

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 "SAFEGUARD PLAN" AS PER WORKPLACE HEALTH AND SAFETY LEGISLATION TO QUU PROVIDER PRIOR TO QUU COMMENCING ANY WORK.

[illegible]

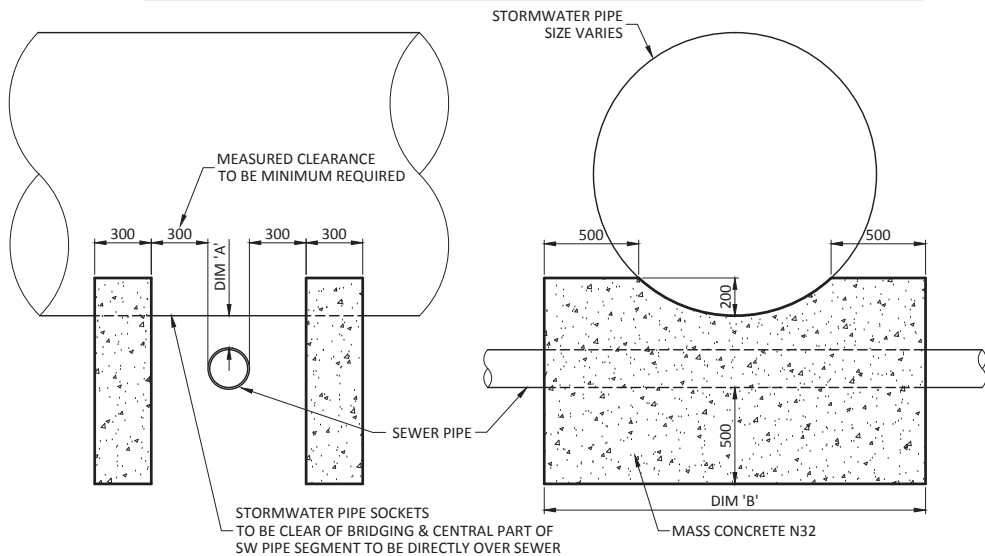
EXISTING MH LEVELS TO BE ADJUSTED BY QUU PROVIDER, REFER LIVE WORKS TABLE.
MAXIMUM THROAT DIMENSION FROM U/S ASPRO TO TOP OF LID NOT TO EXCEED
350mm.

WORKS TO INCLUDE RAISING / LOWERING ASPRO, AND PROVIDING / ADJUSTING RISER RINGS, EXTENDING OR REMOVING PARTS OF STEP IRONS OR LADDERS, PROVIDE NEW TYPE D LID TO ALL MH'S AND PROVIDE NEW ASPRO WHERE REQUIRED. ALL WORKS TO BE STRICTLY IN ACCORDANCE WITH SEQ CODE STANDARD DRAWINGS.

CONTRACTOR TO COMPLETE INVESTIGATION INTO EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORKS.

M.H. No.	E.S.L.	F.S.L. GUIDE ONLY (CONTRACTOR TO CONFIRM)	NOTES
MH244593	3.335	3.147	-
MH151247	3.135	3.146	-
MH151246	2.792	2.850	-
MH151245	2.592	2.528	-
MH151244	2.823	2.861	-
MH257851	3.171	2.872	-
MH150552	3.181	2.835	-
MH268089	2.953	2.987	REFER DETAIL 1. DRG C0611
MH150847	3.245	3.234	-
MH150846	3.144	3.349	REFER DETAIL 2. DRG C0613
MH258318	3.047	3.084	-
MH258319	3.030	3.014	-
MH150528	3.191	3.358	-
MH521230	3.127	3.200	-
MH521231	3.164	3.334	-
EX1/4	3.150	3.208	-
MH521116	3.200	3.255	-
MH521117	3.328	3.177	-
MH521119	3.586	3.593	-
MH521120	3.510	3.923	-
MH150529	3.350	3.380	-
MH150530	3.633	3.587	REFER DETAIL 3. DRG C0614

SEWER TO BE ABANDONED			JOB No.			M.H. TYPE & No.			
LOCATION	LINE SEGMENT	DIA	TYPE	LENGTH	YEAR LAID	G	F	X	OTHER
REMORA RD	LS152280	150	SGW	22.000	1965	-	-	-	-
HERCULES ST	LS151573	150	SGW	21.000	1965	-	-	-	-
HERCULES ST	EX 1/2 -MH150552	250	PE	6.000	BY OTHERS DURING THIS PROJECT	1	-	-	-



MASS CONCRETE BRIDGING DETAIL

TYPICAL DIMENSIONS SHOWN

PIPE (REFER LONG SECTION)	STORMWATER PIPE DIA.	DIM. 'A'	DIM. 'B'
25.7 - 25.8	2 x (1800x750) BC	REFER SEWER LONGITUDINAL SECTIONS	2800
29.1 - 29.2	675	REFER SEWER LONGITUDINAL SECTIONS	1600

ASSET REGISTER - RETICULATION SEWER					
ESTATE/STAGE		STAGE 1 (REMORA ROADWORKS)			
SITE ADDRESS		MACARTHUR AVENUE, HAMILTON			
COUNCIL FILE		-			
QUU DELEGATE APP. DATE		-			
CLIENT		ECONOMIC DEVELOPMENT QLD			
JOB REFERENCE NO.		-			
MAINS	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	160	PE		16.60	
	250	PE		9.20	
	300	MSCL		100.00	
	315	PE		151.00	
SERVICES	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	-	-		-	
	-	-		-	
		-		-	
MH'S		MH TYPE & NO.			
		G	F	X	MS
		-	6	-	-

"DIAL BEFORE YOU DIG" TO BE CONTACTED
PH: 1100 FOR LOCATION FOR THE LOCATION OF EXISTING
PUBLIC UTILITIES, PRIOR TO EXCAVATION

NOTE:
SERVICE LOCATIONS AND DEPTHS ARE ESTIMATED FROM
SURVEY DATA AND RECORDS. THE ACTUAL LOCATION OF
SERVICES IS TO BE DETERMINED ON SITE BY THE
CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

CONSULTANT: BORNHORST AND WARD PTY LTD
CONTACT: KRIS RENSCH
TELEPHONE: (07) 3013 4699

ALL SEWER CONSTRUCTION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT 1995. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. PHONE 1300 369 915

ENGINEERING CERTIFICATION

SIGNED: _____ DATE: _____

NAME of SIGNATORY (PRINT): _____

PEQ NUMBER: _____

COMPANY NAME _____

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU NETWORK ACCESS TEAM ON PH: 3856 7033 OR EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

R.P. DESCRIPTION	
LOT 407 SP 187479	
PARISH OF TOOMBUL	
LEVEL DATUM	
DATUM: AHD	
PSM: 77618	LEVEL: 4.114
LOCATED: MACARTHUR AVENUE	

HIGH RISK ACTIVITY
ASBESTOS CEMENT PRODUCTS

THIS PROJECT MAY REQUIRE THE HANDLING, REMOVAL AND DISPOSAL OF ASBESTOS CEMENT PRODUCTS. ANY ACTIVITY ASSOCIATED WITH ASBESTOS CEMENT PRODUCTS SHALL BE IN ACCORDANCE WITH RELEVANT AUTHORITY GUIDELINES AND SAFETY REQUIREMENTS.

BY	-
UTILITY/DELEGATE	-
DATE	-

START -	FINISH -
---------	----------

OFFICER/REC'D	-
DATE RELEASED	/ /

REFERENCE	-
DATE	/ /

JOB NUMBER	-
OFFICER CODE	-
DATE	/ /

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL



Approval no: DEV2016/785
Date: 6 October 2016

QUEENSLAND URBAN UTILITIES DELEGATE (VALID FOR 12 MONTHS FROM DATE SHOWN)		DATE:
<u>CLIENT</u>	ECONOMIC DEVELOPMENT QUEENSLAND	
<u>CONTACT:</u>	BORNHORST & WARD	
<u>QUU AUDITOR:</u>	AUDIT AND COMPLIANCE OFFICER	
<u>CONTACT:</u>	TONY FACEY	0412436579
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. 2 OF 8		
QUEENSLAND URBAN UTILITIES DRAWING No.		AMEND.
486/5/9 - 0271 - 002		0



STATUS

FOR TENDER

SUBJECT SEWER RETICULATION NOTES AND DETAILS SHEET 2	PROJECT No. 12191C
	DRAWING No. REVISION P3-S1-C0601 D

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REV	DATE	DESCRIPTION						
D	31.03.16	ISSUE FOR TENDER			MS	BBe	KR	NR
C	11.03.16	FOR REVIEW						
B	12.02.16	ISSUE FOR INFORMATION						
A	17.12.15	ISSUE FOR INFORMATION						

APPROVED

7729 RPEQ	
DATE	DATE

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

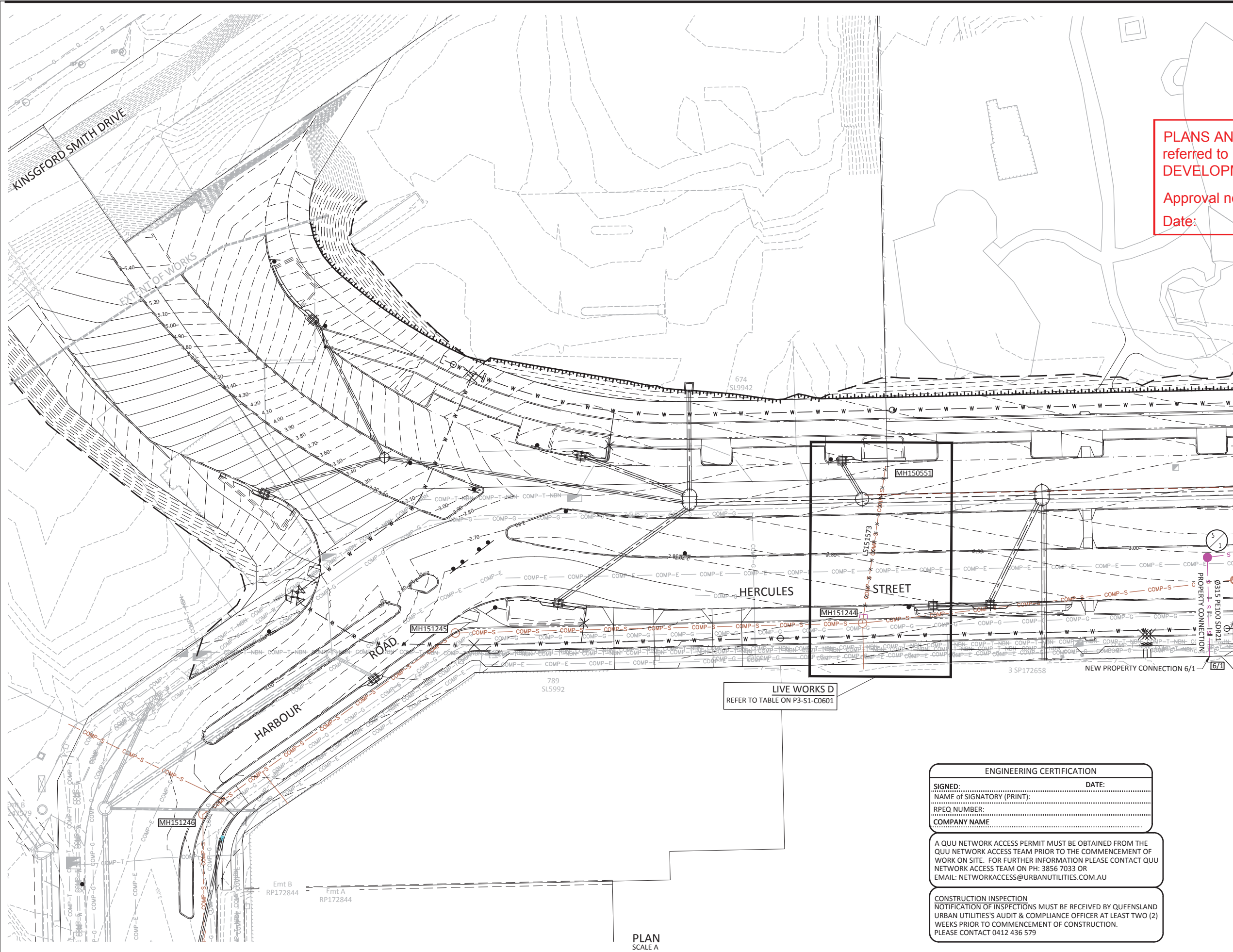
SUBJECT

SEWER RETICULATION
NOTES AND DETAILS
SHEET 2

PROJECT No.
12191C

DRAWING No. REVISION

P3-S1-C0601 D



NOTE:
1. ALL SEWER AND ASSOCIATED MANHOLES MARKED TO BE ABANDONED LOCATED INSIDE WORKS ZONE TO BE REMOVED FROM SITE UNLESS NOTED OTHERWISE. TRENCHES TO BE BACKFILLED WITH IMPORTED MATERIAL AS PER EARTHWORKS SPECIFICATION.
2. FOR EXISTING MANHOLES TO BE ADJUSTED, REFER LIVE WORKS G TABLE DRG C0601.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



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

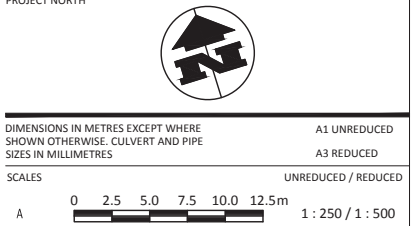
CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412436579

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 8
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/9 - 0271 - 003 AMEND. 0



ENGINEERING CERTIFICATION

SIGNED: DATE: NAME of SIGNATORY (PRINT): RPEQ NUMBER: COMPANY NAME:

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU NETWORK ACCESS TEAM ON PH: 3856 7033 OR EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTION NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. PLEASE CONTACT 0412 436 579

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS	APPROVED	CHECKED
	7729 RPEQ	
DATE		DATE

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT	PROJECT	SUBJECT	PROJECT No.
ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)	REMORA ROAD ROADWORKS NORTHSHORE HAMILTON	SEWER RETICULATION LAYOUT SHEET 1	12191C
			P3-S1-C0610 D

Approval no: DEV2016/785
Date: 6 October 2016



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

AS CONSTRUCTED DETAILS FOR AMEND.

SIGNED	DATE:
NAME of SIGNATORY	
RPEQ No. or LICENCE	
COMPANY NAME	
START DATE	FINISH DATE



QUEENSLAND
UrbanUtilities



SCALES	UNREDUCED / REDUCED
--------	---------------------

A 1 : 250 / 1 : 500

B

0 0.5 1.0 1.5 2.0 2.5 mm 1:50 / 1:100

FOR TENDER

PROJECT No.
12191C

DRAWING No.	REVISION
3-S1-C0611	D

D:\MS-DOS\SYSTEM\COMMAND.COM

DOI: 10.1002/2010.07.0004

ORIGINAL SIZE A1

EXISTING CONNECTIONS
TO REMAIN.

SIGNED: _____ DATE: _____
NAME of SIGNATORY (PRINT): _____
RPEQ NUMBER: _____
COMPANY NAME _____

CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

MH268089
 (Ø1200 ID)

NEW LID LEVEL 2.838

0225 CUR IL -0.780

0225 CUR IL -0.057

TOK 2.984

COMP-S
 COMP-E
 COMP-G

ROTATE AND LOWER ASPRO.
 PROVIDE NEW STEP IRONS.
 REMOVED AND PATCH EXISTING.
 ROTATED MH OPENING MUST
 BE CLEAR OF KERB.

