ATTACHMENT [E]:
Infrastructure Memorandum

Minister of Education: Notice of Requirement |
Rolleston Secondary School

Tonkin+Taylor

Memo

To:	**Deb Taylor - MoE**	**Job No:**	**1017289**
From:	**Simon Fryer**	**Date:**	**10 February 2022**
Subject:	**Notice of Requirement - Infrastructure Assessment for West Village Rolleston - Stage 8 Land Parcel**		

As requested in your email of the 2 December 2021 we have undertaken a further review of the current service provision into the Stage 8 land parcel at West Village Rolleston. This review is from the perspective of servicing a proposed school campus; comprising 2,500 secondary school students, 300 Primary School students, 50 ECE students and an unknown number of students and visitors to the Hangarau specialist hub, plus staff.

This further review was made necessary upon the receipt of a revised set of Davie Lovell Smith (DLS) civil works drawings. The drawings that were originally reviewed, by our letter report to you of the 20 July 2021, were all Revision 3, dated July 2021 whilst the revised drawings, listed below, are all Revision 8, dated October 2021. Drawing H.20242-STG4,5,7 E01.0 R8 is appended to this memo for information.

1 Information reviewed

- DLS plans titled 'South East Farringdon Stages 4,5 and 7' reference 'H.20242 STG4,5,7 E01.0 R8, H.20242 STG4,5,7 E02.0 R8, E02.1 R8, E02.2 R8, EO2.4 R8, EO2.5 R8, EO2.6 R8, EO3.0 R8, EO3.1 R8, EO3.2 R8, EO3.3 R8, EO3.4 R8, EO4.0 R8, EO4.1 R8, EO4.2 R8, EO4.3 R8, EO4.4 R8, EO4.5 R8, EO4.6 R8, EO4.7R8, EO4.8 R8, EO4.9 R8, EO4.10 R8, EO5.0 R8, EO5.1 R8 and EO5.2 R8, all dated October 2021.

It should be noted at this point that the drawing set from July 2021 included drawings EO2.3 R3 and EO2.7 R3 and these are missing from the October 2021 set.

- Enable Fibre Broadband drawing cabinet Ref: RL746, dated 23 February 2021. No updated drawings received.
- Orion power supply drawings 'WD-1986 sheet 1 sheet 19, dated June 2021. No updated drawings received.

2 Discussions with the developer's engineer

Simon Fryer of T+T spoke with Jamie Verstappen of DLS on 9 July 2021 with the main points discussed as outlined below:

- DLS have been aware for some time that this plot may be allocated for a school.
- Capacities in the three waters, power and comms networks are very large and the school is expected to be easily accommodated within the currently designed system.
- DLS would see no issue with taking a dedicated 100mm diameter fire supply from the current water supply system, if this were required.

3 Services review summary

The plans provided were sufficiently detailed for us to be able to identify services location, routeing and diameters. We were also able to identify where capped stubs into the site have been provided and where features such as fire hydrants, power sub-stations/kiosks and manholes are located. We have summarised our review of the services plans in the table appended to this memo for ease of reference.

4 Summary

Following our review of the available information and discussion with the developers engineer we find no grounds to suggest that the proposed school could not be serviced from the developer's network and on this basis consider the site suitable for a school development in this regard.

5 Applicability

This memo has been prepared for the exclusive use of our client, Ministry of Education, with respect to the specific brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Memo prepared by:	Authorised for Tonkin & Taylor Ltd by:
.....	.....
Simon Fryer	Peter Cochrane
Senior Civil Engineer	Project Director

Attachments: Drawing H.20242-STG4,5,7 E01.0 R8

Service summary spreadsheet dated 21-01-2022

10-Feb-22

PLAN SCHEDULE

SHEET	DESCRIPTION	SCALE @ A1
E01.0	Overall Plan	1:1500
E02.0 - E02.2	Design Contours Plans	1:500
E02.3 - E02.5	Cut Fill Plans	1:500
EC3.0 - E03.2	Roading Plans	1:500
EC3.3 - E03.4	Roading Sections	As Shown
EC4.0 - E04.2	Sewer & Stormwater Plans	1:500
E04.3	Stormwater Details	As Shown
E04.4 - E04.10	Sewer & Stormwater Longsections	As Shown
EC5.0 - E05.2	Water Plans	1:500

