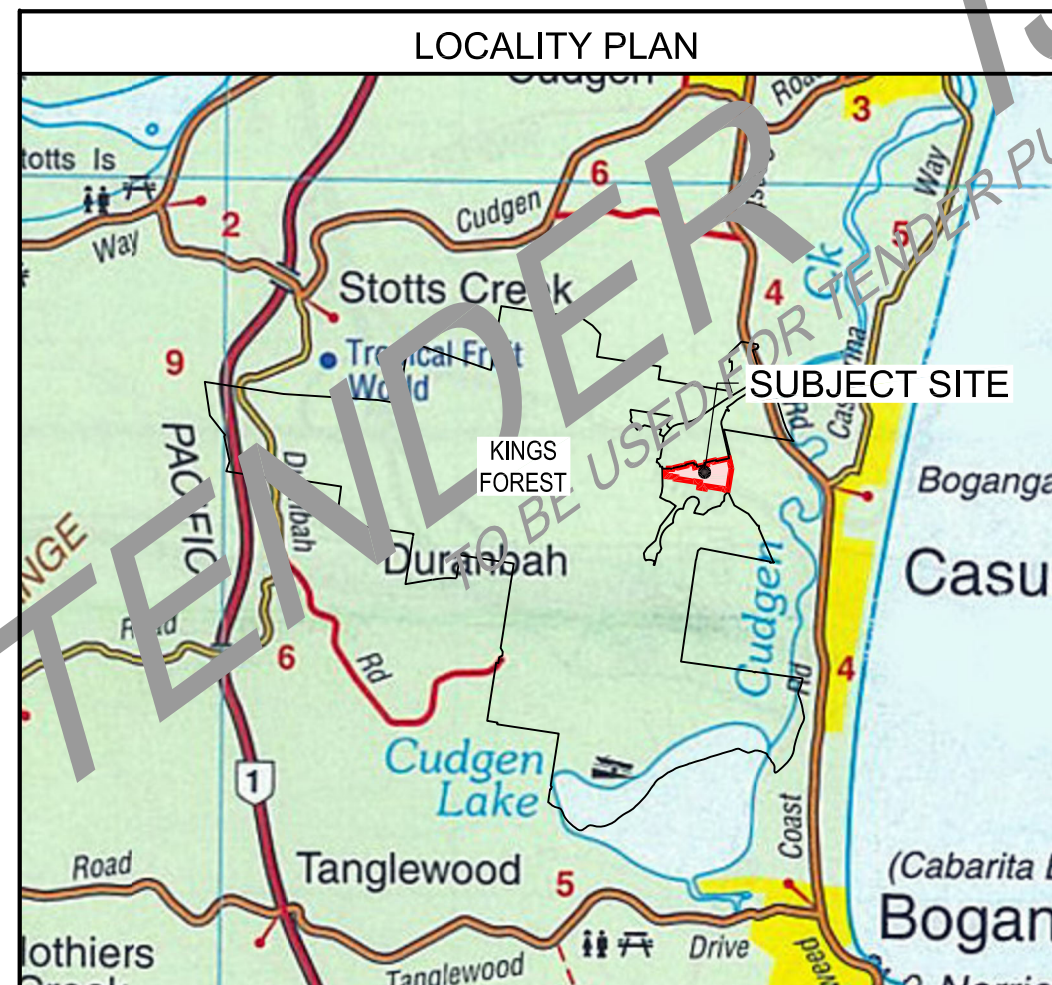


KINGS FOREST

PRECINCT 5 CONSTRUCTION CERTIFICATE STAGES 4 & 5 No. 12301-P5-4&5



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:



DRAWING NUMBER
12301-P5-4&5-000

AMEND.
A

SCHEDULE OF DRAWINGS								
NUMBER	REV. NO.	TITLE	NUMBER	REV. NO.	TITLE	SHEET NO.	REV NO.	SHEET TITLE
GENERAL			12301-P5-4&5-306	A	ROAD 29	TWEED SHIRE		COUNCIL STANDARD DRAWINGS
12301-P5-4&5-000	A	COVER SHEET	12301-P5-4&5-307	A	ROAD 41	S.D 007	D	STANDARD KERB DETAILS SHEET 1
12301-P5-4&5-001	E	SCHEDULE	12301-P5-4&5-308	A	ROAD 46	S.D 012	H	SUB SOIL DRAINAGE DETAILS
12301-P5-4&5-002	D	GENERAL NOTES	ROADWORKS: INTERSECTION GRADING DETAIL			S.D 013	E	FOOTPATH AND CYCLEWAY DETAILS
12301-P5-4&5-005	C	ROAD HIERARCHY & STAGING PLAN	12301-P5-4&5-400	B	DETAILS SHEET 01	S.D 014	F	STANDARD KERB RAMP DETAILS
12301-P5-4&5-007	A	DEEMED COMMENCMENT PEGGED SURVEY SHEET 1	12301-P5-4&5-401	B	DETAILS SHEET 02	S.D 103	B	STANDARD GULLY PIT - ROLL TOP KERB
12301-P5-4&5-008	A	DEEMED COMMENCMENT PEGGED SURVEY SHEET 2	ROADWORKS: LINEMARKING & SIGNAGE			S.D 104	C	STANDARD GULLY PIT - BARRIER KERB
FENCES			12301-P5-4&5-420	C	PLAN SHEET 01	S.D 240	C	SLUICE VALVE INSTALLATION DETAILS
12301-P5-4&5-010	B	FENCING PLAN	12301-P5-4&5-421	B	PLAN SHEET 02	S.D 243	C	MANUAL AIR VALVE INSTALLATION DETAILS
12301-P5-4&5-011	A	ACOUSTIC FENCE DETAILS	SEWER: RETICULATION PLAN			S.D 250	C	PROPERTY CONNECTION DETAILS TYPE A & TYPE B
EARTHWORKS: FINAL SURFACE AND SEDIMENT CONTROL			12301-P5-4&5-500	E	NOTES AND DETAILS			
12301-P5-4&5-070	B	PLAN SHEET 01	12301-P5-4&5-501	C	SHEET 1 OF 2	S.D 251	D	PROPERTY CONNECTION DETAILS TYPE C1 & TYPE C2
12301-P5-4&5-071	C	PLAN SHEET 02	12301-P5-4&5-502	B	SHEET 2 OF 2			
12301-P5-4&5-075	A	DETAIL SHEET 1	SEWER: PROFILES			S.D 261	E	PRESSURE SEWERAGE SYSTEMS TYPICAL DETAILS
COMBINED SERVICES			12301-P5-4&5-530	B	SHEET 1			
12301-P5-4&5-090	C	PLAN SHEET 01	12301-P5-4&5-531	C	SHEET 2	S.D 276	C	TRENCH DRAINAGE BULKHEADS & TRENCH STOPS
12301-P5-4&5-091	B	PLAN SHEET 02	12301-P5-4&5-532	C	SHEET 3			
12301-P5-4&5-092	A	COMBINED SECTIONS SHEET 1 OF 2	12301-P5-4&5-533	C	SHEET 4	S.D 278	B	MAINTENANCE HOLES FOR SEWERS
12301-P5-4&5-093	B	COMBINED SECTIONS SHEET 2 OF 2	12301-P5-4&5-534	C	SHEET 5	S.D 301	C	WATER RETICULATION LAYOUT CUL-DE-SACS
ROADWORKS: PLAN			SEWER: HOUSE CONNECTION PROFILES			S.D 302	C	PROPERTY SERVICE LAYOUT DN 50 OR SMALLER SERVICES
12301-P5-4&5-100	B	SHEET 1 OF 2	12301-P5-4&5-570	C	SHEET 1 OF 2			
12301-P5-4&5-101	B	SHEET 2 OF 2	12301-P5-4&5-571	C	SHEET 2 OF 2	S.D 311	A	AUTOMATIC AIR RELEASE VALVE INSTALLATION DETAILS
ROADWORKS: DETAILS			SEWER: THRUST BLOCK & ANCHOR					
12301-P5-4&5-120	C	DETAILS SHEET 1	12301-P5-4&5-590	A	TYPICAL THRUST & ANCHOR BLOCKS	S.D 312	C	TYPICAL VALVE INSTALLATION DETAILS
ROADWORKS: KERB SECTIONS			STORMWATER: PLANS			S.D 316	D	MARKINGS OF LOCATIONS OF HYDRANTS
12301-P5-4&5-122	A	KERB LONGITUDINAL SECTIONS SHEET 1	12301-P5-4&5-600	B	PLAN SHEET 01	S.D 320	C	PROPERTY SERVICES CONNECTION TO MAIN
12301-P5-4&5-123	A	KERB LONGITUDINAL SECTIONS SHEET 2	12301-P5-4&5-601	C	PLAN SHEET 02	S.D 341	F	TRENCH DRAINAGE BULKHEADS & TRENCH STOPS
12301-P5-4&5-124	A	KERB LONGITUDINAL SECTIONS SHEET 3	STORMWATER: PROFILES					
ROADWORKS: SWEPHTH PATHS			12301-P5-4&5-620	A	SHEET 1	S.D 301	C	EROSION & SILTATION PREVENTION DEVICES SHEET 1
12301-P5-4&5-160	A	INTERSECTION ATURN PASSENGER CAR SHEET 1	12301-P5-4&5-621	A	SHEET 2			
12301-P5-4&5-161	A	INTERSECTION ATURN 12.5 TRUCK SHEET 1	12301-P5-4&5-622	B	SHEET 3	S.D 502	B	EROSION & SILTATION PREVENTION DEVICES SHEET 2
12301-P5-4&5-162	A	INTERSECTION ATURN 12.5 TRUCK SHEET 2	12301-P5-4&5-623	A	SHEET 4			
ROADWORKS: LONGITUDINAL SECTIONS			12301-P5-4&5-624	A	SHEET 5			
12301-P5-4&5-200	A	ROAD 12	STORMWATER: STRUCTURE DETAILS					
12301-P5-4&5-201	A	ROAD 13	12301-P5-4&5-640	A	DETAILS SHEET 01	WATER SERVICE OF AUSTRALIA STD DRAWINGS		
12301-P5-4&5-202	A	ROAD 17 SHEET 1	12301-P5-4&5-641	B	DETAILS SHEET 02	SEW 1200	V2.1	SOIL CLASSIFICATION GUIDELINES AND ALLOWABLE BEARING PRESSURES FOR BULKHEADS
12301-P5-4&5-203	A	ROAD 17,19 SHEET 2	STORMWATER: GRATED DRAIN DETAILS					
12301-P5-4&5-204	A	ROAD 20	12301-P5-4&5-650	A	DRAINAGE PLAN	WAT 1205	V2.2	THRUST BLOCK DETAILS CONCRETE BLOCKS
12301-P5-4&5-205	A	ROAD 29	12301-P5-4&5-655	A	GRATED DRAIN DETAILS	WAT 1207	V2.2	THRUST AND ANCHOR BLOCKS GATE VALVES AND VERTICAL BENDS
12301-P5-4&5-206	A	ROAD 41	STORMWATER: CATCHMENT					
12301-P5-4&5-207	A	ROAD 46	12301-P5-4&5-670	A	PLAN SHEET 1	WAT 1208	V2.1	RESTRAINED JOINT SYSTEM DN100 TO DN375 DI MAINS
ROADWORKS: CROSS SECTIONS			STORMWATER: CALCULATION TABLES					
12301-P5-4&5-300	A	ROAD 12	12301-P5-4&5-680	A	MINOR & MAJOR STORM EVENT	SPS 1602	V1.1	SCOUR ARRANGEMENT PUMP AND GRAVITY
12301-P5-4&5-301	A	ROAD 13	WATER RETICULATION PLAN			SPS 1603	V1.1	SCOUR ARRANGEMENTS PRESSURE MAINS
12301-P5-4&5-302	A	ROAD 17 SHEET 1	12301-P5-4&5-700	C	SHEET 1 OF 2			±300 ±2.2 INVERT
12301-P5-4&5-303	A	ROAD 17 SHEET 2	12301-P5-4&5-701	C	SHEET 2 OF 2			
12301-P5-4&5-304	A	ROAD 19						
12301-P5-4&5-305	A	ROAD 20						

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 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 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

D	02-09-21	NOTES AMENDED
C	22-03-21	NOTES AMENDED
B	11-06-20	NOTES AMENDED
A	14-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS




DRAWING TITLE

GENERAL NOTES

TENDER ISSUE ONLY


Urban & Regional Planning
Civil Engineering
Project Coordination

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

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

DESIGNED RB
DRAWN JB
APPROVED  NER 906726
DATE 14-04-20
DRAWING NUMBER
12301-P5-4&5-002
AMEND.
D

ACCESS STREET

NEIGHBOURHOOD CONNECTOR
(MINOR)

———— EXISTING PROPERTY LINE
 ———— EXISTING KERB (INVERT)
 - - - - FUTURE PROPERTY LINE
 - - - - FUTURE KERB (INVERT)
 ———— PROPOSED PROPERTY LINE
 ———— PROPOSED KERB (INVERT)
 ■■■■ SITE BOUNDARY
 ■■■■ PRECINCT BOUNDARY
 ■■■■ STAGE BOUNDARY
 ○○○○ EXISTING PERMANENT KOALA EXCLUSION FENCE
 ———— / ———— EXISTING TEMPORARY FENCE
 ■■■■ ACUSTIC FENCE IN ACCORDANCE WITH
 DRAWING 12301-P5-4&5-011

ECOLOGICAL BUFFER

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 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.

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.

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.



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 .

**PROJECT 28
PTY LTD**



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

ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

C	02-09-21	LEGEND AMENDED
B	01-10-20	NOTES AMENDED
A	14-04-20	COUNCIL ISSUE

PRE	DATE	AMENDMENT
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ASSOCIATED CONSULTANTS

LANDSURV
McGraw-Hill Construction
Brown & Root

**+GILBERT
SUTHERLAND**

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

ROAD HIERARCHY AND STAGING PLAN

TENDER ISSUE ONLY



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

MUS Pty Ltd T/As: Postal Address
Mortons-Urban Solutions PO Box 2484
ABN: 39 116 375 065 Southport QLD 4215
 mortons@urbansolutions.net.au
 www.urbansolutions.net.au
Gold Coast Office
 Suite 9, 19 Short St
 Southport QLD 4215
Tel 07 5571 1099
Fax 07 5571 1088

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726 DATE 11-06-2

APPROVED	WER 900720	DATE 14-04-2
DRAWING NUMBER		AMEN
12301-P5-4&5-005		C





**DIAL BEFORE
YOU DIG**
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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.



+GILBERT SUTHERLAND

DRAWING NUMBER	AMEND
12301-P5-4&5-007	A

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

ROAD 13

ROAD 17

ROAD 20

ROAD 45

ROAD 46

ROAD 18

ROAD 41

PRCT 5

STG 5

560

420 421 422 423 424 425 426 427 428 429

501 502 503 504 505 506 507 508 509

510 511 512 513 514 515 516 517

518 519 520 521 522 523 524 525 526 527 528 529

530 531 532 533 534 535 536 537 538 539

540 541 542 543 544 545 546 547 548 549

550 551 552 553 554 555 556 557 558 559

601 602 603 604 605 606 607 608

612 613 614 615 616

742 743 744 745 746 747

750

ADJOINS SHEET 2

SHEET

APPROVED 	NER 900720	DATE 14-04-20
DRAWING NUMBER 12301-P5-4&5-008		AMEND. A

\\123 - leda developments pty ltd\01 - kings forest\PREC5\engineering drawings\opw stages 4 & 5\Current\12301-P5-4&5-007.dwg, 7/10/2021 7:59:16 AM, 1:2

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
- ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-4&5-011
- HERITAGE LOCATION
- HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
- ECOLOGICAL BUFFER



PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5
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 20 40 60 80 100m
Scale 1:2000 - A1 (1:4000 - A3)

ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

B	02-09-21	LEGEND AMENDED
A	14-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	

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LANDSURV

+GILBERT SUTHERLAND

DRAWING TITLE

FENCING PLAN

TENDER ISSUE ONLY

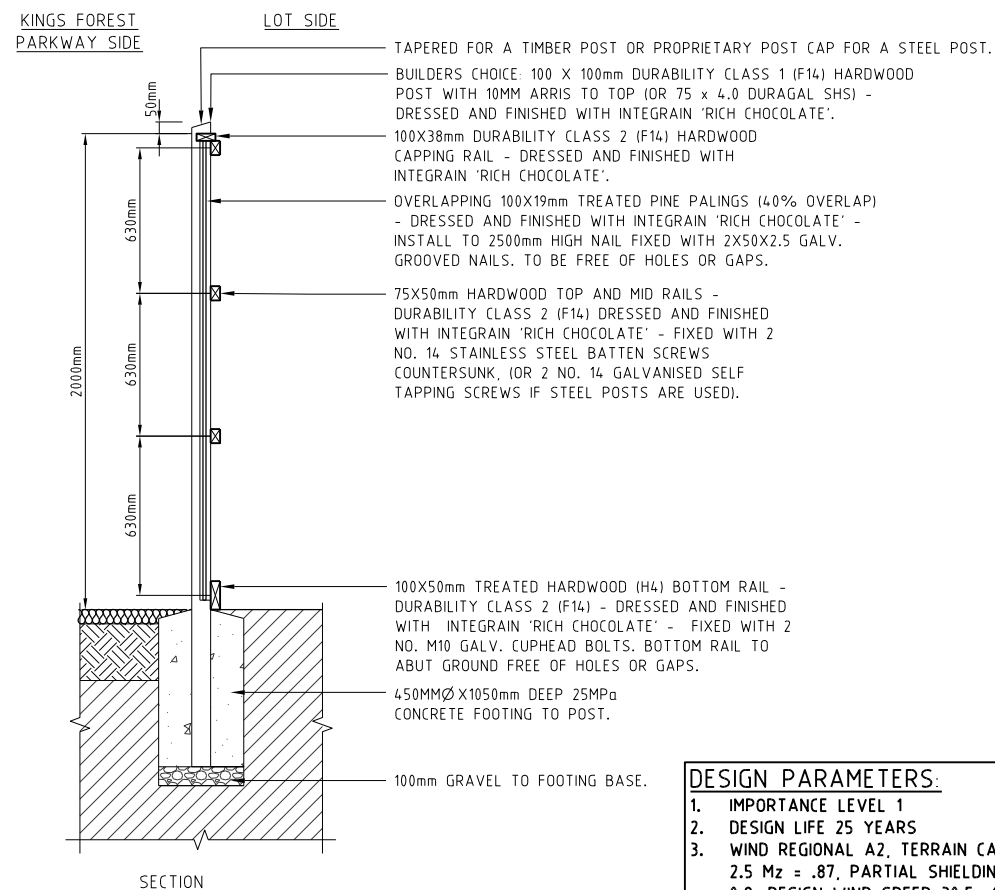
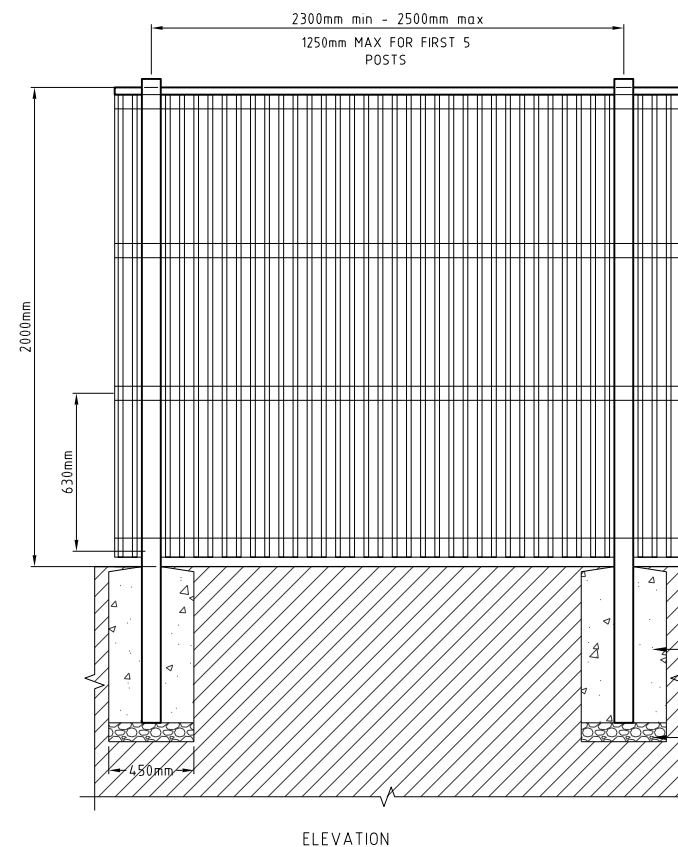
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urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726 DATE 14-04-20
DRAWING NUMBER 12301-P5-4&5-010	AMEND. B



DESIGN PARAMETERS:

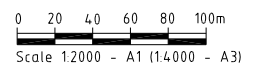
1. IMPORTANCE LEVEL 1
2. DESIGN LIFE 25 YEARS
3. WIND REGIONAL A2, TERRAIN CATEGORY 2
 $2.5 M_z = .87$, PARTIAL SHIELDING $M_s = 0.9$, DESIGN WIND SPEED 30.5 m/s
4. SOIL TYPE: DENSE SAND.

ACOUSTIC FENCE
N.T.S

PROJECT NAME
**KINGS
FOREST**
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

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



ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	11-04-20	COUNCIL ISSUE	
PRE	DATE	AMENDMENT	

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

ACOUSTIC FENCE DETAILS

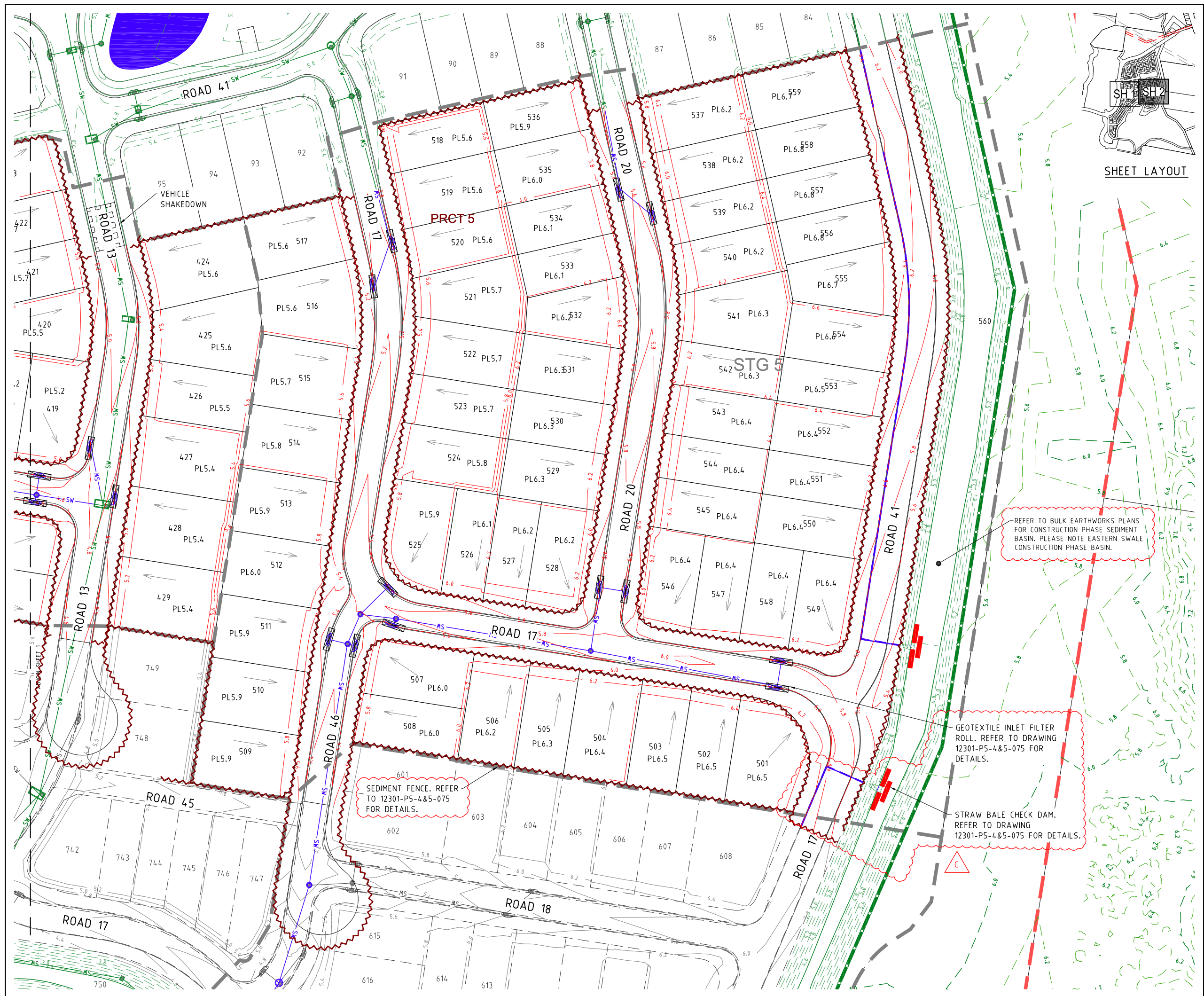
TENDER ISSUE ONLY



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ABN: 39 116 375 065 Southport QLD 4215

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www.urbansolutions.net.au **Gold Coast Office**
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APPROVED 	NER 906726	DATE 14-04-20
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12301-P5-4&5-011		A



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

REAL PROPERTY DESCRIPTION
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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		15-10-20
COUNCIL		14-04-20
CONSTRUCTION		..

C	02-09-21	NOTES AMENDED
B	19-11-20	SHAKEDOWN GRID ADDED
A	14-04-20	COUNCIL ISSUE

PRE DATE	AMENDMENT

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GILBERT SUTHERLAND

DRAWING TITLE

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

TENDER ISSUE ONLY

Urban & Regional Planning
Civil Engineering
Project Coordination

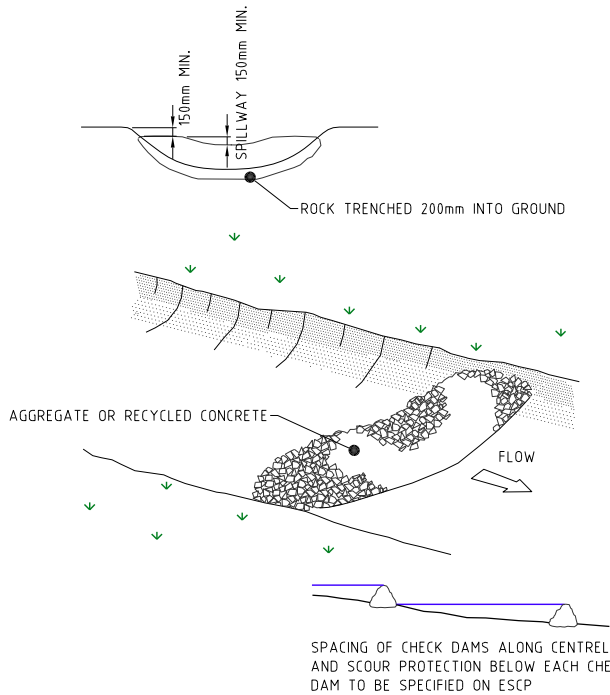
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APPROVED		NER	906726

DRAWING NUMBER	AMEND.
12301-P5-4&5-071	C

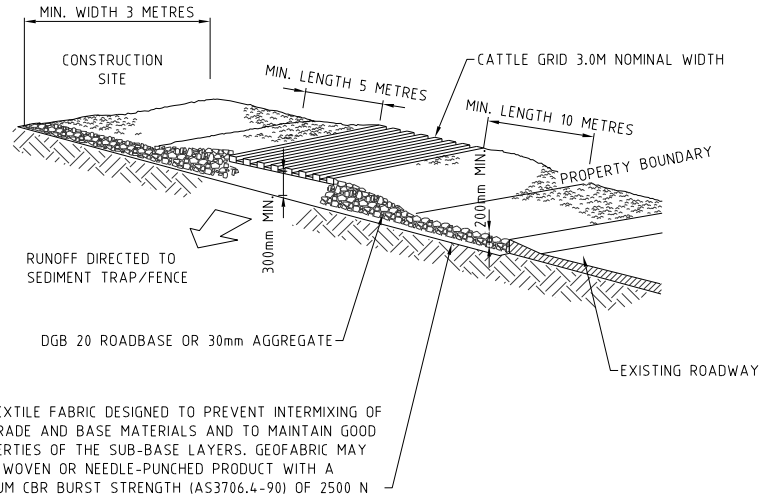


CONSTRUCTION NOTES:

- 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

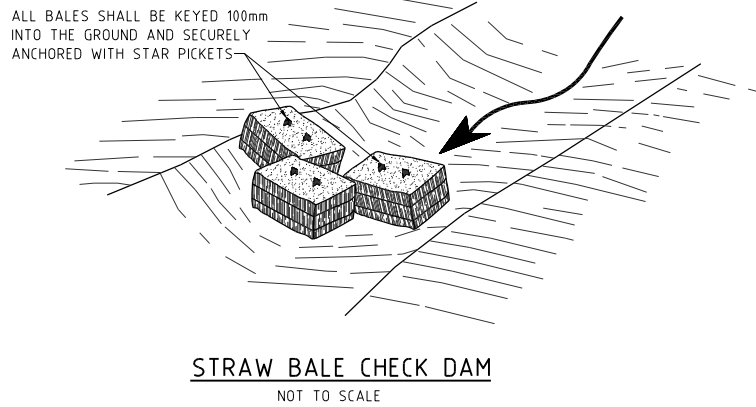


CONSTRUCTION NOTES:

- 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

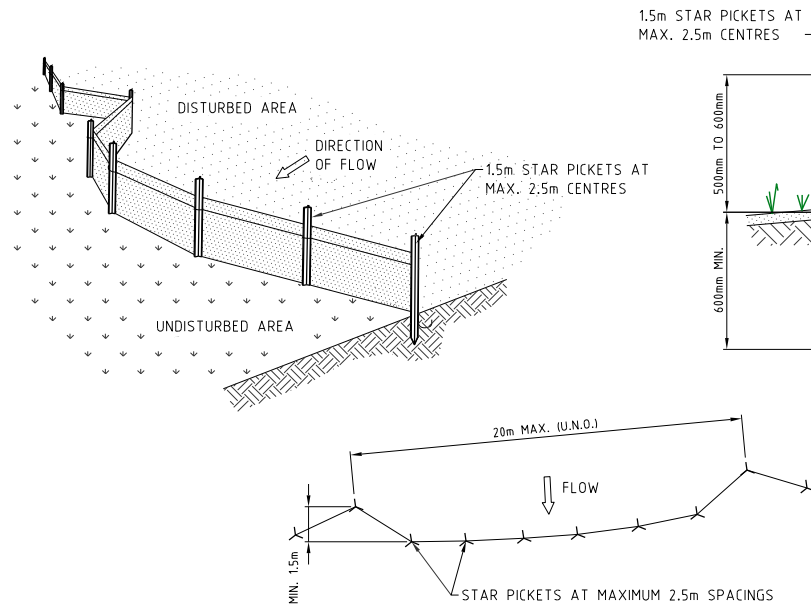


STRAW BALE CHECK DAM

NOT TO SCALE

CONSTRUCTION NOTES:

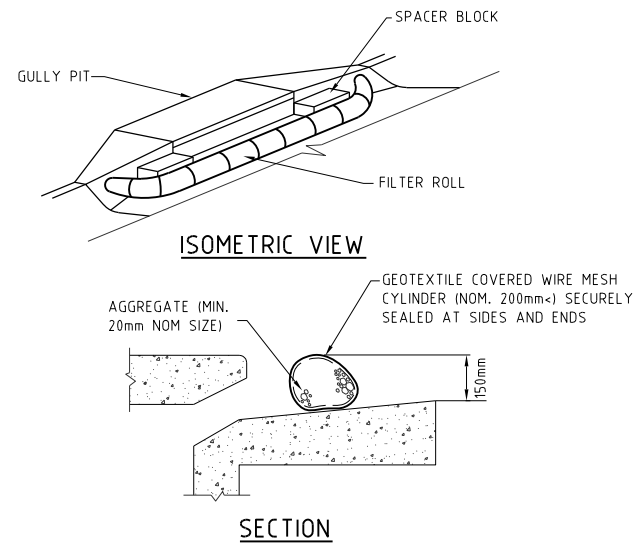
- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND 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 4 & 5
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& 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	..	

