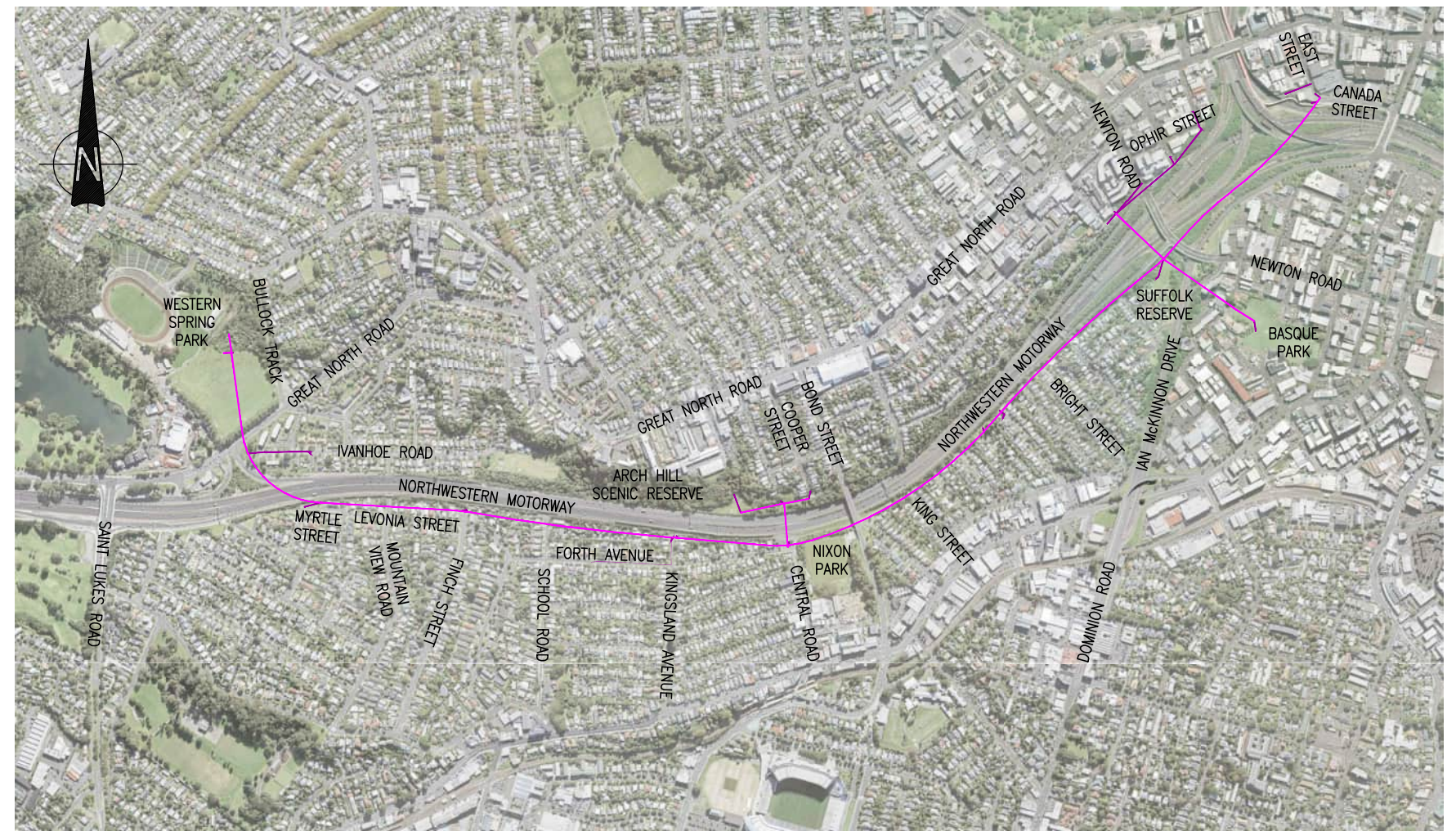


Appendix A – Design drawings

MOTIONS COLLECTOR SEWER DRAWINGS FOR RESOURCE CONSENT

DRAWING LIST	
DRAWING No.	DRAWING TITLE
2014581.290	MOTIONS COLLECTOR SEWER – CIVIL – LOCALITY PLAN AND DRAWING INDEX (DN4500 TUNNEL BORING OPTION)
2014581.200	MOTIONS COLLECTOR SEWER – CIVIL – OVERALL PLAN (DN4500 TUNNEL BORING OPTION)
2014581.201	MOTIONS COLLECTOR SEWER – CIVIL – OVERALL LONG SECTION (DN4500 TUNNEL BORING OPTION) – SHEET 1
2014581.202	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 1
2014581.203	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 2
2014581.204	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 3
2014581.205	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 4
2014581.206	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 5
2014581.207	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 6
2014581.208	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 7
2014581.209	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 8
2014581.210	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 9
2014581.211	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 10
2014581.212	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN4500 TUNNEL BORING OPTION) – SHEET 11
2014581.213	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 1
2014581.214	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 2
2014581.215	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 3
2014581.216	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 4
2014581.217	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 5
2014581.218	MOTIONS COLLECTOR SEWER – CIVIL – SH–CRL CONNECTION – PLAN AND LONG SECTION
2014581.219	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH01
2014581.220	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH02
2014581.221	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH03
2014581.222	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH04
2014581.223	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH05
2014581.224	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH06
2014581.225	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH07a
2014581.226	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH07b SH07c
2014581.227	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH09 SH10
2014581.228	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH11
2014581.229	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH13 SH14 SH15



					DESIGNED			 Watercare	MOTIONS COLLECTOR SEWER CIVIL LOCALITY PLAN AND DRAWING INDEX (DN4500 TBM OPTION)	CAD FILE 2014581.290	DATE 29-07-2025
					DES. APPROVED					ORIGINAL SCALE A3 N.T.S.	CONTRACT No. —
					DRAWN	J.FERNANDEZ	07-25			REF No. —	
					DWG. APPROVED					DWG No. 2014581.290	ISSUE 2
2	29.07.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25	COPYRIGHT — This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.			
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25				
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE				



- NOTES:
- 1. THE SHAFT DIMENSIONS, LOCATIONS, AND CONSTRUCTION AREAS ARE INDICATIVE ONLY. DETAILS TO BE DEVELOPED.
 - 2. DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.

LEGEND

	APPROXIMATE CONSTRUCTION AREAS
	10m WIDE PIPELINE CONSTRUCTION CORRIDOR
	COLLECTOR SEWER
	PARCEL

				DESIGNED			
				DES. APPROVED			
4	25.07.25	ISSUE FOR INFORMATION	JF	MC	DRAWN	J.FERNANDEZ	07-25
3	16.05.25	ISSUE FOR INFORMATION	JF	MC	DWG. APPROVED		
2	14.05.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25
1	25.04.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25
ISSUE	DATE	AMENDMENT	BY	APPD.			

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MOTIONS COLLECTOR SEWER

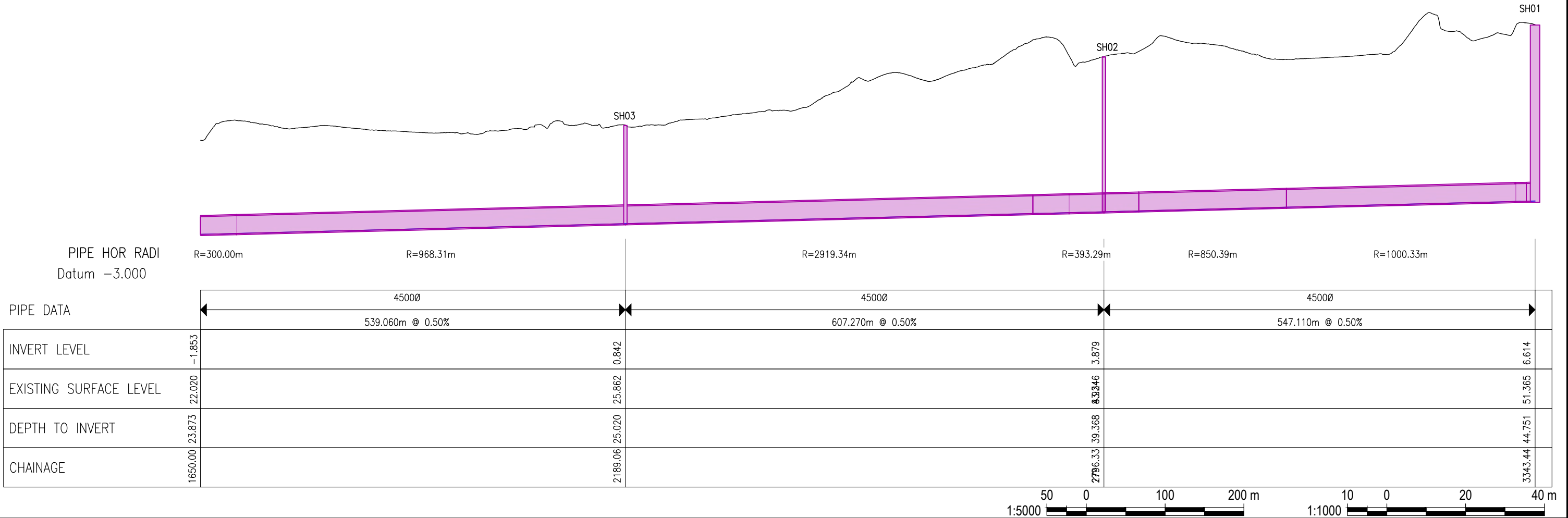
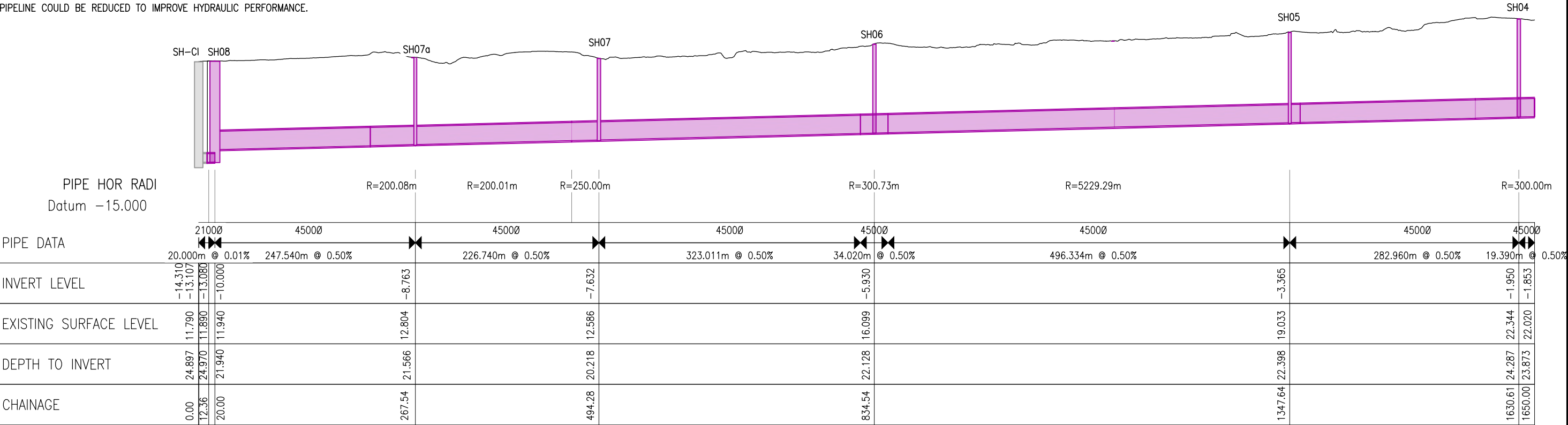
CIVIL

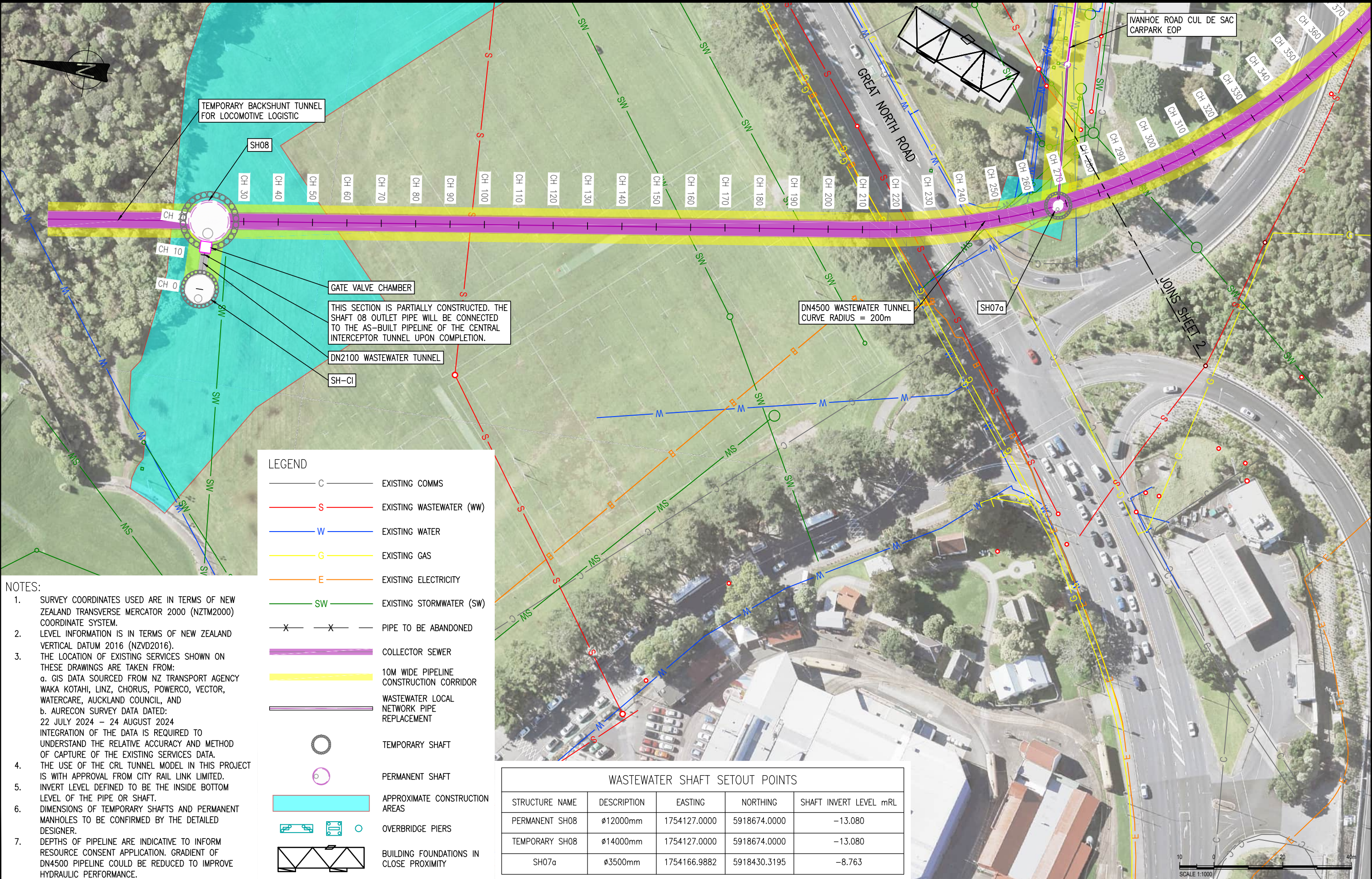
OVERALL PLAN (DN4500 TBM OPTION)

CAD FILE	2014581.200	DATE	25-07-2025
ORIGINAL SCALE	A3 1:7500	CONTRACT No.	-
REF No.	-		
DWG No.	2014581.200	ISSUE	4

NOTES:

1.
- THE EXISTING PIPELINES ARE NOT PRESENTED IN THIS DRAWING FOR CLARITY. DETAILS REFER TO CONCEPT DESIGN SET OF DRAWINGS. EXISTING SERVICE DATA TAKEN FROM ASSET OWNER GIS. FURTHER ON-SITE INVESTIGATION NEEDED TO CONFIRM LOCATION AND SIZE. DIVERSION MAY BE REQUIRED.
2.
- DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.





NOTES:

1. SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2. LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
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4. THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5. INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6. DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.
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LEGEND

C

S

W

G

E

SW

X

X

EXISTING COMMS

EXISTING WASTEWATER (WW)

EXISTING WATER

EXISTING GAS

EXISTING ELECTRICITY

EXISTING STORMWATER (SW)

PIPE TO BE ABANDONED

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

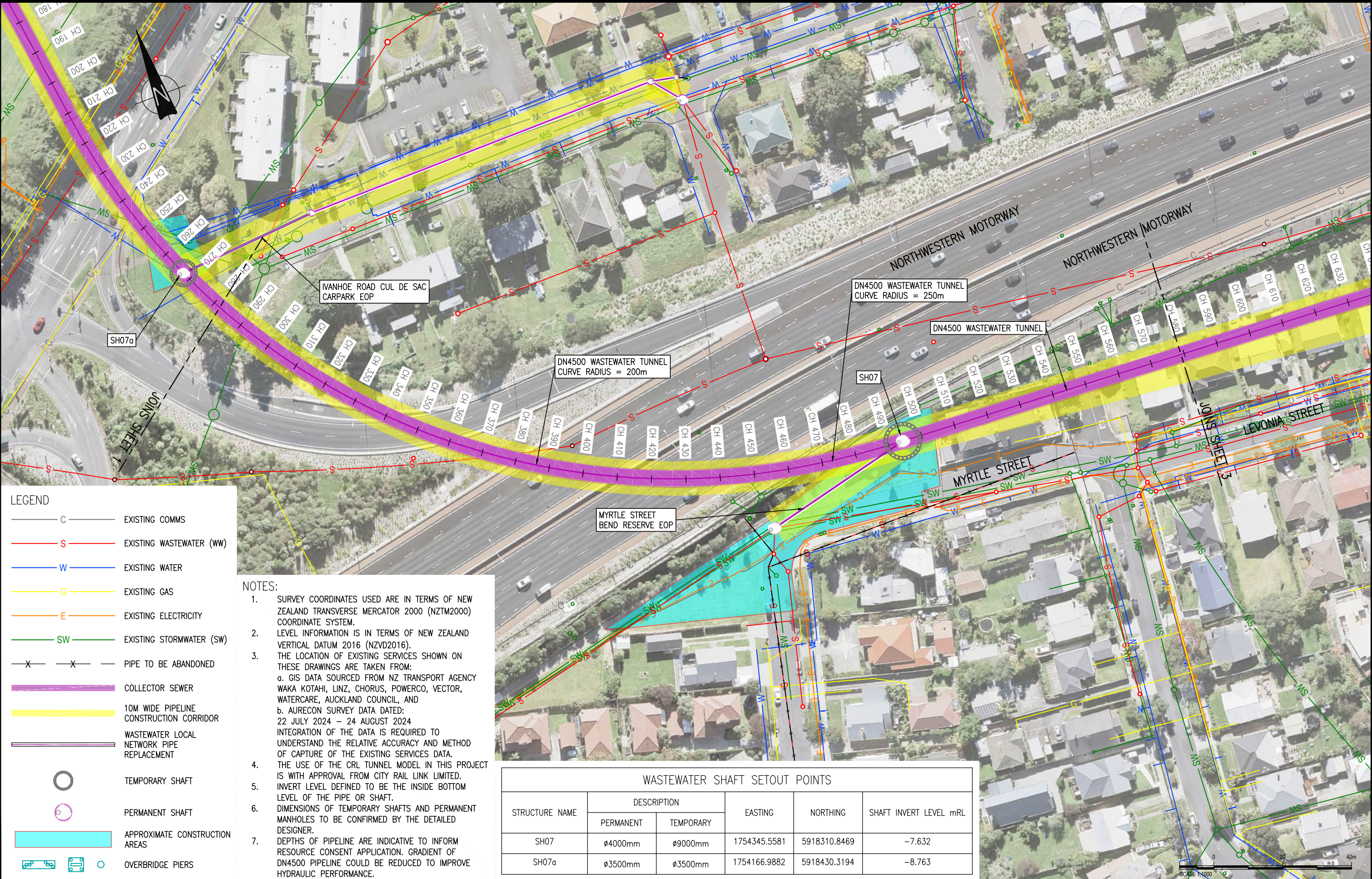
PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

BUILDING FOUNDATIONS IN CLOSE PROXIMITY

WASTEWATER SHAFT SETOUT POINTS				
STRUCTURE NAME	DESCRIPTION	EASTING	NORTHING	SHAFT INVERT LEVEL mRL
PERMANENT SH08	Ø12000mm	1754127.0000	5918674.0000	-13.080
TEMPORARY SH08	Ø14000mm	1754127.0000	5918674.0000	-13.080
SH07a	Ø3500mm	1754166.9882	5918430.3195	-8.763



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

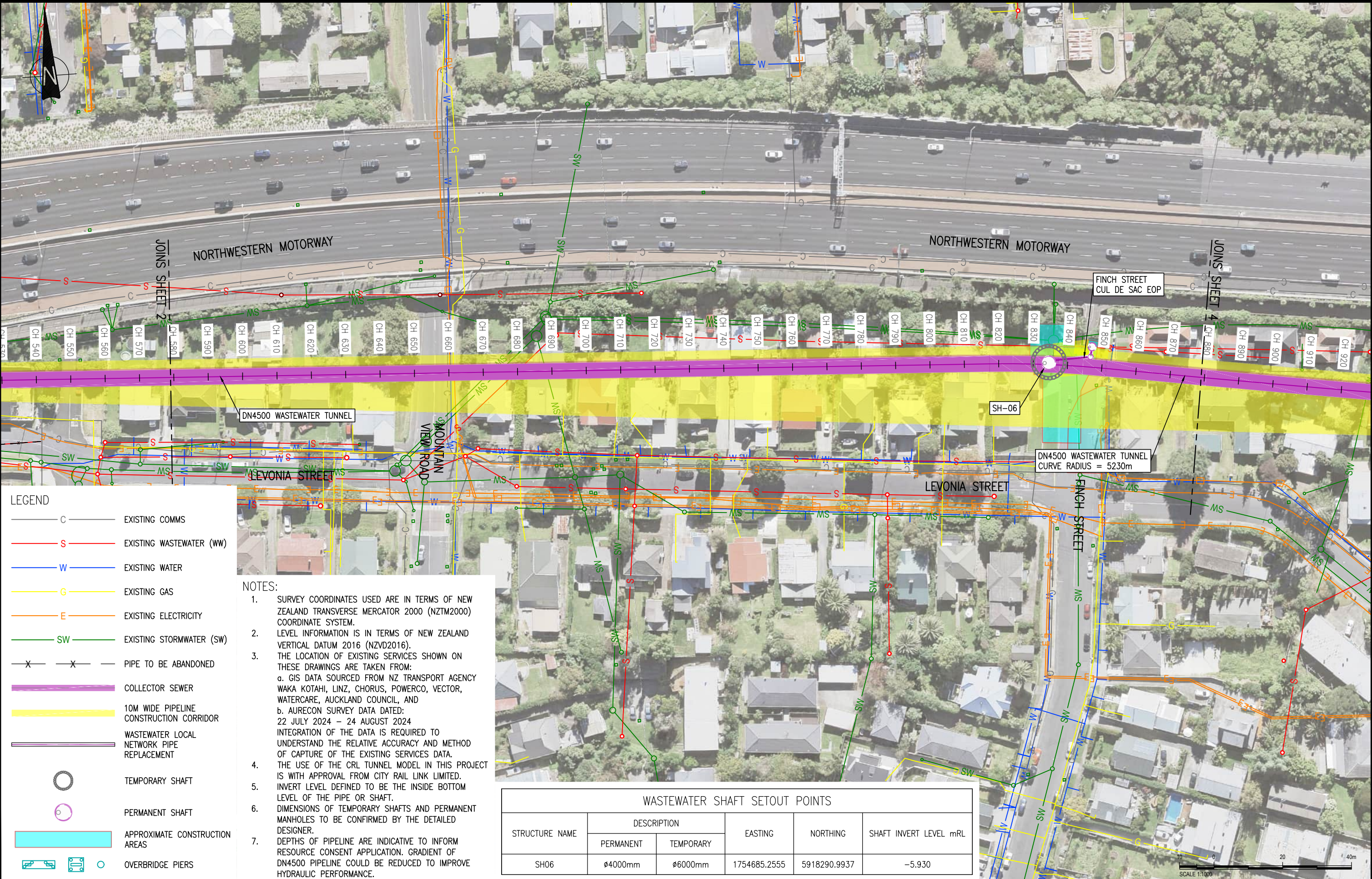
APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

NOTES:

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- DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH07	ø4000mm	ø9000mm	1754345.5581	5918310.8469	-7.632
SH07a	ø3500mm	ø3500mm	1754166.9882	5918430.3194	-8.763



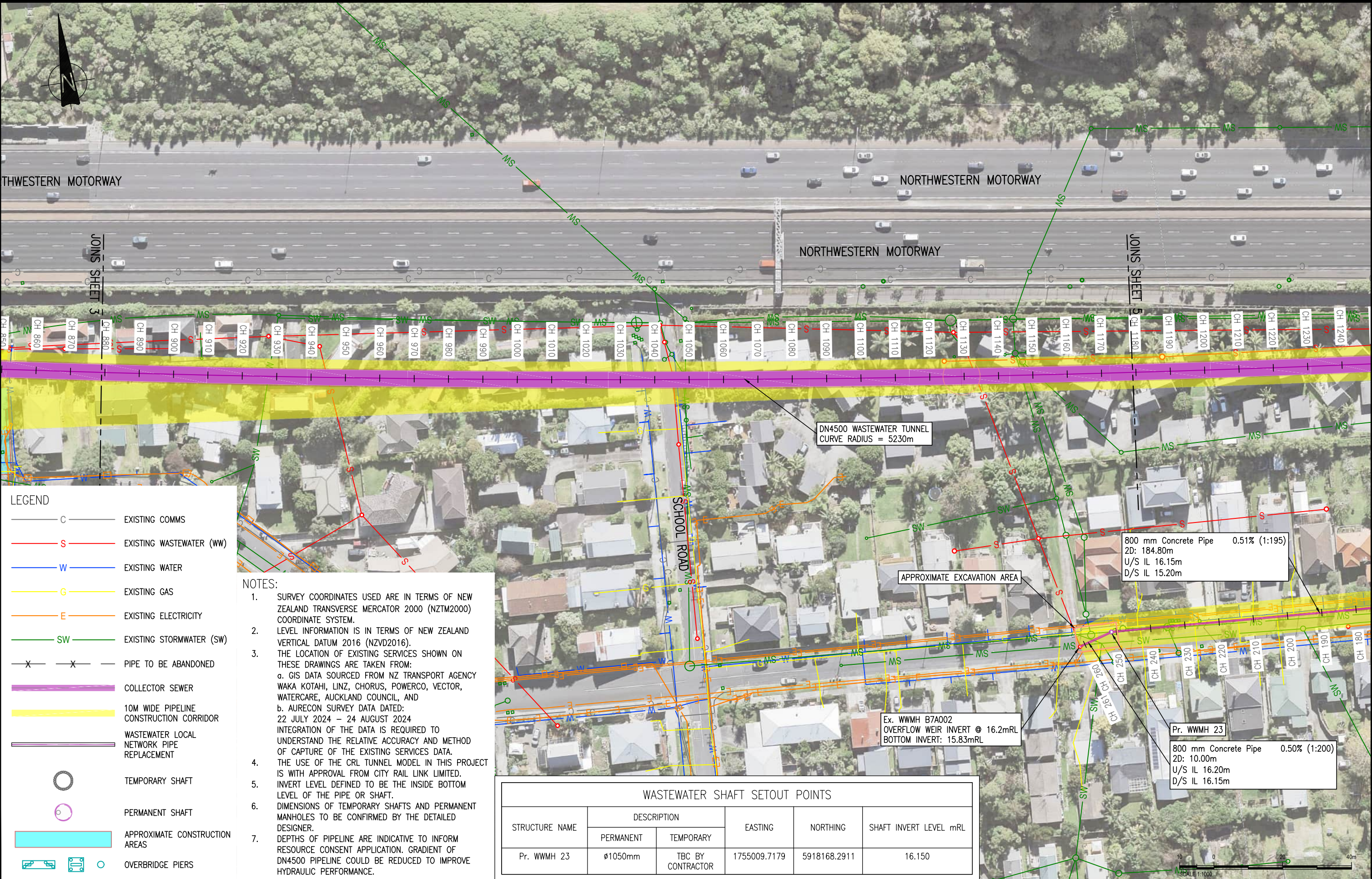
LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

NOTES:

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH06	ø4000mm	ø6000mm	1754685.2555	5918290.9937	-5.930



LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

NOTES:

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
Pr. WWMH 23	Ø1050mm	TBC BY CONTRACTOR	1755009.7179	5918168.2911	16.150



NOTES:

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7. DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH05	ø3500mm	ø3500mm	1755194.1135	5918226.5743	-3.365
Pr. WWMH 23	ø1050mm	TBC BY CONTRACTOR	1755009.7179	5918168.2911	16.150
Pr. WWMH 24	ø1050mm	ø6000mm	1755194.3213	5918159.8748	15.200

LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

				DESIGNED			
				DES. APPROVED			
				DRAWN	J.FERNANDEZ	07-25	
3	25.07.25	ISSUE FOR INFORMATION	JF	MC	DWG. APPROVED		
2	28.05.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	

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MOTIONS COLLECTOR SEWER
CIVIL
PLAN (DN4500 TBM OPTION) – SHEET 5

CAD FILE 2014581.206

ORIGINAL SCALE A3 1:1000

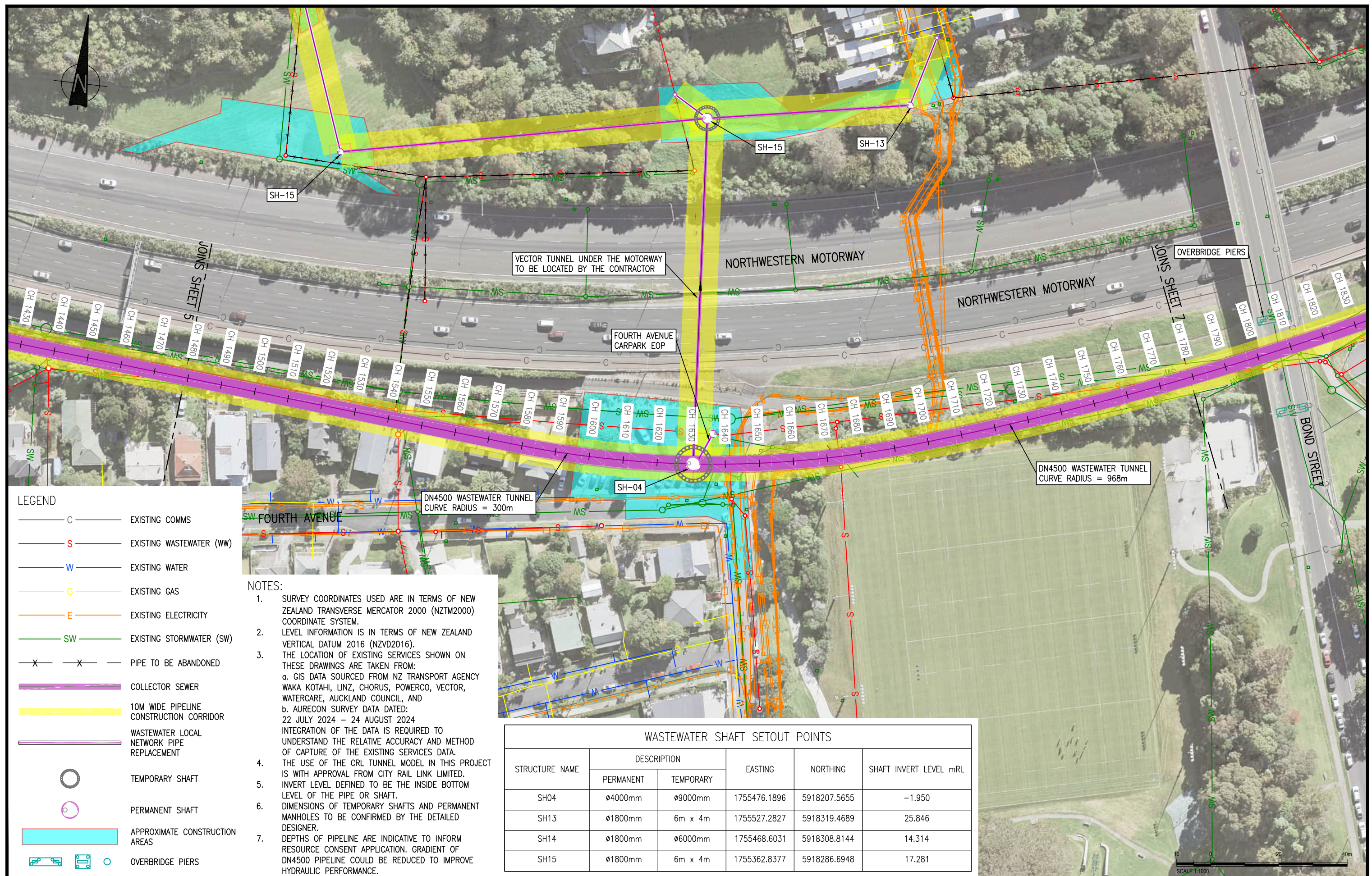
REF No. -

DWG No. 2014581.206

DATE 25-07-2025

CONTRACT No. -

ISSUE 3

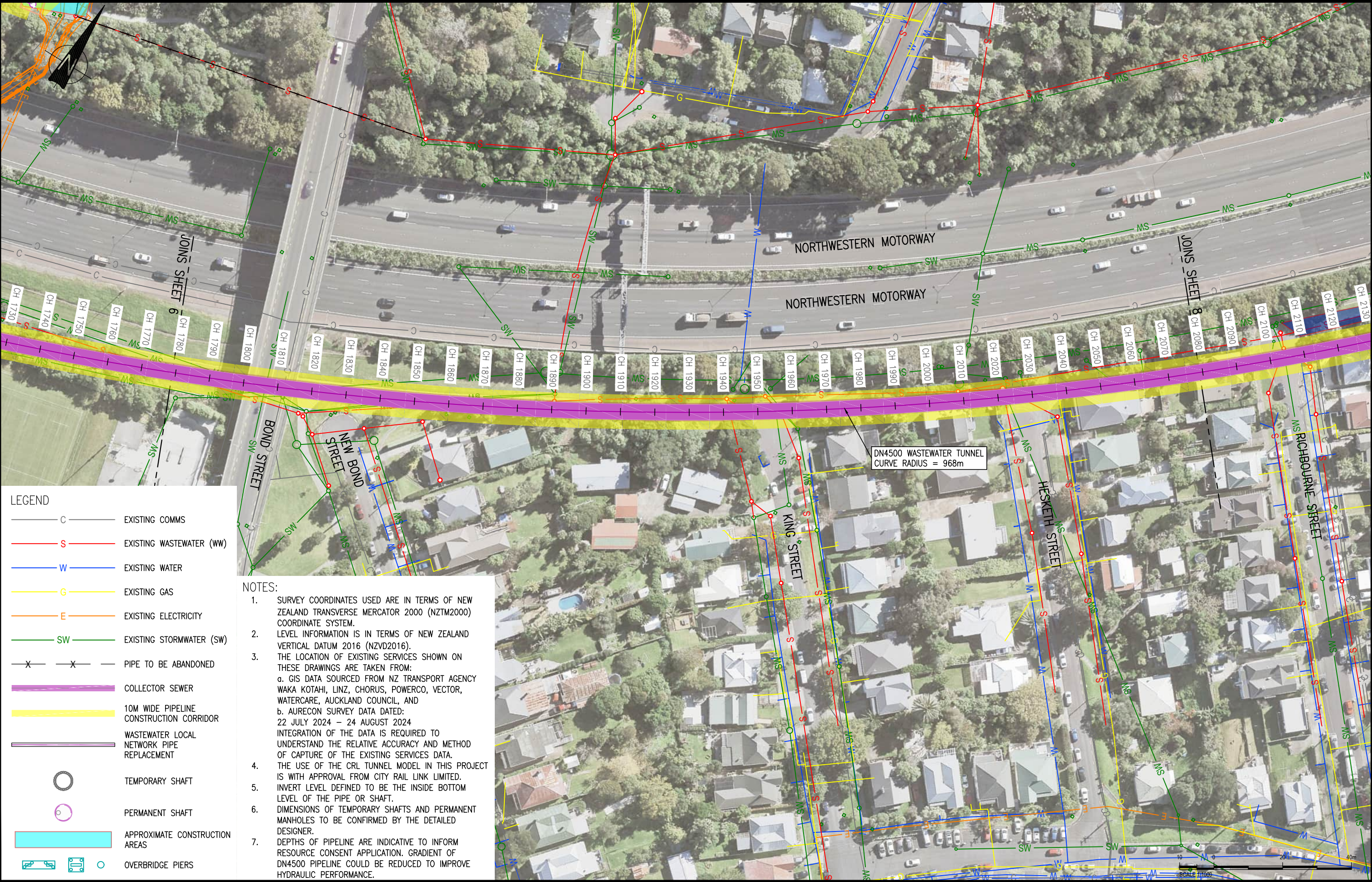


					DESIGNED		
					DES. APPROVED		
					DRAWN	J.FERNANDEZ	05-25
					DWG. APPROVED		
					WSL DESIGN MGMT.	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	05-25
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE



MOTIONS COLLECTOR SEWER
CIVIL
PLAN (DN4500 TBM OPTION) – SHEET 6

CAD FILE	2014581.207	DATE	16-05-2025
ORIGINAL SCALE A3	1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.207	ISSUE	1



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

- NOTES:
1.

SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3.

THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHĪ, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
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4.

THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5.

INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6.

DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.
7.

DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.

