

1. NOTWITHSTANDING THE LIMITS OF CUTTING & FILLING SHOWN ON THE DRAWINGS, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT AT THE PRE-START MEETING, ALTERATIONS TO THE EARTHWORKS MAY BE INSTRUCTED BY THE SUPERINTENDENT DURING CONSTRUCTION. FINISHED SURFACE CONTOURS MAY BE ADJUSTED BY THE WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION.
2. REFER TO THE SPECIFICATION FOR COMPACTION DETAILS. ALL FILL MATERIALS WILL BE PLACED IN ACCORDANCE WITH THE APPROVED SPECIFICATION.
3. EARTHWORKS QUANTITIES ARE CALCULATED ON THE BASIS OF THE ASSUMED PAVEMENT THICKNESS SHOWN ON THE DRAWINGS (EXCLUDING LOWER SUB-BASE COURSE), AND ON THE FINAL ALLOTMENT LEVELS ADJUSTED FOR THE STRIPPING AND REPLACEMENT OF TOPSOIL. EARTHWORK QUANTITIES ARE NET SOLID VOLUMES.
4. EXCAVATED MATERIAL NOT REQUIRED FOR ROADWORKS OR NOMINATED SITE FILLING.
5. ALL SITE PREPARATION SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3798-(LATEST VERSION), "GUIDELINES ON EARTHWORKS FOR COMMERCIAL & RESIDENTIAL DEVELOPMENTS".
6. THE SITE SHALL BE STRIPPED OF ALL TOPSOIL FROM ALL THE CUT AND FILL AREAS AND ROAD RESERVES, INCLUDING ANY CARPARKING AREAS AND STOCKPILED FOR LATER USE. THE GEOTECHNICAL CONSULTANT IS TO CONFIRM THAT ALL ORGANIC SOIL HAS BEEN REMOVED PRIOR TO THE COMMENCEMENT OF FURTHER EARTHWORKS.
7. WHERE UNSUITABLE MATERIAL IN AREAS TO BE FILLED IS ENCOUNTERED, THIS WILL BE TREATED AS SET OUT IN THE SPECIFICATION.
8. LEVEL 1 INSPECTION & TESTING IS TO BE IMPLEMENTED ON THE SITE IN ACCORDANCE WITH AS 3798-(LATEST VERSION), "GUIDELINES ON EARTHWORKS FOR COMMERCIAL & RESIDENTIAL DEVELOPMENTS". THE INSPECTION & TESTING AUTHORITY IS TO PROVIDE A COMPLIANCE CERTIFICATE & REPORT SETTING OUT THE INSPECTIONS, SAMPLING & TESTING CARRIED OUT DURING THE BULK EARTHWORKS.
9. THE TOTAL COST OF THE GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) FOR THE LEVEL 1 INSPECTION & TESTING IS TO BE INCLUDED IN THE LUMP SUM OF THE TENDER. THE GITA IS TO MAINTAIN DAILY SITE RECORD SHEETS AS SET OUT IN AS 3798-2007.
10. UNLESS NOTED OTHERWISE THE FREQUENCY OF TESTING IS TO BE IN ACCORDANCE WITH TABLE 8.1 OF AS 3798-(LATEST VERSION).
11. AFTER THE COMPLETION OF EARTHWORKS ON ALLOTMENTS, THE GEOTECHNICAL ENGINEER IS TO CERTIFY THE WORK DONE ON EACH ALLOTMENT, MAKING ANY RECOMMENDATION WHERE APPROPRIATE FOR BUILDING FOUNDATION FOR EACH LOT.
12. THE CONTRACTOR IS TO COMPLY WITH ALL REGULATIONS CONCERNING WORK HOURS, WARNING SIGNS, FENCING OR SECURITY & EMISSIONS FROM THE SITE INCLUDING DUST, WATER, SILT, NOISE & SMOKE.
13. FILL BATTER SLOPES ARE TO BE OVERFILLED & TRIMMED BACK TO PROFILE.
14. THE EARTHWORKS FOR RETAINING WALLS IN FILL IS TO BE OVERFILLED & CUT BACK TO SUIT THE RETAINING WALL & CONSTRUCTION METHODS.
15. ALL VEHICLES EXITING FROM THE SITE WILL DO SO VIA THE TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP. VEHICLES WILL BE CLEANED & TREATED AS TO PREVENT MATERIAL BEING TRACKED OR DEPOSITED ON THE ADJOINING PUBLIC ROADS. REFER EROSION & SEDIMENT DRAWINGS FOR FURTHER DETAILS OF EROSION & SEDIMENT CONTROLS.

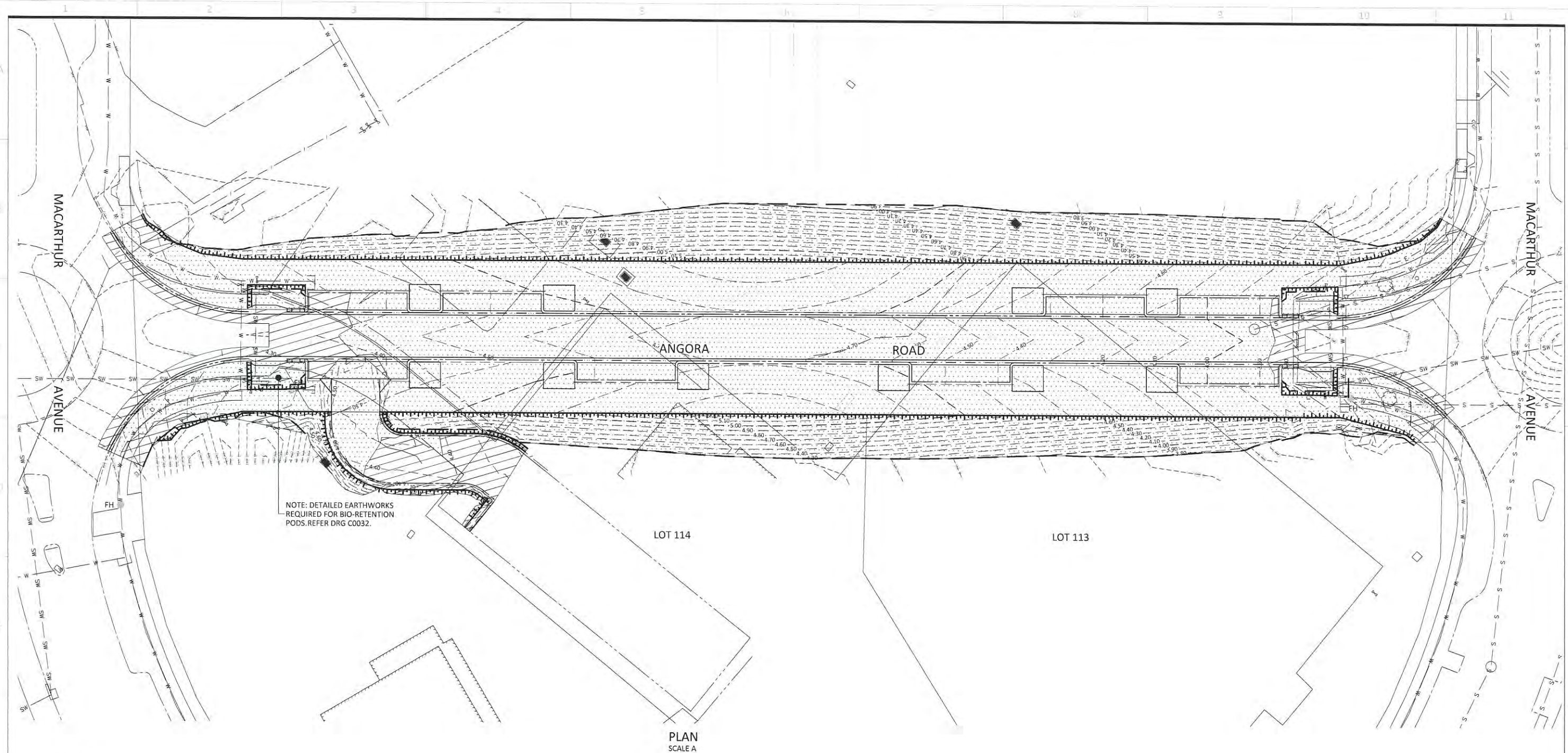


COMPACTION ON SLOPES DETAIL
N.T.S.

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REV.	DATE	AMENDMENT / ISSUE	DWN	DES	CHK	APP	ASSOCIATED CONSULTANTS										APPROVED		CHECKED		BORNHORST + WARD CONSULTING ENGINEERS		Bornhorst & Ward Pty Ltd Brisbane Australia Phone (07) 3013 4699 Facsimile (07) 3013 4611 mail@bornhorstward.com.au www.bornhorstward.com.au A.C.N. 020 152 354 A.B.N. 78 020 152 354		CLIENT ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)		PROJECT ANGORA ROAD NORTHSHORE HAMILTON		SUBJECT EARTHWORKS NOTES AND DETAILS		PROJECT No. 14157	
D	03.03.15	REVISED FOR BCC COMMENTS 11/02/2015															<i>M. Kazif</i> 7729 RPEC		K.RENSCH													
C	01.10.14	ISSUE FOR APPROVAL	KR	KR	KR	NR																										
B	12.09.14	EDQ DEVELOPMENT APPLICATION	MS	NM		KR																										
A	01.08.14	PROGRESS ISSUE															DATE 01/10/14		DATE 01/10/14													
																					CIVIL AND STRUCTURAL Level 4, 67 Astor Terrace, Spring Hill, QLD 4000											
																															DRAWING No. P5-C0010	
																															REVISION D	



LEGEND

EXISTING

PROPOSED

KERB AND CHANNEL

— KERR ONLY

— KERB INVERT

— KERB FLUSH

EDGE OF BITUMEN

EXTENT OF BUILDING

PROPERTY BOUNDARY

EASEMENT

STORMWATER DRAINAGE

— CONTOURS

FENCE

SEWER

WATER

GAS

FOOTPATH

☐ CUT

FILL

PLAN
SCALE A

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

PROJECT NORTH



DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

A1 UNREDUCED
A3 REDUCED

SCALES UNREDUCED / REDUCED
 A 0 2.5 5.0 7.5 10.0 12.5m 1:250 / 1:500

1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

FOR APPROVAL

SUBJECT
EARTHWORKS LAYOUT

PROJECT No.
14157

DRAWING No.	REVISION
P5-C0011	E

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E	03.03.15	REVISED FOR BCC COMMENTS 11/02/2015				
D	19.01.15	REVISED FOR BCC COMMENTS 06/11/2014				
C	01.10.14	ISSUE FOR APPROVAL	KR	KR	KR	NI
B	12.09.14	EDQ DEVELOPMENT APPLICATION	MS	NM	KR	
A	01.09.14	BCC/CSSS ISSUE				

ASSOCIATED CONSULTANTS

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DATE 01/10/14	DATE 01/10/14

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CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
ANGORA ROAD
NORTHSHORE
HAMILTON

1

SUBJECT
EARTHWORKS LAYOUT

PROJECT No.	
14157	
DRAWING No.	REVISION
P5-C0011	E

STANDARD ROADWORKS NOTES

1. PAVEMENT AND SURFACING

- 1.1 PAVEMENT THICKNESSES SHOWN ON DRAWINGS ARE PRELIMINARY. THE SUPERINTENDENT WILL NOMINATE FINAL PAVEMENT THICKNESSES FOLLOWING DETAILED SUBGRADE EVALUATION AS NOMINATED IN THE SPECIFICATIONS.
- 1.2 A PRIMER IS REQUIRED ON THE BASE COURSE SURFACE BEFORE ANY ASPHALTIC CONCRETE SURFACING, OR SEALING, IS CARRIED OUT. REFER SPECIFICATION FOR TYPICAL REQUIREMENTS. DETAILS TO BE CONFIRMED WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION.
- 1.3 BITUMINOUS SURFACING SHALL NOT BE COMMENCED UNTIL THE PROFILE, SURFACE COMPACTION, QUALITY AND FINISH OF THE PAVEMENT HAVE BEEN APPROVED BY THE SUPERINTENDENT. SHOULD THE PAVEMENT, DUE TO ANY REASON OR CAUSE, LOSE THE REQUIRED QUALITY, STABILITY, DENSITY OR FINISH BEFORE THE SURFACING IS COMPLETE, IT SHALL BE RECTIFIED AT THE EXPENSE OF THE CONTRACTOR.

2. PAVEMENT MATERIALS

- 2.1 WHERE PAVEMENT MATERIALS ARE SPECIFIED BY SOAKED CBR VALUES, THIS SHALL BE DEFINED AS THE FOUR DAY SOAKED CBR VALUE WHEN TESTING IN ACCORDANCE WITH AS 1289.6.1.6 - METHOD F1.1.
- 2.2 ALL PAVEMENT MATERIAL INCORPORATED INTO THE FINISHED PAVEMENT SHALL BE FREE FROM STICKS, ORGANIC MATTER, CLAY LUMPS AND OTHER DELETERIOUS MATERIAL. VISUAL INSPECTION OF THE MATERIAL DURING AND AFTER PLACEMENT SHALL BE USED TO ENSURE COMPLIANCE WITH THIS CLAUSE.

3. MATERIAL COMPLIANCE TESTING

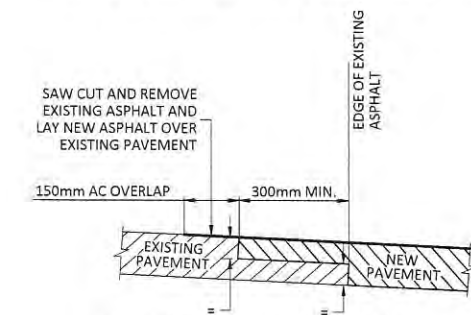
- 3.1 PRIOR TO DELIVERY OF ANY MATERIAL ON SITE SUBMIT MATERIAL COMPLIANCE TEST RESULTS TO THE SUPERINTENDENT.
- 3.2 TESTING REQUIRED TO DEMONSTRATE COMPLIANCE OF MATERIALS SHALL BE UNDERTAKEN AT THE RATE OF ONE (1) TEST PER 500 CUBIC METRES SOLID MEASUREMENT OR PART THEREOF UNLESS OTHERWISE DETERMINED BY THE SUPERINTENDENT OR SPECIFIED UNDER THE JOB SPECIFICATION.

4. CONSTRUCTION

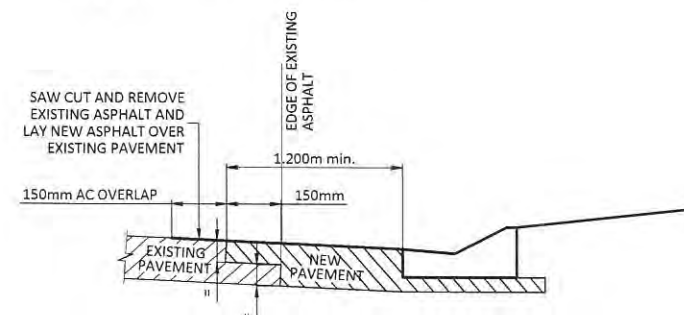
- 4.1 THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT TWENTY-FOUR (24) HOURS IN ADVANCE OF WHEN THE SUBGRADE WILL BE READY FOR THE SUPERINTENDENT'S INSPECTION. PAVING SHALL NOT COMMENCE UNTIL THE SUPERINTENDENT HAS INSPECTED AND APPROVED THE SUBGRADE PREPARATION.
- 4.2 THE MINIMUM STANDARDS OF COMPACTION SHALL BE:
SUBGRADE - 100% STANDARD COMPACTION
SUBGRADE REPLACEMENT MATERIAL - 95% MODIFIED COMPACTION
SUB-BASE - 95% MODIFIED COMPACTION
BASE - 98% MODIFIED COMPACTION
- 4.3 COMPACTION TESTS ARE REQUIRED ON SUBGRADE, SUBGRADE REPLACEMENT, SUB-BASE AND BASE LAYERS AT A FREQUENCY OF ONE (1) TEST PER 100 METRES FOR ROADWAY OR ONE (1) TEST PER 500m² FOR GENERAL PAVING

5. SIDE DRAINS & CONDUITS

- 5.1 SUB-SURFACE PAVEMENT DRAINS ARE TO BE PROVIDED BENEATH ALL KERB AND KERB AND CHANNEL UNLESS NOTED OTHERWISE. REFER SPECIFICATION AND STANDARD DRAWINGS.
- 5.2 THE CONTRACTOR IS TO CONFIRM THE LOCATION OF SERVICE CONDUITS WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION.



PAVEMENT CUTBACK DETAIL
N.T.S.



KERB CUTBACK DETAIL
N.T.S.

STANDARD STORMWATER DRAINAGE NOTES

1. MATERIALS

1.1.2 PIPES

PIPES WORK SHALL COMPLY WITH THE FOLLOWING UNLESS NOTED OTHERWISE:

SIZE	CLASS	TYPE	JOINTING
300 TO 600 DIA	REFER PROJECT DRAWINGS	RCP/FRC	SPIGOT AND SOCKET RRJ

1.2 BEDDING, BACKFILL AND OVERLAY

BEDDING, HAUNCH / SIDE ZONE AND OVERLAY MATERIAL

THIS MATERIAL SHALL CONFORM TO THE FOLLOWING GRADING:

AS SIEVE SIZE	BED AND HAUNCH ZONES	SIDE ZONES
9.5	100	50-100
2.36	50 - 100	30-100
0.60	20 - 90	15-50
0.30	10 - 60	-
0.15	0 - 25	-
0.075	0 - 10	0-25

1.2.1 BACKFILL

THE BACKFILL SHALL CONFORM TO THE FOLLOWING:

LOCATION	TRENCH	EMBANKMENT
EXISTING ROAD TO REMAIN IN USE	CEMENT STABILIZED FILL	N/A
NEW ROAD	GRAVEL (CBR>15% SOAKED)	*ORDINARY FILL
OTHER LOCATIONS	*ORDINARY FILL	*ORDINARY FILL

* ORDINARY FILL SHALL CONFORM TO THE REQUIREMENT DETAILED IN CLAUSE 3.0 OF THE EARTHWORKS SPECIFICATION AND HAVE MAXIMUM STONE SIZE OF 75mm.

2. CONSTRUCTION

- 2.1 UNLESS NOTED OTHERWISE BEDDING, HAUNCH OVERLAY AND BACKFILLING TO BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, AS3725 FOR CONCRETE PIPES AND AS2032, PARTS 5 AND 7 FOR UPVC PIPE UNDERGROUND INSTALLATION

NOMINAL DIAMETER OF PIPE (mm)	MINIMUM WIDTH OF TRENCH (mm)	MAXIMUM ALLOWABLE WIDTH OF TRENCH INSTALLATION (mm)
375	975	1200

- 2.2 FOR DIAMETER < 600 ADOPT H33 BEDDING AND H2 FOR LARGER PIPES. FOR ALL PLASTIC PIPES THE SIDE AND HAUNCH ZONE MATERIAL IS TO EXTEND 75mm ABOVE THE CROWN OF THE PIPE

2.3 DRAINAGE TRENCH COMPACTION:

MINIMUM DRY DENSITY COMPACTION RATIOS TO AS 1289.5.4.1 (STANDARD COMPACTION)

ZONE	LOCATION	MATERIAL	MIN. DRY DENSITY (%)	
			COHESIVE	NON COHESIVE
BEDDING	ALL	REFER NOTE 1.2	98	70
BACKFILL	UNDER ROAD	GRANULAR (TOP 300mm)	98	N/A
BACKFILL	UNDER ROAD	CBR 15	98	N/A
BACKFILL	FOOTPATH	*ORDINARY FILL	95	N/A
BACKFILL	OTHER	*ORDINARY FILL	95	N/A

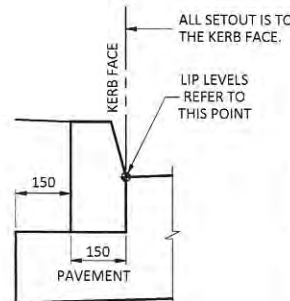
* REFER NOTE 1.2.1

TESTING FREQUENCY: 1 TEST PER 30 LINEAL METERS OF TRENCH PER LAYER OR A MINIMUM OF 2 TESTS PER LAYER FOR TRENCHES < 50m IN LENGTH.

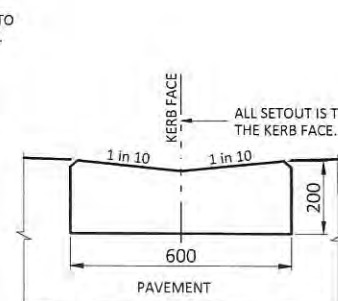
A 2.0m LENGTH OF 80 DIA. SUBSOIL DRAIN, SLEEVED IN A GEOTEXTILE SOCK, IS TO BE PLACED IN THE BEDDING UPSTREAM OF ALL DRAINAGE STRUCTURES OUTFALLING INTO THE DRAINAGE STRUCTURE.

2.5 WORKS UNDER EXISTING PAVEMENT (WHICH IS TO REMAIN IN USE)

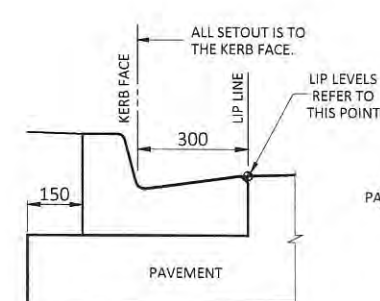
- 2.5.1 TRENCHING THROUGH EXISTING PAVEMENTS ADOPT BRISBANE CITY COUNCIL ROAD CROSSING TRENCH RESTORATION FLEXIBLE PAVEMENTS DETAIL, STD DWG BSD-2042.



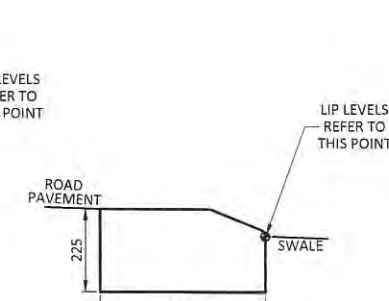
BCC STANDARD TYPE 'E'
REFER BCC STD DWG BSD-2001 FOR DETAILS
N.T.S.



BCC INVERT
REFER BCC STD DWG BSD-2001 FOR DETAILS
N.T.S.



BCC STANDARD TYPE 'E'
REFER BCC STD DWG BSD-2001 FOR DETAILS
N.T.S.



TYPE 'G'
REFER BCC STD DWG BSD-2001 FOR DETAILS
N.T.S.

STANDARD CONCRETE PAVEMENT NOTES (CIVIL)

1. SERVICE CONDITIONS AND PAVEMENT DESIGN

- 1.1 PAVEMENT DESIGN SHALL BE AS PER ASIDE.

2. MATERIALS

- 2.1 ALL CONCRETE AND REINFORCING IS TO BE IN ACCORDANCE WITH THE SAA CONCRETE STRUCTURES CODE AS 3600.
- 2.2 FLEXURAL STRENGTH AT 90 DAYS TO BE A MINIMUM OF 10% COMPRESSIVE STRENGTH.
- 2.3 MAXIMUM AGGREGATE SIZE TO BE 20mm. REFER DERAILS ON DRG C033 FOR SPECIFIC MATERIAL AND FINISH REQUIREMENTS.

