ATTACHMENT DOCUMENT
FOR
ORDINARY COUNCIL MEETING

Tuesday 25th October, 2016

George Cowan
ACTING GENERAL MANAGER

CONTENTS

15 September 2016

Jessica McDonald
Director Environmental Services
Walgett Shire Council
77 Fox Street
Walgett NSW 2832

Our ref: 21/24277
Your ref: 216271

Dear Jessica,

Infrastructure Advisory Services for local Councils
Audit of Waste Management Facilities

1 Introduction

Walgett Shire Council (Council) is seeking to develop an entirely new Waste Management Strategy (Strategy) for the Shire which is aimed at improvement and optimum utilisation of existing facilities and resources, as well as reduction of waste disposed of at landfill.

In preparation for tendering of the Strategy and to gain a better understanding of the existing facilities, Council applied to the NSW Environment Protection Authority (EPA) for provision of free advice on waste and recycling infrastructure. GHD was appointed by the EPA to provide the sought advice to Council, which included visits to and inspections of the respective sites and a summary report detailing the existing facilities and services.

2 Site Inspections

2.1 General

As discussed in advance with Council, site visits were undertaken by Reinhard Wilkes, Principal Environmental Engineer, GHD Pty Ltd, on 8/9 June 2016. The original scope for the visits and reporting included the following landfill facilities:

- Burren Junction
- Collarenebri
- Lightning Ridge, and
- Walgett.

Following more detailed discussions prior to the visits it was agreed with Council to also include two additional, small regional landfill sites in Rowena and Carinda in the scope of works. The inclusion of these two sites was not deemed to affect the overall time required to undertake the works.

The site visits were scheduled for the afternoon of June 8th and the morning of June 9th.

Due to adverse weather conditions, however, the visit to Carinda landfill could not be undertaken, as the only access road to the site was not safely trafficable.

The visits were undertaken in an audit-type format, with all findings documented in a pre-defined record. The completed forms are attached to this letter report, together with a selection of photographs taken during the visits.

2.2 Scope of site inspections

The site visits involved inspections of the key site features at each facility, including:

- Site entrance area, including access roads, gates and signage.
- General site security measures, such as fencing or other access control.
- Site roads, including surface description and accessibility of site areas.
- Waste acceptance procedures, including opening arrangements and recording.
- Description of waste disposal areas, including closed areas.
- Description of waste types accepted for disposal and recovery/recycling.
- Description of hazardous wastes collected at the facility.
- Description of areas designated for resource recovery.
- Description of plant and equipment deployed at the site.
- Description of any nuisances observed during the inspection.
- Description of environmental management measures, including leachate, ground or surface water management, erosion and sediment control etc.

3 Inspection observations

3.1 General

The general observations made during the inspections at the facilities are outlined in the subsequent sections. An assessment of the significance of the observations or the severity of the issues observed is provided in Section 4 of this report. Any descriptions given are based solely on the observations made during the site inspections, and are not reflective of the general or permanent scenarios at other times. The sequence of the subsequent sections corresponds with the sequence of the site inspections undertaken, and does not reflect any prioritisation or other form of ranking of the facilities. The information about the area of the respective facilities was provided by Council, as attached in Appendix 3.

3.2 Burren Junction

3.2.1 General description and appearance

The waste disposal facility in Burren Junction is located near the Kamilaroi Highway, approximately 2.5 Km north of Burren Junction Village, with vehicle access via a dirt track from the westbound Highway.

With an area of approximately 5.8 ha the facility is very large, in relation to the population it serves, and accordingly has significant portions which are unused. However, the site layout is well structured, and the individual areas of the site are accessible via unsealed, but well-compacted dirt tracks.

The facility is fenced with a basic wire fence, comprising 6 lines of plain wire, topped, in places, with a barbed wire. The main entrance, however, has no gate, and therefore enables unrestricted access.

3.2.2 Site opening hours and supervision

The landfill in Burren Junction is open to the public at all times, and only sporadically attended during daytime hours on weekdays. Wastes and materials disposed of or stockpiled are not recorded, and scavenging may be possible for members from the public.

No safety or directional signage was observed at the facility, with the exception of signs identifying stockpile areas for recyclable materials.

3.2.3 Waste disposal

Waste is disposed of in a disposal trench with dimensions of 30 m long by 5 m wide and a depth of approximately 4 m. Soil from the trench excavation was stockpiled alongside the trench and kept for covering of the waste once filling of the trench is completed.

Mixed waste observed in the disposal trench comprised all types of recyclable materials and residual wastes, including hazardous wastes, such waste oil filters and containers or other household chemicals, solvents or paints. Considerable portions of the trench were taken up by low-weight and high-volume recyclables, such as plastics, cardboard boxes, metal frames, furniture or tyres.

