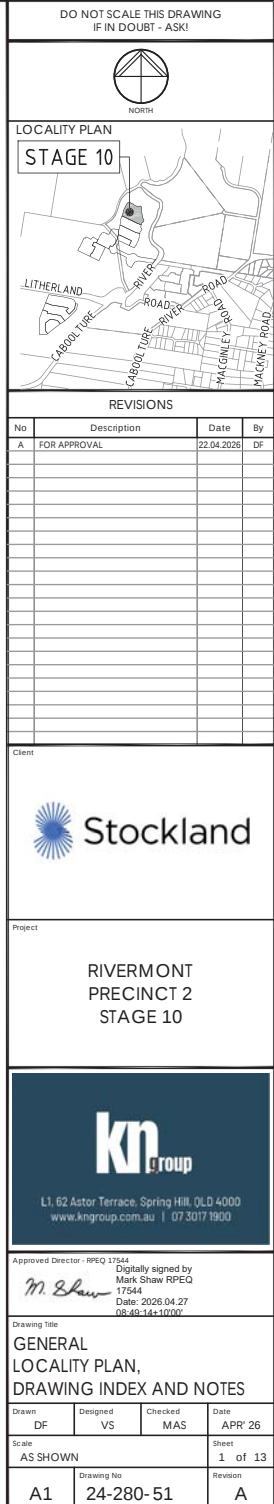




DRAWING NO.	DRAWING TITLE
24-280-51	GENERAL - LOCALITY PLAN, DRAWING INDEX AND NOTES
24-280-52	SEWER RETICULATION - LAYOUT PLAN
24-280-53	SEWER RETICULATION - NOTES - SHEET 1
24-280-54	SEWER RETICULATION - NOTES - SHEET 2
24-280-55	SEWER RETICULATION - TYPICAL TYPE A CROSS ROAD - PROPERTY CONNECTION
24-280-56	SEWER RETICULATION - TYPICAL TYPE B CROSS ROAD - PROPERTY CONNECTION
24-280-57	SEWER RETICULATION - TYPICAL TYPE C CROSS ROAD - PROPERTY CONNECTION
24-280-58	SEWER RETICULATION - NON-CONFORMANCE - TABLE
24-280-59	SEWER RETICULATION - LONGITUDINAL SECTIONS - SHEET 1
24-280-60	SEWER RETICULATION - LONGITUDINAL SECTIONS - SHEET 2
24-280-61	WATER RETICULATION - LOCALITY PLAN
24-280-62	WATER RETICULATION - LIVE CONNECTION DETAIL
24-280-63	WATER RETICULATION - NOTES



NOTES

- ### ENVIRONMENTAL CONDITION

- ## VEGETATION PROTECTION

- SOIL

- ### CREEK CROSSINGS

- ## REHABILITATION

- ## SAFETY

- ## MAINTENANCE HOLES

DESIGN REQUIREMENTS

- | LOCATION | LIVE LOAD | ACCESS COVERS
TO AS 3996 |
|---|-----------|-----------------------------|
| RESERVES, RESIDENTIAL ALLOTMENTS,
FOOTPATHS AND VERGES | 25 kN | CLASS RATING B |
| ROADWAYS AND DRIVEWAYS, COMMERCIAL,
INDUSTRIAL AND NON-RESIDENTIAL
ALLOTMENTS | 80 kN | CLASS RATING D |

LOCATION	LIVE LOAD	ACCESS COVERS TO AS 3996
RESERVES, RESIDENTIAL ALLOTMENTS, FOOTPATHS AND VERGES	25 kN	CLASS RATING B
ROADWAYS AND DRIVEWAYS, COMMERCIAL, INDUSTRIAL AND NON-RESIDENTIAL ALLOTMENTS	80 kN	CLASS RATING D

- ### 3. DURABILITY CLASSIFICATION

STRUCTURE	COVER LOCATION	EXPOSURE CLASSIFICATION AS 3600, AS 3735	REINFORCEMENT COVER (mm)
SLABS	TOP	B2 TO AS 3600	40
	BOTTOM	B2 TO AS 3735	50 INCLUDING PE LINER THICKNESS

- ## GENERAL

- ## MAINTENANCE HOLES

- ## MAINTENANCE HOLE CIRCULAR ACCESS COVERS

- ## SAFETY IN DESIGN

- ## CONCRETE

- | CONCRETE
STRUCTURE | CONCRETE
STRENGTH f'_c | TEMPERATURE
LIMIT |
|---|---------------------------------|----------------------|
| CONCRETE SECTIONS LESS
THAN 600mm THICK. | EQUAL TO OR MORE THAN
40MPa. | 35°C |
| CONCRETE SECTIONS EQUAL
TO OR GREATER THAN
600mm THICK. | EQUAL TO OR MORE THAN
40MPa. | 27°C |

- | TYPE OF AGGREGATE | CALCAREOUS |
|---------------------------------|------------------------|
| COMPRESSIVE STRENGTH AT 28 DAYS | 40 MPa |
| MINIMUM CEMENT CONTENT | 380 kg/m ³ |
| MAXIMUM CEMENTITIOUS MATERIAL | 25% |
| MAXIMUM WATER/CEMENT RATIO | 0.5 |
| NOMINAL SLUMP | 80mm±15 |
| DRYING SHRINKAGE AT 21 DAYS | 500 x 10 ⁻⁶ |
| MAXIMUM AGGREGATE SIZE | 20mm |
| MINIMUM AGGREGATE SIZE | 10mm |

- ## REINFORCEMENT

- | BAR SIZE | LAP LENGTH (mm) |
|----------|-----------------|
| N12 | 350 |
| N16 | 500 |
| N20 | 600 |
| N24 | 700 |
| N28 | 850 |
| N32 | 950 |

- PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV-2026-WAR-4919

Date: 29 July 2026



LOCALITY PLAN
STAGE 10

LITHERLAND
CARBUTT TURF
RIVER
ROAD
DUVON ROAD
MACGOWNE ROAD
MACKEY ROAD

REVISIONS

[illegible]

Project	
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RIVERMONT
PRECINCT 2
STAGE 10



kngroup

L1, 62 Astor Terrace, Spring Hill, QLD 4000
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Approved Director - RPEQ 17544
Digitally signed by
Mark Shaw RPEQ
17544
Date: 2026.04.27
08:49:15+10'00'

Drawing Title
SEWER RETICULATION
NOTES
SHEET 1

Drawn DF	Designed VS	Checked MAS	Date APR' 26
Scale AS SHOWN			Sheet 3 of 13
A1	Drawing No 24-280-53		Revision A

1. PRECAST CONCRETE MEMBERS TO COMPLY WITH AS 3850.1 AND AS 3850.2
2. PRECAST MEMBERS ARE DESIGNED FOR THE FINAL INSTALLED CONDITIONS ONLY. PRECAST MANUFACTURER TO DESIGN THE PRECAST MEMBERS INCLUDING CONNECTIONS, FIXING DETAILS, JOINTS, FIRE RESISTANCE, ETC. FOR STABILITY, SERVICEABILITY AND STRENGTH REQUIREMENTS REQUIRED DURING MANUFACTURE, TRANSPORT, LIFTING, ERECTION AND INSTALLATION.
3. PRECAST MANUFACTURER TO PROVIDE THEIR SHOP DRAWINGS AND RPEO CERTIFICATION FOR CONSTRUCTION OF THE PRECAST SLAB TO THE DESIGNS PROVIDED IN MAINTENANCE HOLE DRAWINGS INCLUDING DESIGN AND CONSTRUCTION CERTIFICATION FOR CONNECTIONS AND FIXING REQUIRED FOR MANUFACTURE, TRANSPORT, ERECTION AND INSTALLATION. (FORM 15 AND 16)
4. PRECAST CONCRETE MEMBERS TO BE SUPPLIED AND CONSTRUCTED BY A PRECAST CONCRETE CONSTRUCTOR.
5. ADEQUATELY DESIGNED TEMPORARY BRACING, AS REQUIRED, TO BE PROVIDED DURING ERECTION AND INSTALLATION.
6. MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF CONCRETE AT REMOVAL FROM MOULDS SHALL BE 15MPa
7. ALL INSERTS IN PRECAST CONCRETE MEMBERS TO BE STAINLESS STEEL.
8. ALL STRUCTURAL STEELWORK CONNECTIONS TO PRECAST CONCRETE MEMBERS TO BE HOT DIP GALVANISED TO AS 4680 SYSTEM DESIGNATION HDG600.
9. PROVIDE 15mm CHAMFERS OR FILLETS AT EDGES AND CORNERS OF PRECAST MEMBERS EXCEPT AT UNDERSIDE OF 1mm SLAB ACCESS OPENING UNLESS APPROVED OTHERWISE.
10. PRECAST CONCRETE MEMBERS NOT TO BE ERECTED ON REINFORCED CONCRETE STRUCTURES UNTIL THE REINFORCED CONCRETE STRUCTURE HAS BEEN CURED TO ACHIEVE 28 DAYS STRENGTH.
11. WEIGHT OF TOP SLAB TO BE STAMPED ON THE SLAB.
12. CONCRETE TO BE SPECIAL CLASS TO WMA PS-35R WITH CALSAREOUS AGGREGATE.
13. APPROVED LIFTING PLAN IS TO BE AVAILABLE ON REQUEST.

