Waste Management Report: Sub-Division and Preliminary Works at 1111-1141 Elizabeth Drive, Cecil Park

A submission to AE Design Partnership

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Contents

List of Tables

List of Figures

Glossary

Terminology	Description
AS	Australian Standard
DA	Development Application
C&D	Construction and Demolition
FCC	Fairfield City Council
FCDCP	Fairfield Citywide Development Control Plan 2013
FLEP	Fairfield Local Environmental Plan 2013
ENM	Excavated Natural Material
SEARs	Secretary's Environmental Assessment Requirements
VENM	Virgin Excavated Natural Material
EPA	Environment Protection Authority
LGA	Local Government Area
MGB	Mobile Garbage Bin
SEPP	State Environmental Planning Policy
C&I	Commercial and Industrial
WARR	Waste Avoidance and Resource Recovery
WMP	Waste Management Plan
WSP	Waste Service Provider
WSRA	Waste Storage and Recycling Area

1 Introduction

This report has been prepared in response to the proposed acquisition of part of the Site which will reduce the site area by 26,617m^2. The acquisition of the area of the site proposed by TfNSW has required amendments to be made to the proposed development and development footprint which require a re-assessment of the impacts and design which responds to the new development Site.

MRA Consulting Group (MRA) was engaged by AE Design Partnership Pty Ltd (AE Design) on behalf of Cecil Park Pty Ltd (hereafter referred to as "the Applicant"), to prepare a waste management report for a proposed tourism and associated facilities precinct, including preliminary road infrastructure works. The Applicant owns land identified as Lot 2 DP 2954, located at the street address 1111-1141 Elizabeth Drive, Cecil Park (hereafter referred to as "the Site") and is situated in the Fairfield City Council (FCC) Local Government Area (LGA).

The Applicant is seeking approval to subdivide the Site for the purpose of establishing a tourism and associated facilities precinct which in future would accommodate the approval of a range of land uses including but not limited to:

- Highway service centre
- Food and drinks premises
- Eco-tourist facility
- Tourist and visitor accommodation
- Recreation Areas
- Recreation facilities (indoor)
- Recreation facilities (outdoor)
- Recreation facilities (major)
- Information and education facility

The proposal triggers State Significant Development thresholds due to the intended scope and scale in relation to the Sites definition by State Environmental Planning Policy (SEPP), Western Sydney Parklands (2009). Therefore, Secretary's Environmental Assessment Requirements (SEARs) were requested for the proposal, to which this report responds to relevant requirements concerning waste. This report also takes into consideration local planning instruments such as the Fairfield Local Environmental Plan (FLEP, 2013) and Fairfield Citywide Development Control Plan (FCDCP, 2013), and was developed in accordance with the NSW Waste Avoidance and Resource Recovery Act (WARR) 2014. The following activities are proposed for the subdivision and preliminary infrastructure development:

- Subdivision to create 12 lots (see Figure 3, Appendix A);
- Bulk earthworks;
- Stormwater infrastructure;
- Lead-in services;
- Clearing vegetation;
- Environmental works including rehabilitation of riparian corridors;
- Landscaping; and
- Construction of a new vehicular access point and internal access street, accessible from the proposed Wallgrove Road acquisition easement, connected to Cecil Road.

1.1 Secretary's Environmental Assessment Requirements

The SEARs outline the need for an assessment of the potential impacts of the proposal (including cumulative impacts) and request that appropriate measures to avoid, mitigate, manage and/or offset the impacts of specific matters are considered and developed. The specific section of the SEARs this report pertains to is that of 'Waste Management', requiring the following specific items to be addressed:

- Details of the quantities and classification of all waste streams to be generated on site in accordance with the EPAs *Waste Classification Guidelines (2014)*;
- Details of waste storage, handling, transport, and disposal;
- Details of proposed management and disposal of wastewater and effluent; and
- The measures that would be implemented to ensure the development is consistent with the aims, objectives and guidelines in the NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

This report informs the potential waste and environmental impacts related to the subdivision and preliminary works of the proposal, highlighting waste management expectancy for the initial construction and demolition works. The report focuses on the delivery of best practice waste management to promote sustainable outcomes and was developed to comply with Council's codes and all relevant statutory requirements.

1.2 Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021

The NSW Waste Avoidance and Resource Recovery Strategy 2014–21 (WARR Strategy) provides a framework for waste management in NSW. Development of a WARR Strategy, including targets for waste reduction, resource recovery and the diversion of waste from landfill disposal.

The primary goal of the WARR strategy is *"to enable all of the NSW community to improve environment and community well-being by reducing the environmental impact of waste and using resources more efficiently."*

The WARR Strategy aims to support investment in waste infrastructure, encourage innovation, improve recycling behaviour, promote the development of new markets for recycled materials and reduce litter and illegal dumping. The NSW EPA *Waste Less, Recycle More* initiative provides $465.7 million in financial support from waste levy revenue for the WARR Strategy.

