



Waste and Recycling Management Plan  
Katoomba Christian Convention

Katoomba, NSW

Prepared for:  
**Katoomba Christian Convention Ltd**

Prepared by:  
**MEtech Consulting Pty Ltd**

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# 1 Introduction

## 1.1 Preamble

MEtech Consulting Pty Ltd was commissioned to prepare a Waste and Recycling Management Plan (WMP) of the property located at 119 Cliff Street, Katoomba, NSW (hereafter referred to as “the Site”). The Site is described as Lot 5 in Depositional Plan 222736, occupying an area of approximately 5.4 ha.

The location of the Site is shown in **Figure 1** with the proposed layout shown in **Figure 2**.

This WMP has been prepared to support the Development Application to Blue Mountains City Council for the redevelopment of the Katoomba Christian Convention.

## 1.2 Scope

This WMP applies to the demolition, construction and recommendations for the on-going operation of the proposed development.

This WMP has been prepared making reference to architectural drawings supplied by NBRS Architecture (Ref. 14289-DA, 22 May 2017).

The provisions contained in the WMP are to be implemented at all stages of the development, and may be subject to review upon expansion or changes in operational procedures.

This WMP has been divided into Design and Management (refer **Section 3**), which addresses the requirements of the ‘Stage 1 Waste Management Strategy Design’ as outlined in Appendix 1 of the Blue Mountain City Council’s *Waste Management Strategies for Development Guide*, and Generation and Avoidance (refer **Section 4**), which addresses the requirements of the ‘Stage 2 Waste Management Strategy Demolition & Construction’ as outlined in Appendix 1 of the Blue Mountain City Council’s *Waste Management Strategies for Development Guide*.

## 1.3 Objectives

The objectives of this WMP are to:

- Identify potential wastes likely to be generated at the Site during the demolition, construction and operational phases of the redevelopment, including a description of how waste would be handled, processed and disposed of (or re-used/recycled), in accordance with Council requirements;
- Encourage the minimisation of waste production and maximisation of resource recovery;
- Ensure the appropriate management of contaminated/hazardous waste;
- Identify procedures and chain of custody records for waste management; and
- Assist in ensuring that any environmental impacts during the development comply with Council’s development consent conditions and other relevant authorities.

## 1.4 Project Description

The Site is currently occupied by a number of buildings including lodging, restroom and dining facilities, as well as an auditorium and bookshop.

Due to the considerable extent of the proposed works, the development is proposed to be undertaken in three (3) consecutive stages (refer **Figure 2**).

The first stage of works, Stage 1, will comprise the demolition of: the existing auditorium and bookshop; “Plaza cottage” multi-purpose building; two restroom facilities and a store room; and minor earthworks to facilitate the levelling of ground surfaces required for the construction of a new auditorium (refer **Section 4.3.1**). Following demolition and site preparation, Stage 1 will consist of the construction of the following:

- A new auditorium and 2-storey bookshop/lounge area comprising: one green room; one dressing room; four store rooms; one kitchen; one male and one female bathroom facility; one bookshop and four lounge areas;
- Four additional single-storey lounge areas (“breakout spaces”) comprising: four kitchenettes (one in each of the spaces); and two male and two female bathroom facilities;
- One single-storey reception building comprising a reception room and two store rooms;
- Two 2-storey eco lodges, each comprising: two lounge areas; six dormitories with internal bathrooms; four guest accommodation rooms with internal bathrooms; three balconies and one terrace (refer **Section 4.4.1**).

The second stage of works, Stage 2, will comprise the demolition of: the existing dining facility, “Wollemi House” guest lodging, “Megalong” guest lodging, “Jamison” guest lodging, a store room and a restroom facility (refer **Section 4.3.2**). Following demolition and site preparation, Stage 2 will consist of the construction of four additional 2-storey eco lodges, each comprising: two lounge areas; six dormitories with internal bathrooms; four guest accommodation rooms with internal bathrooms; three balconies and one terrace (refer **Section 4.4.2**).

The final stage of works, Stage 3, will comprise the demolition of “The Lodge” guest lodging and earthworks to facilitate the levelling of ground surfaces required for the construction of a new dining facility (refer **Section 4.3.3**). Following demolition and site preparation, Stage 3 will consist of the construction of the following:

- Three 2-storey eco chalets, each comprising: one kitchen; one lounge area; six guest accommodation rooms with internal bathrooms; one balcony and one terrace.
- One two-storey multi-purpose dining and administration facility comprising: one reception room; one administration room; three male and three female bathroom facilities; one dining hall and two associated foyers; one kitchen; one office; two cold stores; two dry stores; one freezer; one garbage room; a goods lift and two cleaner’s closets; and
- One single-storey café comprising one café and associated bathroom facility; one dry store and one cool store (refer **Section 4.4.3**).

## 2 Waste Management and Recycling

Waste and resource consumption is a major environmental issue and a priority for all of Australia and particularly the Blue Mountains area, as the community only owns one site which is suitable for landfill operation (refer **Section 4.8**).

### 2.1 Waste Management Hierarchy

This WMP aims to meet the principles of the waste management hierarchy by promoting waste as a resource through the following in order of preference:

- *Waste avoidance* through prevention or reduction of waste generation. Noting that waste avoidance is best achieved through better design and purchasing choices.
- *Waste reuse*, without substantially changing the form of waste.
- *Waste recycling* through the treatment of waste that is no longer usable in its current form to produce new products.
- *Energy recovery* through thermal treatment of residual waste materials and from green waste processing.
- *Waste disposal*, in a manner that causes the least harm to the natural environment.

### 2.2 Benefits of Implementing Better Practice for Waste Management and Recycling

The primary benefits of implementing a WMP strategy include:

- Enhanced social and environmental reputation of an organisation;
- Reduced costs associated with waste disposal;
- Benefits to all stakeholders and the wider community; and
- Improved environmental outcomes.

### 2.3 Waste Legislation and Guidance

The legislation and guidance outlined in **Table 2.1** forms the basis for the waste management strategies and requirements outlined in this WMP.