3. CONSTRUCTION

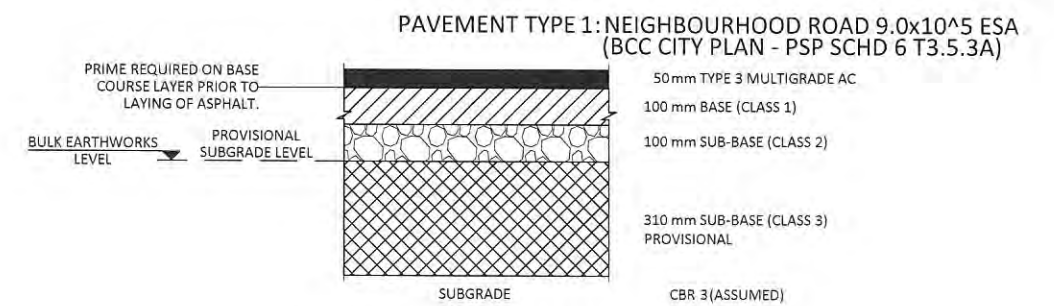
- 3.1 ALL FABRIC LAPS ARE TO BE AS SHOWN BELOW AND WIRED TOGETHER AT 1000mm CENTRES.



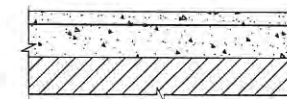
- 3.2 BAR LAPS ARE TO BE SHOWN BELOW UNLESS NOTED OTHERWISE.

BAR	HORIZONTAL LAP	VERTICAL LAP
N12	500	500
N16	600	600
N20	800	700
N24	1000	800
N28	1400	1150
N32	1800	1350
N36	2300	1750

- 3.3 CONDUITS, PIPES, ETC MUST NOT BE PLACED IN COVER CONCRETE.
- 3.4 ALL REINFORCEMENT IS TO BE SUPPORTED ON CHAIRS OR HANGERS. FABRIC IS TO BE SUPPORTED AT 800mm CENTRES BOTH WAYS.
- 3.5 ALL CONCRETE TO BE MECHANICALLY VIBRATED DURING PLACING.
- 3.6 INSPECTION. ALL REINFORCEMENT IS TO BE ACCURATELY POSITIONED, ADEQUATELY SUPPORTED, AND THEN INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE IS PLACED.
- 3.7 CURING. AFTER POURING AND UNTIL FINAL TROWEL ALL EXPOSED SURFACES ARE TO BE SPRAYED WITH ALIPHATIC ALCOHOL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. FINAL CURING COMPOUND 'MULTICURE AC90', SUPPLIED BY LYNDON AGENCIES.
- 3.8 PAVEMENT EDGE THICKENING IS TO BE PROVIDED AT THE JOINS TO ALL FLEXIBLE PAVEMENTS.
- 3.9 ISOLATED JOINTS ARE TO BE PROVIDED AROUND ALL PENETRATIONS IN THE SLAB AND SLAB EDGES ABUTTING RIGID STRUCTURES I.E. KERBS, ACCESS CHAMBERS, ETC.



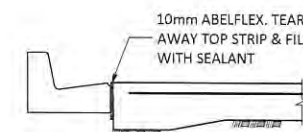
PAVEMENT TYPE 2: CARPARK BAYS



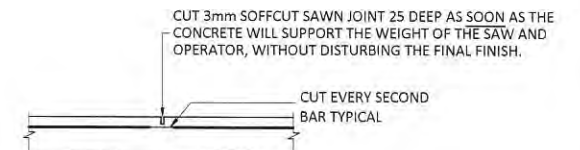
150mm N32 COLOURED CONCRETE
S182 MESH, 40 TOP COVER
BROOMED FINISH
PAVEMENT LAYERS FROM SUB-BASE AS PER PAVEMENT TYPE 1 ABOVE.

GENERAL

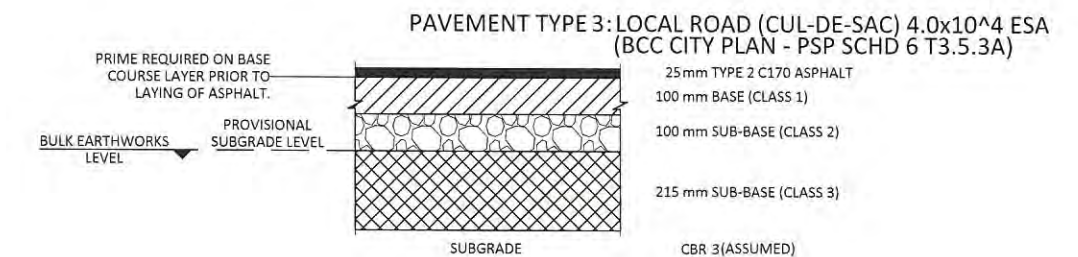
- REFER CONCRETE PAVEMENT NOTES
- CONCRETE TYPE:
 - FULL DEPTH COLOUR CCS LICORICE
- JOINTING:
 - REFER DETAILS ASIDE AND DRG C031
 - PROVIDE ISOLATION JOINT (IJ) TO ALL JOINTS WITH KERB AND INVERT
 - SEAL ALL JOINTS



ISOLATION JOINT (IJ)
TYPE 1



SOFFCUT JOINT (SJ)
TYPE 1



PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

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STATUS

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ASSOCIATED CONSULTANTS

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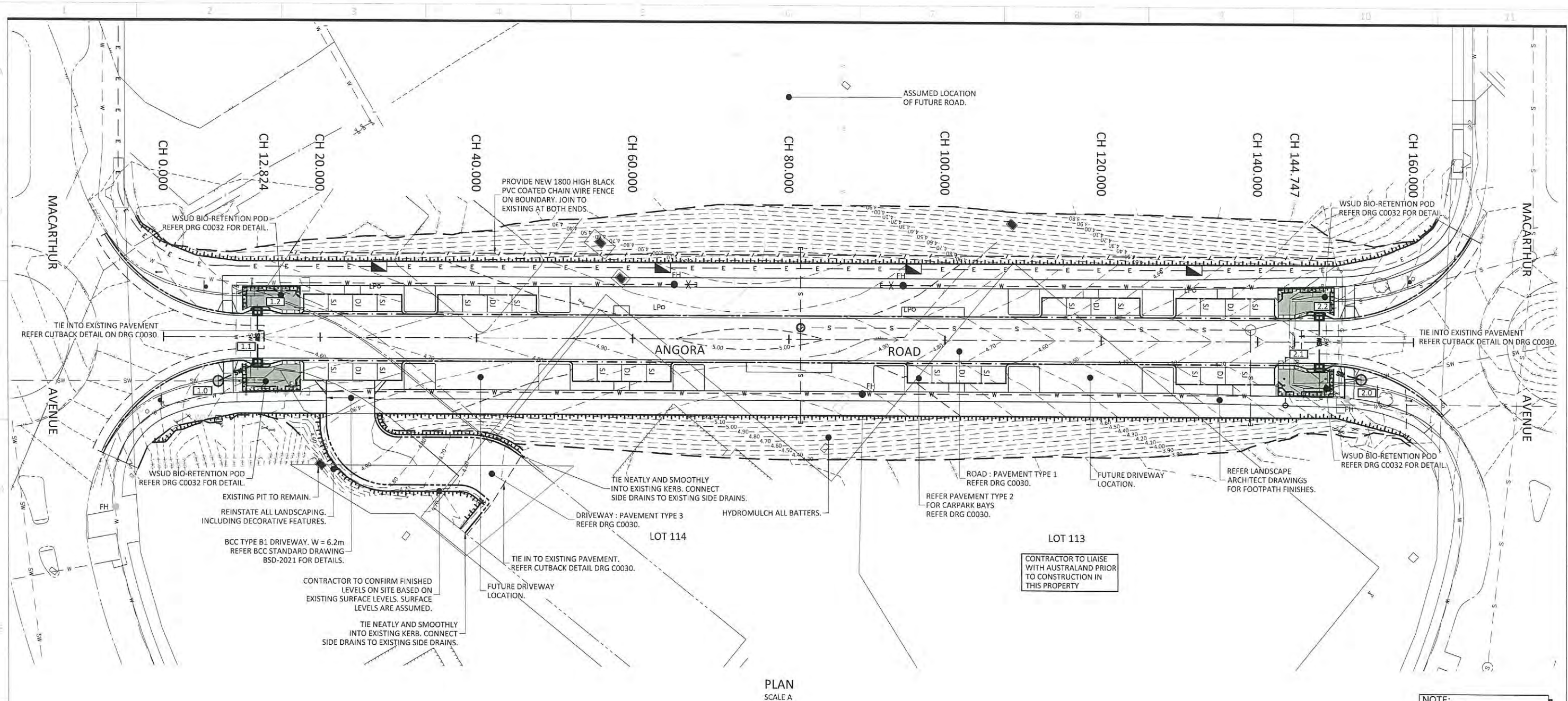
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CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
ANGORA ROAD
NORTHSHORE
HAMILTON

SUBJECT
ROADWORKS AND
DRAINAGE NOTES AND
DETAILS

PROJECT No.
14157
DRAWING No.
P5-C0030
REVISION
E



PLAN
SCALE A

LEGEND

EXISTING	PROPOSED				
		KERB AND CHANNEL		-52-	CONTOURS
		KERB ONLY		/ / /	FENCE
		KERB FLUSH		S	SEWER
		KERB INVERT		W	WATER
		EDGE OF BITUMEN		E E	UNDERGROUND POWER
		CONTROL LINE			FOOTPATH
		EXTENT OF BUILDING			EXTENT OF FULL DEPTH PAVEMENT
		PROPERTY BOUNDARY			PRAM RAMP
		EASEMENT			STREET NAME SIGN
		STORMWATER DRAINAGE			TRAFFIC SIGN
		TOP OF BATTER			FINAL LEVELS TO BE CONFIRMED ON SITE
		TOE OF BATTER		SI/DJ	CONCRETE PAVEMENT JOINT REFER DETAILS DRG C0030

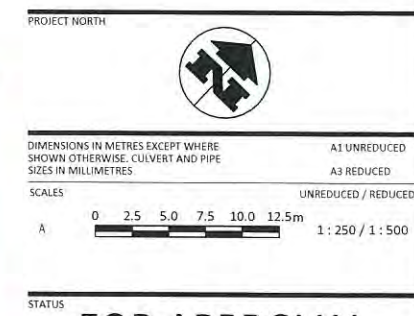
NOTE:
LOCALLY DIVERT BIO-RETENTION
BATTERS AROUND EXISTING WATER
VALVES & HYDRANTS

NOTE:
RAISE ALL EXISTING SERVICE
COVERS TO FINISHED SURFACE
LEVEL

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

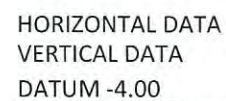
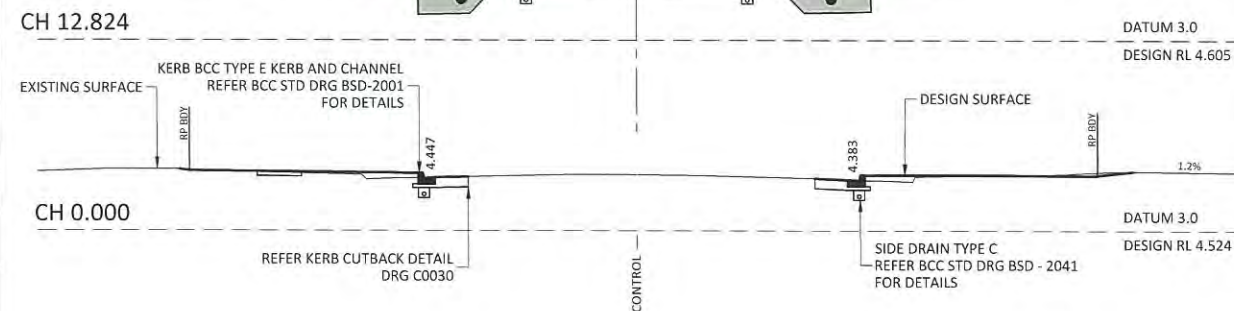
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ANGORA ROAD LONGITUDINAL SECTION
SCALE A (HOR)
B (VERT)



MEDQ

STATUS

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C	01.10.14	ISSUE FOR APPROVAL				KR	KR	KR	NR										
B	12.09.14	EDQ DEVELOPMENT APPLICATION				MS	NM	KR	-										
A	01.08.14	PROGRESS ISSUE																	
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										ECONOMIC DEVELOPMENT									
										QUEENSLAND (EDQ)									
										PROJECT									
										ANGORA ROAD									
										NORTHSHORE									
										HAMILTON									
										SUBJECT									
										ROADWORKS SECTIONS									
										SHEET 1									
										PROJECT No.									
										14157									
										DRAWING No.									
										P5-C0040									
										REVISION									
										E									

STRUCTURE DESCRIPTION	STRUCTURE NAME	
BCC LIP IN LINE GULLY 2.4m Intel; Type "E" K&C; 2.5% cf	1.2	
BCC LIP IN LINE GULLY 2.4m Intel; Type "E" K&C; 2.5% cf	1.1	
CONSTRUCT NEW 1050 DIA MH OVER EXISTING LINE	1.0	
BCC LIP IN LINE GULLY 2.4m Intel; Type "E" K&C; 2.5% cf	2.2	
BCC LIP IN LINE GULLY 2.4m Intel; Type "E" K&C; 2.5% cf	2.1	
CONSTRUCT NEW 1050 DIA MH OVER EXISTING LINE	2.0	

SETOUT DETAILS FOR MANHOLES & GULLIES

STRUCTURE TYPE	SET-OUT POINT	LEVEL REFERENCE
MANHOLE & ROOFWATER PIT	 CENTRE OF MAIN SHAFT	FINISHED SURFACE LEVEL - MANHOLE/ PIT COVER
GULLY PIT ROADWAY TYPE CHANNEL	 CO-ORDINATE SETOUT (CENTRE OF GULLY)  CHAINAGE SETOUT	LIP OF KERB

SETOUT DETAILS FOR MANHOLES & GULLIES

STRUCTURE TYPE	SET-OUT POINT	LEVEL REFERENCE
MANHOLE & ROOFWATER PIT	 CENTRE OF MAIN SHAFT	FINISHED SURFACE LEVEL - MANHOLE/ PIT COVER
GULLY PIT ROADWAY TYPE CHANNEL	 CO-ORDINATE SETOUT (CENTRE OF GULLY)  CHAINAGE SETOUT	LIP OF KERB

PIPE SIZEmm (Class)		375(3)	375(3)			375(3)	375(3)
PIPE GRADE %		1.00%	3.29%			1.00%	4.00%
PIPE SLOPE 1 in X		100.00	30.37			100.00	25.00
FULL PIPE FLOW VELOCITY (m/s)						0.33(0.18 1y)	
PART FULL FLOW VELOCITY (m/s)		1.21 (1.03 1y)	2.25 (1.90 1y)			1.25 (1.05 1y)	2.49 (2.10 1y)
DATUM RL -5.0							
WATER LEVEL IN STRUCTURE	3.564		3.556	3.114		3.117	3.117
HYDRAULIC GRADE LEVEL	3.564	3.558	3.556	3.114		3.117	3.117
PIPE FLOW (Cumecs)		0.032	0.064				
PIPE CAPACITY AT GRADE (Cumecs)		0.175	0.318				
DEPTH TO INVERT		1.265	1.330	1.350		1.279	
INVERT LEVEL OF DRAIN		3.269	3.203	3.183		2.771	
DESIGN SURFACE LEVEL	4.594		4.533	4.660		4.050	
EASTING (NORTHING)	8345.437 (4384.132)		8349.973 (4379.350)	8347.935	(4374.180)	8444.287 (4477.433)	
RUNNING CHAINAGE	0.000 6.591 12.148	5.591 5.557				0.000 6.585 6.585 5.598 12.183	

STORMWATER DRAINAGE LONGITUDINAL SECTION
HORIZONTAL SCALE A
VERTICAL SCALE B

PLANS AND DOCUMENTS referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES	A1 UNREDUCED A3 REDUCED
--	----------------------------

SCALES	UNREDUCED / REDUCED
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0 10 20 30 40 50m

A  1 : 1000 / 1 : 2000

0 1.0 2.0 3.0 4.0 5.0m

B 1:100 / 1:200

STATUS

FOR APPROVAL

SUBJECT	PROJECT No.
STORMWATER DRAINAGE	14157
LONGITUDINAL SECTIONS	
DRAWING No.	REVISION
B5 C0050 D	

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	A	12.09.14	EQO DEVELOPMENT APPLICATION	MS	NM	KR	

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

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CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT ANGORA ROAD NORTHSHORE HAMILTON

SUBJECT STORMWATER DRAINAGE LONGITUDINAL SECTIONS	PROJECT No.
	14157
DRAWING No.	REVISION
	B5 C0050 D

STANDARD SIGNS AND LINE MARKING NOTES

1. GENERAL
- 1.1. ALL SIGNS AND PAVEMENT MARKING IS TO BE IN ACCORDANCE WITH THE QUEENSLAND TRANSPORT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION).
2. SIGNS
- 2.1. SIGNS TO UTILISE CLASS 1W RETROREFLECTIVE SHEETING AS PER REFERENCE SPECIFICATION S154 TRAFFIC SIGNS.
- 2.2. SIGNS ARE TO BE INSTALLED WITH THE FOLLOWING CLEARANCES TO EDGE OF SIGN: LOCATION CLEARANCE NO KERB 600 BEHIND GUIDE POSTS BARRIER KERB 300 FROM FACE MOUNTABLE KERB 500 FROM FACE OF KERB
- 2.3. SIGN ORIENTATION SHOULD BE IN ACCORDANCE WITH SECTION 1.12.5 OF THE MUTCD.
- 2.4. MOUNTING HEIGHT TO BE IN ACCORDANCE WITH SECTIONS 1.12.3.4 & 1.12.3.5 OF THE MUTCD.
3. SIGN SUPPORTS
- 3.1. SLEEVED SIGNS SUPPORTS ARE TO BE PROVIDED IN ALL AREAS WHERE THEY ARE IN A PAVED SURFACE.
- 3.2. SIGN SPIKES ARE TO BE USED FOR SIGNS IN UNPAVED SURFACES.
4. LINEMARKING
- 4.1. REDUNDANT LINEMARKING IS TO BE GROUND OFF.
- 4.2. THERMOPLASTIC LINEMARKING TO BE USED FOR ALL CONCRETE SURFACES.



LINEMARKING LEGEND

TYPE	DESCRIPTION	DIMENSIONS
BL2	BARRIER LINE TWO DIRECTION	
EL	EDGE LINE LEFT AND RIGHT SIDE	
GW	GIVE WAY	
CP	SPECIAL CAR PARK	
NS	NO STANDING	

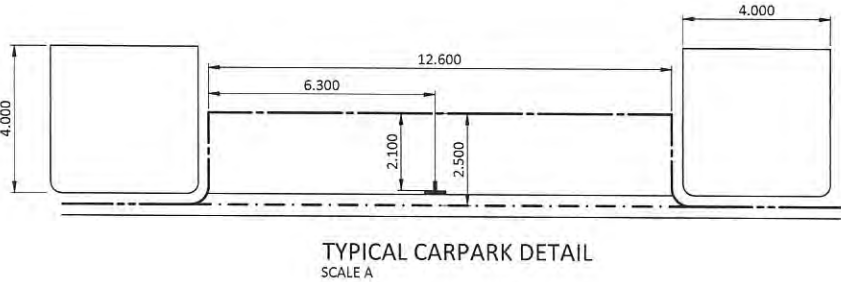
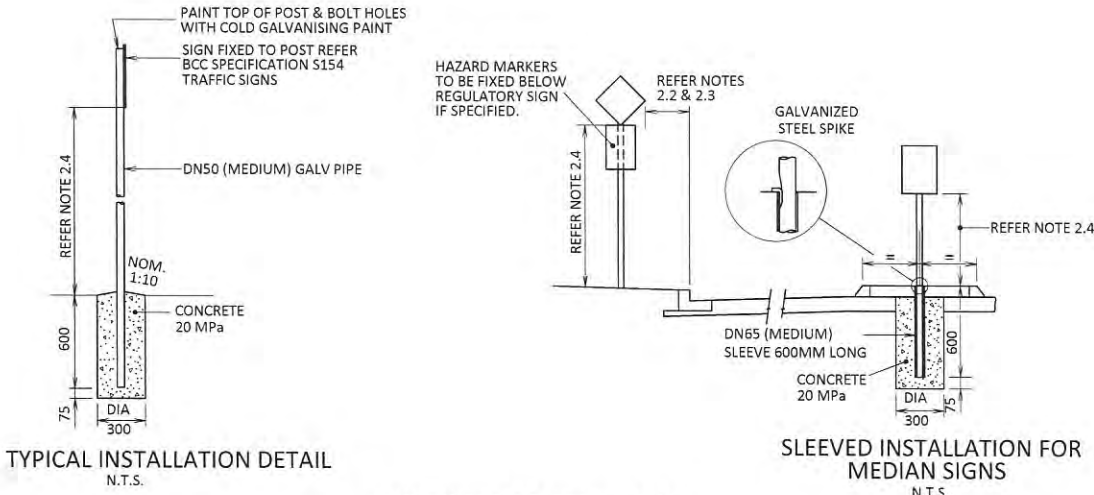
RRPM LEGEND

- UNIDIRECTIONAL - WHITE
- UNIDIRECTIONAL - RED
- UNIDIRECTIONAL - YELLOW
- UNIDIRECTIONAL - GREEN
- BIDIRECTIONAL - WHITE
- BIDIRECTIONAL - YELLOW

*BLUE RETRO-REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED 100mm HYDRANT SIDE OF THE ROAD CENTERLINE MARKING, FOR ALL HYDRANT LOCATIONS.

NOTES:

1. ALL DIMENSIONS ARE IN METRES.
2. REFER TO AS 1742.3-2002 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' FOR APPLICATION OF LINETYPES.
3. LINE THICKNESS FOR SEPARATION LINES TO BE 0.15m FOR MULTILANE ROADS.
4. IF INDICATED ON THE DRAWINGS RRPM'S ARE TO BE INSTALLED IN ACCORDANCE WITH THE MUTCD.



