

Technical Memorandum

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2017/831

Date: 18 December 2020



Date: Tuesday, 24 November 2020

Pages: 4

To: Marco Bonotto - Principal Engineer,
Economic Development Queensland

Copy: Logan Water

From: Tobias Chalmers - Associate Engineer,
Calibre Professional Services Pty Ltd

Ref: 16-002518-WTM02-Rev3

Subject: Covella - Water Precinct Network Plan Amendments

1. Introduction

Calibre Professional Services Pty Ltd (Calibre) have prepared this Technical Memorandum (memo) as an addendum to the Water and Wastewater Precinct Network Plan (Report No. 16-002518-03 Rev C) prepared in support of the Covella development located at Pub Lane, Greenbank.

This memo has been prepared to summarise the outcomes of changes to the Covella water service strategy previously endorsed by Economic Development Queensland and Logan Water.

- Revised water service strategy as identified within the Logan Water Greenbank Water Servicing Strategy report (reference: LS-021 revision E,1 dated July 2018).
 - o Previous planning identified that the development would be serviced via two Water Supply Zones (WSZ), the Spring Mountain WSZ and Round Mountain WSZ (via Pub Lane Booster Pump Station).
 - o Revised planning indicates that the Covella development will now be serviced by the Spring Mountain Zone only, with the proposed Pub Lane Booster Pump Station (BPS) no longer required.
 - o This technical memo will review network performance based on the revised network configuration and regional service strategy.

2. Assumptions

The following assumptions have been adopted for this technical memo:

- Network planning has been undertaken in accordance with the South East Queensland Water Supply and Sewerage Design and Construction Code 2020 (SEQ Code). Network models utilised as part of this assessment have been developed in accordance with SEQ Code requirements and not calibrated with real world data.
- Surface levels have been adopted in accordance with available LiDAR survey and earthwork levels associated with the Covella development.
- Boundary condition of 122 m have been adopted in accordance with the Logan Water planning report (reference: LS-021 revision E,1 dated July 2018) for the Spring Mountain WSZ.
- Network models adopted as per PNP investigation (Report No. 16-002518-03 Rev C) and amended to suit revised network configuration.

Memorandum

Covella - Water Precinct Network Plan Amendments



3. Revised Water Service Strategy

The aforementioned planning report prepared by Logan Water indicated that the development would be supplied via the Spring Mountain WSZ only. Modelling was undertaken to confirm potential impacts associated with the updated regional service strategy and revised internal network configuration.

The revised network configuration is illustrated on Drawing No. 15-003700-SK2900 enclosed within Attachment 1. To service the development via the Spring Mountain WSZ only, existing boundary valves will be opened, and cross connections made between the two constructed supply mains. It should be noted that the existing Pub Lane Pressure Reducing Valve (PRV) will remain operational with cross connections between the two supply mains made after the PRV.

At the time of reporting, the current development demand is 979.1 EP which is greater than the 543.2 EP previously adopted for the interim development phase. To provide additional water supply capacity for future external development, EDQ have requested that a length of proposed DN100 water main be upsized to DN150 as shown on Drawing No. 15-003700-SK2900 enclosed within Attachment 1. Other than the changes proposed to the supply zone and upsized length of pipe, there have been no significant changes to the development layout and associated demands. Subsequently there has been little change to the updated internal network pressures outlined in Table 1.

Table 1: Updated Internal Network Pressures

Phase	Demand	Minimum Pressure	Maximum Pressure	Fire Flow Pressure	PRV Setting
Interim	979.1 EP	35.23 m	50.66 m	31.35 m	35 m
Phase 2	2,276.4 EP	31.79 m	50.00 m	26.81 m	35 m
Ultimate	4,626.2 EP	31.22 m	54.01 m	19.99 m	35 m

When the ultimate development is serviced off the Spring Mountain WSZ a minimum Peak Hour pressure of 31.22 m is recorded, above the required 22 m outlined within the SEQ Code. The minimum FF pressure observed within the development is 19.99 m, above the 12 m required as part of the development. The maximum pressure observed within the internal network is 54.01 m, below the maximum desirable pressure of 55 m outlined within the SEQ Code. The updated internal network modelling results indicate that the revised water servicing strategy can support the ultimate development.

The proposed reconfiguration of exiting water supply infrastructure is illustrated on Drawing Nos. 18-000185-600, 602 and 610 included within Attachment 2. It is proposed that the existing DN300 (DACL) and DN150 (PVC-M) water mains will remain operational with a new cross connection provided at the boundary of Stage 4. The existing DN225 (DACL) water main will be disconnected and decommissioned with cap ends installed. Considering the age and material of this existing asset, Calibre recommend against grout filling the pipeline as it may offer an opportunity for future reuse as a service conduit or similar.

It is anticipated that reconfiguration of existing water network infrastructure will be completed as live works by Logan Water or an appointed contractor.

Memorandum

Covella - Water Precinct Network Plan Amendments



4. Conclusion and Recommendations

This technical memo has been prepared to summarise changes associated with the Covella water supply strategy and infrastructure. Investigations indicate that the proposed change to the water servicing strategy presented within the Water Precinct Network Plan (Report No. 16-002518-03 Rev C) has no adverse impact. Calibre make that the following recommendations:

- EDQ and Logan Water endorse the proposed internal water servicing amendment outlined within this memo and update Offset Works in accordance with Drawing No. 15-003700-SK01 within Attachment 3.
- Adopt the revised water network configuration in accordance with amended drawings included within Attachment 1 & 2.
- Verify network boundary conditions and confirm modelling assumptions prior to further detailed design.

If you have any enquiries about the contents of this technical memo, please do not hesitate to contact Joshua Goman or the undersigned on (07) 3895 3444.

Yours Sincerely

Calibre Professional Services Pty Ltd

A handwritten signature in blue ink, appearing to read "T. Chalmers".

