



Fernhill Estate, 1041 Mulgoa Road, Mulgoa Small Functions

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Fernhill Estate, 1041 Mulgoa Road, Mulgoa

Small Functions

Traffic Management Plan

Issue: A 08/09/15

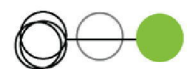
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A	08/09/15	Final	Rhys Hazell	Rhys Hazell	Brett Maynard	



GTA consultants

Melbourne | Sydney | Brisbane
Canberra | Adelaide | Perth
Gold Coast | Townsville

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1. Introduction

Fernhill Estate engaged GTA Consultants to provide an update to the Small Functions traffic and access arrangements and how this relates to the Traffic Management Plan (TMP) endorsed by Penrith City Council in mid-2014¹.

This report details the traffic related impacts of a series of small functions planned at 1041 Mulgoa Road, Mulgoa (known as Fernhill Estate) over a six-month period, between late 2015 and early 2016, and seeks the removal of the following conditions of consent as previously imposed by Penrith City Council (DA13/1402).

Table 1.1: Penrith City Council Conditions of Consent (Traffic)

No.	Condition
2.49	A Transport Management Plan, including a Risk Management Plan, is to be lodged by the event applicant with the Roads and Maritime Services for approval prior to the first event. A copy of the Roads and Maritime Services approval must be submitted to Council prior to the first event.
2.50	A Traffic Control Plan is to be prepared by a qualified and certified professional and submitted to Roads and maritime Services prior to the first event. This Plan shall include:- a) Details of where Variable Message Signs (VMS) are proposed to be located. The use of the VMS are to be in accordance with Roads and Maritime Services Technical Direction TDT2010/07.
2.51	Prior to each event the applicant is to apply for a Road Occupancy Licence (Form C & D) by contacted the Transport management Centre's Planned Incidents Unit on (02) 8396 1513 during office hours (8am – 4pm) or 131700 after hours.
2.52	The applicant will be required to submit the Road Occupancy Licence forms/ traffic management plan at least 10 working days prior to the start of works. Plans should be forwarded to the Supervisor Planned Incidents Unit, Transport Operations, Transport management Centre or on facsimile (02) 8396 1530.

¹ Fernhill Estate, 1041 Mulgoa Road, Mulgoa – Small Functions Traffic Management Plan, GTA Consultants, Issue A, 08/04/14