PLANS AND DOCUMENTS referred to in the PDA APPROVAL

19 MAR 2015

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DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

UNREDUCED / REDUCED

1:100 / 1:200

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ANGORA ROAD, NORTHSHORE HAMILTON

WATER RETICULATION

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

WATER RETICULATION DRAWING INDEX

DRAWING No.	QUU DWG No.	DESCRIPTION
C070	-	WATER RETICULATION NOTES & DETAILS SHEET 1
C071	-	WATER RETICULATION NOTES & DETAILS SHEET 2
C072	-	WATER RETICULATION LAYOUT

WATER

WATER SUPPLY

SEQ-WAT-1102-1	TYPICAL RETICULATION MAIN ARRANGEMENTS
SEQ-WAT-1105-1	TYPICAL PE WATER MAIN DETAILS
SEQ-WAT-1105-2	TYPICAL CONNECTION TO EXISTING MAINS
SEQ-WAT-1200-1	TYPICAL SOIL CLASSIFICATION GUIDELINES AND ALLOWABLE BEARING PRESSURES FOR ANCHORS & THRUST BLOCKS
SEQ-WAT-1200-2	EMBEDMENT & TRENCHFILL TYPICAL ARRANGEMENT
SEQ-WAT-1201-1	STANDARD EMBEDMENT TYPICAL FLEXIBLE & RIGID PIPES
SEQ-WAT-1202-1	TYPICAL SPECIAL EMBEDMENT INADEQUATE FOUNDATIONS REQUIRING OVER EXCAVATION & REPLACEMENT
SEQ-WAT-1203-1	TYPICAL SPECIAL EMBEDMENT CONCRETE & STABILISED EMBEDMENT AND FLEXIBLE JOINT DETAILS
SEQ-WAT-1204-1	TYPICAL TRENCH AND BEDDING DETAILS WITHIN EXISTING ROADS TYPE K TO N
SEQ-WAT-1205-1	TYPICAL THRUST BLOCK DETAILS MASS CONCRETE
SEQ-WAT-1206-1	TYPICAL THRUST AND ANCHOR BLOCKS FOR VALVES
SEQ-WAT-1207-1	TYPICAL THRUST AND ANCHOR BLOCKS FOR VERTICAL BENDS
SEQ-WAT-1208-1	TYPICAL RESTRAINED JOINT SYSTEM DN 100 TO DN 375 DI MAINS
SEQ-WAT-1300-1	TYPICAL VALVE AND HYDRANT IDENTIFICATION MARKERS
SEQ-WAT-1301-1	TYPICAL VALVE AND HYDRANT INSTALLATION VALVE ARRANGEMENT
SEQ-WAT-1302-1	TYPICAL HYDRANT INSTALLATION
SEQ-WAT-1303-2	TYPICAL VALVE AND HYDRANT INSTALLATION FUTURE EXTENSION INSTALLATION
SEQ-WAT-1305-1	TYPICAL SURFACE FITTING INSTALLATION VALVE AND HYDRANT SURFACE BOXES TRAFFICABLE AND NON-TRAFFICABLE
SEQ-WAT-1306-1	TYPICAL SURFACE FITTING INSTALLATION VALVE AND HYDRANT SURFACE BOXES SUPPORT AND SURROUND DETAILS
SEQ-WAT-1307-2	PE WATER MAINS TYPICAL DETAILS SCOURS
SEQ-WAT-1409-1	HYDRANT INSTALLATION FITTINGS TYPICAL PE ASSEMBLIES NOMENCLATURE
SEQ-WAT-1410-1	TYPICAL CHLORINATION TEST POINT DETAILS

ABBREVIATIONS

AC	- ASBESTOS CEMENT
CICL	- CAST IRON CEMENT LINED
CISL	- CAST IRON SPUN LINED
CR	- CONCRETE REINFORCED
CTS	- CUT TO SUIT
CUR	- CONCRETE UN-REINFORCED
DF	- DOUBLE FLANGE
DI	- DUCTILE IRON
DICL	- DUCTILE IRON CEMENT LINED
DS	- DOUBLE SOCKET
SGW	- SALT GLAZED WARE
EW	- EARTHENWARE
FH	- FIRE HYDRANT
F&S	- FLANGE & SOCKET
F&SP	- FLANGE & SPIGOT
mPVC	- MODIFIED POLYVINYL CHLORIDE
MSBW	- MILD STEEL BUTT WELD
MSCL	- MILD STEEL CEMENT LINED
NDW	- NON DRINKING WATER
PE	- POLYETHYLENE
P&F	- PLAIN & FLANGED
RTS	- ROTATE TO SUIT
SC	- STOP COCK/WATER METER
S&P	- SOCKET & PLAIN
S&SP	- SOCKET & SPIGOT
uPVC	- UNPLASTICISED POLYVINYL CHLORIDE

NOTES: GENERAL

- G1 WORKS MUST BE EXECUTED IN ACCORDANCE WITH SEQ WATER SUPPLY CODE INCORPORATING WATER SUPPLY CODE OF AUSTRALIA WSA 03 - 2011 V 3.1 AND UMD REFERENCE SPECIFICATION S140 EARTHWORKS.
- G2 ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. PHONE: 1300 369 915.
- G3 CONNECTION OF THE WORKS TO THE LIVE SYSTEM SHALL BE CARRIED OUT BY QUU. FOR A QUOTE AND TO ARRANGE A CONNECTION PHONE 13 26 57.
- G4 CONTRACTOR TO TAKE APPROPRIATE ACTION TO PROTECT AND MAINTAIN QUU'S AND OTHER AUTHORITIES' EXISTING SERVICES.
- G5 IN THE EVENT OF A BREAKAGE OR ANY OTHER EMERGENCY RELATING TO A QUU ASSET PHONE 13 23 64 IMMEDIATELY
- G6 AUDIT AND FINAL INSPECTIONS OF WORK CONSTRUCTED BY CONTRACTORS MUST BE ARRANGED TWO WEEKS BEFOREHAND WITH THE QUU AUDIT AND COMPLIANCE OFFICER (CONTACT DETAILS BELOW).
- G7 ONLY QUU PERSONNEL MUST OPERATE THE EXISTING WATER NETWORK
- G8 SERVICES WHERE SHOWN ARE APPROXIMATE ONLY. EXACT LOCATION AND DEPTH TO SERVICES ARE TO BE CONFIRMED WITH RELEVANT AUTHORITIES AND ON SITE BY THE CONTRACTOR PRIOR TO COMMENCING WORKS.
- G9 RESTORE ALL SURFACES TO MATCH PRE-EXISTING SURFACES UNLESS NOTED OTHERWISE.
- G10 REMOVE AND REINSTATE OBJECTS ALONG LINE OF CONSTRUCTION SUCH AS SIGNS, FENCES, ETC.
- G11 ALL NEW RETICULATION WORKS REQUIRE BACTERIAL AND PRESSURE TESTING PRIOR TO ACCEPTANCE.
- G12 HANDLING OF ASBESTOS CEMENT PIPES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE QUU ASBESTOS PROCEDURE - WH&S 703 AND QUU SWMS 10.
- G13 OTHER AUTHORITIES' UNDERGROUND SERVICES ARE SHOWN APPROXIMATELY AS TAKEN OFF DIAL BEFORE YOU DIG INFORMATION. EXTREME CAUTION MUST BE EXERCISED WHEN WORKING IN THE VICINITY OF AND AROUND THESE SERVICES. DUE TO THE TIME FRAME BETWEEN DESIGN AND CONSTRUCTION IT IS NECESSARY THAT THE CONTRACTOR CONFIRM THE LOCATION OF OTHER AUTHORITIES' UNDERGROUND SERVICES
- G14 IF ANY ADDITIONAL INFORMATION IS REQUIRED PLEASE CONTACT THE QUEENSLAND URBAN UTILITIES AUDIT AND COMPLIANCE OFFICER

ENVIRONMENTAL MANAGEMENT

- E1 CONTACT LOCAL ASSET SERVICES PH. 3403 9169 ONE WEEK PRIOR TO CONSTRUCTION FOR REMOVAL OR REPLACEMENT OF EXISTING TREES.
- E2 ALL TREES AND SHRUBS THAT ARE TO BE RETAINED MUST BE PROTECTED FROM DAMAGE AS DETERMINED BY BRISBANE CITY COUNCIL.
- E3 PIPELINES ADJACENT TO SIGNIFICANT TREES MUST BE INSTALLED BY BORING OR DIRECTIONAL DRILLING UNLESS OTHERWISE AGREED BY THE CONTRACT MANAGER.
- E4 FOR TRENCH INSTALLATIONS TREE ROOTS MUST BE EXPOSED BY HAND EXCAVATION. TREE ROOTS MUST BE CUT CLEANLY AND A BITUMINOUS FUNGICIDAL SEALANT APPLIED TO THE CUT SURFACE.
- E5 BACKFILL AROUND TREE ROOTS USING A MIXTURE OF THREE PARTS TOPSOIL TO ONE PART COMPOST, LIGHTLY COMPACTED.
- E6 EXCAVATION UNDER TREE CANOPIES TO BE BACKFILLED AS SOON AS POSSIBLE.
- E7 TOPSOIL AND SUBSOIL MUST BE STOCKPILED SEPARATELY.
- E8 PLACE APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
- E9 NO SOIL MUST BE STOCKPILED WITHIN 5m OF ANY CREEK OR WATER COURSE.
- E10 IF YOU SUSPECT FIRE ANTS ON SITE CALL D.P.I. ON 13 25 23.
- E11 NO TREE SHALL BE LOPPED OR MOVED WITHOUT WRITTEN PERMISSION OF BRISBANE CITY COUNCIL.

POLYETHYLENE PIPES (PE)

- PE1 PE IS THE PREFERRED MATERIAL OF CHOICE OF QUU AND SHOULD BE USED UNLESS OTHERWISE STATED. ALL PE PIPES AND FITTINGS SHALL BE MATERIAL GRADE PE100
- PE2 PRESSURISED MAINS TO BE A MINIMUM CLASS PN16. WHERE PIPE CLASSIFICATION IS NOT SPECIFIED CONSULT WITH DESIGN CONSULTANT AND QUU.
- PE3 PE PIPE COLOUR SHALL BE:
DRINKING WATER: EXTERNAL: BLUE - (SOLID OR STRIPED IS ACCEPTABLE)
- PE4 ALL PE PIPES TO BE BUTT WELDED/ELECTRO FUSION FUSED UNLESS NOTED OTHERWISE.
- PE5 PRECHLORINATED PIPES AND FITTINGS MUST BE USED WHERE INDICATED.
- PE6 BACTERIAL TESTING TO BE CARRIED OUT AS PER WSA/QUU STANDARDS.
- PE7 PE PIPES WITH CRACKS, SCORES OR SCRATCHES DEEPER THAN 10% OF THE WALL THICKNESS SHALL BE REJECTED.
- PE8 ALL DESIGN AND CONSTRUCTION WORK SHALL CONFORM WITH SEQ CODE.
- PE9 PRESSURE TESTING FOR PE PIPELINES SHALL COMPLY WITH REQUIREMENTS OF WSA 01-2004. TEST PRESSURE 1200 KPA.
- PE10 THE ENDS OF PE MAINS SHALL BE RESTRAINED WITH CONCRETE THRUST RESTRAINTS TO PROTECT AGAINST POISSON EFFECT FORCES, AS PER SEQ CODE REQUIREMENTS.

PIPELINES

- P1 THE MINIMUM CLEARANCE TO EXISTING SERVICES TO BE AS PER WSA/QUU STANDARDS UNLESS OTHERWISE SHOWN.
- P2 CONTRACTOR TO OBTAIN PRIOR APPROVAL OF THE SUPERINTENDENT FOR ANY MINOR DEVIATIONS REQUIRED TO AVOID EXISTING SERVICES.
- P3 PRESSURE & BACTERIAL TESTING TO BE CARRIED OUT AS PER WSA/QUU STANDARDS.
- P4 NON METALLIC PIPES SHALL HAVE DETECTABLE MARKER TAPE INSTALLED. REFER TO QUU STANDARDS. THE COLOURS OF MARKER TAPE MUST BE: WATER - GREEN
- P5 PIPELINES SHALL NOT BE CONSTRUCTED IN UNCONTROLLED FILL. CERTIFICATES SHALL BE LODGED WITH THE CONTRACT MANAGER CERTIFYING THE FILL IS CONTROLLED FILL COMPACTED TO 95% R.D. TO A.S.1289.5.2.1.
- P6 ALL OPEN ENDS OF DISUSED WATER MAINS MUST BE EFFECTIVELY PLUGGED BY QUU. FOR A QUOTE AND TO ARRANGE WORK PHONE 13 26 57.
- P7 DISUSED MAINS SHALL COMPLY WITH REQUIREMENTS SET OUT IN WSA/QUU STANDARDS.
- P8 THE CONSTRUCTION OF THE MAIN WORK SHOWN ON THESE DRAWINGS SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WATER WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE QUU WATER SYSTEM.
- P9 PRIME, CAULK AND WRAP ALL BURIED FLANGES AND BOLTS WITH DENSO PETROLATUM PRODUCTS OR EQUIVALENT AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- P10 TUNNEL BORE OR DIRECTIONAL DRILL UNDER EXISTING STAMPED OR REINFORCED CONCRETE DRIVEWAYS WHERE THE EXISTING SURFACE CANNOT BE MATCHED, AND UNDER SIGNIFICANT TREES AS ADVISED BY BCC VEGETATION AND PEST SERVICES SECTION PH 3403 3782.
- P11 WATER SERVICES:
(A) MUST BE BYPASSED WHERE NECESSARY.
(B) MUST BE RECONNECTED TO NEW MAIN UPON CLEARANCE BY QUU.
(C) ALL DN15mm SERVICES MUST BE RE-LAID IN DN20mm COPPER.
(D) ALL GALVANISED IRON OR LEAD SERVICES MUST BE RE-LAID IN COPPER OF EQUIVALENT DIAMETER.
(E) MUST BE INDICATED ON 'AS CONSTRUCTED' DRAWINGS.
(F) ALL IRRIGATION SERVICES MUST BE CONSTRUCTED TO A.S.3500 PART 1 SECTION 4 AND NOTIFICATION OF SUCH SERVICE MUST BE MADE TO THE PRINCIPLE OFFICE PLUMBING SERVICES PH: 3403 0744.
- P12 ALL VALVES, FIRE HYDRANTS AND SURFACE FITTINGS ON ABANDONED PIPELINE MUST BE REMOVED UNLESS NOTED OTHERWISE.
- P13 ALL FLANGES MUST BE IN ACCORDANCE WITH A.S. 4087 UNLESS NOTED OTHERWISE.
- P14 WHERE A METALLIC WATER MAIN IS TO BE REPLACED WITH A PLASTIC MAIN, A LICENSED ELECTRICIAN SHALL MAKE AN ASSESSMENT OF POTENTIALLY AFFECTED PROPERTY EARTHING SYSTEMS. WORK SHALL NOT COMMENCE UNTIL THE ELECTRICIAN DECLARES IN WRITING THAT IT IS SAFE TO PROCEED.
- P15 PIPE EMBEDMENT MATERIAL SHALL BE:
- 5 TO 7mm SINGLE SIZED MATERIAL TO WSA PS-351 OR
- 13.2mm SINGLE SIZED RECYCLED AGGREGATE MATERIAL TO WSA PS-366.
- P16 COVER ON MAINS FROM PERMANENT LEVEL TO BE AS FOLLOWS:
63, 100 & 150 DIAMETER PIPE - 600mm VERGE, 1000mm BENEATH ROADS
200, 250 & 300 DIAMETER PIPE - 1000mm
- P17 HYDRANTS TO BE DN100 ON PE MAINS, HYDRANT RISERS TO BE 125 OD.

DUCTILE IRON CEMENT LINED PIPES (DICL)

- D1 ALL DICL PIPES AND FITTINGS TO BE COVERED WITH POLYETHYLENE SLEEVING AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- D2 DICL PIPES AND NON-FLANGED FITTINGS SHALL BE CLASS PN35 AND COMPLY WITH A.S. 2280
- D3 FLANGE FITTINGS SHALL BE PN16 AND COMPLY WITH AS2280

THRUST BLOCKS

- T1 PROVIDE ANCHOR/THRUST BLOCKS FOR 1200kPa COMPLYING WITH STANDARD DRAWINGS SEQ-WAT-1205 AND SEQ-WAT-1207 AND TO PRESSURE 1200kPa.
- T2 THE BEARING FACE OF THE THRUST RESTRAINT MUST BE CAST AGAINST UNDISTURBED GROUND.
- T3 CONCRETE MUST NOT SPILL OVER SOCKET JOINTS.
- T4 VERTICAL THRUST BLOCKS MUST BE EMBEDDED AT A MINIMUM OF 250mm INTO UNDISTURBED GROUND.
- T5 CONCRETE MUST BE CURED 48 HOURS (MIN) PRIOR TO CHARGING MAIN UNREINFORCED CONCRETE SHALL BE A MINIMUM OF N20. REINFORCED CONCRETE SHALL BE A MINIMUM OF N25.
- T7 THRUST BLOCK TABLE TO BE PROVIDED FOR MAINS EQUAL TO & GREATER THAN 200MM DIAMETER. CHAINAGE, HORIZONTAL & VERTICAL SIZES & FORCES TO BE PROVIDED AS PER GEOTECHNICAL INFORMATION.
- T8 THE CONTRACTOR SHALL CONFORM BEARING CAPACITY PRIOR TO CONSTRUCTION OF THRUST BLOCK. SHOULD DIFFERENT GROUND CONDITIONS BE ENCOUNTERED TO THOSE SHOWN IN THE TABLE ON DRAWING C071, RE-DESIGN OF THRUST BLOCKS MAY BE REQUIRED.

SITE SPECIFIC NOTES:

- S1. HANDLING OF ASBESTOS CEMENT PIPES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE BCC ASBESTOS PROCEDURE - WH&S 703. AND QUU SWMS 10.
- S2. WHERE A METALLIC WATER MAIN IS TO BE REPLACED WITH A PLASTIC MAIN, A LICENSED ELECTRICIAN SHALL MAKE AN ASSESSMENT OF POTENTIALLY AFFECTED PROPERTY EARTHING SYSTEMS. WORK SHALL NOT COMMENCE UNTIL THE ELECTRICIAN DECLARES IN WRITING THAT IT IS SAFE TO PROCEED.
- S3. OTHER AUTHORITIES' UNDERGROUND SERVICES ARE SHOWN APPROXIMATELY AS TAKEN OFF DIAL BEFORE YOU DIG INFORMATION. EXTREME CAUTION MUST BE EXERCISED WHEN WORKING IN THE VICINITY OF AND AROUND THESE SERVICES. DUE TO THE TIME FRAME BETWEEN DESIGN AND CONSTRUCTION IT IS NECESSARY THAT THE CONTRACTOR CONFIRM THE LOCATION OF OTHER AUTHORITIES' UNDERGROUND SERVICES BY CONTACTING DIAL BEFORE YOU DIG (PH. 1100) AND WHERE NECESSARY BY CONTACTING THE RELEVANT AUTHORITY DIRECTLY FOR A MORE ACCURATE LOCATION.
- S4. HIGH PRESSURE GAS MAINS EXIST IN THIS AREA. PLEASE CONTACT ORIGIN ENERGY ASSET MANAGEMENT ON PH. 3323 7619 AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.
- S5. OPTIC FIBRE CABLE NETWORK EXISTS IN THIS AREA. PLEASE CALL 1800 114 918 AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.
- S6. ELECTRICITY CABLES (LOW AND/OR HIGH VOLTAGE) EXIST IN THIS AREA. PLEASE CALL ENERGEX NETWORK INFORMATION SECTION AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

QLD URBAN UTILITIES

- Q1. QLD URBAN UTILITIES CONTROL ROOM MUST BE NOTIFIED AFTER CLEARANCE OF NEW MAIN (PH. 3856 7179) WHEN WORKS AFFECT THE EXTENT OF WATER SUPPLY ZONES.
- Q2. A "PERMIT TO WORK" MUST BE OBTAINED FROM THE RELEVANT QUU CONTROL ROOM PRIOR TO COMMENCEMENT OF WORK ON SITE. A MINIMUM PERIOD OF TEN WORKING DAYS IS REQUIRED FOR THE ISSUING OF A PERMIT.
CONTROL ROOM EAST (BRISBANE LG AREA)
EMAIL: PTW@URBANUTILITIES.COM.AU
- Q3. A PERMIT OF WORK IS REQUIRED FOR CONNECTIONS TO LIVE QUU MAINS. AT LEAST 10 WORKING DAYS PRIOR TO SUBMISSION OF PTW APPLICATION CONTRACTOR SHALL APPLY TO QUU FOR PREPARATION OF A VALVE SHUT PLAN. THE APPROVED VALVE SHUT PLAN SHALL BE ATTACHED TO THE PTW APPLICATION. REFER TO QUU PERMIT TO WORK FACT SHEET FOR DETAILS.
CONTACT THE RELEVANT QUU ACCESS TO ASSETS TEAM. A MINIMUM OF TEN WORKING DAYS IS REQUIRED TO IMPLEMENT A VALVE SHUT PLAN REQUEST.
USE FORM FOR291
PH: 3856 7027
EMAIL: QUU-NetworkOpReq@urbanutilities.com.au

SURVEY CONTROL:

OPM: 177881
(LOCATED: MACARTHUR AVENUE)
RL: 3.247 AHD

R.P. DESCRIPTION

LOT 9 ON SP 195300
PARISH OF TOOMBUL

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REV	DATE	AMENDMENT / ISSUE	DWN	DES	CHK	APP
D	01.10.14	ISSUE FOR APPROVAL	KR	KR	KR	NR
C	12.09.14	EDQ DEVELOPMENT APPLICATION	MS	NM	KR	
B	02.09.14	ISSUE TO QUU FOR SCRUTINY				
A	01.08.14	PROGRESS ISSUE				

ASSOCIATED CONSULTANTS

APPROVED

M. R. R. R.
7729
RPEQ
DATE 01/10/14

CHECKED

K. RENSCH
DATE 01/10/14

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL
Level 4, 67 Astor Terrace, Spring Hill, QLD 4000

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Brisbane Australia
Phone (07) 3013 4699
Facsimile (07) 3013 4611
mail@bornhorstward.com.au
www.bornhorstward.com.au
ACN: 023 131 354 ABN: 78 020 131 354



CLIENT
ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)

PROJECT
ANGORA ROAD NORTHSHORE HAMILTON

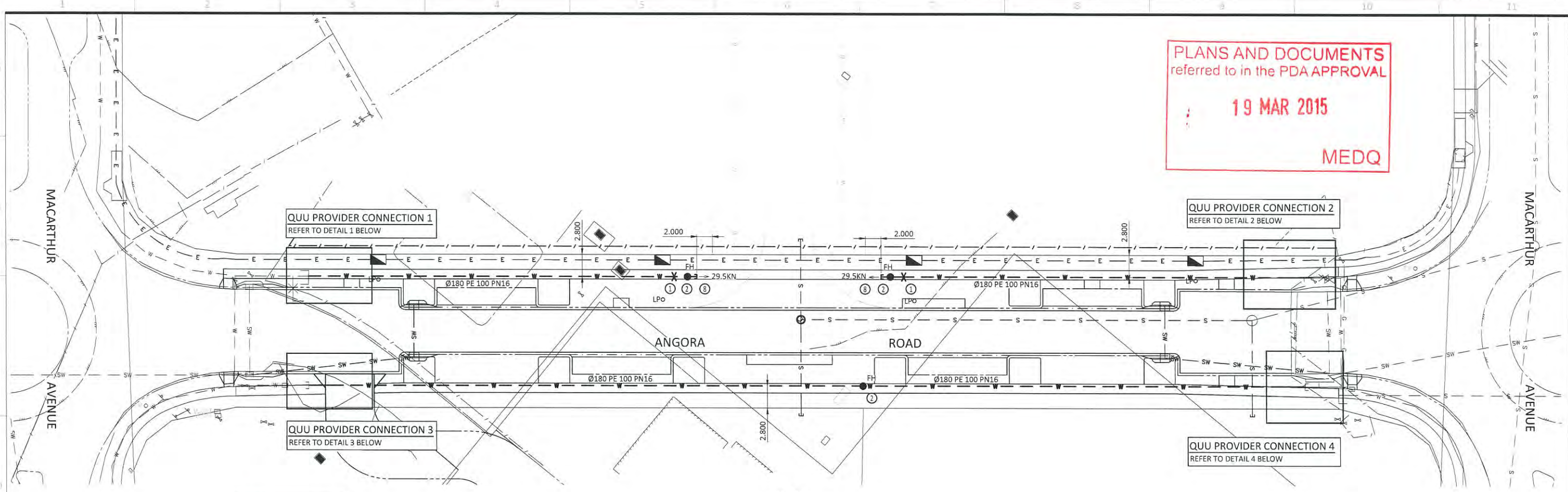
SUBJECT
WATER RETICULATION NOTES AND DETAILS SHEET 1

PROJECT No: 14157
DRAWING No: P5-C0070
REVISION: D

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ



NOTE:
CONTRACTOR TO ADJUST ALL
EXISTING VALVES AND ADJUST
LIDS TO FINISHED LEVELS.

