NORTHERN BEACHES COUNCIL

Waste Management Plan

(For development in the area of WLEP 2011 and WLEP 2000)

This plan is to be completed

in accordance with Council's

Waste Management Guidelines

(For development in the area of WLEP 2011 and WLEP 2000)

Effective Date: 25 October 2016

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Purpose of the Waste Management Plan

This *Waste Management Plan (WMP)* will detail the arrangements for waste management during all stages of development and occupation.

The WMP must be completed in accordance with the Waste Management Guidelines (Guidelines).

A completed WMP is a mandatory requirement for any Development Application (DA) submitted under WLEP 2011 or WLEP 2000. DAs that are submitted without a completed WMP will be rejected or refused by Council.

Structure of the Waste Management Plan

All applicants are required to complete the 'Applicant and Project Details' part of the WMP and include it with the relevant Sections that apply to their proposed development.

The WMP is divided into Sections and applicants are only required to complete the relevant Sections in accordance with the Guidelines. The table below identifies which Sections are relevant to which development types.

For example, if the proposed development was to include demolition of an existing structure and construction of a single dwelling, the relevant Sections would be Sections 1, 2 and 3.

Section	Development Type^
Section 1 – Demolition	All
Section 2 – Construction	All
Section 3 – On-going waste management for one or two dwellings	One or two dwelling developments Mixed-use developments containing one or two dwellings
Section 4 – On-going waste management for three or more dwellings	Three or more dwelling developments Mixed-use developments containing three or more dwellings
Section 5 – On-going waste management for non-residential and mixed use developments	Commercial developments Industrial developments Mixed-use developments
Section 6 – Private roadway developments	Private roadways

^Note: the definitions of the development types are provided in Section vi of the Introduction to the Guidelines

Applicant and Project Details

Complete this page and the relevant Sections that apply to your proposed development.

Applicants' Details

Name: (must be the same as the DA form)	
Address: (must be the same as the DA form)	
Phone Number:	
Email Address:	

Property Details

Lot No: Deposited Plan (DP) No: or Strata Plan (SP) No:	
Unit No: House No: Street: Suburb: Postcode:	

Project Details

Description of proposed development:	
Structures to be demolished:	

Applicant Declaration

I declare that:

1. This plan has been completed in accordance with the Waste Management Guidelines
2. To the best of my knowledge, the details on this form are accurate and correct

I understand that:

1. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as Council, NSW Environment Protection Authority or WorkCover NSW.
2. A bond in accordance with Council's fees and charges may apply to this development and must be paid to Council prior to any works commencing.
3. The bond will only be refunded when Council is satisfied that all waste outlined in this plan has been managed as per the plan, and evidence such as photos, receipts and statutory declarations must be supplied where appropriate.

Signature of Applicant: _____ Date: _____

Section 1 – Demolition

This section must be completed in accordance with 'Chapter 1 – Demolition' of the Waste Management Guidelines

MATERIALS ON SITE	**DESTINATION** *Evidence such as weighbridge dockets and invoices for waste disposal or recycling must be retained on site for inspection*					
	REUSE AND RECYCLING (MOST FAVOURABLE)				**DISPOSAL (LEAST FAVOURABLE)**	
Types of Waste Material	Estimated Volume (m^3) or Weight (t)	**ONSITE RE-USE** ✓ Specify how material will be reused on site	**OFFSITE RECYCLING** ✓ Recycling Outlet (RO) ✓ Waste Transport Contractor (WTC)		**OFFSITE DISPOSAL** ✓ Specify landfill site (LS) ✓ Specify Waste Transport Contractor (WTC)	
			WTC	RO	WTC	LS
Excavated Material						
Garden Organics						
Bricks					OPTION NOT AVAILABLE: These materials must be re-used or separated on or off site and sent for recycling.	
Tiles						
Concrete						
Timber						
Plasterboard						
Metals						
Asbestos						
Other waste (please specify)						
Estimated Total % Recovered						

Refer to the estimation tables in 'Chapter 1 – Demolition' of the Guidelines for assistance in completing this table.

The applicant must submit a Site Plan showing the structures to be demolished and storage areas for waste and construction materials (if the development also includes construction).

