROSS SECTIONS WITH NO TEMPLATE REPRESENT CONTROL LINE LEVELS AT THAT CHAINAGE.

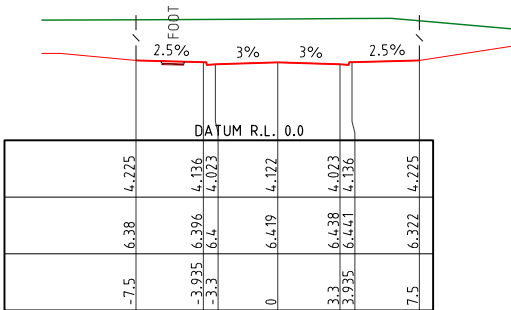
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	6.445	6.445
EXISTING SURFACE LEVEL		
OFFSET	0	

ROAD 49

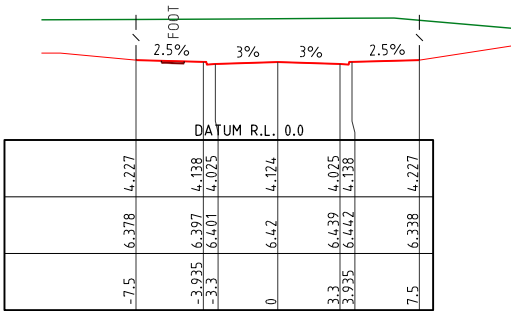
CH 5

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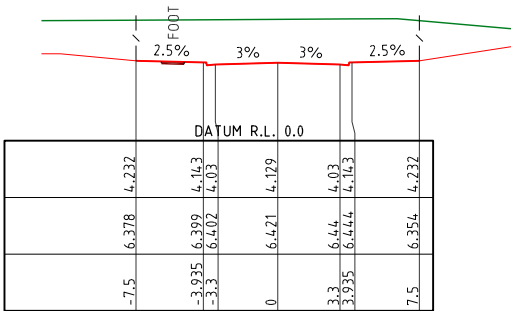
CH 11.3



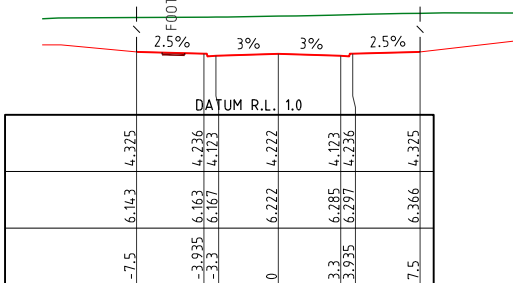
CH 18.756



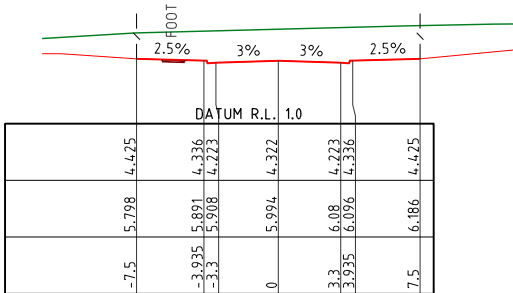
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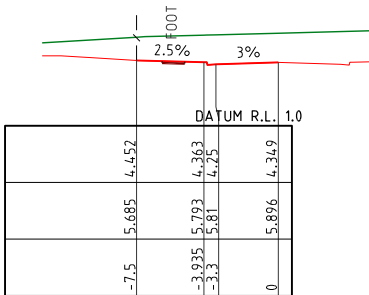
CH 21.3



CH 40



CH 60



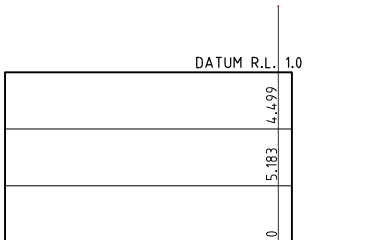
CH 65.357



CH 80



CH 81.401



CH 95.354

CONTROL LINE LEVEL
SHOWN FOR
REFERENCE ONLY

NOTES:

1. REFER TO 070 SERIES FINAL SURFACE PLAN DWGS FOR EARTHWORKS BEYOND ROAD RESERVE.
2. CROSS SECTIONS SHOWN INDICATIVELY, INTERFACE TO MATCH EXISTING LEVEL.

PROJECT NAME

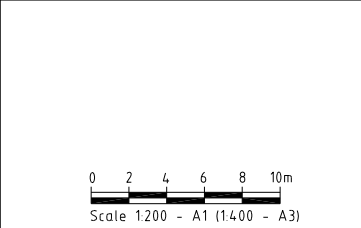
KINGS FOREST

PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701
& Lot 326 on DP755701
PARISH OF CUDGEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD



ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	...	

A	08-04-21	ISSUE FOR INFORMATION
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ASSOCIATED CONSULTANTS

DRAWING TITLE

ROADWORKS CROSS SECTIONS ROAD 49

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Civil Engineering
Project Coordination

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Southport QLD 4215

DESIGNED RB	DRAWN JB
APPROVED	NER 906726
DRAWING NUMBER	
12301-P5-8&9-305	
AMEND.	
A	

LINEMARKING

1. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "RMS/TRANSPORT FOR NSW DELINEATION GUIDELINES". ALL SIGNAGE SHOWN IS DIAGRAMMATIC ONLY.
2. ALL SIGN POSTS & SIGN RAILS TO BE GALVANISED UNLESS NOTED OTHERWISE.
3. ALL SHRUBS AND TREES PLACED IN THE ROUNDABOUT AND APPROACHES NEED TO COMPLY WITH THE AUSROADS GUIDE TO ROAD DESIGN PART 4B.
4. ALL WARNING SIGNS, LIGHTS, BARRIERS AND FENCES SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH RMS/TRANSPORT FOR NSW DELINEATION GUIDELINES. THE CONTRACTOR SHALL BE ADEQUATELY INSURED AGAINST PUBLIC RISK LIABILITY AND BE RESPONSIBLE FOR ANY CLAIMS ARISING FROM THESE WORKS.

PROPOSED PAVEMENT MARKING LEGEND

- EDGE LINE - EL
CONTINUITY LINE - CL
TURN LINE - TL
BARRIER LINE - BL(B)
BARRIER LINE - BL
LANE LINE - LL
LANE LINE - LL(B)
GIVE WAY LINE - GWL
HOLDING LINE - HL
STOP LINE - SL
PEDESTRIAN LINE - PL

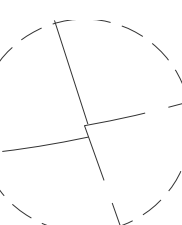
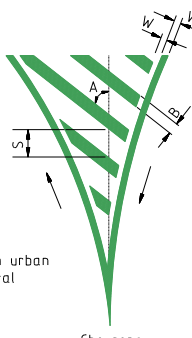
NOTE: REFER TO RMS/TRANSPORT FOR NSW DELINEATION GUIDELINES FOR ALL LINEMARKING AND SIGN STANDARDS.

EXISTING PAVEMENT MARKING LEGEND

- EDGE LINE - EL
CONTINUITY LINE - CL
TURN LINE - TL
BARRIER LINE - BL(B)
BARRIER LINE - BL
LANE LINE - LL
LANE LINE - LL(B)
GIVE WAY LINE - GWL
HOLDING LINE - HL
STOP LINE - SL
PEDESTRIAN LINE - PL

LEGEND

- EXISTING KERB (INVERT)
EXISTING PROPERTY LINE
FUTURE KERB (INVERT)
FUTURE PROPERTY LINE
PROPOSED KERB (INVERT)
PROPOSED PROPERTY LINE
SITE BOUNDARY
STAGE BOUNDARY
SIGN POST
SIGN POST
SIGN POST
EXISTING KOALA EXCLUSION FENCE
EXISTING TEMPORARY FENCE
EXISTING TEMPORARY NO-GO FENCE
ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-8&9-011.
HERITAGE LOCATION
HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
ECOLOGICAL BUFFER



Y:\123 - Leda Developments Pty Ltd\01 - Kings Forest\PREC5\Engineering Drawings\OPW Stages 8 & 9\Current\12301-P5-8&9-420.dwg, 12/10/2021 12:42:48 PM, 1:2

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN,
COUNTY OF ROUS.

CLIENT

PROJECT 28 PTY LTD

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

ISSUES	DATE
TENDER	...
COUNCIL	08-04-21
CONSTRUCTION	..

PRE	DATE	AMENDMENT
C	11-10-21	LINEMARKING AND SIGNAGE AMENDED
B	03-09-21	LEGEND AMENDED
A	08-04-21	ISSUE FOR INFORMATION

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ASSOCIATED CONSULTANTS

DRAWING TITLE

ROADWORKS
LINEMARKING & SIGNAGE
PLAN
SHEET 1 OF 2

Urban & Regional Planning
Civil Engineering
Project Coordination

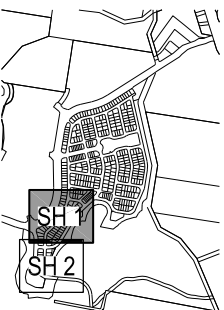
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DESIGNED	RB	DRAWN	JB
APPROVED	VER	906726	DATE 08-04-21
DRAWING NUMBER		AMEND.	

12301-P5-8&9-420 C



SHEET LAYOUT



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

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

ISSUES		DATE
TENDER		...
COUNCIL		08-04-21
CONSTRUCTION		..

PRE	DATE	AMENDMENT
B	11-10-21	SIGNAGE AND LINEMARKING AMENDED
A	08-04-21	ISSUE FOR INFORMATION

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ASSOCIATED CONSULTANTS

+GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS
LINEMARKING & SIGNAGE
PLAN
SHEET 2 OF 2

MORTONS
urban**solutions**
Urban & Regional Planning
Civil Engineering
Project Coordination

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APPROVED		NER 906726	DATE 08-04-21

DRAWING NUMBER	AMEND.
12301-P5-8&9-421	B

SEWER NOTES

VEGETATION PROTECTION

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

SOIL

- A. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
- B. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
- C. IF ACID SULPHATE SOILS EXIST IN THE WORKS AREA, THE CONTRACTOR MUST PREPARE A RISK ASSESSMENT BASED ON THE PROJECT ACID SULPHATE MANAGEMENT PLAN PREPARED BY GILBERT & SUTHERLAND.
- D. ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).

CREEK CROSSINGS

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

REHABILITATION

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

SAFETY

- A. THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL NEW SOUTH WALES LEGISLATION.

