BEFORE THE HEARING COMMISSIONERS
FOR THE WAIKATO DISTRICT COUNCIL

Under the Resource Management Act 1991

In the matter of Variation 3 to the Proposed Waikato District Plan

Submission by **SYNLAIT MILK LIMITED**

STATEMENT OF EVIDENCE OF JAKE DEADMAN

4 July 2023

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INTRODUCTION

1 My name is Jake Deadman.

2 I am the Site Manager for Synlait Milk – Pōkeno Manufacturing Site.

3 I have a bachelor's degree in Commerce and Administration from Victoria University in Wellington.

4 I have close to 15 years' experience in various dairy manufacturing positions in New Zealand. I have joined Synlait in December 2021.

Scope of Evidence

5 The scope of this evidence is to:

5.1 Describe Synlait's operation in general and more specifically in Pōkeno;

5.2 Highlight the reliance of Industry on Council's infrastructure;

5.3 The future provision of infrastructure.

Synlait Milk Limited - Overview

6 Synlait Milk Limited (Synlait) is a publicly owned company listed on the NZX and ASX with its head quarter and main dairy manufacturing operation located in Dunsandel, south of Christchurch. Synlait operate a research facility in Palmerston North and dry blending infant formula plant in Auckland.

7 Synlait Milk Limited also own and operate a state-of-the-art nutritional powder manufacturing plant in the McDonald Road industrial park in Pōkeno, Stage One of which has been operating since 2019. The site is zoned Heavy Industrial in the proposed District Plan.

8 Synlait Pōkeno contributes significantly to the Waikato District's economy. We employ a team of around 150 people with a total of $13m in wages and an annual spend of $20m to local vendors and suppliers, which is injected through the local community. On top of this payment of over $250m across the last three years in milk payments to regional milk suppliers.

9 Synlait supports Pōkeno's expansion and development, and the ambition for a thriving community. We understand that the primary purpose of Variation 3 is to address intensification and urban development. Our involvement and interest in the Variation 3 process is limited to the potential effect of reverse sensitivity and the provision of adequate infrastructure, namely for stormwater management and trade waste/wastewater to support our business development plan.

Synlait Trade Waste/Wastewater – Current Context

10 Synlait has a comprehensive Development Agreement linked to a Trade Waste discharge permit, which allows the plant to rely on the Council's wastewater system to discharge and convey wastewater (including trade waste) using District Council infrastructure and ultimately being treated at the Pukekohe Wastewater Treatment Plant (Pukekohe WWTP - Watercare).

11 The development agreement acknowledges that Synlait will develop the plant in stages and includes a capital work schedule for Council's own infrastructure development.

12 Synlait is now seeking to progress to Stage 2 of its Pōkeno site development, namely project S, which is a new product line for Synlait. However, we are facing trade waste capacity conveyance and treatment issues to deliver the full potential of this project.

13 This is a significant concern as we are already discharging the maximum wastewater volume under our trade waste permit. I note that Synlait is already reducing the volume of trade waste generated by re-using water within its manufacturing processes. However, the plant must increase wastewater discharge to operate efficiently and realise its full potential. Because of the Pōkeno plant location, we have few alternative methods to dispose of our trade waste other than the Council wastewater treatment system.

14 It is challenging for Synlait to work out how the current wastewater infrastructure will provide for the expansion of manufacturing activity in Pōkeno and accommodate MDRS provision as well. None of the evidence provided so far by Council points to a timely resolution of the issue. Synlait Stage 2 development is critical part of our business development plan and was well laid out in our development agreement.

15 Mr Martin's evidence (para 52) confirm that the infrastructure expansion plan did not anticipate the scale and speed of MDRS development. The same evidence at para 53 highlights the risk of MDRS on current infrastructure (wastewater overflow).

Synlait Stormwater – Current Context

16 Synlait Pōkeno holds a current stormwater discharge consent granted by the Waikato Regional Council. The stormwater generated within our site boundary is pre-treated and conveyed to a retention pond. The pond stormwater quality is monitored before being discharged to a temporary stormwater network currently owned by private interest. We understand the stormwater network will be completed and subsequently vested in Council's at some point.

17 Our own stormwater retention pond, while functional, is in an "unfinished state" waiting for the stormwater network downstream of Synlait to be completed and vested into

Waikato District. Once the network is complete, we will convert our current pond to a dry pond in line with our resource consent.

