Waste Management Plan

to accompany a Development Application to

Inverell Shire Council

for

Subdivision and a Manufactured Home Estate

at

31 Brownleigh Vale Drive, Inverell

Lot 1 DP 1152567

May 2022

Waste Management Plan

(Version 2)

prepared by

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for

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GLOSSARY OF TERMS

Avoidance

Eliminating the generation of waste at its source. Avoidance encourages the community to reduce the amount of waste it generates and to be more efficient in its use of raw materials. Synonyms: Waste Prevention and Waste Reduction.

Biosolids

Residual sludge from wastewater treatment plant operations.

Commercial and Industrial (C&I)

Inert, solid or industrial waste generated by industries (including shopping centres, restaurants, offices, manufacturing, repair workshops, all retail outlets, hotels, clubs etc) and institutions (including schools, hospitals, universities, nursing homes and government offices), excluding construction and demolition, municipal waste, clinical and related waste and hazardous waste.

Composting

The process of controlled biological decomposition of organic wastes that are separated from the waste stream either at the source or in the initial stages of a recovery process. This includes backyard, neighbourhood and regional facilities.

Construction and Demolition (C&D)

Materials in the waste stream that arise from construction, demolition, refurbishment,

excavation activities.

Contamination

Any introduction into the environment or a product (water, air, soil, or recyclable materials) of micro-organisms, chemicals, wastes, or wastewater in a concentration that makes the environment or the product unfit for its intended use. Contaminants can have a detrimental impact on the quality of recycled materials and can spoil the potential for resource recovery.

Disposable

Any product or material that is designed to be thrown away after one use.

Disposal Fee

The fee charged at designated disposal and recovery facilities for the disposal of waste. These are usually applied as ‘dollars per tonne’ of waste disposed. Synonym: Gate Fee.

Diversion

The recycling or reprocessing of materials that would have otherwise been disposed of in landfill.

Generators

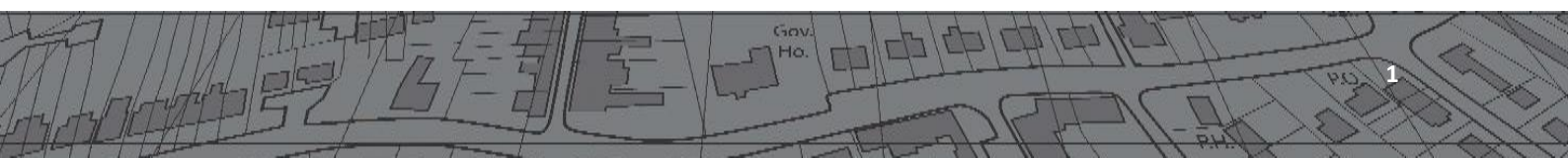
Sources of waste generation, typically used to refer to the domestic, commercial and industrial, or construction and demolition sectors.

Green waste

Waste comprising vegetative organic materials including garden waste and wood waste.

Household Hazardous Waste

A substance which is explosive, corrosive, flammable, reactive, contagious, and/or toxic, as well as the products used to contain the substance. This waste originates from domestic sources (households). Such materials include paints, cleaning liquids, oils and varnishes, as well as syringes and home-generated medical waste.



Materials Recovery Facility

A facility at which recyclable materials are separated into individual commodities using varying degrees of mechanised and hand-sorting.

Organic Waste

The part of the waste stream that is comprised solely of animal or vegetable matter and typically from which a compost can be created.

Recyclable Material

Able to be processed and used as a raw material for the manufacture through a commercial process of either the same product or another product.

Recycle

The process of source-separating from the solid waste stream products that are no longer useable in their present form and that can be used in the manufacture of new products. This includes composting.

Residual Waste

The material left after all resources have been recovered for reuse or recycling which is generally disposed of to landfill.

Reuse

The repeated use of a product in the same form but not necessarily for the same purpose, without further manufacture.

Solid Waste Stream

The aggregate of all solid waste components, and also the process through which they move from point of generation to ultimate disposal.

