

Technical Memorandum

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2012/284
Date: 20 January 2021



Date: Tuesday, 24 November 2020

To: Marco Bonotto - Principal Engineer,
Economic Development Queensland

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

Pages: 4

Copy: Logan Water

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.

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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 (DICL) and DN150 (PVC-M) water mains will remain operational with a new cross connection provided at the boundary of Stage 4. The existing DN225 (DICL) 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.

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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".

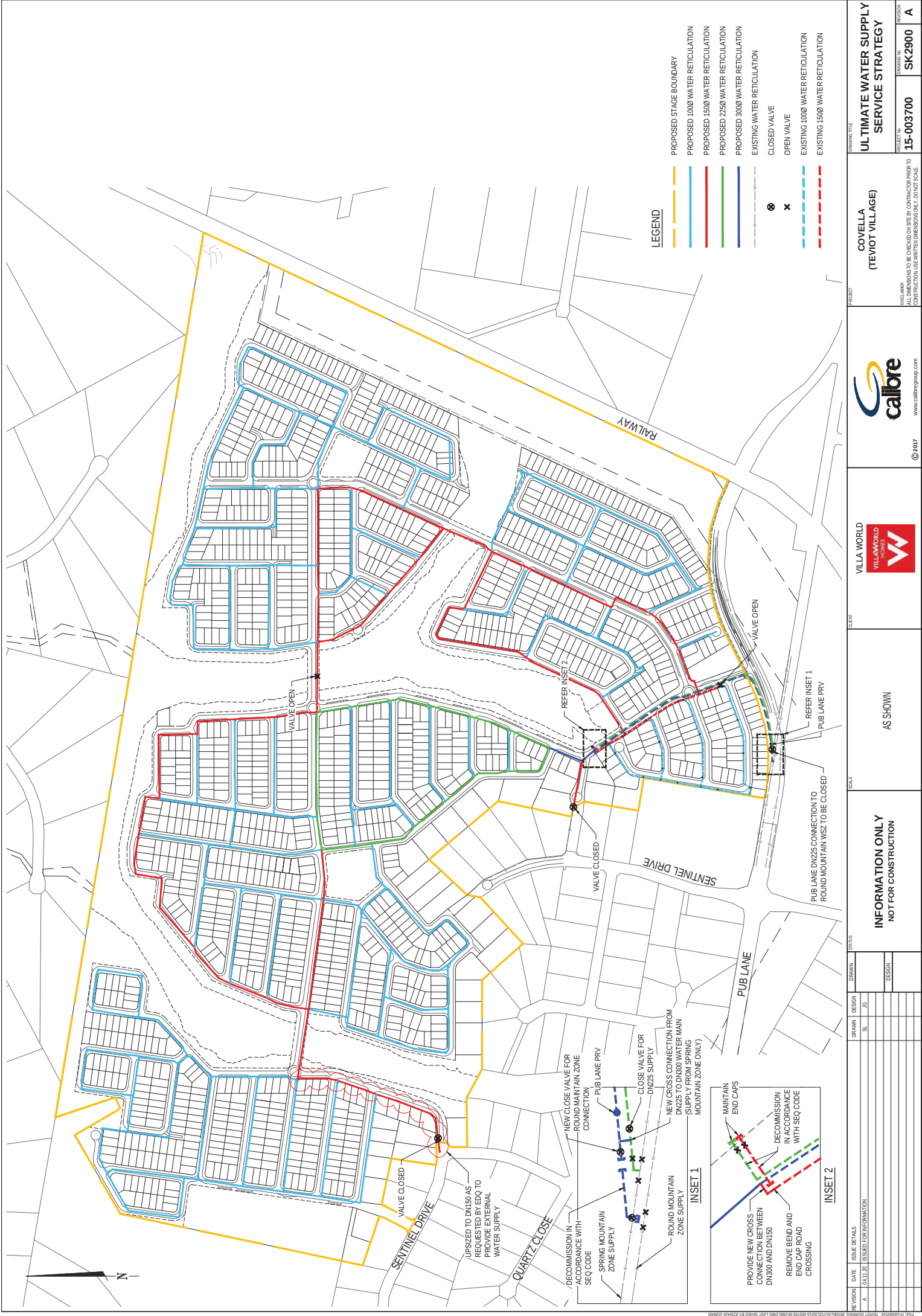
Tobias Chalmers (RPEQ 21006)