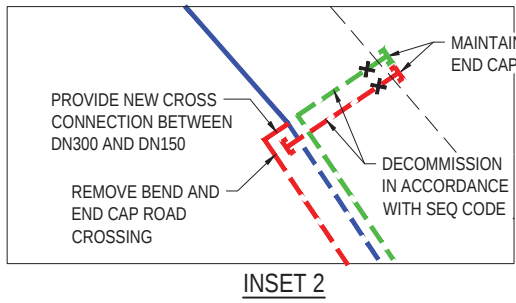
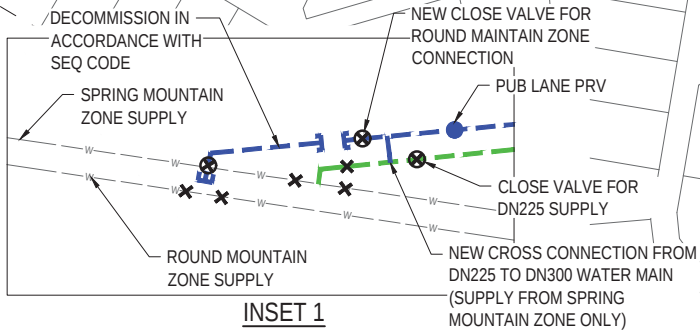
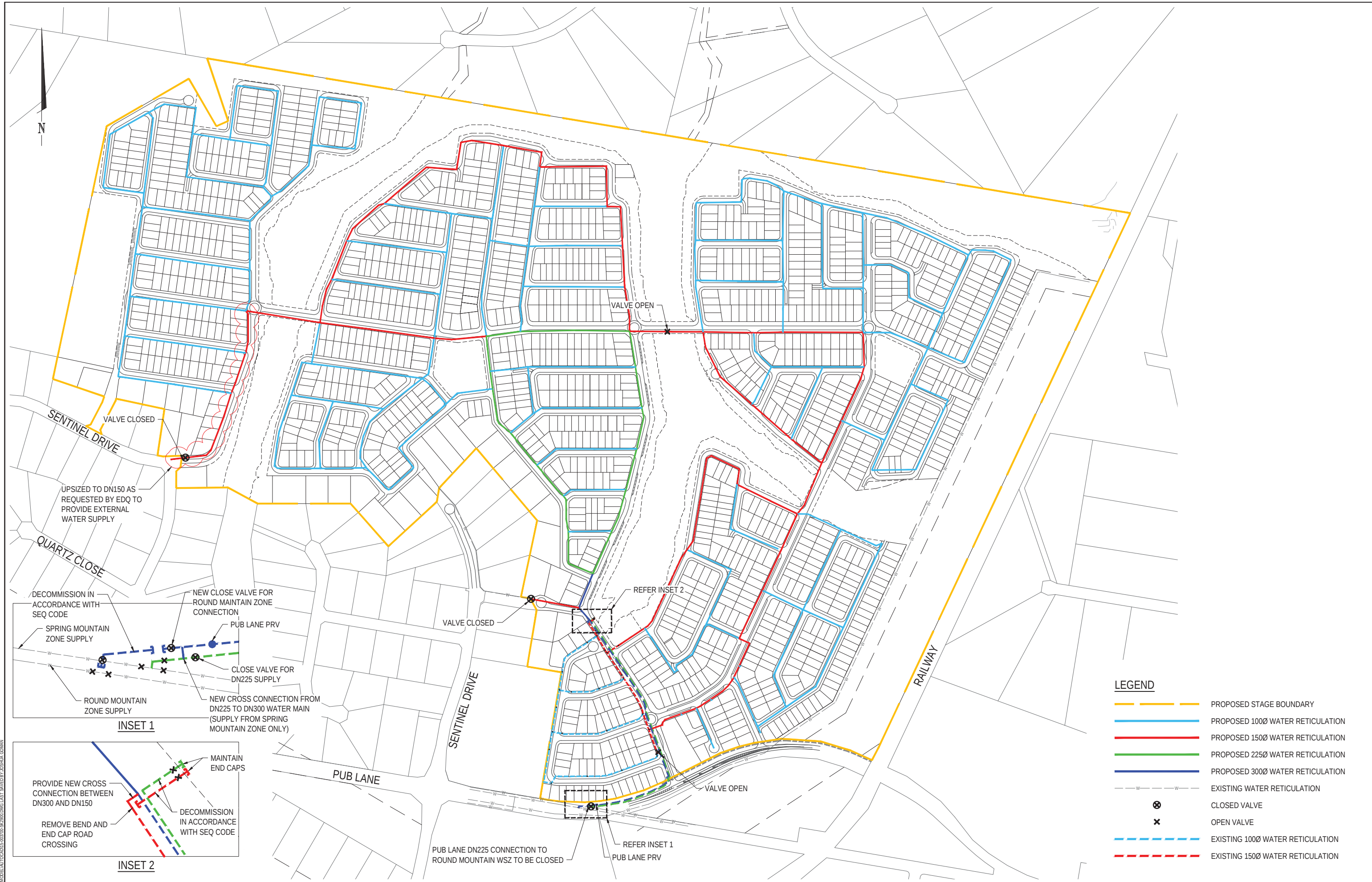
Tobias Chalmers (RPEQ 21006)

Associate Engineer

Attachment 1: Revised Internal Water Service Strategy Drawing No. 15-003700-SK2900.

Attachment 2: Drawing Nos. 18-000185-600, 602 & 610.

