CONCEPTUAL STORMWATER MANAGEMENT PLAN

AND PRELIMINARY SITE SERVICING ASSESSMENT

Proposed Service Station & Food Outlet

DEVELOPMENT ADDRESS

147 & 153 Bridge Street
Muswellbrook, NSW

LEGAL DESCRIPTION

L1 DP784361, L1 DP161784, L1 DP794803, L1 DP159620

FOR

Inland Building & Construction

ORIGINAL REPORT DATE
May 2019

REVISION - DATE
P1 – 16/05/19

CALARE CIVIL REF:
2018.0045

Report Details

Client:	**Inland Building & Construction**
Document Name:	**CONCEPTUAL STORMWATER MANAGEMENT PLAN**
Site Address:	**L1 DP784361, L1 DP161784, L1 DP794803, L1 DP159620** **147 & 153 Bridge Street** **Muswellbrook, NSW**
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Document Control

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INTRODUCTION

Developer	Inland Building & Construction
Address	147 & 153 Bridge Street, Muswellbrook, NSW
Local Authority	Muswellbrook Shire Council
Property Description	L1 DP784361, L1 DP161784, L1 DP794803, L1 DP159620
Size of Development	Approx. 0.3052 ha
Type of Development	Proposed Service Station & Food Outlet
Time to Undertake Works	3 - 6 Months
Existing Land Use	Commercial
Adjacent Land Use	Commercial & Residential Dwellings
Engineering Consultant	Calare Civil Pty Ltd
Report Written By	Grant Lyons
Qualifications	Senior Civil Designer
Experience	25+ Years civil engineering experience. Prepared Stormwater Management Plans since 2004.
Report Checked By	Garth Dean
Qualifications	Civil Engineer (BE CPEng.)
Experience	30+ Years Civil Engineering Experience
Purpose of Report	To ascertain the requirements to control stormwater exiting the site and ensure that it has no adverse effect on the downstream receiving waters. This report addresses the issue of: Quantity runoff in accordance with the relevant documents and local / regional authority regulations. To provide a preliminary assessment regarding the viability of the sewer upgrade/duplication in accordance with the Hunter H2O report.

SITE DESCRIPTION

Topography & Drainage

The proposed development is for a commercial development incorporating a Service Station and Retail Food Outlet. It will be contained within the proposed Lots L1 DP784361, L1 DP161784, L1 DP794803, L1 DP159620.

The site is located along the eastern side of the New England Highway, known locally as Bridge Street.

The site falls to the northwest with an average grade of approximately 8.5% with elevations ranging from 154m AHD to 161m AHD.

There is no upstream catchment running through the site as all external runoff is cut off by Flanders Ave and St Heliers St.

Due to the slope of the site and its constant fall it is unlikely that this site in its entirety will become inundated in a flood event.

Watercourses

There are no defined watercourses from upstream catchments running through the site.

DATA

Existing Stormwater Infrastructure

The proposed development is in an established area with existing stormwater infrastructure running along both Bridge Street and St Heliers St.

The legal point of discharge is deemed to be The existing system in Bridge Street as this is conducive to the current and proposed lay of the land.

STORMWATER QUANTITY

Existing Conditions

From a provided survey, the existing catchment of the site to be developed has been assessed giving an area of 0.3052Ha, this being the entire development area.

Of the flows within the site, stormwater currently flows via sheet flow to the kerb & channel in Bridge Street.

To develop this site, an underground drainage system & overland flowpaths will need to be provided along with retardation to manage stormwater and ensure that there is no net worsening on the downstream system.

Proposed Stormwater System & Mitigation Measures

The following is proposed as a best practice site specific solution.

1. All roof areas are to drain to a proposed drainage system as designed in conjunction with the full civil works design.

2. The ground access and parking areas are to incorporate a drainage system designed in accordance with the relevant standards.

3. The piped drainage system is to discharge to a 10x5x1.2m high detention tank within the site.

4. This will in turn discharge to the existing pit on the corner of Bridge and St Heliers Streets. This pit has been chosen as it is some 2.7m deep, thus giving flexibility to future design.

Refer to the drawings supplied in the **Figures** section of this report for further details.

Methodology

Hydrology

To undertake the hydrologic analysis of the development, the methodologies detailed in AR&R have been used. Flows and levels have been calculated using a rainfall intensity chart developed using the Bureau of Meteorology IFD software (refer **Appendix A**) for the Muswellbrook area.

Watercom Drains

A hydrologic assessment of the proposed system has been undertaken using Watercom Drains, producing an Ilsax model to ensure that the development does not adversely affect the downstream system by decreasing the time of concentration and increasing the runoff.

The model has been set up with two systems, the first being the pre-developed, unmitigated, site, the second is the developed mitigated site.

This model has used the Central Slopes temporal pattern and the AR&R 2016 rainfall depths based on the co-ordinates of the site and obtained from the BoM.

The developed scenario will require onsite detention to mitigate the increase in flows, it is proposed to use an underground detention tank prior to outlet from the site.

The Watercom Drains model has been calibrated using a rational calculation for the pre-developed site.

A runoff coefficient parameter of 0.45 has been adopted for the predeveloped site as, although recently cleared, it did house structure and buildings for the purposes of a commercial use.

A runoff coefficient parameter of 0.95 for the proposed development has been calculated from the provided design plans.

Both the pre and post development catchments have been subdivided into sub catchments for which each has been modelled.

The site will discharge via a piped system that will be directed to the stormwater detention area prior to discharge.

Rational Formula Calculations for Drains Calibration.

C10 Runoff Coefficient Calculations										
$C^1_{10}=0.1+0.0133*(^{10}I_1-25)$				From Calculation 17 Austroads Guide to Road Design Part 5 pg140)						
$C_{10}=0.9*f+C^1_{10}*(1-f)$				From Calculation 16 Austroads Guide to Road Design Part 5 pg140)						
$^{10}I_1$	34.9	mm/hr								
C^1_{10}	0.23167									
f	0.45	fraction impervious								
C_{10}	**0.53**									

50% AEP					**20% AEP**				
Assume	C		0.45		Assume	C		0.50	
	I	mm/hr	76.2	5 min		I	mm/hr	103.92	5 min
	A	ha	0.3052			A	ha	0.3052	
=>	Q		0.029	(m3/sec)	=>	Q		0.044	(m3/sec)
10% AEP					**5% AEP**				
Assume	C		0.53		Assume	C		0.56	
	I	mm/hr	123.6	5 min		I	mm/hr	144	5 min
	A	ha	0.3052			A	ha	0.3052	
=>	Q		0.056	(m3/sec)	=>	Q		0.068	(m3/sec)
2% AEP					**1% AEP**				
Assume	C		0.61		Assume	C		0.64	
	I	mm/hr	171.6	5 min		I	mm/hr	193.2	5 min
	A	ha	0.3052			A	ha	0.3052	
=>	Q		0.089	(m3/sec)	=>	Q		0.104	(m3/sec)

Watercom Drains Modelling Results.

The table below shows the comparison between the pre and post developed site.
Development Site

Watercom Drains Results					
Storm Event (AEP)	Pre-Developed Site Flow (m^3/s)	Post Developed Site (Mitigated) Flow (m^3/s)	Reduction in Flow due to mitigation (%)	Post Developed Site (Unmitigated) Flow (m^3/s)	Peak Detention Volume (m3)
50%	0.029	0.026	10.34%	0.054	17.9
20%	0.044	0.042	4.55%	0.075	24.9
10%	0.056	0.053	5.36%	0.088	28.6
5%	0.068	0.060	11.76%	0.105	33.1
2%	0.089	0.071	20.22%	0.127	41.4
1%	0.104	0.102	1.92%	0.145	45.3

It can be seen in the results that all of the storm events assessed ensure that the runoff has a no nett worsening effect (no increase in stormwater runoff) due to the proposed development.
The results indicate that by including a detention tank in the drainage system, a flow reduction is achieved for all storm events sampled.

For the full calculations please refer to the supplied Watercom Drains model files.

If the Watercom drains file is not included in this package it can be obtained by contacting the author.

CONCLUSION

- This report has shown that by way of including a 60KL detention tank the proposed developments additional runoff can be satisfactorily mitigated to ensure it will not be increased when compared with the pre-developed site.

APPENDIX A

IFD - Muswellbrook

Copyright Commonwealth of Australia 2016 Bureau of Meteorology (ABN 92 637 533 532)								
IFD Design Rainfall Depth (mm)								
Issued:	15-May-19							
Location Label:								
Requeste	Latitude	-32.2591	Longitude	150.89				
Nearest gi	Latitude	32.2625 (S	Longitude	150.8875 (E)				
		Annual Exceedance Probability (AEP)						
Duration	Duration in min	63.20%	50%	20%	10%	5%	2%	1%
1 min	1	1.64	1.85	2.53	3.01	3.52	4.21	4.78
2 min	2	2.72	3.05	4.16	4.92	5.69	6.69	7.48
3 min	3	3.78	4.25	5.79	6.87	7.95	9.39	10.5
4 min	4	4.76	5.35	7.29	8.67	10.1	11.9	13.4
5 min	5	5.64	6.35	8.66	10.3	12	14.3	16.1
10 min	10	8.97	10.1	13.8	16.6	19.3	23.3	26.4
15 min	15	11.2	12.6	17.3	20.7	24.2	29.2	33.2
20 min	20	12.8	14.5	19.8	23.7	27.7	33.4	37.9
25 min	25	14.1	15.9	21.8	26.1	30.4	36.5	41.5
30 min	30	15.2	17.1	23.4	27.9	32.6	39.1	44.3
45 min	45	17.6	19.7	26.9	32	37.3	44.5	50.3
1 hour	60	19.3	21.7	29.4	34.9	40.5	48.2	54.4
1.5 hour	90	21.9	24.5	33	39.1	45.2	53.6	60.2
2 hour	120	23.9	26.7	35.8	42.3	48.8	57.7	64.8
3 hour	180	27	30.1	40.2	47.3	54.5	64.4	72.2
4.5 hour	270	30.7	34.2	45.4	53.4	61.5	72.6	81.5
6 hour	360	33.7	37.5	49.8	58.6	67.5	79.8	89.7
9 hour	540	38.6	43	57.2	67.4	77.8	92.4	104
12 hour	720	42.6	47.5	63.5	75	86.7	103	117
18 hour	1080	48.8	54.6	73.8	87.6	102	122	138
24 hour	1440	53.6	60.2	82.1	97.9	114	137	156
30 hour	1800	57.4	64.7	89	107	125	150	171
36 hour	2160	60.6	68.5	94.8	114	134	161	183
48 hour	2880	65.6	74.4	104	126	148	178	203
72 hour	4320	72.1	82.3	116	141	167	201	230
96 hour	5760	76.2	87.2	124	150	177	214	244
120 hour	7200	79	90.4	128	155	183	221	252
144 hour	8640	81.2	92.7	130	157	185	224	256
168 hour	10080	82.8	94.3	130	157	185	225	256

APPENDIX B

Watercom Drains Results

Watercom Drains Results
50% AEP

DRAINS results prepared from Version 2019.03										
PIT / NODE DETAILS				Version 8						
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint			
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)				
			(cu.m/s)	(cu.m)	(m)					
Detention overflow	153.07		0							
Pit1	151.43		0		3.07		None			
Ex Pit	150.37		0							
SUB-CATCHMENT DETAILS										
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm			
	Flow Q	Max Q	Max Q	Tc	Tc	Tc				
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)				
Ex Cat	0.029	0.028	0.008	5	7	5	50% AEP, 20 min burst, Storm 3			
Dev-Cat-Service	0.054	0.054	0.001	5	7	5	50% AEP, 15 min burst, Storm 9			
PIPE DETAILS										
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm					
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)						
Pipe2	0.026	2.24	153.07	152.941	50% AEP, 20 min burst, Storm 6					
Pipe1	0.026	2.05	151.429	150.37	50% AEP, 20 min burst, Storm 6					
CHANNEL DETAILS										
Name	Max Q	Max V			Due to Storm					
	(cu.m/s)	(m/s)								
OVERFLOW ROUTE DETAILS										
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm		
Weir1										
10% Orifice										
50% Orifice	0.026	0.026						50% AEP, 20 min burst, Storm 6		
DETENTION BASIN DETAILS										
Name	Max WL	MaxVol	Max Q	Max Q	Max Q					
			Total	Low Level	High Level					
Detention Basin	153.36	17.9	0.026	0	0.026					
Run Log for 20180045 run at 16:11:20 on 16/5/2019										
No water upwelling from any pit. Freeboard was adequate at all pits.										

Watercom Drains Results
20% AEP

DRAINS results prepared from Version 2019.03										
PIT / NODE DETAILS				Version 8						
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint			
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)				
			(cu.m/s)	(cu.m)	(m)					
Detention overflow	153.09		0							
Pit1	151.47		0		3.03		None			
Ex Pit	150.39		0							
SUB-CATCHMENT DETAILS										
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm			
	Flow Q	Max Q	Max Q	Tc	Tc	Tc				
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)				
Ex Cat	0.044	0.026	0.018	5	7	5	20% AEP, 20 min burst, Storm 8			
Dev-Cat-Service	0.075	0.074	0.001	5	7	5	20% AEP, 15 min burst, Storm 9			
PIPE DETAILS										
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm					
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)						
Pipe2	0.042	2.42	153.089	152.963	20% AEP, 15 min burst, Storm 7					
Pipe1	0.042	2.36	151.457	150.389	20% AEP, 15 min burst, Storm 7					
CHANNEL DETAILS										
Name	Max Q	Max V			Due to Storm					
	(cu.m/s)	(m/s)								
OVERFLOW ROUTE DETAILS										
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm		
Weir1										
10% Orifice	0.011	0.011						20% AEP, 15 min burst, Storm 7		
50% Orifice	0.031	0.031						20% AEP, 15 min burst, Storm 7		
DETENTION BASIN DETAILS										
Name	Max WL	MaxVol	Max Q	Max Q	Max Q					
			Total	Low Level	High Level					
Detention Basin	153.5	24.9	0.042	0	0.042					
Run Log for 20180045 run at 16:14:48 on 16/5/2019										
No water upwelling from any pit. Freeboard was adequate at all pits.										

Watercom Drains Results
10% AEP

DRAINS results prepared from Version 2019.03										
PIT / NODE DETAILS				Version 8						
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint			
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)				
			(cu.m/s)	(cu.m)	(m)					
Detention overflow	153.1		0							
Pit1	151.49		0		3.01		None			
Ex Pit	150.4		0							
SUB-CATCHMENT DETAILS										
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm			
	Flow Q	Max Q	Max Q	Tc	Tc	Tc				
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)				
Ex Cat	0.056	0.038	0.018	5	7	5	10% AEP, 10 min burst, Storm 9			
Dev-Cat-Service	0.088	0.088	0.001	5	7	5	10% AEP, 5 min burst, Storm 1			
PIPE DETAILS										
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm					
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)						
Pipe2	0.053	2.54	153.101	152.975	10% AEP, 15 min burst, Storm 6					
Pipe1	0.053	2.52	151.477	150.401	10% AEP, 15 min burst, Storm 6					
CHANNEL DETAILS										
Name	Max Q	Max V			Due to Storm					
	(cu.m/s)	(m/s)								
OVERFLOW ROUTE DETAILS										
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm		
Weir1										
10% Orifice	0.02	0.02						10% AEP, 15 min burst, Storm 6		
50% Orifice	0.033	0.033						10% AEP, 15 min burst, Storm 6		
DETENTION BASIN DETAILS										
Name	Max WL	MaxVol	Max Q	Max Q	Max Q					
			Total	Low Level	High Level					
Detention Basin	153.57	28.6	0.053	0	0.053					
Run Log for 20180045 run at 16:19:23 on 16/5/2019										
No water upwelling from any pit. Freeboard was adequate at all pits.										

Watercom Drains Results
5% AEP

DRAINS results prepared from Version 2019.03										
PIT / NODE DETAILS				Version 8						
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint			
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)				
			(cu.m/s)	(cu.m)	(m)					
Detention overflow	153.11		0							
Pit1	151.51		0		2.99		None			
Ex Pit	150.41		0							
SUB-CATCHMENT DETAILS										
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm			
	Flow Q	Max Q	Max Q	Tc	Tc	Tc				
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)				
Ex Cat	0.068	0.045	0.025	5	7	5	5% AEP, 10 min burst, Storm 9			
Dev-Cat-Service	0.105	0.104	0.001	5	7	5	5% AEP, 5 min burst, Storm 1			
PIPE DETAILS										
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm					
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)						
Pipe2	0.06	2.62	153.108	152.984	5% AEP, 15 min burst, Storm 6					
Pipe1	0.06	2.6	151.489	150.409	5% AEP, 15 min burst, Storm 6					
CHANNEL DETAILS										
Name	Max Q	Max V			Due to Storm					
	(cu.m/s)	(m/s)								
OVERFLOW ROUTE DETAILS										
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm		
Weir1										
10% Orifice	0.024	0.024						5% AEP, 15 min burst, Storm 6		
50% Orifice	0.036	0.036						5% AEP, 15 min burst, Storm 6		
DETENTION BASIN DETAILS										
Name	Max WL	MaxVol	Max Q	Max Q	Max Q					
			Total	Low Level	High Level					
Detention Basin	153.66	33.1	0.06	0	0.06					
Run Log for 20180045 run at 16:23:47 on 16/5/2019										
No water upwelling from any pit. Freeboard was adequate at all pits.										

Watercom Drains Results
2% AEP

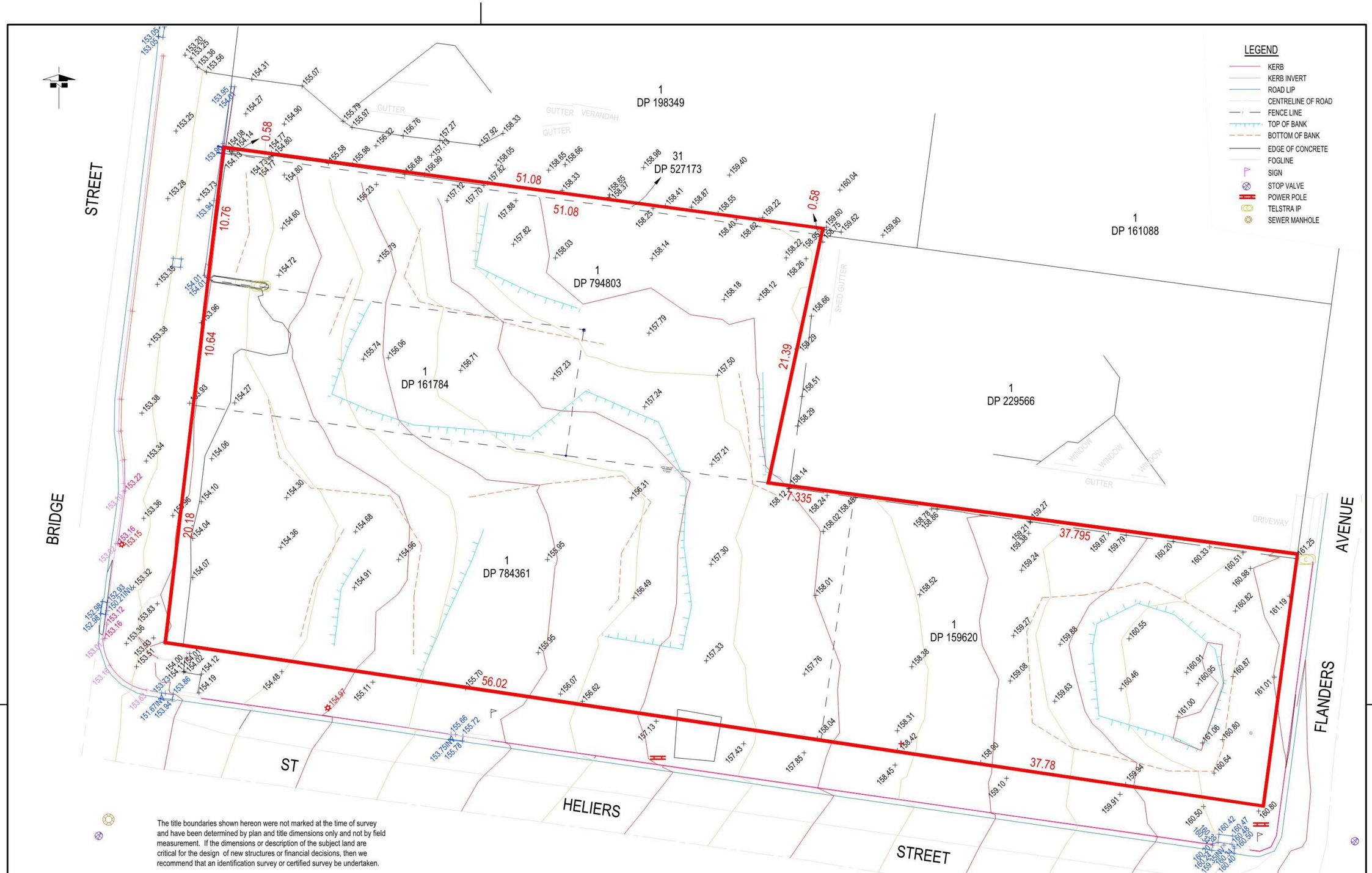
DRAINS results prepared from Version 2019.03										
PIT / NODE DETAILS				Version 8						
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint			
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)				
			(cu.m/s)	(cu.m)	(m)					
Detention overflow	153.12		0							
Pit1	151.53		0		2.97		None			
Ex Pit	150.42		0							
SUB-CATCHMENT DETAILS										
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm			
	Flow Q	Max Q	Max Q	Tc	Tc	Tc				
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)				
Ex Cat	0.089	0.054	0.037	5	7	5	2% AEP, 10 min burst, Storm 4			
Dev-Cat-Service	0.127	0.126	0.002	5	7	5	2% AEP, 5 min burst, Storm 1			
PIPE DETAILS										
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm					
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)						
Pipe2	0.071	2.75	153.119	152.994	2% AEP, 15 min burst, Storm 5					
Pipe1	0.071	2.72	151.507	150.42	2% AEP, 15 min burst, Storm 5					
CHANNEL DETAILS										
Name	Max Q	Max V			Due to Storm					
	(cu.m/s)	(m/s)								
OVERFLOW ROUTE DETAILS										
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm		
Weir1										
10% Orifice	0.031	0.031						2% AEP, 15 min burst, Storm 5		
50% Orifice	0.04	0.04						2% AEP, 15 min burst, Storm 5		
DETENTION BASIN DETAILS										
Name	Max WL	MaxVol	Max Q	Max Q	Max Q					
			Total	Low Level	High Level					
Detention Basin	153.83	41.4	0.071	0	0.071					
Run Log for 20180045 run at 16:25:17 on 16/5/2019										
No water upwelling from any pit. Freeboard was adequate at all pits.										