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

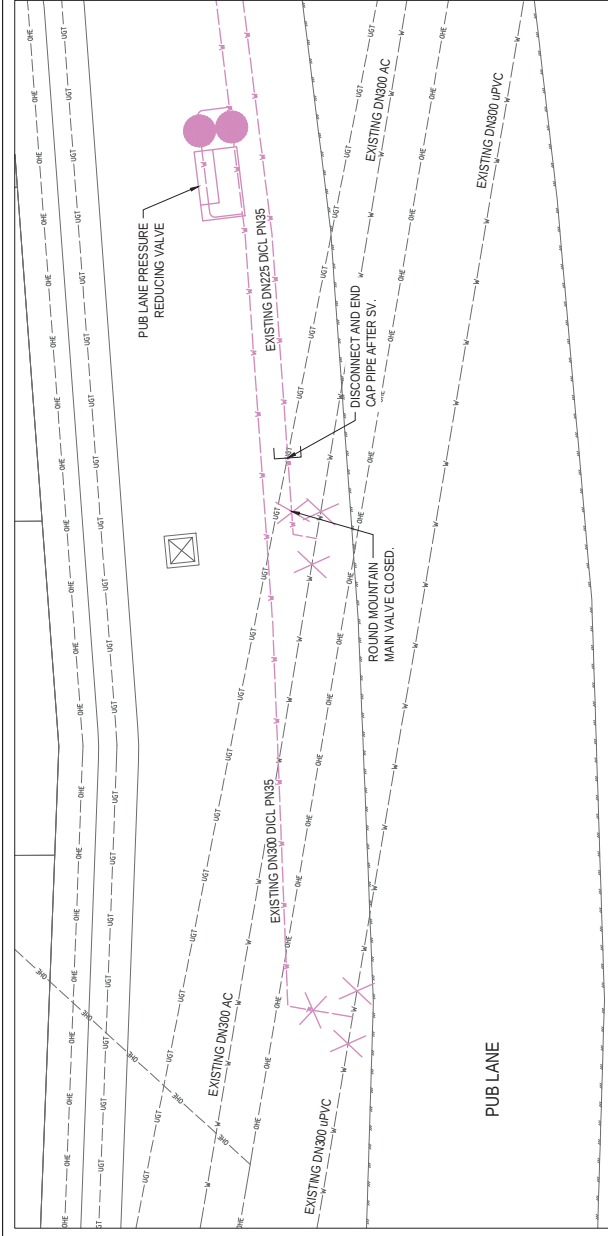
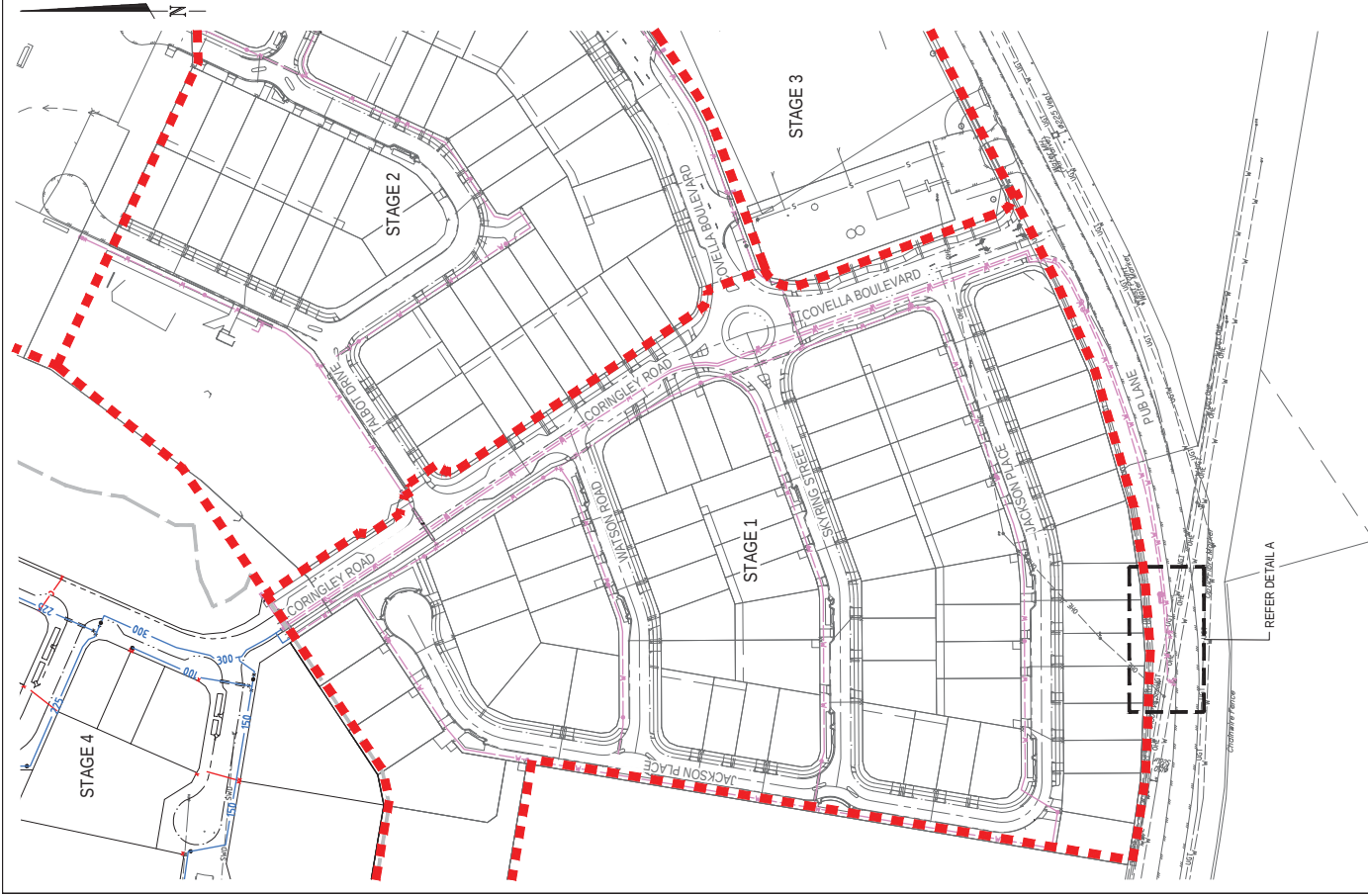