Although litter was scattered around the disposal trench, the general condition of the area can be described as reasonable, considering the absence of permanent supervision.

3.2.4 Materials recovery

Separate stockpile areas were identified at the facility for the following waste types:

- Scrap metal
- Construction and demolition waste
- Green waste/wood
- Mixed timber
- Tyres

The stockpiles appeared generally well contained. However, countless small stockpiles of the above materials were observed across the whole footprint of the facility. In addition, it was noted that some

stockpiles were in areas that were not signposted, while in return the signposted areas were not used for stockpiling of those materials/wastes.

The stockpiles for wood/timber and green waste were somewhat overlapping, which generally increases the risk of fire through self-heating or spontaneous combustion.

3.2.5 Infrastructure, plant and equipment

A perimeter berm was observed at the site, which stretched all along the site edges, offset by 5 to 10 m from the perimeter fence.

No further infrastructure or plant/equipment was observed.

It is assumed that specific plant items, such as excavators or bulldozers are brought to the site to undertake certain tasks such as excavation of disposal trench, covering of waste or grading of site roads.

3.2.6 Nuisances

No significant nuisances were observed or detected during the inspection. The site areas were moderately affected by windblown litter and fly infestation. Dust, noise or odour were not observed.

It was noted that windblown litter did generally not affect areas outside of the perimeter fence.

3.2.7 Leachate and water management

Leachate was not observed at the facility.

Considering the cumulative rainfall of approximately 45 mm on June 3rd and 4th, minor surface water ponding that was observed in several locations at the site can be deemed normal.

However, there was evidence of significant erosion in disturbed areas of the site, specifically around stockpiles and along and on site tracks.

The facility is situated within a flood-prone region, as was also evident on local roads in the general area around Burren Junction.

3.3 Rowena

3.3.1 General description and appearance

The waste disposal facility in Rowena is located approximately 400 m east of Rowena Village, with vehicle access via a dirt track from Rowena Road.

With an area of approximately 1.5 ha the facility is of typical size in relation to the population it serves. While the site layout is well structured, considerable portions of the site are unused and the accessibility to some areas of the site is impaired due to excessive vegetation growth.

The facility is fenced with a basic wire fence, comprising 6 lines of plain wire, topped, in places, with a barbed wire. The main entrance, however, has no gate, and therefore enables unrestricted access.

3.3.2 *Site opening hours and supervision*

The landfill in Rowena is open to the public at all times, and only seldom attended during daytime hours on weekdays. Wastes and materials disposed of or stockpiled are not recorded, and scavenging may be possible for members from the public.

No safety or directional signage was observed at the facility, with the exception of signs identifying stockpile areas for recyclable materials, and the main facility sign, as shown in Appendix 1.

3.3.3 *Waste disposal*

Waste is disposed of in a disposal trench with dimensions of 40 m long by 7 m wide and a depth of approximately 4-5 m. Soil from the trench excavation was stockpiled alongside the trench and kept for covering of the waste once filling of the trench is completed.

Mixed waste observed in the disposal trench comprised all types of recyclable materials and residual wastes, including hazardous wastes, such waste oil filters and containers or other household chemicals, solvents or paints. Considerable portions of the trench were taken up by low-weight and high-volume recyclables, in particular empty 1 m^3 IBC (Intermediate Bulk Container) units. At the time of the inspection 9 of these containers were observed in the trench, as shown in Appendix 1.

Furthermore, considerable quantities of other recyclable material were noted, specifically aluminium and steel cans, as well as furniture, mattresses, green waste, tyres and wheels, drums and other containers.

The verges of the trench were very overgrown with vegetation, and scattered with litter. In addition, several small sink holes were observed along the verge and track at the trench, representing a significant safety hazard.

3.3.4 *Materials recovery*

Separate stockpile areas were identified at the facility for the following waste types:

- Scrap metal
- Construction and demolition waste
- Green waste/wood

The stockpiles were generally not well contained. Numerous small stockpiles of the above, and other, materials were observed across the whole footprint of the facility. In addition, it was noted that some stockpiles were in areas that were not signposted, while in return the signposted areas were not used for stockpiling of those materials/wastes.

The stockpiles for wood/timber and green waste were somewhat overlapping, which generally increases the risk of fire through self-heating or spontaneous combustion.

3.3.5 *Infrastructure, plant and equipment*

A minor and incomplete perimeter berm was observed at the site. No further infrastructure or plant/equipment was observed.

