INTRODUCTION

This waste management plan has been prepared to demonstrate that this project will satisfy a range of obligations and management priorities.

The subject site, 31 Santley Crescent, Kingswood is zoned B4 under Penrith City Council LEP. Part C5 of the DCP deals with Waste Management.

These include:-

- Satisfying appropriate Local and State Government waste management requirements;
- Satisfying Council's and the builder's occupational health, safety and quality commitments;
- Monitoring and controlling materials usage and waste disposal costs.

OBJECTIVES OF THE WASTE MANAGEMENT PLAN

The objectives of the waste management plan are essentially as follows:

1. Satisfy the State and Local Government environmental obligations regarding waste management;
2. Ensure that the waste generated by the building project is managed in a particular fashion, in particular, the manner it is collected on site, stored on site and removed from the site;
3. Establish a procedure that tracks the waste generation and management behavior during the life of the building project;
4. Encourage the builder to manage its subcontractors and to pass waste management responsibility to those responsible for generating the waste;
5. Ensure procedures are in place to guarantee that subcontractors are generally made aware of their waste generation behavior.

COST BENEFIT OF WASTE MINIMISATION

The building industry in Australia is cost competitive. Waste minimization needs to be driven by economics to ensure that it is a viable solution to the developer and to encourage waste management at the building project. The cost of waste disposal and the value of the potentially recyclable resources being disposed of essentially drive recycling and waste minimization initiatives.

The reduction of available landfill sites and the increasing tipping fees means that the cost of waste disposal at landfills should be a less attractive form of waste disposal.

The Waste Minimization and Management Act (1995) sets out a hierarchy of priorities for managing waste. This is demonstrated below:

1. AVOID

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2. RE-USE
3. RECYCLE
4. DISPOSAL

Waste disposal is an alternative only if the first three options are not possible.

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THE BUILDING PROJECT

- Demolition of existing buildings on the site consisting of masonry, concrete and metal building materials;
- Removal of bitumen paving on the existing site;
- Construction of a 5 level Residential Building with 2 levels of associated basement car parking;
- Excavation for basement car parking.

The construction of the proposed project consists of the following:-

- Reinforced concrete footings and columns
- Reinforced concrete slab on ground and suspended floor slabs
- Masonry wall construction
- Concrete Roof Decks
- Aluminium framed glazing
- Tiled and soft floor finishes
- Plasterboard internal linings

WASTE MINIMISATION DURING DEMOLITION

The demolition quantities that are estimated to be produced when the existing buildings are demolished and their destination shown in the table below.

MATERIAL	ESTIMATED QUANTITY (cubic metres)	EVENTUAL USE
Concrete	15	Crushed for road base
Masonry	20	Recycled
Timber	15	Recycled
Fibro	10	Removed and taken for disposal at suitably licensed facility
Green Waste	15	Chipped for mulch
Mixed Materials	30	Taken to Landfill

WASTE MINIMISATION DURING EXCAVATION

The demolition of the existing building is to be undertaken in a manner that will comply with the objectives of the Waste Management Plan.

The basement car park is to be excavated. The amount of material to be excavated for the basement car park is estimated at approximately 4100 cubic meters.

Soil unsuitable for reuse will be removed off site as per recommendations.

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Any rock encountered is to be either recycled for landscaping use if suitable or taken to landfill.

WASTE MINIMISTATION DURING CONSTRUCTION

The type of waste generated in the construction process along with the estimated quantities and destination of the waste materials are shown in the table below.

METERIAL	ESTIMATED QUANTITY (Cubic meters)	EVENTUAL USE
Bricks	60	Recycled as suitable and Crushed for road base
Tiles	36	Crushed for road base
Concrete	105	Crushed for road base
Timber	36	Recycled into mulch
Gyprock	36	Taken to landfill
Steel	24	Recycled
Mixed Materials	60	Taken to landfill

CONSTRUCTION WASTE CONTRACTORS

The waste contractors for this project will direct the material to a resource recovery facility in 6 and 9 cubic meter bins. Associated waste containers shall be located towards the front/side of the property.

BUILDING SUB CONTRACTORS

Sub-contractors have an obligation to ensure all waste materials are placed in the appropriate waste disposal bin and that their work area is cleaned up. It is the responsibility of the site manager to enforce this on site.

RE-USE OF BUILDING MATERIALS

It will be endeavored to ensure excess materials are not ordered on-site.
Remaining materials from one stage of construction will be used on site for the next stage or neatly provided to the owners for spares post construction/handover.

RECYCLING OF MATERIALS

Any excess concrete, broken bricks mortar etc. will be disposed of into the mixed waste bin. The waste contractor will transport the bins to the resource recovery facility where the bins will be tipped in a stockpile.

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The dense fraction is sorted into various fractions of soil, aggregate, and bulkier items. The soil, bricks, mortar and concrete are all separated for reprocessing into products for marketing.