Watercom Drains Results
1% AEP

DRAINS results prepared from Version 2019.03										
PIT / NODE DETAILS				Version 8						
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint			
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)				
			(cu.m/s)	(cu.m)	(m)					
Detention overflow	153.15		0							
Pit1	151.6		0		2.9		None			
Ex Pit	150.44		0							
SUB-CATCHMENT DETAILS										
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm			
	Flow Q	Max Q	Max Q	Tc	Tc	Tc				
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)				
Ex Cat	0.104	0.062	0.045	5	7	5	1% AEP, 10 min burst, Storm 4			
Dev-Cat-Service	0.145	0.143	0.002	5	7	5	1% AEP, 5 min burst, Storm 1			
PIPE DETAILS										
Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm					
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)						
Pipe2	0.104	3.03	153.147	153.022	1% AEP, 15 min burst, Storm 4					
Pipe1	0.102	3.01	151.547	150.445	1% AEP, 15 min burst, Storm 5					
CHANNEL DETAILS										
Name	Max Q	Max V			Due to Storm					
	(cu.m/s)	(m/s)								
OVERFLOW ROUTE DETAILS										
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm		
Weir1	0.028	0.028						1% AEP, 15 min burst, Storm 4		
10% Orifice	0.034	0.034						1% AEP, 15 min burst, Storm 4		
50% Orifice	0.042	0.042						1% AEP, 15 min burst, Storm 9		
DETENTION BASIN DETAILS										
Name	Max WL	MaxVol	Max Q	Max Q	Max Q					
			Total	Low Level	High Level					
Detention Basin	153.91	45.3	0.103	0	0.103					
Run Log for 20180045 run at 16:27:22 on 16/5/2019										
No water upwelling from any pit. Freeboard was adequate at all pits.										

APPENDIX C

Existing Site Plan



The title boundaries shown hereon were not marked at the time of survey and have been determined by plan and title dimensions only and not by field measurement. If the dimensions or description of the subject land are critical for the design of new structures or financial decisions, then we recommend that an identification survey or certified survey be undertaken.

ORIGINAL SIZE A2

FYFE
HEAD OFFICE
Level 1, 124 South Terrace
Adelaide SA 5000
GPO Box 2450
Adelaide SA 5001
Telephone 61 8 8201 9600
www.fyfe.com.au
Facsimile 61 8 8201 9650

PLAN DETAILS
COUNCIL : MUSWELLBROOK SHIRE COUNCIL

NO.	REVISION	STAFF	CHECK	DATE
1	PREPARE FOR INFORMATION	KGH	BJH	09/05/19

0 5 10 15 20
SCALE 1: 200

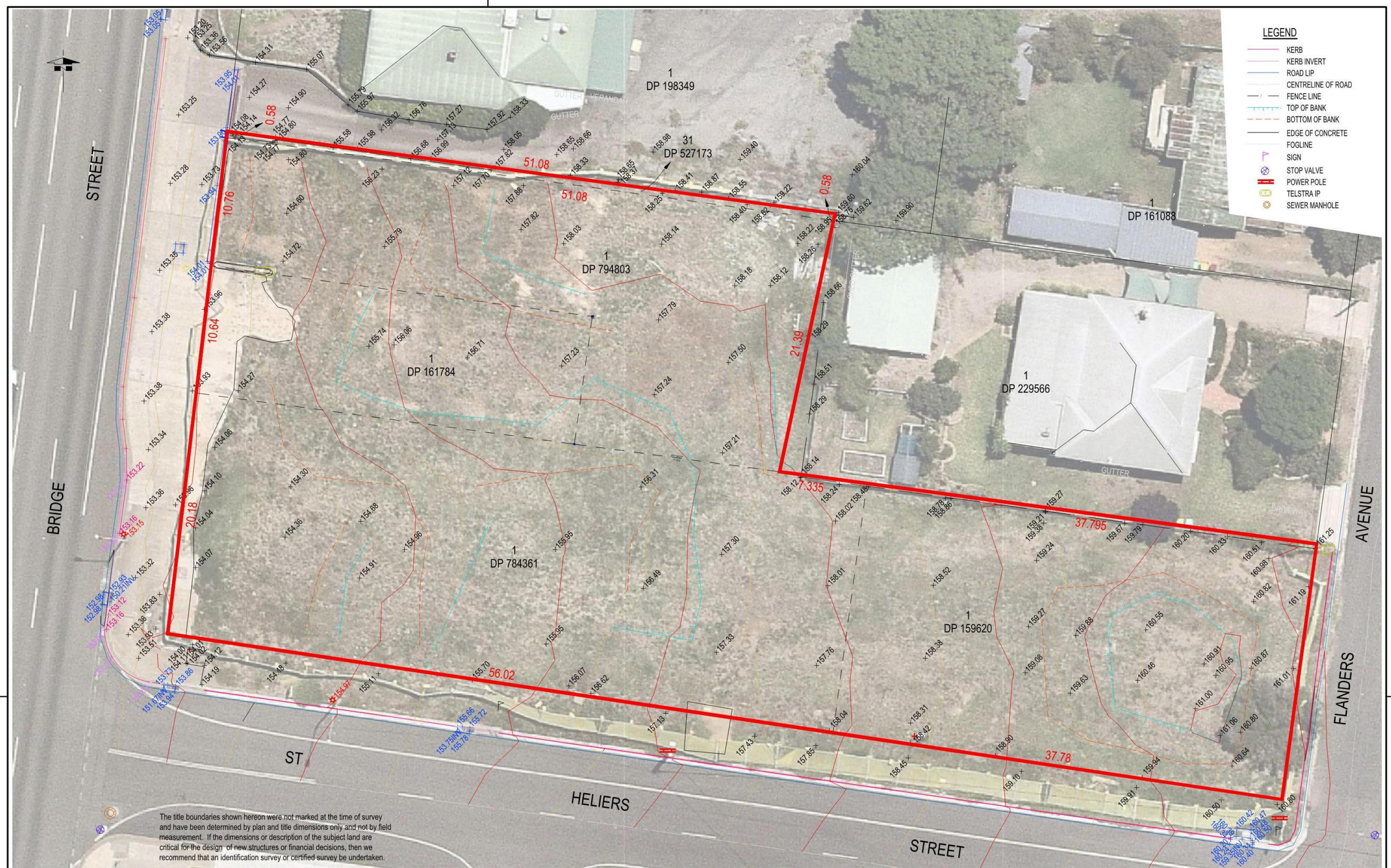
LEVEL DATUM : AHD DATA FILE/S :
LEVEL AUTHORITY : SURVEYOR: AGW / BJH
CO-ORD DATUM :

DETAIL SURVEY AT 147 BRIDGE STREET

LOT 31 IN DP 527173, LOT 1 IN DP 794803, LOT 1 IN DP 161784, LOT 1 IN DP 784361 AND LOT 1 IN DP 159620
MUSWELLBROOK

DRAWING: 90575-2_DETAIL_R1

INSTRUCTION: 90575-2
DATE 09/05/2019
SHEET 1 OF 2
REV. 1



ORIGINAL SIZE A2

FYFE

HEAD OFFICE
Level 1, 124 South Terrace
Adelaide SA 5000
GPO Box 2450
Adelaide SA 5001
www.fyfe.com.au
Telephone 61 8 8201 9600
Facsimile 61 8 8201 9650

PLAN DETAILS
COUNCIL : MUSWELLBROOK SHIRE COUNCIL

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0 5 10 15 20
SCALE 1: 200
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DETAIL SURVEY AT 147 BRIDGE STREET

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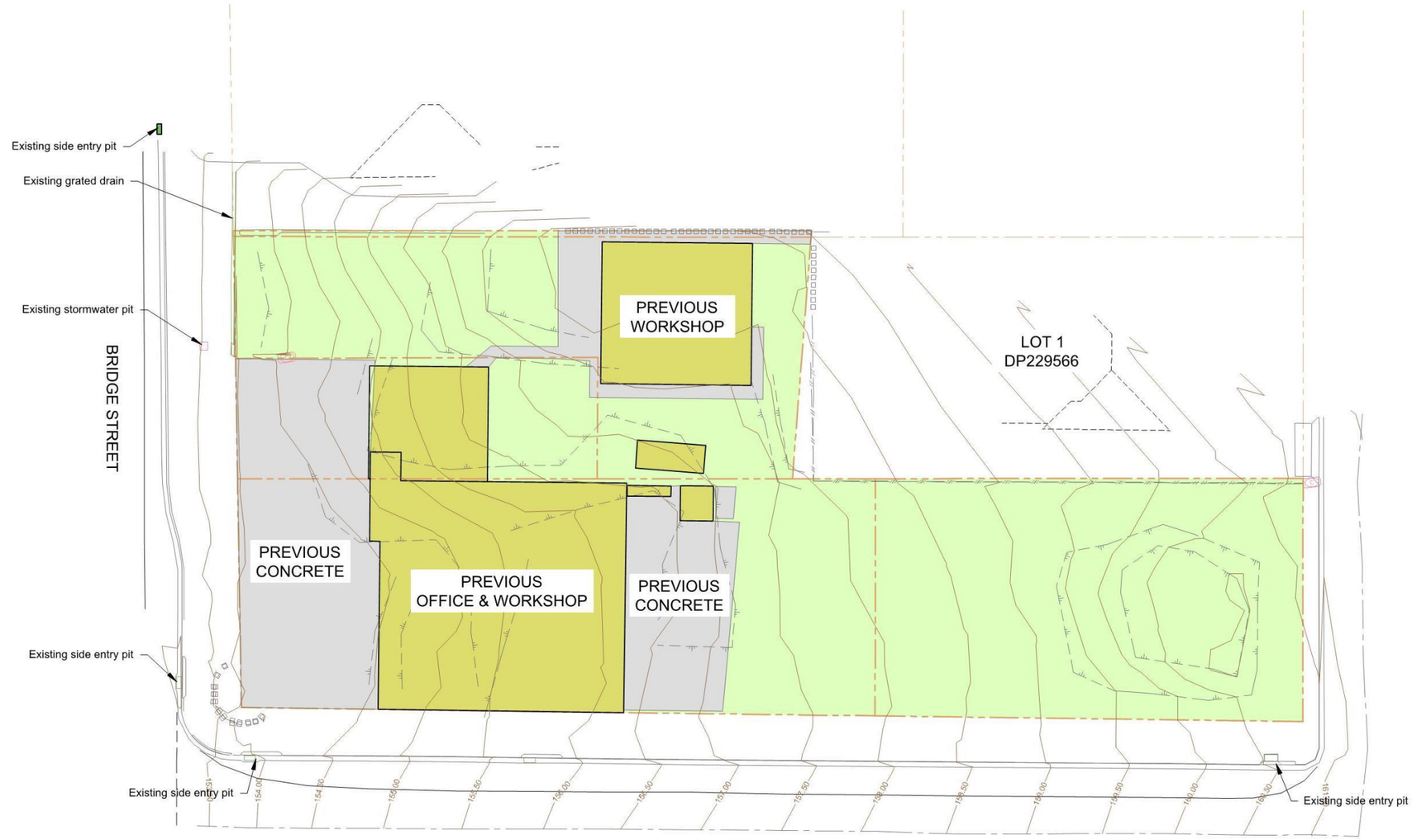
MUSWELLBROOK

DRAWING: 90575-2_DETAIL_R1

INSTRUCTION: 90575-2
DATE 09/05/2019
SHEET 2 OF 2
REV. 1

FIGURES



Note:

1. All buildings and impervious areas have now been cleared or demolished and removed off site

CATCHMENT TABLE		
LABEL	AREA (Ha)	FI
BUILDING	0.0743	1.00
CONCRETE	0.0641	1.00
PERVIOUS	0.1668	0.00
TOTAL	0.3052	0.45

PLOT INFO: ...\2018.0045-SWMP-P1-DWG.dwg, DATE: May 16,2019 - 17:02:36

Amend	Date	Description	By	Amend	Date	Description	By
.	.	.	.				
.	.	.	.				
.	.	.	.				
A	16/05/19	ORIGINAL ISSUE	GBL				

In association with: ENVIRONMENTAL ENCIV & CIVIL DESIGN admin@enciv.com.au

Drawn:	DJF
Designed:	GBL
CAD Ref:	2018.0045-SWMP-P1-DWG.dwg
Scale (A1):	1:200
Date:	16/05/19

Approved for Construction:

PRELIMINARY

PROPOSED SERVICE STATION
147 & 153 BRIDGE STREET
MUSWELLBROOK, NSW 2333

EXISTING CATCHMENT PLAN

INLAND BUILDING AND CONSTRUCTION

CALARE CIVIL CONSULTING ENGINEERS
170 RANKIN STREET,
BATHURST, N.S.W. 2795
Tel: (02) 63323343 Fax: (02) 63318210

Job No.	2018.0045
DWG. No.	C01
Issue	A
No. in set	04

CATCHMENT TABLE		
LABEL	AREA (Ha)	FI
BUILDING	0.0900	1.00
CONCRETE	0.2000	1.00
LANDSCAPING	0.0152	0.00
TOTAL	0.3052	0.95

PLOT INFO: ...\2018.0045-SWMP-P1-DWG.dwg, DATE: May 16,2019 - 17:02:36

Amend	Date	Description	By	Amend	Date	Description	By
A	16/05/19	ORIGINAL ISSUE	GBL				

In association with:
ENVIRONMENTAL ENCIV & CIVIL DESIGN
admin@enciv.com.au

Drawn:	DJF
Designed:	GBL
CAD file:	2018.0045-SWMP-P1-DWG.dwg
Scale (A1):	1:200
Date:	16/05/19

Approved for Construction:

PRELIMINARY

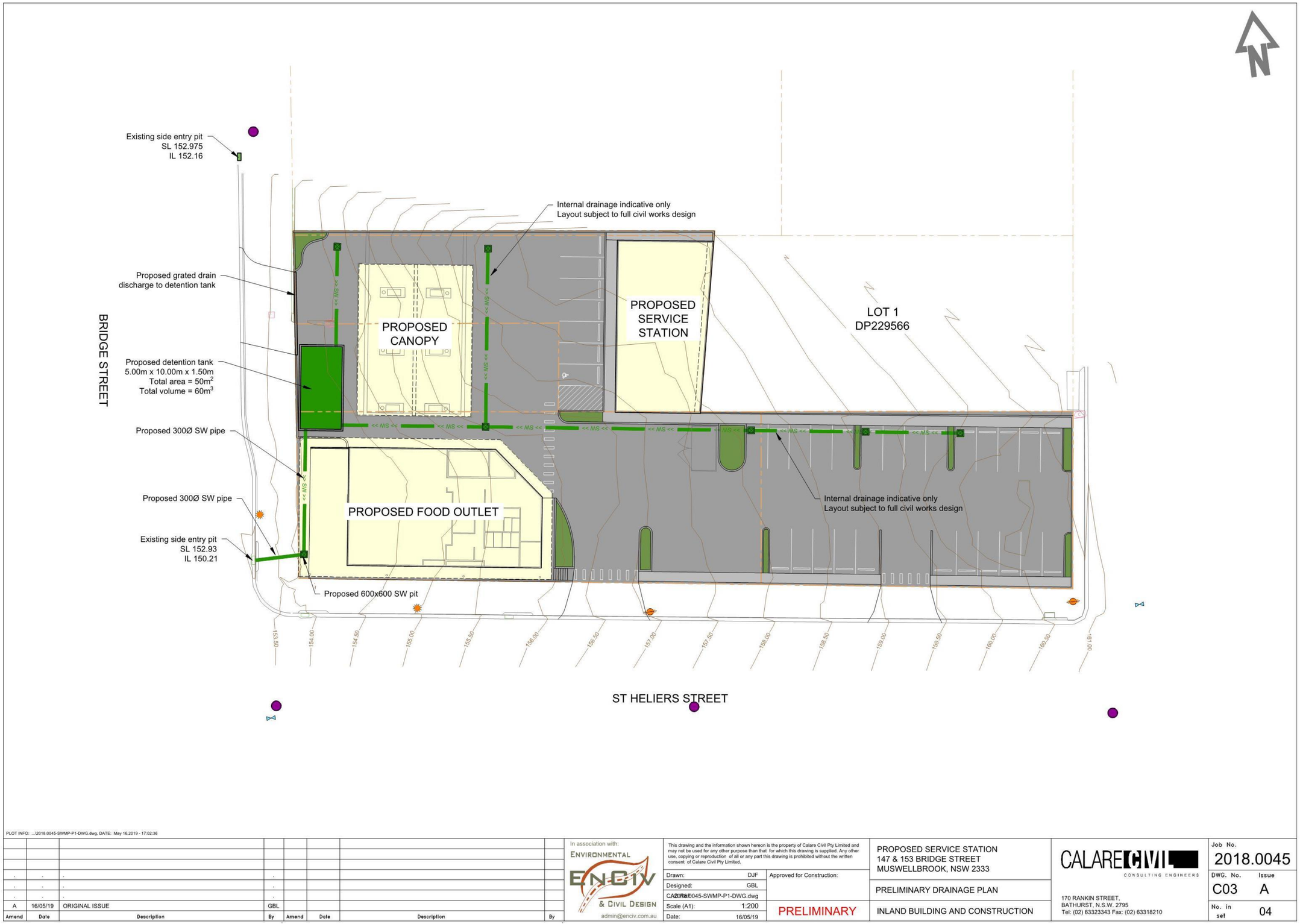
PROPOSED SERVICE STATION
147 & 153 BRIDGE STREET
MUSWELLBROOK, NSW 2333

DEVELOPED CATCHMENT PLAN

INLAND BUILDING AND CONSTRUCTION

CALARE CIVIL CONSULTING ENGINEERS
170 RANKIN STREET,
BATHURST, N.S.W. 2795
Tel: (02) 63323343 Fax: (02) 63318210

Job No.	
2018.0045	
DWG. No.	Issue
C02	A
No. in set	04



PLOT INFO: ...\2018.0045-SWMP-P1-DWG.dwg, DATE: May 16,2019 - 17:02:36

Amend	Date	Description	By	Amend	Date	Description	By
A	16/05/19	ORIGINAL ISSUE	GBL				

In association with:
ENVIRONMENTAL ENCIV & CIVIL DESIGN
admin@enciv.com.au

Drawn:	DJF	Approved for Construction:
Designed:	GBL	
CAD file:	2018.0045-SWMP-P1-DWG.dwg	
Scale (A1):	1:200	PRELIMINARY
Date:	16/05/19	

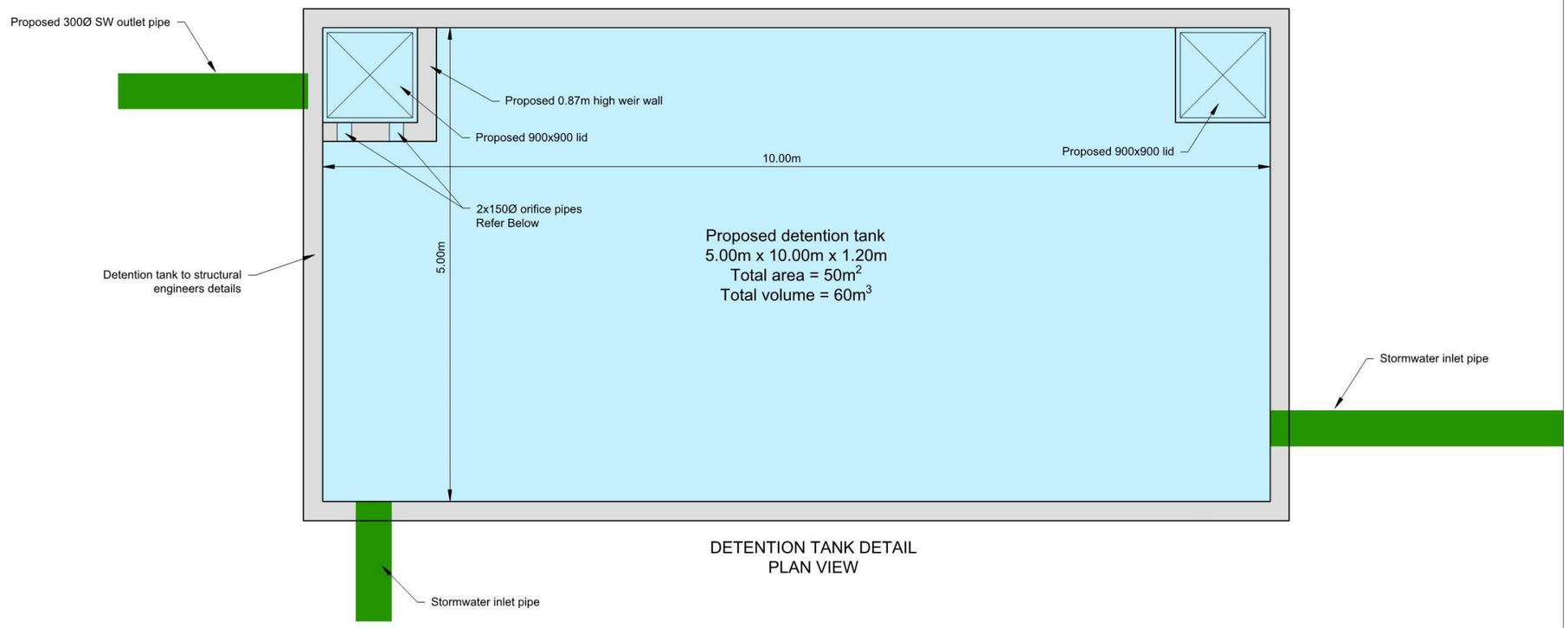
PROPOSED SERVICE STATION
147 & 153 BRIDGE STREET
MUSWELLBROOK, NSW 2333