GENERAL

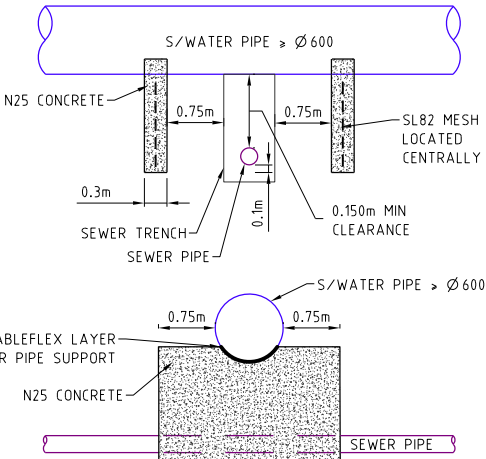
1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH SEWERAGE CODE OF AUSTRALIA WSA 02-2014; WSA 04-2005; WSA 07-2007 UNLESS OTHERWISE SPECIFIED IN TWEED SHIRE COUNCIL DEVELOPMENT DESIGN SPECIFICATION D12, OR CONSTRUCTION SPECIFICATION C402 OR OTHERWISE SPECIFIED IN TSC SUBDIVISION MANUAL.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY A NER, TO THE SATISFACTION OF TWEED SHIRE COUNCIL. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE COUNCIL SEWERAGE SYSTEM.
4. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY THE DEVELOPER'S APPROVED CONTRACTOR UNDER THE SUPERVISION OF TWEED SHIRE COUNCIL'S AGENT AT THE DEVELOPER'S COST.
5. EACH ALLOTMENT SHALL BE SERVED BY A DN150 PVC PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL.
6. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
7. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300 mm AND A MAXIMUM OF 750 mm.
8. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300 mm (LOOSE) IN DEPTH AND SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S. 1289 (MODIFIED COMPACTION). TESTING SHALL BE CARRIED OUT AFTER EACH ALTERNATE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY THE TWEED SHIRE COUNCIL UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
9. WHERE SEWERS HAVE A GRADE OF 15 TO 29% OR STEEPER, BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TWEED SHIRE COUNCIL DEVELOPMENT CONSTRUCTION SPECIFICATION C402-23.
10. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING SERVICES ON SITE BEFORE COMMENCING WORKS.
11. BENCH MARK AND LEVELS TO AHD.
12. EXISTING ALLOTMENTS REQUIRING A PROPERTY CONNECTION FROM EXISTING SEWERS SHALL BE PROVIDED BY TWEED SHIRE COUNCIL AT THE DEVELOPERS COST.
13. CLEARANCES BETWEEN SEWERS AND OTHER UNDERGROUND SERVICES SHALL BE PROVIDED IN ACCORDANCE WITH WSA02-2014.3.1.
14. FALL THROUGH MHS SHALL BE IN ACCORDANCE WITH WSA 202-2014.31, INCLUDING:
- a) MIN 30mm WHERE DEFLECTION LESS THAN 90°
- b) MIN 80mm WHERE DEFLECTION MORE THAN 90°
- c) FALL SHALL NOT EXCEED GREATER OF 150mm OR DIFFERENCE BETWEEN IN/OUT PIPE DN (UNLESS NOTED OTHERWISE).
- FALL MINIMUM REQUIREMENTS ARE IN ACCORDANCE WITH TSC S.D 278

PROJECT SPECIFIC SEWER NOTES

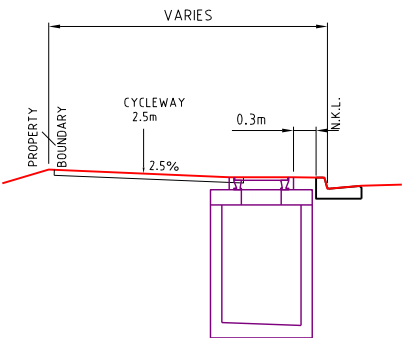
- a. ALL SEWER MAIN TO BE AS PER SEWER PIPE SPECIFICATIONS TABLE.
- b. NOTWITHSTANDING THE NOTES ABOVE, ALL MATERIALS AND WORKS MUST BE IN ACCORDANCE WITH THE SERVICE PROVIDER'S APPROVAL CONDITIONS AND THE TWEED SHIRE COUNCIL DEVELOPMENT DESIGN AND CONSTRUCTION SPECIFICATIONS.
- c. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR SEWER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
- d. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENTS INSTRUCTION
- e. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF WORKS ON-SITE.
- f. MINIMUM 25MPa THRUST BLOCKS TO BE CONSTRUCTED AT ALL FLEXIBLE JOINTED BENDS IN ACCORDANCE WITH TWEED SHIRE COUNCIL SPECIFICATIONS C402.30 AND C271.
- g. CONTRACTOR TO PAY ALL FEES AND CHARGES ASSOCIATED WITH CONNECTIONS.
- h. ALL SEWER MAINS CROSSING ROAD AND WITH A COVER <1.5m ARE TO BE BACKFILLED WITH STABILISED SAND UP TO UNDERSIDE OF ROAD SUB-BASE LAYER.

LEGEND

- S— — — — — EXISTING SEWER
- RM— — — — — EXISTING RISING MAIN
- — — — — EXISTING KERB (INVERT)
- — — — — EXISTING PROPERTY LINE
- 1.0 — — — — — EXISTING CONTOURS
- 225 — — — — — FUTURE RISING MAIN
- 450 — — — — — FUTURE RISING MAIN
- — — — — FUTURE KERB (INVERT)
- — — — — FUTURE CONTOURS
- — — — — PROPOSED KERB (INVERT)
- — — — — PROPOSED PROPERTY LINE
- 1.0 — — — — — DESIGN CONTOURS
- 225 — — — — — PROPOSED SEWER RISING MAIN
- 450 — — — — — PROPOSED SEWER MAIN
- — — — — SITE PRECINCT
- — — — — LIMIT OF WORKS BOUNDARY
- SEWER SCOUR VALVE (<Ø300)
- SEWER AIR VALVE (<Ø300)
- SEWER SCOUR VALVES (Ø450)
- SEWER AIR VALVE (Ø450)
- SEWER ISOLATION/SLUICE VALVE (ALL SIZES)
- SEWER PUMP STATION
- SEWER PIT NO./LINE
- EXISTING KOALA EXCLUSION FENCE
- EXISTING TEMPORARY FENCE
- EXISTING TEMPORARY NO-GO FENCE
- ACCESS GATE IN ACCORDANCE WITH TSC STD DWG S.D.020
- ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-8&9-011.
- HERITAGE LOCATION
- HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
- ECOLOGICAL BUFFER



BRIDGING DETAILS FOR STORMWATER PIPES ≥ Ø 600



T.S.C. SEWER 01-18 TO 05-18 LINE WITHIN CYCLEWAY

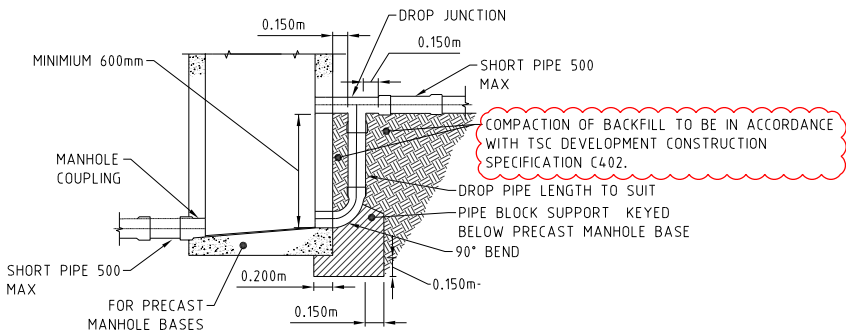
SCALE 1:10

SEWER REFERENCING STANDARDS

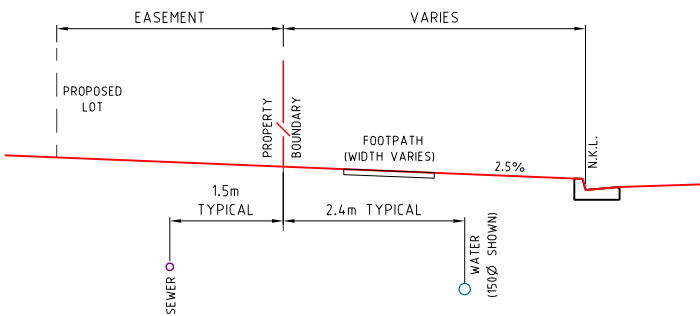
Ø 100 - Ø 300 SEWER SCOUR VALVE (<2.2m INVERT)	W.S.A SPS-1603 'SCOUR ARRANGEMENT PRESSURE MAINS'
Ø 450 SCOUR VALVE & IF Ø 100-Ø 300 DEEPER THAN 2.2m	W.S.A SPS-1602 'SCOUR ARRANGEMENT PUMP AND GRAVITY'
Ø 100-Ø 450 SEWER RISING MAIN SLUICE (ISOLATION) VALVE	T.S.C S.D. 240 'SLUICE VALVE INSTALLATION DETAILS'
Ø 100-Ø 450 SEWER RISING MAIN AIR VALVE - MANUAL	T.S.C S.D. 243 'MANUAL AIR VALVE INSTALLATION DETAILS'
SEWER THRUST CALCULATIONS	W.S.A WAT-1200 'SOIL CLASSIFICATION GUIDELINES AND ALLOWABLE BEARING PRESSURES FOR ANCHORS AND THRUST BLOCKS'
SEWER THRUST CALCULATIONS	W.S.A WAT-1208 'RESTRAINED JOINT SYSTEM DN Ø 100 TO DN Ø 375 DI MAINS'
SEWER THRUST CALCULATIONS	W.S.A WAT-1207 'THRUST AND ANCHOR BLOCKS GATE VALVES AND VERTICAL BENDS'
SEWER THRUST CALCULATIONS (TEST AT 120kPa)	W.S.A WAT-1205 'THRUST BLOCK DETAILS CONCRETE BLOCKS'

NOTE:
LIVE CONNECTION OF SEWER WILL BE PENDING ON REGIONAL PUMP STATION.

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



EXTERNAL DROP DETAIL FOR NON-TRAFFICABLE AREAS ONLY
NOT TO SCALE



T.S.C. TYPICAL SERVICES SEWER AND WATER RETICULATION (SAME SIDE)

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

1. PUBLIC UTILITIES ALLOCATIONS ARE MEASURED FROM THE REAL PROPERTY BOUNDARY.
2. LIGHT POLE, TREE ALLOCATIONS AND FOOTPATHS ARE MEASURED FROM THE NOMINAL KERB LINE.
3. REFER TO TSC SD.006 FOR SERVICE LOCATIONS IN ROADWAYS.
4. REFER TO DRAWING 12301-P5-1.2&3-096 AND 97 FOR COMBINED SERVICES LOCATED IN VERGE.