Source Reduction

An activity that eliminates or decreases the generation of waste at the source.

Source Separation

The separation of recyclables from the solid waste stream at the source of generation (typically in the home or workplace) so that recyclable material is kept clean and marketability is improved.

Sustainability

Activities that meet the needs of the present without compromising the ability of future generations to meet their own needs. It is a triple bottom line approach, that examines social, economic and environmental factors

Transfer Station

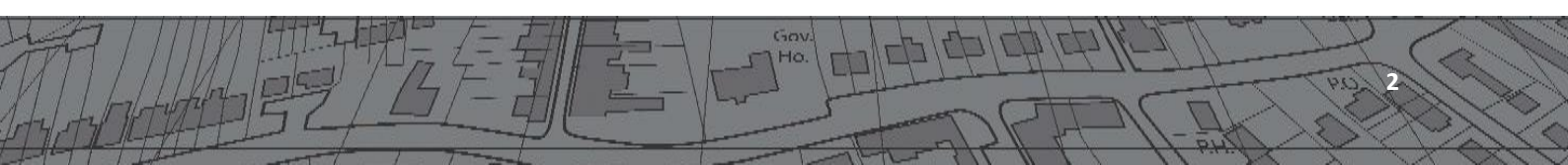
An intermediate facility in the waste system where local waste collection vehicles deliver their loads for further trans-shipment in larger waste-hauling vehicles to final disposal.

User-pay Principle

The concept whereby the more waste a generator produces, the more it will cost that generator.

Waste Minimisation

Reducing the quantity of waste requiring disposal through waste reduction, reuse, or recycling. Also referred to in this strategy as the sum total of reduction, reuse and recycling as a percentage of potential generation.



1.0 INTRODUCTION

1.1 Site and Application Summary

Table 1 Site Details

Address	31 Brownleigh Vale Drive, Inverell
Real Property Description	Lot 1 DP 1152567
Site Area (m2)	43,320m^2 (4.323 hectares)
Existing Use	None – site vacant
Local Government Area	Inverell Shire
Local Environmental Planning Instrument	*Inverell Local Environmental Plan 2012*
Zone	R1 General Residential
Maximum Building Height	N/A
Floor Space Ratio	N/A
NSW Coastal Zone	No

Table 2 Development Application summary

Proposed Development/Land Use(s)	Subdivision (one lot into two lots); Manufactured Home Estate
Capital Investment Value	$1,090,000.00
Development Type	Local Development
Consent Authority	Inverell Shire Council
Designated Development	No
Integrated Development	Yes
Concurrence	No
SEPP Infrastructure Referral (Clause 45)	No
Applicant	Coastal Alliance Pty. Ltd.
Applicant Contact Details	Zone Planning Group (07) 5562 2303

1.2 Site Analysis

A brief description of the site and its attributes is provided in Table 3 (next page).