It is assumed that specific plant items, such as excavators or bulldozers are brought to the site to undertake certain tasks such as excavation of disposal trench, covering of waste or grading of site roads.

3.3.6 Nuisances

No significant nuisances were observed or detected during the inspection. The site areas were moderately affected by windblown litter and fly infestation. Dust, noise or odour were not observed.

Several feral cats and kittens were observed in the vicinity of the disposal trench, all of which appeared to be in poor health.

It was noted that windblown litter did generally not affect areas outside of the perimeter fence.

3.3.7 Leachate and water management

Leachate was not observed at the facility.

Considering the cumulative rainfall of over 90 mm on June 3rd and 4th, minor surface water ponding that was observed in several locations at the site can be deemed normal.

Erosion was generally only observed in disturbed areas, which are comparatively small in the overall context of the site. The majority of the site was well vegetated, albeit predominantly overgrown, and showed no signs of erosion.

The facility is situated within a flood-prone region, as was also evident on local roads in the general area around Rowena.

3.4 Collarenebri

3.4.1 General description and appearance

The waste disposal facility in Collarenebri is located approximately 1.5 Km north of the township of Collarenebri, with vehicle access via a dirt track from the northbound Ridge Road, between the Airport and the Horse Racetrack.

With an area of approximately 5.7 ha the facility is very large, in relation to the population it serves, and accordingly has significant portions which are unused. However, the site layout is well structured, and the individual areas of the site are accessible via unsealed, but well-compacted dirt tracks.

The facility is fenced with a basic wire fence, comprising 6 lines of plain wire, topped, in places, with a barbed wire. The main entrance, however, has no gate, and therefore enables unrestricted access for the pubic. A cattle grid at the entrance will prevent access for hooved animals.

3.4.2 Site opening hours and supervision

The landfill in Burren Junction is open to the public at all times, and only sporadically attended during daytime hours on weekdays. Wastes and materials disposed of or stockpiled are not recorded, and scavenging may be possible for members from the public.

No safety or directional signage was observed at the facility, with the exception of the main facility sign, as shown in Appendix 1, and other signs identifying stockpile areas for recyclable materials.

3.4.3 *Waste disposal*

Waste is disposed of in a disposal pit with a near-circular footprint of approximately 12 m diameter and a depth of 3 to 4 m. Soil from the pit excavation was stockpiled alongside and kept for covering of the waste once filling of the pit is completed.

Mixed waste observed in the disposal trench comprised all types of recyclable materials and residual wastes, including hazardous wastes, such waste oil filters and containers or other household chemicals, solvents or paints. Considerable quantities of recyclables, such as plastics, cardboard boxes, steel drums and frames, furniture or tyres were observed in the disposal pit

Although litter was scattered around the disposal trench, the general condition of the area can be described as reasonable, considering the absence of permanent supervision.

A separate disposal pit for animal carcasses was provided in a separate area in the eastern part of the site. This area, however, was not signposted and access was very difficult due to the rain-softened track.

3.4.4 *Materials recovery*

Separate stockpile areas were identified at the facility for the following waste types:

- Scrap metal
- Construction and demolition waste
- Green waste/wood

While not specifically identified, additional stockpiles were available for:

- Mixed timber
- Tyres

The stockpiles appeared generally well contained. However, countless small to medium sized stockpiles of the above materials, and mixes thereof, were observed across the whole footprint of the facility.

The stockpiles for wood/timber and green waste were somewhat overlapping, which generally increases the risk of fire through self-heating or spontaneous combustion.

In general, it was noted that the uncoordinated, scattered deposition of materials in small to medium sized stockpiles was the dominant feature of this site.

3.4.5 *Infrastructure, plant and equipment*

A distinct perimeter berm could not be observed at the site, probably owing to the layout and shape of the site, and its vicinity to other public facilities, such as the cemetery, race course and airport. However, numerous berms were observed throughout the site footprint. These berms appeared rather uncoordinated as no clear intention, other than delineation of areas, was apparent.

No further infrastructure or plant/equipment was observed.

It is assumed that specific plant items, such as excavators or bulldozers are brought to the site to undertake certain tasks such as excavation of disposal trench, covering of waste or grading of site roads.

3.4.6 Nuisances

No significant nuisances were observed or detected during the inspection, although the majority of the site footprint was affected by windblown litter. The site areas were moderately affected by fly infestation. Dust, noise or odour were not observed.

Numerous feral cats and kittens were observed in the vicinity of the disposal pit, all of which appeared to be in poor health.

It was noted that windblown litter did generally not affect areas outside of the perimeter fence.

3.4.7 Leachate and water management

Leachate was not observed at the facility.

