TOWN PLANNING
AND URBAN DESIGN

WASTE MINIMISATION AND MANAGEMENT PLAN

Proposed development within the Town Centre Civic Precinct of the Warnervale Town centre

Corner of Nikko Road and Hakone Road, Warnervale

for Fabcot Pty Ltd

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PROJECT NO: 210.065 – WMP

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1. INTRODUCTION

This report constitutes a Waste Management and Minimisation Plan to accompany a Project Application to the NSW Department of Planning and Infrastructure for the development proposal located at the corner of Nikko Road and Hakone Road, Warnervale.

This information details the management and minimisation of waste during the demolition, construction and continuing operational phases of the proposed development. Practical and feasible management options have been identified and are detailed. Effective waste management is essential for the demolition and construction phase of the project and in the ongoing operations of the site. The priorities of waste management principles for this project include:

- Reduce wastes at the source;
- Reuse materials, where possible;
- Recycle wastes, where practical;
- Removal of all waste from the site; and
- Dispose of wastes appropriately and responsibly.

The proposal involves:

- New “Main Street” running east-west which will act as a link between the future railway station to the west of the site to edge of the “Hill Top Park” at the eastern boundary;
- A “Civic Square”;
- Site preparation and bulk earthworks for proposed new roads, infrastructure and buildings;
- Construction of proposed buildings which specifically seeks approval for usage as a retail premises - 27,040 square metres, along with ancillary commercial - 11,155 square metres, bulky goods 2,650 square metres and leisure-entertainment uses - 6,435 square metres;
- Use and fit-out within the proposed buildings for the purposes of a Big W Discount Department Store and Woolworths Supermarket;
- Car parking for 1,949 spaces including commuter parking spaces;
- Loading dock facilities; and

- Infrastructure measures associated with the provision of road access, water, sewer, communications and energy to the proposed development.

The proposal does not seek the subdivision of the land.

This assessment should be considered in respect to the design drawings prepared by BN Group as submitted with the Project Application.

This Waste Management and Minimisation Plan covers the ongoing management of waste generated by tenants and visitors of the proposed development.

While this plan effectively addresses the appropriate segregation, containment and disposal of waste, it is acknowledged that waste avoidance is the primary focus of the waste management hierarchy.

The waste management plan has three key objectives:

i. **to minimise the environmental impacts of the operations of the development on the environment -** this will be achieved by ensuring maximum diversion of waste from landfill; correct 'containerisation' and transport of materials; recycling of materials where appropriate, and awareness among tenants of waste avoidance practices.

ii. **to minimise the impact of the management of waste within the development on local residents –** this will be achieved by ensuring waste is managed so as to avoid odour and litter as much as possible; management of vehicles servicing the site in terms of hours of access and education of drivers in regards "good neighbour" practices.

iii. **to ensure waste is managed so as to reduce the amount landfill and minimise the overall quantity generated –** this will be achieved by assisting tenants to segregate appropriate materials that can be recycled; working with contractors on an ongoing basis to ensure the Centre takes advantage of new technologies and educating tenants on waste avoidance practices.

The Waste Management and Minimisation Plan outlines systems that are available today based on quantities generated and material type. As the industry is in an evolving stage in terms of new technologies, it is likely that new opportunities will become viable for the Centre that will allow greater diversion and avoidance. To ensure these opportunities are identified, and to ensure ongoing best practice waste management initiatives are implemented, the following is recommended by Centre Management:

- An annual review between Centre Management and the waste management service provider will be conducted to allow management to monitor total tonnes generated as well as the percentage of waste diverted from landfill. The review should link waste to key indicators such as turnover; occupancy; foot traffic. This will allow comparisons to be made from one period to another, and waste practices to be effectively tracked.

- Tenant education and awareness – Communication of the proposed waste management strategies will be articulated to the tenants through the fit-out guidelines, leasing documents and retailing newsletters generated by Centre Management. These communications will introduce tenants to the systems in place; explain the concepts of recycling; avoidance and contamination and promote good practice stories about how waste can be avoided or reduced. These communications should also keep tenants informed of the Centre's performance in terms of waste generation and diversion.

- House Rules – the Centre's house rules or tenancy terms and conditions, should include a requirement to actively participate in the recycling/diversion initiatives implemented with the Centre.