1.	STAINLESS STEEL TO COMPLY TO ASTM A240/A240M AND ASTM A480/A480M.
2.	FABRICATION BY MANUFACTURERS ASSD ACCORDING OR APPROVED EQUIVALENT.
3.	STAINLESS STEEL TO BE GRADE 316 OR 316L UNO.
4.	STAINLESS STEEL FABRICATION AND WELDING TO BE IN APPROVED DEDICATED AREAS.
5.	WELDING, CLEANING, PICKLING AND PASSIVATION TO COMPLY TO AS 1554.6 AND WITIA TECHNICAL NOTE 16 WELDING OR STAINLESS STEEL.
6.	SURFACE FINISH TO BE 2B OR BETTER TO ASTM A480.
7.	MEMBERS TO BE ACID PASSIVATED AFTER FABRICATION.
8.	ANTI GALLING COMPOUND DURALUMIN OR EQUIV-SP APPROVED EQUIVALENT REQUIRED ON ALL FASTENERS UNLESS APPROVED OTHERWISE.

1. THE PE LINER SHALL FORM A COMPLETELY SEALED AND WELDED ROBUST CONTINUOUS MEMBRANE SYSTEM. THE PE LINER SHALL BE BUILT TO THE MH CONSTRUCTION TOLERANCES WITHOUT ANY DEFECTS SUCH AS BULGING, WARPING, PINCHING, OVERLAPPING.
2. THE PE SHEET'S SHALL:
 - HAVE A MINIMUM THICKNESS OF 2.5 mm.
 - ACHIEVE A MECHANICAL BOND BETWEEN THE CONCRETE AND LINER.
 - BE INSTALLED BY AN ACCREDITED APPLICATOR APPROVED BY THE MANUFACTURER.
 - BE TENSIONED OVER THE FORMWORK WITHIN THE YIELD ELONGATION LIMIT PRIOR TO SECURING TO THE FORMWORK.
3. PREPARATION, APPLICATION AND INSTALLATION TO COMPLY WITH THE MANUFACTURER'S SPECIFICATION.
4. POURED CONCRETE TO BE AT A COOLER AMBIENT TEMPERATURE THAN THE TEMPERATURE WHEN THE PE SHEETS WERE ATTACHED TO THE FORMWORK.
5. EXTRUSION WELDING AND WELD TESTING AT SEAMS TO BE UNDERTAKEN BY THE APPROVED APPLICATOR TO THE MANUFACTURER'S SPECIFICATION.
6. ENCAPSULATION OF ANCHORS TO BE CHECKED BY TAPPING THE SURFACE TO DETECT HOLLOW SOUNDS THAT INDICATE VOIDS. VOIDS TO BE FILLED BY INJECTION GROUT AND PE SHEET REPAIRED BY EXTRUSION WELDING OVER THE INJECTION HOLE.

1. STRUCTURAL STEEL WORKMANSHIP AND MATERIALS TO COMPLY WITH AS 4100.
2. STEEL TO COMPLY WITH:
 - AS 1163 GRADE C350 FOR RECTANGULAR AND HOLLOW SECTIONS.
 - AS 3678 FOR PLATES AND FLOOR PLATES.
 - AS 3679.1 GRADE 300 OR BHP GRADE 300 PLUS FOR PARALLEL FLANGE CHANNELS.
 - AS 3679.2 GRADE 300 FOR WELDED BEAMS AND COLUMNS.
 - OTHER SECTIONS TO COMPLY WITH AS 3678 OR AS 3679 GRADE 250.
3. WELDS TO AS 1554.
 - WELD CATEGORY SP
 - BUTT WELDS TO BE FULL PENETRATION WELDS.
 - WELDS TO BE 6mm CONTINUOUS FILLET WELDS ALL ROUND INTERFACES.
 - ELECTRODES TO AS 1554. CLASSIFICATION E48XX.
4. BOLTS TO AS 1275. COMMERCIAL GRADE 4.6/S TO AS 1111 AND AS 1112. HIGH STRENGTH STRUCTURAL BOLTS TO AS 1252.
 - BOLTS, NUTS AND WASHERS M16 AND LARGER TO GRADE 8.8/S. M12 TO BE GRADE 4.6/S.
 - STRUCTURAL CONNECTIONS TO BE 2 M16 8.8/S WITH 10mm THICK CLEAT PLATE UNLESS NOTED OTHERWISE.
 - INSTALL WASHERS UNDER BOLT HEAD AND NUT. INSTALL TAPERED WASHERS AS REQUIRED.
 - BOLT PROJECTION BEYOND NUT TO BE MINIMUM TWO THREADS AND MAXIMUM 10mm.
5. HOLD DOWN BOLTS TO BE GRADE 4.6/S UNLESS NOTED OTHERWISE. HOLD DOWN BOLTS GROUPS TO BE RIGIDLY TIGHT FOR CORRECT SET-OUT AND LOCATION.
6. SEAL WELD HOLLOW SECTIONS WITH 3mm THICK CAP PLATE UNLESS NOTED OTHERWISE.
7. GROUT BASE PLATES WITH HIGH STRENGTH NON-SHRINK PRE-MIXED GROUT BEFORE COLUMNS ARE LOADED.

1. STEELWORK TO BE HOT DIP GALVANISED TO AS 4680 SYSTEM DESIGNATION HDG600 AND THREADED FASTENERS TO AS 1214.
2. DAMAGED GALVANISED COATING REPAIR:
 - POWER CLEAN TO AS 1627.2
 - SOLVENT CLEAN/ DEGREASE TO AS 1627.1
 - APPLY TIN/ZINC TO PRE-HEATED STEEL OVERLAPPING THE GALVANISING COATING

1. EXPOSED REINFORCEMENT AND CONCRETE REPAIRED AS FOLLOWS:
 - CORE HOLES ON EACH CORNER OF AREA TO BE CUT.
 - SAW CUT CONCRETE, PERPENDICULAR TO CONCRETE SURFACE, 15mm DEEP AROUND PERIMETER OF THE OPENING.
 - BREAKOUT REMAINING CONCRETE AROUND THE OPENING WITHOUT DAMAGING REINFORCEMENT.
 - CUT EXPOSED REINFORCEMENT SO THAT IS 30 mm CLEAR OF THE PIPE.
 - CLEAN CONCRETE SURFACE AND REMOVE ALL LOOSE MATERIAL.
 - ABRASIVE BLAST CLEAN EXPOSED REINFORCEMENT. IF IT IS CORRODED AND APPLY "NITOPRIME" ZINC RICH PRIMER UNLESS APPROVED OTHERWISE.
 - THOROUGHLY SOAK SUBSTRATE WITH CLEAN WATER FOR A MINIMUM OF TWO HOURS.
 - PLACE N12 CIRCULAR TRIMMER ON BOTH SIDES OF THE PIPE FLANGE.
 - INSTALL HYDROTITE CJ-07-25 SEAL ON PIPE 50mm FROM CONCRETE SURFACE UNLESS APPROVED OTHERWISE.
 - APPLY "NITOBOND HAR" PRIMER TO CONCRETE SURFACE UNLESS APPROVED OTHERWISE.
 - POUR CONCRETE/GROUT UNDER PRESSURE TO FILL OPENING.
 - FILL CONCRETE/GROUT TO SUPPLIER REQUIREMENTS.