Considering the cumulative rainfall of over 70 mm on June 4th, minor surface water ponding that was observed in several locations at the site can be deemed normal. However, several areas of the site were not accessible due to completely rain-softened tracks and surfaces.

However, there was evidence of significant erosion in disturbed areas of the site, specifically around stockpiles and along and on site tracks.

The facility is situated on the fringes of a flood-prone region.

3.5 Lightning Ridge

3.5.1 General description and appearance

The waste disposal facility in Lightning Ridge is located approximately 2.5 Km north of the township of Lightning Ridge, with vehicle access via a dirt track from the northbound Wooloroo Road. The site is situated in an opal mining area and surrounded by small mines and miner's abodes. The landscape at and surrounding the site is dominated by deposits of deeply weathered claystone of the Griman Creek Formation, or "Opal Dirt".

The facility is operated by D&G Lane, a plant hire contractor based in Walgett.

With an area of just over 2 ha the facility is of typical size, in relation to the population it serves, and has only minor unused areas. The site layout is reasonably well structured, and the individual areas of the site are accessible via unsealed, but well-compacted dirt tracks.

The facility is fenced with a chain-link fence with a height of 1.8 m. The main entrance has a framed chain-link gate of the same height, preventing access outside of regular operating hours.

3.5.2 Site opening hours and supervision

The landfill in Lightning Ridge is open to the public from 08:00 – 11:00 and 14:00 – 17:00, seven days per week. During the opening hours the site is always supervised.

The number of vehicles as well as the wastes and materials disposed of or stockpiled are recorded, based on average weights per load. Scavenging is not permitted at the facility.

Several signs at the site entrance provide general guidance regarding permissible activities and wastes. Additional signage throughout the site directs site users towards the respective stockpile areas.

3.5.3 *Waste disposal*

Waste is disposed of in an uncontained disposal cell. The working area at the time of the inspection was approximately 30 m by 30 m, with a depth of approximately 2.5 m. Covering of waste was undertaken with opal dirt that was stockpiled in several areas of the site, and also readily available from the mining activities in the vicinity.

Mixed waste observed in the disposal cell comprised various types of recyclable materials and residual wastes. Hazardous waste was not observed

Nevertheless, considerable amounts of recyclables, such as plastics, cans and cardboard were noticed being disposed of in the working face.

All waste was placed and compacted by a landfill compactor that was operated by the site attendant

3.5.4 *Materials recovery*

Separate stockpile areas were identified at the facility for the following waste types:

- Scrap metal
- Construction and demolition waste
- Green waste/wood
- Mixed timber
- Tyres

A drum muster was also provided at the site, as well as several areas for the display for potentially reusable items, such as furniture or toys.

The stockpiles appeared generally well contained, but appeared to be encroaching upon each other in places.

The stockpiles for wood/timber and green waste were somewhat overlapping, which generally increases the risk of fire through self-heating or spontaneous combustion.

3.5.5 *Infrastructure, plant and equipment*

A small site office and several other small structures were noted. These contained mainly storage areas for hazardous wastes, such as oil, as well as a baler.

The contractor operated the landfill compactor/loader hybrid at the site, and a multi-purpose tractor was also observed using forks and a loading bucket. The tractor appeared to be almost new, and the compactor appeared in a good condition, although wheel teeth were worn considerably worn down.

3.5.6 *Nuisances*

No significant nuisances were observed or detected during the inspection. The site areas were moderately affected by windblown litter and fly infestation. Dust, noise or odour were not observed.

It was noted that windblown litter did generally not affect areas outside of the perimeter fence.

3.5.7 Leachate and water management

Leachate ponding was observed in several locations at the facility. It is not fully clear in how far the significant rainfall of 130 mm over the previous week had contributed to the leachate ponding.

Considering the above mentioned rainfall, minor surface water ponding that was observed in several locations at the site can be deemed normal.

Significant erosion was not observed at the facility.

The facility is the only facility within the Shire that is not located in a flood prone area.

3.6 Walgett

3.6.1 General description and appearance

The waste disposal facility in Walgett is located less than 1 Km west of the fringes of Walgett Town. Vehicle access is via a sealed access road from Arthur Street.

The facility is operated by D&G Lane, a plant hire contractor based in Walgett.

With an area of almost 20 ha the facility is of considerable size, in relation to the population it serves. However, it has only minor unused areas. The site layout is reasonably well structured, and the individual areas of the site are accessible via unsealed, but well-compacted dirt tracks.

The facility is secured with a chain-link fence with a height of 2m. The top of the fence is inclined towards the facility and fitted with barbed wire The main entrance has a framed chain-link gate of the same height, preventing access outside of regular operating hours.