- Contractor terms – the waste contractor and cleaning contractors are essential to the ongoing effective management of the waste at the site. So as to ensure full cooperation and participation by these contractors appropriate terms and conditions of their contractual arrangement with Centre Management will stipulate KPIs. KPIs will be developed and negotiated as part of the waste management contractor tender process.

- Signage – clear and easily recognisable signage is essential in terms of correct system use and low contamination rates. Signage should be placed on bins and waste areas. A copy of the signs should be included in the tenant education material.

- Tenant Information Packs – as part of the material provided to new tenants, information on waste systems including the signage will be provided to new tenants.

WASTE SOURCES ASSOCIATED WITH DEMOLITION AND CONSTRUCTION PHASES

2.1 Potential Waste Sources

There are several sources of potential waste during the demolition and construction phases, including:

- Solid waste (demolition and clearance material);
- Solid waste ('domestic' debris);
- Solid waste (putrescibles); and
- Hazardous waste (oils and sludges).

These waste streams and potential impacts are discussed below.

2.2 Potential Impacts

2.2.1 Solid Waste – Demolition and Clearance Material

During demolition and construction works, concrete, steel, cabling, timber and scrap metal will be encountered.

Inert material (including steel waste if encountered during the excavation for footings) will be kept in a designated 'clean' stockpile area and covered as required with plastic and/or tarpaulins, to minimise potential dust impacts, while awaiting transport off-site.

Where possible, material will be transported to a building waste recycling facility to be specified at a later date. Alternatively, it will be disposed of at a licensed landfill site.

2.2.2 Solid Waste – Domestic Debris

'Domestic' debris comprises everyday waste such as paper, aluminium cans and other materials generated by construction and maintenance workers. It is proposed to service the site by private contractors. The size of bins within the garbage rooms will accommodate the requirements of the private contractors. Recyclable materials will be stored separately and appropriately recycled by the contractor.

A cigarette butt collection point will be provided on-site for construction workers.

2.2.3 Solid Waste – Putrescible Waste

Putrescibles and 'green' waste comprises food scraps. These wastes will be collected and stored separately from other wastes produced during construction and disposed off-site by a licensed contractor to either a 'green waste' facility or landfill.

2.2.4 Hazardous Waste – Contaminants, Oils and Sludges

Any site works will be monitored and further environmental investigation will be undertaken if required. Should unexpected materials be discovered during the course of excavations, work will cease immediately and plans for the safe handling, storage and disposal in accordance with relevant statutory guidelines will be developed.

Any waste oils accumulated during maintenance of heavy machinery will be disposed off-site by the contractor as part of their own licence agreements. Waste oil contractors and maintenance and refuelling contractors will be required to have spill response procedures in place. Refuelling will be carried out at designated areas to control potential spill and maintenance issues. Spill response equipment will be stored at the construction sites in the event of unforeseen spills due to hose breaks, etc. Minor waste oil spills will be contained and impacted soils disposed of according to NSW legislation.

2. MITIGATION MEASURES

2.1 DETAILED WASTE MANAGEMENT PLAN

A detailed waste management plan (WMP) can be developed once a contractor has been engaged to undertake the built works and could form part of a construction management plan, which would include:

- Designated stockpiles, recycling areas, bins and a clear indication of the waste streams associated with each one;
- Stripped topsoils, if any, generated through earthworks would be stockpiled for later use or transfer off site;
- Plans of protection measures for waste storage areas;
- Waste handling, management and storage procedures;
- Inclusion of recycling measures;
- Disposal procedures for each waste stream;
- Training for on-site staff on the contents of the WMP; and
- Emergency plans and contingency plans.

2.2 WASTE TRACKING

2.2.1 Waste Management Guidelines

In accordance with the *Protection of the Environment Operations Act 1997*, and the EPA's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes*, waste tracking requirements apply to the generation, storage, transport, treatment or disposal of certain types of wastes. Potential wastes which could be generated on site that will require tracking include:

- Waste oils;
- Oil and fuel filters; and
- Oily water.

2.2.2 Waste Register

A register of wastes will be kept throughout the construction project. The register will contain details pertaining to:

- The types and quantity of wastes for each load taken off site;

- The place to which the waste was taken for treatment or disposal; and
- The waste contractor used for each waste load.