The following targets have been set for 2021/22:

1. Avoiding and reducing the amount of waste generated per person in NSW;
2. Increasing recycling rates to 70% for municipal solid waste;
3. Increasing recycling rates to 70% for commercial and industrial waste;
4. Increasing recycling rates to 80% for construction and demolition waste;
5. Increasing waste diverted from landfill to 75%;
6. Managing problem wastes better, establishing 86 drop-off facilities and services across NSW;
7. Reducing litter, with 40% fewer items (compared to 2012) by 2017; and
8. Combatting illegal dumping, with 30% fewer incidents (compared to 2011) by 2017.

The development would be established in line with the above targets, taking into consideration sustainable methods of waste management and resource recovery at each applicable stage of the development. In particular, targets relating to increasing recycling rates for construction and demolition waste apply to this project. This Waste Management Report gives recommendations for the development of the site at Cecil Park which are in consistent with the WARR strategy and aim to facilitate increased recycling and diversion from landfill.

Future applications for the development of each individual land parcel are not the subject of this assessment Appropriate specific waste management planning for each phase of development would be required in accordance with the above targets from the NSW WARR Strategy 2014-2021.

1.3 EPA's Waste Classification Guidelines

The EPA's *Waste Classification Guidelines* provides a classification guideline for wastes into groups that pose similar risks to the environment and human health.

The following classes of waste are contained in the Guideline, as defined in Schedule 1 clause 49 of the Protection of the Environment Operations Act 1997 (POEO Act):

- special waste
- liquid waste
- hazardous waste
- restricted solid waste
- general solid waste (putrescible)
- general solid waste (non-putrescible)

The types of waste generated by the proposed development in accordance with the Waste Classification Guidelines are outlined in Section 3.1, below.

1.4 Environmental Guidelines: Assessment Classification and Management of Non-Liquid and Liquid Waste (NSW EPA)

The *Environmental Guidelines: Assessment Classification and Management of Non-Liquid and Liquid Waste* (NSW EPA) gives an outline of requirements for licensing under the Protection of the Environment Operations Act 1997 (PoEO Act 1997) and provides measures for managing and disposal of different waste streams. No waste produced by the proposed development would be generated in quantities that require licencing under the PoEO Act.

Section 3 of the Guideline classifies waste into types of liquid and non-liquid waste. No liquid waste would be generated by the proposal. Non-liquid waste that is classified as "inert" by the guidelines includes building and construction waste, which is the primary types of waste generated by the proposal. Other solid waste includes biosolids, such as nightsoil as collected by portable toilets, and food and "special" waste which is potentially present in the form of asbestos waste. No hazardous waste, 'Group A' waste, 'Group B' waste or 'Group C' waste would be generated by the proposal.

Landfilling of waste is also discussed in the Guidelines. All licensed landfill facilities exist in one of the five classes or subclasses as follows:

- Inert: Class 1 or Class 2
- Solid: Class 1 or Class 2, and
- Industrial.

Table 7 of the Guideline outlines disposal options for different waste streams including inert waste, general waste, including some putrescible waste as food scraps, and asbestos.

Disposal of nightsoil will be managed in accordance with the criteria set out in the EPA "Environmental Guidelines: Use and Disposal of Biosolids Products". Disposal of nightsoil will be the responsibility of any contractor who supplies portable toilets.

1.5 Fairfield Council Citywide Development Control Plan 2013

Appendix E of the Fairfield Council Citywide Development Control Plan (DCP) 2013, contains *a Waste Not Policy*, based on the *Waste Minimisation and Management Act 1995*, the *Waste Avoidance and Resource Recovery Act 2001* and the *WARR Strategy 2014*. The Policy provides a framework for construction and demolition waste.

The objectives of the Waste Not Policy are:

a) to effectively reuse and recycle materials from the demolition and construction associated with development where possible rather than dispose to land fill.

b) to provide guidance and controls on the on safe treatment and disposal of fibro.

The Policy indicates that all development applications will require a Waste Management Plan which shows that:

a) the potential of waste is first avoided

b) any waste is then reused on site where possible, then

c) any waste that cannot be reused on site is then recycled, and,

d) waste with no reuse or recycling potential is disposed of at landfill sites.

The Policy also outlines in detail how to manage asbestos and gives guidelines for safe removal and disposal.