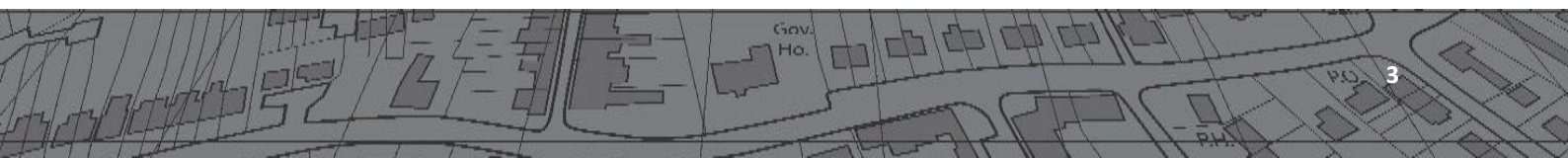


Table 3 Site location and attributes

Topography	The site has a north-west to south-east (side-to-side), slightly diagonal slope, falling more than 11m from RL598.70 near its north-western (front) corner to RL 587.37 at its southern-eastern (rear) corner. Over approximately 285m, that 11.33m fall equates to an average slope across the site of just under 4%, or 1-in-25.
Vegetation & Waterways	The subject site has been predominantly cleared with very little vegetation on the site besides a small number of non-native trees and shrubs oriented to the northern edge of the site. The subject site does not contain any waterways, however Spring Creek is located to the south of the site which connects in to Macintyre River to the north west of the site.
Availability of Services	The site is capable of being connected to all services, including reticulated water, sewer, electricity and telecommunications and gas.
Allotment Dimensions	The subject site is irregular in shape. It has a total area of 43,230m^2 (4.323 hectares). The allotment does not have a distinctive frontage as the site is bordered by residential development to the south-west, north-west and north-east, and public recreation to the south-west. Access to the site is from the north-eastern end of Brownleigh Vale Drive, therefore, part of the south-western boundary is determined to be the 'frontage'. The side boundaries are taken to be the south-eastern and north-western boundaries, and the rear boundary is taken to be the north-eastern boundary.
Current Use & Improvements	None - the site is currently vacant.

1.3 Proposed Development

The proposal entails the following:

- **subdivision** of the subject site from **one (1) lot into two (2) lots**;
- dedication of a small portion of the site as a public road reserve; and,
- development of a ***manufactured home estate*** comprising a total of 76 dwellings and communal facilities on one of the two lots created by the proposed subdivision.

1.4 Scope of this Report

This Waste Management Plan has been structured into waste management procedures for:

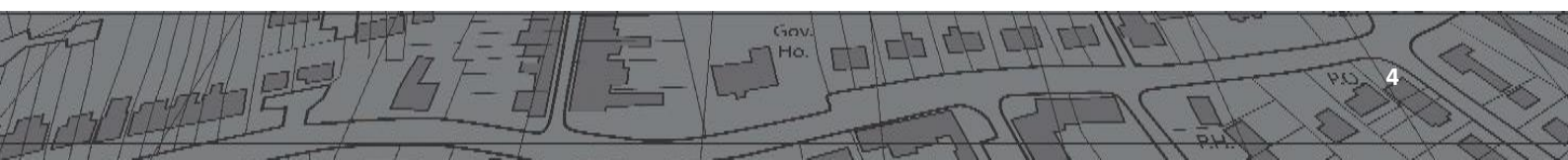
- construction works, and
- operation.

1.5 Waste Management Controls

This Waste Management Plan sets a generic guideline to be followed as a minimum for waste generating activities during the phases of demolition, construction and operational phases, and has been prepared in accordance with *Waste Classification Guidelines* issued by the Department of Environment, *Climate Change and Water (DECCW, 2008)* and *Inverell Shire Council – Solid Waste Management Strategy 2010 'Less Waste More Resources'*.

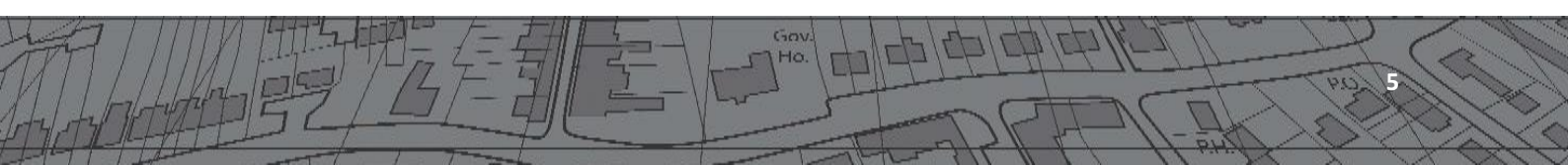
The aim of this Waste Management Plan is to outline measures to minimise and manage waste generated during the demolition, construction and ongoing operation of the site/premises and to document:

- volume and type of waste and recyclables to be generated;
- storage and treatment of waste and recyclables on site; and
- disposal of residual waste and recyclables; Waste Management will follow the preferred hierarchy of avoidance/reduction, re-use, recycle, treat and dispose. Best Practice will be adopted wherever possible, to achieve waste minimisation and reduction.



2.0 DEMOLITION WASTE MANAGEMENT

The subject site is currently vacant and, consequently, the proposal does not necessitate any demolition.