					DESIGNED		
					DES. APPROVED		
					DRAWN	J.FERNANDEZ	05-25
					DWG. APPROVED		
					WSL DESIGN MGMT.	J.STOKES	05-25
					WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	

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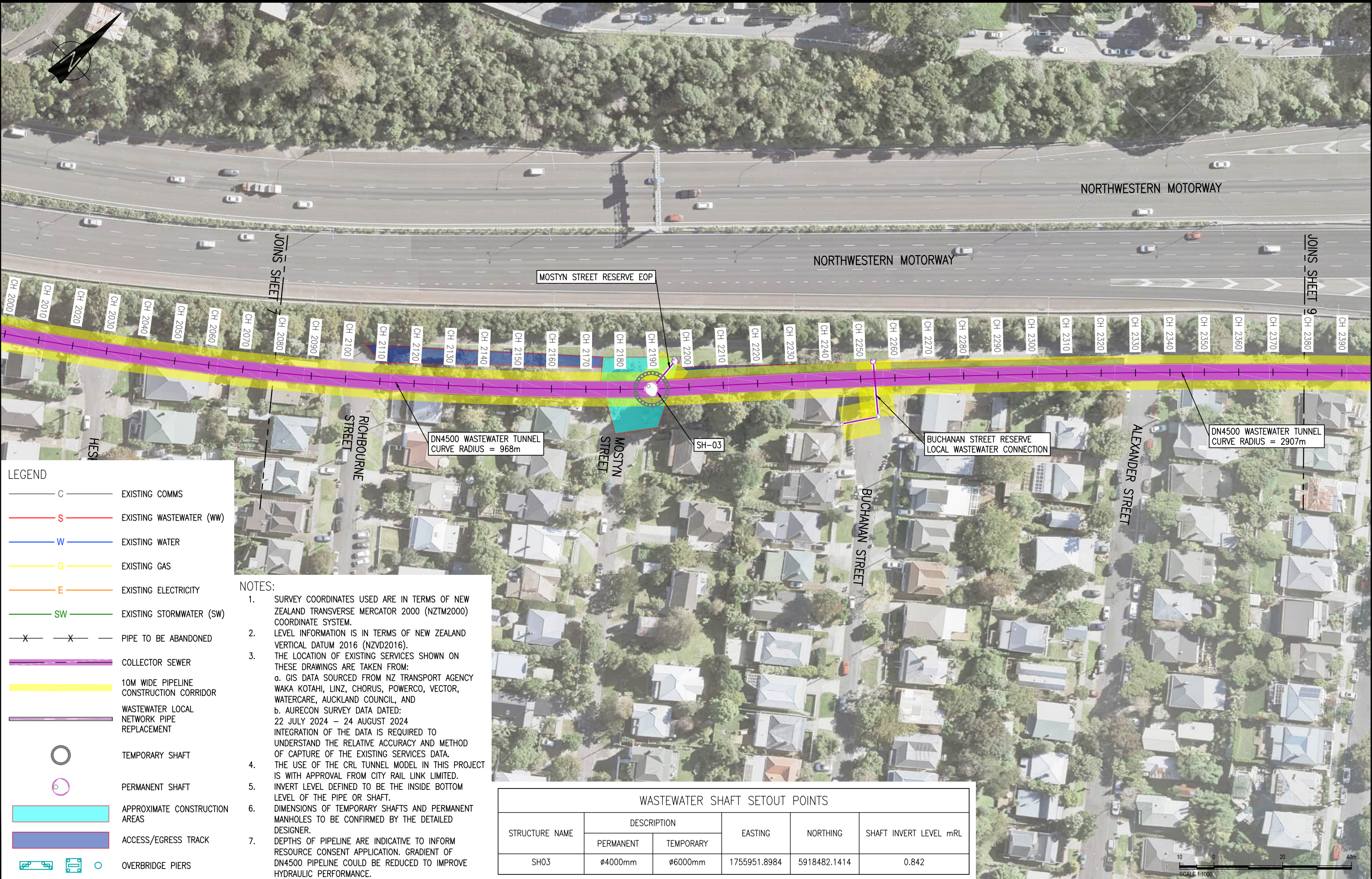
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MOTIONS COLLECTOR SEWER

CIVIL

PLAN (DN4500 TBM OPTION) – SHEET 7

CAD FILE	2014581.208	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	-
REF No.	-		
DWG No.	2014581.208	ISSUE	1



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

ACCESS/EGRESS TRACK

OVERBRIDGE PIERS

NOTES:

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- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.
- DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.

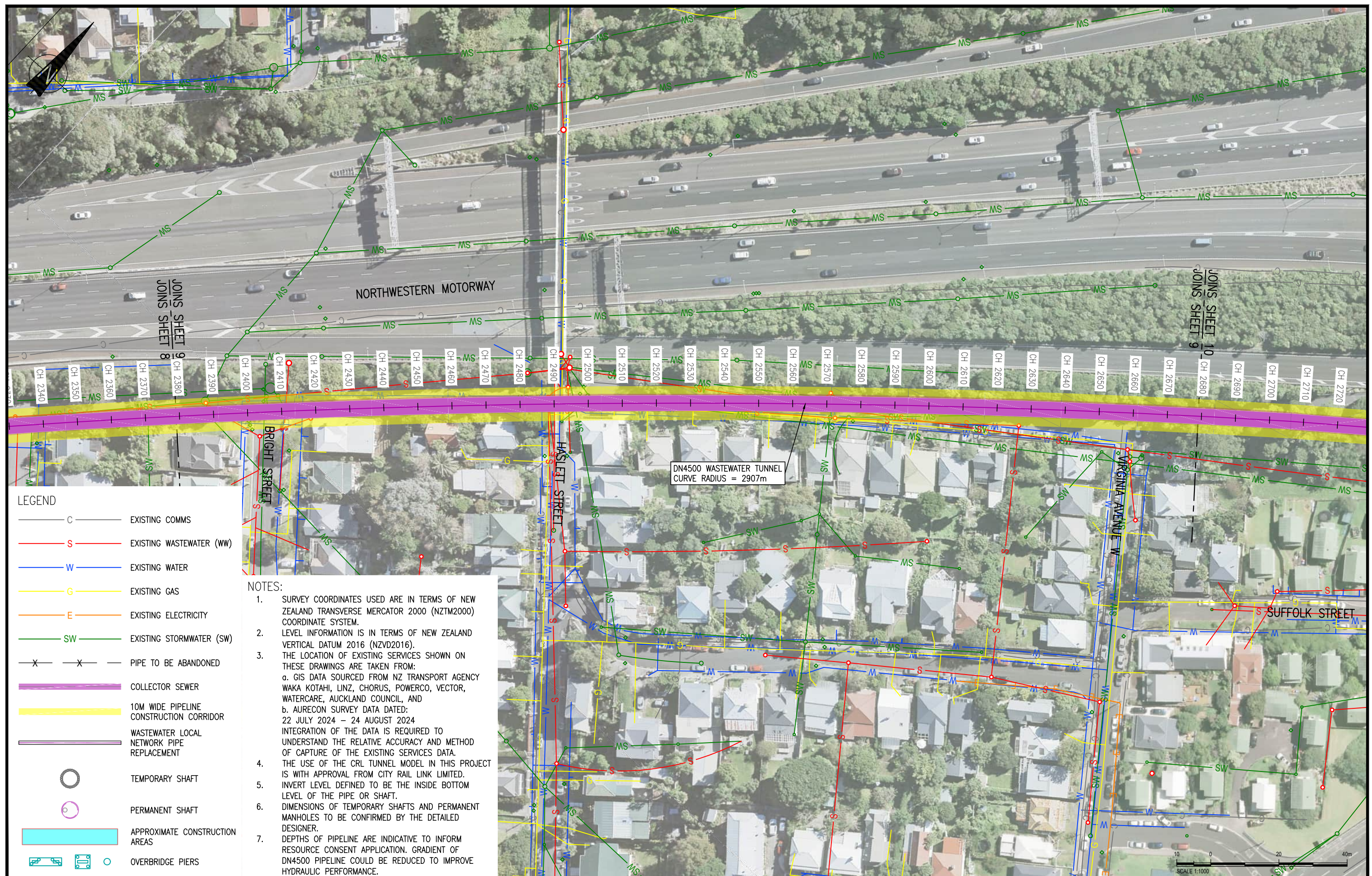
WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH03	ø4000mm	ø6000mm	1755951.8984	5918482.1414	0.842

DESIGNED					
DES. APPROVED					
DRAWN	J.FERNANDEZ	05-25			
DWG. APPROVED					
WSL DESIGN MGMT.	J.STOKES	05-25			
WSL PROJ. LEAD	J.STOKES	05-25			
BY			BY		DATE

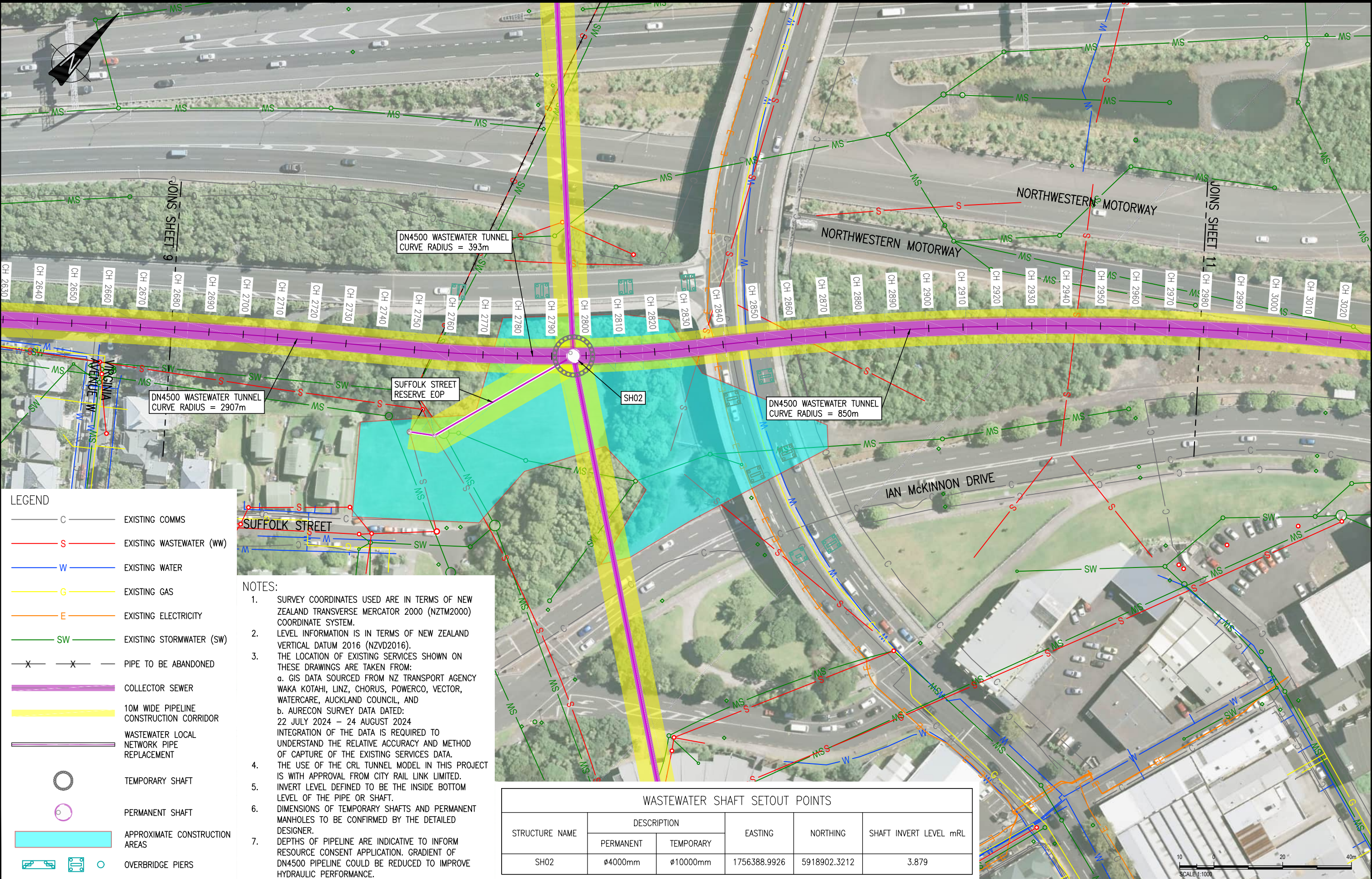
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MOTIONS COLLECTOR SEWER
CIVIL
PLAN (DN4500 TBM OPTION) – SHEET 8

CAD FILE	2014581.209	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.209	ISSUE	1



						DESIGNED			 Watercare	MOTIONS COLLECTOR SEWER CIVIL PLAN (DN4500 TBM OPTION) – SHEET 9	CAD FILE	2014581.210	DATE	16-05-2025
						DES. APPROVED					ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
						DRAWN	J.FERNANDEZ	05-25			REF No.	—		
						DWG. APPROVED					DWG No.	2014581.210		
						WSL DESIGN MGMT.	J.STOKES	05-25			ISSUE 1			
1	16.05.25	ISSUE FOR INFORMATION			JF	MC	WSL PROJ. LEAD	J.STOKES	05-25	COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.				
ISSUE	DATE	AMENDMENT			BY	APPD.		BY	DATE					



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

- NOTES:
1.

SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3.

THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHĪ, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED: 22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
4.

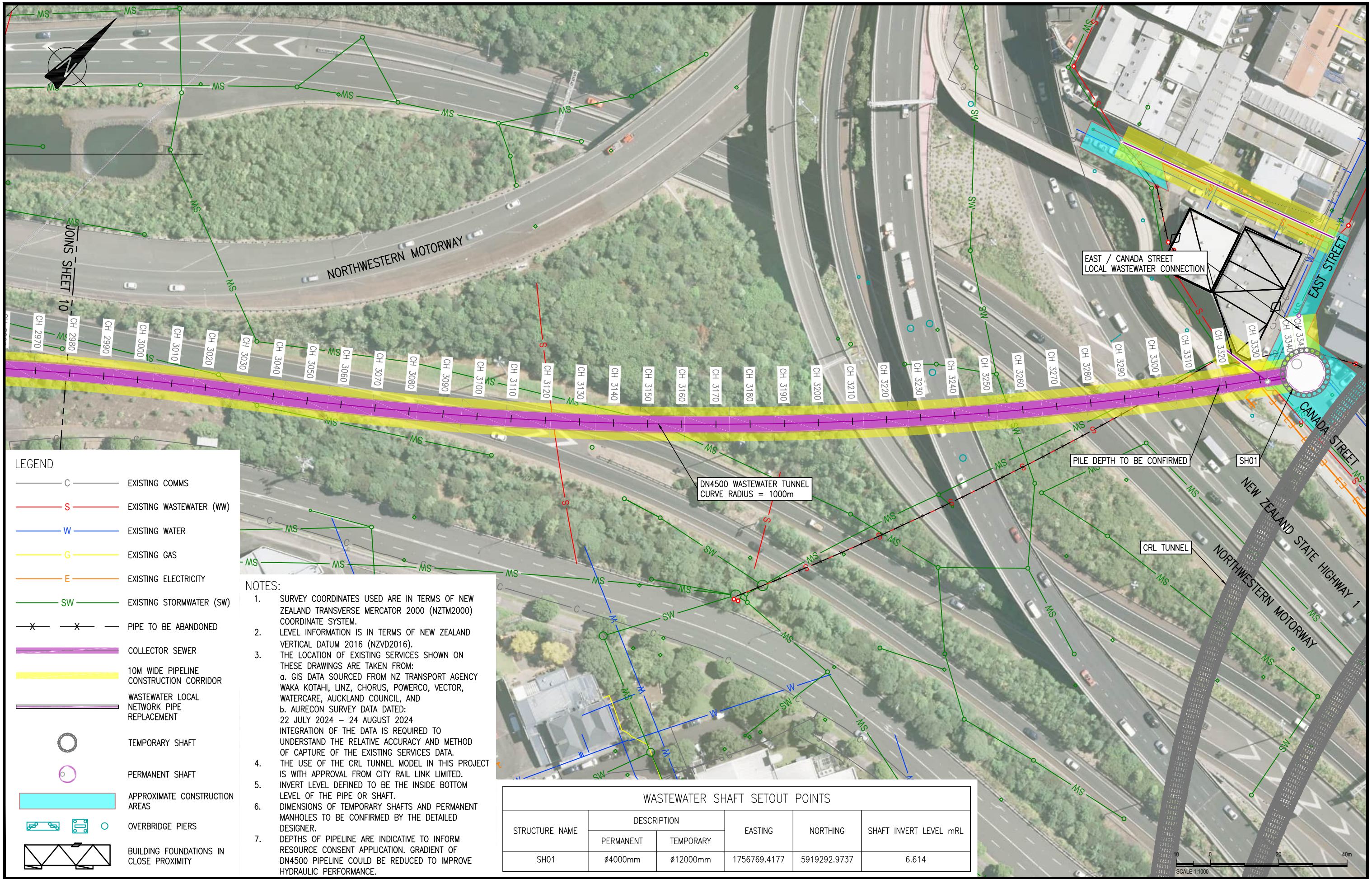
THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5.

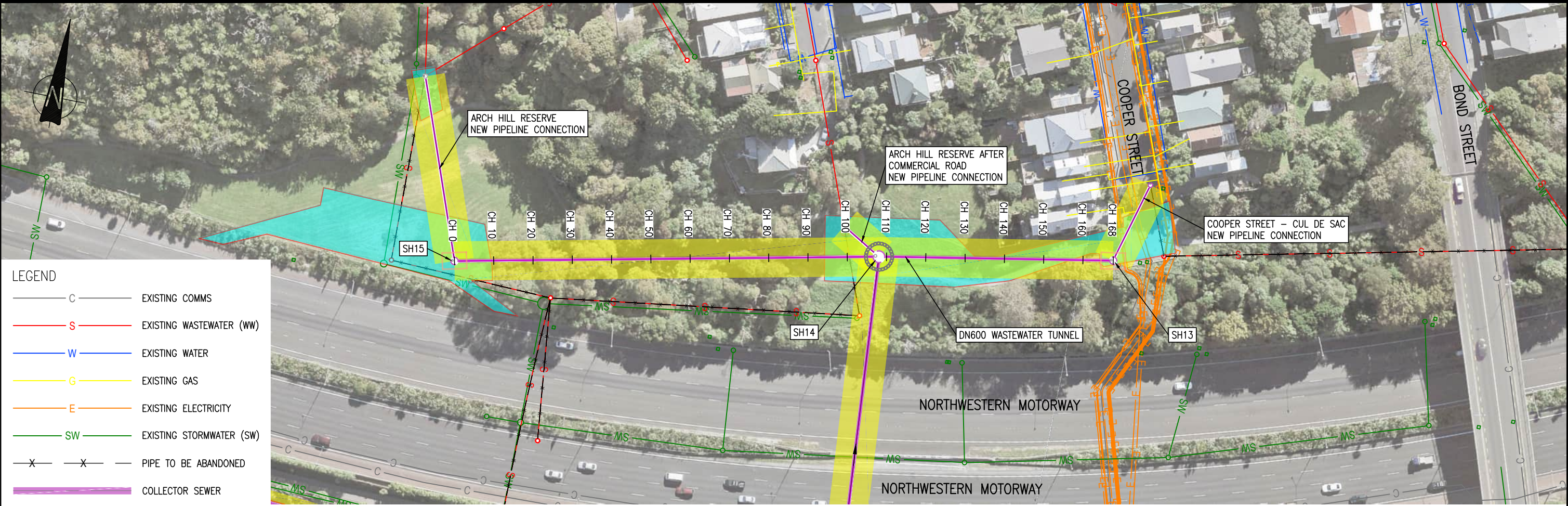
INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6.

DIMENSIONS OF PIPELINE SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.
7.

DEPTHS OF PIPELINE ARE INDICATIVE TO INFORM RESOURCE CONSENT APPLICATION. GRADIENT OF DN4500 PIPELINE COULD BE REDUCED TO IMPROVE HYDRAULIC PERFORMANCE.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02	ø4000mm	ø10000mm	1756388.9926	5918902.3212	3.879





LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

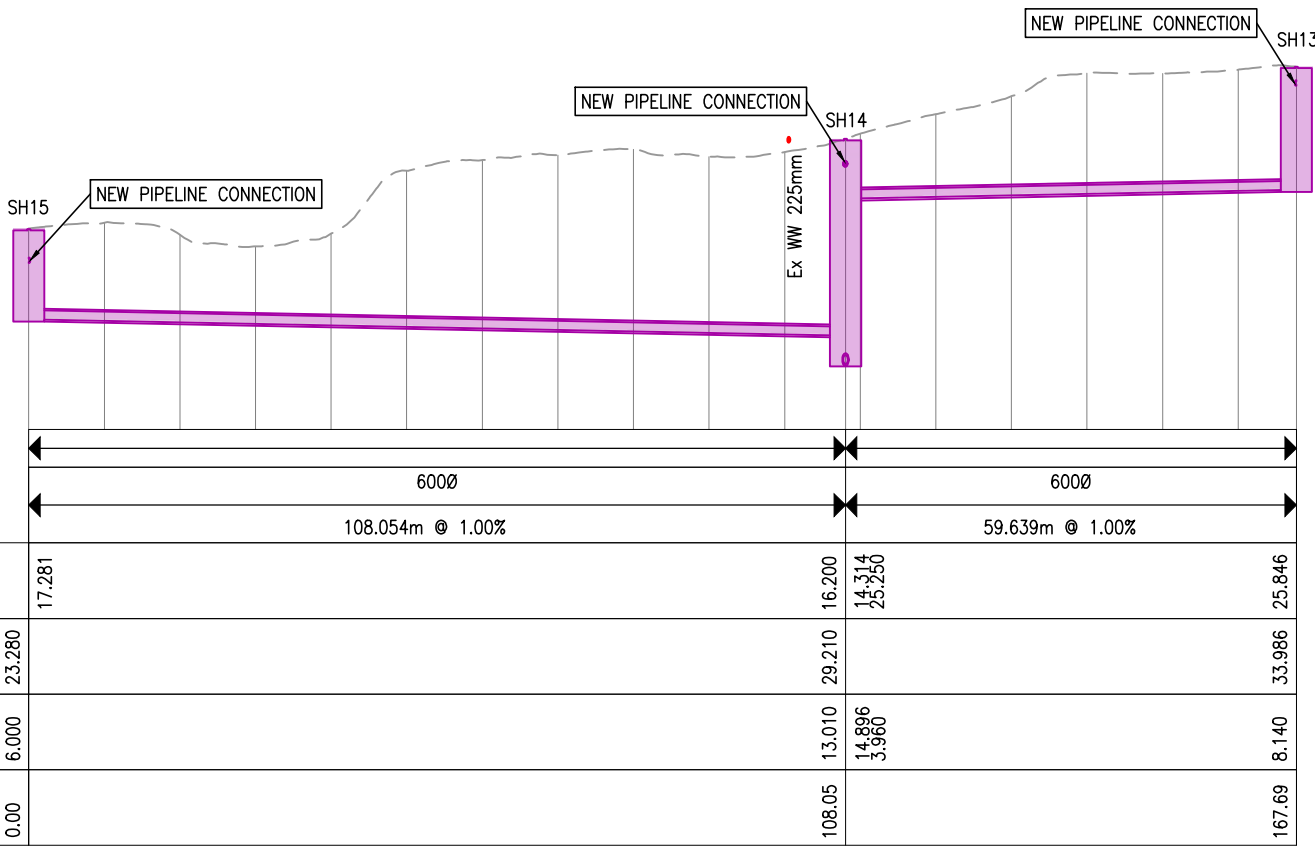
TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

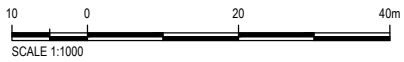
OVERBRIDGE PIERS

DATUM 10.00
PIPE HOR RADI
PIPE DATA



WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH13	ø1800mm	6m x 4m	175527.2827	5918319.4689	25.846
SH14	ø3000mm	ø6000mm	1755468.6031	5918308.8144	14.314
SH15	ø1800mm	6m x 4m	1755362.8377	5918286.6948	17.281

- NOTES:
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DESIGNED					
DES. APPROVED					
DRAWN	J.FERNANDEZ	05-25			
DWG. APPROVED					
WSL DESIGN MGMT.	J.STOKES	05-25			
WSL PROJ. LEAD	J.STOKES	05-25			

1

16.05.25

ISSUE FOR INFORMATION

JF

MC

WSL PROJ. LEAD

JF

APPD.

BY

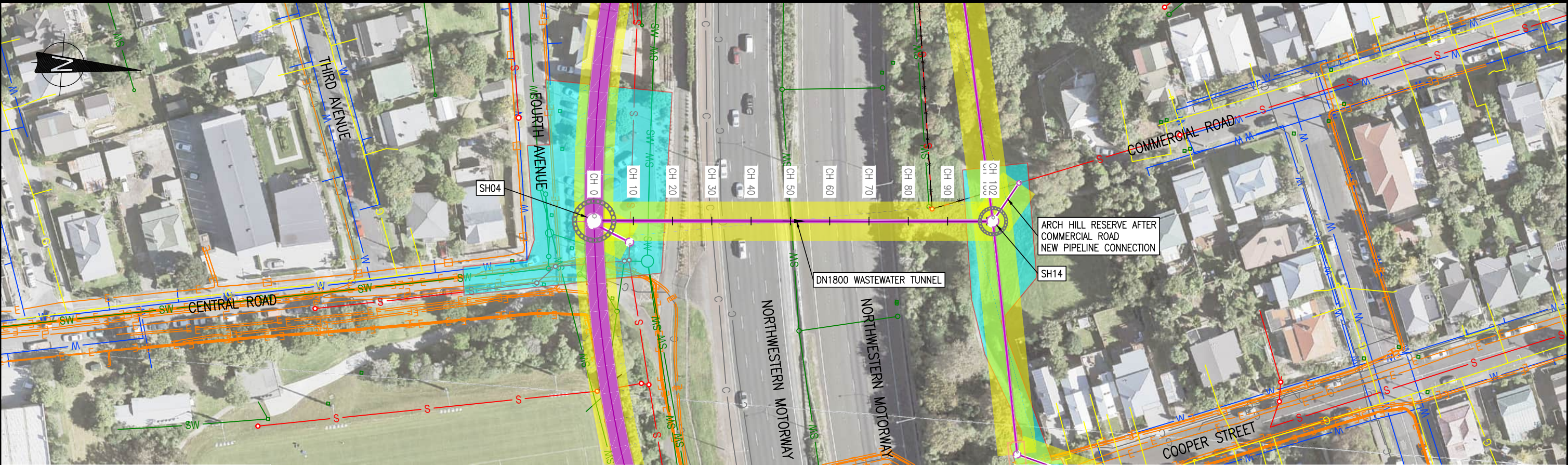
DATE

MOTIONS COLLECTOR SEWER

CIVIL

BRANCH PLAN AND LONG SECTION – SHEET 1

CAD FILE	2014581.213	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	-
1:1000			
REF No.	-		
DWG No.	2014581.213	ISSUE	1



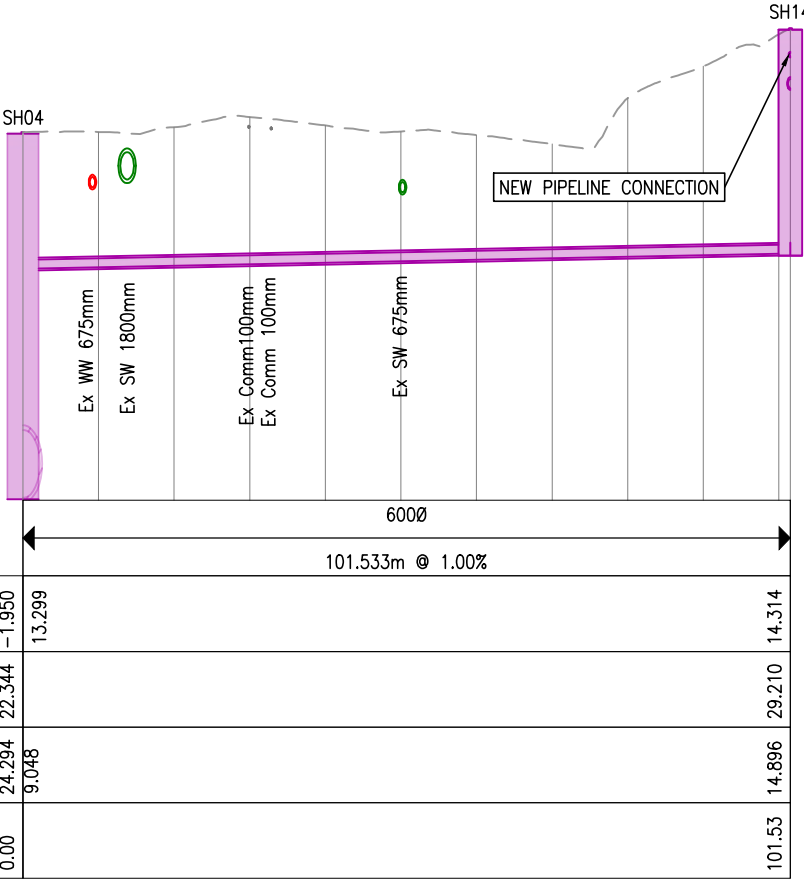
LEGEND

- C ——— EXISTING COMMS
- S ——— EXISTING WASTEWATER (WW)
- W ——— EXISTING WATER
- G ——— EXISTING GAS
- E ——— EXISTING ELECTRICITY
- SW ——— EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

DATUM -2.00
PIPE HOR RADI

PIPE DATA

INVERT LEVEL ⁵	-1.950	13.299	14.314
EXISTING SURFACE LEVEL	22.344		29.210
DEPTH TO INVERT	24.294	9.048	14.896
CHAINAGE	0.00		101.53



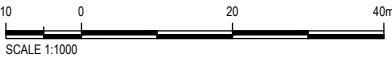
LONG SECTION (SH04 - SH14)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

WASTEWATER SHAFT SETOUT POINTS

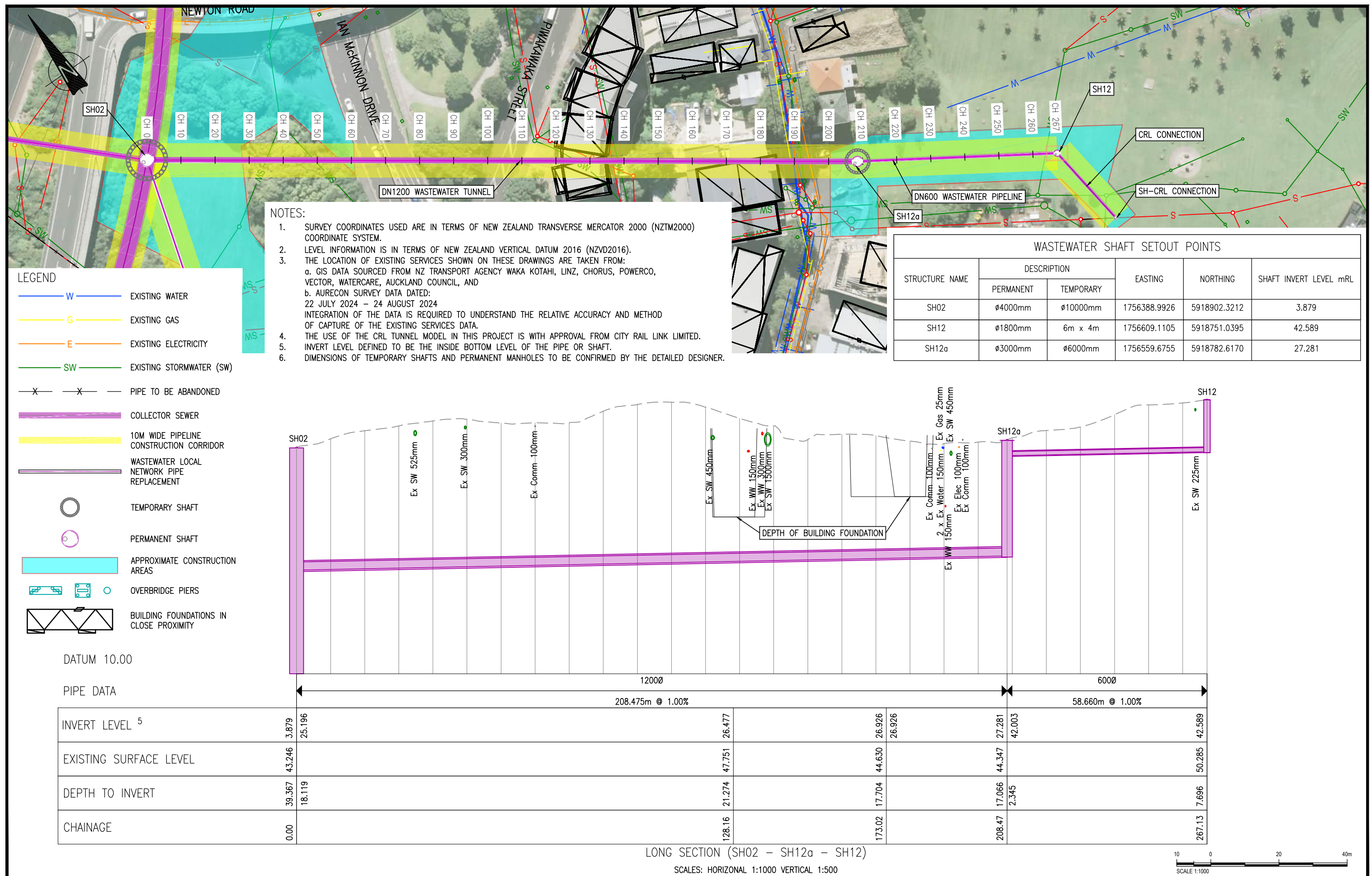
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH04	ø4000mm	ø9000mm	1755476.1896	5918207.5655	-1.950
SH14	ø3000mm	ø6000mm	1755468.6031	5918308.8144	14.314

NOTES:

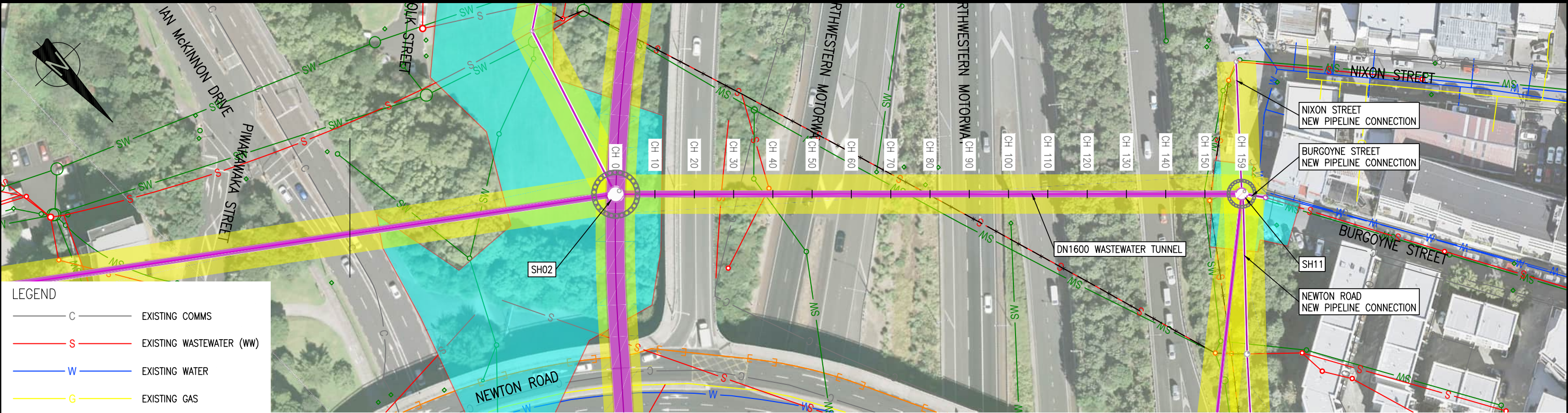
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
- LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
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- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.