DISPOSAL OF RESIDUAL WASTE

The residue of the recovery process is bulked up and transported to landfill.
The materials disposed of are predominantly timber, plasterboard, plastic, composite materials and paper packaging materials.

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OFF SITE DESTINATION OF WASTE MATERIALS

Those materials that are to be disposed of or recycled off site are to be taken to the following destinations:

MATERIAL	DESTINATION
Bricks	Hallinan's Recycling Centre – 12 Grand Ave, Camellia 2142
Tiles	Brandown P/L – Lot 9 Elizabeth Drive Kemps Creek 2171
Concrete	As Above
Timber	As Above
Steel	Cooks Metal Recyclers – 82 Asquith St, Silverwater 2128
Gyprock	Boral Plasterboard – 3 Thackeray St, Camellia
Mixed Waste	Kurnell Company. Captain Cook Drive, Kurnell 2231
Green Waste	Australian Native Landscapes – Lot 22 Martin Rd, Badgerys Creek 2171
Fibro	By contract to approved disposal depot

ON SITE PROCEDURES AND QUALITY ASSURANCE

To ensure minimization of waste the builder is to carry out the following quality assurance procedures:-

- Selection of sub-contractors according to quality criteria
- Contract review based performance
- Materials tractability
- Inspections and audits of performance

The site supervisor is to incorporate inspections and audits of waste disposal and minimization as is done during the construction process of the building project.

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ON GOING WASTE MANAGEMENT

Residential Flat Building Developments Waste Management Guidelines

Table 2: Waste generation rates for respective bin allocations

WASTE CALCULATION

	WASTE GENERATION VOLUME	TOTAL WASTEBINS REQUIRED	TOTAL WASTE BINS PROVIDED
RESIDENTIAL (23 UNITS)			
WASTE	240L/2 DWELLINGS	11.5 BINS	12 BINS
RECYCLE	240L/2 DWELLINGS	11.5 BINS	12 BINS
PROPOSED TOTAL			24 BINS

GENERAL WASTE BIN RECYCLE BIN

The total number of bins required has been accommodated in the Waste Room located on the Basement 1 Level as required therefore providing compliance with Councils DCP. A waste holding area is provided on the ground floor, from where the bins will be moved to the collection point on the day of collection. A platform lift provided within the waste area will move the bins from the basement level to the holding area at ground level.

The bins are all to be stored within the allocated Waste Room. Garbage chutes are provided at each level for residents use. The garbage is collected and compacted at the basement level. The bins are moved to the holding area at ground floor via a platform lift providing close proximity for contractors/caretakers to direct bins for collection. This ensures the streetscape and the visual amenity of the area is maintained. The bins will be washed and checked for any damage or required maintenance, which will be organized if required.

The location and design of waste collection facilities complements the design of the development and does not visually detract from the streetscape or appeal of the overall complex. The waste storage area/facility is placed to be easily accessed by occupants of the complex. The waste room shall be both mechanically ventilated in the same manner as the basement car park.

Waste, Recycling and Green bins are stored separately within the area and shall be clearly signposted to identify the location for each type of bin.

The walls of the garbage room shall be constructed of rendered brickwork and a trowel finish to the concrete floor. The garbage room is to be provided with a security hose cock for washing out as well as a floor waste discharging to sewer.

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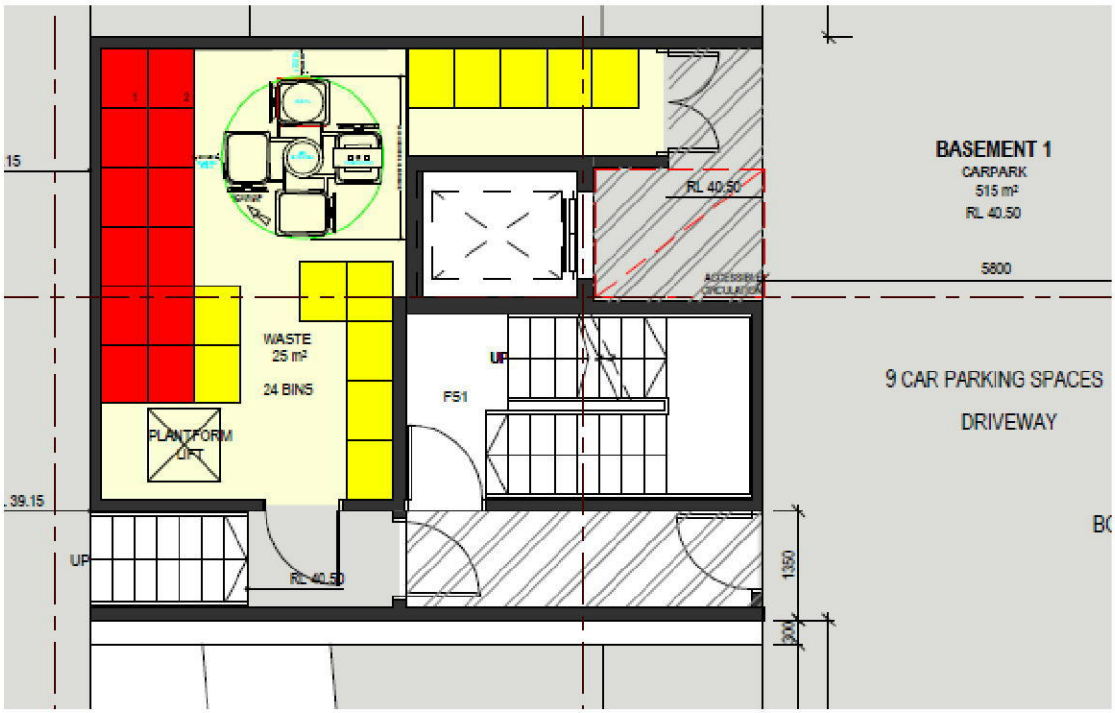

