54614-115488
L03 Waste Management Plan - Basin I (Rev 0)

14 June 2018

ATT: Sean Porter
Maryland Development Company Pty Ltd
Incivil Project Services Pty Ltd
Via email: Sean.Porter@lendlease.com.au

Waste Management Plan
Proposed Construction Works at Basin I, Links Road, St Marys, NSW

Dear Mr Porter,

1. Introduction and Background

JBS&G Australia Pty Ltd (JBS&G) has been previously engaged by Maryland Development Company Pty Ltd (the client) to undertake environmental site assessment works at the proposed Basin I footprint (the site) located to the south west of the Central Precinct Development site, in St Marys, NSW. The site is legally defined as part lot 1002 DP1215087, has an approximate area of 5.75 hectares (ha) and is located within the former St Marys ADI site which was used for various munition filling and storage activities up until 1994. The environmental site assessment has been previously issued as *Maryland Development Company Pty Ltd Environmental Site Assessment Basin I Links Road, St Marys, NSW rev B*, 25 May 2018, JBS&G Australia Pty Ltd (JBS&G 2018).

JBS&G has been further engaged to prepare a Waste Management Plan (WMP) to manage the identification and movement of surplus materials from the construction of the Basin. This document presents the WMP.

1.1 Objective

The objectives of the WMP are to identify each of the potential waste types that are present within the proposed Basin I site and to provide procedures for the management of wastes during the site works.

2. Site Identification and Description

The location of the site is shown in **Figure 1**, the site details are summarised in **Table 2.1** below.

Table 2.1 Summary Site Details

Lot Number	Part lot 1002 DP1215087
Street Address	Links Road, St Mary's, NSW (See **Figure 2**).
Site Area	Approximately 5.75 ha
Local Government Authority	Penrith City Council
Geographic Coordinates (MGA 56)	289633.367 E 6264812.37 N
Current Land-use	Vacant – grassed areas and woodland
Proposed Land-use	Regional detention basin

The site comprised an irregular shaped parcel of land including grassed areas and heavy wooded areas. The site was dissected by a creek oriented and flowing approximately southwest to northeast, identified as an unnamed tributary of South Creek. Stagnant water was observed in the wetland

present in the central portion of the site in alignment with the creek. Scattered rubbish likely transported via stormwater runoff was also observed in this area.

The northern portion of the site was generally flat and comprised open grassed areas. Four minor stockpiles were located in proximity of the north-eastern extent of the site, but are not present within the site. The stockpiles were overgrown and as such the constituents of these stockpiles could not be closely inspected. An earthen track was located to the north of the creek line, oriented approximately southwest to northeast.

The area to the south of the creek was occupied by thick vegetation comprising large trees with restricted access available.

3. Previous Environmental Site Assessment

JBS&G (2018) comprised an assessment of the environmental status of soils present across the extent of the proposed basin. All soils have been found to be non-impacted and consist of original (non-fill based) materials. Any surplus soils would be classified as virgin excavated natural material (VENM).

4. Waste Regulatory Framework

4.1 Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery (WARR) Act 2001 establishes the waste hierarchy to ensure that resource management options are considered against the following priorities:

1. Avoidance –actions to reduce the amount of waste generated and undertaking activities;
2. Resource Recovery – which includes reuse, reprocessing, recycling and energy recovery, consistent with the most efficient use of the recovered resources; and
3. Disposal – an end-of-pipe option that must be carefully undertaken to minimise any negative environmental outcomes.

The NSW Government's priority areas and actions for waste avoidance and resource recovery is outlined in the Waste Strategy 2014-2021 (an update of earlier Waste Strategies).

The four identified "key target areas" in the Strategy are:

1. preventing and avoiding waste;
2. increasing recovery and use of secondary materials;
3. reducing toxicity in products and materials; and
4. reducing litter and illegal dumping.

The Strategy also includes the following recycling targets (as relevant to the proposed works at the site):

- Increased recycling of commercial and industrial waste to 70% by 2021-22; and
- Increased recycling of construction and demolition waste to 80% by 2021-22.

4.2 Protection of the Environment Operations Act 1997

All material to be excavated and removed from the site (including associated activities such as classification) will be undertaken in strict accordance with the requirements of the POEO Act 1997. Such requirements include:

- Ensuring waste is classified appropriately and in accordance with relevant guidelines;
- Waste materials are disposed of to appropriately licensed facilities; and
- Other materials are removed to facilities lawfully able to accept such materials.