1. ALL EXPOSED REINFORCEMENT AND MILD STEEL ANCHORED TO BE REPAIRED AS FOLLOWS:
 - SAW CUT OR CHISEL CUT CONCRETE, PERPENDICULAR TO CONCRETE SURFACE, 15 mm DEEP AROUND REINFORCEMENT/ANCHOR.
 - BREAKOUT CONCRETE AROUND REINFORCEMENT/ANCHOR TO A DEPTH OF 60mm.
 - CUT EXPOSED REINFORCEMENT/ANCHOR AT A MINIMUM DEPTH OF 50mm FROM CONCRETE SURFACE.
 - CLEAN CONCRETE SURFACE AND REMOVE ALL LOOSE MATERIAL.
 - ABRASIVE BLAST CLEAN EXPOSED REINFORCEMENT/ANCHOR. APPLY "NITOPRIME" ZINC RICH PRIMER TO REINFORCEMENT/ANCHOR UNLESS APPROVED OTHERWISE. THOROUGHLY SOAK CONCRETE WITH CLEAN WATER.
 - APPLY "NITOBOND" PRIMER TO CONCRETE UNLESS APPROVED OTHERWISE.
 - APPLY "RENDEROC HB40" TO FILL OPENING UNLESS APPROVED OTHERWISE.

1. BENCH MARK LEVELS ARE AS SHOWN ON KN DWG No 24-280-52.
2. THE CONTRACTOR SHALL VERIFY FINISH SURFACE LEVELS ON SITE BEFORE CONSTRUCTION OF SEWERS AND PROPERTY CONNECTION BRANCHES.
3. F.S.L. SHOWN ON THE LONGITUDINAL SECTIONS ARE INDICATIVE ONLY. MANHOLE COVERS TO BE CONSTRUCTED AS PER STD DWG No. SEQ-SEW-1308-1.
4. THE SLOPE HAS TO BE PROVIDED BY THE USE OF 30/60 GRAVEL SCREENING AROUND AND SUPPORTING THE BOTTOM AND SIDES OF PIPES. A NON-COHESIVE GRANULAR MATERIAL COMPLYING WITH THE GRADING, AS SETOUT IN UNITYWATER'S SPECIFICATIONS SHALL BE USED TO ENCLOSE THE HOUSE CONNECTION BRANCH.
5. VACUUM TESTING OF ALL SEWER MANHOLES AND PIPELINES ARE REQUIRED TO THE SEQ WS&S D&C CODE - UNITYWATER - SPECIFICATION REQUIREMENTS.
6. PRIOR TO COMMENCING WORKS/CONSTRUCTIONS TO LIVE SEWERS KN IS TO BE NOTIFIED OF PROPOSED TIMING TO ALLOW CONSTRUCTION TO UNITYWATER REPRESENTATIVES.
7. SEWER MAINTENANCE HOLES SHALL BE CONSTRUCTED WITHOUT STEP IRONS OR L ADDERS.
8. DETECTABLE MARKER TAPE TO BE INSTALLED OVER ALL SEWER MAINS DIRECTLY ABOVE SCREENINGS.
9. PIPE EMBEDMENT SHALL BE CONSTRUCTED AS PER STD DWG No. SEQ-SEW-1201-1 TO SEQ-SEW-1205-1.
10. PROPERTY CONNECTION BRANCHES SHALL BE CONSTRUCTED AS PER STD DWG No. SEQ-SEW-1106-1 TO SEQ-SEW-1106-6.
11. CCTV TO BE CARRIED OUT ON ALL SEWER LINES AS PER THE SEQ D&C CODE REQUIREMENTS TO BE PROVIDED. KN TO REVIEW/REPORT FOOTAGE FOR EACH SEWER LINE. CCTV NOT REQUIRED ON DN160 CROSS ROAD PROPERTY CONNECTIONS.

[illegible]

- | SOIL DESCRIPTION | APPROXIMATE NATIVE SOIL MODULUS (MPa) | SDR | PE 100 DN160 TRENCH WIDTH (mm) | MAX DEPTH (mm) |
|------------------|---------------------------------------|-----|--------------------------------|----------------|
| SOFT CLAY | 5.0 | 21 | 600 | 6000 |

1. EMBEDMENT MATERIAL TO BE SINGLE SIZE CRUSHED ROCK NOMINAL 5 TO 7mm SIZE OR AS NOMINATED IN THE SEQ. ACCEPTED PRODUCTS AND MATERIALS LIST.
2. THE CONTRACTOR MUST CONFIRM THE TRENCH SUBGRADE INSITU MATERIAL CHARACTERISTICS EQUAL OR EXCEED A MINIMUM NATIVE SOIL MODULUS OF 0.9 MPa AND SUBMIT TO THE SUPERINTENDENT FOR APPROVAL, PRIOR TO PROGRESSING WITH CONSTRUCTION.

NAME OF ESTATE		RIVERMONT-PRECINCT 2-STAGE 10
SUBDIVIDER		STOCKLAND
APPLICATION No.		
SP DELEGATE APPROVAL DATE		
DRAWING/PLAN No.		
No. OF ALLOTMENTS		27
AREA IN ha.		1.819
LENGTH OF SEWERS (m)	DN160 PE100	445.947
	DN250 PE100	-

LOCALITY PLAN

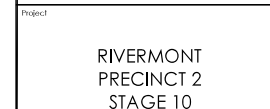
STAGE 10

LITHERLAND

RIVER ROAD

CARBON TIRE ROAD

MACGILLIVRAY ROAD

[illegible]

Digitally signed by
Mark Shaw RPEC
17544
Date: 2026.06.08
16:27:22+10:00

SEWER RETICULATION
NOTES
SHEET 2

Drawn DF	Designed VS	Checked MAS	Date JUN '26
Scale AS SHOWN			Sheet 4 of 1
A1	Drawing No 24-280-54		Revision B

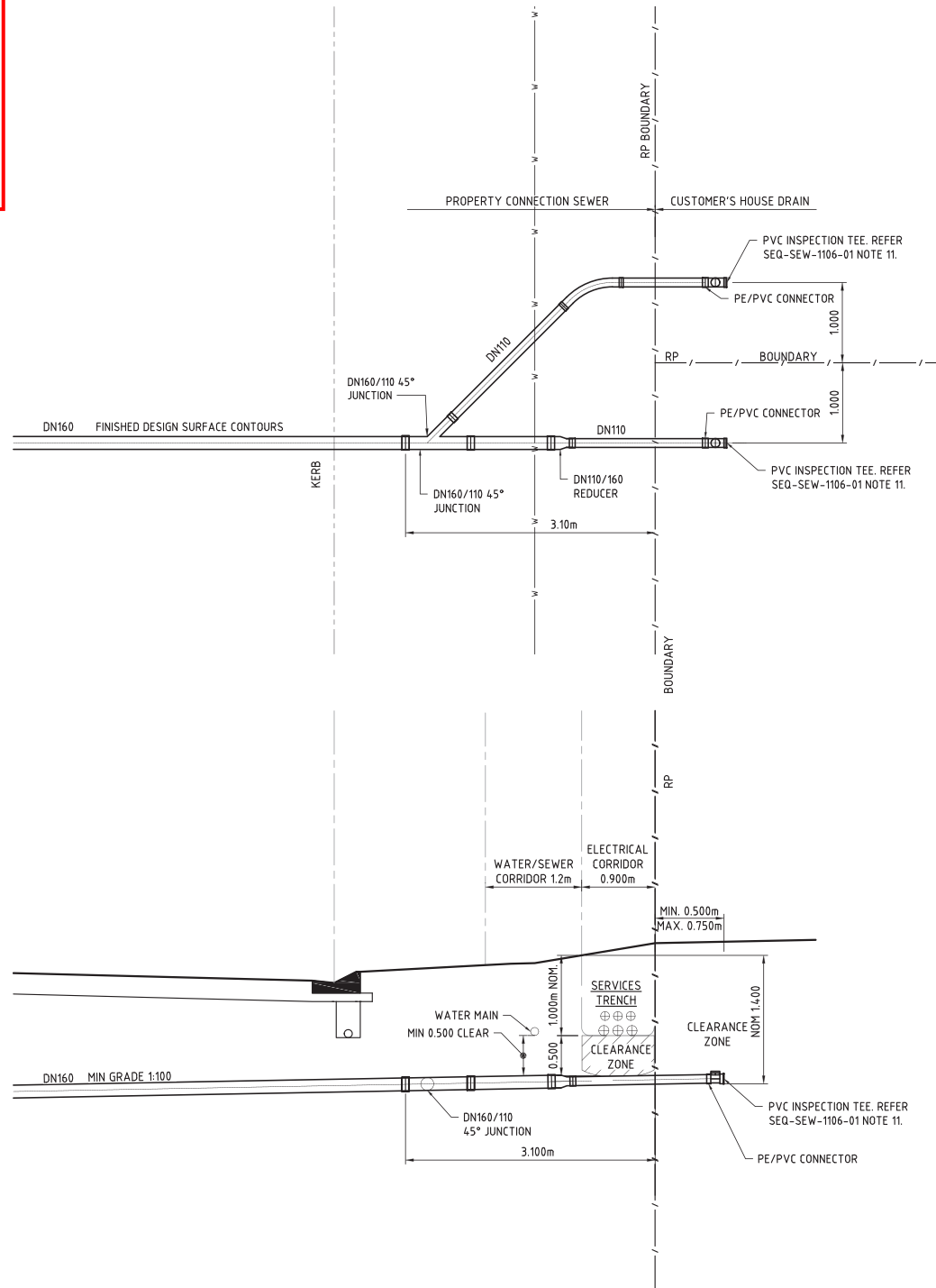
PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV-2026-WAR-4919