WMP Checklist

Have you included the following:	Applicant Tick
A site plan showing: • The structures to be demolished. • Storage areas for waste to be reused, recycled, or disposed of. • Materials storage (if the development also includes construction)	☑
The table on the previous page, completed in accordance with 'Chapter 1 – Demolition' in the guidelines.	☑

Section 2 – Construction

This section must be completed in accordance with 'Chapter 2 – Construction' of the Waste Management Guidelines

MATERIALS ON SITE	**DESTINATION** *Evidence such as weighbridge dockets and invoices for waste disposal or recycling must be retained on site for inspection*					
	REUSE AND RECYCLING (MOST FAVOURABLE)				**DISPOSAL (LEAST FAVOURABLE)**	
Types of Waste Material	Estimated Volume (m^3) or Weight (t)	**ONSITE RE-USE** ✓ Specify how material will be reused on site	**OFFSITE RECYCLING** ✓ Specify recycling outlet (RO) ✓ Specify Waste Transport Contractor (WTC)		**OFFSITE DISPOSAL** ✓ Specify landfill site (LS) ✓ Specify Waste Transport Contractor (WTC)	
* Please specify			WTC	RO	WTC	LS
Excavated Material						
Garden Organics						
Bricks					OPTION NOT AVAILABLE: These materials must be re-used or separated on or off site and sent for recycling.	
Tiles						
Concrete						
Timber*						
Plasterboard						
Metals*						
Asbestos						
Other waste*						
Estimated Total % Recovered						

Refer to the estimation tables in 'Chapter 2 – Construction' of the Guidelines for assistance in completing this table.

The applicant must submit a Site Plan showing the structures to be demolished and storage areas for waste and construction materials (if the development also includes construction).

WMP Checklist

Have you included the following:	Applicant Tick
A site plan showing: • The structures to be demolished. • Potential storage areas for waste to be reused, recycled, or disposed of. • Materials storage	☑
The table on the previous page, completed in accordance with 'Chapter 2 – Construction' in the guidelines.	☑

Section 3 – On-going waste management for one or two dwellings

This section is to be completed in accordance with 'Chapter 3 – On-going waste management for one or two dwellings' of the Waste Management Guidelines.

Type of development: RESIDENTIAL

Number of dwellings: ONE

WMP Checklist

Do your architectural and landscape plans include the following:	Applicant Tick
Waste Storage Area design requirements (Chapter 3.2.)	☑
Waste Storage Area location requirements (Chapter 3.3.)	☑

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Chapter 1 – Demolition

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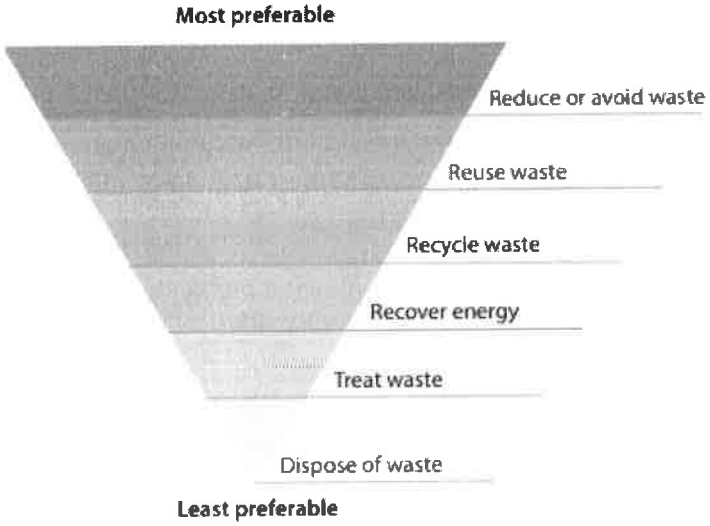
Demolition is the development stage with the greatest potential for waste minimisation. To maximise re-use and recycling of waste materials resulting from the demolition works, Council is seeking a change from a straight demolition to a process of selected deconstruction. For example, instead of putting all the waste into the same bin, the materials can be separated into different bins for re-use and recycling. This process can save the applicant money on the overall cost of the project.

Applicants must complete 'Section 1 – Demolition' of the Waste Management Plan in accordance with this Chapter. Applicants must be able to demonstrate evidence of compliance if audited.

1.1. Requirements

Applicants must demonstrate project management that seeks to:

a) Incorporate the waste hierarchy principle of avoidance, resource recovery and disposal.



b) Minimise the waste sent for disposal.
c) Minimise the impact and disturbance on surrounding amenity, public safety, roadways and natural and built environment.
d) Adhere to any relevant legislation not limited to hazardous waste, storage and transportation regulations.
e) Send waste materials to a suitably licensed facility.
f) Identify suitable locations on the site for sorting and storing of materials for re-use, recycling and disposal. Factors to consider include slopes, drainage and personnel and vehicular access.
g) Maintain valid tipping dockets and receipts on site for inspection.