PLAN
SCALE A

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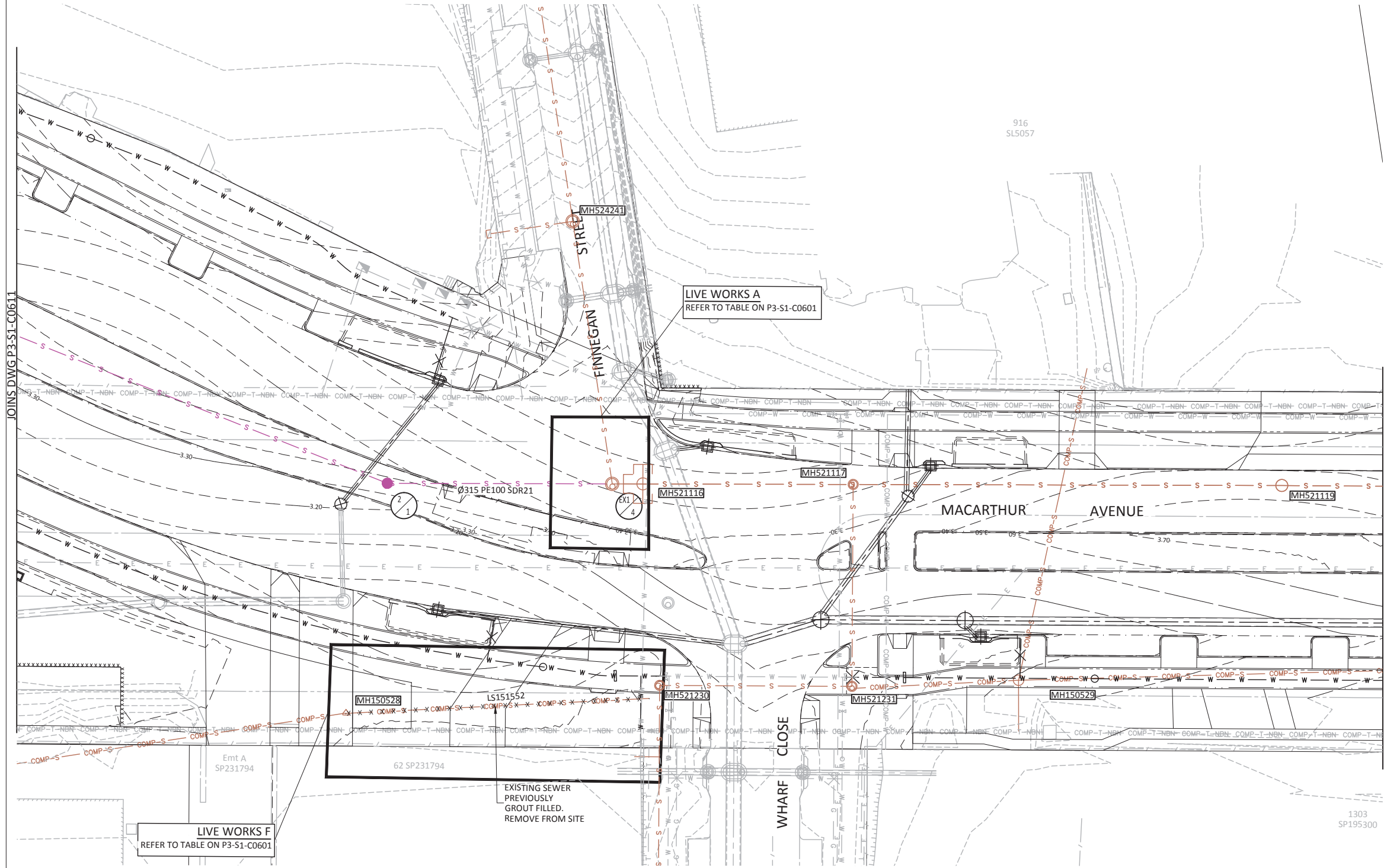
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P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT
SEWER RETICULATION
LAYOUT SHEET 2

PROJECT No.	
12191C	
DRAWING No.	REVISION
P3-S1-C0611	D

JOINS DWG P3-S1-C0611



PLAN
SCALE A

JOINS DWG P3-S1-C0614

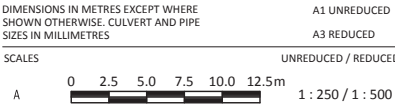
ENGINEERING CERTIFICATION	
SIGNED:	DATE:
NAME OF SIGNATORY (PRINT):	
RPEQ NUMBER:	
COMPANY NAME:	
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PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016

Queensland Government

DATE: QUEENSLAND URBAN UTILITIES DELEGATE (VALID FOR 12 MONTHS FROM DATE SHOWN)	
CLIENT	ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT:	BORNHORST & WARD
QUU AUDITOR:	AUDIT AND COMPLIANCE OFFICER
CONTACT:	TONY FACEY 0412436579
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. 5 OF 8	
QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
486/5/9 - 0271 - 005	0



STATUS
FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
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B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
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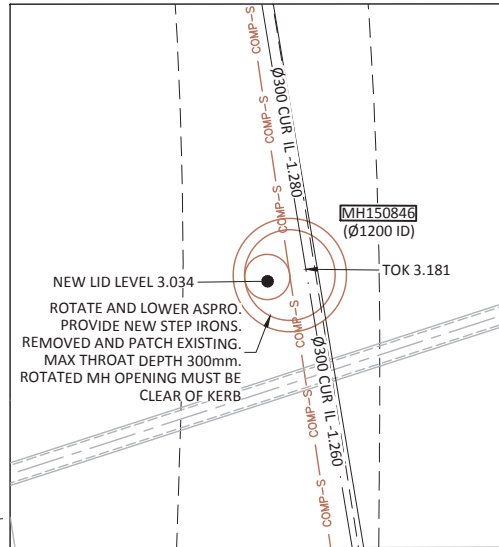
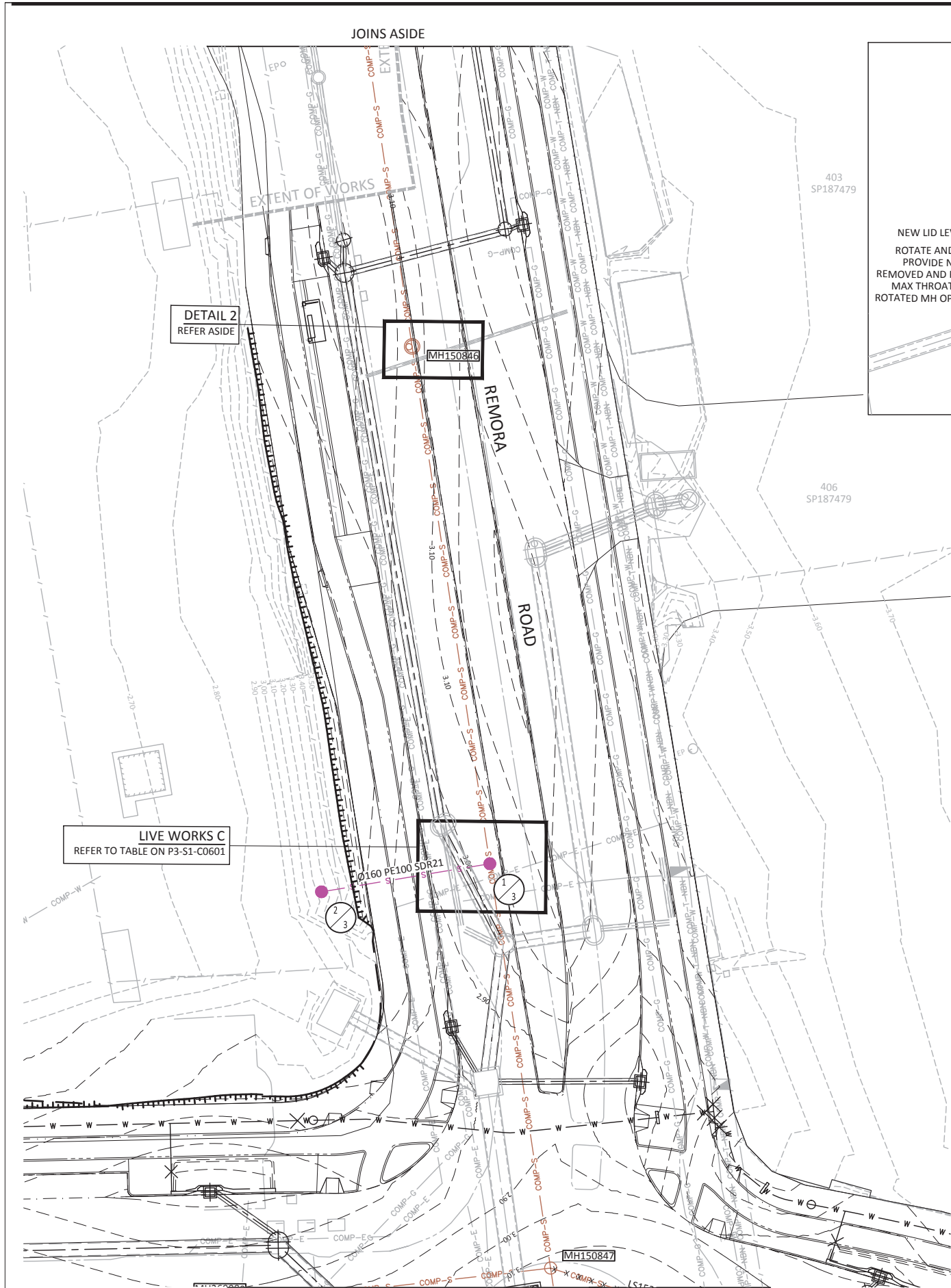
CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

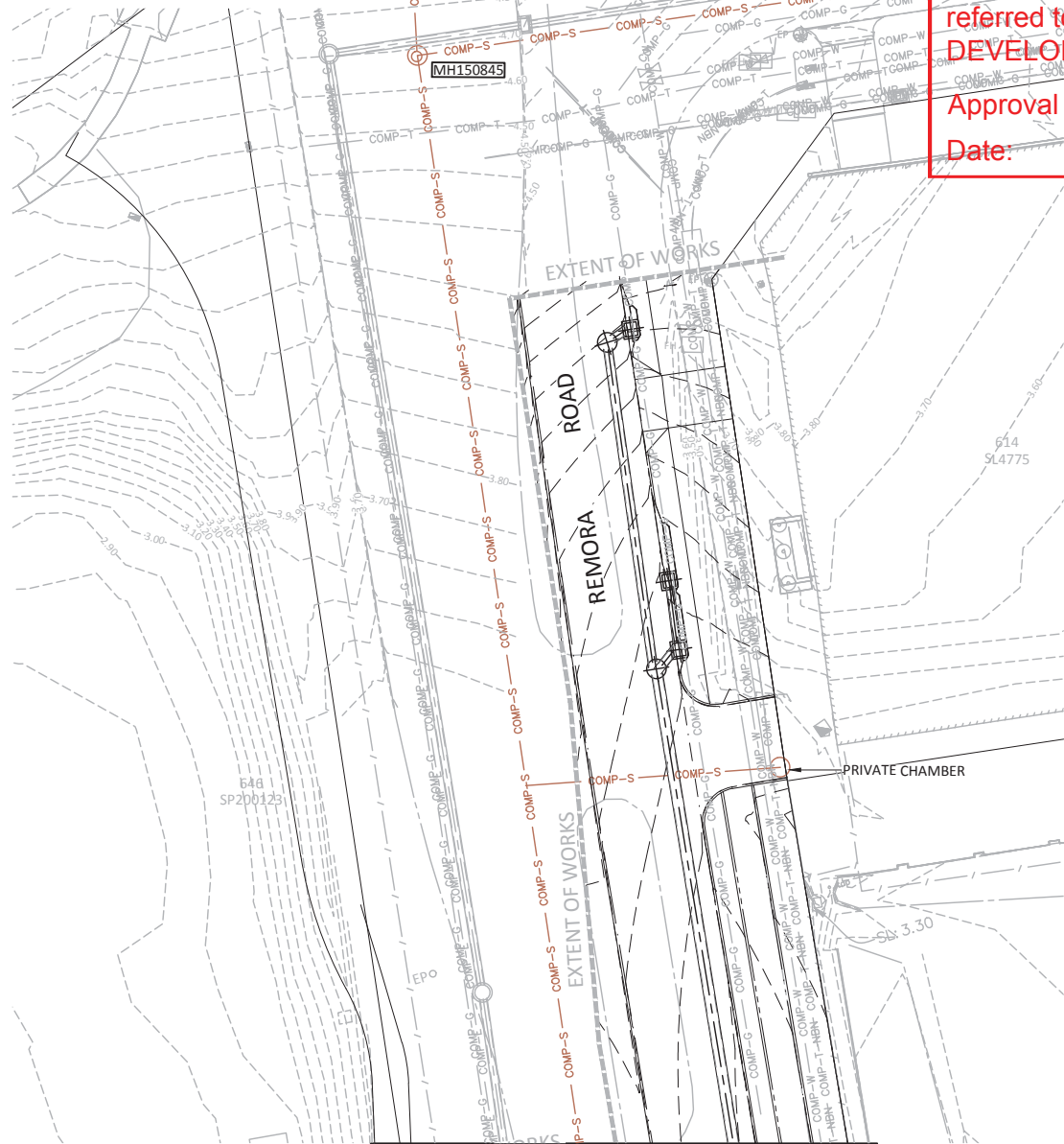
SUBJECT
SEWER RETICULATION
LAYOUT SHEET 3

PROJECT No.
12191C
DRAWING No.
P3-S1-C0612
REVISION
D

0 10 20 30 40 50 60 70 80 90 100 ORIGINAL SIZE A1



DETAIL 2
SCALE B



JOINS DWG P3-S1-C0611
PLAN
SCALE A

ENGINEERING CERTIFICATION

SIGNED: _____ DATE: _____
NAME OF SIGNATORY (PRINT): _____
RPEQ NUMBER: _____
COMPANY NAME: _____

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CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

- NOTE:
- ALL SEWER AND ASSOCIATED MANHOLES MARKED TO BE ABANDONED LOCATED INSIDE WORKS ZONE TO BE REMOVED FROM SITE UNLESS NOTED OTHERWISE. TRENCHES TO BE BACKFILLED WITH IMPORTED MATERIAL AS PER EARTHWORKS SPECIFICATION.
 - FOR EXISTING MANHOLES TO BE ADJUSTED, REFER LIVE WORKS G TABLE DRG C0601.