Date: 29 July 2026



Date: 29 July 2026



STAGE 10

[illegible]

Stockland

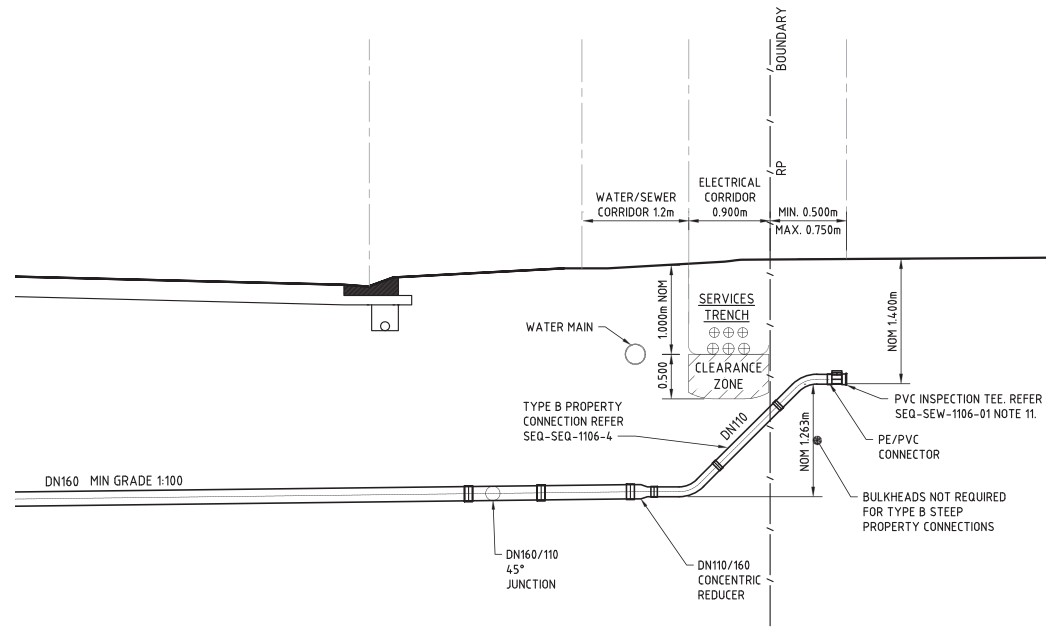
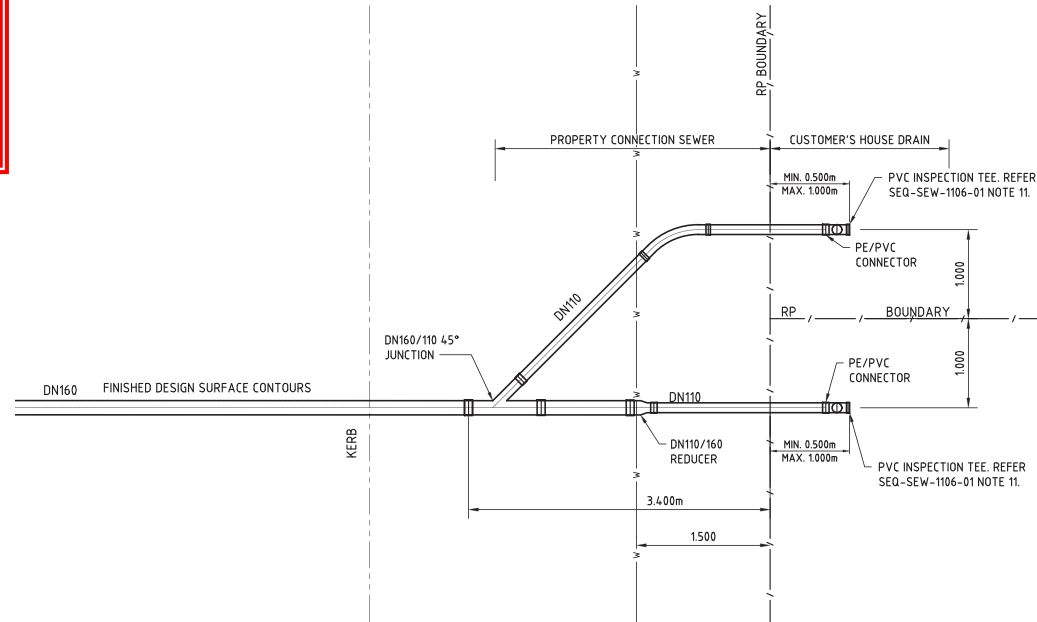
RIVERMONT
PRECINCT 2
STAGE 10



Approved Director - RPEQ 17544
Digitally signed by
Mark Shaw RPEQ
17544
Date: 2026.04.27
08:49:16+10'00'

Drawn DF	Designed VS	Checked MAS	Date APR '26
Scale AS SHOWN			Sheet 5 of 13
A1	Drawing No 24-280-55		Revision A

Approval no: DEV-2026-WAR-4919
Date: 29 July 2026



STAGE 10

[illegible]