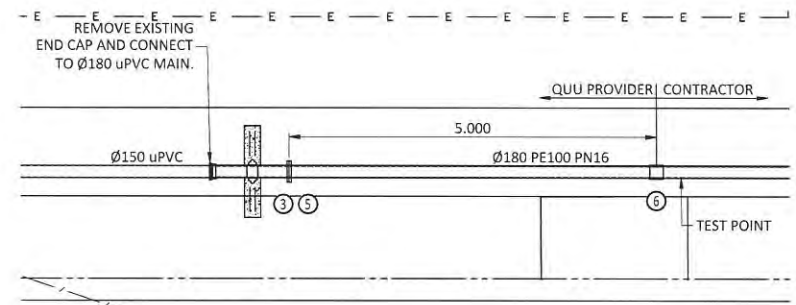
PLAN
SCALE A

LEGEND

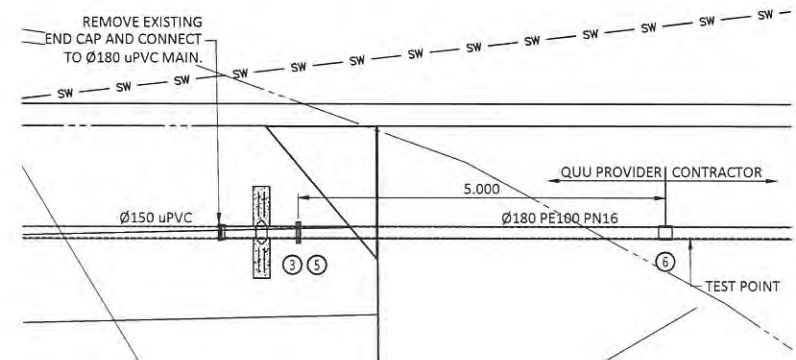
- | EXISTING | PROPOSED | |
|----------|----------|---------------------|
| --- | --- | KERB AND CHANNEL |
| --- | --- | KERB ONLY |
| --- | --- | KERB FLUSH |
| --- | --- | KERB INVERT |
| --- | --- | EDGE OF BITUMEN |
| --- | --- | EXTENT OF BUILDING |
| --- | --- | PROPERTY BOUNDARY |
| --- | --- | EASEMENT |
| --- | --- | FENCE |
| --- | --- | WATER |
| --- | --- | STORMWATER DRAINAGE |
| --- | --- | SEWER |
| --- | --- | UNDERGROUND POWER |

FITTINGS

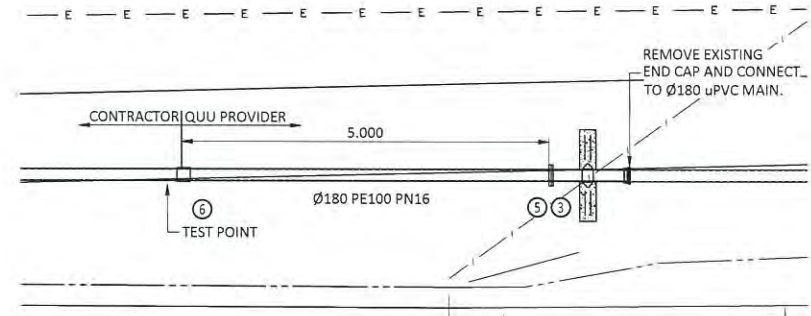
- | EXISTING | PROPOSED | |
|----------|----------|---|
| --- | --- | FIRE HYDRANT |
| --- | --- | VALVE |
| --- | --- | SCOUR VALVE |
| --- | --- | END CAP |
| --- | --- | WATER METER |
| --- | --- | THRUST / ANCHOR BLOCK
REFER SEQ STANDARD
DRAWING SEQ-WAT-1205-1 |



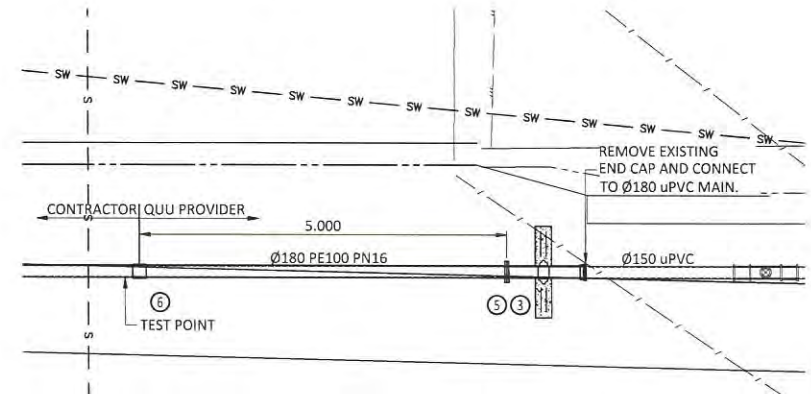
QUU PROVIDER CONNECTION 1
SCALE A



QUU PROVIDER CONNECTION 3
SCALE A



QUU PROVIDER CONNECTION 2
SCALE A



QUU PROVIDER CONNECTION 4
SCALE A

DATE: _____

QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)

CLIENT	URBAN LAND DEVELOPMENT AUTHORITY
CONTACT:	BORNHORST & WARD
QUU AUDITOR:	AUDIT & COMPLIANCE OFFICER
CONTACT:	

AS CONSTRUCTED DETAILS FOR AMEND.

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS

SIGNED _____ DATE: _____

NAME OF SIGNATORY _____

RPEQ No. or LICENCE _____

COMPANY NAME _____

START DATE _____ FINISH DATE _____

SHEET No. 3 OF 3

QUEENSLAND URBAN UTILITIES DRAWING No. _____ AMEND. _____



DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

SCALE: 0 2.5 5.0 7.5 10.0 12.5m

UNREDUCED / REDUCED

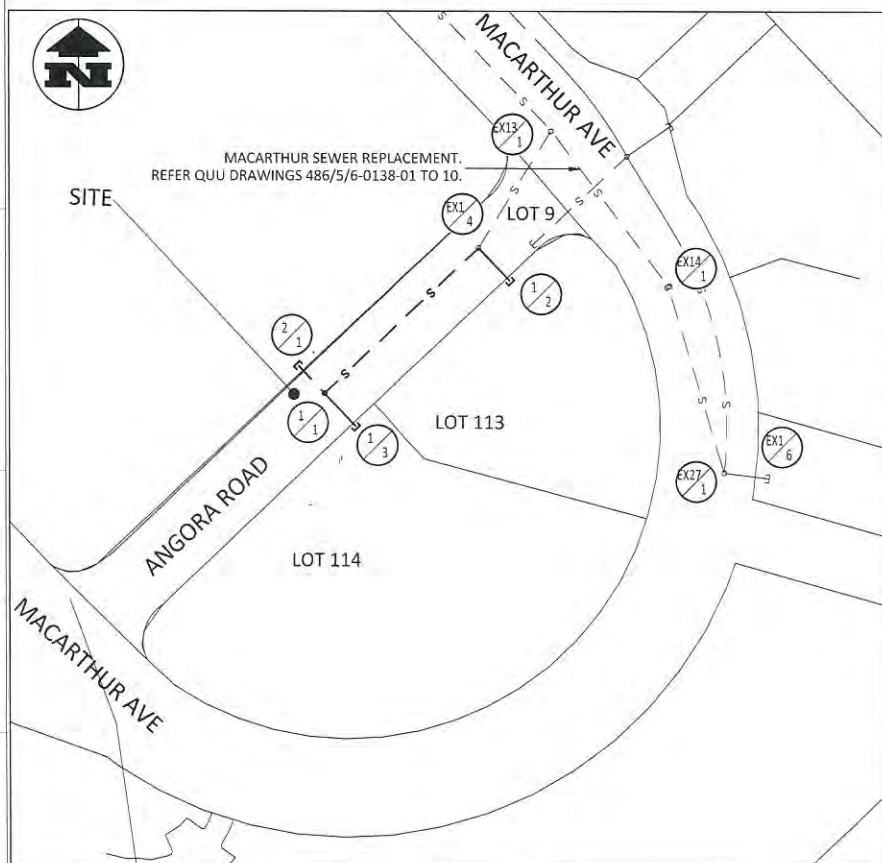
1:250 / 1:500

FOR APPROVAL

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REV	DATE	AMENDMENT / ISSUE	DWN	DES	CHK	APP															
D	01.10.14	ISSUE FOR APPROVAL		KR	KR	KR	NR														14157
C	12.09.14	EDQ DEVELOPMENT APPLICATION		MS	NM	KR															
B	02.09.14	ISSUE TO QUU FOR SCRUTINY																			
A	01.08.14	PROGRESS ISSUE																			
								DATE 01/10/14		DATE 01/10/14		BORNHORST + WARD		ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)		ANGORA ROAD NORTHSHORE HAMILTON		WATER RETICULATION LAYOUT		DRAWING No. P5-C0072	
								7729 RPEQ		K.RENSCH		CONSULTING ENGINEERS		CONSULT AUSTRALIA						REVISION	
								DATE 01/10/14		DATE 01/10/14		Level 4, 67 Astor Terrace, Spring Hill, QLD 4000		Phone (07) 3013 4699						D	
														Facsimile (07) 3013 4611							
														mail@bornhorstward.com.au							
														www.bornhorstward.com.au							
														A.C.N. 020 551 354							
														A.B.N. 78 020 551 354							

ANGORA ROAD, NORTHSHORE HAMILTON

SEWER RETICULATION



LOCALITY PLAN
UBD MAP REF: PG140, GRID R18
SITE ADDRESS: MACARTHUR AVENUE, HAMILTON
N.T.S.

SEWER RETICULATION DRAWING INDEX		
DRAWING No.	QUU DWG No.	DESCRIPTION
C060	-	SEWER RETICULATION NOTES AND DETAILS
C061	-	SEWER RETICULATION LAYOUT
C062	-	SEWER RETICULATION LONGITUDINAL SECTIONS

SEWER

SEQ-SEW-1103-2	NUSEWER PIPELAYING TYPICAL ARRANGEMENTS
SEQ-SEW-1200-2	EMBEDMENT & TRENCHFILL TYPICAL ARRANGEMENT
SEQ-SEW-1207-2	TYPICAL DRAINAGE OF SEWER TRENCHES AND DIVERSION DRAINS
SEQ-SEW-1301-1	CAST IN-SITU MAINTENANCE HOLE TYPICAL COPING & ANCHOR
SEQ-SEW-1301-2	"G" TYPE - PE NUSEWERS TYPICAL MAINTENANCE HOLE DETAILS
SEQ-SEW-1301-3	"G" TYPE - PE NUSEWERS TYPICAL MAINTENANCE HOLE AND SLAB DETAILS
SEQ-SEW-1301-4	"F" TYPE - PE NUSEWERS TYPICAL MAINTENANCE HOLE DETAILS
SEQ-SEW-1301-5	"F" TYPE TYPICAL MAINTENANCE HOLE AND SLAB DETAILS
SEQ-SEW-1301-6	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL ARRANGEMENT SEWER < Ø1200
SEQ-SEW-1301-7	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL ARRANGEMENT SEWER > Ø1200
SEQ-SEW-1301-8	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL ARRANGEMENT SEWER < Ø600 WITH DROP OFF
SEQ-SEW-1301-10	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL JUNCTION DETAILS
SEQ-SEW-1301-11	"X" TYPE DEEP MAINTENANCE HOLE TYPICAL TOP SLAB DETAILS
SEQ-SEW-1301-12	TYPICAL M.S. AND S.S. LADDER AND ASSOCIATED FITTINGS
SEQ-SEW-1303-4	TYPICAL STAINLESS STEEL BRACKETS FOR DN100 AND DN150 UPVC DROP PIPES
SEQ-SEW-1304-1	MAINTENANCE HOLES SEWERS ≤ DN300 TYPICAL CHANNEL ARRANGEMENTS
SEQ-SEW-1305-1	MAINTENANCE HOLES TYPICAL CHANNEL DETAILS
SEQ-SEW-1308-8	MAINTENANCE HOLE COVER SEWER - CLASS D - BOLT DOWN TYPICAL BASE FRAME DETAILS
SEQ-SEW-1308-9	MAINTENANCE HOLE COVER SEWER - CLASS D - BOLT DOWN TYPICAL RISER RING DETAILS
SEQ-SEW-1308-10	MAINTENANCE HOLE COVER SEWER - CLASS D - BOLT DOWN TYPICAL COVER DETAILS
SEQ-SEW-1308-11	MAINTENANCE HOLE COVER SEWER - CLASS D - BOLT DOWN TYPICAL COVER DETAILS
SEQ-SEW-1313-1	MAINTENANCE HOLE SEWER CONNECTION DETAILS ALL PIPE MATERIALS

SURVEY CONTROL:

R.P. DESCRIPTION	OPM: 177881
LOT 9 ON SP 195300	(LOCATED: MACARTHUR AVENUE)
PARISH OF TOOMBUL	RL: 3.247 AHD

REV.	DATE	AMENDMENT / ISSUE	DWN	DES	CHK	APP
D	01.10.14	ISSUE FOR APPROVAL	KR	KR	KR	NR
C	12.09.14	EDQ DEVELOPMENT APPLICATION	MS	NM	KR	-
B	02.09.14	ISSUE TO QUU FOR SCRUTINY	-	-	-	-
A	01.08.14	PROGRESS ISSUE	-	-	-	-

ASSOCIATED CONSULTANTS

NOTES:

GENERAL

- WORKS MUST BE EXECUTED IN ACCORDANCE WITH SEQ WATER SUPPLY AND SEWERAGE DESIGN & CONSTRUCTION CODE INCORPORATING SEWERAGE CODE OF AUSTRALIA WSA 02-2002 V2.3 AND BCC REFERENCE SPECIFICATION S120 QUALITY, S140 EARTHWORKS, S150 ROADWORKS AND THE SPECIFICATIONS REFERENCED THEREIN.
- ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. PHONE: 1300 369 915.
- CONNECTION OF THE WORKS TO THE LIVE SYSTEM SHALL BE CARRIED OUT BY QUU APPROVED PROVIDER.
- CONTRACTOR TO TAKE APPROPRIATE ACTION TO PROTECT AND MAINTAIN QUU'S AND OTHER AUTHORITIES' EXISTING SERVICES.
- IN THE EVENT OF A BREAKAGE OR ANY OTHER EMERGENCY RELATING TO A QUU ASSET PHONE 13 23 64 IMMEDIATELY.
- AUDIT AND FINAL INSPECTIONS OF WORK CONSTRUCTED BY CONTRACTORS MUST BE ARRANGED TWO WEEKS BEFOREHAND WITH THE QUU AUDIT AND COMPLIANCE OFFICER (CONTACT DETAILS BELOW).
- ONLY QUU PERSONNEL MUST OPERATE THE EXISTING SEWER NETWORK.
- SERVICES WHERE SHOWN ARE APPROXIMATE ONLY. EXACT LOCATION AND DEPTH TO SERVICES ARE TO BE CONFIRMED WITH RELEVANT AUTHORITIES AND ON SITE BY THE CONTRACTOR PRIOR TO COMMENCING WORKS. THE CONTRACTOR SHALL COMPLETE THEIR OWN SERVICES INVESTIGATIONS, INCLUDING PHYSICAL LOCATION ON SITE AS DEEMED NECESSARY TO FACILITATE CONSTRUCTION.
- RESTORE ALL SURFACES TO MATCH PRE-EXISTING SURFACES UNLESS NOTED OTHERWISE.
- REMOVE AND REINSTATE OBJECTS ALONG LINE OF CONSTRUCTION SUCH AS SIGNS, FENCES, ETC.
- ALL NEW WORKS REQUIRE CCTV SURVEYS, INCLINATION REPORT & VACUUM TESTING PRIOR TO ACCEPTANCE. CCTV INSPECTIONS SHALL HAVE INCLINOMETER READINGS ON THE SCREEN AT ALL TIMES CCTV INSPECTIONS TO BE IN WINCAN 8 FORMAT. THE INCLINOMETER SHALL BE ACCURATE TO ± 1%.
- HANDLING OF ASBESTOS CEMENT PIPES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE QUU ASBESTOS PROCEDURE - WH&S 703 AND QUU SWMS 10.
- OTHER AUTHORITIES' UNDERGROUND SERVICES ARE SHOWN APPROXIMATELY AS TAKEN OFF DIAL BEFORE YOU DIG INFORMATION. EXTREME CAUTION MUST BE EXERCISED WHEN WORKING IN THE VICINITY OF AND AROUND THESE SERVICES. DUE TO THE TIME FRAME BETWEEN DESIGN AND CONSTRUCTION IT IS NECESSARY THAT THE CONTRACTOR CONFIRM THE LOCATION OF OTHER AUTHORITIES' UNDERGROUND SERVICES.

ENVIRONMENTAL MANAGEMENT

- REFER NOTES DRAWING C000.
- ALL TREES AND SHRUBS THAT ARE TO BE RETAINED MUST BE PROTECTED FROM DAMAGE AS DETERMINED BY QUU LOCAL ASSET SERVICES.
- PIPELINES ADJACENT TO SIGNIFICANT TREES MUST BE INSTALLED BY BORING OR DIRECTIONAL DRILLING UNLESS OTHERWISE AGREED BY THE CONTRACT MANAGER.
- FOR TRENCH INSTALLATIONS TREE ROOTS MUST BE EXPOSED BY HAND EXCAVATION. TREE ROOTS MUST BE CUT CLEANLY AND A BITUMINOUS FUNGICIDAL SEALANT APPLIED TO THE CUT SURFACE.
- BACKFILL AROUND TREE ROOTS USING A MIXTURE OF THREE PARTS TOPSOIL TO ONE PART COMPOST, LIGHTLY COMPACTED.
- EXCAVATION UNDER TREE CANOPIES TO BE BACKFILLED AS SOON AS POSSIBLE.
- TOPSOIL AND SUBSOIL MUST BE STOCKPILED SEPARATELY.
- PLACE APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
- NO SOIL MUST BE STOCKPILED WITHIN 5m OF ANY CREEK OR WATER COURSE.
- IF YOU SUSPECT FIRE ANTS ON SITE CALL D.P.I. ON 13 25 23.

ASSET REGISTER - RETICULATION SEWER					
ESTATE/STAGE	ANGORA ROAD				
SITE ADDRESS	ANGORA ROAD, EAGLE FARM				
COUNCIL FILE	-				
QUU DELEGATE APP. DATE	-				
CLIENT	ECONOMIC DEVELOPMENT QLD				
JOB REFERENCE NO.	-				
MAINS	DIAMETER	MATERIAL	DESIGN	CONST	LENGTH
ANGORA RD	Ø250	PE			67.900
PROPERTY CONNECTIONS	DIAMETER	MATERIAL	DESIGN	CONST	LENGTH
LOT 113	Ø250	PE			12.250
LOT 114	Ø250	PE			12.250
MH'S		MH TYPE & NO.			
		G	F	X	MS
		-	-	1	-

No.	DESCRIPTION	DIA. SEWER	M.H. No.	M.H. TYPE	COVER TYPE	LOT NO	F.S.L.	E.S.L.	I.L.	DEPTH
A1	CONTRACTOR TO CONSTRUCT ALL UPSTREAM LINES & MH'S. REMOVE EXISTING END CAPS AND CONNECT TO EXISTING STUBS PROVIDED FROM MH EX1/4	Ø250	EX 1/4	X	O	-	4.190	-	-	-
A2	QUU PROVIDER TO ADJUST EXISTING MH TO NEW SURFACE LEVEL	Ø250	EX1/4	X	O	-	4.190	-	-	-
A3	FOLLOWING CLEANING, TESTING, CCTV & SUCCESSFUL INSPECTION BY QUU, QUU PROVIDER TO ENTER MH EX1/4 AND REMOVE TEMPORARY PLUGS.	-	EX1/4	X	O	-	4.190	-	-0.561	4.751

QUEENSLAND URBAN UTILITIES LIVE SEWER WORKS

CONSULTING ENGINEERS ARE TO CONTACT QUU SERVICE DELIVERY EAST 2 WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION ON PH:13 26 57 TO ARRANGE FOR LIVE WORKS TO BE CARRIED OUT. (EXCAVATION, SAFE-SHORING AND ASSOCIATED WORK BY CONTRACTOR) EXCAVATION WORKS CARRIED OUT BY CONTRACTORS AT DEPTH OF 1.500m OR GREATER MUST PROVIDE A "SAFETY PLAN" AS PER WORKPLACE HEALTH AND SAFETY LEGISLATION TO QUU PRIOR TO QUU COMMENCING ANY WORK.

PIPELINES

- THE MINIMUM CLEARANCE TO EXISTING SERVICES TO BE AS PER WSA/SEQ STANDARDS UNLESS OTHERWISE SHOWN.
- CONTRACTOR TO OBTAIN PRIOR APPROVAL OF THE SUPERINTENDENT FOR ANY MINOR DEVIATIONS REQUIRED TO AVOID EXISTING SERVICES.
- VACUUM TESTING & CCTV TO BE CARRIED OUT AS PER WSA/SEQ STANDARDS.
- NON METALLIC PIPES SHALL HAVE DETECTABLE MARKER TAPE INSTALLED. REFER TO QUU STANDARDS. THE COLOURS OF MARKER TAPE MUST BE: SEWERAGE - CREAM
- PIPELINES SHALL NOT BE CONSTRUCTED IN UNCONTROLLED FILL. CERTIFICATES SHALL BE LODGED WITH THE CONTRACT MANAGER CERTIFYING THE FILL IS CONTROLLED FILL COMPACTED TO 95% R.D. TO A.S.1289.5.2.1.
- DISUSED SEWERS AND MAINTENANCE HOLES SHALL COMPLY WITH REQUIREMENTS SET OUT IN NOTES ASIDE AND PROJECT DRAWINGS.
- THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THESE DRAWINGS SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE QUU SEWERAGE SYSTEM.
- PIPE EMBEDMENT MATERIAL SHALL BE AS PER QUU TYPICAL DETAIL ASIDE.