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



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

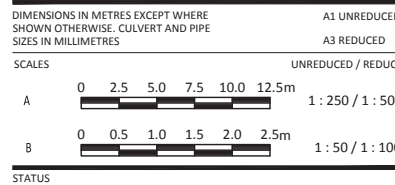
CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412436579

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. 6 OF 8
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/9 - 0271 - 006
AMEND. 0



FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
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B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
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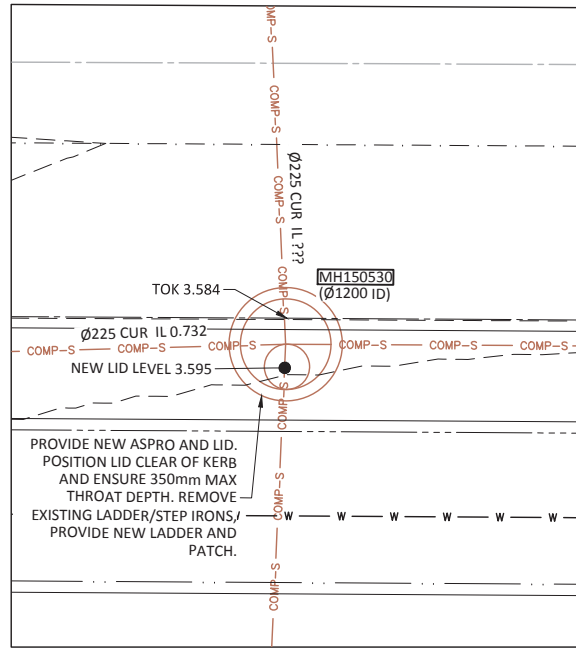
CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

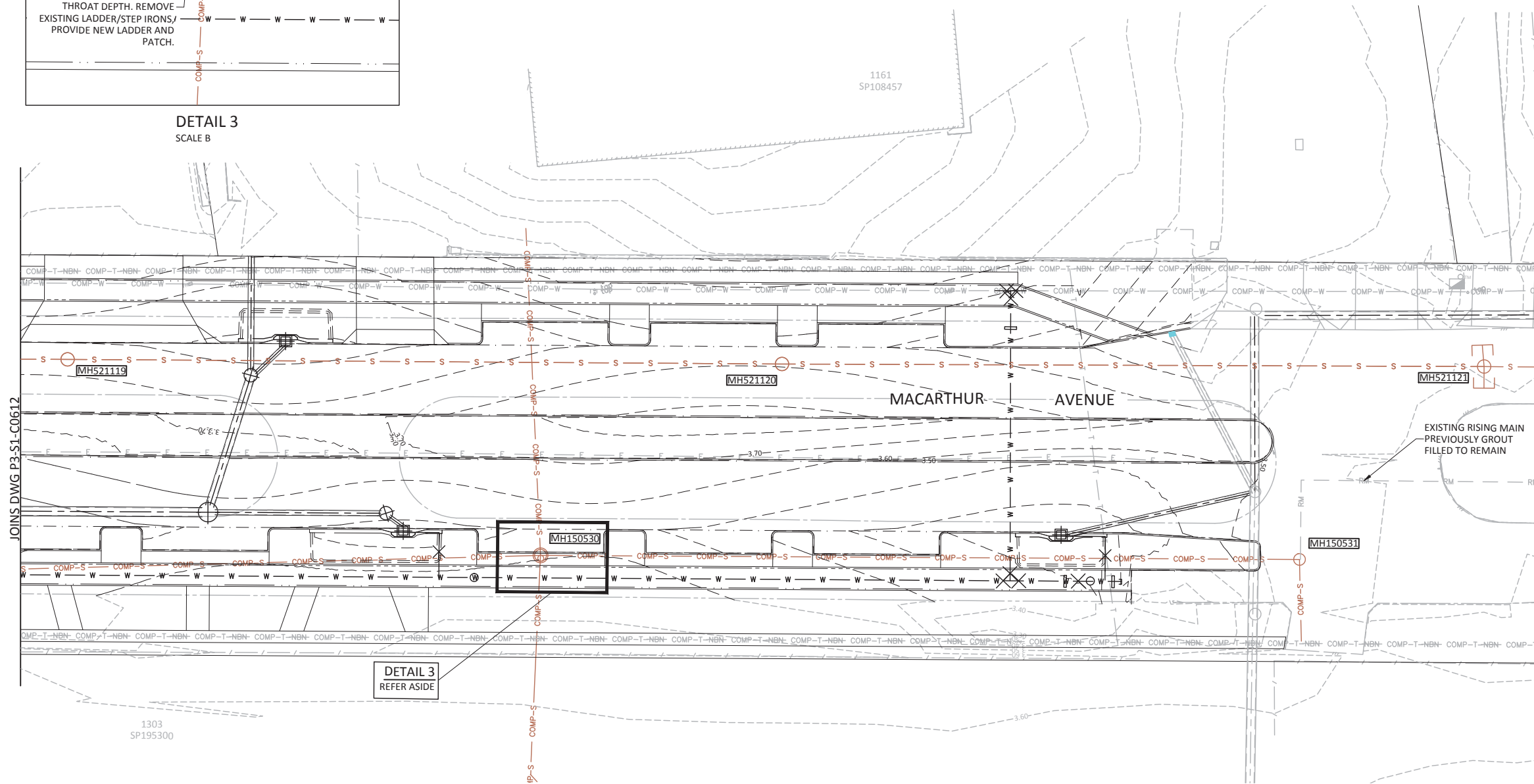
SUBJECT
SEWER RETICULATION
LAYOUT SHEET 4

PROJECT No.
12191C
DRAWING No.
P3-S1-C0613
REVISION
D

0 10 20 30 40 50 60 70 80 90 100 ORIGINAL SIZE A1



DETAIL 3
SCALE B



PLAN
SCALE A

- NOTE:
- ALL SEWER AND ASSOCIATED MANHOLES MARKED TO BE ABANDONED LOCATED INSIDE WORKS ZONE TO BE REMOVED FROM SITE UNLESS NOTED OTHERWISE. TRENCHES TO BE BACKFILLED WITH IMPORTED MATERIAL AS PER EARTHWORKS SPECIFICATION.
 - FOR EXISTING MANHOLES TO BE ADJUSTED, REFER LIVE WORKS G TABLE DRG C0601.

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A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
**ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)**

PROJECT
**REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON**

SUBJECT
**SEWER RETICULATION
LAYOUT SHEET 5**

PROJECT No.
12191C
DRAWING No.
P3-S1-C0614
REVISION
D

ENGINEERING CERTIFICATION

SIGNED: _____ DATE: _____
NAME OF SIGNATORY (PRINT): _____
RPEQ NUMBER: _____
COMPANY NAME: _____

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU NETWORK ACCESS TEAM ON PH: 3856 7033 OR EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

CONSTRUCTION INSPECTION
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PLEASE CONTACT 0412 436 579

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL



Approval no: DEV2016/785
Date: 6 October 2016

DATE:

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

CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412436579

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. 7 OF 8
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/9 - 0271 - 007
AMEND. 0



PROJECT NORTH



DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES
A3 UNREDUCED
A3 REDUCED
SCALES
UNREDUCED / REDUCED
A 0 2.5 5.0 7.5 10.0 12.5m 1:250 / 1:500
B 0 0.5 1.0 1.5 2.0 2.5m 1:50 / 1:100
STATUS

FOR TENDER

0 10 20 30 40 50 60 70 80 90 100 ORIGINAL SIZE A1

REMORA ROAD ROADWORKS, HAMILTON

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL



Approval no: DEV2016/785

Date: 6 October 2016

WATER RETICULATION DRAWING INDEX		
DRAWING No.	QUU DWG No.	DESCRIPTION
C0700	486/4/9 - 1580 - 001	WATER RETICULATION NOTES & DETAILS SHEET 1
C0701	486/4/9 - 1580 - 002	WATER RETICULATION NOTES & DETAILS SHEET 2
C0710	486/4/9 - 1580 - 003	WATER RETICULATION LAYOUT SHEET 1
C0711	486/4/9 - 1580 - 004	WATER RETICULATION LAYOUT SHEET 2
C0712	486/4/9 - 1580 - 005	WATER RETICULATION LAYOUT SHEET 3
C0713	486/4/9 - 1580 - 006	WATER RETICULATION LAYOUT SHEET 4
C0714	486/4/9 - 1580 - 007	WATER RETICULATION LAYOUT SHEET 5
C0720	486/4/9 - 1580 - 008	WATER RETICULATION LIVE WORKS CONNECTION DETAILS SHEET 1
C0721	486/4/9 - 1580 - 009	WATER RETICULATION LIVE WORKS CONNECTION DETAILS SHEET 2
C0722	486/4/9 - 1580 - 010	WATER RETICULATION LIVE WORKS CONNECTION DETAILS SHEET 3
C0730	486/4/9 - 1580 - 011	WATER RETICULATION CROSSING DETAILS SHEET 1
C0731	486/4/9 - 1580 - 012	WATER RETICULATION CROSSING DETAILS SHEET 2
C0732	486/4/9 - 1580 - 013	WATER RETICULATION CROSSING DETAILS SHEET 3

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-1107-1	TYPICAL PE PROPERTY SERVICES PE MAIN TO METER AND CONDUIT DETAILS
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

CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU NETWORK ACCESS TEAM ON PH: 3856 7033 OR EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ENGINEERING CERTIFICATION

SIGNED: DATE:
NAME OF SIGNATORY (PRINT):
RPEQ NUMBER:
COMPANY NAME

SURVEY CONTROL:

PSM: 77618
(LOCATED: MACARTHUR AVENUE)
RL: 4.114 AHD

R.P. DESCRIPTION

LOT 407 SP 187479
PARISH OF TOOMBUL

ABBREVIATIONS

AC - ASBESTOS CEMENT
CISL - 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
DICT - 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 PROVIDER.
- 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 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 -REFER ASBESTOS MANAGEMENT STANDARD (STD 43) 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
- G15 RESPONSIBILITY FOR DESIGN CERTIFICATION, ADHERENCE TO AND COMPLIANCE WITH ALL RELEVANT STANDARDS/CODES AND SPECIFICATIONS RESIDES WITH THE REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND (RPEQ) WHOSE WET SIGNATURE AND RPEQ NUMBER APPEAR IN THE ENGINEERING CERTIFICATION BOX IN EACH ORIGINAL DRAWING.
- G16 DURING PRE-CONSTRUCTION, CONSTRUCTION AND COMMISSIONING (UNTIL THE END OF THE DEFECTS LIABILITY PERIOD) ANY DESIGN OVERSIGHTS AND / OR ITEMS THAT ARE TECHNICALLY NOT CONFORMING WITH RELEVANT STANDARDS, MUST BE RECTIFIED AT NO COST TO QUU.

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.

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 DENSOPETROLATUM 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 (DICT)

- D1 ALL DICT PIPES AND FITTINGS TO BE COVERED WITH POLYETHYLENE SLEEVING AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- D2 DICT 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.
- T6 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 CONFIRM 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.

SHUT PLAN

- SP1 PRIOR TO COMMENCEMENT OF WORKS ON SITE A QUU NETWORK ACCESS PERMIT (AND ASSOCIATED SHUT PLAN/S) MUST BE OBTAINED FROM THE QUU NETWORK ACCESS TEAM. FOR FURTHER INFORMATION PLEASE CONTACT THE QUU NETWORK ACCESS TEAM ON PH: 3856 7033 OR EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU
- SP2 PLEASE ENSURE THE QUU CONTACT FOR THE NETWORK ACCESS PERMIT APPLICATION IS THE QUU AUDITOR NOTED ON THESE PLANS.

NOTE:

1. ALL EXISTING VALVE AND HYDRANT METER BOXES ETC TO REMAIN ARE TO BE REPLACED AND SET TO NEW LEVELS. SPINDLES TO BE ADJUSTED/REPLACED WHERE NECESSARY TO COMPLY WITH SEQ CODE.
2. PROVIDE PE FULL FACE FLANGE AND S/S BACKING RING TO PE PIPES CONNECTING TO FLANGED DICT FITTINGS OR PIPES.

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.

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

CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT & COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

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 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 001
AMEND. O



STATUS

FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD

CONSULTING ENGINEERS

CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT

ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT

REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT

WATER RETICULATION
NOTES AND DETAILS SHEET

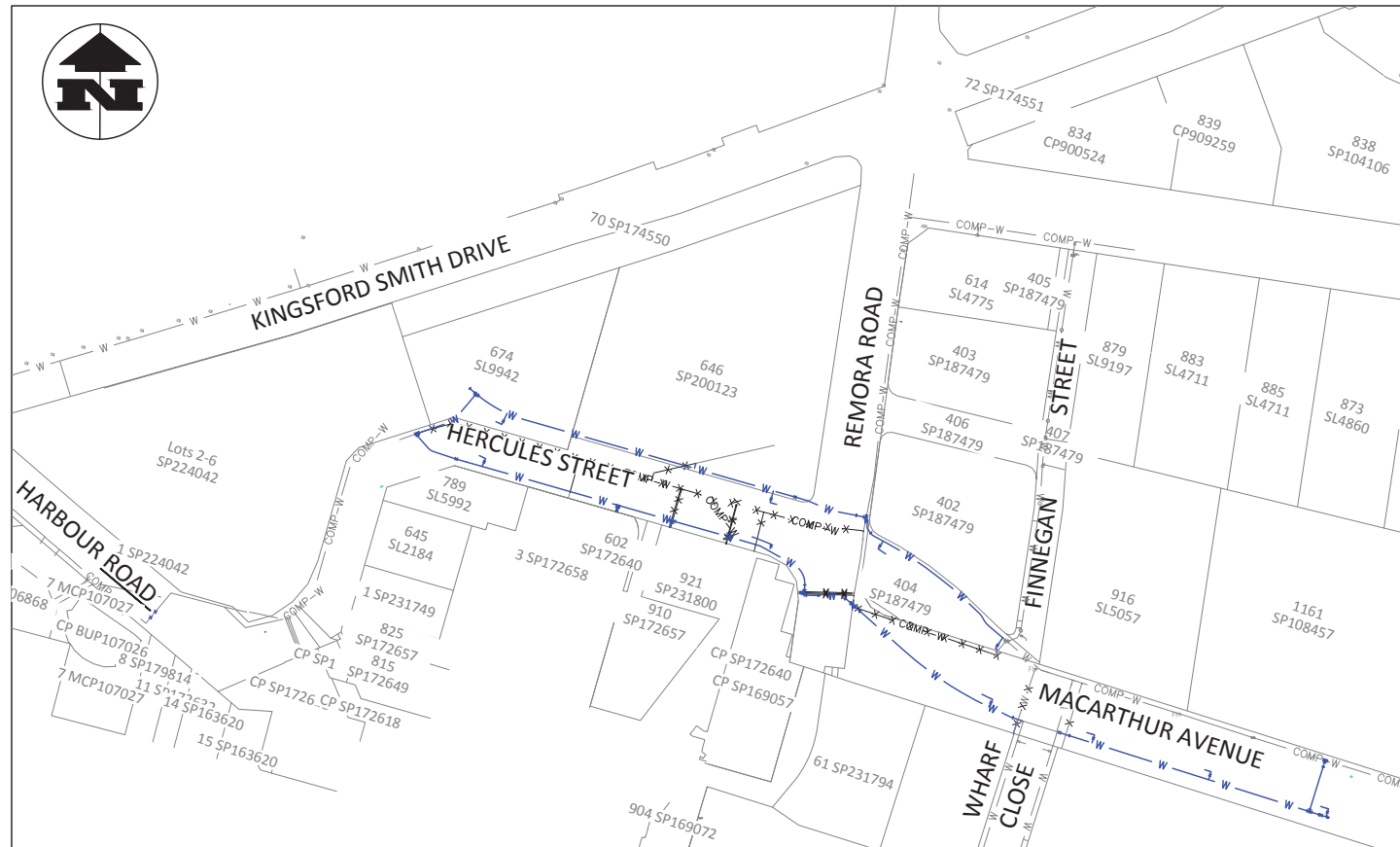
PROJECT No.

12191C

DRAWING No.

P3-S1-C0700 D

REVISION



LOCALITY PLAN
UBD MAP REF: PG141, GRID C16
SITE ADDRESS: NORTHSHORE, HAMILTON
N.T.S.

CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE
QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF
WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU
NETWORK ACCESS TEAM ON PH: 3856 7033 OR
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ENGINEERING CERTIFICATION

SIGNED: DATE:
NAME OF SIGNATORY (PRINT):
RPEQ NUMBER:
COMPANY NAME:

SURVEYOR

LAND PARTNERS LIMITED
BRISBANE
13 RAILWAY TERRACE
MILTON, 4064
PH (07) 3842 1000
FAX 3842 1001

LEVEL DATUM

PSM: 77618
(LOCATED: MACARTHUR AVENUE)
RL: 4.114 AHD

CONSULTANT : BORNHORST + WARD PTY LTD
CONTACT : KRIS RENSCHE
TELEPHONE : (07) 3013 4699

ALL WATER AND SEWER WORK UNDERTAKEN BY THE
CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE
QUEENSLAND WORKPLACE HEALTH AND SAFETY ACT 1995.
CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY
FOR INFORMATION. PHONE 1300 369915

UTILITY DELEGATE COMMENTS

FUNDING

PRIVATE BOOSTER REQUIRED? YES/NO
FUNDED BY BCC () DEVELOPER ()
FED GOV'T () STATE () OTHER ()

DRS OFFICER -
DATE RELEASED -

PLAN CUSTODIAN

OFFICER/REC'D -
DATE RELEASED -

LIVE CONNECTION(S)/PASSED(W)

REFERENCE -
DATE -

GIS CAPTURE

JOB NUMBER -
OFFICER CODE -
DATE -

GIS COMMENTS

ASSET REGISTER - WATER RETICULATION

ESTATE/STAGE	STAGE 1 (REMORA ROADWORKS)
SITE ADDRESS	MACARTHUR AVENUE, HAMILTON HERCULES STREET, HAMILTON
COUNCIL FILE	-
BCC DELEGATES APP. DATE.	-
CLIENT	-
JOB REF. No.	-

MAINS	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	250	PE		864.000	
	150	DICL		21.000	
	200	DICL		45.140	
	300	DICL		8.600	

SERVICES	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	-	-		-	
	-	-		-	
	-	-		-	

METERS	DIAMETER	NUMBER
-	1	

SERVICE DETAILS

NO.	SIZE	LOT NUMBERS
-	-	-
-	-	-
-	-	-
-	-	-

ITEM No.	DESCRIPTION
HYDRANTS	
01	Ø250 x Ø125 PE E-F HYDRANT TEE WITH: Ø125 E-F COUPLING, Ø125 FLANGED PE RISER WITH S/S BACKING RING AND Ø100 HYDRANT ASSEMBLY
VALVES	
10	Ø250 PE VALVE WITH PE TAILS
11	Ø150 DI F&F VALVE
12	Ø200 DI F&F VALVE
13	Ø300 DI F&F VALVE
15	Ø180 PE VALVE WITH PE TAILS
TEES	
20	Ø250 x Ø180 PE E-F TEE
21	Ø250 x Ø250 PE E-F TEE
22	Ø200 x Ø150 DI S&S&F TEE
23	Ø200 x Ø150 DI F&F&F TEE
24	Ø200 x Ø200 DI F&F&F TEE
25	Ø250 x Ø150 DI F&F&F TEE
26	Ø250 x Ø250 DI F&F&F TEE
27	Ø300 x Ø200 DI F&F&F TEE
28	Ø300 x Ø300 DI F&F&F TEE
BENDS	
30	Ø200 DI 11.25° F&F BEND
31	Ø200 DI 22.5° F&F BEND
32	Ø200 DI 90° F&F BEND
33	Ø300 DI 11.25° F&F BEND
34	Ø300 DI 22.5° F&F BEND
35	Ø200 DI 11.25° S&S BEND
36	Ø200 DI 22.5° S&S BEND
37	Ø200 45° PE E-F BEND
38	Ø150 45° PE E-F BEND
SCOURS	
40	Ø250 x Ø90 E-F SCOUR TEE WITH Ø90 PE SCOUR TO GULLY PIT
REDUCERS	
50	Ø200 x Ø150 DI F&F REDUCER
51	Ø250 x Ø200 DI F&F REDUCER
52	Ø300 x Ø200 DI F&F REDUCER
MISCELLANEOUS	
60	Ø250 PE E-F FITTING
61	Ø250 PE PIPE WITH FULL FACE FLANGE AND S/S BACKING RING
62	Ø250 PE E-F END CAP
63	Ø150 DI F&SP CONNECTOR
64	Ø200 DI F&SP CONNECTOR
65	Ø150/Ø200/Ø250/Ø300 DI F&S CONNECTOR
66	Ø200 DI F&F PIPE 1000 LONG WITH PUDDLE FLANGE & CONCRETE THRUST BLOCK (57.1KN) REFER SEQ STD DRG SEQ-WAT-1208-1
67	Ø150 GIBALT JOINT
68	Ø300 GIBALT JOINT
69	Ø200 x Ø50/Ø25 TAPPING BAND SADDLE JOINT
70	Ø200 DEAD PLATE
71	Ø150 DEAD PLATE

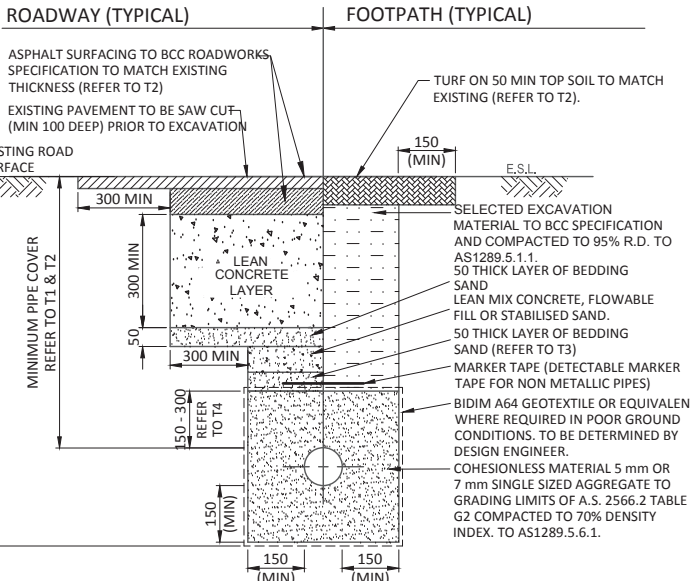
AS BUILT RECEIVED

BY	-
OFFICER	-
DATE	-

ON MAINTENANCE DETAILS

START	-	FINISH	-
-------	---	--------	---

NOTE:
ALL HYDRANTS AND VALVES TO INCLUDE
FITTINGS AND BOX TO SURFACE AND
MARKERS IN ACCORDANCE WITH SEQ
STD DRGS.



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.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



HIGH RISK ACTIVITY ASBESTOS CEMENT PRODUCTS

THIS PROJECT MAY REQUIRE THE HANDLING, REMOVAL
AND DISPOSAL OF ASBESTOS CEMENT PRODUCTS.
ANY ACTIVITY ASSOCIATED WITH ASBESTOS CEMENT
PRODUCTS SHALL BE IN ACCORDANCE WITH RELEVANT
AUTHORITY GUIDELINES AND SAFETY REQUIREMENTS.

xxCAUTIONxx

APPROX. LOCATION OF PUBLIC UTILITIES ONLY.
EXACT LOCATION AND DEPTH TO BE DETERMINED
ON SITE BY RELEVANT AUTHORITY PERSONNEL PRIOR
TO COMMENCING WORK.

TELSTRA:- PH: 1800 114 918
ENERGEX:- PH: 07 3407 6381
BCC:- PH: 3403 8888
GAS INSPECTOR:- PH: 07 3467 9514

PRIOR TO COMMENCEMENT OF WORK,
CONTRACTOR TO PREPARE FOR A TRAFFIC PLAN
AND SEEK APPROVAL FROM PLANNING AND
TRAFFIC BRANCH. TELEPHONE 3403 4150 FOR
DETAILS. TO OBTAIN TRAFFIC PERMITS, IT MAY BE
NECESSARY TO COMPLETE CONSTRUCTION WORK
DURING WEEKENDS AND/OR LATE AT NIGHT ONLY.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO
OBTAIN THE RELEVANT TRAFFIC PERMITS PRIOR TO
THE COMMENCEMENT OF WORKS.

DATE:

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

CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT & COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

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. 2 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 002
AMEND. O



STATUS

FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

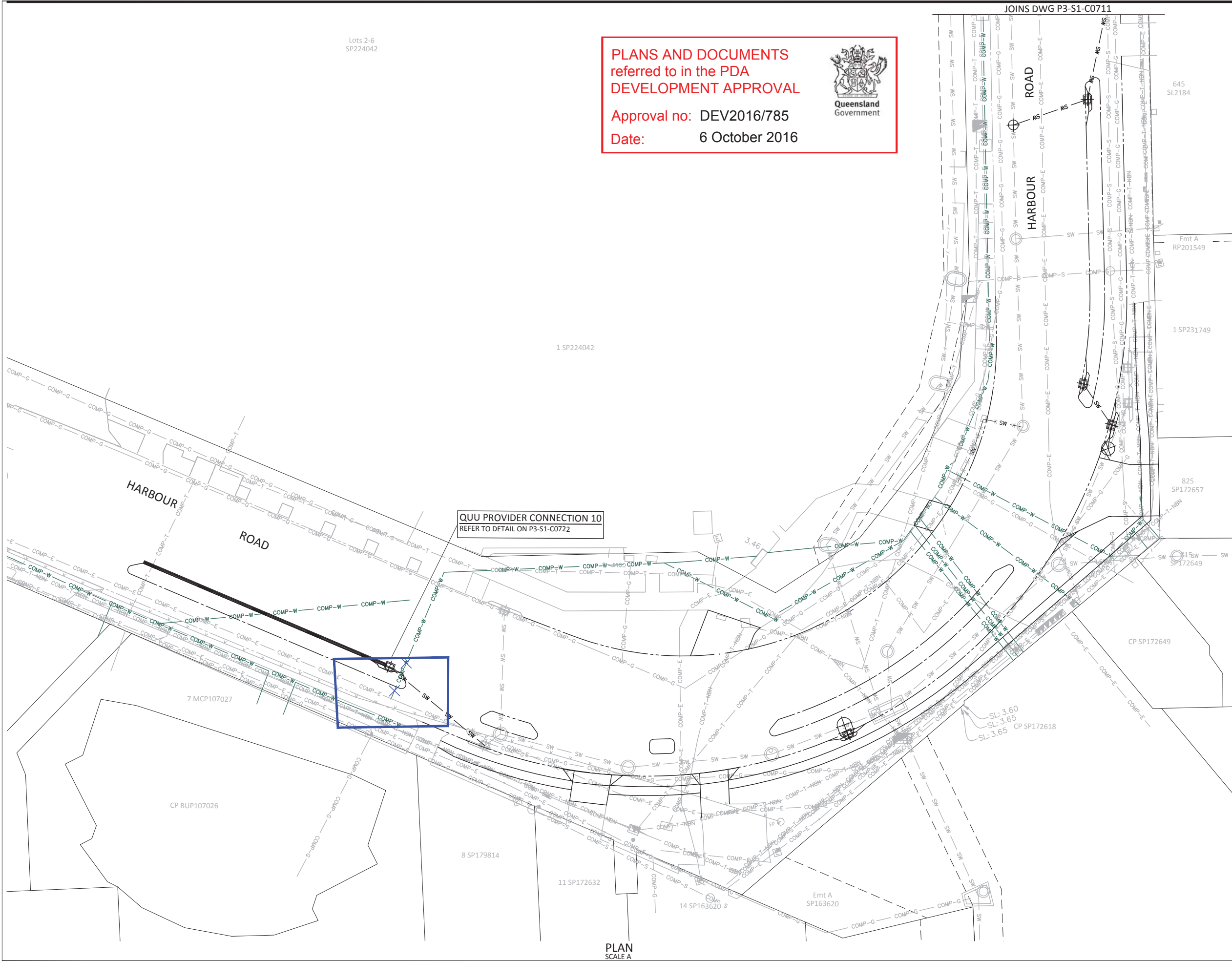
Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT
WATER RETICULATION
NOTES AND DETAILS SHEET
2

PROJECT No. 12191C
DRAWING No. P3-S1-C0701 D
REVISION



PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2016/785

Date: 6 October 2016

Queensland Government

NOTE:
ALL SERVICES MARKED
ABANDONED SHALL BE REMOVED
FROM SITE UNLESS NOTED
OTHERWISE. TRENCHES TO BE
BACKFILLED WITH IMPORTED
MATERIAL AS PER EARTHWORKS
SPECIFICATIONS.

CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE
QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF
WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU
NETWORK ACCESS TEAM ON PH: 3856 7033 OR
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ENGINEERING CERTIFICATION

SIGNED: DATE:

NAME of SIGNATORY (PRINT):

RPEQ NUMBER:

COMPANY NAME:

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

CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

AS CONSTRUCTED DETAILS FOR AMEND.

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON
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SIGNED: DATE:

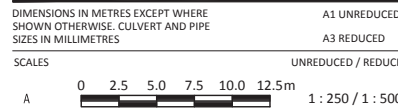
NAME of SIGNATORY

RPEQ No. or LICENCE

COMPANY NAME

START DATE FINISH DATE

SHEET No. 3 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 003
AMEND. O



STATUS FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP	ASSOCIATED CONSULTANTS	APPROVED	CHECKED	BORNHORST + WARD	CLIENT	PROJECT	SUBJECT	PROJECT No.
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR					ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)	REMORA ROAD ROADWORKS NORTHSHORE HAMILTON	WATER RETICULATION LAYOUT SHEET 1	12191C
C	11.03.16	FOR REVIEW												
B	12.02.16	ISSUE FOR INFORMATION												
A	17.12.15	ISSUE FOR INFORMATION												

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

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NETWORK ACCESS TEAM ON PH: 3856 7033 OR
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ENGINEERING CERTIFICATION	
SIGNED:	DATE:
NAME of SIGNATORY (PRINT):	
RPEQ NUMBER:	
COMPANY NAME:	

NOTE:
ALL SERVICES MARKED
ABANDONED SHALL BE REMOVED
FROM SITE UNLESS NOTED
OTHERWISE. TRENCHES TO BE
BACKFILLED WITH IMPORTED
MATERIAL AS PER EARTHWORKS
SPECIFICATIONS.

LOCATE EXISTING CONNECTION AND METER
BOX TO PARK AND RECONNECT TO NEW
WATER WITH Ø32 PE SERVICE. REFER SEQ.
STD DRG SEQ-WAT-1107-1 FOR DETAILS.

WATER CROSSING DETAIL 6
REFER TO DETAIL ON P3-S1-C0731

WATER CROSSING DETAIL 9
REFER TO DETAIL ON P3-S1-C0732

QUU PROVIDER CONNECTION 1
REFER TO DETAIL ON P3-S1-C0720

WATER CROSSING DETAIL 2
REFER TO DETAIL ON P3-S1-C0730

WATER CROSSING DETAIL 1
REFER TO DETAIL ON P3-S1-C0730

19 HERCULES ST CONNECTION
REFER TO DETAIL ON P3-S1-C0722

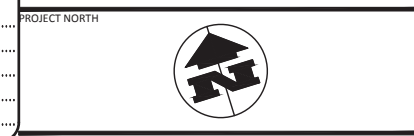
QUU PROVIDER CONNECTION 4
REFER TO DETAIL ON P3-S1-C0720

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. 4 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No.
486/4/9- 1580 - 004