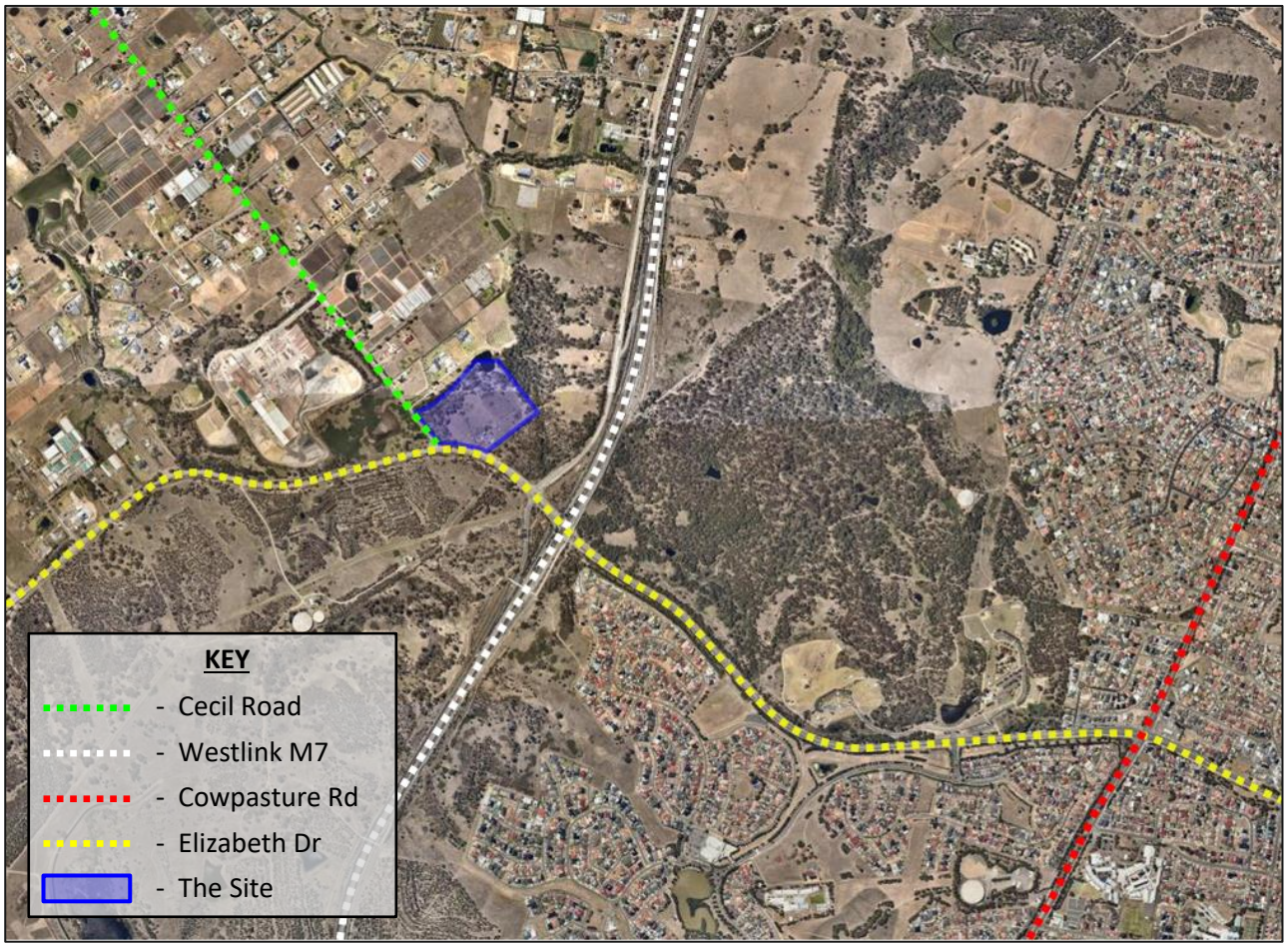
2 Site and Proposal Description

2.1 Site description

The Applicant has recently purchased land defined as lot 2 in DP 2954 and is located at the street address of 1111-1141 Elizabeth Drive, Cecil Park. The property currently contains a residential premises, corrugated sheds and associated driveway. Figure 1 depicts the location of the Site in relation to the surrounding area, outlining roads associated with the Site and main arterial roads in the surrounding area.

The nearest single residence to the Site is located immediately to the north-west of the property, on an adjacent parcel of land. This property and properties beyond are generally defined by RU4 (primary production small lots) and some RU1 (primary production) zoning. Suburbs further to the east of the site are defined by R2 zoning. Large lot residential is located to the north, west and south-west while the Western Sydney Parklands corridor extends to the north-east and south-west of the property. To the south-east, east and north-east, significant suburban residential communities such as Cecil Hills, Elizabeth Hills, Bonnyrigg Heights and Abbotsbury are present.