MAINTENANCE HOLES

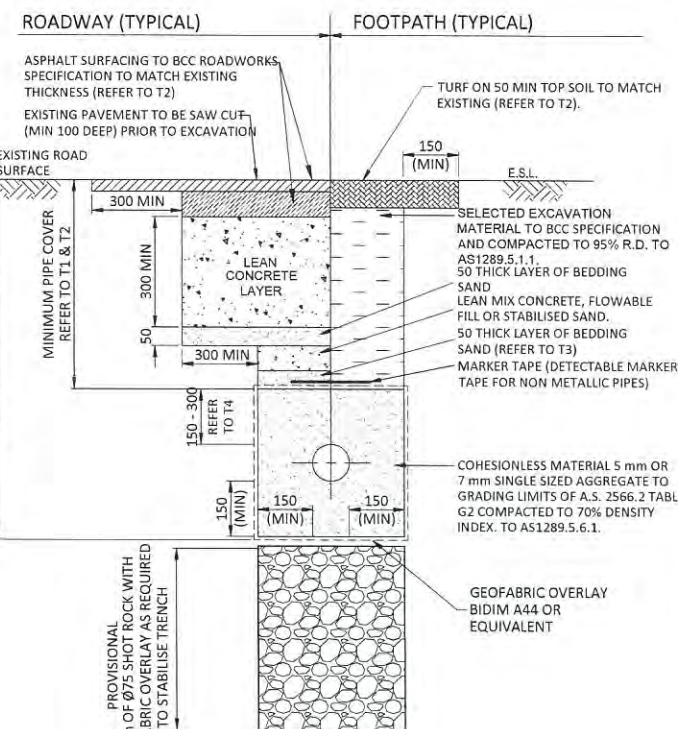
- ALL MAINTENANCE HOLES TO BE CAST IN-SITU USING SPECIAL CLASS CONCRETE (WSA PS-358).
- SPECIAL CLASS CONCRETE (WSA PS-358) TO BE: STRENGTH CLASS 40MPa AGGREGATE SIZE 20mm SLUMP 75MM ONLY CALCAREOUS AGGREGATES TO BE USED. CALCAREOUS AGGREGATES ARE AGGREGATES DEFINED AS HAVING AN ACID SOLUBILITY GREATER THAN 98% WHEN TESTED IN ACCORDANCE WITH AWWA B 100.
- INTERNAL FORMWORK TO BE STRIPPED BEFORE EXTERNAL FORMWORK.
- CONCRETE TO CURE FOR TIME SPECIFIED BY DESIGN CONSULTANT PRIOR TO LOADING OF MAINTENANCE HOLE.
- ALL MAINTENANCE HOLES WHERE DEPTH FROM GROUND LEVEL TO INVERT OF SEWER EXCEEDS 4.2m ARE TO BE PROVIDED WITH LADDER AS PER SEQ STD DRG SEQ-SEW-1301-12. PROVIDE STEP IRONS FOR DEPTHS LESS THAN 4.2m AS PER SEQ STD DRG SEQ-SEW-1301-4.
- MAINTENANCE HOLE TOP SLABS TO BE AS PER SEQ STD DRG SEQ-SEW-1301-5.
- PROVIDE CLASS D LID TO ALL MAINTENANCE HOLES. REFER SEQ STD DRG SEQ-SEW-1308-8 TO 11.
- ALL MAINTENANCE HOLES TO BE POLYETHYLENE LINED. REFER SEQ STD DRGS SEQ-SPS-1407-1 AND 2.

POLYETHYLENE PIPES (PE)

- PE IS THE PREFERRED MATERIAL OF CHOICE OF QUU AND SHOULD BE USED UNLESS OTHERWISE STATED. ALL PE PIPES AND FITTINGS SHALL BE MATERIAL GRADE PE100
- GRAVITY SEWERS TO BE A MINIMUM CLASS PN8. WHERE PIPE CLASSIFICATION IS NOT SPECIFIED CONSULT WITH DESIGN CONSULTANT AND QUU.
- PIPE COLOUR SHALL BE: GRAVITY SEWERS: EXTERNAL: LIGHT GRAY - (SOLID OR STRIPED IS ACCEPTABLE) INTERNAL: WHITE OR LIGHT COLOUR (COMPULSORY). INTERNAL COLOUR TO PROVIDE AN ACCEPTABLE CCTV IMAGE. CCTV INSPECTIONS TO BE UNDERTAKEN AS PER QUU STANDARDS.
- ALL PE PIPES TO BE BUTT WELDED/ELECTRO FUSION FUSED UNLESS NOTED OTHERWISE.
- PE PIPES WITH CRACKS, SCORES OR SCRATCHES DEEPER THAN 10% OF THE WALL THICKNESS SHALL BE REJECTED.
- ALL WORK SHALL COMPLY WITH SEQ SEWERAGE CODE.

FLOW CONTROL

- PRIOR TO COMMENCEMENT OF WORKS ON LIVE SEWERS CONTACT THE RELEVANT QUU ACCESS TO ASSETS TEAM. A MINIMUM OF TEN WORKING DAYS IS REQUIRED TO IMPLEMENT A FLOW CONTROL REQUEST.
- USE FORM FOR 291
PH: 38567027
EMAIL: QUU-NETWORKOPREQ@URBANUTILITIES.COM.AU
- APPROVED FLOW CONTROL PLAN TO BE ATTACHED TO THE PTW APPLICATION ASSOCIATED WITH WORK ON LIVE SEWERS.



TYPICAL TRENCH DETAIL

TRENCH NOTES:

- MINIMUM COVER ON MAINS FROM PERMANENT LEVEL SHALL BE THE GREATER OF SEQ WS&S D&C CODE DWG. NO. SEQ-WAT-1200-2 OR BRISBANE CITY COUNCIL STANDARD DRAWINGS UMS 281 & UMS 282.
- ROAD CROSSING, VERGES AND PATHS TRENCH RESTORATION SHALL BE IN ACCORDANCE WITH BCC STANDARD DRAWINGS UMS 281 & UMS 282.
- PROVIDE 50 THICK LAYER OF BEDDING SAND IF FLOWABLE FILL CONCRETE OR OTHER LOW PERMEABLE FILL IS USED AS EMBEDMENT.
- 150 MINIMUM OVERLAY FOR NON TRAFFICABLE AND 300 MINIMUM FOR TRAFFICABLE.

LIVE CONNECTION(S)/PASSED(W)

REFERENCE	-
DATE	/ /
GIS CAPTURE	
JOB NUMBER	-
OFFICER CODE	-
DATE	/ /

GIS COMMENTS

AS CONSTRUCTED RECEIVED	
BY	-
UTILITY/DELEGATE	-
DATE	-

ON MAINTENANCE DETAILS

START	-	FINISH	-
UTILITY/DELEGATES COMMENTS			

PLAN CUSTODIAN

OFFICER/REC'D	-
DATE RELEASED	/ /

QUEENSLAND URBAN UTILITIES DELEGATE

DATE:	-
CLIENT	
CONTACT:	BORNHORST & WARD
QUU AUDITOR:	AUDIT AND COMPLIANCE OFFICER

AS CONSTRUCTED DETAILS FOR AMEND.

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS	
SIGNED	DATE:
NAME OF SIGNATORY	-
RPEQ No. or LICENCE	-
COMPANY NAME	-
START DATE	FINISH DATE

SHEET No. 1 OF 3

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.



FOR APPROVAL

APPROVED

M. Renssch
7729 RPEQ
DATE 01/10/14

CHECKED

K. RENSCH
DATE 01/10/14

BORNHORST + WARD

CONSULTING ENGINEERS
CIVIL AND STRUCTURAL
Level 4, 67 Astor Terrace, Spring Hill, QLD 4000

Bornhorst & Ward Pty Ltd
Brisbane Australia
Phone (07) 3013 4699
Facsimile (07) 3013 4611
mail@bornhorstward.com.au
www.bornhorstward.com.au
ALCN 010 164 004 ABN 78 010 164 004

CLIENT

ECONOMIC DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT

ANGORA ROAD
NORTHSHORE
HAMILTON

SUBJECT

SEWER RETICULATION
NOTES AND DETAILS

PROJECT No.

14157

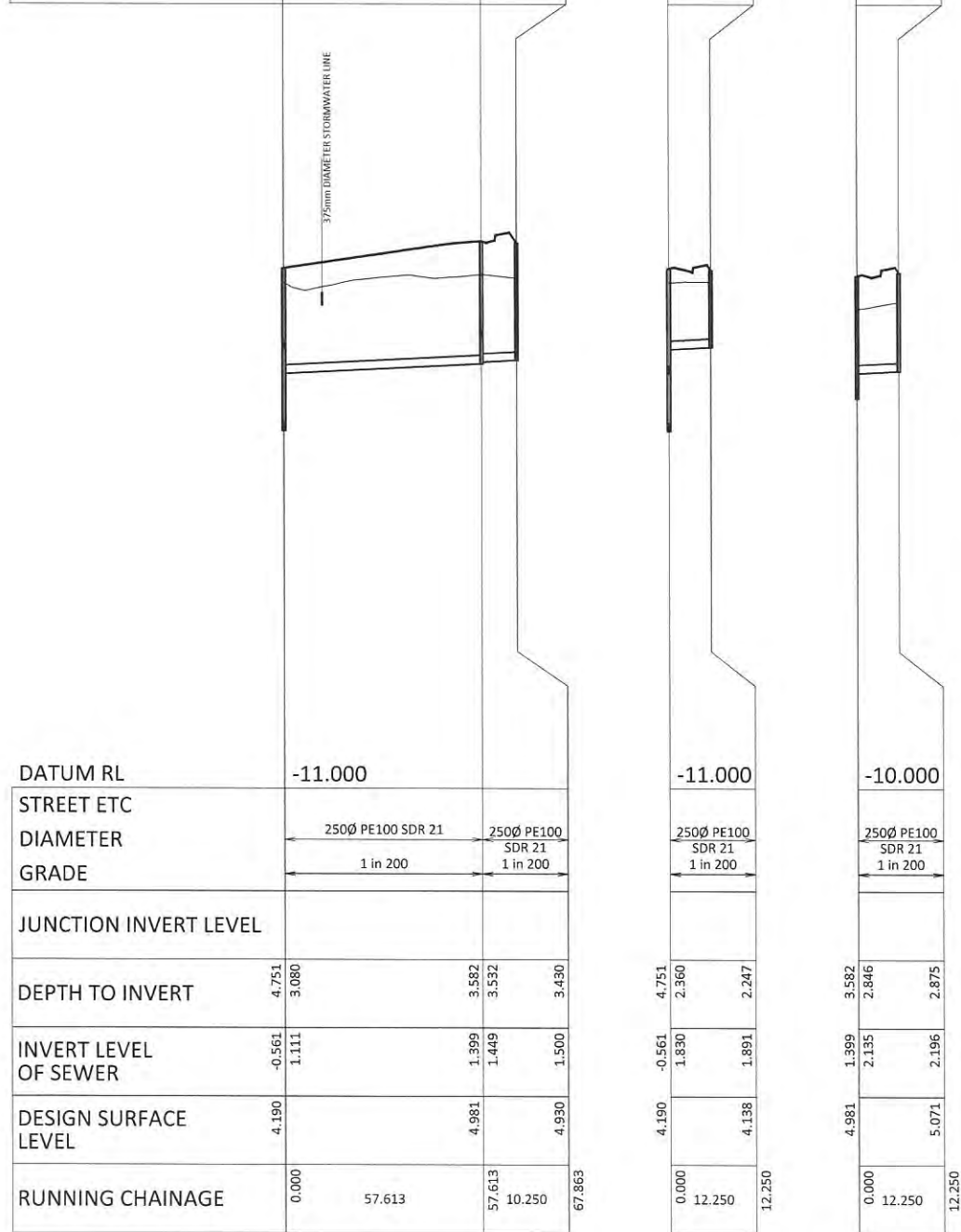
DRAWING No.

P5-C0060

REVISION

D

MANHOLE/END NAME	EX1/4	1/1	2/1	EX1/4	1/2	1/1	1/3
MANHOLE TYPE	X	F	END CAP	X	END CAP	F	END CAP
LID TYPE	D	D		D		D	
JUNCTION LINE	EXISTING EXTERNAL BACKDROP	3 D -90°		EXISTING EXTERNAL BACKDROP		EXTERNAL BACKDROP 1	
DROP TYPE		A					
DEPTH TO HC							
HOUSE CONNECTION							
INVERT LEVEL							
HC TYPE							
HC LOT No.							
CH. FROM D/S MH							



SEWER RETICULATION LONGITUDINAL SECTION
SCALE A (HOR)
B (VERT)

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

QUEENSLAND URBAN UTILITIES DELEGATE (VALID FOR 12 MONTHS FROM DATE SHOWN)	
CLIENT CONTACT: BORNHORST & WARD QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER CONTACT:	
AS CONSTRUCTED DETAILS FOR AMEND.	
I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE TRUE AND ACCURATE RECORD OF THE WORKS	
SIGNED	DATE:
NAME of SIGNATORY	
RPEQ No. or LICENCE	
COMPANY NAME	
START DATE	FINISH DATE
SHEET No. 3 OF 3 QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.	
DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES.	
SCALES A 0 10 20 30 40 50m 1:1000 / 1:2000 B 0 1.0 2.0 3.0 4.0 5.0m 1:100 / 1:200	
STATUS	

COPYRIGHT © This document is and shall remain the property of Bornhorst & Ward Pty. Ltd. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement. Unauthorised use of this document in any form whatsoever is prohibited.				ASSOCIATED CONSULTANTS				APPROVED DATE 01/10/14				CHECKED K.RENSCH DATE 01/10/14				BORNHORST + WARD CONSULTING ENGINEERS CIVIL AND STRUCTURAL Level 4, 67 Astor Terrace, Spring Hill, QLD 4000 Bornhorst & Ward Pty Ltd Brisbane Australia Phone (07) 3013 4699 Facsimile (07) 3013 4611 mail@bornhorstward.com.au www.bornhorstward.com.au A.C.N. 050 555 354 A.B.N. 78 550 335 354				CLIENT ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)				PROJECT ANGORA ROAD NORTHSHORE HAMILTON				SUBJECT SEWER RETICULATION LONGITUDINAL SECTIONS				PROJECT No. 14157 DRAWING No. P5-C0065 REVISION D			
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EXISTING	PROPOSED	DESCRIPTION
		STATION NUMBER
		SERVICE PILLAR
		LINK PILLAR
		LV POLE / STREET LIGHT COLUMN
		ELECTRICAL CABLE IN CONDUIT
		SPARE HV CONDUIT
		EXISTING RATE 3 LIGHTS (FOR INFORMATION ONLY)
		32W CFL AEROSCREEN STREETLIGHT
		EARTH
		U/G MAINS / ELECTRICAL CONDUIT
		CAPPED CONDUIT/S
		P4 PIT
		URD PADMOUNT TRANSFORMER
		LV LINKS - OPEN

BEFORE EXCAVATING CHECK FOR POWER CABLES AND
GAS PIPES. ENSURE THAT YOU HAVE CALLED
"1100 DIAL BEFORE YOU DIG"
FOR ALL SERVICES LOCATIONS

<u>RPEQ DESIGN CERTIFICATION</u>	
THE DRAWING IS CERTIFIED TO RELEVANT ENERGEX STANDARDS AND AS/NZS 1158 3.1:2005. NEW RATE 2 STREET LIGHTING IS DESIGNED IN ACCORDANCE WITH RELEVANT SECTIONS OF AS/NZS 1158 1:2005, CATEGORY P4.	
SIGNED -	DATE - 26.02.15
NAME - ROB SMITH	RPEQ N° - 06385

DESCRIPTION	DATE ORIGINAL ISSUE	DATE ISSUED FOR CERTIFICATION	DATE ROLE ALIGNMENT UPDATE	ROUTE LENGTH		ALIGNMENTS		CLEARING	WORKS CO-ORDINATOR	JOB NUMBERS
				33KV CIRCUIT LENGTH	11KV CIRCUIT LENGTH	ENERGEX	LOCATE	EX GUARANTEE	RESOURCE RESPONSIBILITY	
						TELSTRA	LOCATE	WAYLEAVES		
						GAS	LOCATE	EASEMENTS	NO	LOTS
						H.P GAS	LOCATE	COUNTY		CANCELLING LOTS
						WATER	LOCATE	PARISH		
						RECORDS UPDATED	DATE INITIALS	STORMWATER	LOCATE	SHIRE
						PLANT MANAGEMENT		SEWERAGE	LOCATE	DIST FROM DEPOT
						MAPS				RATEABLE CABLE
						OPERATING PANELS		PEGGED ON REQUEST		FIELD BOOK No.

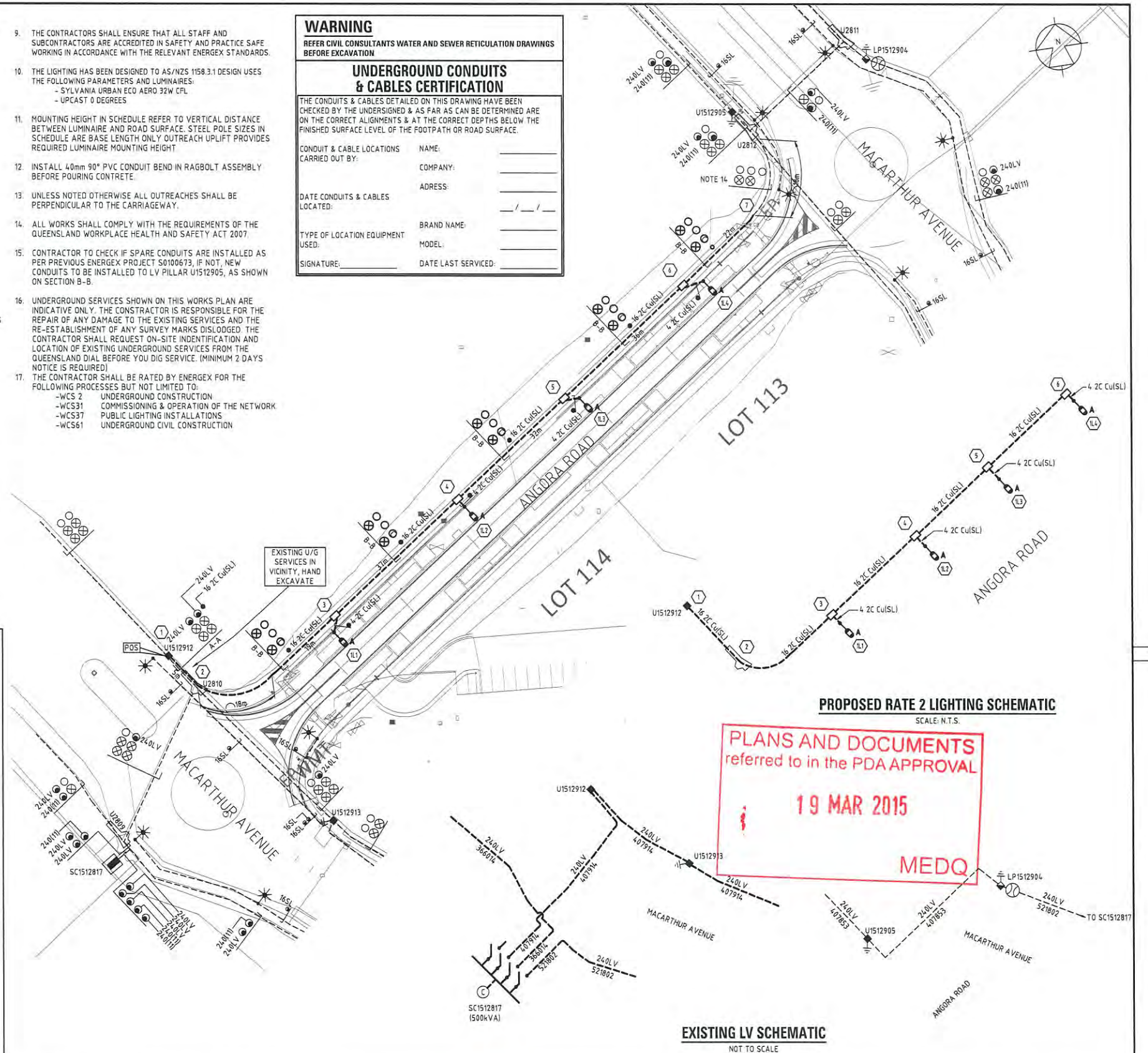
1. THE CONTRACTOR SHALL NOTE THERE IS EXISTING UNDERGROUND POWER IN THE VICINITY.
2. ALL LIGHT FITTINGS CONNECTED TO "A" PHASE REFER DRAWING 54-100010 - E02
3. THE CONTRACTOR SHALL REINSTATE MEDIANS FOOTPATHS TO ORIGINAL CONDITION FOLLOWING EXCAVATION. LOCAL AUTHORITY - BRISBANE CITY COUNCIL.
4. STREET LIGHT POLE ALIGNMENT 0.8m FROM BACK OF KERB.
5. THE SWP47.2 RATED SERVICE PROVIDER IS RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION WORK IS COMPLETED IN ACCORDANCE WITH THE RELEVANT ENERGEX STANDARDS AND SPECIFICATION.
6. THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE FOLLOWING ENERGEX MANUALS:
 - WORK CATEGORY SPECIFICATION - WCS133-GENERAL STANDARDS & CONDITIONS
 - UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL
 - QUEENSLAND PUBLIC LIGHTING CONSTRUCTION MANUAL
 - PUBLIC LIGHTING - STANDARD CONDITIONS FOR PUBLIC LIGHTING SERVICES - ENERGEX MANUAL00576
7. ONLY ENERGEX APPROVED MATERIALS AND INSTALLATION TECHNIQUES TO BE USED.
8. THIS DRAWINGS HAS TO BE READ IN CONJUNCTION WITH ENERGEX ENVIRONMENTAL POLICY. CONTRACTORS SHALL MAKE THEMSELVES AWARE AND COMPLY WITH ALL ENVIRONMENTAL ASPECTS OF SWP47.2 AND REFERRED DOCUMENTATION.

**TEMPORARY WARNING SIGNS
TO BE ERECTED IN
ACCORDANCE WITH THE
MANUAL OF UNIFORM
TRAFFIC CONTROL DEVICES**

9. THE CONTRACTORS SHALL ENSURE THAT ALL STAFF AND SUBCONTRACTORS ARE ACCREDITED IN SAFETY AND PRACTICE SAFE WORKING IN ACCORDANCE WITH THE RELEVANT ENERGEX STANDARDS.
10. THE LIGHTING HAS BEEN DESIGNED TO AS/NZS 1583.1 DESIGN USES THE FOLLOWING PARAMETERS AND LUMINAIRES:
 - SYLVANIA URBAN ECO AER 32W CFL
 - UPCAST 0 DEGREES
11. MOUNTING HEIGHT IN SCHEDULE REFER TO VERTICAL DISTANCE BETWEEN LUMINAIRE AND ROAD SURFACE. STEEL POLE SIZES IN SCHEDULE ARE BASE LENGTH ONLY OUTREACH UPLIFT PROVIDES REQUIRED LUMINAIRE MOUNTING HEIGHT
12. INSTALL 40mm 90° PVC CONDUIT BEND IN RAGBOLT ASSEMBLY BEFORE POURING CONCRETE
13. UNLESS NOTED OTHERWISE ALL OUTREACHES SHALL BE PERPENDICULAR TO THE CARRIAGEWAY.
14. ALL WORKS SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT 2007.
15. CONTRACTOR TO CHECK IF SPARE CONDUITS ARE INSTALLED AS PER PREVIOUS ENERGEX PROJECT 50100673, IF NOT, NEW CONDUITS TO BE INSTALLED TO LV PILLAR U1512905, AS SHOWN ON SECTION B-B.
16. UNDERGROUND SERVICES SHOWN ON THIS WORKS PLAN ARE INDICATIVE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO THE EXISTING SERVICES AND THE RE-ESTABLISHMENT OF ANY SURVEY MARKS DISCLOSED THE CONTRACTOR SHALL REQUEST ON-SITE IDENTIFICATION AND LOCATION OF EXISTING UNDERGROUND SERVICES FROM THE QUEENSLAND DIAL BEFORE YOU DIG SERVICE. (MINIMUM 2 DAYS NOTICE IS REQUIRED)
17. THE CONTRACTOR SHALL BE RATED BY ENERGEX FOR THE FOLLOWING PROCESSES BUT NOT LIMITED TO.
 - WCS 2 UNDERGROUND CONSTRUCTION
 - WCS31 COMMISSIONING & OPERATION OF THE NETWORK
 - WCS37 PUBLIC LIGHTING INSTALLATIONS
 - WCS61 UNDERGROUND CIVIL CONSTRUCTION

FIRE ANTS
**CONSTRUCTION CONTRACTOR
TO DETERMINE IF FIRE ANTS
RESTRICTIONS APPLY.
CONTACT FIRE ANT
AUTHORITY. PH 13 25 23**

CONDUIT & CABLE LOCATIONS CARRIED OUT BY:	NAME: _____
	COMPANY: _____
	ADDRESS: _____
DATE CONDUITS & CABLES LOCATED: _____	____/____/____
	BRAND NAME: _____
TYPE OF LOCATION EQUIPMENT USED: _____	MODEL: _____
SIGNATURE: _____	DATE LAST SERVICED: _____



APPROVED: R.S.	WEBB AUSTRALIA	CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND SCALE: 1:500 @ A1
CHECKED: A.R.	PROPOSED RATE 2 ROAD LIGHTING ANGORA ROAD, HAMILTON	ENERGEX PROJECT / SUB PROJECT NO. S4100018
DESIGNER: ROB SMITH PHONE: 07 3870 4900	ELECTRICAL SERVICES LIGHTING LAYOUT	DRAWING NUMBER: E01 (SHEET 1 OF 2)
PLANNER: WEBB AUST CAD PHONE: 07 3870 4900		REV. C A1
ISSUE DATE: 11.03.15		

ANGORA ROAD STREETSCAPE WORKS

NORTH SHORE HAMILTON, QUEENSLAND, 4009

REV	DESCRIPTION	DATE
A	OPERATIONAL WORKS	30.09.14
B	FOR CO-ORDINATION	19.02.15
C	OPERATIONAL WORKS	10.03.15

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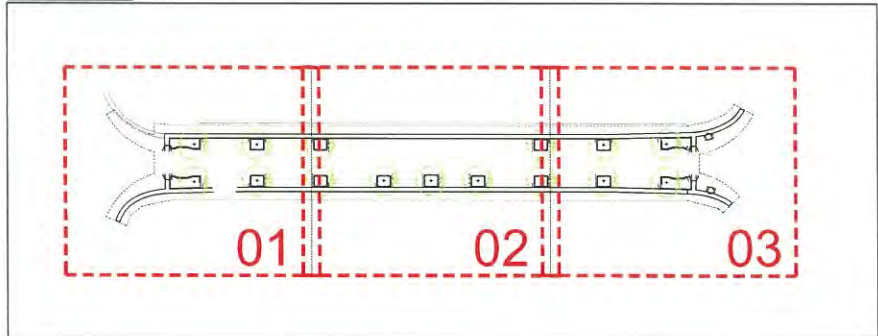
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3. CHECK ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.
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5. ALL PLANT STOCK & MULCH SUPPLIED TO SITE SHOULD BE FREE FROM MYRTLE RUST AS PER QLD LEGISLATION. IF INFECTION IS SUSPECTED CONTACT BIOSECURITY QUEENSLAND ON 13 25 23 OR ONLINE AT [HTTP://WWW.DAFF.QLD.GOV.AU/4790_20842.HTM](http://www.daff.qld.gov.au/4790_20842.htm) AND FOLLOW ALL DIRECTIONS AS REQUIRED.