18 The Synlait site also provide for the conveyance of naturally occurring water (spring, wetland) taking its source in the upper catchment beyond Synlait boundaries. The water is diverted around our manufacturing site through a mix of open channels (2) and underground pipe (1) located on Synlait's property along Macdonald Road ultimately discharging in the Tanitewhiora Stream.

19 Babbage Consultants was commissioned by Synlait to provide an assessment of the stormwater conveyance capacity of Synlait owned network along McDonald Road. The attached memo highlights the need for further assessment to determine the potential impact on Synlait's site of the volume of stormwater generated under a MDRS proposal.

20 I note that the "three waters infrastructure and flooding evidence – Huls" overlooks the actual and potential flood risk on Industrial sites from the volume of stormwater generated under the proposed MDRS. However, the risk of flooding was identified in the flood risk and network capacity technical review[1]. The risk of flooding to the industrial estate from MDRS development should not be discounted.

Infrastructure Provision

21 Infrastructure planning is carried out by Council. It relies on using population growth estimates to predict the need for future infrastructure development requirements. In the case of Pōkeno, the contribution of industry to trade waste volume is considerable and the infrastructure to support industry growth is lagging.

22 Mr Martin's evidence (para 36-39) confirms that:

22.1 Pōkeno is not included in the wastewater model;

22.2 There are wastewater conveyance constraints between Pōkeno and Tuakau during large rain events; and

22.3 The Pukekohe WWTP facility has already reached its upgraded capacity of 60,000 people equivalent (PE). I understand the Pukekohe facility has a resource consent to discharge up to 90,000 PE.

23 The Council is proposing to rely on the current Trade Waste and Wastewater Bylaw (2023) and Stormwater Bylaw (2021) as the main tool to manage infrastructure needs. It is difficult to reconcile how the bylaws can provide for adequate and timely planning and provision of critical infrastructure in a fast-moving MDRS environment. The bylaws

[1] Page 58, Appendix A – Flood Risk and Network Capacity Maps, Variation 3 Technical Review: Stormwater (Draft) Te Miro Water May 2023

may be appropriate for new connections but does not provide adequately for existing users in our opinion.

24 It is important that the industry needs for Three Waters services must be factored in and provided for during network modelling.

Conclusion

25 Synlait relies heavily on Council and Watercare to provide adequate and efficient Three Water Services to support the current operation and provide for future development.

26 Synlait has prepared further Planning evidence. Please refer to Locality Planning (Nicola Rykers) evidence for policy and planning in-depth analysis.

27 Synlait remains committed to work constructively with Council and stakeholders to support Pōkeno development's ambition.

Jake Deadman

4th July 2023

TO:	Yves Denicourt, Synlait	Date:	3 July 2023
COPY TO:	Daniel Archer, Richard Black	Job No:	66648#C
FROM:	Fiona Keir, William Djongianto	eTrack No:	

SYNLAIT POKENO

STORMWATER FROM UPPER CATCHMENT – HVL SUBDIVISION

Background

Synlait have engaged Babbage to comment on the proposed Plan Change to the upper catchment (HVL site) to the south west of their Pokeno site on McDonald Road. Our comments are based on the assumption that the total catchment area being directed into the channel and stormwater pipes on the Synlait site from the proposed neighbouring HVL site, is no more than the existing catchment area. Total catchment area has been estimated to be 35.48 Ha which includes 28.20 Ha from the HVL site, areas taken from the Babbage resource consent Proposed Catchment Plan S1-C401, see attached. The proposed catchment area entering the Synlait site from the proposed HVL development is not indicated anywhere in the supplied information.

Existing Stormwater Characteristics

The stormwater network directly downstream of the proposed HVL site is located within the Synlait site. It comprises of a combination of underground pipes, open stormwater channels and a road/accessway which conveys both the primary and secondary flow paths. The stormwater channels and pipework are privately owned by Synlait. These drainage infrastructures have been designed to cater for up to the 10% annual exceedance probability (AEP) runoff (underground pipes) and the 1% AEP runoff (pipes, open channel and road corridor, both private and public) generated from within the Synlait site and the existing upstream catchment from the neighbouring HVL site (pre-development coverage pervious).

