

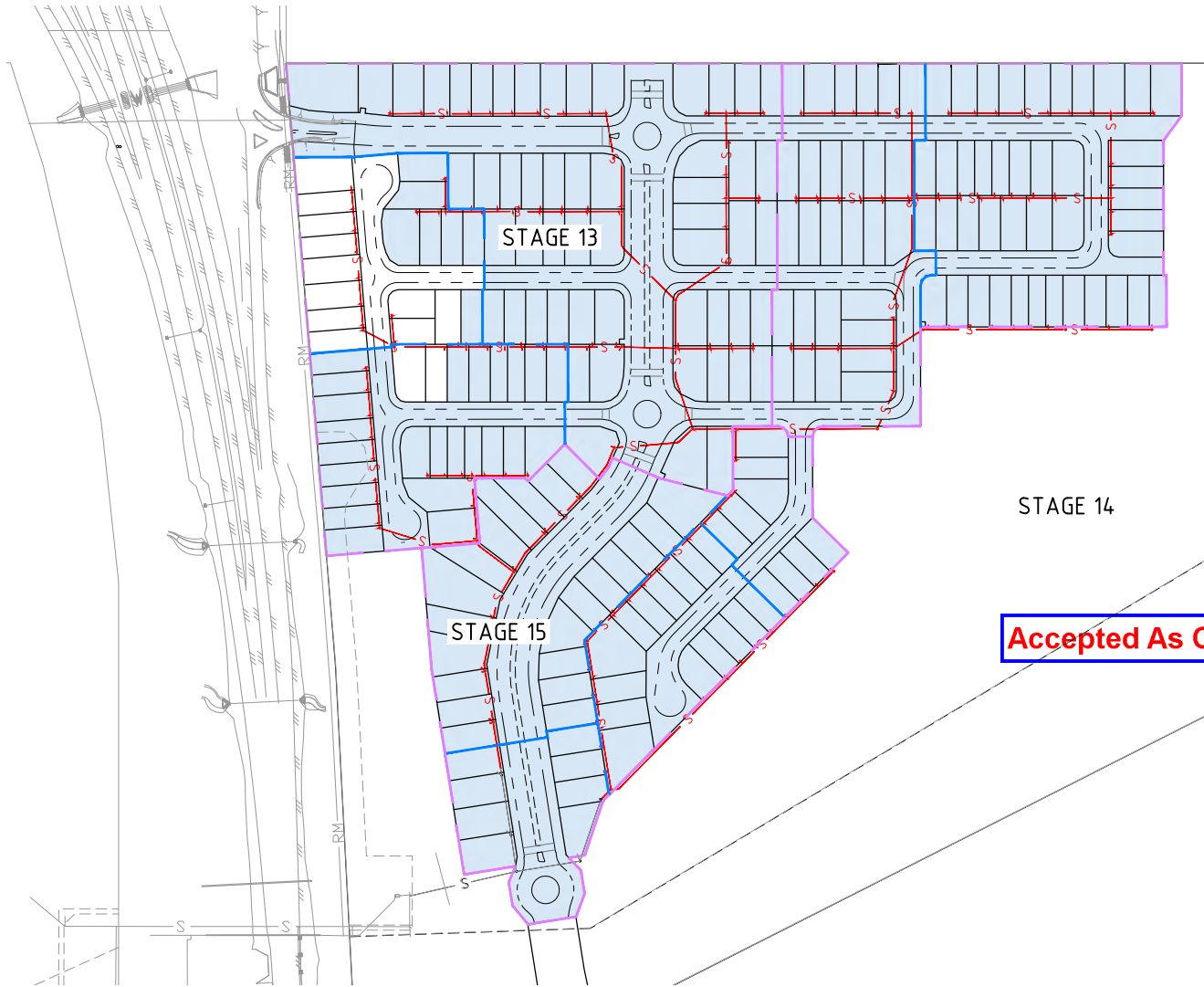
**SEWER NOTES:**

1. ALL WORK AND MATERIALS ARE IN ACCORDANCE WITH CURRENT TOWNSVILLE CITY COUNCIL SPECIFICATIONS, STANDARD DRAWINGS AND RELEVANT AUSTRALIAN STANDARDS.
2. uPVC SEWERS ARE CLASS SN10 (ø100) & SN8 (ø150/225/300) TO A.S.1260.
3. THE CONSTRUCTION OF SEWERAGE WORK SHOWN ON THIS DRAWING HAS BEEN SUPERVISED BY AN ENGINEER WHO HAS RPEQ/NER REGISTRATION.
4. EACH ALLOTMENT IS SERVED BY A ø100mm PROPERTY CONNECTION.
5. OBLIQUE JUNCTION BRANCHES ARE LOCATED 1.5m FROM THE DOWNSTREAM PROPERTY ALIGNMENT UNLESS NOTED OTHERWISE.
6. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE ADJACENT PROPERTY A MINIMUM OF 1.0m.
7. WHERE SEWERS HAVE A GRADE OF 1 IN 6 OR STEEPER, BULKHEADS HAVE BEEN CONSTRUCTED. REFER TO TOWNSVILLE CITY COUNCIL STD DRG SD-482.
8. MAINTENANCE HOLE LIDS HAVE BEEN FINISHED TO THE HEIGHTS ABOVE FSL AS SHOWN ON TOWNSVILLE CITY COUNCIL STDDWG SD-475.
9. INSTALLATION AND COMPACTION OF TRENCH BACKFILL WAS CARRIED OUT STRICTLY IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
10. PROPERTY CONNECTIONS CROSSING UNDERGROUND ELECTRICITY ALLOCATION HAVE A MINIMUM OF 1.0m COVER.
11. ROAD CROSSINGS WERE BACKFILLED WITH CRUSHER DUST COMPACTED TO NOT LESS THAN 95% OF THE STANDARD MAX. DRY DENSITY TO A.S. 1289.