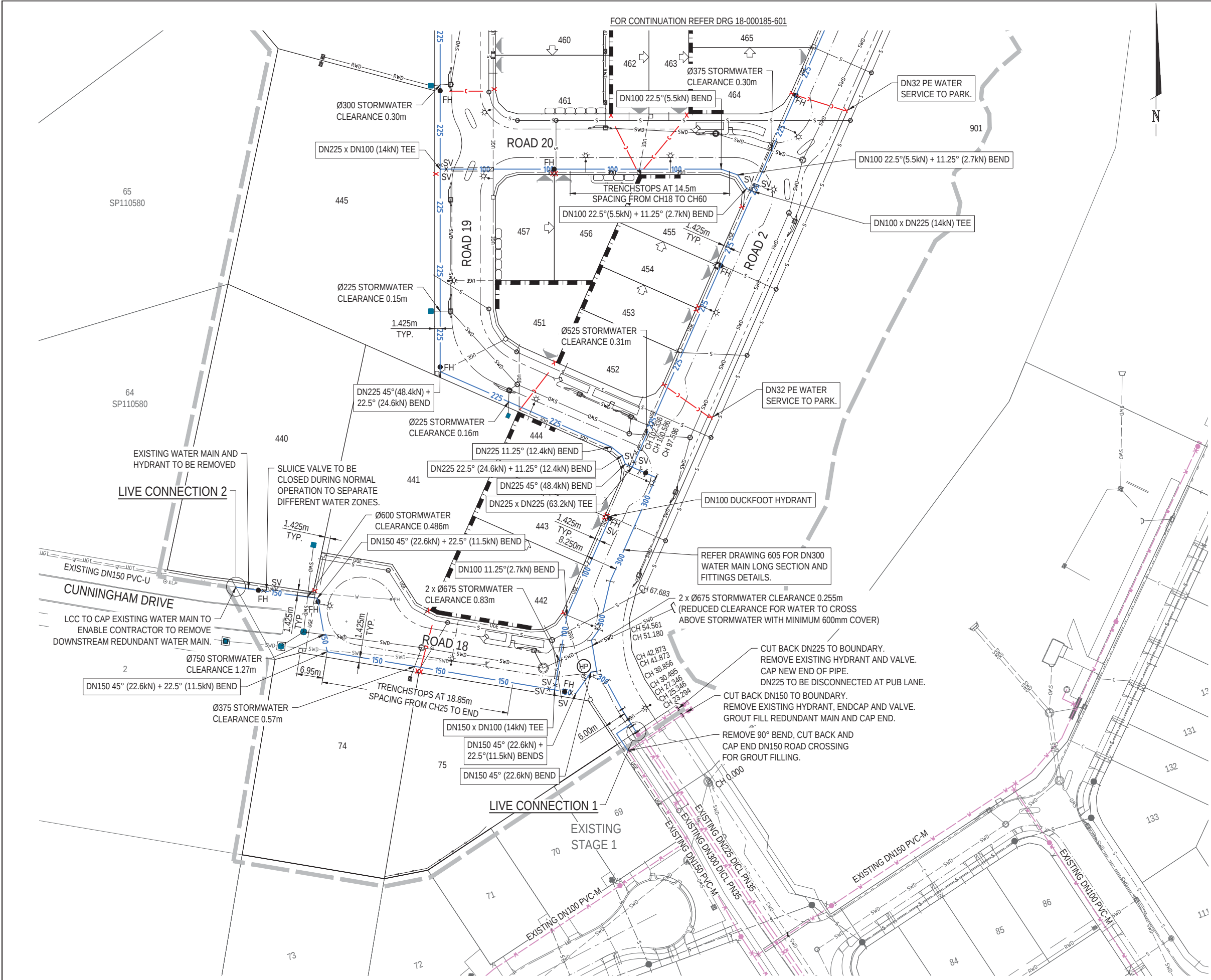
Attachment 3: Offset Works Plan Drawing No. 15-003700-SK01



- LEGEND**
- PROPOSED STAGE BOUNDARY
 - PROPOSED 1000 WATER RETICULATION
 - PROPOSED 1500 WATER RETICULATION
 - PROPOSED 2250 WATER RETICULATION
 - PROPOSED 3000 WATER RETICULATION
 - EXISTING WATER RETICULATION
 - CLOSED VALVE
 - OPEN VALVE
 - EXISTING 1000 WATER RETICULATION
 - EXISTING 1500 WATER RETICULATION

REVISION			DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN	STATUS	INFORMATION ONLY NOT FOR CONSTRUCTION	SCALE AS SHOWN	CLIENT VILLA WORLD VILLAWORLD HOMES	PROJECT COVELLA (TEVIOT VILLAGE)	DRAWING TITLE ULTIMATE WATER SUPPLY SERVICE STRATEGY		
A			04.11.20	ISSUED FOR INFORMATION	SL	JG							PROJECT No. 15-003700	DRAWING No. SK2900	REVISION A
							DESIGN						DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.		

FILE: H118002511_TEVOT_DOWNSIDE_MODEL\AU\LOCAL\15-003700_SK2900.DWG LAST SAVED BY: JOSHUA GOWAN



LEGEND

100

150

225

300

W

W

W

SV

END

FH

X

HP

LP

UGE

SWD

SWD

S

S

UGT

UGT

PROPOSED STAGE BOUNDARY

PROPOSED 100Ø PVC-M PN16 WATER RETICULATION

PROPOSED 150Ø PVC-M PN16 WATER RETICULATION

PROPOSED 225Ø PVC-M PN16 WATER RETICULATION

PROPOSED 300Ø DCL PN35 WATER RETICULATION

EXISTING WATER RETICULATION

FUTURE WATER RETICULATION

PROPOSED DN100 PN9 WATER CONDUIT

PROPOSED DCL PN35 ROAD CROSSING

PROPOSED SLUICE VALVE

PROPOSED DEAD END CAP

PROPOSED FIRE HYDRANT

PROPOSED REDUCER

ISOLATION VALVE

WATER SERVICE POINT OF ENTRY

HIGH POINT

LOW POINT

INDICATIVE DRIVEWAY LOCATIONS

ZERO LOT BOUNDARY

PROPOSED UNDERGROUND ELECTRICAL

PROPOSED ELECTRICAL STREET LIGHT

PROPOSED ELECTRICAL PILLAR BOX

PROPOSED STORMWATER DRAINAGE

EXISTING STORMWATER DRAINAGE

PROPOSED SEWERAGE RETICULATION

EXISTING SEWERAGE RETICULATION

EXISTING UNDERGROUND TELECOMMUNICATION

NOTE:
NOTWITHSTANDING THAT EXISTING SERVICES MAY OR MAY NOT BE SHOWN ON THE JOB DRAWINGS, NO RESPONSIBILITY IS TAKEN BY THE SUPERINTENDENT OR THE PRINCIPAL FOR THIS INFORMATION WHICH HAS BEEN SUPPLIED BY OTHERS. THE DETAILS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE POSITION OF ANY UNDERGROUND SERVICES IN THIS AREA AND SHALL BE RESPONSIBLE FOR MAKING GOOD ANY DAMAGE THERETO.