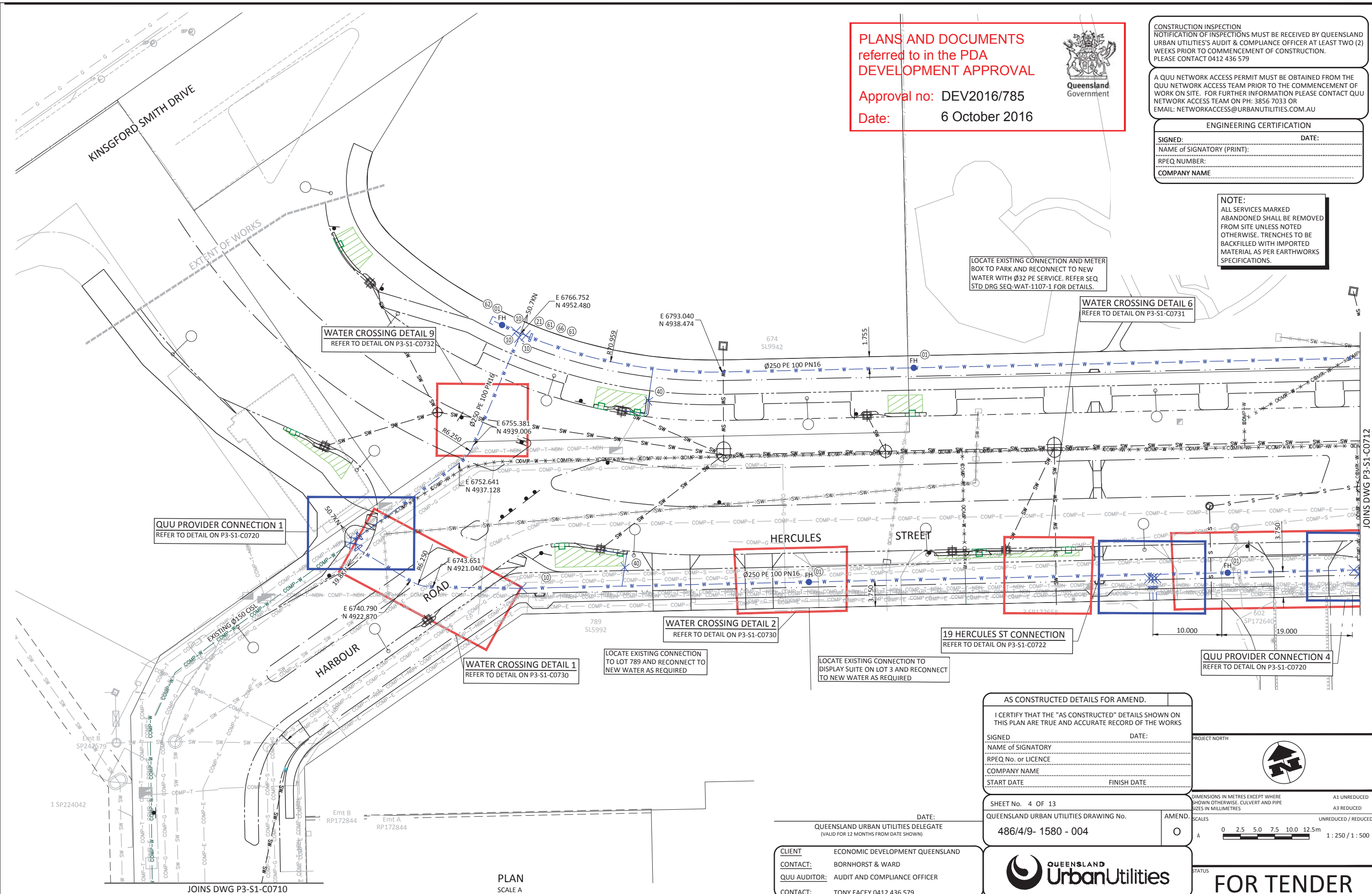
DIMENSIONS IN METRES EXCEPT WHERE
SHOWN OTHERWISE. CULVERT AND PIPE
SIZES IN MILLIMETRES
A 0 2.5 5.0 7.5 10.0 12.5m 1:250 / 1:500

FOR TENDER

CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

PROJECT: REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT: WATER RETICULATION
LAYOUT SHEET 2
PROJECT No. 12191C
DRAWING No. P3-S1-C0711
REVISION D



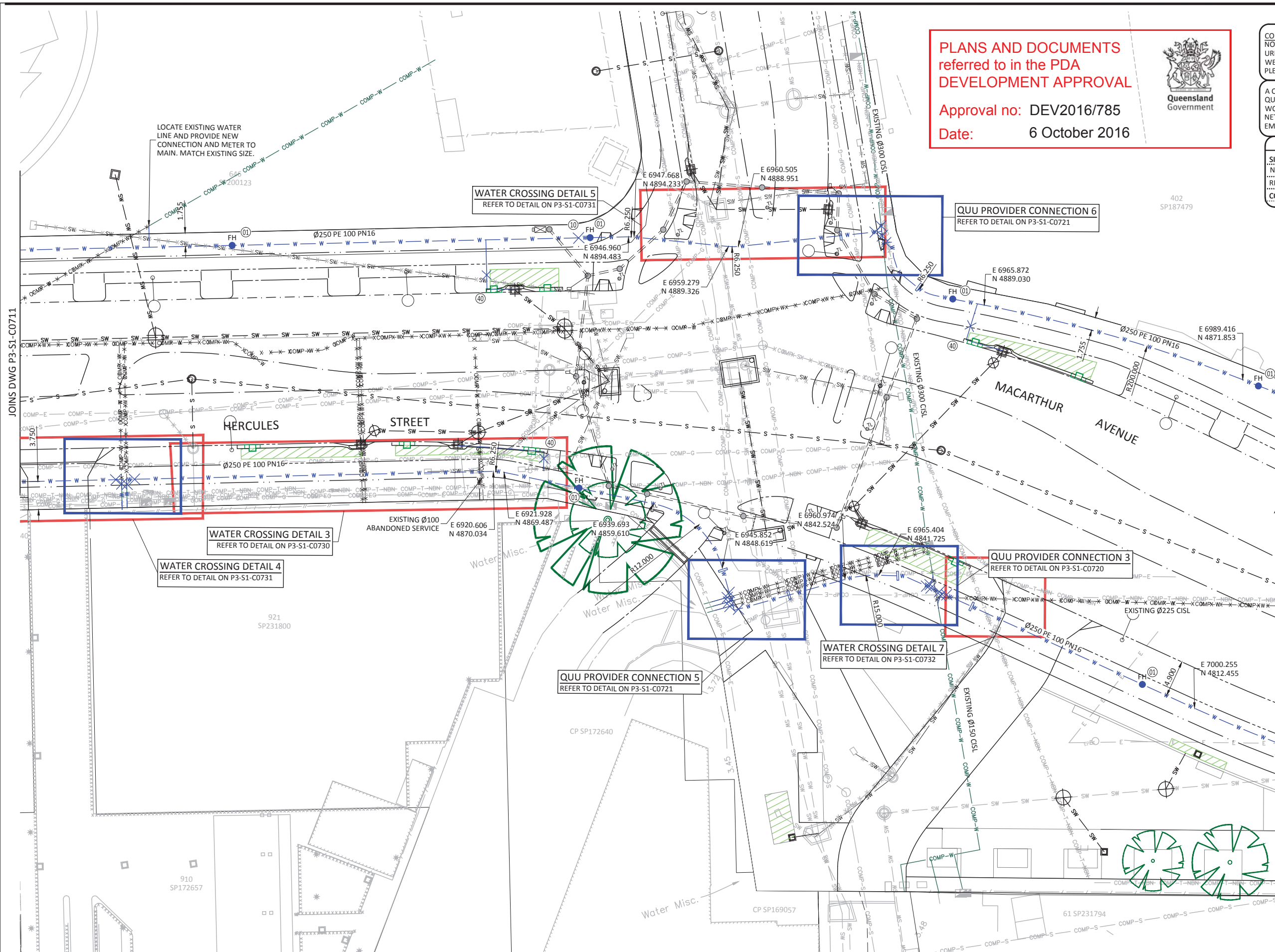
REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
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C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS	APPROVED	CHECKED
BORNHORST + WARD CONSULTING ENGINEERS CIVIL AND STRUCTURAL	7729 RPEQ	
DATE	DATE	DATE

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT: ECONOMIC DEVELOPMENT
QUEENSLAND (EDQ)

ORIGINAL SIZE A1



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

A QUU NETWORK ACCESS PERMIT MUST BE OBTAINED FROM THE
QUU NETWORK ACCESS TEAM PRIOR TO THE COMMENCEMENT OF
WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU
NETWORK ACCESS TEAM ON PH: 3856 7033 OR
EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ENGINEERING CERTIFICATION

SIGNED: _____ DATE: _____
NAME OF SIGNATORY (PRINT): _____
RPEQ NUMBER: _____
COMPANY NAME: _____

NOTE:
ALL SERVICES MARKED
ABANDONED SHALL BE REMOVED
FROM SITE UNLESS NOTED
OTHERWISE. TRENCHES TO BE
BACKFILLED WITH IMPORTED
MATERIAL AS PER EARTHWORKS
SPECIFICATIONS.

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

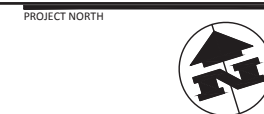
CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

AS CONSTRUCTED DETAILS FOR AMEND.

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON
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SIGNED: _____ DATE: _____
NAME OF SIGNATORY: _____
RPEQ No. or LICENCE: _____
COMPANY NAME: _____
START DATE: _____ FINISH DATE: _____

SHEET No. 5 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 005
AMEND. O



DIMENSIONS IN METRES EXCEPT WHERE
SHOWN OTHERWISE. CULVERT AND PIPE
SIZES IN MILLIMETRES
A1 UNREDUCED
A3 REDUCED
UNREDUCED / REDUCED
A 0 2.5 5.0 7.5 10.0 12.5m 1:250 / 1:500

STATUS
FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS	APPROVED	CHECKED
	7729 RPEQ	
	DATE	DATE

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
**ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)**

PROJECT
**REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON**

SUBJECT
**WATER RETICULATION
LAYOUT SHEET 3**

PROJECT No. 12191C
DRAWING No. P3-S1-C0712
REVISION D

ORIGINAL SIZE A1

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL



Approval no: DEV2016/785
Date: 6 October 2016

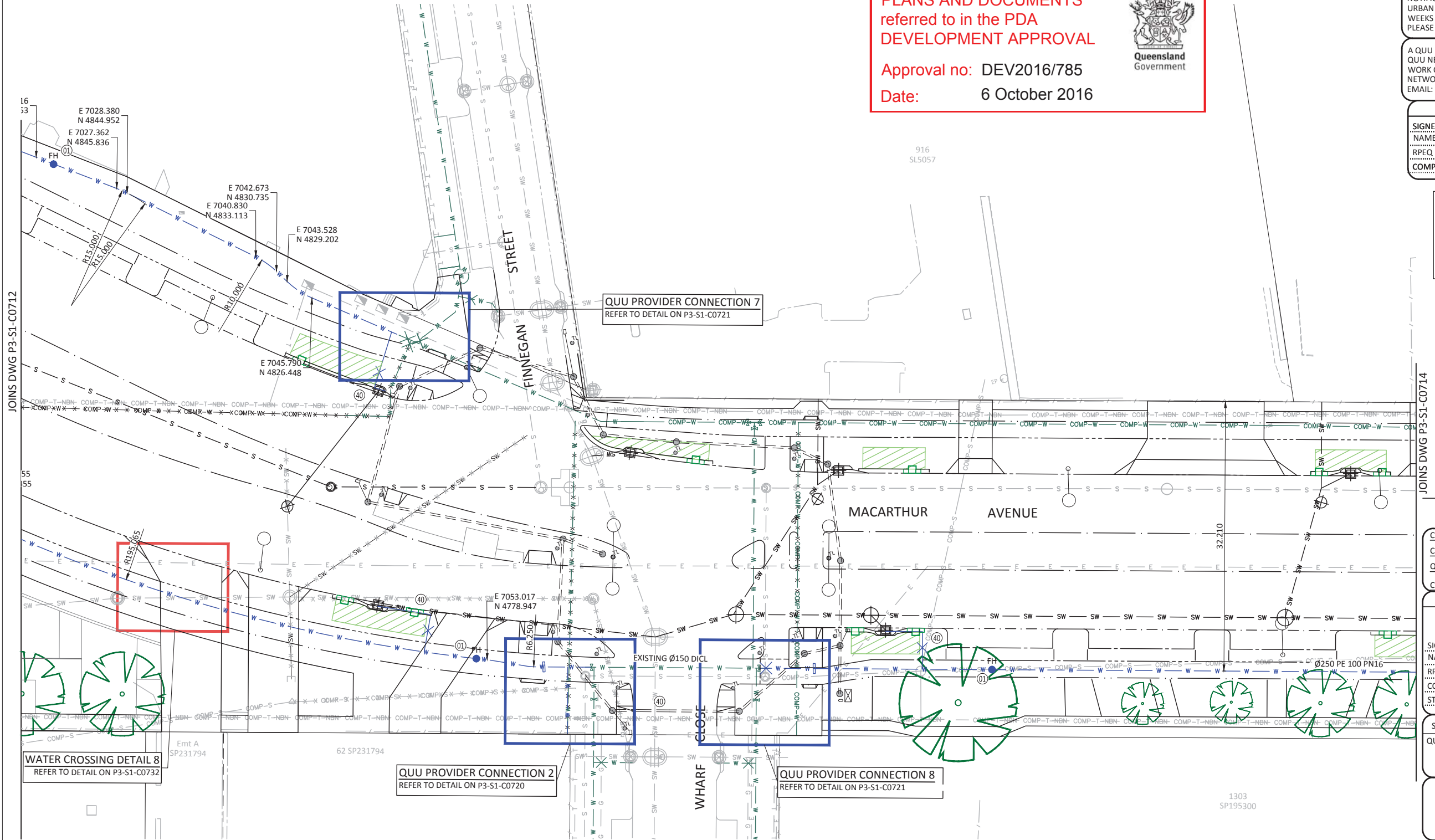
CONSTRUCTION INSPECTION
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ENGINEERING CERTIFICATION

SIGNED: DATE:
NAME OF SIGNATORY (PRINT):
RPEQ NUMBER:
COMPANY NAME:

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

CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

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. 6 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 006
AMEND. O



PROJECT NORTH



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

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

STATUS

FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
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CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT
WATER RETICULATION
LAYOUT SHEET 4

PROJECT No. 12191C
DRAWING No. P3-S1-C0713
REVISION D

0 10 20 30 40 50 100 ORIGINAL SIZE A1

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND
URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2)
WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

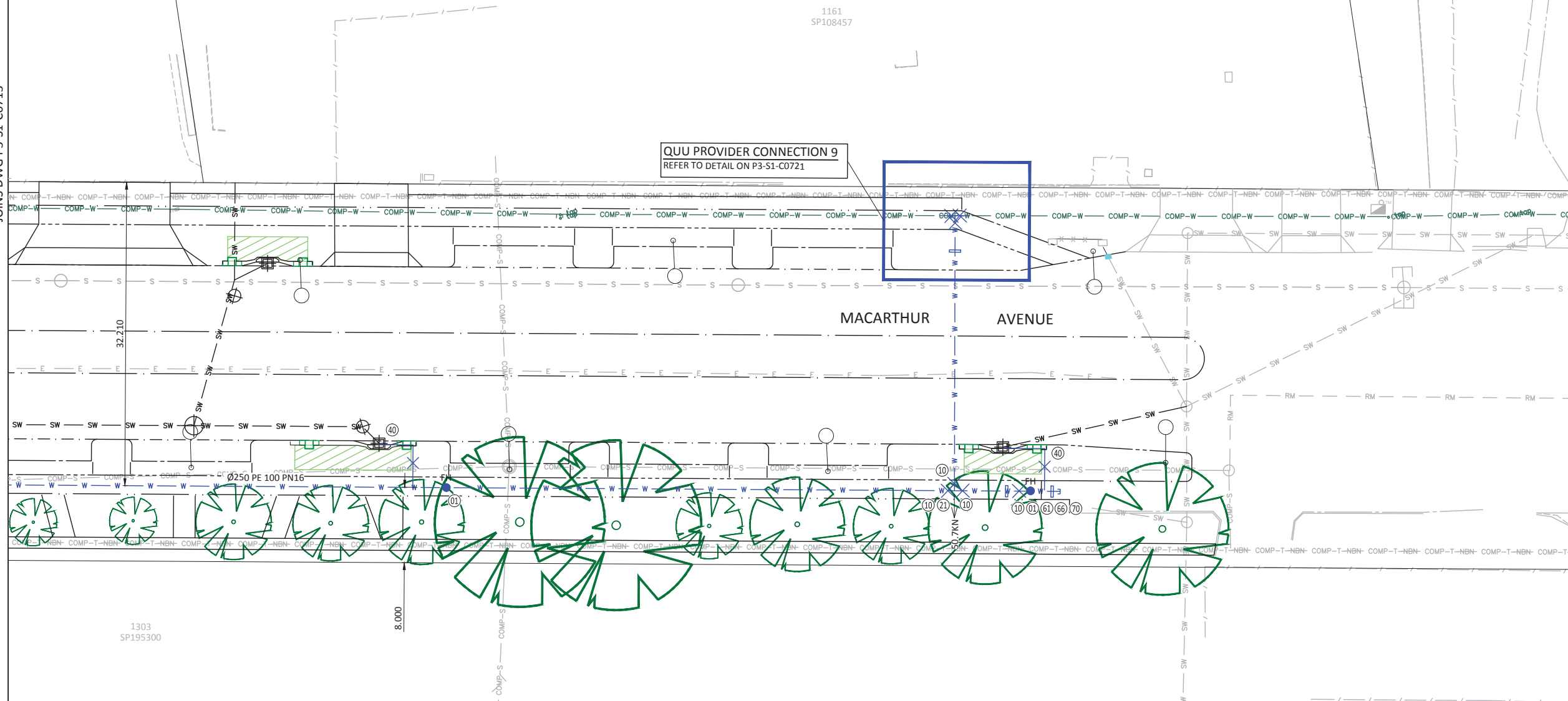
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WORK ON SITE. FOR FURTHER INFORMATION PLEASE CONTACT QUU
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EMAIL: NETWORKACCESS@URBANUTILITIES.COM.AU

ENGINEERING CERTIFICATION

SIGNED: DATE:
NAME OF SIGNATORY (PRINT):
RPEQ NUMBER:
COMPANY NAME:

NOTE:
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OTHERWISE. TRENCHES TO BE
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MATERIAL AS PER EARTHWORKS
SPECIFICATIONS.