12. SEWER STRUCTURES ARE LOCATED 1.5m FROM THE PROPERTY BOUNDARIES UNLESS NOTED OTHERWISE.
13. PIPE EMBEDMENT IS IN ACCORDANCE WITH 'TYPE 3 SUPPORT' AS DETAILED ON TCC STD DWG SD-461.
14. MANHOLE COVERS ARE EITHER TYPE B OR TYPE D IN ACCORDANCE WITH TOWNSVILLE CITY COUNCIL STANDARD DRAWINGS.

PROPERTY CONNECTION POINTS AT THE ENDS OF PROPERTY CONNECTION SEWERS ARE MARKED WITH A 50mm x 40mm x 200mm YELLOW PAINTED PEG LOCATED ABOVE THE PROPERTY CONNECTION END CAP WITH THE TOP OF THE MARKER PEG 50mm ABOVE THE FINISH SURFACE LEVEL. AN APPROVED BROWN PLASTIC TAPE 50mm WIDE IS ATTACHED TO THE END CAP AND BROUGHT VERTICALLY TO THE SURFACE AND STAPLED TO THE MARKER PEG.

**HOUSE CONNECTION TYPES**

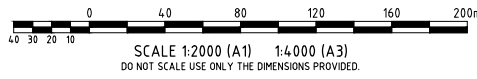
	<b>TYPE A</b> DIRECT CONN. (<0.5m)
	<b>TYPE B</b> SLOPE-UP (>0.46m)
	<b>TYPE D</b> JUMP-UP (>0.46m)
	<b>TYPE V</b> DIRECT CONN. MH (<200mm)
	<b>TYPE W</b> DIRECT CONN. MH (200-460mm)
	<b>TYPE X</b> INTERNAL DROP (>600mm)



**LOCALITY PLAN**  
SCALE 1:2000m

**Accepted As Constructed**

**NOTE:-**  
THIS AS CONSTRUCTED CERTIFICATION IS RELEVANT TO STAGE 13B ONLY.



AS CONSTRUCTED

I, RYAN MACHIN, OF SURVEY SOLUTIONS AUSTRALIA, HEREBY CERTIFY THAT THE WORKS AS SHOWN ON THE AS CONSTRUCTED DRAWINGS REFLECT ANY CHANGES THAT WERE MADE DURING THE COURSE OF CONSTRUCTION.