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

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ASSOCIATED CONSULTANTS

LANDSURV
GILBERT SUTHERLAND

DRAWING TITLE

SEDIMENT & EROSION DETAILS

TENDER ISSUE ONLY

MORTONS urban solutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

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APPROVED <i>[Signature]</i>	NER 906726 DATE 07-02-19

DRAWING NUMBER	AMEND.
12301-P5-4&5-075	A

—————	EXISTING PROPERTY LINE
—————	EXISTING KERB (INVERT)
—————	EXISTING FOOTPATH
— SW —	EXISTING STORMWATER
— W —	EXISTING WATER MAIN
— S — S —	EXISTING SEWER
—————	FUTURE PROPERTY LINE
—————	FUTURE FOOTPATH
—————	FUTURE KERB (INVERT)
— S — S — @ —	FUTURE SEWER
— SW —	FUTURE STORMWATER
— W —	FUTURE WATER MAIN
—————	PROPOSED PROPERTY LINE
—————	PROPOSED KERB (INVERT)
—————	PROPOSED FOOTPATH
— RM —	PROPOSED RISING MAIN
— S —	PROPOSED SEWER MAIN
— SW —	PROPOSED STORMWATER
— SS —	PROPOSED SUBSOIL
— W150 —	PROPOSED WATER MAIN
— ○ — ○ —	EXISTING KOALA EXCLUSION
— / —	EXISTING TEMPORARY FENCE
— X —	EXISTING TEMPORARY NO

- | | |
|---|---|
|  | EXISTING PADMOUNT TRANSFORMER |
|  | EXISTING ELECTRICAL POWER LINE POLES |
|  | EXISTING ELECTRICAL SERVICE PILLAR |
|  | EXISTING ELECTRICAL LINE - STREET LIGHT |
|  | EXISTING ELECTRICAL LINE - LOW VOLTAGE |
|  | EXISTING ELECTRICAL LINE - HIGH VOLTAGE |
|  | EXISTING ELECTRICAL OVERHEAD |
| | |
|  | PROPOSED PADMOUNT TRANSFORMER |
|  | PROPOSED ELECTRICAL POWER LINE POLES |
|  | PROPOSED ELECTRICAL SERVICE PILLAR |
|  | PROPOSED ELECTRICAL LINE - STREET LIGHT |
|  | PROPOSED ELECTRICAL LINE - LOW VOLTAGE |
|  | PROPOSED ELECTRICAL LINE - HIGH VOLTAGE |
|  | PROPOSED ELECTRICAL OVERHEAD |
|  | PROPOSED STREET LIGHT |
| | |
|  | FUTURE PADMOUNT TRANSFORMER |
|  | FUTURE ELECTRICAL POWER LINE POLES |
|  | FUTURE ELECTRICAL SERVICE PILLAR |
|  | FUTURE ELECTRICAL LINE - STREET LIGHT |
|  | FUTURE ELECTRICAL LINE - LOW VOLTAGE |
|  | FUTURE ELECTRICAL LINE - HIGH VOLTAGE |
|  | FUTURE ELECTRICAL OVERHEAD |
|  | FUTURE STREET LIGHT |

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

HERITAGE LOCATION

HERITAGE EXCLUSION ZONE
(NO WORKS PERMITTED)

ECOLOGICAL BUFFER

ECOLOGICAL BUFFER

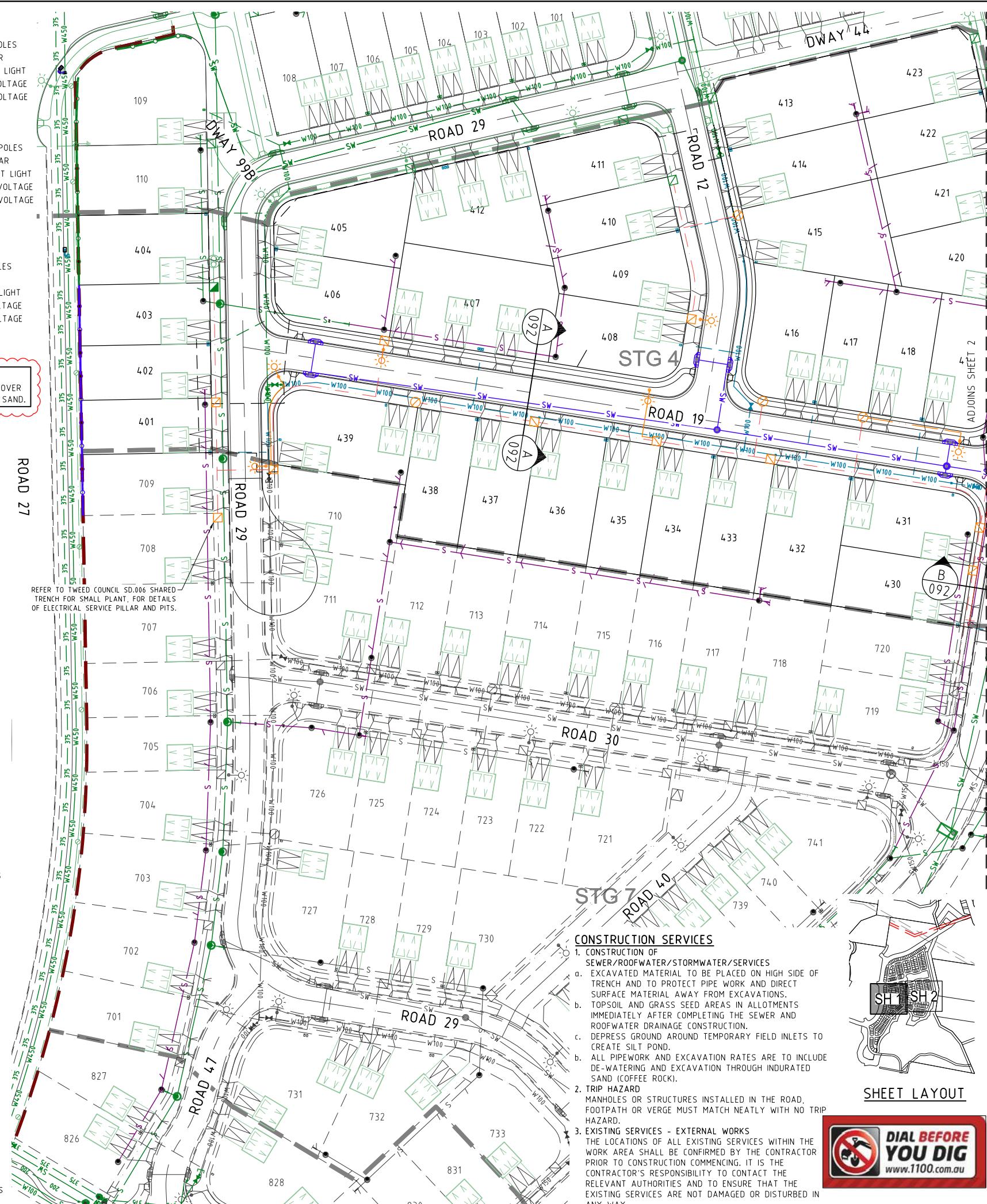
FUTURE DRIVEWAY/GARAGE
(BY OTHERS)

CLEARANCE BETWEEN WATER MAINS AND UNDERGROUND SERVICES			
UTILITY (EXISTING OR PROPOSED SERVICES)	MINIMUM HORIZONTAL CLEARANCES (mm) NEW MAIN SIZE ≤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 CLEARANCES 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 $\geq$ DN 375 CLEARANCES FROM KERBS CAN BE PROGRESSIVELY REDUCED UNTIL THE MINIMUM OF 150mm IS REACHED FOR MAINS $\leq$ 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 INSTALLATIONS SUCH AS PIPES, PIPES AND SMALL STRUCTURES, PROVIDED THE STRUCTURE IS NOT STABILISED 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.



SHEET LAYOUT



PROJECT NAME

KINGS FOREST

PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

REAL PROPERTY DESCRIPTION
 Lot 7 on DP875447, Part of Lot 6 on DP875446,
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 & 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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

C	02-09-21	LEGEND AMENDED
B	01-10-20	LEGEND, NOTES AND SERVICES AMENDED
A	14-04-20	COUNCIL ISSUE
P R E	D A T E	A M E N D M E N T

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+GILBERT SUTHERLAND

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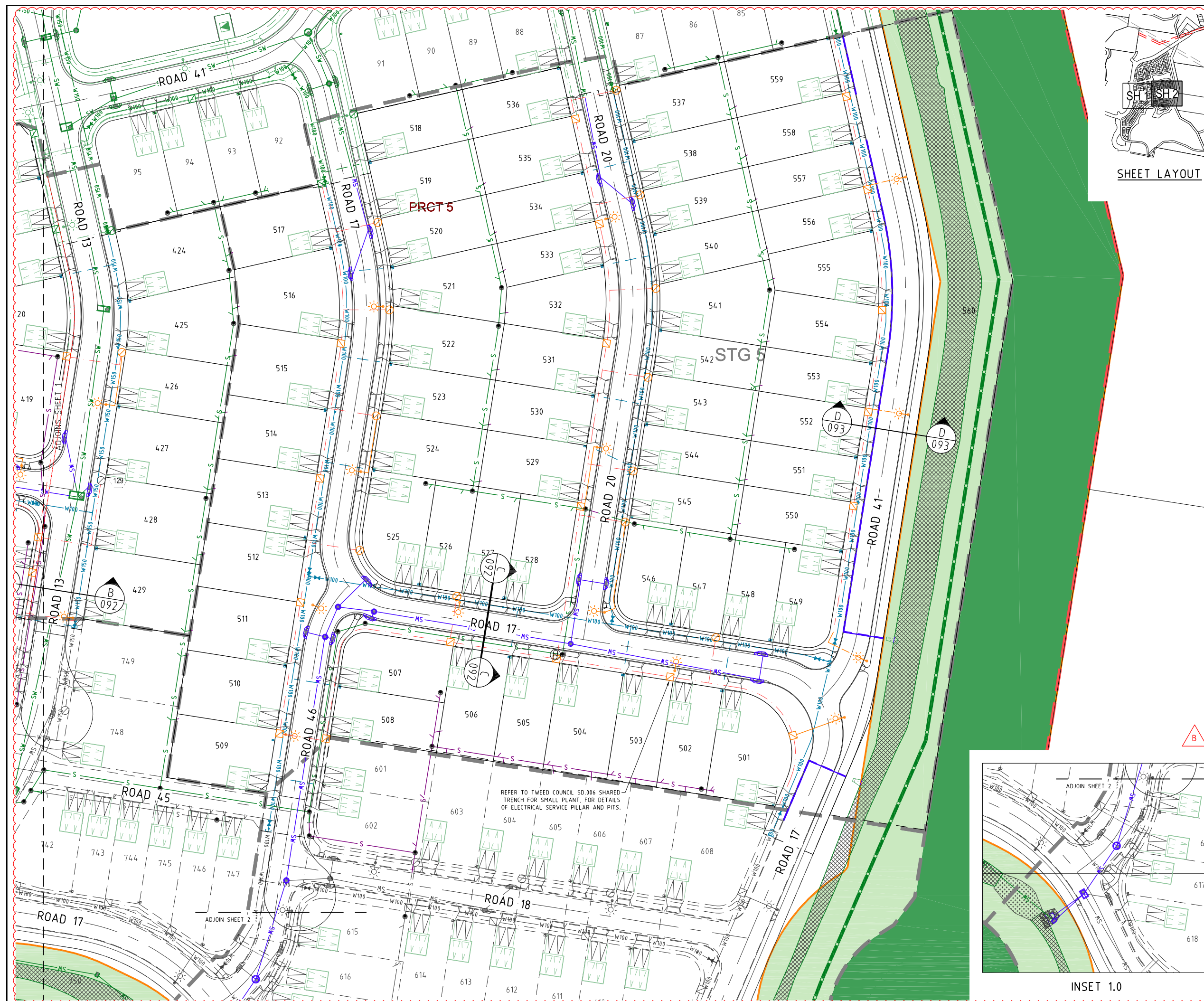
COMBINED SERVICES
PLAN
SHEET 1 OF 2

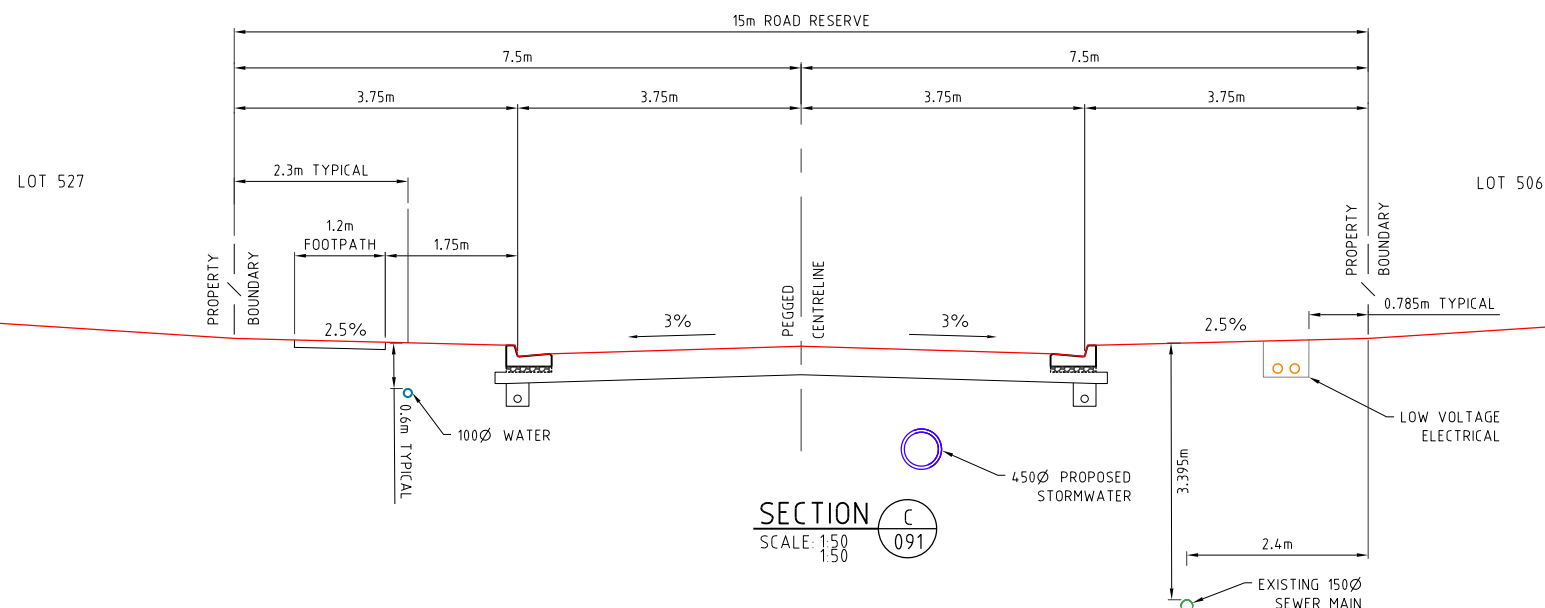
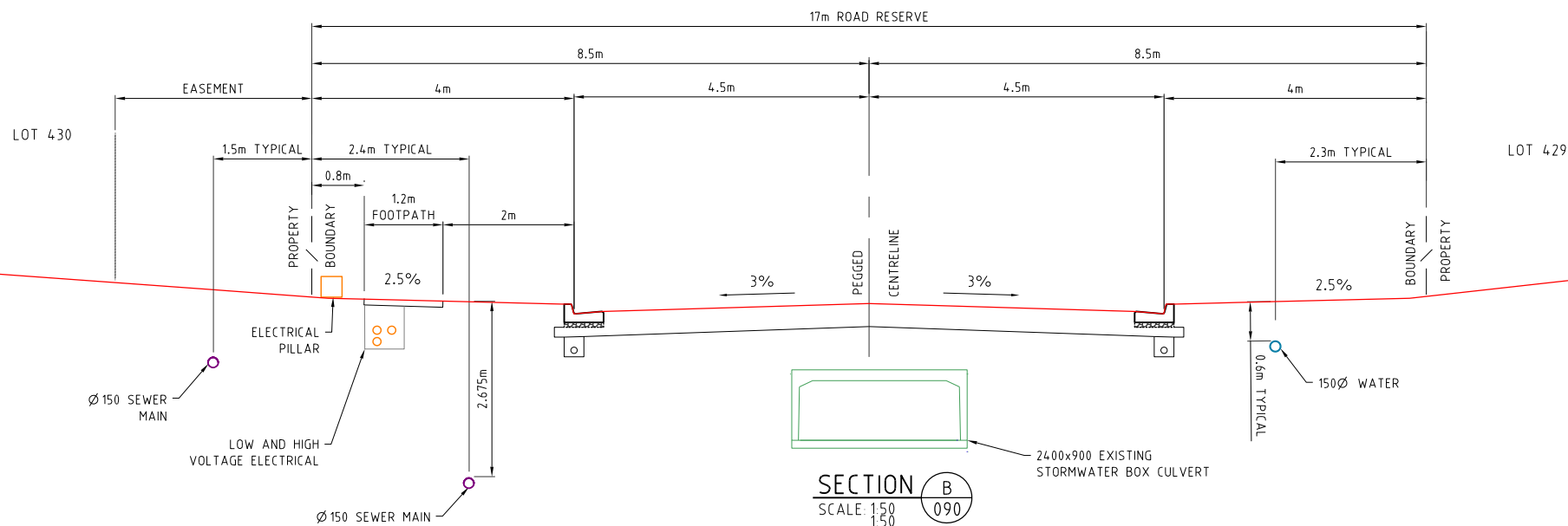
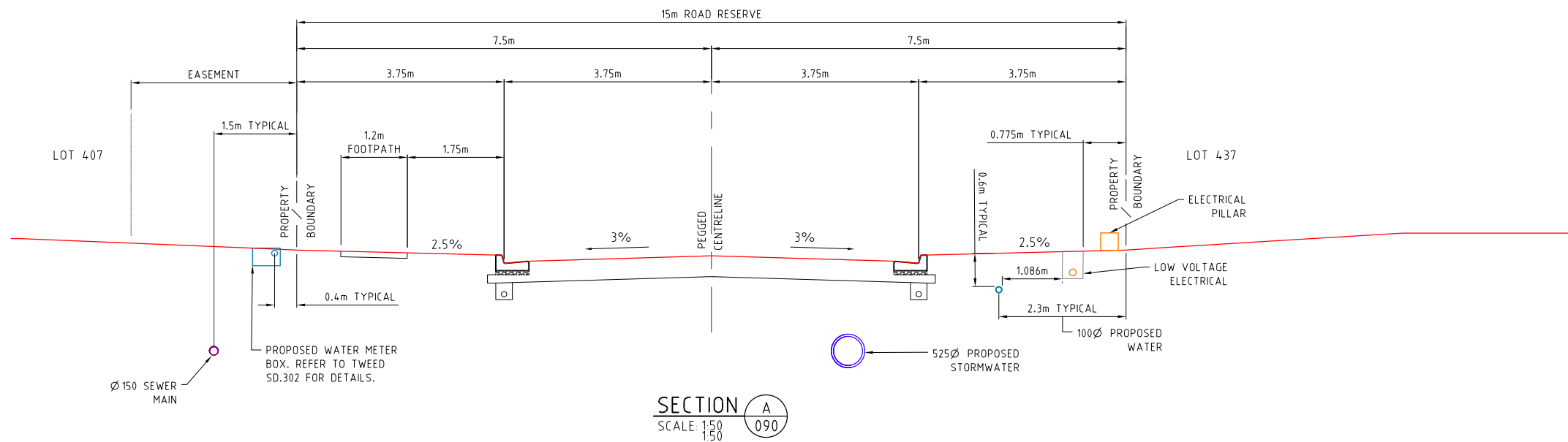
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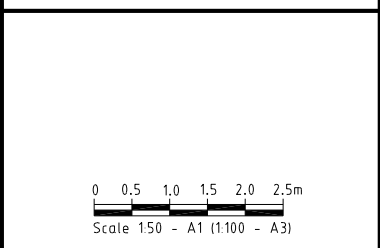
MUS Pty Ltd T/As: Postal Address
Mortons-Urban Solutions PO Box 2484
ABN: 39 116 375 065 Southport QLD 4215
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www.urbansolutions.net.au Gold Coast Office
Tel 07 5571 1099 Suite 9, 19 Short St
Fax 07 5571 1088 Southport QLD 4215

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726 DATE 14-04-20
DRAWING NUMBER	AMEND
12301 P5 485 000	C





CLIENT
PROJECT 28
PTY LTD



ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	12-10-20	
CONSTRUCTION	..	

A	07-02-19	PRELIMINARY CLIENT ISSUE			
P R E	D A T E		A M E N D M E N T		

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

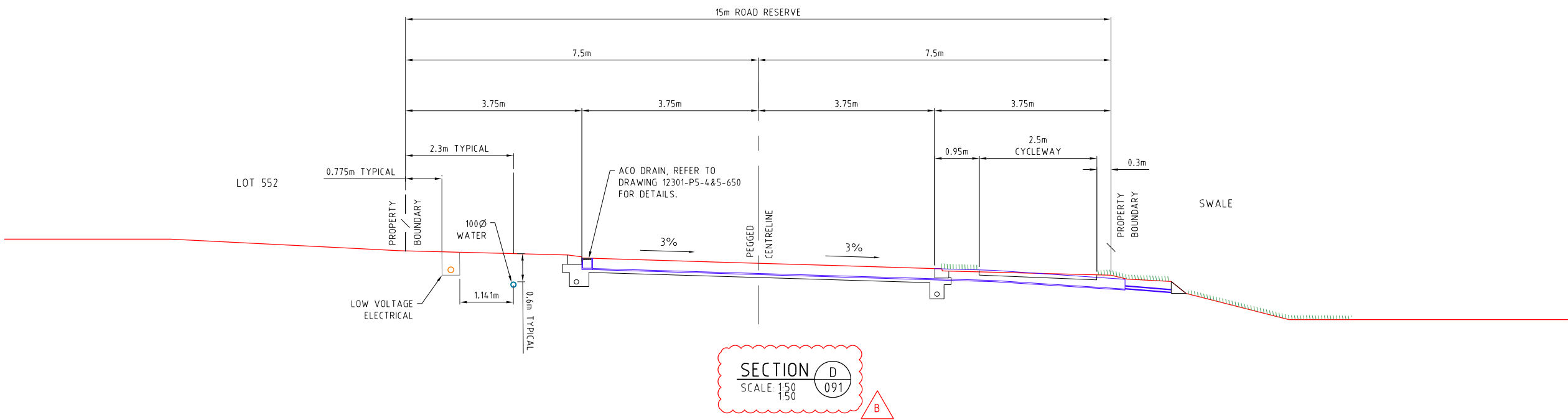
COMBINED SERVICES
SECTIONS
SHEET 1

TENDER ISSUE ONLY



DESIGNED RB		DRAWN CB	
APPROVED <i>[Signature]</i>	NER 906726	DATE 07-02-19	
DRAWING NUMBER			AMEND.
12301-P5-4&5-092			A

Y:\123 - Ieda developments Pty Ltd\01 - Kings forest\PREC2\engineering drawings\upw stages 4 & 5\Current\12301-P5-4&5-093.dwg, 7/10/2021 8:03:30 AM, 12



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

REAL PROPERTY DESCRIPTION

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& Lot 326 on DP755701
PARISH OF CUDDEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

0 0.5 1.0 1.5 2.0 2.5m

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

ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	12-10-20	
CONSTRUCTION	..	

B	22-03-21	LABEL AMENDED
A	07-02-19	PRELIMINARY CLIENT ISSUE
PRE DATE	AMENDMENT	

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LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

COMBINED SERVICES SECTIONS SHEET 2

TENDER ISSUE ONLY

MORTONS urban solutions

Urban & Regional Planning
Civil Engineering
Project Coordination

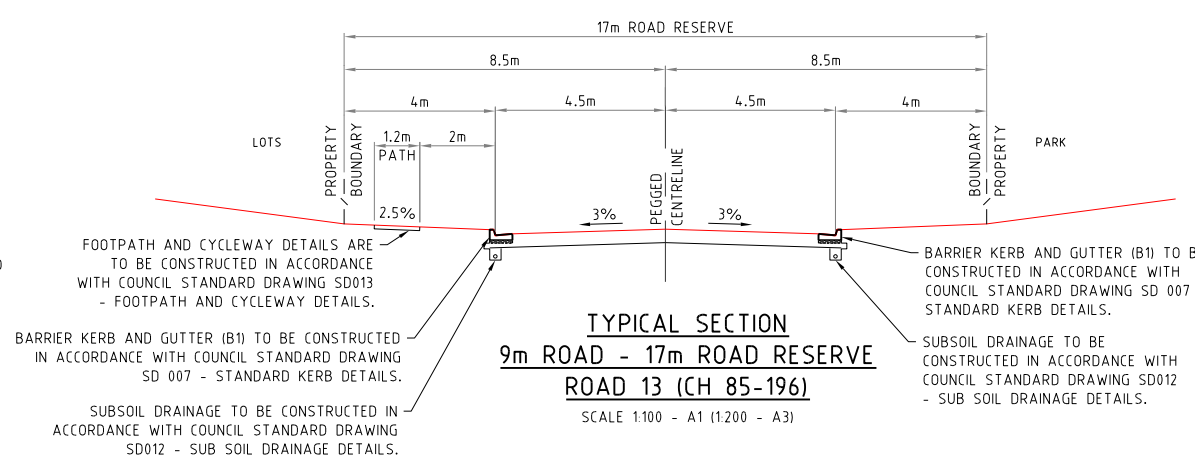
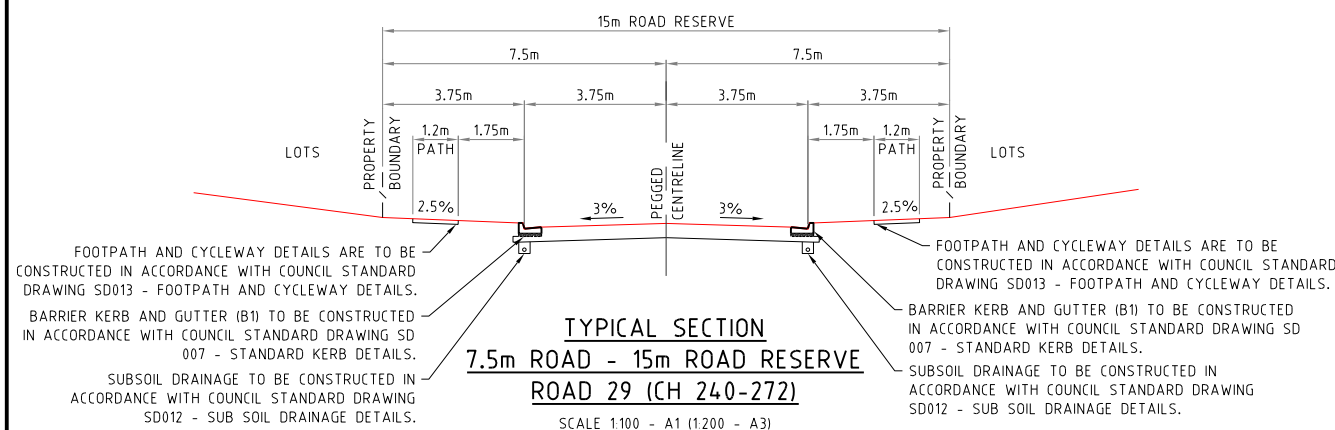
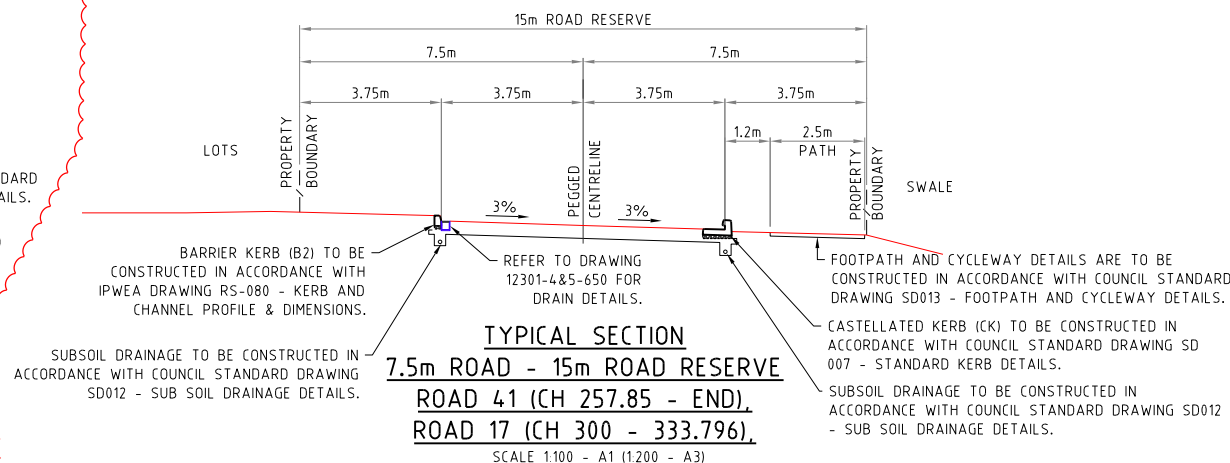
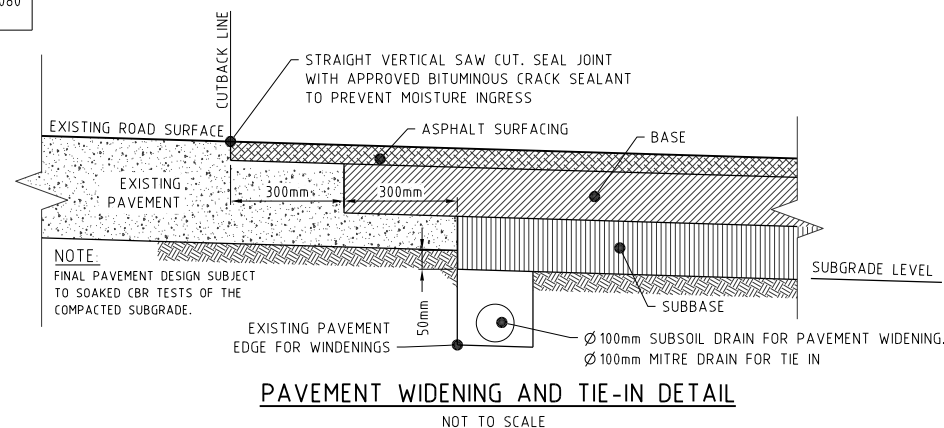
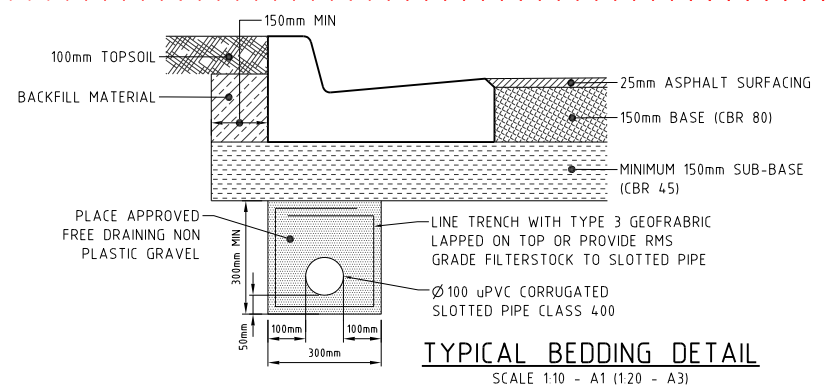
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088

Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
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APPROVED <i>RB</i>	NER 906726 DATE 07-02-19
DRAWING NUMBER	
12301-P5-4&5-093	
AMEND.	
B	

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

NOTE:
SUBSOIL DRAINS
TO BE PLACED
UNDER ALL KERBS



PROJECT NAME

**KINGS
FOREST**

PRECINCT 5

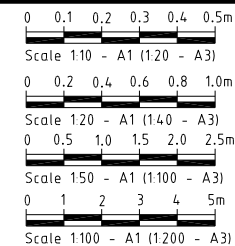
**CONSTRUCTION CERTIFICATE -
STAGES 4 & 5**

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP871633, 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 34 on DP755701
& Lot 326 on DP755701

PARISH OF CUDGEN
COUNTY OF ROUS .