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01 NORTHSHORE HAMILTON ANGORA ROAD LOCATION PLAN (SOURCE: BCC)
NTS @ A1

KEY PLAN



02 DOCUMENT KEY PLAN
1:1000 @ A1

DRAWING REGISTER

L_CD_0100	COVER SHEET
L_CD_0101	LANDSCAPE CONCEPT PLAN SHEET 1
L_CD_0102	LANDSCAPE CONCEPT PLAN SHEET 2
L_CD_0103	LANDSCAPE CONCEPT PLAN SHEET 3
L_CD_201	SETOUT PLAN SHEET 1
L_CD_202	SETOUT PLAN SHEET 2
L_CD_203	SETOUT PLAN SHEET 3
L_CD_301	PLANTING PLAN SHEET 1
L_CD_302	PLANTING PLAN SHEET 2
L_CD_303	PLANTING PLAN SHEET 3

REFERENCE DETAILS

BSD SERIES:

BSD 9003	TREE WITH COMPANION PLANTING BED TO FOOTPATH
BSD-9034	WSUD TREE WITHIN TURF - PLAN
BSD-9035	WSUD TREE WITHIN TURF - SECTION
BSD 9051	PLANTING: GENERAL NOTES (SHEET 1-2)
BSD 9052	PLANTING & TURF MEDIA PROFILES
BSD 9053	PLANTING DETAIL: TREE, SHRUB, TUBESTOCK
BSD 9061	EDGING (SHEET 1-3)
BSD 9062	EDGING TYPICAL INTERFACES
BSD 5201	CONCRETE FOOTPATH
BSD 5231	KERB RAMP

SPECIFICATIONS:

S190 LANDSCAPE - BCC REFERENCE SPECIFICATIONS FOR CIVIL ENGINEERING WORK (REV2)

Angora Road Northshore Hamilton									
Planting Schedule									
DATE: 10.03.15									
CODE	BOTANICAL NAME	COMMON NAME	HEIGHT (m) AT INSTALLATION	SPREAD (m) AT INSTALLATION	CONTAINER SIZE	SPACING/ DENSITY	STAKE or GUY	ROOT BARRIER	TOTAL
TREES									
WAT flo	Waterhousia floribunda	Weeping Lilly Pilly	4.0m	1.0-1.5m	400L	As shown	Y	Y	15
GROUNDCOVERS									
DIE bic	Dietes bicolour	Fairy Iris	500mm	200mm	200mm	4/m ²			180
LIR SW	Liriope 'Stripey White'	Liriope	500mm	200mm	200mm	4/m ²			91
PHI xan	Philodendron 'Xanadu'	Xanadu	600mm	300mm	200mm	4/m ²			198
TRA jas	Trachelospermum jasminoides	Star Jasmine	200mm	150mm	200mm	4/m ²			85
GRASSES/SEDGES (TO WSUD ZONE ONLY)									
CAR app	Carex appressa	Carex	500mm	200mm	200mm	6/m ²			115
IMP cyl	Imperata cylindrica	Japanese Blood Grass	200mm	200mm	200mm	6/m ²			103
JUN usi	Juncus usitatus	Common Rush	500mm	200mm	200mm	6/m ²			231
LOM lon	Lomandra longifolia	Blue Lomandra	500mm	200mm	200mm	6/m ²			198

03 PLANT SCHEDULE

NOT FOR CONSTRUCTION

07 3852 5270
Unit 1, 36 Wyandra Street
Newstead, Qld 4006

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CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND
PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON
DRAWING TITLE
COVER SHEET

SCALE BAR
0m 10m 20m 30m 40m 50m
SCALE 1:1000 @ A1

PROJECT No. 14097.01	SCALE 1:1000	
DRAWN BY MD	VERIFIER AN	
DRAWING No. L_CD_0100	REVISION C	

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

REV	DESCRIPTION	DATE
A	CONCEPT DESIGN	28-08-14
B	OPERATIONAL WORKS	30.09.14
C	FOR COORDINATION	19.02.15
D	OPERATIONAL WORKS	10.03.15

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KEY PLAN - SCALE 1:2000



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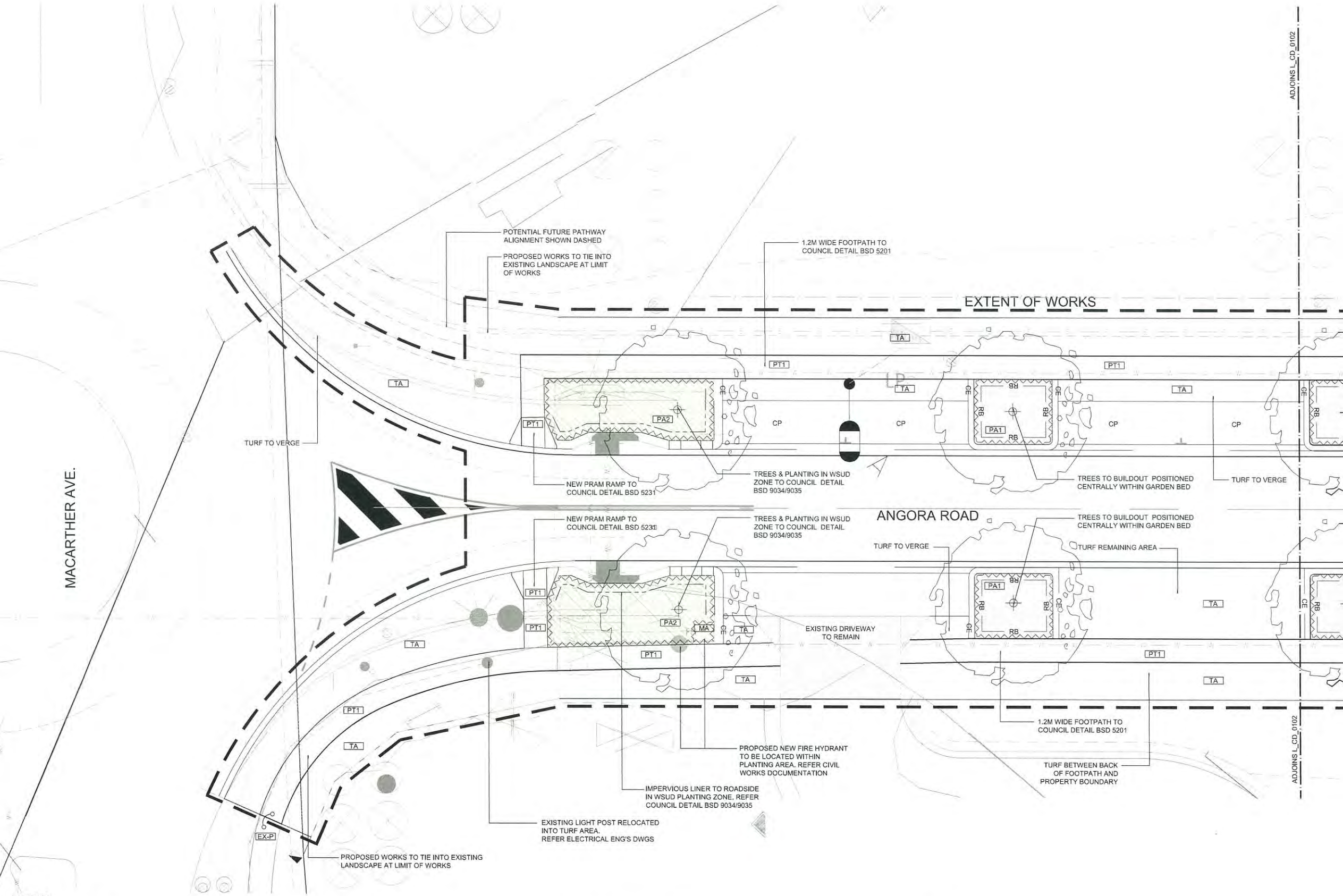
CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND

PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON

DRAWING TITLE
LANDSCAPE CONCEPT PLAN
SHEET1

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0101	REVISION D	



LEGEND PAVING TYPE 1 - CCS CHARCOAL COLOURED CONCRETE - BROOM FINISH - REFER TO BCC STANDARD DETAIL BSD 5201 EXISTING PATHWAY - TO BE RETAINED AND PROTECTED PROPOSED PLANTING AREA 1 - REFER TO BCC STANDARD DETAIL BSD-9052 PROPOSED PLANTING AREA 2 - REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035 MULCH AREA - MULCH ONLY AREA - REFER TO BCC STANDARD NOTES BSD-9051	TURF WORKS - REFER TO BCC STANDARD DETAIL BSD-9052 PROPOSED CAR PARKING - REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH PROPOSED TREE - 400L - REFER PLANTING PLAN FOR SPECIES - REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053. EXTENT OF LANDSCAPE WORKS PAGE ADJOINS IMPERVIOUS LINER TO WSUD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035	CE CONCRETE EDGE - REFER TO BCC STANDARD DETAIL BSD-9061 RB ROOT BARRIER - REFER TO BCC STANDARD DETAIL BSD-9003 PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT - REFER ELECTRICAL ENGINEER'S DWGS PROPOSED ELECTRICAL PIT - REFER ELECTRICAL ENGINEER'S DWGS	PROPOSED WATER - REFER CIVIL ENGINEER'S DWGS PROPOSED STORMWATER - REFER CIVIL ENGINEER'S DWGS PROPOSED SEWERAGE - REFER CIVIL ENGINEER'S DWGS EXISTING FENCE EXISTING SIGNAGE EXISTING LIGHT POST PROPOSED MANHOLE - REFER CIVIL ENGINEER'S DWGS
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PLANS AND DOCUMENTS
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19 MAR 2015

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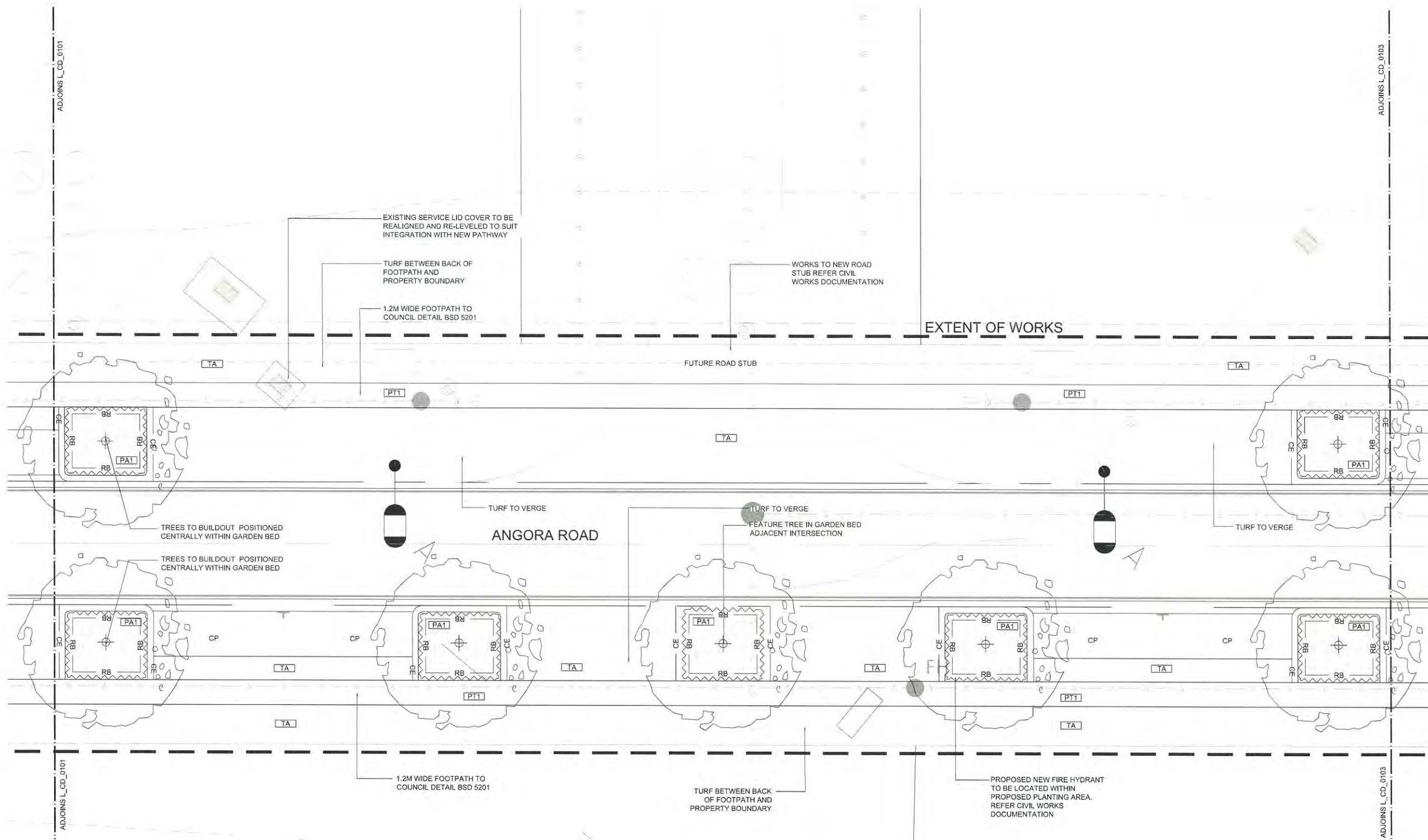
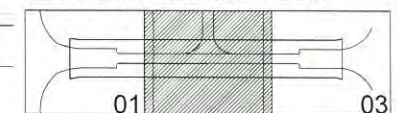
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KEY PLAN - SCALE 1:2000



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Newstead, Qld 4006

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CLIENT
**ECONOMIC DEVELOPMENT
QUEENSLAND**

PROJECT TITLE
**ANGORA ROAD-P5
NORTH SHORE HAMILTON**

DRAWING TITLE
**LANDSCAPE CONCEPT PLAN
SHEET 2**

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0102	REVISION D	

LEGEND



PAVING TYPE 1
- CCS CHARCOAL COLOURED CONCRETE
- BROOM FINISH
- REFER TO BCC STANDARD DETAIL BSD 5201



EXISTING PATHWAY
- TO BE RETAINED AND PROTECTED



PROPOSED PLANTING AREA 1
- REFER TO BCC STANDARD DETAIL BSD-9052



PROPOSED PLANTING AREA 2
- REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035



MULCH AREA
- MULCH ONLY AREA
- REFER TO BCC STANDARD NOTES BSD-9051



TURF WORKS
- REFER TO BCC STANDARD DETAIL BSD-9052



PROPOSED CAR PARKING
- REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH



PROPOSED TREE - 400L
- REFER PLANTING PLAN FOR SPECIES
- REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053.



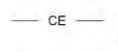
EXTENT OF LANDSCAPE WORKS



PAGE ADJOINS



IMPERVIOUS LINER TO WSUD TO ROADSIDE
- REFER BCC STANDARD DRAWING BSD9035



CONCRETE EDGE
- REFER TO BCC STANDARD DETAIL BSD-9061



ROOT BARRIER
- REFER TO BCC STANDARD DETAIL BSD-9003



PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE



PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT
- REFER ELECTRICAL ENGINEER'S DWGS



PROPOSED ELECTRICAL PIT
- REFER ELECTRICAL ENGINEER'S DWGS



PROPOSED WATER
- REFER CIVIL ENGINEER'S DWGS



PROPOSED STORMWATER
- REFER CIVIL ENGINEER'S DWGS



PROPOSED SEWERAGE
- REFER CIVIL ENGINEER'S DWGS



EXISTING FENCE



EXISTING SIGNAGE



EXISTING LIGHT POST

PROPOSED MANHOLE
- REFER CIVIL ENGINEER'S DWGS

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

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REV	DESCRIPTION	DATE
A	CONCEPT DESIGN	28-08-14
B	OPERATIONAL WORKS	30.09.14
C	FOR COORDINATION	19.02.15
D	OPERATIONAL WORKS	10.03.15

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MACARTHER AVE.

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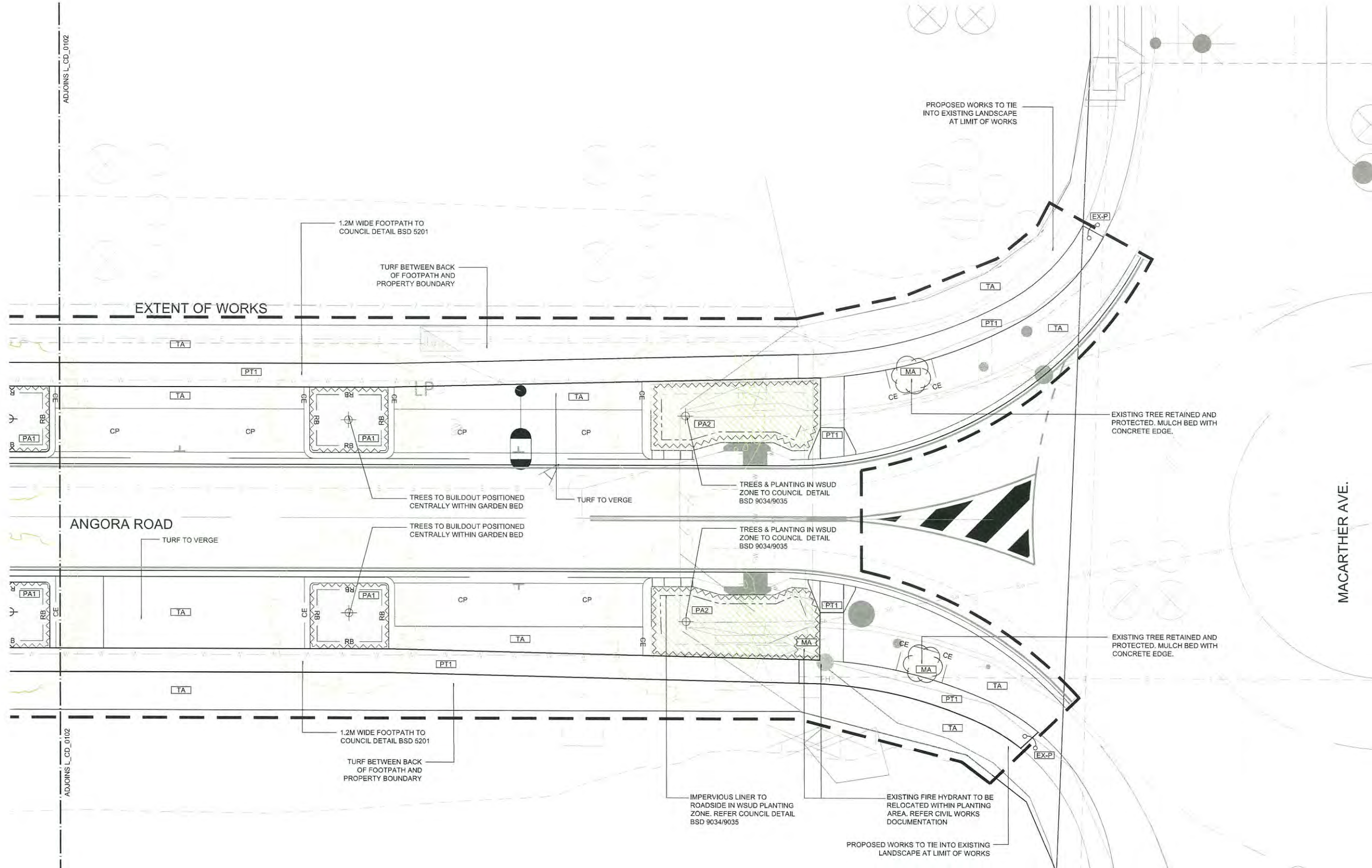
CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND

PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON

DRAWING TITLE
LANDSCAPE CONCEPT PLAN
SHEET 3

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AK	
DRAWING No. 14097_L_CD_0103	REVISION D	



LEGEND

	PAVING TYPE 1 - CCS CHARCOAL COLOURED CONCRETE - BROOM FINISH - REFER TO BCC STANDARD DETAIL BSD 5201
	EXISTING PATHWAY - TO BE RETAINED AND PROTECTED
	PROPOSED PLANTING AREA 1 - REFER TO BCC STANDARD DETAIL BSD-9052
	PROPOSED PLANTING AREA 2 - REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035
	MULCH AREA - MULCH ONLY AREA - REFER TO BCC STANDARD NOTES BSD-9051

	TURF WORKS - REFER TO BCC STANDARD DETAIL BSD-9052
	PROPOSED CAR PARKING - REFER CIVIL ENGINEER'S DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH
	PROPOSED TREE - 400L - REFER PLANTING PLAN FOR SPECIES - REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053.
	EXTENT OF LANDSCAPE WORKS
	PAGE ADJOINS
	IMPERVIOUS LINER TO WSUD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035

	CONCRETE EDGE - REFER TO BCC STANDARD DETAIL BSD-9061
	ROOT BARRIER - REFER TO BCC STANDARD DETAIL BSD-9003
	PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE
	PROPOSED STREETLIGHT & UNDERGROUND MAINS/ELECTRICAL CONDUIT - REFER ELECTRICAL ENGINEER'S DWGS
	PROPOSED ELECTRICAL PIT - REFER ELECTRICAL ENGINEER'S DWGS

	PROPOSED WATER - REFER CIVIL ENGINEER'S DWGS
	PROPOSED STORMWATER - REFER CIVIL ENGINEER'S DWGS
	PROPOSED SEWERAGE - REFER CIVIL ENGINEER'S DWGS
	EXISTING FENCE
	EXISTING SIGNAGE
	EXISTING LIGHT POST
	PROPOSED MANHOLE - REFER CIVIL ENGINEER'S DWGS

PLANS AND DOCUMENTS
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19 MAR 2015

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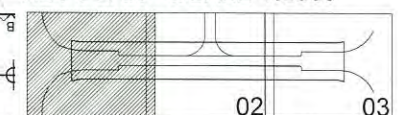
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KEY PLAN - SCALE 1:2000



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CLIENT
**ECONOMIC DEVELOPMENT
QUEENSLAND**

PROJECT TITLE
**ANGORA ROAD-P5
NORTH SHORE HAMILTON**

DRAWING TITLE
**SETOUT PLAN
SHEET1**

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0201	REVISION C	

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

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LEGEND

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	PROPOSED PLANTING AREA 1 - REFER TO BCC STANDARD DETAIL BSD-9052
	PROPOSED PLANTING AREA 2 - REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035
	MULCH AREA - MULCH ONLY AREA - REFER TO BCC STANDARD NOTES BSD-9051

	TURF WORKS - REFER TO BCC STANDARD DETAIL BSD-9052
	PROPOSED CAR PARKING - REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH
	PROPOSED TREE - 400L - REFER PLANTING PLAN FOR SPECIES - REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053.
	EXTENT OF LANDSCAPE WORKS
	PAGE ADJOINS
	IMPERVIOUS LINER TO WSJD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035

	CE CONCRETE EDGE - REFER TO BCC STANDARD DETAIL BSD-9061
	RB ROOT BARRIER - REFER TO BCC STANDARD DETAIL BSD-9003
	PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE
	PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT - REFER ELECTRICAL ENGINEER'S DWGS
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	PROPOSED STORMWATER - REFER CIVIL ENGINEER'S DWGS
	PROPOSED SEWERAGE - REFER CIVIL ENGINEER'S DWGS
	EXISTING FENCE
	EXISTING SIGNAGE
	EXISTING LIGHT POST
	PROPOSED MANHOLE - REFER CIVIL ENGINEER'S DWGS

MACARTHER AVE.