3. OPERATIONAL WASTE MANAGEMENT

As part of the future operations of the proposed retail development, private contractors will be utilised in the waste management process.

The proposed development includes a designated 'on-site' waste storage area. Waste and recycling will be stored in the designated area until such time as it is to be collected. The location of the storage area waste collection times will be in accordance with Council's DCP requirements.

The waste storage areas have been designed to be located in the loading dock area. Signage will be erected in a prominent location instructing drivers to switch off engines once in place to collect garbage. Private contractors are engaged to service all supermarket and associated stores throughout NSW.

As part of the applicant's policy for its employees all care will be taken including appropriate OH & S measures associated with the "bin store" or garbage room.

Cardboard and glass recycling

Approximately 95% of all cardboard that comes into the store as packaging will be compressed into bales by a cardboard compactor. The compacted cardboard bales are collected on a regular basis by truck transport under contract to an approved contractor and transported to a recycling facility. Glass waste will be kept separate from general waste and transported to a recycling facility under similar arrangement.

General waste

Other store waste will be managed through the provision of a skip bin that will be maintained by an approved contractor on a weekly basis. Bins will be housed in a screened waste enclosure, in close proximity to the loading dock and be readily accessible by garbage collectors.

This process will involve a waste management routine to be undertaken by staff. This routine will include:

- Waste containers/wheelie bins will be covered at all times; and
- Waste containers/wheelie bins to be moved from the existing waste storage area to the designated collection area for pick-up

Big W will dispose of their waste from their loading dock. Big W engage their own waste contractor as they have national contracts for waste and recyclable disposal.

Woolworths will dispose of their waste from their loading dock. Woolworths engage their own waste contractor as they have national contracts for waste and recyclable disposal.

Centre Management will contract for specialty store and general waste and recyclable disposal. This will be managed from the specialty loading dock.

GENERATED WASTE VOLUMES

This assessment is based on utilising estimates in two ways

1. By looking at data from existing centres of a similar size and nature;
2. waste generation rates from Sydney City Council "Code for Waste Handling in Buildings"

COMPACTION OF WASTE

The retail and commercial tenancies are proposed to use a compaction system to reduce the storage space required for the generated general waste. Paper and Cardboard Recyclable waste will also be compacted. Co-mingled Recyclable waste will not be compacted.

WASTE MANAGEMENT STRATEGY

All tenant waste will be removed by their own staff to the central waste areas located at the nearest loading dock. The cleaning contractor will be responsible for cleaning all waste handling areas to the loading dock and waste management areas therein.

Waste from the common area waste receptacles will be collected in dedicated bins and relocated to the main collection points by the cleaning contractor.

The cleaning contractor and retailer staff will be approved and trained to operate all waste equipment.

Waste Area Construction

Waste areas will be external. The materials and finishes for the waste areas are as follows:

Floor	Structural concrete slab with smooth finish. Graded drains to approved sewer connections subject to final design resolution
Water Supply	Hose cocks and hose connections
Food Court	Tenants serving food will have a ventilated holding room adjacent to the food tenancies to hold refuse. This will then be transported to the specialty garbage area at end of trading.

Special Waste Types

Various special waste types are proposed to be removed from the proposed development.

The following facilities are proposed to be in place for general waste management and recycling in an effort to maximise landfill diversion.

Below is a brief summary of individual services:

- Grease Trap Services - All grease arrestor pits will be registered with Sydney Water and will be pumped-out by a waste management contractor, as per Sydney Water's advised frequencies.

- Cooking Oil Collection - Cooking oil from Food Court tenants is to be collected in a waste unit & collected by Contract Company for recycling.

- Fish Waste - Fish & seafood waste is to be collected from the fish tenant by a contract company for recycling.

- Meat & Poultry Waste - Meat & Poultry waste from the butchers & poultry tenants is to be collected by a contract company for recycling

- Clothing Bins - Local charities bins will be located in appropriate areas.

Organic Waste

It is recommended that all organic waste be handled and managed by the personnel responsible for all landscaping management. It is envisaged that mulching and reuse of material will be the primary use of waste material.

Co-Mingled Recycled Waste Collection Receptacles

As adopted by the "Australia and New Zealand Environment and Conservation Council" (ANZECC) colour-coded receptacles are required for the retail co-mingled recyclables. Based on the previously calculated "recyclable waste generated", it is recommended that at least two (2) pick-ups occur per week. Therefore, the waste generation per collection (max. 4 days)

These figures will be monitored by the Waste Management Contractor, and should additional co-mingled waste quantities be generated, then additional bins will be provided.