1.2. Re-use and recycling opportunities

The table below provides guidance on re-use and recycling opportunities:

Material	Re-use and recycling opportunities
Excavated materials	Re-use for filling or levelling
Concrete	Re-use for filling, levelling or road base
Bricks / Pavers	Re-use or crush for landscaping and driveways
Roof Tiles	Re-use or crush for landscaping and driveways
Untreated Timber	Re-use as floorboards, fencing, furniture, mulch or send to second -hand timber suppliers
Treated Timber	Re-use as formwork, bridging, blocking and propping and send to second -hand timber suppliers
Doors / Windows / Fittings	Send to second- hand suppliers, or recycle.
Metals	Re-use or recycle
Green Waste	Mulch or compost
Plasterboard	Re-use for landscaping, recycle or return to supplier
Carpet	Recycle or re-use in landscaping
Plastics / Rubber	Re-use or recycle

The closest waste and recycling facility to Northern Beaches Council is Kimbriki Resource Recovery Centre located in Terrey Hills, see website http://www.kimbriki.com.au/

Another comprehensive database resource is Planet Ark's Business Recycling hotline 1300 763 768 or website http://businessrecycling.com.au/

1.3. Estimating demolition waste

The table below provides estimates of likely construction waste for several different development types.

	Estimated Demolition Waste Quantities (per dwelling)			Estimated Demolition Waste Quantities (per 1000m^3)		
Material	**One Bedroom Brick and Fibre board House**	**Three Bedroom Brick House**	**Three Bedroom Weatherboard House**	**Residential Flats**	**Industrial Factory**	**Office Block**

Brick	3 to 5 m^3	10 to 15 m^3	N/A	504 m^3	158 m^3	1142 m^3
Concrete	4 m^3	4 m^3	20 to 30 m^3	739 m^3	407 m^3	6736 m^3
Timber	5 to 10 m^3	12 to 15 m^3	7 to 15 m^3	10 m^3	2 m^3	56 m^3
Metal	1 to 2 m^3	N/A	20 to 25 m^3	14 m^3	35 m^3	45 m^3
Plasterboard	N/A	10 to 15 m^3	4 to 6 m^3	15 m^3	3 m^3	83 m^3
General Waste	10 to 15 m^3	N/A	N/A	26 m^3	18 m^3	155 m^3
Roof Tiles	N/A	7 to 9 m^3	N/A	25 m^3	N/A	N/A
Asbestos	Variable m^3	N/A	N/A	N/A	N/A	N/A

1.4. Waste conversion factors

The conversion factors outlined below will act as a guide to help estimate waste quantities.

Material	Conversion Factor (Tonnes per m^3)	Conversion Factor (m^3 per tonne)
Bricks	1.3 t = 1m^3	0.8 m^3 =1t
Concrete	1.1 t = 1m^3	0.9 m^3 =1t
General	1 t = 1m^3	1 m^3 =1t
Green Waste	1 t = 1m^3	1 m^3 =1t
Plasterboard	0.75 t = 1m^3	1.3 m^3 =1t
Steel	0.65 t = 1m^3	1.5 m^3 =1t
Tiles	1.3 t = 1m^3	0.8 m^3 =1t
Timber	1.1 t = 1m^3	0.9 m^3 =1t

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Chapter 2 – Construction

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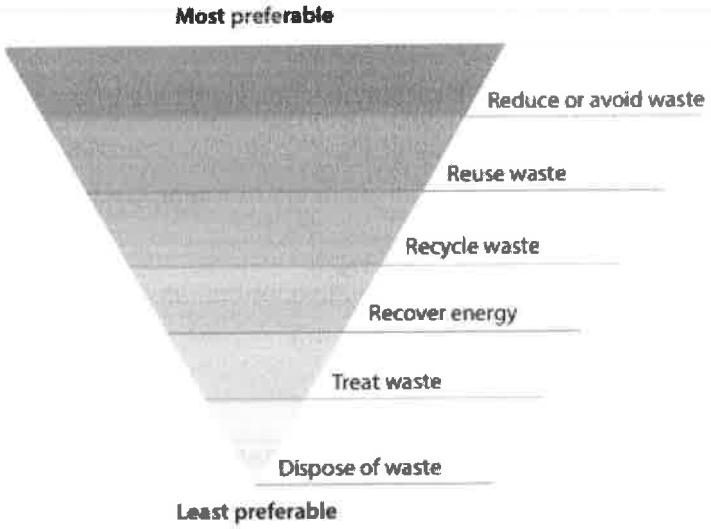
The construction stage has the potential to reduce the amount of waste generated if building materials are better estimated. Applicants should also consider whether it is possible to re-use and recycle waste resulting from the construction works. This process can save the applicant money on the overall cost of the project.