PRELIMINARY DRAINAGE PLAN

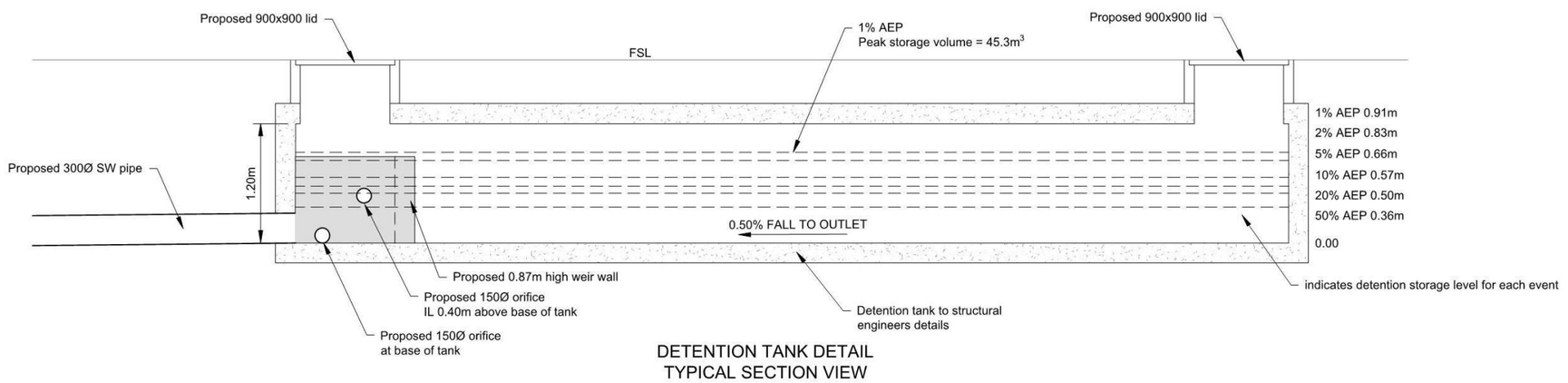
INLAND BUILDING AND CONSTRUCTION

CALARE CIVIL CONSULTING ENGINEERS
170 RANKIN STREET,
BATHURST, N.S.W. 2795
Tel: (02) 63323343 Fax: (02) 63318210

Job No.	
2018.0045	
DWG. No.	Issue
C03	A
No. in set	04



DETENTION TANK DETAIL
PLAN VIEW



DETENTION TANK DETAIL
TYPICAL SECTION VIEW

PLOT INFO: ...\2018.0045-SWMP-P1-DWG.dwg, DATE: May 16,2019 - 17:02:36

Amend	Date	Description	By	Amend	Date	Description	By
A	16/05/19	ORIGINAL ISSUE	GBL				

In association with:
ENVIRONMENTAL ENCIV & CIVIL DESIGN
admin@enciv.com.au

Drawn:	DJF	Approved for Construction:
Designed:	GBL	
CAD File:	2018.0045-SWMP-P1-DWG.dwg	
Scale (A1):	1:25	PRELIMINARY
Date:	16/05/19	

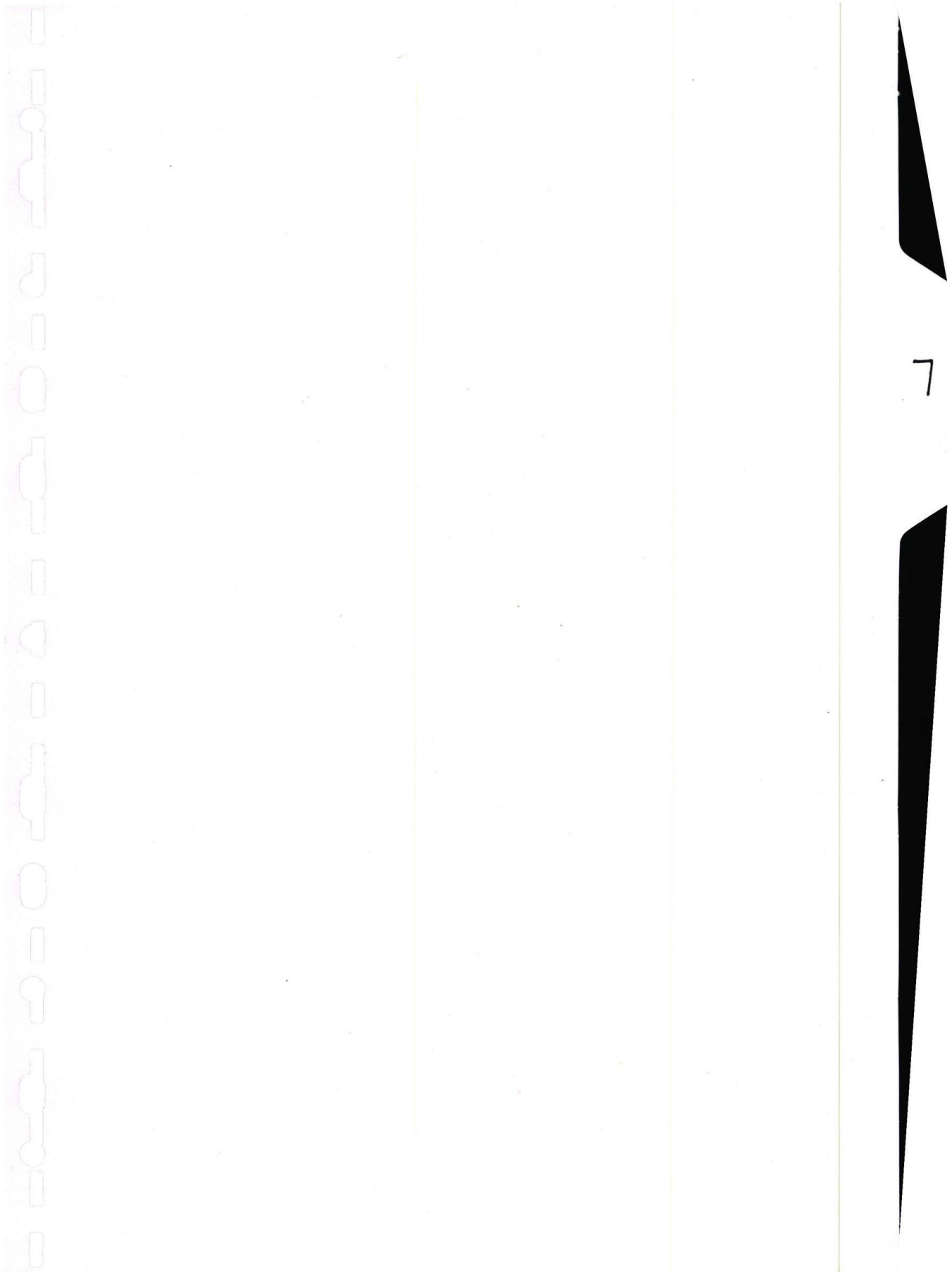
PROPOSED SERVICE STATION
147 & 153 BRIDGE STREET
MUSWELLBROOK, NSW 2333

DETENTION TANK DETAILS

INLAND BUILDING AND CONSTRUCTION

CALARE CIVIL CONSULTING ENGINEERS
170 RANKIN STREET,
BATHURST, N.S.W. 2795
Tel: (02) 63323343 Fax: (02) 63318210

Job No.	
2018.0045	
DWG. No.	Issue
C04	A
No. in set	04



7. Preliminary Hazard Analysis

HAZKEM
DANGEROUS GOODS CONSULTING

SEPP 33

RISK SCREENING DOCUMENTATION

Mobil

Mobil Service Station

Cnr Bridge Street and St Heliers Street
MUSWELLBROOK NSW

Hazkem Pty Ltd
May 2019

TELEPHONE
61 3 9842 7300

ADDRESS
Unit 8, 328 Reserve Road
Cheltenham VIC 3192

WEB
info@hazkem.com.au
www.hazkem.com.au

This report was written by Alana Craven, member AIDGC,

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Last Saved	20 May 2019
Author	Alana Craven
Project Manager	Phil Kemm
Name of Organisation	Inland Building and Construction
Name of Project	Mobil Muswellbrook
Document Version	Rev 0

TABLE OF CONTENTS

RISK SCREENING and PRELIMINARY HAZARD ANALYSIS
MOBIL SERVICE STATION
Cnr Bridge St and St Heliers Street
MUSWELLBROOK NSW

PURPOSE AND SCOPE OF THIS DOCUMENT

For dangerous goods installation designs where there is proposed storages above minor quantities, an investigation process must be followed in order to assess whether or not a proposal is suitable for a particular site or not. Such sites should be deemed "potentially hazardous" until a detailed risk assessment determines otherwise. The process flow chart is detailed in appendix 1.

NSW State Environmental Planning Policy 33[1], (SEPP 33) is a document published by the NSW Department of Planning which provides guidelines for local government and developers for ensuring that the safety and pollution impacts of an industrial proposal are addressed at an early stage of the development application process. Through this document an assessment procedure is followed which links the permissibility of a proposal to its safety performance. SEPP 33 ensures that only those industrial proposals which are suitably located, and able to demonstrate that they can be built and operated with an adequate level of safety, can proceed[2].

As detailed in SEPP 33 a *"hazardous industry"* is one which poses a significant risk when all locational, technical, operational and organizational safeguards are included.

A *"potentially hazardous industry"* is one which, when all safeguards are operating, imposes a risk level which is significantly lower.

SEPP 33 also incorporates a screening process which will determine whether or not a site is potentially hazardous. If deemed potentially hazardous, a preliminary hazard analysis is required.

Certain activities may involve handling, storing or processing a range of substances which in the absence of locational, technical or operational controls may create an off-site risk or offence to people, property or the environment. Such activities would be defined as potentially hazardous or potentially offensive. SEPP 33 also provides guidelines to assist councils and proponents to establish whether a development proposal would fit into such definitions and hence, come under the provisions of the policy.

The purpose of a PHA is to gain a better understanding of the risks and hazards associated with the site and to provide a reasonable basis for an informed judgment to be made on the acceptability of the site for the proposed development[3]. The PHA will outline in detail possible risks and hazards associated with this site. This will assist council in reaching an informed decision for the proposal.

It is important to note also that this investigation has been carried out by a suitably qualified person who understands the properties of the dangerous goods stored on site and the possible impact they may have on equipment and structures located on and off site. Under state legislation a system must be designed by a suitably qualified person who is experienced in this type of work[4].

REFERENCE AND ASSISTANCE DOCUMENTS

This document has been compiled with guidance from:

- Hazardous Industry Planning Advisory Paper No 4 'Risk Criteria for Land Use Safety Planning'
- Hazardous Industry Planning Advisory Paper No 6. 'Guidelines for Hazard Analysis"
- Hazardous and Offensive Development Application Guideline 'Applying SEPP 33'
- NSW Dept of Planning assessment guidelines "Multi Level Risk Assessment".

SITE DESCRIPTION

LOCATION

The site is a proposed Mobil service station located at the corner of Bridge Street and St heliers Street, Muswellbrook NSW. The site is on the north east corner of the Bridge Street and St heliers Street intersection. The site has a commercial property located to the north of the site with residential properties located along the North East boundaries. The southern and western boundaries are street frontages.

PROPOSAL

This site is a proposed service station supplying Motor Spirit and Combustible Liquids for automotive use to the general public. The site is approx. 3052 square meters in size with a proposed 227 square meter sales building and 496 square meter fast food outlet.

HAZARDOUS MATERIALS

This proposal incorporates a total of approximately 105 kl of flammable liquid and 35 kl of combustible liquid in underground tanks. The flammable and combustible liquid storages covered by this assessment are the only bulk hazardous materials stored on site and are fully covered under the SEPP 33 screening process.

SEPP 33 RISK SCREENING

FUEL STORAGE

Proposal

Product	Quantity	Tank/Compartment No.	Class and PG
Diesel	35,000 litres	1	C1*
E10 Petrol	25,000 litres	2	3 PG II
91 Petrol	40,000 litres	3	3 PG II
95 Petrol	15,000 litres	4	3 PG II
98 Petrol	15,000 litres	5	3 PG II
E85 Petrol	10,000 litres	6	3 PG II

Notes: * As the diesel (combustible C1) is stored on site together with the petrol (flammable liquid class 3), it will be considered as a flammable for the purposes of this report.

Calculations

The screening method set out in Applying SEPP 33 (Department of Planning, 2011) provides the first step in the analysis. The screening method is based on broad estimates of the possible off-site effects or consequences from hazardous materials present on site, taking into account locational characteristics.

If the quantity/distance is less than the screening threshold, then no further analysis is necessary. The safety management regime in this case relies on observance of the requirements of engineering codes and standards.

If the quantities/distances exceed the screening threshold, further analysis is necessary.

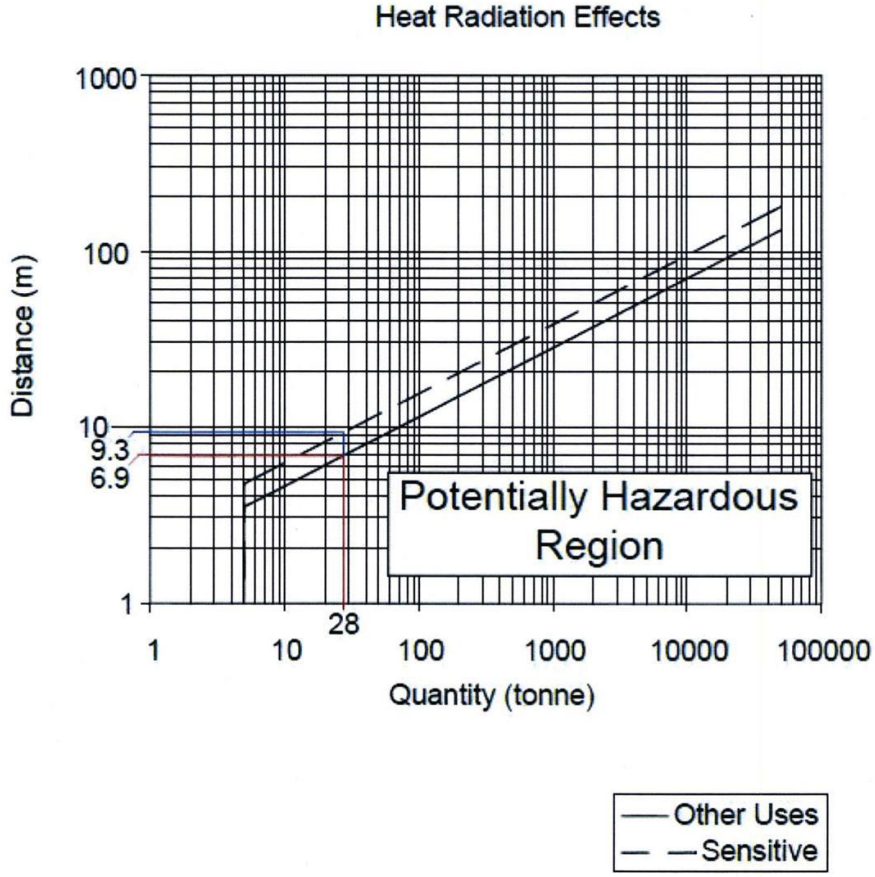
By utilising Figure 9 of SEPP 33 and measuring separation distances, it can be determined whether further analysis is required. The separation distances are measured from both the underground tank fill points and the fuel dispensers to the site boundaries.

Boundary	Min Distance – Fill Points	Min Distance - Dispensers
North	14.4	7.1
South	27.4	20.4
East	27.6	31.3
West	19.3	10.8

Total storage capacity is 140,000 litres.

So for this quantity, as it is stored underground, we can divide by a factor of five, as it is considered less invasive. So allowance is for 28,000 litre storage.

FIGURE 9, SEPP 33



From Figure 9 we can see that for 28,000 litres, the minimum setback distance from the remote fill and dispensing points is 6.9 metres to site property boundaries for other uses or 9.3 metres for sensitive uses (residential uses).

The nearest property boundary to the north being 155 Bridge Street, is defined as a B2 Mixed Use Zone. The site is currently used as a commercial premise and categorised as such as an "Other use". Should this property alter its use and become residential it would be deemed a "Sensitive use" and further assessment would be required.

Since the set back distances are in excess of both 6.9m from normal use and 9.3m from sensitive use boundaries to the fill points and dispensers, the site is deemed to be non hazardous and there is no requirement to do a PHA for further analysis.

TRANSPORT SCREENING THRESHOLD

SEPP 33 screening also requires a study of the transporting/delivery frequencies, for the site as outlined in table 2 (below). It is envisaged that deliveries to site, for fuels will be about 3 times a week, or 156 times per year. According to the "Transportation Screening Thresholds", up to 45 movements per week or 750 movements per year for fuel are acceptable prior to becoming potentially hazardous[6].

In this case, as the numbers of expected deliveries for the fuel is well below the thresholds, there are no requirement to do further analysis in the form of a PHA based on the transport screening thresholds.

Table 2: Transportation Screen Threshold "Applying SEPP 33" (page 18)

Table 2: Transportation Screening Thresholds

	Vehicle Movements		Minimum quantity* per load (tonne)	
	Cumulative	Peak		
Class	Annual *or*	Weekly	Bulk	Packages
1	see note	see note	see note	
2.1	>500	>30	2	5
2.3	>100	>6	1	2
3PGI	>500	>30	1	1
3PGII	>750	>45	3	10
3PGIII	>1000	>60	10	no limit
4.1	>200	>12	1	2
4.2	>100	>3	2	5
4.3	>200	>12	5	10
5	>500	>30	2	5
6.1	all	all	1	3
6.2	see note	see note	see note	
7	see note	see note	see note	
8	>500	>30	2	5
9	>1000	>60	no limit	

Note: *Where proposals include materials of class 1, 6.2 or 7, the Department of Planning should be contacted for advice. Classes used are those referred to in the Dangerous Goods Code and are explained in Appendix 7.*

** If quantities are below this level, the potential risk is unlikely to be significant unless the number of traffic movements is high.*

CONCLUSION

It has been determined via assessment of this proposal under the NSW State Environmental Planning Policy 33 (SEPP 33) that the site is deemed "not potentially hazardous". The proposed design sees all setback distances as required under SEPP 33 achieved and therefore the site and its current design are deemed to not impose a significant level of risk to the community. As a result of this finding there is no requirement for a Preliminary Hazard Analysis to be undertaken based on the site being assessed as not potentially hazardous.

DOCUMENT REFERENCES

[1] State Environmental Planning Policy 33, Hazardous & Offensive Development Application Guidelines. – Department of Planning NSW, January 2011.
[2] State Environmental Planning Policy 33, Hazardous & Offensive Development Application Guidelines. – Department of Planning NSW. Page 1, 1.2 the policy, last para
[3] State Environmental Planning Policy 33, Hazardous & Offensive Development Application Guidelines. – Department of Planning NSW. Page 9, 4.2
[4] Protection of the Environment Operations (Underground Petroleum Storage Systems) regulation 2014 division 1, clause 5 and 6
[6] State Environmental Planning Policy 33, Hazardous & Offensive Development Application Guidelines. – Department of Planning NSW. Page 18, table 2

OTHER REFERENCES

Australian Standards:

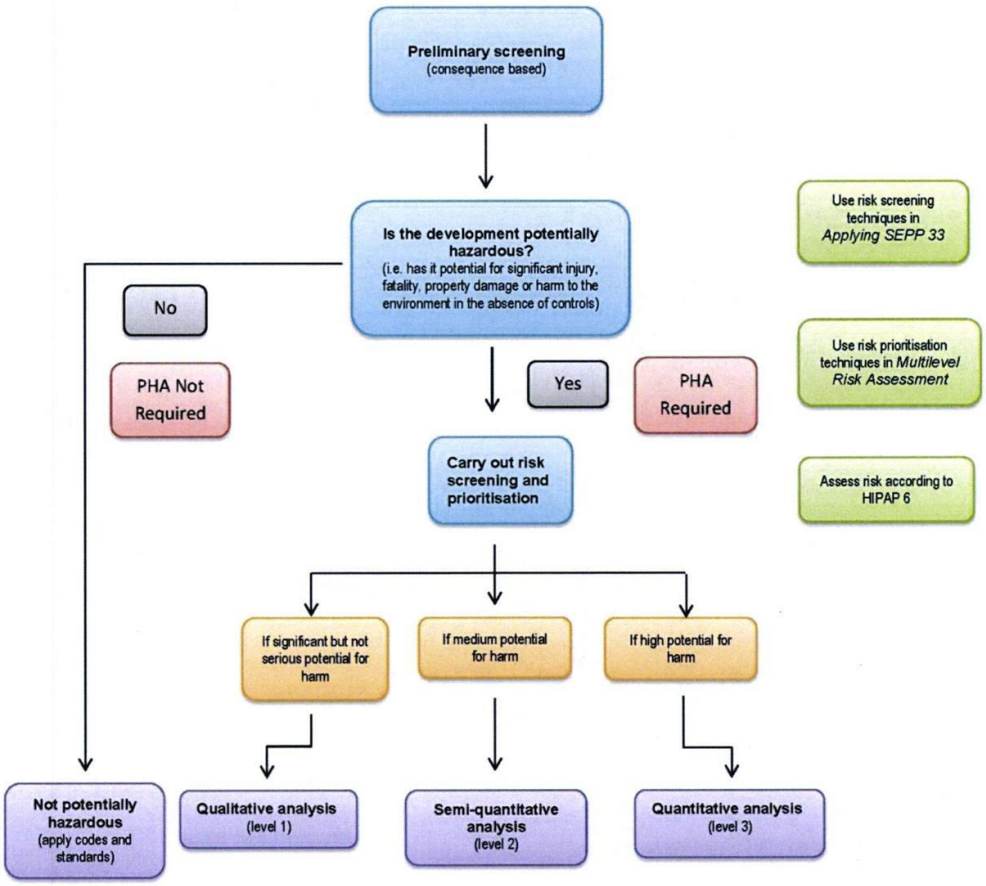
AS 1940-2017	"The Storage & Handling of Flammable & Combustible Liquids"
AS 4897-2008	"The Design, Installation and Operation of Underground Petroleum Storage Tanks"
AS 3000-2007	"Electrical Wiring Rules".
AS/NZS 60079.10.1-2009	"Classification of Areas. Explosive gas atmospheres". Annex ZA "Examples of Hazardous Area Classification".
AS 2832.2-2003	"Cathodic Protection of Metals – Compact buried structures".
AS 2239-2003	"Galvanic (sacrificial) Anodes for Cathodic Protection".
AS/NZS 3788-2006	"Pressure Equipment – In-service inspection".
AS 4037-1999	"Pressure Equipment – Examination & testing".
AS/NZS 1841.5-2007	"Portable Fire Extinguishers".
AS 2444-2001	"Portable Fire Extinguishers and Fire Blankets". Select. & location.
AS 1692-2006	"Tanks for Flammable and Combustible liquids".