Figure 1: Site and surrounds in relation to connecting and other major roads

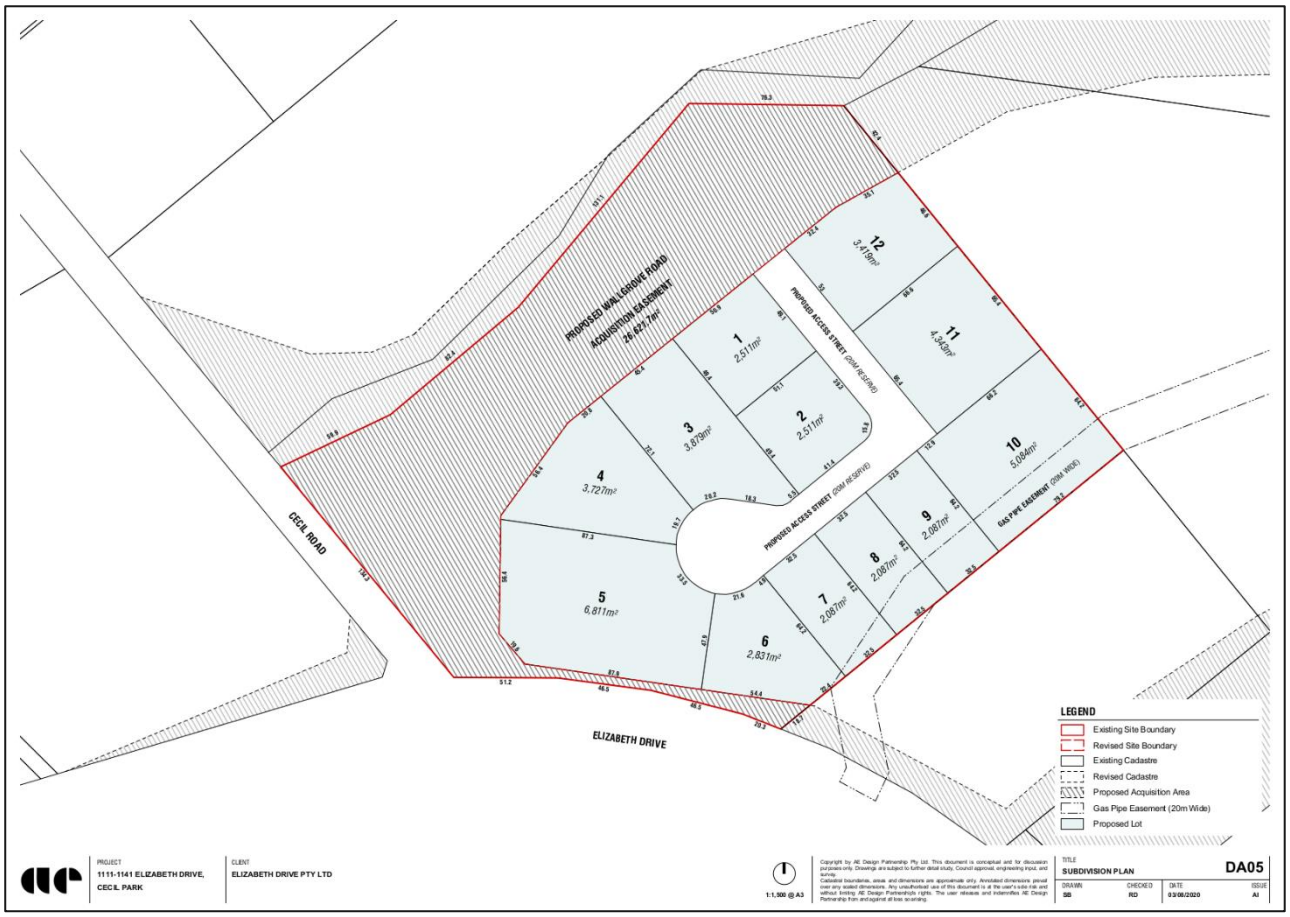


2.2 Description of Proposal

The proposal is seeking to subdivide the existing property into 14 smaller lots, including the establishment of preliminary infrastructure. The purpose of the subdivision and preliminary infrastructure works is to lay the

foundation for a tourism and associated facilities precinct which would be established on subdivided land parcels in the future, pending specific land use development applications. Figure 2 represents the approximate distribution of land according to the proposed subdivision and outlines the location of proposed access roads. Works required include demolition of existing structures, bulk earthworks, clearing of vegetation, rehabilitation of riparian corridors, stormwater and civil works, road works and installation of landscaping. This assessment does not cover future development of individual subdivided land would also generate waste would require more specific assessment in a separate development application and associated waste management plan.

Figure 2: Proposed subdivision of the Site



2.3 Waste types

The area proposed for subdivision and development is approximately 60,000m^2, inclusive of proposed access roads. Based on this, earthworks are likely to move several thousand tonnes of VENM material. VENM is material which is excavated from the soil, as new material. If fill has been applied on a previous occasion, Excavated Natural Material (ENM) may also be present. ENM can be reused onsite (or offsite with a resource recovery exemption). VENM and ENM soils recovered from excavation may be used for fill material and landscaping. In this way, cut would be recovered as fill and therefore disposal of excavated materials would be unnecessary. If contaminated soils are found to be present through soils testing, they would require disposal at a licenced landfill.

The primary residential dwelling comprises a two-storey brick house with a tiled roof and carport. The existing fence is constructed from timber beams with a brick pylon gate. Four sheds are constructed from corrugated metal. An additional residence on the property is a single-storey fibro-cement construction.

Demolition of the residence and associated structures will result in building waste such as, glass, wood, plasterboard, metals, brick, rubble, stone, ceramic, concrete and tiles, as well as small amounts of plastics, paper and cardboard. Quantities of these materials can be recycled as outlined in Section 3.2.

The existing fibro-cement house and cladding of some of the sheds, as well as rubbish stockpiled onsite may contain or be constructed of asbestos materials. In a bonded form, asbestos is relatively stable, however, if the material is damaged and friable, health risks could occur. If appropriate safety precautions are used, up to 10m^2 of bonded asbestos may be removed from the site and disposed of by any person. If there is over 10m^2 of asbestos material to be removed, a qualified asbestos removalist must be engaged. The "Safe Work NSW" website and the "Asbestos Awareness" websites as well as the Fairfield Council Citywide DCP give management measures for the handing, transport and disposal of asbestos.