Stockland

RIVERMONT
PRECINCT 2
STAGE 10



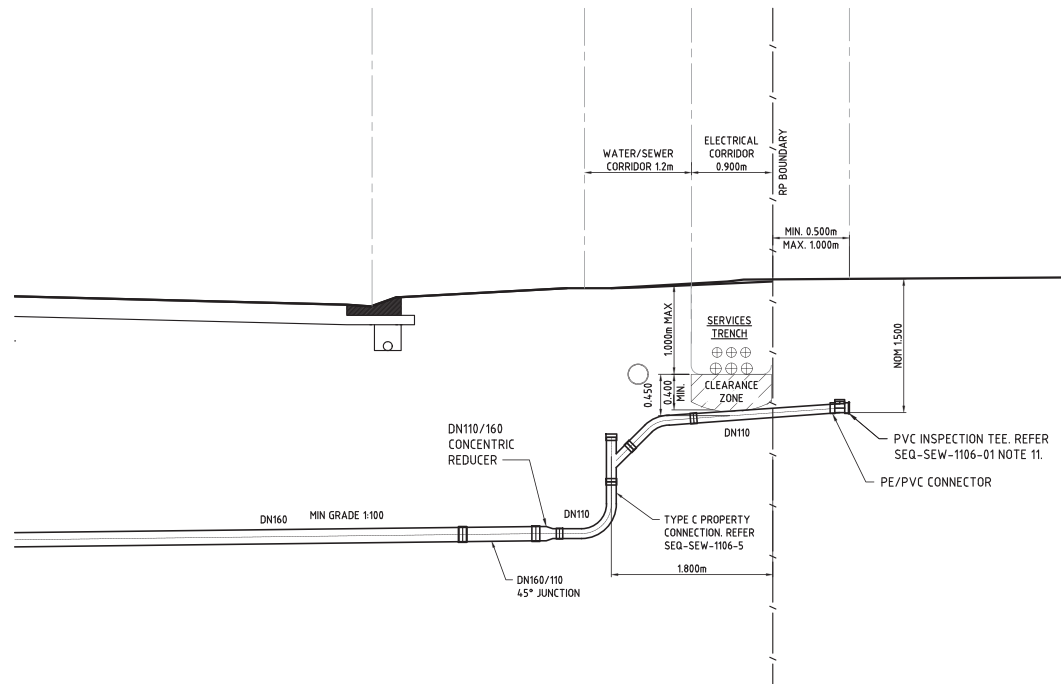
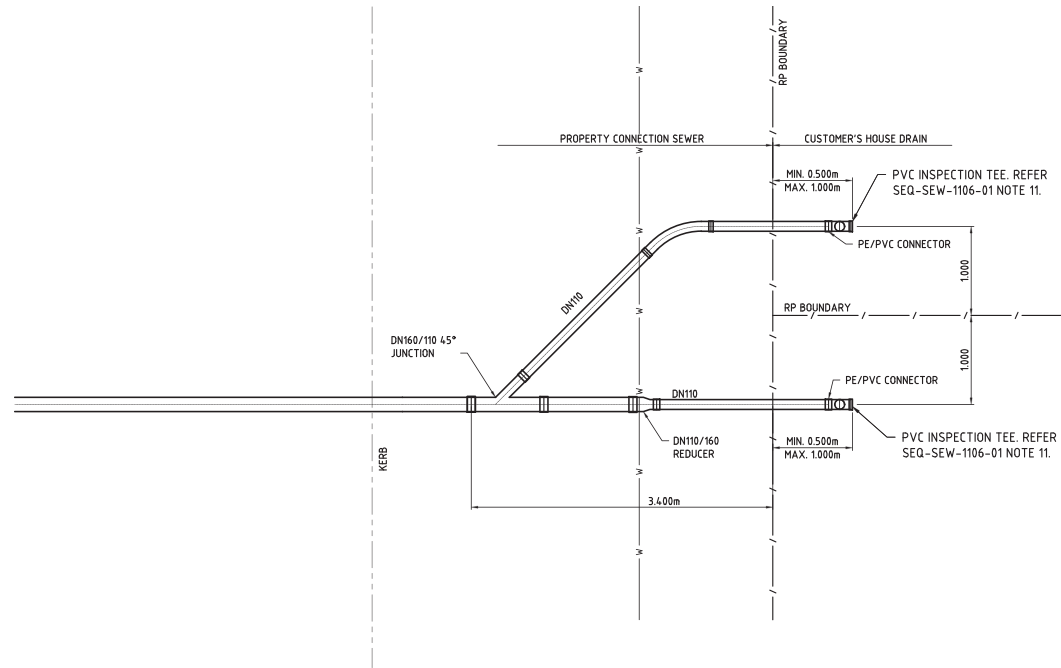
Approved Director - RPEQ 17544
Digitally signed by
Mark Shaw RPEQ
17544
Date: 2026.04.27
08:49:16+10'00'

Drawing Title

**SEWER RETICULATION
TYPICAL TYPE B CROSS ROAD
PROPERTY CONNECTION**

Drawn DF	Designed VS	Checked MAS	Date APR '26
Scale AS SHOWN			Sheet 6 of 13
A1	Drawing No 24-280-56	Revision A	

Date: 29 July 2026



NORTH

STAGE 10

[illegible] Stockland

RIVERMONT
PRECINCT 2
STAGE 10



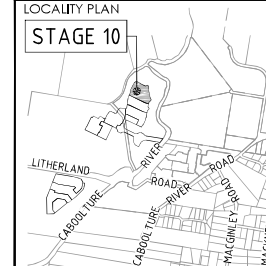
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Digitally signed by
Mark Shaw RPEQ
17544
Date: 2026.04.27
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Drawn DF	Designed VS	Checked MAS	Date APR '26
Scale AS SHOWN			Sheet 7 of 13
A1	Drawing No 24-280-57	Revision A	

No.	SEQ CODE CLAUSE	DETAILS FOR PROPOSED VARIATION	REASON FOR PROPOSED VARIATION	RELEVANT SERVICE
NC01	SEQ. WATER SUPPLY CODE CL 5.4.2.2 LOCATION IN FOOTWAY	WATER IN SHARED VERGE ALONG NEW ROAD 8, DRIVEWAY 08 & 09.	CONSIDERED AN ACCEPTABLE OUTCOME GIVEN NO DEVELOPMENT IS PROPOSED ALONG OPPOSITE VERGE. MINIMUM HORIZONTAL CLEARANCES AS PER SEQ WATER SUPPLY CODE CL 5.12.5.2 ACHIEVED.	DRINKING WATER
NC02	STD DWG SEQ-WAT-1303-1C NOTE 8	PERMANENT FIRE HYDRANT LOCATED AT PROPERTY BOUNDARY TRUNCATION INSTEAD OF SIDE BOUNDARY.	FIRE HYDRANTS LOCATED AT BOUNDARY TRUNCATION ARE REQUIRED IN ORDER TO COMPLY WITH SEQ WATER SUPPLY CODE CL 8.8.8 HYDRANT SPACING	DRINKING WATER
NC03	STD DWG SEQ-WAT-1108-3	WATER METER LOCATED AT PROPERTY BOUNDARY TRUNCATION FOR LOT 288.	WATER METER LOCATED AT BOUNDARY TRUNCATION DUE TO ELECTRICAL PILLAR POSITIONING ON COMMON RP.	DRINKING WATER

A compass rose with a circle divided into four quadrants by a vertical and a horizontal line. The top quadrant is labeled 'NORTH'.

STAGE 10

[illegible]

Stockland

RIVERMONT
PRECINCT 2
STAGE 10



Approved Director - RPEQ 17544

Approved Director - RPEQ 17544

M. Shaw Digitally signed by
Mark Shaw RPEQ
17544
Date: 2026.06.08
16:27:22+1000

Drawing Title
SEWER RETICULATION
NON-CONFORMANCE
TABLE

Drawn DF	Designed VS	Checked MAS	Date JUN 26
Scale AS SHOWN			Sheet 8 of 1
A1	Drawing No 24-280-58		Revision B

Date: 29 July 2026



MAINTENANCE HOLE/SHAFT No.

MH/MS COVER TYPE
MH/MS TYPE
BRANCH LINE No.
BRANCH DROP TYPE
HC TYPE
HC DEPTH
HC CH. TO DS MH/MS
HC INVERT LEVEL
HC LOT No.

LEGEND:

- G = CONCRETE 0.900Ø MH AS PER SEQ-SEW-1301-2 TO 1301-5 WITH MINIMUM 150mm WALL THICKNESS.
F = CONCRETE 1.200Ø MH AS PER SEQ-SEW-1301-8 TO 1301-11
X = CONCRETE 1.200Ø MH AS PER SEQ-SEW-1301-14 TO 1301-21 EXCLUDING SAFETY CHAINS AND LADDER AS PER UW Pt11051 REV 1
ⓐ = PE LINED SEQ-SPS-1407-1, 1407-2, AND SEQ-SEW-1301-26
+ = INTERNAL DROP PROPERTY CONNECTION REFER TO TYPICAL DETAIL ON NOTES PAGE
ⓑ = CLASS B NON-TRAFFICABLE
ⓓ = CLASS D TRAFFICABLE

NOTES:

- PROPERTY CONNECTION TYPE/DETAILS REFER SEQ-SEW-1106 DWG SERIES.
- CAST IN SITU MANHOLE TYPE/DETAILS REFER SEQ-SEW-1301-1 to 1301-21, 1301-26, 1302-1, 1301-1, 1304-1, 1305-1, 1306-1, 1307-1, 1308-1, 1308-5 to 1308-11, 1313-1.
- MAINTENANCE SHAFTS TYPE/DETAILS REFER SEQ-SEW-1315-1 AND 1316-1 STD DWG.
- WHERE CLASS "D" COVERS ARE SPECIFIED FOR MH OR MS, INCREASE TOP SLAB THICKNESS FROM 150mm to 175mm.
- COMPLETE ALL END OF LINE WITH A ELECTROFUSION STOP END OR BUTT WELDED CAP.
- MH ≥ 6.0m DEEP TO BE INDIVIDUALLY DESIGNED FOR SPECIFIC INSTALLATION DEPTH. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

DATUM RL 13.0

LOCATION
PIPE DIAMETER
GRADE
LENGTH
EMBEDMENT TYPE
JUNCTION
INVERT LEVEL
DEPTH OF INVERT BELOW FSL
INVERT LEVEL (IL)
FINISHED SURFACE LEVEL (FSL)
EXISTING SURFACE LEVEL (ESL)
CHAINAGE (CH)

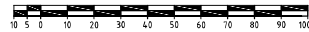
LINE

* DENOTES LIVE CONNECTION REQUIRED UNDER UNITYWATER SUPERVISION. REFER FOR LIVE SEWER WORKS TABLE ON KNg DWG No. 24-280-54.