ANGORA ROAD

EXTENT OF WORKS

EXISTING DRIVEWAY TO REMAIN

PROPOSED NEW FIRE HYDRANT TO BE LOCATED WITHIN PLANTING AREA. REFER CIVIL WORKS DOCUMENTATION

ADJOINS L_CD_0102

ADJOINS L_CD_0202

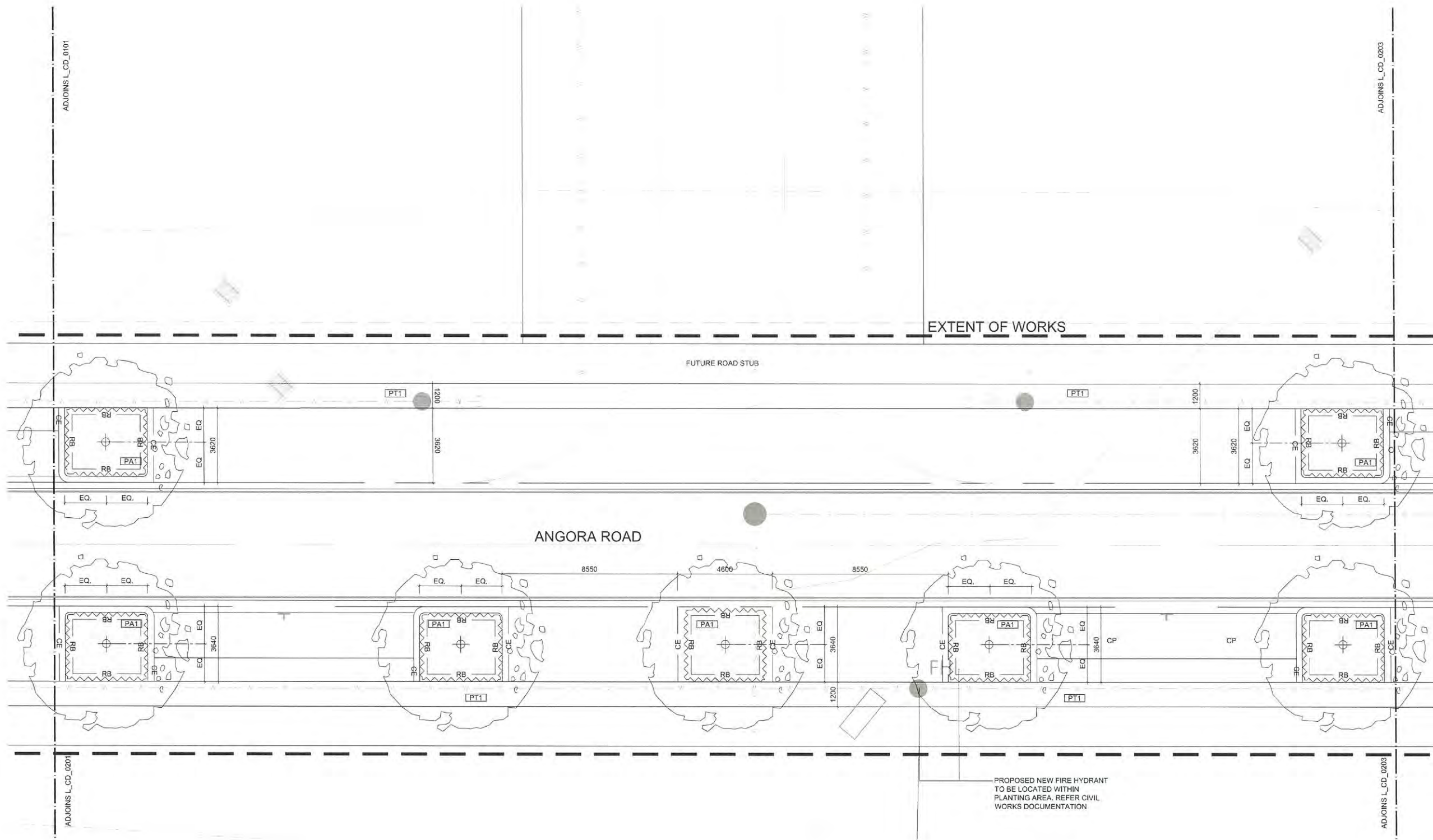
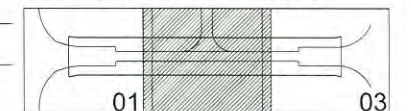
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KEY PLAN - SCALE 1:2000



LEGEND

[PT1]	PAVING TYPE 1 - CCS CHARCOAL COLOURED CONCRETE - BROOM FINISH - REFER TO BCC STANDARD DETAIL BSD 5201
[EX-P]	EXISTING PATHWAY - TO BE RETAINED AND PROTECTED
[PA1]	PROPOSED PLANTING AREA 1 - REFER TO BCC STANDARD DETAIL BSD-9052
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[MA]	MULCH AREA - MULCH ONLY AREA - REFER TO BCC STANDARD NOTES BSD-9051

[TA]	TURF WORKS - REFER TO BCC STANDARD DETAIL BSD-9052
[CP]	PROPOSED CAR PARKING - REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH
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	EXTENT OF LANDSCAPE WORKS
	PAGE ADJOINS
	IMPERVIOUS LINER TO WSUD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035

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	RB ROOT BARRIER - REFER TO BCC STANDARD DETAIL BSD-9003
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	PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT - REFER ELECTRICAL ENGINEER'S DWGS
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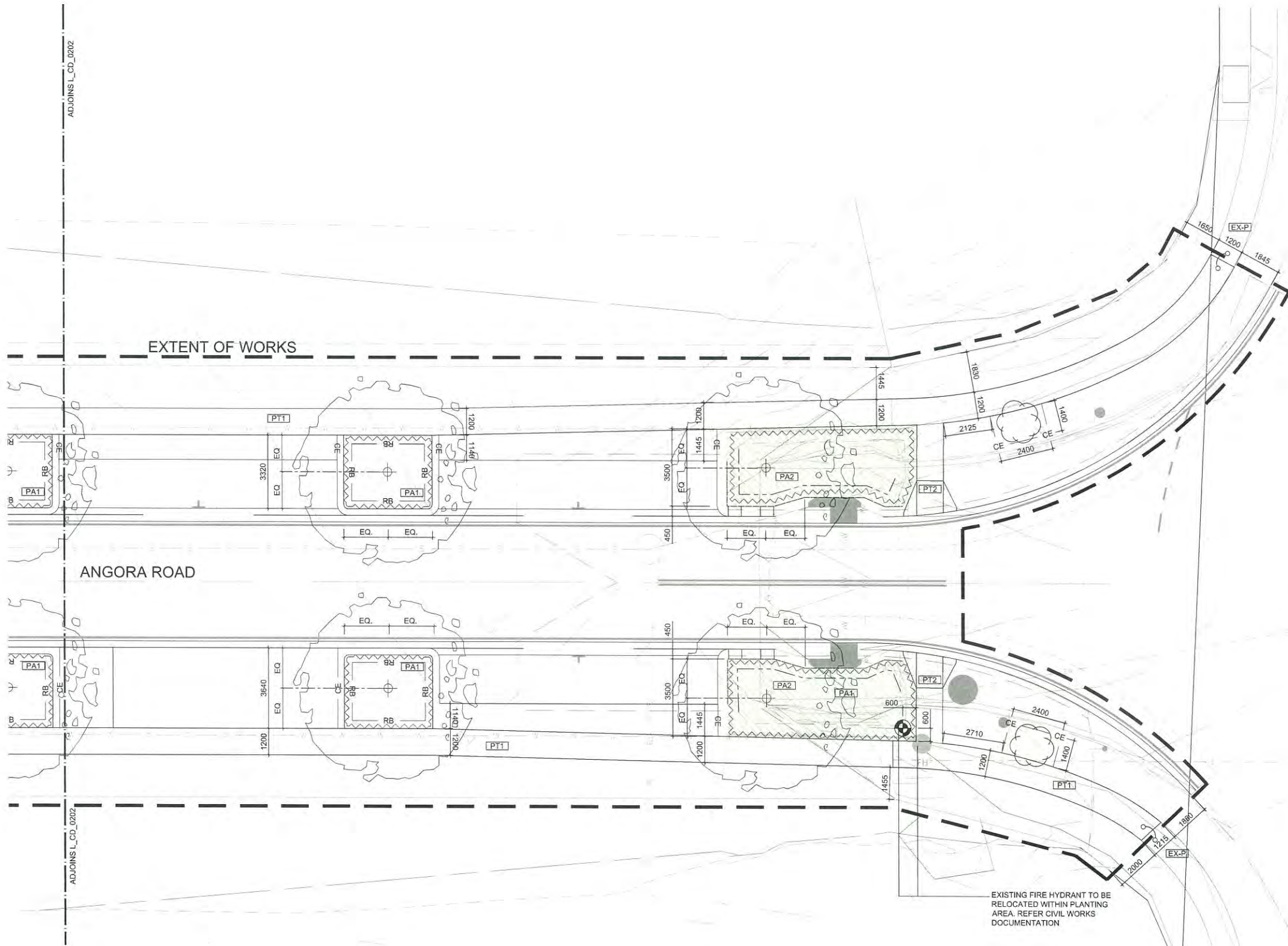
CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND

PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON

DRAWING TITLE
SETOUT PLAN
SHEET 2

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0202	REVISION C	



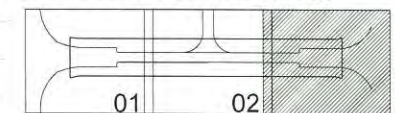
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QUEENSLAND

PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON

DRAWING TITLE
SETOUT PLAN
SHEET 3

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0203	REVISION C	

LEGEND

PAVING TYPE 1 - CCS CHARCOAL COLOURED CONCRETE - BROOM FINISH - REFER TO BCC STANDARD DETAIL BSD 5201	TURF WORKS - REFER TO BCC STANDARD DETAIL BSD-9052
EXISTING PATHWAY - TO BE RETAINED AND PROTECTED	PROPOSED CAR PARKING - REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH
PROPOSED PLANTING AREA 1 - REFER TO BCC STANDARD DETAIL BSD-9052	PROPOSED TREE - 400L - REFER PLANTING PLAN FOR SPECIES - REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053.
PROPOSED PLANTING AREA 2 - REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035	EXTENT OF LANDSCAPE WORKS
MULCH AREA - MULCH ONLY AREA - REFER TO BCC STANDARD NOTES BSD-9051	PAGE ADJOINS
	IMPERVIOUS LINER TO WSUD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035

CONCRETE EDGE - REFER TO BCC STANDARD DETAIL BSD-9061	PROPOSED WATER - REFER CIVIL ENGINEER'S DWGS
ROOT BARRIER - REFER TO BCC STANDARD DETAIL BSD-9003	PROPOSED STORMWATER - REFER CIVIL ENGINEER'S DWGS
PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE	PROPOSED SEWERAGE - REFER CIVIL ENGINEER'S DWGS
PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT - REFER ELECTRICAL ENGINEER'S DWGS	EXISTING FENCE
PROPOSED ELECTRICAL PIT - REFER ELECTRICAL ENGINEER'S DWGS	EXISTING SIGNAGE
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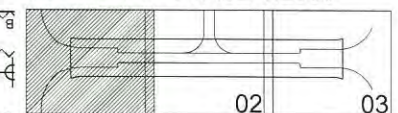
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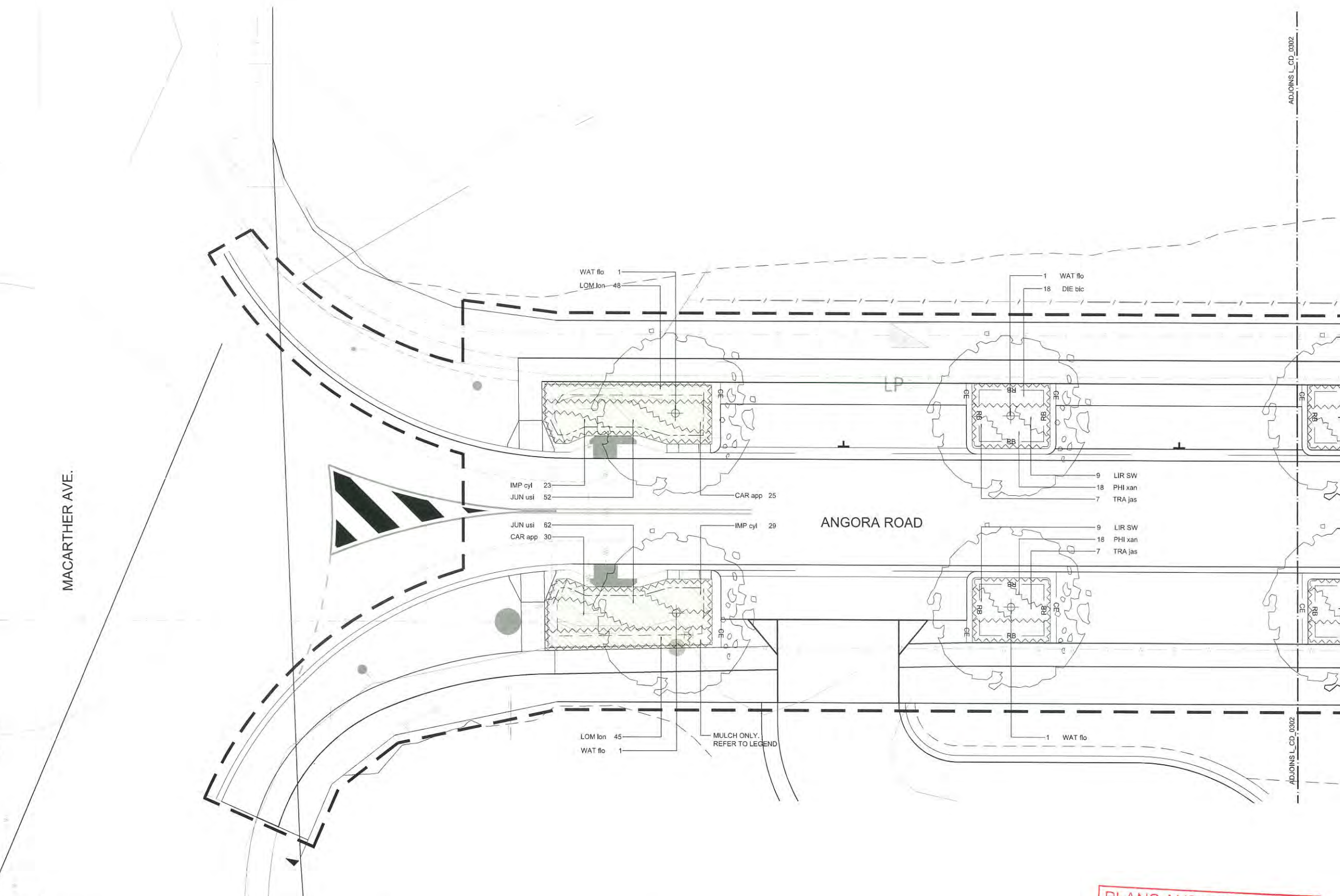
CLIENT
**ECONOMIC DEVELOPMENT
QUEENSLAND**

PROJECT TITLE
**ANGORA ROAD-P5
NORTH SHORE HAMILTON**

DRAWING TITLE
**PLANTING PLAN
SHEET 1**

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0301	REVISION B	



LEGEND

[PT1]	PAVING TYPE 1 - CCS CHARCOAL COLOURED CONCRETE - BROOM FINISH - REFER TO BCC STANDARD DETAIL BSD 5201
[EX-P]	EXISTING PATHWAY - TO BE RETAINED AND PROTECTED
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	EXTENT OF LANDSCAPE WORKS
	PAGE ADJOINS
	IMPERVIOUS LINER TO WSUD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035

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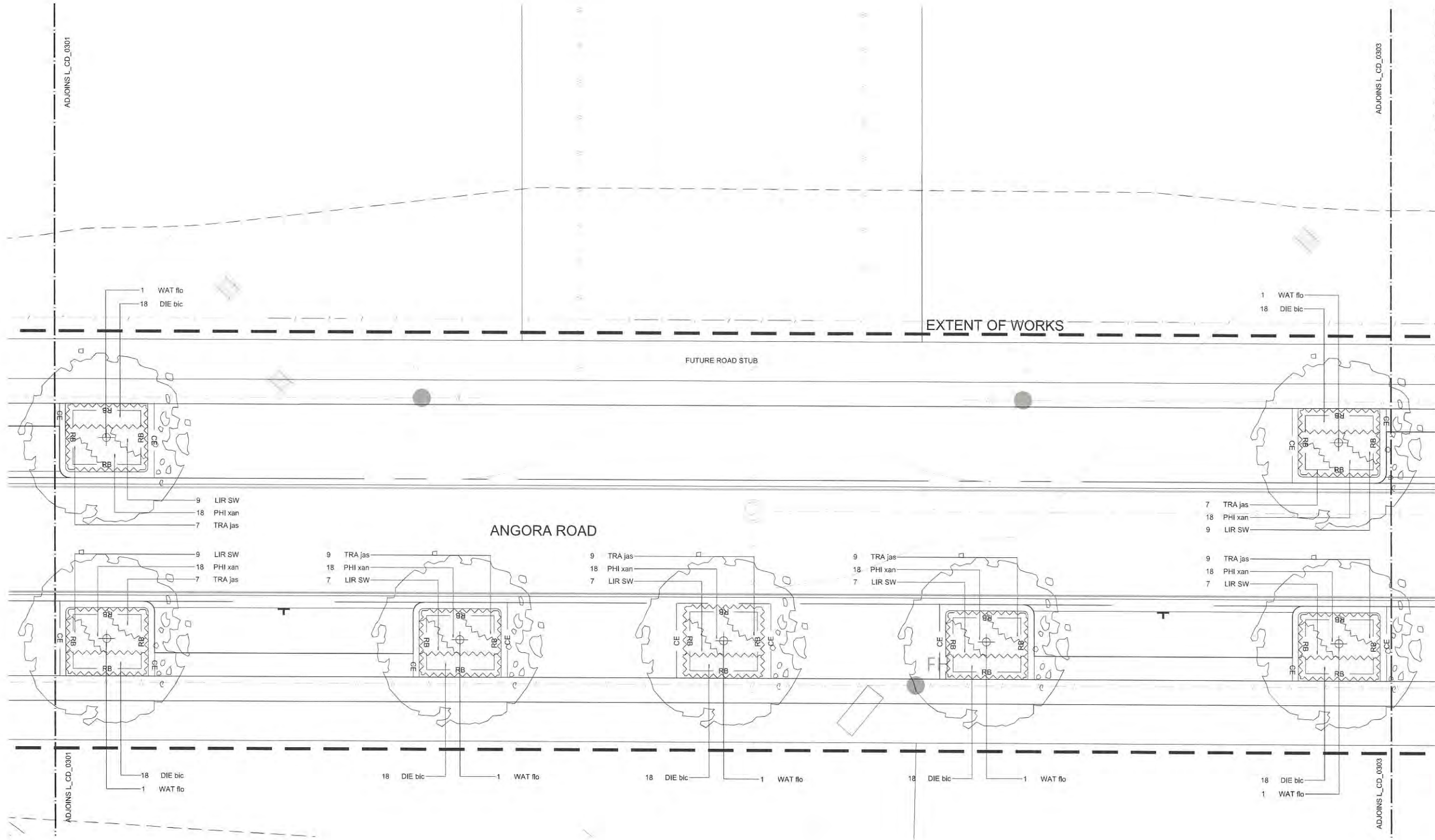
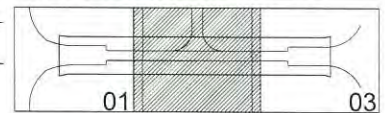
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KEY PLAN - SCALE 1:2000



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CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND

PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON

DRAWING TITLE
PLANTING PLAN
SHEET 2

SCALE BAR
0m 1.0m 2.0m 3.0m 4.0m 5.0m
SCALE 1:100 @ A1

PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0302	REVISION B	

LEGEND



PAVING TYPE 1
- CCS CHARCOAL COLOURED CONCRETE
- BROOM FINISH
- REFER TO BCC STANDARD DETAIL BSD 5201



EXISTING PATHWAY
- TO BE RETAINED AND PROTECTED



PROPOSED PLANTING AREA 1
- REFER TO BCC STANDARD DETAIL BSD-9052



PROPOSED PLANTING AREA 2
- REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035



MULCH AREA
- MULCH ONLY AREA
- REFER TO BCC STANDARD NOTES BSD-9051



TURF WORKS
- REFER TO BCC STANDARD DETAIL BSD-9052



PROPOSED CAR PARKING
- REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH



PROPOSED TREE - 400L
- REFER PLANTING PLAN FOR SPECIES
- REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053.