						DESIGNED			 Watercare	MOTIONS COLLECTOR SEWER CIVIL BRANCH PLAN AND LONG SECTION – SHEET 2	CAD FILE	2014581.214	DATE	16-05-2025
						DES. APPROVED					ORIGINAL SCALE A3	1:1000	CONTRACT No.	—
						DRAWN	J.FERNANDEZ	05-25			REF No.	—		
						DWG. APPROVED					DWG No.	2014581.214	ISSUE	1
						WSL DESIGN MGMT.	J.STOKES	05-25			COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.			
1	16.05.25	ISSUE FOR INFORMATION		JF	MC	WSL PROJ. LEAD	J.STOKES	05-25						
ISSUE	DATE	AMENDMENT		BY	APPD.			BY	DATE					



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					DES. APPROVED					ORIGINAL SCALE A3 1:1000	CONTRACT No. -
					DRAWN	J.FERNANDEZ	05-25			REF No. -	
					DWG. APPROVED					DWG No. 2014581.215	ISSUE 1
					WSL DESIGN MGMT.	J.STOKES	05-25				
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	05-25				
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE				



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

DATUM 10.00
PIPE HOR RADI

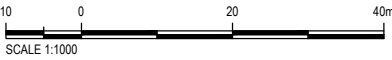
PIPE DATA

INVERT LEVEL ⁵	3.879	26.382	26.921
	43.246		51.441
EXISTING SURFACE LEVEL			
DEPTH TO INVERT	39.367	16.862	24.518
CHAINAGE	0.00		159.34

LONG SECTION (SH02 – SH11)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02	ø4000mm	ø10000mm	1756388.9926	5918902.3212	3.879
SH11	ø3000mm	ø6000mm	1756273.4725	5919012.0745	26.921

- NOTES:
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
 - LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
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b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
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 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

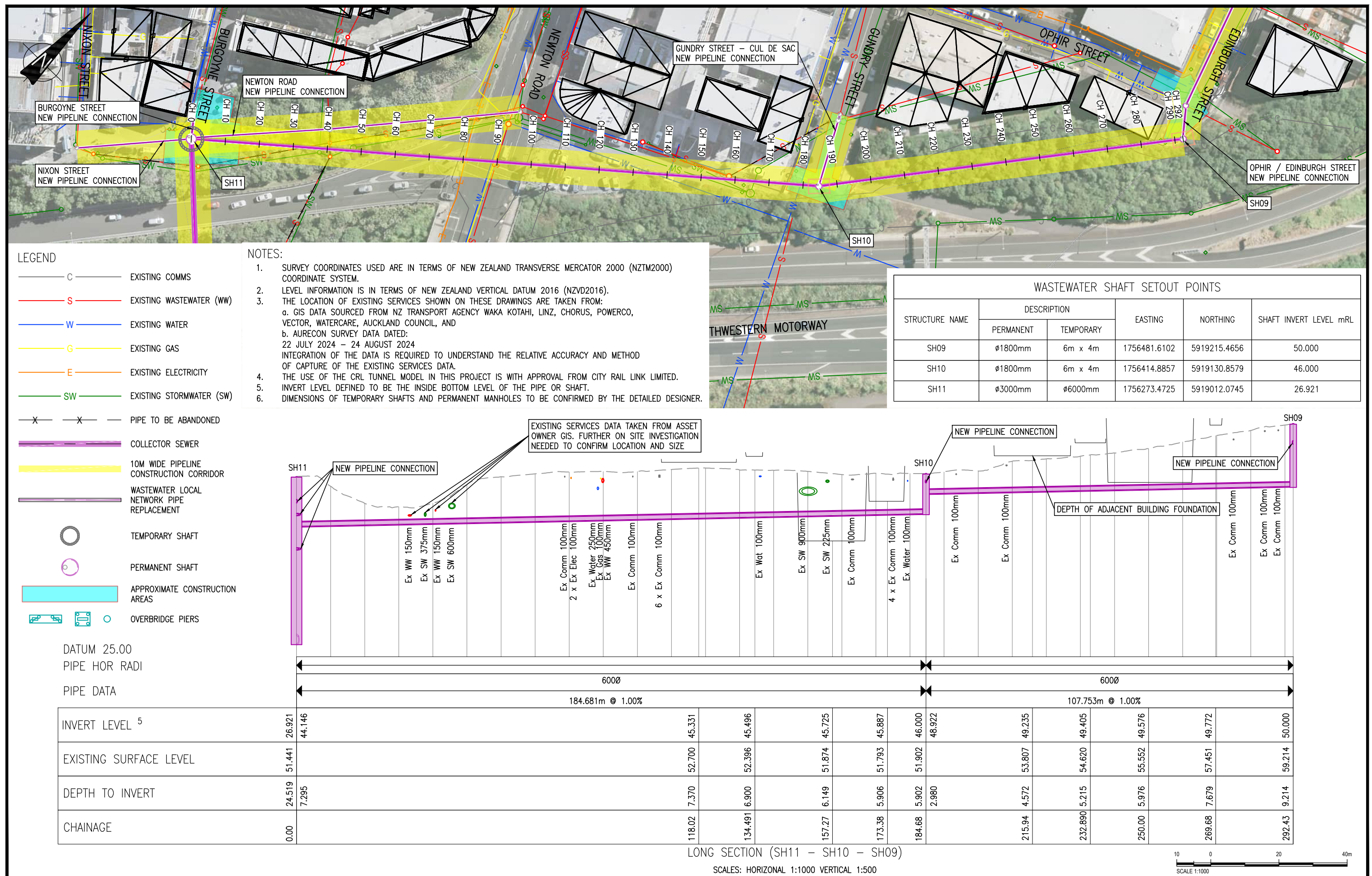


				DESIGNED		
				DES. APPROVED		
				DRAWN	J.FERNANDEZ	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

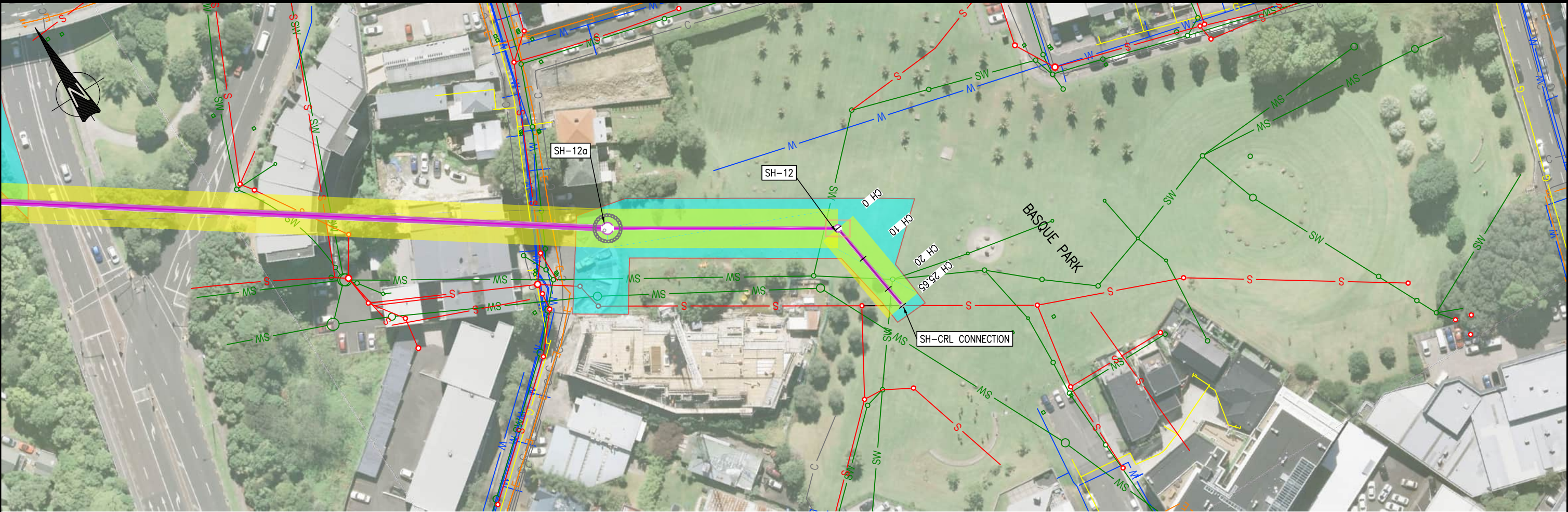
MOTIONS COLLECTOR SEWER
CIVIL
BRANCH PLAN AND LONG SECTION – SHEET 4

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CAD FILE	2014581.216	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.216	ISSUE	1



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						DES. APPROVED					ORIGINAL SCALE	A3 1:1000	CONTRACT No.	-
						DRAWN	J.FERNANDEZ	05-25			REF No. -			
						DWG. APPROVED					DWG No. 2014581.217			
						WSL DESIGN MGMT.	J.STOKES	05-25			ISSUE 1			
1	16.05.25	ISSUE FOR INFORMATION			JF	MC			05-25					
ISSUE	DATE	AMENDMENT			BY	APPD.		BY	DATE					



LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

EXISTING SERVICES DATA TAKEN FROM ASSET OWNER GIS. FURTHER ON SITE INVESTIGATION NEEDED TO CONFIRM LOCATION AND SIZE

DATUM 40.00
PIPE HOR RADI
PIPE DATA

INVERT LEVEL ⁵	42.589	48.602	49.500
EXISTING SURFACE LEVEL	50.285		53.237
DEPTH TO INVERT	7.696	1.683	3.737
CHAINAGE	0.00		25.65

LONG SECTION (SH02 - SH-CRL)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

WASTEWATER SHAFT SETOUT POINTS

STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH12	Ø1800mm	6m x 4m	1756609.1105	5918751.0395	42.589
SH-CRL	Ø1050mm	—	1756612.3715	5918725.6022	49.500

- NOTES:
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						DESIGNED			 Watercare COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	MOTIONS COLLECTOR SEWER CIVIL SH-CRL CONNECTION				CAD FILE 2014581.218		DATE 16-05-2025			
						DES. APPROVED								ORIGINAL SCALE A3 1:1000		CONTRACT No. —			
						DRAWN	J.FERNANDEZ	05-25						REF No. —					
						DWG. APPROVED								DWG No. 2014581.218				ISSUE 1	
						WSL DESIGN MGMT.	J.STOKES	05-25											
1	16.05.25	ISSUE FOR INFORMATION			JF	MC	WSL PROJ. LEAD	J.STOKES	05-25										
ISSUE	DATE	AMENDMENT			BY	APPD.			BY	DATE									

- NOTES:
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22 JULY 2024 – 24 AUGUST 2024
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LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

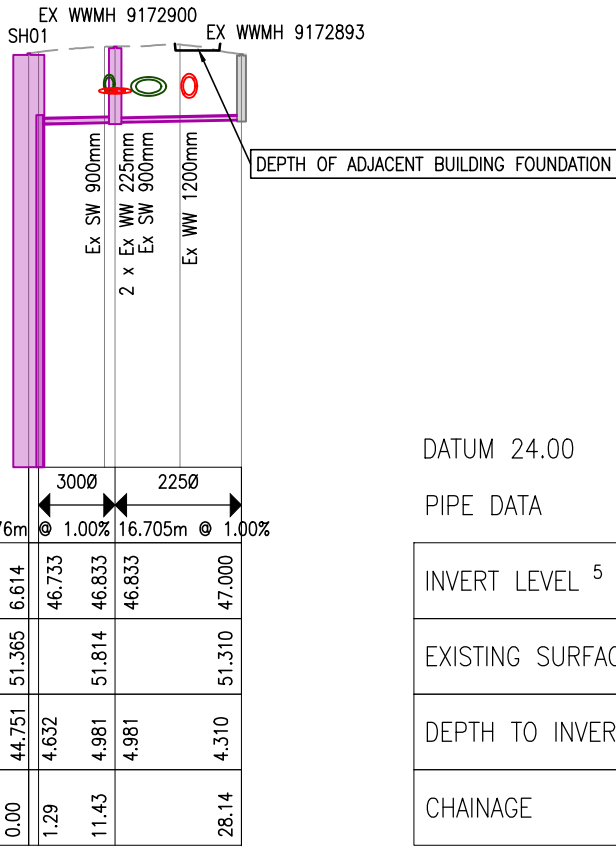
PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

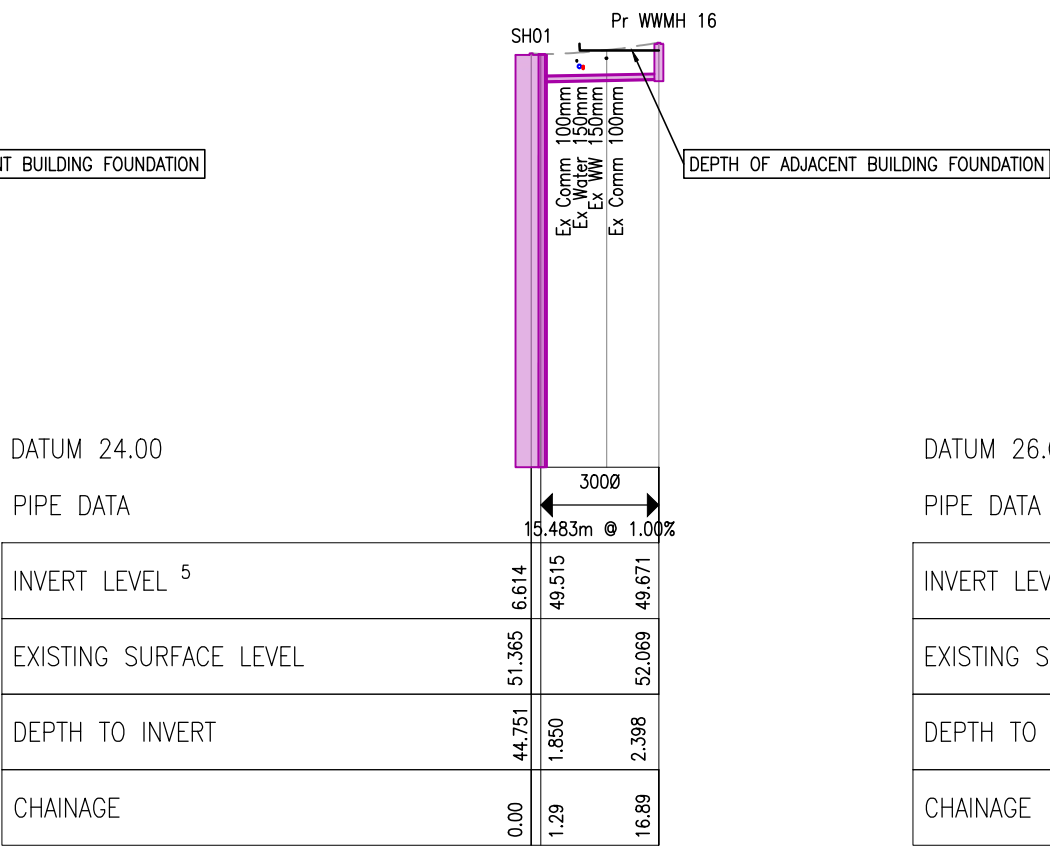
OVERBRIDGE PIERS

BUILDING FOUNDATIONS IN CLOSE PROXIMITY

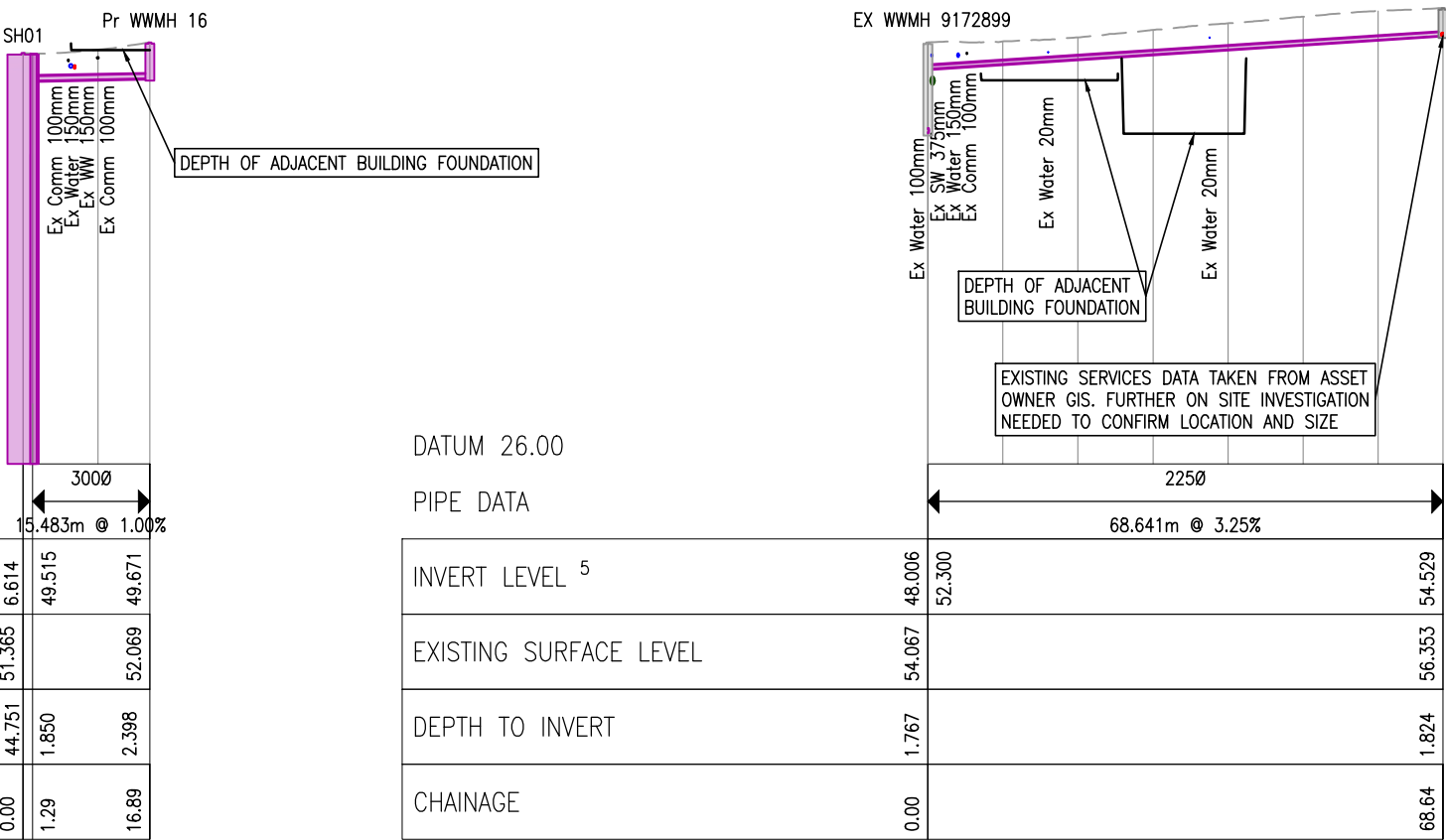
WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH01	ø4000mm	ø6000mm	1756769.4177	5919292.9737	6.614
EX WWMH 9172893	ø1050mm	–	1756746.9613	5919280.8689	47.000
EX WWMH 9172899	ø1050mm	–	1756747.4394	5919326.6992	48.006
EX WWMH 9172900	ø1500mm	–	1756763.4855	5919283.3184	46.833
Pr WWMH 16	ø1050mm	–	1756756.1211	5919303.3906	49.671
EX WWMH 8806838	ø1050mm	–	1756683.4023	5919301.9841	54.529



LONG SECTION (SH01a)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



LONG SECTION (SH01b)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



LONG SECTION (SH01c)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

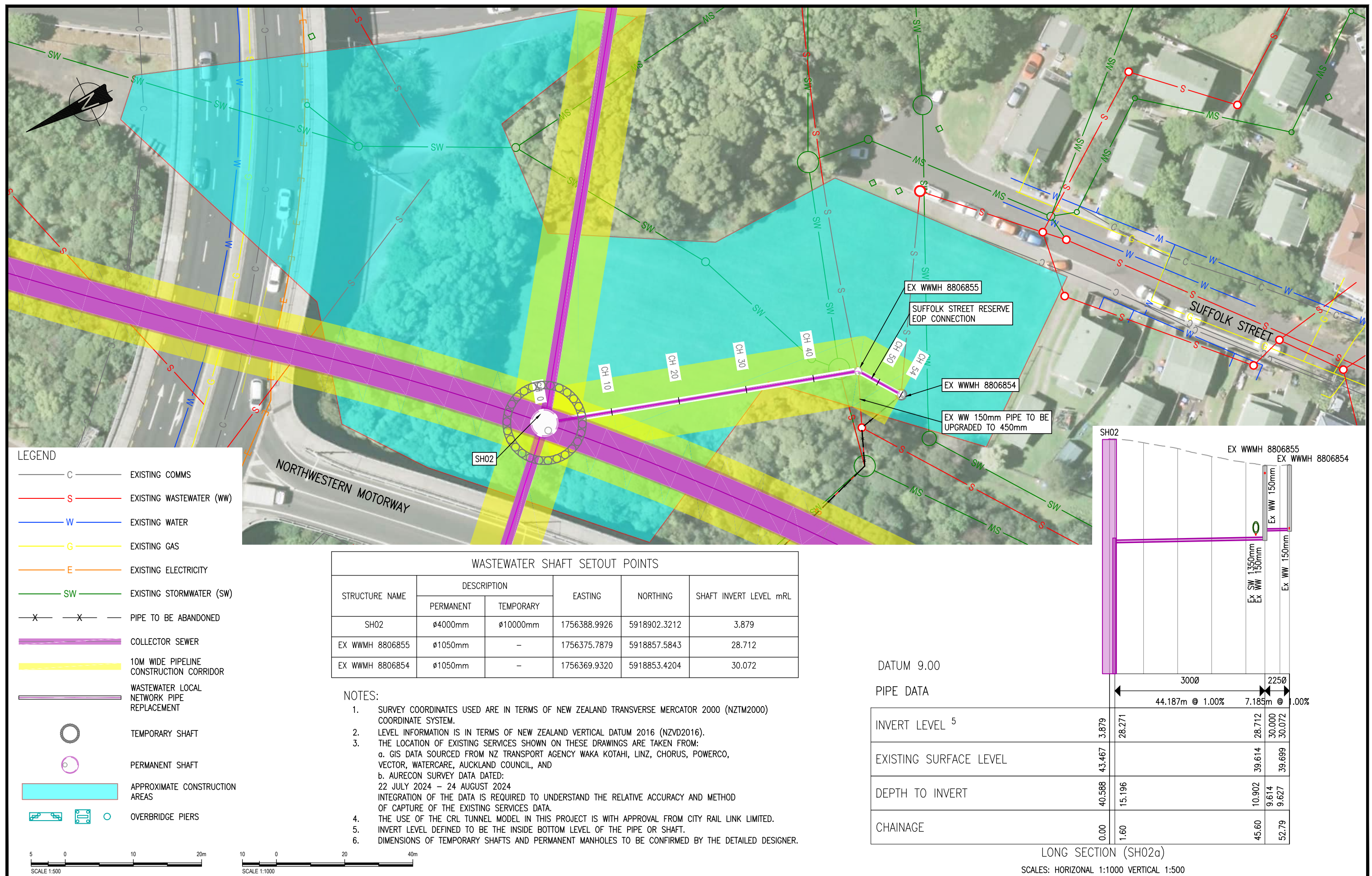
DESIGNED					
DES. APPROVED					
DRAWN	J.FERNANDEZ	05-25			
DWG. APPROVED					
WSL DESIGN MGMT.	J.STOKES	05-25			
WSL PROJ. LEAD	J.STOKES	05-25			

1	16.05.25	ISSUE FOR INFORMATION	JF	MC	
ISSUE	DATE	AMENDMENT	BY	APPD.	

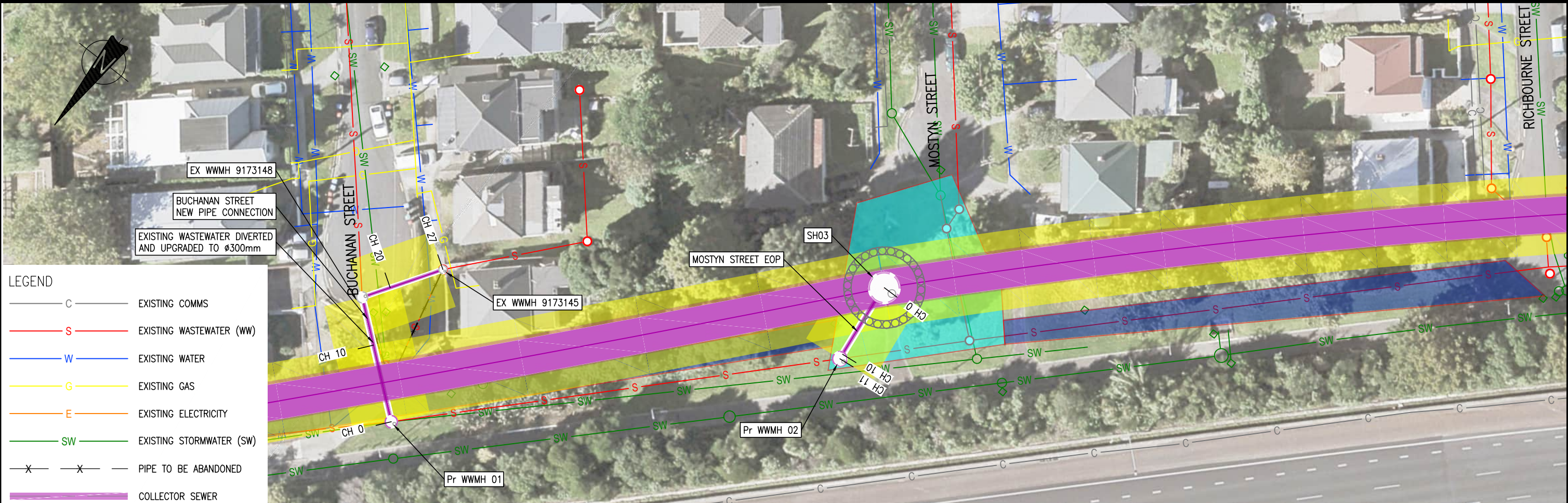
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MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS
PLAN AND LONG SECTION – SH01

CAD FILE	2014581.219	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	–
AS SHOWN			
REF No.	–		
DWG No.	2014581.219	ISSUE	1



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					DES. APPROVED					ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
					DRAWN	J.FERNANDEZ	05-25			REF No. -	
					DWG. APPROVED					DWG No. 2014581.220	ISSUE 1
					WSL DESIGN MGMT.	J.STOKES	05-25				
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	05-25				
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE				



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

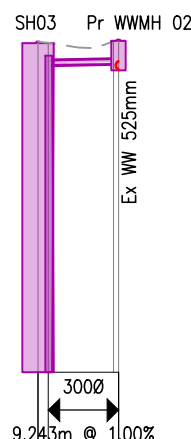
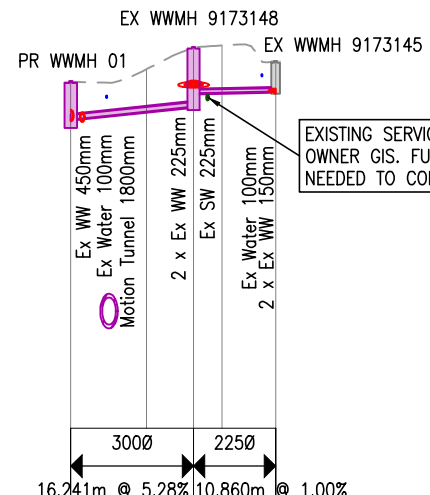
TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

ACCESS/EGRESS TRACK

OVERBRIDGE PIERS



DATUM 4.00

PIPE DATA

INVERT LEVEL ⁵	24.009	24.411	25.268	26.151	26.260	26.160
EXISTING SURFACE LEVEL	26.944		29.209		28.289	
DEPTH TO INVERT	2.935	2.533	3.941	3.058	2.009	
CHAINAGE	0.00		16.24		27.10	

DATUM 4.00

PIPE DATA

INVERT LEVEL ⁵	0.842	24.308	24.400	24.106
EXISTING SURFACE LEVEL	25.862		25.998	
DEPTH TO INVERT	25.020	1.554	1.598	
CHAINAGE	0.00	1.37	10.66	

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
EX WWMH 9173145	Ø1050mm	—	1755997.4388	5918515.1043	26.160
EX WWMH 9173148	Ø1500mm	—	1756003.3233	5918524.2318	25.268
Pr WWMH 01	Ø1500mm	—	1755990.6249	5918534.3570	24.009
Pr.WWMH 02	Ø1800mm	—	1755950.7463	5918492.7330	24.106
SH03	Ø4000mm	Ø6000mm	1755951.8984	5918482.1414	0.842

- NOTES:
1.

SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3.

THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHI, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
4.

THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5.

INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6.

DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.



				DESIGNED		
				DES. APPROVED		
				DRAWN	J.FERNANDEZ	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

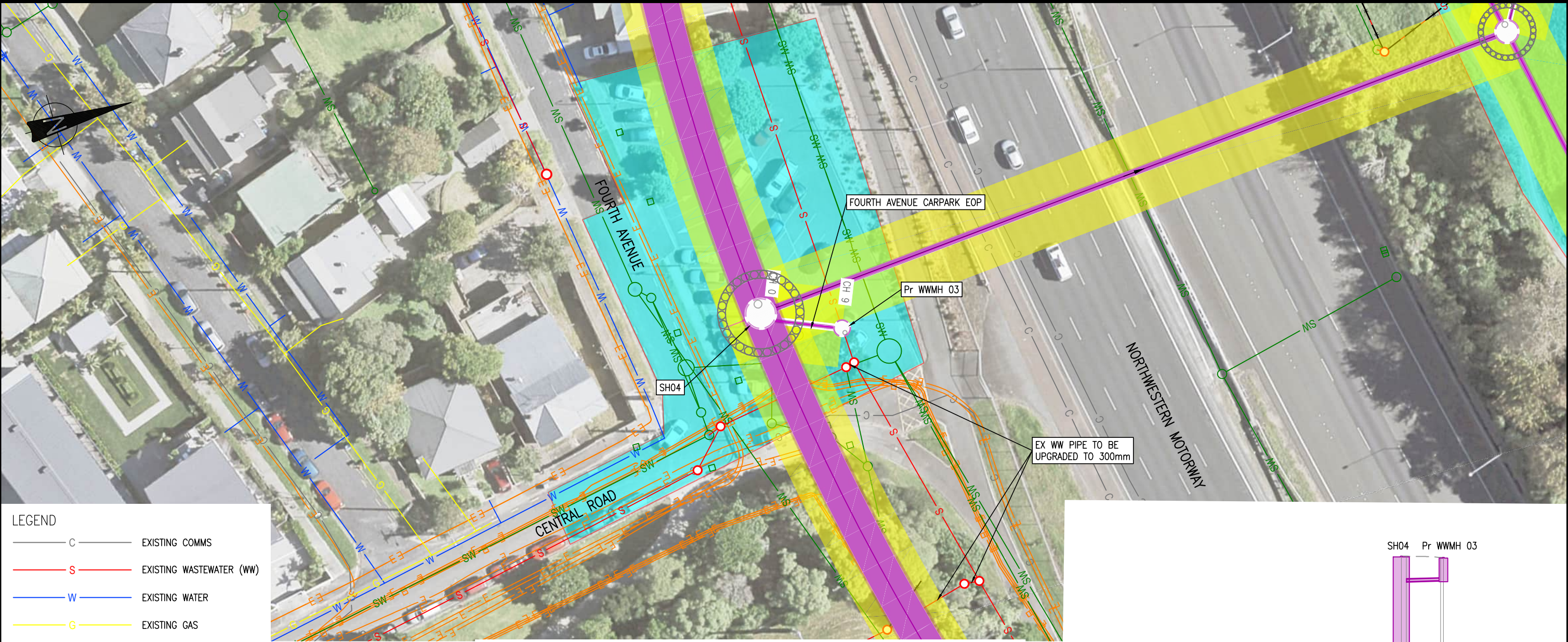
MOTIONS COLLECTOR SEWER

LOCAL NETWORK CONNECTIONS

PLAN AND LONG SECTION – SH03

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CAD FILE	2014581.221	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	—
AS SHOWN			
REF No.	—		
DWG No.	2014581.221	ISSUE	1



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

5 0 10 20m

SCALE 1:500

10 0 20 40m

SCALE 1:1000

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
Pr WWMH 03	ø2050mm	–	1755480.9129	5918216.9883	19.239
SH04	ø4000mm	ø9000mm	1755476.1896	5918207.5655	–1.950

- NOTES:
1.

SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3.

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a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHI, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
4.

THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5.

INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6.

DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

DATUM –5.00

PIPE DATA

SH04

Pr WWMH 03

3000

9.398m @ 1.44%

INVERT LEVEL ⁵	–1.950	19.104	19.239
EXISTING SURFACE LEVEL	22.344	22.183	22.183
DEPTH TO INVERT	24.294	3.258	2.944
CHAINAGE	0.00		10.73

LONG SECTION (SH04a)

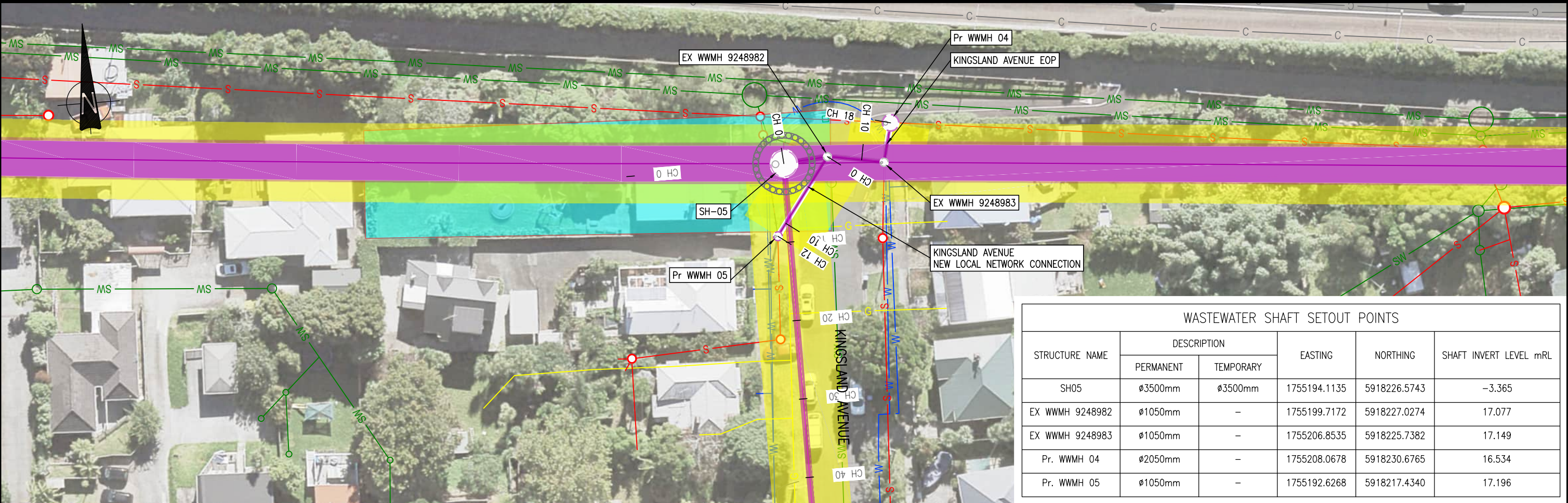
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

					DESIGNED			
					DES. APPROVED			
					DRAWN	J.FERNANDEZ	05-25	
					DWG. APPROVED			
					WSL DESIGN MGMT.	J.STOKES	05-25	
					WSL PROJ. LEAD	J.STOKES	05-25	
1	16.05.25	ISSUE FOR INFORMATION	JF	MC				
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE		

Watercare

MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS
PLAN AND LONG SECTION – SH04

CAD FILE	2014581.222	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	–
AS SHOWN			
REF No.	–		
DWG No.	2014581.222	ISSUE	1



WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH05	ø3500mm	ø3500mm	1755194.1135	5918226.5743	-3.365
EX WWMH 9248982	ø1050mm	—	1755199.7172	5918227.0274	17.077
EX WWMH 9248983	ø1050mm	—	1755206.8535	5918225.7382	17.149
Pr. WWMH 04	ø2050mm	—	1755208.0678	5918230.6765	16.534
Pr. WWMH 05	ø1050mm	—	1755192.6268	5918217.4340	17.196

LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

- NOTES:**
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
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INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
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 - INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

DATUM -10.00

PIPE DATA

	5.622m @ 1.00%	7.252m @ 1.00%	5.085m @ 1.00%	
INVERT LEVEL ⁵	-3.365	17.020	17.077	17.149
EXISTING SURFACE LEVEL	19.033	19.234	19.105	19.173
DEPTH TO INVERT	22.398	2.013	2.157	1.956
CHAINAGE	0.00	5.62	12.87	17.96

LONG SECTION (SH05a)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM -10.00

PIPE DATA

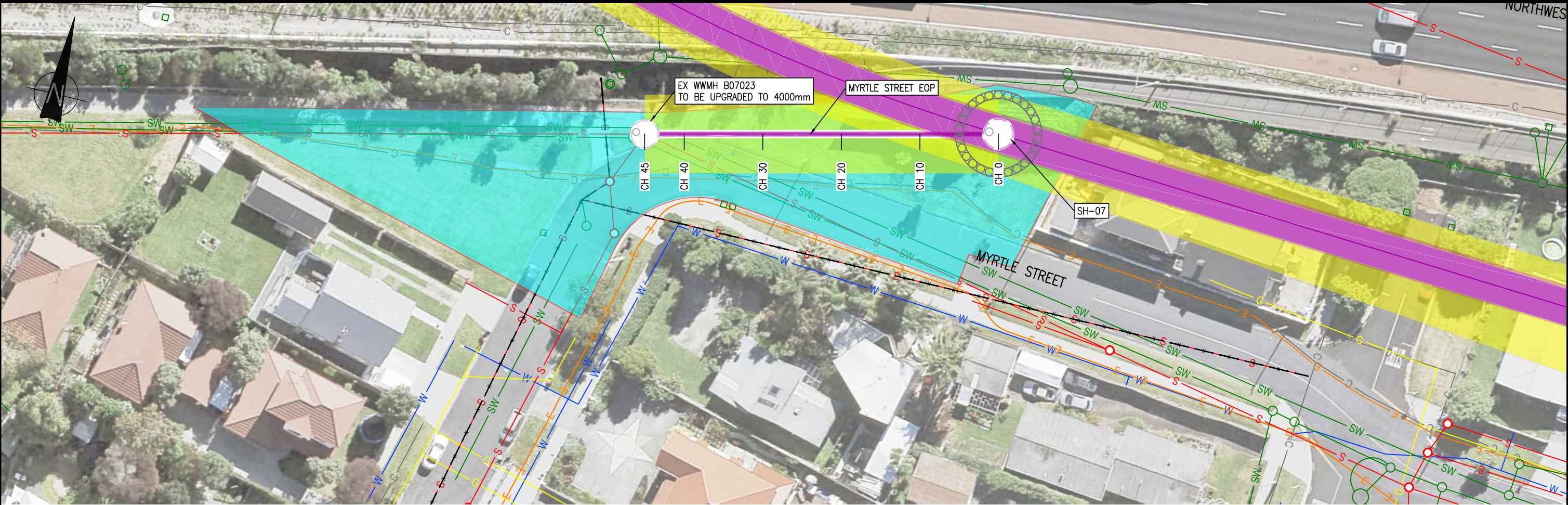
	11.929m @ 1.00%	
INVERT LEVEL ⁵	17.077	17.196
EXISTING SURFACE LEVEL	19.234	19.365
DEPTH TO INVERT	2.157	2.169
CHAINAGE	5.62	11.93

LONG SECTION (SH05b)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



			DESIGNED				MOTIONS COLLECTOR SEWER LOCAL NETWORK CONNECTIONS PLAN AND LONG SECTION – SH05	CAD FILE 2014581.223	DATE 25-07-2025
			DES. APPROVED					ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. —
			DRAWN	J.FERNANDEZ	07-25			REF No. —	
			DWG. APPROVED					DWG No. 2014581.223	ISSUE 2
2	25.07.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25		
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25		
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE		

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- LEGEND
- C — EXISTING COMMS
 - S — EXISTING WASTEWATER (WW)
 - W — EXISTING WATER
 - G — EXISTING GAS
 - E — EXISTING ELECTRICITY
 - SW — EXISTING STORMWATER (SW)
 - X — X — PIPE TO BE ABANDONED
 - COLLECTOR SEWER
 - 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
 - WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
 - TEMPORARY SHAFT
 - PERMANENT SHAFT
 - APPROXIMATE CONSTRUCTION AREAS
 - OVERBRIDGE PIERS

DATUM -15.00

PIPE DATA

INVERT LEVEL ⁵	-7.632	11.095	11.545
EXISTING SURFACE LEVEL	12.586		12.501
DEPTH TO INVERT	20.218	1.491	0.956
CHAINAGE	0.00		45.03

LONG SECTION (SH07a)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

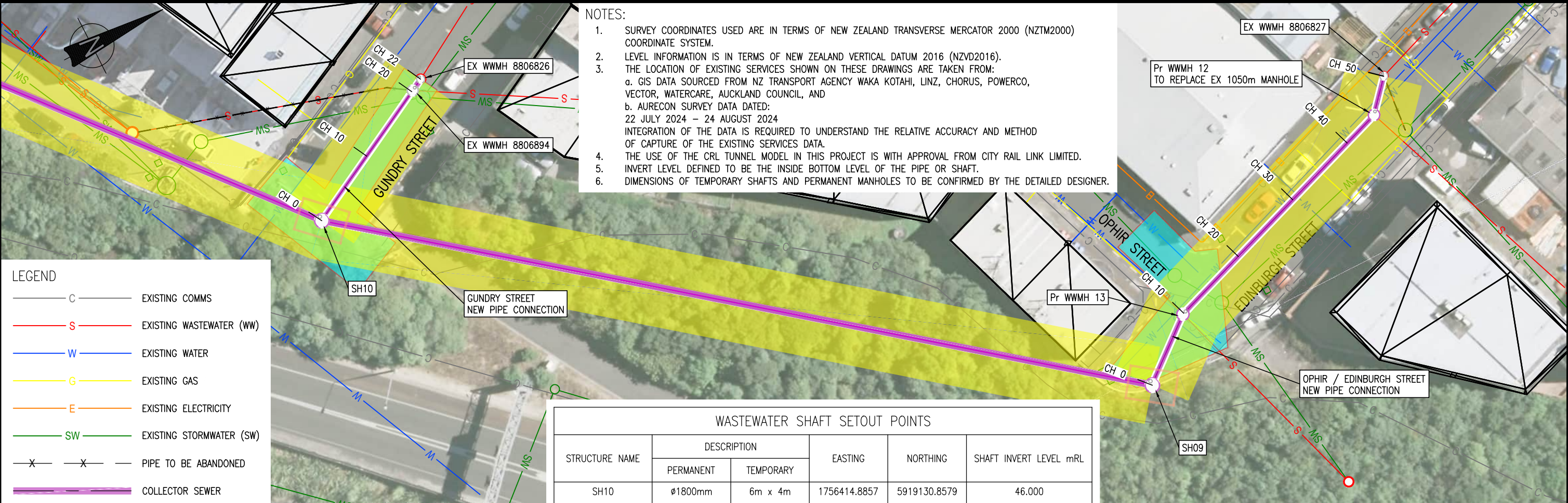
- NOTES:
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
 - LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
 - THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHI, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 - 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
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 - INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH07a	ø3500mm	ø3500mm	1754140.8480	5918437.1513	-8.763
EX WWMH 9248844	ø1500mm	-	1754321.0830	5918433.1282	11.030
Pr. WWMH 09	ø1800mm	-	1754313.8992	5918434.5641	10.683
Pr. WWMH 11	ø3000mm	-	1754320.6458	5918426.2978	9.970
SH07	ø4000mm	ø9000mm	1754345.5581	5918310.8469	-7.632
EX WWMH B07023	ø4000mm	-	1754301.7811	5918300.2810	11.022



