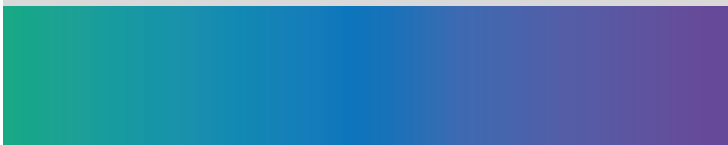


UoN BIORESCOURCES 1167

CONSTRUCTION WASTE MANAGEMENT PLAN

Date: 15 April 2019



RICHARD CROOKES

CONSTRUCTIONS

**Delivering
Certainty**

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Revision

| Rev Date | Revision Description | PM's Initials (i.e. acceptance of changes) |
|----------|----------------------|--|
| 15.04.19 | Original Issue | BM |
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1 Introduction

This Construction Waste Management Plan forms part of the Project Management Plan for Project: UoN Bio Resources

1.1 Purpose of the Plan

Richard Crookes Constructions (RCC) recognises the importance of promoting building design and construction techniques which minimise waste and provides an efficient recycle procedure for all waste material.

The purpose of this plan is to outline processes for:

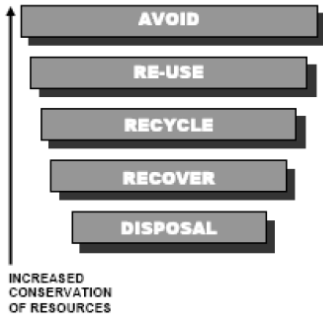
- Objectives and Targets;
- Operational Controls;
- Recording, Monitoring Corrective Action; and,
- Reporting.
- Green Star – Design & As Built (Category 4)

2 RCC Objectives and Targets

RCC's overall objective is to achieve a minimum of (80%) for recycled waste (by weight) generated by the Project.

The Operational Controls implemented to achieve this include:

| Operational Controls | | Method of Recording |
|--|---|---|
| General | a) Identify any hazardous and toxic materials (e.g. asbestos) and comply with WorkCover requirements. b) Develop project Waste Management Plan c) Try not to over-order on materials (initial waste avoidance), and return over-orders. d) Communicate housekeeping & litter reduction rules with subcontractors during contract letting and site inductions. e) Display clear signage on nominated bins i.e. concrete, steel, mixed waste etc. | <ul style="list-style-type: none"> • Hazardous substance survey • Waste Records • Inductions • Allocate signage |
| Implement the waste hierarchy – avoid, reuse, recycle and lastly disposal to landfill. | | |

| Operational Controls | | Method of Recording |
|---|---|--|
| <p><i>Waste Minimisation Hierarchy</i></p>  <p>INCREASED CONSERVATION OF RESOURCES</p> | | |
| Demolition Plan | <p>a) Demolition disposal for concrete, bricks, plasterboard, timber, tiles, PVC, metal, paper & cardboard, glass, appliance, carpet, vegetation, soil – to Recycled Facility</p> <p>b) Asbestos ACM to be removed by a licenced contractor (up to 30 June 2007 >200m², 1 July 2007 > 50m³, from 1 Jan 2008 > 10m² of bonded asbestos) & managed in accordance with WHS Act & Regulation 2012 and EPA requirements.</p> <p>c) Lead paints & dusts will be removed using wet sanding and vacuum techniques (cleaners which comply with AS/NZS 3544 Industrial vacuum cleaners for particulates hazardous to health). Waste will be contained within sealed plastic bags for disposal. Clean up with a wet mop.</p> | <ul style="list-style-type: none"> • Monthly Waste Report • Disposal dockets |
| Consider recycling reprocessing | <p>Where practicable:</p> <p>a) Timber for reuse or mulching</p> <p>b) Aluminium wall frames – reprocess</p> <p>c) Plasterboard – recycled or use as soil improvers</p> <p>d) Steel – reprocess</p> <p>e) Toughened Glass – reprocess</p> <p>f) Carpet & underlay – reprocess & mulch mats</p> | <ul style="list-style-type: none"> • Monthly Waste Report |
| Product Stewardship | <p>a) Investigate returning waste to the supplier? (e.g. plasterboard, packaging)</p> | <ul style="list-style-type: none"> • Contract • Supply agreements |
| Putrescibles Waste | <p>a) Putrescible waste is to be contained in bins and collected by licenced contractor for disposal</p> | <ul style="list-style-type: none"> • Invoices |
| Contaminated Soils | <p>a) Contaminated soils will be excavated and classified in accordance with EPA guidelines “Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid</p> | <ul style="list-style-type: none"> • RAP Reports • Test Reports • Waste Records • Disposal Dockets |