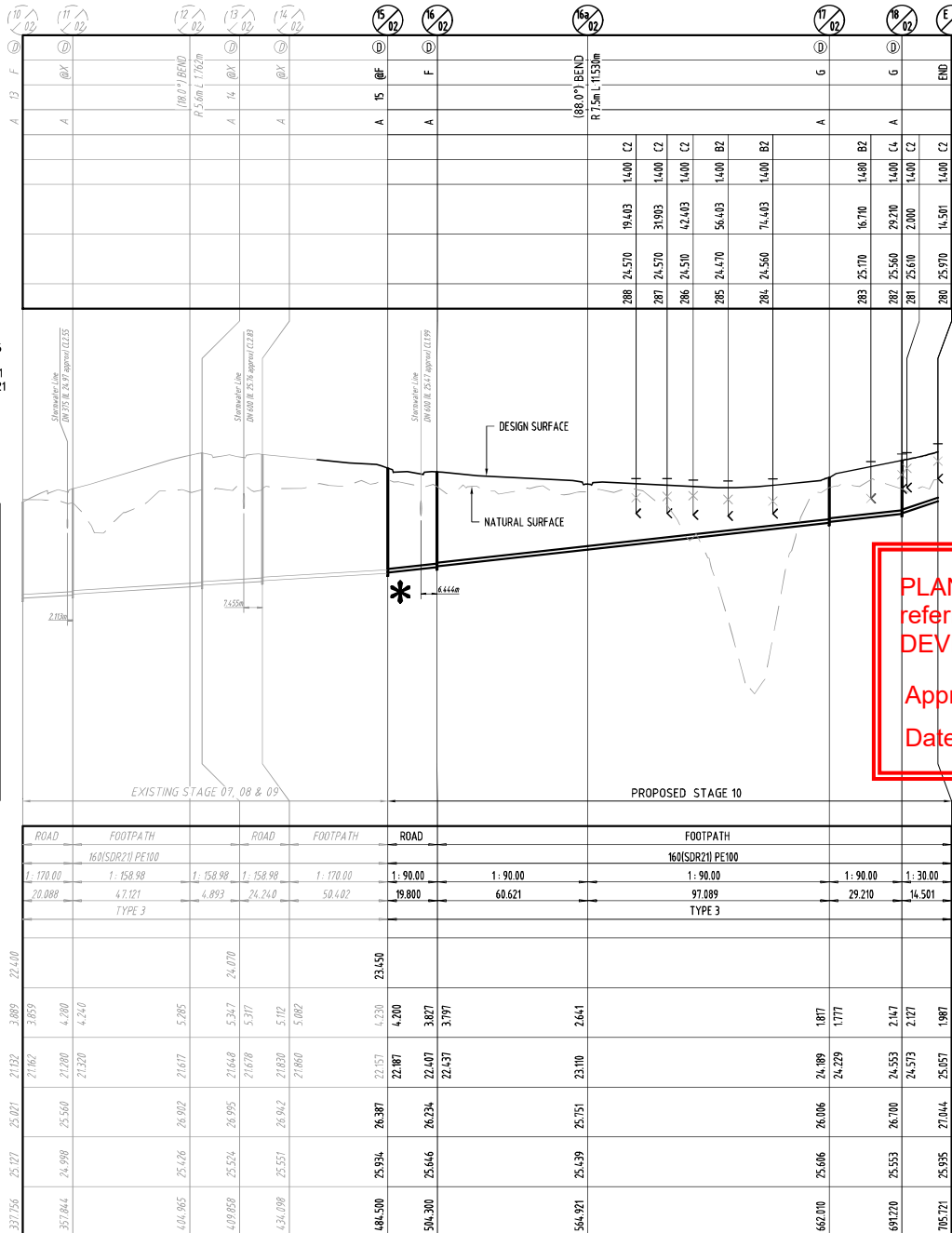
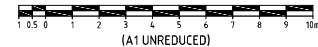
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DENOTES CONCRETE ENCASMENT OF SEWER BENEATH STORMWATER PIPE. REFER TO TYPE 9 EMBEDMENT (NO REINFORCEMENT) ON SEQ DRAWING SEQ-SEW-1203-1 FOR DETAILS. ENCASMENT TO BE EXTENDED MINIMUM 1.0m PAST EACH SIDE OF STORMWATER PIPE

SCALE A 1:100 (Horiz.)



B 1:100 (Vert.)



PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV-2026-WAR-4919
Date: 29 July 2026



DO NOT SCALE THIS DRAWING IF IN DOUBT - ASK!

LOCALITY PLAN
STAGE 10

REVISIONS

No	Description	Date	By
A	FOR APPROVAL	22.04.2026	DF
B	UNITYWATER PFI	08.06.2024	DF

Client

Project

RIVERMONT PRECINCT 2 STAGE 10

kn group

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Approved Director - RPEQ 17544
Digitally signed by Mark Shaw RPEQ 17544
Date: 2026.06.08 16:27:23 +1000

Drawing Title:
SEWER RETICULATION LONGITUDINAL SECTIONS SHEET 1

Drawn	Designed	Checked	Date
VS	VS	MAS	JUN 26

Scale:
AS SHOWN

Drawing No:
A1 24-280-59

Revision:
9 of 13
B

MH/MS COVER TYPE
MH/MS TYPE
BRANCH LINE No.
BRANCH DROP TYPE
HC TYPE
HC DEPTH
HC CH. TO DS MH/MS
HC INVERT LEVEL
HC LOT No.

G = CONCRETE 0.900 ϕ MH AS PER SEQ-SEW-1301-2 TO 1301-5
WITH MINIMUM 150mm WALL THICKNESS.
F = CONCRETE 1.200 ϕ MH AS PER SEQ-SEW-1301-8 TO 1301-11
X = CONCRETE 1.200 ϕ MH AS PER SEQ-SEW-1301-14 TO 1301-21
EXCLUDING SAFETY CHAINS AND LADDER AS PER UW
Pr11051 REV 1

NOTES:

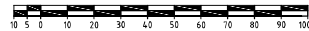
1. PROPERTY CONNECTION TYPE/DETAILS REFER
SEQ-SEW-1106 DWG SERIES.
2. CAST IN SITU MANHOLE TYPE/DETAILS REFER
SEQ-SEW-1301-1 to
1301-21, 1301-26, 1302-1, 1301-1, 1304-1, 1305-1,
1306-1, 1307-1, 1308-1, 1308-5 to 1308-11, 1313-1.
3. MAINTENANCE SHAFTS TYPE/DETAILS REFER
SEQ-SEW-1315-1 AND 1316-1 STD DWG.
4. WHERE CLASS "D" COVERS ARE SPECIFIED FOR MH OR
MS, INCREASE TOP SLAB THICKNESS FROM 150mm TO
175mm.
5. COMPLETE ALL END OF LINE WITH A
ELECTROFUSION STOP END OR BUTT WELDED
CAP.
6. MH $\geq 6.0m$ DEEP TO BE INDIVIDUALLY DESIGNED
FOR SPECIFIC INSTALLATION DEPTH. REFER TO
STRUCTURAL DRAWINGS FOR DETAILS.

LOCATION
PIPE DIAMETER
GRADE
LENGTH
EMBEDMENT TYPE
JUNCTION
INVERT LEVEL
DEPTH OF INVERT BELOW FSL
INVERT LEVEL (IL)
FINISHED SURFACE LEVEL (FSL)
EXISTING SURFACE LEVEL (ESL)
CHAINAGE (CH)

*** DENOTES LIVE CONNECTION REQUIRED UNDER UNITYWATER SUPERVISION.
REFER FOR LIVE SEWER WORKS TABLE ON KNq DWG No. 24-280-54.**

DENOTES CONCRETE ENCASEMENT OF SEWER BENEATH STORMWATER PIPE. REFER TO TYPE 9 EMBEDMENT (NO REINFORCEMENT) ON SEQ. DRAWING SEQ-SEW-1203-1 FOR DETAILS. ENCASEMENT TO BE EXTENDED MINIMUM 1.0m PAST EACH SIDE OF STORMWATER PIPE

SCALE A 1:1000
(Horiz.)