3.0 CONSTRUCTION WASTE MANAGEMENT

This section identifies the **types** of construction waste to be generated by the proposal and provides an estimate of the **likely quantities** produced. It also identifies waste **minimisation strategies** to be considered.

3.1 Types and Quantity of Waste

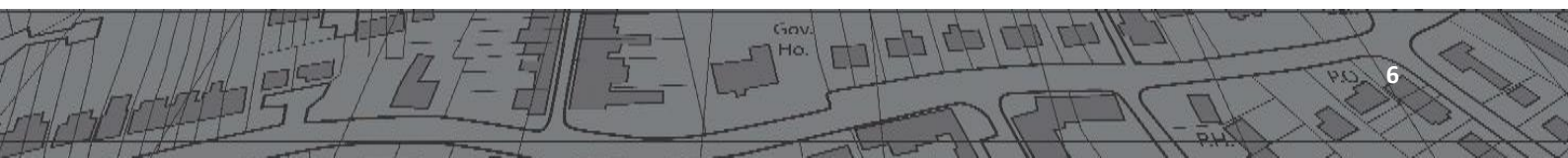
The **types** of construction waste to be generated by the proposal and the **likely quantities** of that waste produced is set out in **Table 4**, below.

Table 4 Estimated volume and management of construction waste to be generated

Waste Type	Reuse	Recycling	Disposal	Method of on-site reuse, recycling or disposal
Excavation material	10m³	10m³	NA	Material will be reused on site where required or will be sold for reuse off-site if appropriate.
Timber	NA	NA	NA	Timber to be ordered in accordance with quantity survey.
Concrete	NA	NA	NA	Concrete to be ordered in accordance with quantity survey and any excess will be returned in the truck for another site.
Bricks/pavers	NA	NA	NA	Bricks/pavers to be ordered in accordance with quantity survey and any waste will be transferred to a material recovery facility or waster transfer station.
Tiles (interior)	NA	NA	NA	Tiles to be ordered in accordance with quantity survey and any waste retained for future use/repairs.
Metal	NA	NA	NA	Metal to be ordered to size and any waste will be transferred to a material recovery facility or waster transfer station.
Glass	NA	NA	NA	All glass will be made to order.
Plasterboard (offcuts)	NA	NA	NA	Plasterboard to be ordered to size and any waste will be transferred to a material recovery facility or waster transfer station.
Fixtures and fittings	NA	NA	NA	Made to order.
Floor coverings	NA	NA	NA	Ordered to size and any waste retained for future use/repairs.
Packaging (used pallets, pallet wrap)	NA	NA	NA	Pallets will be transferred to a material recovery facility. Wrap and packaging to Council's waste transfer station.
Garden organics	NA	NA	NA	Ordered to size in accordance with quantity survey.
Containers (cans, plastic, glass)	NA	NA	NA	NA
Paper/cardboard	NA	NA	NA	Transferred to a Material Recovery facility.
Residual waste	NA	NA	5m³	Transferred to a Material Recovery facility.
Hazardous/special waste (specify)	NA	NA	NA	No hazardous materials are to be utilised in the construction.

Shown on plans: Construction Waste	**Yes/No**
Size and location(s) of waste storage area(s)	NA*
Access for waste collection vehicles	NA*
Areas to be excavated	✓
Types and numbers of storage bins likely to be required	NA*
Signage required to facilitate use of storage facilities	NA*

*Details provided at Construction Certificate Stage



As demonstrated in Table 4 above, the anticipated waste materials from the construction phase will be concrete, timber, glass, plaster board/gyprock, metals and general waste (including plastic plumbing works).

Waste generated from construction works will be reused or recycled, where possible/appropriate.

Separate bins will be used on site for recyclable and non-recyclable construction waste materials. Additional bins will be provided where possible to further separate waste for example plasterboard and timber, general waste etc. Signs will be located on each bin, indicating type of bin and what waste may be placed in that bin. The number of bins on the site at any one time will be minimised to minimise visual impact.