Litter Management

Public place bins will be located throughout the Centre, including car park areas and public walk ways. Cleaners will be required to patrol public areas and address any litter issues.

Public place bins will be located with reference to the Beverage Industry Environment Council's Bins (Bin Infrastructure System) model. This will ensure that bins are placed in appropriate areas and are best located to capture waste generated by visitors to the Centre.

Surrounding the site, natural barriers, such as hedges and low bushes will be planted to act as litter traps.

Centre Rules and Regulations

While Fabcot can provide effective waste management systems, the success of the

system relies heavily on the tenants. Fabcot will write into all new Centre Rules and Regulations requirements in terms of waste and recycling. It will be a condition of lease that tenants segregate their waste and recycling and that they comply with the waste and recycling systems in place.

Centre Rules and Regulations will prohibit tenants from using shopping trolleys to transport waste. Cleaners and Centre Management Staff will actively police this clause and offending tenants charged a cleaning fee. To assist tenants in managing their waste, 240 litre wheelie bins (for general or co-mingled) will be available for tenants to use within their tenancies.

Education Kit

Once the new system is implemented, Fabcot will provide all tenants with waste and recycling material. The material will contain information on the systems in place; the value in recycling; and details on issues such as contamination and environmental impacts. Tenants will also be advised about waste avoidance and simple practices they could adopt to reduce the amount of waste they generate in the first instance.

GENERAL SUMMARY OF ESTIMATED WASTE AND RECYCLABLES

The solutions noted below are indicative and will be finalised once a Waste Contractor is enagaged by Centre Management and the final number of specialty stores comprise the development. The waste management plan is a live document and will also include for monitoring and modification where required. Big W and Woolworths waste solutions will be finalised under their respective asset management agreements.

All waste and recycling quantities are shown as uncompacted equivalent volumes in cubic metres.

TYPE OF WASTE TO BE GENERATED	EXPECTED VOLUME	PROPOSED ON-SITE STORAGE & TREATMENT FACILITIES	DESTINATION
RETAIL			
Woolworths – Cardboard & Paper	1889 cubic metres	Cardboard Baler located in Woolworths dock to be cleared once per week	Waste Management contractor to transport to recycling facilities in local area
Woolworths – Plastics & Glass	640 cubic metres	Stored in appropriate segregated recpticles.	Waste Management contractor to transport to recycling facilities in local area
Woolworths – General waste (non recyclable)	518 cubic metres	Front Lift bin in the Woolworths dock to be cleared once per day for 5 days per week.	Waste Management contractor to transport to landfill site in local area

Big W – Cardboard & Paper	598 cubic metres	Cardboard baler located in Big W dock to be cleared once per fortnight	Waste Management contractor to transport to recycling facilities in local area
Big W – Plastic	120 cubic metres	Plastic baler located in Big W dock to be cleared once per fortnight	Waste Management contractor to transport to recycling facilities in local area
Big W – General waste (non recyclable)	780 cubic meters	Front Lift bin in the Big W dock to be cleared once per day for 5 days per week.	Waste Management contractor to transport to landfill site in local area
Specialty Tenants & Centre Management - Paper & Cardboard	2000 cubic metres	Cardboard compactor located in specialties shop loading dock to be cleared once per fortnight.	Waste Management contractor to transport to recycling facilities in local area
Specialty Tenants & Centre Management (non recyclable)	900 cubic metres	General Waste Compactor located in Specialty Dock to be cleared three times per fortnight.	Waste Management Contractor to transfer waste to nearest approved landfill site.
Oil – Food tenancies		Bunded oil tank in Main Waste Area in specialty dock.	Waste Management contractor to transport to recycling facilities in local area
COMMERCIAL Office paper recycling		Recycling desk boxes will be provided to each of the commercial tenants. Cleaners will be required to keep segregated paper separate and deposit into the cardboard compactor.	Waste Management contractor to transport to recycling facilities in local area

4. CONCLUSION

This Waste Management and Minimisation Plan has been prepared to assist in the assessment of the development proposal and in particular the operational components for the proposed development.