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

NOTES:

- FOR WATER RETICULATION NOTES & DETAILS, REFER DRG 18-000185-610.
- CONNECTION TO EXISTING WATER MAINS BY LOGAN WATER AT DEVELOPER'S EXPENSE.
- FOR LIVE CONNECTION DETAILS REFER DRG 18-000185-610.
- REFER TO SEWER LONG SECTIONS FOR CLEARANCES BETWEEN WATER MAINS AND SEWER.

CAUTION !!

UNDERGROUND GAS MAIN

UNDERGROUND GAS MAIN EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR MAIN LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING

CAUTION !!

UNDERGROUND TELECOMMS CABLES

UNDERGROUND TELECOMMUNICATION CABLES EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.

CAUTION !!

UNDERGROUND ELECTRICAL CABLES

UNDERGROUND ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING

CAUTION !!

OVERHEAD ELECTRICAL CABLES

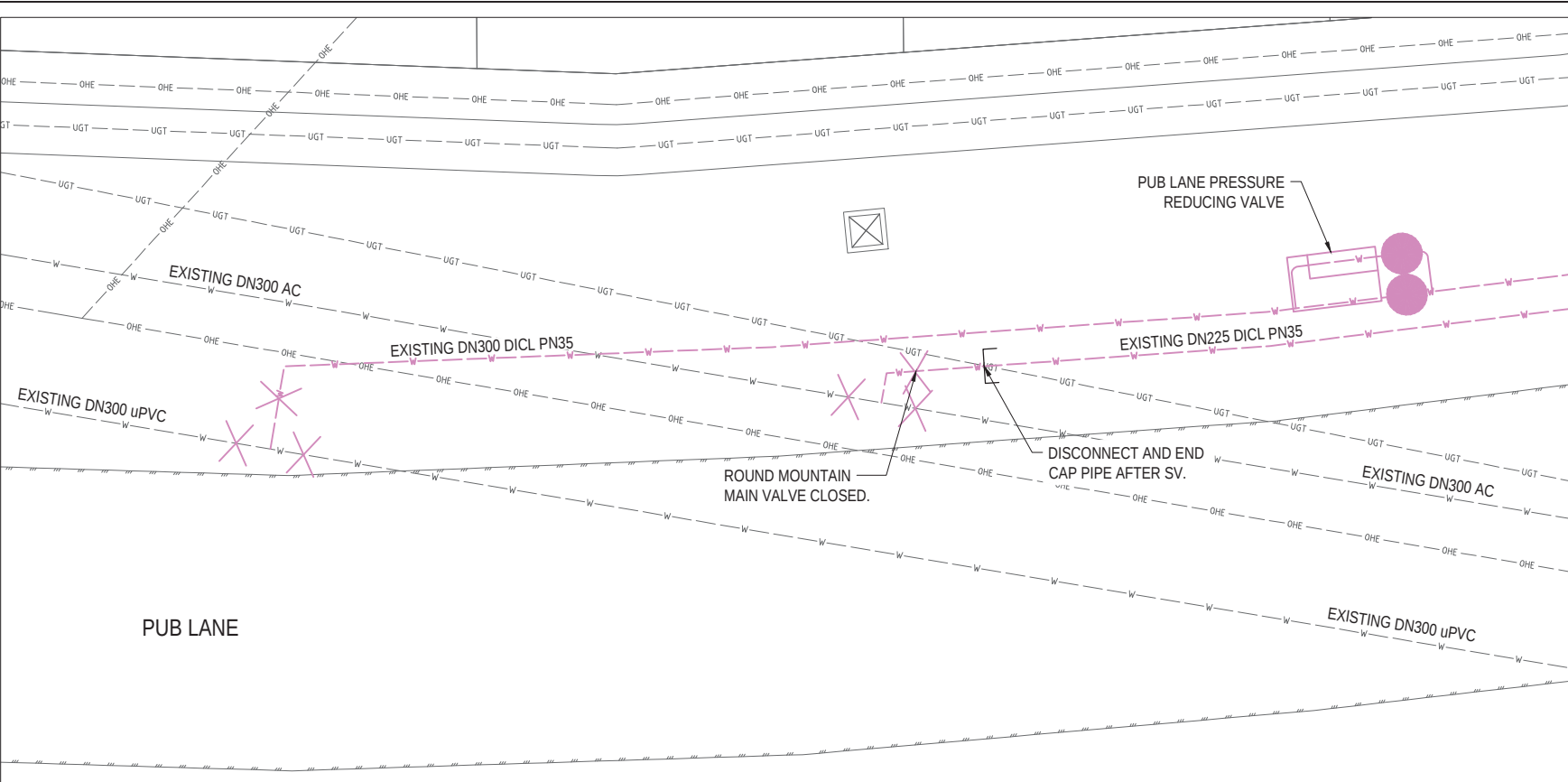
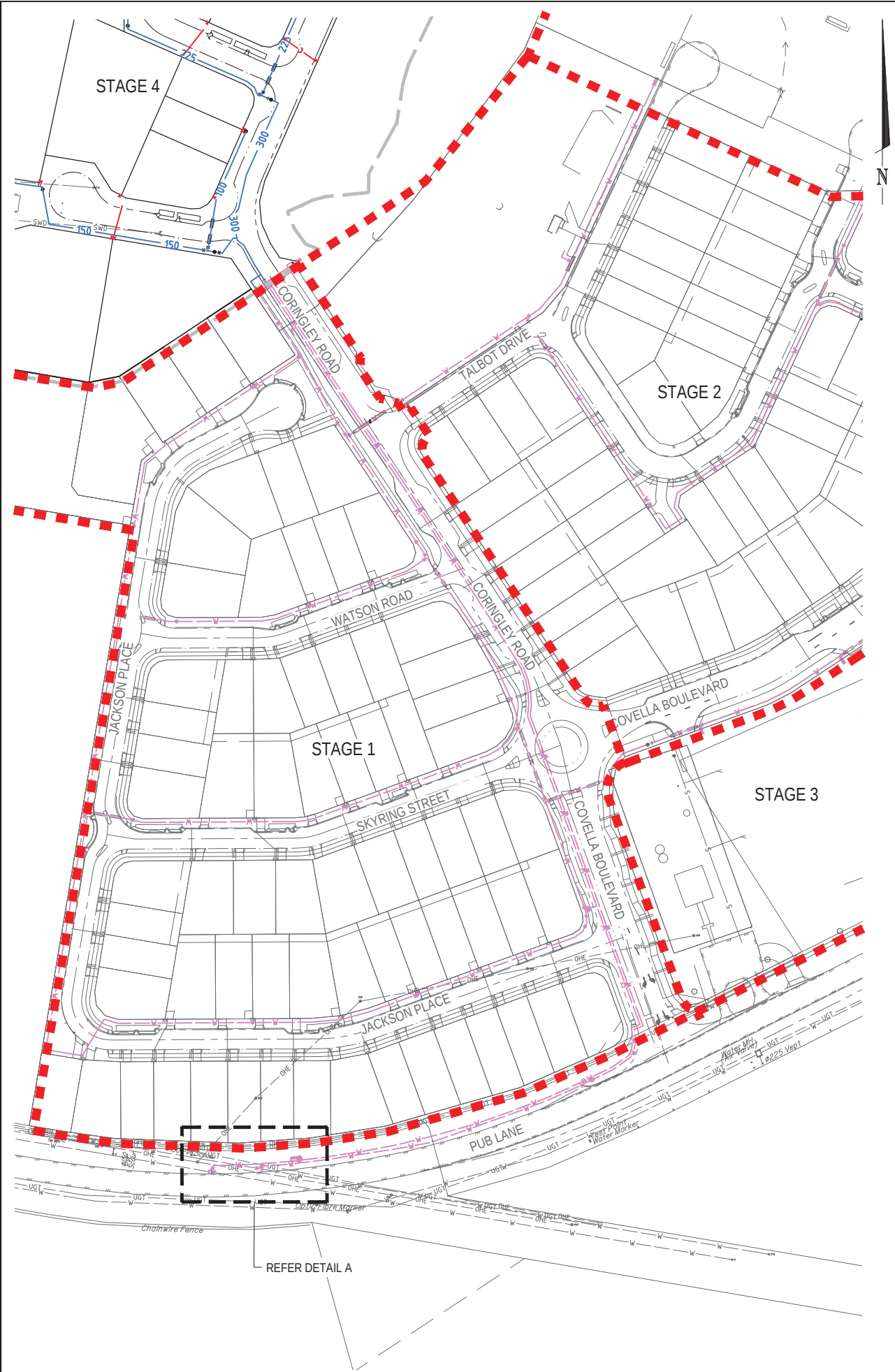
OVERHEAD ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX WHERE CABLE CLEARANCE IS COMPROMISED BY MACHINERY.