Codes of Practices:
Australian Code for the Transportation of Dangerous Goods by Road and Rail, Seventh edition.
NSW Code of Practice 2005 for Storage & Handling of Dangerous Goods.
NSW Work Health and Safety Act and Regs 2011.

Planning NSW Guidelines:
Hazardous and Offensive Development Application Guidelines - Applying SEPP 33
Hazardous and Offensive Development Application Guidelines - Multi-Level Risk Assessment
Hazardous Industry Planning Advisory Paper No. 4 - Risk Criteria for Land Use Safety Planning
Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis
Hazardous Industry Planning Advisory Paper No. 8 - Hazard and Operability Studies

Other Documentation:
Local Authorities requirements, NSW WorkCover and EPA Acts and Regulations.
Equipment Suppliers Specifications, Requirements and Instructions.
Fuel System Specifications and Drawings.
Site Specific drawings and suppliers specifications.

APPENDIX 1
MULTI LEVEL RISK ASSESSMENT FLOW CHART


Preliminary screening
(consequence based)
Is the development potentially hazardous?
(i.e. has it potential for significant injury, fatality, property damage or harm to the environment in the absence of controls)
Use risk screening techniques in *Applying SEPP 33*
No
PHA Not Required
Yes
PHA Required
Use risk prioritisation techniques in *Multilevel Risk Assessment*
Carry out risk screening and prioritisation
Assess risk according to HIPAP 6
If significant but not serious potential for harm
If medium potential for harm
If high potential for harm
Not potentially hazardous
(apply codes and standards)
Qualitative analysis
(level 1)
Semi-quantitative analysis
(level 2)
Quantitative analysis
(level 3)

APPENDIX 2
RISK RANK METHOD

RISK RANKING METHOD

Risk is the combination of the likelihood of a specific unwanted event and the potential consequences if it should occur.

Probabilities

A - common or repeating occurrence
B - known to occur, or "it has happened"
C - could occur, or "I've heard of it happening"
D - not likely to occur
E - practically impossible

Consequences

People
1 - fatality or permanent disability
2 - serious lost time injury or illness
3 - moderate lost time injury or illness
4 - minor lost time injury or illness
5 - no lost time

Equipment, assets or environment
1 - more than $500K damage
2 - $100K to $500K damage
3 - $50K to $100K damage
4 - $5k to $50K damage
5 - less than $5K damage

Production
1 - more than $500K production delay
2 - $100K to $500K delay
3 - $50K to $100K delay
4 - $5k to $ 50K delay
5 - less than $5K delay

Risk Ranking Method (above)
For each event, the appropriate probability (a letter A to E) and consequence (a number 1 to 5) is selected. If an event affects more than one area of consequence (eg. Affects people and production), the highest rank number, i.e.1, is always selected.

Risk Ranking Table (below)
The consequences (loss outcomes) are combined with the probability (of those outcomes) in the risk ranking table to identify the risk rank of each loss event (eg a consequence 3 with a probability B yields a risk rank 9).
The table yields a risk rank from 1 to 25 for each set of probabilities and consequences.
A rank of 1 is the highest magnitude of risk, i.e. a highly likely, very serious event.
A rank of 25 represents the lowest magnitude of risk, an almost impossible, very low consequence event.
Events represented on the risk ranking table by ranks between 16 and 25 inclusive are considered acceptable risks.

RISK RANKING TABLE

PROBABILITY / CONSEQUENCE	A	B	C	D	E
1	1	2	4	7	11
2	3	5	8	12	16
3	6	9	13	17	20
4	10	14	18	21	23
5	15	19	22	24	25

HAZKEM PTY LTD

APPENDIX 3
HAZARD ANALYSIS

Hazard Analysis

Project: Mobil Service Station at Cnr Bridge St and St Heliers St, Muswellbrook NSW **Date:** 25.05.2019

Description/Activity: Design Phase - Dangerous Goods Storage at Service Station

RISK RANKING METHOD SUMMARY (Refer Appendix 2 for full detail)

Probability	Consequences		
	People	*Equipment, assets or environment*	*Production*
A - Common or Repeating Occurrence	1 - fatality or permanent disability	1- more than $500K damage	1 - more than $500k production delay
B - Known to occur , or "it has happened"	2 - serious lost time injury or illness	2 - $100k to $500k damage	2 - $100k to $500k delay
C - Could occur, "I've heard of it happening"	3 - moderate lost time injury or illness	3 - $50k to $100k damage	3 - $50k to $100k delay
D - not likely to occur	4 - minor lost time injury or illness	4 - $5k to $50k damage	4 - $5k to $50k delay
E - practically impossible	5 - no lost time	5 - less than $5k damage	5 - less than $5k delay

	Certification against AS1940 for Flammable and Combustible Liquids Storage		Probability	Consequences	
No.	Hazard		A-E	1-5	Action Required (Y/N)
1	Overfill of tank	The flammable and combustible liquids tanks will be located underground and be remote filled with a remote contents gauge located at the fill points. A spill kit and fire fighting equipment will be within close proximity to the delivery driver whilst filling the tanks.	D	4	N
2	Leak in pipework	All pipework will be located underground and protected from impact. Regular pressure tests will be performed to ensure tightness. Stock reconciliation is to be carried out weekly and would highlight any leaks immediately.	D	4	N
3	Hose trip hazard	The tanker parking area is to be adjacent to the fill points in a nominated tanker parking area. The hose used will be a small diameter pressure hose and generally able to lie flat on the ground. The tanker driver will use warning signage during deliveries.	D	5	N
4	Ruptured fill hose	Extremely unlikely event. The tank hoses will be pressure tested and/or replaced regularly. The tanker will be fitted with an emergency stop system. The tanker standing area will be specifically set up for containment of spills.	E	4	N
5	Equipment wear and tear	Regular maintenance checks will be carried out on the tank and its equipment to maintain that everything is in a safe and working condition. This will occur at least annually. Delivery drivers will report anything that requires rectification.	D	4	N
6	Vandalism of equipment	The tank will be installed underground. All valves and fittings will be located in a underground turret which is to be kept secured from tampering.	D	4	N
7	Customer overfill during dispensing	The dispensers installed at this site will be equipped with a sensing device that's shuts down the flow of product when it reaches the tip of the nozzle. Clean up materials are to be located within close proximity of the dispensing area.	D	4	N
8	Customer drives off with nozzle inserted	Clean up materials are to be located within close proximity to the dispensing area.	D	4	N

9	Collision between vehicle and dispenser	All dispensers on this site are to be protected from vehicular impact by with the assistance of bollards.	D	3	N
10	Use of mobile phone/transmitting devices	The site is to be fitted with warning signs advising customers of the risk of mobile phone and transmitting devices. The console is to be fitted with a public address system should the console operator be required to advise customers of the use of this type of equipment on a service station site.	D	4	N
11	Spill of product onto customer	The console operator will be trained in how to administer first aid should a customer be injured by coming into contact with any dangerous goods on this site.	D	4	N
12	Customer misuse of equipment	The site will be fitted with instructions indicating procedures for safe use of the dispensing equipment. The console operator will be in clear view of all dispensers on site and capable of shutting down any dispenser system that is not being used in a safe manner. The console operator will also has access to a public address system should they need to verbally communicate with customers on the forecourt.	D	4	N
13	Fire at fill point	All delivery tankers will carry at least a single powder type extinguisher which will be available near the fill points during product delivery. As a Service Station site additional fire protection equipment will be available within a close proximity. The fill points will be fitted with back check valves as well as manual valves to stop any outward flow. The tanker is fitted with an emergency stop system in order to cease pumping quickly.	D	4	N
14	Fire on site	As a service station storing and dispensing flammable and combustible liquids fire protection in the form of fire extinguishers will be located on site in strategic places in full compliance with AS 1940. An emergency shut down system will be installed onsite to enable the dispensing system to be shut down in an emergency.	D	3	N
15	Fire on adjoining property	Should a fire on an adjoining property impact the site the dispensing system will be able to be shut down ensuring the all product remains in the underground tanks.	D	3	N

Hazard Analysis Summary

Project/Site: Mobil Service Station at Cnr Bridge St and St Heliers St, Muswellbrook NSW **Date:** 25.05.2019
Description/Activity: Design Phase - Dangerous Goods Storage at Service Station Last Updated:

Sheet 3 of 3

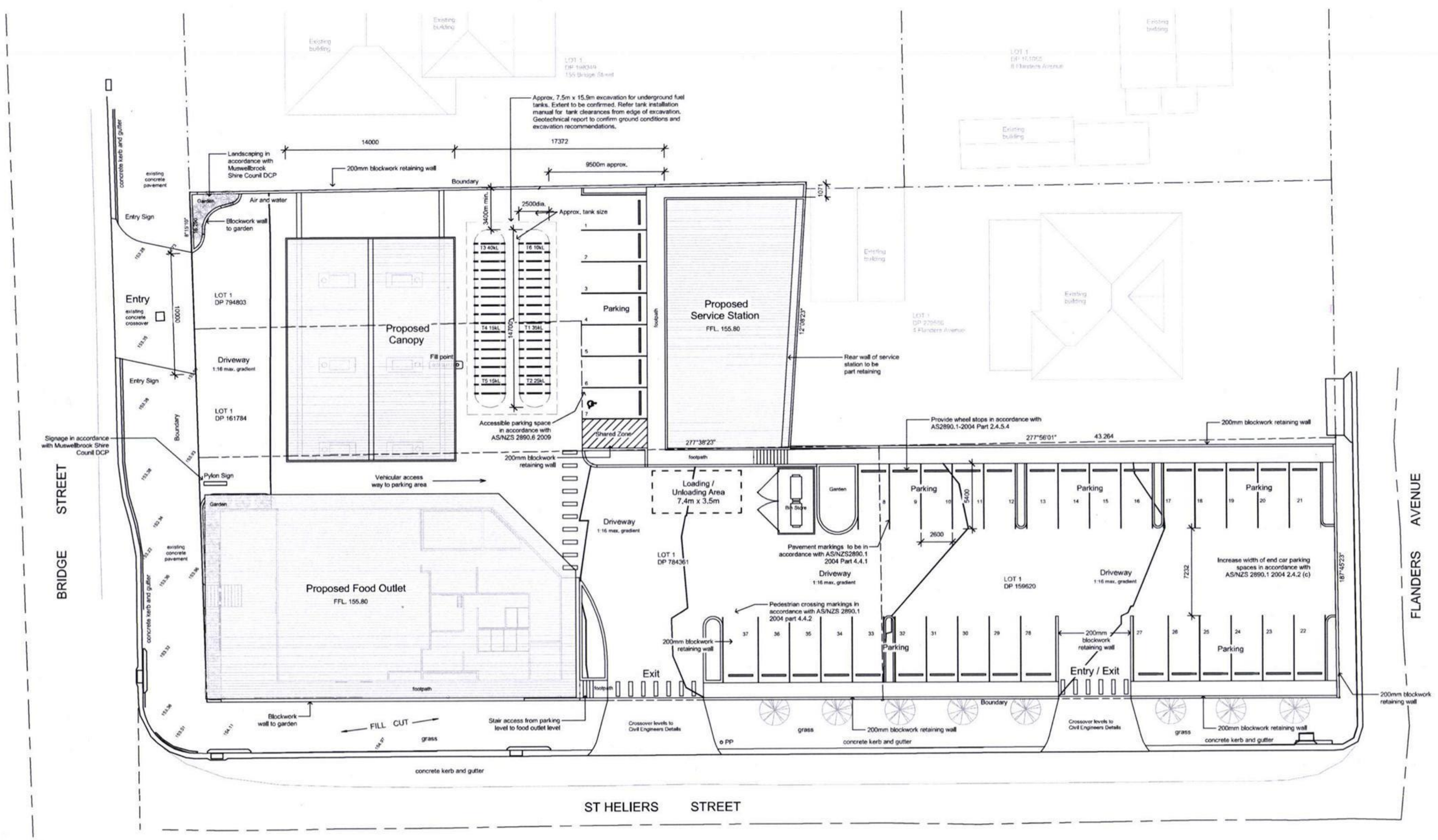
Note: This section of the hazard analysis is for the design of site only and does not take into account any site issues which must be looked at regarding alternate storage locations

CONTROL MEASURES		IMPLEMENTATION		MONITOR & REVIEW	
Item Ref	**Possible Control Measures**	**Responsibility and Action Required**	**Control Implemented Sign-off & Date**	**Planned Review Date**	**Review** Sign-off & Date
	NA	NA			

CONCLUSION/COMMENTS:

POST IMPLEMENTATION CHECKLIST REVIEW:

APPENDIX 4
PROPOSED SITE PLAN


Proposed Service Station
FFL. 155.80
Proposed Canopy
Proposed Food Outlet
FFL. 155.80
Loading / Unloading Area 7.4m x 3.5m
Entry
Driveway
Parking
Exit
Entry / Exit
BRIDGE STREET
ST HELIERS STREET
FLANDERS AVENUE
LOT 1 DP 794803
LOT 1 DP 161784
LOT 1 DP 784361
LOT 1 DP 159620
200mm blockwork retaining wall
Vehicular access way to parking area
Accessible parking space in accordance with AS/NZS 2890.6 2009
Rear wall of service station to be part retaining
Provide wheel stops in accordance with AS2890.1-2004 Part 2.4.5.4
Pavement markings to be in accordance with AS/NZS2890.1 2004 Part 4.4.1
Pedestrian crossing markings in accordance with AS/NZS 2890.1 2004 part 4.4.2
Increase width of end car parking spaces in accordance with AS/NZS 2890.1 2004 2.4.2 (c)
Stair access from parking level to food outlet level
Signage in accordance with Muswellbrook Shire Counil DCP
Landscaping in accordance with Muswellbrook Shire Counil DCP
Approx. 7.5m x 15.9m excavation for underground fuel tanks. Extent to be confirmed. Refer tank installation manual for tank clearances from edge of excavation. Geotechnical report to confirm ground conditions and excavation recommendations.
concrete kerb and gutter
Crossover levels to Civil Engineers Details
FILL CUT
grass

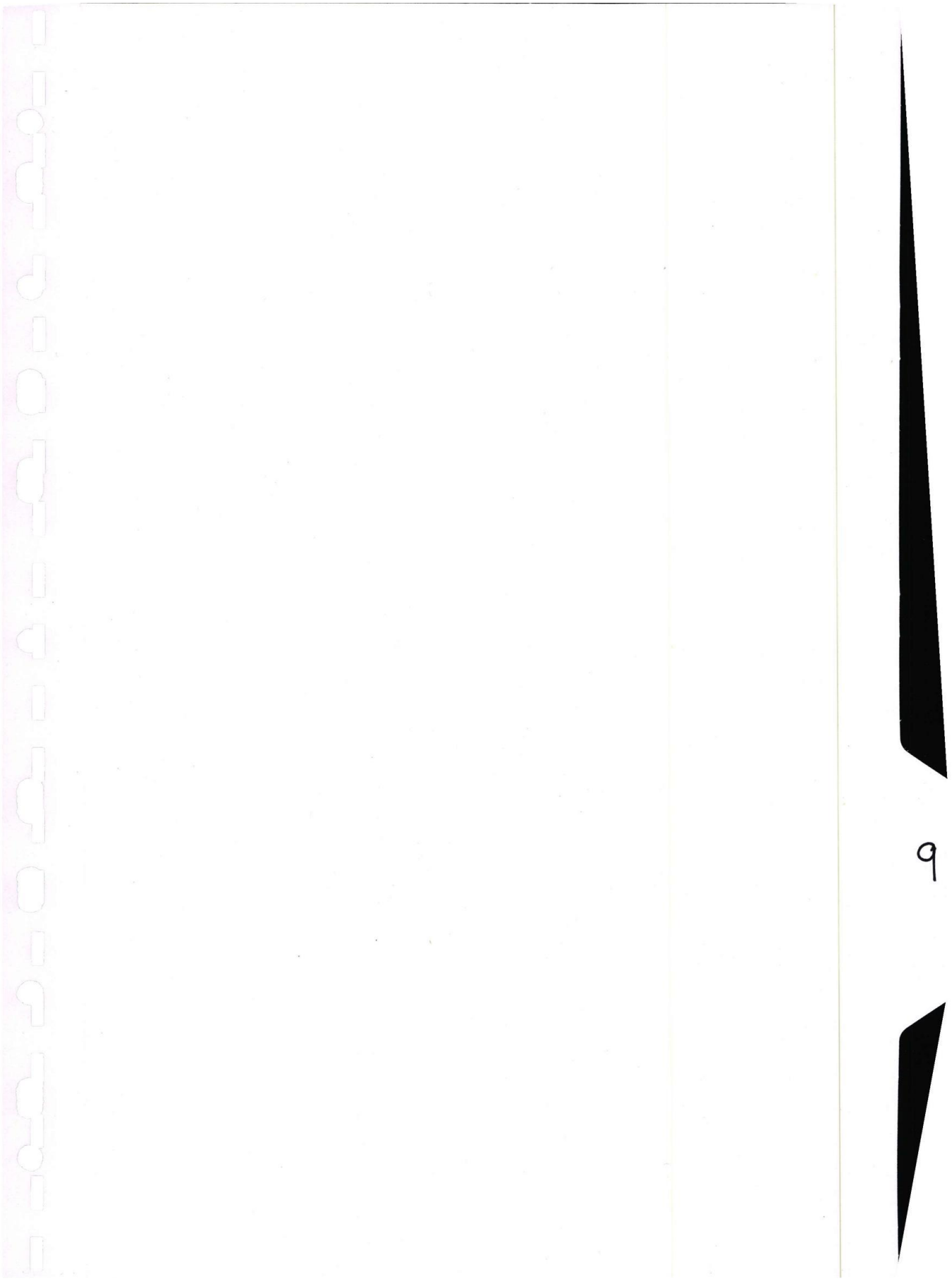
[redacted]

8

[redacted]

8. Design, Landscaping & Retaining Walls Policy

Please refer to architectural drawings



9. Noise Impacts & 24/7 Operations

DJP Corp Pty Ltd T/A

INLAND BUILDING & CONSTRUCTION

BUILDERS LIC: R86305 ABN: 29 138 778 033

COMMERCIAL | INDUSTRIAL

PO BOX 1864, BATHURST NSW 2795

PH: (02) 6331 3330 MOB: 0418 647 593

ibc@inlandbuilding.com.au

17/05/19

Hamish McTaggart
Senior Development Manager
Muswellbrook Shire Council
PO Box 122
MUSWELLBROOK NSW 2333
by email: Hamish.McTaggart@muswellbrook.nsw.gov.au

Dear Hamish

DA: 78/2018
Address: 147, 151 & 153 Bridge Street, Muswellbrook
Works: Construction of a Service Station

I refer to your letter dated 29/04/19 in regards to the proposed development of construction of a service station in Muswellbrook.