Construction waste that cannot be recycled will be deposited into a skip bin that will be located close to the construction/installation works, accessible to the removal transport and sensitive to visual impact.

All solid waste timber, brick, concrete, rock and soil and metals that cannot be recycled will be taken to an appropriate landfill site and disposed of in an approved manner.

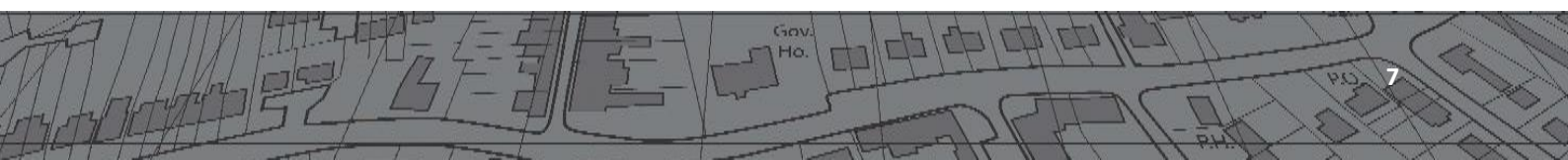
A licensed disposal contractor will administer the removal and certified disposal of site-generated waste.

General waste will be stored in mobile garbage bins and emptied into appropriate skip bins or picked up by the site waste transport vehicle.

3.2 Waste Minimisation

More construction-related waste than necessary is often generated as a result of the poor selection of materials and poor ordering. The following measures will be adopted to try to avoid this:

- materials required will be accurately calculated to minimise waste from over-ordering;
- ordering materials in a way that minimises packaging;
- bringing materials to site in bulk to reduce packaging waste;
- ordering pre-cut materials;
- reducing packaging waste by returning packaging to supplier, where possible;
- have materials safety data sheets accompanying all materials delivered to site (where required) to ensure that safe handling and storage procedures are implemented; and,
- encouragement of subcontractors to reuse or recycle waste where possible, including contract specifications for sub-contractors that require implementation of waste minimisation practices.



4.0 OPERATIONAL WASTE MANAGEMENT

4.1 Type of Waste Streams

The proposed development, a manufactured home estate with 76 dwellings sites and a range of indoor and outdoor communal facilities for residents and their guests, is anticipated to generate commercial general and recycling waste.

4.2 General and Recyclable Waste Generation

The general waste and recyclable waste likely to be generated by the proposed development is calculated below. The calculations are based on the *Inverell Shire Council – Solid Waste Management Strategy 2010*. The *Inverell Development Control Plan 2012* does not contain any no specifications relating to waste.

In accordance with Council's collection schedule for the area, general waste would be collected weekly and recyclable waste would be collected fortnightly.

Table 5 Waste generation calculations

Land Use	General Waste Rate	Total	Recycling Rate	Total
Manufactured Home Estate	140L/dwelling/week	10,640L	240L/dwelling/fortnight	18,240L
	240L/communal facility/week (x3)	720L	240L/communal facility/fortnight (x3)	720L
Total		**11,360/week**		**18,960L/fortnight**

4.3 General Waste & Recycling Bin Requirements

Each of the 76 **dwelling sites** within the proposed manufactured home estate will be provided with:

- **1 x 140L** wheelie bin for the disposal of **general waste**; and,
- **1 x 240L** wheelie bin for the disposal of **recyclable waste**.

The **communal facility** will provided with:

- **3 x 240L** wheelie bin for the disposal of **general waste**; and,
- **3 x 240L** wheelie bin for the disposal of **recyclable waste**.