JOINS DWG P3-S1-C0713



PLAN
SCALE A

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

CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

AS CONSTRUCTED DETAILS FOR AMEND.

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SIGNED: DATE:
NAME OF SIGNATORY
RPEQ No. or LICENCE
COMPANY NAME
START DATE FINISH DATE

SHEET No. 7 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 007
AMEND. O



PROJECT NORTH



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

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

STATUS

FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

DATE DATE

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
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mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT
WATER RETICULATION
LAYOUT SHEET 5

PROJECT No. 12191C
DRAWING No. P3-S1-C0714
REVISION D

0 10 20 30 40 50 60 70 80 90 100 ORIGINAL SIZE A1



QUU PROVIDER CONNECTION 2	
STREET	MACARTHUR ROAD
LENGTH	5.000
TYPE OF MAIN	DICL
DATE COMMENCED	DATE COMPLETED
SIGNATURE	



QUU PROVIDER CONNECTION 4	
STREET	HERCULES STREET
LENGTH	10.000
TYPE OF MAIN	PE
DATE COMMENCED	DATE COMPLETED
SIGNATURE	



ENGINEERING CERTIFICATION	
SIGNED:	DATE:
NAME of SIGNATORY (PRINT):	
RPEQ NUMBER:	
COMPANY NAME	

QUEENSLAND URBAN UTILITIES DELEGATE (VALID FOR 12 MONTHS FROM DATE SHOWN)	
<u>CLIENT</u>	ECONOMIC DEVELOPMENT QUEENSLAND
<u>CONTACT:</u>	BORNHORST & WARD
<u>QUU AUDITOR:</u>	AUDIT AND COMPLIANCE OFFICER
<u>CONTACT:</u>	TONY FACEY 0412 436 579
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	
NAME OF SIGNATORY	
RPEC No. or LICENCE	
COMPANY NAME	
START DATE	FINISH DATE

SHEET No. 8 OF 13	
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 008	AMENDMENT No. O



DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES
 A1 UNREDUCED
 A3 REDUCED
 SCALES UNREDUCED / REDUCED
 A 0 0.5 1.0 1.5 2.0 2.5m 1 : 50 / 1 : 100

STATUS
FOR TENDER

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	D	31.03.16	ISSUE FOR TENDER	MS	BBe	KR	
	C	11.03.16	FOR REVIEW				
	B	12.02.16	ISSUE FOR INFORMATION				
	A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED



Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDO)

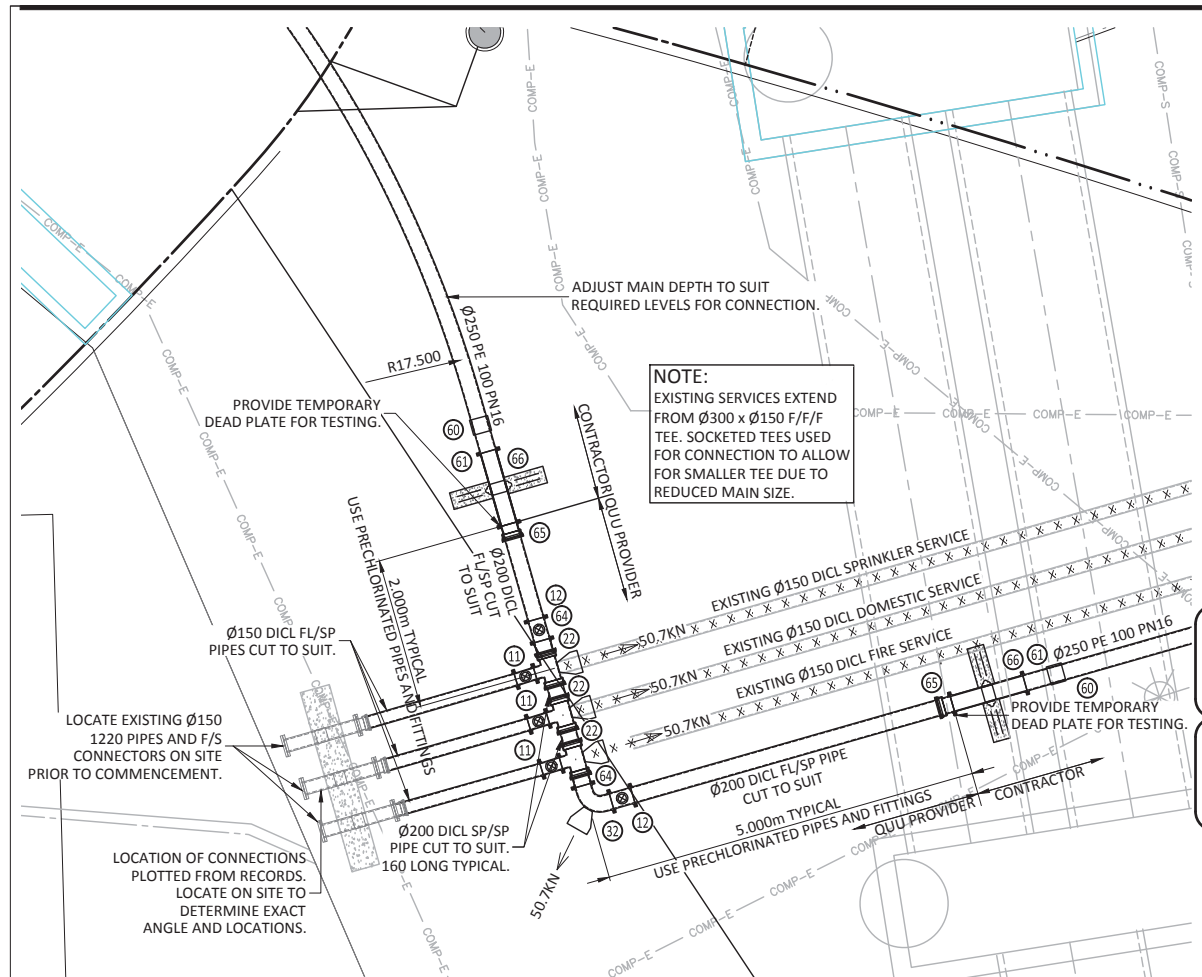
PROJECT

REMORA ROAD ROADWORKS NORTHSHORE HAMILTON

SUBJECT

WATER RETICULATION LIVE
WORKS CONNECTION
DETAILS SHEET 1

PROJECT No. 12191C
DRAWING No. P3-S1-C0720 REVISION D



LIVE WORKS CONNECTION DETAIL 5
SCALE A

QUU PROVIDER CONNECTION 5		
MACARTHUR ROAD		
LENGTH 7.000	TYPE OF MAIN	DICL
DATE COMMENCED	DATE COMPLETED	
SIGNATURE		

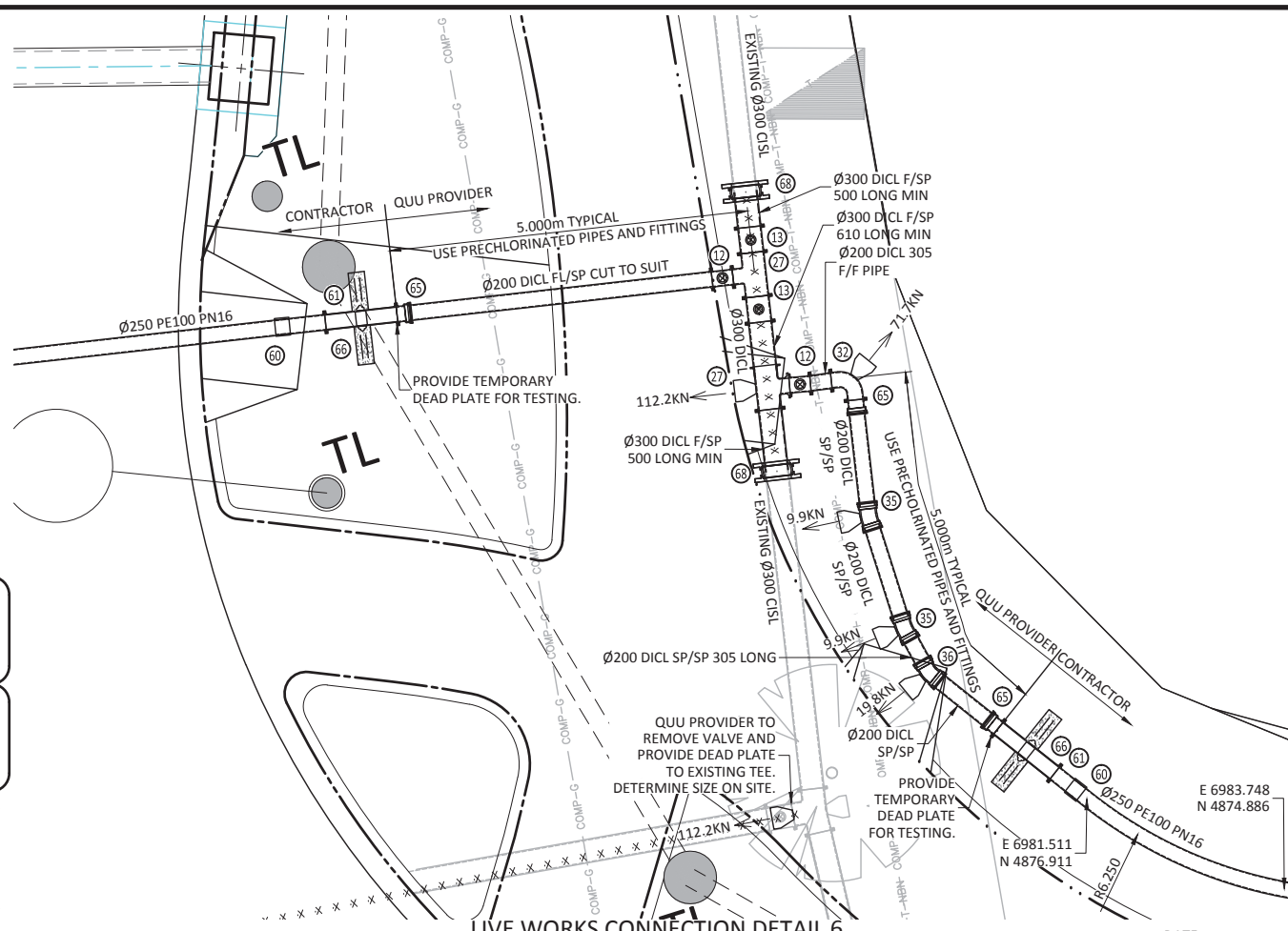
QUU PROVIDER CONNECTION 6		
STREET REMORA ROAD		
LENGTH 10.000	TYPE OF MAIN	DICL
DATE COMMENCED	DATE COMPLETED	
SIGNATURE		

CONSTRUCTION INSPECTION
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY QUEENSLAND URBAN UTILITIES'S AUDIT & COMPLIANCE OFFICER AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
PLEASE CONTACT 0412 436 579

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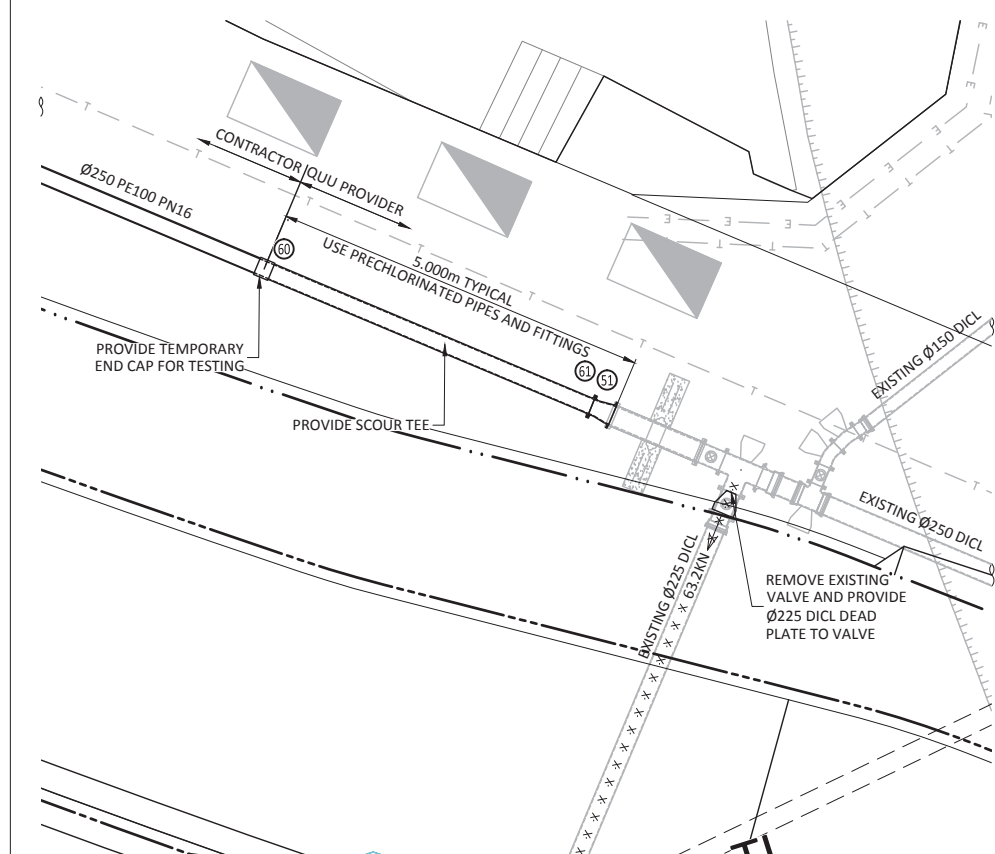
ENGINEERING CERTIFICATION