THRUST BLOCKS TO BE IN ACCORDANCE WITH:

Minimum Thrust Area (m²) for Concrete Blocks given 1200kPa System Test Pressure (Sewer):

Based on Soil Classification: 100kPa					
Pipe Diameter	Bends				Tee & Dead Ends
	11.25	22.5	45	90	
375	0.32	0.66	1.28	2.38	1.68

Resultant Thrust (kN) given 135m Head with 1200kPa System Test Pressure (Sewer):

Pipe Diameter	Bends				Tee & Dead Ends	Reducers
	11.25	22.5	45	90		
375	32.87	65.43	128.34	237.14	167.68	N/A

- FOR FURTHER DETAIL REFER TO WSA 03-2011-3.1 TABLE 7.3.
- NOTES:
- a. FINISH THRUST BLOCKS APPROXIMATELY 100mm ABOVE THE TOP OF THE FITTING OR BEARING PAD AND EXTEND TO THE FLOOR OF THE TRENCH OR DEEPER IF NECESSARY, TO ACHIEVE THE REQUIRED THRUST AREA. MAXIMUM ENCASEMENT TO BE 180°.
- b. FOR DOWNWARD VERTICAL THRUST, THE ALLOWABLE BEARING PRESSURES FOR VARIOUS SOILS MAY BE TAKEN AS TWICE THAT FOR HORIZONTAL THRUST SHOWN

PROJECT NAME

KINGS FOREST

PRECINCT 5
CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28
PTY LTD



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

ISSUES	DATE	
TENDER	...	
COUNCIL	08-04-21	
CONSTRUCTION	..	

B	03-09-21	LEGEND AND NOTES AMENDED
A	08-04-21	ISSUE FOR INFORMATION
PRE DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS



DRAWING TITLE

SEWER RETICULATION
NOTES AND DETAILS



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DESIGNED RB	DRAWN JB
APPROVED <i>John</i>	NER 906726 DATE 08-04-21

DRAWING NUMBER	AMEND.
12301-P5-8&9-500	B



PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
**PROJECT 28
PTY LTD**

NORTH

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

ISSUES	DATE
TENDER	...
COUNCIL	08-04-21
CONSTRUCTION	..

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ASSOCIATED CONSULTANTS

GILBERT SUTHERLAND

DRAWING TITLE

**SEWER RETICULATION
PLAN
SHEET 2 OF 2**

MORTONS
urban solutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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APPROVED	NER	906726	DATE 08-04-21

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12301-P5-8&9-502	A



DESIGNED	RB	DRAWN	JB
APPROVED <i>[Signature]</i>	NER	906726	DATE 08-04-21
DRAWING NUMBER			AMEND.
12301-P5-8&9-530			A

STRUCTURE TYPE
LID CLASS
DROP TYPE

PROVIDE MINIMUM
COVER 600mm IN VERGE,
750mm IN ROAD
PAVEMENT / SHOULDER
WHERE EVER POSSIBLE.

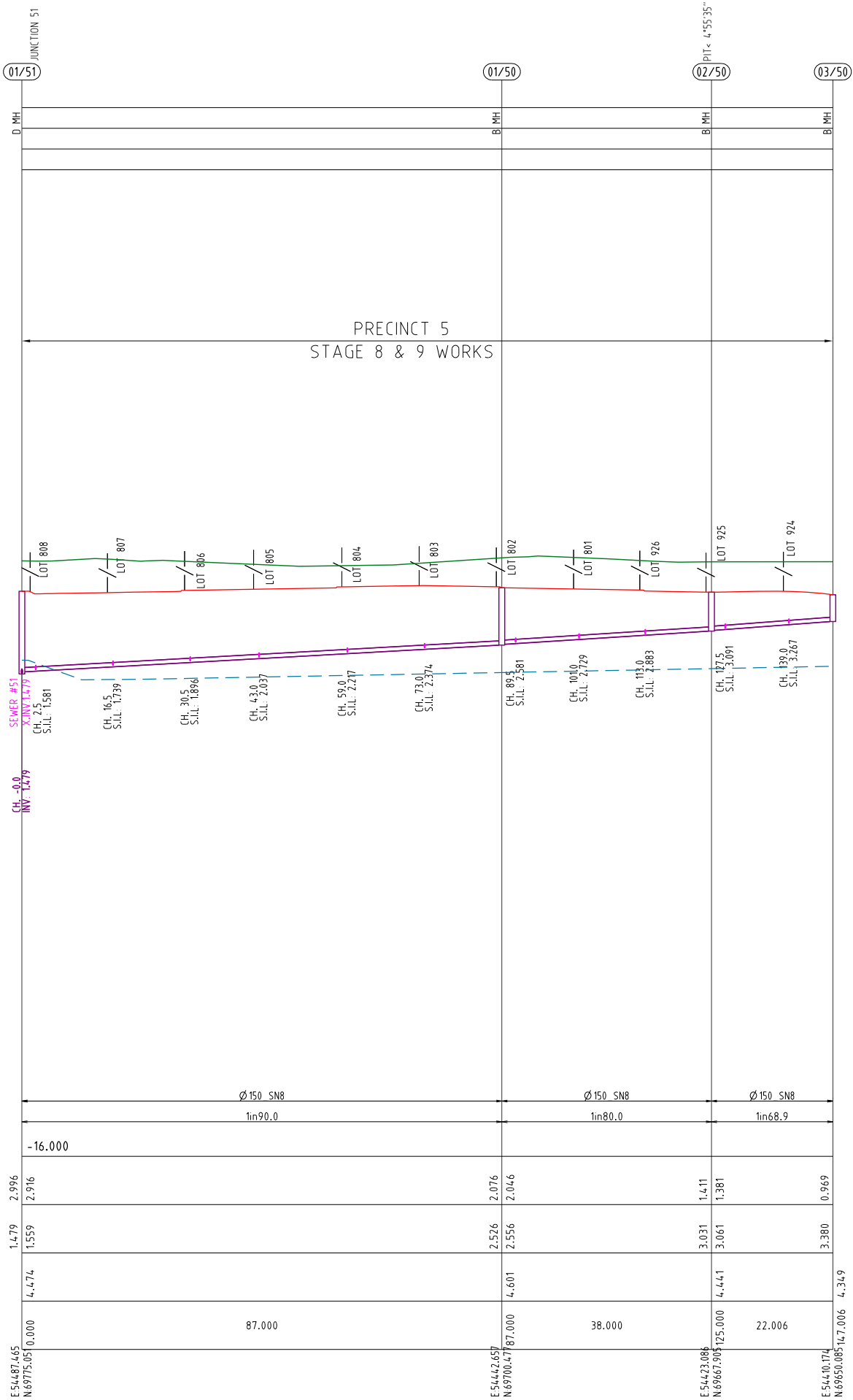
LEGEND
4.10 INVERT LEVELS
OF OTHER
SERVICES THAT
CROSS THE PIPE
--- APPROX LINE OF
INDURATED
SANDS

CONTRACTOR TO VERIFY
AND ALLOW FOR COST
OF EXCAVATION AND
DEALING WITH GROUND
WATER IN ACCORDANCE
WITH MANAGEMENT
PLANS IN SEWER
RATES.

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

DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
CHAINAGE

LINE NO.

