

Landfill and Quarry Site



Operational Traffic Management Plan

December 2020

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1. Background

GHD Pty Ltd were initially engaged by Griffith City Council to conduct a Traffic Impact Assessment for the site. The report discussed the following:

“Existing conditions - a review of existing road characteristics, adjacent development, traffic volumes, intersections performance and pedestrian and cyclist facilities;

Future conditions - calculates additional traffic generated during the future operation of the proposed facility, assesses the adequacy of the network to support the proposed activity and the performance of the network under these proposed conditions.”

The following conclusions were drawn from the body of the report:

- Of the existing conditions the only concern was a need to upgrade the MR80 Kidman Way intersection to accommodate heavy vehicle (i.e. “B”Double route) movements.
- There have been only four (4) accidents within 500m of the MR80 Kidman Way intersection but there is no evidence to link these accidents with the operation of the Tharbogang Landfill/Quarry.
- The additional truck movements generated from the operation of the expanded quarry is considered to be minimal and unlikely to have a significant effect on the performance of intersections in the vicinity of the operational site.
- As the site is rural and no Pedestrian or cyclist facilities are provided there is unlikely to be any impact.

After the Traffic Impact Assessment was conducted and provided to Griffith City Council, a Transport Management Plan was developed by Council staff which addressed the outstanding requirements identified in these documents. Moving forward from here, Council has developed this following document which will evolve into the Landfill and Quarry Site Operations Traffic Management Plan. This document is intended to describe the internal operations of the Landfill and Quarry site and ensure all traffic management and control devices suitable for the use of the premises.

2. Introduction

This Traffic Management Plan (TMP) relates to the internal operations of the Landfill and quarry site owned and maintained by Griffith City Council. The TMP has been developed to outline and assist Council staff and employees regarding the internal operations, movements and requirements from a traffic perspective. The TMP is to be updated according to the requirements of the landfill site and any alterations in regards to additional traffic control devices, vehicular access, internal layout and circulation.

The landfill and quarry site is located approximately 11.3 kilometres north west of Griffith's Central Business District.

The landfill site is operated on a seven (7) day a week basis excluding public holidays.