SIGNED:	DATE:
NAME OF SIGNATORY (PRINT):	
RPEQ NUMBER:	
COMPANY NAME	



LIVE WORKS CONNECTION DETAIL 6
SCALE A

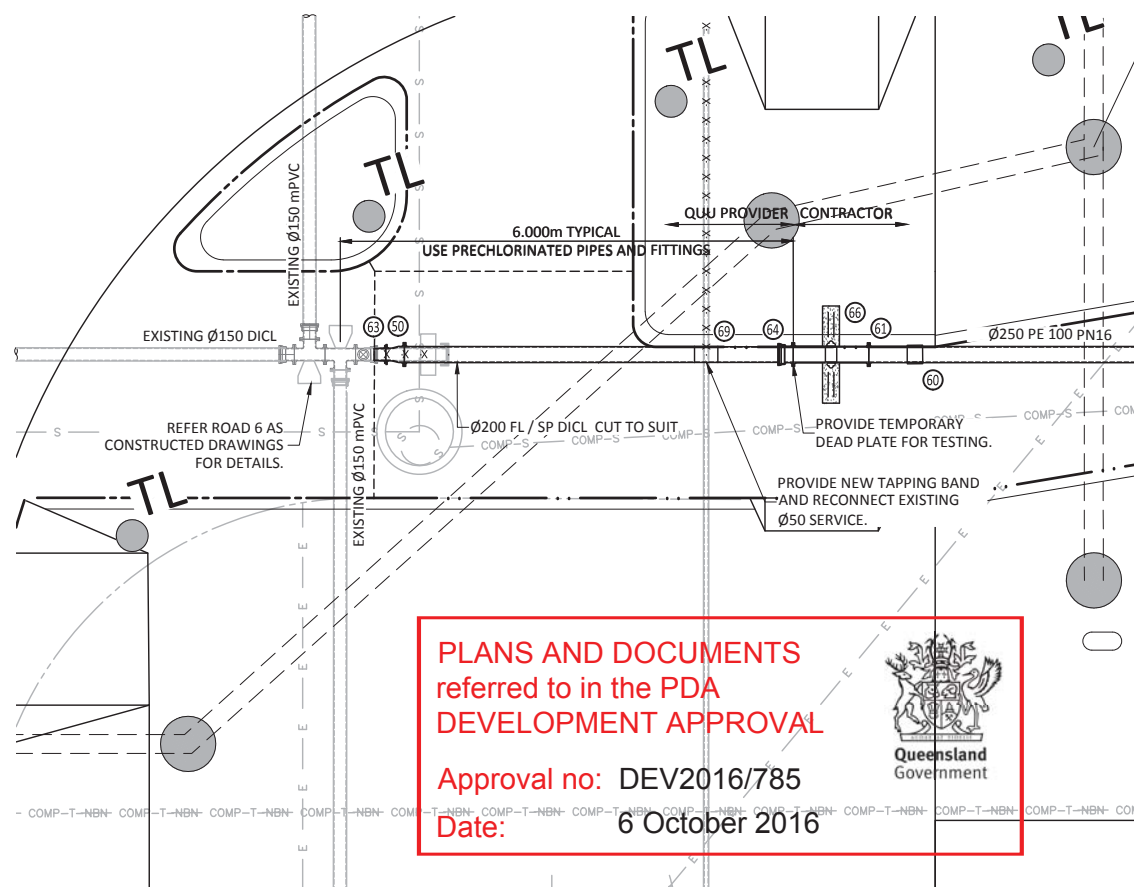
DATE:
QUEENSLAND URBAN UTILITIES DELEGATE
(VALID FOR 12 MONTHS FROM DATE SHOWN)



LIVE WORKS CONNECTION DETAIL 7
SCALE A

QUU PROVIDER CONNECTION 7		
STREET MACARTHUR AVENUE		
LENGTH 5.000	TYPE OF MAIN	DICL
DATE COMMENCED	DATE COMPLETED	
SIGNATURE		

QUU PROVIDER CONNECTION 8		
STREET MACARTHUR AVENUE		
LENGTH 6.000	TYPE OF MAIN	DICL
DATE COMMENCED	DATE COMPLETED	
SIGNATURE		



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



LIVE WORKS CONNECTION DETAIL 8
SCALE A

CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

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. 9 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. 486/4/9 - 1580 - 009
AMEND. O



DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES
A1 UNREDUCED
A3 REDUCED
UNREDUCED / REDUCED
A 0 0.5 1.0 1.5 2.0 2.5m 1:50 / 1:100

STATUS
FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BBe	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

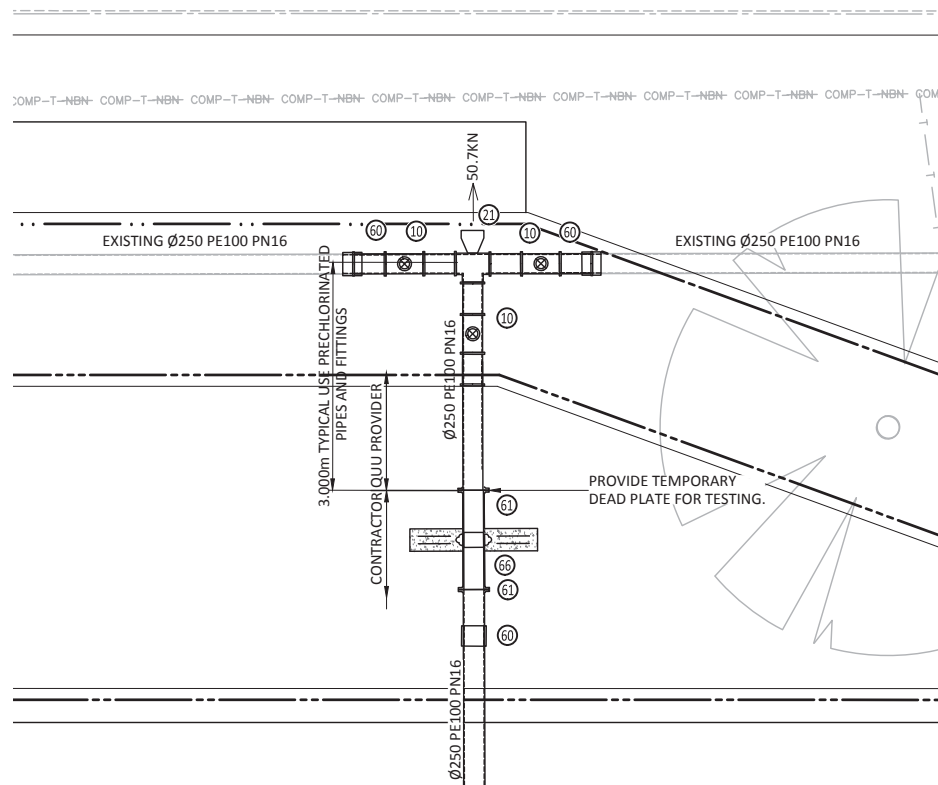
CLIENT
ECONOMIC DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT
WATER RETICULATION LIVE
WORKS CONNECTION
DETAILS SHEET 2

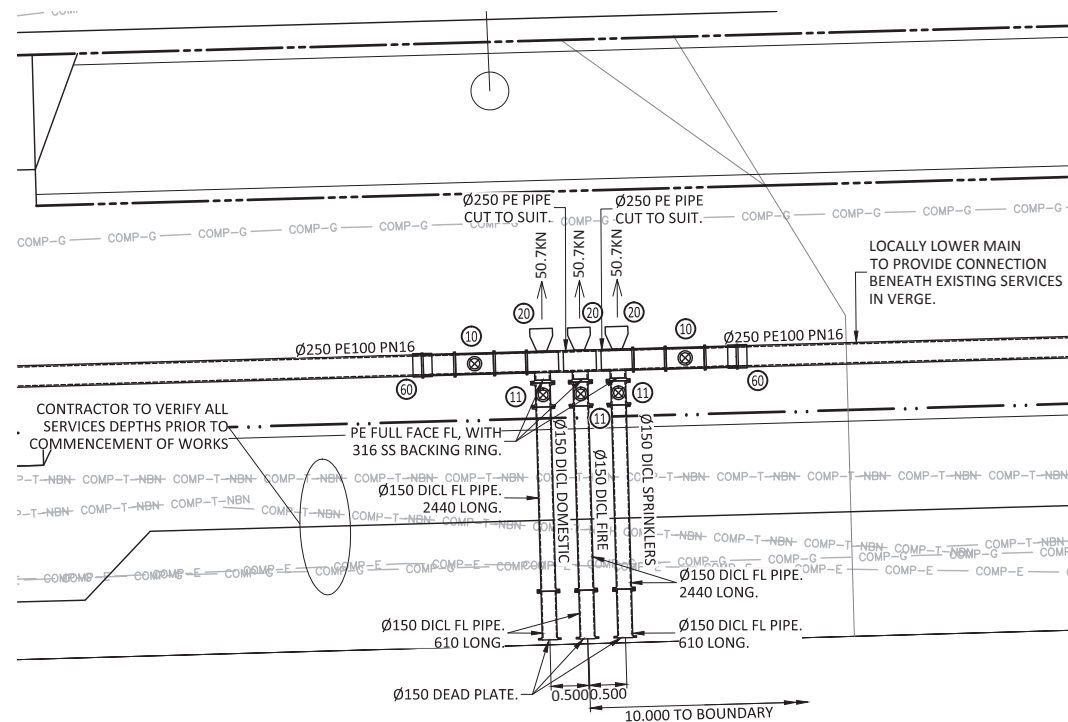
PROJECT No. 12191C
DRAWING No. P3-S1-C0721
REVISION D

ORIGINAL SIZE A1

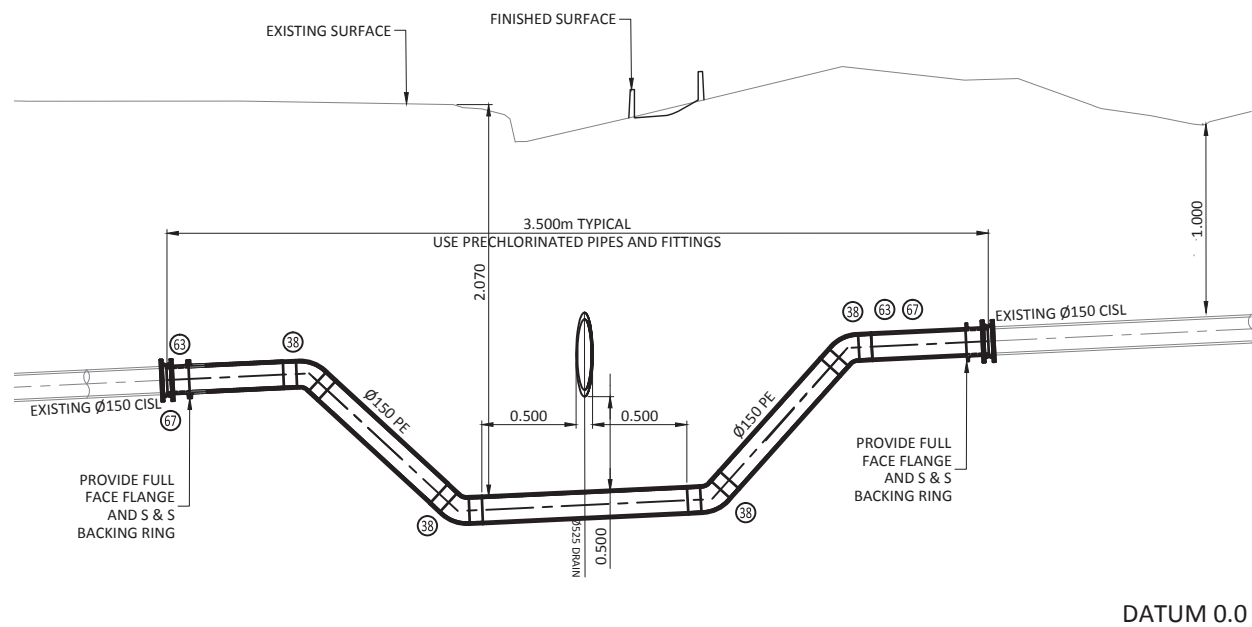


LIVE WORKS CONNECTION DETAIL 9
SCALE A

QUU PROVIDER CONNECTION 9	
STREET MACARTHUR ROAD	
LENGTH 3.000	TYPE OF MAIN DICL
DATE COMMENCED	DATE COMPLETED
SIGNATURE	



19 HERCULES STREET CONNECTION
SCALE A



QUU LIVE CONNECTION 10
SCALE A

QUU PROVIDER CONNECTION 10	
STREET HARBOUR ROAD	
LENGTH 3.500	TYPE OF MAIN DICL
DATE COMMENCED	DATE COMPLETED
SIGNATURE	

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
Date: 6 October 2016



CONSTRUCTION INSPECTION
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ENGINEERING CERTIFICATION	
SIGNED:	DATE:
NAME of SIGNATORY (PRINT):	
RPEQ NUMBER:	
COMPANY NAME	

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

CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

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SIGNED: DATE:
NAME of SIGNATORY
RPEQ No. or LICENCE
COMPANY NAME
START DATE FINISH DATE

SHEET No. 10 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/4/9 - 1580 - 010 O



PROJECT NORTH



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

SCALES UNREDUCED / REDUCED
A 0 0.5 1.0 1.5 2.0 2.5m 1:50 / 1:100

STATUS

FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
D	31.03.16	ISSUE FOR TENDER	MS	BB	KR	NR
C	11.03.16	FOR REVIEW				
B	12.02.16	ISSUE FOR INFORMATION				
A	17.12.15	ISSUE FOR INFORMATION				

ASSOCIATED CONSULTANTS

APPROVED

CHECKED

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

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mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

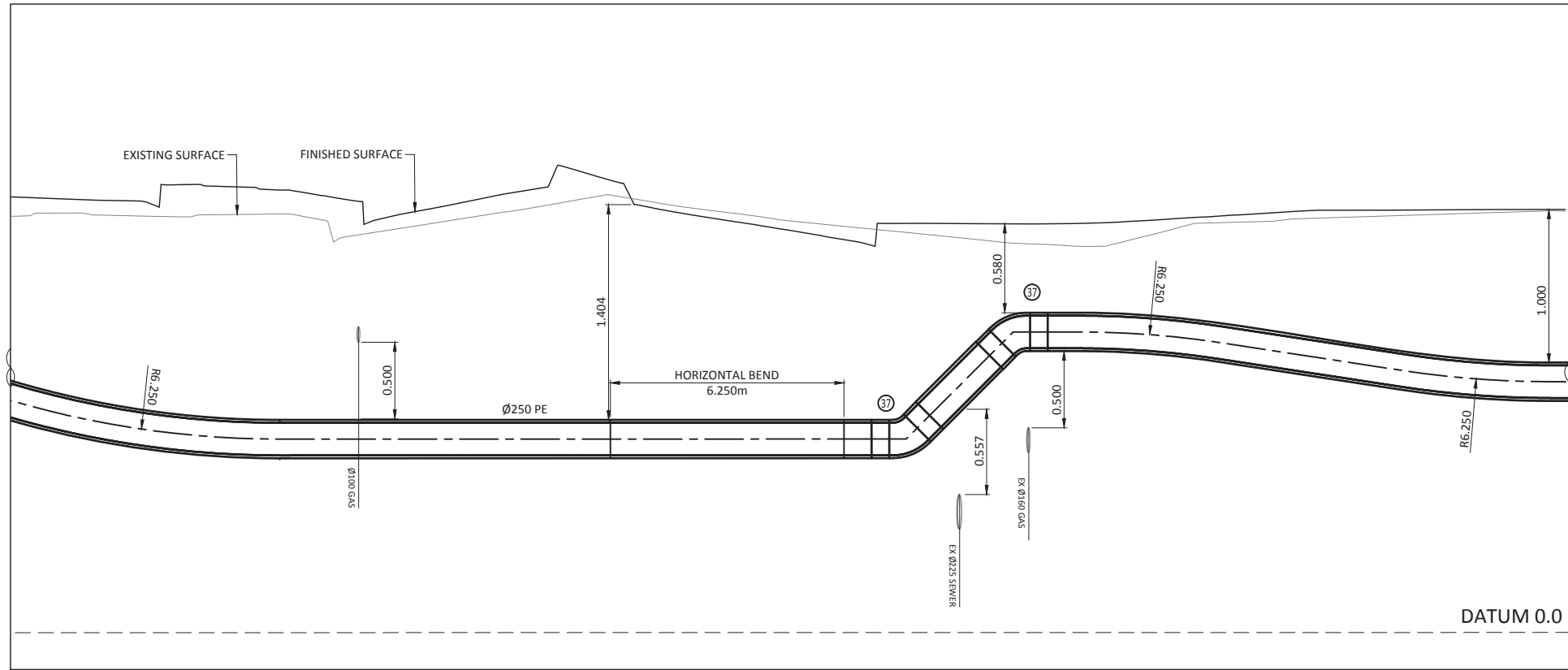
PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT
WATER RETICULATION LIVE
WORKS CONNECTION
DETAILS SHEET 3

