

# **WASTE MANAGEMENT PLAN**

## **DEMOLITION, CONSTRUCTION AND USE OF PREMISES**

The applicable sections of this table must be completed and submitted with your Development Application.

Completing this table will assist you in identifying the type of waste that will be generated and in advising Council how you intend to reuse, recycle or dispose of the waste.

The information provided on the form (and on your plans) will be assessed against the objectives of the DCP.

**If space is insufficient in the table, please provide attachments.**

### **Outline of Proposal**

Site Address: Lot 24 #11 Macadamia Ct, Kingswood

Applicant's name and address: Mark Zeina (MRZ Designs Pty Ltd)

Phone: 0415 867 650

Buildings and other structures currently on the site: Vacant Land

Brief Description of Proposal: Construction of 2 x Double Storey Dwellings

The details provided on this form are the intentions for managing waste relating to this project.

Date: 13.11.17

### **Estimating Waste Quantities**

In order to develop an effective waste management, plan it is necessary to determine how much waste will be involved. Excavation material and green waste need only be estimated once in either the demolition or the construction section.

If both demolition and construction is occurring then estimates for building waste such as bricks, roof tiles, timber etc must be given separate estimates in each section.

The tables below can be used as guides to assist in making estimations based on the size and type of building.

A close study of waste expectations may assist in reducing the amount of waste created through careful purchasing of materials.

#### ***DEMOLITION (tonnes)***

| <b>Building Type</b> | <b>Sandstone</b> | <b>Concrete</b> | <b>Bricks</b> | <b>Timber/<br/>Gyprock</b> | <b>Steel</b> | <b>Roof<br/>Tiles</b> | <b>Other</b> |
|----------------------|------------------|-----------------|---------------|----------------------------|--------------|-----------------------|--------------|
| Metal shed           | 0                | 0               | 0             | 0                          | 0.0          | 0                     | 0            |

#### ***CONSTRUCTION (tonnes)***

| <b>Building Type</b>          | <b>Timber</b> | <b>Concrete</b> | <b>Bricks</b> | <b>Gyprock</b> | <b>Sand/<br/>Soil</b> | <b>Metal</b> | <b>Other</b> |
|-------------------------------|---------------|-----------------|---------------|----------------|-----------------------|--------------|--------------|
| Double storey attached duplex | 1.00          | 0.30            | 0.00          | 1.3            | 1.0                   | 0.20         | 0.80         |
|                               | -             | -               | -             | -              | -                     | -            | -            |

## STAGE ONE – DEMOLITION

This is the stage with the greatest potential for waste minimization, particularly in Sydney where there are high levels of development, relatively high tipping charges and where alternative quarry materials are located on the outskirts.

Applicants should consider whether it is possible to re-use existing buildings, or parts thereof, for the proposed use.

**With careful onsite sorting and storage and by staging work programs it is possible to re-use many materials, either on-site or off-site.**

Council is seeking to move from the attitude of straight demolition to a process of selected deconstruction i.e. from “trashing the building” to “total reuse and recycling both off-site and on-site”. This could require a number of colour-coded or clearly labelled bins onsite (rather than one size fits all).

Applicants should demonstrate project management which seeks to:

- re-use of excavated material on-site and disposal of any excess to an approved site;
- green waste mulched and re-used in landscaping either on-site or off-site;
- bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site;
- plasterboard re-used in landscaping on-site, or returned to supplier for recycling;
- framing timber re-used on-site or recycled elsewhere;
- windows, doors and joinery recycled off site;
- plumbing, fittings and metal elements recycled off site;
- All Asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with the Work cover Authority and EPA requirements
- location of on-site storage facilities for material to be reused on-site, or separated for recycling offsite; and
- Destination and transportation routes of all materials to be either recycled or disposed of off-site.

**The following table should be completed by applicants proposing any demolition work. The following details should be shown on your plans**

- Location of on-site storage space for materials (for re-use) and containers for recycling and disposal.
- vehicle access to the site and to storage and container areas

## Demolition Stage One – To be completed for proposals involving demolition

| Materials On-Site                   |  | DESTINATION   |   |   |
|-------------------------------------|--|---|---|---|
|                                     |  | REUSE & RECYCLING   |   | DISPOSAL  |
| Type of Material                    | Estimated Volume (m <sup>3</sup> ) or Area (m <sup>2</sup> ) or weight (t) | <input type="checkbox"/> <b>ON-SITE</b><br>specify how materials will be reused or recycled on-site | <input type="checkbox"/> <b>OFF-SITE</b><br>specify the <u>contractor</u> and <u>recycling outlet</u> | <input type="checkbox"/> specify the <u>contractor</u> and <u>landfill site</u> |
| Plastics, PVC tubing, cardboard.    | -  | -   | -   | Nil to Land fill  |
| Excavation material                 | 3.6 m <sup>3</sup>   | -   | <b>Demolition one.</b><br>Suez Environmental recycling & waste recovery                               | -   |
| General waste                       | 2.2 m <sup>3</sup>   | -   | <b>Demolition one.</b><br>Suez Environmental recycling & waste recovery                               | -   |
| Bricks                              | -  | -   | -   | -   |
| Tiles                               | -  | -   | -   | -   |
| Concrete                            | -  | -   | -   | -   |
| Timber                              | -  | -   | -   | -   |
| Plaster board                       | -  | -   | -   | -   |
| Metals                              | -  | -   | N/A   | -   |
| Asbestos                            | -  | -   | N/A   | -   |
| Other wastes (ceramics, Tiles etc.) | -  | -   | -   | -   |

**Please explain how waste will be separated and/or stored onsite for reuse and recycling? How will site operations be managed to ensure minimal waste creation and maximum reuse and recycling?**

{e.g. Staff training, selected deconstruction v. straight demolition, waste management requirements stipulated in contracts with sub-contractors, on-going checks by site supervisors, separate area set aside for sorted wastes, clear signage of waste areas etc.}.