4.3 Protection of the Environment Operations (Waste) Regulation 2005

The regulations make requirements relating to non-licensed waste activities and waste transporting. The proposed works on the site will not require to be licensed. Section 48 of the Reg. requires that wastes are stored in an environmentally safe manner. It also stipulates that vehicles used to transport waste must be covered when loaded.

The Regulation exempts certain waste streams from the full waste tracking and record keeping requirements. Waste tracking is required only for industrial and hazardous wastes. However these are not anticipated to be present on the site based on the assessment of materials in JBS&G (2018).

4.4 Waste Classification Guidelines, 2014, NSW EPA

All wastes generated and proposed to be disposed off-site shall be assessed, classified and managed in accordance with this guideline.

5. Waste Management Plan

5.1 Waste Details and Classification

Surplus materials from the site will consist of vegetation waste and excavated soils. Consistent with EPA (2014):

- The vegetation waste is classified as 'Garden Waste' as consistent with EPA (2014) as it will be anticipated to consist of branches, grass, leaves, plants, loppings, tree trunks, tree stumps and similar materials, and includes any mixture of those materials; and
- The surplus soils will be classified as 'General solid waste (non-putrescible)' (GSW) as consistent with EPA (2014) further meeting the definition of 'virgin excavated natural material'.

Further as per EPA (2014) 'virgin excavated natural material' (VENM) means natural material (such as clay, gravel, sand, soil or rock fines):

- That has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities; and
- That does not contain sulfidic ores or soils, or any other waste.

5.2 Works Staging and Waste Segregation

Materials to be classified as 'Garden Waste' and as GSW (VENM) shall require to be kept separate at all stages of the construction works. This will be undertaken in practice by the staging of the works:

- All surface vegetation shall be initially removed and stockpiled; and
- Only subsequent to removal of vegetation shall excavation of soils commence.

5.3 Waste Transporting

All wastes removed from the site shall be transported in accordance with relevant road and transportation regulatory requirements. Where required (depending on the classification of the wastes), appropriately licensed transport contractors shall be used.

The appointed transporters shall be responsible for ensuring they are appropriately licensed to:

- Carry the particular type of waste; and
- Transport the materials to an appropriately licensed facility or otherwise approved receipt site.

Materials tracking shall be undertaken for the movement of all materials and records retained to inform the validation of the site.

5.4 Waste Recycling and Disposal

Garden waste and GSW (VENM) shall be either re-used onsite within the St Marys development site, or otherwise recycled off-site at a facility legally permitted to receive and use the materials. It is likely that garden waste will be required to be processed (i.e. chipped) to facilitate re-use within the site.

Recycling / re-use of all materials will meet each of the applicable NSW EPA waste objectives for commercial / industrial and construction / demolition wastes.