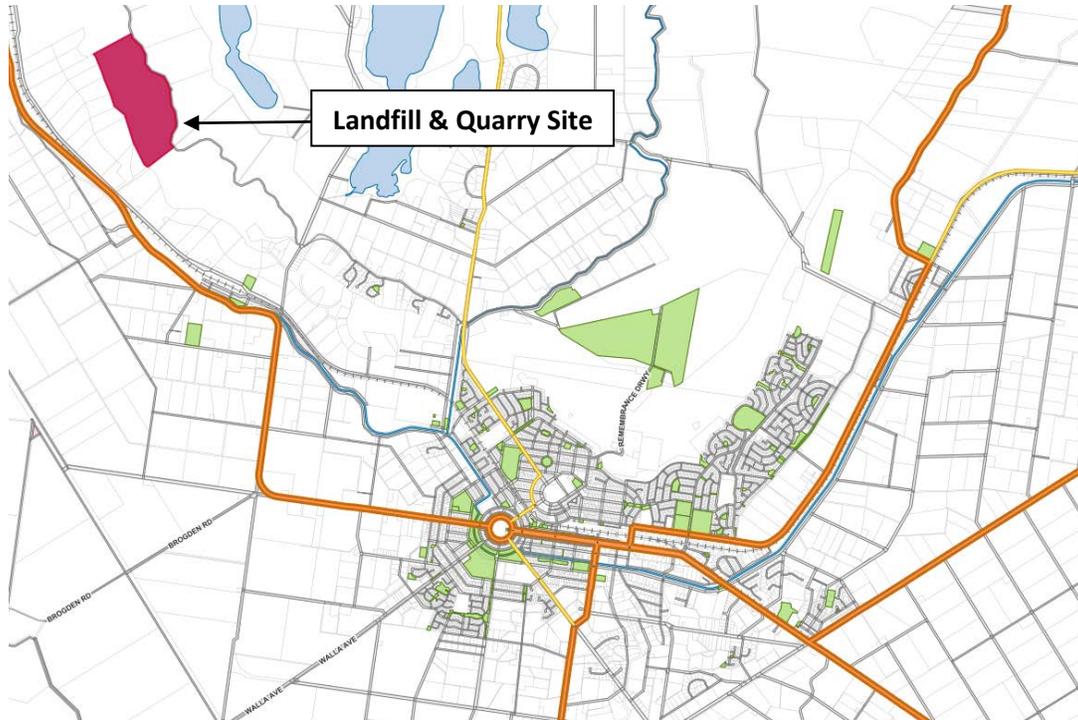


Figure 1 – Locality Plan

3. Vehicular Access

The landfill and quarry site is located in Tharbogang which is approximately 11.3 kilometres north-west of Griffith's Central Business District. The landfill and quarry site is located off Hillside Drive. Predominantly, vehicles accessing the site will either use Kidman Way or Slopes Road to gain access to Hillside Drive.

Kidman Way is a classified arterial road providing a link to other regional centres. The speed environment in the vicinity of the access to the quarry is 100km/hr. Kidman Way is also classified as a Road Train route and will be used by the majority of heavy vehicles accessing the quarry and landfill. It is line marked on the edges and on the centreline.

Slopes Road and Hillside Drive are classified as local roads by definition. The sections of these roads used as the access to the Landfill/Quarry are approved for use by "B" Doubles. They are approximately 6-7m wide bitumen sealed but are not line marked.

Slopes Road also carries local traffic accessing farming, residential and industrial premises along the road which do not access the landfill /quarry site.

Hillside Drive is a “No Through Road” serving as access to the Landfill/Quarry and is approximately 1.9km long. Travel is controlled along the route with vehicles required to enter via the weighbridge and exit is controlled by automatic boom gate.

4. Existing Road Network

There are several roads that provide direct access to the Landfill and Quarry site which include; Hillside Drive, Slopes Road and Kidman Way.

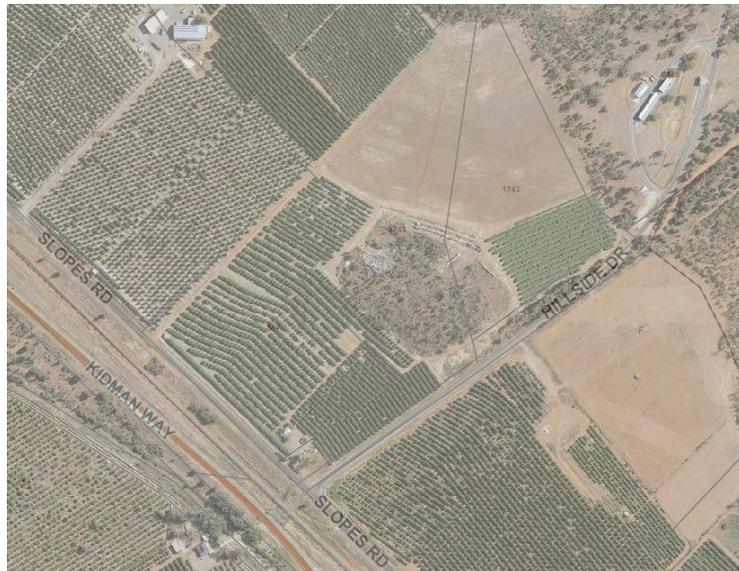


Figure 2 – Aerial Site Plan

Hillside Drive is a two (2) lane, two (2) way bitumen sealed road with gravel shoulders along both sides of the road. Hillside Drive is classified as a “local access road” and is limited to general access vehicles only. The speed limit of Hillside Place is 80km/h. Council conducted a traffic count along Hillside Drive in July 2007. The average daily traffic count along Hillside Drive for that period was 130 vehicles per day with 35.3% of these vehicles classified as heavy vehicles.