| Operational Controls | | Method of Recording |
|---|--|--|
| | Wastes" (June 2004) – www.environment.nsw.gov.au/waste/envguidlms/index.htm . | |
| Virgin Excavated Natural Materials (VEMN) | a) VENM excavated from site with suitable compaction qualities will be beneficially re-used on other construction sites whenever possible. Disposal to landfill will be the last option. b) No fill will be received on site that does not comply with EPA guidelines i.e. Contamination limits appropriate to the development. | <ul style="list-style-type: none"> • Test Reports • Waste Records • Disposal Dockets |
| Acid Sulphate Soils (ASS) | a) Potential for acid sulphate soils ASS will be assessed based on the sites proximity to low-lying coastal areas e.g. coastal plains, wetlands and mangroves where the surface elevation is less than five metres above mean sea level. b) If suspected, consultant to prepare Acid Sulphate Soil Management Plan (ASSMP). c) Excavation and neutralisation to be supervised by consultants as per ASSMP. | <ul style="list-style-type: none"> • ASSMP • Test Reports • Product delivery (lime) dockets • Site Plans |
| Monitoring | a) Bin(s) with heavy lids shall be provided for putrescibles waste b) Daily inspections shall be carried out to ensure the worksite is litter free. c) Clear signage displayed on nominated bins i.e. steel, concrete, mixed waste etc. | <ul style="list-style-type: none"> • Env. Inspection Checklist |
| Reporting | a) Waste reports/management plans indicate estimated waste min (80%) of accumulated totals for the project. | <ul style="list-style-type: none"> • Monthly Reports |
| Non-Compliance | a) Generation of water pollution and/or air pollution from onsite waste storage b) Inappropriate/illegal off-site disposal of waste materials c) Asbestos & CCA treated timber contamination of recoverable waste stream thereby requiring landfill disposal. | <ul style="list-style-type: none"> • Env. Inspection Checklist • Incident Report, NCRS |
| Emergency Response | a) No specific requirements associated with waste management b) Scenarios such as spill, fires, explosions covered by the project emergency response plans. | <ul style="list-style-type: none"> • Incident Report |
| | | |

3 Reporting

3.1. General waste reporting:

A nominated project team member will be responsible for collecting and filing all wastage reports and provide these reports to the Project Manager to include within the monthly client meetings.

The waste reports will measure the weight of waste generated and separate each recording into waste classification such as concrete, steel, bricks, gyprock etc. The report will detail what percentage of waste is recycled and/or allocated to landfill.

To further push correct wastage Richard Crookes will place numerous bins throughout the work site allocating bins for each specific waste such as steel, concrete, general waste. Richard Crookes will closely manage on-site trades and what is being placed into the designated bins.

3.2. Greenstar 4 Design & As-Built:

Subject to the Principals approved Green Star requirements under the contract, the Project Green Star Administrator will be responsible for implementing a best practise environmental plan in coordination with the project team to further assist in achieving compliance with Green Star - Design & As-built Guidelines.

Completing the above provides the opportunity in achieving 1 point as detailed in the below table;

| | | |
|------------|--|---|
| 7.1 | Environmental Management System | 1 point is available where the responsible party for the site has a formalised approach to planning, implementing and auditing in place during construction, to ensure conformance with the EMP. |
|------------|--|---|

Diagram: Green Star (Design As Built v1.2) - Credit Criteria Table

The Project Green Star Administrator will be responsible for ensuring the EMP complies with best practice guidelines and is implemented from the beginning of construction works, including demolition and excavation works.

Strategies in achieving available Green Star Points;

Environmental Management System:

The project team is to demonstrate a formalised systematic and methodical approach to planning, implementing and auditing during the construction works to ensure compliance of EMP.

The formalised Environmental Management System must be independently certified to a recognised standard such as AS/NZL ISO 14001 or BS 7750. The certification party must be members of the International Accreditation Forum.

4 Estimated Quantities

4.1 Estimated Waste Quantities:

The estimated quantities of waste is a result of the following works;

Demolition of existing buildings, bulk excavation to required levels, tree & vegetation removal, construction install wasteage.

Estimated waste quantities for UoN Bio Resources;

| Material | Estimated Quantity Generated |
|-----------------------------------|------------------------------|
| Excavation | 2,500m ³ |
| Asphalt / Road-base | 60m ³ |
| Vegetation Waste | 20m ³ |
| Heavy Recyclable Materials; | |
| Concrete, Brick, Carpet, Gyrprock | 300m ³ |
| Light Recyclable Materials; | |
| Paper, Cardboard, Plastic | 20m ³ |
| Metals; | |
| Ferrous and non- ferrous | 50m ³ |
| Timber | 10m ³ |