In regards to point 9. Noise Impacts & 24/7 Operation our developer has agreed to reduce the operational hours from 24/7 to;

Monday to Friday – 0500 – 2200
Saturday to Sunday – 0500 – 2200

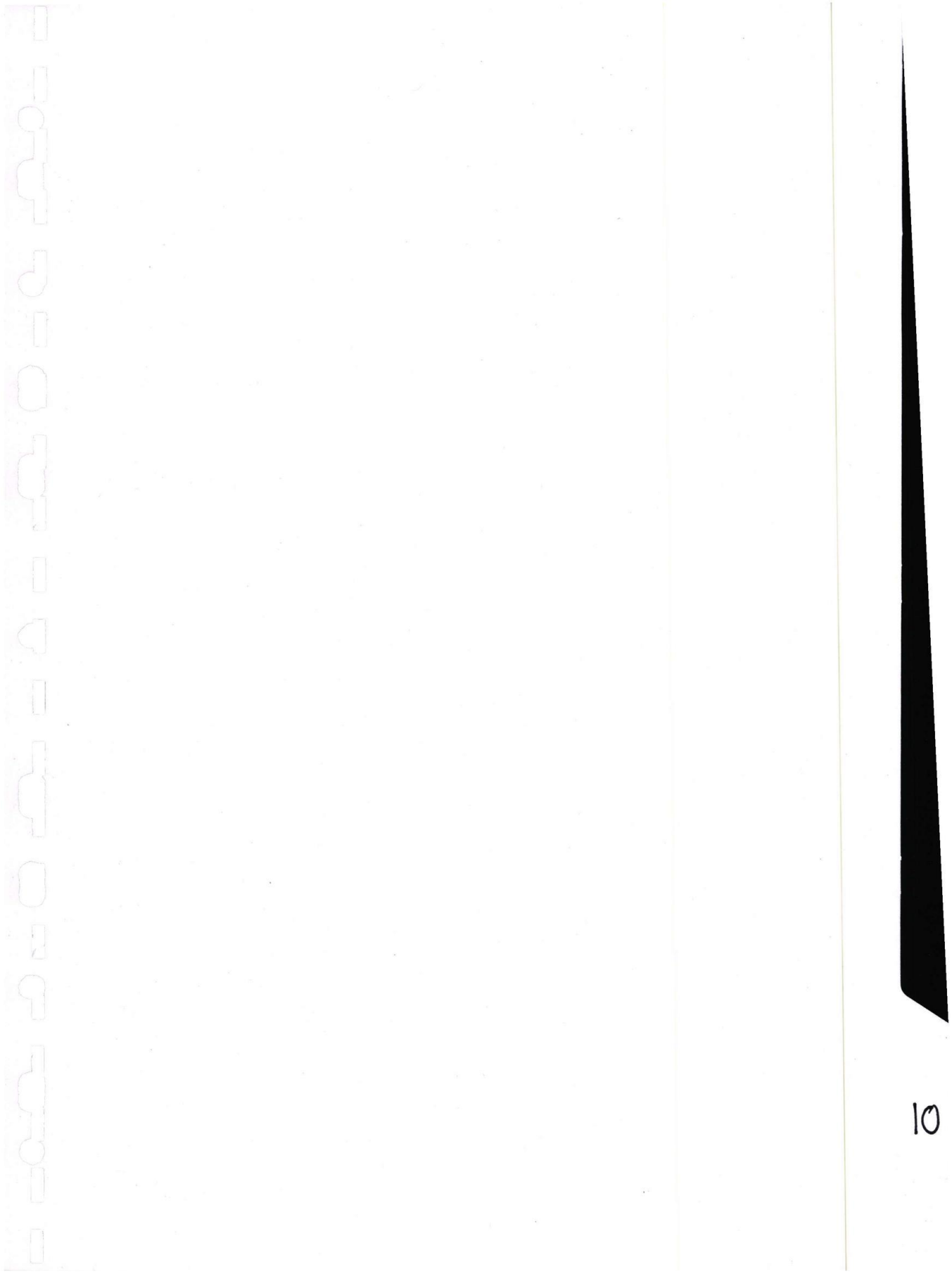
At a later date the tenant may apply for a revision to have the operational hours amended.

Should you have any questions please do not hesitate to contact this office.

Yours faithfully,

GB per

Stuart Pennells
Senior Project Manager



10

10. Waste Management

SECTION 24 – WASTE MINIMISATION AND MANAGEMENT

This Section of the Muswellbrook Development Control Plan has been prepared based on the Model Waste Not DCP Chapter 2008, prepared by the *Department of Environment and Climate Change (now Environment Protection Authority).*

This Section contains the following subsections:

24.1 SITE WASTE MINIMISATION AND MANAGEMENT

Waste and resource consumption is a major environmental issue and a priority for all levels of government within Australia. This is particularly the case as landfill sites become scarce and the environmental and economic costs of waste generation and disposal rise. Government and society alike are exposed to the issue of managing the increasingly large volumes of waste generated by our society.

Sustainable resource management and waste minimisation has emerged as a priority action area and a key in the quest for Ecologically Sustainable Development (ESD). Critical actions in this regard include the following:

- avoiding unnecessary resource consumption
- recovering resources for reuse
- recovering resources for recycling or reprocessing
- disposing of residual waste (as a last resort).

The building and construction industry in particular is a major contributor to waste, much of which is still deposited to landfill. The implementation of effective waste minimisation strategies has the potential to significantly reduce these volumes. Effective waste planning and management can also benefit the builder/developer. Some of the benefits of good waste planning and management include:

- reduced costs
- improved workplace safety
- enhanced public image
- compliance with legislation such as the Protection of the Environment Operation Act 1997 that requires waste to only be transported to a place that can lawfully accept it.

This section aims to facilitate sustainable waste minimisation and management within the Muswellbrook Local Government Area in a manner consistent with the principles of ESD.

The objectives of this section include:

- To minimise resource requirements and construction waste through reuse and recycling and the efficient selection and use of resources.
- To encourage building designs, construction and demolition techniques in general which minimise waste generation.
- To maximise reuse and recycling of household waste and industrial/commercial waste.

- To assist applicants in planning for sustainable waste management, through the preparation of a site waste minimisation and management plan.
- To provide guidance in regards to space, storage, amenity and management of waste management facilities.
- To ensure waste management systems are compatible with collection services.
- To minimise risks associated with waste management at all stages of development.

This section applies to the following types of development that may only be carried out with development consent.

- demolition
- construction
- subdivision
- change in use

24.2 SUBMISSION/APPLICATION REQUIREMENTS

All applications for development, including demolition, construction and the ongoing use of a site/premise, must be accompanied by a Site Waste Minimisation and Management Plan. Waste management facilities proposed as part of the development shall be clearly indicated on the plan accompanying the development application.

Site Waste Minimisation and Management Plan (SWMMP)

A Site Waste Minimisation and Management Plan outlines measures to minimise and manage waste generated during demolition, construction and ongoing use of the site/premises.

In doing so, the SWMMP nominates:

- volume and type of waste and recyclables to be generated
- storage and treatment of waste and recyclables on site
- disposal of residual waste and recyclables
- operational procedures for ongoing waste management once the development is complete.

A SWMMP (and/or site plan) should detail the location of waste management facilities proposed both during construction and for ongoing operation. Appendix A provides a template for the compilation of a SWMMP.

A SWMMP must be submitted for all types of development including demolition, construction and ongoing use of the site/premises; including local development, integrated development and state significant/major project development (as defined by the Environmental Planning and Assessment Act and Amendments). More details are required in SWMMPs for larger and more complex developments.

Where a DA is required, with or without the need for a Construction Certificate (CC), a SWMMP must be submitted at development application stage. Where only a CC is required, a SWMMP shall be submitted at the construction certificate stage. The submission of an updated SWMMP (providing contractor details etc) may be required prior to commencement of works.

When implementing the SWMMP the applicant must ensure:

- Footpaths, public reserves, street gutters are not used as places to store demolition waste or materials of any kind without Council approval.
- Any material moved offsite is transported in accordance with the requirements of the Protection of the Environment Operations Act (1997).
- Waste is only transported to a place that can lawfully be used as a waste facility.
- Generation, storage, treatment and disposal of hazardous waste and special waste (including asbestos) is conducted in accordance with relevant waste legislation administered by the EPA and relevant Occupational Health and Safety legislation administered by WorkCover NSW.
- Evidence such as weighbridge dockets and invoices for waste disposal or recycling services are retained.
- Evidence of compliance with any specific industrial waste laws and protocols, such as the Protection of the Environment Operations Act 1997.
- Materials which are to be disposed of and those which are to be reused/ recycled are to be separated through the demolition and construction process.
- Materials that have existing reuse or recycling markets should not be disposed of in landfill when possible.

In the absence of project specific calculations, the rates specified in Appendix B Waste/Recycling Generation Rates and Council's current rate of provision of services to residential properties can be used to inform the compilation of a SWMMP.

24.3 ASSESSMENT CRITERIA/CONTROLS FOR ALL DEVELOPMENT

24.3.1 Demolition of Buildings or Structures

The demolition stage provides great scope for waste minimisation. Proponents are actively encouraged to consider possible adaptive reuse opportunities of existing buildings/structures, reuse of materials or parts thereof.

The principal aim of managing this activity is to maximise resource recovery and minimise residual waste from demolition activities.

Objectives

- Optimise adaptive reuse opportunities of existing building/structures.
- Maximise reuse and recycling of materials.
- Minimise waste generation.
- Ensure appropriate storage and collection of waste.
- Minimise the environmental impacts associated with waste management.
- Avoid illegal dumping.
- Promote improved project management.

Controls/Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the demolition application.
- Identify all waste likely to result from the demolition, and opportunities for reuse of materials.
- Facilitate reuse/recycling by using the process of 'deconstruction', where various materials are carefully dismantled and sorted.
- Reuse or recycle salvaged materials onsite where possible.

- Allocate an area for the storage of materials for use, recycling and disposal (giving consideration to slope, drainage, location of waterways, stormwater outlets, vegetation, and access and handling requirements).
- Provide separate collection bins or areas for the storage of residual waste.
- Clearly 'signpost' the purpose and content of the bins and storage areas.
- Implement measures to prevent damage by the elements, odour and health risks, and windborne litter.

24.3.2. Construction of Buildings or Structures

Attention to design, estimating of materials and waste sensitive construction techniques and management practices can achieve significant rewards in managing waste.

The principal aim of managing this activity is to maximise resource recovery and minimise residual waste from demolition activities.

Objectives

- Maximise reuse and recycling of materials.
- Minimise waste generation.
- Ensure appropriate collection and storage of waste.
- Minimise the environmental impacts associated with waste management.
- Avoid illegal dumping.
- Promote improved project management.

Controls / Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the development application.
- The SWMMP shall identify all waste likely to result from the construction process, and the opportunities for the reuse and recycling of these materials.
- Incorporate the use of prefabricated components and recycled materials.
- Allocate an area for the storage of materials for use, recycling and disposal (considering slope, drainage, location of waterways, stormwater outlets and vegetation). Provide separate collection bins or areas for the storage of residual waste and clearly 'signpost' the purpose and content of the bins and storage areas.
- Implement measures to prevent damage by the elements, odour and health risks, and windborne litter.
- Ensure that all waste is transported to a place that can lawfully be used as a waste facility. Retain all records demonstrating lawful disposal of waste and keep them readily accessible for inspection by regulatory authorities such as council, Environment Protection Authority or WorkCover NSW.

24.4 DEVELOPMENT-SPECIFIC ASSESSMENT CRITERIA/CONTROLS

24.4.1 Single Dwellings, Semi-Detached and Dual Occupancy

The design of waste and recyclables storage areas within the home and property affect ease of use, amenity, the movement and handling of waste for the life of the development.

This section aims to encourage source separation of waste, reuse, and recycling by ensuring appropriate storage and collection facilities for waste, and quality design of waste facilities.

Objectives

- Maximise reuse and recycling of materials.
- Minimise waste generation.
- Ensure appropriate collection and storage of waste.
- Minimise the environmental impacts associated with waste management.
- Avoid illegal dumping

Controls/Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the development application.
- Plans submitted with the SWMMP must show:
  -The location of an indoor waste/recycling cupboard (or other appropriate storage space) for each dwelling.
  -The location of an onsite waste/recycling storage area for each dwelling, that is of sufficient size to accommodate Council's waste, recycling and garden waste bins.
- Waste containers are to be stored in a suitable location so as to avoid vandalism, nuisance and adverse visual impacts.
- Where possible, the waste/recycling storage area should be located in the rear yard and minimise the distance of travel to the collection point.
- The waste storage area is to be easily accessible and have unobstructed access to Council's usual collection point.
  (Note: It is the responsibility of dwelling occupants to move bins to the identified collection point no earlier than the evening before collection day and to then return the bins to their storage area no later than the evening of collection day. Bins are to remain in their on-site storage area at all other times.)

24.4.2 Multi-Unit Dwellings (Town Houses, Flats and Villas)

The design of waste and recycling storage areas within the unit and property affects ease of use, amenity, movement and handling of waste for the life of the development. Multiple households within the property increase challenges with regard to waste volumes, ease of access and operation of waste sorting and removal systems. Resources such as the *Better Practice Guide for Waste Management in Multi-Unit Dwellings* (available from NSW Office of Environment & Heritage) should be used to inform design of multi-unit dwellings.

This section aims to encourage source separation of waste, reuse, and recycling by ensuring appropriate storage and collection facilities for waste, and quality design of waste facilities.

Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management systems are as intuitive for occupants as possible and are readily accessible.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

Controls/Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the development application.

- Plans submitted with a development application must show:
  -The location of an indoor waste/recycling cupboard (or other appropriate storage space) for each dwelling.
  -The location of individual waste/recycling storage areas (such as for townhouses and villas) or a communal waste/recycling storage room(s) able to accommodate Council's waste, recycling and garden waste bins.
  -The location of any garbage chute/s and interim storage facilities for recyclable materials.
  -The location of any service rooms (for accessing a garbage chute) on each floor of the building.
  -The location of any waste compaction equipment.
  -The on-site path of travel for collection vehicles (if collection is to occur on-site), taking into account accessibility, width, height and grade.

- Waste management solutions should be taken into account early in the design process. Systems should be designed to maximise source separation and recovery of recyclables.

The following minimum collection and storage facilities shall be provided:

- Each dwelling unit should be provided with an indoor waste/recycling cupboard (or other appropriate storage space) for the interim storage of a minimum one day's garbage and recycling generation.
- Where a development site has limited street frontage (e.g., cul-de-sac, battle-axe lots, or higher density developments) and the area available for kerbside bin storage on collection day is limited, the provision of a communal waste/recycling storage facility may be required.
  (Note: Building designers are encouraged to consult the Better Practice Guide for Waste Management in Multi-Unit Dwellings for individual site solutions.)
- Multi-unit housing in the form of townhouses and villas must include either individual waste/recycling storage areas for each dwelling or a communal facility in the form of a waste/recycling storage room/s designed in accordance with the *Better Practice Guide for Waste Management in Multi-Unit Dwellings.*
- Residential flat buildings must include communal waste/recycling storage facilities in the form of a waste/recycling storage room/s designed in accordance with the *Better Practice Guide for Waste Management in Multi-Unit Dwellings.*
- The waste/recycling storage area/s or room/s must be of a size that can comfortably accommodate separate garbage, recycling and garden waste containers at the rate of Council provision.
- For multi-storey developments that include ten or more dwellings, a dedicated room or caged area must be provided for the temporary storage of discarded bulky items which are awaiting removal. The storage area must be readily accessible to all residents and must be located close to the main waste storage room or area.

The following location and design criteria shall apply to collection and storage facilities:

- In townhouse and villa developments with individual waste/recycling storage areas, such areas should be located and designed in a manner which reduces adverse impacts upon neighbouring properties and upon the appearance of the premises.
- There must be an unobstructed and *Continuous Accessible Path of Travel (as per Australian Standard 1428 Design for Access and Mobility - 2001)* from the waste/recycling storage area/s or room/s to:
  - the entry to any Adaptable Housing (as per *Australian Standard 4299 Adaptable Housing - 1995)*
  - the principal entrance to each residential flat building
  - the point at which bins are collected/emptied.

In instances where a proposal does not comply with these requirements, Council will consider alternative proposals that seek to achieve a reasonable level of access to waste/recycling storage area/s or room/s.

- Communal waste storage areas should have adequate space to accommodate and manoeuvre Council's required number of waste and recycling containers.
- Each service room and storage area must be located for convenient access by users and must be well ventilated and well lit.
- Where bins cannot be collected from a kerbside location or from a temporary holding area located immediately inside the property boundary, the development must be designed to allow for on-site access by garbage collection vehicles. (requirements regarding vehicle turning circles and driveway width/gradient are contained in *Australian Standard 2890.2 2002/ Planning Facilities – off street commercial vehicles*) In these instances, the site must be configured so as to allow collection vehicles to enter and exit the site in a forward direction and so that collection vehicles do not impede general access to, from or within the site. Access driveways to be used by collection vehicles must be of sufficient strength to support such vehicles.

  (Note: As a minimum requirement for collection vehicle access, Council will require indemnity against claims for loss or damage to the pavement or other driving surface. Council may also require indemnity against liabilities, losses, damages and any other demands arising from any on-site collection service. In all cases, a hazard assessment will need to be conducted prior to Council agreeing to undertake the service.)

  The applicant is required to address potential site impacts (odour, early morning noise/lighting from garage truck) upon occupants of the proposed and adjacent developments in accordance with *Better Practice Guide for Waste Management in Multi Unit Dwellings.*

  Proponents are encouraged to discuss this option with Council early in the design process.

- Should a collection vehicle be required to enter a property, access driveways and internal roads must be designed in accordance with *Australian Standard 2890.2 Parking Facilities – Off-Street Commercial Vehicle Facilities – 2002.*
- If Council waste collectors and/or waste collection vehicles are required to enter a site for the purpose of emptying bins, then site specific arrangements must be in place.
- If bins need to be moved from normal storage areas to a different location for collection purposes, it is the responsibility of agents of the owners' corporation to move the bins to the collection point no earlier than the evening before collection day and to then return the bins to their storage areas no later than the evening of collection day. Bins are to remain in their on-site storage areas at all other times.
- The design and location of waste storage areas/facilities should be such that they complement the design of both the development and the surrounding streetscape.
- Developments containing four or more storeys should be provided with a suitable system for the transportation of waste and recyclables from each storey to waste storage/collection areas.
- Garbage chutes must be designed in accordance with the *Building Code of Australia* and *Better Practice Guide for Waste Management in Multi Unit Dwellings*. Garbage chutes are not suitable for recyclable materials and must be clearly labelled to discourage improper use. Alternative interim disposal facilities for recyclables should be provided at each point of access to the garbage chute system.
- The following management responsibilities shall be addressed:
  -Agents of the owners' corporation must take responsibility for the management of waste and recyclable materials generated upon the site. Arrangements must be in

place in regards to the management, maintenance and cleaning of all waste/recycling management facilities.

24.4.3 COMMERCIAL DEVELOPMENTS AND CHANGE OF USE

(Shops, Offices, Food Premises, Hotels, Motels, Licensed Clubs, Education Establishments, Entertainment Facilities and Hospitals)

A range of non-residential uses present an array of unique waste minimisation opportunities and management requirements. Flexibility in size and layout is often required to cater for the different needs of multiple tenants as well as future changes in use.
Note: Storage and disposal of liquid waste, such as oils and chemicals, are not covered by this Site Waste Minimisation and Management section.

This section aims to ensure new developments and changes to existing developments are designed to maximise resource recovery (through waste avoidance, source separation and recycling); and to ensure appropriate well-designed storage and collection facilities are accessible to occupants and service providers.

Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management systems are as intuitive for occupants as possible and readily accessible to occupants and service providers.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

Controls/Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the application.
- Plans submitted with the SWMMP must show:
  -The location of designated waste and recycling storage room(s) or areas sized to meet the waste and recycling needs of all tenants. Waste should be separated into at least 3 streams, paper/cardboard, recyclables, general waste.
  -The location of temporary waste and recycling storage areas within each tenancy. These are to be of sufficient size to store a minimum of one day's worth of waste.
  -An identified collection point for the collection and emptying of waste, recycling and garden waste bins.
  -The on-site path of travel for collection vehicles (if collection is to occur on-site).
- There must be convenient access from each tenancy to the waste/recycling storage room/s or area/s. There must be step-free access between the point at which bins are collected/emptied and the waste/recycling storage room/s or area/s.
- Every development must include a designated waste/recycling storage area or room/s.
- Depending upon the size and type of the development, it may be necessary to include a separate waste/recycling storage room/area for each tenancy.
- Arrangements must be in all parts of the development for the separation of recyclable materials from general waste. Arrangements must be in all parts of the development for the movement of recyclable materials and general waste to the main

waste/recycling storage room/area. For multiple storey buildings, this might involve the use of a goods lift.

- The waste/recycling storage room/area must be able to accommodate bins that are of sufficient volume to contain the quantity of waste generated between collections.
- The waste/recycling storage room/area must provide separate containers for the separation of recyclable materials from general waste. Standard and consistent signage on how to use the waste management facilities should be clearly displayed.
- Waste management facilities must be suitably enclosed, covered and maintained so as to prevent polluted wastewater runoff from entering the stormwater system.
- Where possible, waste/recycling containers should be collected from a rear lane access point. Consideration should be given to the time of day at which containers are collected so as to minimise adverse impacts upon residential amenity, pedestrian movements and vehicle movements.
- A waste/recycling cupboard must be provided for each and every kitchen area in a development, including kitchen areas in hotel rooms, motel rooms and staff food preparation areas. Each waste/recycling cupboard must be of sufficient size to hold a minimum of a single day's waste and to hold separate containers for general waste and recyclable materials.
- Premises that discharge trade wastewater must do so only in accordance with a written agreement from the local sewer authority. Trade wastewater may be defined as "any liquid, and any substance contained in it, which may be produced at the premises in an industrial and commercial activity, but does not include domestic wastewater (e.g. from hand-basins, showers and toilets)."
- Premises which generate at least 50 litres per day of meat, seafood or poultry waste must have that waste collected on a daily basis or must store that waste in a dedicated and refrigerated waste storage area until collection.
- Arrangements must be in place regarding the regular maintenance and cleaning of waste management facilities. Tenants and cleaners must be aware of their obligations in regards to these matters.
- Any garbage chutes must be designed in accordance with the requirements of the *Building Code of Australia* and *Better Practice Guide for Waste Management in Multi-Unit Dwellings*. Garbage chutes are not suitable for recyclable materials and must be clearly labelled to discourage improper use.
- Food and drink premises that use disposable wrappers or containers should provide waste bins that are appropriate to the waste materials generated. In particular containers that are recyclable should be able to be recycled at the premises of origin.
- Recyclable receptacles are to be provided in premises that provide food and drinks in recyclable containers either pre-packaged or prepared in store. The following items should be recycled within the receptacles:
  - glass bottles
  - paper
  - cardboard
  - aluminium cans
  - steel cans
  - plastic bottles and containers
  - milk and juice cartons
- All waste receptacles should be coloured in conformance with the Australian Standard.
- Signage should be provided that assists patron in the proper sorting of waste and food scraps.
- Appropriate collection services should be contracted to ensure well sorted waste is disposed of accordingly.