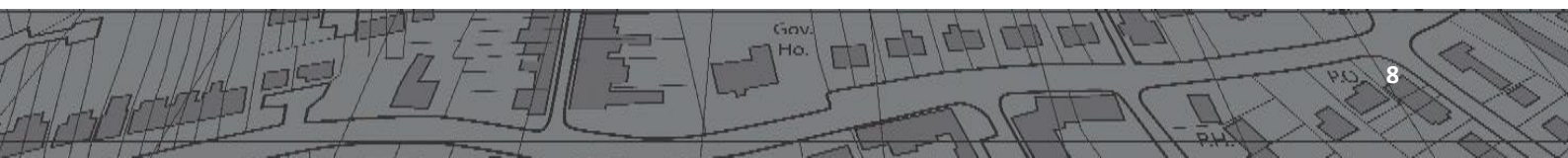
4.4 Bin Storage Dimensions

Table 6 Bin dimensions

Bin System	Height	Depth	Width
140L	915mm	615mm	535mm
240L	1050mm	720mm	580mm

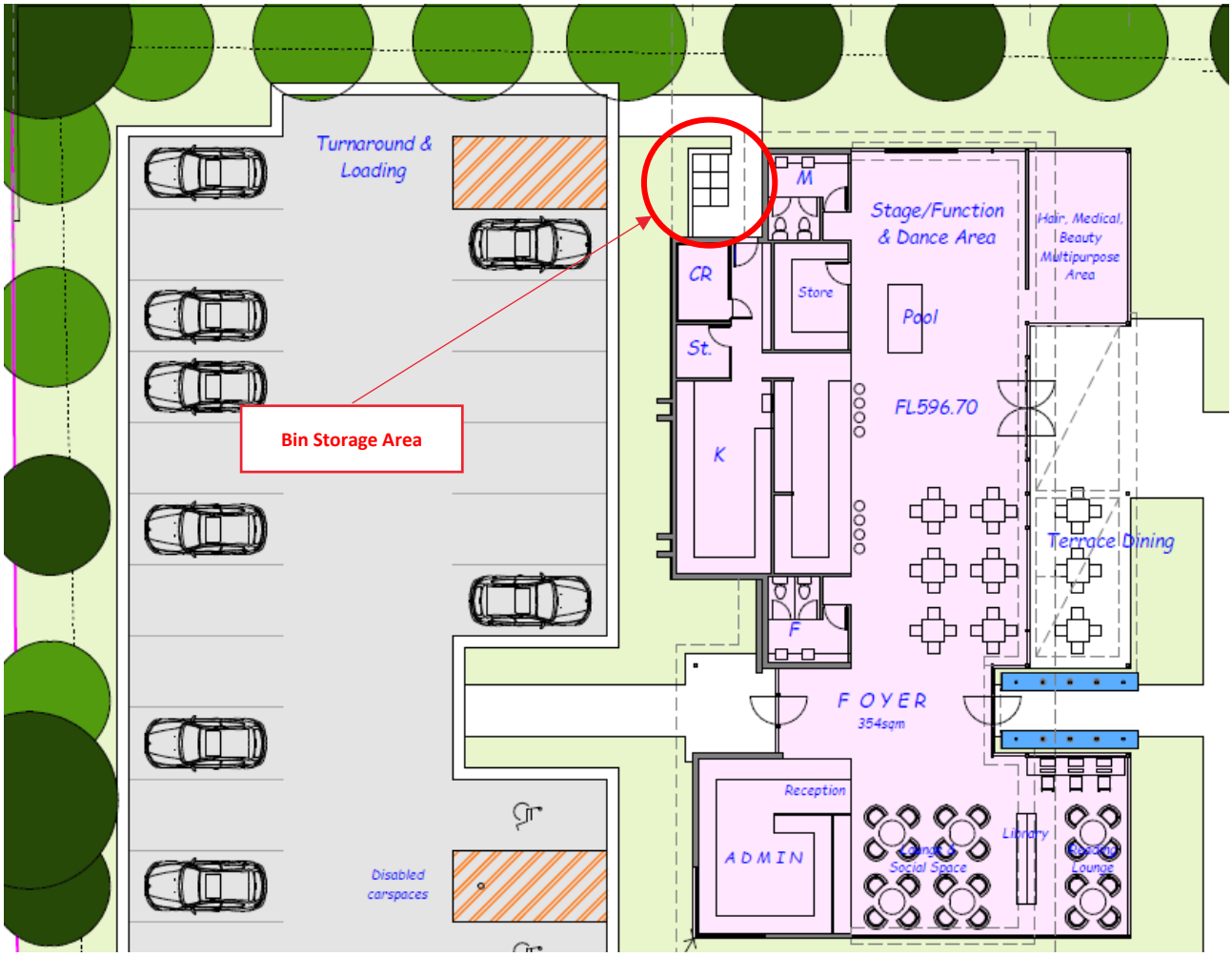
4.5 Bin Storage Locations

The two (2) bins required for each of the proposed 76 dwelling sites would be stored within the garage or carport of the dwelling.