3.6.2 Site opening hours and supervision

The landfill in Walgett is open to the public from 08:00 – 11:00 and 14:00 – 17:00, seven days per week. During the opening hours the site is always supervised.

Vehicle types and numbers are not recorded, due to limited staff availability. Waste types and quantities are not recorded either. Scavenging is not permitted at the facility.

Several signs at the site entrance provide general guidance regarding permissible activities and wastes. Additional signage throughout the site directs site users towards the respective stockpile areas.

3.6.3 Waste disposal

Waste is disposed of in an uncontained disposal cell. The working area at the time of the inspection was approximately 30 m by 30 m, with a depth of approximately 2.5 m. At the time of the inspection the facility was closed to the public, and no machines were operating. However, a steel-wheeled compactor/loader hybrid was observed at the facility.

Significant stockpiles of soil were available in the vicinity of the working area to allow for regular covering of deposited waste.

Due to the adverse weather conditions at the time of the visit, the disposal area and working face were not inspected closely. Safe access was not possible, due to the rain-softened road surfaces and very slippery conditions.

3.6.4 *Materials recovery*

The facility has a drop-off area for general waste and recyclables. Site users can drop off their wastes from an elevated position into designated skips for the respective wastes and materials. In addition, designated stockpile areas were provided. The following materials were segregated at the facility:

- Scrap metal
- Construction and demolition waste (separate for concrete and bricks)
- Green waste/wood
- Mixed timber
- Tyres
- Mattresses

A drum muster was also provided at the site, as well as several areas for the display for potentially reusable items, such as furniture or toys.

The stockpiles appeared generally well contained, but appeared to be encroaching upon each other in places.

The stockpiles for wood/timber and green waste were somewhat overlapping, which generally increases the risk of fire through self-heating or spontaneous combustion. In addition, stockpiles of woodchip were observed. These were noted to be of varying ages, as identified by the different colour grades of the chip. As above, long-term storage of wood chip is not advisable, as the risk of internal self-heating or combustion increases with the duration of storage. In general, storage of wood chip in stockpiles is not considered suitable beyond a 6-month period.

3.6.5 *Infrastructure, plant and equipment*

A small site office and several other small structures were noted. These contained mainly storage areas for hazardous wastes, such as oil.

The contractor operated the landfill compactor/loader hybrid at the site, and a multi-purpose tractor was also observed using forks and a loading bucket. The tractor appeared to be almost new, and the compactor appeared in a good condition, although wheel teeth were worn considerably worn down.

Furthermore, an excavator and a small tracked loader were observed. Overall, this selection of plant and equipment is considered suitable for the nature and size of the facility.

3.6.6 *Nuisances*

No significant nuisances were observed or detected during the inspection. The site areas were moderately affected by windblown litter. Fly infestation, dust, noise or odour were not observed.

It was noted that windblown litter did generally not affect areas outside of the perimeter fence.

3.6.7 *Leachate and water management*

Due to the adverse weather conditions at the time of the inspection, it was difficult to accurately assess leachate and water management in all areas of the site. Leachate ponding was not observed during the visit. Surface water ponding was observed in all accessed areas. However, given the nature of the local

soil and considering the cumulative rainfall of approximately 60 mm on June 4th, this can be deemed normal.

Significant erosion was not observed at the facility.

The facility is located within a flood prone area.

4 Summary

4.1 General

Below is a summary of the key observations made during the site inspections, together with an assessment of the significance of the associated issues:

4.2 General description and appearance

The inspected facilities are located within distances of 400 m to 2.5 Km from residential areas. Considering the unregulated nature of dwellings surrounding the facility in Lightning Ridge, and the small facility size in Rowena, the close proximity in those locations can be considered acceptable. In Burren Junction, Collarenebri and Walgett the proximity to residential areas does not appear to cause any concerns.

The facilities range in size from 1.2 to almost 20 ha. An uncoordinated and unnecessary use of excess areas were observed particularly in Burren Junction, Rowena and Collarenebri.

4.3 Site opening hours and supervision

The facilities in Walgett and Lightning Ridge are open to the public from 08:00 – 11:00 and 14:00 – 17:00, seven days per week. The other three facilities are open to the public at all times. In order to avoid increased occurrences of illegal dumping, this may be the best solution. However, particularly in Collarenebri and Rowena, a more regular attendance at the sites may be of benefit to the general appearance.

The quantity and quality of facility signs is categorically deficient. Signs advising on health and safety issues, and the corresponding appropriate behaviour, were not observed at any of the sites.

It was also noted that many signs regulating the deposition of materials for recovery were inappropriately placed, not legible or often ignored.