24.4.4 MIXED USE DEVELOPMENTS (Residential/Non-Residential)

Where residential and commercial land uses occur within the one building or development waste management will necessitate a balancing of variable demands, including preservation of residential amenity.

This section aims to ensure new developments and changes to existing development are designed to maximise resource recovery (through waste avoidance, source separation and recycling) and to ensure appropriate, well-designed storage and collection facilities are accessible to occupants and service providers.

Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management facilities are safely and easily accessible to occupants and service providers.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

Controls/ Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the application.
- The controls at Section 24.4.2. Multi-Unit Dwellings apply to the residential component of mixed-use development.
- The controls at Section 24.4.3. Commercial Developments apply to the non-residential component of mixed-use development.
- Mixed Use development must incorporate separate and self-contained waste management systems for the residential component and the non-residential component.
- In particular, the development must incorporate separate waste/recycling storage rooms/areas for the residential and non-residential components. Commercial tenants must be prevented (via signage and other means), from using the residential waste/recycling bins and vice versa.
- The residential waste management system and the non-residential waste management system must be designed so that they can efficiently operate without conflict. Conflict may potentially occur between residential and non-residential storage, collection and removal systems, and between these systems and the surrounding land uses. For example, collection vehicles disrupting peak residential and commercial traffic flows or causing noise issues when residents are sleeping.

24.4.5 INDUSTRIAL

Industrial developments typically produce a diverse range of waste products. Some of these waste products may be hazardous and require compliance with established laws/protocols that are additional to this section. Other waste products are similar in nature to commercial and domestic waste streams. Mixing waste products limits potential reuse and recycling opportunities and may distribute toxic material through a larger volume of wastes.

Muswellbrook Shire Development Control Plan
Section 24
Waste Minimisation and Management

This section aims to ensure new developments and changes to existing developments are designed to maximise resource recovery (through waste avoidance, source separation and recycling) and to ensure appropriate, well-designed storage and collection facilities are accessible to occupants and service providers.

Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management facilities are as intuitive for occupants as possible and readily accessible to occupants and service providers.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

Controls/Requirements

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany the application.
- Plans submitted with the SWMMP must show:
  -The location of designated waste and recycling storage rooms or areas sized to meet the waste and recycling needs of all tenants. Waste should be separated into at least 4 streams, paper/cardboard, recyclables, general waste, industrial process type wastes.
  -The on-site path of travel for collection vehicles.
- Evidence of compliance with any specific industrial waste laws/protocols. For example, those related to production, storage and disposal of industrial and hazardous wastes as defined by the *Protection of the Environment Operations Act 1997.*
- There must be convenient access from each tenancy and/or larger waste producing area of the development to the waste/recycling storage room/s or area/s. There must be step-free access between the point at which bins are collected/emptied and the waste/recycling storage room/s or area/s.
- Every development must include a designated general waste/recycling storage area or room/s as well as designated storage areas for industrial waste streams (designed in accordance with specific waste laws/protocols).
- Depending upon the size and type of the development, it might need to include separate waste/recycling storage room/area for each tenancy and/or larger waste producing areas.
- All tenants must keep written evidence on site of a valid contract with a licensed waste contractor for the regular collection and disposal of all the waste streams and recyclables which are generated on site.
- Between collection periods, all waste/recyclable materials generated on site must be kept in enclosed bins with securely fitted lids so the contents are not able to leak or overflow. Bins must be stored in the designated waste/recycling storage room/s or area/s.
- Arrangements must be in place in all parts of the development for the separation of recyclable materials from general waste and for the movement of recyclable materials and general waste to the main waste/recycling storage room/area.

- The waste/recycling storage room/areas must be able to accommodate bins that are of sufficient volume to contain the quantity of waste generated between collections.
- The type and volume of containers used to hold waste and recyclable materials must be compatible with the collection practices of the nominated waste contractor.
- Waste management storage rooms/areas must be suitably enclosed, covered and maintained so as to prevent polluted wastewater runoff from entering the stormwater system.
- A waste/recycling cupboard must be provided for each and every kitchen area in the development. Each waste/recycling cupboard must be of sufficient size to hold a minimum of a single day's waste and to hold separate containers for general waste and recyclable materials.
- Premises that discharge trade wastewater must do so only in accordance with a written agreement from the local sewer authority. Trade wastewater may be defined as "any liquid, and any substance contained in it, which may be produced at the premises in an industrial and commercial activity, but does not include domestic wastewater (e.g. from hand-basins, showers and toilets)."
- Arrangements must be in place regarding the regular maintenance and cleaning of waste management facilities. Tenants and cleaners must be aware of their obligations in regards to these matters.
- Production, storage and disposal of hazardous wastes (such as contaminated or toxic material or products) require particular attention. The appropriate laws and protocols should be observed.

24.5 APPENDICES

Appendix A: Site Waste Minimisation and Management Plan Template
-Demolition stage
-Construction stage
-Ongoing operation

Appendix B: Waste/Recycling Generation Rates

References:

1. MODEL WASTE NOT DCP CHAPTER 2008;
A Site Waste Minimisation and Management Chapter for Consolidated Development Control Plans, Department of Environment and Climate Change (2008).

2. Better Practice Guide for Waste Management in Multi-Unit Dwellings, Department of Environment and Climate Change (2008).

The Better Practice Guide for Waste Management in Multi-Unit Dwellings gives detailed information about waste recycling/storage rooms and facilities. The Guide was substantially reviewed in 2007 and is available on the NSW Office of Environment & Heritage website (www.environment.nsw.gov.au). Further updates will be published as further information from social research and waste stream audits becomes available.

Notes:

1. *Relevant drawings are to be submitted to scale, clearly indicating the location of and provisions for the storage and collection of waste and recyclables during demolition, construction and ongoing operation.*

2. *Muswellbrook Shire Council operates a waste management facility at Common Road, Muswellbrook and a transfer station at Rosemount Road, Denman. Contact details and information regarding waste streams received at the depots can be obtained from Council's website at www.muswellbrook.nsw.gov.au.*

3. *Information regarding the waste collection zone map and timetable can be downloaded from Council's website on www.muswellbrook.nsw.gov.au*

Appendix A: Site Waste Minimisation and Management Plan Template

Applicant and Project Details	
Applicant Details	
Application No.	
Name	Stuart Pennells
Address	PO Box 1864 BATHURST NSW 2795
Phone number(s)	02 6331 3330
Email	stuart@inlandbuilding.com.au
Project Details	
Address of development	147 - 153 Bridge Street, Muswellbrook
Existing buildings and other structures currently on the site	N/A
Description of proposed development	Construction of a service station.
Declaration: *I acknowledge that this development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, Environment Protection Authority or WorkCover NSW.*	
Name	Stuart Pennells
Signature	
Date	9-5-19

DEMOLITION STAGE already Completed.

Materials on site		Destination		
		REUSE AND RECYCLING		DISPOSAL
Type of Material	**Estimated Volume** (M^3 or Kg)	**ONSITE** * specify proposed onsite reuse or recycling methods	**OFFSITE** * specify proposed offsite reuse or recycling methods	**FACILITY** * specify contractor and landfill/ disposal site
Bricks				
Concrete				
Excavation material	100m3	Spread over Site to Level		
Fencing				
Fixtures & Fittings				
Floor coverings				
Furniture				
Glass				
Green waste	20m3			landfill - Weeds only.
Metals				
Paving/tiles				
Plasterboard				
Roadbase/ aggregate				
Roof Tiles				
Timber				
Hazardous/ special waste				
Other – please specify				
Other – please specify				

CONSTRUCTION STAGE

Materials on site		Destination		
		REUSE AND RECYCLING		DISPOSAL
Type of Material	**Estimated Volume** (M^3 or Kg)	**ONSITE** * specify proposed onsite reuse or recycling methods	**OFFSITE** * specify proposed offsite reuse or recycling methods	**FACILITY** * specify contractor and landfill/ disposal site
Bricks				
Concrete	2000m3	any Left over used for Retaing Wall Pads		
Roof Tiles				
Timber				
Plasterboard	200 kg			Land fill
Metals				
Glass				
Excavation material	1000 kg	Re Used on Site to attain Levels Required		
Green waste				
Fencing				
Paving/tiles				
Roadbase/ aggregate	250 kg	Drive Way Re-Used at Retaing Walls fill		
Packaging				
Containers				
Paper/ cardboards	100 kg.			Recycled at facility.
Hazardous/ special waste				
Other – please specify				
Other – please specify				

ONGOING OPERATION (Residential, Multi Unit, Commercial, Mixed Use & Industrial)

TYPES OF WASTE LIKELY TO BE GENERATED	ESTIMATED VOLUME PER WEEK (Max)	PROPOSED ONSITE STORAGE AND/ OR PROCESSING	DESTINATION – RECYCLING OR DISPOSAL SITE
Example: Glass, paper, organic, food waste	*Example:* Weight, m^3, litres	*Example:* Waste storage and recycling area, onsite composting, compaction	*Example:* Recycling, landfill
Paper/Cardboard	20 kgs	On Site Recycling Bins	Recycling Provided
Plastic Bottles	30 kgs	" "	Recycling Provided
Food Waste	100kgs	Waste Bins Provided	Land fill
		Disposed to Land fill or Composted as Required.	
Waste Management Plan also Part of DA Conditions for Day to Day Operations			

Appendix B: Waste/Recycling Generation Rates

Construction Waste

'Rule of Thumb' for renovations and small home building

- Timber 5-7% of material ordered
- Plasterboard 5-20% of material ordered
- Concrete 3-5% of material ordered
- Bricks 5-10% of material ordered
- Tiles 2-5% of material ordered

Source: *Waste Planning Guide for Development Application, Inner Sydney Waste Board, 1998*

Ongoing Operation

Premises type	Waste generation	Recyclable material generation
Backpackers' Hostel	40L/occupant space/week	20L/occupant space/week
Boarding House, Guest House	60L/occupant space/week	20L/occupant space/week
Food premises: Butcher Delicatessen Fish Shop Greengrocer Restaurant, Café Supermarket Takeaway food shop	80L/100m^2 floor area/day 80L/100m^2 floor area/day 80L/100m^2 floor area/day 240L/100m^2 floor area/day 10L/1.5m^2 floor area/day 240L/100m^2 floor area/day 80L/100m^2 floor area/day	Variable Variable Variable 120L/100m^2 floor area/day 2L/1.5m^2 floor area/day 240L/100m^2 floor area/day Variable
Hairdresser, Beauty Salon	60L/100m^2 floor area/week	Variable
Hotel, Licensed Club, Motel	5L/bed space/day 50L/100m^2 bar area/day 10L/1.5m^2 dining area/day	1L/bed space/day 50L/100m^2 bar area/day 50L/100m^2 dining area/day
Offices	10L/100m^2 floor area/day	10L/100m^2 floor area/day
Shop less than 100m^2 floor area Shop greater than 100m^2 floor area	50L/100m^2 floor area/day 50L/100m^2 floor area/day	25L/100m^2 floor area/day 50L/100m^2 floor area/day
Showroom	40L/100m^2 floor area/day	10L/100m^2 floor area/day
Multi-Unit Dwellings[1]	80L/unit/week	40L/unit/week

Sources: Adapted from *Waverley Council Code for the Storage and Handling of Waste.*
[1] Appendix A, *Better Practice Guide For Waste Management In Multi-Unit Dwellings*

Instrument setting out terms of Easements or Profits a Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B of the Conveyancing Act 1919.

Lengths are in metres

Sheet 1 of 2 sheets

PLAN

Easement for Support 1.0 Wide within Lot 31 DP527173, Lot 1 DP794803, Lot 1 DP161784, Lot 1 DP784361 and Lot 1 DP159620

Full Name and Address of Proprietor of Land

Kanyon Pty Ltd
###########,
Blackburn, Vic 3130

PART 1

Number of Item shown in The intention Panel on the plan	Identity of easement, profit a prendre, restriction or positive covenant to be created and referred to in the plan.	Burdened Lot(s) or Parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities:
1	**Easement for Support 1.0 Wide (A)**	**1/159620** **1/794803** **31/527173** **1/784361**	**1/229566 and Muswellbrook Shire Council** **1/229566 and 1/198349** **1/198349** **Muswellbrook Shire Council**

PART 2

Terms of easement, profit a prendre, restriction or positive covenant numbered 1 in the plan.

No building shall be constructed or if constructed permitted to remain on any lot so burdened unless the registered proprietor of any lot so burdened constructs and maintains but only within the site of the Easement for Support 1.0m wide Designated (A) in the attached plan a batter or slope or retaining wall expressly for the support of the adjoining properties as required by Muswellbrook council.

In completing the works the owner of any lot so burdened must;

(a) construct and maintain on the lot burdened, but only within the site of this easement, whatever batter or embankment or retaining wall as is reasonably necessary to support the surface or subsurface of the lot benefited or any part of it, or any structure or works on the lot benefited, and

Instrument setting out terms of Easements or Profits a Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B of the Conveyancing Act 1919.

Lengths are in metres Sheet 1 of 2 sheets

Once constructed the owner of any lot so burdened must not:

(a) interfere with the batter or slope or embankment or retaining wall or the support it offers, or

(b) use the site of this easement, or any other part of the lot burdened, or any other land, in a way which may detract from the stability of or the support provided by the batter or slope or embankment or retaining wall.

If the owner of the lot burdened does or allows anything to be done which damages the batter or embankment or retaining wall or impairs its effectiveness, the owner of the lot benefited may serve not less than 14 days' notice on the owner of the lot burdened requiring the damage to be repaired or the impairment removed.
If the owner of the lot burdened does not comply with the notice, the owner of the lot benefited may enter and repair the damage or remove the impairment and may recover any reasonable costs from the owner of the lot burdened.

In exercising those powers (whether or not after serving such a notice), the owner of the lot benefited must:

a) Ensure all work is done properly, and
b) Cause as little inconvenience as is practicable to the owner and any occupier of the lot burdened, and
c) cause as little damage as is practicable to the lot burdened and any improvement on it, and
d) restore the lot burdened as nearly as is practicable to its former condition, and make good any collateral damage.
e) do anything reasonably necessary for that purpose, including:
   - entering the lot burdened, and
   - taking anything on to the lot burdened, and
   - carrying out work.

The Authority having the right to vary, release of modify the above is Muswellbrook Shire Council.

Instrument setting out terms of Easements or Profits a Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B of the Conveyancing Act 1919.

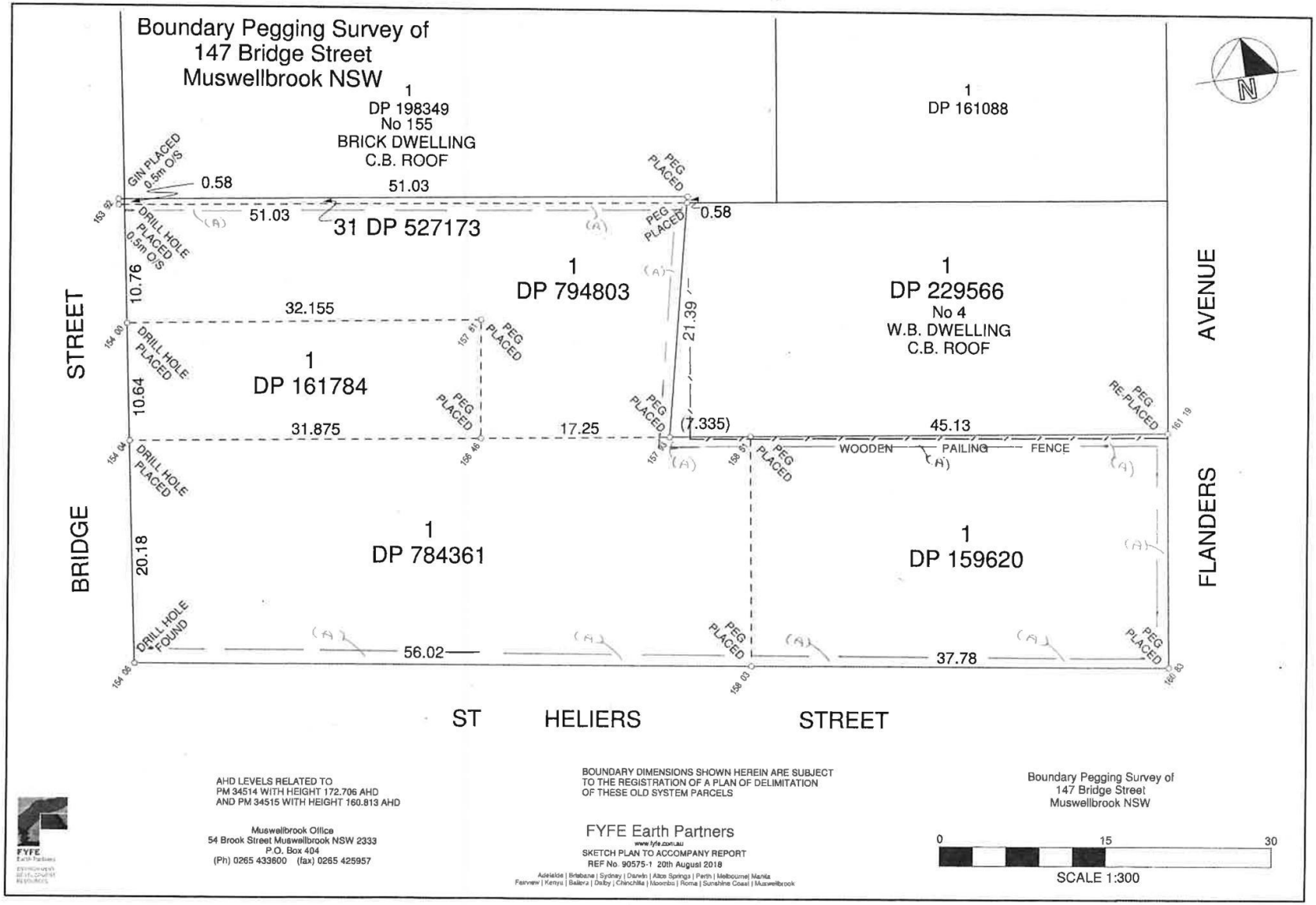
Lengths are in metres Sheet 1 of 2 sheets

Signed for on behalf of Muswellbrook Shire council.....

.....

Signed Director .....
Kanyon Pty Ltd
ACN 144 884 113

Signed Director/Secretary.....
Kanyon Pty Ltd
ACN 144 884 113


Boundary Pegging Survey of
147 Bridge Street
Muswellbrook NSW
1
DP 198349
No 155
BRICK DWELLING
C.B. ROOF
1
DP 161088
31 DP 527173
1
DP 794803
1
DP 229566
No 4
W.B. DWELLING
C.B. ROOF
1
DP 161784
1
DP 784361
1
DP 159620
BRIDGE STREET
FLANDERS AVENUE
ST HELIERS STREET
GIN PLACED 0.5m O/S
DRILL HOLE PLACED 0.5m O/S
DRILL HOLE PLACED
DRILL HOLE FOUND
PEG PLACED
PEG RE-PLACED
WOODEN PAILING FENCE
0.58
51.03
10.76
32.155
10.64
31.875
17.25
21.39
(7.335)
45.13
20.18
56.02
37.78
N
AHD LEVELS RELATED TO
PM 34514 WITH HEIGHT 172.706 AHD
AND PM 34515 WITH HEIGHT 160.813 AHD
Muswellbrook Office
54 Brook Street Muswellbrook NSW 2333
P.O. Box 404
(Ph) 0265 433600 (fax) 0265 425957
BOUNDARY DIMENSIONS SHOWN HEREIN ARE SUBJECT
TO THE REGISTRATION OF A PLAN OF DELIMITATION
OF THESE OLD SYSTEM PARCELS
FYFE Earth Partners
www.fyfe.com.au
SKETCH PLAN TO ACCOMPANY REPORT
REF No. 90575-1 20th August 2018
Adelaide | Brisbane | Sydney | Darwin | Alice Springs | Perth | Melbourne| Manila
Fairview | Kenyu | Ballera | Dalby | Chinchilla | Moomba | Roma | Sunshine Coast | Muswellbrook
Boundary Pegging Survey of
147 Bridge Street
Muswellbrook NSW
0
15
30
SCALE 1:300

NSW Police Force

Muswellbrook Shire Council
PO Box 122
Muswellbrook. NSW 2333

30/10/2018

Attention: Hamish McTaggart
Senior Development Planner

RE: Development Application No. 78/2018 – Service Station (Operating Hours – 24 Hours, 7 days a Week) And Restaurant (Operating Hours – 6.00am to 10.00pm) Lot: 1 Dp: 161784, Lot: 1 Dp:794803, Lot:1 Dp:784361 – 147 Bridge Street Muswellbrook, 153 Bridge Street Muswellbrook.

Dear Hamish,

A copy of the D. A., Statement of Environmental Effects, traffic & parking assessment and plans were forwarded to Hunter Valley Police for comment on the proposed development. There was no CPTED assessment in the application.

In April 2001 the NSW Minister for Planning introduced Crime Prevention Guidelines to Section 79C of the Environment Planning and Assessment Act, 1979. These guidelines require consent authorities to ensure that development provides safety and security to users and the community. 'If a development presents a crime risk, the guidelines can be used to justify modification of the development to minimise crime risk, or, refusal of the development on the grounds that crime risk cannot be appropriately minimised.'