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE	PROJECT NO.	DRAWING NO.	REVISION
A	22.07.20	ISSUE FOR CONSTRUCTION	NM	NM		FOR CONSTRUCTION	1:500 1:1000	VILLA WORLD VILLAWORLD HOMES	VILLA GREEN STAGE 4 PUB LANE, GREENBANK	WATER RETICULATION LAYOUT PLAN SHEET 1 OF 2	18-000185	600	A
2													
3													
4													
5													
6													
7													
8													

FOR & ON BEHALF OF CALIBRE CONSULTING (QLD) PTY LTD

APPROVED
DANIEL COLLINS
RPEQ 18631

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.



DETAIL A
SCALE 1:100(A1)
SCALE 1:200(A3)

LEGEND

- PROPOSED STAGE BOUNDARY
- 100 PROPOSED 100Ø PVC-M PN16 WATER RETICULATION
- 150 PROPOSED 150Ø PVC-M PN16 WATER RETICULATION
- 225 PROPOSED 225Ø PVC-M PN16 WATER RETICULATION
- 300 PROPOSED 300Ø DICL PN35 WATER RETICULATION
- EXISTING WATER RETICULATION
- FUTURE WATER RETICULATION
- PROPOSED DN100 PN9 WATER CONDUIT
- PROPOSED DICL PN35 ROAD CROSSING
- SV PROPOSED SLUICE VALVE
- END PROPOSED DEAD END CAP
- FH PROPOSED FIRE HYDRANT
- REDUCER PROPOSED REDUCER
- ISOLATION VALVE
- WATER SERVICE POINT OF ENTRY
- HP HIGH POINT
- LP LOW POINT
- INDICATIVE DRIVEWAY LOCATIONS
- ZERO LOT BOUNDARY
- UGE PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED ELECTRICAL STREET LIGHT
- PROPOSED ELECTRICAL PILLAR BOX
- SWD PROPOSED STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE
- S PROPOSED SEWERAGE RETICULATION
- EXISTING SEWERAGE RETICULATION
- UGT EXISTING UNDERGROUND TELECOMMUNICATION

- NOTES:
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 - REFER TO SEWER LONG SECTIONS FOR CLEARANCES BETWEEN WATER MAINS AND SEWER.

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REVISION		DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS		SCALE	CLIENT		DRAWING TITLE		PROJECT		DRAWING TITLE			
A		13.08.20	ISSUE FOR CONSTRUCTION	NM	NM		FOR CONSTRUCTION		1:1000 1:2000							VILLA GREEN STAGE 4 PUB LANE, GREENBANK		WATER MAIN DN225 DISCONNECTION LAYOUT PLAN	
2																			
3																			
4						DESIGN CHECK	APPROVED												
5							DANIEL COLLINS												
6							RPEQ 18631												
7																			
8							FOR & ON BEHALF OF CALIBRE CONSULTING (QLD) PTY LTD												