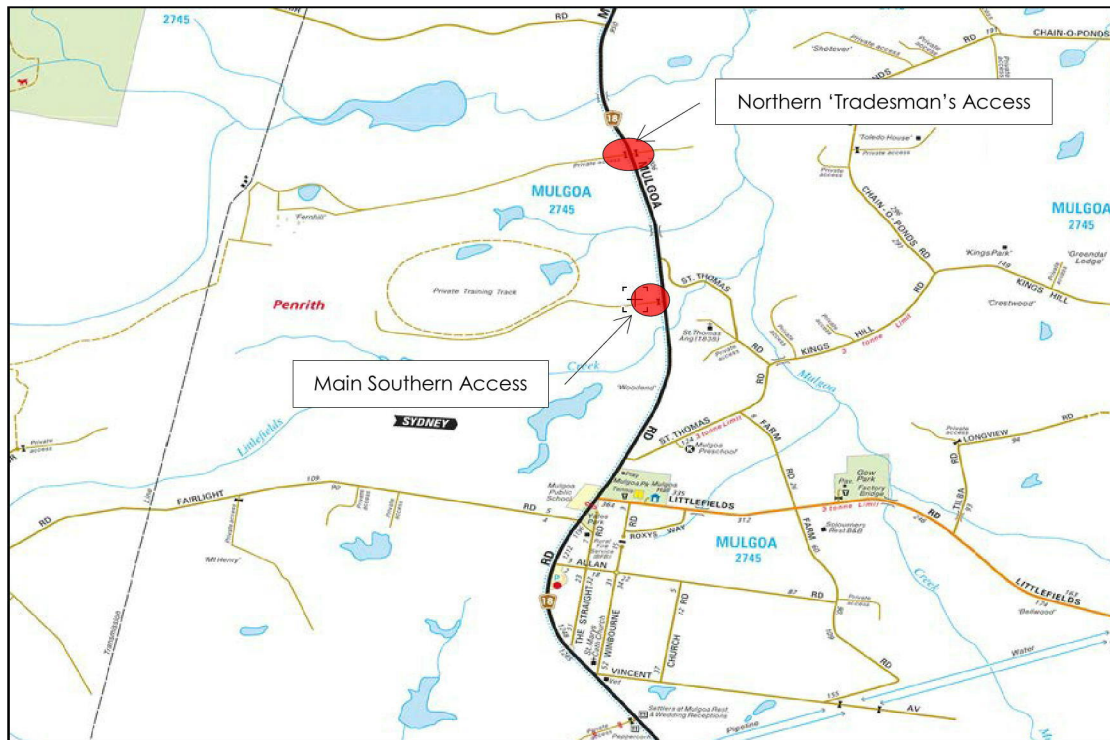
2. Existing Conditions

2.1 Subject Site

Fernhill Estate is located at 1041 Mulgoa Road, Mulgoa, approximately 1.5 kilometres north of Mulgoa Township and 10 kilometres south of Penrith. Mulgoa Road travels in a north-south direction along the eastern boundary of the site, with access provided via two separate driveways. The southern driveway forms the main site access, with the northern driveway considered a secondary access and is generally referred to as the 'tradesman's' access.

The site location and the two site access driveways are shown in Figure 2.1.

Figure 2.1: Fernhill Estate Site Access Locations



Basemap Source – Sydney

2.2 Road Network

The major roads in close proximity to the site include Mulgoa Road and The Northern Road. Mulgoa Road is aligned in a north-south direction and runs adjacent to the eastern boundary of the site with The Northern Road located further east. Both roads provide major north-south links between Penrith and other western Sydney suburbs and the M4 Motorway in the north with Campbelltown, Camden and other regional towns and centres south-west of Sydney including the M5 Motorway/ Hume Highway.

Mulgoa Road has a posted speed limit of 80km/h in the vicinity of the site reducing to 60km/h south of the site access in the township of Mulgoa. Mulgoa Road carries between 700 and 850 vehicles two-way during the Saturday midday and weekday evening peak hours respectively.²

The road network in the vicinity of the site is detailed in Table 2.1.

Table 2.1: Road Network

Road	Hierarchy	Functional Classification
M4 Western Motorway	State	Arterial
Mulgoa Road	State	Arterial
The Northern Road	State	Arterial
Littlefields Road	Local	Collector
St Thomas Road/ Kings Hill Road	Local	Collector

2.3 Site Access

The main (southern) access driveway is illustrated in Figure 2.2 and provides a wide apron and manoeuvring capacity. The secondary northern access is shown in Figure 2.3 and presents a more constrained area with restricted sight distances in each direction.

Figure 2.2: Main Access Driveway



Figure 2.3: Tradesman's Access Driveway



2.4 Sight Distances

The tradesman's access driveway is not regularly used for access to/ from Fernhill Estate, mainly as a result of the restricted sight distances given its location close to the crest of a hill. As such, an assessment has been completed at the main access driveway only in order to determine the approximate sight distances along Mulgoa Road at this location. The results are set out in Table 2.2 with each approach illustrated in Figure 2.4 to Figure 2.7.

Table 2.2: Sight Distance Measurements

Driveway Location	On approach to Mulgoa Road	Mulgoa Road Northern Approach	Mulgoa Road Southern Approach
Main Southern Access	More than 100m	200m	220m

² Based on traffic surveys at Mulgoa Road/ Littlefields Road intersection as commissioned by GTA Consultants in March 2014.