REVISION		DATE	ISSUE DETAILS	DRAWN	DESIGN	SCALE	CLIENT	PROJECT	OWNER TITLE	ULTIMATE WATER SUPPLY SERVICE STRATEGY		PROJECT NO.	DRAWING NO.	REVISION
A		04.11.20	ISSUED FOR INFORMATION	SL	20		AS SHOWN	VILLA WORLD VILLAWORLD	COVELLA (TEVIOT VILLAGE)	15-003700	SK2900			A
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.														

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DETAIL A

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

LEGEND

	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 DI CL PN16 WATER RETICULATION
	EXISTING WATER RETICULATION
	FUTURE WATER RETICULATION
	PROPOSED DN100 PN8 WATER CONDUIT
	PROPOSED DI CL PN8 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 UNDERGROUNDED TELECOMMUNICATION

NOTES:

- NOTES:**
1. FOR WATER RETICULATION NOTES & DETAILS REFER DRG 18-000185-610.
 2. 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 LOCATION AND DEPTH. BE TAKEN WHILST EXCAVATING.	CAUTION !! UNDERGROUND TELECOMMS CABLES UNDERGROUND TELECOMMUNICATION CABLES EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR CABLE LOCATION AND DEPTH. BE TAKEN WHILST EXCAVATING.
CAUTION !! UNDERGROUND ELECTRICAL CABLES UNDERGROUND ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGY FOR CABLE LOCATION AND DEPTH. BE TAKEN WHILST EXCAVATING.	CAUTION !! OVERHEAD ELECTRICAL CABLES OVERHEAD ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGY WHERE CABLES CLEARLY ARE VISIBLE. BE TAKEN WHILST EXCAVATING.

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWING CHECK	STATUS
A	13.09.20	ISSUE FOR CONSTRUCTION	NM	NM		
1						
2						
3						
4						
5						
6						
7						
8						

FOR CONSTRUCTION

APPROVED
DANIEL COLLINS
 RPEQ 18631

FOR & ON BEHALF OF CALIBRE CONSULTING QUD PTY LTD

SCALE	CLIENT	PROJECT	DRAWING TITLE	PROJECT NO.	DRAWING NO.	REVISION
 1:000 A1 1:200 A2 1:500 A3	VILLA WORLD 	 VILLA GREEN STAGE 4 PUB LANE, GREENBANK	WATER MAIN DN225 DISCONNECTION LAYOUT PLAN	18-000185	602	A
DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.						

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-SPs)
 - WATER SUPPLY CODE OF AUSTRALIA WS403:2011 V3.1.
2. UNLESS SPECIFIED OTHERWISE, ALL WORK AND MATERIALS SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADAPT UP OF KERB AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN STANDARD DRAWING SEQ-WAT-1206-2.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS IN SEQ-SPs.
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-SPs.
7. ALL MATERIAL USED IN THE WORKS SHALL COMPLY WITH THE SEQ-SPs.
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 UNDERWRITTEN BY AN ENGINEER WHO HAS PREP 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 6300 WATER MAINS ARE NOT TO BE LAID WITHIN ROAD PAVEMENT.
12. PROVIDE CONCRETE THRUST BLOCKS TO FITTINGS IN ACCORDANCE WITH SEQ-SCOPE CODE. DRG. SEQ-WAT-1205-1 & SEQ-WAT-1206-1.
13. ALL PIPEWORK EMBEDDED TO BE TYPE C SUPPORT IN ACCORDANCE WITH SEQ-WAT-1201-1, UNLESS NOTED OTHERWISE.

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 THERE TO.

INSTALL WATER SERVICE CONNECTIONS IN COMPLIANCE WITH THE DETAILS AS SHOWN ON STANDARD DRAWINGS SEQ-WAT-1110-1 & SEQ-WAT-1110-2, AND OTHER RELEVANT DRAWINGS IN THE SEQ W5 & S D & C CODE INCLUDING THE METER BOX. THE POLYETHYLENE SERVICE LINE MUST BE COMPLY WITH A S/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.



TYPICAL WATER SERVICE CONNECTION UNDER RETAINING WALL

[illegible]