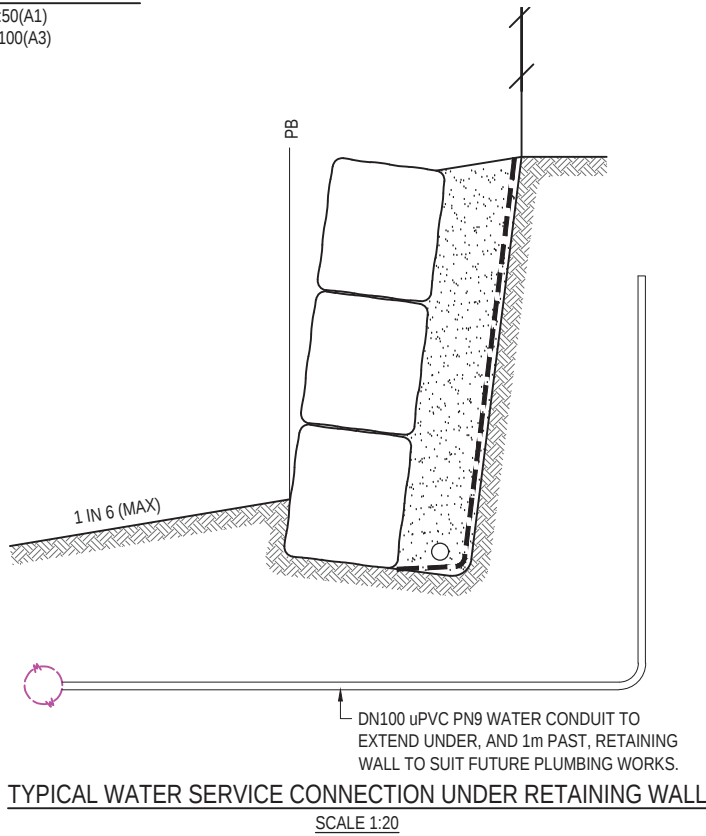
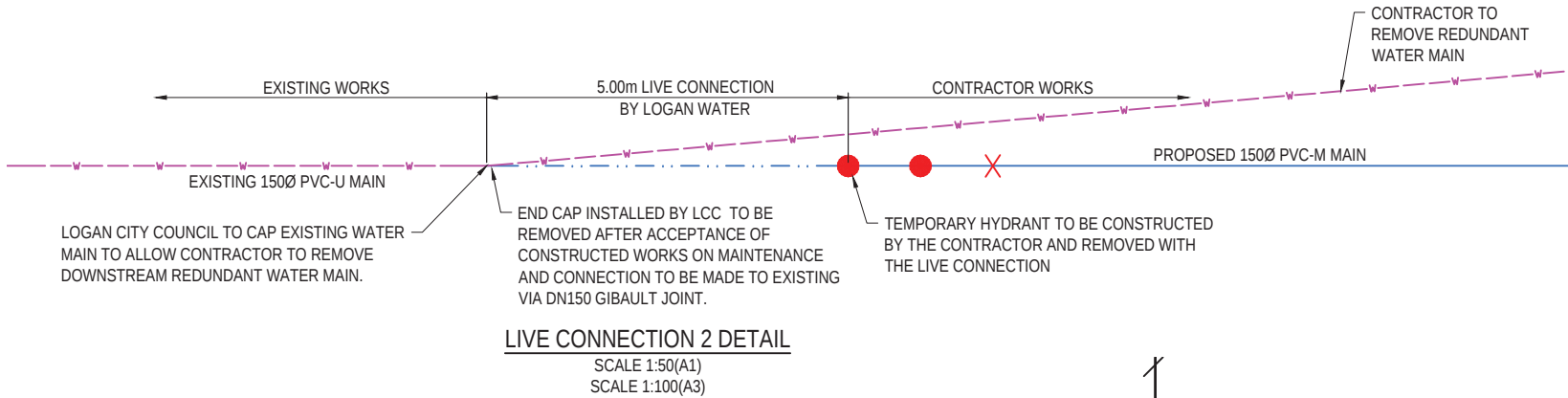
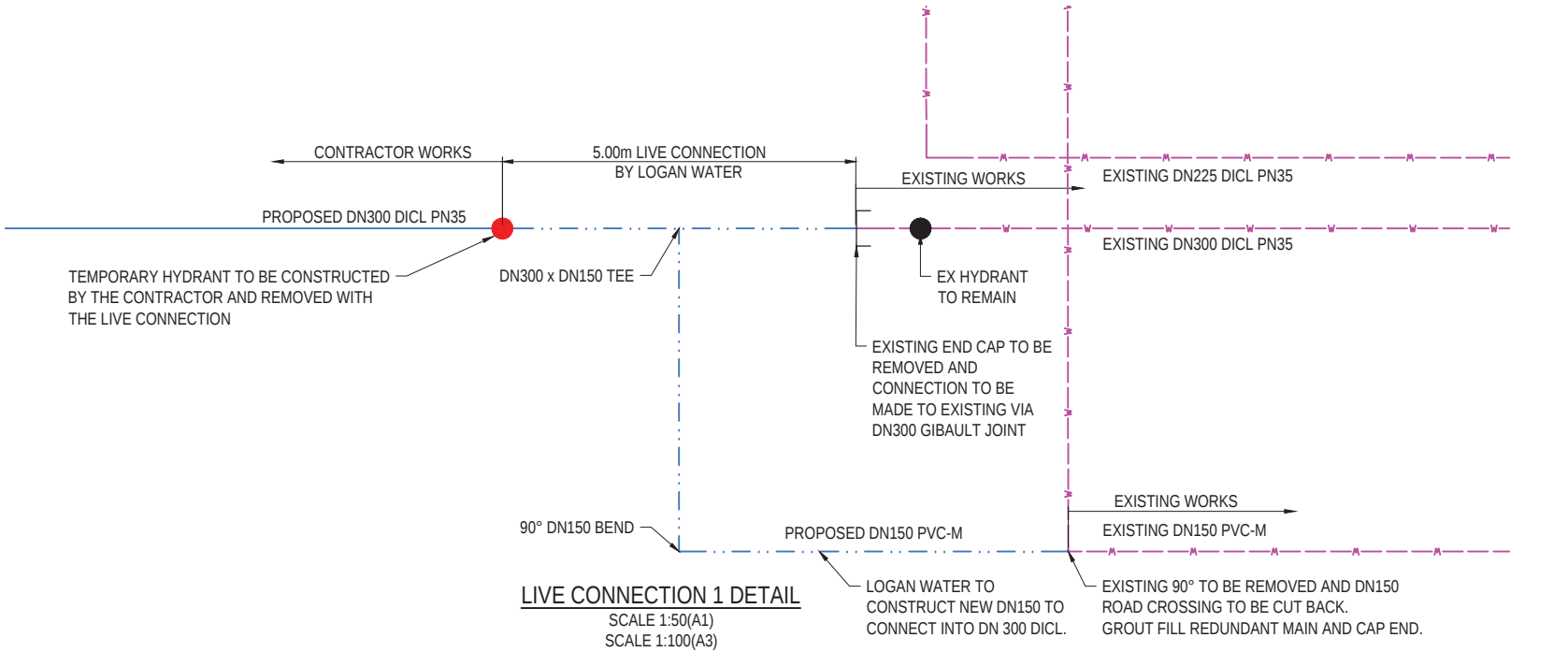
WATER RETICULATION NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH FOLLOWING CURRENT SPECIFICATIONS AND STANDARDS (IN ORDER OF PRIORITY):
- SOUTH EAST QUEENSLAND WATER SUPPLY CODE (SEQ-SP's)
- WATER SUPPLY CODE OF AUSTRALIA WSA03-2011 V3.1.
2. UNLESS SPECIFIED OTHERWISE, ALL WORK AND MATERIALS SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT LIP OF KERB AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN STANDARD DRAWING SEQ-WAT-1200-2.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS IN SEQ-SP's.
6. A WATER METER SUPPLIED AT DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE STANDARD DRAWINGS IN SEQ-SP's.
7. ALL MATERIAL USED IN THE WORKS SHALL COMPLY WITH THE SEQ-SP's.
8. ALL CONCRETE FOOTPATHS TO BE CLEAR OF WATER MAINS, WHERE POSSIBLE.
9. THE CONSTRUCTION OF THE WATER SUPPLY RETICULATION WORK SHOWN ON THIS DRAWING MUST HAVE CONTRACT ADMINISTRATION UNDERTAKEN BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORK NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.
10. ALL WORK ON EXISTING WATER MAINS TO BE CARRIED OUT BY SERVICE AUTHORITY AT DEVELOPER'S EXPENSE.
11. WHERE A WATER MAIN CROSSES A ROAD THE WATER MAIN DEPTH OR PIPE CLASS IS TO BE ADJUSTED TO CONSIDER CONSTRUCTION LOADINGS. LESS THAN Ø300 WATER MAINS ARE NOT TO BE LAID WITHIN ROAD PAVEMENT.
12. PROVIDE CONCRETE THRUST BLOCKS TO FITTINGS IN ACCORDANCE WITH SEQ-CODE STD. DRG. SEQ-WAT-1205-1 & SEQ-WAT-1206-1.
13. ALL PIPEWORK EMBEDMENT TO BE TYPE C SUPPORT IN ACCORDANCE WITH SEQ-WAT-1201-1. UNLESS NOTED OTHERWISE.