**Table 2.1: Waste Legislation and Guidance**

| Legislation                                    | Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste Avoidance and Resource Recovery Act 2001 | <p>To promote extended producer responsibility in place of industry waste reduction plans. Specific objectives include:</p> <ul style="list-style-type: none"><li>• To encourage efficient use of resources.</li><li>• To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste.</li><li>• To ensure that industry shares with the community the responsibility for reducing and dealing with waste.</li></ul> |

| Legislation                                                                   | Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                               | <ul style="list-style-type: none"> <li>To ensure the efficient funding of waste and resource management planning, programs and service delivery.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Protection of the Environment Operations Act (POEO) 1997 & Amendment Act 2011 | <p>Administered by the Environmental Protection Authority (EPA) to enable the Government to establish instruments for setting environmental standards, goals, protocols and guidelines.</p> <p><i>Important note:</i> The owner of a premises, the employer or any person carrying on the activity which causes a pollution incident is to immediately notify the relevant authorities. A list of each relevant authority is provided in the POEO Amendment Act and will be noted in the Site's incident register.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| POEO (Waste) Regulation 2014                                                  | Contains provisions relating to the waste levy, waste tracking, management requirements for certain waste types, payment schemes for councils, consumer packaging recycling and other miscellaneous provisions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| NSW EPA's Waste Classification Guidelines (Part 1) 2014                       | To assist waste generators to effectively classify, manage, treat and dispose of waste to ensure the environmental and human health risks associated with waste are managed appropriately and in accordance with the POEO Act and is associated regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Building Code of Australia (BCA) and relevant Australian Standards (AS)       | The BCA (and AS) have the aim of achieving nationally consistent, minimum necessary standards of relevant health and safety, amenity and sustainability objectives efficiently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Blue Mountains City Council Development Control Plan (DCP) 2015               | <p>Contains general provisions for new developments in the Blue Mountains City Council Local Government Area (LGA). Relevant provisions to the WMP include:</p> <ul style="list-style-type: none"> <li>E2.3 Access – Issues such as access and egress in medical or bush fire emergencies, waste collection, convenience of users and visitors are important considerations. <ul style="list-style-type: none"> <li>E2.3.2 Unformed Public Roads – The road and pavement construction must incorporate adequate turning facilities for emergency, bush fire and waste collections vehicles to enter and leave in a forward direction.</li> </ul> </li> <li>E4.5 Demolition Management – Demolition waste is to be managed and disposed of in accordance with E6 Waste Management of this DCP.</li> <li>E6.1 Waste Management Objectives: <ul style="list-style-type: none"> <li>O1. To ensure waste minimisation by encouraging resource use, recovery and recycling during demolition, construction and for the ongoing life of the development.</li> <li>O2. To ensure waste systems are functional and accessible, allowing for safe and efficient storage, collection and disposal of demolition, construction and operational waste.</li> <li>O3. To ensure that waste storage and collection facilities are located and designed to protect the health and amenity of occupants, collectors and the natural environment.</li> <li>O4. To ensure that waste storage and collection facilities are located and designed to be compatible with streetscape character.</li> </ul> </li> <li>E6.2 Waste Management Plan: <ul style="list-style-type: none"> <li>C1. With the exception of low density residential development, a completed waste management plan is to be submitted with development applications involving: demolition; or construction of a new building; or a change of use or alterations/additions to existing premises.</li> </ul> </li> </ul> |

| Legislation                                                                                                      | Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                  | <ul style="list-style-type: none"> <li>- C2. A waste management plan is to be prepared in accordance with the Blue Mountains City Council Waste Management Strategy for Development Guide.</li> <li>• E6.3 Demolition and Construction Waste – encourages applicant to consider possible adaptive reuse opportunities of existing buildings/structures and the reuse of materials or parts thereof, as well as waste sensitive construction techniques and management practices.</li> <li>• E6.4 Operational Waste Management – provides controls for planning and coordination of waste management and removal.</li> </ul> |
| Blue Mountain City Council's Waste Management Strategies for Development Guide                                   | Council's Waste Management Strategies for Development Guide provides waste management strategies to promote environmentally responsible waste reduction in the Blue Mountains Local Government Area.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012 | The NSW EPA's Better Practice Guidelines 2012 provides advice to help architects, developers, council staff and building managers to incorporate better waste management practice into the design, establishment, operation and ongoing management of waste services in commercial and industrial developments.                                                                                                                                                                                                                                                                                                             |
| NSW EPA's Waste Avoidance and Resource Recovery (WARR) Strategy 2014-21                                          | A key component of the State Government's vision for the environmental and economic future of the state that will be supported financially by the <i>Waste Less, Recycle More</i> funding initiative providing long-term targets for 6 key result areas including reduced illegal dumping.                                                                                                                                                                                                                                                                                                                                  |

### 3 Design and Management

This section outlines waste considerations in the design of the development and addresses operational waste management considerations, including arrangements for ongoing waste service collection, addresses the requirements of the 'Stage 1 Waste Management Strategy Design' as outlined in Appendix 1 of the Blue Mountain City Council's *Waste Management Strategies for Development Guide*.

#### 3.1 Construction Design

Facilities for garbage and recycling are essential aspects of a building that are often overlooked. A small amount of planning in the design stage saves a great deal of difficulty and inconvenience for residents, building managers and collection crews throughout the future life of the building.

The proposed development is designed to generate comparatively small amounts of waste. It is intended that much of the new works will utilise prefabricated components and finishes to minimise waste that would typically be produced in a traditional onsite construction process. Efforts will be made to minimise off-site disposal. When off-site disposal is required, it will be done so with careful consideration of any reuse or recycling opportunities (outlined in **Section 4.4**).

The following design techniques have been considered in the proposed development:

- The appropriate location of waste management facilities.
- Design to standard material sizes to reduce potential generation of waste.
- Use of pre-cut/prefabricated material.
- Use of basic designs to reduce the need for off-cuts.
- Use of resource efficient building materials.
- Ply cladding from sustainably sourced timber.
- Use of recycled glass and steel.
- Use of glazed windows to improve thermal performance and reduce energy input.
- Potential re-use off-cuts in building design

#### 3.2 Ongoing Management

The proposed development is a place of public worship and visitor accommodation, which hosts approximately six (6) large conventions annually. Waste generation during conventions will be relatively high compared to typical weekly waste generation rates. This section outlines both typical waste generation rates and maximum waste generation rates that may be experienced during conventions.

##### 3.2.1 Operational Waste Generation Rates

The NSW EPA's *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* provides estimates for waste generation rates based on types of premises.

Based on an evaluation of the proposed development and with reference to the parameters of the premise types identified in these guidelines, the following comparison premises have been adopted for this WMP:

- Lodging and administration facilities: 'Backpackers accommodation, boarding house, guest house' premises.
- Auditorium, bookshop and lounge areas: 'Tertiary education' premises.