HUNTER VALLEY LOCAL AREA COMMAND
26 William Street Muswellbrook NSW 2333
T 02 6542 6999 EN 61999 **F** 02 6542 6911 EN 61911 **W** www.police.nsw.gov.au
TTY 02 9211 3776 for the hearing and speech impaired ABN 43 408 613 180

Crime Prevention Through Environmental Design (CPTED)

Crime Prevention Through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by using design and place management principles that reduce the likelihood of essential crime ingredients from intersecting in time and space.

Predatory offenders often make cost-benefit assessments of potential victims and locations before committing crime. CPTED aims to create the reality (or perception) that the costs of committing crime are greater than the likely benefits. This is achieved by creating environmental and social conditions that:

- Maximize risk to offenders (increasing the likelihood of detection, challenge and apprehension).
- Maximise the effort required to commit crime (increasing the time, energy and resources required to commit crime)
- Minimise the actual and perceived benefits of crime (removing, minimizing or concealing crime attractors and rewards) and
- Minimise excuse making opportunities (removing conditions that encourage/facilitate rationalization of inappropriate behaviour)

Site Description

The proposed development is for a Service Station including a convenience store which will operate 24 hours a day, 7 days a week And Restaurant (Operating Hours – 6.00am to 10.00pm). The proposed development will be accessed from the main street (highway) through Muswellbrook and St Heliers Street. There are other businesses, licensed premise and residential property in the vicinity. Currently the site is vacant.

I have perused the plans and documents supplied by Muswellbrook Council. The plans and documents supplied did not have a CPTED assessment included. I have assessed these documents and have the following comments. –

1. Territorial Re-enforcement

Criminals rarely commit crime in areas where the risk of detection and challenge are high. People who have guardianship or ownership of areas are more likely to provide effective supervision and to intervene in crime than passing strangers. Effective guardians are often ordinary people who are spatially 'connected' to a place and feel an association with, or responsibility for it. Territorial Re-enforcement uses actual and symbolic boundary markers, spatial legibility and environmental cues to 'connect' people with space, to encourage communal responsibility for public areas and facilities, and to communicate to people where they should/not be and what activities are appropriate.

The boundaries of the development are reasonably well defined.

- Effective signage and directions will provide guidance to visitors/customers in locating main areas and keep them away from restricted areas.
- Signs can also assist in controlling activities and movements throughout the premises.
- Crime risk can be reduced for late night workers by reserving easily accessed and well-lit car spaces.
- In the 24 hour Service station centre, the counter area should be within a secured lockable area and with anti-jump barriers to restrict any persons from jumping the counter or having unauthorised access to behind the counter.

2. Surveillance

Natural surveillance is achieved when normal space users can see and be seen by others. This highlights the importance of building layout, orientation and location; the strategic use of design; landscaping and lighting. Natural surveillance is a by-product of well-planned, well-designed and well-used space.

Technical/mechanical Surveillance is achieved through mechanical/electronic measures such as CCTV, help points and mirrored building panels.

Technical/mechanical surveillance is commonly used as a 'patch' to supervise isolated, higher risk locations. Formal (or Organised) Surveillance is achieved through the tactical positioning of guardians. An example would be the use of on-site supervisors at higher risk locations.

General Comments in Design for Surveillance:

- Buildings facing towards public and semi-public areas provide natural surveillance and informal supervision (eyes on the street).
- Entry points should be designed to maximize surveillance opportunities to and from these areas from both inside as well as outside.
- The placement and orientation of common entry areas should maximize opportunities for natural supervision by staff and other guardians.
- Laminated glass walls and windows facilitate supervision of common entry areas.
- Consideration at the time of development to the inclusion of CCTV cameras.

Recommendations for Surveillance:

Police have the following specific recommendations for the identified building uses.

24hr Service station– higher risk of crime business

- **Surveillance equipment (CCTV) to enhance the physical security of the business's and assist in the identification of people involved in anti-social or criminal behaviour.**
- **Cameras should be installed both in and around the business to maximize surveillance opportunities.**
- **Cameras should monitor the cashier's area, high cost merchandise areas with poor natural supervision and entry/exit doors.**
- **TV monitors should enable staff to monitor activities on the camera.**
- **Recording equipment should be installed away from the counter area to avoid tampering.**
- **CCTV footage be kept for a minimum of 21 days.**
- **Appropriate warning signs to be displayed advising patrons of CCTV in use.**
- **Store windows are not obstructed with merchandise that may hinder surveillance into or out of the buildings.**

Lighting

- **High quality, vandal resistant lamps are less likely to require replacement or maintenance.**
- **Security /Sensor lighting for areas not in use after dark can detect movement and highlight unwanted activity. This increases the risk to offenders being detected.**
- **Maintenance plan needs to be developed.**

Landscaping

- **Matured vegetation should allow clear sight lines. "to see and be seen" Shrubs should not provide easy concealment.**
- **Maintenance plan needs to be developed.**

3. Access Control

Access control treatments restrict, channel and encourage people and vehicles into, out of and around the development. Way-finding, desire-lines and formal/informal routes are important crime prevention considerations.

Access control is used to increase the time and effort required to commit crime and to increase the risk to criminals. Natural access control includes the tactical use of landforms and waterways features, design measures including building configuration; formal and informal pathways, landscaping, fencing and gardens. Technical/Mechanical access control includes the employment of security hardware and Formal (or Organised) access control includes on-site guardians such as employed security officers.

General Comments in Design for Access Control:

- There is information to indicate the access control treatments in and around the development. The use of well-defined footpaths and vegetation.
- Fire exit doors to the development should also be fitted with single cylinder locksets (Australia and New Zealand Standard – Lock Sets) to restrict unauthorized access to the development.
- Access control should be set in place to exclude unauthorized access to restricted areas, particularly to the office areas and the loading docks.
- Clear signs and the use of lighting at night, encourages people to move in authorized areas only.

Recommendations for Access Control

Police make the following comments.

- **The main entry/exit points for this development should be fitted with single cylinder locksets (Australia and New Zealand Standards – Locksets), which comply with the Building Code of Australia.**
- **The windows should also be fitted with key operated locksets (Australia and New Zealand Standard – Lock Sets) to restrict unauthorized access to the development.**

Service Station.

- **Counters should be designed to reduce the opportunity for assault of staff and unauthorized access to behind counter areas by having the 'Sales service area' as its own secured lockable area and with anti-jump barriers to restrict any persons from jumping the counter or having unauthorised access to behind the counter. Consider the width, height and location of the counter.**
- **Installation of an access door from sales service area to food prep area to allow staff to move to a safe area in the event of a robbery or aggressive person.**
  - **The access door to the food prep area (as per plans) should be fitted with security access pad or key lock to restrict unauthorized access to the office area.**
- **For business handling cash, A safe designed and installed to the Australian Standards can provide additional security to money and other valuables. A drop safe for use in the 24hour Service Station centre, ensure minimal amount of cash kept in till.**
- **To enhance the security of the business's, a monitored intruder alarm system is recommended,**
  - **For Service station centre staff, incorporating a duress facility into the system to enable staff to activate the system manually in the event of an emergency, such as a robbery.**
  - **For the Service Station staff, they should be able to control the main customer entry/exit point from behind the service counter so that they can control customer entry within later hours of trading.**

Oliver's food outlet

- **The office door should be fitted with security access pad or key lock to restrict unauthorized access to the office area. There will be minimal supervision at the rear entry.**

- **Recommendation that the rear entry/exit be only for deliveries. This will allow for surveillance of all customers entering and will reduce the excuse for being in an out of bounds area. Clear signs should be displayed to indicate restricted areas.**

4. Space/Activity Management

Space/Activity management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. All space, even well planned and well-designed areas need to be effectively used and maintained to maximize community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour.

General Comments in Design for Space/Activity Management:

- There is currently some street activity in the area at night by people using the nearby food outlet and the nearby Licensed premises.

- The development site is on the main Highway which carries all type of vehicles. Locals and people moving through Muswellbrook on the New England Highway will make use of the proposed service station and attached food outlets, especially after hours as there is limited other businesses open. The number of people and vehicles moving in and around the site would be expected to increase.

- Police suggest patronage from these Licensed premises, in particular, during the early hours of Friday, Saturday and Sunday mornings, may negatively impact this development. The proposed twenty-four (24) hours per day seven (7) days a week 'hours of trade' will see diverse groups amass on-site, particularly intoxicated persons in search of their hang-over cure, only to adversely affect the development through an array of alcohol related crime and display of anti-social behaviour.

- A side effect of twenty-four (24) hour trade is increased noise levels and complaints. Increased 'noise' levels will potentially impact premises within the development's vicinity to the east of the development

- Police anticipate this development will generate increased noise levels from both vehicular and pedestrian (patrons) traffic. Of particular concern is the noise that will be generated during the early hours of the morning, being 1200am and before 0500am, carries much further and causes significantly more harm to those it affects (i.e. lack of or interrupted sleep).

Recommendations for Space/Activity Management.

Police make the following comments.

- **the development of the site maintenance plan, provisions should include the picking up of discarded rubbish from the fast food outlet outside the perimeter of the development, on nearby footpaths and street. As malicious damage (graffiti) is often an offence caused to such developments strong consideration must be given to the use of graffiti resistant materials, particularly on the fences, ground floor and areas which are accessible by other structures to reduce such attacks or assist in the quick removal of such attacks.**

- **A graffiti management plan needs to be incorporated into the maintenance plan for the development. Research has shown that the most effective strategy for reducing graffiti attacks is the quick removal of such material generally with a twenty-four to forty-eight hour period.**

- **Staff to be trained and need to monitor groups gathering that may generate unacceptable noise and take appropriate action, especially in the carpark to the rear of the development.**

- **To include a bicycle rack in a well supervised area.**

ADDITIONAL COMMENTS ON APPLICATION:

Heavy vehicle Movement.

It is acknowledged that heavy vehicle movements and traffic movements on both New England and St Helliers Street will be discussed at the Council Traffic Committee meeting.

A mapped diagram of the movement of the heavy vehicle through the proposed development has been provided and shows the path the vehicle would take to enter

via New England Highway and leave via ST Helliers Street. The heavy vehicle would be required cross two pedestrian crossing and move between the service station and Olivers food outlet. Police are requesting that fuel deliveries be restricted to non-peak times to reduce the likelihood of conflict with other users of the site.

Conclusion

The New South Wales Police have a vital interest in ensuring the safety of members of the community and their property. By using the recommendations contained in this evaluation, any person who does so acknowledges that:

1. It is not possible to make areas evaluated by the NSWP absolutely safe for members of the community or their property

2. It is based upon the information provided to the NSWP at the time the evaluation was made,

3. The evaluation is a confidential document and is for use by the consent authority or organizations referred to on page 1 only,

4. The contents of this evaluation are not to be copied or circulated otherwise that for the purposes of the consent authority or organization referred to on page 1.

The NSW Police hopes that by using the recommendations contained in this document, criminal activity will be reduced and the safety of members of the community and their property will be increased. However, it does not guarantee that all risks have been identified, or that the area evaluated will be free from criminal activity if its recommendations are followed.

We would like to thank you for the opportunity of inspecting the plans for this development and should you require further information on the subjects mentioned within this report feel free to contact Senior Constable Sheree Gray, Crime Prevention Officer, Hunter Valley Policing District, Phone 6542-6999.

Yours faithfully

Steven Benson
Detective Acting Inspector
Acting Crime Manager
Hunter Valley Policing District

Transport
Roads & Maritime
Services

CR2019/000774
SF2018/303033
KML

13 March 2019

General Manager
Muswellbrook Shire Council
PO Box 122
MUSWELLBROOK NSW 2333

Attention: Hamish McTaggart

BRIDGE STREET (HW9): DA 78/2018, SERVICE STATION AND RESTAURANT, LOT: 1 DP: 161784, LOT: 1 DP: 794803, LOT: DP: 784361, 147-153 BRIDGE STREET MUSWELLBROOK

Reference is made to Council's letter dated 19 September 2018, regarding the abovementioned application which was referred to Roads and Maritime Services (Roads and Maritime) for comment.

Roads and Maritime understands the proposal to be for construction of a service station operating 24 hours / 7 days a week, food outlet facility operating 6:00am to 10:00pm, and signage. Access to the site is proposed via an entry driveway off Bridge Street and separate entry and exist driveways off St Heliers Street.

Roads and Maritime Response

Transport for NSW and Roads and Maritime's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

Roads and Maritime has reviewed the information provided and raises no objection to the proposed development, provided the following matter(s) are addressed and included in Council's conditions of development consent:

- Vehicular access from the proposed Bridge Street driveway to be left in only.
- All vehicles are able to enter and exit the site in a forward direction.
- Heavy vehicle fuelling shall not be permitted.
- Council to ensure turning paths for fuel deliveries is suitable.

266 King Street, Newcastle, NSW 2300 | www.rms.nsw.gov.au | ABN: 76 236 371 088

Advice to Council

Roads and Maritime recommends that the following matters should be considered by Council in determining this development:

- Roads and Maritime has no proposal that requires any part of the property.

- Council should ensure that appropriate traffic measures are in place during the construction phase of the project to minimise the impacts of construction vehicles on traffic efficiency and road safety within the vicinity.

- Council should have consideration for appropriate sight line distances in accordance with Section 3 of the *Austroads Guide to Road Design Part 4A (Unsignalised and Signalised Intersections)* and the relevant Australian Standards (i.e. AS2890:1:2004) and should be satisfied that the location of the proposed driveways promote safe vehicle movements.

- Discharged stormwater from the development shall not exceed the capacity of the Bridge Street stormwater drainage system. Council shall ensure that drainage from the site is catered for appropriately and should advise Roads and Maritime of any adjustments to the existing system that are required prior to final approval of the development.

- All matters relating to internal arrangements on-site such as car parking, traffic / pedestrian management, manoeuvring of service vehicles and provision for people with disabilities are matters for Council to determine.

- Should Council approve the proposed development and recommended road works, Roads and Maritime concurrence is required in accordance with Section 138 of the *Roads Act (1993)* as the roadworks required affect Bridge Street a classified State road. As such, the works are to be designed in accordance with the Austroads *Guide to Road Design 2009* (with Roads and Maritime supplements) and relevant Australian Standards to the satisfaction of both Roads and Maritime and Council.

  Furthermore, Roads and Maritime highlights that in determining the application under Part 4 of the *Environmental Planning & Assessment Act, 1979* it is the consent authority's responsibility to consider the environmental impacts of any road works which are ancillary to the development, such as (inter alia) removal of trees, relocation of utilities, stormwater management, etc. This includes any works which form part of the proposal and/or any works which are deemed necessary to include as requirements in the conditions of development consent. Depending on the level of environmental assessment undertaken to date and the nature of the works, the Council may require the developer to undertake further environmental assessment for any ancillary road works.

- While it is acknowledged that concurrence is not required to be provided by Roads and Maritime for the new signage proposed in the subject application under Clause 18 of SEPP 64, the following advice is for Council to consider:

  - All signs should meet the criteria contained in the Department of Planning's *Transport Corridor Outdoor Advertising and Signage Guidelines (November 2017)* including, but not limited to, Section 3.3.3 Illumination and reflectance.

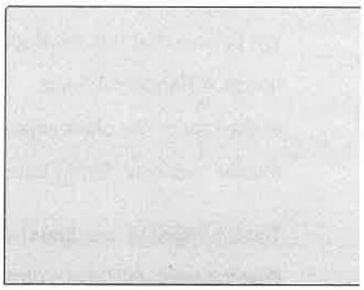
  - Council should ensure that all signs meet the requirements of Schedule 1 Assessment Criteria of the *State Environmental Planning Policy (SEPP) No. 64 – Advertising and Signage*.

- Council to advise the applicant that Roads and Maritime may direct the screening, modification or removal of a structure if, in the opinion of Roads and Maritime, the structure is considered a traffic hazard under Section 104 of the *Roads Act 1993*.

On Council's determination of this matter, please forward a copy of the Notice of Determination to Roads and Maritime for record and / or action purposes. Should you require further information please contact Kate Leonard, Development Assessment Officer, on 4908 7688 or by emailing development.hunter@rms.nsw.gov.au.

Yours sincerely

Peter Marler
Manager Land Use Assessment
Hunter Region



The General Manager

Muswellbrook Shire Council

Muswellbrook 2333

Email: council@muswellbrook.nsw.gov.au

RE: Submission of objections regarding Development Application: 78/2018

As per our written correspondence dated 3 October 2018, Darren and I object to the approval of the Development Application (D.A) 78/2018 in its current state. We understand that our property and the proposed development share the same zoning; however we highlight that our house, 4 Flanders Avenue has been in this location since 1939, and has been solely a residential property from this time. The "Statement of Environmental Effects" authored by Anthony Daintith: Town Planning does not refer to our property as a residential property, preferring to focus upon the other buildings within the vicinity of the proposed development, therefore we believe choosing to minimise the impact of the development upon our property.

We note that while the Statement of Environmental Effects makes some reference to the concerns raised in our previous correspondence, it does not fully address our concerns to our satisfaction. These being;

- Privacy, including Acoustic Privacy

We believe that this development will have a detrimental impact upon the privacy of our house, 4 Flanders Avenue. The current design details a large car park and vehicle accesses at the rear of the block adjacent to our house's front, side and rear yard areas, veranda, master bedroom, family bathroom and second bedroom.

The DA 78/2018 and Statement of Environmental Effects does not acknowledge that the development will have a direct impact upon the privacy of our property, and does not give proper and full consideration to the seriousness of the impact of the development upon the wellbeing of any residents of our house. Given that this facility is planed to be a 24 hour business, the implications for any residents of our house will be 24 hours, 7 days per week and there will not be any hour of the day or night where residents of 4 Flanders Avenue will not feel the scrutiny of passers by.

The additional documents provided to council, while professing that that there will be minimal impact upon surrounding properties, the development application does not provide clear details regarding the height and type of fencing which the developer proposes will address this issue. I note that the additional plans provided to council make note of a 20mm high retaining walls along the car park boundary. What additional fencing will be provided to provide security and privacy to our property as a 20cm high retaining wall is completely unacceptable.

Acoustic Privacy

While the additional documents provide an "Operational Noise Impact Assessment", this is based upon current traffic and pedestrian movements. The assessment refers to assumptions about proposed traffic and pedestrian movements, therefore the true impact upon our property can not be known. It is reasonable to expect that the noise impact of traffic (including semi trailers) and pedestrian movements of a fully functioning restaurant and services station operating, 16 hours and 24 hours per day, 7 days per week respectively will significantly increase the current levels of noise experienced by any residents of our property. It is also not unreasonable to assume that the increase of noise throughout the night, will disturb the sleep of any residents of our property, especially since the windows of 2 of the bedrooms face the proposed development.

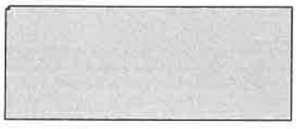
We again bring to Council's attention, that there are no other businesses operating 24 hours per day within the vicinity. The other businesses in the locality are usually ceased by 10 – 10:30pm or 12pm on Fridays and Saturday nights. While we acknowledge that Hungry Jacks has approval to operate 24 hours, apart from the initial weeks after its original opening the business has not operated 24 hours; it has opened at 5:30/6:30am and closed by 11pm most nights. Additionally, noises from the neighbouring businesses, such as Hungry Jacks, the RSL, and Eaton's Hotel, all have a degree of space that mitigates the worst of the noise. The proposed development would erase that space and make any noises generated much more oppressive.

In addition Noise Impact Assessment makes note of the potential noise created by the HVAC plants proposed to be located at the rear of the two buildings as well the noise generated by the air pump. Darren and I would like further information as to how the noise of the equipment will be mitigated in order not to compromise the ambiance or comfort of our property – both indoors and the backyard and veranda areas. I note that the Noise Impact Assessment refers to a 2 m barrier around the HVAC plant – what would this look like? What materials would be used to build such a barrier? What consideration has been given to impact of possible shadows created by the barrier and/or the reflection of sun or other light back to our property?

We continue to express our concerns as noted in our previous correspondence about other noise producing activities such as delivery and garbage collection. There is no consideration in the Statement of Environmental Effects or in the Noise Assessment of the times of the proposed deliveries and the additional noise, on top of vehicle movement and pedestrians this will create and the impact of the comfort and ambiance of property.

We believe that the additional concerns noted in our correspondence dated 3 October 2018 have not been adequately addressed by the additional development documents. These concerns include;

Smoking policy – will there be designated smoking areas on the premises and if so where will these areas be located? As previous correspondence identified there will be a significant increase in the amount of people accessing the development within close vicinity



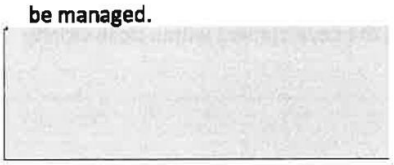
to our property and even if a third of these people smoke cigarettes the impact of such on any resident of 4 Flanders Avenue would be unpleasant and potentially detrimental to their health. It is well documented that there is no safe level of exposure to second-hand smoke and prolonged exposure can increase the risk of lung cancer, heart disease and sudden infant death syndrome. It can also cause sore throats, nasal symptoms, asthma attacks and other chest illnesses (http://www.cancercouncil.com.au, accessed 2 October 2018).

Antisocial behaviour management – The Statement of Environmental Effects provides advice regarding theft and graffiti mitigation strategies, but we feel it does not adequately address our concerns about how the service station and restaurant will manage patrons, especially those accessing the business later at night (after accessing other licenced premises) to ensure limited disturbance of residences in the area. Our questions relating to how the development plans to mitigate and manage antisocial, loud and offensive behaviour within the car park and other areas of the business, remain unanswered by the additional documentation. We also question how management will limit the patrons from disposing of rubbish including bottles and cigarette butts into our back yard?