5.5 Unexpected Find Protocol

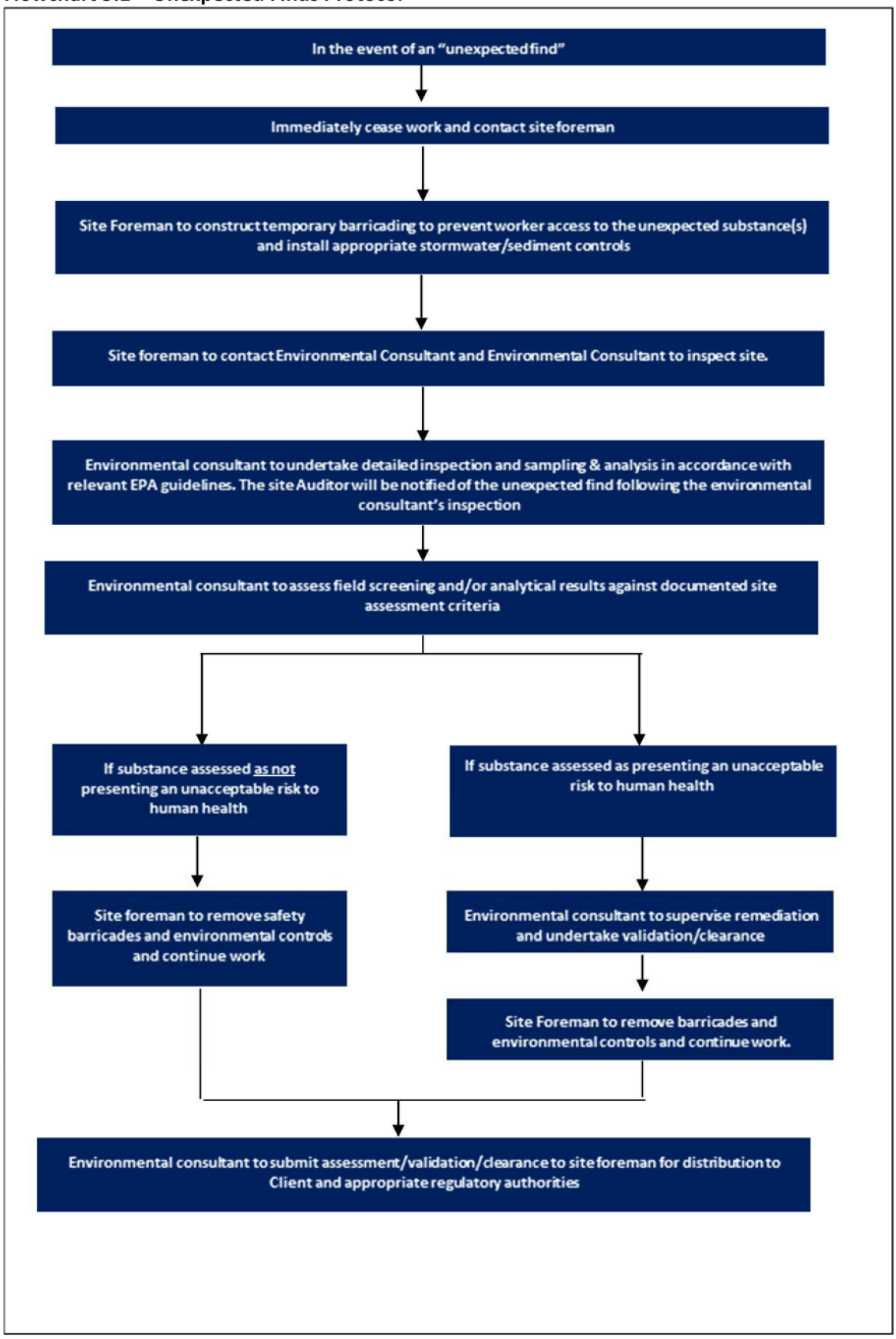
It is acknowledged that previous investigations have been undertaken to assess contaminants of potential concern across the site. Additionally, review of historical site activities indicates a low possibility that contaminants may be present between sampling points. However, there remains the potential that ground conditions between sampling points may vary, and further hazards may arise from unexpected sources and/or in unexpected locations during construction of the detention basin. The nature of any residual hazards which may be present at the site are generally detectable through visual or olfactory means, for example:

- Fill materials not consistent with the definition of VENM;
- Visible ACM fragments;
- Friable ACM such as lagging (visible);
- Bottles/containers of chemicals (visible); and
- Ash and/or slag contaminated soils/fill materials (visible).

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances be identified (or any other unexpected potentially hazardous substance), the procedure summarised in **Flowchart 5.1** is to be followed.

An enlarged version of the unexpected finds protocol, suitable for use onsite, should be posted in the Site Office and referred to during the site-specific induction by the Contractor.

Flowchart 5.1 – Unexpected Finds Protocol



Should you require clarification, please contact the undersigned on 02 8245 0300 or by email klinz@jbsg.com.au.

Yours sincerely:

Katie Linz
Senior Environmental Consultant
JBS&G Australia Pty Ltd

Reviewed/Approved by:

Greg Dasey
Principal Contaminated Land
JBS&G Australia Pty Ltd

Attachments

1) Limitations
2) Figures

Attachment 1 – Limitations

This report has been prepared for use by the client who commissioned the works in accordance with the project brief only and has been based in part on information obtained from other parties. The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