Details of the estimated waste generation rates for each type of premise are outlined in **Table 3.1**.

**Table 3.1: Guideline Waste Generation Rates**

| Type of Premises                                       | Average L per 100 m <sup>2</sup> per day |                      |
|--------------------------------------------------------|------------------------------------------|----------------------|
|                                                        | Waste Generation                         | Recycling Generation |
| Backpackers accommodation, boarding house, guest house | 30                                       | 10                   |
| Tertiary education                                     | 25                                       | 3                    |

### 3.2.2 Estimation of Operational Waste Volumes

The proposed development is a place of public worship and visitor accommodation, which hosts approximately six (6) large conventions annually. Waste generation during conventions will be relatively high compared to typical weekly waste generation rates.

Using the waste generation rates provided in **Table 3.1** and floor areas provided for the development (refer **Figure 3**), typical weekly waste generation volumes and maximum convention waste generation volumes for the proposed development have been calculated and are provided below in **Table 3.2**.

**Table 3.2: Anticipated Operational Waste Generation Rates**

| Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             | Approximate Size (m <sup>2</sup> ) | Typical (L/wk) <sup>2</sup> |                      | Convention (L/wk) <sup>3</sup> |                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------|-----------------------------|----------------------|--------------------------------|----------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |                                    | Garbage Generation          | Recycling Generation | Garbage Generation             | Recycling Generation |
| Collection Area A <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Auditorium                  | 2,520                              | 0                           | 0                    | 1,890                          | 230                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Bookshop / meeting facility | 2,035                              | 0                           | 0                    | 1,525                          | 180                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | “Breakout space” #1         | 315                                | 0                           | 0                    | 235                            | 30                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | “Breakout space” #2         | 315                                | 0                           | 0                    | 235                            | 30                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | “Breakout space” #3         | 315                                | 0                           | 0                    | 235                            | 30                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Reception                   | 100                                | 0                           | 0                    | 75                             | 10                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco lodge #1                | 630                                | 660                         | 220                  | 945                            | 315                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco lodge #2                | 630                                | 660                         | 220                  | 945                            | 315                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco lodge #3                | 630                                | 660                         | 220                  | 945                            | 315                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Total</b>                | -                                  | <b>1,980</b>                | <b>660</b>           | <b>7,030</b>                   | <b>1,455</b>         |
| Collection Area B <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Eco lodge #4                | 630                                | 660                         | 220                  | 945                            | 315                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco lodge #5                | 630                                | 660                         | 220                  | 945                            | 315                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco lodge #6                | 630                                | 660                         | 220                  | 945                            | 315                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco chalet #1               | 385                                | 405                         | 135                  | 575                            | 195                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco chalet #2               | 385                                | 405                         | 135                  | 575                            | 195                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eco chalet #3               | 385                                | 405                         | 135                  | 575                            | 195                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Dining/admin                | 1,765                              | 2650                        | 880                  | 3705                           | 1235                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Café                        | 135                                | 200                         | 65                   | 285                            | 95                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Total</b>                | -                                  | <b>6,045</b>                | <b>2,010</b>         | <b>8,550</b>                   | <b>2,860</b>         |
| <sup>1</sup> Buildings are grouped according to waste Collection Areas, as outlined <b>Figure 3</b> .<br><sup>2</sup> Average (L/wk) considers that some areas of the proposed development are only used occasionally during conventions. Auditorium, bookshop / meeting facility, “breakout space” #1-3 and Reception are only used during conventions. Eco lodge #1-6 and Eco chalet #1-3 weekly averages are based on 50% capacity for guest lodging. Dining/admin and café weekly averages are based on 5 times per weekly use.<br><sup>3</sup> Convention (L/wk) considers the waste generated by guests of convention events in addition to typical waste generation. Auditorium, bookshop / meeting facility, “breakout space” #1-3 and Reception are based on 3 days use. Eco lodge #1-6 and Eco chalet #1-3 convention rates are based on full capacity for guest lodging. Dining/admin and café convention rates are based on 7 times per weekly use. |                             |                                    |                             |                      |                                |                      |

It is noted that all waste generation rates are approximate only.

### 3.2.3 Waste and Recycling Storage

The proposed development is to include designated waste and recycling storage areas designed in accordance with Appendix F (Waste Management Plan Checklists - Design Phase) of the *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*.

Space is to be provided for the storage of all waste and recycling generated by the development in the designated bin areas.

The proposed areas for waste storage during the ongoing use of the premises are shown in **Figure 3** with the proposed areas for waste storage during the construction and demolition phases shown in **Figure 4**.

The Katoomba Christian Convention should establish and/or maintain a valid contract with a licensed waste contractor (currently Cleanaway Pty Ltd for general waste and Grasshopper Environmental Pty Ltd for recycling) for the regular collection and disposal of the waste and recyclables that are generated on site. The Katoomba Christian Convention should keep written evidence of these contracts on site.

Arrangements should be in place for all parts of the development for the separation of recyclable materials from general waste. The type and volume of containers used to hold waste and recyclable materials should be compatible with the collection practices of the nominated waste contractor.

The locations of the interim waste storage areas that are to be provided in each building are shown in **Figure 3**.

The waste/recycling storage areas should be able to accommodate bins that are of sufficient volume to contain the quantity of waste generated between collections (refer **Table 3.2**).

Bin sizes and specifications vary according to type of equipment and manufacturer. A full list of bin types and dimensions is available in Appendix B (Waste Management Equipment) of the *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*.

**Table 3.3** offers suggested bin arrangements that are of sufficient volume to contain the estimated quantities of waste generated in one week under typical conditions.

**Table 3.3: Suggested Bin Arrangements – Typical**

| Collection Area | Suggested Type of Bin                                          | Bin footprints                                                   | Total bin storage area required                             | Area required considering maneuvering space                        |
|-----------------|----------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------|
| A               | Garbage: 1 x 2m <sup>2</sup><br>Recycling: 1 x 660L            | 2m <sup>3</sup> - 2.6m <sup>2</sup><br>660L - 1.16m <sup>2</sup> | Garbage: 2.6m <sup>2</sup><br>Recycling: 1.16m <sup>2</sup> | (2.6m <sup>2</sup> + 1.16m <sup>2</sup> ) x 2 = 7.52m <sup>2</sup> |
| B               | Garbage: 3 x 3m <sup>2</sup><br>Recycling: 1 x 3m <sup>2</sup> | 3m <sup>3</sup> - 2.7m <sup>2</sup>                              | Garbage: 8.1m <sup>2</sup><br>Recycling: 2.7m <sup>2</sup>  | (8.1m <sup>2</sup> + 2.7m <sup>2</sup> ) x 2 = 21.6m <sup>2</sup>  |

**Table 3.4** offers suggested additional bin arrangements that (in addition to the bins listed in the previous table) are of sufficient volume to contain the estimated quantities of waste generated in one week while a convention is being held. It is understood that the Katoomba Christian Convention will arrange for temporary additional bins during these events.