Slopes Road is a two (2) lane, two (2) way bitumen sealed road with gravel shoulders along both sides of the road. Slopes Road is classified as a “local access road” and is limited to general access vehicles only. The speed limit of Slopes Road is 80km/h between Lakes Road and Hillside Drive. Council conducted a traffic count along Slopes Road in August 2006. The average daily traffic count along Slopes Road between Hillside Drive and De Luca Road for that period was 258 vehicles per day with 13.3% of these vehicles classified as heavy vehicles.

Kidman Way is a two (2) lane, two (2) way bitumen sealed road with a combination of sealed and gravel shoulders located along both sides of the road. Kidman Way is classified as a “Arterial road” and is gazetted as a Road Train route. The speed limit of Kidman Way adjacent to Hillside Drive is 100km/h. Council conducted a traffic count along Kidman Way in June 2018. The average daily traffic count along Kidman Way between Ballingal Road and Hillside Drive for that period was 1231 vehicles per day with 24% of these vehicles classified as heavy vehicles.

5. Traffic Generation

The operations of the landfill and quarry site is a seven (7) day a week business. The traffic generation of the sites have been recorded for EPA requirements. The traffic generation rates are saved in Council's internal document management system (Document Name: Full Weighbridge Data Calendar Year, Document Number: 13/4675). The data has been analysed for the previous Calendar year of 2019, the subject site generated approximately 54 movements per day. The movements are broken down into the following;

- **Landfill Site = 51 movements per day**
- **Quarry = 3 movements per day**

It is evident that the traffic generation rates of the site are very minimal and there that the greatest impact of the generate traffic of the landfill site will be during the morning the afternoon peak periods where there may be higher commuter traffic particularly along Slopes road.

The RTA's *Guide to Traffic Generating Developments* does not provide information for landfill sites for comparison to other associated development however the above traffic generation rates as surveyed are more then satisfactory to provide an indication of the traffic associated with the landfill site.

Notwithstanding, consideration is also given to the ultimate development and land use of the site. It is considered that the traffic generations rates noted within this TMP are updated and current based on any expansion of the site and its intensification.

6. Onsite Operations

6.1 Loading and Unloading

All loading and unloading of goods, materials and waste is conducted on-site.

- **Quarry:** The quarry is accessed from the road serving the landfill. Access to the quarry area is restricted. Appropriate signage, notifying of the restricted access, is erected and maintained by the contractor. All haulage vehicles will be loaded in the quarry environment clear of all public areas. All haulage vehicles will leave the quarry in a forward direction. The intersection where the quarry egress meets Hillside Drive (Landfill access) will be controlled by appropriate signage maintained by Griffith City Council.
- **Landfill:** Currently access to the landfill is unrestricted. The public are initially directed to the Transfer Station however in times when dumping is not available, the public are directed to the various dump sites on the site. Way finding signage has been erected by Council staff that assists the public and directs them to the correct dumping site for their waste. The transfer station adjacent to the existing weighbridge station effectively eliminates public access to the existing landfill and quarry area for majority of customers.

As such all loading and unloading is conducted onsite and all vehicles enter and exit in a forward direction therefore it is considered that the loading and unloading requirements for the development operates satisfactorily.

6.2 Staff Parking and manoeuvring

Staff parking is located adjacent to the weighbridge, adjacent to the transfer station office and at the workshop within the landfill site. Staff parking is identified by signage or allocated adjacent to offices and buildings.

There is a maximum of nine (9) staff members on-site at any given time. Traffic movements associated with staffing requirements are therefore minimal and there are sufficient parking areas to accommodate the requirements of the Landfill site.

6.3 Dust Generation from Heavy Vehicles

The existing access road (Hillside Drive) is bitumen sealed to beyond the access to the quarry. Hence dust generation on the public accessible roads from landfill and quarry traffic will be minimal both now and in the future.