LOCATION PLAN
Scale: 1:15,000@A1
1:30,000@A3

SHEETS E02.1, E02.4, E03.1, E04.1 & E05.1

SHEETS E02.0, E02.3, E03.0, E04.0 & E05.0

SHEETS E02.2, E02.5, E03.2, E04.2 & E05.2

NORTHMOOR BOULEVARD

THAMES DRIVE

FARINGDON BOULEVARD

HURLEY DRIVE

SELWYN ROAD

LADY ISAAC DRIVE

SPRINGSTON ROLLESTON ROAD

HUNGERFORD DRIVE

STAGE 1

STAGE 2

STAGE 3

STAGE 4

STAGE 5

STAGE 6

STAGE 7

ROAD 1

ROAD 2

ROAD 3

ROAD 4

ROAD 5

ROAD 6

ROAD 7

ROAD 8

ROW 1

ROW 2

ROW 3

KIOSK

POTENTIAL YARD AREA

SITE ACCESS

SITE BENCHMARK MASONRY ANCHOR 5 DP 515304 RL=35.72m

SITE BENCHMARK MASONRY ANCHOR 1 DP 524389 RL=34.52m

SITE BENCHMARK IRON SPIKE RL=34.25m

SITE BENCHMARK IRON SPIKE RL=34.48m

SITE BENCHMARK IRON SPIKE RL=34.19m

AMENDMENTS :

AMENDMENT	DATE	DESCRIPTION
R7	06/10/21	PROPOSED TREES UPDATED
R8	18/10/21	TREE LOCATIONS UPDATED

NOTES :

1. ALL WORKS IN ACCORDANCE WITH SDC CODE OF PRACTICE PARTS 1-11 STANDARDS. IF STANDARDS ARE UNSPECIFIED REFER TO CCC CSS PARTS 1-7.
2. ALL PLANS ARE TO BE READ AND DISTRIBUTED AS A COMPLETE SET. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
3. ORIGIN OF LEVELS

   LEVELS ARE IN TERMS OF MEAN SEA LEVEL (LYTTELTON VERTICAL DATUM 1937) PRIOR TO CANTERBURY EARTHQUAKES OF 2010 AND 2011.
4. EXISTING SERVICES HAVE BEEN DIGITISED FROM SERVICE AUTHORITY PLANS; COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. ALL SERVICES TO BE FULLY SEARCHED AND PILOTED PRIOR TO TRENCHING.
5. ELECTRICITY & TELECOM SERVICES NOT SHOWN. REFER TO ELECTRICAL & COMMUNICATION PLANS FOR DUCT LOCATIONS.
6. TRENCHING AND INSTALLATION OF POWER AND TELECOM SERVICES TO BE PROVIDED IN ACCORDANCE WITH SERVICE PROVIDERS PLANS AND SPECIFICATIONS.
7. ALL ROW AND DRIVEWAYS ARE TO HAVE 50mm DUCTS INSTALLED FOR COMMUNICATIONS AND POWER SUPPLY.
8. NATURAL CONTOUR INTERVAL: 0.2m MINOR. 1.0m MAJOR.
9. CONTRACTOR MUST READ ALL DISCHARGE CONSENTS PRIOR TO ANY EARTHWORKS.
10. ESCMP TO BE IN PLACE PRIOR TO ANY EARTHWORKS.
11. CONTROL OF SW, SEDIMENT AND DUST ON SITE IS THE RESPONSIBILITY OF THE CONTRACTOR.

HUGHES DEVELOPMENTS

LEGEND :

- PROPOSED STREET LIGHT - REFER TO SPUNLIGHT DRAWINGS
- EXISTING STREET LIGHT
- PROPOSED TREE
- NEW ASPHALT PAVEMENT
- NEW CHIPSEAL PAVEMENT
- LIGHT EXPOSED
- NEW FOOTPATH
- DARK EXPOSED

EXISTING SERVICES		PROPOSED SERVICES	
SANITARY SEWER	STD. MH	SANITARY SEWER	STD. MH
SANITARY SEWER	VENTED MH	SANITARY SEWER	VENTED MH
STORMWATER	MH	STORMWATER	MH
WATER	FH VALVE	WATER	FH VALVE METER
KERB		KERB	CUT DOWN