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						DES. APPROVED								
						DRAWN	J.FERNANDEZ	05-25						
						DWG. APPROVED								
						WSL DESIGN MGMT.	J.STOKES	05-25						
						WSL PROJ. LEAD	J.STOKES	05-25						
1	16.05.25	ISSUE FOR INFORMATION			JF	MC								
ISSUE	DATE	AMENDMENT			BY	APPD.			BY	DATE				

CAD FILE		2014581.225	DATE		16-05-2025
ORIGINAL SCALE		A3 AS SHOWN	CONTRACT No.		-
REF No.		-			
DWG No.		2014581.225	ISSUE		1

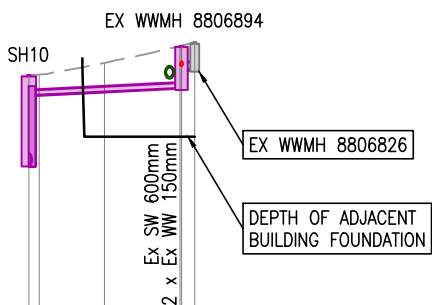


- NOTES:
1. SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
 2. LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
 3. THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
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 4. THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
 5. INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
 6. DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS
- BUILDING FOUNDATIONS IN CLOSE PROXIMITY

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH10	ø1800mm	6m x 4m	1756414.8857	5919130.8579	46.000
EX WWMH 8806894	ø1500mm	—	1756405.4128	5919148.6902	51.067
Pr. WWMH 12	ø1400mm	—	1756463.8559	5919256.2199	56.700
Pr. WWMH 13	ø1500mm	—	1756475.3478	5919223.0331	56.353
EX WWMH 8806826	ø1050mm	—	1756404.5889	5919150.2489	52.356
EX WWMH 8806827	ø1050mm	—	1756460.0260	5919259.5700	60.369
SH09	ø1800mm	6m x 4m	1756481.6102	5919215.4656	50.000

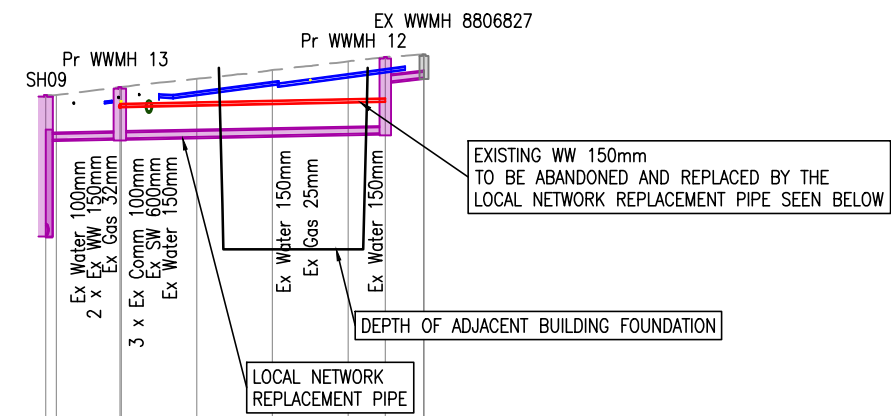


DATUM 30.00

PIPE DATA

	19.785m	3000	4500	
		2.50%	1.763m	11.88%
INVERT LEVEL ⁵	46.000	50.572	51.067	52.356
EXISTING SURFACE LEVEL	51.902		53.838	54.062
DEPTH TO INVERT	5.902	1.330	2.771	1.691
CHAINAGE	0.00	1.38	20.19	

LONG SECTION (SH10)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

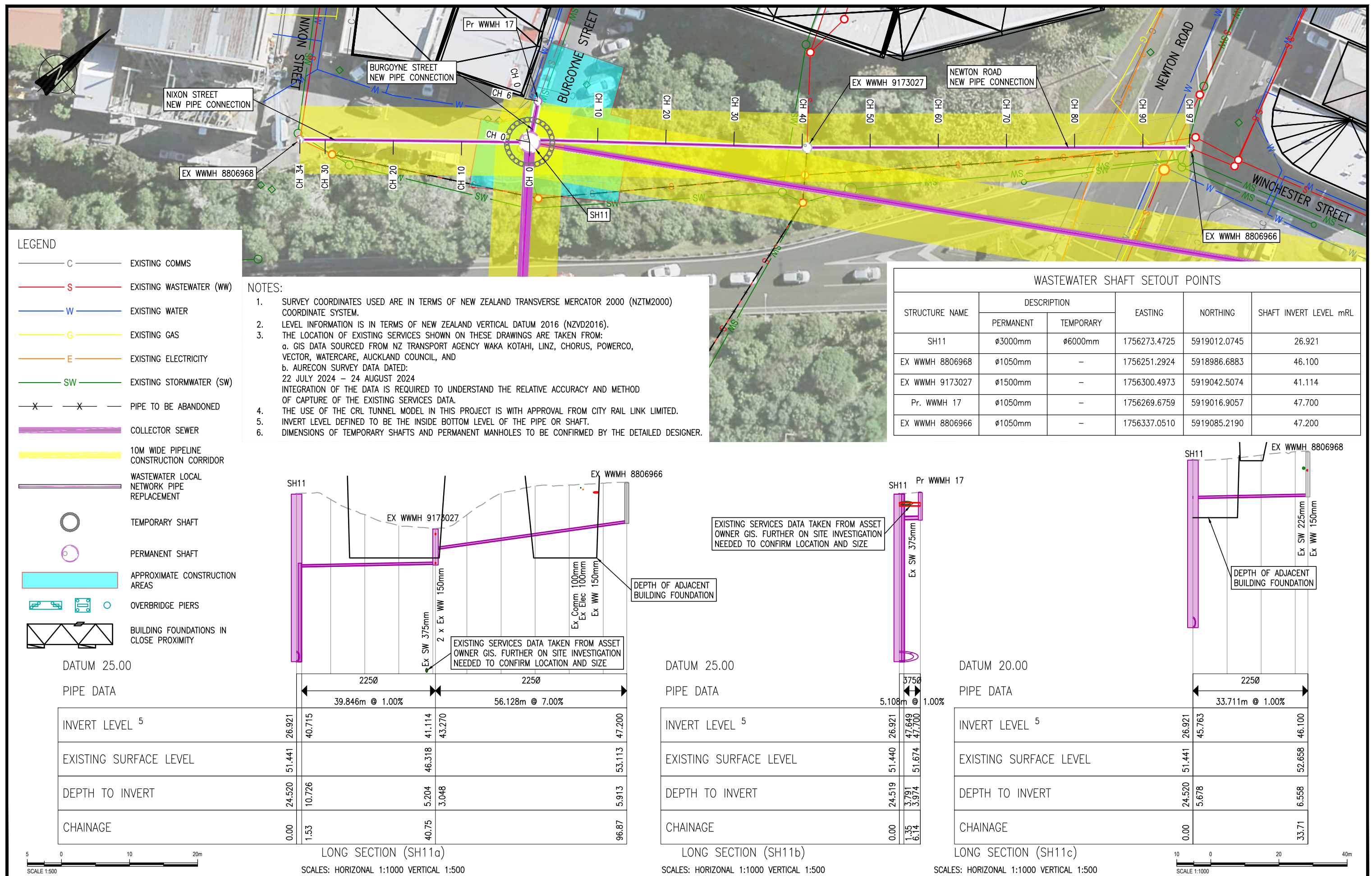


DATUM 35.00

PIPE DATA

	9.374	3750	3750	3750	
		1.00%	35.120m	1.00%	5.088m
INVERT LEVEL ⁵	50.000	56.260	56.353	56.349	56.700
EXISTING SURFACE LEVEL	59.214	59.735		61.723	60.979
DEPTH TO INVERT	9.214	2.954	3.382	5.023	1.644
CHAINAGE	0.00	1.42	9.82	44.94	50.03

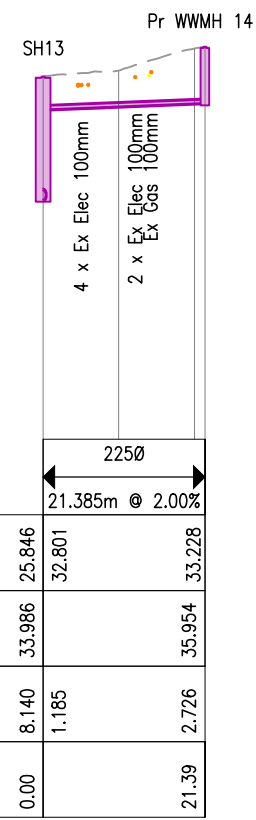
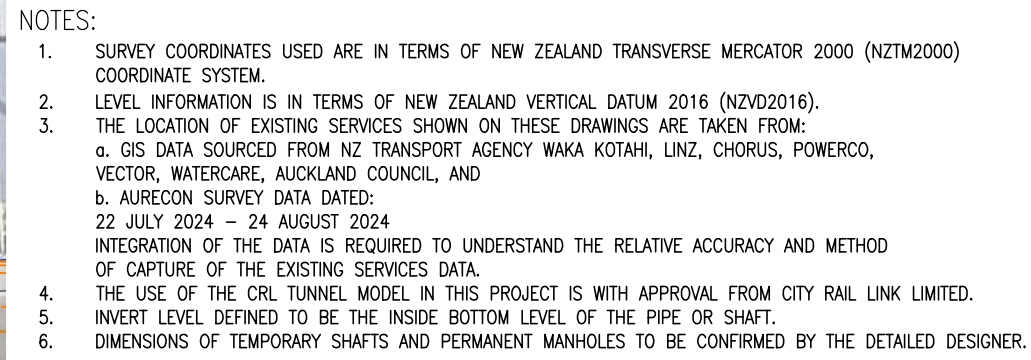
LONG SECTION (SH09)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



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						DRAWN	J.FERNANDEZ	05-25	
						DWG. APPROVED			
						WSL DESIGN MGMT.	J.STOKES	05-25	
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		WSL PROJ. LEAD	J.STOKES	05-25	
ISSUE	DATE	AMENDMENT	BY	APPD.			BY	DATE	

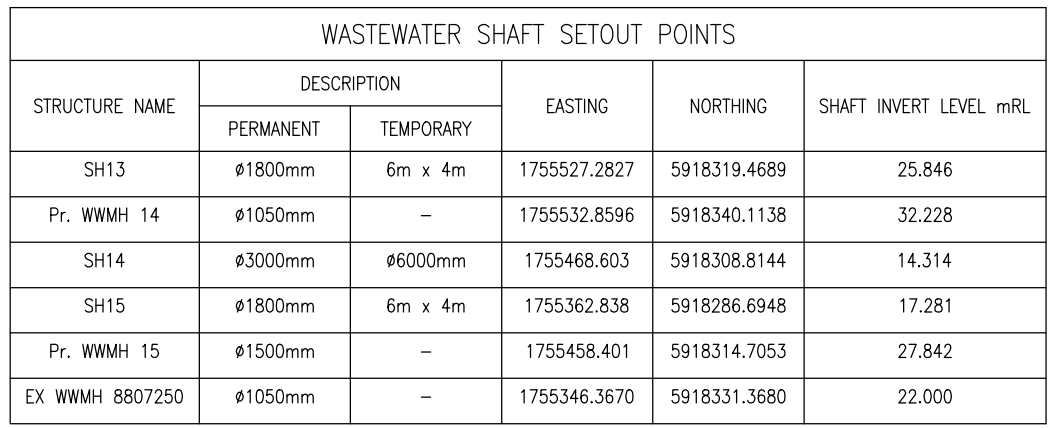
MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS
PLAN AND LONG SECTION - SH11

CAD FILE	2014581.228	DATE	16-05-2025
ORIGINAL SCALE A3 AS SHOWN		CONTRACT No.	—
REF No. —			
DWG No.	2014581.228	ISSUE 1	

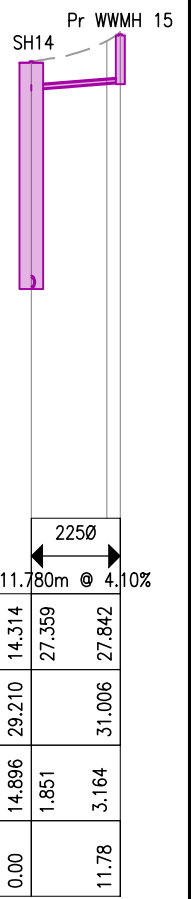


DATUM 10.00			
PIPE DATA		225Ø	
		21.385m @ 2.00%	
INVERT LEVEL ⁵	25.846	32.801	33.228
EXISTING SURFACE LEVEL	33.986		35.954
DEPTH TO INVERT	8.140	1.185	2.726
CHAINAGE	0.00		21.39

LONG SECTION (SH13)
 SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH13	ø1800mm	6m x 4m	1755527.2827	5918319.4689	25.846
Pr. WWMH 14	ø1050mm	—	1755532.8596	5918340.1138	32.228
SH14	ø3000mm	ø6000mm	1755468.603	5918308.8144	14.314
SH15	ø1800mm	6m x 4m	1755362.838	5918286.6948	17.281
Pr. WWMH 15	ø1500mm	—	1755458.401	5918314.7053	27.842
EX WWMH 8807250	ø1050mm	—	1755346.3670	5918331.3680	22.000



DATUM - 1.00		
PIPE DATA		
INVERT LEVEL ⁵	14.314	27.842
EXISTING SURFACE LEVEL	29.210	31.006
DEPTH TO INVERT	14.896	3.164
CHAINAGE	0.00	11.78

LONG SECTION (SH14)

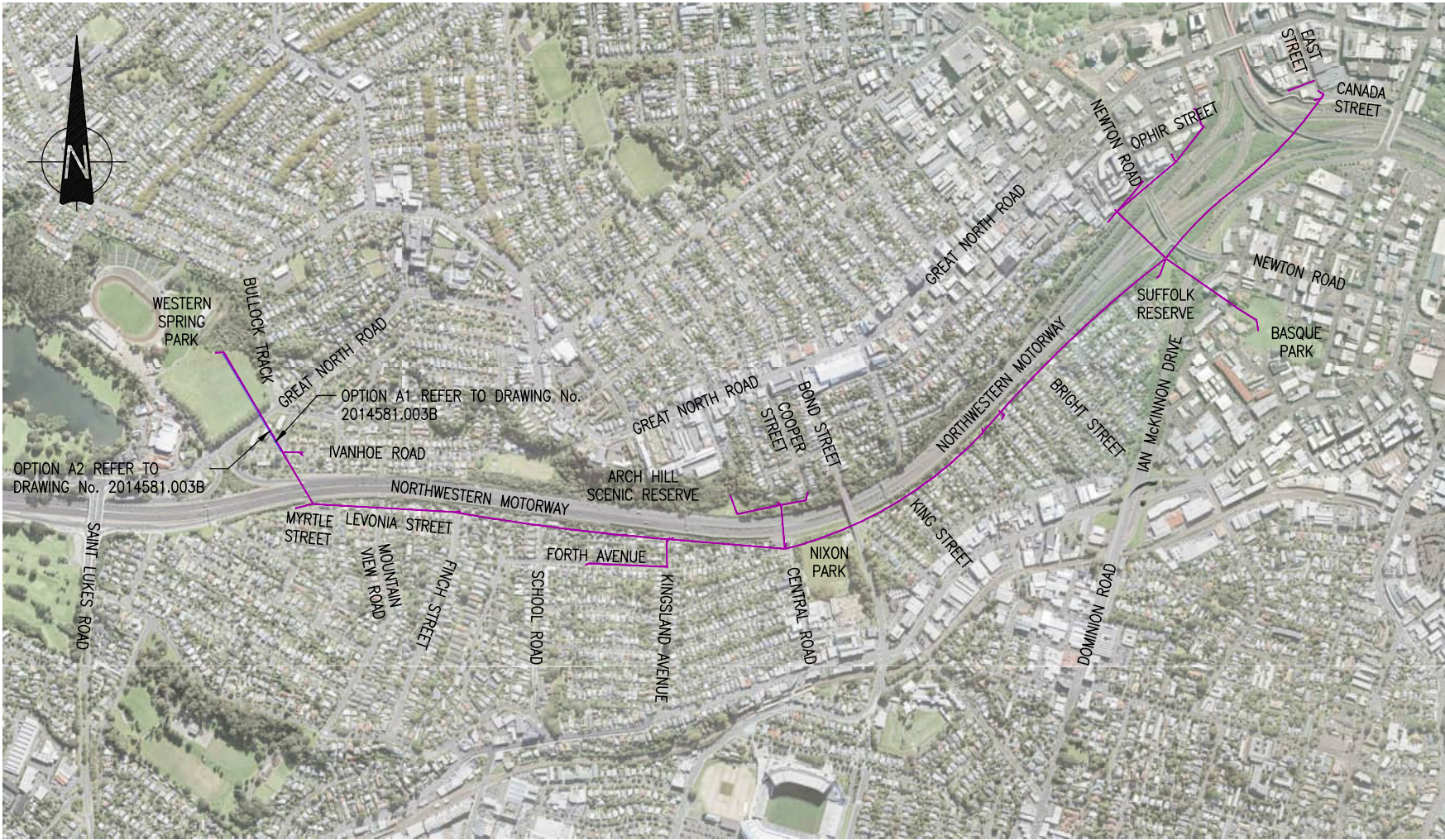
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

						DESIGNED			 Watercare	MOTIONS COLLECTOR SEWER LOCAL NETWORK CONNECTIONS PLAN AND LONG SECTION – SH13 SH14 SH15	CAD FILE	2014581.229	DATE	16-05-2025	
						DES. APPROVED					ORIGINAL SCALE	A3	CONTRACT No.		
						DRAWN	J.FERNANDEZ	05-25			AS SHOWN				
						DWG. APPROVED					REF No.				
						WSL DESIGN MGMT.	J.STOKES	05-25							
1	16.05.25	ISSUE FOR INFORMATION		JF	MC	WSL PROJ. LEAD	J.STOKES	05-25	COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.						
ISSUE	DATE	AMENDMENT		BY	APPD.			BY	DATE			DWG No.	2014581.229	ISSUE	1

MOTIONS COLLECTOR SEWER DRAWINGS FOR RESOURCE CONSENT

DRAWING LIST	
DRAWING No.	DRAWING TITLE
2014581.190	MOTIONS COLLECTOR SEWER – CIVIL – LOCALITY PLAN AND DRAWING INDEX (DN2400 PIPE JACKING OPTION)
2014581.100	MOTIONS COLLECTOR SEWER – CIVIL – OVERALL PLAN (DN2400 PIPE JACKING OPTION)
2014581.101	MOTIONS COLLECTOR SEWER – CIVIL – OVERALL LONG SECTION (DN2400 PIPE JACKING OPTION A1 + B1) – SHEET 1
2014581.102	MOTIONS COLLECTOR SEWER – CIVIL – OVERALL LONG SECTION (DN2400 PIPE JACKING OPTION A2 + B2) – SHEET 2
2014581.103	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION A1) – SHEET 1
2014581.104	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION A2) – SHEET 2
2014581.105	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION A1) – SHEET 3
2014581.106	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION A2) – SHEET 4
2014581.107	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION) – SHEET 5
2014581.108	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION) – SHEET 6
2014581.109	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION) – SHEET 7
2014581.110	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION B1 & B2) – SHEET 8
2014581.112	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING) – SHEET 10
2014581.114	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION B1 & B2) – SHEET 12
2014581.116	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN3200 PIPE JACKING) – SHEET 14
2014581.118	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION B1 & B2) – SHEET 16
2014581.120	MOTIONS COLLECTOR SEWER – CIVIL – PLAN (DN2400 PIPE JACKING OPTION B1 & B2) – SHEET 18
2014581.122	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 1
2014581.123	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 2
2014581.124	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION (DN2400 PIPE JACKING OPTION B1) – SHEET 3
2014581.125	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION (DN2400 PIPE JACKING OPTION B2) – SHEET 4
2014581.126	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION (DN2400 PIPE JACKING OPTION B1) – SHEET 5
2014581.127	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION (DN2400 PIPE JACKING OPTION B2) – SHEET 6
2014581.128	MOTIONS COLLECTOR SEWER – CIVIL – BRANCH PLAN AND LONG SECTION – SHEET 7
2014581.129	MOTIONS COLLECTOR SEWER – CIVIL – SH–CRL CONNECTION – PLAN AND LONG SECTION
2014581.130	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH01 B1
2014581.131	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH01 B2
2014581.132	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH02 B1
2014581.133	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH02 B2
2014581.134	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH03 B1
2014581.135	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH03 B2
2014581.136	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH04
2014581.137	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH05

2014581.138	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH06
2014581.139	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH07 SH07a
2014581.140	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH09 SH10
2014581.141	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH11
2014581.142	MOTIONS COLLECTOR SEWER – LOCAL NETWORK CONNECTIONS – PLAN AND LONG SECTION – SH13 SH14 SH15



					DESIGNED		 Watercare	MOTIONS COLLECTOR SEWER CIVIL LOCALITY PLAN AND DRAWING INDEX (DN2400 PIPE JACKING OPTION)	CAD FILE	2014581.190	DATE	29-07-2025
					DES. APPROVED				ORIGINAL SCALE	A3	CONTRACT No.	
					DRAWN	C.LACAMBRA			07-25	N.T.S.	—	
					DWG. APPROVED					REF No.	—	
2	29.07.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES			07-25	DWG No.	2014581.190	ISSUE
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25	COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.				
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE					



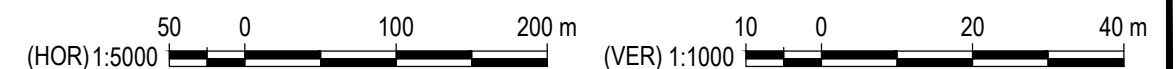
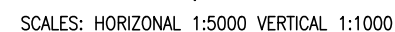
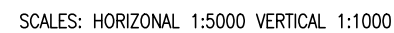
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4	25.07.25	ISSUE FOR INFORMATION	JF	MC	DRAWN	C.LACAMBRA	07-25
3	16.05.25	ISSUE FOR INFORMATION	JF	MC	DWG. APPROVED		
2	14.05.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25
1	25.04.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE


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MOTIONS COLLECTOR SEWER
CIVIL
OVERALL PLAN (DN2400 PIPE JACKING OPTION)

CAD FILE	2014581.100	DATE	25-07-2025
ORIGINAL SCALE	A3 1:7500	CONTRACT No.	-
REF No.	-		
DWG No.	2014581.100	ISSUE	4

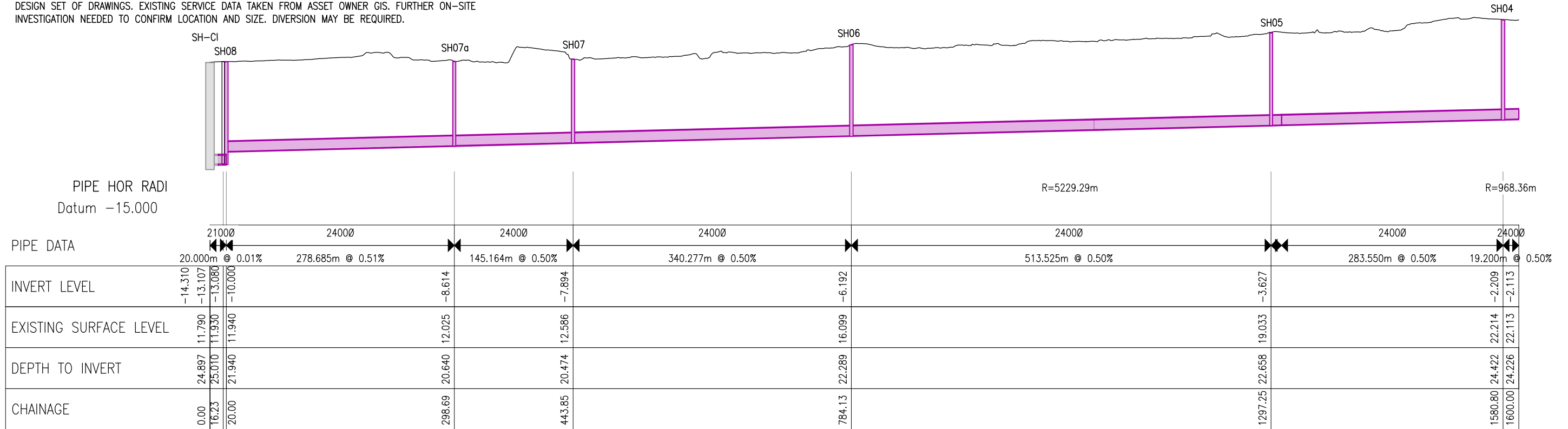
1. THE EXISTING PIPELINES ARE NOT PRESENTED IN THIS DRAWING FOR CLARITY. DETAILS REFER TO CONCEPT DESIGN SET OF DRAWINGS. EXISTING SERVICE DATA TAKEN FROM ASSET OWNER GIS. FURTHER ON-SITE INVESTIGATION NEEDED TO CONFIRM LOCATION AND SIZE. DIVERSION MAY BE REQUIRED.



					DESIGNED			 Watercare COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	MOTIONS COLLECTOR SEWER CIVIL OVERALL LONG SECTIONS (DN2400 PIPE JACKING OPTION A1)	CAD FILE 2014581.101	DATE 25-07-2025
4	25.07.25	ISSUE FOR INFORMATION	JF	MC	DRAWN	C.LACAMBRA	07-25			ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. —
3	16.05.25	ISSUE FOR INFORMATION	JF	MC	DWG. APPROVED					REF No. —	
2	14.05.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25			DWG No.	ISSUE
1	25.04.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25			2014581.101	4
ISSUE	DATE	AMENDMENT	BY	APPD.			BY	DATE			

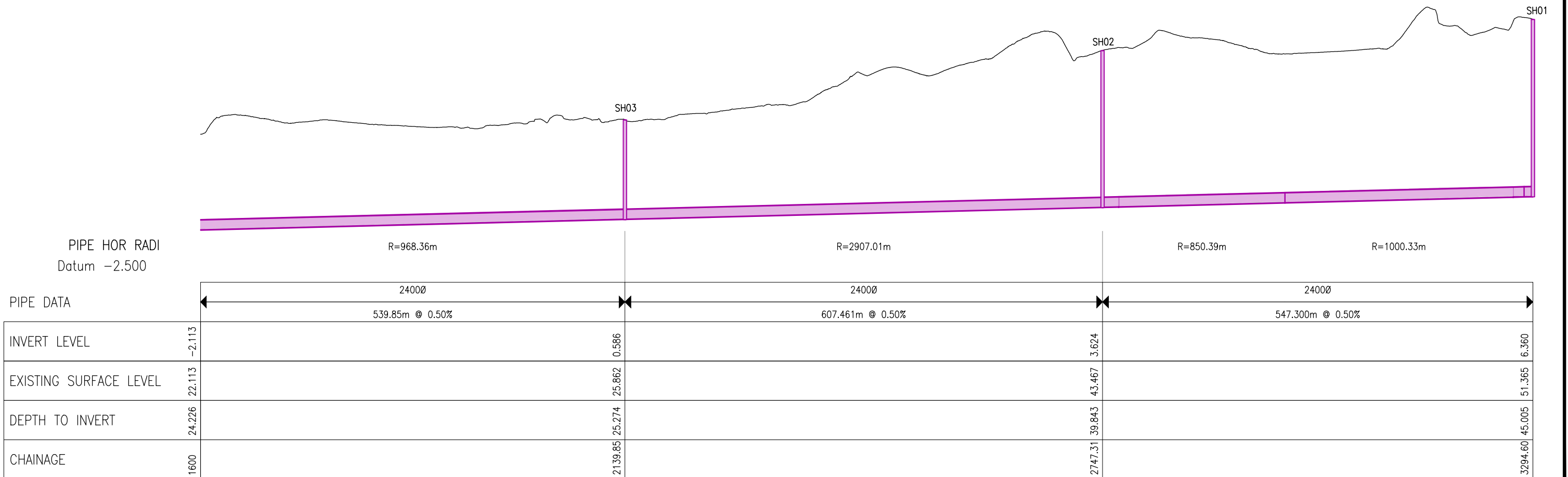
NOTES:

1. THE EXISTING PIPELINES ARE NOT PRESENTED IN THIS DRAWING FOR CLARITY. DETAILS REFER TO CONCEPT DESIGN SET OF DRAWINGS. EXISTING SERVICE DATA TAKEN FROM ASSET OWNER GIS. FURTHER ON-SITE INVESTIGATION NEEDED TO CONFIRM LOCATION AND SIZE. DIVERSION MAY BE REQUIRED.



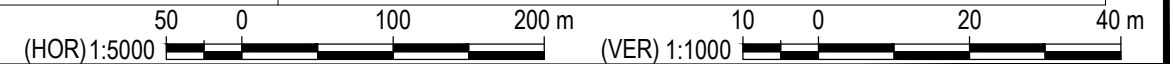
LONG SECTION (OPTION A2 + B2)

SCALES: HORIZONTAL 1:5000 VERTICAL 1:1000



LONG SECTION (OPTION A2 + B2)

SCALES: HORIZONTAL 1:5000 VERTICAL 1:1000

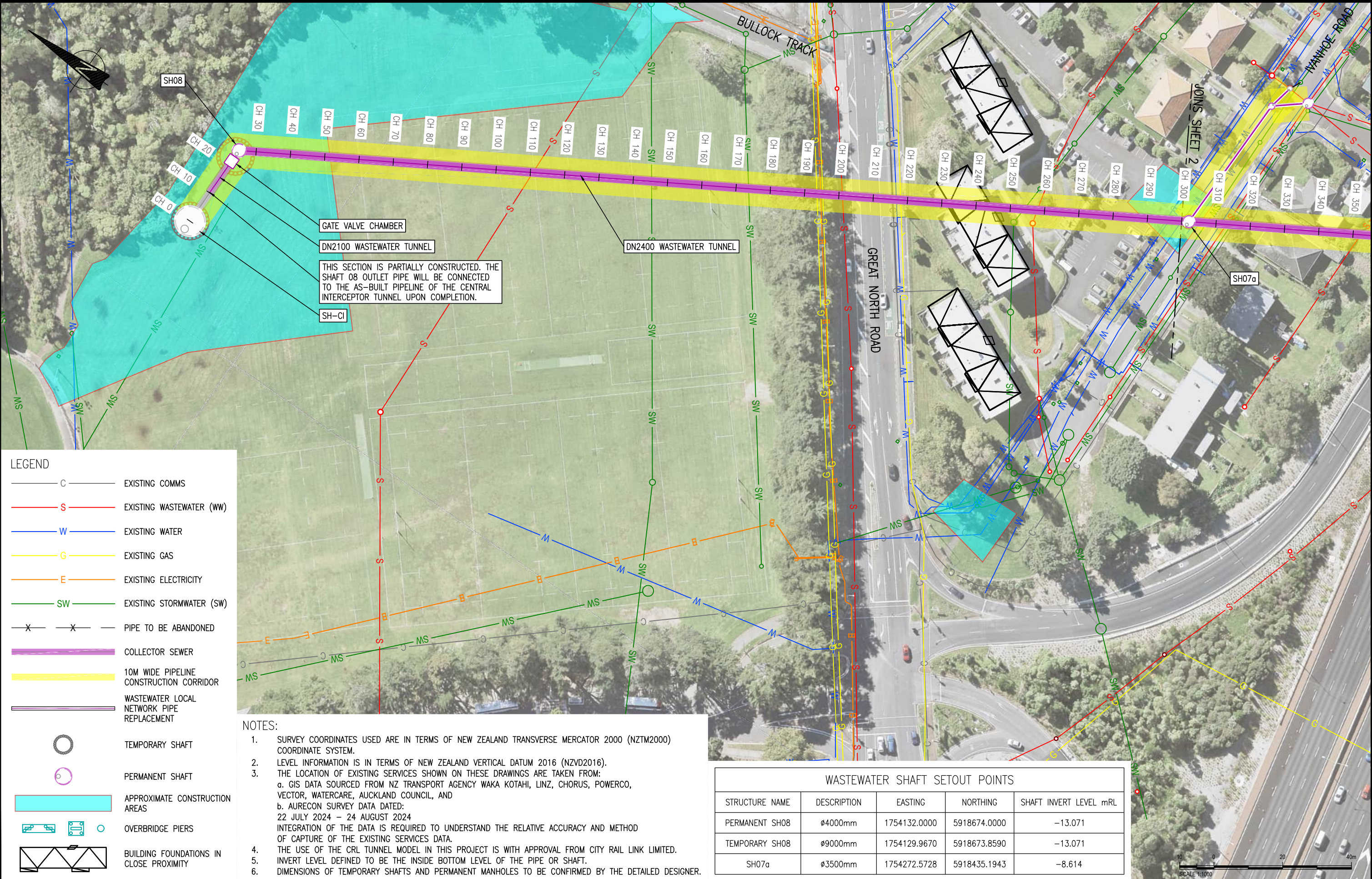


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4	25.07.25	ISSUE FOR INFORMATION	JF	MC		DES. APPROVED			
3	16.05.25	ISSUE FOR INFORMATION	JF	MC		DRAWN	C.LACAMBRA	07-25	
2	14.05.25	ISSUE FOR INFORMATION	JF	MC		DWG. APPROVED			
1	25.04.25	ISSUE FOR INFORMATION	JF	MC		WSL DESIGN MGMT.	J.STOKES	07-25	
ISSUE	DATE	AMENDMENT	BY	APPD.		WSL PROJ. LEAD	J.STOKES	07-25	
							BY	DATE	

MOTIONS COLLECTOR SEWER
CIVIL

OVERALL LONG SECTIONS (DN2400 PIPE JACKING OPTION)

CAD FILE	2014581.102	DATE	25-07-2025
ORIGINAL SCALE	A3	CONTRACT No.	—
AS SHOWN			
REF No. —			
DWG No.	2014581.102	ISSUE 4	



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

BUILDING FOUNDATIONS IN CLOSE PROXIMITY

NOTES:

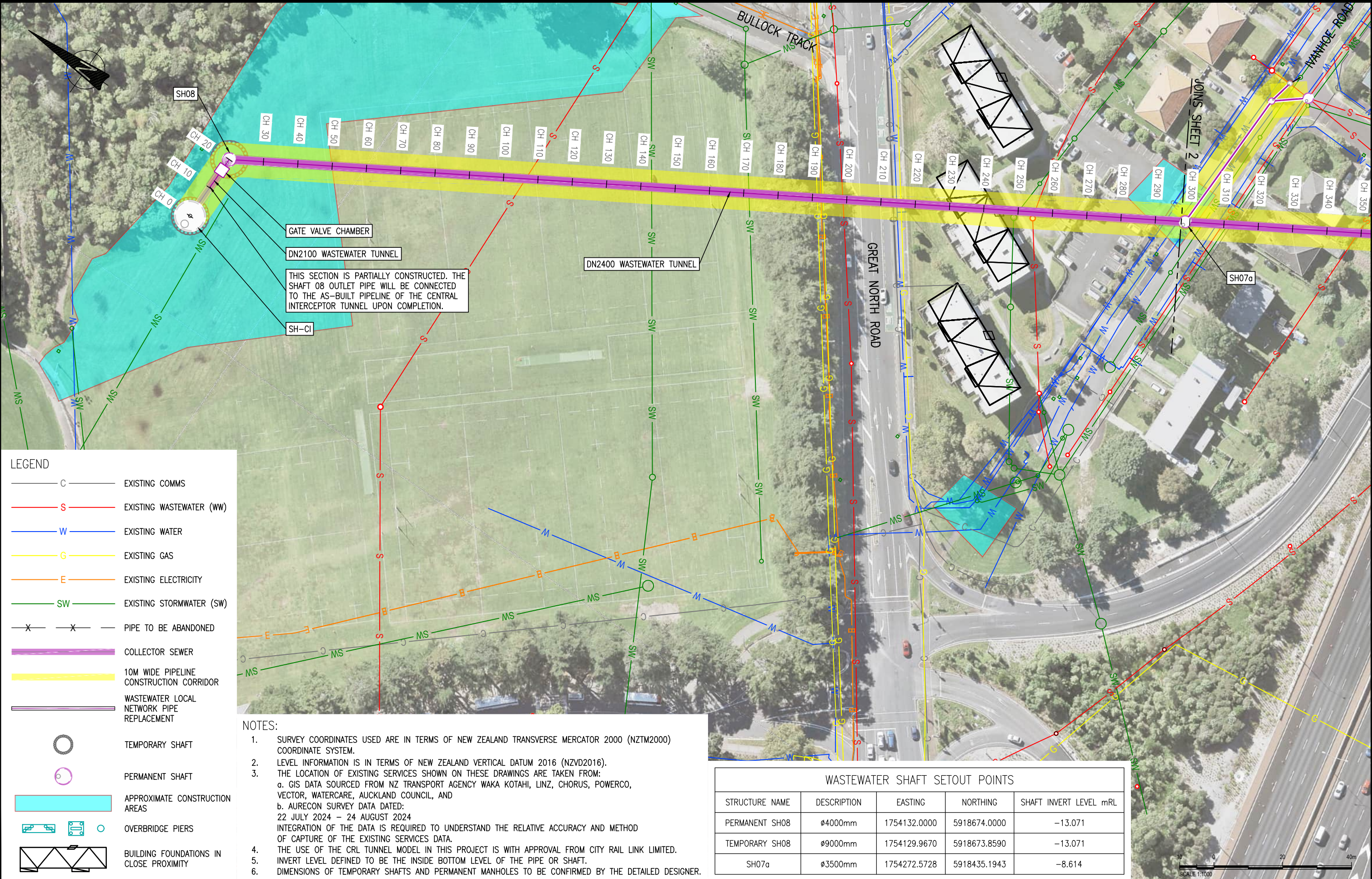
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
- LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
- THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHĪ, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
- THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
- INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

WASTEWATER SHAFT SETOUT POINTS				
STRUCTURE NAME	DESCRIPTION	EASTING	NORTHING	SHAFT INVERT LEVEL mRL
PERMANENT SH08	ø4000mm	1754132.0000	5918674.0000	-13.071
TEMPORARY SH08	ø9000mm	1754129.9670	5918673.8590	-13.071
SH07a	ø3500mm	1754272.5728	5918435.1943	-8.614

				DESIGNED		
				DES. APPROVED		
				DRAWN	C.LACAMBRA	07-25
				DWG. APPROVED		
2	25.07.25	ISSUE FOR INFORMATION	JF	WSL DESIGN MGMT.	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	WSL PROJ. LEAD	J.STOKES	07-25
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