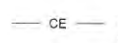
EXTENT OF LANDSCAPE WORKS



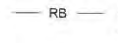
PAGE ADJOINS



IMPERVIOUS LINER TO WSUD TO ROADSIDE
- REFER BCC STANDARD DRAWING BSD9035



CONCRETE EDGE
- REFER TO BCC STANDARD DETAIL BSD-9051



ROOT BARRIER
- REFER TO BCC STANDARD DETAIL BSD-9003



PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE



PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT
- REFER ELECTRICAL ENGINEER'S DWGS



PROPOSED ELECTRICAL PIT
- REFER ELECTRICAL ENGINEER'S DWGS



PROPOSED WATER
- REFER CIVIL ENGINEER'S DWGS



PROPOSED STORMWATER
- REFER CIVIL ENGINEER'S DWGS



PROPOSED SEWERAGE
- REFER CIVIL ENGINEER'S DWGS



EXISTING FENCE



EXISTING SIGNAGE

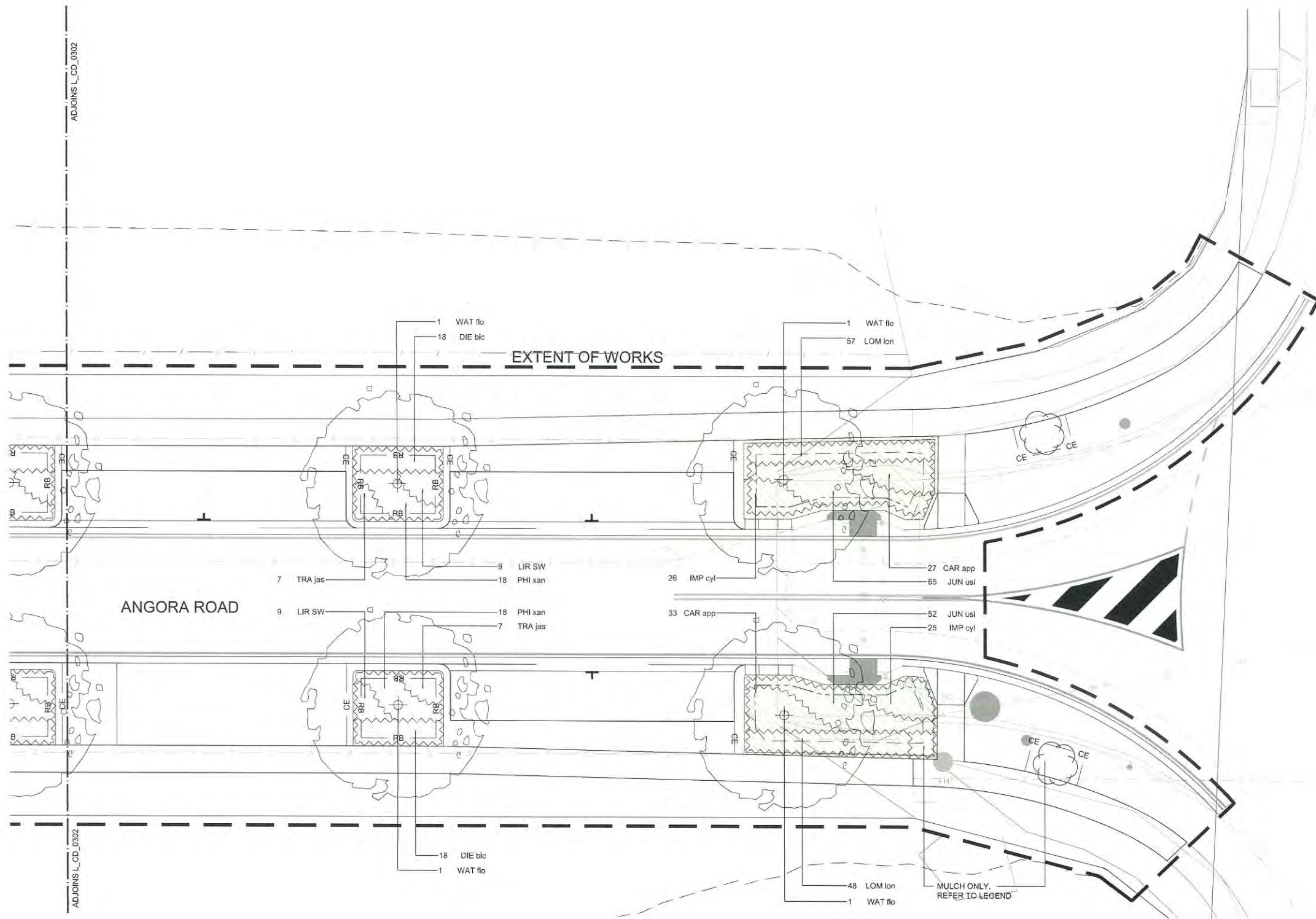


EXISTING LIGHT POST
PROPOSED MANHOLE
- REFER CIVIL ENGINEER'S DWGS

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ



REV	DESCRIPTION	DATE
A	OPERATIONAL WORKS	30.09.14
B	OPERATIONAL WORKS	10.03.15

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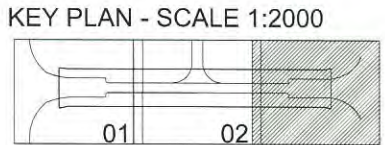
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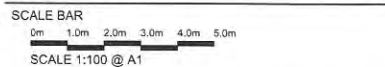
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CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND

PROJECT TITLE
ANGORA ROAD-P5
NORTH SHORE HAMILTON

DRAWING TITLE
PLANTING PLAN
SHEET 3



PROJECT No. 14097.01	SCALE 1:100@A1	
DRAWN BY GG	VERIFIER AN	
DRAWING No. 14097_L_CD_0303	REVISION B	

LEGEND

PT1	PAVING TYPE 1 - CCS CHARCOAL COLOURED CONCRETE - BROOM FINISH - REFER TO BCC STANDARD DETAIL BSD 5201	TA	TURF WORKS - REFER TO BCC STANDARD DETAIL BSD-9052
EX-P	EXISTING PATHWAY - TO BE RETAINED AND PROTECTED	CP	PROPOSED CAR PARKING - REFER CIVIL ENGINEERS DOCUMENTATION FOR PAVEMENT COLOUR AND FINISH
PA1	PROPOSED PLANTING AREA 1 - REFER TO BCC STANDARD DETAIL BSD-9052		PROPOSED TREE - 400L - REFER PLANTING PLAN FOR SPECIES - REFER BCC STANDARD DETAILS BSD 9003, 9051, 9052 & 9053.
PA2	PROPOSED PLANTING AREA 2 - REFER TO BCC STANDARD DETAIL BSD-9034 & BSD-9035		EXTENT OF LANDSCAPE WORKS
MA	MULCH AREA - MULCH ONLY AREA - REFER TO BCC STANDARD NOTES BSD-9051		PAGE ADJOINS
			IMPERVIOUS LINER TO WSUD TO ROADSIDE - REFER BCC STANDARD DRAWING BSD9035

	CONCRETE EDGE - REFER TO BCC STANDARD DETAIL BSD-9051		PROPOSED WATER - REFER CIVIL ENGINEER'S DWGS
	ROOT BARRIER - REFER TO BCC STANDARD DETAIL BSD-9003		PROPOSED STORMWATER - REFER CIVIL ENGINEER'S DWGS
	PROPOSED FINISHED SURFACE FLUSH WITH ADJACENT EXISTING SURFACE		PROPOSED SEWERAGE - REFER CIVIL ENGINEER'S DWGS
	PROPOSED STREETLIGHT & UNDERGROUND MAINS/ ELECTRICAL CONDUIT - REFER ELECTRICAL ENGINEER'S DWGS		EXISTING FENCE
	PROPOSED ELECTRICAL PIT - REFER ELECTRICAL ENGINEER'S DWGS		EXISTING SIGNAGE
			EXISTING LIGHT POST
			PROPOSED MANHOLE - REFER CIVIL ENGINEER'S DWGS

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

1. TOPSOIL

- 1.1. STRIP & STOCKPILE AVAILABLE TOPSOIL (ASSUMED AVERAGE DEPTH 150mm) FROM ALL DISTURBED AREAS PRIOR TO BULK EARTHWORKS. GRADE BULK EARTHWORKS SURFACE LEVEL EVENLY TO ENSURE SITE IS FREE DRAINING.
- 1.2. MINIMUM SLOPE ACROSS SITE TO BE 0.5%.
- 1.3. ALL FOOTPATHS, BATTERS, & EARTHWORKS AFFECTED AREAS ARE TO BE TOPSOILED TO A MINIMUM DEPTH OF 100mm (LIGHTLY COMPACTED) & TURFED WHERE SPECIFIED.
- 1.4. SEDIMENT FENCES TO BE PLACED AS SHOWN. FOR DETAILS OF SEDIMENT FENCE REFER TO IPWEAQ STD DWG DS-040. SEDIMENT FENCES TO BE REPAIRED & EXCESSIVE SEDIMENT DEPOSITS SHALL BE REMOVED ONCE CAPACITY FALLS BELOW 75 %.

2. SEDIMENT FENCES

- 2.1. FOR DETAILS OF SEDIMENT FENCE REFER TO IPWEAQ STD DWG DS-040
- 2.2. SEDIMENT FENCES TO BE REPAIRED AS REQUIRED & EXCESSIVE SEDIMENT DEPOSITS SHOULD BE REMOVED.
- 2.3. IN THE EVENT OF WET WEATHER, INSTALL KERB INLETS FILTER WITH GRAVEL RANGING FROM 50mm TO 75mm IN SIZE. REFER IPWEAQ STANDARD DRAWING DS-041. IF THE GRAVEL FILTER BECOMES CLOGGED WITH SEDIMENT DURING ITS USE, THE GRAVEL MUST BE PULLED AWAY FROM THE MESH & CLEANED OR REPLACED.
- 2.4. REGULAR WEEKLY CHECKS OF SILT FENCES IS TO BE MADE ALONG WITH A CHECK AFTER ANY SIGNIFICANT STORM EVENT TO ENSURE INTEGRITY & PERFORMANCE.

3. TURFING

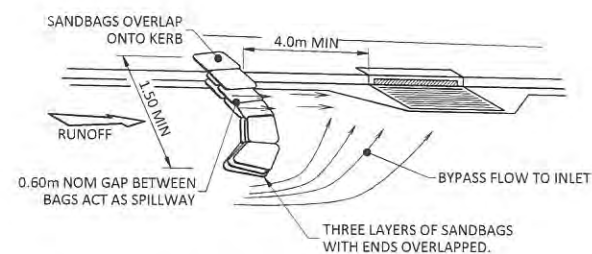
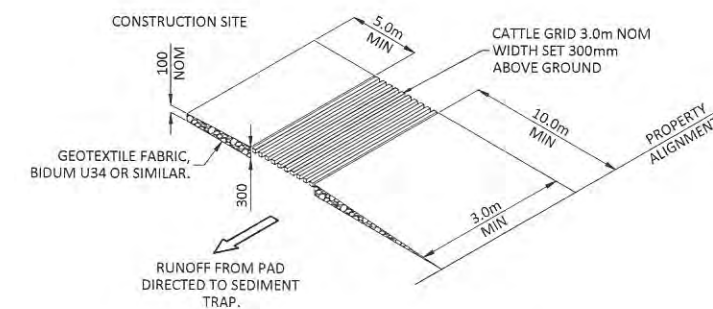
- 3.1. PROVIDE TURFING TO ENTIRE WIDTH OF ALL SWALES, FOOTPATHS, & 1 IN 4 CUT & FILL BATTERS.
- 3.2. FOOTPATH BATTERS ARE TO BE STABILISED WITH TOPSOIL (& TURFED) AS SOON AS PRACTICAL AFTER THE BATTERS HAVE BEEN COMPLETED. REMAINING EXPOSED AREAS ON LOTS ARE TO BE SEEDED & MULCHED (E.G HYDROMULCH).

4. DURING CONSTRUCTION SEQUENCE

- 4.1. TOPSOIL STOCKPILE SITE TO HAVE A SEDIMENTATION FENCE CONSTRUCTED ON DOWNSTREAM SIDE.
- 4.2. SEDIMENTATION FENCES TO BE PLACED AS SHOWN.
- 4.3. REGULARLY INSPECT BANKS & REPAIR ANY SLUMPS, WHEEL TRACK DAMAGE OR LOSS OF FREEBOARD.
- 4.4. REMOVE SEDIMENT TO AVOID PONDING FROM CATCH DRAINS.
- 4.5. REMOVE EXCESSIVE SEDIMENT FROM UPSTREAM OF CHECK DAM.
- 4.6. ROAD RESERVE TO BE USED AS HAUL ROAD.
- 4.7. A CATCH DRAIN BANK IS TO BE PROVIDED ON THE TOP SIDE OF ALL CUTS & DISCHARGE EITHER TO UNDISTURBED GRASS LANDS OR TO THE CROSS ROAD DRAINAGE.
- 4.8. CONSTRUCTION EXIT SHALL BE AT ONLY ONE NOMINATED POINT ON ANGORA STREET, FROM MACARTHUR AVENUE (SOUTH).
- 4.9. FOR DETAILS OF TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP REFER TO IPWEAQ STANDARD DRAWING DS-040.
- 4.10. SUPPLEMENTARY EROSION & SEDIMENT CONTROL DEVICES MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
- 4.11. WATER QUALITY SAMPLES MUST BE TAKEN & ANALYSED PRIOR TO THE RELEASE OF ANY WATER FROM THE SEDIMENT POND. WATER QUALITY MUST SATISFY THE FOLLOWING CRITERIA: TSS<50mg/L pH BETWEEN 6.5 & 8.5. IF WATER QUALITY FAILS THE CRITERIA THEN THE USE OF A GYPSUM FLOCCULENT IS TO BE APPLIED AS DIRECTED BY THE MANAGING CONTRACTOR OR CONSULTING ENGINEER.
- 4.12. ALL WATER QUALITY DATA INCLUDING DATES OF RAINFALL, TESTING & WATER RELEASE MUST BE MAINTAINED IN AN ON-SITE REGISTER. THIS REGISTER IS TO BE MAINTAINED FOR THE DURATION OF THE APPROVED WORKS & BE AVAILABLE ON SITE FOR INSPECTION ON REQUEST.
- 4.13. GRASS SEEDING IS TO ACHIEVE 70% COVER WITHIN 30 DAYS OF COMPLETION OF EARTHWORKS.

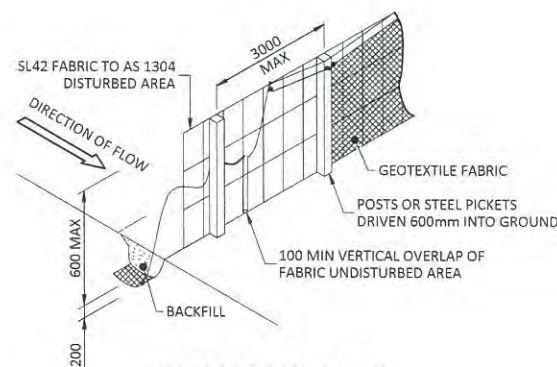
5. FOLLOWING CONSTRUCTION

- 5.1. SEDIMENTATION FENCES TO BE MAINTAINED UNTIL TURFING IS COMPLETED & GRASS IS 80% ESTABLISHED.
- 5.2. SEDIMENT BASINS TO BE CHECKED & DE-SILTED AFTER EVERY SIGNIFICANT STORM EVENT OR IN THE CASE OF NO SIGNIFICANT STORM EVENT, EVERY 12 WEEKS.

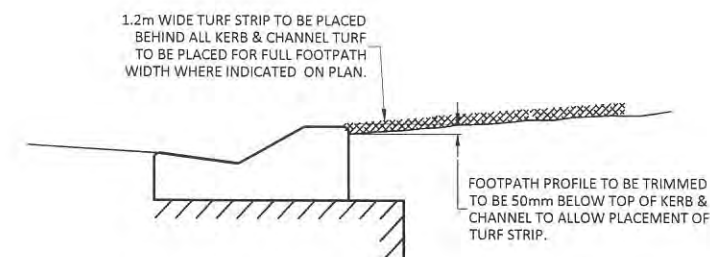
ON GRADE KERB INLET SEDIMENT TRAP
NTS

NOTE 1: UNBOUND PAVEMENT MATERIAL (GRAVEL) TO GRADING B, TABLE 9 OF TMR SPECIFICATION MRS11.05, EXCLUDE MATERIAL FINER THAN AS SIEVE 2.36mm.

TEMPORARY CONSTRUCTION
ENTRY / EXIT SEDIMENT TRAP
NTS



SILT FENCE ELEVATION
N.T.S.



EROSION CONTROL AT KERB
N.T.S.

PLANS AND DOCUMENTS referred to in the PDA APPROVAL

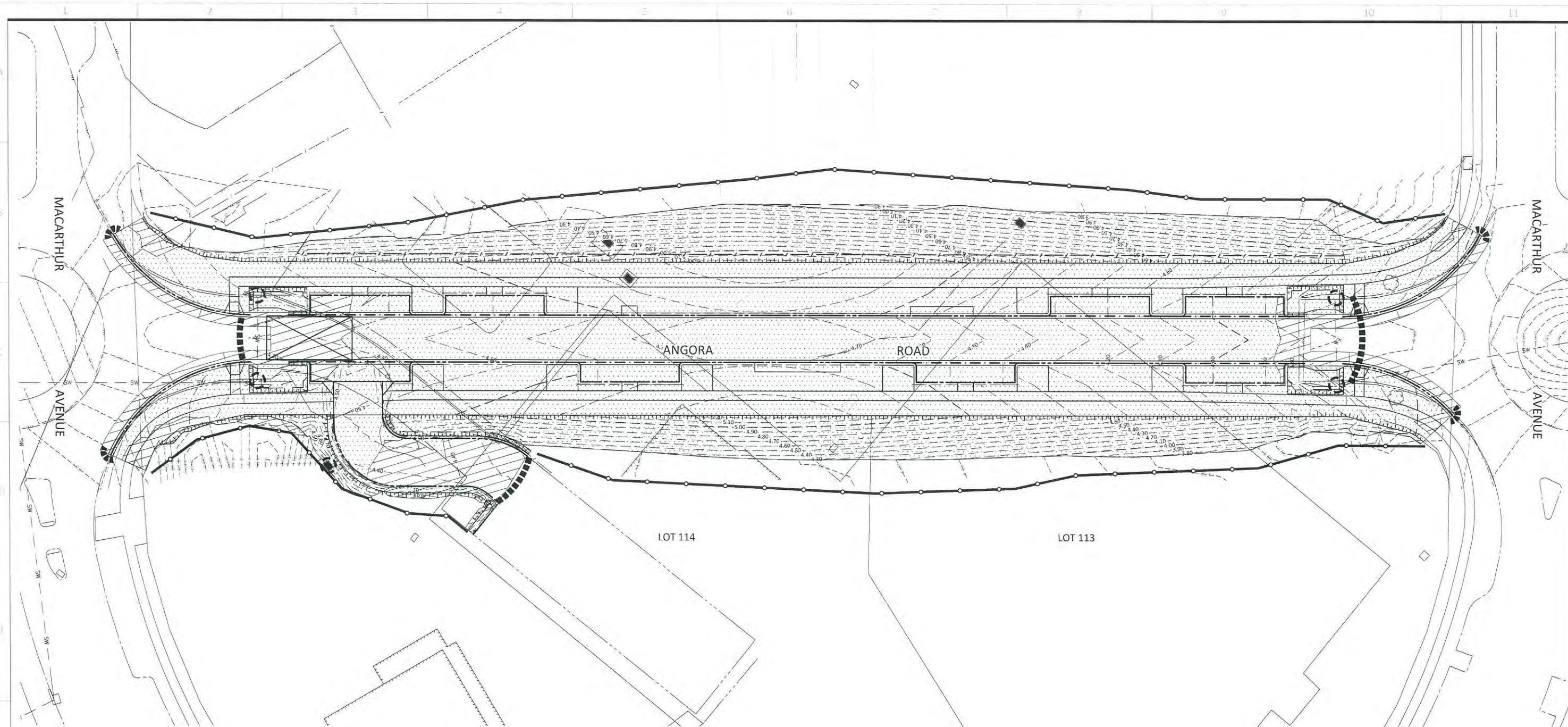
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REV	DATE	AMENDMENT / ISSUE	DWN	DES	CHK	APP	ASSOCIATED CONSULTANTS		
D	03.03.15	REVISED FOR BCC COMMENTS 11/02/2015							
C	01.10.14	ISSUE FOR APPROVAL	KR	KR	KR	KR			
B	12.09.14	EDQ DEVELOPMENT APPLICATION	MS	NN					
A	01.08.14	PROGRESS ISSUE							
							APPROVED	CHECKED	
							 7729 RPEQ	K.RENSCH	
							DATE 01/10/14	DATE 01/10/14	
							BORNHORST + WARD CONSULTING ENGINEERS CIVIL AND STRUCTURAL Level 4, 67 Astor Terrace, Spring Hill, QLD 4000 Phone (07) 3013 4699 Facsimile (07) 3013 4611 mail@bornhorstward.com.au www.bornhorstward.com.au ACN 010 155 154 A/N 78 010 155 154		
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							CLIENT ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)		
							PROJECT ANGORA ROAD NORTHSHORE HAMILTON		
							SUBJECT EROSION & SEDIMENT CONTROL NOTES AND DETAILS		
							PROJECT No. 14157 DRAWING No. P5-C0020 REVISION D		



PLAN
SCALE A

LEGEND

EXISTING	PROPOSED		
		KERB AND CHANNEL	
		KERB ONLY	
		KERB INVERT	
		KERB FLUSH	
		EDGE OF BITUMEN	
		EXTENT OF BUILDING	
		PROPERTY BOUNDARY	
		EASEMENT	
		STORMWATER DRAINAGE	
		TOP OF BATTER	
		TOE OF BATTER	
		BATTER	
		CONTOURS	
		FENCE	
		FOOTPATH	
		TREE	
		SILT FENCE	
		INLET SEDIMENT TRAP	
		SEDIMENT CONSTRUCTION ENTRY/EXIT	
		SANDBAGS	
		CUT	
		FILL	

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

19 MAR 2015

MEDQ

PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

SCALES

0 2.5 5.0 7.5 10.0 12.5m

1:250 / 1:500

STATUS

FOR APPROVAL

REV	DATE	AMENDMENT / ISSUE	DWN	DES	CHK	APP	ASSOCIATED CONSULTANTS	APPROVED	CHECKED	BORNHORST + WARD CONSULTING ENGINEERS	CLIENT	PROJECT	SUBJECT	PROJECT No.
E	03.03.15	REVISED FOR BCC COMMENTS 11/02/2015									ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)	ANGORA ROAD NORTHSHORE HAMILTON	EROSION & SEDIMENT CONTROL LAYOUT	14157
D	19.01.15	REVISED FOR BCC COMMENTS 06/11/2014												
C	01.10.14	ISSUE FOR APPROVAL												
B	12.09.14	EDQ DEVELOPMENT APPLICATION												
A	01.08.14	PROGRESS ISSUE												

DATE	01/10/14	DATE	01/10/14
APPROVED		CHECKED	K. RENSCH
DATE	01/10/14	DATE	01/10/14

7729	RPEQ
DATE	01/10/14

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CLIENT	ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)
PROJECT	ANGORA ROAD NORTHSHORE HAMILTON
SUBJECT	EROSION & SEDIMENT CONTROL LAYOUT
PROJECT No.	14157
DRAWING No.	P5-C0021
REVISION	E