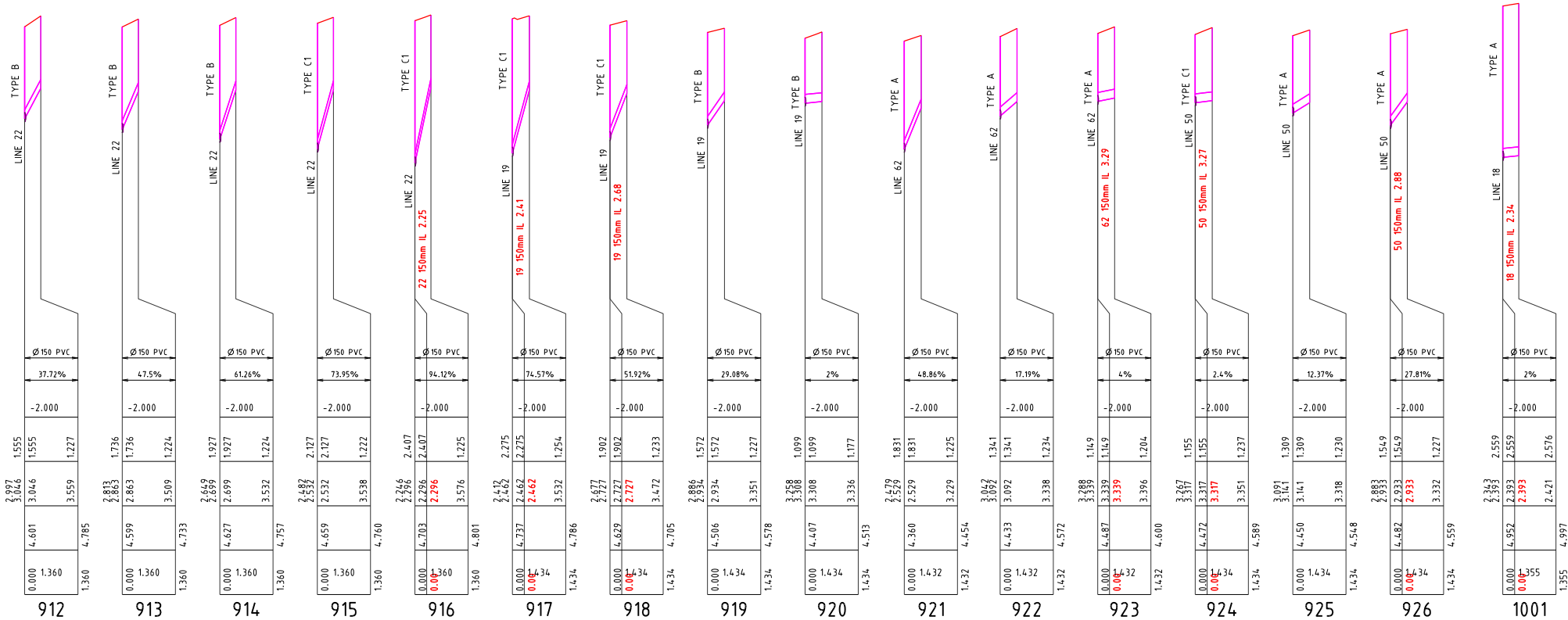


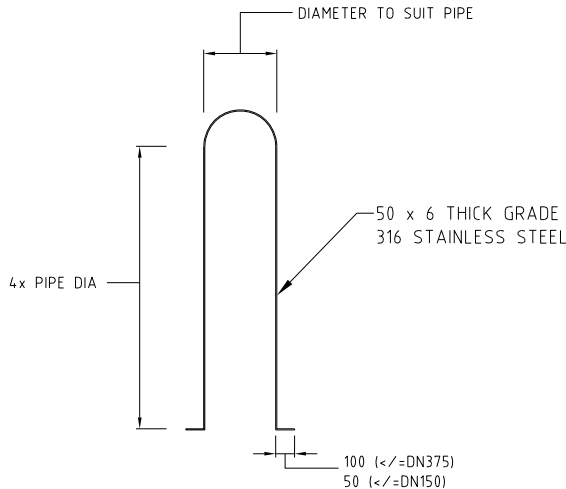
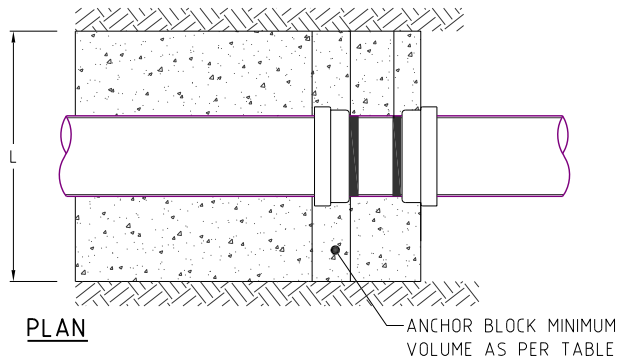
TWEED STRUCTURE DROPS	
A, B	SEWER PROPERTY CONNECTION (STANDARD & 45° BEND) REFER TO TSC STD DWG S.D-250
C1, C2	SEWER PROPERTY CONNECTION (VERTICAL BRANCH) REFER TO TSC STD DWG S.D-251

DATUM R.L.

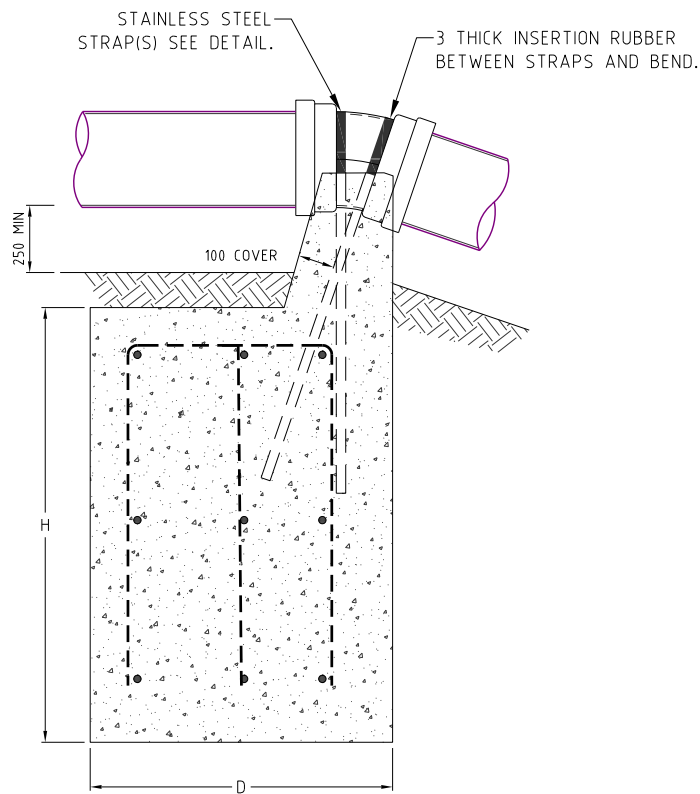
DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
CHAINAGE

LOT NO.





TYPICAL STAINLESS STEEL STRAP



ELEVATION VERTICAL BENDS

VERTICAL THRUST BLOCK CONSTRUCTION NOTES:

- POUR BASE CONCRETE AGAINST A SOLID EXCAVATION FACE.
- USE GRADE N20 CONCRETE FOR NON REINFORCED THRUST BLOCKS AND N32 FOR REINFORCED THRUST BLOCKS. TABLE OF DIMENSIONS BASED ON REQUIRED TEST PRESSURE OF 1200kPa AND ACTUAL PIPE DIAMETERS.
- KEEP CONCRETE CLEAR OF ALL BOLTS, NUTS AND PIPE JOINTS.
- LOCATE ANCHOR BLOCK CENTRALLY AROUND FITTING.
- DESIGN OF ANCHOR BLOCKS AT VERTICAL BENDS INCLUDE ALLOWANCE FOR THE HORIZONTAL COMPONENT OF THRUST.
- THRUST BLOCK DIMENSIONS CAN BE INDIVIDUALLY ADJUSTED TO SUIT LOCATION. MINIMUM BLOCK VOLUME MUST BE ACHIEVED.

Sewer Typical Thrust and Anchor Blocks for Vertical Bends				
Minimum Block Volume for Anchorage of Vertical Component of Thrust				
Vertical Bends for Test Pressure of 1200kPa and minimum soil allowable horizontal bearing pressure of 50kPa (See Notes)				
Pipe DN	Fitting	Bend		
		11.25	22.5	45
100 (122OD)	Min Block Volume (m ³)	0.12	0.23	0.42
	Resultant Thrust	2.70	5.37	10.53
Dimensions	L	750	800	750
	D	400	400	600
	H	400	750	950
150 (177OD)	Min Block Volume (m ³)	0.24	0.48	0.89
	Resultant Thrust	5.67	11.29	22.16
Dimensions	L	750	800	800
	D	450	800	900
	H	750	800	1250
200 (232OD)	Min Block Volume (m ³)	0.42	0.83	1.53
	Resultant Thrust	9.75	19.41	38.06
Dimensions	L	800	900	950
	D	750	950	1200
	H	750	1000	1350
225 (OD)	Min Block Volume (m ³)	0.52	1.03	1.90
	Resultant Thrust	12.15	24.18	47.44
Dimensions	L	850	900	1000
	D	700	1050	1250
	H	900	1100	1550
250 (286OD)	Min Block Volume (m ³)	0.64	1.25	2.32
	Resultant Thrust	14.82	29.49	57.85
Dimensions	L	800	1000	1200
	D	800	1050	1200
	H	1000	1200	1650
300 (345OD)	Min Block Volume (m ³)	0.93	1.83	3.37
	Resultant Thrust	21.56	42.91	84.17
Dimensions	L	900	1150	1250
	D	900	1150	1350
	H	1150	1400	2000
375 (426OD)	Min Block Volume (m ³)	1.42	2.78	5.14
	Resultant Thrust	32.87	65.43	128.34
Dimensions	L	1050	1300	1400
	D	1050	1300	1600
	H	1300	1650	2300
450 (507OD)	Min Block Volume (m ³)	2.01	3.94	7.28
	Resultant Thrust	46.56	92.67	181.78
Dimensions	L	1200	1250	1750
	D	1200	1600	1750
	H	1400	2050	2400

NOTE: THRUST AREAS AND DIMENSIONS ARE GIVEN AS A GUIDE ONLY. FINAL THRUST BLOCK DESIGN IS TO BE DETERMINED BY CONTRACTOR AFTER DETERMINATION OF SOIL CLASSIFICATION TESTING.

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION

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PARISH OF CUDDGEN .

COUNTY OF ROUS .

CLIENT

PROJECT 28

PTY LTD

ISSUES	DATE	
TENDER	..	
COUNCIL	08-04-21	
CONSTRUCTION	...	