MOTIONS COLLECTOR SEWER
CIVIL
PLAN (DN2400 PIPE JACKING OPTION A1) – SHEET 1

CAD FILE	2014581.103	DATE	25-07-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	-
REF No.	-		
DWG No.	2014581.103	ISSUE	2



LEGEND

C

S

W

G

E

SW

X

X

EXISTING COMMS

EXISTING WASTEWATER (WW)

EXISTING WATER

EXISTING GAS

EXISTING ELECTRICITY

EXISTING STORMWATER (SW)

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

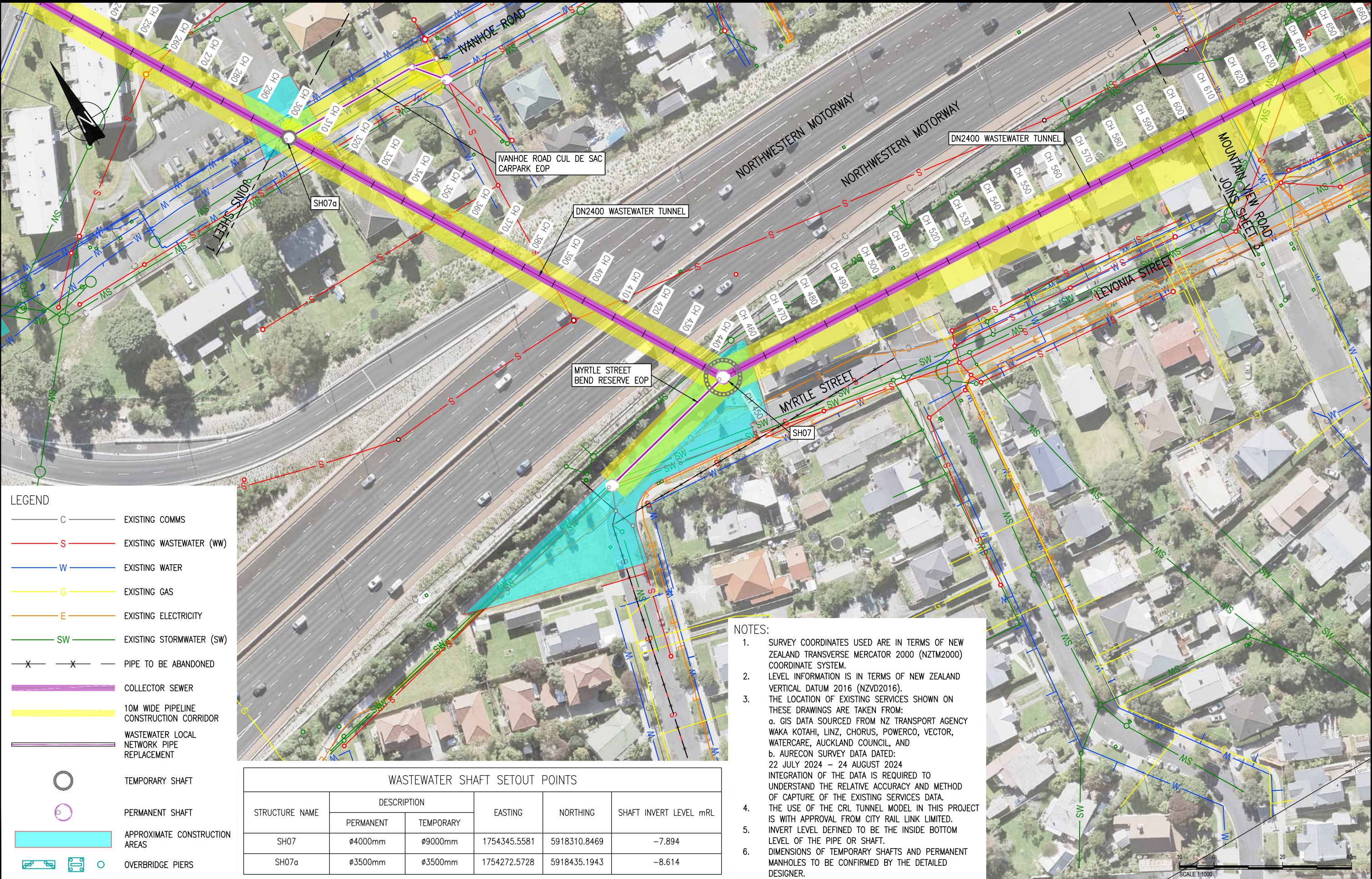
OVERBRIDGE PIERS

BUILDING FOUNDATIONS IN CLOSE PROXIMITY

NOTES:

- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
- LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
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a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHĪ, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
- THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
- INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

WASTEWATER SHAFT SETOUT POINTS				
STRUCTURE NAME	DESCRIPTION	EASTING	NORTHING	SHAFT INVERT LEVEL mRL
PERMANENT SH08	Ø4000mm	1754132.0000	5918674.0000	-13.071
TEMPORARY SH08	Ø9000mm	1754129.9670	5918673.8590	-13.071
SH07a	Ø3500mm	1754272.5728	5918435.1943	-8.614



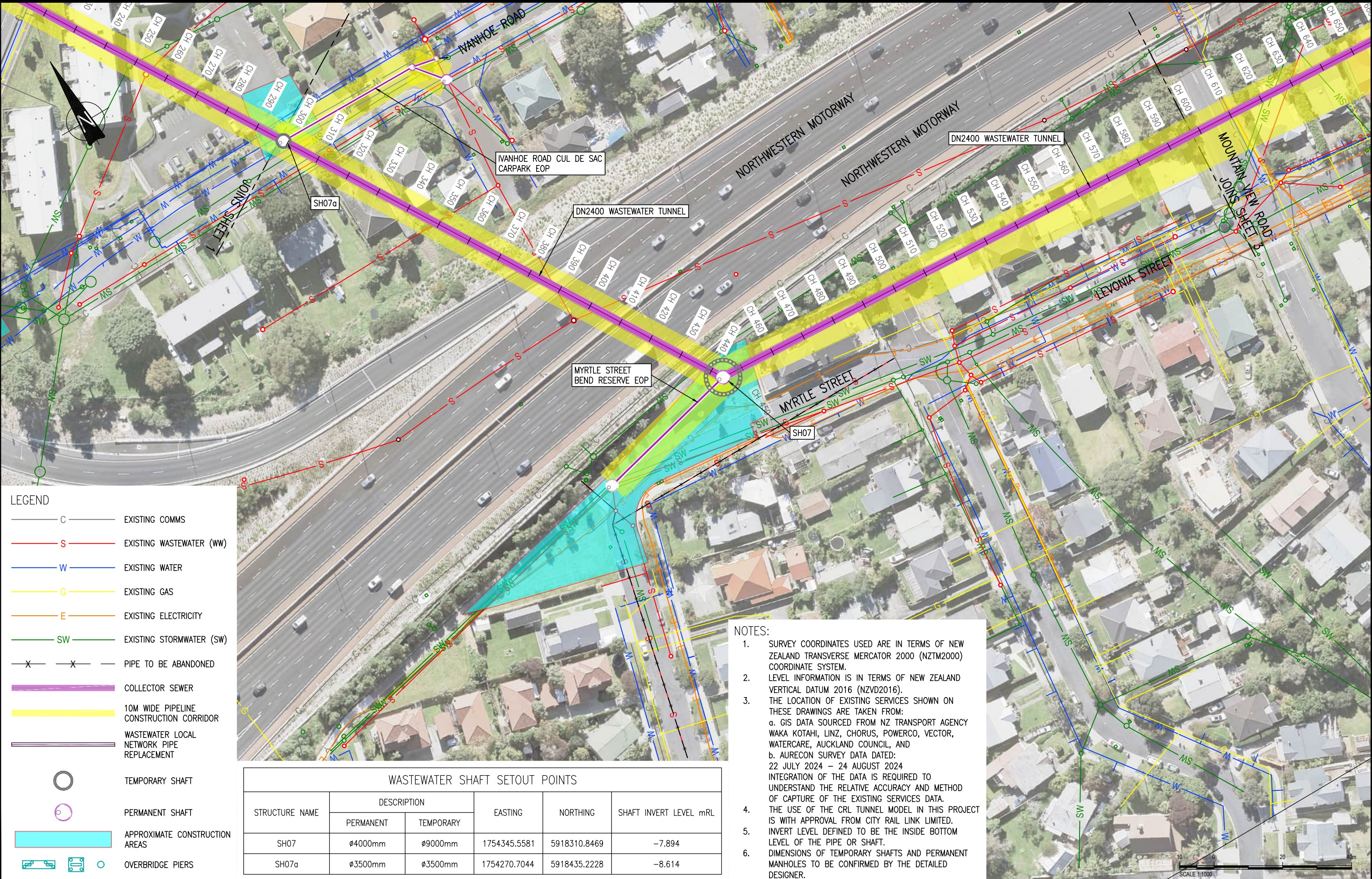
LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH07	ø4000mm	ø9000mm	1754345.5581	5918310.8469	-7.894
SH07a	ø3500mm	ø3500mm	1754272.5728	5918435.1943	-8.614

NOTES:

1. SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2. LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3. THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
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INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
4. THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5. INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6. DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

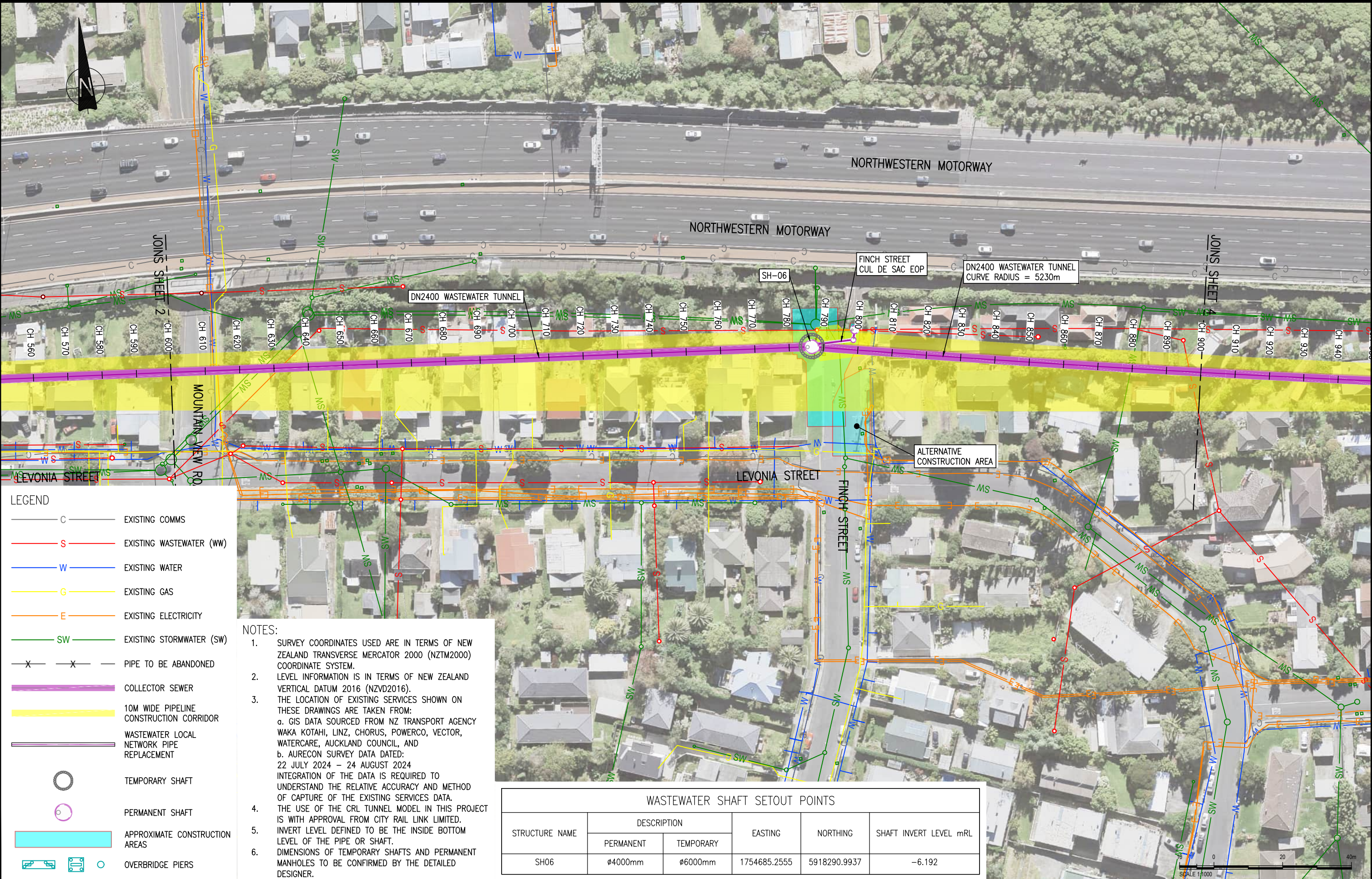
APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH07	ø4000mm	ø9000mm	1754345.5581	5918310.8469	-7.894
SH07a	ø3500mm	ø3500mm	1754270.7044	5918435.2228	-8.614

NOTES:

- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
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22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
- THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
- INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.



LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

NOTES:

- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
- LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
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INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA. THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
- INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH06	ø4000mm	ø6000mm	1754685.2555	5918290.9937	-6.192

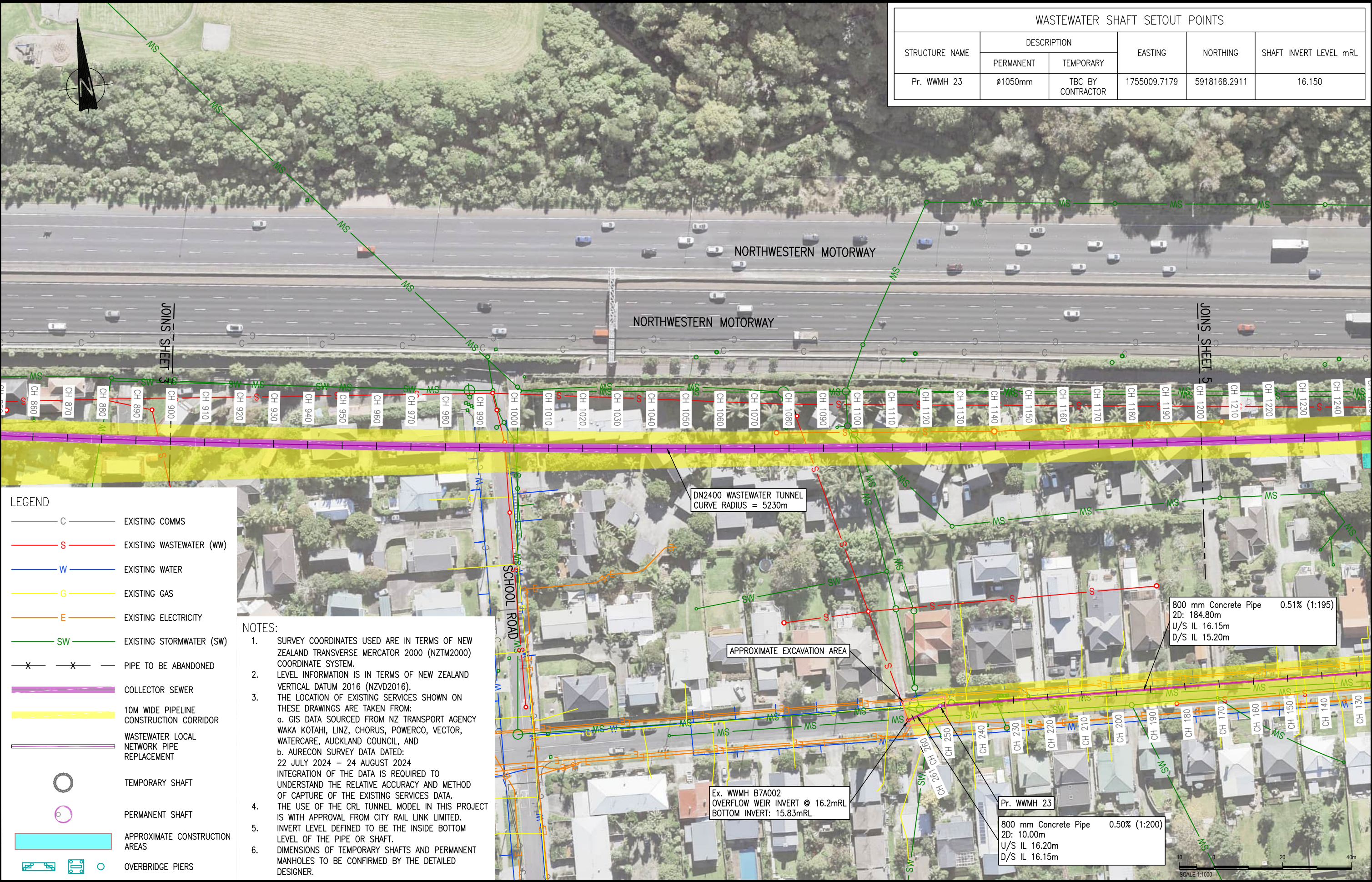
				DESIGNED		
				DES. APPROVED		
				DRAWN	C.LACAMBRA	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

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MOTIONS COLLECTOR SEWER
CIVIL
PLAN (DN2400 PIPE JACKING OPTION) – SHEET 5

CAD FILE	2014581.107	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.107	ISSUE	1



WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
Pr. WWMH 23	Ø1050mm	TBC BY CONTRACTOR	1755009.7179	5918168.2911	16.150

LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

- NOTES:
1.

SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3.

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b. AURECON SURVEY DATA DATED: 22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
4.

THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
5.

INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
6.

DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

				DESIGNED		
				DES. APPROVED		
				DRAWN	C.LACAMBRA	07-25
3	25.07.25	ISSUE FOR INFORMATION	JF	MC	DWG. APPROVED	
2	28.05.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES 07-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES 07-25
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

Watercare

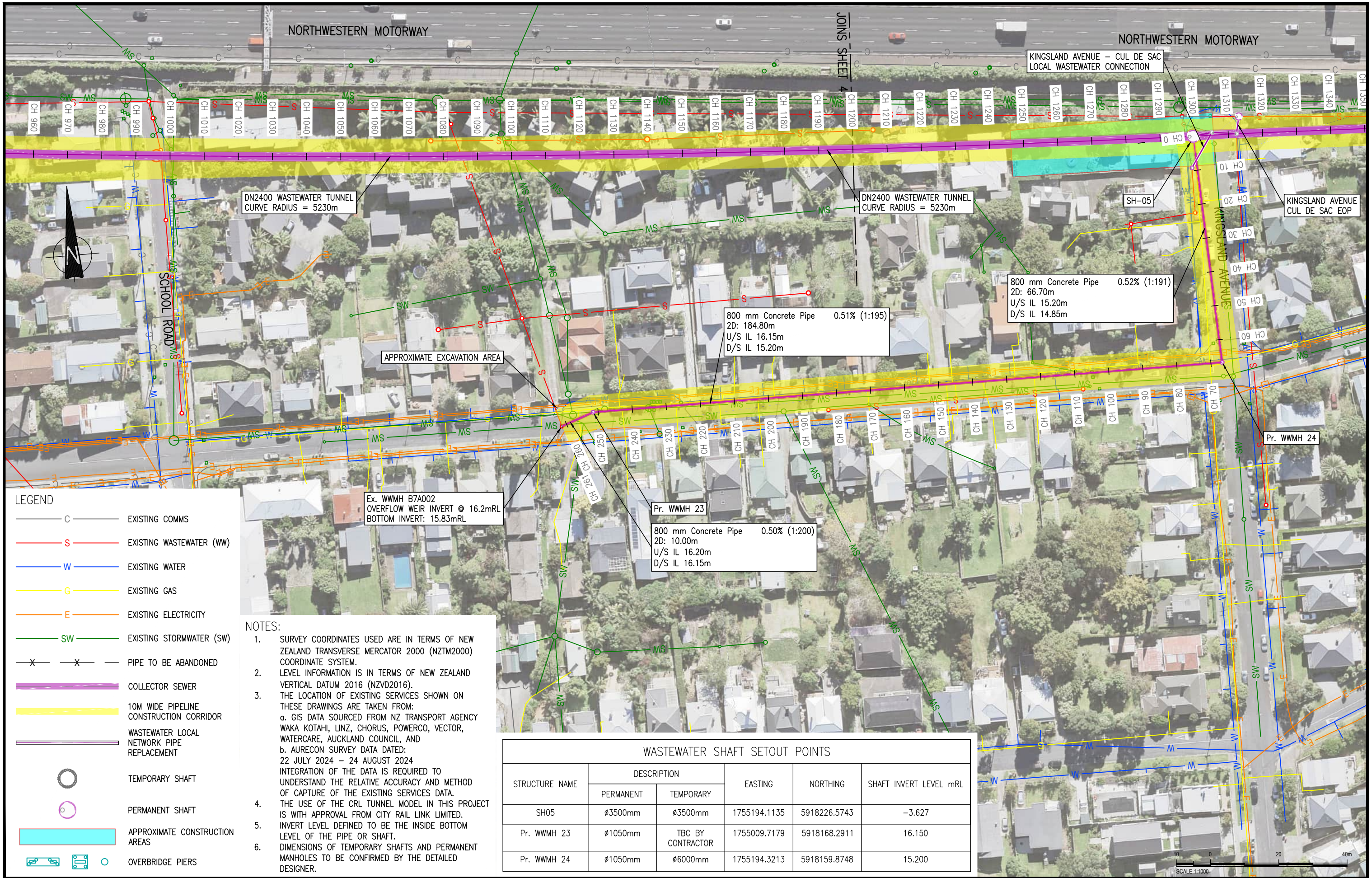
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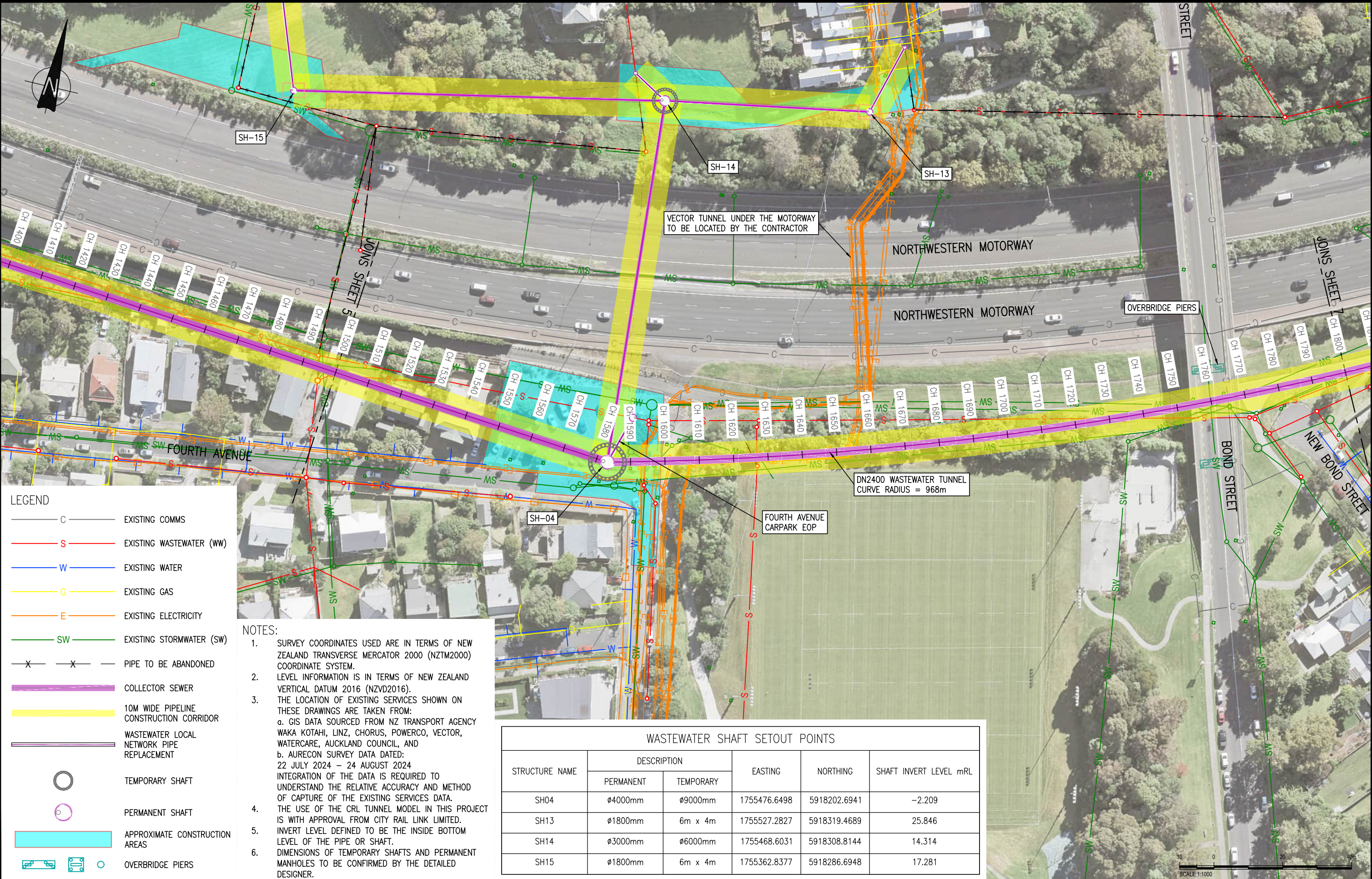
MOTIONS COLLECTOR SEWER

CIVIL

PLAN (DN2400 PIPE JACKING OPTION) – SHEET 6

CAD FILE	2014581.108	DATE	25-07-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.108	ISSUE	3





LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

NOTES:

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH04	Ø4000mm	Ø9000mm	1755476.6498	5918202.6941	-2.209
SH13	Ø1800mm	6m x 4m	1755527.2827	5918319.4689	25.846
SH14	Ø3000mm	Ø6000mm	1755468.6031	5918308.8144	14.314
SH15	Ø1800mm	6m x 4m	1755362.8377	5918286.6948	17.281



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

ACCESS/EGRESS TRACK

OVERBRIDGE PIERS

- NOTES:
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					DESIGNED		
					DES. APPROVED		
					DRAWN	C.LACAMBRA	05-25
					DWG. APPROVED		
					WSL DESIGN MGMT.	J.STOKES	05-25
					WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	

Watercare

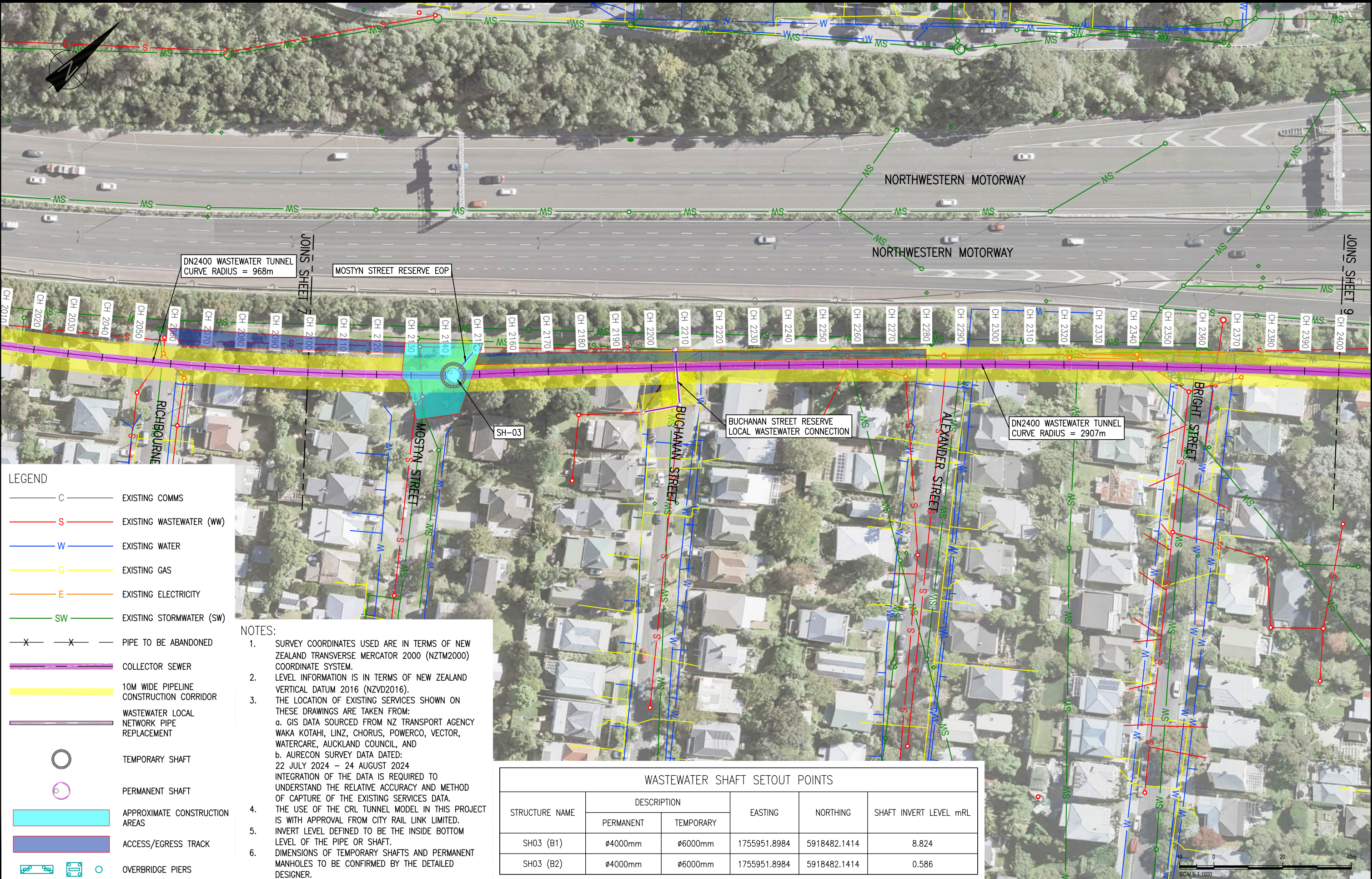
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MOTIONS COLLECTOR SEWER

CIVIL

PLAN (DN2400 PIPE JACKING) – SHEET 10

CAD FILE	2014581.112	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.112	ISSUE	1



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

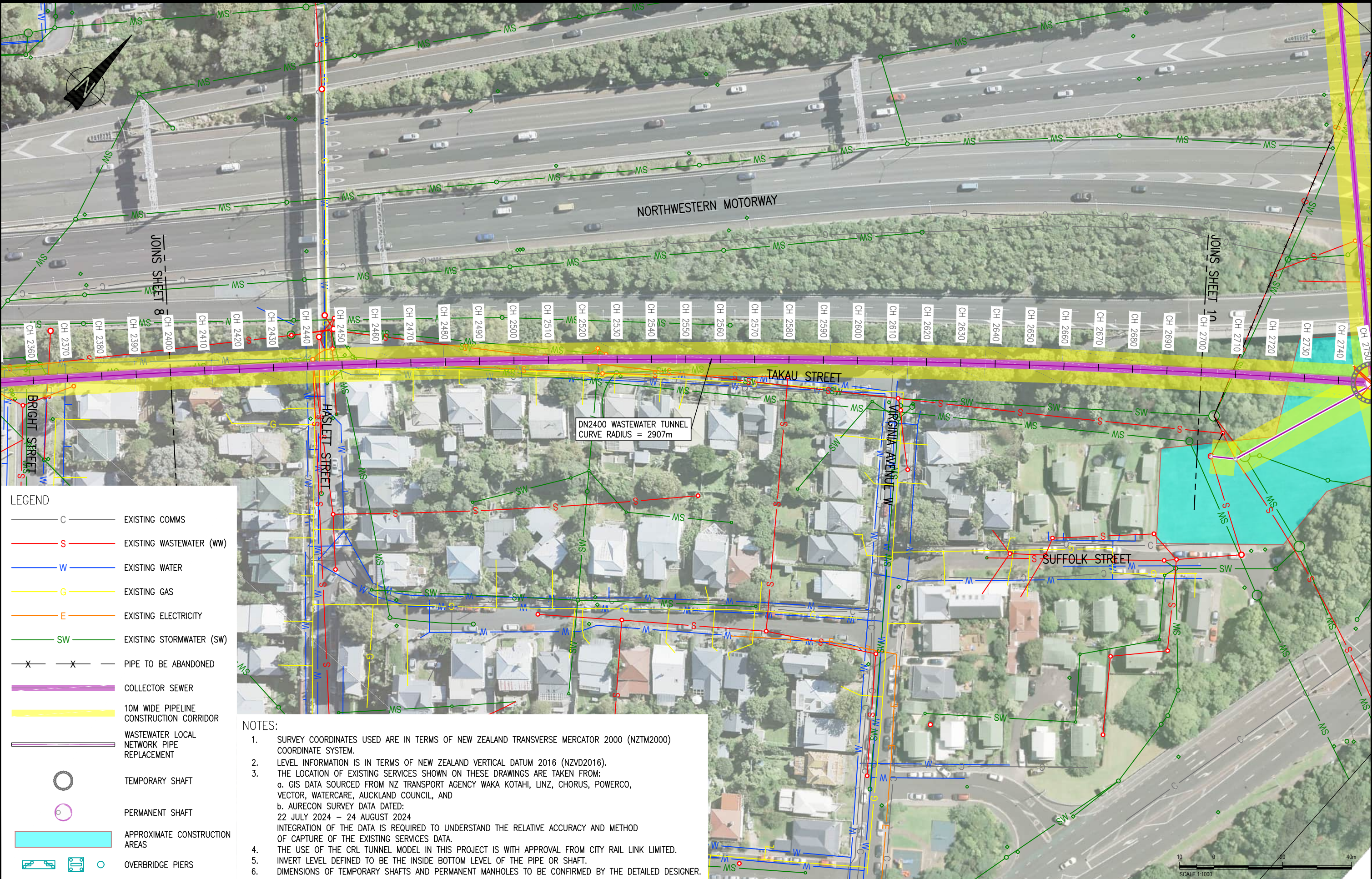
ACCESS/EGRESS TRACK

OVERBRIDGE PIERS

NOTES:

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH03 (B1)	ø4000mm	ø6000mm	1755951.8984	5918482.1414	8.824
SH03 (B2)	ø4000mm	ø6000mm	1755951.8984	5918482.1414	0.586



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

- NOTES:
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					DESIGNED	R.GHORBANNEJAD	05-25
					DES. APPROVED	M.COBELEDICK	05-25
					DRAWN	C.LACAMBRA	05-25
					DWG. APPROVED	M.COBELEDICK	05-25
					WSL DESIGN MGMT.	J.STOKES	05-25
					WSL PROJ. LEAD	J.STOKES	05-25
1	22.04.25	ISSUE FOR INFORMATION	JF	MC			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	

Watercare

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MOTIONS COLLECTOR SEWER

CIVIL

PLAN AND LONG SECTION (DN2400 PIPE JACKING) – SHEET 14

CAD FILE 2014581.116

DATE 22-04-2025

ORIGINAL SCALE A3

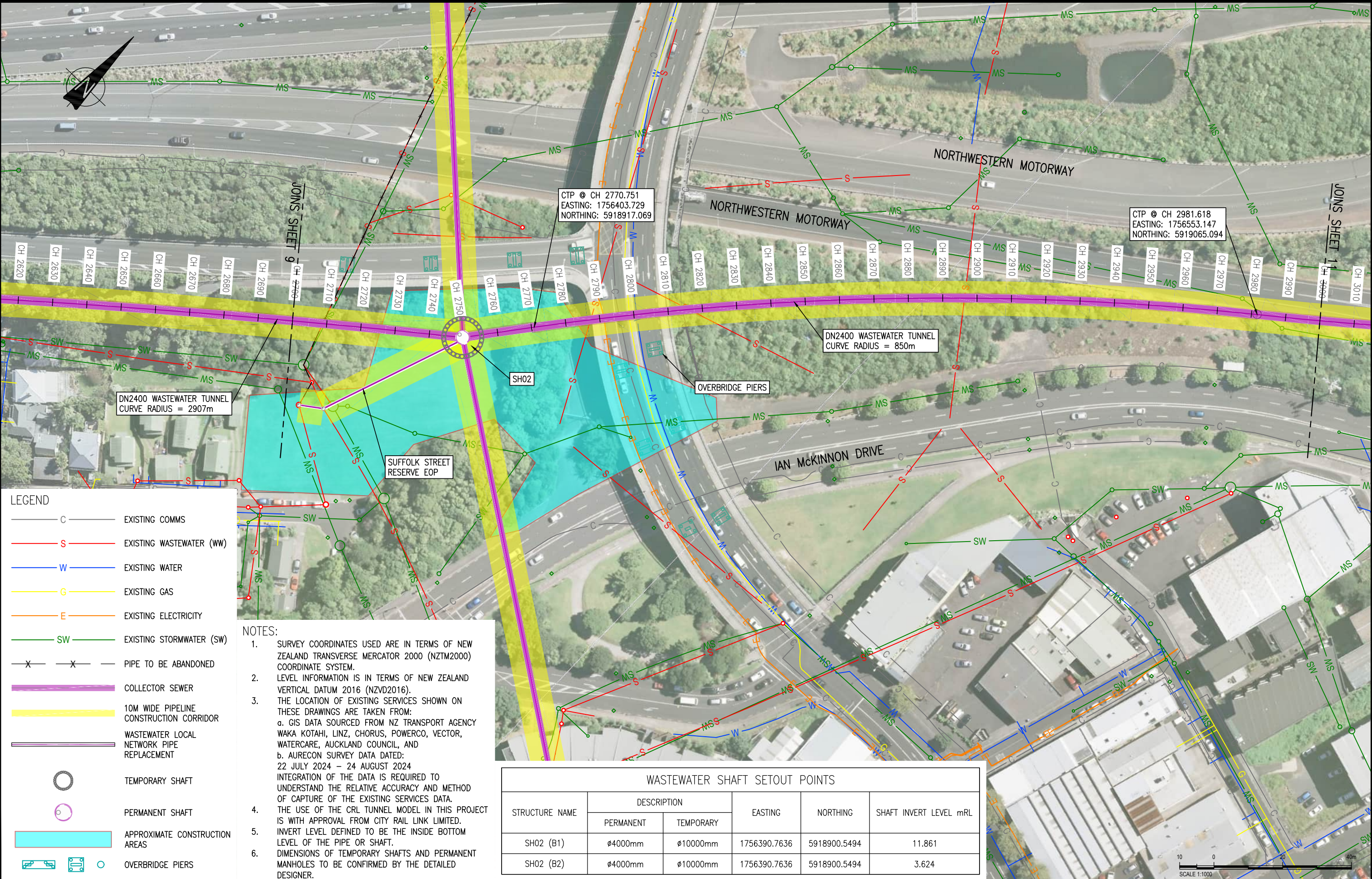
CONTRACT No. –

1:1000

REF No. –

DWG No. 2014581.116

ISSUE 1



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

NOTES:

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02 (B1)	ø4000mm	ø10000mm	1756390.7636	5918900.5494	11.861
SH02 (B2)	ø4000mm	ø10000mm	1756390.7636	5918900.5494	3.624

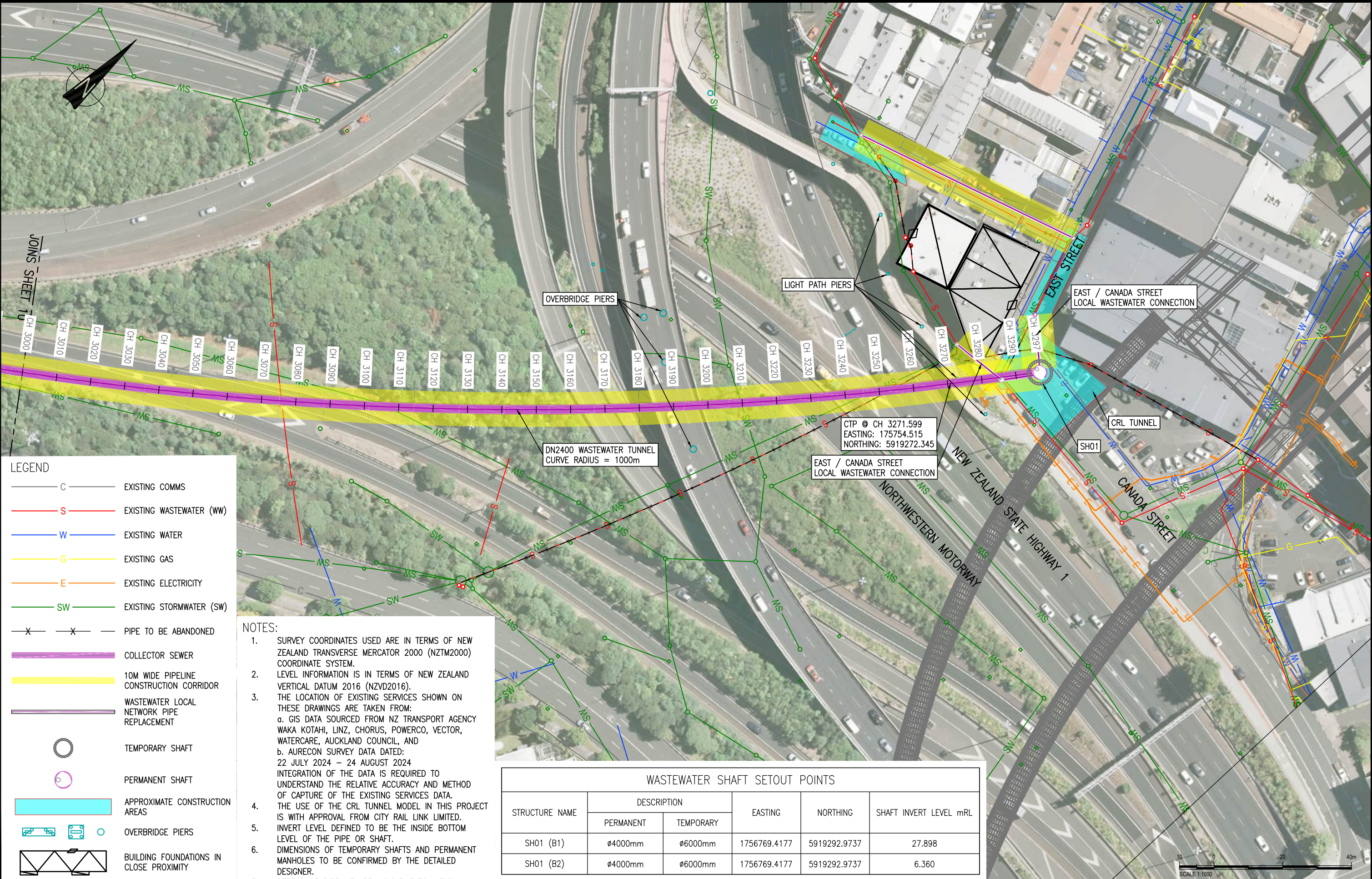
				DESIGNED		
				DES. APPROVED		
				DRAWN	C.LACAMBRA	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

MOTIONS COLLECTOR SEWER
CIVIL

PLAN (DN2400 PIPE JACKING OPTION B1 & B2) – SHEET 16

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CAD FILE	2014581.118	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	-
1:1000			
REF No.	-		
DWG No.	2014581.118	ISSUE	1



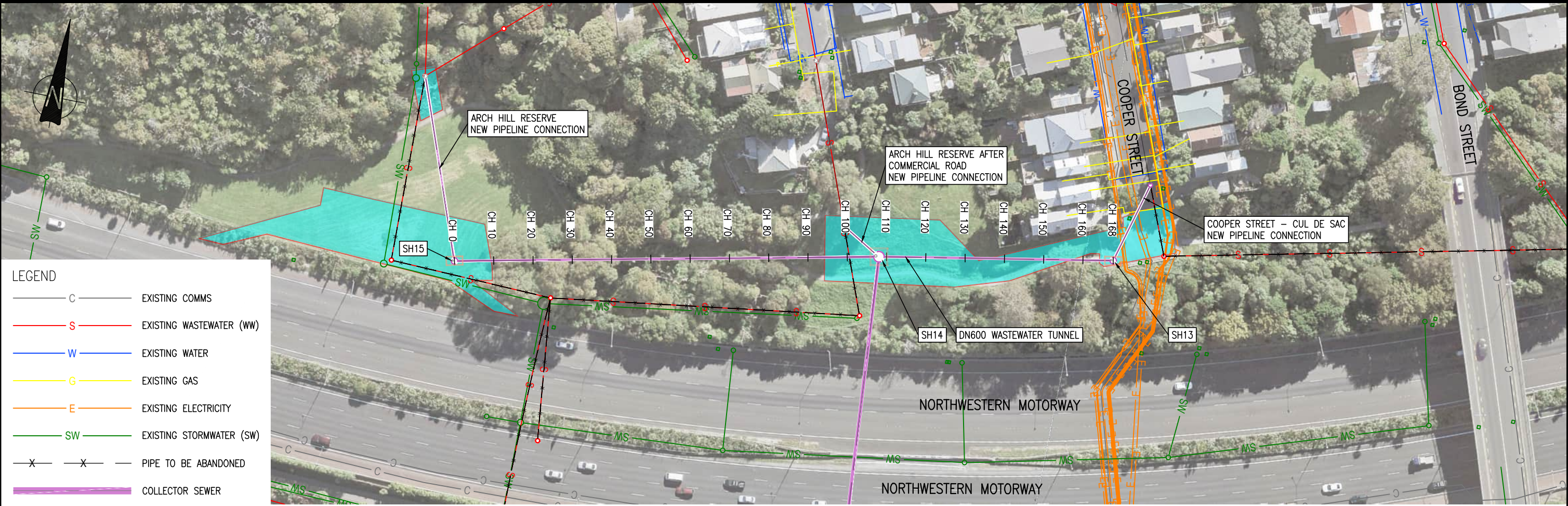
LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — PIPE TO BE ABANDONED
- Collector Sewer
- 10m Wide Pipeline Construction Corridor
- Wastewater Local Network Pipe Replacement
- Temporary Shaft
- Permanent Shaft
- Approximate Construction Areas
- Overbridge Piers
- Building Foundations in Close Proximity

NOTES:

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH01 (B1)	ø4000mm	ø6000mm	1756769.4177	5919292.9737	27.898
SH01 (B2)	ø4000mm	ø6000mm	1756769.4177	5919292.9737	6.360



LEGEND

C

EXISTING COMMS

S

EXISTING WASTEWATER (WW)

W

EXISTING WATER

G

EXISTING GAS

E

EXISTING ELECTRICITY

SW

EXISTING STORMWATER (SW)

X

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

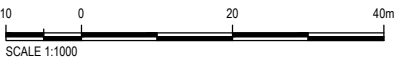
DATUM 10.00
PIPE HOR RADI
PIPE DATA

INVERT LEVEL ⁵		17.281										16.200	14.314 25.846	25.846
EXISTING SURFACE LEVEL	23.280											29.210		33.986
DEPTH TO INVERT	6.000											13.010	14.896 3.960	8.140
CHAINAGE	0.00											108.05		167.69

LONG SECTION (SH15 – SH14 – SH13)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH13	ø1800mm	6m x 4m	1755527.2827	5918319.4689	25.846
SH14	ø3000mm	ø6000mm	1755468.6031	5918308.8144	14.314
SH15	ø1800mm	6m x 4m	1755362.8377	5918286.6948	17.281

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DESIGNED					
DES. APPROVED					
DRAWN	J.FERNANDEZ	05-25			
DWG. APPROVED					
WSL DESIGN MGMT.	J.STOKES	05-25			
WSL PROJ. LEAD	J.STOKES	05-25			

1

16.05.25

ISSUE FOR INFORMATION

JF

MC

WSL PROJ. LEAD

J.STOKES

05-25

ISSUE

DATE

AMENDMENT

BY

APPD.

BY

DATE

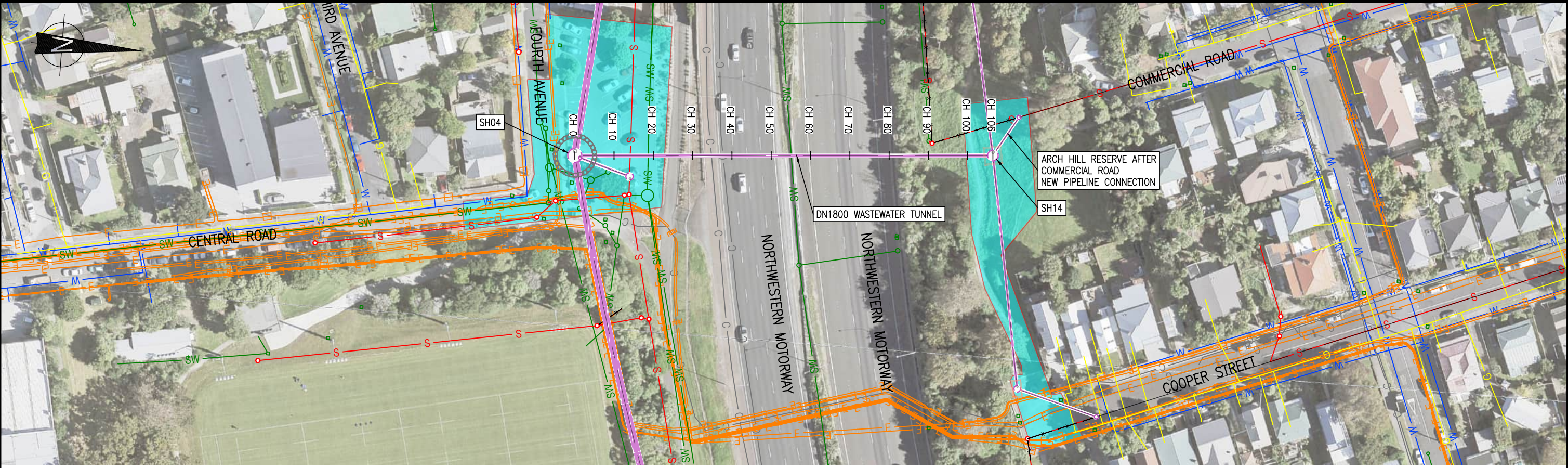
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MOTIONS COLLECTOR SEWER

CIVIL

BRANCH PLAN AND LONG SECTION – SHEET 1

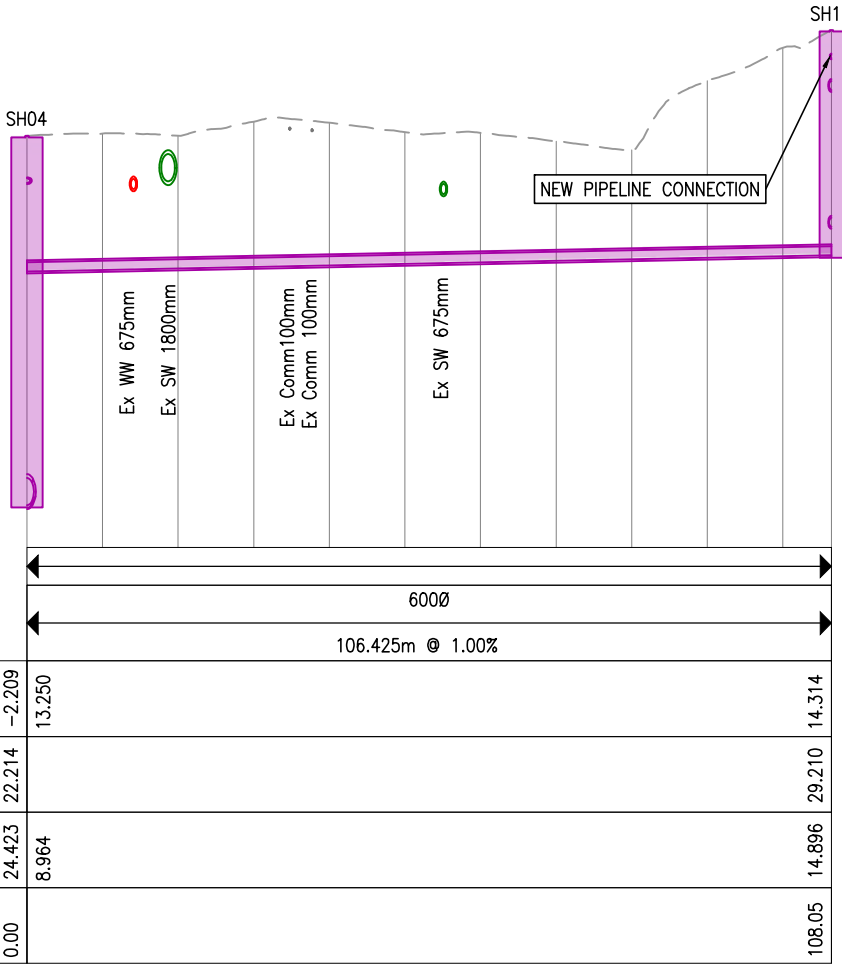
CAD FILE	2014581.122	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.122	ISSUE	1



- LEGEND
- C — EXISTING COMMS
 - S — EXISTING WASTEWATER (WW)
 - W — EXISTING WATER
 - G — EXISTING GAS
 - E — EXISTING ELECTRICITY
 - SW — EXISTING STORMWATER (SW)
 - X — X — PIPE TO BE ABANDONED
 - Collector Sewer
 - 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
 - WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
 - TEMPORARY SHAFT
 - PERMANENT SHAFT
 - APPROXIMATE CONSTRUCTION AREAS
 - OVERBRIDGE PIERS

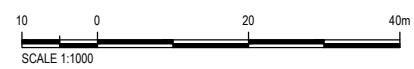
DATUM -5.00
PIPE HOR RADI
PIPE DATA

INVERT LEVEL ⁵	-2.209	13.250	14.314
EXISTING SURFACE LEVEL	22.214		29.210
DEPTH TO INVERT	24.423	8.964	14.896
CHAINAGE	0.00		108.05



WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH04	ø4000mm	ø9000mm	1755476.6498	5918202.6941	-2.209
SH14	ø3000mm	ø6000mm	1755468.6031	5918308.8144	14.314

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DESIGNED					
DES. APPROVED					
DRAWN		J.FERNANDEZ	05-25		
DWG. APPROVED					
WSL DESIGN MGMT.	J.STOKES	05-25			
WSL PROJ. LEAD	J.STOKES	05-25			
BY	APPD.	BY	DATE		

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MOTIONS COLLECTOR SEWER

CIVIL

BRANCH PLAN AND LONG SECTION – SHEET 2

CAD FILE	2014581.123	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	-
REF No.	-		
DWG No.	2014581.123	ISSUE	1



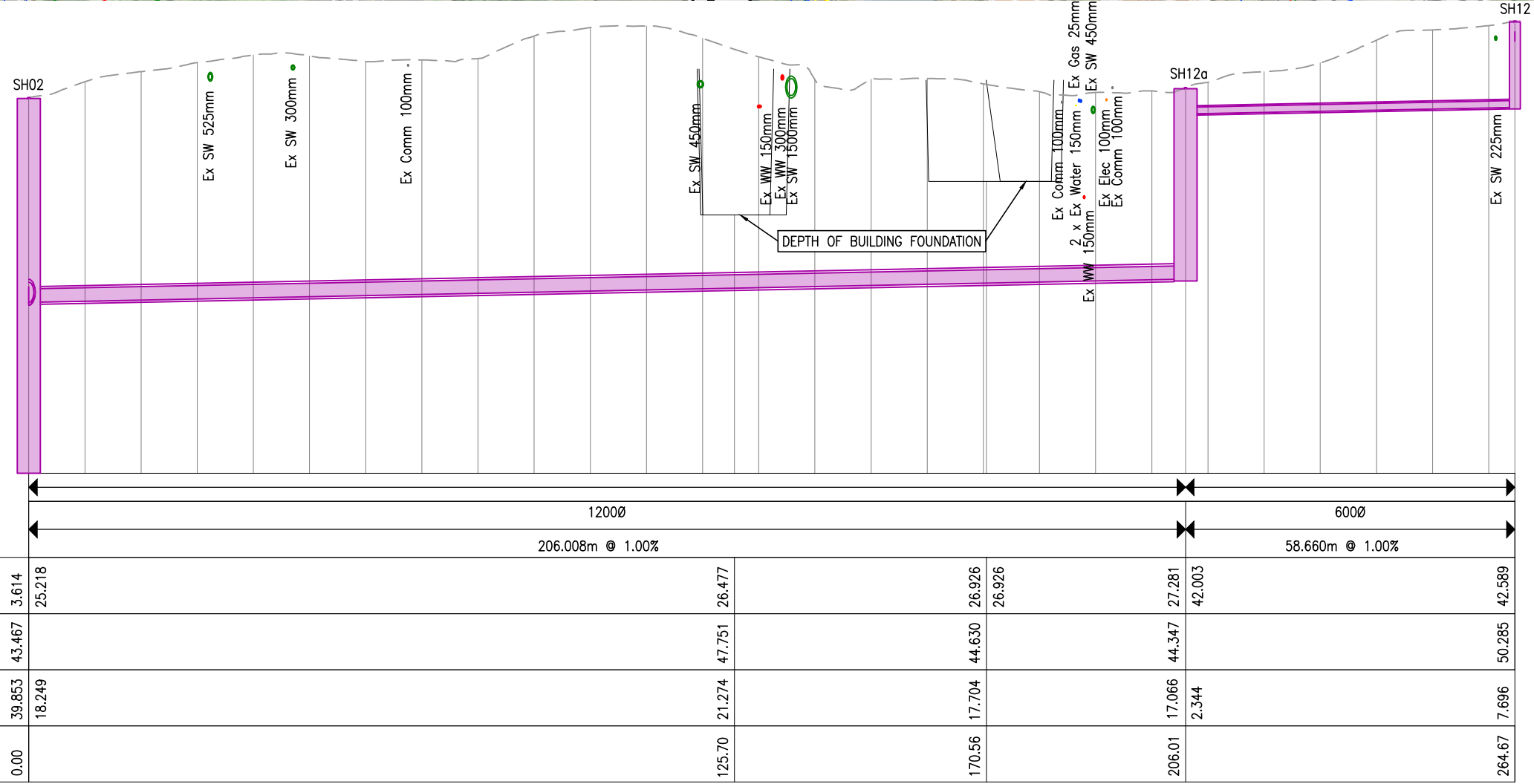
LEGEND

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- S — EXISTING WASTEWATER (WW)
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- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS
- BUILDING FOUNDATIONS IN CLOSE PROXIMITY

NOTES:

- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
- LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
- THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHĪ, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED: 22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
- THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
- INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02	ø4000mm	ø10000	1756390.7636	5918900.5494	3.614
SH12	ø1800mm	6m x 4m	1756609.1105	5918751.0395	42.589
SH12a	ø3000mm	ø6000mm	1756559.6750	5918782.6170	27.281



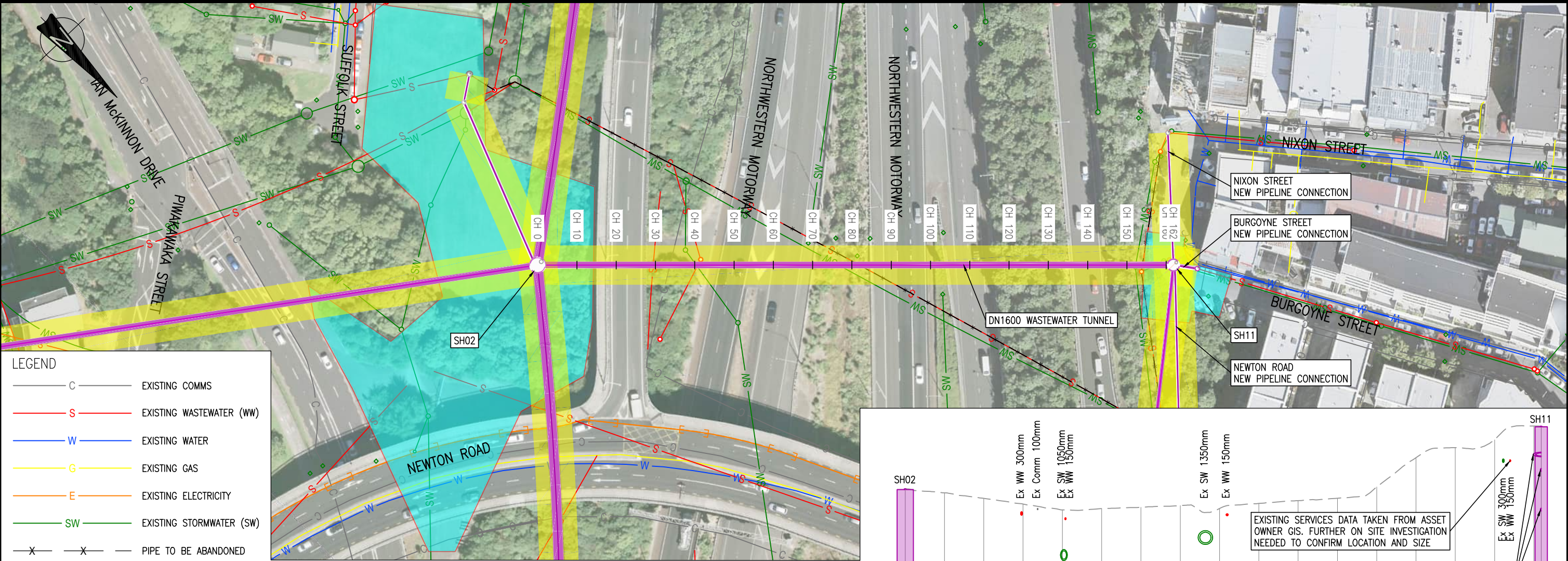
DATUM 10.00
PIPE HOR RADI
PIPE DATA

	12000		6000	
	206.008m @ 1.00%		58.660m @ 1.00%	
INVERT LEVEL ⁵	3.614	25.218	27.281	42.589
EXISTING SURFACE LEVEL	43.467	47.751	44.347	50.285
DEPTH TO INVERT	39.853	21.274	17.066	7.696
CHAINAGE	0.00	125.70	170.56	264.67

LONG SECTION (SH02 – SH12a – SH12)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

10 0 20 40m
SCALE 1:1000

				DESIGNED					MOTIONS COLLECTOR SEWER CIVIL BRANCH PLAN AND LONG SECTION (OPTION B2) – SHEET 4	CAD FILE 2014581.125		DATE 16-05-2025							
				DES. APPROVED						ORIGINAL SCALE A3 1:1000		CONTRACT No. —							
				DRAWN		J.FERNANDEZ				REF No. —		DWG No. 2014581.125							
				DWG. APPROVED															
				WSL DESIGN MGMT.		J.STOKES													
1	16.05.25	ISSUE FOR INFORMATION		JF	MC	WSL PROJ. LEAD	J.STOKES	05-25	COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.		ISSUE 1								
ISSUE	DATE	AMENDMENT		BY	APPD.		BY	DATE											



LEGEND

C

S

W

G

E

SW

X

X

EXISTING COMMS

EXISTING WASTEWATER (WW)

EXISTING WATER

EXISTING GAS

EXISTING ELECTRICITY

EXISTING STORMWATER (SW)

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02	ø4000mm	ø10000mm	1756390.7636	5918900.5494	11.861
SH11	ø3000mm	ø6000mm	1756273.4725	5919012.0745	26.921

- NOTES:
1.

2.

3.

4.

5.

6.
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).

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b. AURECON SURVEY DATA DATED:

22 JULY 2024 – 24 AUGUST 2024

INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.

THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.

INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.

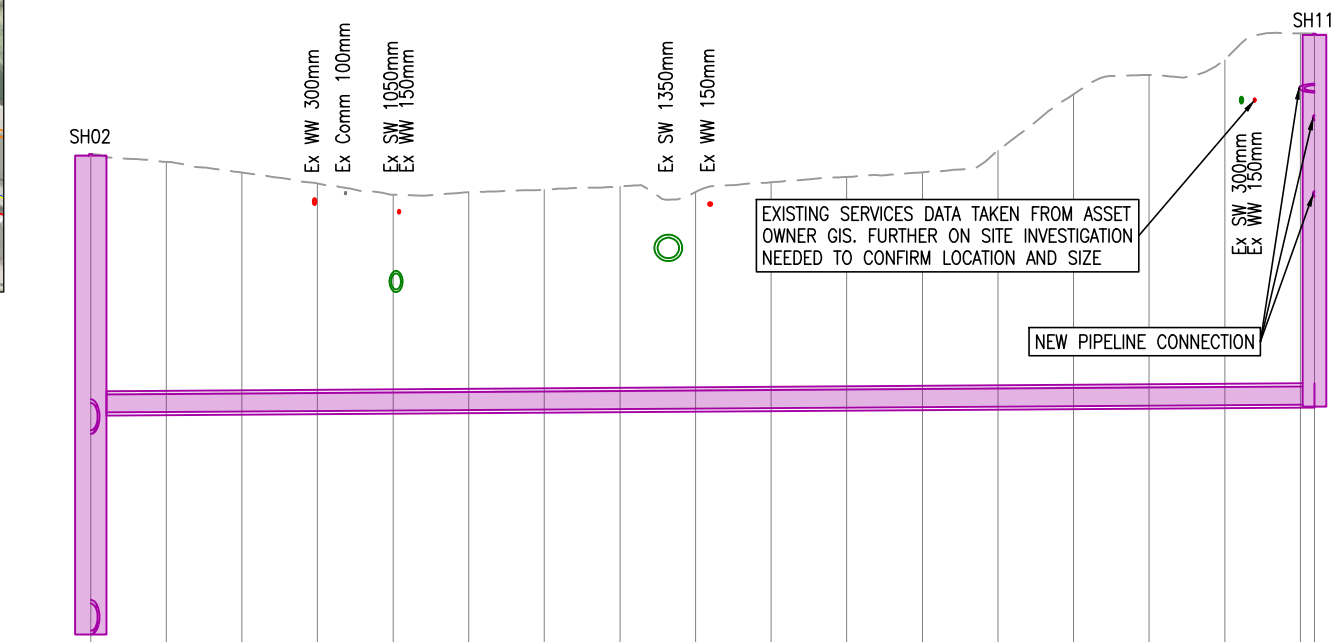
DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

DATUM 10.00

PIPE HOR RADI

PIPE DATA

INVERT LEVEL ⁵	11.861	26.382	26.921
EXISTING SURFACE LEVEL	43.467		51.441
DEPTH TO INVERT	31.606	17.085	24.520
CHAINAGE	0.00		161.85



LONG SECTION (SH02 – SH11)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

SCALE 1:1000

				DESIGNED		
				DES. APPROVED		
				DRAWN	J.FERNANDEZ	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
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ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

Watercare

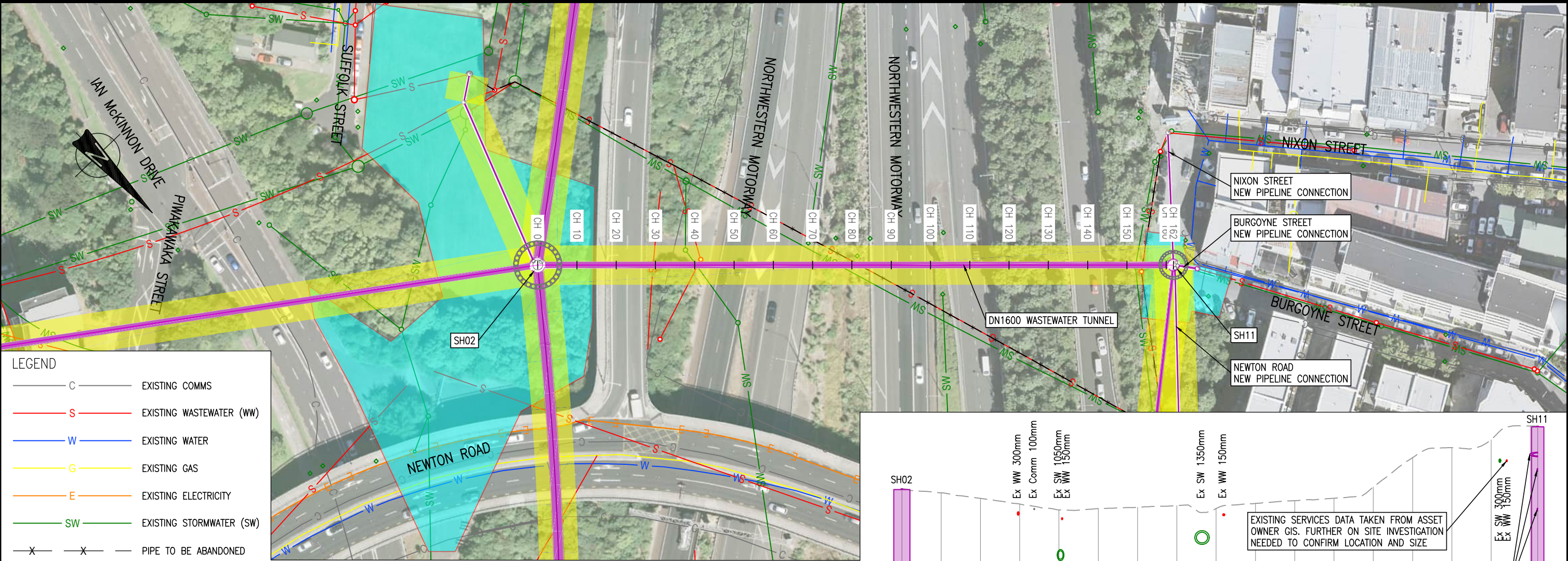
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MOTIONS COLLECTOR SEWER

CIVIL

BRANCH PLAN AND LONG SECTION (OPTION B1) – SHEET 5

CAD FILE	2014581.126	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	–
REF No.	–		
DWG No.	2014581.126	ISSUE	1



LEGEND

C

—

EXISTING COMMS

S

—

EXISTING WASTEWATER (WW)

W

—

EXISTING WATER

G

—

EXISTING GAS

E

—

EXISTING ELECTRICITY

SW

—

EXISTING STORMWATER (SW)

X

—

PIPE TO BE ABANDONED

COLLECTOR SEWER

10M WIDE PIPELINE CONSTRUCTION CORRIDOR

WASTEWATER LOCAL NETWORK PIPE REPLACEMENT

TEMPORARY SHAFT

PERMANENT SHAFT

APPROXIMATE CONSTRUCTION AREAS

OVERBRIDGE PIERS

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02	ø4000mm	ø10000mm	1756390.7636	5918900.5494	3.614
SH11	ø3000mm	ø6000mm	1756273.4725	5919012.0745	26.921

- NOTES:
1.

SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
2.

LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
3.

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b. AURECON SURVEY DATA DATED:

22 JULY 2024 – 24 AUGUST 2024
4.

INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
5.

THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
6.

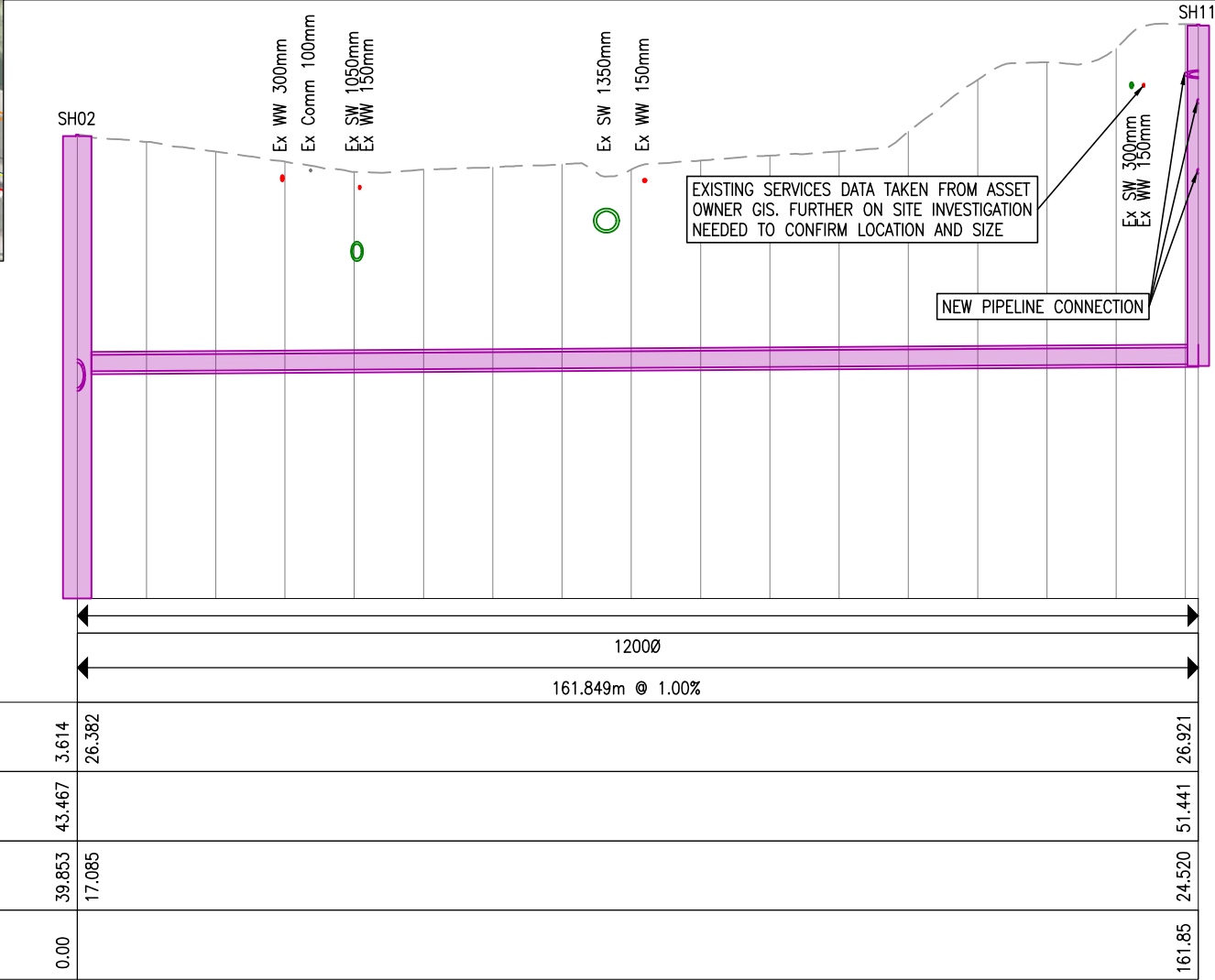
INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
- DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

DATUM 10.00

PIPE HOR RADI

PIPE DATA

INVERT LEVEL ⁵	3.614	26.382	26.921
EXISTING SURFACE LEVEL	43.467		51.441
DEPTH TO INVERT	39.853	17.085	24.520
CHAINAGE	0.00		161.85



LONG SECTION (SH02 – SH11)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

SCALE 1:1000

					DESIGNED		
					DES. APPROVED		
					DRAWN	J.FERNANDEZ	05-25
					DWG. APPROVED		
					WSL DESIGN MGMT.	J.STOKES	05-25
					WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	

Watercare

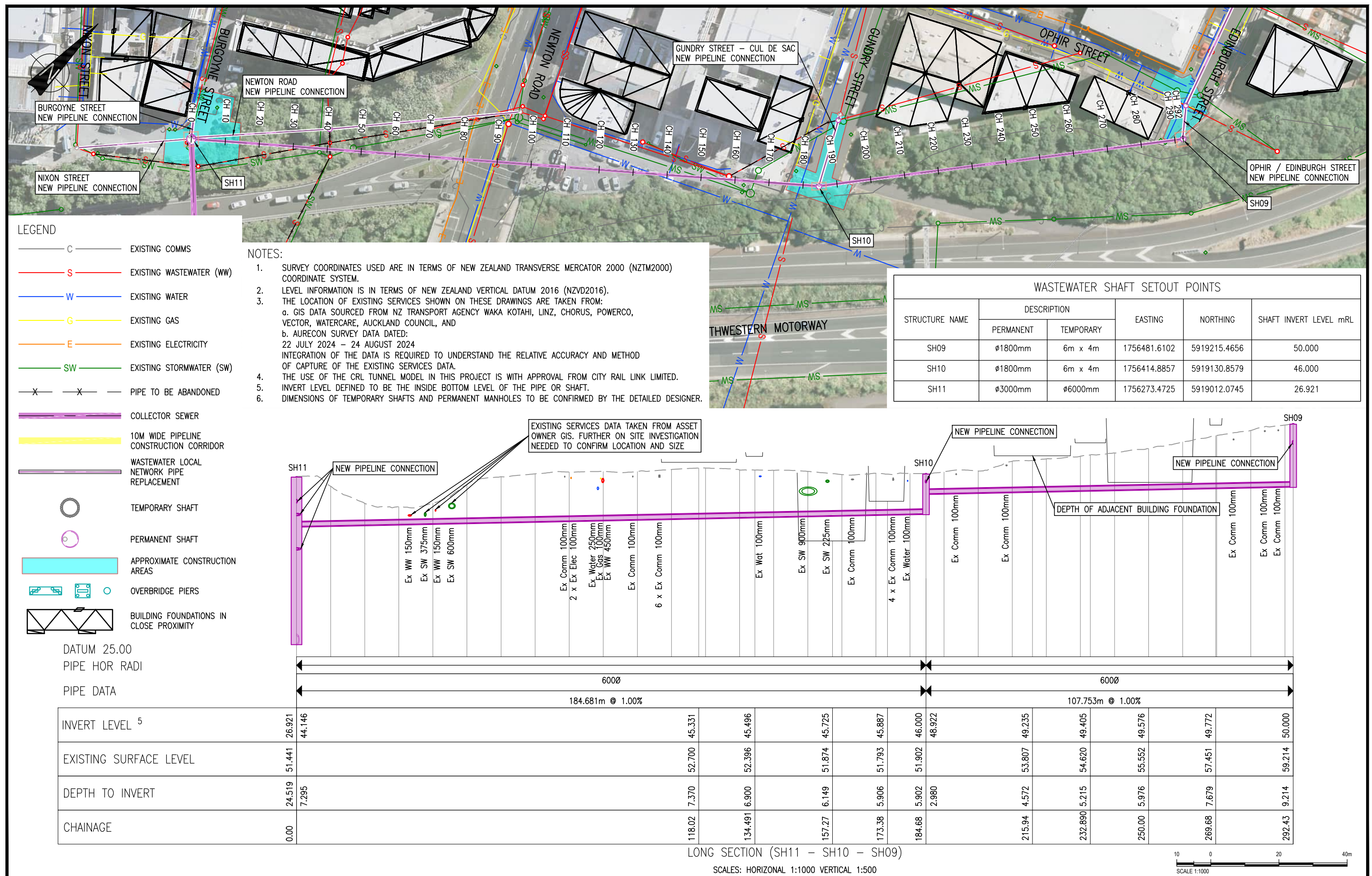
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MOTIONS COLLECTOR SEWER