The property contains residual stockpiles of rubbish over an area of approximately 200m^2, which would equate to approximately 260 tonnes of waste. The materials are dry, inert and non-putrescible and comprised of the same waste types as demolition waste. Other materials which may be present in the stockpiles and/or left behind in existing buildings could include asbestos and 'problem' wastes such as tyres, paints, oils and batteries in small quantities.

Most vegetation at the boundaries of the site will be retained. Minimal clearing is required for trees to be removed from the centre of the site. Vegetation clearing will result in the generation of medium quantities of organic materials. Organics are useful as mulch and/or as feedstock for composting operations. Vegetation may be chipped or shredded and stockpiled for future application to landscaping, thereby minimising transport and disposal, however, chipped vegetation would only be applied to existing ecologically sensitive areas if an ecologist has been consulted and there would be no impact to local habitats. Local organics processors also accept organic material.

The construction of roads, sewerage and other associated infrastructure may result in surplus materials which require management for reuse or recovery. Efficient management of these resources would be adopted during the construction of preliminary infrastructure to ensure surplus materials were kept to a minimum. Any surplus road base, asphalt or concrete generated from constructing access roads would be sent to appropriately licensed C&D facilities for recycling.

3 Review of Proposal Against NSW Guidelines and Policy

3.1 Waste Classification

SEARs Requirement:

- Details of the quantities and classification of all waste streams to be generated on site in accordance with the EPAs Waste Classification Guidelines (2014).

Classification of waste materials is expected at each stage of the development of the site. Material will reflect the types of activities occurring at each stage of development (i.e. construction, demolition, excavation, operation, etc). the following sections outline the expected waste materials and anticipated quantities for the preliminary site works based on municipal (City of Sydney) and state (EPA Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities) guidelines, given the absence of specific guidelines from Fairfield City Council.

3.1.1 Preliminary site works

Preliminary works are the subject of the present development application and includes subdivision of the site and construction of road and service infrastructure including water and sewerage. Waste generated during preliminary works at the site will be the result of excavation, demolition and construction activities.

The majority of waste generated during preliminary site works would be classified as *general solid waste (non-putrescible)* and includes include the following:

- Glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal;
- Paper/cardboard;
- Garden waste;
- Wood waste;
- Fully cured and dried residues of resins, glues, paints, coatings and inks;
- Waste contaminated with lead (including lead paint waste) from residential premises;
- Drained oil filters (mechanically crushed), rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids;
- Drained motor oil containers that do not contain free liquids;
- Virgin Excavated Natural Material (VENM) and Excavated Natural Material (ENM);
- Building and demolition waste;

There is also potential for the following waste types:

- Asbestos waste present in the cladding of existing sheds. Asbestos waste is any waste that contains asbestos and is designated 'special waste' in the guideline.
- Waste tyres, which are also designated 'special' waste.
- Putrescible general waste will be present as food which is discarded by construction and demolition operational personnel and also in the form of night soil from portable toilets. It is expected that this waste type will be minimal.

Hazardous Goods are defined with reference to the *Waste Classification Guidelines*, Schedule 1 of *the PoEO Act* and the *Transport of Dangerous Goods Code*. With reference to the Site, it includes containers which include 'flammable liquids' as defined by the Code. Although these products would not be generated by activities onsite they may be present as legacy waste as vehicle oils or fuels.

3.1.2 Future Construction Works

The development of the site for building has potential to produce a mixture of construction and demolition waste (including excavation waste), including any of the following:

- Brick, rubble, stone, concrete, cement, ceramic, tile, etc;
- VENM;
- ENM;
- Timber (treated and non-treated);
- Metals (ferrous & non-ferrous);
- Plastic;
- Paper & cardboard;
- Plasterboard, gyprock;
- Carpet and other textiles;
- Fit-out waste (chairs, tables, carpentry, etc);
- Garden waste;
- Glass (windows & panes);
- Fittings and fixtures;
- Insulation;
- Food waste;
- residual or non-recoverable material.

It is expected that the majority of waste would consist of excess construction materials, which have the potential for recycling as general solid waste (non-putrescible). General waste (putrescible) would be generated during the daily consumption of food and other items and from night soil as a result of the use of portable toilets.

3.1.3 Future use

- Depending on the future occupation of individual land parcels outlined in the Proposal, it is possible that some special or hazardous wastes may be produced by future site occupants. Based on the types of land use outlined in Section 1, it is expected that general solid waste (putrescible and non-putrescible) will be the most common waste types generated at the Site. Other waste types may be generated by specialist occupations likely to inhabit the Site in the future, e.g. the Proposal suggests that a medical centre could be established at the site, pending future planning and approvals for such a use. If a medical centre were established at the site, it is likely that various special wastes (clinical and related waste) would be generated during regular operation of the site, including:
- Clinical waste;
    - Human tissue (other than hair, teeth and nails)
    - Bulk body fluids or blood
    - Visibly blood-stained body fluids, materials or equipment
    - Laboratory specimens or cultures
    - Animal tissue, carcasses or other waste from animals used for medical research
- Cytotoxic waste;
- Pharmaceutical, drug or medicine waste; and
- Sharps waste.