CLIENT
PROJECT 28
PTY LTD



I S S U E S	D A T E	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

C	15-06-21	TABLE AND SECTIONS AMENDED	
B	14-10-20	TABLE AMENDED	
A	14-04-20	COUNCIL ISSUE	
PRE	DATE	AMENDMENT	

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ROADWORKS DETAILS

TENDER ISSUE ONLY

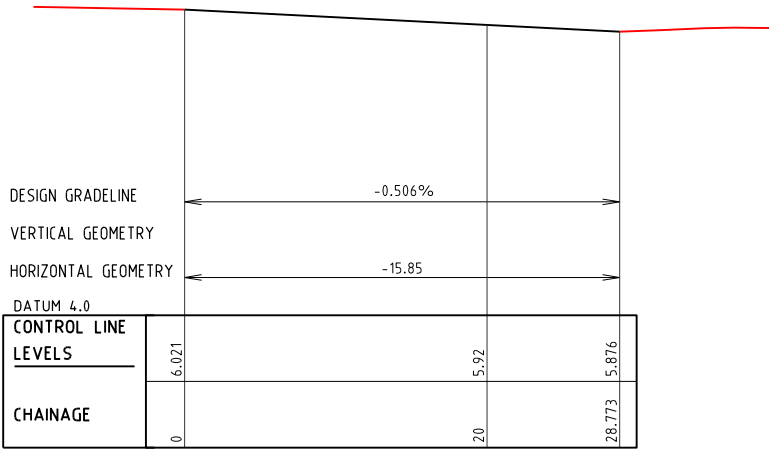


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mortons@urbansolutions.net.au
www.urbansolutions.net.au
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Fax 07 5571 1088

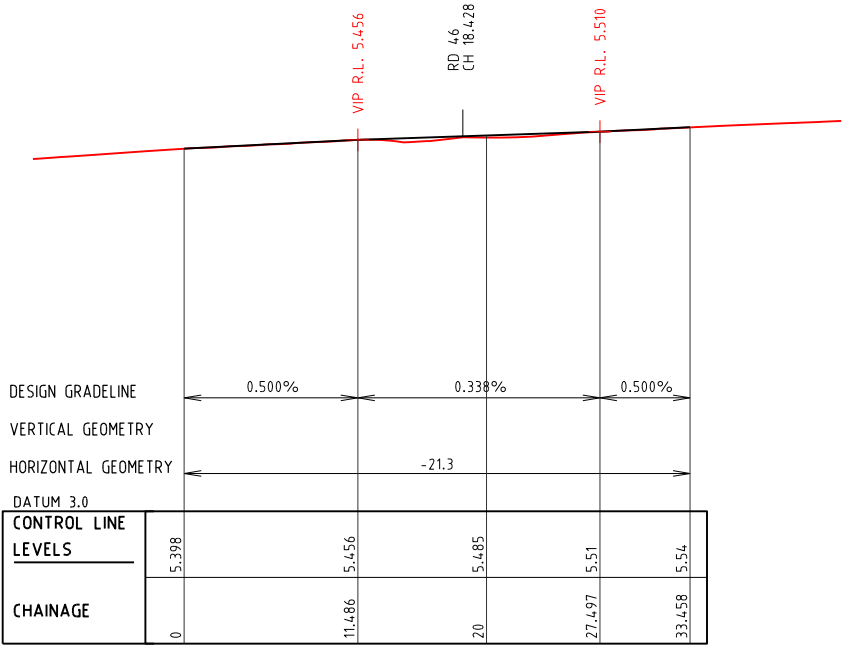
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Gold Coast Office
 Suite 9, 19 Short St
 Southport QLD 4215

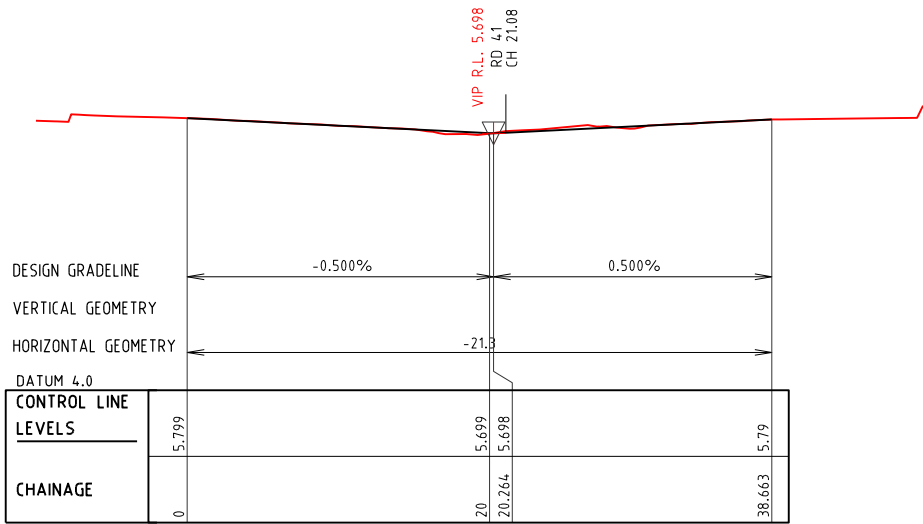
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APPROVED <i>[Signature]</i>	NER 906726 DATE 14-04-20
DRAWING NUMBER	AMEND.
12301-P5-4&5-120	C



KERB SECTION 091



KERB SECTION 184



KERB SECTION 185

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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	13-11-19
COUNCIL	XX-XX-XX
CONSTRUCTION	..

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PRE	DATE	AMENDMENT
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LANDSURV

+GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS
KERB LONGSECTIONS
SHEET 3

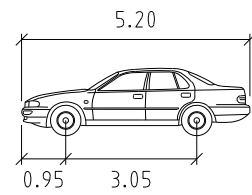
TENDER ISSUE ONLY

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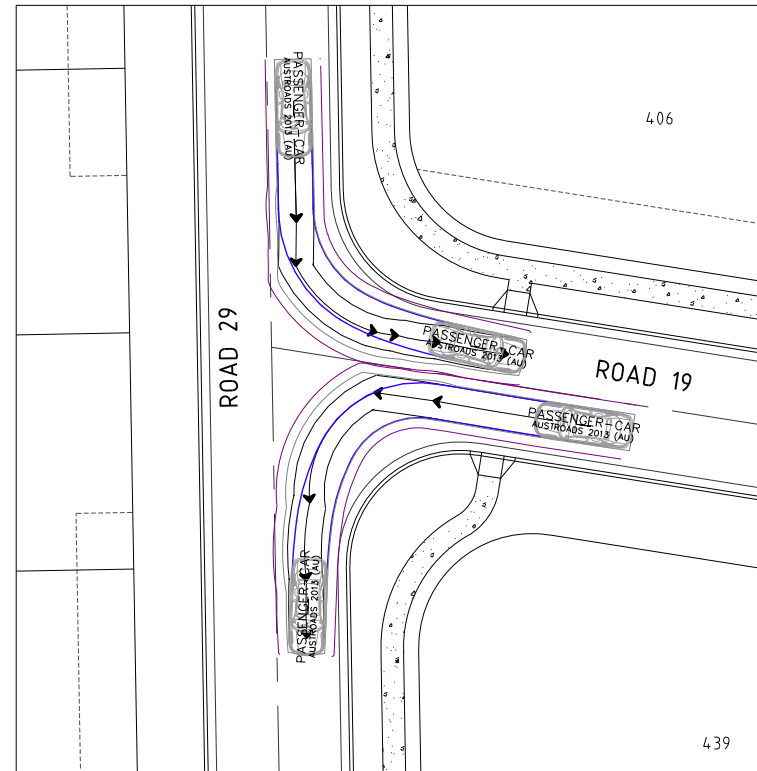
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Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel: 07 5571 1099
Fax: 07 5571 1088

Postal Address:
PO Box 2484
Southport QLD 4215
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Southport QLD 4215

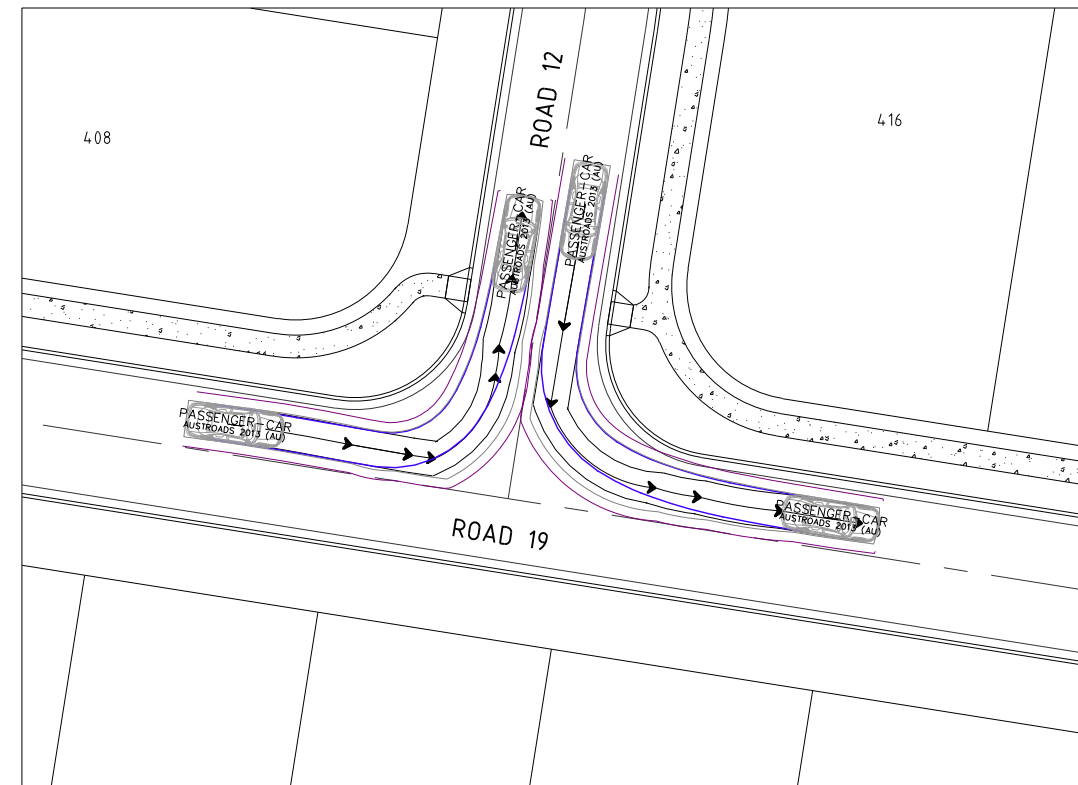
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APPROVED	<i>[Signature]</i>	NER 906726	DATE 07-02-19
DRAWING NUMBER			AMEND.
12301-P5-4&5-124			A



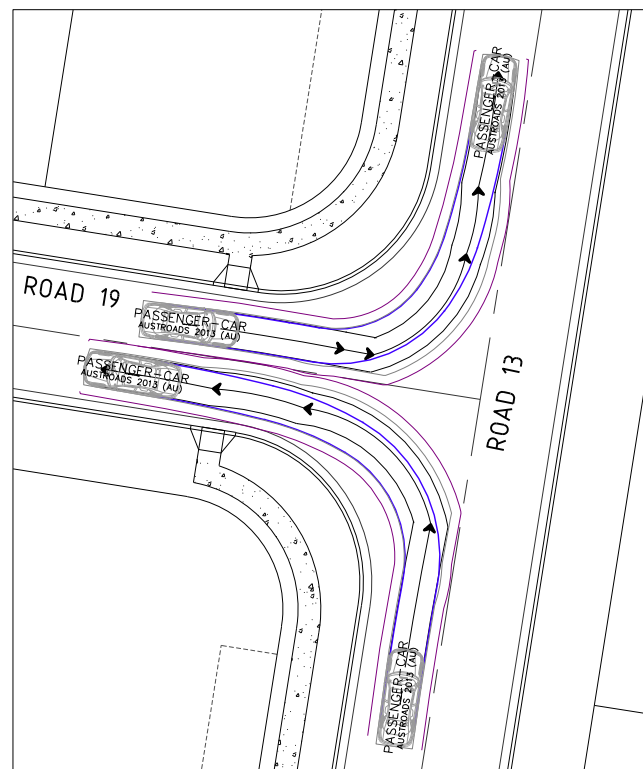
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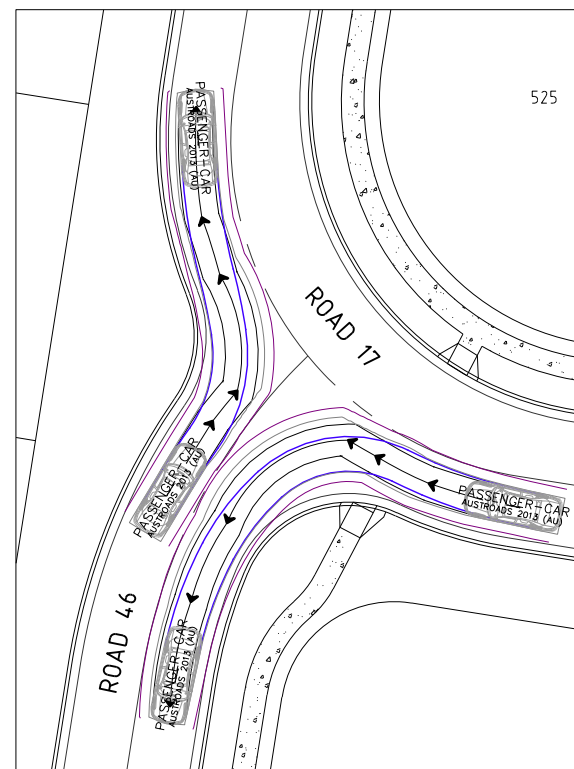
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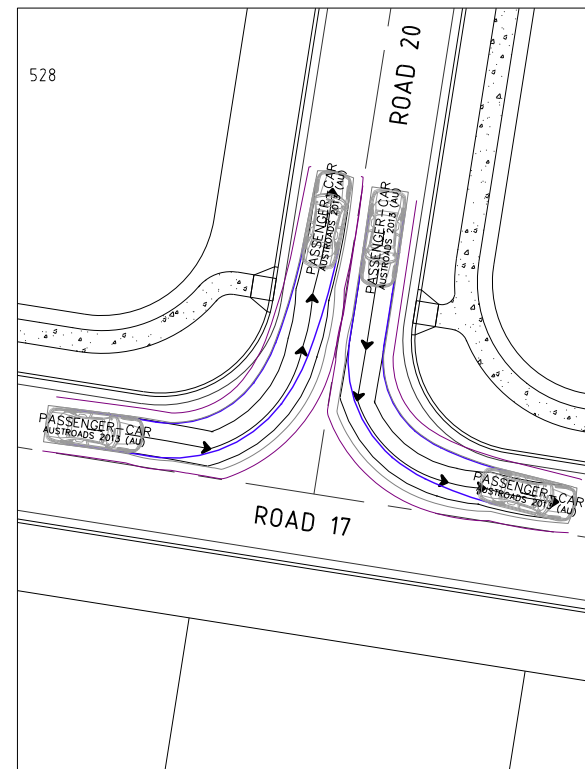
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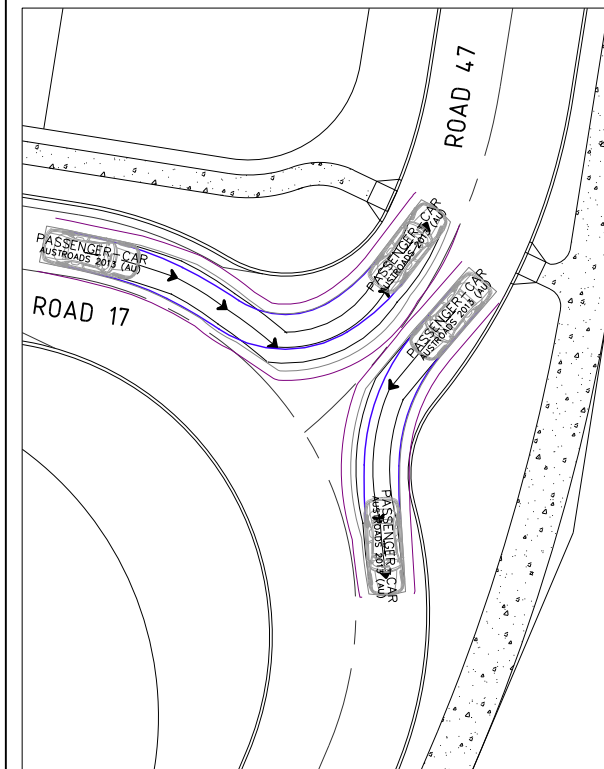
INTERSECTION 3



INTERSECTION 4



INTERSECTION 5



INTERSECTION 6

CLIENT
PROJECT 28
PTY LTD



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

ISSUES	DATE	
TENDER		
COUNCIL		
CONSTRUCTION		

A	15-06-21	ISSUE FOR INFORMATION
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D R A W I N G T I T L E

PRECINCT 5
STAGES 4 & 5
INTERSECTION ATURN
PASSENGER CAR

TENDER ISSUE ONLY



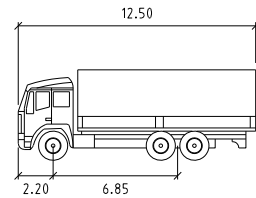
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ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel: 07 5571 1099
Fax: 07 5571 1088

Postal Address:
 PO Box 2484
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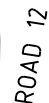
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DRAWING NUMBER	AMEND.
12301-P5-4&5-160	A



ROAD 19



ROAD 19



ROAD 13



525



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 DP137277, Lot 38A on DP137277,
Lot 38B on DP137277, 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 .



ISSUES	DATE	
TENDER		
COUNCIL		
CONSTRUCTION		

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DESIGN & MAP SERVICE

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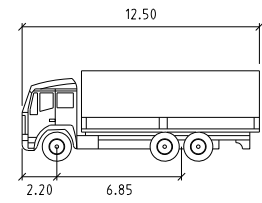
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 Mornings-Urban Solutions PO Box 2484
 ABN: 39 116 375 065 Southport QLD 4215
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 Tel 07 5571 1099 Suite 9, 19 Short St
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DRAWING NUMBER			AMEND.
12301-P5-4&5-161			A

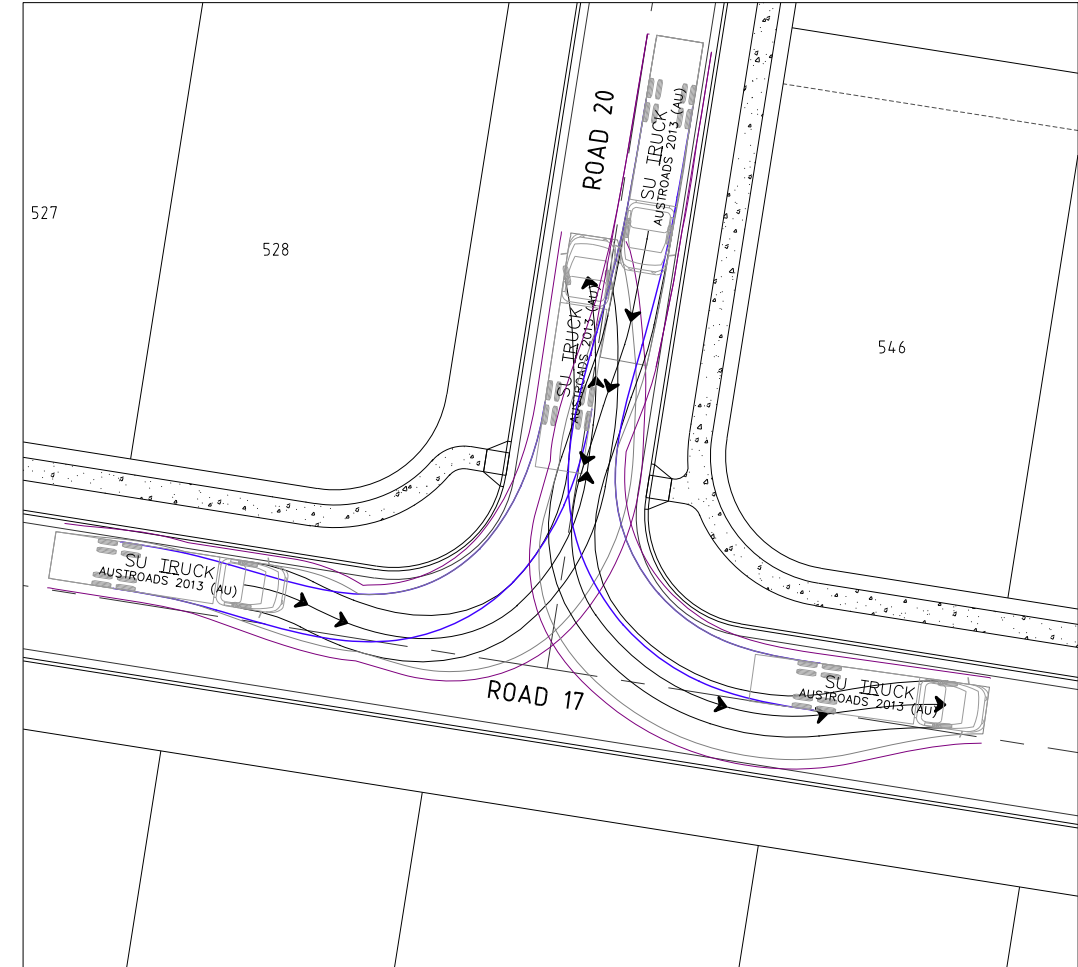
LEGEND

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

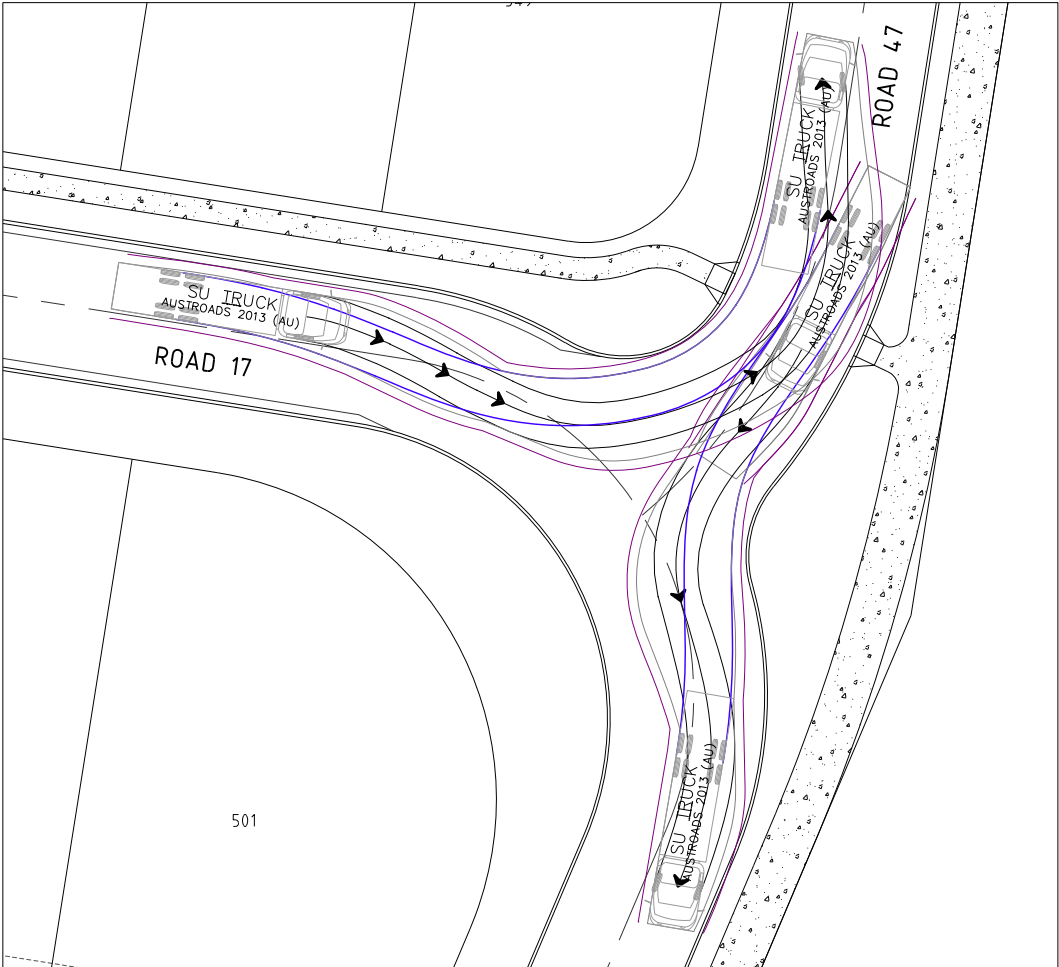


HRV

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



INTERSECTION 5



INTERSECTION 6

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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 1200 - A1 (1400 - A3)

ISSUES		DATE
TENDER		
COUNCIL		
CONSTRUCTION		
A	15-06-21	ISSUE FOR INFORMATION
PRE	DATE	AMENDMENT

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DRAWING TITLE

PRECINCT 5
STAGES 4 & 5
INTERSECTION ATURN
12.5m TRUCK
SHEET 2

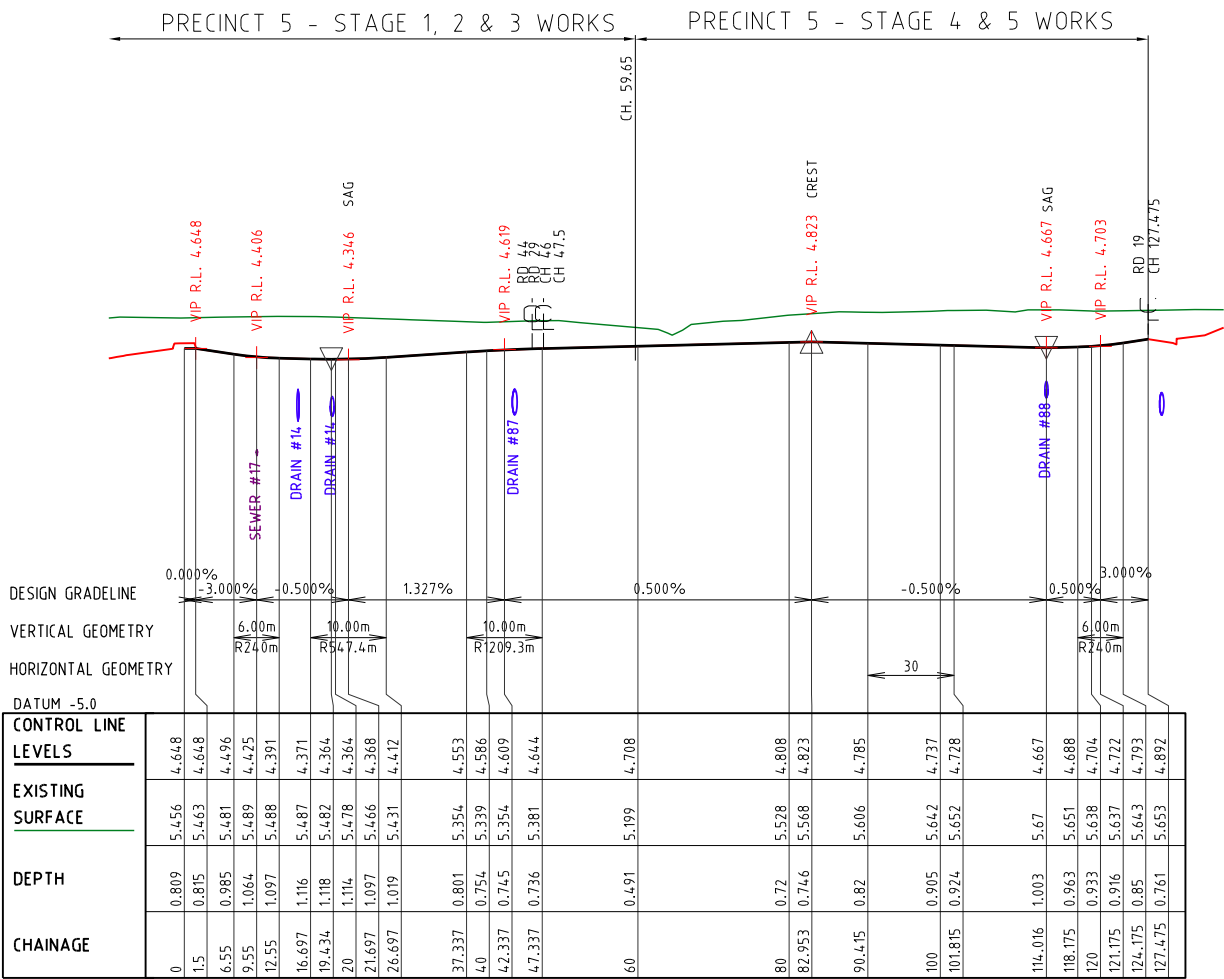
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Mortons-Urban Solutions
ABN 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088

Postal Address
PO Box 2484
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12301-P5-4&5-162	A



LONGITUDINAL SECTION 12

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

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PRE	DATE	AMENDMENT

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GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS
LONGITUDINAL SECTION
ROAD 12

TENDER ISSUE ONLY

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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

Postal Address:
PO Box 2484
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DRAWING NUMBER	
12301-P5-4&5-200	
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ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