The plans are still unclear as to what type of materials will be used to build the retaining wall and fencing between our property and the rear of the service station. The additional documents provide no further clarity as to whether there will be access behind the building for people to climb either on the roof of the service station, onto the roof of our colourbond shed or into the backyard area of our property? We would still like clarity of what migration strategies have been considered to limit this type of behaviour and potential security concerns?

Anticipated rear and side view of the development from our house –The additional documents still provide no artist's impressions or scale drawings of what the development will look like from the vantage point of our property.

Management of waste on site including but not limited to; vermin control, offensive odours, and littering. The additional documents do not provide any clarity as to our this will be managed.



Security and night time lighting – I note that the Statement of Environmental Effects makes reference to security lightening, however the additional documentation does not provide the exterior and interior lighting plans for both the buildings including the proposed brightness/reflection of these lights towards our house? Will this lighting shine through the bedroom windows and compromise sleep?

Security measures, including use of CCT cameras – The Statement of Environmental Effects makes reference to CCT cameras; Darren and I request that a map of camera locations and areas covered by provided to ensure that camera angles do not compromise privacy and safety of residents of 4 Flanders Avenue?

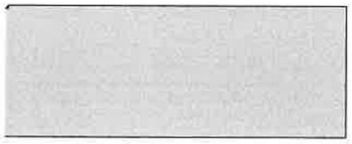
Car park & Service station buildings- What consideration has been given to the materials used and the potential for the transfer of radiant heat towards our property?

Compensation- Compensation for any damage caused to our property during construction phase eg; existing landscaping, structural damage to colour bond shed and residence? What other options that will be made available for compensation due to malicious damage to our property by the businesses patrons and staff?

Complaints process – Identified complains process for Darren, myself and any residents of 4 Flanders avenue during the construction of the proposed development (should it be approved) and any ongoing concerns once the development has been completed?

Traffic control and impact of increased vehicle movements as a consequence of construction and operation of DA78/2018-

We note that the Traffic and Parking Assessment (Ref: 18.19.008) provides models of traffic flow for St Heliers and Bridge Streets, however it fails to take into account increased traffic movements for Flanders Avenue.



Our questions relating to the impact upon Flanders Avenue remain and would like clarification of the following;

- Opportunity for amended traffic flow and parking restrictions for Flanders Ave, such as making the avenue one way and / or parking restricted to permanent residences? Flanders Avenue is only 7 metres in width and currently experiences considerable pressure from traffic using the avenue as a thoroughfare to avoid the Highway.
- Consideration to the financial implications for Council due to damage to the road way pavement in St Heliers Street (and Flanders avenue) due to the increase in traffic movement, including larger vehicles.

Conclusion

As per our original correspondence to Council relating to DA 78/2018, dated 3 October 2018 Darren and I continue to object to this development and do not believe that this development in its current state promotes our interest, comfort and security of our property 4 Flanders Ave, Muswellbrook.

Thank you for considering our application and we are willing to discuss our objections and possible solutions further, if necessary.

Yours sincerely

Darren Kenah Christine Kenah

References:

Development Application 78/2018 with the proposal for the development of "Service station and food outlet" on the corner of Bridge Street and St Heliers Street, Muswellbrook.

Traffic Solutions Pty Ltd, Proposed Service Station and Food Outlet, Corner of Bridge and St Heliers Streets, Muswellbrook: Traffic and Parking Assessment (ref:18.19.008), dated 30 August 2018

RCA Australia, Operational Noise Impact Assessment: 24Hr Service Station, Muswellbrook NSW (ref:13852-601/1), dated December 2018

Anthony Daintith Town Planning, Statement of Environmental Effects, dated 7 December 2018

Muswellbrook Shire Development Control Plans (DCP), April 2009 http://www.muswellbrook.nsw.gov.au/Council-services/Planning-development/Development-control-plan.htm accessed 2 October 2018

Muswellbrook Shire Local Environment Plan (LEP), http://www.legislation.nsw.gov.au/sessionalview/sessional/epi/2009-129.pdf accessed 2 October 2018

Cancer Council NSW http://www.cancercouncil.com.au/31928/reduce-risks/smoking-reduce-risks/going-smoke-free/smoking-and-the-law/?pp=31928 accessed 2 October 2018

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+572+2008+cd+0+N accessed 2 October 2018

Objection of DA no: 78/2018
Darren and Christine Kenah
(02) 65414599
0428 264 072

[redacted]

04/10/2018

General Manager

Fiona Plesman

Muswellbrook Shire Council

157 Maitland Street

Muswellbrook 2333

RE: Issues of concern relating to Development Application 78/2018

After reviewing Development Application (DA) 78/2018 for a Service Station and Food Outlet on the corner of Bridge Street and St Heliers Street I wish to raise with council a number of concerns. I feel confidant that being a resident of 1 Flanders Avenue for the past 28 years I have a reasonably accurate understanding of the issues which concern local residents in respect of DA 78/2018.

I am fully aware that the area is correctly zoned for a commercial development as identified in DA 78/2018 and as such any observation or concern raised is meant to be constructive in nature.

I wish to raise the following:

. Flanders Avenue is only slightly more than 7 meters wide with a 1 metre footpath on either side. Because of the narrowness of the footpath, pedestrians walk on the road. Flanders Avenue in addition to Sowerby Street are frequently used by school students walking to town, it is also a common route for vehicles traveling from the wine estate to town or bypassing town to the highway exit of Bell Street.

. Vehicles using the Bridge Street entry will have gone from 60 kilometres per hour (kph) to 50 and down to approximately 10 kph in 150 meters when entering the premises. It is not unusual for groups of eight to ten cars and trucks in close formation to be traveling along the highway. This has the potential for an increase in traffic incidents. The exits onto St Heliers Street seeking to return to the highway will further congest the Highway intersection.

. From the detail shown on the plan, the Entry/Exit onto St Heliers Street would seem to be directly opposite the Muswellbrook RSL Club Entry/Exit. The location of these points could have the potential for further traffic congestion. Vehicles entering the carpark at night where the gradient is 1/20 would be projecting their headlights into the side windows of the residence located at 4 Flanders Avenue.

. When licensed premises within the area hold special events, the overflow of parked vehicles is absorbed by adjoining carparks. In many instances this has resulted in antisocial behaviour, as a result, many of the instances have been reported to council. As the buildings substantially increase the parking area in this area, I assume attention to this issue will be carried out in the final construction detail.

. It is noted that some minor landscaping detail for the front of the proposed development, but no such landscaping relief other than a small kerb is shown on the plan which would break up the starkness at the rear of the carpark adjoining Flanders Avenue. I assume such detail could be resolved as a final detail.

. The design pays little respect to the heritage values of the structures within the area. Our own house was built in the early 1900's and places it as one of the very earliest dwellings constructed in Muswellbrook. The design in DA 78/2018 could clearly have been developed in total isolation of any understanding of the history of the town or any view of the adjacent structures.

Yours Sincerely

[redacted]

[redacted]

The General Manager

Muswellbrook Shire Council

Muswellbrook 2333

Email: council@muswellbrook.nsw.gov.au

RE: Submission of objections regarding Development Application: 78/2018

Darren and I object to the approval of the Development Application (D.A) 78/2018 in its current state. We understand that our property and the proposed development share the same zoning; however we highlight that our house, 4 Flanders Avenue has been in this location since 1939, and has been solely a residential property from this time. Our house is on the border of two conflicting zones and thus needs to be considered by council in the context of this submission and D.A as a privately owned home. In the course of objecting to this submission we have relied upon the following council documentation;

- Muswellbrook Shire Local Environment Plan (L.E.P), 2009
- Muswellbrook Shire Development Control Plan (DCP), 2009
- Development Application 78/2018

We also note that council needs to consider the following issues when approving a Development Application;

- Privacy, including Acoustic Privacy
- Heritage significance and the impact of a new development upon existing buildings and locations of historical significance
- Urban design

Darren and I **object** to the Development Application (D.A), 78/2018 due to the following reasons;

- **Privacy**

We believe that this development will have a detrimental impact upon the privacy of our house, 4 Flanders Avenue. The current design details a large car park and vehicle accesses at the rear of the block adjacent to our house's front, side and rear yard areas, veranda, master bedroom, family bathroom and second bedroom.

Council's Development Control Plan (D.C.P) 2009, section 6 "Residential Development" subsections 6.1, 6.1.1 and 6.1.3 detail the privacy considerations new developments must give to existing residences. In addition to these subsections, subsection 6.3.3 details that the new development must "...locate windows and outdoor spaces to avoid direct or close views into the windows, balconies, or private open space of adjoining dwellings..." We argue that the proposed car park will breach all these aspects. We concede that this section is applicable to developments in residential areas, and acknowledge that our house and the proposed development are both located in the B2 commercial zone; however considering the context of our house being a private residence and the development being on the boundary of a residential area we believe these concerns are relevant and need to be taken into consideration by council.

The DA 78/2018 does not acknowledge that the development will have a direct impact upon the privacy of our property, and does not give proper and full consideration to the seriousness of the impact of the development upon the wellbeing of any residents of our house. Given that this facility is planed to be a 24 hour business, the implications for any residents of our house will be 24 hours, 7 days per week and there will not be any hour of the day or night where residents of 4 Flanders Avenue will not feel the scrutiny of passers by.

The rear veranda and back yard area of the house and yard are utilised for entertaining guests, eating meals, gardening and generally enjoying the outdoors. We fear that any residents of our house will feel uncomfortable and unable to use the backyard and veranda areas due to patrons of the service station and restaurant having an uninterrupted view of family and friends' activities. Darren and I also share concerns about the safety of any children and their feelings of security and wellbeing whilst playing in our backyard, knowing that strangers are able to view their play.

We believe that the development application does not provide clear details regarding the height and type of fencing which the developer proposes will address this issue. Additionally, we believe that the fencing required to screen our house from both the public car park and large vehicles moving through the area would be sizeable and 'gaol like' and while the plan does not make any reference to screening plants; the planting of screening trees and shrubs would take a considerable amount of time before they would provide what we perceive as adequate privacy screening. It should also be noted that running down the fence line in our yard is the council sewer line and access point so any plantings would need to occur on the car park side of the fencing.

- **Acoustic Privacy**

Council's Development Control Plan (DCP) 2009, section 6 "Residential Development", subsection 6.3.4 details a developer's responsibility in relation to Acoustic privacy. The subsection details the developer must "...ensure that (the) development does not result in adverse amenity impacts arising from noise generation...(and that) site layout and design separates active recreational areas, parking areas, vehicle access ways and service equipment areas from bedrooms areas of dwellings" (DCP, 2009).

The proposed development includes parking spaces for 30 vehicles, vehicle access and egress (including movement of semi trailers and other large vehicles) and pedestrian traffic pathways that are directly adjacent to the outdoor living areas, master bedroom and second bedroom of our house. We would anticipate that at peak times there could be as many as 150 people (5 persons per car) congregating in the car park. We are also concerned that apart from the noise of the vehicle movements themselves, any visitors to or residents of our house would have to contend with the noise generated from patrons' conversations, car doors, squeaking brakes and other ambient noises generated by 30 cars and 150 people.

In addition it appears that other noise producing activities such as delivery points and garbage collection are planned to be located at the rear of our back yard. The waste collection bins are planned to be located against our rear side fence, directing impacting on the privacy and ambiance of the rear yard area and given most garbage collection and deliveries occur in the early mornings, it would not be unreasonable to assume that the

sleep patterns of any residents of 4 Flanders avenue would be compromised by deliveries and garbage collection.

This development is proposed to be a 24 hour business, thus noise will continue to be an issue 24 hours per day 7 days per week with no reprieve for residents of 4 Flanders Avenue. It would also be reasonable to anticipate that noise generated by the business and its patrons would increase on public holidays including family festive periods of Christmas and Easter making the use of the rear veranda and back yard areas of 4 Flanders Avenue unpleasant and unusable by guests and family.

The other businesses in the locality are usually ceased by 10 – 10:30pm or 12pm on Fridays and Saturday nights. While we acknowledge that Hungry Jacks has 24 hour approval to operate, apart from the initial weeks after its original opening the business has not operated 24 hours; it has opened at 5:30/6:30am and closed by 11pm most nights. Additionally, noises from the neighbouring businesses, such as Hungry Jacks, the RSL, and Eaton's Hotel, all have a degree of space that mitigates the worst of the noise. The proposed development would erase that space and make any noises generated much more oppressive.

We have concerns that the development application appears not to have included a traffic study to indicate the number of traffic movements that would be generated by both the proposed service station and the restaurant. The amount of noise that will be generated by the proposed D.A, due to increased vehicles, including semi trailers and pedestrian movements, will be incomparable to what we and the other residents in the are have previously been experienced by the other businesses in the locality. Even when the vacant block was utilised by the Ford dealership, at no time do we experience the Ford dealership to have had this many people on their premises to generate anywhere near to the amount of noise this development will generate.

At the time of writing this submission, we were unable to determine the location and type of the air conditioning units or refrigeration units for cool rooms at both the service station and restaurant. We have concerns that the units will be noisy and operating 24 hours a day and are highly likely be located at the rear of both buildings and will as such impact upon

the outside spaces such as the rear back yard and veranda areas of our house. Such placement would therefore be close to our premises and will adversely affect the quality of lifestyle of residents in both our home and front and back yard spaces.

- **Heritage Impact and Urban Design**

Our house "Hazeldene" was built in 1939 by architects Rixon, Hastey and Baker for the Hazel family. Mr Daniel "Mick" Hazel was a local blacksmith and the house's history and the influence of the Hazel family on the development of Muswellbrook has been subject of a study by the Muswellbrook Historical society. It is one of many residences in the vicinity that dates from this era. We believe that the design of the proposed development is not sympathetic to our home or others in Flanders Avenue, St Heliers and Bridge Streets. The height, colourings and design of the development is not fitting with the existing architecture. Our home and the proposed development are both located in the conservation area of Muswellbrook.

In particular we do not believe that the design is complementary to Eatons Hotel; an identified building of historical significance in the Muswellbrook township. The Muswellbrook Shire D.C.P subsection 15.1.9 "...ensure(s) that new developments will be sympathetic with features and associations that make for the heritage significance of a place...(and) do not diminish or compromise the heritage significance of places by introducing elements which are out of character with or draw attention from the things which make for the heritage significance of places... This means that new developments should be similar in appearance."

Subsection 15.2.4 states that Council must give consideration to the impact of new building works and "How will elements of new developments relate visually to existing building works?" The D.C.P identifies that buildings can produce "...powerful visual intrusions...and visual conflicts with features of the wider settings of existing buildings should be minimised..." Further to this subsection 15.1.14 clearly details that "...buildings that are visually intrusive or otherwise non-contributory to the character of the area will not be

acceptable." In addition to Section 15, Section 9 "Local Centre Development" details guidance regarding commercial property development in the town main street area; the zoning that applies to both our home and the proposed development site. The objective of this subsection is to ensure that development "... complements and enhances existing local centres" whilst ensuring that "...the heritage character/value and streetscape of the business centre of Muswellbrook." This is achieved by the use of building materials and colours that harmonise, rather than dominate the existing streetscape. The corporate colours of both buildings are bright and somewhat overbearing of the buildings in the locality, including our house and do nothing to reinforce the attractiveness of the surrounds.

- **Additional concerns not addressed by DA78/2018**

Smoking policy – will there be designated smoking areas on the premises and if so where will these areas be located? As previously noted there could be in excess of 150 people congregating or moving through the car park area of the development and even if a third of these people smoke cigarettes the impact of such on any resident of 4 Flanders Avenue would be unpleasant and potentially detrimental to their health. It is well documented that there is no safe level of exposure to second-hand smoke and prolonged exposure can increase the risk of lung cancer, heart disease and sudden infant death syndrome. It can also cause sore throats, nasal symptoms, asthma attacks and other chest illnesses (http://www.cancercouncil.com.au, accessed 2 October 2018).

Antisocial behaviour management – There is no detail in the submission about how the service station and restaurant will manage patrons, especially those accessing the business later at night (after accessing other licenced premises) to ensure limited disturbance of residences in the area. We question how business management plan to mitigate and manage antisocial, loud and offensive behaviour within the car park and other areas of the business? We also question how management will limit the patrons from disposing of rubbish including bottles and cigarette butts into our back yard?

We also have questions about the type of retaining wall and fencing between our property and he rear of the service station. Will there be access behind the building for people to climb either on the roof of the service station, onto the roof of our colour bond shed or into

the backyard area of our property? What migration strategies have been considered to limit this type of behaviour and potential security concerns?

Anticipated rear and side view of the development from our house – what residents of our home will be looking at from our front yard, bedrooms, kitchen window, rear verandah and back yard area? There are no artists impressions or scale drawings of what the development will look like from the vantage point of our property.

Management of waste on site including but not limited to; vermin control, offensive odours, and littering.

Security and night time lighting - We also ask for the exterior and interior lighting plans for both the buildings including the proposed brightness/reflection of these lights towards our house? Will this lighting shine through the bedroom windows and compromise sleep?

Security measures, including possible use of CCT cameras - Will the proposed development use CCT cameras as a security measure? If so, Darren and I request that a map of camera locations and areas covered by provided to us to ensure that camera angles do not compromise privacy and safety of residents of 4 Flanders Avenue?

Fencing -What is the proposed height and materials used for the proposed privacy fencing? What consideration has been given to the materials used and the potential for the transfer of radiant heat towards out property? Any expectation that Darren and I will need to contribute to half the costs of boundary fencing and retaining walls?

Car park & Service station buildings- What consideration has been given to the materials used and the potential for the transfer of radiant heat towards our property?

Location underground fuel tanks – We note that the plans make reference to the location of the undergrown fuel tanks being "...to be confirmed"; where else is it anticipated that the tanks maybe be placed and what notice or right of reply will Darren and I be provided about

any change of location? We would have concerns if the tanks were moved to another location due to the impact of fumes and noise from deliveries.

Compensation- Compensation for any damage caused to our property during construction phase eg; existing landscaping, structural damage to colour bond shed and residence? What other options that will be made available for compensation due to malicious damage to our property by the businesses patrons and staff?

Complaints process – Identified complains process for Darren, myself and any residents of 4 Flanders avenue during the construction of the proposed development (should it be approved) and any ongoing concerns once the development has been completed?

Air conditioning and Freezer units - Type, size, location and expected noise levels of air conditioning and refrigeration units? Has any consideration been given to the impact of the heat generated from such units upon our property?

Traffic control and impact of increased vehicle movements as a consequence of construction and operation of DA78/2018-

- Has a traffic study been undertaken as to the anticipated increase in traffic volumes, noise and overall impact of changed traffic conditions?
- Opportunity for amended traffic flow and parking restrictions for Flanders Ave, such as making the avenue one way and / or parking restricted to permanent residences? Flanders Avenue is only 7 metres in width and currently experiences considerable pressure from traffic using the avenue as a thorough fare to avoid the Highway.
- Has there been consideration given to the management of the increase in traffic in St Heliers Street entering onto the New England Hwy (Bridge Street)? In addition migration strategies for potential accidents due to vehicles turning into the service station and St Heliers Street across highway traffic?
- Consideration to the financial implications for Council due to damage to the road way pavement in St Heliers Street (and Flanders avenue) due to the increase in traffic movement, including larger vehicles.

- Traffic control and mitigation strategies to minimise potential accidents due to the increase of traffic movements and driveways opposite the existing RSL and Hungry Jacks entries and exits.
- Mitigation strategies to ensure the safety of pedestrians when crossing both St Heliers and Bridge Streets; currently there is no marked crossings or refuge island for pedestrians in either street

Conclusion

Muswellbrook Shire Council planning, building and development policy details that all development applications must meet the requirements of the Muswellbrook Shire Local Environment Plan (L.E.P), the Muswellbrook Shire Development Control Plans (D.C.P) and the Building code of Australia with primary consideration given to how the D.A considers privacy, heritage impact, urban designs and overall impact upon neighbouring properties. As objectors to the D.A, 78/2018 we believe that further inquiry needs to occur in respect to how the proposed development has fully considered these issues in respect to our property 4 Flanders Avenue, Muswellbrook.

The developer will maintain that their application and proposed development fulfils the aim of the Muswellbrook Shire Local Environment Plan by "...(encouraging) orderly, economic, and equitable development..." it however fails to acknowledge that the LEP aim also details that development must only occur when "...safeguarding the community's interests and community amenity..." As the family most affected by this development we do not believe that this development in its current state promotes our interest, comfort and security within our property 4 Flanders Ave, Muswellbrook.

Thank you for considering our application and we are willing to discuss our objections and possible solutions further, if necessary.

Yours sincerely

References:

Development Application 78/2018 with the proposal for the development of "Service station and food outlet" on the corner of Bridge Street and St Heliers Street, Muswellbrook.

Muswellbrook Shire Development Control Plans (DCP), April 2009 http://www.muswellbrook.nsw.gov.au/Council-services/Planning-development/Development-control-plan.htm accessed 2 October 2018

Muswellbrook Shire Development Control Plans (DCP): Heritage Conservation, April 2009 http://www.muswellbrook.nsw.gov.au/Council-services/Planning-development/Development-control-plan-pdfs/Section%2015%20-%20Heritage%20Conservation.pdf accessed 2 October 2018

Muswellbrook Shire Local Environment Plan (LEP), http://www.legislation.nsw.gov.au/sessionalview/sessional/epi/2009-129.pdf accessed 2 October 2018

Cancer Council NSW http://www.cancercouncil.com.au/31928/reduce-risks/smoking-reduce-risks/going-smoke-free/smoking-and-the-law/?pp=31928 accessed 2 October 2018

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+572+2008+cd+0+N accessed 2 October 2018