4.4 Waste disposal

Waste disposal at Walgett and Lightning Ridge is by means of deposition and compaction, undertaken by the contractor. At the other facilities the public deposit the waste directly in trenches or pits. At the unsupervised facilities the level of contamination with recyclable and hazardous materials is considered to be excessive.

Cover soil appeared to be available in sufficient quantities at all sites.

The practice of unsupervised trench disposal is not considered to be safe.

4.5 Materials recovery

Al facilities had provision for recovery of the main materials, including:

- Scrap metal
- Construction and demolition waste
- Green waste/wood
- Mixed timber
- Tyres
- Drums

In addition, some facilities also provided for segregation of furniture or other reusable items.

Many of the stockpiles, in particular at the unsupervised facilities were insufficiently maintained, leading to cross contamination of materials and partially unsafe structural aspects.

The possibility of increased fire risk was also noted at some of the sites, caused mainly by overlapping of stockpiles with different materials, particularly wood/timber and green waste. In addition, stockpiles of woodchip were observed at the facility in Walgett. These were noted to be of varying ages, as identified by the different colour grades of the chip. The long-term storage of wood chip is not advisable, as the risk of internal self-heating or combustion increases with the duration of storage. In general, storage of wood chip in stockpiles is not considered suitable beyond a 6-month period.

4.6 Infrastructure, plant and equipment

The majority of the sites had perimeter bunds, presumably intended for control of flood and stormwater.

The selection of plant and equipment at Walgett and Lightning Ridge landfills is considered suitable for the nature and size of the sites.

4.7 Nuisances

Dust noise or odour were not observed at any of the facilities.

Moderate fly infestation was observed at all sites, with the exception of Walgett. However, it can be assumed that the rainfall during the site inspection suppressed fly activities.

Infestation with feral cats was observed particularly at Rowena and Collarenebri landfills.

It was noted that windblown litter did generally not affect areas outside of the perimeter fences. However, most sites were moderately affected by windblown litter within the site confines.

4.8 Leachate and water management

Leachate was visibly ponding at Lightning Ridge landfill. No leachate was observed at the other sites.

Stormwater ponding was noted at most sites. However, under consideration of the partially significant rainfall in the days prior to the inspections, this can be deemed normal. Most site roads were difficult to manoeuvre due to the rain-softened surfaces.

Moderate to significant erosion was observed at all sites, with the exception of Rowena, where the strong vegetation growth appears to prevent generation of sediment.

All facilities are located within flood prone areas, with the exception of Lightning Ridge.

5 Recommendations

The following recommendations have been identified based on the observations made during the site inspections, and under due consideration of the partially remote nature of the sites. All recommendations have to see in the context of the brief nature of the site visits, and the specific circumstances under which the inspections took place.

GHD recommends the following actions to be taken to improve the operation and environmental performance of the facilities, as well as the safety of members of the public and staff:

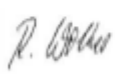
- Consideration should be given to closing select facilities, possibly with a replacement by small transfer stations. While a more detailed assessment, possibly as part of the Strategy development, could provide a more specific evaluation, it appears that the facilities in Rowena and Collarenebri are ideal for such closure and/or conversion. While the facility in Carinda was not inspected, it can be assumed that, due to the size of the site and the number of population served, it could also be closed or converted.
- Consolidation of the facility areas, particularly in Burren Junction, Rowena and Collarenebri. This could include re-organisation of the layout and restriction of public manoeuvring areas through additional fencing.
- Increasing the segregation and recovery of resources, which would also conserve the void space of the disposal areas at the facilities. As described in Section 3, the disposal trenches, pits and areas contain significant quantities and volumes of low-weight and high-volume recyclables, that could easily be segregated.
- Increased supervision at the unattended facilities.
- Significant improvement of facility signage and minor infrastructural measures, to reduce the current health and safety risks at the site. These measures will general improve the site operation in general as well.
- Undertaking of health and safety audits at all facilities, in order to support the above, but mainly to enable Council to assess the risk of exposure to legal action by members of the public.
- Implementation of measures that provide the public with additional outlets for segregation of hazardous wastes, similar to those offered with CRC facilities (Community Recycling Centres).
- Encouraging further segregation of recyclable materials, in particular low-weight and high-volume items, such as drums, IBC's, tyres, furniture etc.
- Provision of recovery outlets for other recyclables, particularly aluminium and steel cans, plastics and cardboard.