CIVIL

BRANCH PLAN AND LONG SECTION (OPTION B2) – SHEET 6

CAD FILE	2014581.127	DATE	16-05-2025
ORIGINAL SCALE	A3 1:1000	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.127	ISSUE	1



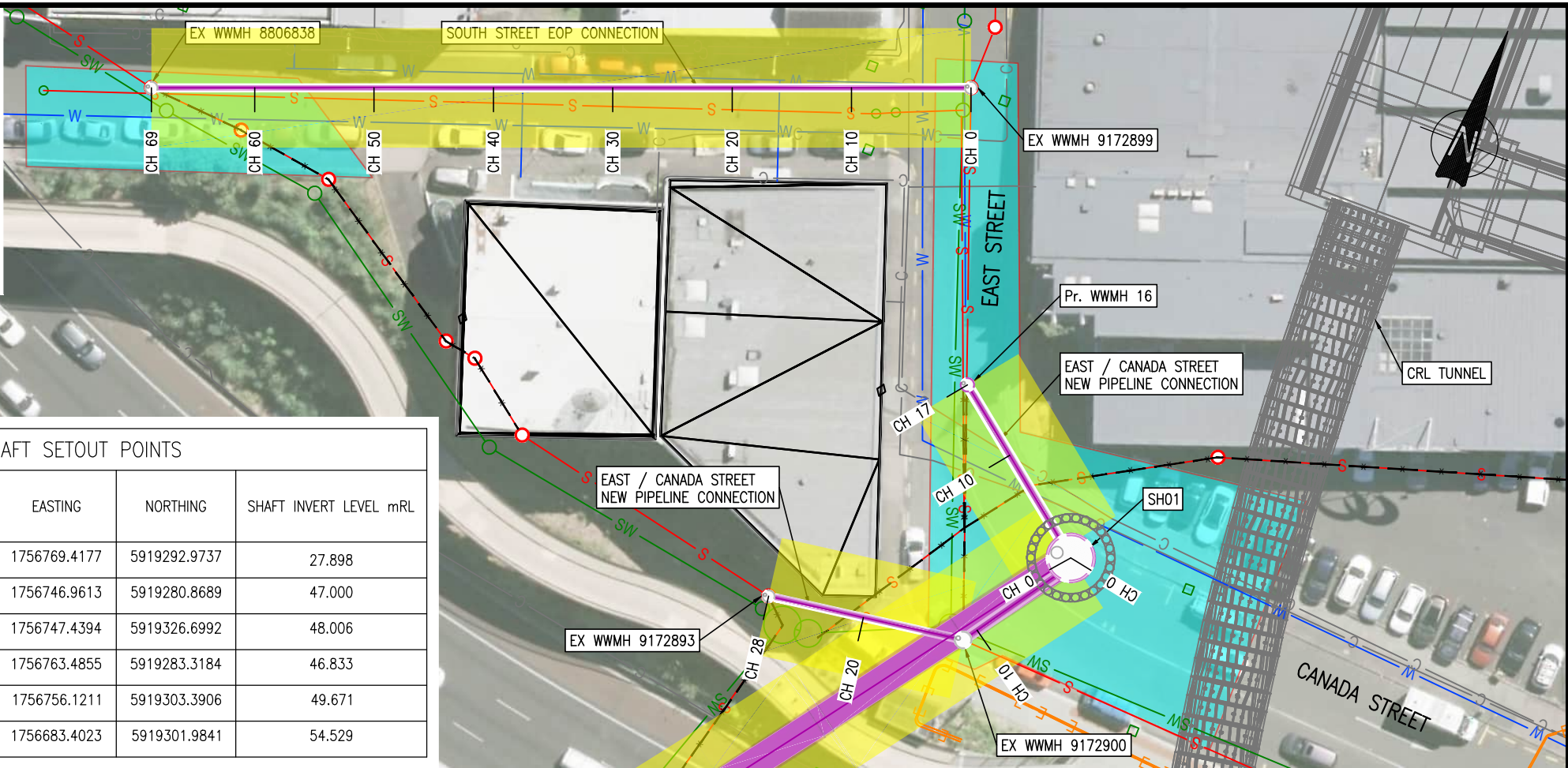
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					DES. APPROVED					ORIGINAL SCALE A3 1:1000	CONTRACT No. -
					DRAWN	J.FERNANDEZ	05-25			REF No. -	
					DWG. APPROVED					DWG No.	
					WSL DESIGN MGMT.	J.STOKES	05-25			2014581.128	
1	16.05.25	ISSUE FOR INFORMATION			JF	MC		05-25			ISSUE
ISSUE	DATE	AMENDMENT			BY	APPD.		BY	DATE	1	

- NOTES:
1. SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
 2. LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
 3. THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
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b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
 4. THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
 5. INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
 6. DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- COLLECTOR SEWER
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS
- BUILDING FOUNDATIONS IN CLOSE PROXIMITY

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH01	ø4000mm	ø6000mm	1756769.4177	5919292.9737	27.898
EX WWMH 9172893	ø1050mm	—	1756746.9613	5919280.8689	47.000
EX WWMH 9172899	ø1050mm	—	1756747.4394	5919326.6992	48.006
EX WWMH 9172900	ø1500mm	—	1756763.4855	5919283.3184	46.833
Pr WWMH 16	ø1050mm	—	1756756.1211	5919303.3906	49.671
EX WWMH 8806838	ø1050mm	—	1756683.4023	5919301.9841	54.529



DATUM 24.00

PIPE DATA

INVERT LEVEL ⁵	9.976m	3000	2250	16.705m
	27.898	46.733	46.833	47.000
EXISTING SURFACE LEVEL	51.365	51.814	51.310	
DEPTH TO INVERT	23.411	4.632	4.981	4.310
CHAINAGE	0.00	1.29	11.43	28.14

LONG SECTION (SH01a)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM 24.00

PIPE DATA

INVERT LEVEL ⁵	15.483m	3000	
	27.954	49.515	49.671
EXISTING SURFACE LEVEL	51.365	52.069	
DEPTH TO INVERT	23.411	1.850	2.398
CHAINAGE	0.00	1.29	16.89

LONG SECTION (SH01b)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM 26.00

PIPE DATA

INVERT LEVEL ⁵	68.641m	2250	
	52.300	54.067	54.529
EXISTING SURFACE LEVEL	54.067	56.353	
DEPTH TO INVERT	1.767	1.824	
CHAINAGE	0.00	68.64	

LONG SECTION (SH01c)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

				DESIGNED		
				DES. APPROVED		
				DRAWN	J.FERNANDEZ	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

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MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS
PLAN AND LONG SECTION – SH01 (OPTION B1)

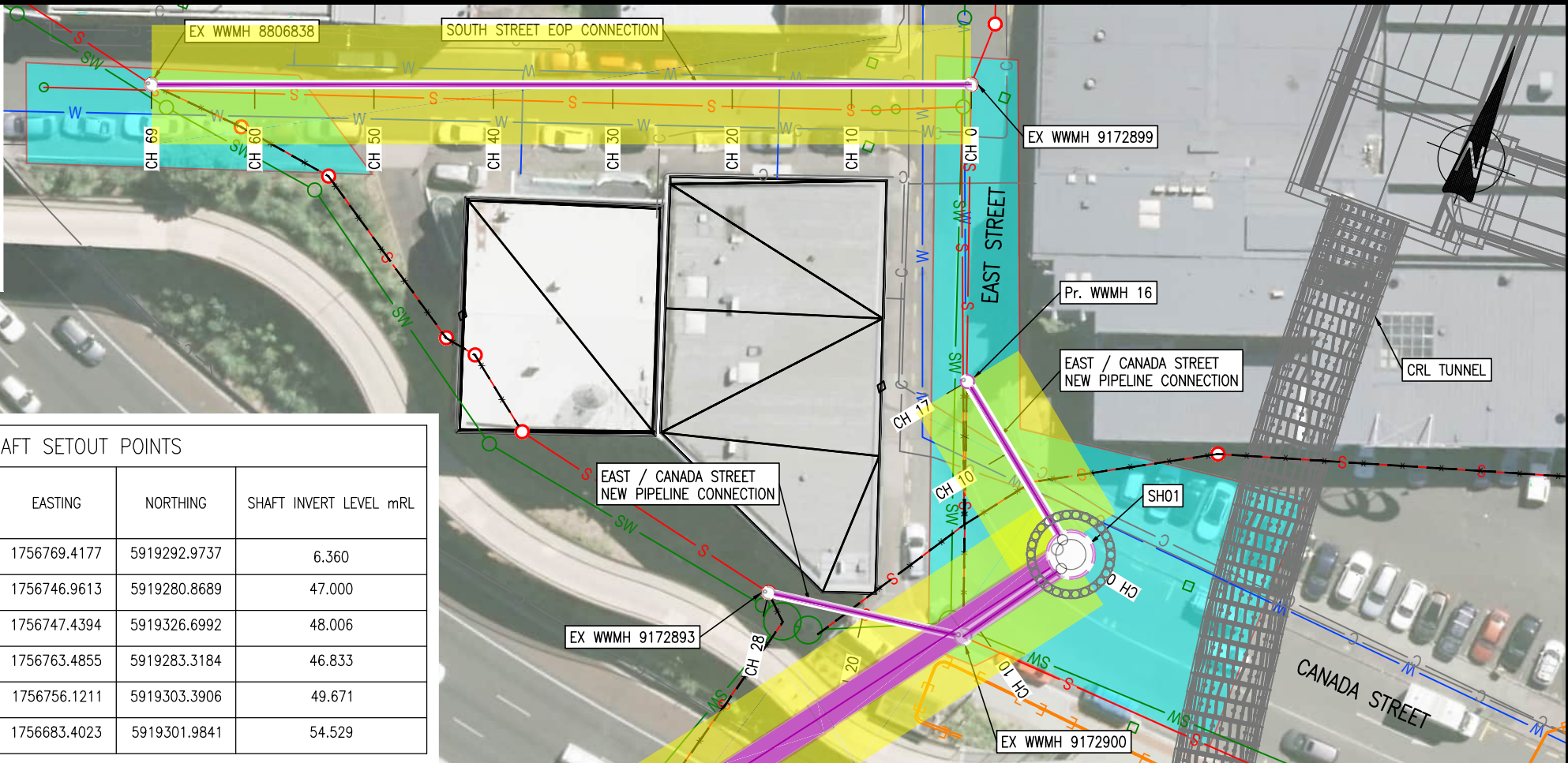
CAD FILE	2014581.130	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	—
AS SHOWN			
REF No.	—		
DWG No.	2014581.130	ISSUE	1

- NOTES:
1. SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
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 5. INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
 6. DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

LEGEND

- C ——— EXISTING COMMS
- S ——— EXISTING WASTEWATER (WW)
- W ——— EXISTING WATER
- G ——— EXISTING GAS
- E ——— EXISTING ELECTRICITY
- SW ——— EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- COLLECTOR SEWER
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS
- BUILDING FOUNDATIONS IN CLOSE PROXIMITY

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH01	ø4000mm	ø6000mm	1756769.4177	5919292.9737	6.360
EX WWMH 9172893	ø1050mm	—	1756746.9613	5919280.8689	47.000
EX WWMH 9172899	ø1050mm	—	1756747.4394	5919326.6992	48.006
EX WWMH 9172900	ø1500mm	—	1756763.4855	5919283.3184	46.833
Pr WWMH 16	ø1050mm	—	1756756.1211	5919303.3906	49.671
EX WWMH 8806838	ø1050mm	—	1756683.4023	5919301.9841	54.529



DATUM 24.00

PIPE DATA

INVERT LEVEL ⁵	6.360	46.733	46.833	47.000
	9.976m @ 1.00%	16.705m @ 1.00%		
EXISTING SURFACE LEVEL	51.365	51.814	51.310	
DEPTH TO INVERT	45.005	4.981	4.310	
CHAINAGE	0.00	1.29	11.43	28.14

LONG SECTION (SH01a)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM 24.00

PIPE DATA

INVERT LEVEL ⁵	6.360	49.515	49.671
	15.483m @ 1.00%		
EXISTING SURFACE LEVEL	51.365	52.069	
DEPTH TO INVERT	45.005	1.850	2.398
CHAINAGE	0.00	1.29	16.89

LONG SECTION (SH01b)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM 26.00

PIPE DATA

INVERT LEVEL ⁵	48.006	52.300	54.529
	68.641m @ 3.25%		
EXISTING SURFACE LEVEL	54.067	56.353	
DEPTH TO INVERT	1.767	1.824	
CHAINAGE	0.00		68.64

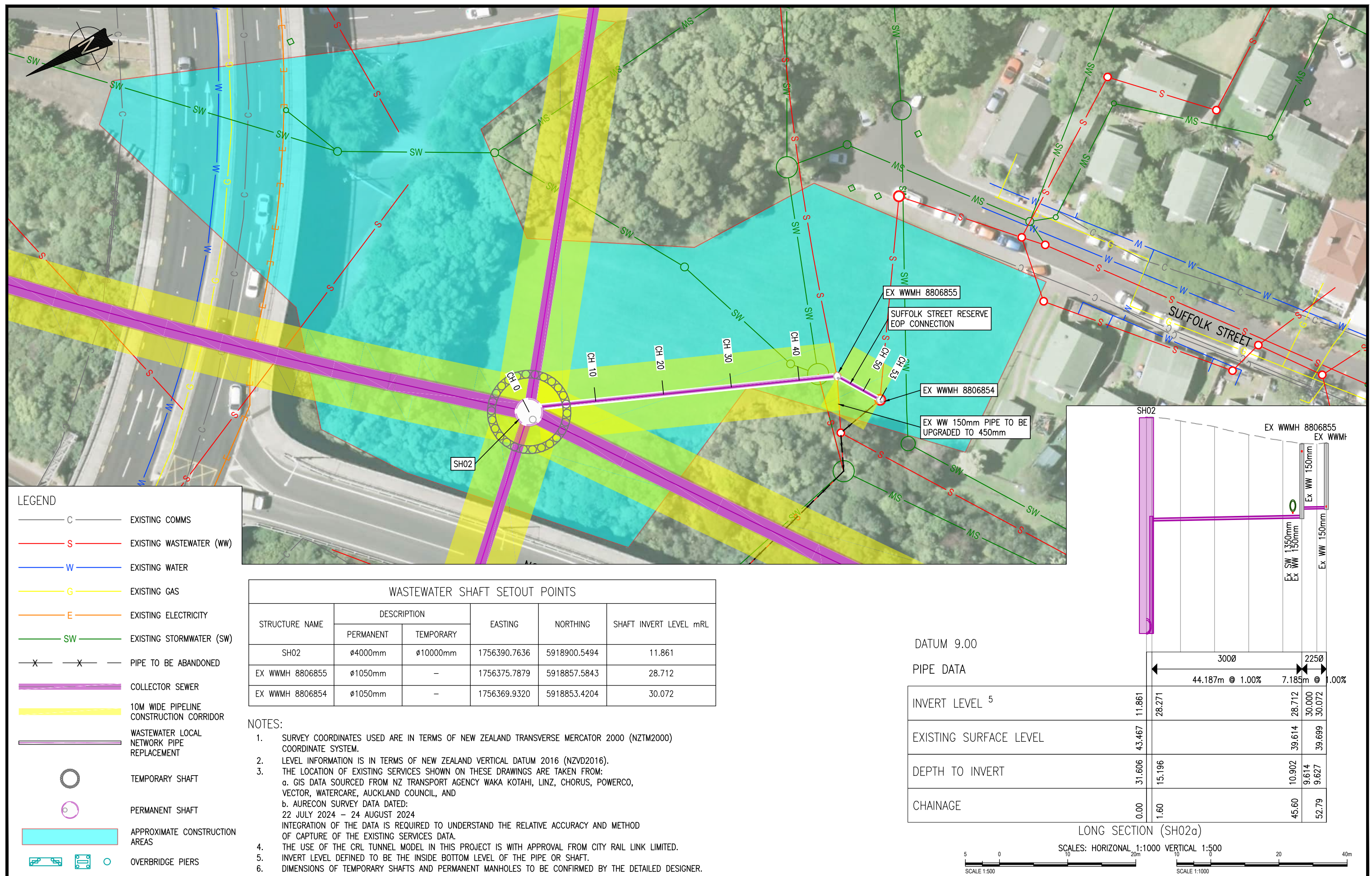
LONG SECTION (SH01c)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

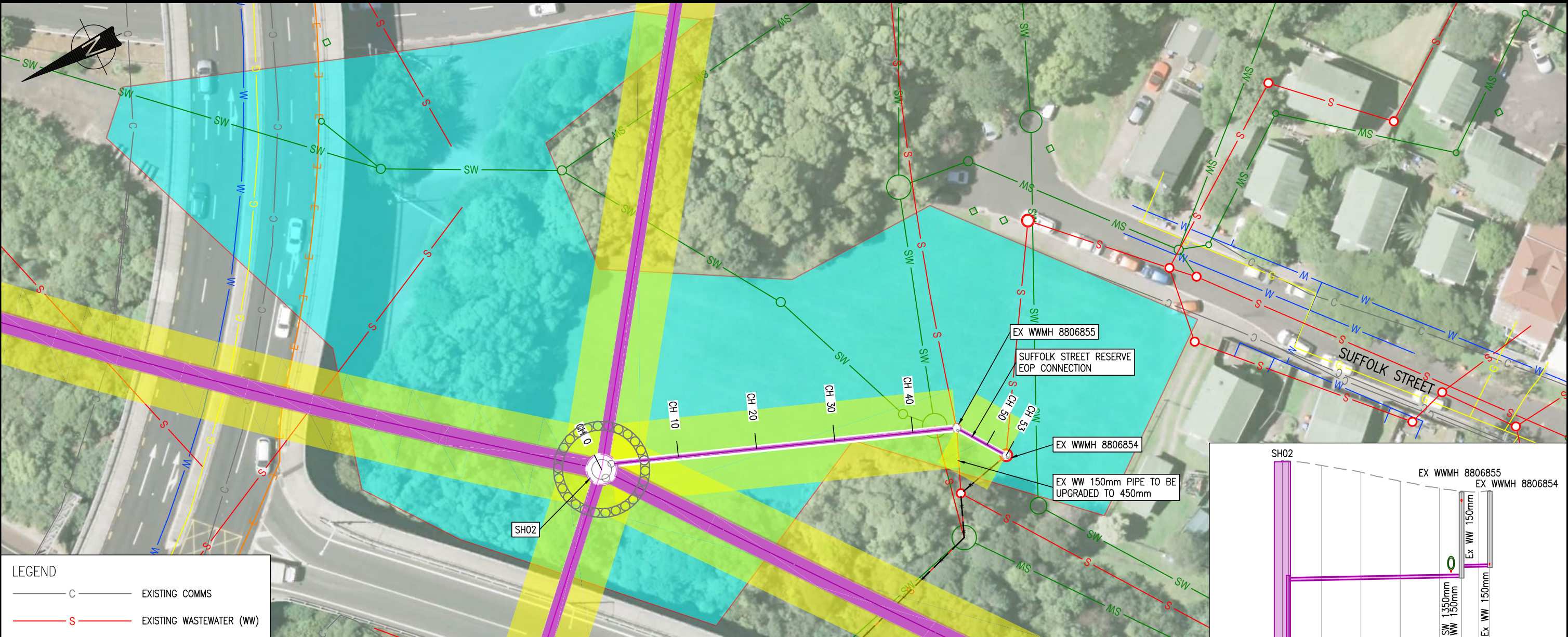
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				DES. APPROVED							
				DRAWN		J.FERNANDEZ		05-25			
				DWG. APPROVED							
				WSL DESIGN MGMT.		J.STOKES		05-25		COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.	
				WSL PROJ. LEAD		J.STOKES		05-25			
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	BY	APPD.	BY	DATE			
ISSUE	DATE	AMENDMENT			BY	APPD.	BY	DATE			

MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS
PLAN AND LONG SECTION – SH01 (OPTION B2)

CAD FILE	2014581.131	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	—
AS SHOWN			
REF No.	—		
DWG No.	2014581.131	ISSUE	1



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					DES. APPROVED					ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. -
					DRAWN	J.FERNANDEZ	05-25			REF No. -	
					DWG. APPROVED					DWG No.	ISSUE
					WSL DESIGN MGMT.	J.STOKES	05-25			2014581.132	1
1	16.05.25	ISSUE FOR INFORMATION			JF	MC					
ISSUE	DATE	AMENDMENT			BY	APPD.		BY	DATE		



LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH02	ø4000mm	ø10000mm	1756390.7636	5918900.5494	3.614
EX WWMH 8806855	ø1050mm	—	1756375.7879	5918857.5843	28.712
EX WWMH 8806854	ø1050mm	—	1756369.9320	5918853.4204	30.072

- NOTES:**
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 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

DATUM 9.00

PIPE DATA

INVERT LEVEL ⁵	3.614	28.271	28.712	30.000	30.072
EXISTING SURFACE LEVEL	43.467		39.614	39.699	
DEPTH TO INVERT	39.853	15.196	10.902	9.614	9.627
CHAINAGE	0.00	1.60	45.60	52.79	

LONG SECTION (SH02a)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



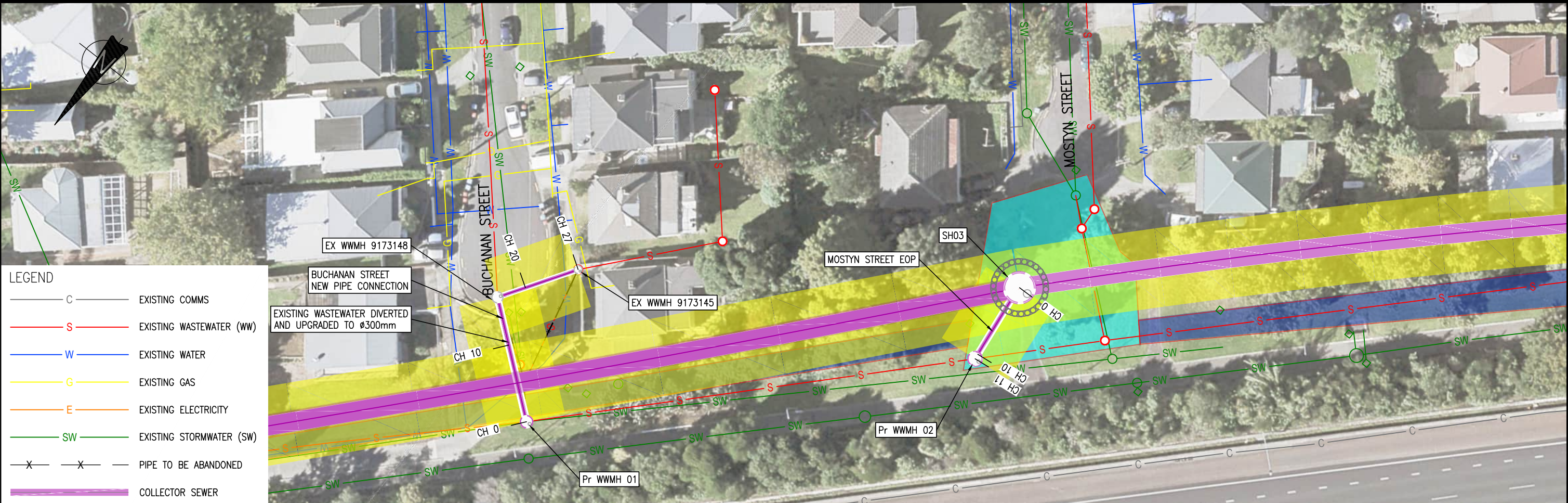
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					DES. APPROVED		
					DRAWN	J.FERNANDEZ	05-25
					DWG. APPROVED		
					WSL DESIGN MGMT.	J.STOKES	05-25
					WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF	MC			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE	

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**MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS**
PLAN AND LONG SECTION – SH02 (OPTION B2)

CAD FILE	2014581.133	DATE	16-05-2025
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	—
REF No.	—		
DWG No.	2014581.133	ISSUE	1



LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- ACCESS/EGRESS TRACK
- OVERBRIDGE PIERS

DATUM 4.00
PIPE DATA

INVERT LEVEL ⁵	24.009	24.411	25.268	26.151	26.260	26.160
	26.944		29.209		28.289	
DEPTH TO INVERT	2.935	2.533	3.941	3.058	2.009	
CHAINAGE	0.00		16.24		27.10	

LONG SECTION (SH03a)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM 4.00
PIPE DATA

INVERT LEVEL ⁵	8.824	24.308	24.400	24.106
	25.862		25.998	
DEPTH TO INVERT	17.038	1.554	1.598	
CHAINAGE	0.00	1.37	10.66	

LONG SECTION (SH03b)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
EX WWMH 9173145	Ø1050mm	—	1755997.4388	5918515.1043	26.160
EX WWMH 9173148	Ø1500mm	—	1756003.3233	5918524.2318	25.268
Pr WWMH 01	Ø1500mm	—	1755990.6249	5918534.3570	24.009
Pr.WWMH 02	Ø1800mm	—	1755950.7463	5918492.7330	24.106
SH03	Ø4000mm	Ø6000mm	1755951.8984	5918482.1414	8.824

- NOTES:
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
 - LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
 - THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHI, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
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 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.



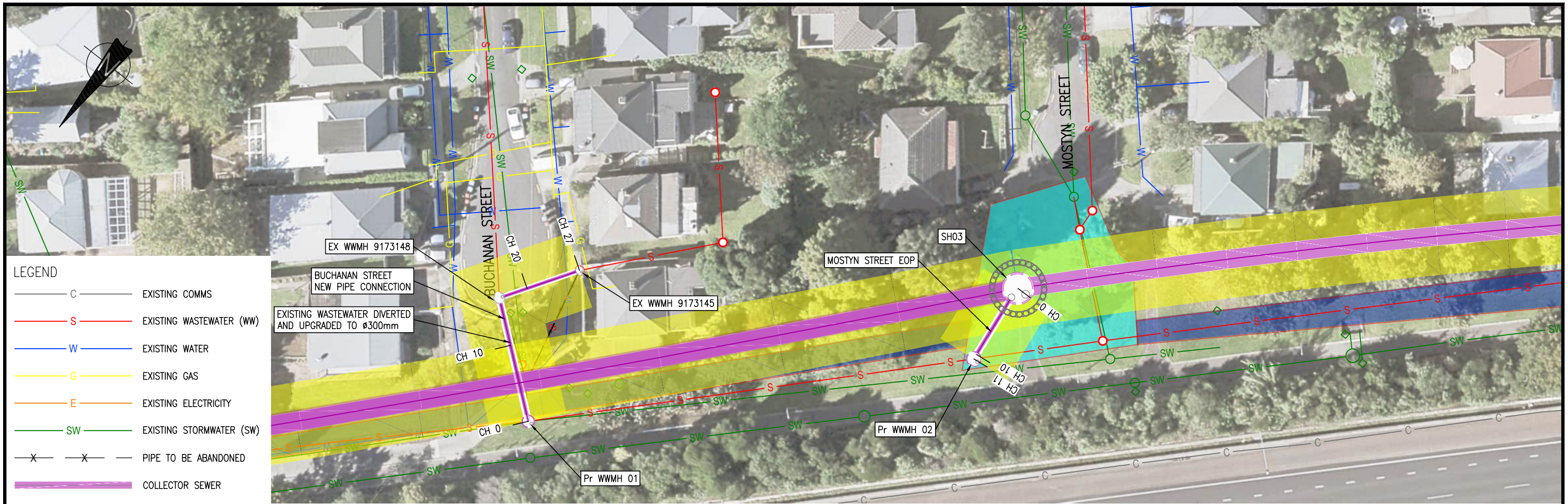
DESIGNED				
DES. APPROVED				
DRAWN	J.FERNANDEZ	05-25		
DWG. APPROVED				
WSL DESIGN MGMT.	J.STOKES	05-25		
WSL PROJ. LEAD	J.STOKES	05-25		
1	16.05.25	ISSUE FOR INFORMATION	JF	MC
ISSUE	DATE	AMENDMENT	BY	APPD.

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**MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS**

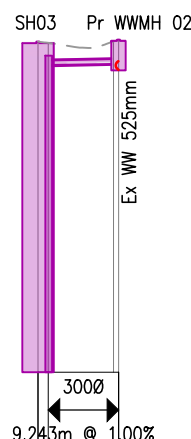
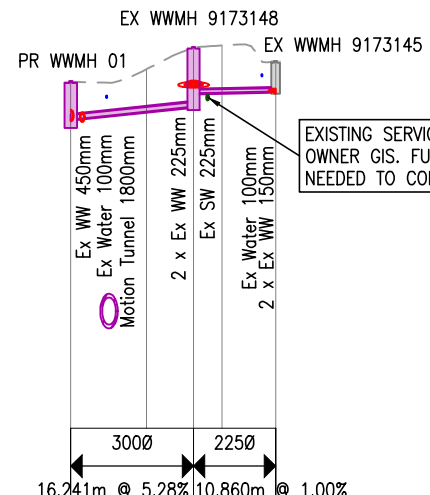
PLAN AND LONG SECTION – SH03 (OPTION B1)

CAD FILE	2014581.134	DATE	16-05-2025
ORIGINAL SCALE	A3	CONTRACT No.	—
AS SHOWN			
REF No.	—		
DWG No.	2014581.134	ISSUE	1



LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
- Collector Sewer
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- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- ACCESS/EGRESS TRACK
- OVERBRIDGE PIERS



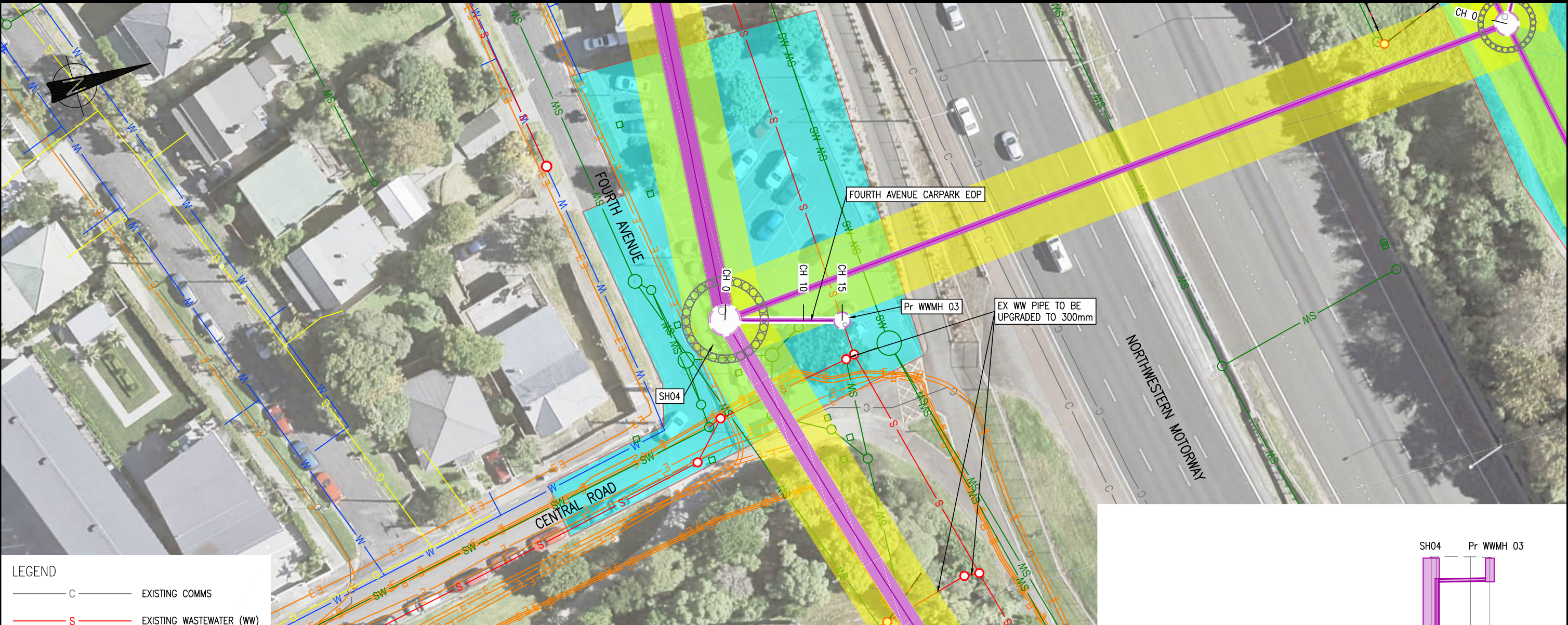
WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
EX WWMH 9173145	Ø1050mm	—	1755997.4388	5918515.1043	26.160
EX WWMH 9173148	Ø1500mm	—	1756003.3233	5918524.2318	25.268
Pr WWMH 01	Ø1500mm	—	1755990.6249	5918534.3570	24.009
Pr.WWMH 02	Ø1800mm	—	1755950.7463	5918492.7330	24.106
SH03	Ø4000mm	Ø6000mm	1755951.8984	5918482.1414	0.586

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 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.