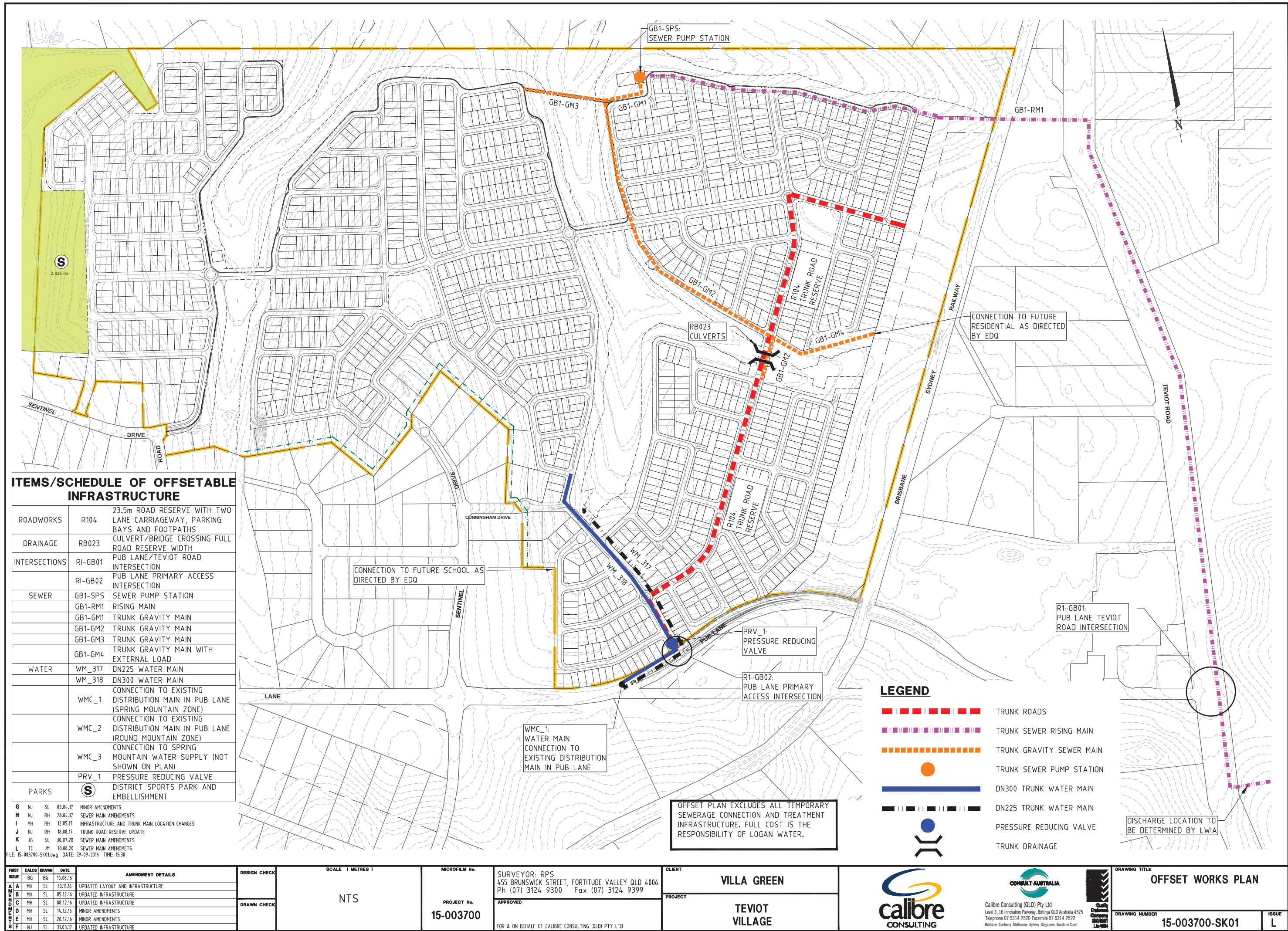
NOTE:
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NOTE:
INSTALL WATER SERVICE CONNECTIONS IN COMPLIANCE WITH THE DETAILS AS SHOWN ON STANDARD DRAWINGS SEQ-WAT-1110-1 AND SEQ-WAT-1110-2, AND OTHER RELEVANT DRAWINGS IN THE SEQ WS & S D & C CODE INCLUDING THE METER BOX. THE POLYETHYLENE SERVICE LINE MUST BE COMPLY WITH AS/NZS 4130 SERIES 1 DN20 PN16. TAPPING BANDS MUST BE USED WHEN PROVIDING CONNECTION, UNLESS OTHERWISE APPROVED BY COUNCIL.