The six (6) bins required for the communal building would be stored in the service area north-western corner of the building adjacent to the car parking area. See Figure 1, below.

Figure 1 Communal Building bin storage area



The following matters have been taken into account in determining the location and design of the bin storage area:

- locating the bins in a manner which reduces potential adverse impacts upon neighbouring properties and the appearance of the premises;
- providing an unobstructed and continuous accessible path of travel to the collection point;
- locating the bins are located outside to allow for sufficient ventilation;
- kerbside emptying of the bins;
- an accessible supply of water (i.e. a nearby tap) to allow for the cleaning of bins.

5.0 COLLECTION DETAILS

This section provides an overview of bin collection and servicing details.

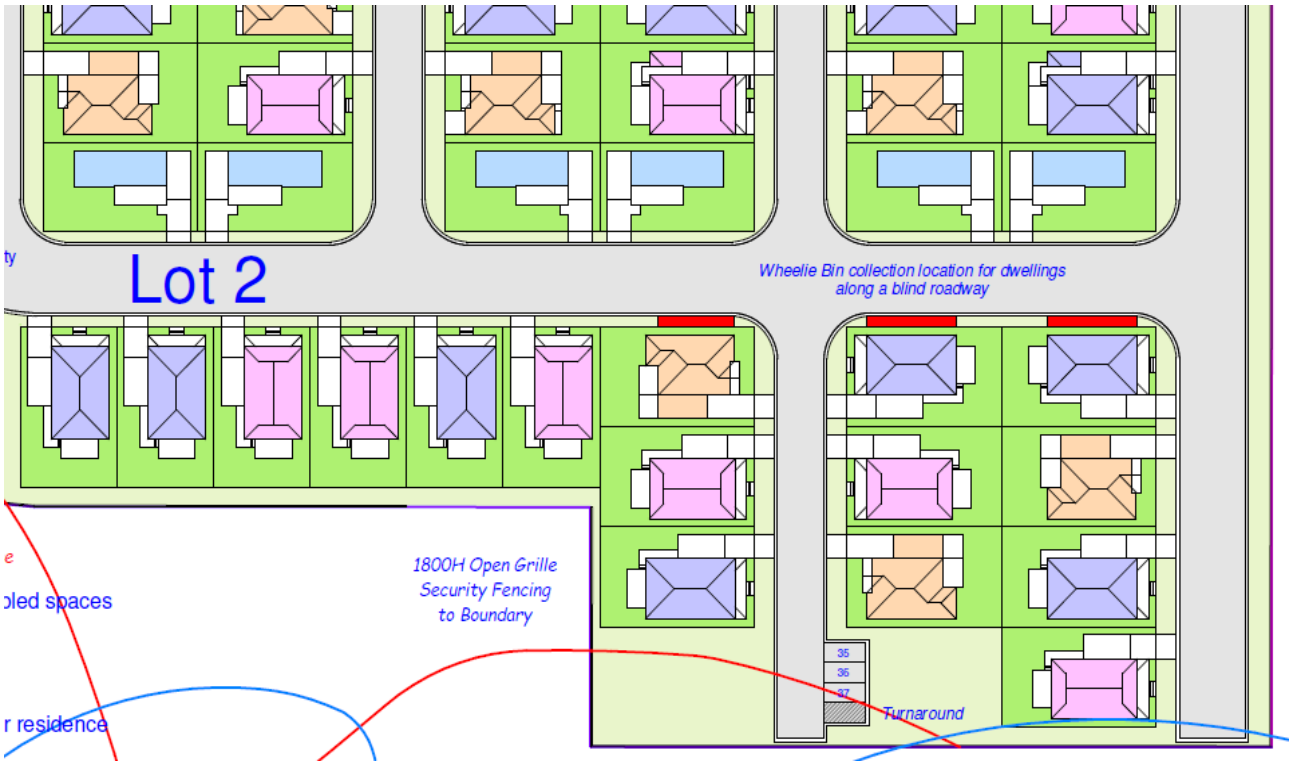
5.1 Collection Points

Dwelling Sites

For the majority (66) of the 76 dwelling sites within the proposed manufactured home estate, residents will wheel their bins to the kerb of the internal road adjacent to their site for emptying.

For the remaining ten (10) dwellings at the eastern (far/rear corner) of the site, all of which front dead end roads (which do not allow for the turning or a garbage collection vehicle), three collection points will be provided along the adjacent through road. Residents would have to wheel their bins to those location points for emptying. The location of those three collection points is indicated in the extract from the accompanying Site Plan at Figure 2, below.

Figure 2 Bin collection areas for homes fronting no through roads



Communal building

The garbage bins for the communal building would be wheeled to the rear of the car park adjacent building for emptying.

5.2 Collection Frequency

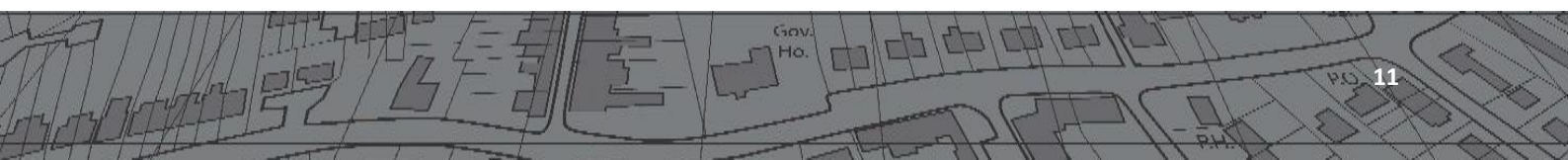
In accordance with Council's collection schedule for the area, **general waste** would be collected **weekly** and r**ecyclable waste** would be collected **fortnightly**.

5.3 Collection Vehicle Access