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

ROADWORKS
LONGITUDINAL SECTION
ROAD 13

TENDER ISSUE ONLY

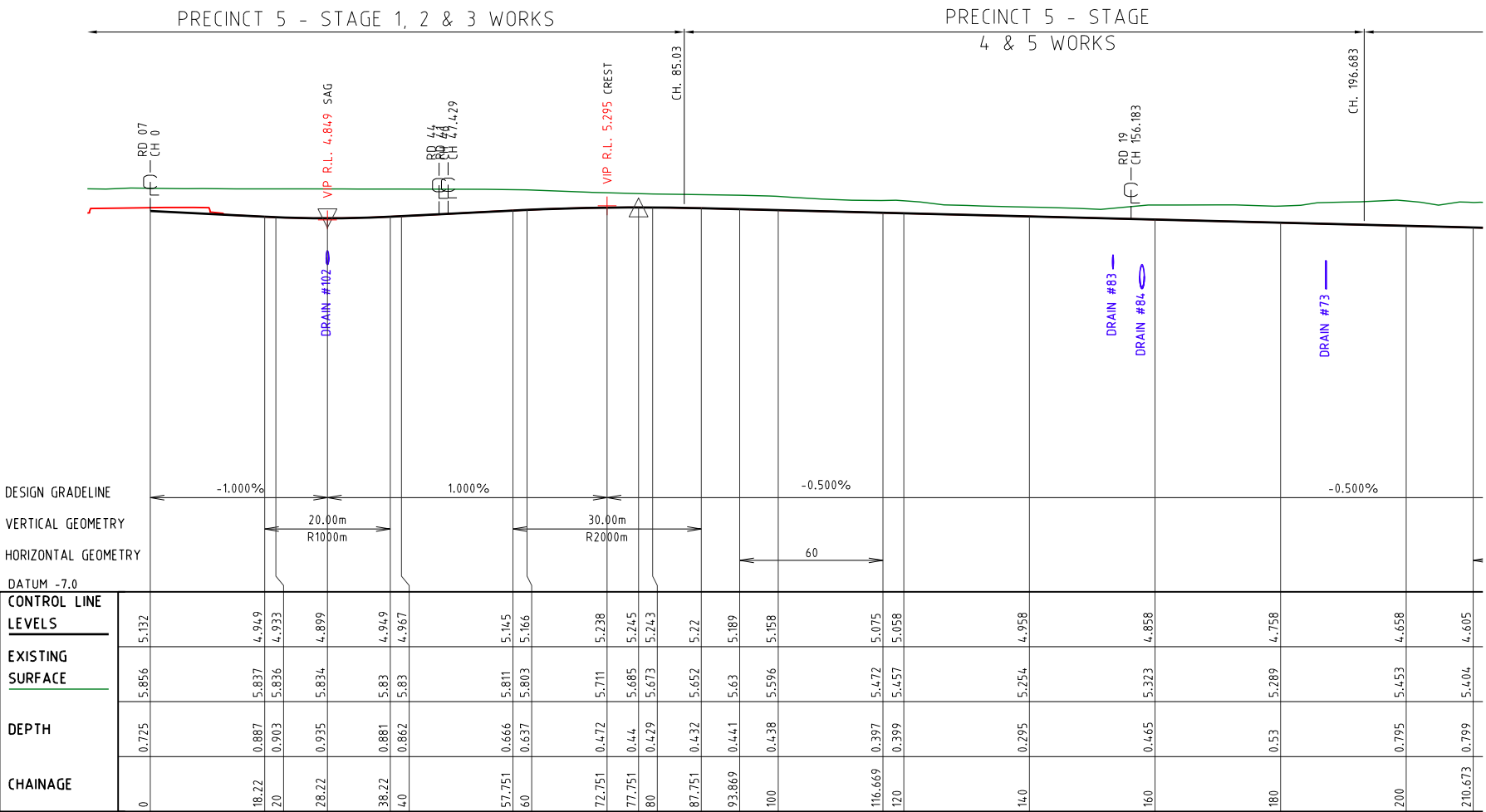


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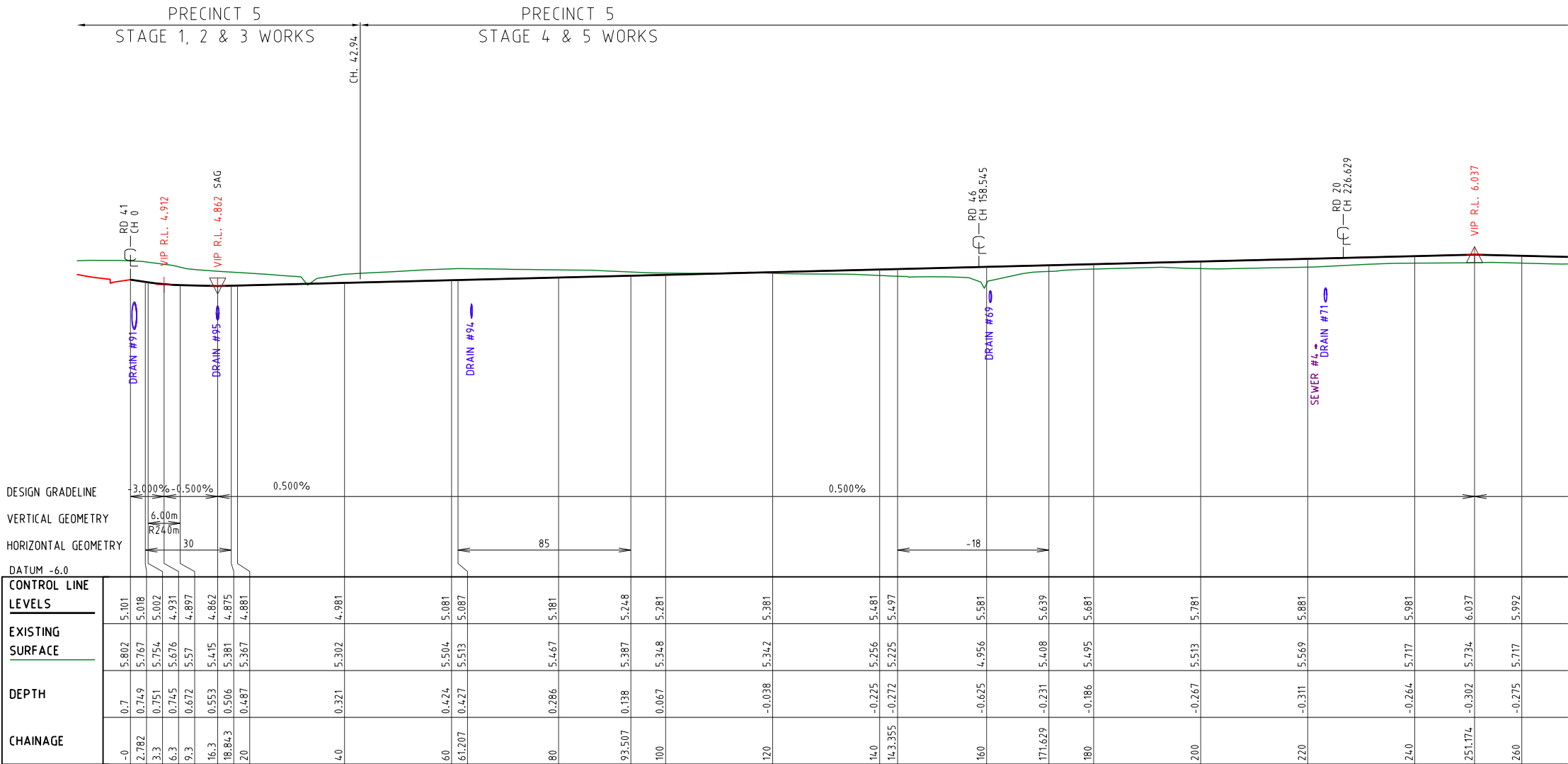
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APPROVED <i>[Signature]</i>	NER	906726	DATE 14-04-20

DRAWING NUMBER	AMEND.
12301-P5-4&5-201	A



LONGITUDINAL SECTION 13

y:\123 - Ieda developments Pty Ltd\01 - Kings Forest\PREC2\engineering drawings\pwp stages 4 & 5\Current\12301-P5-4&5-200.dwg, 7/10/2021 8:05:38 AM, 12



LONGITUDINAL SECTION 17

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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 CUDDGEN .
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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

PRE	DATE	AMENDMENT
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GILBERT SUTHERLAND

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ROADWORKS
LONGITUDINAL SECTION
ROAD 17
SHEET 1 OF 2

TENDER ISSUE ONLY

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

Postal Address
PO Box 2484
Southport QLD 4215
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DRAWN JB

APPROVED 

NER 906726

DATE 14-04-20

DRAWING NUMBER

12301-P5-4&5-202

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ROADWORKS
LONGITUDINAL SECTION
ROAD 17 & 19
SHEET 2 OF 2

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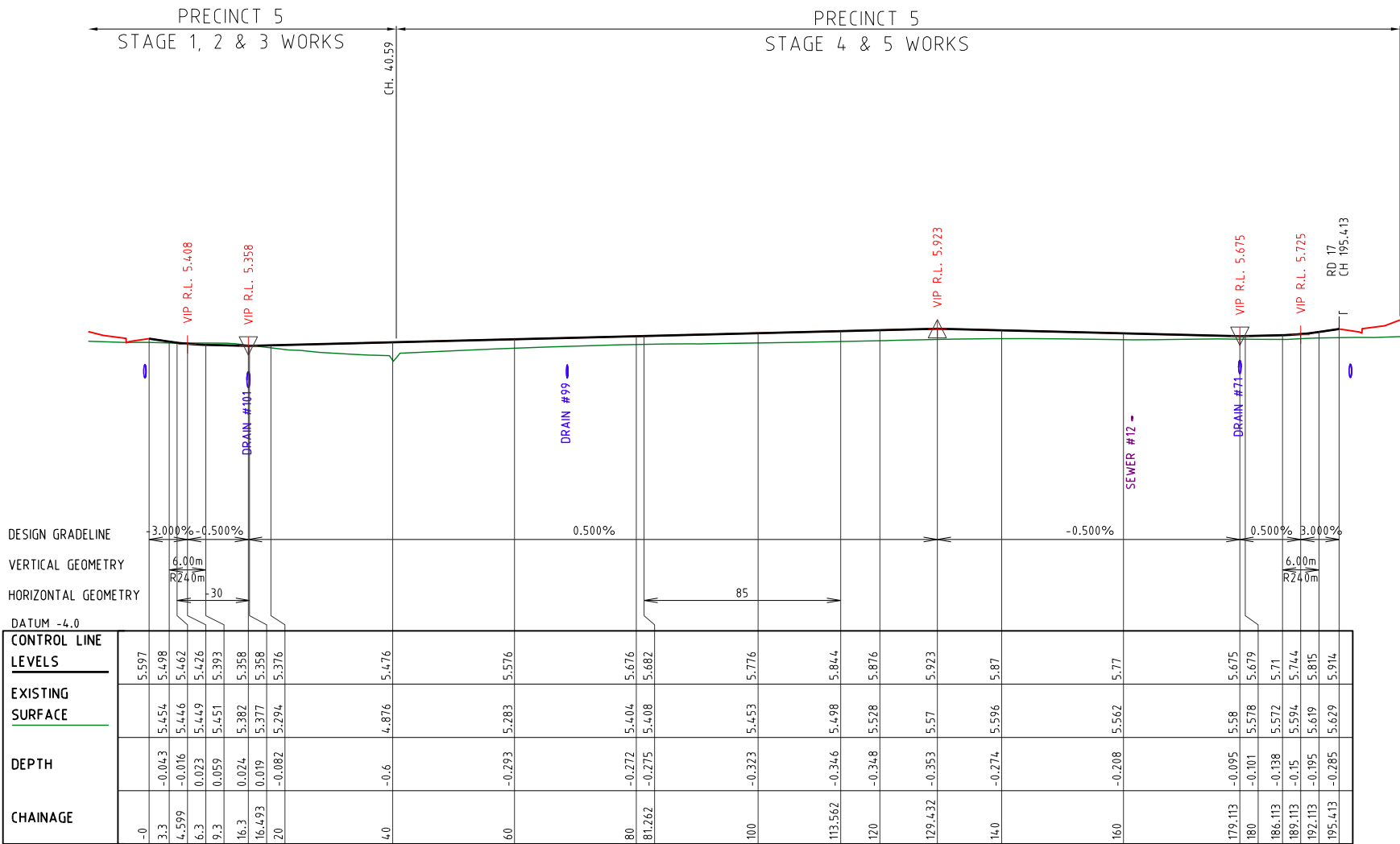
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ABN 39 116 375 065
mortons@urbansolutions.net.au
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DRAWING NUMBER	AMEND.
12301-P5-4&5-203	A





LONGITUDINAL SECTION 20

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

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PRE	DATE	AMENDMENT

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GILBERT SUTHERLAND

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ROADWORKS LONGITUDINAL SECTION ROAD 20

TENDER ISSUE ONLY

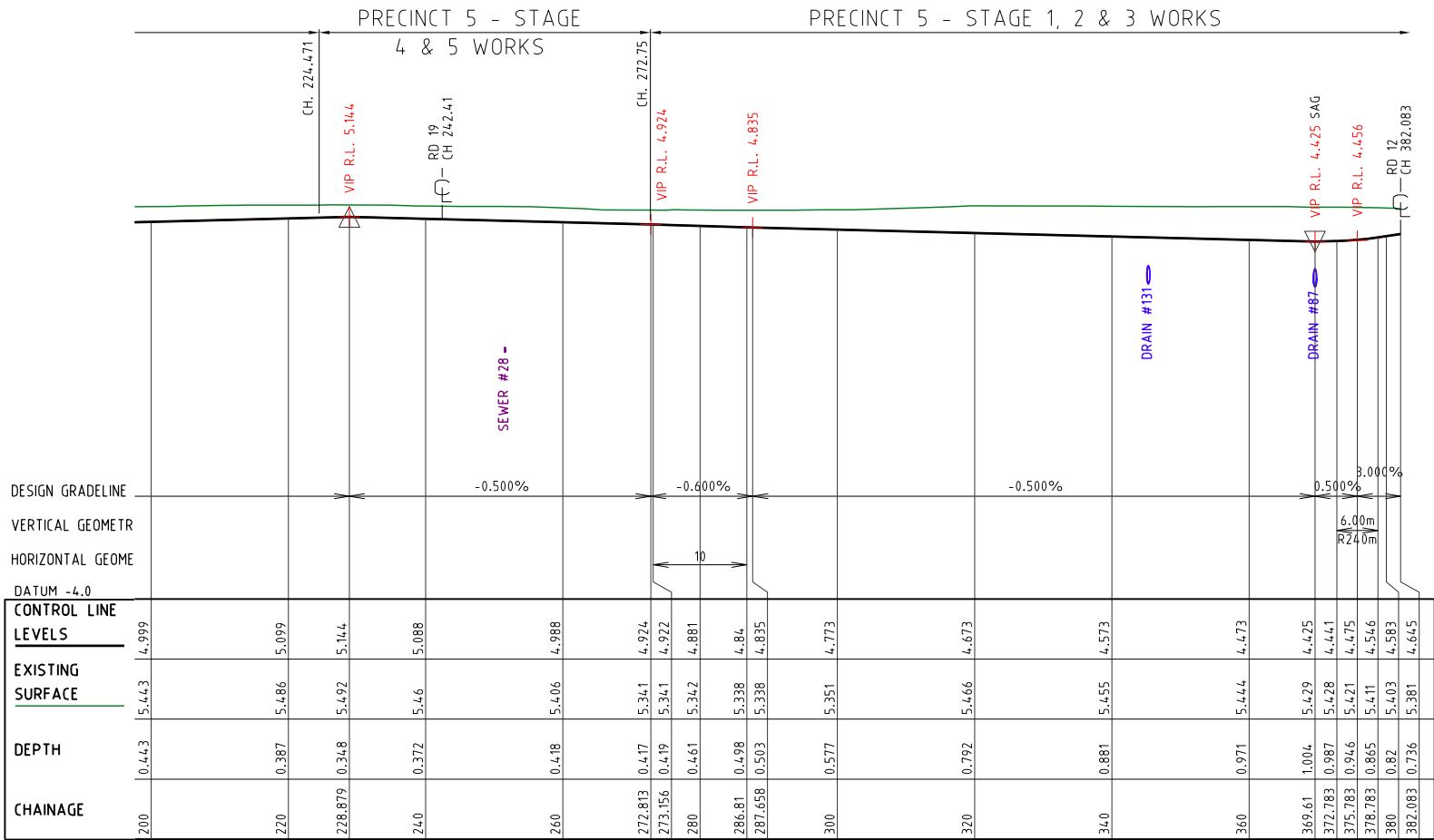
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MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088

Postal Address
PO Box 2484
Southport QLD 4215

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Suite 9, 19 Short St
Southport QLD 4215

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APPROVED <i>[Signature]</i>	NER 906726
DATE 14-04-20	
DRAWING NUMBER	AMEND.
12301-P5-4&5-204	A



LONGITUDINAL SECTION 29

PROJECT NAME

KINGS FOREST

PRECINCT 5

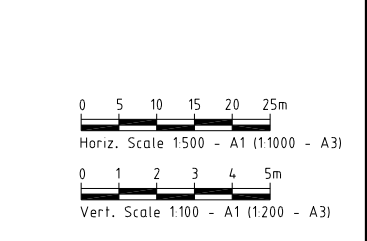
CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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 CUDDGEN .
COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD



ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

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PRE DATE	AMENDMENT	

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ROADWORKS LONGITUDINAL SECTION ROAD 29

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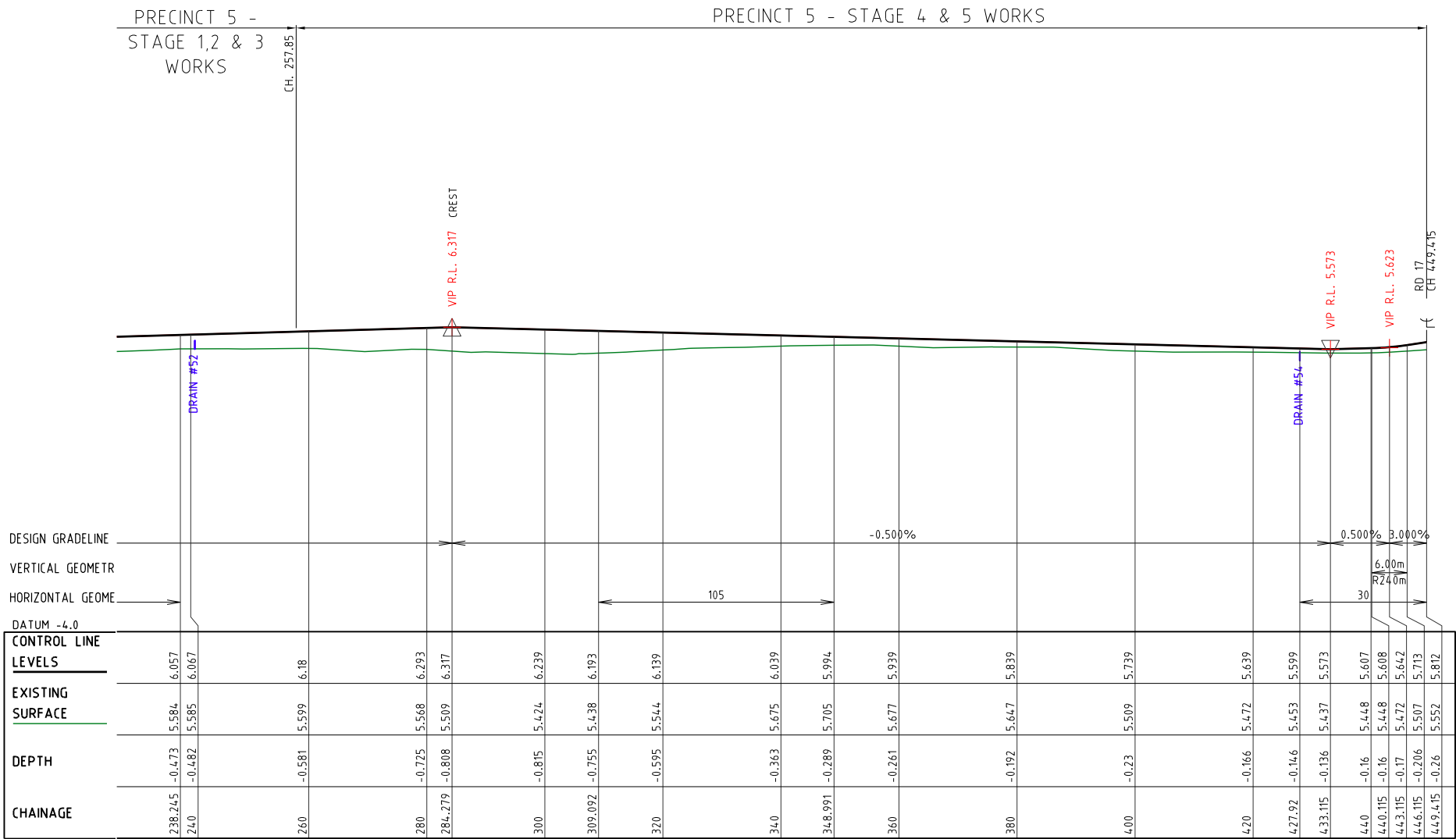
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MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
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Postal Address
PO Box 2484
Southport QLD 4215

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Southport QLD 4215

DESIGNED RB	DRAWN JB
APPROVED <i>RB</i>	NER 906726 DATE 14-04-20
DRAWING NUMBER	
12301-P5-4&5-205	AMEND. A



LONGITUDINAL SECTION 41

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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 CUDDGEN .
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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS
LONGITUDINAL SECTION
ROAD 41

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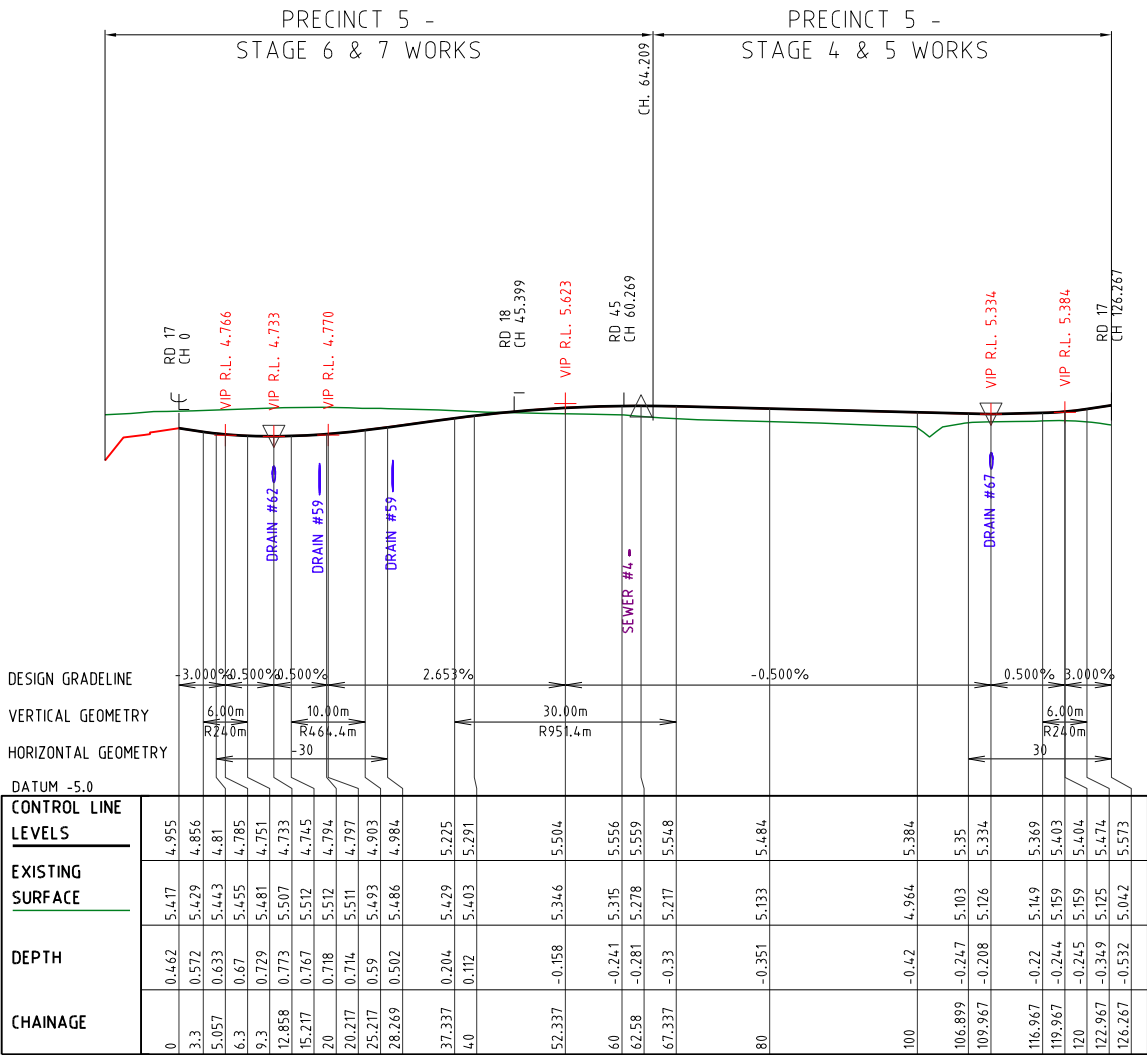
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088

Postal Address
PO Box 2484
Southport QLD 4215

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Southport QLD 4215

DESIGNED RB	DRAWN JB
APPROVED <i>RB</i>	NER 906726
DATE 14-04-20	

DRAWING NUMBER	AMEND.
12301-P5-4&5-206	A



LONGITUDINAL SECTION 46

PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	

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DRAWING TITLE

ROADWORKS
LONGITUDINAL SECTION
ROAD 46

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MORTONS
urbansolutions

Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215
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APPROVED		NER 906726	DATE 14-04-20

DRAWING NUMBER	AMEND.
12301-P5-4&5-207	A

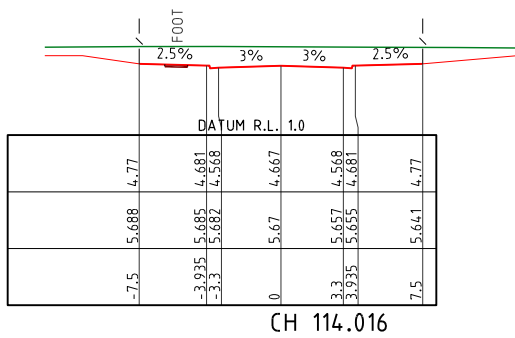
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ROADWORKS
CROSS SECTIONS
ROAD 12

DRAWING NUMBER	AMEND.
12301-P5-4&5-300	A

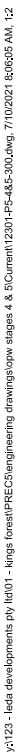
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OFFSET

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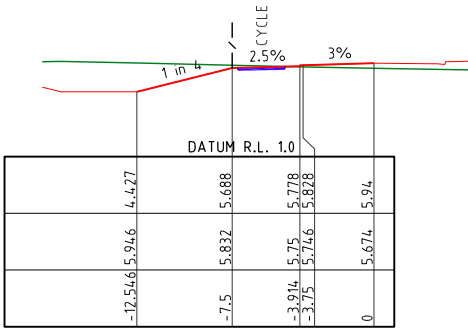
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12301-P5-4&5-301	A



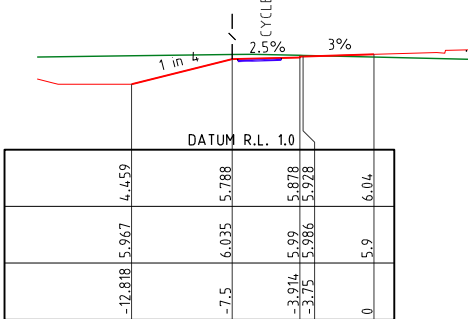
NOTES:

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.

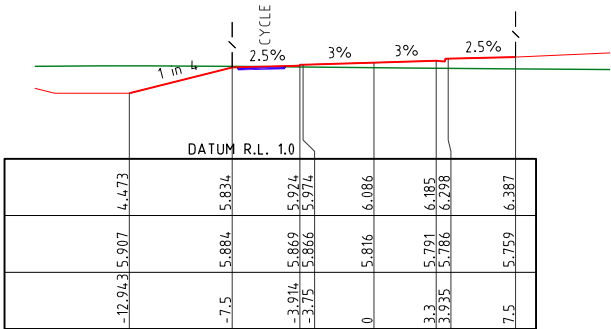
DESIGN SURFACE LEVEL									
EXISTING SURFACE LEVEL									
OFFSET									



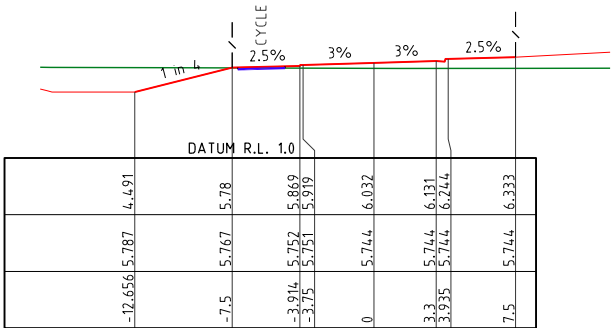
CH 380



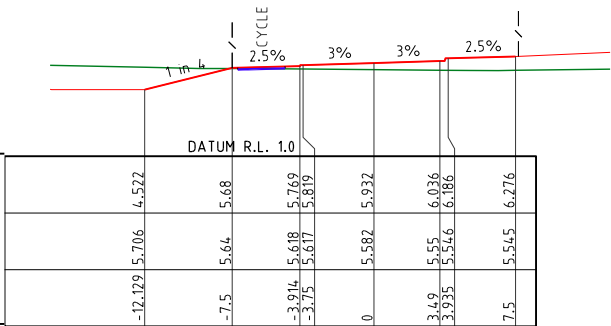
CH 360



CH 350.867



CH 340



ROAD 17

CH 320

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 4 & 5

REAL PROPERTY DESCRIPTION

Lot 7 on DP875447, Part of Lot 6 on DP875446, Lot 1 on DP818133, 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 CUDDGEN .

COUNTY OF ROUS .

CLIENT

PROJECT 28 PTY LTD

0 2 4 6 8 10m

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

ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	...	

A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS CROSS SECTIONS ROAD 17 SHEET 2 OF 2

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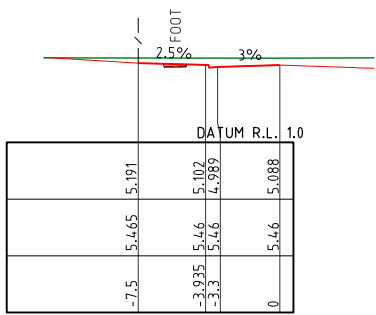
Urban & Regional Planning
Civil Engineering
Project Coordination

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

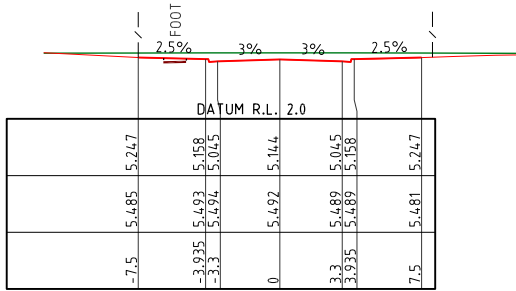
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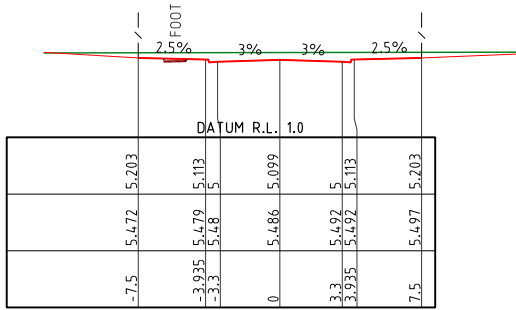
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APPROVED	<i>RB</i>	NER	906726
DRAWING NUMBER		DATE	
12301-P5-4&5-303		14-04-20	
		AMEND.	
		A	



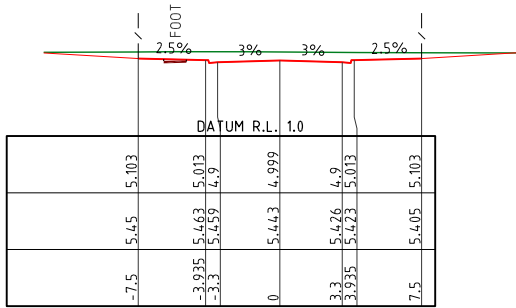
CH 240



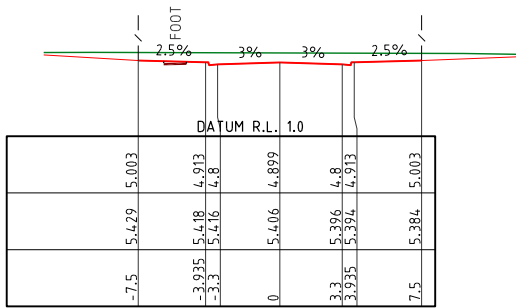
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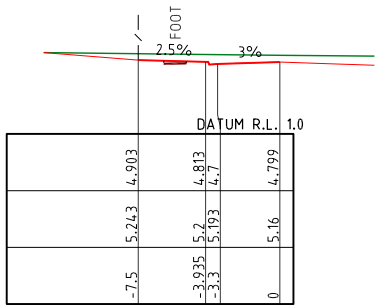
CH 220



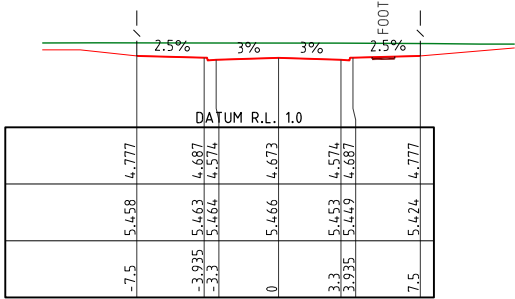
CH 200



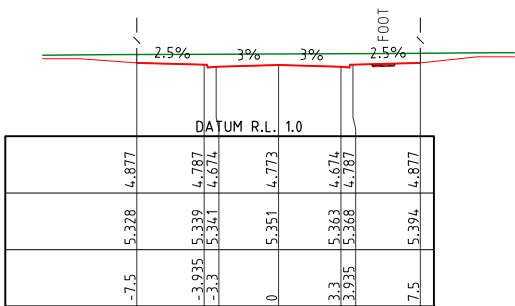
CH 180



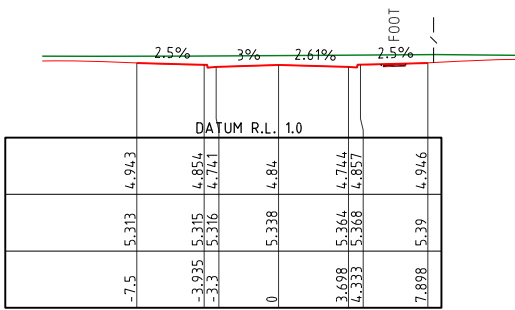
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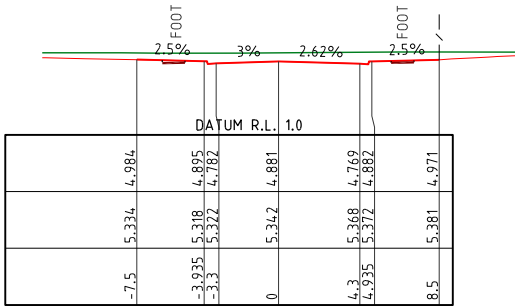
CH 320



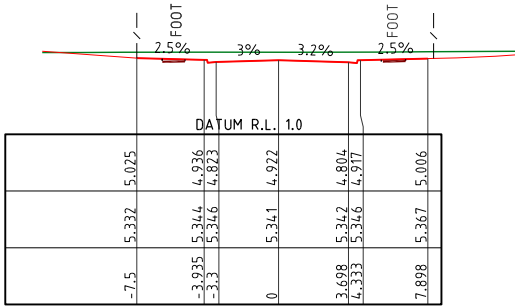
CH 300



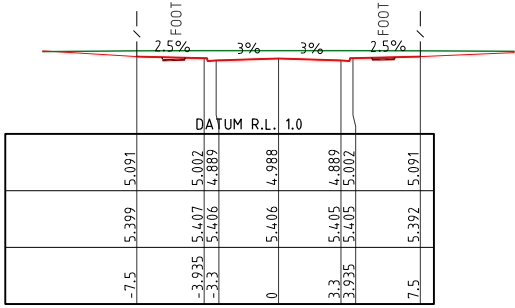
CH 286.81



CH 280



CH 273.156



CH 260

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 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS CROSS SECTIONS ROAD 29

TENDER ISSUE ONLY

MORTONS urban solutions

Urban & Regional Planning

Civil Engineering

Project Coordination

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

Postal Address: PO Box 2484 Southport QLD 4215

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

DESIGNED RB

DRAWN JB

APPROVED

NER 906726

DATE 14-04-20

DRAWING NUMBER

12301-P5-4&5-306

AMEND.