A	08-04-21	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

SEWER VERTICAL THRUST BLOCK DETAILS

MORTONS urban solutions

Urban & Regional Planning

Civil Engineering

Project Coordination

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

DESIGNED RB	DRAWN CB
APPROVED	NER 906726 DATE 08-04-21
DRAWING NUMBER	AMEND.
12301-P5-8&9-592	A

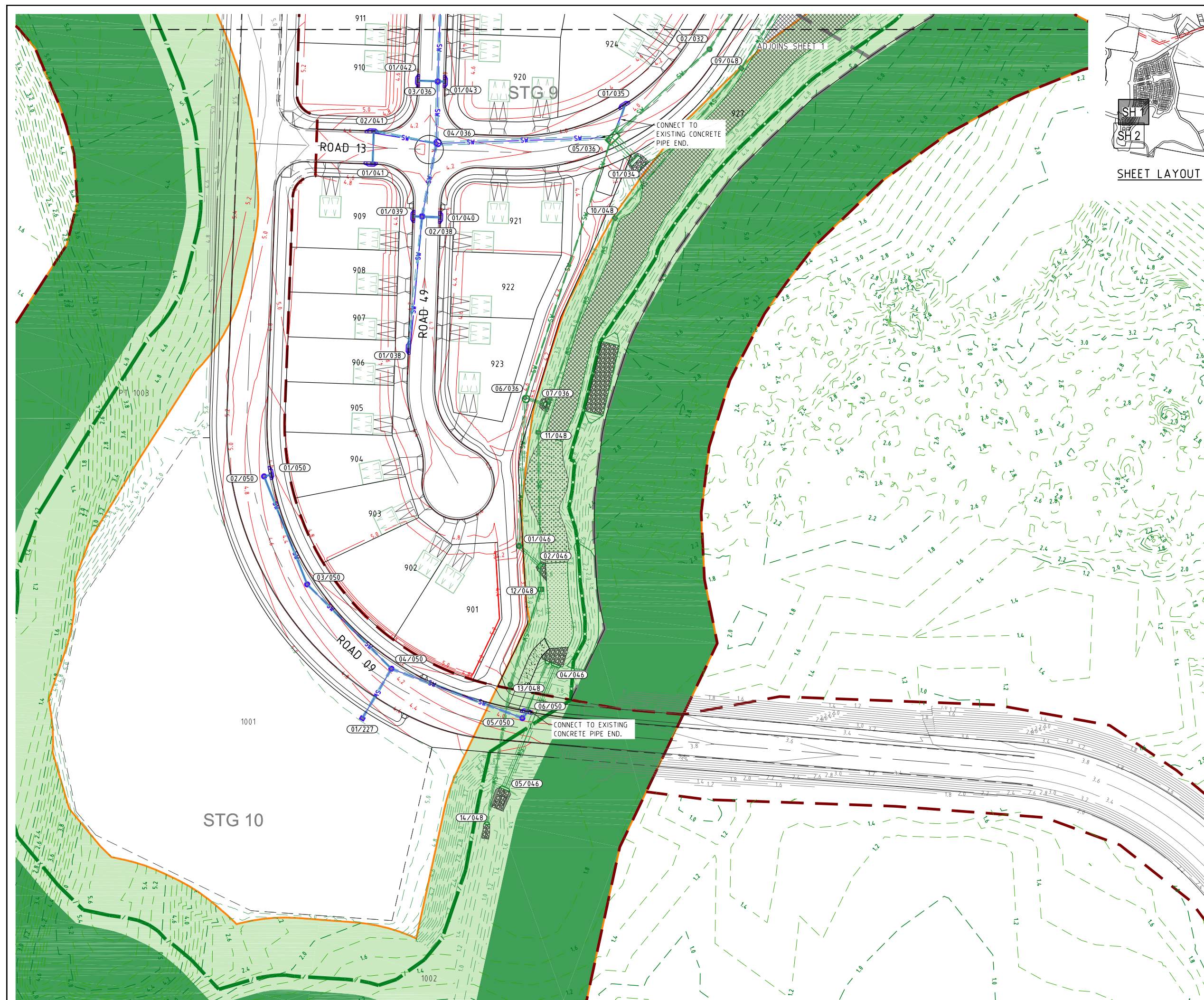
1. STORMWATER INFRASTRUCTURE TO BE INSTALLED IN ACCORDANCE WITH TWEED SHIRE COUNCIL CONSTRUCTION SPECIFICATIONS AND STANDARD DRAWINGS.
2. ALL FIELD GULLIES MUST CONTAIN A 150mm DIA STUB 600mm BELOW GRADE LEVEL FOR FUTURE ROOFWATER DRAINAGE.
3. MANHOLES AND FIELD INLETS TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL SD 106 OR STRUCTURAL DRAWINGS (STRUCTURAL DRAWINGS TAKE PRECEDENCE).
4. OUTLET HEADWALLS TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARD DRAWINGS.
5. ALL HEADWALLS WITH A HEIGHT GREATER THAN 900mm HIGH REQUIRE INSTALLATION OF PEDESTRIAN SAFETY FENCES.
6. ALL PIPES 600mm DIA OR LESS TO BE SOCKETED CONCRETE PIPES WITH RUBBER RING JOINTS.
7. ALL ALLOTMENTS TO BE GRADED SUCH THAT FUTURE ROOFWATER DRAINAGE DISCHARGES TO KERB OR TO PIPED DRAINAGE SYSTEM.
8. ALL PIPE 375mm DIA AND GREATER SHALL BE CONSTRUCTED USING SRC OR FRC PIPES.
9. FOR SETOUT DETAILS REFER TO 640 SERIES DRAWINGS (PROFILES AND PIT DETAILS).
10. GULLY PITS TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL SD 103 AND SD 104.
11. LOTS WHICH CAN DRAIN OVERLAND FLOW TO THE STREET SWALE / DRAINAGE WITHOUT FLOWING THROUGH ADJOINING PROPERTIES NEED TO PROVIDE FOR Q100 OVERLAND FLOW TO THE ROAD
12. LOT EARTHWORKS DURING BUILDING CONSTRUCTION MUST NOT CHANGE FLOW PATH DIRECTION UNLESS IT IS REPLACED WITH ANOTHER FLOW PATH DRAINING TO THE ROAD SWALE / DRAINAGE.
13. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR STORMWATER RATE.
14. ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).
15. PIPE CLASS - PIPE CLASSES/TRENCH BEDDING SHOWN ON THE DRAWINGS ARE SUBJECT TO THE CONTRACTORS PREFERRED INSTALLATION METHOD. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE APPROPRIATE PIPE CLASSES AND BEDDING.
16. KERB ADAPTORS ARE TO BE INSTALLED TO AUTHORITY'S REQUIREMENTS AT ALL LOT FRONTAGES THAT CANNOT CONNECTION DIRECTLY TO GULLY PIT.

	EXISTING KERB (INVERT)		EXISTING KOALA EXCLUSION FENCE
	EXISTING KERB (LIP & BACK)		EXISTING TEMPORARY FENCE
	EXISTING PROPERTY LINE		EXISTING TEMPORARY NO-GO FENCE
	EXISTING RETAINING WALL		ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-B&9-011.
	EXISTING STORMWATER		ECOLOGICAL BUFFER
	EXISTING ROOFWATER		
	EXISTING SUBSOIL		
	EXISTING CONTOURS		
	FUTURE KERB		
	FUTURE PROPERTY LINE		
	FUTURE RETAINING WALL		10/001 DRAINAGE PIT & LINE
	FUTURE STORMWATER		FUTURE DRIVEWAY/ GARAGE (BY OTHERS)
	FUTURE ROOFWATER		
	FUTURE SUBSOIL		
	SITE BOUNDARY		
	STAGE BOUNDARY		
	CONTROL LINE / CENTER OF ROAD		
	PROPOSED KERB (INVERT)		
	PROPOSED KERB (LIP & BACK)		
	PROPOSED PROPERTY LINE		
	PROPOSED RETAINING WALL		
	DESIGN CONTOURS		
	PROPOSED STORMWATER		
	PROPOSED ROOFWATER		
	PROPOSED SUBSOIL		
	MANHOLE		
	KERB INLET (ON GRADE) PIT		
	KERB INLET (SAG) PIT		
	HEADWALL		
	SCOUR PROTECTION		

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

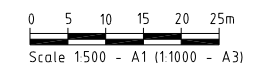
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DRAWING NUMBER	AMEND.
12301-P5-8&9-600	B



PROJECT NAME
**KINGS
FOREST**
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9

CLIENT
PROJECT 28
PTY LTD



ASSOCIATED CONSULTANTS

D R A W I N G T I T L E



MORTONS
urban**solutions**
Urban & Regional Planning
Civil Engineering
Project Coordination

DESIGNED RB		DRAWN JB	
APPROVED 		NER 906726	DATE 08-04-21
DRAWING NUMBER			AMEND.
12301-P5-8&9-601			A

STRUCTURE NAME

STRUCTURE DESCRIPTION

ALL TYPE D
TRAFFICABLE LIDS

LEGEND

Q100 HYDRAULIC
GRADE LINE

4.10 INVERT LEVELS
OF OTHER
SERVICES THAT
CROSS THE PIPE

APPROX LINE OF
INDURATED
SANDS

CONTRACTOR TO VERIFY
AND ALLOW FOR COST
OF EXCAVATION AND
DEALING WITH GROUND
WATER IN ACCORDANCE
WITH MANAGEMENT
PLA-US IN SEWER
RATES.

PIPE GRADE (%)

PIPE DIAMETER (mm)

VELOCITY (m/s)

PIPE FLOW (m³/s)

PIPE CLASS

DATUM R.L.

DEPTH TO INVERT

HYDRAULIC GRADE
LINE

PIPE INVERT LEVELS

DESIGN SURFACE
LEVELS

EXISTING SURFACE
LEVELS

CHAINAGE

DRAINAGE LINE

01/38 INLET GULLY ON GRADE

02/38 MANHOLE 1200mm DIA
JOIN 39
JOIN 40

04/36 MANHOLE 1800mm DIA
JOIN 36

01/39 INLET GULLY IN SAG

02/38 MANHOLE 1200mm DIA
JOIN 38

01/40 INLET GULLY IN SAG

02/38 MANHOLE 1200mm DIA
JOIN 38

01/41 INLET GULLY ON GRADE

02/41 INLET GULLY ON GRADE

04/36 MANHOLE 1800mm DIA
JOIN 36

01/42 INLET GULLY IN SAG

03/36 MANHOLE 1200mm DIA
JOIN 36

01/43 INLET GULLY IN SAG

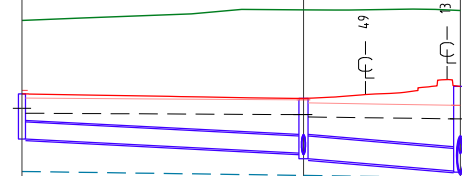
03/36 MANHOLE 1200mm DIA
JOIN 36

01/44 INLET GULLY ON GRADE

02/36 MANHOLE 1050mm DIA
JOIN 36

01/45 INLET GULLY ON GRADE

02/36 MANHOLE 1050mm DIA
JOIN 36

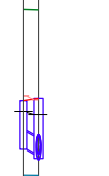


PIPE GRADE (%)	1.000	1.575
PIPE DIAMETER (mm)	450	600
VELOCITY (m/s)	1.210	1.310
PIPE FLOW (m ³ /s)	0.091	0.296
PIPE CLASS	3	3

DATUM R.L. -13.000

DEPTH TO INVERT	1.194	1.446	2.241
HYDRAULIC GRADE LINE	3.820	3.690	3.543
PIPE INVERT LEVELS	3.009	2.637	2.160
DESIGN SURFACE LEVELS	4.203	4.083	4.401
EXISTING SURFACE LEVELS	6.143	6.426	6.408
CHAINAGE	0.000	37.234	20.751

38

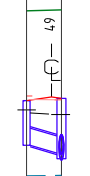


PIPE GRADE (%)	5.411	1.680
PIPE DIAMETER (mm)	450	450
VELOCITY (m/s)	1.680	1.310
PIPE FLOW (m ³ /s)	0.122	0.296
PIPE CLASS	3	3

DATUM R.L. -13.000

DEPTH TO INVERT	1.178	1.446	2.271
HYDRAULIC GRADE LINE	3.777	3.697	3.543
PIPE INVERT LEVELS	2.845	2.637	2.130
DESIGN SURFACE LEVELS	4.023	4.083	4.401
EXISTING SURFACE LEVELS	6.438	6.426	6.408
CHAINAGE	0.000	2.000	17.732

39

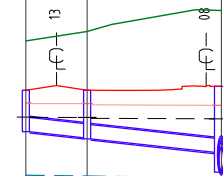


PIPE GRADE (%)	4.526	1.810
PIPE DIAMETER (mm)	450	450
VELOCITY (m/s)	1.810	1.310
PIPE FLOW (m ³ /s)	0.111	0.296
PIPE CLASS	3	3

DATUM R.L. -13.000

DEPTH TO INVERT	1.096	1.258	1.746
HYDRAULIC GRADE LINE	3.579	3.579	3.543
PIPE INVERT LEVELS	3.204	3.042	2.655
DESIGN SURFACE LEVELS	4.300	4.300	4.401
EXISTING SURFACE LEVELS	6.400	6.426	6.408
CHAINAGE	0.000	4.600	17.732

40

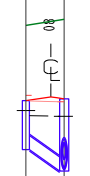


PIPE GRADE (%)	2.000	2.014
PIPE DIAMETER (mm)	375	375
VELOCITY (m/s)	1.100	1.380
PIPE FLOW (m ³ /s)	0.026	0.051
PIPE CLASS	3	3