**Table 3.4: Suggested Additional Bin Arrangements – Convention**

| Collection Area | Suggested Type of Bin                                | Bin footprints                                                   | Additional bin storage area required                       | Additional area required considering maneuvering space               |
|-----------------|------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------|
| A               | Garbage: 2 x 3m <sup>2</sup><br>Recycling: 1 x 1100L | 3m <sup>3</sup> - 2.7m <sup>2</sup><br>1100L - 1.7m <sup>2</sup> | Garbage: 5.4m <sup>2</sup><br>Recycling: 1.7m <sup>2</sup> | (5.4m <sup>2</sup> + 1.7m <sup>2</sup> ) x 2 =<br>14.2m <sup>2</sup> |
| B               | No additional bins required.                         | -                                                                | -                                                          | -                                                                    |

### 3.2.4 Signage

Waste management measures should be clearly communicated to building managers, administration and cleaners. The following communication strategies should be considered:

- Use consistent signage and colour coding throughout the development in accordance with the requirements of Appendix E of the NSW EPA's *Better Practice Guidelines Waste Management and Recycling in Commercial and Industrial Facilities*.
- Ensure all staff are trained in correct waste separation and management procedures.
- Provide directional signage to show location of and routes to waste storage areas in accordance with the requirements of Appendix E of the NSW EPA's *Better Practice Guidelines Waste Management and Recycling in Commercial and Industrial Facilities*.
- Co-mingled and general waste bins should be clearly labelled to ensure no cross contamination.
- The Katoomba Christian Convention should adhere to the WMP for compliance, in consultation with direction from the Management's Representative (refer **Section 3.2.5**).

### 3.2.5 Responsibilities

The responsibilities for the implementation of the WMP are outlined in **Table 3.5**, although the Management Representative is ultimately responsible for compliance with Council requirements and the allocation of waste responsibilities to employees and contractors.

**Table 3.5: Waste Management Responsibility Allocation**

| Responsible Person               | General Tasks                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management Representative        | Ensure the WMP is implemented during the ongoing use of the premises.                                                                                                                                                                                                                                                                                  |
|                                  | Update the WMP on a regular basis (e.g. annually) to ensure the Plan remains applicable.                                                                                                                                                                                                                                                               |
|                                  | Undertake liaison and management of waste collections during the ongoing use of the premises.                                                                                                                                                                                                                                                          |
|                                  | Organise internal waste audits on a regular basis.                                                                                                                                                                                                                                                                                                     |
|                                  | Manage any waste-related complaints and non-compliances reported through waste audits etc.                                                                                                                                                                                                                                                             |
|                                  | Prepare and implement operational and maintenance plans to ensure: <ul style="list-style-type: none"> <li>• Waste storage areas and equipment are kept clean and in good condition;</li> <li>• Bins are not overfilled;</li> <li>• Signage remains clean, clear and applicable; and</li> <li>• Interim garbage holding areas are kept tidy.</li> </ul> |
|                                  | Establish and/or maintain contracts for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.                                                                                                                                                                                           |
| Cleaners / Site Building Manager | Retain a copy of this WMP and copies of all waste disposal receipts.                                                                                                                                                                                                                                                                                   |
|                                  | Transport of bins to and from the bin holding areas as required.                                                                                                                                                                                                                                                                                       |
| Cleaners / Employees             | Cleaning of bins and waste and recycling rooms on a weekly basis or as required.                                                                                                                                                                                                                                                                       |
|                                  | Removal of general waste, recyclables, cardboard waste, bulk waste and e-waste, and hazardous waste from interim collection areas around the Site to the waste and recycling storage areas on a daily basis or as required.                                                                                                                            |
| Gardening Contractor             | Removal of all garden organics waste generated during gardening maintenance activities for recycling at an offsite location or reuse as organic mulch on landscaped gardens.                                                                                                                                                                           |
| Building Contractor              | Ensure the WMP is implemented during the construction and demolition phases of the development.                                                                                                                                                                                                                                                        |
|                                  | Update the WMP as necessary as further details of building plans become available to ensure the Plan remains applicable.                                                                                                                                                                                                                               |
|                                  | Undertake liaison and management of waste collections during the construction and demolition phases of the development.                                                                                                                                                                                                                                |
|                                  | Inform employees and subcontractors of Site waste management procedures.                                                                                                                                                                                                                                                                               |
|                                  | Keep a copy of this WMP and copies of all waste disposal dockets onsite.                                                                                                                                                                                                                                                                               |

## 4 Generation and Avoidance

The demolition and construction phases of developments have the greatest potential for waste minimisation. This section outlines waste estimates and management of site wastes during the demolition and construction phases of the redevelopment, and addresses the requirements of the 'Stage 2 Waste Management Strategy Demolition & Construction' as outlined in Appendix 1 of the Blue Mountain City Council's *Waste Management Strategies for Development Guide*.

### 4.1 Waste Generation Rates

The Building Contractor should record the types and quantities (including the volume and weight) of wastes produced during the demolition and construction phases of the development, and on this basis, the numbers and capacity of skips/bins can be determined.

A guide/estimate of the potential waste percentages is provided based on "rule of thumb" waste generation rates for demolition and construction projects, as indicated in **Table 4.1**.