A

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.

DESIGN SURFACE LEVEL

EXISTING SURFACE LEVEL

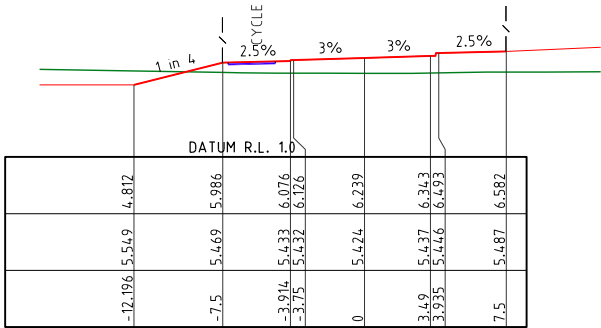
OFFSET

ROAD 29

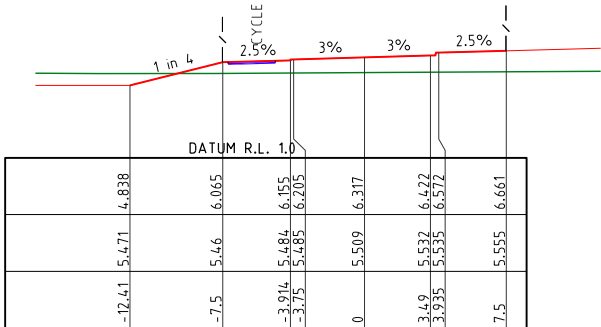
NOTES:

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.

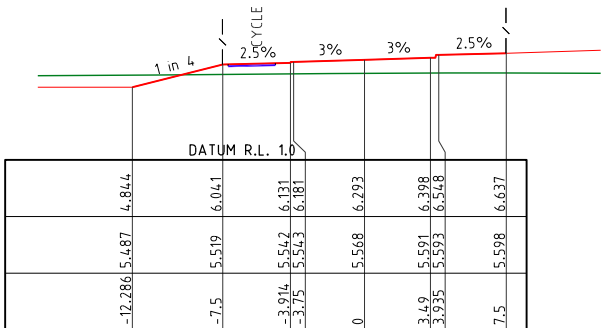
DESIGN SURFACE LEVEL
EXISTING SURFACE LEVEL
OFFSET



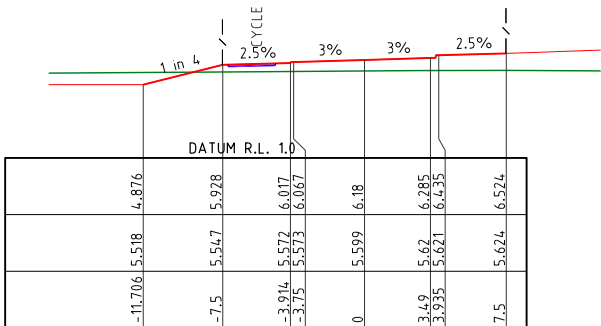
CH 300



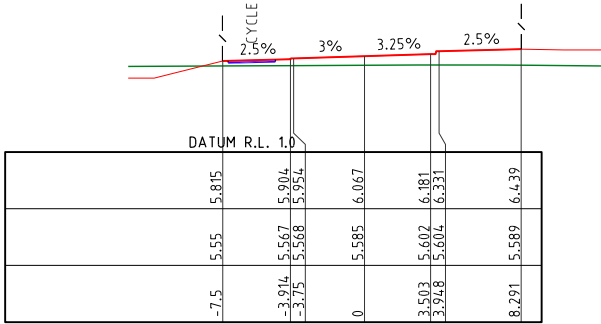
CH 284.279



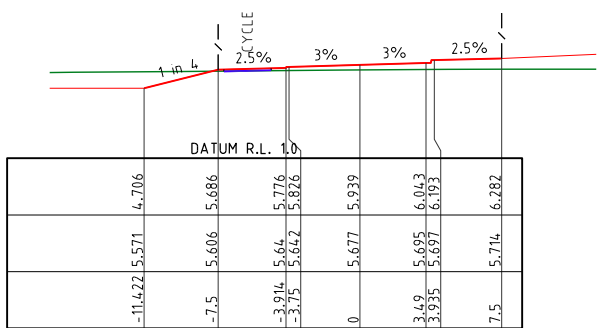
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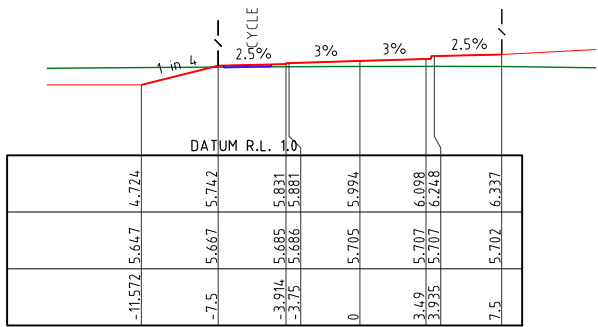
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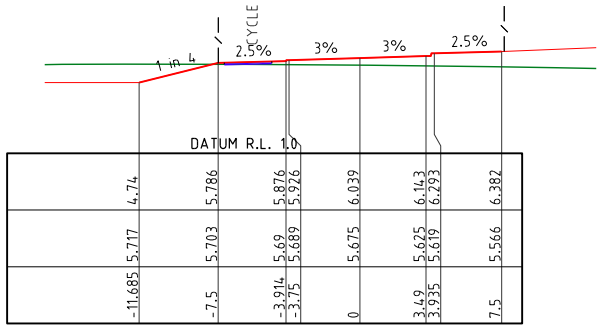
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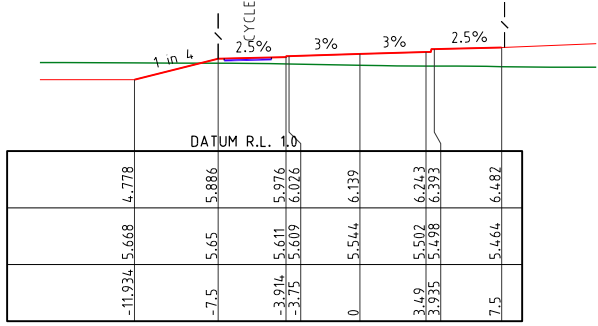
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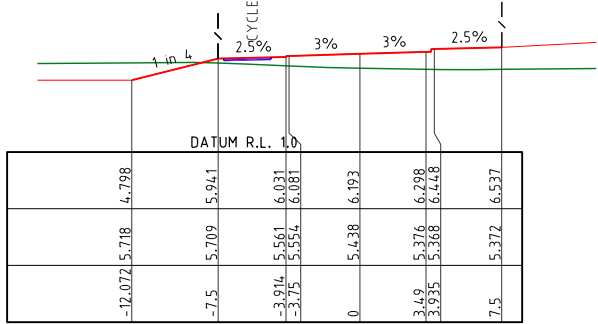
CH 348.991



CH 340

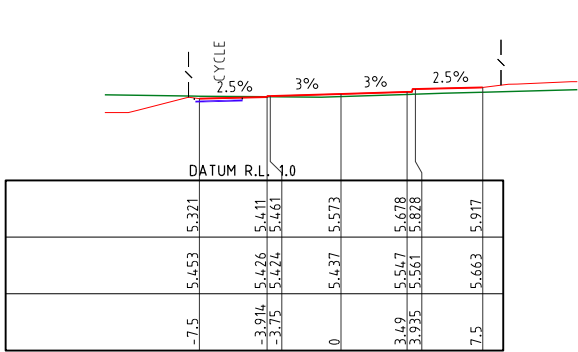


CH 320

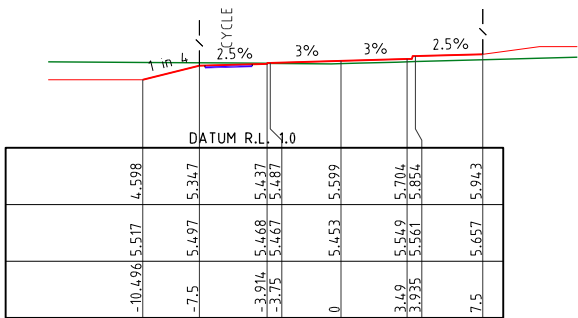


ROAD 41

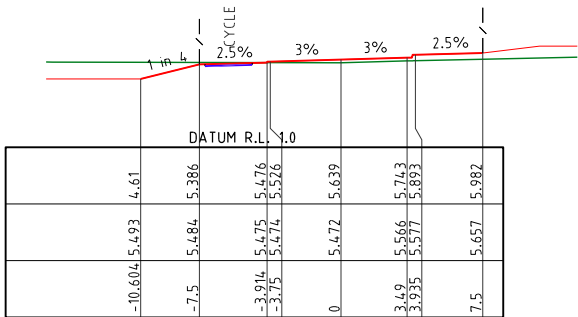
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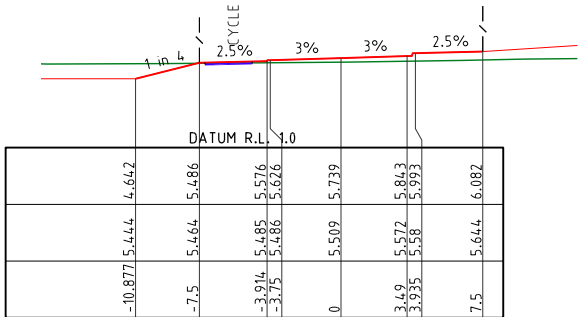
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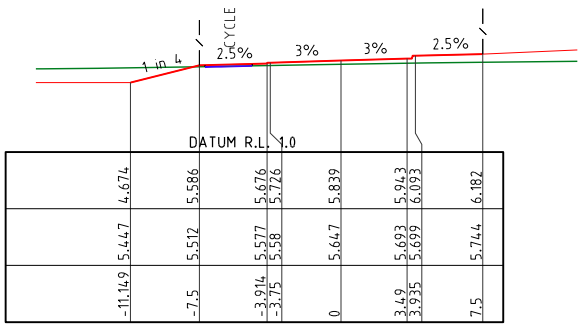
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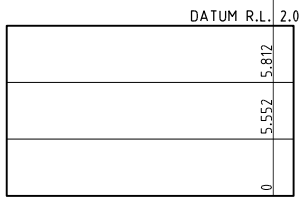
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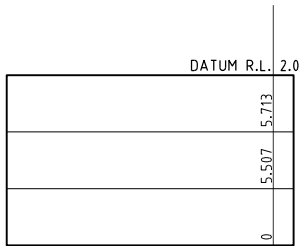
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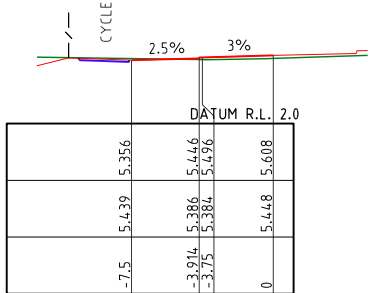
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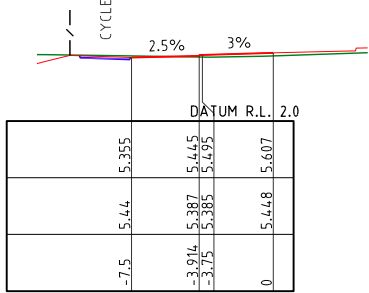
CH 449.415



CH 446.115



CH 440.115



CH 440

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 4 & 5
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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE DATE		AMENDMENT

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ASSOCIATED CONSULTANTS

LANDSURV
GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS
CROSS SECTIONS
ROAD 41

TENDER ISSUE ONLY

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urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN 39 116 375 065
mortons@urbansolutions.net.au
www.urbansolutions.net.au
Tel 07 5571 1099
Fax 07 5571 1088
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

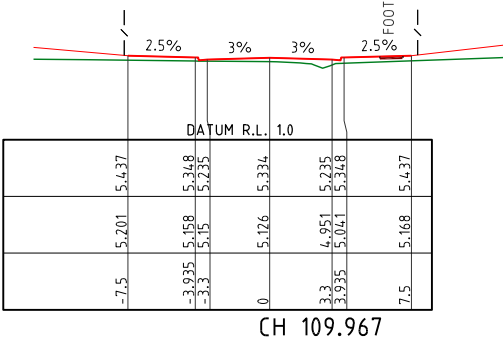
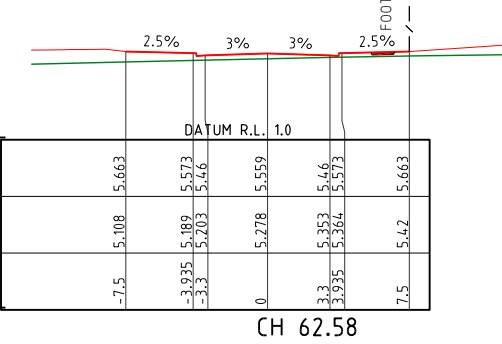
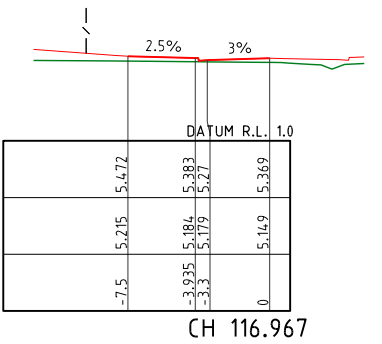
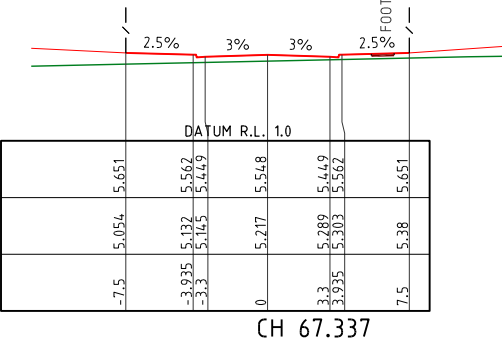
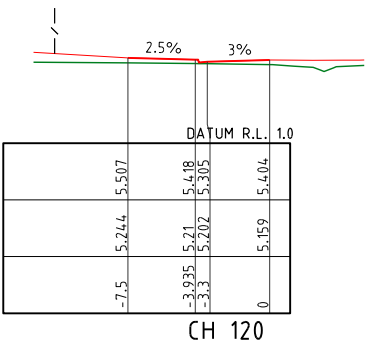
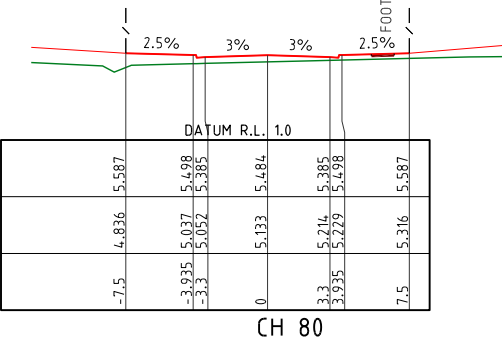
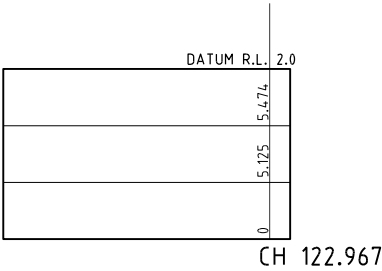
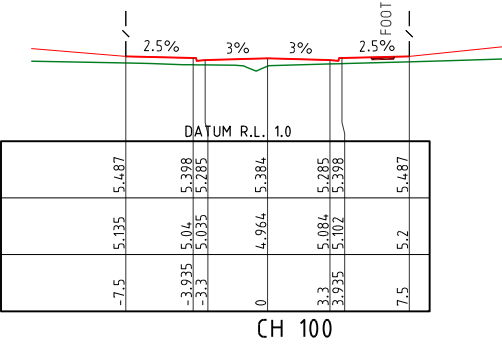
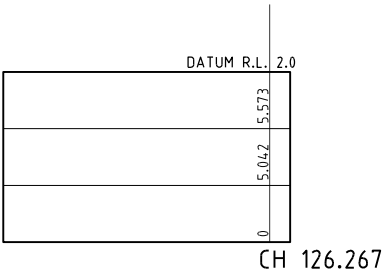
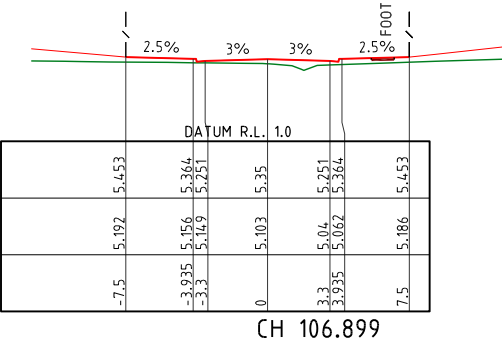
DESIGNED RB	DRAWN JB
APPROVED <i>RB</i>	NER 906726
DATE 14-04-20	
DRAWING NUMBER	
12301-P5-4&5-307	
AMEND.	
A	

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.

DESIGN SURFACE LEVEL					
EXISTING SURFACE LEVEL					
OFFSET					

ROAD 46



CH 109.967

CH 62.58

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 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

ROADWORKS CROSS SECTIONS ROAD 46

TENDER ISSUE ONLY

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215

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

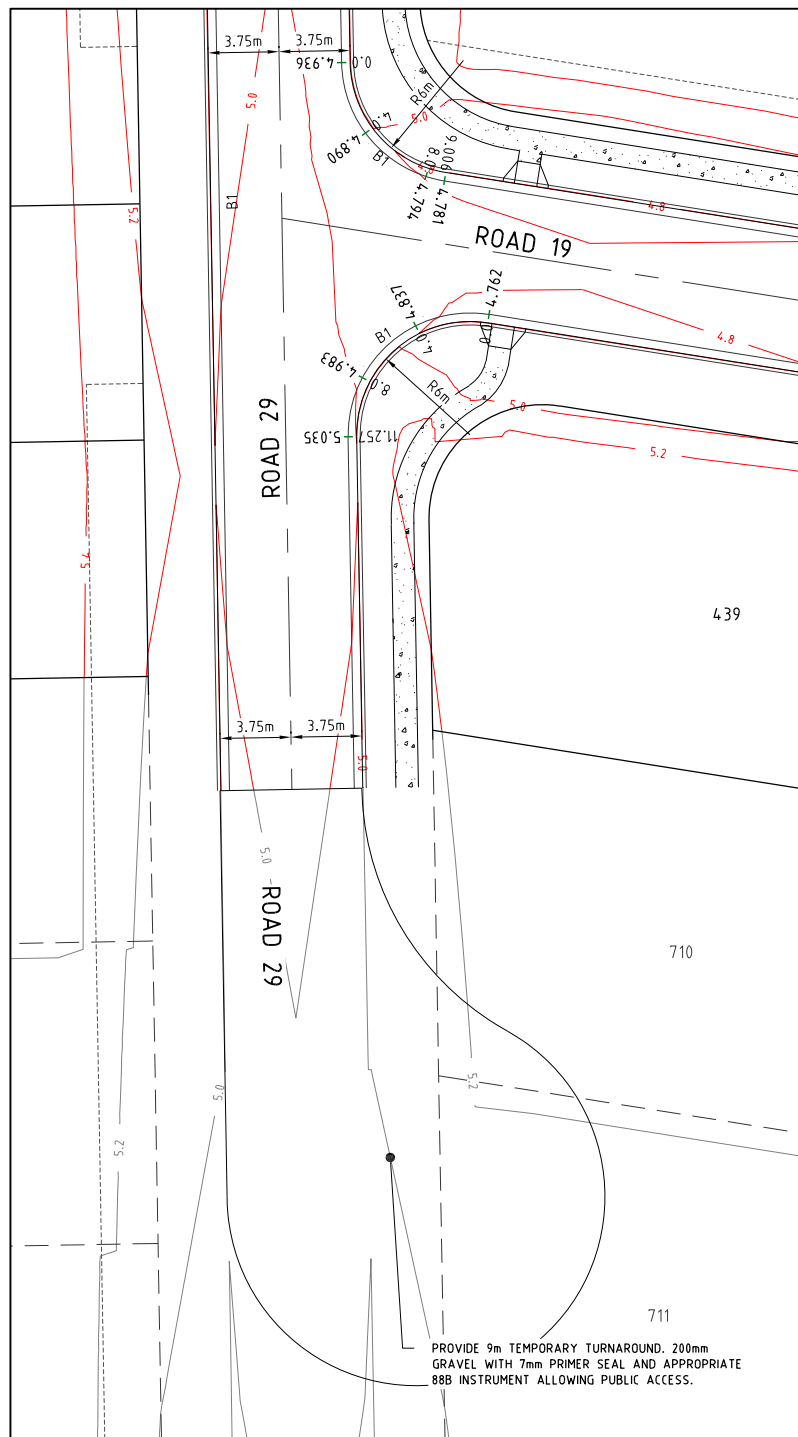
DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726
DATE 14-04-20	AMEND.
DRAWING NUMBER	A
12301-P5-4&5-308	

- LEGEND**
- 1.0 EXISTING CONTOURS
 - EXISTING KERB
 - EXISTING FOOTPATH
 - CONTROL LINE / CENTER OF ROAD
 - PROPOSED KERB (INVERT)
 - PROPOSED KERB (LIP & BACK)
 - PROPOSED FOOTPATH
 - PROPOSED PROPERTY LINE
 - PROPOSED CONCRETE
 - 24.0_41.065 INTERSECTION CHAINAGE & LEVEL
 - PROPOSED GRATED DRAIN

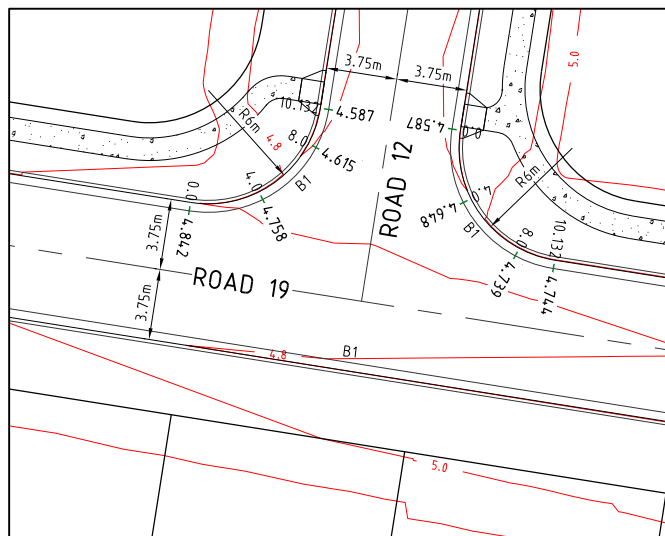
- KERB TYPES**
- B1 BARRIER KERB & CHANNEL
 - MK MOUNTABLE KERB
 - ER2 EDGE RESTRAINT (WITH VEHICLE LOADING)
 - FES FLUSH EDGE STRIP
 - B2 BARRIER KERB
 - CK CASTELLATED KERB

NOTES

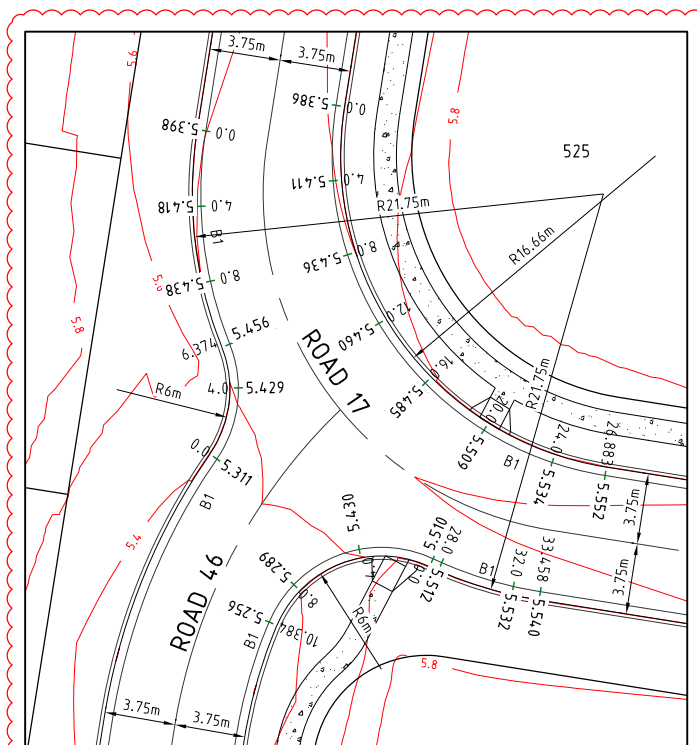
- SETOUT POINT DENOTES LIP OF KERB WHERE LIP OF KERB, OR FACE OF KERB WHERE NO LIP.
- FOR KERB TYPES REFER TO DWG. 120
- FOOTPATH JOINING TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL STANDARD DRAWING SD013.
- POLYMER MODIFIED ASPHALTIC CONCRETE IS TO BE USED AT ROUDBABOUTS.



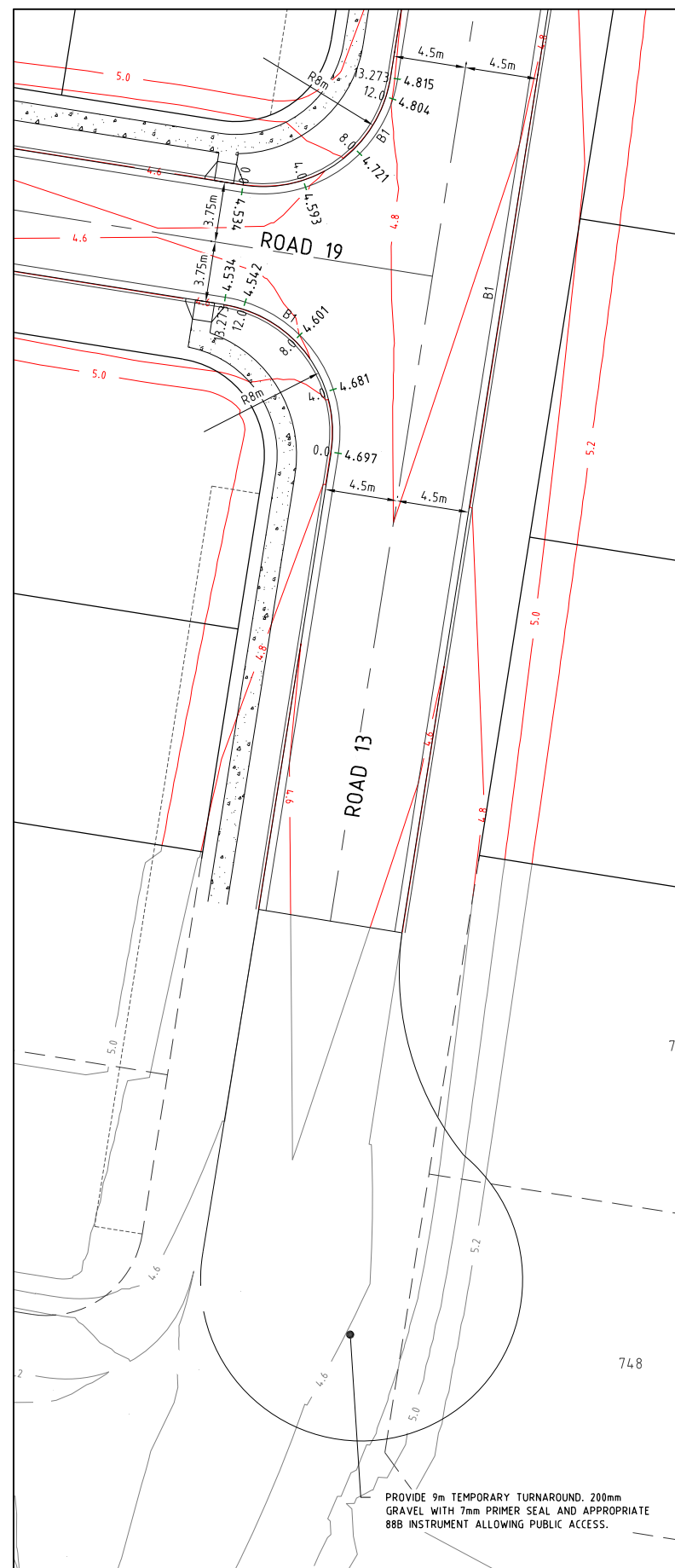
**INTERSECTION
ROAD 19 & ROAD 29**



**INTERSECTION
ROAD 12 & ROAD 19**



**INTERSECTION
ROAD 17 & ROAD 46**



**INTERSECTION
ROAD 13 & ROAD 29**

PROJECT NAME
**KINGS
FOREST**
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5
REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP7482,
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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 2 4 6 8 10m
Scale 1:200 - A1 (1:400 - A3)

ISSUES	DATE
TENDER	15-10-20
COUNCIL	14-04-20
CONSTRUCTION	..

B	31-08-21	LEGEND AND DETAIL AMENDED
A	14-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS



**GILBERT
SUTHERLAND**

DRAWING TITLE

ROADWORKS
INTERSECTION
GRADING DETAILS
SHEET 1 OF 2

TENDER ISSUE ONLY

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED RB	DRAWN JB
APPROVED <i>RB</i>	NER 906726 DATE 14-04-20
DRAWING NUMBER 12301-P5-4&5-400	AMEND. B

LINEMARKING

1. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES". ALL SIGNAGE SHOWN IS DIAGRAMMATIC ONLY.
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 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.