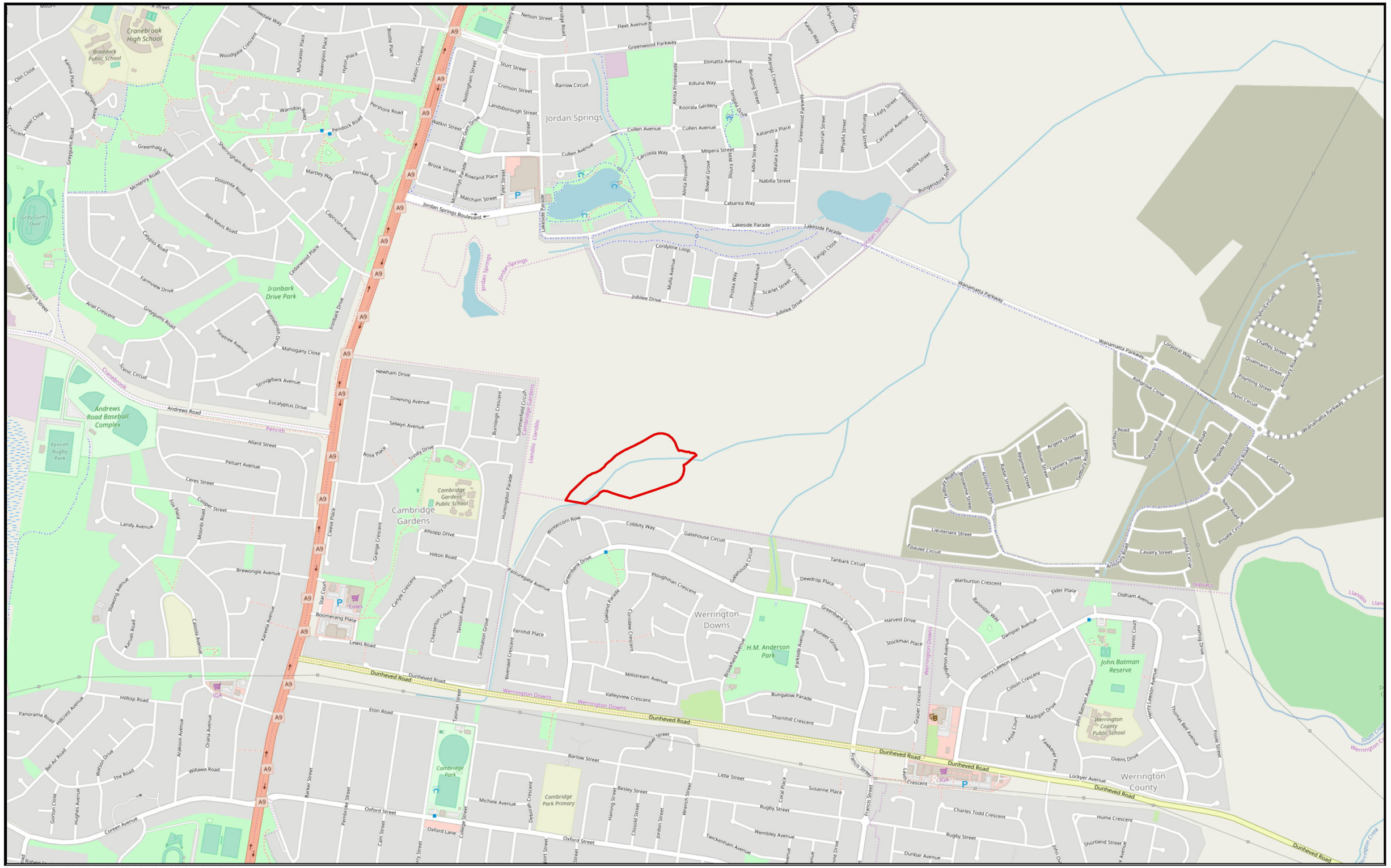
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements and site history, not on sampling and analysis of all media at all locations for all potential contaminants.

Limited sampling and laboratory analyses were undertaken as part of the investigations, as described herein. Ground conditions between sampling locations may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the sites, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Attachment 2 – Figures



Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

0 120 240 480 m

Scale:1:12,500

Datum: GDA 1994 MGA Zone 56 - AHD

Legend:

Basin Footprint

Rev	Description	Drn.	Date
A3			
A	Original Issue - L03	FH	01-06-2018

JBS&G **Figure 1: Site Location**

Client: Marylands Development Company

Project: Central Precinct

Job No: 54614 File Name: 54614_01

Source: Base Image - © Near Map www.nearmap.com, imagery date 20-01-2018.

0 15 30 60 m

Scale:1:1,800

Datum: GDA 1994 MGA Zone 56 - AHD

Rev	Description	Drn.	Date
A3			
B	Original Issue - L03	FH	01-06-2018

Legend:

- Basin Footprint
- Creek
- Permanent Water Line
- Roadway
- Landscaping

JBS&G

Figure 2: Site Layout

Client: Marylands Development Company

Project: Central Precinct

Job No: 54614 File Name: 54614_02