**Table 4.1: Guideline Waste Generation Rates**

| Guideline Waste Generation Rates for Earthworks <sup>A</sup>                                                                                                                          |                            |                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------|
| Material                                                                                                                                                                              | Estimated Waste            | Volume / Weight Ratios (tonnes per m <sup>3</sup> ) |
| Soil / Rubble                                                                                                                                                                         | 100 %                      | 1.4 tonnes per m <sup>3</sup>                       |
| Guideline Waste Generation Rates for Demolition <sup>B</sup>                                                                                                                          |                            |                                                     |
| Waste material                                                                                                                                                                        | Older residential dwelling | New residential dwelling                            |
| Bricks and concrete/mortar                                                                                                                                                            | 44%                        | 68%                                                 |
| Internal walls/ceilings                                                                                                                                                               | 2%                         | 8%                                                  |
| Fittings: bathroom, kitchen, lights                                                                                                                                                   | 2%                         | 2%                                                  |
| Floor coverings: carpets, tiles                                                                                                                                                       | 2%                         | 2%                                                  |
| Metals/plastics/glass                                                                                                                                                                 | 5%                         | 2%                                                  |
| Timber                                                                                                                                                                                | 35%                        | 10%                                                 |
| Roof tiles                                                                                                                                                                            | 10%                        | 8%                                                  |
| Guideline Waste Generation Rates for Construction <sup>C</sup>                                                                                                                        |                            |                                                     |
| Material                                                                                                                                                                              | Estimated Waste            |                                                     |
| Timber                                                                                                                                                                                | 5-7% of material ordered   |                                                     |
| Plasterboard                                                                                                                                                                          | 5-20% of material ordered  |                                                     |
| Concrete                                                                                                                                                                              | 3-5% of material ordered   |                                                     |
| Bricks                                                                                                                                                                                | 5-10% of material ordered  |                                                     |
| Tiles                                                                                                                                                                                 | 2-5% of material ordered   |                                                     |
| <sup>A</sup> UK WRAP 2014.                                                                                                                                                            |                            |                                                     |
| <sup>B</sup> Reddrop et al. 1997, <i>Housing construction waste: A research study by the National Key Centre for Design at RMIT</i> (Australian Government Public Service, Canberra). |                            |                                                     |
| <sup>C</sup> Inner Sydney Waste Board 1998, <i>Waste Planning Guide for Development Application</i> .                                                                                 |                            |                                                     |

## 4.2 Excavation Works

The volume and corresponding weight of excavated materials resulting from the proposed development has been estimated based on the approximate area and height of the ground level of the dining facility and overlying foyer and are provided below in **Table 4.2**.

**Table 4.2: Estimated Tonnes of Excavated Soil / Rock Generated**

| Bulk Earthworks         | Estimated Volume (m <sup>3</sup> ) | Estimated Tonnes Generated | Details                                                                                                                    |
|-------------------------|------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Ground level of dining  | 1,225                              | 1,715                      | Soil will be kept onsite and reused as fill.<br>Rock may be incorporated into retaining walls or otherwise reused as fill. |
| Level 1 foyer of dining | 215                                | 300                        |                                                                                                                            |

## 4.3 Demolition

The estimated tonnages of waste materials generated by the demolition of existing buildings at the Site has been calculated using the waste generation rates (refer **Table 4.1**).

It is noted that all waste generation rates are approximate only.

### 4.3.1 Stage 1 Demolition

Stage 1 works will comprise the demolition of the existing auditorium, bookshop, “plaza cottage”, two restroom facilities and a store room.

**Table 4.3: Estimated Quantities of Demolition Materials Generated During Stage 1**

| Material            | Estimated Volume (m <sup>3</sup> ) |         |          | Details                                                                                                                                             |
|---------------------|------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Reuse                              | Recycle | Disposal |                                                                                                                                                     |
| Timber              | 790                                |         | -        | Will be assessed on removal for potential reuse or sale. Some elements may be usable for formwork framing.                                          |
| Concrete            | -                                  | 540     | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Bricks/pavers       | -                                  | 450     | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Tiles               | -                                  | 225     | -        | Separated onsite and removed for recycling.                                                                                                         |
| Metal               | -                                  | 90      | -        | Separated onsite, removed and returned as scrap metal for reprocessing.                                                                             |
| Glass               | -                                  | 20      | -        | Removed from site, crushed and recycled.                                                                                                            |
| Fixtures & fittings | 20                                 |         | -        | To be assessed by the contractor to determine the potential for resale based on condition.                                                          |
| Floor coverings     | -                                  | 45      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Plastics            | -                                  | 45      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Garden organics     | 10                                 | -       | -        | Mulched for reuse on site.                                                                                                                          |
| Paper/cardboard     | -                                  | -       | -        | -                                                                                                                                                   |
| Residual waste      | -                                  | -       | -        | -                                                                                                                                                   |
| Hazardous wastes    | -                                  | -       | -        | Should any hazardous material be discovered during the construction works it is to be disposed of according to relevant guidelines and regulations. |
| Other               | -                                  | -       | 20       | Separated onsite and removed for recycling or waste.                                                                                                |

### 4.3.2 Stage 2 Demolition

Stage 2 works will comprise the demolition of the existing dining facility, “Wollemi House” guest lodging, “Megalong” guest lodging, “Jamison” guest lodging, a store room and a restroom facility.

**Table 4.4: Estimated Quantities of Demolition Materials Generated During Stage 2**

| Material            | Estimated Volume (m <sup>3</sup> ) |         |          | Details                                                                                                                                             |
|---------------------|------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Reuse                              | Recycle | Disposal |                                                                                                                                                     |
| Timber              | 525                                |         | -        | Will be assessed on removal for potential reuse or sale. Some elements may be usable for formwork framing.                                          |
| Concrete            | -                                  | 360     | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Bricks/pavers       | -                                  | 300     | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Tiles               | -                                  | 150     | -        | Separated onsite and removed for recycling.                                                                                                         |
| Metal               | -                                  | 60      | -        | Separated onsite, removed and returned as scrap metal for reprocessing.                                                                             |
| Glass               | -                                  | 15      | -        | Removed from site, crushed and recycled.                                                                                                            |
| Fixtures & fittings | 15                                 |         | -        | To be assessed by the contractor to determine the potential for resale based on condition.                                                          |
| Floor coverings     | -                                  | 30      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Plastics            | -                                  | 30      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Garden organics     | -                                  | -       | -        | Mulched for reuse on site.                                                                                                                          |
| Paper/cardboard     | -                                  | -       | -        | -                                                                                                                                                   |
| Residual waste      | -                                  | -       | -        | -                                                                                                                                                   |
| Hazardous wastes    | -                                  | -       | -        | Should any hazardous material be discovered during the construction works it is to be disposed of according to relevant guidelines and regulations. |
| Other               | -                                  | -       | 15       | Separated onsite and removed for recycling or waste.                                                                                                |

### 4.3.3 Stage 3 Demolition

Stage 3 works will comprise the demolition of the “The Lodge” guest lodging. It is noted that “Jamison” guest lodging sits on the border and occupies both the Stage 2 area and the Stage 3 area, but for the purposes of demolition materials generation estimates, “Jamison” guest lodging has been fully accounted for in **Section 4.4.2** and is not considered in this section.