Figure 2.4: Mulgoa Road Approaching the Main Site Access (southbound)



Figure 2.5: Mulgoa Road Approaching the Main Site Access (northbound)



Figure 2.6: Main Site Access (looking north)



Figure 2.7: Main Site Access (looking south)



3. Previous Small Functions

3.1 Function Details

A Development Application (DA13/1402) was lodged with Penrith City Council to hold 14 small functions over a six-month period in 2014. Several of these functions have been held in the Fernhill Estate Hay Shed, with the details of each included in Table 3.1.

Table 3.1: Hay Shed Small Function Details

Function Date	Type of Event	No. of Guests	Approx. No. of Cars	Average Car Occupancy
26/04/14	Wedding	250	105	2.4
03/05/14	Birthday	-	-	-
11/05/14	Symphony Concert	300	120	2.5
06/09/14	Wedding	92	40	2.3
13/09/14	Wedding	80	30	2.7
27/09/14	Wedding	91	30	3.0
27/10/14	Wedding	160	70	2.3
Average (all functions)		162	66	2.5

Based on the above, a total of 7 small functions have been held at Fernhill Estate as part of DA12/1402. These functions were primarily weddings, with the largest being the Symphony Concert with 300 guests attending. The average function attendance was 162 guests with 66 cars at an average of 2.5 people per car. There was a maximum of 120 cars at any event.

The vast majority of functions were held on Saturday evenings, with most guests arriving between 3:00pm and 4:30pm and departing between 10:00pm and 11:30pm.

Access for all guests was strictly via the main access driveway, with all vehicles parking within Fernhill Estate and in close proximity to the hay shed.

3.2 Event Traffic Management

The Small Functions TMP (GTA, April 2014) detailed that site access to and from Fernhill Estate was to be via the main access driveway along Mulgoa Road. Internal signage directed guests to the function location and allowed for the efficient movement of vehicles through the site during the defined arrival and departure times.

Fernhill Estate engaged a specialist company to provide accredited traffic controller(s) to manage and control the movement of vehicles when they arrived at each function.

The main site access driveway was under the management and control of accredited traffic controllers in accordance with Penrith City Council Conditions of Consent (detailed in Table 1.1).

Given the low volumes of traffic associated with each event (30-120 vehicles), the surrounding road network, specifically Mulgoa Road and the local priority controlled intersections (Littlefields Road and St Thomas Street) continued to operate at the same level of service at all times.

Details of all Traffic Control Plans (TCPs) and Variable Message Signs (VMS) were included as part of the TMP, with all relevant Road Occupancy Licence (ROLs) approved through Transport Management Centre's Planned Incidents Unit.

4. Proposed Small Functions

4.1 Traffic Management

The seven small functions held to date as part of DA13/1402 have enabled a greater understanding of the traffic related impacts of such functions. This ensures a more accurate treatment of similar future functions is possible to ensure the functions are able to be held safely for all users without imposing unnecessary impacts on through traffic.

It should also be noted that RMS's intention for the use of VMS is mostly limited to events/ functions that present a noticeable impact and/ or change to the surrounding road network. This ranges from prior communication for the benefit of day-to-day drivers of the event date/ times etc. thus allowing them to use an alternate route or change their travel times. The Tough Mudder and Picnic Races previously held at Fernhill Estate are good examples of such requirements.

Ultimately, RMS is hesitant to permit the use of VMS (through ROL approvals) for small functions that present little change to typical traffic conditions.

The small functions do not meet the requirements for use of VMS or traffic controllers for the following reasons:

- they generate low traffic volumes
- they are held at times where traffic along the surrounding roads are considered to be very much at 'non-peak'
- they make use of an existing access location
- the access locations provides safe sight distances (more than 200m) in any direction along Mulgoa Road.