Indicative TP108 calculations have been undertaken, indicating that the post-development peak flow from the HVL site for both the 10% AEP (pre 1,885 l/s and post 4,575 l/s) and 1% AEP (pre 4,659 l/s and post 8,665 l/s) scenario is close to or more than double that of the pre-development scenario. In the post-development calculation, we have assumed that the proposed HVL site development will have a maximum impervious coverage of 70% impervious. Therefore, it can be assumed that the downstream network would not have the capacity to service the neighbouring post-development peak flow without any engineering intervention (e.g. peak flow attenuation devices). See attached calculations and plan.

Proposed Stormwater Characteristics

The supplied documentation indicates that the HVL proposal is to attenuate the post-development peak flow rate to the pre-development level for the 10% AEP and also to 80% of the pre-development level for the 1% AEP (reduced flow rate for 1% AEP storm event).

While this indicates that the post-development peak flow rate would not exceed that of the pre-development scenario, the duration of which stormwater is flowing at the pre-development peak flow level would be extended. Considering that the path of secondary flow through the Synlait site consists of an access road and an open channel, further assessments would be required to determine how the depth and duration of surface water would impact operations on site.

JOB NAME:	Synlait - HVL Development	**DATE:**	29.06.2023
JOB NO:	66648	**DES BY:**	fk
SUBJECT:	**Predevelopment Upper Catchment Flow**	**CHKD BY:**	wd/jc

TP108 Large Catchment

Data entry cells
Result cells
Drop down menu selection

UNDEVELOPED CATCHMENT

Impervious Area	ha	0
Pervious Area - No.1	ha	28.2
Hydrological Soil Group - No.1		Group_B
SCS Curve Number (CN)		61
Pervious Area - No.2	ha	
Hydrological Soil Group - No.2		Group_C
SCS Curve Number (CN)		74
Pervious Area - No.3	ha	
Hydrological Soil Group - No.3		Group_C
SCS Curve Number (CN)		74
total area	ha	28.2
% Impervious		0%

Catchment Slope (S_c)	m/m	0.08
Catchment Length (l)	km	0.9
Channelisation Factor (C)		1
Weighted Curve Number		61.00
Initial Abstraction (Ia) weighted	mm	5.00
t_c	hours	0.44
t_p	hours	0.29
Storage (S)	mm	162

Apply Climate Change to Pre-development Scenario? Yes Select Yes or No

Select appropriate design storm →		2 yr ARI	10 yr ARI	100 yr ARI	
24-Hour Rainfall Depth (P_{24})	mm	78	110	188	←
24-hour rainfall depths with climate change allowances (P_{24})	mm	85	125	220	←
c*=(P24-2Ia)/(P24-2Ia+2S)		0.188	0.261	0.392	
q* (from Fig. 5.1)		0.040	0.054	0.075	
Peak Flowrate (q_p)	m^3/s	0.968	1.885	4.659	
24 hour rainfall depth (Q_{24})	mm	26.4	50.7	122.1	
24 hour runoff volume (V_{24})	m^3	7449	14289	34445	

Note: Calculation based on homogeneous catchment (impervious and pervious areas discharge to same network or flowpath) using weighted curve number (CN) and combined 24 hour rainfall depth and volume (refer ARC TP108, Sections 3.2 and 4.2)

Table 3.3 - Curve numbers for typical Auckland conditions

Land use	Group A Soil (volcanic granular loam)	Group B Soil (alluvial)	Group C Soil (mudstone/sandstone)
Bush, humid-climate, not-grazed	30	55	70
Pasture, lightly grazed, good grass cover	39	61	74
Urban lawns	39	61	74
Crops, straight rows, minimal vegetative cover	72	81	88
Sealed roads, roofs	98	98	98

Auckland Council - Stormwater Code of Practice - Climate Change

Table 4.1: Percentage Increase in 24-hour Design Rainfall Depth

AEP	50%	20%	10%	5%	2%	1%
ARI	2 yr	5 yr	10 yr	20 yr	50 yr	100 yr
% Increase *	9.0%	11.3%	13.2%	15.1%	16.8%	16.8%

* in 24-Hour Design Rainfall Depth Due to Future Climate Change assuming 2.1°C increase in temperature

JOB NAME:	Synlait - HVL Development	**DATE:**	29.06.2023
JOB NO:	66648	**DES BY:**	fk
SUBJECT:	**Post Development Upper Catchment Flow**	**CHKD BY:**	wd/jc