Figure 1: Waste Storage Area in Basement 1

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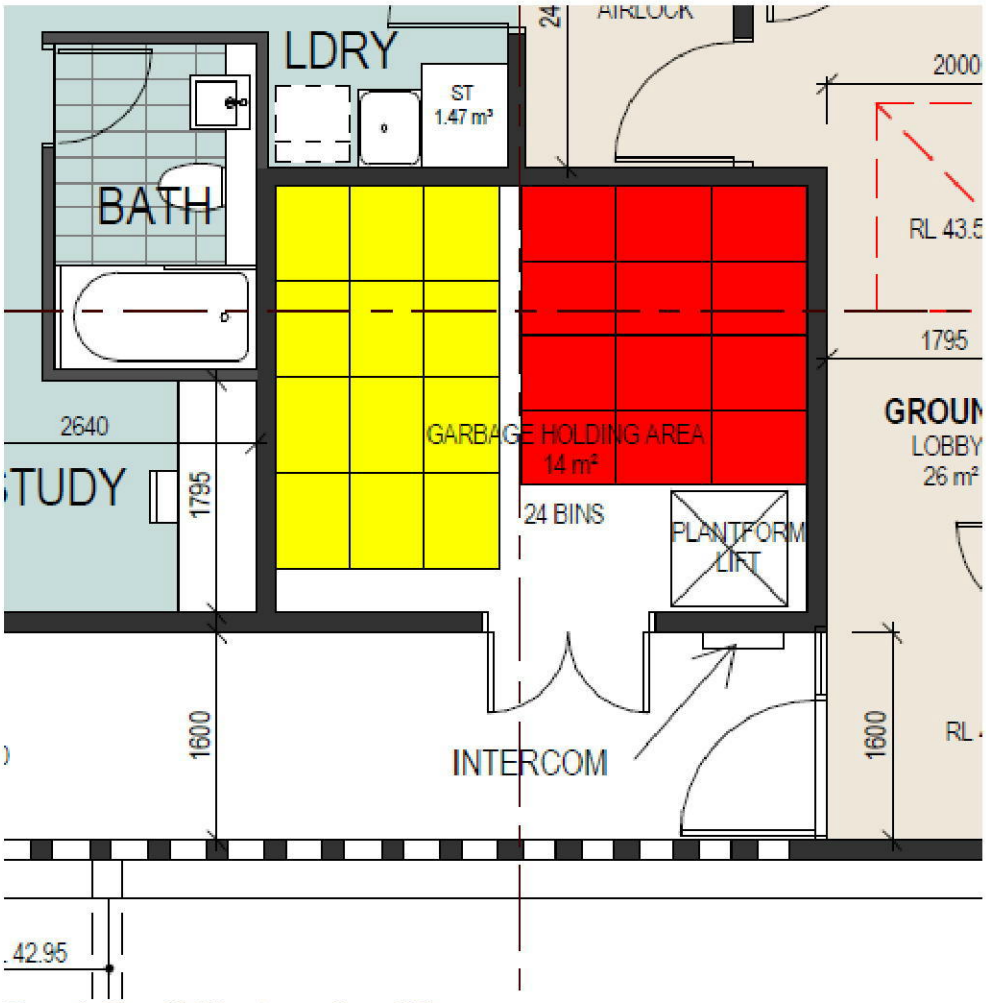

Figure 2: Waste Holding Area at Ground Floor

CONCLUSION

This Waste Management Plan is set out to achieve both Local and State Government waste minimization requirements.

The initiatives in this Waste Management Plan result in both financial savings and reduction in secondary material to landfill.

The planning and coordination procedures on the building project will be a positive contribution to the environment.

Yours Sincerely

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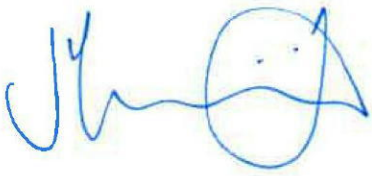

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