Mulgoa Road is also regularly travelled by residents of the surrounding local and regional areas and as such, most drivers are familiar with the road environment. Having now experienced a range of small functions (and some larger events) at Fernhill Estate, they would be increasingly familiar with traffic using the main Fernhill Estate access during such times. This driver knowledge further reduces the likelihood of traffic-related delays and risk associated with any small function.

Based on the known traffic volumes and sight distances, the use of traffic controllers and VMS are not considered to be required from a strictly traffic perspective.

Assuming traffic controllers are not required, traffic arriving to a small function would be able to enter Fernhill Estate without presenting a significant delay to through traffic movements on Mulgoa Road. Mulgoa Road would continue to operate as per a typical weekend afternoon/ evening with potential for the occasional and minor delay to southbound vehicles should there be a minor delay for vehicles turning right into Fernhill Estate. The sight distances would ensure this does not present an unacceptable risk.

Based on the above, it is proposed that the small functions planned over the next six-month period be held without being restricted by the additional planning and management detailed in the Conditions of Consent (see Table 1.1).

It is recommended that Fernhill Estate commit to monitoring the Mulgoa Road main access to observe driver behaviour and report on any actual (or perceived) traffic related issues. This information would also help to further inform the most appropriate traffic measures considered as part of any future small functions application.

4.2 Risk Management Plan

A Risk Assessment for the traffic implications both external and internal to the site has been prepared and is included as Appendix A.

4.3 Emergency Services

At all times, each small function will seek to maintain direct and convenient emergency vehicular access at both site access locations along Mulgoa Road.

5. Conclusion

Based on the above assessment, it is recommended that the traffic related impacts of a series of small functions planned at Fernhill Estate over a six-month period between late 2015 and early 2016 be held without being restricted by the additional planning and management requirements detailed in the Conditions of Consent.

This assessment is based on traffic engineering practice and supported by information gathered from the seven small functions already held at Fernhill Estate. These functions were attended by an average of 162 guests with between 30 cars and 120 cars accessing Fernhill Estate via the existing main access. With an average of 66 cars to any small function and 2.5 occupants per car, the traffic implications are low.

Furthermore, RMS prefers VMS to be used for large events and/or roadworks that present a noticeable impact to the surrounding road network. The ongoing approval to use VMS for such small functions is not guaranteed through the ROL application process.

The unnecessary use of traffic controllers is also not generally supported for small functions that do not present a noticeable change to typical traffic conditions along the key roads in the vicinity.

Appendix A

Risk Management Plan

Risk Assessment Plan
Tough Mudder Athletic Endurance Event - 1041 Mulgoa Road, Mulgoa

Risk Matrix						
Likelihood		Severity of Consequence				
		1 Insignificant	2 Minor	3 Moderate	4 major	5 Severe
A	Rare	25	23	20	16	11
B	Unlikely	24	21	17	12	7
C	Possible	22	18	13	8	4
D	Likely	19	14	9	5	2
E	Almost Certain	15	10	6	3	1