DATUM R.L. -13.000

DEPTH TO INVERT	1.096	1.258	1.746
HYDRAULIC GRADE LINE	3.579	3.579	3.543
PIPE INVERT LEVELS	3.204	3.042	2.655
DESIGN SURFACE LEVELS	4.300	4.300	4.401
EXISTING SURFACE LEVELS	6.400	6.426	6.408
CHAINAGE	0.000	8.100	17.732

41

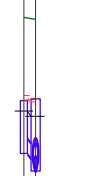


PIPE GRADE (%)	11.237	0.097
PIPE DIAMETER (mm)	375	375
VELOCITY (m/s)	1.270	0.100
PIPE FLOW (m ³ /s)	0.097	0.100
PIPE CLASS	3	3

DATUM R.L. -13.000

DEPTH TO INVERT	1.296	1.572	1.823
HYDRAULIC GRADE LINE	3.760	3.625	3.600
PIPE INVERT LEVELS	2.727	2.160	2.247
DESIGN SURFACE LEVELS	4.024	4.070	4.070
EXISTING SURFACE LEVELS	6.015	6.174	6.174
CHAINAGE	0.000	5.050	17.732

42

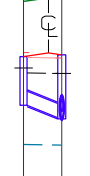


PIPE GRADE (%)	8.332	2.630
PIPE DIAMETER (mm)	375	375
VELOCITY (m/s)	2.630	0.115
PIPE FLOW (m ³ /s)	0.100	0.115
PIPE CLASS	3	3

DATUM R.L. -13.000

DEPTH TO INVERT	1.396	1.572	1.823
HYDRAULIC GRADE LINE	3.747	3.739	3.600
PIPE INVERT LEVELS	2.627	2.160	2.247
DESIGN SURFACE LEVELS	4.024	4.070	4.070
EXISTING SURFACE LEVELS	6.223	6.174	6.174
CHAINAGE	0.000	1.550	17.732

43

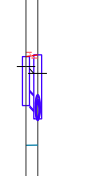


PIPE GRADE (%)	6.517	1.440
PIPE DIAMETER (mm)	375	375
VELOCITY (m/s)	1.440	0.115
PIPE FLOW (m ³ /s)	0.115	0.115
PIPE CLASS	3	3

DATUM R.L. -14.000

DEPTH TO INVERT	1.287	1.663	1.693
HYDRAULIC GRADE LINE	3.887	3.758	3.683
PIPE INVERT LEVELS	2.900	2.571	2.541
DESIGN SURFACE LEVELS	4.187	4.234	4.234
EXISTING SURFACE LEVELS	5.647	5.792	5.792
CHAINAGE	0.000	5.050	17.732

44



PIPE GRADE (%)	8.081	3.170
PIPE DIAMETER (mm)	375	375
VELOCITY (m/s)	3.170	0.137
PIPE FLOW (m ³ /s)	0.137	0.137
PIPE CLASS	3	3

DATUM R.L. -14.000

DEPTH TO INVERT	1.296	1.468	1.693
HYDRAULIC GRADE LINE	3.925	3.871	3.683
PIPE INVERT LEVELS	2.891	2.766	2.541
DESIGN SURFACE LEVELS	4.187	4.234	4.234
EXISTING SURFACE LEVELS	5.836	5.792	5.792
CHAINAGE	0.000	1.550	17.732

45

PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 8 & 9
REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT
PROJECT 28
PTY LTD

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

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

ISSUES	DATE
TENDER	...
COUNCIL	08-04-21
CONSTRUCTION	..

A	08-04-21	ISSUE FOR INFORMATION
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ASSOCIATED CONSULTANTS

DRAWING TITLE
**STORMWATER
PROFILES
SHEET 3**

Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	JB
APPROVED		NER	906726
DRAWING NUMBER		DATE 08-04-21	

12301-P5-8&9-622	A
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1/2 ARI (Q5) MINOR FLOW - 12D DYNAMIC DRAINAGE RESULTS
NOTE: NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS

FROM:	TO:	NODE TYPE	A1 HA	A2 HA	A3 HA	CRITICAL STORM	INTENSITY MMHR	10 YR Storm	CURRENT Storm	A1 HA	A2 HA	A3 HA	CRITICAL ARI MIN.	GRADE %	L/S	FLOW WIDTH	Dx/V	CAPTURED L/S	L/S	Dx/V	NODE	GRADE %	GRATE RL	PIT RL	PIPE U/S RL	D/S RL	GRADE %	FLOW M3/S	COEFFICIENT Ku	Kw	HEADLOSS Kw	CAPACITY RATIO	VELOCITY M/S	NODE	
01/21	02/21	INLET GULLY ON GRADE	0.209			25	43.0	0.819	0.801	0.095			25		95	1.06	0.02	85	8	0.02	01/28		4.318	3.46	3.46	3.46	0.03	0.09	0.0	0.0	0.0	0.37	1.59	01/21	
02/21	03/21	INLET GULLY ON GRADE	0.186			25	43.0	0.819	0.801	0.084			25		84	0.66	0.02	77	6	0.01	01/31		4.318	3.46	3.44	3.44	0.04	0.16	6.3	0.0	0.1	0.0	0.61	1.38	02/21
03/21	04/21	MANHOLE 1200mm DIA											25		0			0					4.266	3.44	3.43	3.42	0.09	0.38	0.6	0.0	0.0	1.08	0.86	03/21	
04/21	05/21	MANHOLE 1200mm DIA											25		0			0					4.253	3.42	3.42	3.41	0.02	0.47	1.0	0.0	0.0	1.05	0.89	04/21	
05/21	06/21	MANHOLE 1800mm DIA											25		0			0					3.976	3.41	3.40	3.40	0.04	0.61	0.6	0.0	0.0	1.34	1.14	05/21	
06/21	07/21	CUSTOM MANHOLE (STRUCTURAL ENG. TO DESIGN)											25		0			0					4.202	3.40	3.40	3.40	-0.04	0.83	0.5	0.0	0.0	0.15	2.84	06/21	
07/21	02/34	INLET HEADWALL											25	0.6	0			0				0558	3.700	3.40	3.40	3.40	0.00	0.83	0.0	0.0	0.0			07/21	
01/27	06/21	INLET GULLY IN SAG	0.273			25	43.0	0.819	0.801	0.124			25		124	0.84	0.00	111	1	0.01	02/34		4.004	3.60	3.55	3.40	0.61	0.11	9.7	0.0	0.4	0.0	0.44	1.38	01/27
01/28	05/21	INLET GULLY IN SAG	0.213			25	43.0	0.819	0.801	0.097			25		107	0.60	0.01	102	-3	0.02	01/27		3.929	3.54	3.25	3.41	-10.19	0.11	7.4	0.0	0.3	0.0	0.36	1.09	01/28
01/29	05/21	INLET GULLY IN SAG	0.180			25	43.0	0.819	0.801	0.082			25		83	0.33	0.01	82	-1	0.01	01/28		3.929	3.43	3.41	3.41	0.02	0.09	9.7	0.0	0.1	0.0	0.38	1.7	01/29
01/31	02/31	INLET GULLY IN SAG	0.312			25	43.0	0.819	0.801	0.142			25	1.0	148	1.41	0.01	140	7	0.02	02/31	1048	3.950	3.66	3.53	3.43	1.24	0.14	7.3	0.0	0.1	0.0	0.35	1.27	01/31
02/31	04/21	INLET GULLY IN SAG											25		7	0.11	0.00	7	0	0.00	01/29		3.928	3.43	3.43	3.42	0.02	0.15	1.9	0.0	0.1	0.0	0.45	1.08	02/31
01/35	05/36	INLET GULLY IN SAG	0.371			25	43.0	0.819	0.801	0.169			25		171	1.68	0.01	156	6	0.02	02/34		3.929	3.83	3.63	3.40	2.37	0.16	9.7	0.0	0.2	0.0	0.5	2.31	01/35
01/36	02/36	INLET GULLY ON GRADE	0.199			25	43.0	0.819	0.801	0.091			25		91	1.10	0.02	81	8	0.02	01/44		4.328	3.87	3.76	3.74	0.07	0.08	9.7	0.0	0.2	0.0	0.2	0.97	01/36
02/36	03/36	MANHOLE 1050mm DIA											25		0			0					4.234	3.74	3.68	3.61	0.20	0.28	1.5	0.0	0.1	0.0	0.52	1.24	02/36
03/36	04/36	MANHOLE 1200mm DIA											25		0			0					4.070	3.61	3.60	3.54	0.31	0.48	0.5	0.0	0.0	0.6	1.08	03/36	
04/36	05/36	MANHOLE 1800mm DIA											25		0			0					4.401	3.54	3.45	3.40	0.09	0.81	1.8	0.0	0.1	0.0	1.02	1.28	04/36
05/36	06/36	CUSTOM MANHOLE (STRUCTURAL ENG. TO DESIGN)											25		0			0					4.035	3.40	3.38	3.13	0.32	0.11	1.5	0.0	0.1	0.0	3.43	1.55	05/36
06/36	07/36	MANHOLE 1800mm DIA											25	1.1	0			0				1121	4.579	3.13	3.13	3.40	-4.98	-1.30	0.0	0.0	0.0	0.0	-0.71	5.47	06/36
07/36	02/34	INLET HEADWALL											25	1.2	0			0				1167	3.800	3.40	3.40	3.40	0.00	-1.30	0.0	0.0	0.0	0.0			07/36
01/37		CALCULATION PURPOSES											25		0			0					2.700	2.50											01/37
01/38	02/38	INLET GULLY ON GRADE	0.238			25	43.0	0.819	0.801	0.108			25		108	1.46	0.02	93	14	0.03	01/39		4.203	3.82	3.69	3.65	0.09	0.09	9.5	0.0	0.1	0.0	0.32	1.21	01/38
02/38	04/36	MANHOLE 1200mm DIA											25		0			0					4.083	3.65	3.59	3.54	0.23	0.30	1.1	0.0	0.1	0.0	0.38	1.31	02/38
01/39	02/38	INLET GULLY IN SAG	0.182			25	43.0	0.819	0.801	0.083			25		98	0.46	0.01	96	-2	0.01	01/40		4.023	3.73	3.71	3.65	2.80	0.11	7.0	0.0	0.1	0.0	0.16	1.68	01/39
01/40	02/38	INLET GULLY IN SAG	0.264			25	43.0	0.819	0.801	0.120			25		120	0.84	0.01	111	2	0.01	02/34		4.023	3.77	3.69	3.65	0.91	0.11	7.0	0.0	0.1	0.0	0.18	1.81	01/40
01/41	02/41	INLET GULLY ON GRADE	0.040			25	43.0	0.819	0.801	0.018			25		18	0.00	0.00	18	0	0.00	01/39		4.300	3.59	3.57	3.58	-0.04	0.02	8.7	0.0	0.0	0.0	0.09	1.1	01/41
02/41	04/36	INLET GULLY ON GRADE	0.059			25	43.0	0.819	0.801	0.027			25		27	0.00	0.00	27	0	0.00	01/42		4.300	3.58	3.56	3.54	0.07	0.05	2.1	0.0	0.0	0.0	0.21	1.38	02/41
01/42	03/36	INLET GULLY IN SAG	0.191			25	43.0	0.819	0.801	0.087			25		99	0.48	0.00	98	-1	0.00	01/43		4.024	3.76	3.62	3.61	0.28	0.10	3.5	0.0	0.1	0.0	0.16	1.24	01/42
01/43	03/36	INLET GULLY IN SAG	0.173			25	43.0	0.819	0.801	0.079			25		105	0.53	0.01	100	2	0.00	01/35		4.024	3.74	3.74	3.61	8.32	0.10	4.7	0.0	0.1	0.0	0.2	2.63	01/43
01/44	02/36	INLET GULLY ON GRADE	0.227			25	43.0	0.819	0.801	0.103			25		111	1.41	0.02	95	13	0.03	01/42		4.187	3.88	3.75	3.74	0.26	0.11	4.2	0.0	0.1	0.0	0.25	1.44	01/44
01/45	02/36	INLET GULLY ON GRADE	0.313			25	43.0	0.819	0.801	0.142			25		142	1.97	0.04	113	27	0.04	01/43		4.187	3.92	3.87	3.74	8.13	0.14	2.5	0.0	0.2	0.0	0.27	3.18	01/45
01/50	02/50	INLET GULLY ON GRADE	0.178			25	43.0	0.819	0.801	0.081			25		81	0.54	0.01	75	4	0.01	06/50		4.461	3.77	3.61	3.68	2.38	0.07	7.0	0.0	0.2	0.0	0.3	1.02	01/50
02/50	03/50	MANHOLE 1050mm DIA											25		0			0					4.538	3.58	3.58	3.57	0.02	0.08	0.0	0.0	0.0	0.0	0.62	1.17	02/50
03/50	04/50	MANHOLE 1050mm DIA											25		0			0					4.349	3.57	3.56	3.49	0.22	0.09	0.3	0.0	0.0	0.0	0.65	1.11	03/50
04/50	05/50	MANHOLE 1050mm DIA											25		0			0					4.155	3.49	3.41	3.14	0.70	0.41	1.6	0.0	0.1	0.0	0.95	1.46	04/50
05/50	06/50	MANHOLE 1050mm DIA											25		0			0					3.965	3.14	2.96	2.91	2.99	0.41	1.6	0.0	0.2	0.0	0.95	1.56	05/50
06/50	07/50	INLET GULLY IN SAG	0.377			25	43.0	0.819	0.801	0.171			25		174	0.00	0.00	158	0	0.00	05/34		3.888	2.91	2.78	2.51	1.85	0.57	1.5	0.0	0.1	0.0	0.64	5.74	06/50
07/50	03/46	INLET HEADWALL											25		0			0					3.035	2.51	2.51	2.51	0.00	0.57	0.0	0.0	0.0	0.0			07/50
01/227	04/50	100% CAPTURE FOR FUTURE EXTENSION	0.787			25	43.0	0.819	0.801	0.358			25	0.6	358	0.00	0.00	358	0	0.00	06/50	0561	4.962	3.55	3.55	3.49	0.41	0.35	0.0	0.0	0.0	0.0	0.49	2.23	01/227
04/50	05/50	MANHOLE 1050mm DIA											25		0			0					4.155	3.49	3.41	3.14	0.70	0.41	1.6	0.0	0.1	0.0	0.95	1.46	04/50