PROPOSED PAVEMENT MARKING LEGEND

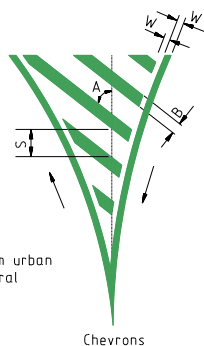
- EDGE LINE - EL
- CONTINUITY LINE - CL
- TURN LINE - TL
- BARRIER LINE - BL(B)
- BARRIER LINE - BL
- LANE LINE - LL
- LANE LINE - LL(B)
- GIVE WAY LINE - GWL
- HOLDING LINE - HL
- STOP LINE - SL
- PEDESTRIAN LINE - PL

NOTE: REFER TO: MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 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

NOTE: REFER TO: MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR ALL LINEMARKING AND SIGN STANDARDS



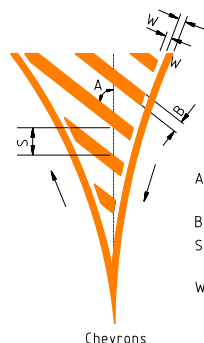
Angle A = 45° urban
30° rural
B = 1.0m min
S = 1.5m to 5m urban
3m min rural
W = 150mm

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-P5-4&5-011
- HERITAGE LOCATION
- HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
- ECOLOGICAL BUFFER



SHEET LAYOUT



Angle A = 45° urban
30° rural
B = 1.0m min
S = 1.5m to 5m urban
3m min rural
W = 150mm



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

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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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

C	02-09-21	LEGEND AMENDED
B	22-10-20	SIGN AND NOTE AMENDED
A	14-04-20	COUNCIL ISSUE

PRE DATE	AMENDMENT
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ASSOCIATED CONSULTANTS



**GILBERT
SUTHERLAND**

DRAWING TITLE

ROADWORKS
LINEMARKING & SIGNAGE
PLAN
SHEET 1 OF 2

TENDER ISSUE ONLY

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urbansolutions
Urban & Regional Planning
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mortons@urbansolutions.net.au
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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 VER 906726 NER DATE 14-04-20

DRAWING NUMBER AMEND.

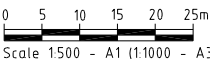
12301-P5-4&5-420

C



SHEET LAYOUT

CLIENT
PROJECT 28
PTY LTD



ASSOCIATED CONSULTANTS



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

ROADWORKS
LINEMARKING & SIGNAGE
PLAN
SHEET 2 OF 2

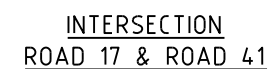
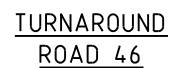


MUS Pty Ltd T/As: Postal Address
Mortons-Urban Solutions PO Box 2484
ABN: 39 116 375 065 Southport QLD 4215

mortons@urbansolutions.nel.au
www.urbansolutions.net.au
Tel 07 5571 1099
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DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726 DATE 14-04-20
DRAWING NUMBER	AMEND
12301-P5-4&5-421	B

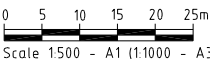


DRAWING NUMBER	AMEND.
12301-P5-4&5-401	B



SHEET LAYOUT

CLIENT
PROJECT 28
PTY LTD



ASSOCIATED CONSULTANTS



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

ROADWORKS
LINEMARKING & SIGNAGE
PLAN
SHEET 2 OF 2



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.

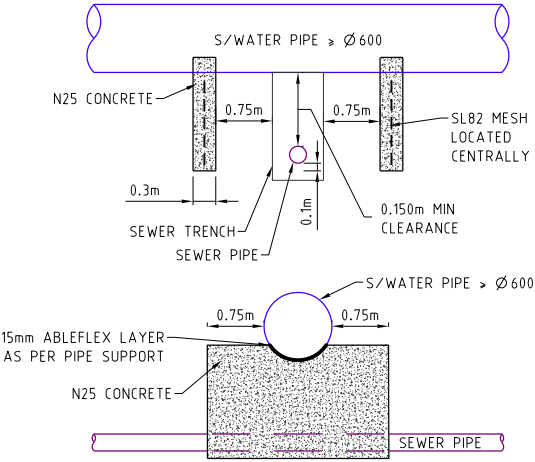
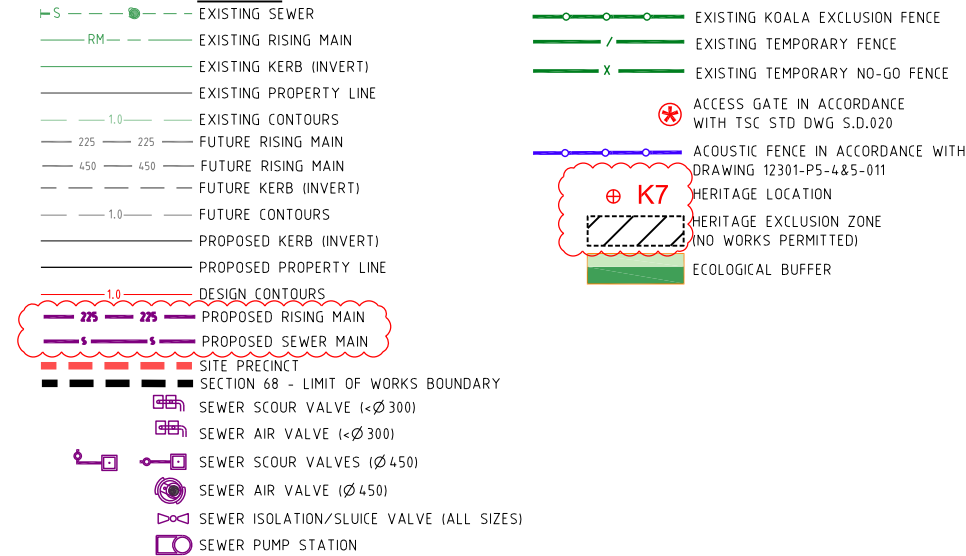
GENERAL

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

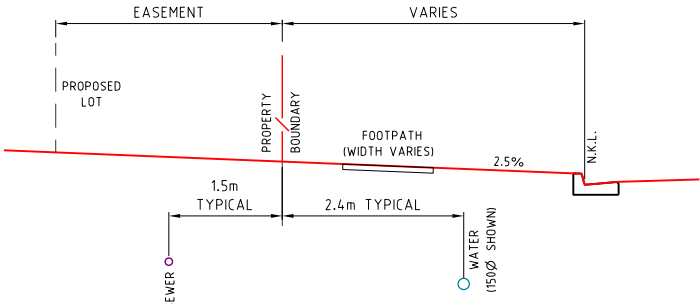
PROJECT SPECIFIC SEWER NOTES

- 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. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF WORKS ON-SITE.
- e. MINIMUM 25MPa THRUST BLOCKS TO BE CONSTRUCTED AT ALL FLEXIBLE JOINTED BENDS IN ACCORDANCE WITH TWEED SHIRE COUNCIL SPECIFICATIONS C402.30 AND C271.
- f. 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



BRIDGING DETAILS FOR STORMWATER PIPES ≥ Ø600



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-P5-4&5-092 AND 93 FOR COMBINED SERVICES LOCATED IN VERGE.

HORIZONTAL THRUST BLOCKS TO BE IN ACCORDANCE WITH:

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

Pipe Diameter	Bends				Tee & Dead Ends
	11.25	22.5	45	90	
100	0.21	0.21	0.21	0.21	0.21
200	0.21	0.21	0.35	0.65	0.46
375	0.32	0.66	1.28	2.38	1.68

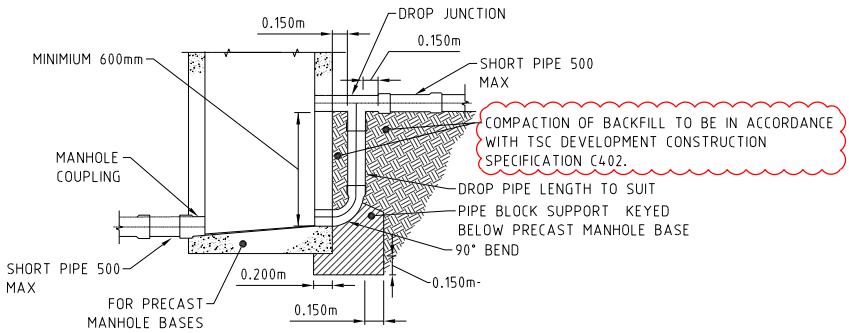
Resultant Thrust (kN) given 120m Head with 1200kPa System Test Pressure (Sewer):

Pipe Diameter	Bends (kN)				Tee & Dead Ends
	11.25	22.5	45	90	
100	2.70	5.37	10.53	19.45	13.75
200	9.75	19.41	38.06	70.33	49.73
375	32.87	65.43	128.34	237.14	167.68

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



EXTERNAL DROP DETAIL FOR NON-TRAFFICABLE AREAS ONLY

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.

SEWER RISING MAIN LOCATION	PIPE MATERIAL SPECIFICATION
FOOTPATH VERGE	PVC-M OR GRP PN12 MINIMUM
ROAD CROSSING	PVC-M OR GRP PN16 MINIMUM OR DCL PN20 MINIMUM

SEWER GRAVITY MAIN LOCATION	PIPE MATERIAL SPECIFICATION
FOOTPATH VERGE	UPVC SN8
ROAD CROSSING	UPVC SN12

SEWER REFERENCING STANDARDS

Ø100 - Ø300 SEWER SCOUR VALVE (<2.2m INVERT)	W.S.A SPS-1603 'SCOUR ARRANGEMENT PRESSURE MAINS'
Ø450 SCOUR VALVE & IF Ø100-Ø300 DEEPER THAN 2.2m	W.S.A SPS-1602 'SCOUR ARRANGEMENT PUMP AND GRAVITY'
Ø100-Ø450 SEWER RISING MAIN SLUICE (ISOLATION) VALVE	T.S.C S.D. 240 'SLUICE VALVE INSTALLATION DETAILS'
Ø100-Ø450 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 Ø100 TO DN Ø375 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'



PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE - STAGES 4 & 5

REAL PROPERTY DESCRIPTION
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COUNTY OF ROUS .

CLIENT
PROJECT 28 PTY LTD



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

ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

E	02-09-21	LEGEND AND NOTES AMENDED
D	22-03-21	DETAIL AMENDED
C	15-10-20	TABLES AMENDED
B	01-10-20	NOTES AMENDED
A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

SEWER RETICULATION NOTES AND DETAILS

TENDER ISSUE ONLY



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

Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726
DRAWING NUMBER	DATE 14-04-20
12301-P5-4&5-500	AMEND. E

B

STRUCTURE TYPE
LID CLASS

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	3.736 3.706	3.698 3.668	3.032 3.002	2.760 2.730	2.437 2.407	2.330 2.250	1.991 1.911	1.511 1.481	1.431
PIPE INVERT LEVELS	0.614 0.644	0.719 0.749 1.113 1.209	1.555 1.585	2.087 2.117 2.215 2.234	2.295 2.325	2.841 2.921	3.209 3.289	3.814 3.844	3.894
DESIGN SURFACE LEVELS	4.350	4.416	4.586	4.846	4.732	5.171	5.200	5.325	5.324
CHAINAGE	14.404 12.277	156.317 14.89 18.71	32.872	50.180	257.191	29.930	312.028	5.325	356.468

LINE NO.

2

SEWER STRUCTURE LIDS	
D	CLASS D TO AS 3996 - 2006
B	CLASS B TO AS 3996 - 2006
M	'M' PREFIX DESIGNATES BOLT DOWN LID

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

| TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS
TO BE INSTALLED IN ACCORDANCE WITH TWEED SHIRE
COUNCIL SD 276

NOTES

- IF SHOWN, WATER AND ELECTRICAL CROSSING
LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS
TO DETERMINE CROSSING LOCATIONS.
- EMBEDMENT TYPES ARE AS SPECIFIED ON THE TWEED
SHIRE COUNCIL SD 261 AND IN THE DEVELOPMENT
CONSTRUCTION SPECIFICATION C402.23.
-TYPE 'A' OUTSIDE OF ROADWORKS.
-TYPE 'C' UNDER ROADWAYS.
- CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE
LEVELS PRIOR TO COMMENCEMENT OF PIPEWORK.
- ALL DIMENSIONS ARE IN MILLIMETRES.
- DISCHARGE CHAMBERS TO BE IN ACCORDANCE WITH
TWEED SHIRE COUNCIL SD 244.
- INTERNAL CONCRETE SURFACES OF ALL CHAMBERS IN
ACCORDANCE WITH S.D.244.01 SHALL BE COATED
WITH SIKA SIKAGARD 62 OR FOSROC NITOMORTAR
ELS OR APPROVED EQUIVALENT. APPLICATION TO BE
IN ACCORDANCE WITH PRODUCT SUPPLIER'S
SPECIFICATIONS.
- ANY CHAMBER WITHIN 100m DOWNSTREAM OF A
RISING MAIN DISCHARGE CHAMBER TO BE PROTECTED
IN A SIMILAR MANNER TO THE DISCHARGE CHAMBER
(AS NOTED ABOVE).
- BACKFILL IN VENT PIPE TRENCH SHALL BE
COMPACTED TO AT LEAST THE SAME DENSITY AS
THE SURROUNDING SOIL.
- ALL PIPEWORK AND EXCAVATION RATES ARE TO
INCLUDE DE-WATERING AND EXCAVATION THROUGH
INDURATED SAND (COFFEE ROCK).
- MASS CONCRETE THRUST BLOCKS ARE TO BE PLACED
AT BENDS & PIPE JUNCTIONS ON THE SEWER RISING
MAIN. REFER TO DESIGN DRAWINGS FOR LOCATION &
SIZES OF THRUST BLOCKS.
- THE SEWER RISING MAIN IS TO BE GRADED UP HILL
AS IT APPROACHES THE DISCHARGE MANHOLE.
- THE DIAMETER OF THE PIPEWORK FROM THE
MAINTENANCE HOLE TO THE VENT PIPE & WITHIN THE
VENT PIPE SHOULD BE EQUAL TO OR LARGER THAN
THE DIAMETER OF THE LARGEST MAIN IN THE
MAINTENANCE HOLE. THE VENT PIPE STRUCTURE
SHOULD BE CONSTRUCTED TO MATCH THE SIZE OF
THE VENT PIPEWORK.
- PRECAST MANHOLE SYSTEMS USING REINFORCED OR
UNREINFORCED CONCRETE RUBBER RING JOINTED
SEGMENTS IN ACCORDANCE WITH AS 4198 (HUMES,
AMATEC, EJ OR EQUIVALENT ACCEPTED) MAY BE
USED. THE STANDARD MANHOLE DIAMETER SHALL BE
1050mm WITH A STANDARD CLEAR OPENING DIAMETER
OF 600mm MINIMUM. FOR MANHOLES DEEPER THAN
4m, THE STANDARD DIAMETER SHALL BE 1200mm,
STANDARD CLEAR OPENING 600mm X 900mm MINIMUM.
- ACCESS COVERS SHALL BE DUCTILE IRON HINGED
WITH WATERTIGHT SEAL MANUFACTURED IN
ACCORDANCE WITH AS 3996. MH ACCESS OPENINGS
SHALL HAVE A MINIMUM CLEAR OPENING DIAMETER
OF 600mm. WHERE APPROVED, CONCRETE ACCESS
COVERS SHALL COMPLY WITH AS 4198 AND SHALL
HAVE A MINIMUM CLEAR OPENING DIAMETER OF
600mm.
- MAINTENANCE HOLE UNITS CAN BE EITHER PRE-CAST
OR CAST-IN-SITU. BENCHING AND INVERT LEVELS
SHALL BE DESIGNED TO SUIT THE INFLOW CONDITIONS
AND SHALL BE DESIGNED IN ACCORDANCE WITH WSA
02-2014, 1, 7.6. (ALSO REFER TO S.D.278 FOR
STANDARD MANHOLES).
- EXTERNAL BACKDROPS SHALL BE PROVIDED WHERE
INTERNAL FALL ACROSS THE BASE OF THE MANHOLE
IS NOT ACHIEVABLE PER D12.08.06

PROJECT NAME

**KINGS
FOREST**

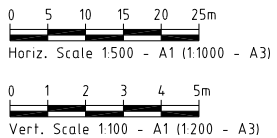
PRECINCT 5

CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

B	06-10-20	LEGEND, NOTES AND SEWER PROFILES AMENDED
A	14-04-20	COUNCIL ISSUE

PRE DATE	AMENDMENT
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ASSOCIATED CONSULTANTS



**+GILBERT
SUTHERLAND**

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 1

TENDER ISSUE ONLY

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address:
PO Box 2484
Southport QLD 4215

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

DESIGNED	RB	DRAWN	JB
APPROVED	VER	NER	906726

DRAWING NUMBER	AMEND.
12301-P5-4&5-530	B

STRUCTURE TYPE
LID CLASS

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

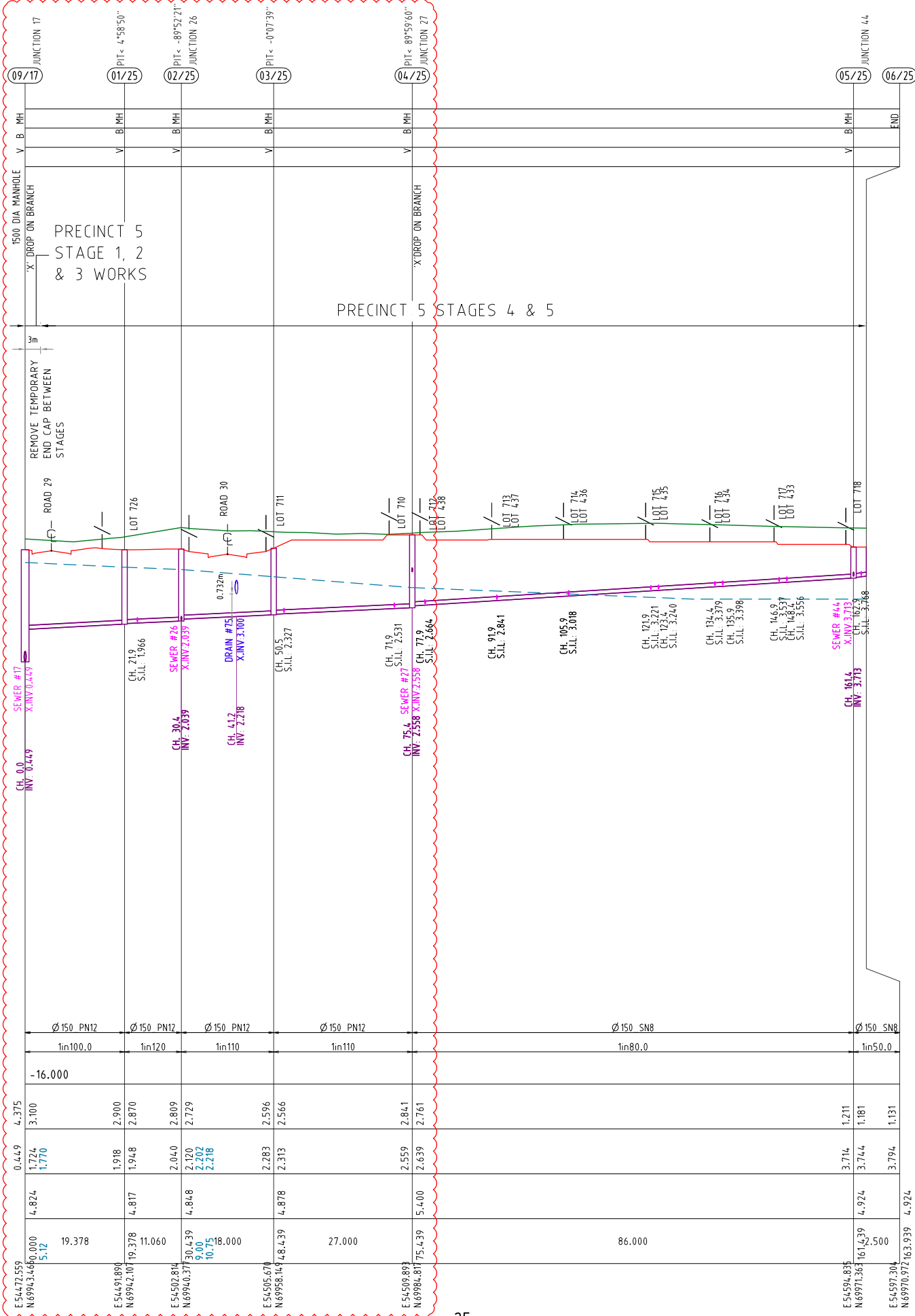
LEGEND
4.10 INVERT LEVELS
OF OTHER
SERVICES THAT
CROSS THE PIPE
--- APPROX LINE OF
INDURATED
SANDS

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

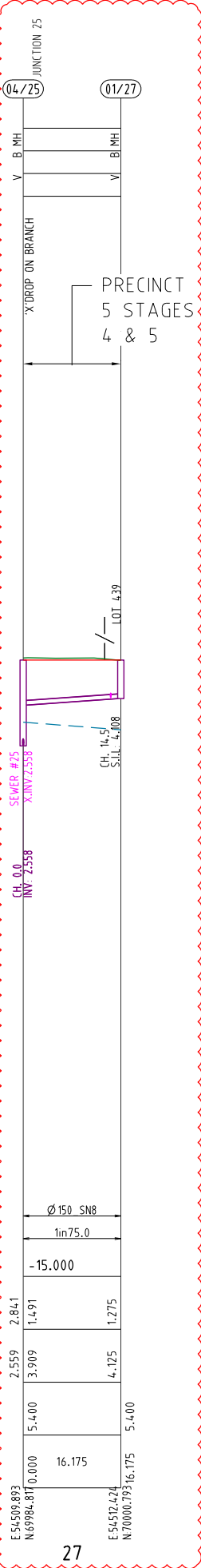
PIPE DIAMETER (mm)
PIPE GRADE
DATUM R.L.

DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
CHAINAGE

LINE NO.



25



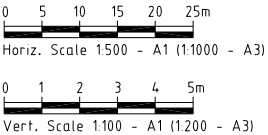
27

PROJECT NAME
**KINGS
FOREST**

PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

C	24-03-21	PROFILES AMENDED
B	06-10-20	SEWER PROFILES AMENDED
A	14-04-20	COUNCIL ISSUE

PRE DATE AMENDMENT

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**GILBERT
SUTHERLAND**

DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 3

TENDER ISSUE ONLY

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED RB	DRAWN JB
APPROVED <i>[Signature]</i>	NER 906726
DRAWING NUMBER	AMEND.

12301-P5-4&5-532

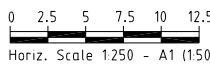
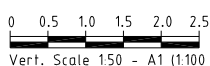
C

NOTES

LOT NO.



LOT NO.

PROJECT NAME KINGS FOREST PRECINCT 5 CONSTRUCTION CERTIFICATE - STAGES 4 & 5 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 DP704497, 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		
 Horiz. Scale 1:250 - A1 (1:500 - A3)  Vert. Scale 1:50 - A1 (1:100 - A3)		
ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	
C	24-03-21	HOUSE CONNECTIONS AMENDED
B	01-10-20	HOUSE CONNECTIONS AMENDED
A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT
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ASSOCIATED CONSULTANTS  LAND SURVEYING CONSULTANTS + GILBERT SUTHERLAND		
DRAWING TITLE SEWER RETICULATION HOUSE CONNECTION PROFILES SHEET 1 OF 2 TENDER ISSUE ONLY		
		
MUS Pty Ltd T/As: Mortons-Urban Solutions ABN: 39 116 375 065 mortons@urbansolutions.net.au www.urbansolutions.net.au Tel 07 5571 1099 Fax 07 5571 1088		Postal Address PO Box 2484 Southport QLD 4215 Gold Coast Office Suite 9, 19 Short St Southport QLD 4215
DESIGNED RB	DRAWN JB	
APPROVED ✓✓	NER 906726	DATE 14-04-20
DRAWING NUMBER		AMEND.
12301-P5-4&5-570		C

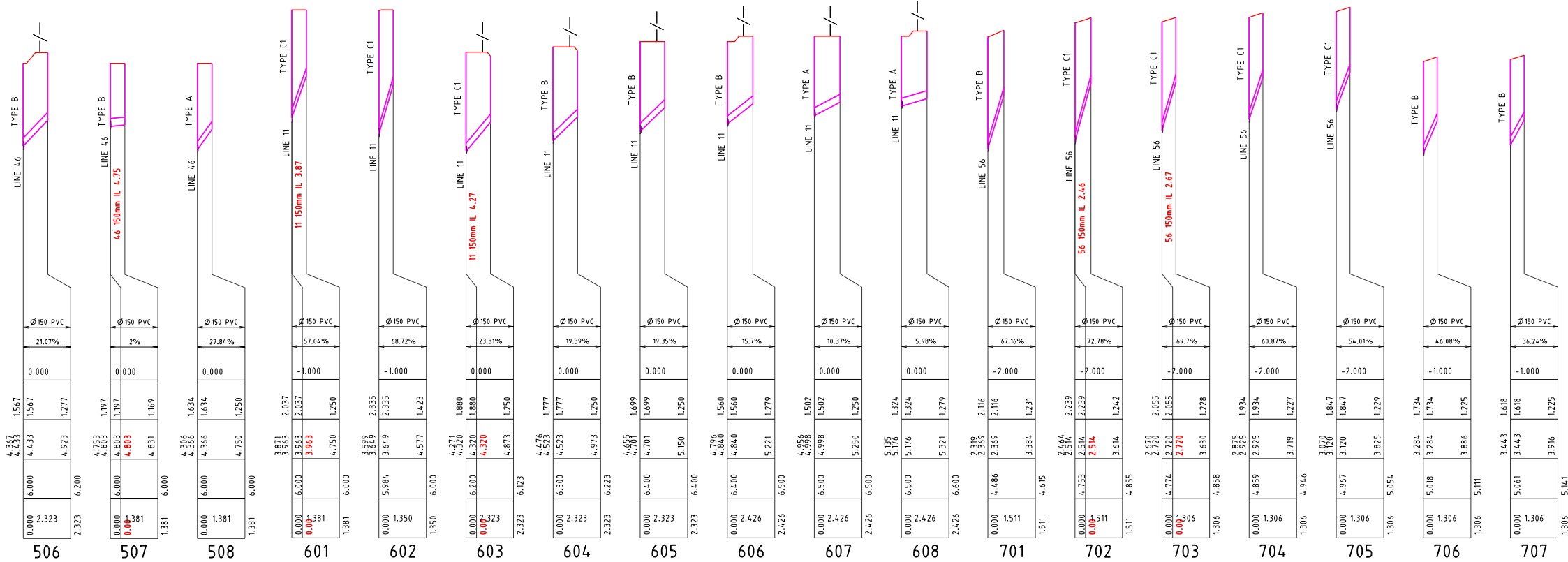
1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION.

PIPE GRADE

DEPTH TO INVERT

DESIGN SURFACE LEVELS

LOT NO.



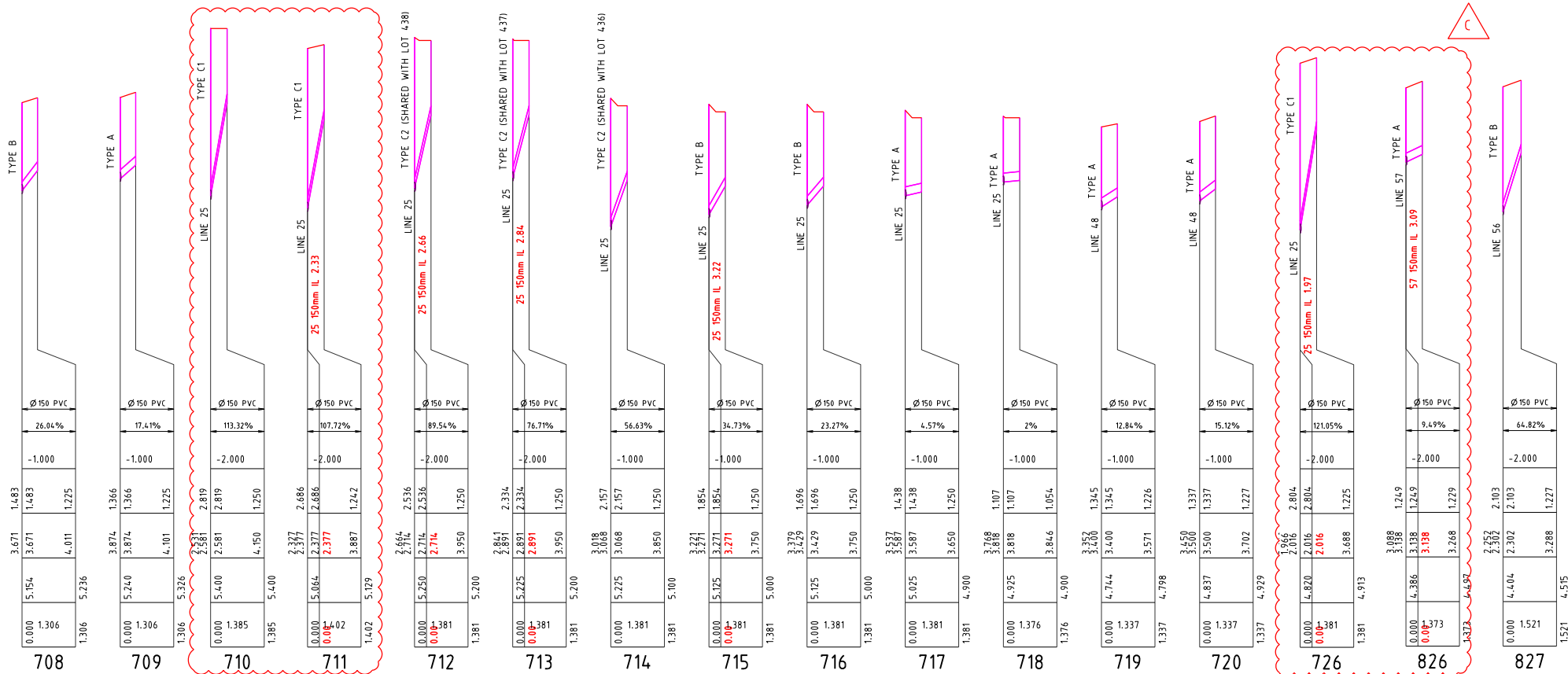
1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE. SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION.

PIPE GRADE

DEPTH TO INVERT

DESIGN SURFACE LEVELS

LOT NO.



3

1. STORMWATER INFRASTRUCTURE TO BE INSTALLED IN ACCORDANCE WITH TWEED SHIRE COUNCIL CONSTRUCTION SPECIFICATIONS AND STANDARD DRAWINGS.
2. ALL FIELD GULLIES SHALL 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 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 DOWNSLOPE SIDE OF EACH LOT WHERE FOOTPATHS ARE BUILT. EACH KERB ADAPTOR SHALL HAVE A 90 DIA uPVC PIPE ACROSS TO FOOTWAY INTO THE LOT. REFER DETAIL ON DRAWING 120..