Risk Management Plan
Small Function - 1041 Mulgoa Road, Mulgoa

Identify Risks	Analyse Risks		Evaluate Risks	Treat Risks		Residual Risk Analysis		Re-evaluate Residual Risks	Responsibility
Risk	Likelihood Rating A-B-C-D-E	Consequence Rating 1-2-3-4-5	Level of Risk 1-25	Risk Control Strategies	Additional Risk Strategies	Likelihood Rating A-B-C-D-E	Consequence Rating 1-2-3-4-5	Level of Risk 1-25	Responsible For Implementation
External									
Traffic delays on Mulgoa Road at main access	C	2	18	- Existing appropriate sight distances at the main access driveway - Limitations for size of events in place - Monitoring during peak function arrival period		C	2	18	Fernhill Estate
Increased congestion on local road network due to function traffic	C	1	22	- Existing site access arrangements at the main access provides a safe access with adequate sight distances along Mulgoa Road		C	1	22	
Rear-end vehicle collisions due to unexpected queuing along the local road network	B	3	17	- Known low traffic volumes - Local driver familiarity with similar past small functions and other events		B	2	21	
Collision between function traffic and local cyclists due to increased traffic volumes	B	4	12						
Function traffic becoming lost due to inadequate function signage	C	2	18	- Fernhill Estate to communicate access locations and travel routes as part of function information		B	2	21	Fernhill Estate
Site entry congestion due to inadequate function signage	B	2	21	- Fernhill Estate to communicate access locations and travel routes as part of function information		B	2	21	Fernhill Estate
Lack of signage and therefore not providing warning to drivers and leading to a collision between vehicles	B	3	17						
Increased risk of pedestrian-vehicle accident as a result of increased traffic in the surrounding road network	B	4	12	- Known low traffic volumes - Driver familiarity with similar past small functions and other events - Monitoring during peak function arrival		B	4	12	Fernhill Estate
Increased chance of vehicle breakdowns resulting in additional congestion/ delay	B	2	21						
Reduced visibility due to adverse weather conditions, increasing the risk of a collision between vehicles	C	2	18						
Increased risk of vehicles colliding with animals in a rural environment	B	3	13	- Drivers are to follow road rules and be aware of travel within a rural environment					
Vehicle satellite navigation systems direct route using local road network on approach to the site, leading to increased driver confusion, delay and vehicle collisions	C	2	18	- Fernhill Estate to communicate access locations and travel routes as part of function information		C	2	18	Fernhill Estate
Internal									
Driver confusion due to insufficient guidance within the site	C	2	18	- Traffic Management Plan - Internal signage to guide vehicles to parking location		B	2	21	Fernhill Estate
Extensive queuing/ delays within the site due to unexpected increase in vehicle movements	B	1	24	- Traffic Management Plan - Internal signage to guide vehicles to parking location					
Deterioration of access road surface due to adverse weather conditions	C	2	18	- Fernhill Estate staff to monitor surface conditions throughout the function and direct traffic if required		C	2	18	Fernhill Estate
Increased risk of vehicles colliding with animals on a rural property	B	3	17	- Fernhill Estate staff are to ensure animals within the property are kept separate from the function area		A	3	20	Fernhill Estate

<p>Melbourne</p> <p>A Level 25, 55 Collins Street PO Box 24055 MELBOURNE VIC 3000 P +613 9851 9600 E melbourne@gta.com.au</p>	<p>Brisbane</p> <p>A Level 4, 283 Elizabeth Street BRISBANE QLD 4000 GPO Box 115 BRISBANE QLD 4001 P +617 3113 5000 E brisbane@gta.com.au</p>	<p>Adelaide</p> <p>A Suite 4, Level 1, 136 The Parade PO Box 3421 NORWOOD SA 5067 P +618 8334 3600 E adelaide@gta.com.au</p>	<p>Townsville</p> <p>A Level 1, 25 Sturt Street PO Box 1064 TOWNSVILLE QLD 4810 P +617 4722 2765 E townsville@gta.com.au</p>
<p>Sydney</p> <p>A Level 6, 15 Help Street CHATSWOOD NSW 2067 PO Box 5254 WEST CHATSWOOD NSW 1515 P +612 8448 1800 E sydney@gta.com.au</p>	<p>Canberra</p> <p>A Tower A, Level 5, 7 London Circuit Canberra ACT 2600 P +612 6243 4826 E canberra@gta.com.au</p>	<p>Gold Coast</p> <p>A Level 9, Corporate Centre 2 Box 37, 1 Corporate Court BUNDALL QLD 4217 P +617 5510 4800 F +617 5510 4814 E goldcoast@gta.com.au</p>	<p>Perth</p> <p>A Level 27, 44 St Georges Terrace PERTH WA 6000 P +618 6361 4634 E perth@gta.com.au</p>