0.01 ARI (Q100) Major FLOW - 12D DYNAMIC DRAINAGE RESULTS
NOTE: NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS

		CATCHMENT AREA			RAINFALL VOLUME*			RAINFALL Coef			CATCHMENT FLOW		
--	--	----------------	--	--	------------------	--	--	---------------	--	--	----------------	--	--

PROJECT SPECIFIC WATER NOTES

1. ALL PROPERTY CONNECTION ROAD CROSSINGS TO BE SLEEVED WITH DN100 mPVC CONDUIT.
2. ALL WORK AND MATERIALS FOR WATER RETICULATION INFRASTRUCTURE ARE TO BE SUPPLIED AND CONSTRUCTED IN ACCORDANCE WITH TWEED SHIRE COUNCIL DEVELOPMENT SPECIFICATIONS D11 AND C401.
3. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
4. ALL WATER SERVICE / CONNECTION POINTS TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL STANDARD DRAWING SD 302 & 320, SPECIFICATIONS D11 AND C401. WATER METERS TO BE SUPPLIED AND INSTALLED AT ALL CONNECTION POINTS.
5. THRUST BLOCKS, TRENCH STOPS AND BULK HEADS TO BE LOCATED AND INSTALLED BY CONTRACTOR IN ACCORDANCE WITH TWEED SHIRE COUNCIL DEVELOPMENT CONSTRUCTION SPECIFICATION C401.33.
6. TRENCH STOPS TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL STD DWG SD-341.
7. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR WATER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
8. ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).
9. FOOTPATHS SHOWN FOR INFORMATION PURPOSES ONLY.
10. ALL WATER CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH AND SAFETY LEGISLATION.
11. MINIMUM WATERMAIN COVER TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL DESIGN SPECIFICATION D11.
12. CONTRACTOR TO PAY ALL FEES AND CHARGES ASSOCIATED WITH CONNECTIONS.
13. END OF LINE ARRANGEMENTS (EG. CUL-DE-SAC HEADS) TO BE CONSTRUCTED IN ACCORDANCE WITH TWEED SHIRE COUNCIL STD DWG SD-301.
14. ALL LIVE CONNECTIONS ARE TO BE COMPLETED BY THE CIVIL CONTRACTOR UNDER COUNCIL SUPERVISION.
15. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS NER REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE COUNCIL RETICULATION SYSTEM.
16. DRAWING RETICULATED WATER —WHERE WATER IS TO BE DRAWN FROM COUNCIL'S RETICULATED SYSTEM, AN APPLICATION FOR COUNCIL METERED STANDPIPE INCLUDING COUNCIL'S NOMINATED POINT OF EXTRACTION IS TO BE SUBMITTED TO COUNCIL AND PAYMENT OF RELEVANT FEES IN ACCORDANCE WITH COUNCIL'S ADOPTED FEES AND CHARGES.
17. ALL WATERMANS CROSSING ROADS TO BE BACKFILLED WITH STABILISED SAND UP TO UNDERSIDE OF SUB-BASE LAYER.

LEGEND

- W100 EXISTING 100Ø WATER MAIN
- W150 EXISTING 150Ø WATER MAIN
- W200 EXISTING 200Ø WATER MAIN
- EXISTING KERB (INVERT)
- EXISTING PROPERTY LINE
- FUTURE 100Ø WATER MAIN
- FUTURE 150Ø WATER MAIN
- FUTURE 200Ø WATER MAIN
- FUTURE KERB (INVERT)
- FUTURE PROPERTY LINE
- PROPOSED KERB (INVERT)
- PROPOSED PROPERTY LINE
- PROPOSED 100Ø WATER MAIN
- PROPOSED 150Ø WATER MAIN
- PROPOSED 200Ø WATER MAIN
- HYDRANT
- SCOUR VALVE
- AIR VALVE
- ISOLATION / SLUICE VALVE
- WATER METER FOR HOUSE CONNECTION
- EXISTING KOALA EXCLUSION FENCE
- EXISTING TEMPORARY FENCE
- EXISTING TEMPORARY NO-GO FENCE
- ACCESS GATE IN ACCORDANCE WITH TSC STD DWG S.D.020
- ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-8&9-011.
- HERITAGE LOCATION
- HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
- ECOLOGICAL BUFFER
- FUTURE DRIVEWAY/GARAGE (BY OTHERS)

WATER METER NOTES.

LOT 920 AND 921 CONTAINS 3 RESIDENCE WITH THE SERVICE SIZE OF 50 OD.
LOTS 822, 823, 824, 825, 909 AND 923 CONTAIN 2 RESIDENCE WITH THE SERVICE SIZE OF 40 OD.
ALL OTHER SINGLE LOTS ARE 32 OD.

HORIZONTAL THRUST BLOCKS TO BE IN ACCORDANCE WITH:

Minimum Thrust Area (m²) for Concrete Blocks given 1350kPa System Test Pressure (Water):
Based on Soil Classification: 100kPa

Pipe Diameter	Bends				Tee & Dead Ends
	11.25	22.5	45	90	
100	0.21	0.21	0.21	0.21	0.21
300	0.21	0.49	0.95	1.76	1.24

Resultant Thrust (kN) given 135m Head with 1350kPa System Test Pressure (Water):

Pipe Diameter	Bends				Tee & Dead Ends
	11.25	22.5	45	90	
100	3.03	6.04	11.84	21.88	15.47
300	24.25	48.28	94.70	174.98	123.73

FOR FURTHER DETAIL REFER TO WSA 03-2011-3.1 TABLE 7.3.

NOTES

- a. THE NOMINAL THRUST AREA 'N' TO BE ACHIEVED BY POURING CONCRETE THE FULL LENGTH OF THE FITTING AND EXTENDING FROM THE FLOOR OF THE TRENCH TO ABOVE THE FITTING.
- b. FINISH THRUST BLOCKS APPROXIMATELY 100mm ABOVE THE TOP OF THE FITTING OR BEARING PAD AND EXTEND TO THE FLOOR OF THE TRENCH OR DEEPER IF NECESSARY, TO ACHIEVE THE REQUIRED THRUST AREA. MAXIMUM ENCASEMENT TO BE 180°.