**Table 4.5: Estimated Quantities of Demolition Materials Generated During Stage 3**

| Material            | Estimated Volume (m <sup>3</sup> ) |         |          | Details                                                                                                                                             |
|---------------------|------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Reuse                              | Recycle | Disposal |                                                                                                                                                     |
| Timber              | 95                                 |         | -        | Will be assessed on removal for potential reuse or sale. Some elements may be usable for formwork framing.                                          |
| Concrete            | -                                  | 65      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Bricks/pavers       | -                                  | 55      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Tiles               | -                                  | 25      | -        | Separated onsite and removed for recycling.                                                                                                         |
| Metal               | -                                  | 10      | -        | Separated onsite, removed and returned as scrap metal for reprocessing.                                                                             |
| Glass               | -                                  | 2       | -        | Removed from site, crushed and recycled.                                                                                                            |
| Fixtures & fittings | 2                                  |         | -        | To be assessed by the contractor to determine the potential for resale based on condition.                                                          |
| Floor coverings     | -                                  | 5       | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Plastics            | -                                  | 2       | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Garden organics     | -                                  | -       | -        | Mulched for reuse on site.                                                                                                                          |
| Paper/cardboard     | -                                  | -       | -        | -                                                                                                                                                   |
| Residual waste      | -                                  | -       | -        | -                                                                                                                                                   |
| Hazardous wastes    | -                                  | -       | -        | Should any hazardous material be discovered during the construction works it is to be disposed of according to relevant guidelines and regulations. |
| Other               | -                                  | -       | 3        | Separated onsite and removed for recycling or waste.                                                                                                |

## 4.4 Construction

The estimated volumes of waste materials generated by the construction of new buildings at the Site has been calculated using the waste generation rates (refer **Table 4.1**).

It is noted that all waste generation rates are approximate only.

### 4.4.1 Stage 1 Construction

Following the demolition outlined in **Section 4.3.1**, Stage 1 works will comprise the construction of the new auditorium, the new bookshop / meeting facility, three “Breakout spaces”, reception and two Eco lodges (1 and 2).

**Table 4.6: Estimated Quantities of Waste Construction Materials Generated During Stage 1**

| Material            | Estimated Volume (m <sup>3</sup> ) |         |          | Details                                                                                                                                             |
|---------------------|------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Reuse                              | Recycle | Disposal |                                                                                                                                                     |
| Timber              | 50                                 |         | -        | Any additional timber will be assessed for potential reuse elsewhere onsite or removed for resale or recycling.                                     |
| Concrete            | -                                  | 200     | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Bricks/pavers       | -                                  | 25      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Tiles               | -                                  | 10      | -        | Separated onsite and removed for recycling.                                                                                                         |
| Metal               | -                                  | <1      | -        | Separated onsite, removed and returned as scrap metal for reprocessing.                                                                             |
| Glass               | -                                  | <1      | -        | Removed from site, crushed and recycled.                                                                                                            |
| Fixtures & fittings | <1                                 |         | -        | Reused elsewhere onsite if possible or removed for resale or recycling.                                                                             |
| Floor coverings     | -                                  | 1       | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Plastics            | -                                  | 1       | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Garden organics     | -                                  | -       | -        | Mulched for reuse on site.                                                                                                                          |
| Paper/cardboard     | -                                  | 1       | -        | May be reused as mulch or recycled.                                                                                                                 |
| Residual waste      | -                                  | -       | -        | -                                                                                                                                                   |
| Hazardous wastes    | -                                  | -       | -        | Should any hazardous material be discovered during the construction works it is to be disposed of according to relevant guidelines and regulations. |
| Other               | -                                  | -       | 20       | Separated onsite and removed for recycling or waste.                                                                                                |

#### 4.4.2 Stage 2 Construction

Following the demolition outlined in **Section 4.3.2**, Stage 2 works will comprise the construction of four Eco lodges (3-6).

**Table 4.7: Estimated Quantities of Waste Construction Materials Generated During Stage 2**

| Material            | Estimated Volume (m <sup>3</sup> ) |         |          | Details                                                                                                                                             |
|---------------------|------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Reuse                              | Recycle | Disposal |                                                                                                                                                     |
| Timber              | 20                                 |         | -        | Any additional timber will be assessed for potential reuse elsewhere onsite or removed for resale or recycling.                                     |
| Concrete            | -                                  | 75      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Bricks/pavers       | -                                  | 10      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Tiles               | -                                  | 5       | -        | Separated onsite and removed for recycling.                                                                                                         |
| Metal               | -                                  | <1      | -        | Separated onsite, removed and returned as scrap metal for reprocessing.                                                                             |
| Glass               | -                                  | <1      | -        | Removed from site, crushed and recycled.                                                                                                            |
| Fixtures & fittings | <1                                 |         | -        | Reused elsewhere onsite if possible or removed for resale or recycling.                                                                             |
| Floor coverings     | -                                  | <1      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Plastics            | -                                  | <1      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Garden organics     | -                                  | -       | -        | Mulched for reuse on site.                                                                                                                          |
| Paper/cardboard     | -                                  | <1      | -        | May be reused as mulch or recycled.                                                                                                                 |
| Residual waste      | -                                  | -       | -        | -                                                                                                                                                   |
| Hazardous wastes    | -                                  | -       | -        | Should any hazardous material be discovered during the construction works it is to be disposed of according to relevant guidelines and regulations. |
| Other               | -                                  | -       | 5        | Separated onsite and removed for recycling or waste.                                                                                                |

#### 4.4.3 Stage 3 Construction

Following the demolition outlined in **Section 4.3.3**, Stage 3 works will comprise the construction of three Eco chalets (1-3), the new dining/administration building and a cafe.