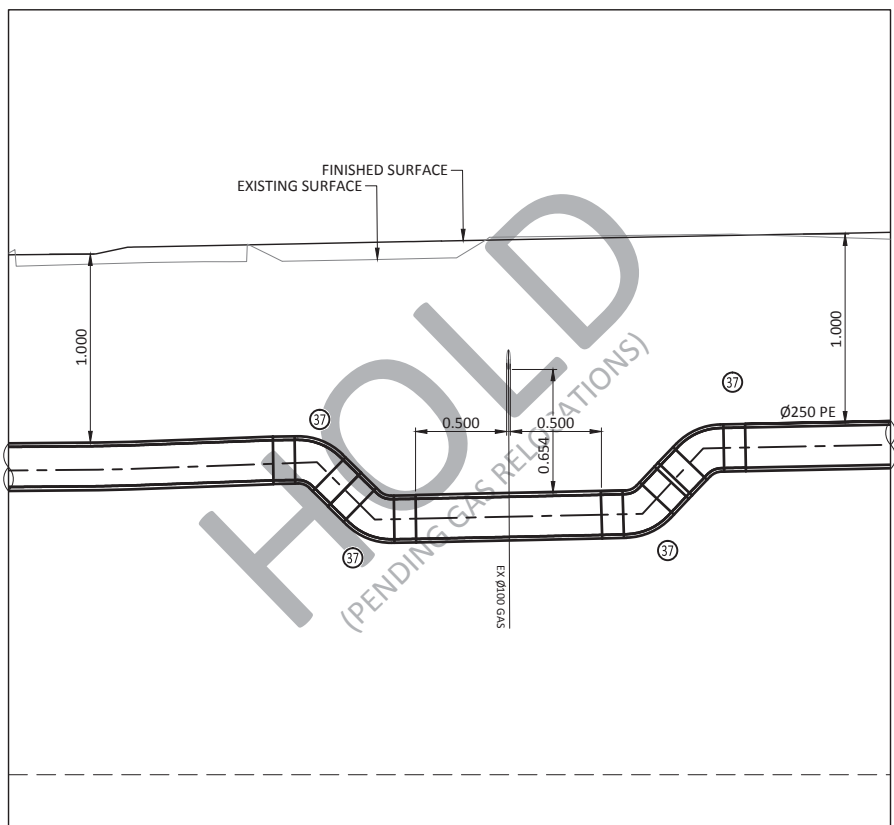
PROJECT No.
12191C
DRAWING No.
P3-S1-C0722
REVISION
D

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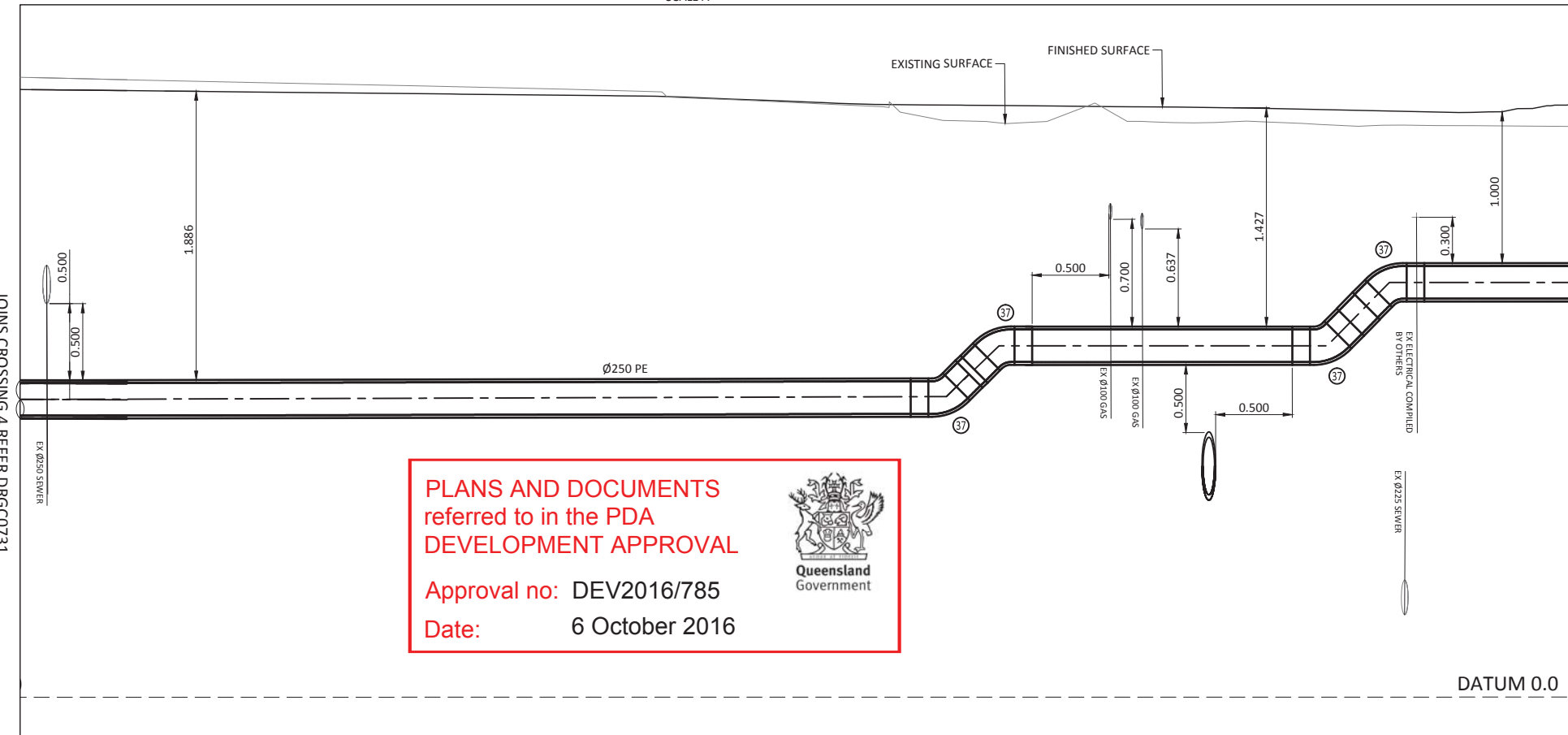
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WATER CROSSING DETAIL 1
REFER DRG 710
SCALE A



WATER CROSSING DETAIL 2
REFER DRG 710
SCALE A



WATER CROSSING DETAIL 3
SCALE A
REFER DRG 711

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/785
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ENGINEERING CERTIFICATION
SIGNED: DATE:
NAME of SIGNATORY (PRINT):
RPEQ NUMBER:
COMPANY NAME:

DATE:
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(VALID FOR 12 MONTHS FROM DATE SHOWN)
CLIENT ECONOMIC DEVELOPMENT QUEENSLAND
CONTACT: BORNHORST & WARD
QUU AUDITOR: AUDIT AND COMPLIANCE OFFICER
CONTACT: TONY FACEY 0412 436 579

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NAME of SIGNATORY
RPEQ No. or LICENCE
COMPANY NAME
START DATE FINISH DATE

SHEET No. 11 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/4/9 - 1580 - 011 O



DIMENSIONS IN METRES EXCEPT WHERE
SHOWN OTHERWISE. CULVERT AND PIPE
SIZES IN MILLIMETRES
A1 UNREDUCED
A3 REDUCED
UNREDUCED / REDUCED
A 0 0.2 0.4 0.6 0.8 1 m 1:20 / 1:40

STATUS
FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
C	31.03.16	ISSUE FOR TENDER	MS	BBe	KR	NR
B	11.03.16	FOR REVIEW				
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ASSOCIATED CONSULTANTS

APPROVED

CHECKED

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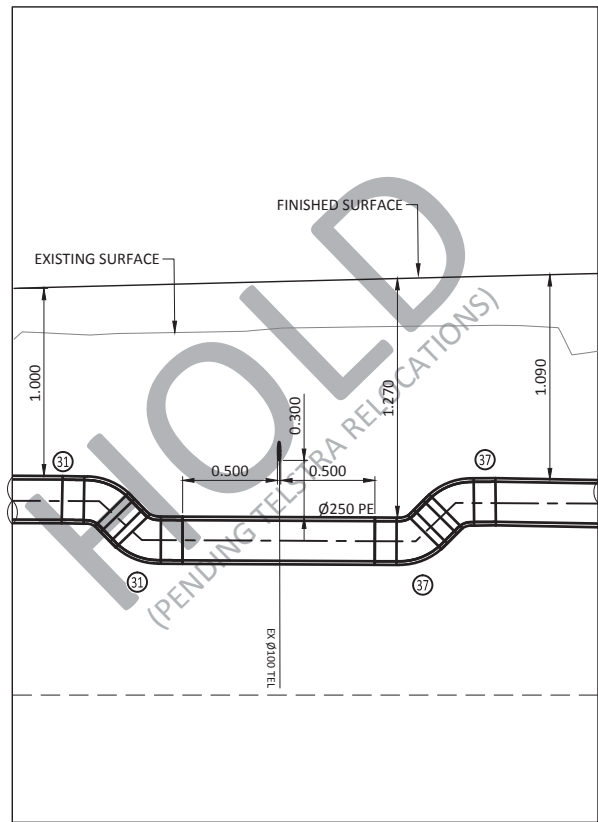
CLIENT
ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT
REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

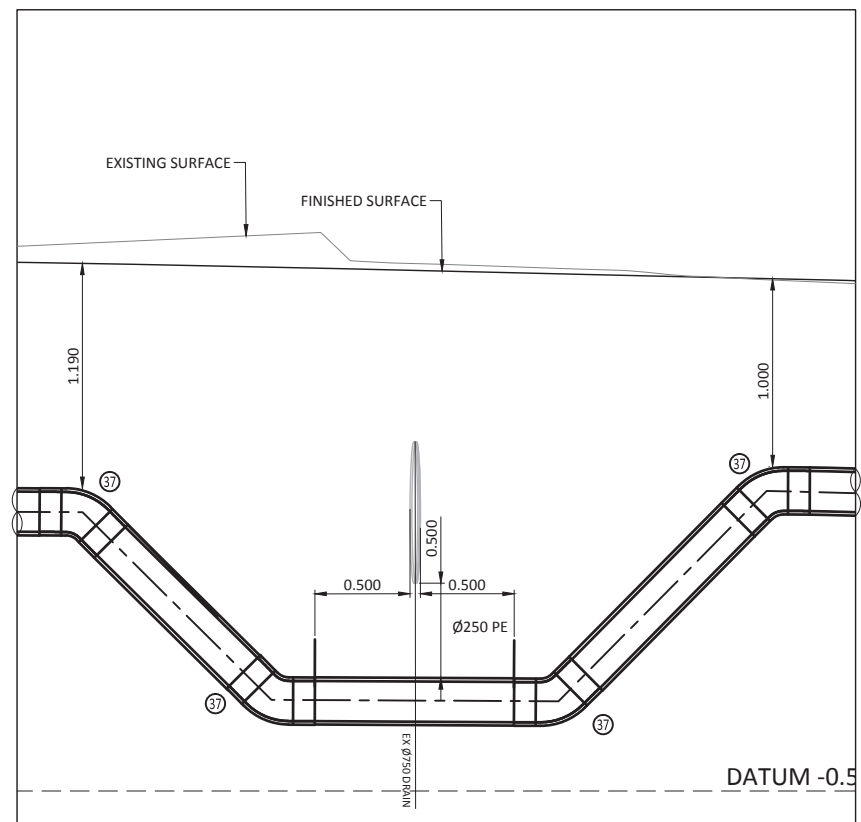
SUBJECT
WATER RETICULATION
CROSSING DETAILS SHEET 1

PROJECT No. 12191C
DRAWING No. P3-S1-C0730
REVISION C

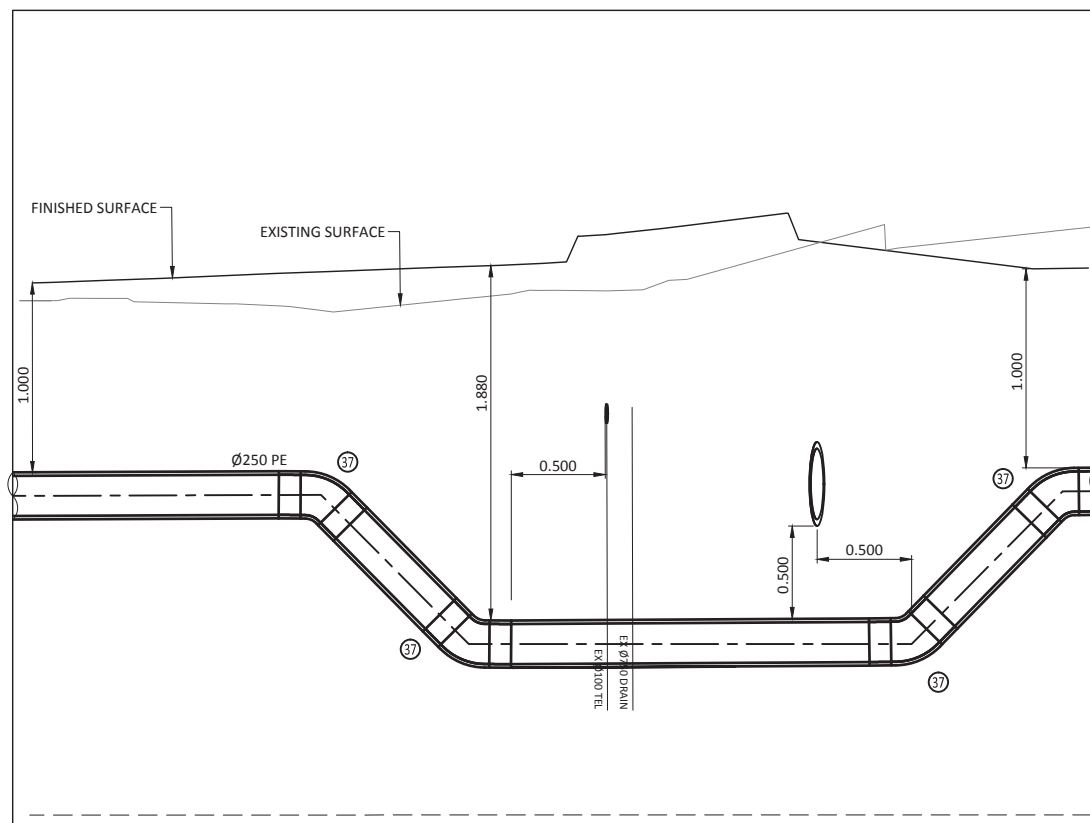
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WATER CROSSING DETAIL 7
SCALE A
REFER DRG 712



WATER CROSSING DETAIL 8
SCALE A
REFER DRG 713



WATER CROSSING DETAIL 9
SCALE A
REFER DRG 711

PLANS AND DOCUMENTS
referred to in the PDA
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Approval no: DEV2016/785

Date: 6 October 2016



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CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
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COMPANY NAME:
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SHEET No. 13 OF 13
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/4/9 - 1580 - 013 O



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

SCALES: UNREDUCED / REDUCED
A 1:20 / 1:40

STATUS: FOR TENDER

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
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CLIENT: ECONOMIC
DEVELOPMENT
QUEENSLAND (EDQ)

PROJECT: REMORA ROAD
ROADWORKS
NORTHSHORE HAMILTON

SUBJECT: WATER RETICULATION
CROSSING DETAILS SHEET 3

PROJECT No. 12191C
DRAWING No. P3-S1-C0732
REVISION: C

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