The management of future waste at the Site would be the subject of future development applications.

3.2 Waste Quantities

The generation of construction and demolition waste would not result in quantities of materials that exceed the disposal and/or recycling capacity of existing waste and resource recovery facilities.

3.2.1 Preliminary Works

The following quantities of waste are predicted for works on the existing property.

Table 1: Predicted waste quantities

Type of waste	Approximate Quantities
Brick and Stone	150 tonnes
Concrete	70 tonnes
Tile and ceramic	15 tonnes
Timber	8 tonnes
Rubble	40 tonnes
Plastic, glass and metal containers;	3 tonnes
Plasterboard;	10 tonnes
Paper & cardboard.	Less than 1 tonne
Metal	20 tonnes
Virgin Excavated Natural Material (VENM)	Can be reused as fill, no disposal required
Excavated Natural Material (ENM)	Can be reused as fill, no disposal required. Compliance with resource recovery order and exemption required for offsite application.
Organics	40 tonnes, no disposal required for use as mulch.
Asbestos	If present in cladding, approximately 80m^2
Tyres	Less than 1 tonne
'Problem' wastes	Less than 1 tonne
Residual materials	Less than 1 tonne

3.2.2 Future Construction Works

Future developments of each individual land parcel (outlined in the subdivision) will require a development application and associated waste management planning. As such, construction and excavation waste generation estimates will be required for the preparation of a waste management plan. Waste generation for each specific development is likely to vary greatly based on the scope and scale of the development and therefore, should be explored further when specific details are determined for each site.

The amount of waste generated in this stage would be minimalised by purchasing the quantities of materials that are required to be utilised and thereby avoiding excess.

3.2.3 Future Operation

Potential future occupations of the Site, identified in the Proposal would generate various specific waste types. Waste generation relating to the operation of commercial and industrial facilities is highly variable, depending largely on the scope and scale of an establishment. Waste classification for different land uses and estimated waste generation rates can be projected based on local and stage waste management guidelines and are as follows for some of the specific land uses outlined in the Proposal. Table 2 below depicts the estimated waste generation rates for likely site occupants, for typical waste types such as putrescible general waste (general waste) and non-putrescible general waste (co-mingled recycling).

Table 2: Waste generation rates for various commercial and industrial occupancies, derived from the EPA C&I guidelines and various other municipality waste guidelines.

Land Use	Waste Classification	Waste Generation Rate (total floor area)
Service station (Services)	General Waste	140L (per 100m^2/day)
	Co-mingled recycling	75L (per 100m^2/day)
Hotel/Motel Accommodation	General Waste	25L (per 100m^2/day) or 3.4L (per room/night)
	Co-mingled recycling	15L (per 100m^2/day) or 10.2L (per room/night)
Industrial/Warehouse Units	General Waste	20L (per 100m^2/day)
	Co-mingled recycling	50L (per 100m^2/day)
Child Care Centre	General Waste	30L (per 100m^2/day)
	Co-mingled recycling	60L (per 100m^2/day)
Medical centre	General Waste	25L (per 100m^2/day)
	Co-mingled recycling	50L (per 100m^2/day)
Office Space	General Waste	10L (per 100m^2/day)
	Co-mingled recycling	25L (per 100m^2/day)

3.3 Waste Storage, Handling, Transport, and Disposal

SEARs requirement:

- Details of waste storage, handling, transport, and disposal.

3.3.1 Storage

With consideration to the preliminary stage of the proposed development, waste infrastructure is not necessary for storage of waste. Waste would be placed in designated bins which would be contracted at a capacity to contain maximum quantities of materials in accordance with pick-up schedules.

Recyclable materials would be source-separated onsite where possible in labelled bins according to the type of material e.g masonry, metals, paper and plastics, etc, to enable improved recovery rates.

All problem and hazardous wastes would be stored in separate areas as they require special treatment. Asbestos must be stored in a separate container and wrapped in thick plastic. Any flammable liquids would be stored in a bund.

A separate bin would be provided for general waste, which may be recovered by kerbside collection according to the existing collection schedule.

3.3.2 Handling

The handling of waste would be dependent on waste type.

- Inert waste would be collected for recycling or disposal, as appropriate.
- Any soils that are tested and deemed to be contaminated would be send to an appropriate landfill.
- VENM and ENM may be reapplied to land onsite. VENM may be applied to land offsite without a resource recovery order and exemption. ENM requires a resource recovery order and exemption to be applied to land offsite.
- Asbestos can only be disposed of to landfills which are licensed to receive it. It must be handled and transported in a specific manner as outlined in the management measures below.
- Problem wastes include tyres, paint, car batteries, gas bottles, oils and chemicals would be disposed of at facilities which are able to receive these materials.

The Business Recycling website businessrecycling.com.au provides a directory of locations where wastes can be recycled or safely disposed of.

All material generated would be separated where possible, to maximise resource recovery potential and reduce the need for disposal of residual materials to landfill. Any material deemed unsuitable for reuse or recovery would be disposed of to an appropriately licensed landfill. Reuse and recovery potential for expected waste product includes (but is not limited to) the methods outlined in Table 3.