**Table 4.8: Estimated Quantities of Waste Construction Materials Generated During Stage 3**

| Material            | Estimated Volume (m <sup>3</sup> ) |         |          | Details                                                                                                                                             |
|---------------------|------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Reuse                              | Recycle | Disposal |                                                                                                                                                     |
| Timber              | 20                                 |         | -        | Any additional timber will be assessed for potential reuse elsewhere onsite or removed for resale or recycling.                                     |
| Concrete            | -                                  | 90      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Bricks/pavers       | -                                  | 10      | -        | Removed from site, crushed and on sold as drainage media and road base.                                                                             |
| Tiles               | -                                  | 5       | -        | Separated onsite and removed for recycling.                                                                                                         |
| Metal               | -                                  | <1      | -        | Separated onsite, removed and returned as scrap metal for reprocessing.                                                                             |
| Glass               | -                                  | <1      | -        | Removed from site, crushed and recycled.                                                                                                            |
| Fixtures & fittings | <1                                 |         | -        | Reused elsewhere onsite if possible or removed for resale or recycling.                                                                             |
| Floor coverings     | -                                  | <1      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Plastics            | -                                  | <1      | -        | Separated onsite and removed for recycling or waste.                                                                                                |
| Garden organics     | 5                                  | -       | -        | Mulched for reuse on site.                                                                                                                          |
| Paper/cardboard     | -                                  | <1      | -        | May be reused as mulch or recycled.                                                                                                                 |
| Residual waste      | -                                  | -       | -        | -                                                                                                                                                   |
| Hazardous wastes    | -                                  | -       | -        | Should any hazardous material be discovered during the construction works it is to be disposed of according to relevant guidelines and regulations. |
| Other               | -                                  | -       | 10       | Separated onsite and removed for recycling or waste.                                                                                                |

#### 4.5 Waste Avoidance

The Building Contractor will need to identify opportunities for waste avoidance including the following:

- Appropriate sorting and segregation of demolition and construction wastes to ensure efficient recycling of wastes;
- Selecting construction materials taking into consideration their lifespan and potential for reuse;
- Ordering materials to size and ordering pre-cut and prefabricated materials;
- Planned work staging;
- Reducing packaging waste on-site by returning packaging to suppliers where possible, purchasing in bulk, requesting cardboard or metal drums rather than plastics;
- Careful on-site storage and source separation; and
- Subcontractors informed of Site waste management procedures.

#### 4.6 Re-use, Recycling and Disposal

Effective management of construction materials and demolition/construction waste, including options for reuse and recycling where applicable and practicable, will need to be conducted. Only project wastes that cannot be cost effectively reused or recycled are to be sent to landfill or appropriate disposal facilities.

The following specific procedures should be implemented:

- Framing timber to be reused on-site or recycled off-site;
- Materials such as timber, metal, brick, concrete to be recycled by an appropriately licensed recycling facility for processing and reuse;
- All solid waste timber, brick, concrete, rock that cannot be reused or recycled to be taken to an appropriate landfill site and disposed of in an approved manner;
- All waste oil to be recycled;
- Windows, doors and joinery to be recycled off-site (where possible);
- All asbestos, hazardous and/or intractable wastes to be disposed of in accordance with WorkCover Authority and EPA requirements; and
- All garbage to be disposed of via a council-approved system.

#### 4.7 Waste Storage and Servicing

The number and capacity of skips and bins should be determined by the Building Contractor based on the quantities of waste produced during demolition and construction activities. Sufficient space should be provided for waste storage ensuring Council requirements are complied with, particularly in relation to the placement of skips and traffic control, if necessary.

All building waste generated on site, when it is not able to be directly deposited into the skip bins, are to be placed in designated stockpile areas within the site for transfer to the skip bins by bobcat or other means (refer **Figure 4**).

On-site waste sorting and segregation systems should be put in place to ensure efficient recycling of waste, including appropriate signage for recycling areas/skip bins. If necessary, measures should be implemented to prevent the migration of waste from the Site, damage by the elements and odour and health risks. These measures may include bunding, skip covers, asbestos rated enclosures or other appropriate controls, as needed.

#### 4.8 Probable Destinations for Off-Site Disposal

The Blue Mountains City Council *Waste Avoidance & Resource Recovery Strategy 2014-2016* offers in-depth information of Blue Mountains waste management centres.

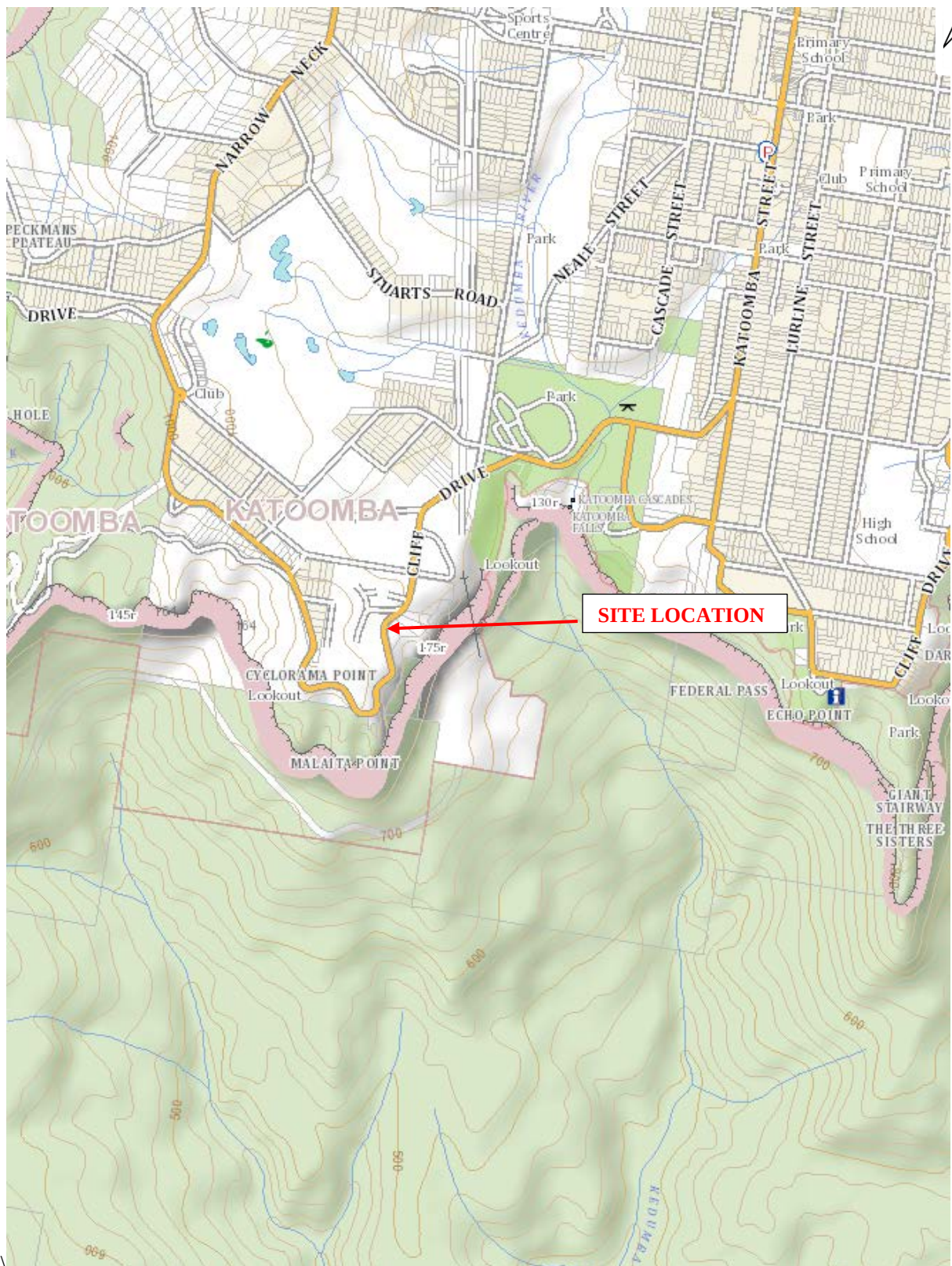
The nearest waste management centres to the Site are provided below in **Table 4.9**.