- Improvement of stockpile management at all sites. This could involve more regular processing (shredding, chipping etc.) or removal of materials. Better delineation of stockpiles and occasional supervision would also improve the safety and maintenance of stockpiles.
- Assessment of the fire risk associated with stockpiling of materials, particularly wood, green waste, mixed timber and wood chip. The assessment should be site specific and consider the local circumstances such as climate, access to water, isolation of stockpiles etc.
- Development of a nuisance management plan or procedure for each of the facilities. Such plan should be site specific and consider the local circumstances. Measures for the control of nuisances should be defined and reviewed. Particularly the control of feral cats or other vermin should be attended to.
- Development of leachate management plans, particularly for Walgett and Lightning Ridge landfills, where disposal does not occur within confined trenches or pits. Prevention of leachate should have priority over control.
- Development of stormwater management plans, including erosion and sediment control. Particularly given the location of all sites, except Lightning Ridge, within flood prone areas, the key focus should be on control of flood waters. However, all sites would require measures for internal erosion and sediment control, including stockpile management.

We trust that the information contained in this report will contribute to the improved future development of the waste management facilities in Walgett Shire. It will also provide Council with a basis for developing a tender specification for a Waste Management Strategy for the Shire.

Please do not hesitate to contact me should you require any further information or clarifications.

Kind Regards,



Reinhard Wilkes
Principal Environmental Engineer
02 4350 4127

Attachments:

Appendix 1 – Images
Appendix 2 – Audit forms
Appendix 3 – LEP Extract Flood Prone Areas

Regional
EnviroScience
Hazardous Materials Laboratory and Consultancy

10th October 2016

Newbold Bulk Haulage
PO Box 67,
Coonamble, NSW, 2829

Att: Mr Chris Newbold

RE: 40-42 Pandora St, Lightning Ridge, NSW, 2834

PARTIAL VISUAL ASBESTOS 'FRIABLE' REMOVAL CLEARANCE

Report Reference: CLR10589R01

Dear Mr Newbold,

Regional Enviroscience Pty Ltd was engaged by Newbold Bulk Haulage to undertake a visual inspection after the demolition of the residential property following extensive fire damage, as per the scope of works. The fire damaged residence is located on crown lands at the rear of residential properties, 40-42 Pandora St, Lightning Ridge, NSW, 2834. Airborne Asbestos Air Monitoring was employed around the perimeter exclusion zone during the removal process.

Utilising wet suppression techniques, appropriate personal protective equipment and appropriate site engineering controls, the asbestos materials were removed under controlled conditions until no asbestos or associated visual asbestos debris was sighted in the above area.

At the completion of the specific asbestos abatement works a visual inspection of the area was undertaken. The purpose of the inspection was to confirm that the asbestos containing materials and associated residues had been successfully removed and remediated. It should be noted that this is not a clearance that all asbestos products have been removed, as the works were limited to the above area only.

The inspection was carried out at the completion of the asbestos removal on 7th October 2016. It was found that the visible asbestos contamination had been satisfactorily remediated from

the above area; please refer to the images below, which depict the satisfactory completion of the scope of works.

Table 1: Images of Asbestos Removal and Clearance

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During the removal works and at the completion of removal works, airborne asbestos monitoring was conducted, with samples taken indicating normal background levels of airborne asbestos fibres (<0.01 fibres/millilitre of air). These results confirm the safe working environment within the area.

The fibres were counted in accordance with the National Occupational Health and Safety Commission's "Asbestos: Code of Practice and Guidance Notes - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust" [NOHSC:3003 (2005)] The airborne asbestos monitoring results can be seen in the reports A10589R01 – A10589R03.

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Accessing of the area can safely proceed.

Reported by:

Juliet Duffy MSM *Syd Uni*

Director, Occupational Hygienist
Licensed Asbestos Assessor Lic No: LAA 000 102
Ph 0407 120 325

Appendix 1 – Airborne Asbestos Air Monitoring Results – A10589R01-A10589R03.

LIMITATIONS

The clearance inspection was limited to areas that are outlined in this report. The following limitations also apply to cleared demolition sites and remediated contaminated areas.

1 To the extent permitted by law, Regional Enviroscience Pty Ltd will not be responsible in tort, contract or otherwise for any loss or damage, including for any personal injuries or death, or any consequential loss, loss of markets and pure economic loss, suffered by the Customer, whether or not the loss or damage occurs in the course of performance by Regional Enviroscience of this contract or in events which are in the contemplation of Regional Enviroscience and/or the Customer or in events which are foreseeable by Regional Enviroscience and/or the Customer.

2.2 To the extent that liability has not been effectively excluded by the proceeding clause, then Regional Enviroscience limits its liability to:-

(a) The supply of services again; or

(b) The payment of the cost of supplying the services again, at the election of Regional Enviroscience Pty Ltd.