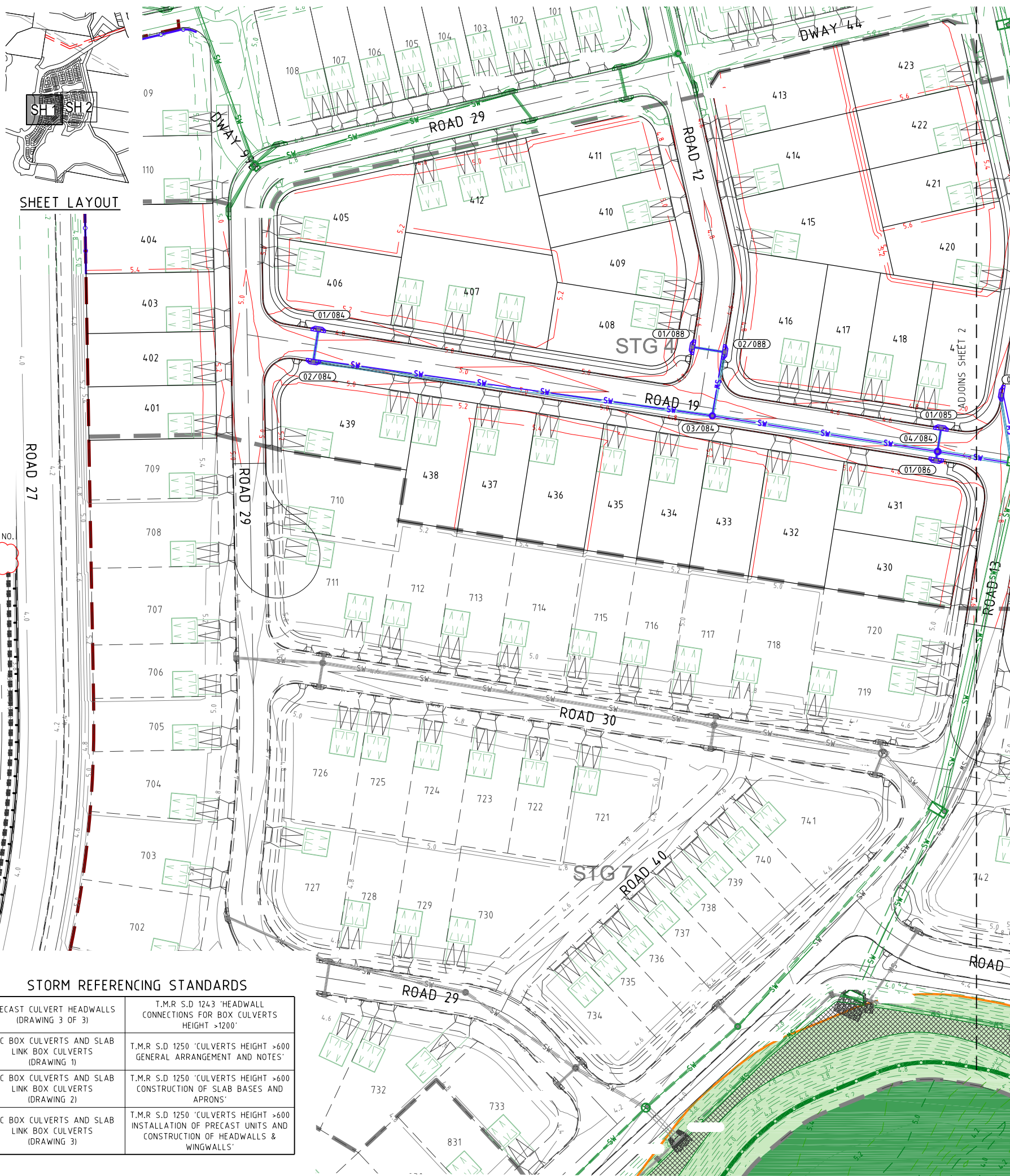
LEGEND

- EXISTING KERB (INVERT)
- EXISTING KERB (LIP & BACK)
- EXISTING PROPERTY LINE
- EXISTING RETAINING WALL
- SW — SW — EXISTING STORMWATER
- RW — RW — EXISTING ROOFWATER
- SS — SS — EXISTING SUBSOIL
- 1.0 — EXISTING CONTOURS
- FUTURE KERB
- FUTURE PROPERTY LINE
- FUTURE RETAINING WALL
- SW — FUTURE STORMWATER
- RW — FUTURE ROOFWATER
- SS — 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 GRADED DRAIN
- SW — PROPOSED STORMWATER
- RW — PROPOSED ROOFWATER
- SS — PROPOSED SUBSOIL
- MANHOLE
- KERB INLET (ON GRADE) PIT
- KERB INLET (SAG) PIT
- HEADWALL
- EXCLUSION FENCE
- EXISTING TEMPORARY FENCE
- EXISTING TEMPORARY NO-GO FENCE
- ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-4&5-011
- ECOLOGICAL BUFFER
- SCOUR PROTECTION
- 10/001 DRAINAGE PIT & LID
- FUTURE DRIVEWAY/GARAGE (BY OTHERS)

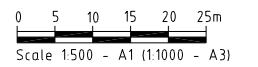
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STRUCTURE TYPE	HORIZONTAL CONTROL (Reference Point Location)	VERTICAL CONTROL (Reference Level)
MANHOLE	 CENTRE OF MANHOLE	FINISHED SURFACE LEVEL
GULLY PIT	 LIP AT CENTRE OF PIT	FINISHED SURFACE LEVEL (LIP OF CHANNEL)
HEADWALL	 INTERSECTION OF HEADWALL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

PRECAST CULVERT HEADWALLS (DRAWING 3 OF 3)	T.M.R S.D 1243 'HEADWALL CONNECTIONS FOR BOX CULVERTS HEIGHT >1200'
R C BOX CULVERTS AND SLAB LINK BOX CULVERTS (DRAWING 1)	T.M.R S.D 1250 'CULVERTS HEIGHT >600 GENERAL ARRANGEMENT AND NOTES'
R C BOX CULVERTS AND SLAB LINK BOX CULVERTS (DRAWING 2)	T.M.R S.D 1250 'CULVERTS HEIGHT >600 CONSTRUCTION OF SLAB BASES AND APRONS'
R C BOX CULVERTS AND SLAB LINK BOX CULVERTS (DRAWING 3)	T.M.R S.D 1250 'CULVERTS HEIGHT >600 INSTALLATION OF PRECAST UNITS AND CONSTRUCTION OF HEADWALLS & WINGWALLS'



REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP74782,
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 .



ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	16-04-20	COUNCIL ISSUE

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

STORMWATER
DRAINAGE
PLAN
SHEET 1 OF 2

TENDER ISSUE ONLY



MUS Pty Ltd T/As: Postal Address
Mortons-Urban Solutions PO Box 2484
ABN: 39 116 375 065 Southport QLD 4215
mortons@urbansolutions.net.au
www.urbansolutions.net.au Gold Coast Office
Tel 07 5571 1099 Suite 9, 19 Short St
Fax 07 5571 1088 Southport QLD 4215

DESIGNED RB		DRAWN JB	
APPROVED <i>[Signature]</i>	NER 906726	DATE 14-04-20	
DRAWING NUMBER			AMEND.
12301-P5-4&5-600			B



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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	15-10-20
COUNCIL	14-04-20
CONSTRUCTION	..

PRE DATE	AMENDMENT
C	31-08-21 NOTES AND DRAINS AMENDED
B	02-10-20 STORMWATER ALIGNMENT AND INSET AMENDED
A	14-04-20 COUNCIL ISSUE

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GILBERT SUTHERLAND

DRAWING TITLE

STORMWATER DRAINAGE PLAN
SHEET 2 OF 2

TENDER ISSUE ONLY

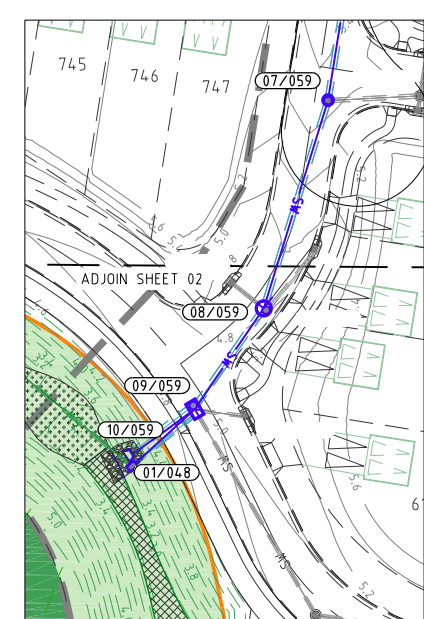

Urban & Regional Planning
Civil Engineering
Project Coordination

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DESIGNED	RB	DRAWN	JB
APPROVED		NER	906726
DRAWING NUMBER		DATE 14-04-20	
12301-P5-4&5-601		C	



y:\123 - Ieda developments Pty Ltd\01 - Kings Forest\PREC2\engineering drawings\spw stages 4 & 5\Curren12301-P5-4&5-620.dwg, 7/10/2021 10:16:51 AM, 12

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

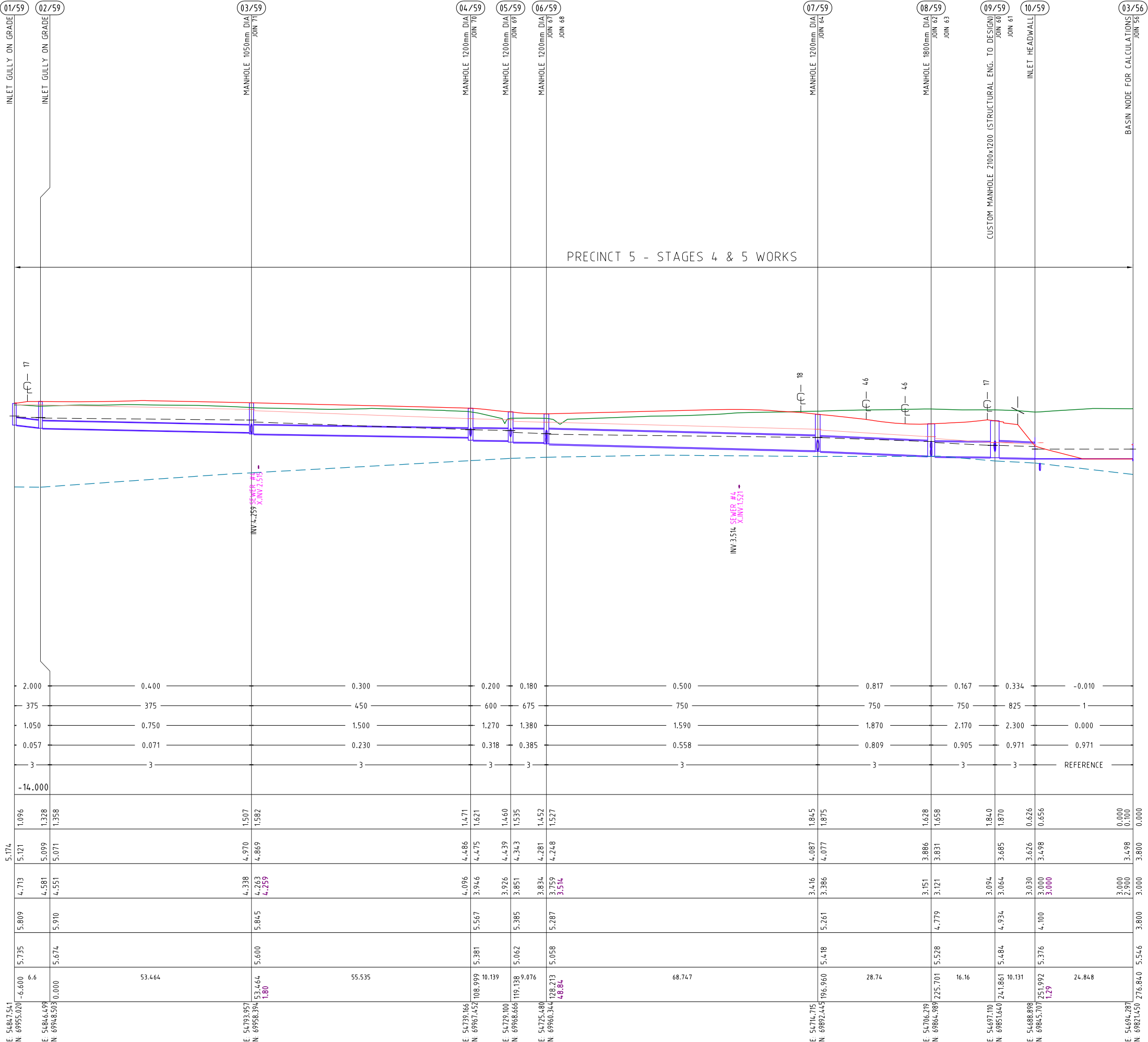
PIPE INVERT LEVELS

DESIGN SURFACE
LEVELS

EXISTING SURFACE
LEVELS

CHAINAGE

DRAINAGE LINE



PROJECT NAME

KINGS
FOREST

PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

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	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS



GILBERT
SUTHERLAND

DRAWING TITLE

STORMWATER
PROFILES
SHEET 1

TENDER ISSUE ONLY

MORTONS
urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
ABN: 39 116 375 065
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 <i>RB</i>	NER 906726
DATE 14-04-20	

DRAWING NUMBER
12301-P5-4&5-620
AMEND.
A

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)

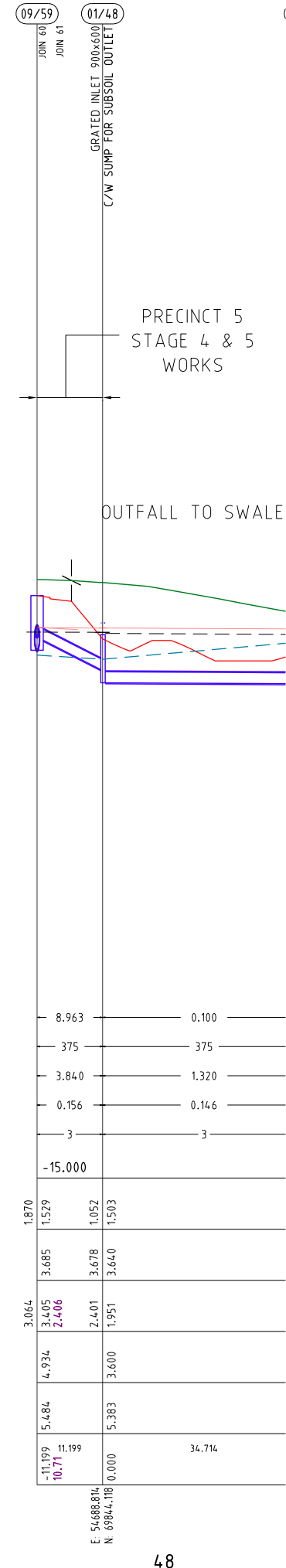
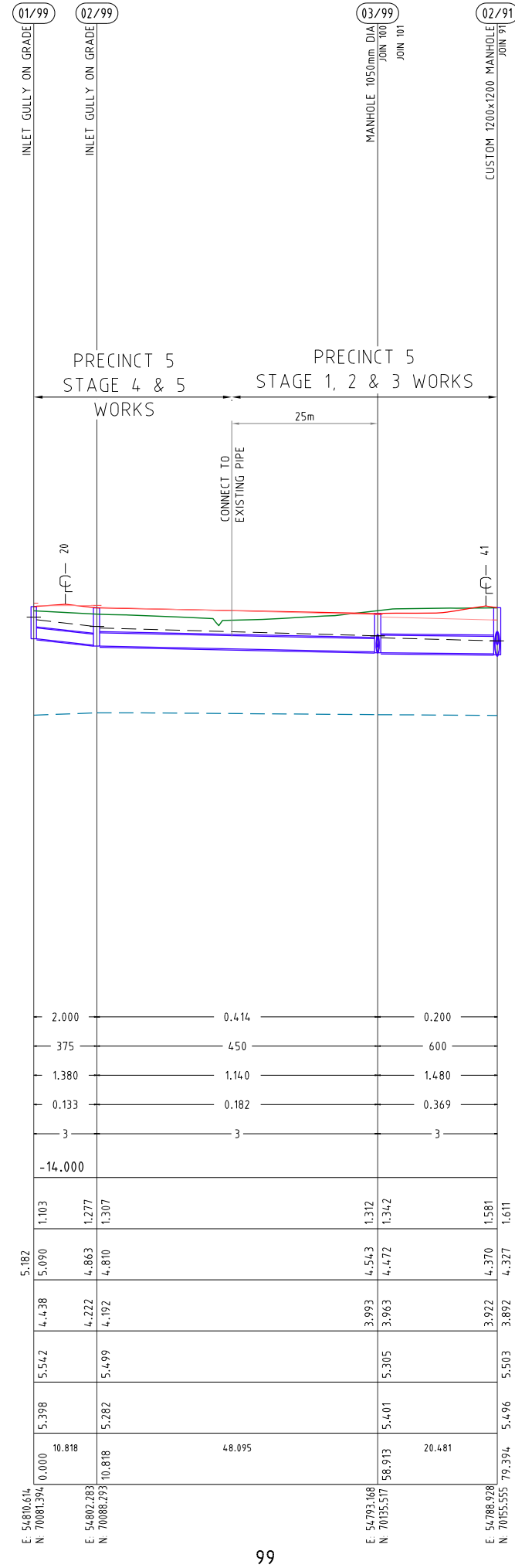
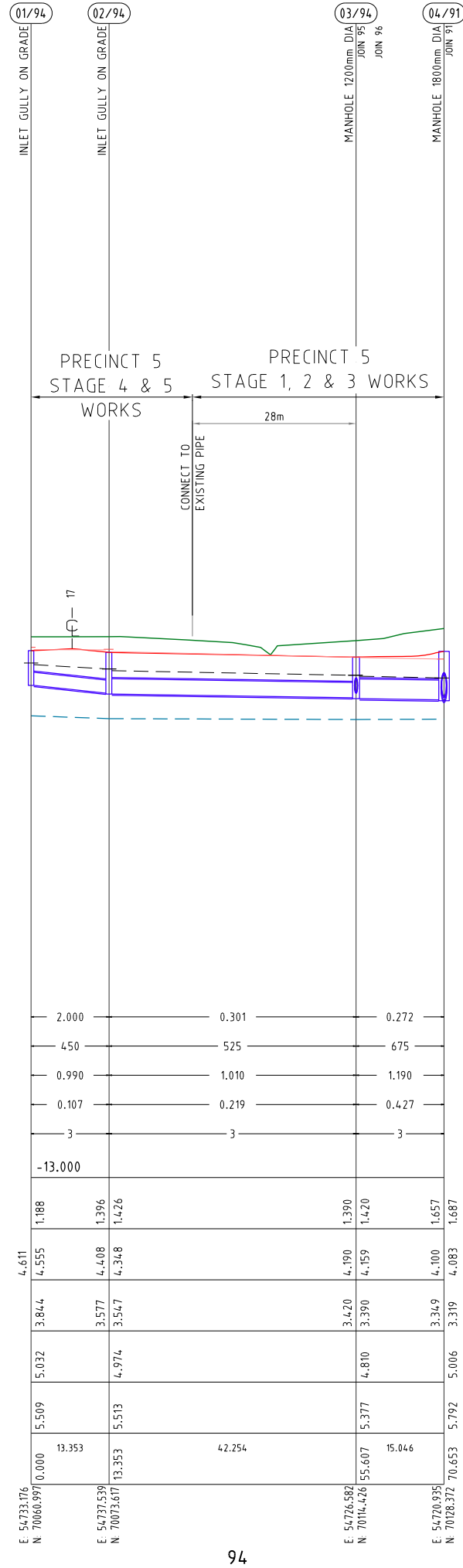
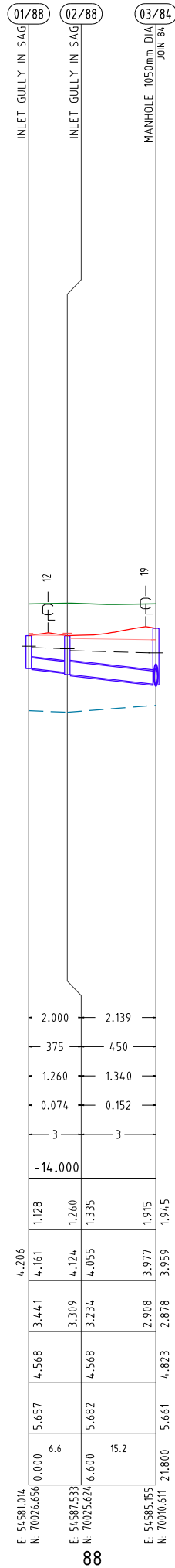
PIPE FLOW (m³/s)

PIPE CLASS

DATUM R.L.

DEPTH TO INVERT
HYDRAULIC GRADE LINE — — — — —
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS —————
EXISTING SURFACE LEVELS —————
CHAINAGE

DRAINAGE LINE



PROJECT NAME

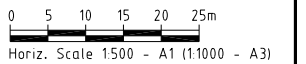
KINGS FOREST

PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

REAL PROPERTY DESCRIPTION
Lot 7 on DP875447, Part of Lot 6 on DP875446,
Lot 1 on DP781633, Lot 40 on DP74782,
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 .

C L I E N T

**PROJECT 28
PTY LTD**



ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

A	14-04-20	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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LANDSURV
INCORPORATING
MULTI-MEDIA SURVEYING
DESIGN & PLANNING SURVEYING

**+GILBERT
SUTHERLAND**

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

STORMWATER
PROFILES
SHEET 4

TENDER ISSUE ONLY



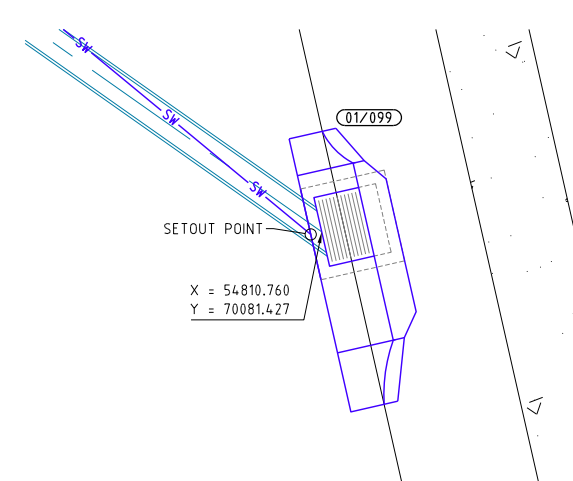
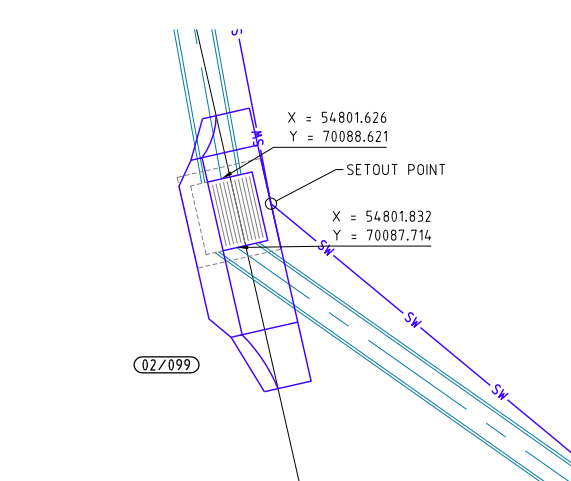
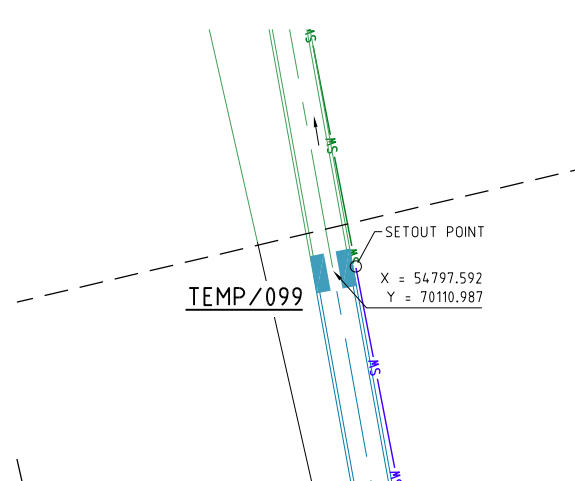
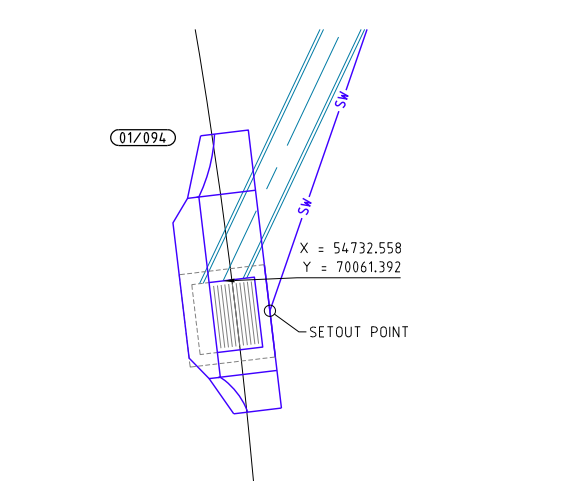
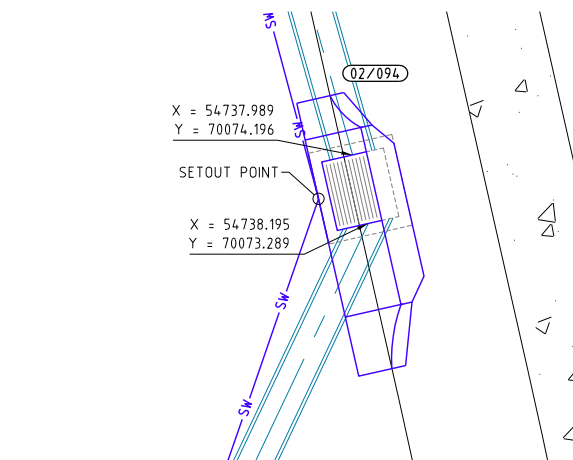
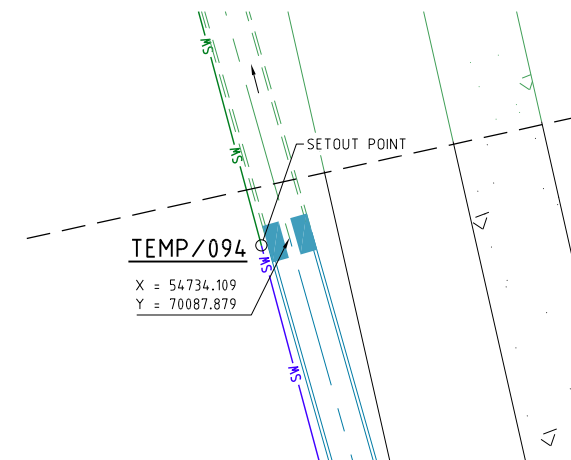
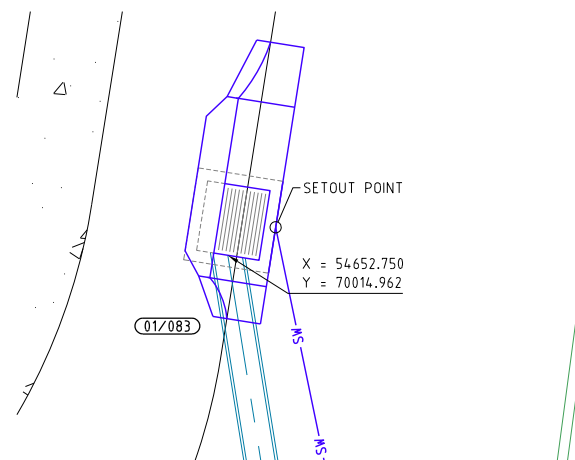
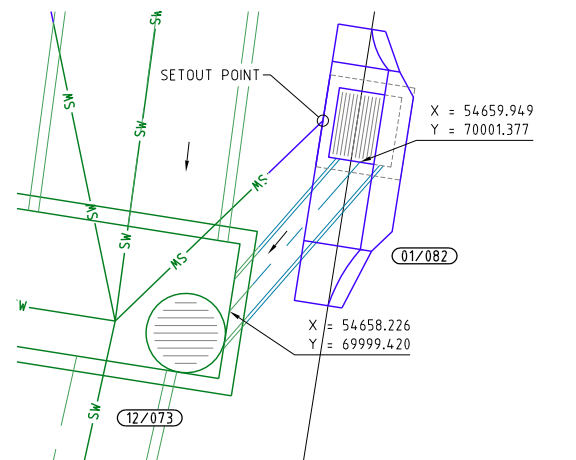
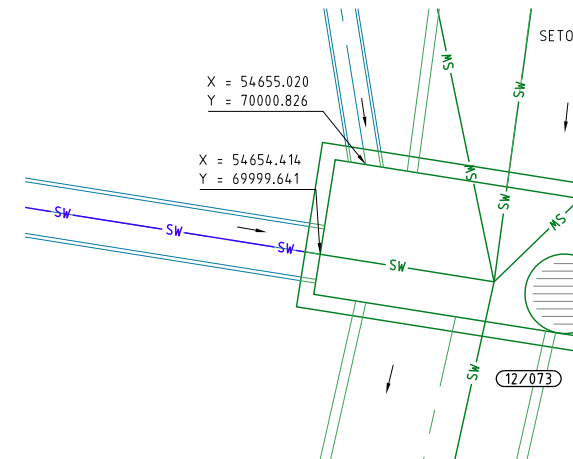
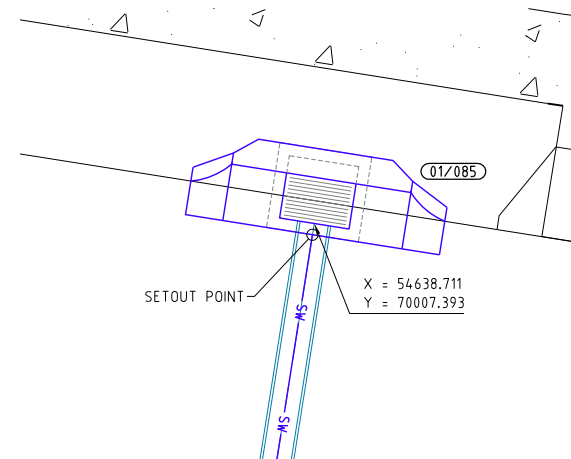
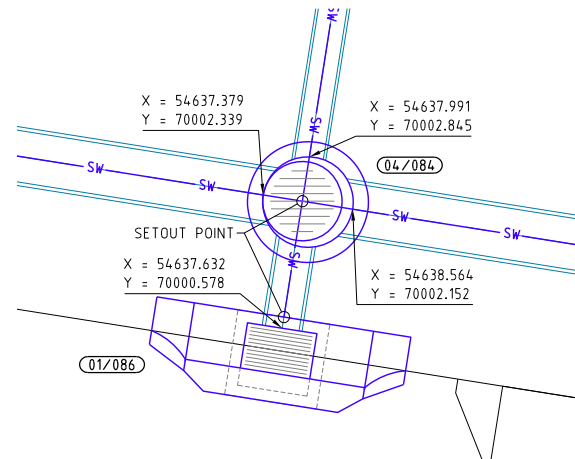
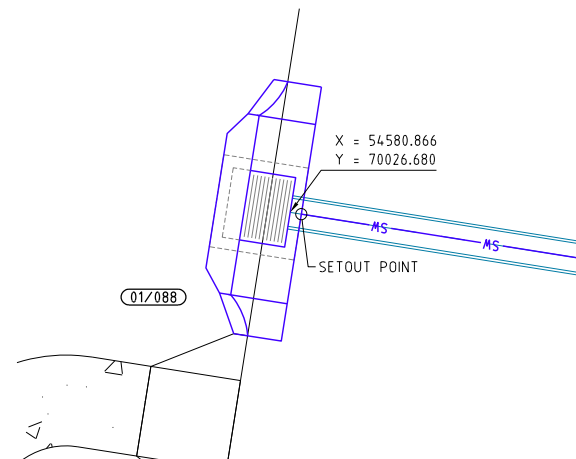
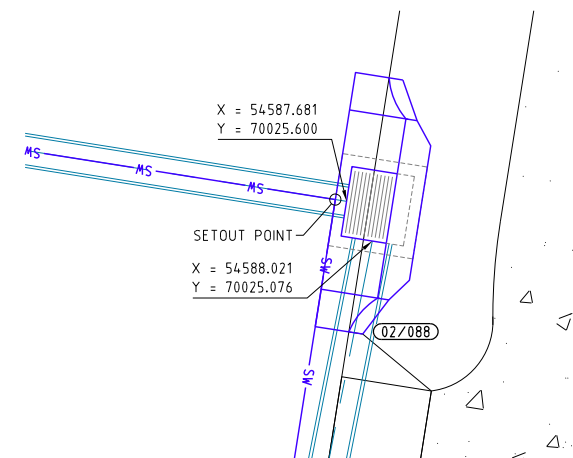
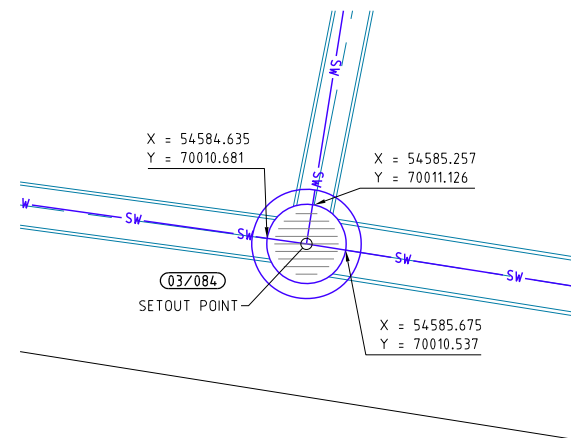
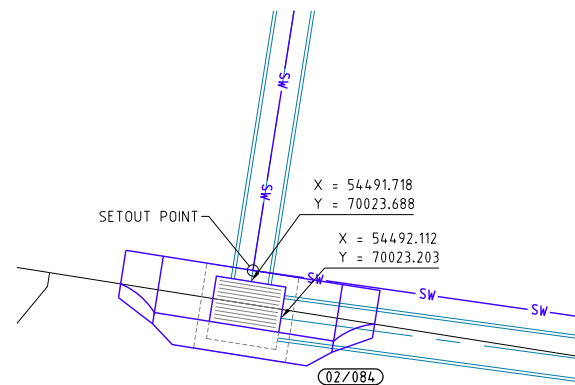
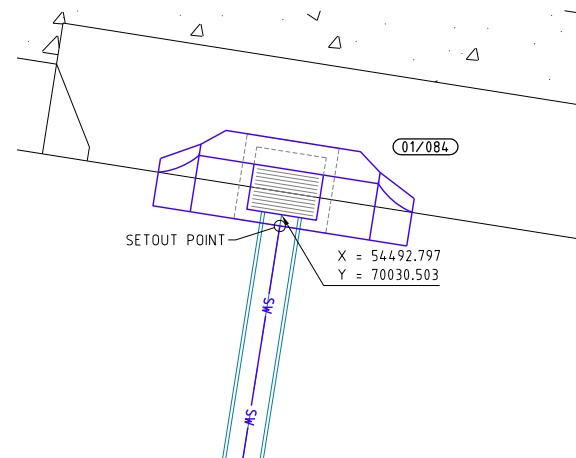
MORTONS
urban**solutions**
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As: Postal Address
 Mortons-Urban Solutions PO Box 2484
 ABN 39 116 375 065 Southport QLD 4215
 mortons@urbansolutions.net.au
 www.urbansolutions.net.au
 Gold Coast Office
 Suite 9, 19 Short St
 Southport QLD 4215
 Tel 07 5571 1099
 Fax 07 5571 1088