				DESIGNED					MOTIONS COLLECTOR SEWER LOCAL NETWORK CONNECTIONS PLAN AND LONG SECTION – SH03 (OPTION B2)	CAD FILE 2014581.135		DATE 16-05-2025
				DES. APPROVED						ORIGINAL SCALE A3	CONTRACT No.	
				DRAWN	J.FERNANDEZ	05-25				AS SHOWN	—	
				DWG. APPROVED						REF No.	—	
				WSL DESIGN MGMT.	J.STOKES	05-25				DWG No.	2014581.135	
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	05-25				ISSUE	1
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE						

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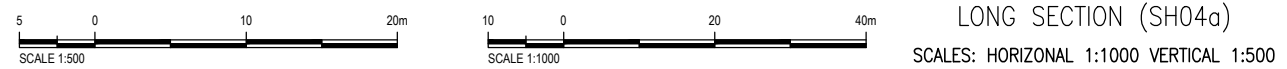


LEGEND

- C ——— EXISTING COMMS
- S ——— EXISTING WASTEWATER (WW)
- W ——— EXISTING WATER
- G ——— EXISTING GAS
- E ——— EXISTING ELECTRICITY
- SW ——— EXISTING STORMWATER (SW)
- X — X — PIPE TO BE ABANDONED
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- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
Pr WWMH 03	ø2050mm	—	1755480.9129	5918216.9883	19.239
SH04	ø7000mm	ø9000mm	1755476.6498	5918202.6941	-2.209

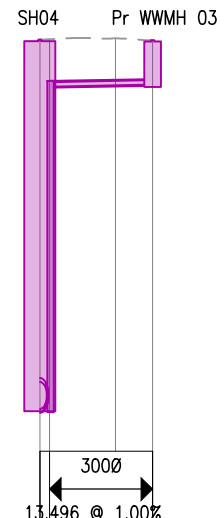
- NOTES:**
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DATUM -5.00

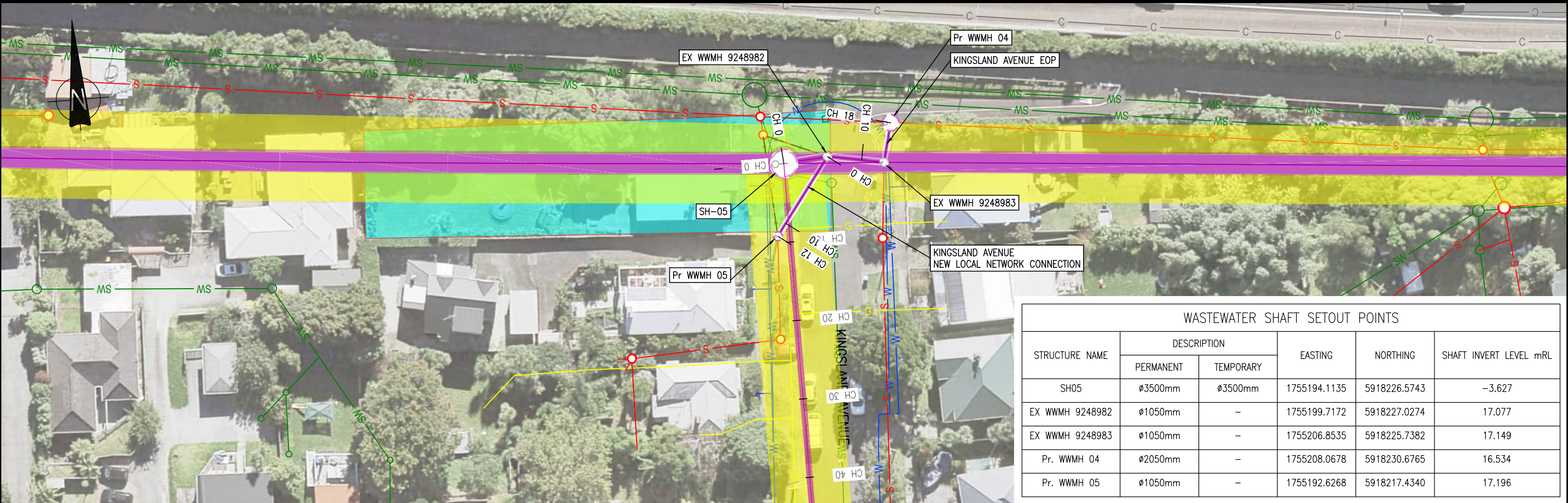
PIPE DATA

INVERT LEVEL ⁵	-2.209	19.104	19.239
EXISTING SURFACE LEVEL	22.214		22.183
DEPTH TO INVERT	24.423	3.110	2.944
CHAINAGE	0.00	1.30	14.92



				DESIGNED	R.GHORBANNEJAD	05-25		MOTIONS COLLECTOR SEWER LOCAL NETWORK CONNECTIONS PLAN AND LONG SECTION – SH04	CAD FILE 2014581.136		DATE 16-05-2025
				DES. APPROVED	M.COBDLICK	05-25			ORIGINAL SCALE A3	CONTRACT No.	
				DRAWN	J.FERNANDEZ	05-25			AS SHOWN	—	
				DWG. APPROVED	M.COBDLICK	05-25			REF No.	—	
				WSL DESIGN MGMT.	J.STOKES	05-25			DWG No.	2014581.136	
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	05-25			ISSUE	1
AMENDMENT				BY	APPD.	BY	DATE				

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH05	ø3500mm	ø3500mm	1755194.1135	5918226.5743	-3.627
EX WWMH 9248982	ø1050mm	—	1755199.7172	5918227.0274	17.077
EX WWMH 9248983	ø1050mm	—	1755206.8535	5918225.7382	17.149
Pr. WWMH 04	ø2050mm	—	1755208.0678	5918230.6765	16.534
Pr. WWMH 05	ø1050mm	—	1755192.6268	5918217.4340	17.196

LEGEND

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- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
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- TEMPORARY SHAFT
- PERMANENT SHAFT
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- OVERBRIDGE PIERS

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DATUM -10.00

PIPE DATA

	5.622m @ 1.00%	7.252m @ 1.00%	5.085m @ 1.00%	
INVERT LEVEL ⁵	-3.627	17.077	17.149	16.534
EXISTING SURFACE LEVEL	19.033	19.234	19.105	19.173
DEPTH TO INVERT	22.660	2.013	2.157	1.973
CHAINAGE	0.00	5.62	12.87	17.96

LONG SECTION (SH05a)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DATUM -10.00

PIPE DATA

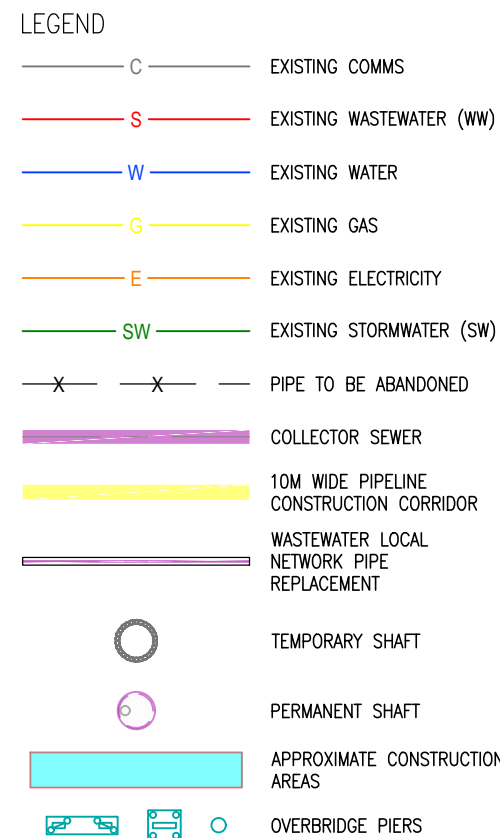
	11.929m @ 1.00%	
INVERT LEVEL ⁵	17.077	17.196
EXISTING SURFACE LEVEL	19.234	19.365
DEPTH TO INVERT	2.157	2.169
CHAINAGE	5.62	11.93

LONG SECTION (SH05b)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



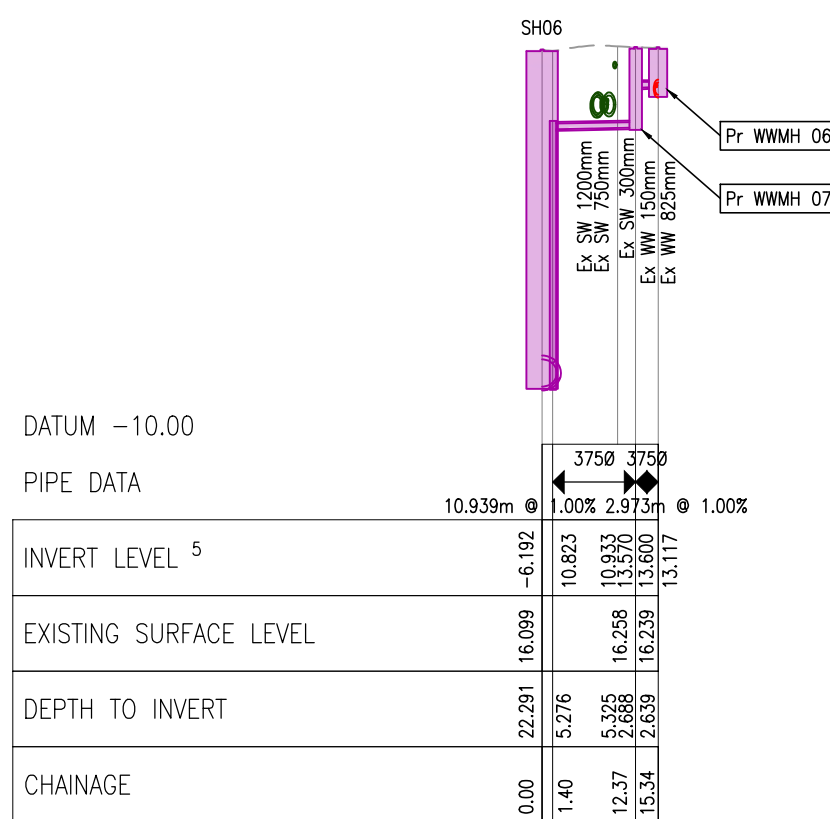
				DESIGNED			MOTIONS COLLECTOR SEWER LOCAL NETWORK CONNECTIONS PLAN AND LONG SECTION – SH05	CAD FILE 2014581.137		DATE 25-07-2025	
				DES. APPROVED				ORIGINAL SCALE A3		CONTRACT No. —	
				DRAWN	J.FERNANDEZ			AS SHOWN			
				DWG. APPROVED				REF No. —			
2	25.07.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25	DWG No. 2014581.137		ISSUE 2	
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25				
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE				

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WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH06	ø4000mm	ø6000mm	1754685.2555	5918290.9937	−6.192
Pr. WWMH 06	ø2300mm	–	1754698.1651	5918294.7054	13.117
Pr. WWMH 07	ø1500mm	–	1754697.4995	5918291.8080	10.933

1. SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
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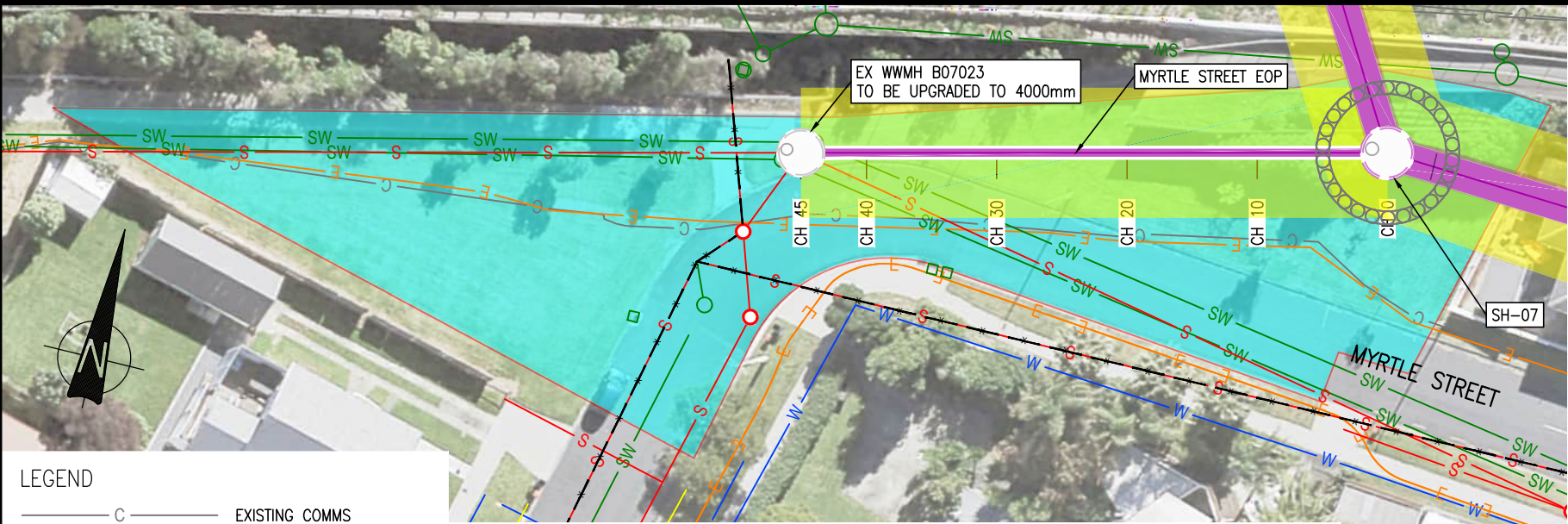


LONG SECTION (SH06)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

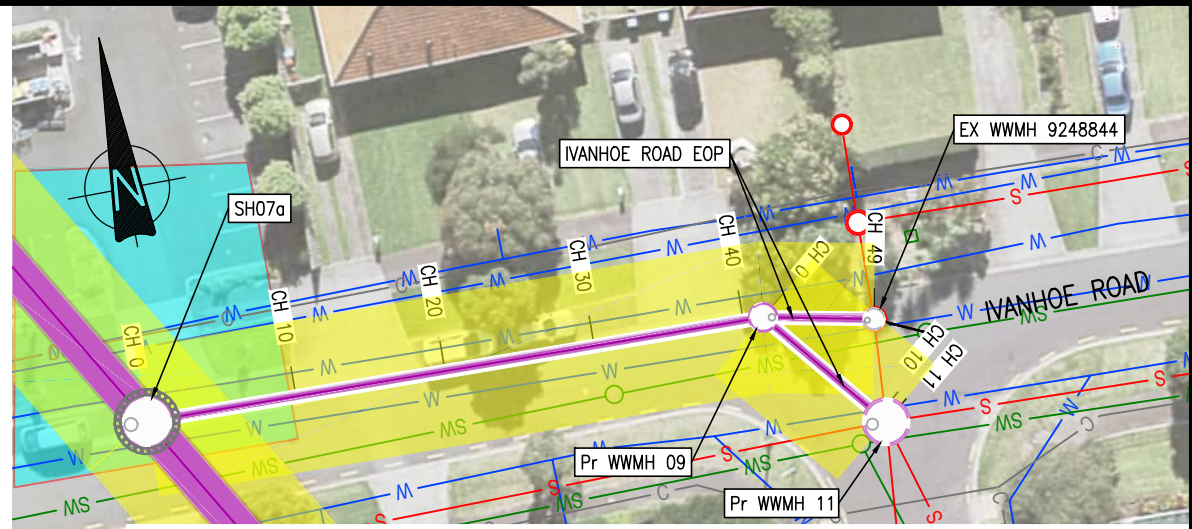


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					DES. APPROVED					ORIGINAL SCALE	A3	CONTRACT No.	—
					DRAWN	J.FERNANDEZ	07-25			AS SHOWN			
					DWG. APPROVED					REF No.	—		
2	25.07.25	ISSUE FOR INFORMATION	JF	MC	WSL DESIGN MGMT.	J.STOKES	07-25	COPYRIGHT – This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.		DWG No.	2014581.138	ISSUE	2
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	07-25						
ISSUE	DATE	AMENDMENT	BY	APPD.		BY	DATE						

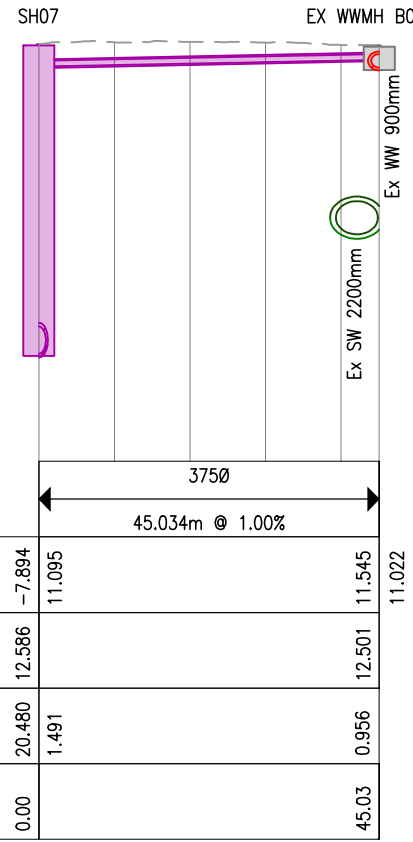


- LEGEND
- C — EXISTING COMMS
 - S — EXISTING WASTEWATER (WW)
 - W — EXISTING WATER
 - G — EXISTING GAS
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 - WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
 - TEMPORARY SHAFT
 - PERMANENT SHAFT
 - APPROXIMATE CONSTRUCTION AREAS
 - OVERBRIDGE PIERS

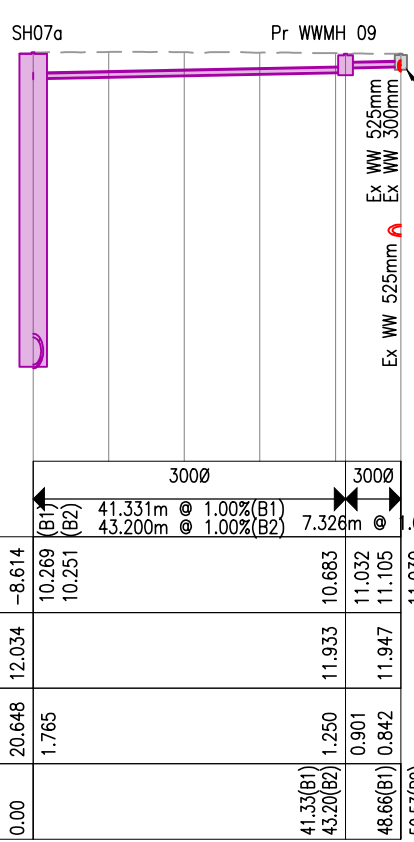
- NOTES:
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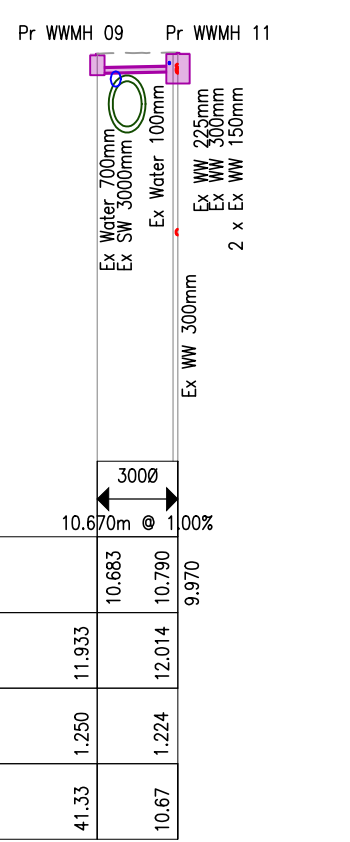
WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH07a	ø3500mm	ø3500mm	1754272.5728	5918435.1943	-8.614
EX WWMH 9248844	ø1500mm	—	1754321.0830	5918433.1282	11.030
Pr. WWMH 09	ø1800mm	—	1754313.8992	5918434.5641	10.683
Pr. WWMH 11	ø3000mm	—	1754320.6458	5918426.2978	9.970
SH07	ø4000mm	ø9000mm	1754345.5581	5918310.8469	-7.894
EX WWMH B07023	ø4000mm	—	1754301.7811	5918300.2810	11.022



LONG SECTION (SH07a)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

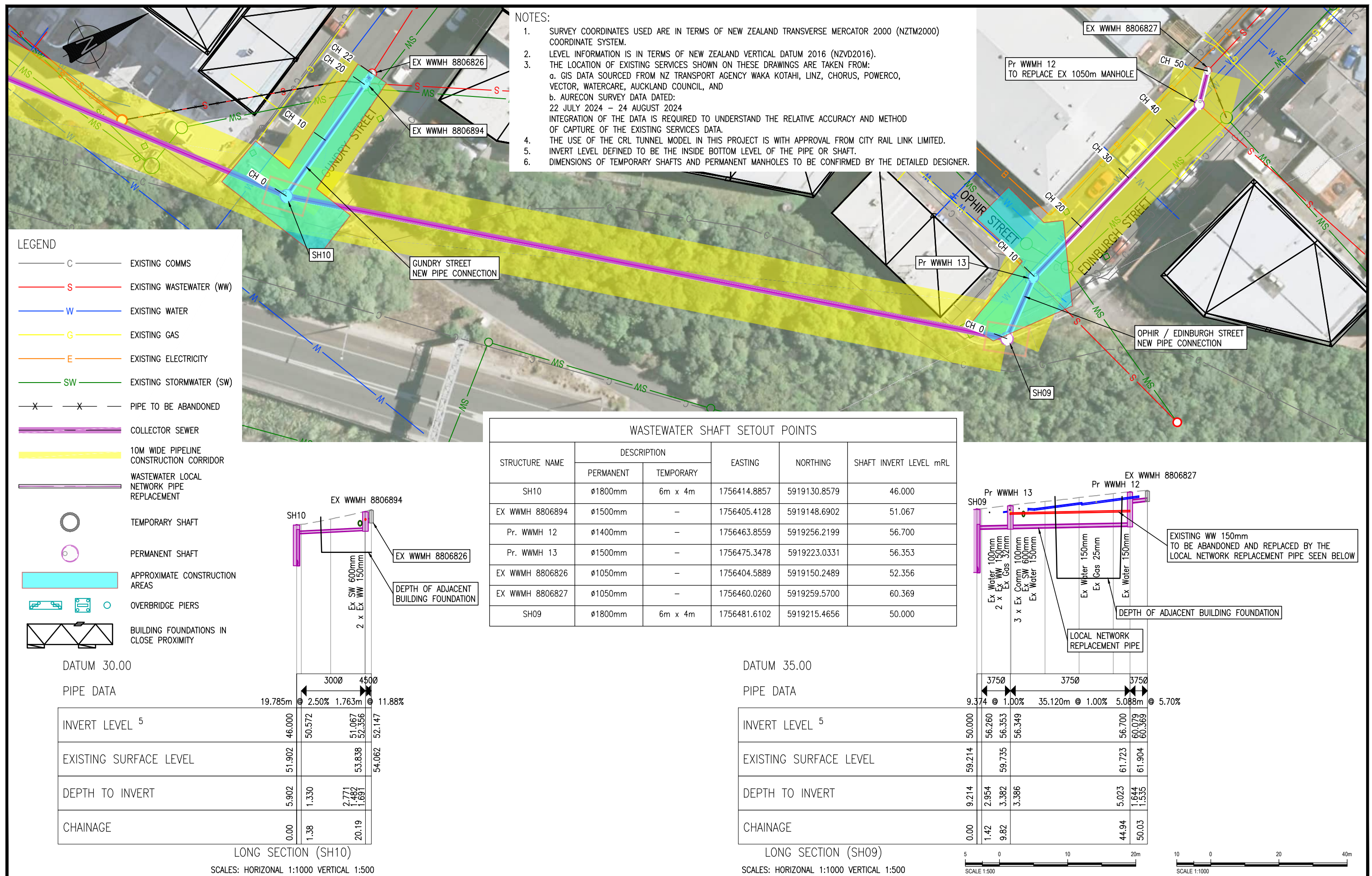


LONG SECTION (SH07b)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



LONG SECTION (SH07c)
SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

DESIGNED		DES. APPROVED		DRAWN		J.FERNANDEZ		05-25		 COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.		
DWG. APPROVED		WSL DESIGN MGMT.		J.STOKES		05-25						
WSL PROJ. LEAD		J.STOKES		03-25								
BY		DATE										
1	16.05.25	ISSUE FOR INFORMATION	JF	MC	WSL PROJ. LEAD	J.STOKES	03-25	MOTIONS COLLECTOR SEWER LOCAL NETWORK CONNECTIONS PLAN AND LONG SECTION - SH07 SH07a			CAD FILE 2014581.139	DATE 16-05-2025
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE				ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. —	
									REF No. —			
									DWG No. 2014581.139	ISSUE 1		



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					DES. APPROVED					ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. —
					DRAWN	J.FERNANDEZ	05-25			REF No. —	
					DWG. APPROVED					DWG No. 2014581.140	
					WSL DESIGN MGMT.	J.STOKES	05-25			ISSUE 1	
1	16.05.25	ISSUE FOR INFORMATION			JF	MC					
ISSUE	DATE	AMENDMENT			BY	APPD.					
					WSL PROJ. LEAD	J.STOKES	05-25				

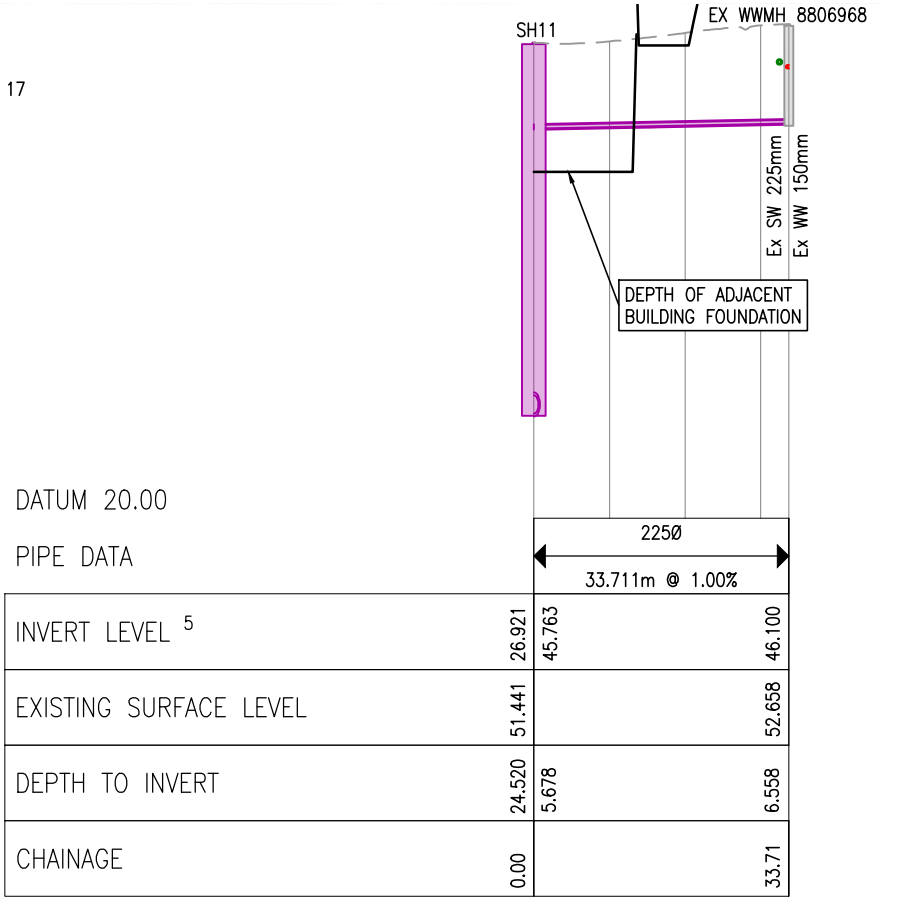
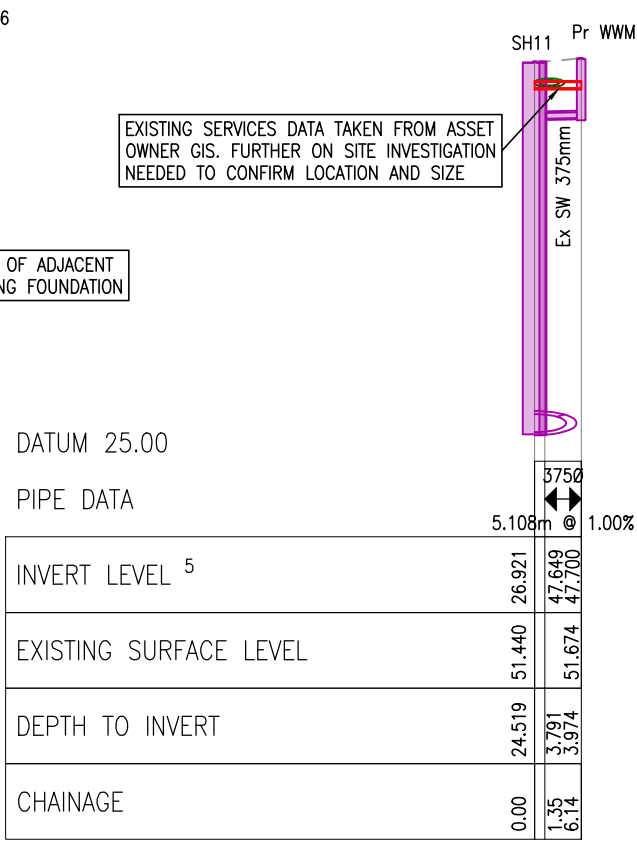
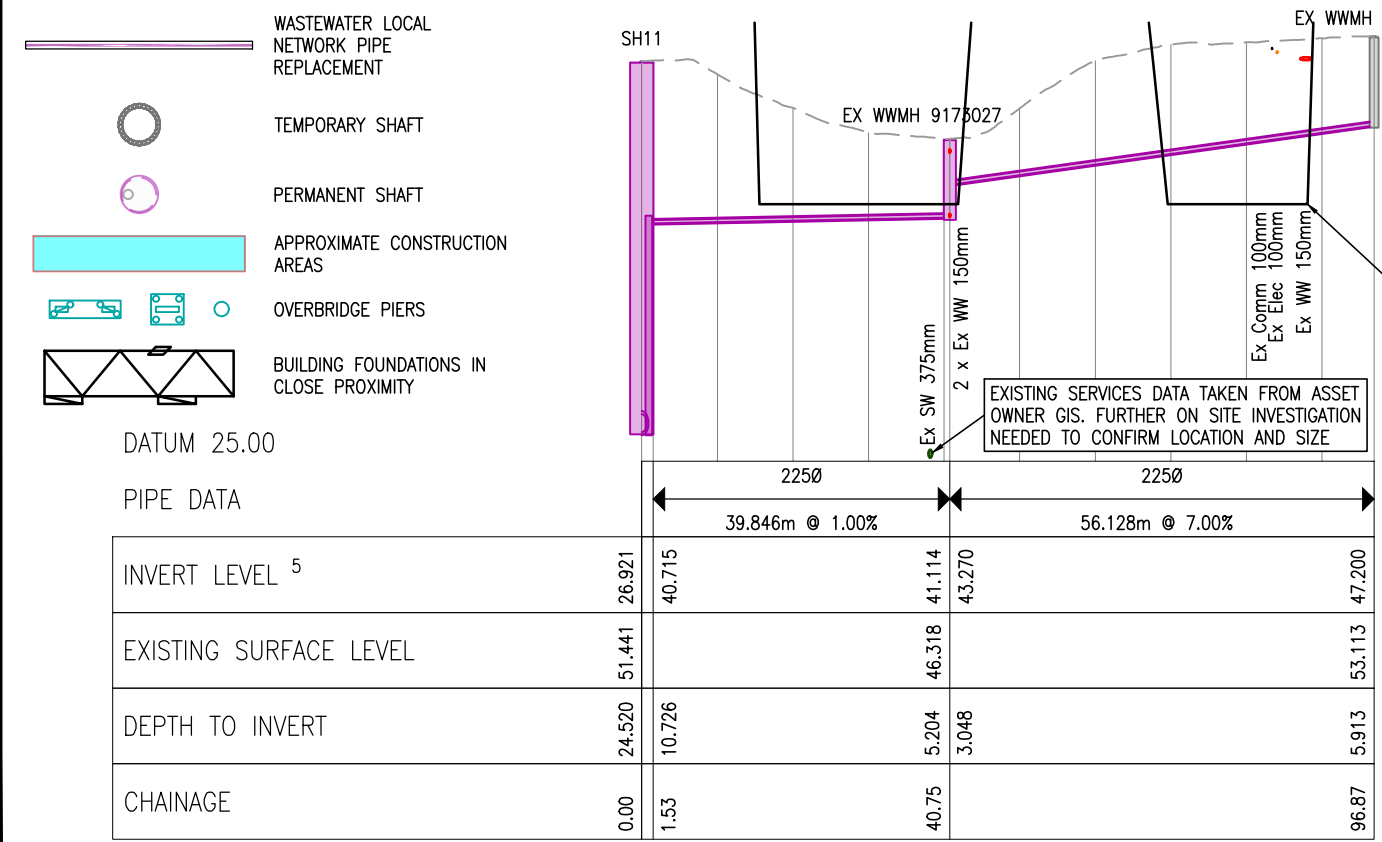


LEGEND

- C — EXISTING COMMS
- S — EXISTING WASTEWATER (WW)
- W — EXISTING WATER
- G — EXISTING GAS
- E — EXISTING ELECTRICITY
- SW — EXISTING STORMWATER (SW)
- X — PIPE TO BE ABANDONED
- Collector Sewer
- 10M WIDE PIPELINE CONSTRUCTION CORRIDOR
- WASTEWATER LOCAL NETWORK PIPE REPLACEMENT
- TEMPORARY SHAFT
- PERMANENT SHAFT
- APPROXIMATE CONSTRUCTION AREAS
- OVERBRIDGE PIERS
- BUILDING FOUNDATIONS IN CLOSE PROXIMITY

- NOTES:**
- SURVEY COORDINATES USED ARE IN TERMS OF NEW ZEALAND TRANSVERSE MERCATOR 2000 (NZTM2000) COORDINATE SYSTEM.
 - LEVEL INFORMATION IS IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016 (NZVD2016).
 - THE LOCATION OF EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE TAKEN FROM:
a. GIS DATA SOURCED FROM NZ TRANSPORT AGENCY WAKA KOTAHI, LINZ, CHORUS, POWERCO, VECTOR, WATERCARE, AUCKLAND COUNCIL, AND
b. AURECON SURVEY DATA DATED:
22 JULY 2024 – 24 AUGUST 2024
INTEGRATION OF THE DATA IS REQUIRED TO UNDERSTAND THE RELATIVE ACCURACY AND METHOD OF CAPTURE OF THE EXISTING SERVICES DATA.
 - THE USE OF THE CRL TUNNEL MODEL IN THIS PROJECT IS WITH APPROVAL FROM CITY RAIL LINK LIMITED.
 - INVERT LEVEL DEFINED TO BE THE INSIDE BOTTOM LEVEL OF THE PIPE OR SHAFT.
 - DIMENSIONS OF TEMPORARY SHAFTS AND PERMANENT MANHOLES TO BE CONFIRMED BY THE DETAILED DESIGNER.

WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mRL
	PERMANENT	TEMPORARY			
SH11	ø3000mm	ø6000mm	1756273.4725	5919012.0745	26.921
EX WWMH 8806968	ø1050mm	—	1756251.2924	5918986.6883	46.100
EX WWMH 9173027	ø1500mm	—	1756300.4973	5919042.5074	41.114
Pr. WWMH 17	ø1050mm	—	1756269.6759	5919016.9057	47.700
EX WWMH 8806966	ø1050mm	—	1756337.0510	5919085.2190	47.200



				DESIGNED		
				DES. APPROVED		
				DRAWN	J.FERNANDEZ	05-25
				DWG. APPROVED		
				WSL DESIGN MGMT.	J.STOKES	05-25
				WSL PROJ. LEAD	J.STOKES	05-25
1	16.05.25	ISSUE FOR INFORMATION	JF MC	BY	APPD.	DATE
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE

MOTIONS COLLECTOR SEWER

LOCAL NETWORK CONNECTIONS

PLAN AND LONG SECTION – SH11

DESIGNED

DES. APPROVED

DRAWN

DWG. APPROVED

WSL DESIGN MGMT.

WSL PROJ. LEAD

DATE

16-05-2025

CONTRACT No.

—

ISSUE

1

CAD FILE 2014581.141

ORIGINAL SCALE A3

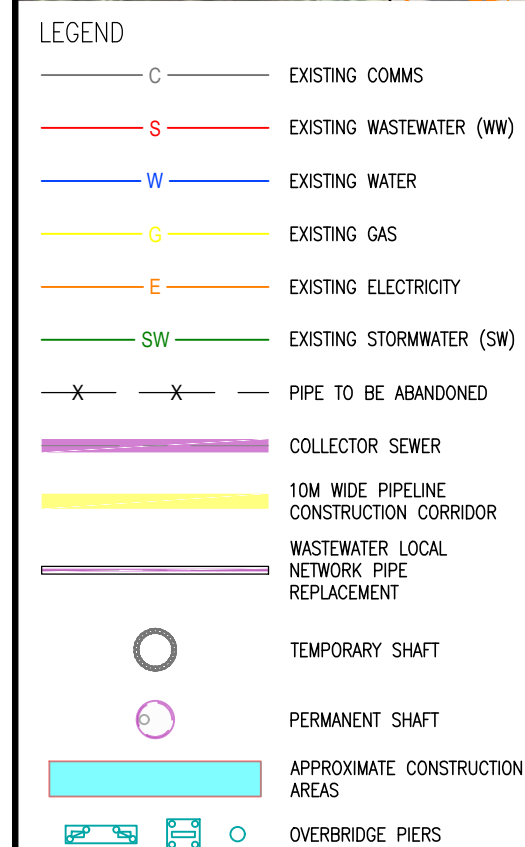
AS SHOWN

REF No.

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DWG No.

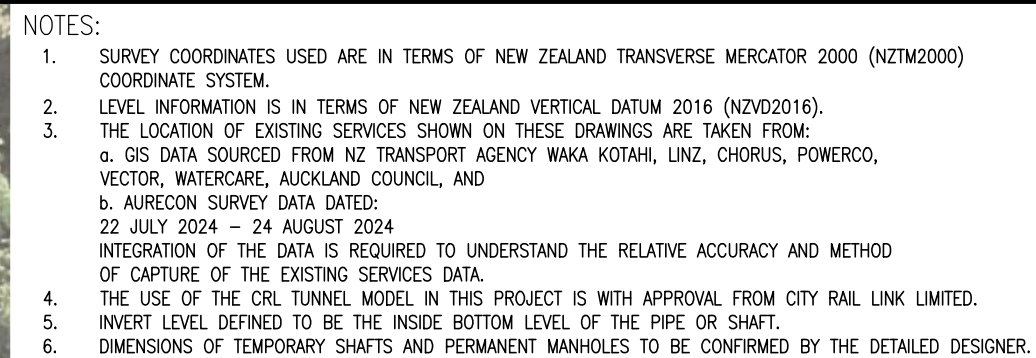
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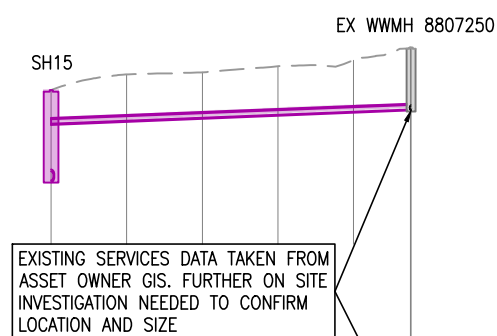
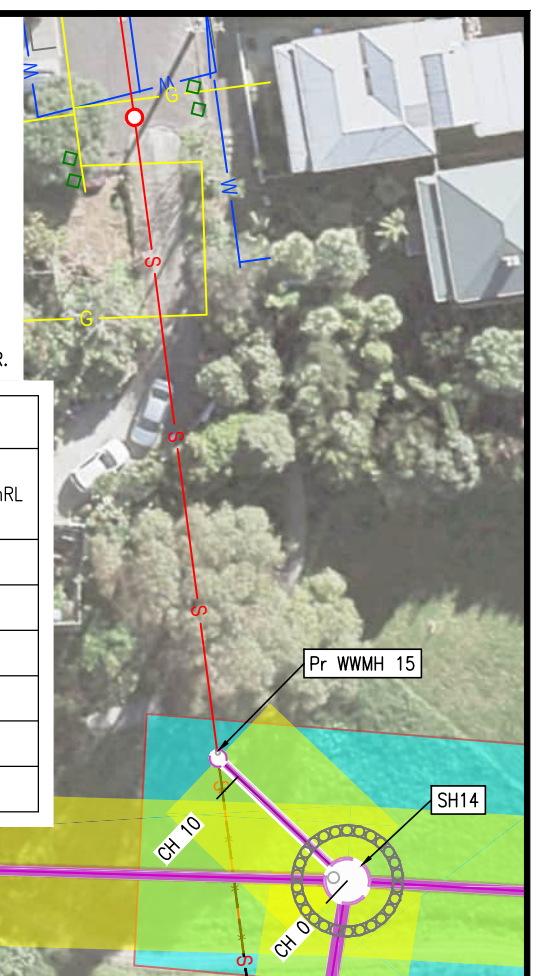
DATUM 10.00			
PIPE DATA		2250	
		21.385m @ 2.00%	
INVERT LEVEL ⁵	25.846	32.801	33.228
EXISTING SURFACE LEVEL	33.986		35.954
DEPTH TO INVERT	8.140	1.185	2.726
CHAINAGE	0.00		21.39

LONG SECTION (SH13)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



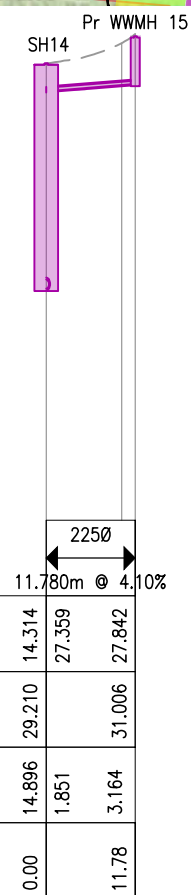
WASTEWATER SHAFT SETOUT POINTS					
STRUCTURE NAME	DESCRIPTION		EASTING	NORTHING	SHAFT INVERT LEVEL mR
	PERMANENT	TEMPORARY			
SH13	Ø1800mm	6m x 4m	1755527.2827	5918319.4689	25.846
Pr. WWMH 14	Ø1050mm	—	1755532.8596	5918340.1138	32.228
SH14	Ø3000mm	Ø6000mm	1755468.603	5918308.8144	14.314
SH15	Ø1800mm	6m x 4m	1755362.838	5918286.6948	17.281
Pr. WWMH 15	Ø1500mm	—	1755458.401	5918314.7053	27.842
EX WWMH 8807250	Ø1050mm	—	1755346.3670	5918331.3680	22.000



DATUM -1.00					
PIPE DATA			3000		
			47.546m @ 2.00%		
INVERT LEVEL ⁵	17.281	21.050			22.000
EXISTING SURFACE LEVEL	23.280				26.100
DEPTH TO INVERT	5.999	2.230			4.100
CHAINAGE	0.00				47.62

LONG SECTION (SH15)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500



DATUM -1.00			
PIPE DATA			
		225Ø	
	11.78m @ 4.10%		
INVERT LEVEL ⁵	14.314	27.359	27.842
EXISTING SURFACE LEVEL	29.210		31.006
DEPTH TO INVERT	14.896	1.851	3.164
CHAINAGE	0.00		11.78

LONG SECTION (SH14)

SCALES: HORIZONTAL 1:1000 VERTICAL 1:500

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						DES. APPROVED			
						DRAWN	J.FERNANDEZ	05-25	
						DWG. APPROVED			
						WSL DESIGN MGMT.	J.STOKES	05-25	
1	16.05.25	ISSUE FOR INFORMATION	JF	MC		WSL PROJ. LEAD	J.STOKES	05-25	
ISSUE	DATE	AMENDMENT	BY	APPD.			BY	DATE	

MOTIONS COLLECTOR SEWER
LOCAL NETWORK CONNECTIONS
PLAN AND LONG SECTION – SH13 SH14 SH15

CAD FILE	2014581.142	DATE	16-05-2025
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	—
REF No. —			
DWG No.	2014581.142	ISSUE 1	