Applicants must complete 'Section 2 – Construction' of the Waste Management Plan in accordance with this Chapter. Applicants must be able to demonstrate evidence of compliance if audited.

2.1. Requirements

Applicants must demonstrate project management that aims to:

a) Incorporate the waste hierarchy principle:



b) Minimise the waste sent for disposal
c) Minimise the impact and disturbance it has on surrounding amenity, public safety, roadways and natural and built environment
d) Comply with relevant legislation (refer to the Introduction xii)
e) Send waste materials to a suitably licensed facility
f) Identify suitable locations on the site for sorting and storing of materials for re-use, recycling and disposal. (Factors to consider include slopes, drainage and personnel and vehicular access)
g) Maintain valid tipping dockets and receipts on site for inspection

2.2. Re-use and recycling opportunities

The table below provides guidance on re-use and recycling opportunities:

Material	Re-use and recycling opportunities
Excavated materials	Re-use for filling or levelling
Concrete	Re-use for filling, levelling or road base
Bricks / Pavers	Re-use or crush for landscaping and driveways
Roof Tiles	Re-use or crush for landscaping and driveways
Untreated Timber	Re-use as floorboards, fencing, furniture, mulch or send to second -hand timber suppliers
Treated Timber	Re-use as formwork, bridging, blocking and propping and send to second -hand timber suppliers
Doors / Windows / Fittings	Send to second- hand suppliers, or recycle.
Metals	Re-use or recycle
Green Waste	Mulch or compost
Plasterboard	Re-use for landscaping, recycle or return to supplier
Carpet	Recycle or re-use in landscaping
Plastics / Rubber	Re-use or recycle

The closest waste and recycling facility to Northern Beaches Council is Kimbriki Resource Recovery Centre located in Terrey Hills, see website http://www.kimbriki.com.au/

Another comprehensive database resource is Planet Ark's Business Recycling hotline 1300 763 768 or website http://businessrecycling.com.au/

2.3. Estimating construction waste

The table below provides estimates of likely construction waste for several different development types.

	Estimated Construction Waste Quantities (per dwelling)			Estimated Construction Waste Quantities (per 100m^3)
Material	**Residential One Storey Dwelling**	**Residential Two Storey Dwelling**	**Multi Unit Dwellings** (Five to six units and less than four storey's high.	**Industrial / Factory**

Bricks	1 to 3 m^3	2.5 to 4.5 m^3	3 to 4 m^3	1 to 2 m^3
Tiles	0.5 to 2.5 m^3	1 to 2.5 m^3		N/A
Concrete	0 to 0.5 m^3	0 to 0.5 m^3	6 to 7 m^3	2 to 3 m^3
Plasterboard	0.5 to 1.5 m^3	0.5 to 1.5 m^3	1 to 2 m^3	N/A
Timber	0.5 to 3 m^3	1 to 3 m^3	1 to 2 m^3	1 to 3 m^3
Metal	N/A	N/A	1 to 2 m^3	2 to 3 m^3
Roof Sheeting	N/A	N/A	N/A	3 m^3
Other Waste	0.5 to 3 m^3	1 to 3 m^3	10 to 15 m^3	10 m^3

Source: McGregor Environmental Services (2000) Predicting C&D waste quantities in the Inner Sydney Waste Board

2.4. Conversion table

The table below may assist in converting quantities estimated in table 1.4 into tonnes for disposal purposes.

Material	Conversion Factor (Tonnes per m^3)	Conversion Factor (m^3 per tonne)
Bricks	1.3 t = 1m^3	0.8 m^3 =1t
Concrete	1.1 t = 1m^3	0.9 m^3 =1t
General	1 t = 1m^3	1 m^3 =1t
Green Waste	1 t = 1m^3	1 m^3 =1t
Plasterboard	0.75 t = 1m^3	1.3 m^3 =1t
Steel	0.65 t = 1m^3	1.5 m^3 =1t
Tiles	1.3 t = 1m^3	0.8 m^3 =1t
Timber	1.1 t = 1m^3	0.9 m^3 =1t

Source: The Hills Council's Waste Management Plan

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Chapter 3 – On-going waste management for one or two dwellings

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This Chapter covers the on-going waste management requirements for proposed developments of one or two dwellings.