3.3.3 Recycling of Materials

Table 3: Expected waste streams during C&D activities related to preliminary infrastructure works

Waste Material	Reuse or recovery Potential
Brick, Rubble, Stone, Ceramic, Tile, etc.	Sent to C&D processing facility for crushing and reuse as fill material.
Virgin Excavated Natural Material	Reuse as fill material.
Excavated Natural Material	Reuse as fill material. Compliance with ENM order and exemption is required for offsite application.
Timber (treated and non-treated)	Sent to organics processor or C&D processing facility for mulching for reuse.
Metals (ferrous & non-ferrous)	Fixtures and fittings returned to manufacturer for reuse (if applicable) or recycling at materials recycling facility.
Plastic	Recycling at materials recycling facility.
Paper & cardboard	Recycling at materials recycling facility.
Eligible residual or non-recoverable material	Processing at appropriately licensed energy from waste (EfW) as technology becomes readily available.
Tyres	Recycling at a tyre reprocessor.
Asbestos	Disposal at a facility licensed to receive asbestos.
Hazardous and problem waste streams	Disposal/recycling at a facility which is able to accept the particular type of waste.

3.3.4 Asbestos

The handling of asbestos requires special precautions due to the hazardous nature of the materials. Any handling of asbestos waste must be performed in accordance with Clause 42 of the PoEO Act, 1997.

Before commencing any work, a risk assessment should be carried out. Safe work procedures would be devised that minimise exposure.

Handing requirements include:

1. Keep asbestos damp but prevent excess runoff water.
2. Asbestos should be collected, labelled and sealed using plastic or leak-proof containers.
3. Storage would be at a secure site in labelled, lined bins or a leak-proof container.
4. Asbestos containing materials should be removed from the site as soon as practicable and/or collected and stored in a manner approved by the EPA or an appropriate disposal authority.
5. Transport would be in a covered leak-proof vehicle or a manner approved by the OEH
6. Disposal in a manner and at a site approved by OEH or an appropriate disposal authority.
7. Vehicles must be cleaned before leaving the landfill site.

3.3.5 Transport

Section 143 of the *Protection of the Environment Operations Act 1997* requires that waste is transported to a place that can lawfully accept it. Both the owner of the waste and the transporter are legally responsible for proving the waste was transported to a lawful place.

To show that waste has been lawfully disposed of records should be kept of the following:

1. All demolition and construction waste dockets must be kept which show which facility received the material for recycling or disposal.
2. Who transported the waste (company name, ABN, vehicle registration and driver details, date and time of transport, description of waste).
3. Copies of waste dockets/receipts from the waste facility (date and time of delivery, name and address of the facility, its ABN, contact person).
4. Transport of waste materials is managed by a licensed operator.

Audits may be conducted by Council to verify that dockets have been kept and waste recycled and disposed of as described within the Waste Management Plan.

3.3.6 Disposal

The disposal of waste is recommended after recycling options have been implemented. Materials may only be disposed of materials to a facility which is licensed to take the particular type of waste.

1. The majority of waste onsite is inert, dry, non-putrescible waste which may be taken to any licensed landfill.
2. Stabilised asbestos in a bonded matrix may be taken to an inert waste Class 1 landfill or a solid waste landfill class 1 or 2.
3. The Planet Ark Business Recycling directory or “Recycling Near You” websites can be consulted to find facilities that accepts a particular type of waste for recycling or disposal.
4. The EPA website “Facilities that accept household asbestos” has a list of facilities that will accept asbestos. It is recommended to contact the facility first.

3.4 Management of Wastewater and Effluent

SEARs Requirement:

- Details of proposed management and disposal of wastewater and effluent.

No discharge to sewer or stormwater is expected the subdivision and preliminary infrastructure development since there is currently no relevant infrastructure. Stormwater and sewer foundations will be developed as

part of the preliminary infrastructure works, however future occupancies of proposed subdivisions will be responsible for managing waste water and effluent produced during operations.

During the proposed subdivision and preliminary infrastructure, water usage during works would be limited to use for dust suppression. Since water use will be largely superficial at the site during this stage, no water is expected spill over onto neighbouring properties or road, and no leachates are expected to enter groundwater. As such, no specific waste water or effluent management measures would be required during for the subdivision and preliminary works.

A licensed contractor would be engaged to manage the disposal of nightsoil from portable toilets.

Future developments on Site subdivisions may require trade wastewater agreements with Sydney Water. If a trade waste agreement is required, it would be developed in to meet trade waste specifications.

All future disposal of wastewater and effluent will be through a licenced operator.

3.5 WARR 2014-2021 Implementation Measures

SEARs Requirement:

- The measures that would be implemented to ensure the development is consistent with the aims, objectives and guidelines in the NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

The WARR Strategy 2014-2021 outlines waste avoidance and resource recovery targets (refer to Section 1). In order to achieve the targets set out in the strategy, the proposal must apply sustainable waste management principles.

The management measures outlined in Section 3.6 would ensure that waste is managed in accordance with the WARRR Strategy 2014-2021 and will assist in achieving the target of 80% diversion from landfill in the C&D sector.