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LABORATORY ANALYSIS REPORT
Estimation of Airborne Asbestos Fibres

Report No: A10589R01

Report Date: 10th October, 2016

Client: Newbold Bulk Haulage,
Client Address: PO Box 67,
Coonamble, NSW, 2829

Sampled From: 40 - 42 Pandora Street, Lightning Ridge, NSW, 2834

Sampled By: Mr Wayne Sibley

Attention: Mr Chris Newbold,

Sampling Date: 6th October, 2016

Type of Monitoring: During Friable Demolition

Test Method: In Accordance with the NOHSC: 3003 (2005) Guidance Note on the Membrane Filter Method for estimating airborne asbestos fibres. (as outlined in the laboratory method manual)

Sample Location	Sample No.	Time On/Off	Flow Rate L/min	Result Fibres/Field	Results Fibres/mL
Rear Fence 40 Pandora Street	A10589S01	1055/1705 370min	2.0	0/100	<0.01
Rear Fence 42 Pandora Street	A10589S02	1055/1705 370min	2.0	0/100	<0.01
Rear Fence 44 Pandora Street	A10589S03	1055/1705 370min	2.0	0/100	Flow Fault
West Perimeter	A10589S04	1055/1705 370min	2.0	0/100	<0.01
Rear 38 Pandora Street	A10589S05	1055/1705 370min	2.0	0/100	<0.01

NATA WORLD RECOGNISED ACCREDITATION No. 19366

ISO Accredited For Compliance With International Organisation For Standardisation ISO/IEC 17025

Counter and Signatory
Analysed by Ken Archer on 10th October, 2016
*Design of the sampling strategy is outside the scope of accreditation

Note: Samples are kept for 6 months

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LABORATORY ANALYSIS REPORT
Estimation of Airborne Asbestos Fibres

Report No: A10589R02

Report Date: 10th October, 2016

Client: Newbold Bulk Haulage,
Client Address: PO Box 67,
Coonamble, NSW, 2829

Sampled From: 40 - 42 Pandora Street, Lightning Ridge, NSW, 2834

Sampled By: Mr Wayne Sibley

Attention: Mr Chris Newbold,

Sampling Date: 7th October, 2016

Type of Monitoring: During Friable Demolition

Test Method: In Accordance with the NOHSC: 3003 (2005) Guidance Note on the Membrane Filter Method for estimating airborne asbestos fibres. (as outlined in the laboratory method manual)

Sample Location	Sample No.	Time On/Off	Flow Rate L/min	Result Fibres/Field	Results Fibres/mL
Rear Fence 38 Pandora Street	A10589S06	0845/1130 165min	2.0	0/100	<0.01
Rear Fence 40 Pandora Street	A10589S07	0845/1130 165min	2.0	0/100	<0.01
Rear Fence 42 Pandora Street	A10589S08	0845/1130 165min	2.0	2/100	<0.01
Rear Fence 44 Pandora Street	A10589S09	0845/1130 165min	2.0	0/100	<0.01
West Perimeter	A10589S10	0845/1130 165min	2.2	0/100	Flow Fault

Counter and Signatory
Analysed by Ken Archer on 10th October, 2016
*Design of the sampling strategy is outside the scope of accreditation

Note: Samples are kept for 6 months

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LABORATORY ANALYSIS REPORT
Estimation of Airborne Asbestos Fibres

Report No: A10589R03

Report Date: 10th October, 2016

Client: Newbold Bulk Haulage,
Client Address: PO Box 67,
Coonamble, NSW, 2829

Sampled From: 40 - 42 Pandora Street, Lightning Ridge, NSW, 2834

Sampled By: Mr Wayne Sibley

Attention: Mr Chris Newbold,

Sampling Date: 7th October, 2016

Type of Monitoring: Clearance

Test Method: In Accordance with the NOHSC: 3003 (2005) Guidance Note on the Membrane Filter Method for estimating airborne asbestos fibres. (as outlined in the laboratory method manual)

Sample Location	Sample No.	Time On/Off	Flow Rate L/min	Result Fibres/Field	Results Fibres/mL
North Adjacent Rear Fence Pandora Street	A10589S11	1135/1335 120min	3.5	0/100	<0.01
Centre of Removal Pad	A10589S12	1135/1335 120min	3.5	0/100	<0.01
South of Removal Area	A10589S13	1135/1335 120min	3.5	0/100	<0.01

NATA WORLD RECOGNISED ACCREDITATION No. 19386

ISO Accredited For Compliance With International Organisation For Standardisation (ISO/IEC 17025)

Counter and Signatory
Analysed by Ken Archer on 10th October, 2016
*Design of the sampling strategy is outside the scope of accreditation

Note: Samples are kept for 6 months