Applicants must complete 'Section 3 – On-going waste management for one or two dwellings' of the Waste Management Plan in accordance with this Chapter.

3.1. Outline of dwelling types

Under WLEP 2011 and WLEP 2000, a development with only one or two dwellings can include but is not limited to:

- Single dwellings
- Group homes with up to 10 bedrooms (more than 10 bedrooms, see Chapter 4)
- Dual occupancy dwellings
- Semi-detached dwellings
- Mixed-use developments (containing one or two dwellings)

3.2. Waste Storage Area design requirements

The design of the Waste Storage Area will:

a) Be a designated area within the property to accommodate Council's allocated number of waste and recycling containers.
b) Be practical and free of obstructions.
c) Have a minimum area for 4 containers per dwelling. The dimensions for each container are:
    - Depth: 750mm
    - Width: 650mm
    - Height: 1600mm.

    Note: Group homes with 5 - 10 bedrooms will be considered as two dwellings.
d) Be in accordance with the BCA, relevant AS and legislation detailed in Chapter xii of Waste Management Guidelines

3.3. Waste Storage Area location requirements

The location of the Waste Storage Area will:

a) Permit easy, direct and convenient access for the residents.
b) Be incorporated entirely within the site boundary and not visible to the public.
c) Be no closer than 3m from any dwelling openings.

d) Be clear of any stormwater system and prevent waste water from entering the stormwater system.

3.4. Example of an appropriate Waste Storage Area

Below is an example of a Waste Storage Area for a single dwelling, including the collection point at the kerbside. Bins are to be presented at the collection point prior to collection (in accordance with Council's Waste & Recycling Calendar) and returned as soon as practical after collection to the Waste Storage Area.

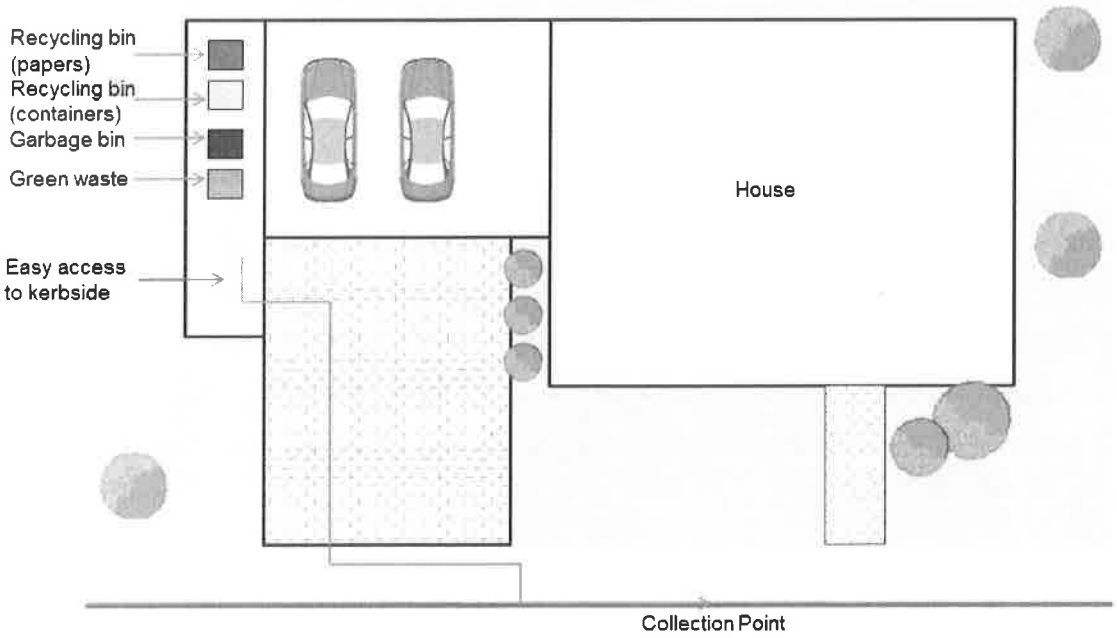

Figure 1: Example of an appropriate Waste Storage Area