The proposed development would be serviced by a side-loading refuse collection vehicle (RCV).

Servicing would be undertaken via the entry to the site from Brownleigh Vale Drive and then the via the internal through roads across the estate.

Refuse collection arrangements are fully detailed at Part 4.3 of in the Traffic and Transport Assessment report accompanying the DA. Swept path assessment for a 8.8m rigid collection vehicle are also provided in that Assessment report, at Appendix C.



6.0 CONCLUSION

This Waste Management Report has been prepared to demonstrate the proposed waste management practices to be implemented during the construction and operational phase of the proposed manufactured home estate and associated communal facilities.
Additional detailed engineering designs regarding waste area size, drainage and service vehicle access are provided within accompanying documents or will be completed during the detailed design stage of the development.

In summary, the proposal would:

- not generate any demolition material;
- minimise and recycle construction waste, where possible;
- involve the appropriate disposal of all construction waste;
- when fully operational, generate a maximum of 11,360L of general waste each week and 18,960L of recyclable waste every fortnight;
- for the manufactured home component, be serviced by 76 x 140L wheelie bins for general waste disposal and 76 x 240L wheelie bins for the disposal of recyclable waste;
- for the communal facilities component, be serviced by three (3) x 240L for general waste disposal and three (3) x 240L wheelie bins for the disposal of recyclable materials;
- have appropriately located bin storage areas, minimising any detrimental effects on amenity, streetscape and visual appearance; and,
- have bins emptied at appropriate, convenient and safe locations.

Given the above, it is considered the proposal has an appropriate waste management strategy which is complaint with Council's requirements under *Inverell Shire Council – Solid Waste Management Strategy 2010*. As such, Council's support for the proposed development is respectfully requested.