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



REVISION				DATE		ISSUE DETAILS		DRAWN	DESIGN	DRAWN CHECK	STATUS		SCALE		CLIENT		PROJECT		DRAWING TITLE		
A		22.07.20	ISSUE FOR CONSTRUCTION			NM	NM				FOR CONSTRUCTION		1:50	1:100	VILLA WORLD VILLAWORLD HOMES		VILLA GREEN STAGE 4 PUB LANE, GREENBANK		WATER RETICULATION NOTES AND DETAILS		
2										DESIGN CHECK	APPROVED DANIEL COLLINS RPEQ 18631		1 0.5 0 1 2 A1 1:100 A3		calibre calibregroup.com		DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION, USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.		PROJECT No. 18-000185	DRAWING No. 610	REVISION A
3											FOR & ON BEHALF OF CALIBRE CONSULTING (QLD) PTY LTD										
4																					
5																					
6																					
7																					
8																					



ITEMS/SCHEDULE OF OFFSETABLE INFRASTRUCTURE

ROADWORKS	R104	23.5m ROAD RESERVE WITH TWO LANE CARRIAGEWAY, PARKING BAYS AND FOOTPATHS
DRAINAGE	RB023	CULVERT BRIDGE CROSSING FULL ROAD RESERVE WIDTH
INTERSECTIONS	RI-GB01	PUB LANE/TEVIOT ROAD INTERSECTION
	RI-GB02	PUB LANE PRIMARY ACCESS INTERSECTION
SEWER	GB1-SPS	SEWER PUMP STATION
	GB1-RM1	TRUNK RISING MAIN
	GB1-GM1	TRUNK GRAVITY MAIN
	GB1-GM2	TRUNK GRAVITY MAIN
	GB1-GM3	TRUNK GRAVITY MAIN
WATER	GB1-GM4	TRUNK GRAVITY MAIN WITH EXTERNAL LOAD
	WM_317	DN225 WATER MAIN
	WM_318	DN300 WATER MAIN
	WMC_1	CONNECTION TO EXISTING DISTRIBUTION MAIN IN PUB LANE (SPRING MOUNTAIN ZONE)
	WMC_2	CONNECTION TO EXISTING DISTRIBUTION MAIN IN PUB LANE (ROUND MOUNTAIN ZONE)
	WMC_3	CONNECTION TO SPRING MOUNTAIN WATER SUPPLY (NOT SHOWN ON PLAN)
	PRV_1	PRESSURE REDUCING VALVE
PARKS	S	DISTRICT SPORTS PARK AND EMBELLISHMENT

G	NJ	SL	03.04.17	MINOR AMENDMENTS
H	NJ	RH	28.04.17	SEWER MAIN AMENDMENTS
I	MH	RH	12.05.17	INFRASTRUCTURE AND TRUNK MAIN LOCATION CHANGES
J	NJ	RH	18.08.17	TRUNK ROAD RESERVE UPDATE
K	JG	SL	30.07.20	SEWER MAIN AMENDMENTS
L	TC	JM	18.08.20	SEWER MAIN AMENDMENTS

FILE: 15-003700-SK01.dwg DATE: 29-09-2016 TIME: 15:30

FIRST ISSUE A B C D E F	CALC	DRAWN	DATE	AMENDMENT DETAILS	DESIGN CHECK	SCALE (METRES)	MICROFILM No.	PROJECT No.	SURVEYOR: RPS 455 BRUNSWICK STREET, FORTITUDE VALLEY QLD 4006 Ph (07) 3124 9300 Fax (07) 3124 9399	CLIENT VILLA GREEN TEVIOT VILLAGE	PROJECT	DRAWING TITLE OFFSET WORKS PLAN	DRAWING NUMBER 15-003700-SK01	ISSUE L
	BG	BG	10.08.16											
	MH	SL	30.11.16											
	MH	SL	05.12.16											
	MH	SL	08.12.16											
	MH	SL	14.12.16											
AMENDMENTS	MH	SL	20.12.16	MINOR AMENDMENTS	DRAWN CHECK	NTS	15-003700	FOR & ON BEHALF OF CALIBRE CONSULTING (QLD) PTY LTD						
	MH	SL	31.03.17	UPDATED INFRASTRUCTURE										
	NJ	SL	31.03.17	UPDATED INFRASTRUCTURE										

LEGEND

- TRUNK ROADS
- TRUNK SEWER RISING MAIN
- TRUNK GRAVITY SEWER MAIN
- TRUNK SEWER PUMP STATION
- DN300 TRUNK WATER MAIN
- DN225 TRUNK WATER MAIN
- PRESSURE REDUCING VALVE
- TRUNK DRAINAGE

DISCHARGE LOCATION TO BE DETERMINED BY LWIA

Calibre Consulting (QLD) Pty Ltd
Level 3, 16 Innovation Parkway, Brisbane QLD Australia 4575
Telephone 07 5314 2520 Facsimile 07 5314 2522
Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast

CONSULT AUSTRALIA

Bentley

DRAWING NUMBER

15-003700-SK01

ISSUE

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