	NAME	SIGNED	DATE
DESIGNED BY	DANIEL BARR	DANIEL BARR	18.10.21
CHECKED BY	JAMIE VERSTAPPEN	JAMIE VERSTAPPEN	18.10.21

DAVIE LOVELL-SMITH
PLANNING SURVEYING ENGINEERING

116 Wrights Road P O Box 679 Christchurch 8140, New Zealand
Telephone: 03 379-0793 Website: www.dls.co.nz E-mail: office@dls.co.nz

JOB TITLE:

South East Faringdon Stages 4, 5 & 7

SHEET TITLE:

Overall Plan

DRAWING STATUS

For Construction

SCALE : 1:1500@A1 1:3000@A3

DATE : October 2021

CAD FILE : J:\20242\ENG\Drawings\STG 4,5 & 7\H20242 STG 4,5 & 7_E01.0_R8.dwg

DRAWN : DG

DRAWING No : H.20242.STG4,5,7 E01.0

SHEET No:

REVISION : R8

Potential Secondary School within SE Farrington sub-division

VINO 2021/07/14

Services	Existing infrastructure				Potential connection point	Available capacity (y/n)	Further comments
	Road 1	Hungerford Drive	Selwyn Road	Springston Rolleston Road			
Stormwater	None	None	None	None	To ground	Y	The development utilises soakaways to dispose of stormwater to ground. The school stormwater would discharge in the same way. The use of permeable paving, raingardens and other sustainable drainage systems should be incorporated into the school design. The proposed site slope from north to south is 1.5m so gravity drainage is likely to be feasible for all areas.
Wastewater	150ø uPVC pipe	150ø uPVC	525ø uPVC (public)	450ø sewer main (public)	Two 150ø capped laterals, with 2m cover, have been provided to service the school plot on the Selwyn Road boundary. Note that one of these laterals is shown only on drawing EO1.0 as there is no 1:500 plan of this part of the MoE site.	Y	The SDC Pumping Station located at the Springston/Rolleston Road junction with Selwyn Road receives the development flows. We have calculated the wastewater requirements for the school and for the houses that would be displaced by the school and there is little difference, with the school having a slightly lower average daily flow compared to the housing.
Water supply	150ø uPVC	150ø uPVC	250ø uPVC	450ø PE100	R1 or Hungerford Drive	Y	There is ample water supply on all site boundaries. We have calculated the water supply requirements for the school and for the houses that would have been displaced by the school and the school has a higher peak flow, 7.5l/s as opposed to 6l/s for the housing. However, the supply pipe diameter for both would be the same and as the demand is low for the size of the services readily available we see negligible risk in providing water to the site.
Fire Main	2 x fire hydrants (FH) within the footpath along the site boundary	2 x FH, on the other side of the road	3 x FH in the verge adjacent to the site boundary	1 x FH in the footpath along the site boundary	Any of these hydrants or to a dedicated site fire main if this is required approx 135 m from hydrants to the centre of the site. Note that some of these hydrants are shown only on drawing EO1.0 as there is no 1:500 plan of the SE part of the MoE site.	Y	The existing hydrant provision is likely to be sufficient to service the school but this will be dependant upon the precise location of all the school buildings within the plot. The requirement is that there is hydrant service within 135m of buildings and supplementary service within 270m. The very centre of the site is on the borderline of the 135m distance but in this is the case an additional hydrant could easily be provided within the site and then the boundary hydrants can provide all the additional firefighting capacity required. If sprinklers were required for the school buildings then the advice from DLS is that there is so much capacity in the water supply network that a 100 diameter dedicated fire line could easily be provided.
Comms	None	None	7 way and 24 ways multiduct terminates at the Selwyn Road boundary. End of the Stage.	None	Selwyn Road ducts	Y	Service to the site boundary has been provided
Power	LV	Two empty ducts from the kiosk in Road 7 run directly into the MoE site (spare 2 x 100 ducts)	There are two kiosks on the Selwyn Road boundary, 1.5m x 1.5m in plan.	None	LV services available around the site with HV cable in Selwyn Road	Y	Service to the site boundary has been provided. The capacity of the sub-stations to serve the school would need to be confirmed with Orion but the presence of the two empty ducts from the kiosk in Road 7 would indicate that this is intended service route into the plot. If the school needed HV supply for it's own sub-station this could be run through these ducts. If not LV would be taken from the kiosk.