Age Group	No (%)	Yes (%)	Don't know (%)	No answer (%)	Other (%)
1	10	10	10	10	10
0.5	10	10	10	10	10
0	10	10	10	10	10
1	10	10	10	10	10
2	10	10	10	10	10
3	10	10	10	10	10
4	10	10	10	10	10
5	10	10	10	10	10
6	10	10	10	10	10
7	10	10	10	10	10
8	10	10	10	10	10
9	10	10	10	10	10
10	10	10	10	10	10

(A1 UNREDUCED)

A compass rose with a circle divided into four quadrants by a vertical and horizontal line. The top quadrant is labeled 'NORTH'.

STAGE 10

[illegible]

RIVERMONT
PRECINCT 2
STAGE 10



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Mark Shaw RPEQ
17544
Date: 2026.06.08
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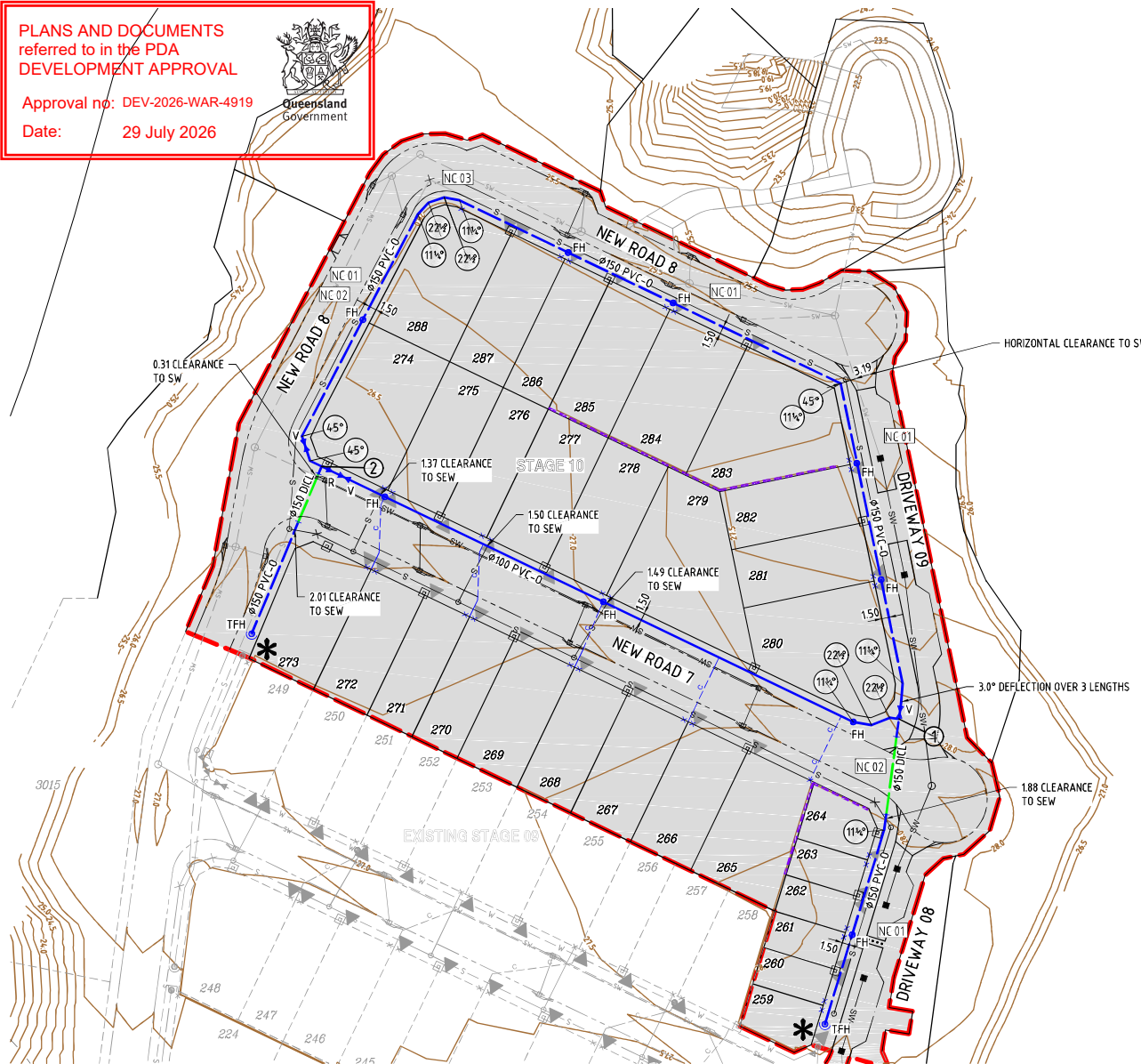
Drawing Title
SEWER RETICULATION
LONGITUDINAL SECTIONS
SHEET 2

Drawn VS	Designed VS	Checked MAS	Date JUN' 26
Scale AS SHOWN			Sheet 10 of 1
A1	Drawing No 24-280-60		Revision A

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV-2026-WAR-4919

Date: 29 July 2026



WATER RETICULATION LAYOUT PLAN
SCALE 1:500

SCHEDULE OF PIPES AND FITTINGS

PIPE SIZE	LENGTH(m)	VALVE	FIRE HYDRANT	TEMP FIRE HYDRANT	11° BEND	22° BEND	45° BEND	90° BEND
Ø100 PVC-D	132.739	1	3	-	1	2	-	-
Ø100 DICI	-	-	-	-	-	-	-	-
Ø150 PVC-D	310.351	2	6	2	5	2	3	-
Ø150 DICI	27.500	-	-	-	-	-	-	-

NOTE - DUCTILE IRON (DICI) PIPEWORK UNDER ROAD CARRIAGEWAYS DENOTES DICI CLASS PN35.
- PVC-D PIPEWORK DENOTES PVC-D SERIES 2 PN16
- PE PIPEWORK DENOTES PE100 PN16. SERVICE LENGTHS APPROXIMATE, TO BE CONFIRMED ON SITE.
- ALL TRENCH REINSTATEMENT TO BE IN ACCORDANCE WITH SEQ-WAT-1204-1.

LEGEND

---	WORKS BOUNDARY
---	ROAD CENTRELINE
---	M3 MOUNTABLE KERB AND CHANNEL
---	B1 BARRIER KERB AND CHANNEL (300)
---	B2 BARRIER KERB
---	PROPOSED 100Ø PVC WATER MAIN SERIES 2 PN16, MIN SN10 MRS400 OR MRS450
---	PROPOSED 150Ø PVC WATER MAIN SERIES 2 PN16, MIN SN10 MRS400 OR MRS450
---	PROPOSED 150Ø DICI WATER MAIN PN35
---	PROPOSED CONDUIT
x x	WATER SERVICE LOCATION
●	FIRE HYDRANT
●	TEMPORARY FIRE HYDRANT
○	REDUCER
○	VALVE
*	CONNECTION REQUIRED BY UNITYWATER
---	PROPOSED SLEEPER RETAINING WALL
---	EXISTING SLEEPER RETAINING WALL
---	STORMWATER DRAINAGE
---	SEWER MAIN
---	EXISTING WATER MAIN
---	EXISTING STORMWATER MAIN
---	EXISTING SEWER MAIN
---	UNITYWATER EASEMENT
---	DRIVEWAY POSITION
---	ELECTRICITY SERVICE POINT
---	DENOTES NON-CONFORMING DESIGN ASPECT. REFER TO NON-CONFORMING DESIGN ASPECTS KN DWG 24-280-59 FOR DETAILS.

UNITYWATER LIVE WATER
CONNECTION TABLE

LOCATION	DIAMETER
DRIVEWAY 08 OPPOSITE TO LOT 259	Ø150
ROAD 20 OPPOSITE TO LOT 273	Ø150

SCHEDULE OF FITTINGS

1	Ø150 x Ø150 x Ø100 TEE	1 REQUIRED
2	Ø150 x Ø150 x Ø150 TEE	1 REQUIRED

NOTE

ALL WORKS ON EXISTING WATER MAINS TO BE
CARRIED OUT BY UNITYWATER AT THE DEVELOPERS
EXPENSE.

NOTE

- WATER MAIN CROSSING UNDER ROAD TO BE LOCATED UNDER
ROAD PAVEMENT CONSTRUCTION
- ALL FIRE HYDRANT TEES AND RISERS TO BE DN100, WITH PE
FIRE HYDRANT RISERS DN125

NOTE

- ALL CONNECTIONS TO LIVE WATER MAINS TO BE
UNDERTAKEN BY UNITYWATER AT DEVELOPER'S
COST. THIS INCLUDES METER INSTALLATION TO
LIVE SERVICES.
- IF AN APPROVAL IS HELD FOR EACH STAGE, FOR
STAGED WORKS CONSTRUCTED CONCURRENTLY,
FOLLOWING THE NECESSARY PRE-START
MEETING(S), THE CONTRACTOR MAY INSTALL
METERS ON NON-LIVE SERVICES.