**Table 4.9: Waste Management Centres**

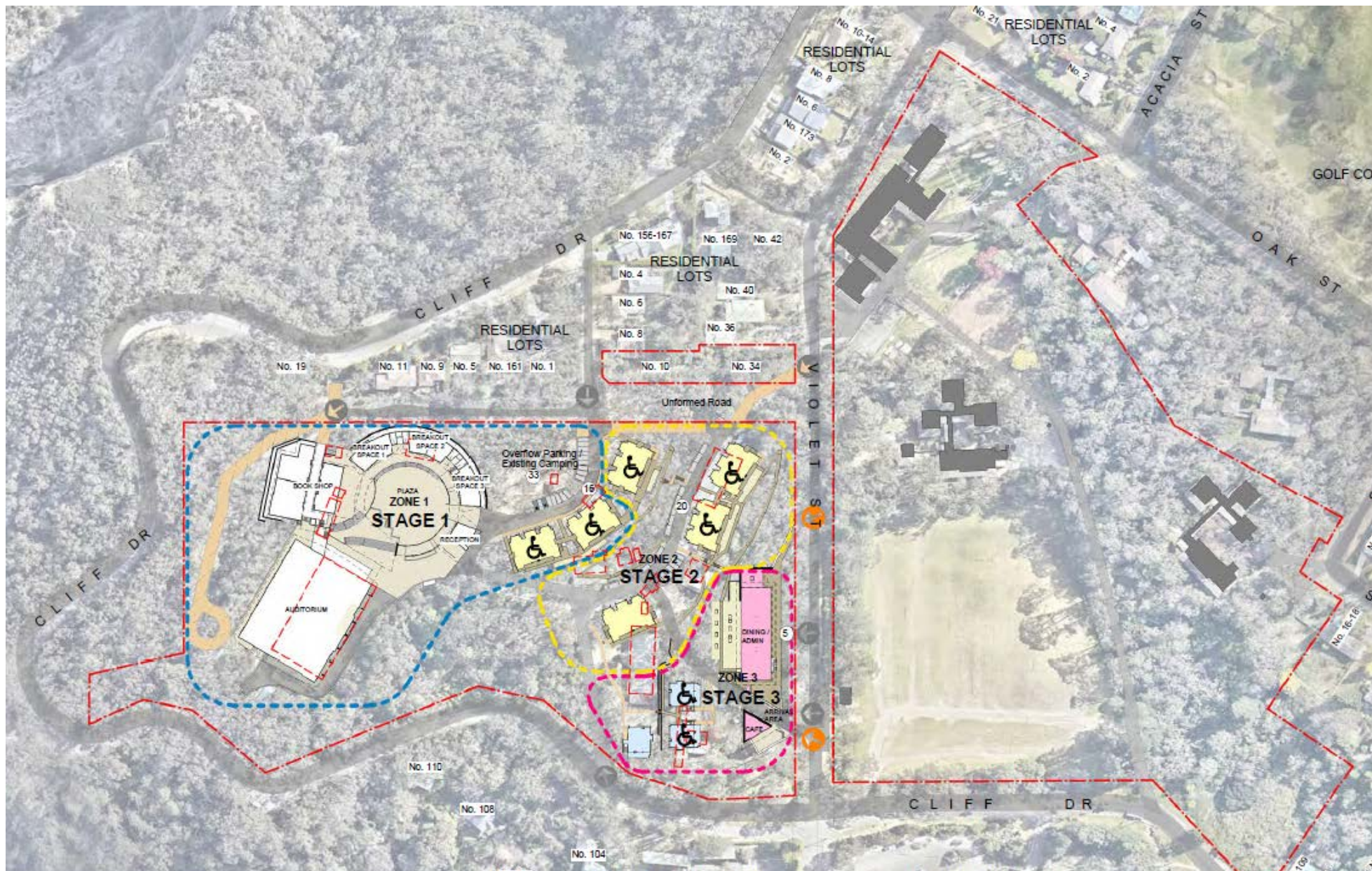
| Location                                                                                                                                                   | Address                  | Distance from Site | Phone     | Mon-Fri    | Sat-Sun    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------|------------|------------|
| Blaxland Landfill                                                                                                                                          | Attunga Rd, Blaxland     | Approx. 40 km      | 4739 2432 | 8am-5pm    | 8am-5pm    |
| Katoomba Resource Recovery                                                                                                                                 | Woodlands Road, Katoomba | Approx. 5 km       | 4780 5000 | 8am-4:45pm | 8am-4:45pm |
| <b>Note:</b> Not all waste types are accepted at each facility. Please refer to Blue Mountains City Council website for waste types, terms and conditions. |                          |                    |           |            |            |

Records demonstrating lawful disposal of waste should be retained and kept readily accessible.

## Figures



Source: SIX Maps (2017)





| ZONE 1     |      |
|------------|------|
| BEDS       | 112  |
| BREAKOUT   | 1620 |
| DINING     | 0    |
| PARKING    | 50   |
| AUDITORIUM | 3500 |
| ZONE 2     |      |
| BEDS       | 324  |
| BREAKOUT   | 330  |
| DINING     | 0    |
| PARKING    | 30   |
| ZONE 3     |      |
| BEDS       | 54   |
| BREAKOUT   | 0    |
| DINING     | 550  |
| PARKING    | 5    |