3.5.1 Preliminary Works

Preliminary works would require waste management for construction and demolition activities. The majority of the waste produced during preliminary site works will be non-putrescible general waste, which has the potential for relatively high recovery rates. A construction and demolition Waste Management Plan is required as part of the development application outlining recovery of materials.

3.5.2 Future Construction Works

Future construction works will be conducted according to resource recovery targets and guidelines outlined in the WARR Strategy 2014-2021. C&D waste can be separated and recovered if uncontaminated, allowing for high percentages of material to be reused or recovered. Future developments would be required to produce a construction and demolition Waste Management Plan as part of the development application processes, indicating what waste materials and quantities are expected, in addition to how materials would be managed in terms of reuse, recovery or disposal.

3.5.3 Future Operation

Operation of various land uses will produce waste streams as outlined in Section 3.2.3. These waste streams can be separated and collected by council or private contractors and may be recoverable at dry recycling or advanced waste treatment facilities.

To maintain WARR Strategy 2014-2021 targets, site specific waste management should be detailed in an operational waste management plan detailing expected waste generation rates for different waste streams and relevant waste management methods for reuse, recovery and disposal.

3.6 Management Measures

The following site management measures are recommended for preliminary site works:

- Uncontaminated soils may be reused onsite to even out cut and fill;
- If contaminated soils are present, they would be disposed of to a licensed landfill;
- It is recommended that organic waste from clearing of trees would be chipped and reapplied as mulch or delivered to an organics processor;
- No vegetation would be pushed into or applied to ecologically sensitive areas;
- Materials would be reused or recycled wherever possible;
- Excess supply of construction materials would be avoided where possible;
- Separate bins would be provided for source separation of waste types where possible;
- Residual waste would be disposed of to a licensed landfill;
- If asbestos is found onsite it would be disposed of in the following manner:
    - A risk assessment would be conducted to determine appropriate management measures,
    - Asbestos waste would be disposed of in a landfill which is licensed to receive asbestos waste,
    - Asbestos waste would be wetted, wrapped in 200um thick plastic, and sealed with tape before it is transported,
    - It would be clearly labelled as “asbestos waste”,
    - It would be transported in a covered, leak-proof vehicle,
    - Copies of receipts from landfills where asbestos was taken would be retained, and
    - If the amount of asbestos is more than $10m^2$, a qualified asbestos removalist would be engaged.
- Hazardous and problem wastes would be stored separately onsite and disposed of or recycled at a facility which are licensed to receive the substance;
- Litter on the site would be managed daily to maintain a tidy environment;
- The disposal of nightsoil from portable toilets would be managed by a licenced contractor;
- Transport of waste would be managed by a licenced operator;
- Records would be kept of transport and disposal of materials;
- A Waste Management Plan would be prepared in accordance with the Fairfield Council Citywide DCP, which includes:
    - How materials will be managed to prioritise avoidance, reuse, and recycling over disposal,
    - details of each type of waste that will be generated, and the management action proposed for each type of waste,
    - procedures that ensure the waste is transported to a lawful place,
    - locations of on- site storage for materials that are going to be reused, recycled and disposed,
    - vehicle access for collection, and
    - the management of asbestos onsite.

4 Conclusions

The development of the site for subdivision and preliminary infrastructure works at 1141 Elizabeth Drive, Cecil Park, would not result in a quantity of material that would exceed the capacity of existing waste and resource recovery facilities.

The requirements of the *Waste Classification Guidelines,* the *Environmental Guidelines: Assessment Classification and Management of Non-Liquid and Liquid Waste* and the *WARR strategy 2014* have been considered in this report to avoid disposal to landfill and implement measures to avoid consumption, reuse or recycle materials where possible. Management measures have been outlined in Section 3.6 which would be implemented to increase recycling and avoid disposal where possible

A Waste Management Plan is required as part of the development application in accordance with the *Fairfield City Council Citywide Development Control Plan 2013*.

References

AE Design Partnership (2017) *Elizabeth Drive, Cecil Park: Request for Secretary's Environmental Assessment Requirements (SEARs) for State Significant Development*

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NSW Environment Protection Authority (2012) *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*

NSW Environment Protection Authority (2013) *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*

NSW Environment Protection Authority (2014) *Waste Classification Guidelines – Part 1: Classification of Waste*

NSW Environment Protection Authority (2019) *Better practice guide for resource recovery in residential developments*

NTC Australia (2017) *Australian Code for the Transport of Dangerous Goods by Road & Rail Edition 7.5,* Melbourne, Australia

Randwick City Council (2007) *Waste Management Guidelines for Proposed Developments*

SafeWork NSW Safety Topics A-Z Asbestos website: http://www.safework.nsw.gov.au/health-and-safety/safety-topics-a-z/asbestos

Legislation and Standards:

Environmental Planning and Assessment Act 1979

Fairfield City Council Fairfield Citywide Development Control Plan 2013

Fairfield City Council Fairfield Local Environmental Plan 2013

Protection of the Environment Operations Act 1997

Secretary's Environmental Assessment Requirements (SEARs) SSD 8859

State Environmental Planning Policy (Western Sydney Parklands) 2009

Figure 3: Site sub-division plan