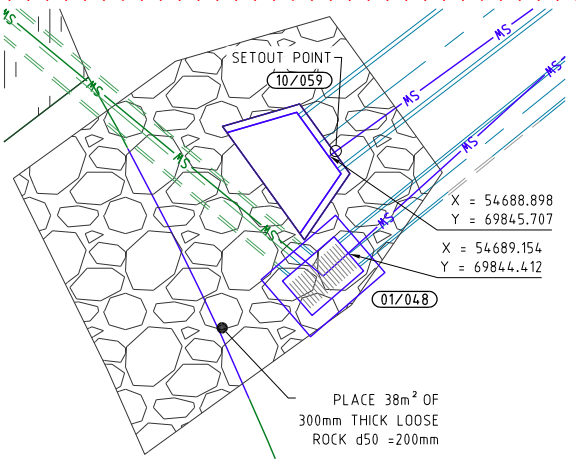
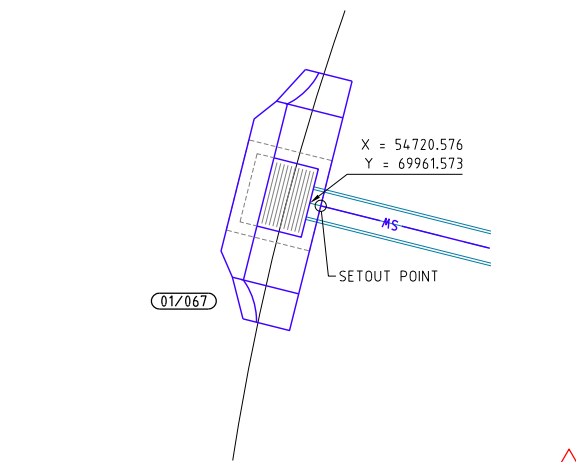
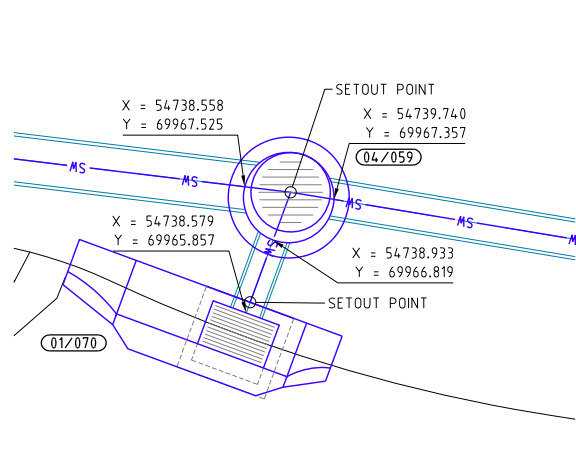
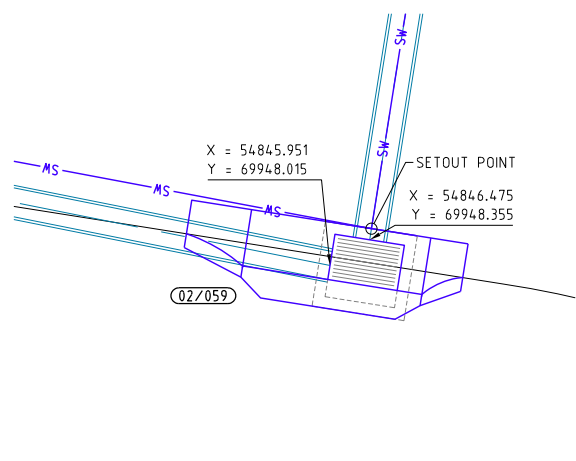
DESIGNED RB		DRAWN JB	
APPROVED <i>[Signature]</i>	NER 906726	DATE 14-04-20	

12301-P5-4&5-623

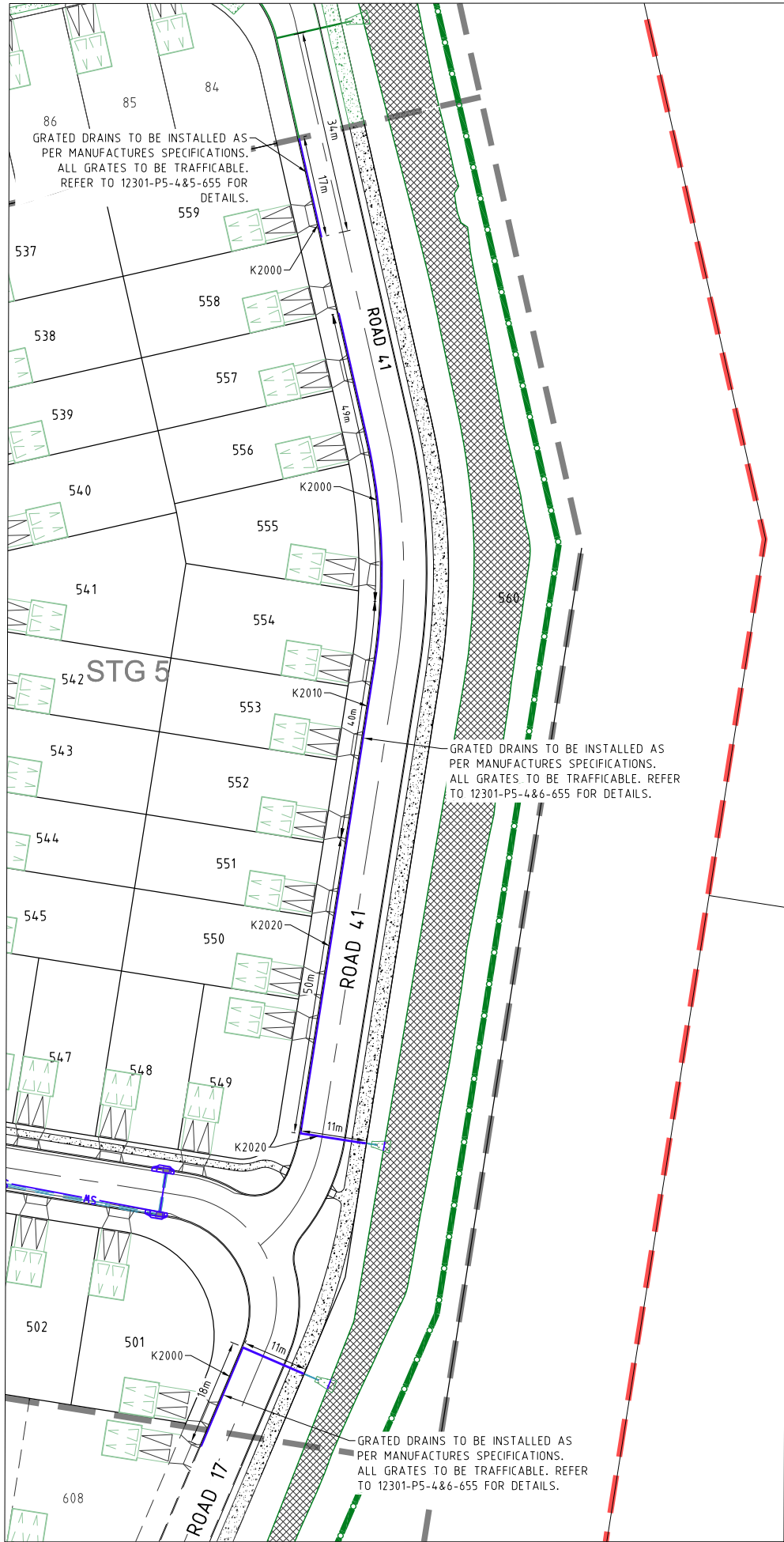
E N D.



PROJECT NAME KINGS FOREST PRECINCT 5 CONSTRUCTION CERTIFICATE - STAGES 4 & 5 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 0.5 1.0 1.5 2.0 2.5m Scale 150 = A1 (1:100 - A3)		
ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	
A	14-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	
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ASSOCIATED CONSULTANTS		
DRAWING TITLE		
STORMWATER STRUCTURE DETAILS SHEET 1 OF 2		
TENDER ISSUE ONLY		
MUS Pty Ltd T/as: Mortons-Urban Solutions ABN 39 116 375 065 mortons@urbansolutions.net.au www.urbansolutions.net.au Tel 07 5571 1099 Fax 07 5571 1088 Postal Address PO Box 2484 Southport QLD 4215 Gold Coast Office Suite 9, 19 Short St Southport QLD 4215		
DESIGNED	RB	DRAWN
APPROVED	✓	JB
DRAWING NUMBER		AMEND.
12301-P5-4&5-640		A



y:\123 - lida developments Pty Ltd\01 - Kings forest\PREC2\engineering drawings\upw stages 4 & 5\Current\12301-P5-4&5-650.dwg, 7/10/2021 10:21:08 AM, 1:2



GRATED DRAIN 1.0

NOTES:

1. GRATES TO BE CLASS D SLOTTED DUCTILE IRON OR APPROVED EQUIVALENT. GRATE DRAINS TO BE INSTALLED AS PER GRATED POLYCRETE CHANNEL, SITE INSTALLATION MANUAL. ALL GRATES TO BE TRAFFICABLE.
2. REFER TO DRAWING 12301-P5-4&5-655 FOR SECTIONS OF DRAINS IN ROAD AND FOOTPATHS.



PROJECT NAME

KINGS FOREST

PRECINCT 5

CONSTRUCTION CERTIFICATE - STAGES 4 & 5

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	13-11-19	
COUNCIL	XX-XX-XX	
CONSTRUCTION	..	

A	26-08-21	ISSUE FOR INFORMATION
PRE	DATE	AMENDMENT

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DRAWING TITLE

STORMWATER GRATED DRAINS PLAN

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Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address:
PO Box 2484
Southport QLD 4215

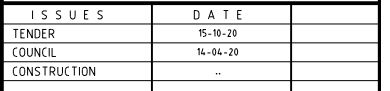
Gold Coast Office:
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN CB
APPROVED	NER 906726
DATE 07-02-19	

DRAWING NUMBER	AMEND.
12301-P5-4&5-650	A



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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LANDSURV INCORPORATING
LAND SURVEYING & PLANNING
+ GILBERT SUTHERLAND

TENDER ISSUE ONLY



DESIGNED	RB	DRAWN	JB
APPROVED <i>[Signature]</i>	NER	906726	DATE 14-04-20
DRAWING NUMBER			AMEND.
12301-P5-4&5-670			A

0.2 ARI (Q5) MINOR FLOW - 12D DYNAMIC DRAINAGE RESULTS										* REFER TO IFD TABLE FOR MAXIMUM INTENSITY DURING STORM																														
NOTE: NEGATIVE FLOW VALUES INDICATE REVERSE FLOWS										CATCHMENT AREA			RAINFALL VOLUME*			CATCHMENT FLOW			APPROACH FLOW			FLOW AT PIT			PIT		HGL			PIPE		HEADLOSSES				CAPACITY		VELOCITY		NODE
NODE		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 %	FLOW			CAPTURED L/S	BYPASS			GRADE %	GRATE RL	PIT RL	PIPE		GRADE %	FLOW M3/S	COEFFICIENT	Ku	Kw	Ku	Kw	RATIO	MS	NODE			
FROM:	TO:															L/S	WIDTH	DxV	L/S	L/S	DxV	NODE				U/S RL	D/S RL													
01/54	02/54	100% CAPTURE FOR FUTURE EXTENSION		0.469			25	43.0	0.819	0.801	0.213			25	0.5	213	4.19	0.09	45	162	0.10	03/51		5.712	5.86	5.77	4.92	6.69	0.04	7.0	0.0	0.2	0.0	0.63	2.68	01/54				
02/54	03/51	INLET HEADWALL												25		0			0					5.000	4.92	4.92	4.92	0.00	0.04	0.0	0.0	0.0	0.0			02/54				
01/55		CALCULATION PURPOSES												25		0			0					4.000	3.57											01/55				
01/59	02/59	INLET GULLY ON GRADE		0.099			25	43.0	0.819	0.801	0.045			25		45	0.00	0.00	45	0	0.00	03/51		5.809	5.18	5.12	5.10	0.33	0.06	8.5	0.0	0.1	0.0	0.23	1.05	01/59				
02/59	03/59	INLET GULLY ON GRADE		0.060			25	43.0	0.819	0.801	0.027			25		27	0.00	0.00	27	0	0.00	03/51		5.910	5.10	5.07	4.97	0.19	0.07	2.2	0.0	0.0	0.0	0.63	0.74	02/59				
03/59	04/59	MANHOLE 1050mm DIA												25		0			0					5.845	4.97	4.87	4.49	0.68	0.23	1.4	0.0	0.1	0.0	1.47	1.5	03/59				
04/59	05/59	MANHOLE 1200mm DIA												25		0			0					5.567	4.49	4.48	4.45	0.34	0.32	0.3	0.0	0.0	0.0	1.15	1.27	04/59				
05/59	06/59	MANHOLE 1200mm DIA												25		0			0					5.385	4.45	4.36	4.30	0.61	0.38	1.4	0.0	0.1	0.0	1.07	1.36	05/59				
06/59	07/59	MANHOLE 1200mm DIA												25		0			0					5.287	4.30	4.26	4.15	0.16	0.54	0.6	0.0	0.0	0.0	0.69	1.55	06/59				
07/59	08/59	MANHOLE 1200mm DIA												25		0			0					5.260	4.15	4.14	3.94	0.71	0.80	0.4	0.0	0.0	0.0	0.8	1.81	07/59				
08/59	09/59	MANHOLE 1800mm DIA												25		0			0					4.681	3.94	3.86	3.73	0.81	0.91	0.3	0.0	0.1	0.0	2	2.14	08/59				
09/59	10/59	JSTOMMANHOLE 2100x1200 (STRUCTURAL ENG. TO DESIGN)												25		0			0					4.934	3.73	3.73	3.66	0.65	1.10	0.0	0.0	0.0	0.0	1.32	2.43	09/59				
10/59	03/56	INLET HEADWALL												25		0			0					4.100	3.50	3.50	3.50	0.00	1.10	0.0	0.0	0.0	0.0			10/59				
01/67	06/59	INLET GULLY IN SAG		0.198			25	43.0	0.819	0.801	0.090			25		91	0.40	0.01	88	1	0.00	01/94		5.235	4.52	4.40	4.30	2.06	0.09	6.6	0.0	0.2	0.0	0.19	1.56	01/67				
01/68	06/59	INLET GULLY IN SAG		0.180			25	43.0	0.819	0.801	0.082			25		98	0.47	0.00	97	1	0.01	01/67		5.236	4.63	4.36	4.30	3.54	0.10	7.0	0.0	0.3	0.0	0.25	1.49	01/68				
01/69	05/59	INLET GULLY ON GRADE		0.168			25	43.0	0.819	0.801	0.076			25		77	0.39	0.01	72	2	0.00	02/94		5.485	4.51	4.51	4.45	0.57	0.07	0.0	0.0	0.0	0.0	0.29	1.8	01/69				
01/70	04/59	INLET GULLY ON GRADE		0.248			25	43.0	0.819	0.801	0.113			25		113	1.12	0.04	96	17	0.04	01/68		5.518	4.84	4.53	4.49	2.32	0.10	9.1	0.0	0.3	0.0	0.3	1.21	01/70				
01/71	02/71	INLET GULLY IN SAG		0.186			25	43.0	0.819	0.801	0.085			25		85	0.35	0.00	84	0	0.00	02/71		5.576	5.30	5.27	5.15	1.74	0.08	6.2	0.0	0.1	0.0	0.37	0.87	01/71				
02/71	03/59	INLET GULLY IN SAG		0.182			25	43.0	0.819	0.801	0.083			25		83	0.34	0.00	82	1	0.00	01/69		5.576	5.15	5.09	4.97	0.66	0.17	2.4	0.0	0.1	0.0	0.81	1.04	02/71				
01/82	12/73	INLET GULLY ON GRADE		0.292			25	43.0	0.819	0.801	0.133			25		133	1.73	0.03	108	22	0.03	01/74		4.762	3.96	3.86	3.86	-0.13	0.14	9.7	0.0	0.2	0.0	0.15	2.51	01/82				
01/83	12/73	INLET GULLY ON GRADE		0.135			25	43.0	0.819	0.801	0.062			25		62	0.04	0.00	61	0	0.00	01/85		4.824	3.86	3.83	3.86	-0.21	0.08	9.7	0.0	0.1	0.0	0.24	1.67	01/83				
01/84	02/84	INLET GULLY IN SAG		0.188			25	43.0	0.819	0.801	0.086			25		88	0.37	0.01	85	1	0.00	01/131		4.738	4.42	4.39	4.31	1.26	0.09	8.6	0.0	0.1	0.0	0.22	1.19	01/84				
02/84	03/84	INLET GULLY IN SAG		0.268			25	43.0	0.819	0.801	0.122			25		122	0.98	0.01	119	3	0.01	01/84		4.738	4.31	4.30	3.95	0.37	0.21	5.5	0.0	0.1	0.0	0.74	1.09	02/84				
03/84	04/84	MANHOLE 1050mm DIA												25		0			0					4.823	3.95	3.93	3.88	0.09	0.36	0.6	0.0	0.0	0.0	0.95	1	03/84				
04/84	12/73	MANHOLE 1200mm DIA												25		0			0					4.556	3.88	3.87	3.86	0.03	0.57	0.7	0.0	0.1	0.0	1.52	1.6	04/84				
01/85	04/84	INLET GULLY IN SAG		0.178			25	43.0	0.819	0.801	0.081			25		84	0.42	0.01	83	-3	0.01	01/86		4.510	4.07	4.04	3.88	3.15	0.10	8.8	0.0	0.1	0.0	0.24	2.43	01/85				
01/86	04/84	INLET GULLY IN SAG		0.294			25	43.0	0.819	0.801	0.133			25		133	1.03	0.02	120	7	0.01	01/77		4.510	4.06	3.94	3.88	3.81	0.14	6.3	0.0	0.1	0.0	0.15	1.94	01/86				
01/88	02/88	INLET GULLY IN SAG		0.134			25	43.0	0.819	0.801	0.061			25		61	0.14	0.00	61	0	0.00	01/87		4.568	4.19	4.16	4.10	0.97	0.07	7.0	0.0	0.1	0.0	0.29	1.26	01/88				
02/88	03/84	INLET GULLY IN SAG		0.149			25	43.0	0.819	0.801	0.068			25		68	0.19	0.00	67	0	0.00	01/90		4.568	4.10	4.03	3.95	0.49	0.15	9.7	0.0	0.1	0.0	0.36	1.34	02/88				
01/94	02/94	INLET GULLY ON GRADE		0.276			25	43.0	0.819	0.801	0.125			25		127	1.49	0.03	104	15	0.03	01/95		5.032	4.60	4.52	4.43	0.72	0.10	8.2	0.0	0.2	0.0	0.26	0.99	01/94				
02/94	03/94	INLET GULLY ON GRADE		0.305			25	43.0	0.819	0.801	0.139			25		140	1.72	0.03	112	20	0.04	01/96		4.974	4.43	4.39	4.23	0.38	0.21	2.5	0.0	0.1	0.0	0.91	0.99	02/94				
03/94	04/91	MANHOLE 1200mm DIA												25		0			0					4.810	4.23	4.20	4.14	0.39	0.42	0.8	0.0	0.0	0.0	0.96	1.17	03/94				
01/99	02/99	INLET GULLY ON GRADE		0.260			25	43.0	0.819	0.801	0.118			25		118	1.59	0.03	99	17	0.03	01/101		5.542	5.18	5.09	4.86	2.10	0.13	9.7	0.0	0.2	0.0	0.51	1.29	01/99				
02/99	03/99	INLET GULLY ON GRADE		0.209			25	43.0	0.819	0.801	0.095			25		95	1.20	0.02	85	9	0.02	01/100		5.499	4.86	4.81	4.54	0.56	0.18	2.2	0.0	0.1	0.0	0.99	1.14	02/99				
03/99	02/91	MANHOLE 1050mm DIA												25		0			0					5.305	4.54	4.47	4.37	0.50	0.37	0.8	0.0	0.1	0.0	1.34	1.48	03/99				
01/128	02/128	100% CAPTURE FOR FUTURE EXTENSION		0.152			25	43.0	0.819	0.801	0.069			25		69	1.75	0.03	43	21	0.04	03/51		6.021	6.10	6.04	4.92	8.08	0.04	9.7	0.0	0.1	0.0	0.58	2.83	01/128				
02/128	03/51	INLET HEADWALL												25	0.5	0			0					5.000	4.92	4.92	4.92	0.00	0.04	0.0	0.0	0.0	0.0			02/128				

LEGEND

EXISTING 100Ø WATER MAIN
EXISTING 150Ø WATER MAIN
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
BEND
VERTICAL BEND
WATER METER FOR HOUSE CONNECTION
SECTION 68 - LIMIT OF WORKS BOUNDARY
SITE PRECINCT
EXISTING KOALA EXCLUSION FENCE
EXISTING TEMPORARY FENCE
EXISTING TEMPORARY NO-GO FENCE
ACOUSTIC FENCE IN ACCORDANCE WITH DRAWING 12301-P5-4&5-011
HERITAGE LOCATION
HERITAGE EXCLUSION ZONE (NO WORKS PERMITTED)
ECOLOGICAL BUFFER
FUTURE DRIVEWAY/GARAGE (BY OTHERS)

SHEET LAYOUT

WATER PIPE SPECIFICATIONS

WATER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
FOOTPATH VERGE	DICL PN20
ROAD CROSSING	DICL PN20

WATER REFERENCING STANDARDS

WATER BULKHEADS	T.S.C S.D. 341 'TRENCH DRAINAGE BULKHEADS & TRENCH STOPS'
Ø450 WATER SLUICE (ISOLATION) VALVES	T.S.C S.D. 312 'TYPICAL VALVE INSTALLATION DETAILS'
Ø450 WATER AIR	T.S.C S.D. 311 'AUTOMATIC AIR RELEASE VALVE INSTALLATION DETAILS'
Ø450 WATER SCOUR	WSAA-03 '8.6 SCOURS AND PUMP-OUT BREACHES'
WATER THRUST CALCULATIONS	WSA-03 '7.9 PIPELINE ANCHORAGE'



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	11.25	22.5	45	90	Tee & Dead Ends
100	0.21	0.21	0.21	0.21	0.21
150	0.21	0.21	0.21	0.46	0.32

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

Pipe Diameter	11.25	22.5	45	90	Tee & Dead Ends
100	3.03	6.04	11.84	21.88	15.47
150	6.38	12.71	24.93	46.06	32.57

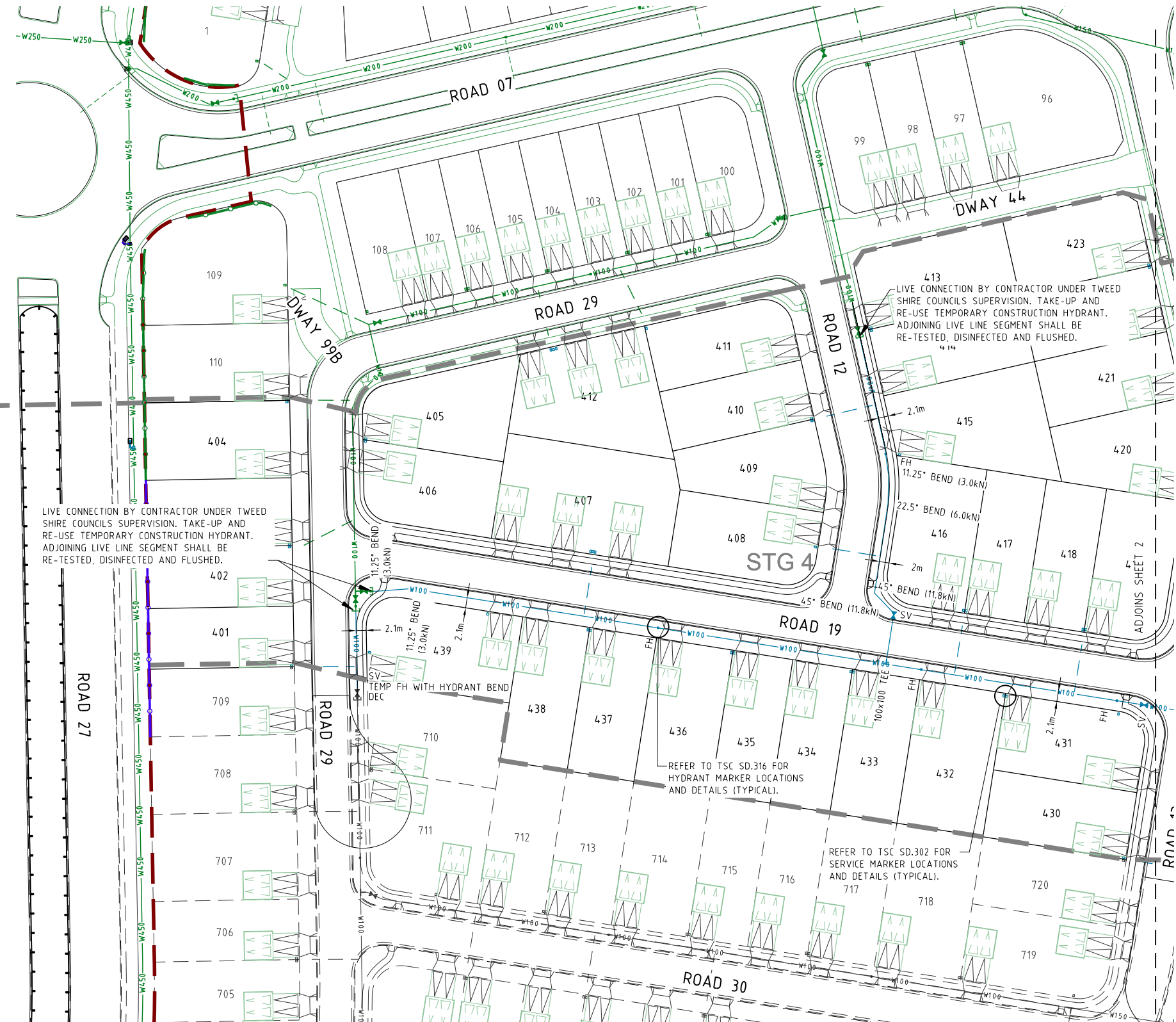
FOR FURTHER DETAIL REFER TO WSA 03-2011-3.1 TABLE 7.3.

WATER METER NOTES:

LOT 412 AND 407 CONTAINS 3 RESIDENCE WITH THE SERVICE SIZE OF 50 OD. LOTS 439, 431, 501, 525 AND 549 CONTAIN 2 RESIDENCE WITH THE SERVICE SIZE OF 40 OD. ALL OTHER SINGLE LOTS ARE 32 OD.

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

- 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 SPECIFIC WATER NOTES
- ALL PROPERTY CONNECTION ROAD CROSSINGS TO BE SLEEVED WITH DN100 mPVC CONDUIT.
 - 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.
 - UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
 - WATER SERVICE CONNECTIONS ARE TO BE PROVIDED TO EACH LOT. WATER METERS TO BE SUPPLIED AND INSTALLED BY TSC UNDER SEPARATE APPLICATION.
 - 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.
 - TRENCH STOPS & BULKHEADS (IF REQUIRED) TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL SD-341.
 - THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR WATER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
 - ALL PIPEWORK AND EXCAVATION RATES ARE TO INCLUDE DE-WATERING AND EXCAVATION THROUGH INDURATED SAND (COFFEE ROCK).
 - FOOTPATHS SHOWN FOR INFORMATION PURPOSES ONLY.
 - ALL WATER CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH AND SAFETY LEGISLATION.
 - MINIMUM WATERMAIN COVER TO BE IN ACCORDANCE WITH TWEED SHIRE COUNCIL DESIGN SPECIFICATION D11.
 - CONTRACTOR TO PAY ALL FEES AND CHARGES ASSOCIATED WITH CONNECTIONS.
 - END OF LINE ARRANGEMENTS (EG. CUL-DE-SAC HEADS) TO BE CONSTRUCTED IN ACCORDANCE WITH TWEED SHIRE COUNCIL STD DWG SD-301.
 - ALL LIVE WATER CONNECTIONS TO BE UNDERTAKEN BY THE CIVIL CONTRACTOR AND WITNESSED BY TWEED SHIRE COUNCIL.
 - 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.
 - DRAWING RETICULATED WATER - WHERE WATER IS TO BE DRAWN FROM COUNCIL'S RETICULATED SYSTEM, AN APPLICATION FOR THE HIRE OF A 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.
 - ALL WATERMANS CROSSING ROADS TO BE BACKFILLED WITH STABILISED SAND UP TO UNDERSIDE OF SUB-BASE LAYER.

PROJECT NAME
KINGS FOREST
PRECINCT 5
CONSTRUCTION CERTIFICATE - STAGES 4 & 5
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	15-10-20
COUNCIL	16-04-20
CONSTRUCTION	..

C	02-09-21	LEGEND AND NOTES AMENDED
B	01-10-20	WATER ALIGNMENT AND NOTES AMENDED
A	16-04-20	COUNCIL ISSUE
PRE DATE	AMENDMENT	

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ASSOCIATED CONSULTANTS

LANDSURV

GILBERT SUTHERLAND

DRAWING TITLE

WATER RETICULATION PLAN
SHEET 1 OF 2

TENDER ISSUE ONLY

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

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

Postal Address
PO Box 2484
Southport QLD 4215

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

DESIGNED RB
DRAWN JB
APPROVED *[Signature]* NER 906726
DATE 16-04-20
DRAWING NUMBER
12301-P5-4&5-700
AMEND.
C



PROJECT NAME
**KINGS
FOREST**
PRECINCT 5
CONSTRUCTION CERTIFICATE -
STAGES 4 & 5

CLIENT
PROJECT 28
PTY LTD

ISSUES	DATE	
TENDER	15-10-20	
COUNCIL	14-04-20	
CONSTRUCTION	..	

ASSOCIATED CONSULTANTS

WATER
RETICULATION
PLAN
SHEET 2 OF 2



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

DESIGNED	RB	DRAWN	JB
APPROVED <i>[Signature]</i>	NER	906726	DATE 14-04-20