*Ryan Machin* DATE: 29.03.2023  
RYAN MACHIN SBQ No 6760

**SURVEYING SOLUTIONS AUSTRALIA**

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49 Goicoechea Drive Bushland Beach, QLD, 4818

**AS CONSTRUCTED CERTIFICATION**

THE WORK ON THIS DRAWING HAS BEEN CONSTRUCTED GENERALLY IN ACCORDANCE WITH THE DESIGN DRAWINGS AND THE INTENT OF THE GUIDELINES OF TOWNSVILLE CITY COUNCIL

APPROVED: *Chad Wicks* RPEQ: 12732

for and on behalf of  
Empower Engineer & Project Managers

**Empower**  
ENGINEERS & PROJECT MANAGERS  
ABN 23 010 743 692

User: WILLIAM GRIFFITH File Name: C:\Users\wgriffith\Documents\113314\Civil - DRGS\113314 - AS CON\2 Stage 13\B00393-ASCON-SEW

Plot Date: 28/03/2023 10:03 AM

0	AS CONSTRUCTED	MC	PDW	CH	OR	27/03/23	12732
No.	Amendments	Drawn	Design	Design Chk	Appd	Date	Register
							<b>ENGINEERING CERTIFICATION</b>
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**THE Reserve**  
From the developers of Kalynda Chase

**urbex** designed for life

**Empower**  
ENGINEERS & PROJECT MANAGERS  
ABN 23 010 743 692

Client	<b>URBEX PTY LTD</b>	Datum	AHD
Project	<b>THE RESERVE - STAGE 13B</b>	PSM	200645
Title	<b>SEWER RETICULATION LOCALITY PLAN AND NOTES</b>	RL	14.410
		(MGA) COORD	
		<b>AS CONSTRUCTED</b>	
		Project No.	Drawing No.
		<b>B00393-CS200</b>	<b>0</b>



MH/MS No.	15-1	1-2	E/2	1-2	E/3	13-1	1-8	2-8	3-8	4-8	5-8	3-8	E/9
MH/MS TYPE/DROP	S1050 V		END	S1050 V	END	S1050 V	S1050 V	S1050 V	S1050 V	S1050 V	S1050 V	S1050 V	END
MH/MS COVER TYPE	B			B					B	B	B	B	
BRANCH LINE No.									9				
BRANCH DROP													
HC DEPTH	1.517*	1.676*		1.483	1.466				1.314*	1.392*	1.403*	1.482*	1.357*
HC TYPE	Type B	Type B		Type B	Type A				Type X	Type B	Type A	Type B	Type A
HC IL	IL 13.873*	IL 13.736*		IL 14.091*	IL 13.946*				IL 13.729*	IL 13.694*	IL 13.751*	IL 13.572*	IL 13.751*
HC LOT No.	Lot 57	Lot 55, Lot 58		Lot 49	Lot 48		Lot 76	Lot 75, Lot 74, Lot 77	Lot 85	Lot 38, Lot 37	Lot 36	Lot 67	Lot 66
HC CHAINAGE	1.5	19.608, 20.108, 34.608, 35.108, 47.108, 47.608, 59.608, 63.108, 72.108, 81.108, 87.108, 102.108, 102.608		3	18.997		0.3	3, 17.15, 20.15, 32.65, 33.15, 45.15, 45.65, 57.65, 67.65, 69.65, 77.65, 78.15, 12.5	20.5	49.686	20.965	15.5	3.01
MH/MS TYPE/DROP	S1050 V		END	S1050 V	END	S1050 V	S1050 V	S1050 V	S1050 V	S1050 V	S1050 V	S1050 V	END
MH/MS COVER TYPE	B			B					B	B	B	B	
BRANCH LINE No.									9				
BRANCH DROP													
HC DEPTH	1.517*	1.676*		1.483	1.466				1.314*	1.392*	1.403*	1.482*	1.357*
HC TYPE	Type B	Type B		Type B	Type A				Type X	Type B	Type A	Type B	Type A
HC IL	IL 13.873*	IL 13.736*		IL 14.091*	IL 13.946*				IL 13.729*	IL 13.694*	IL 13.751*	IL 13.572*	IL 13.751*
HC LOT No.	Lot 57	Lot 55, Lot 58		Lot 49	Lot 48		Lot 76	Lot 75, Lot 74, Lot 77	Lot 85	Lot 38, Lot 37	Lot 36	Lot 67	Lot 66
HC CHAINAGE	1.5	19.608, 20.108, 34.608, 35.108, 47.108, 47.608, 59.608, 63.108, 72.108, 81.108, 87.108, 102.108, 102.608		3	18.997		0.3	3, 17.15, 20.15, 32.65, 33.15, 45.15, 45.65, 57.65, 67.65, 69.65, 77.65, 78.15, 12.5	20.5	49.686	20.965	15.5	3.01