Babbage®

Data entry cells
Result cells
Drop down menu selection

DEVELOPED CATCHMENT

Impervious Area	ha	19.74
Pervious Area - No.1	ha	8.46
Hydrological Soil Group - No.1		Group_B
SCS Curve Number (CN)		61
Pervious Area - No.2	ha	
Hydrological Soil Group - No.2		Group_C
SCS Curve Number (CN)		74
Pervious Area - No.3	ha	
Hydrological Soil Group - No.3		Group_C
SCS Curve Number (CN)		74
total area	ha	28.2
% Impervious		70%

Catchment Slope (S_c)	m/m	0.117
Catchment Length (l)	km	0.9
Channelisation Factor (C)		0.8
Weighted Curve Number		86.90
Initial Abstraction (Ia) weighted	mm	1.50
t_c	hours	0.23
t_p	hours	0.15
Storage (S)	mm	38

Table 3.3 - Curve numbers for typical Auckland conditions

Land use	Group A Soil (volcanic granular loam)	Group B Soil (alluvial)	Group C Soil (mudstone/sandstone)
Bush, humid-climate, not-grazed	30	55	70
Pasture, lightly grazed, good grass cover	39	61	74
Urban lawns	39	61	74
Crops, straight rows, minimal vegetative cover	72	81	88
Sealed roads, roofs	98	98	98

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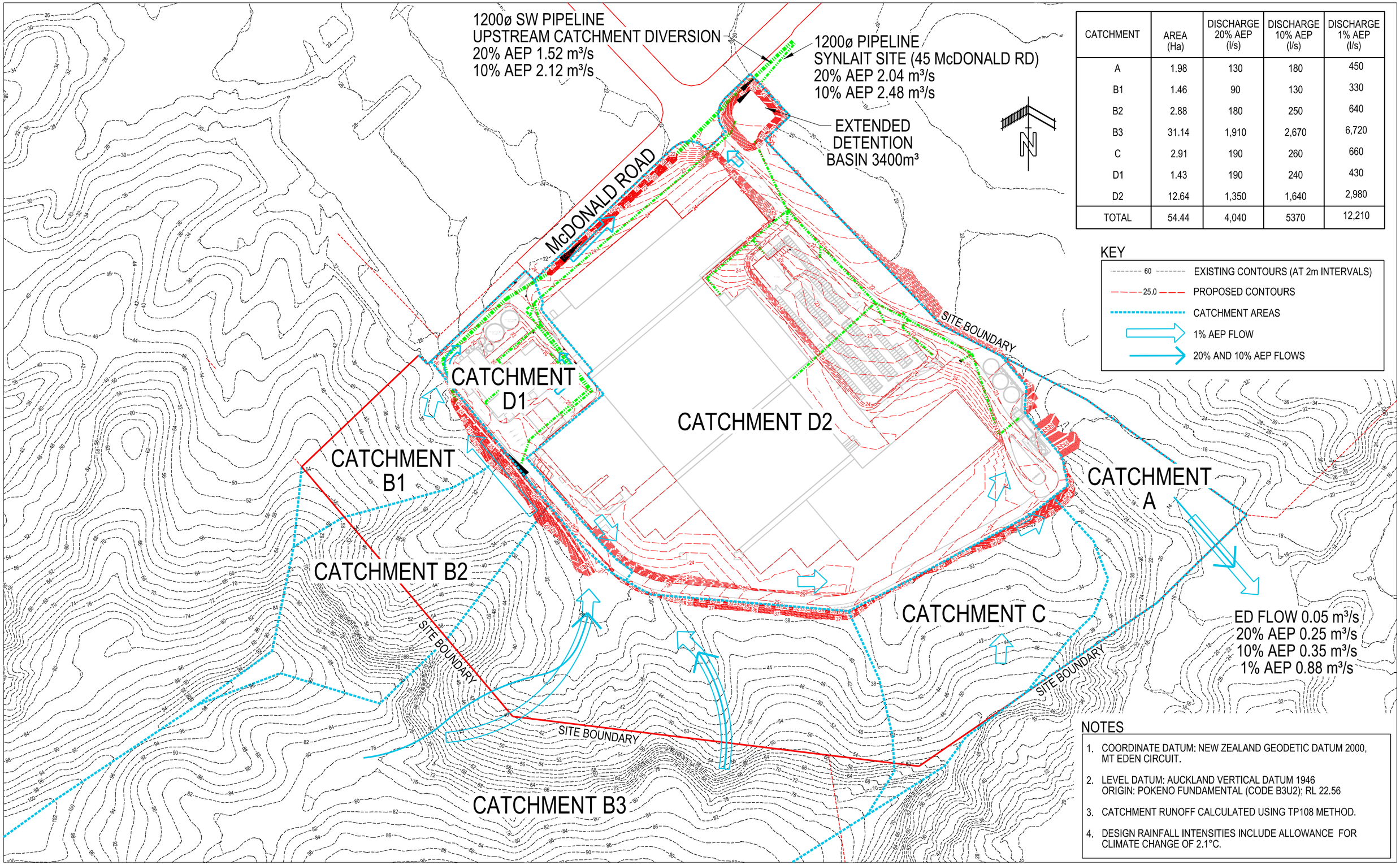
* in 24-Hour Design Rainfall Depth Due to Future Climate Change assuming 2.1°C increase in temperature