Coffey Geotechnics undertook a dust monitoring programme which revealed the background dust levels were 3.5g/m²/month which is below the NSW EPA Guidelines

If required haul paths within the quarry area shall be watered either by water cart or fixed above ground watering system capable of maintaining a consistent moisture level to minimise dust creation but not wet enough to cause “pick up” by vehicles and hence transfer of accumulated fines to the sealed surface.

6.4 Storage of Materials and Goods & Wayfinding Signage

Being a landfill, the site is used for storage of materials and waste. Separate locations throughout the site identify storage and dumping areas for materials and waste. Large directional signs indicate the type of storage areas for public and staff requirements. Example of these are identified below.



Figure 3 – Drum Disposal Pick Up Area



Figure 4 – Example of Wayfinding Signage for Domestic Waste



Figure 5 – Example of Wayfinding Signage for Green Waste, Concrete & Bricks



Figure 6 – Wayfinding Signage to Waste Transfer Station or Landfill

The directional signs provide a clear indication of where the storage of particular materials and waste are stockpiled.

7. Public Access

Public access within the site is limited due to the recently constructed “Transfer Station”. The transfer station allows for vehicles to dispose of their waste in allocated bins. Once these bins are at capacity a staff member will come and take the bins up into the landfill site. This process reduces liability and eliminates conflict of staff and public vehicles within the landfill site.

At times when customers are required to enter the landfill site and dispose of waste, there are directional signs and line marking that indicate the direction of travel required.

8. Pedestrians

Pedestrian access is limited around the site. Customers disposing waste at the transfer station are confined to the area of the vehicle and only need to walk to unload into the bins. Similarly onsite when customers are disposing of waste, there is little pedestrian movement as customers can reverse up to piles and unload onto the ground.

It is considered that pedestrian movement throughout the site is not required as there will be unlikely to be any impact.

9. Internal Layout and Circulation

The internal layout of the landfill and quarry site significantly extends throughout the subject allotment providing access for dumping of waste into several different categories. There are a number of sealed and unsealed roads throughout the site which are used for access.

The existing road dimensions allow for appropriate traffic movement for two-way traffic.

There is a significant amount of wayfinding signage as identified above in this report. The wayfinding signage instructs vehicles (both customer and staff) on the internal layout of the site and the required areas to dump.

10. Traffic Control, Signage & Delineation

The existing road dimensions allow for appropriate traffic movement for two-way traffic. There is also appropriate line marking and directional arrows that assist drivers in their wayfinding throughout the landfill transfer station, parking availability and within the site.

A significant amount of signage exists throughout the site including warning signs, regulatory signs and directional wayfinding signs. Examples of these signs have been included below.



Figure 7 – Keep Left Signage and Delineation of through lanes



Figure 8 – Keep Left Signage and Delineation of through lanes

There is also a significant amount of traffic control devices including traffic control signals on the approach to the weighbridge. The traffic control signals are controlled by the weighbridge operator. This enables the operator to manage his own work and the traffic movements within the site. The traffic signals are an effective way of providing sufficient traffic management within the site.



Figure 9 – Weighbridge Traffic Control Signals



Figure 10 – KEEP LEFT Sign for Heavy Vehicles Weighing off on Weighbridge



Figure 11 – Vehicles to be Weighed Off Sign



Figure 12 – NO ENTRY Signage at Transfer Station Staff Collection Pick Up



Figure 13 – STOP Signs exiting Transfer Station



Figure 14 – STOP Sign Exiting Transfer Station

11. Conclusions & Recommendations

The traffic management plan has outlined the existing traffic control devices and management procedures currently in place at the Griffith landfill site. The existing measures are currently satisfying the needs of the site.

It has been identified that the following recommendations would benefit the site when implemented;

- Inspections of the line marking and signage be conducted on a scheduled basis (i.e. 6 monthly inspections) to ensure that the traffic control devices and delineation measures are maintained.
- The Traffic Management Plan becomes an ongoing, updated and rolling document that is current for the use of the site and its internal traffic management procedures. The document shall be reviewed on a scheduled basis along with the inspections and updated if required with any new, improved or alternative traffic management procedures and devices.