The builder on site will be responsible for all the managing of the waste and removals of materials. There will be site supervisor on duty the throughout the whole process. Most materials will be kept on site till adequate time is taken out to organuise waste

**Note: Details of the site area to be used for on-site separation, treatment and storage (including weather protection) should be provided on plan drawings accompanying your application.**

## **STAGE TWO - CONSTRUCTION**

### **Stage Two – Potential for Waste Minimisation during Construction Stage**

Consider the following measures that may also save resources and minimize waste at the construction stage.

- Purchasing Policy – considering measures such as ordering the right quantities of materials and prefabrication of materials where possible;
- Reusing formwork;
- Minimizing site disturbance, limiting unnecessary excavation;
- Careful source separation of off-cuts to facilitate re-use, resale or efficient recycling; □ Co-ordination/sequencing of various trades.

### **How to Estimate Quantities of Waste**

- There are many simple techniques to estimate volumes of construction and demolition waste. The information below can be used as a guide by builders, developers & homeowners when completing a waste management plan:

To Estimate Your Waste:

- ii. Quantify materials for the project
- iii. Use margin normally allowed in ordering
- iv. Copy these amount of waste into you waste management plan

- When estimating waste, the following percentages are building “rule of thumb” and relate to renovations and small home building:

| Material     | Waste as a Percent of the Total Material Ordered |
|--------------|--|
| Timber       | 5-7%   |
| Plasterboard | 5-20%  |
| Concrete     | 3-5%   |
| Bricks       | 5-10%  |
| Tiles        | 2-5%   |

### **Converting Volume into Tonnes: A Guide for Conversion**

Timber = 1.1 tonne per m3  
 Concrete = 1.1 tonne per m3  
 Bricks = 1.3 tonne per m3  
 Tiles = 1.3 tonne per m3  
 Steel = 2-4 tonne per m3  
 Plaster board = 0.8 tonne per m3  
 Fill = 1.3 tonne per m3  
 Mixed C&D Waste = 1 tonne per m3  
 Green Waste = 1 tonne per m3

### **To provide more reliable figures:**

- Compare your projected waste quantities with actual waste produced;
- Conduct waste audits of current projects;
- Note waste generated and disposal methods;
- Look at past waste disposal receipts;
- Record this information to help estimate future waste management plans.
- On a waste management plan amounts of waste may be stated in - m2 or m3 or tonnes (t).

## Construction Stage Two – For Proposals Involving Construction

| Type of Material                 | Estimated Volume (m <sup>3</sup> ) or Area (m <sup>2</sup> ) or weight (t) | Destination   |   | DISPOSAL  |
|----------------------------------|--|---|---|---|
|                                  |  | <input type="checkbox"/> <b>ON-SITE</b><br>specify how materials will be reused or recycled on-site | <input type="checkbox"/> <b>OFF-SITE</b><br>specify the <u>contractor</u> and <u>recycling outlet</u> | <input type="checkbox"/> specify the <u>contractor</u> and <u>landfill site</u> |
| Plastics, PVC tubing, cardboard. | 5.8 m <sup>3</sup>   | That will be placed in a safe location away from other materials and stored for recycling.          | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        |   |
| Bricks                           | 8.2 m <sup>3</sup>   | Re use for retaining walls and Fillings   | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        | Nil to Land fill  |
| Tiles / concrete                 | 41 m <sup>3</sup>  |   | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        | -   |
| Green waste                      | 7.5 m <sup>3</sup>   | Re use for retaining walls and Fillings   | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        | -   |
| Timber                           | 10.5 m <sup>3</sup>  | Re use for new dwellings  | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        | -   |
| Plaster board                    | 8.5 m <sup>3</sup>   | Use for general materials.  | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        | -   |
| Metals                           | 6.5 m <sup>3</sup>   |   |   | -   |
| Other waste                      | 6.0 m <sup>3</sup>   | Used to compact fill  | <b><u>Demolition one.</u></b><br>Suez Environmental recycling & waste recovery                        | -   |

{ e.g. Staff training, recycled materials used in construction, waste management requirements stipulated in contracts with sub-contractors, on-going checks by site supervisors, separate area set aside for sorted wastes, clear signage of waste areas etc }.

The builder on site will be responsible for all the managing of the waste and removals of materials. There will be site supervisor on duty the throughout the whole process. Most materials will be kept on site till adequate time is taken out to organise waste.

**Note: Details of site area to be used for on-site separation, treatment and storage (including weather protection) must be provided on plan drawings accompanying your application.**

## **STAGE THREE – DESIGN OF FACILITIES**

**The following details should be shown on your plans:**

- Location of temporary storage space within each dwelling unit;
- Location of Waste Storage and recycling Area(s), per dwelling unit or located communally onsite. In the latter case this could be a Garbage and Recycling room;
- Details of design for Waste Storage and Recycling Area(s) or Garbage and Recycling Room(s) and any conveyance or volume reduction equipment; and Location of communal composting area.
- Access for vehicles.

**Every building shall be provided with a Waste Storage and recycling Area which is flexible in size and layout to cater for future changes in use. The size is to be calculated on the basis of waste generation rates and proposed bin sizes.**

### **ON-GOING MANAGEMENT**

The builder on site will be responsible for all the managing of the waste and removals of materials. There will be site supervisor on duty throughout the whole process. Most materials will be kept on site till adequate time is taken out to organise waste.

**Describe how you intend to ensure on-going management of waste on-site (eg. lease conditions, caretaker/manager on-site).**

The builder on site will be responsible for all the managing of the waste and removals of materials. There will be site supervisor on duty throughout the whole process.