		2 yr ARI	10 yr ARI	100 yr ARI	WQ Event	34.5mm
24-Hour Rainfall Depth (P24)	mm	78	110	188		
24-hour rainfall depths with climate change allowances (P_{24})	mm	85	125	220	26.0	34.5
c*=(P24-2Ia)/(P24-2Ia+2S)		0.517	0.613	0.739	0.231	0.291
q* (from TP108 Fig. 5.1)		0.118	0.130	0.140	0.062	0.076
Peak Flowrate (q_p)	m^3/s	2.820	4.575	8.665	0.454	0.742
24 hour rainfall depth (Q_{24})	mm	57.3	93.8	185.5	9.6	15.3
24 hour runoff volume (V_{24})	m^3	16149	26457	52315	2696	4308

← *Refer TP108 - App A - Design Rainfall Maps*

← *Refer Stormwater Code of Practice - Table 4.1*

Change in V_{24}	m^3	8700	12168	17869
Change in peak flow	m^3	1.85	2.69	4.01
% change in peak flow		191%	143%	86%



CATCHMENT	AREA (Ha)	DISCHARGE 20% AEP (l/s)	DISCHARGE 10% AEP (l/s)	DISCHARGE 1% AEP (l/s)
A	1.98	130	180	450
B1	1.46	90	130	330
B2	2.88	180	250	640
B3	31.14	1,910	2,670	6,720
C	2.91	190	260	660
D1	1.43	190	240	430
D2	12.64	1,350	1,640	2,980
TOTAL	54.44	4,040	5370	12,210

KEY

- EXISTING CONTOURS (AT 2m INTERVALS)
- PROPOSED CONTOURS
- CATCHMENT AREAS
- 1% AEP FLOW
- 20% AND 10% AEP FLOWS

NOTES

1. COORDINATE DATUM: NEW ZEALAND GEODETIC DATUM 2000, MT EDEN CIRCUIT.
2. LEVEL DATUM: AUCKLAND VERTICAL DATUM 1946 ORIGIN: POKENO FUNDAMENTAL (CODE B3U2); RL 22.56
3. CATCHMENT RUNOFF CALCULATED USING TP108 METHOD.
4. DESIGN RAINFALL INTENSITIES INCLUDE ALLOWANCE FOR CLIMATE CHANGE OF 2.1°C.

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E admin@babbage.co.nz www.babbage.co.nz

DRAWING REVISIONS

REV	DATE	DRN BY	DES CHK	APPRVD	DESCRIPTION
A	20.04.2018	JA	MJM	MJM	CATCHMENT LABELSAND FLOWS AMENDED. STORMWATER PIPES ADDED.
B	22.11.2018	FK	FK	MJM	CATCHMENT LABELS AND FLOW VALUES AMENDED RE REVISED BOUNDARY AND LAYOUT.

	DATE	INITIAL
DESIGNED	28.03.2018	FK
DRAWN	28.03.2018	EW
DESIGN CHECK	29.03.2018	JC
DRAWING CHECK	29.03.2018	MJD
APPROVED	29.03.2018	MJM

CLIENT / PROJECT

SYNLAIT MILK LIMITED

45 McDONALD RD, POKENO

DRAWING TITLE

PROPOSED CATCHMENT PLAN

FOR RESOURCE CONSENT

SCALE

1:1500 @ A1
1:3000 @ A3

JOB NO.	DRAWING NO.	REVISION
60936 #C2	S1-401	B