SHEET LAYOUT

SH1
SH2

18/450
17/450
16/450
15/450
14/450
13A/450
13/450
12/450

822

821

916

915

914

913

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904

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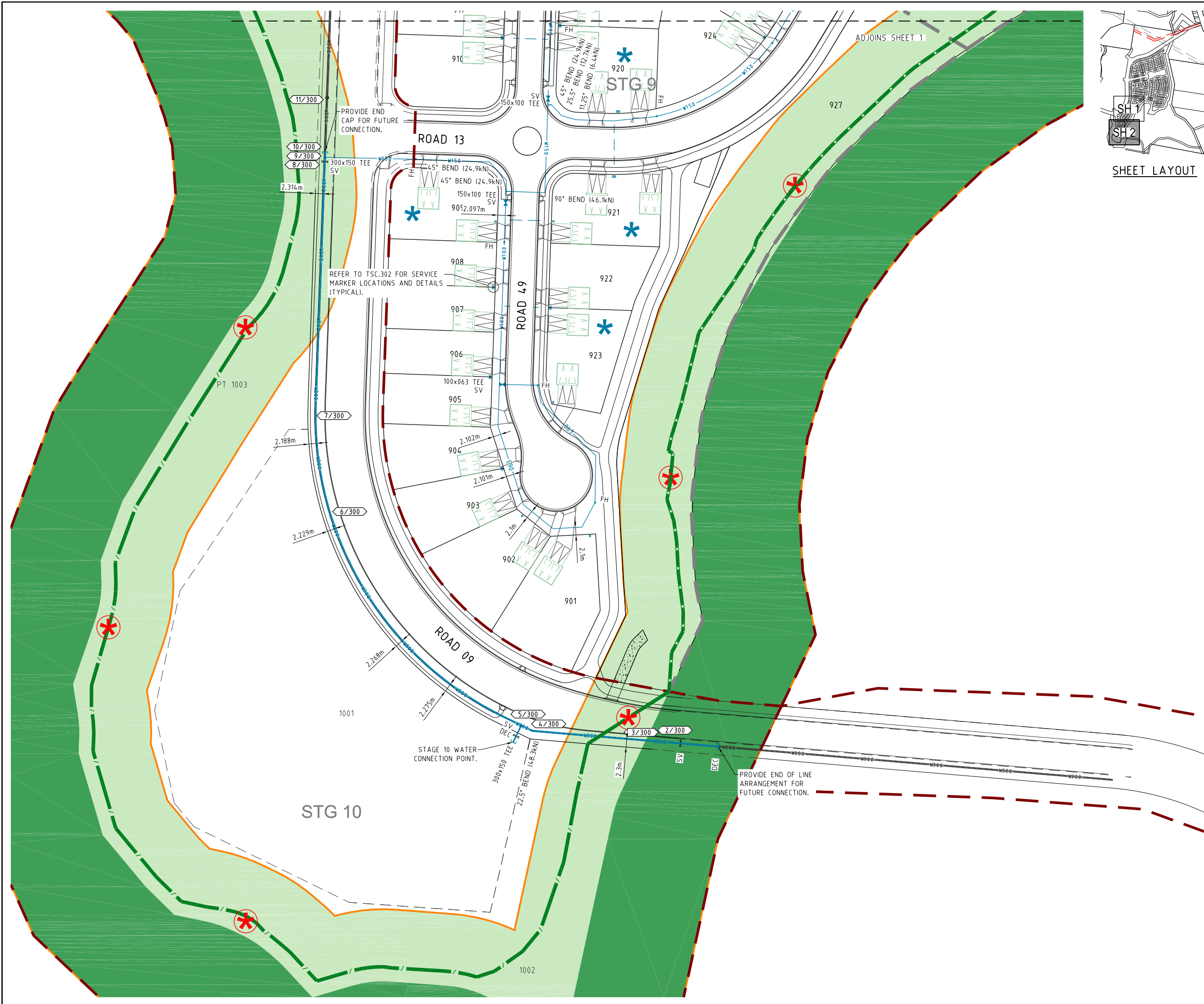
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PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446, Lot 1 on DP781633, Lot 40 on DP7482, Lot 2 on DP819015, Lot 1 on DP129737, Lot 37A on DP13727, Lot 38A on DP13727, Lot 38B on DP13727, Lot 1 on DP706497, Lot 76 on DP755701, Lot 323 on DP755701, Lot 272 on DP755701, Lot 96 on DP755701 & Lot 326 on DP755701

PARISH OF CUDDEN .

COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

NORTH

0 5 10 15 20 25m

Scale 1500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	XX-XX-XX
COUNCIL	08-04-21
CONSTRUCTION	..

PRE	DATE	AMENDMENT
A	08-04-21	ISSUE FOR INFORMATION

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

WATER RETICULATION PLAN

SHEET 2 OF 2

MORTONS

urbansolutions

Urban & Regional Planning

Civil Engineering

Project Coordination

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DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726
DATE 08-04-21	

DRAWING NUMBER	AMEND.
12301-P5-8&9-701	A

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LEGEND

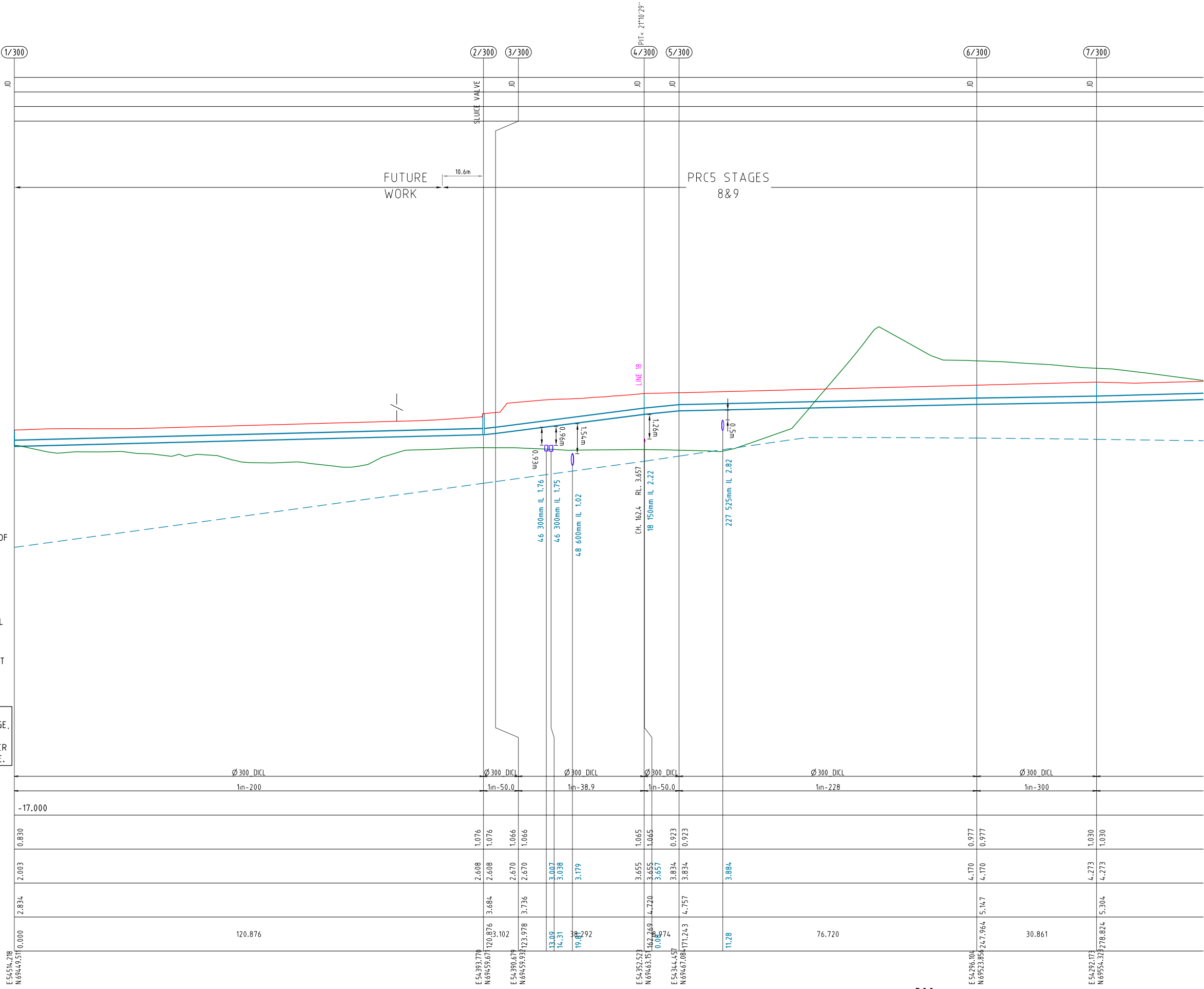
- 4.10 INVERT LEVELS
OF OTHER
SERVICES THAT
CROSS THE PIPE
- APPROX LINE OF
INDURATED
SANDS
- B

STRUCTURE
TYPE B =
VERTICAL AND
OR HORIZONTAL
BENDS
- JD

STRUCTURE
TYPE JD =JOINT
DEFLECTION

PROVIDE MINIMUM
COVER 600mm IN VERGE,
600mm IN ROAD
PAVEMENT / SHOULDER
WHERE EVER POSSIBLE.

PIPE DIAMETER (mm)
PIPE GRADE
DATUM R.L.
DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURF. LEVEL
CHAINAGE



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 8 & 9

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
Lot 2 on DP819015, Lot 1 on DP129737,
Lot 37A on DP13727, Lot 38A on DP13727,
Lot 38B on DP13727, Lot 1 on DP706497,
Lot 76 on DP755701, Lot 323 on DP755701,
Lot 272 on DP755701, Lot 96 on DP755701
& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28
PTY LTD

0 5 10 15 20 25m

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

0 1 2 3 4 5m

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

ISSUES	DATE	
TENDER	..	
COUNCIL	08-04-21	
CONSTRUCTION		

A	08-04-21	ISSUE FOR INFORMATION
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

WATER
PROFILE
SHEET 1

MORTONS
urbansolutions

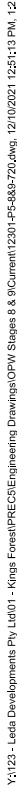
Urban & Regional Planning
Civil Engineering
Project Coordination

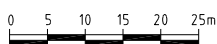
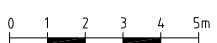
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DESIGNED	RB	DRAWN	JB
APPROVED		NER 906726	DATE 08-04-21

DRAWING NUMBER	AMEND.
12301-P5-8&9-720	A



PROJECT NAME KINGS FOREST PRECINCT 5 CONSTRUCTION CERTIFICATE - STAGES 8 & 9 REAL PROPERTY DESCRIPTION Lot 7 on DP875447, Part of Lot 6 on DP875446, Lot 1 on DP781633, Lot 40 on DP7482, Lot 2 on DP819015, Lot 1 on DP129737, Lot 37A on DP13727, Lot 38A on DP13727, Lot 38B on DP13727, Lot 1 on DP706497, Lot 76 on DP755701, Lot 323 on DP755701, Lot 272 on DP755701, Lot 96 on DP755701 & Lot 326 on DP755701 PARISH OF CUDGEN . COUNTY OF ROUS .														
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 MUS Pty Ltd T/A: Mortons-Urban Solutions ABN: 39 116 375 065 mortons@urbansolutions.net.au www.urbansolutions.net.au Tel 07 5571 1099 Fax 07 5571 1088 Postal Address PO Box 2484 Southport QLD 4215 Gold Coast Office Suite 9, 19 Short St Southport QLD 4215														
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