**MAINTENANCE HOLE TYPES:**  
 (SEQ-SEW-1101-2)  
 P1-P3=PRE-CAST CONCRETE  
 A=1000Ø CONCRETE B=1200Ø CONCRETE  
 C=1500Ø CONCRETE

**MAINTENANCE SHAFTS:**  
 (SEQ-SEW-1314-1) G=Ø225 uPVC

**NOTE:**  
 1. FOR MANHOLE DROP TYPES REFER SEQ-SEW-1303-1 (INTERNAL DROPS ONLY)  
 2. FOR COVER TYPES REFER SEQ-SEW-1308-1 (DIMENSION H TO BE 150mm FOR NEW SUBDIVISIONS)  
 3. IN-LINE BENDS REFER SEQ-SEW-1314-3  
 4. FOR HC TYPES AND DROPS REFER SEQ-SEW-1104-1 & SEQ-SEW-1105-1  
 5. HC TYPES INTO MANHOLES NOMINATED AS PER MANHOLE DROP TYPES  
 \* DEPTHS SHOWN ARE OVER SEWER MAIN, DEPTHS AT END OF HC CHECKED TO BE <1.5m

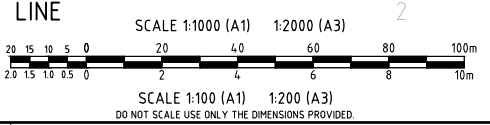
(CTM CODE DRAWING LIST NOTES SPECIFIC TO TCC)

**LEGEND**

- × ALLOTMENT CONTROL LEVEL
- △ HOUSE CONNECTION
- Bolt BOLT DOWN COVER

PIPE EMBEDMENT TYPE 3  
 (UNLESS GEOTECH CONDITIONS REQUIRE OTHERWISE)

PROPERTY DESCRIPTION	LOT
DIAMETER/TYPE	DN150uPVC SN8
GRADE (1 in X)	99.18x
LENGTH	101.364x
DATUM (m)	0.0
BRANCH INVERT LEVEL	
DEPTH BELOW F.S.L.	3.071
INVERT LEVEL	12.881x
MH LID	15.232x
CHAINAGE	0.000



**AS CONSTRUCTED CERTIFICATION**

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APPROVED: *Chad Wain* RPEQ: 12732

for and on behalf of Empower Engineer & Project Managers

AS CONSTRUCTED

I, RYAN MACHIN, OF SURVEY SOLUTIONS AUSTRALIA, HEREBY CERTIFY THAT THE WORKS AS SHOWN ON THE AS CONSTRUCTED DRAWINGS REFLECT ANY CHANGES THAT WERE MADE DURING THE COURSE OF CONSTRUCTION.

*Ryan Machin* DATE: 29.03.2023  
 RYAN MACHIN SBQ No 6760

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 49 Gaiococha Drive Bushland Beach, QLD, 4818

**Accepted As Constructed**

**NOTE:-**  
 THIS AS CONSTRUCTED CERTIFICATION IS RELEVANT TO STAGE 13B ONLY.

0	AS CONSTRUCTED	MC	PDW	CH	OR	27/03/23
No.	Amendments	Drawn	Design	Design Chk	Appd	Date

Registered Engineer 12732  
 Date Register  
 ENGINEERING CERTIFICATION

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**Empower**  
 ENGINEERS & PROJECT MANAGERS  
 ABN 23 010 743 692

Client	URBEX PTY LTD	Datum	AHD
Project	THE RESERVE - STAGE 13B	PSM	200645
Title	SEWER RETICULATION LONGITUDINAL SECTION	RL	14.410
		(MGA) COORD	
		AS CONSTRUCTED	
		Project No.	Drawing No.
		B00393-CS202	0