SCALE
1:500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!



LOCALITY PLAN

STAGE 10



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	22.04.2026	DF
B	UNITYWATER RFI	08.06.2026	DF



RIVERMONT
PRECINCT 2
STAGE 10



Approved Director - RPEQ 17544
Digitally signed by Mark Shaw RPEQ 17544
Date: 2026.06.08 16:37:24 +1000

Drawing Title:
WATER RETICULATION
LOCALITY PLAN

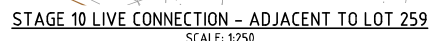
Drawn	Designed	Checked	Date
DF	VS	MAS	JUN 26
Scale	AS SHOWN	Sheet	11 of 13
A1	24-280-61	B	



PROPOSED WORKS ARE NEAR EXISTING SERVICES. CONTRACTOR TO COMPLETE DBYD AND
LOCATE ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION.
POST SERVICE LOCATION, CONTRACTOR TO SUPPLY SURVEY INFORMATION TO
SUPERINTENDENT'S REPRESENTATIVE PRIOR TO THE COMMENCEMENT OF WORK.



NOTE
WATER PIPE AFTER WATER METER IS PRIVATE PLUMBING INFRASTRUCTURE AND NOT REVIEWED AS PART OF THE UW APPROVAL. SEPARATE APPROVAL FROM THE RELEVANT AUTHORITY REQUIRED.



Date: 29 July 2026



1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SEQ WS&S AND D&C SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT 1/1 OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
4. COVER OVER MAINS FROM PERMANENT LEVEL TO BE AS PER WS403-2011 AS AMENDED BY SEQ CODE TABLE 7.2.
5. MINIMUM EMBEDMENT SHALL BE IN ACCORDANCE WITH STANDARD DRAWING Nos. SEQ-WAT-1200-2 TO SEQ-WAT-1203-1.
6. THRUST BLOCKS SHALL BE IN ACCORDANCE WITH AND PRESSURE TESTED TO 1200kPa AS PER STANDARD DRAWING No. SEQ-WAT-1205-1, SEQ-WAT-1206-1 AND SEQ-WAT-1207-1.
7. PRE-TAPPED CONNECTOR FITTINGS AND E-F TAPPING SADDLES TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWING No. SEQ-WAT-1108-1 & SEQ-WAT-1108-2.
8. A WATER METER SUPPLIED AT THE DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH STANDARD DRAWING No. SEQ-WAT-1108-3.
9. ALL MATERIALS USED IN THE WORKS SHALL BE AS FOLLOWS:
 - ALL CAST IRON FITTINGS SHALL BE TO AS2544 WITH SOCKET ENDS DESIGNED FOR USE WITH gPVC OR DUCTILE IRON PIPES AS APPLICABLE AND SHALL BE 'LIGHT' CEMENT LINED.
 - PRESSURE PIPES USED FOR WATER SUPPLY INSTALLATION SHALL BE RUBBER JOINTED PIPES AND SHALL BE PVC-0 PN16
 - PIPES MUST BE AC/DUCTILE IRON OD COMPATIBLE. OTHER TYPES AND CLASSES OF PIPES SHALL NOT BE INSTALLED.
 - CAST IRON GATE (SLUICE) VALVES SHALL CONFORM TO AS2638.
 - ALL VALVES AND HYDRANTS SHALL BE COATED INTERNALLY AND EXTERNALLY WITH A FUSION BONDED EPOXY.
 - ALL NUTS AND WASHERS SHALL BE STAINLESS STEEL GRADE 316.
 - DETECTABLE MARKER TAPE TO BE INSTALLED ON ALL NEW WATERMAIN.
10. ALL CONCRETE FOOTPATHS TO BE CLEAR OF WATER MAINS (WHERE APPLICABLE).
11. TEST/CHLORINATION POINTS TO BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING No. SEQ-WAT-1410-1.
12. MARKERS SHALL BE INSTALLED FOR ALL SERVICE CROSSINGS, HYDRANTS AND VALVES IN ACCORDANCE WITH STANDARD DRAWING Nos. SEQ-WAT-1108-1 & -2, SEQ-WAT-1300-1 AND SEQ-WAT-1300-2.
13. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS R.P.E.Q. REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.
14. WATER MAIN SHALL BE LAID AT 1500mm ALIGNMENT FROM PROPERTY BOUNDARY UNLESS NOTED OTHERWISE.
15. WHERE PERMANENT HYDRANTS ARE NOT INSTALLED AT END OF MAINS OF EACH STAGE, A TEMPORARY HYDRANT WILL BE INSTALLED INSTEAD.
16. NEW WATER MAINS UNDER EXISTING ROADS TO BE TUNNEL BORED, UNLESS NOTED OTHERWISE.
17. ALL VALVE AND HYDRANT ASSEMBLIES SHALL BE IN ACCORDANCE WITH SEQ-WAT-1301-1 TRAFFICABLE LID, AND SEQ-WAT-1302-1 WHERE PE IS SPECIFIED AS PIPEWORK REFER TO SEQ-WAT-1409-1 FOR HYDRANT INSTALLATION FITTINGS.
18. ALL WATER SERVICES TO COMPRISE 20mm I.D. FOR SERVICE LENGTHS $\leq 20m$ AND 25mm I.D. TO EACH LOT FOR SERVICE LENGTHS $> 20m$.
19. PRE-TAPPED CONNECTOR & 20mm I.D. SERVICE WITH LOCKABLE BALL VALVE UPSTREAM OF WATER METER (REFER SEQ-WAT-1108-3 ITEM 2) TO BE PROVIDED FOR FUTURE LOTS
20. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 1" OR AS PER MANUFACTURERS SPECIFICATION.
21. WATER MAINS SHALL NOT BE CONSTRUCTED WITHIN ROAD PAVEMENTS AND ROAD CROSSING DEPTH MUST ACCOUNT FOR THE CONSTRUCTION PHASE OF THE DEVELOPMENT.
22. ROAD CROSSING DEPTH MUST ACCOUNT FOR THE CONSTRUCTION PHASE OF THE DEVELOPMENT.
23. WATERMAIN EMBEDMENT TO BE TYPE C SUPPORT AS PER SEQ-WAT-1201-1 OR AS DIRECTED BY SITE SUPERINTENDANT.
24. ALL PIPES AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS AND MATERIALS" LIST.

1. SERVICE CONDUITS TO BE INSTALLED UNDER THE ROADWORKS CONTRACT AND SHOWN THUS: c ON THE DRAWINGS AND SHALL BE LOCATED AND INSTALLED IN ACCORDANCE WITH SEQ-WAT-1108-1.

2. CONDUITS UNDER ROADS ARE TO BE A SINGLE 100mm uPVC PN9 SERIES 1 CONDUIT WITH 2 x 25ø HDPE PE100 PN16 SERVICE PIPES FOR LENGTH LESS THAN OR EQUAL TO 20m OR 2 x DN32mm HDPE PE100 PN16 SERVICE PIPES FOR >20m AND <4.0m LONG.

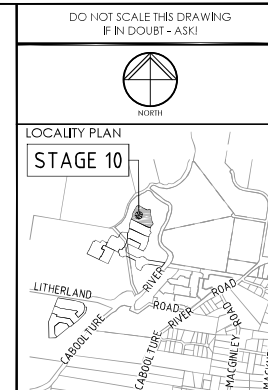
- A. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
- B. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 18m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
- C. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
- D. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

- A. TOPSOIL AND SUBSOIL SHOULD BE STOCKPILED SEPARATELY.
- B. CARE SHOULD BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROL AROUND STOCKPILES.

- A. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
- B. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
- C. NO SOIL SHOULD BE STOCKPILED WITHIN 5m OF CREEK.

A. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.

B. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

[illegible]

Project

RIVERMONT
PRECINCT 2
STAGE 10



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Approved Director - RPEQ 17544

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Mark Shaw RPEC
17544
Date: 2026.06.08
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Drawing Title

WATER RETICULATION NOTES

Drawn DF	Designed VS	Checked MAS	Date JUN' 28
Scale AS SHOWN			Sheet 13 of 1
Drawing No A1 24-280-63		Revision B	