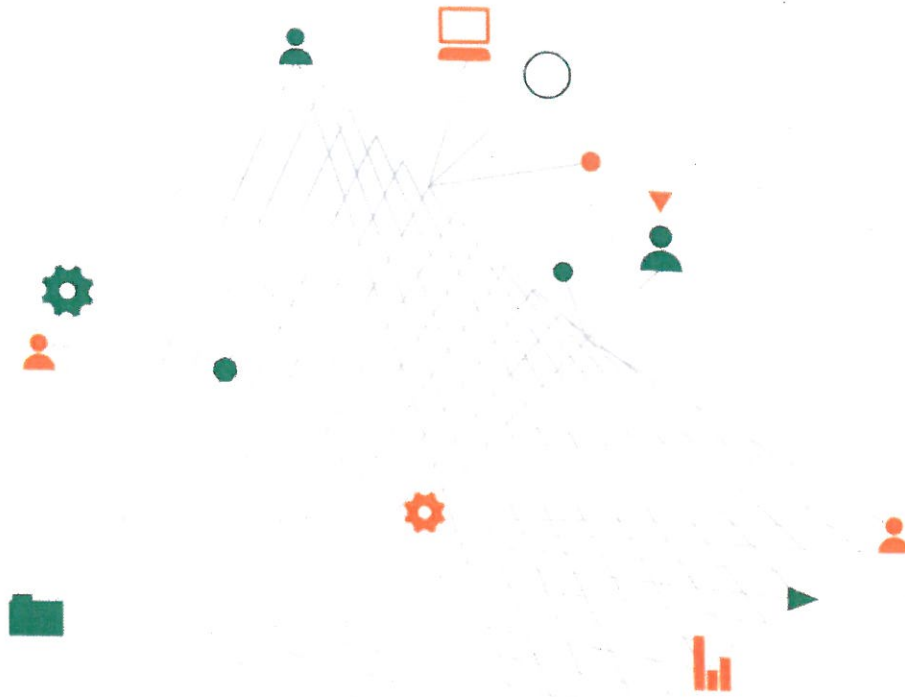


Talbot Road Finance Pty Ltd

Construction Environmental Management Plan – Backfilling Works

1221-1249 Centre Rd & 22 Talbot Ave,  
Oakleigh South, Victoria

25 September 2015



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 Sheet 1 to 37 inclusive

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### Construction Environmental Management Plan – Backfilling Works

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22 September 2015

ENAUABTF00751AA\_R03 Rev10

### Quality information

#### Revision history

Revision	Description	Date	Originator	Reviewer	Approver
Final Rev10	ENAUABTF00751AA_R03 Rev10	25/09/2015	DBA	PS	PS
Final Rev09	ENAUABTF00751AA_R03 Rev09	22/09/2015	DBA	PS	PS
Final Rev08	ENAUABTF00751AA_R03 Rev08	10/06/2015	KV	SC	SC
Final Rev07	ENAUABTF00751AA_R03 Rev07	3/06/2015	KV	SC	SC
Final Rev06	ENAUABTF00751AA_R03 Rev06	4/05/2015	KV	SC	PS
Final Rev05	ENAUABTF00751AA_R03 Rev05	1/12/2014	KV	SC	PS
Final Rev04	ENAUABTF00751AA_R03 Rev04	18/11/2014	KV	SC	PS
Final Rev03	ENAUABTF00751AA_R03 Rev03	09/10/2014	KV	SC	PS
Final Rev02	ENAUABTF00751AA_R03 Rev02	29/09/2014	KV	SC	PS
Final Rev01	ENAUABTF00751AA_R03 Rev01	27/05/2014	KV	SC	PS
Final	ENAUABTF00751AA_R03	26/08/2013	KV	SC	PS
Draft	ENAUABTF00751AA_R03a	14/08/2013	KV	SC	PS

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### Distribution

Report Status	No. of copies	Format	Distributed to	Date
Final Rev10	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	25/09/2015
Final Rev09	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	22/09/2015
Final Rev08	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	10/06/2015
Final Rev07	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	3/06/2015
Final Rev06	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	4/05/2015
Final Rev05	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	1/12/2014
Final Rev04	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	18/11/2014
Final Rev03	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	09/10/2014
Final Rev02	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	29/09/2014
Final Rev01	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	27/05/2014
Final	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	26/08/2013
Final	1	PDF	Coffey Environments Australia Pty Ltd	26/08/2013
Draft	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	14/08/2013
Draft	1	PDF	Talbot Road Finance Pty Ltd c/o Sinclair Brook Pty Ltd	14/08/2013

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- Figure 2: Site Zones and Key Features
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- Figure 4: Extent of Site for Backfilling and Stockpiling
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## Appendix B:

Slimes Thickness Plan (Figure 15 from Coffey Geotechnics Report)

## 1. Introduction

Talbot Road Finance Pty Ltd (Talbot Road Finance) contracted Coffey Environments Australia Pty Ltd (Coffey Environments) to prepare a Construction Environmental Management Plan (CEMP) for the backfilling works at 1221-1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria (the site). The general site location is shown on Figure 1 (Appendix A).

### 1.1 Objective

The purpose of the CEMP is to outline the procedures for clean fill importation, temporary stockpiling of imported fill material, backfilling the large quarry void within Zone 4 as well as the backfilling soil on the balance of the site; for groundwater and gas management, stormwater management and for other associated works, such as the temporary operation of a concrete crusher within the quarry void, to be employed by the Principal Contractor.

The CEMP includes information and guidance in relation to:

- Advising site occupants and contractors of the environmental issues and potential hazards associated with this works;
- Identifying measures to minimise environmental impacts and outline procedures to be followed in accordance with relevant guidance during this works; and
- Minimising potential risks to site workers.

This CEMP relates to the importation of backfill material, temporary stockpiling across the site and backfilling of the quarry void in Zone 4. The CEMP does not address works associated with the remediation of the site, or excavation in other zones of the site. An update to the CEMP would be required to address these items, once the extent of remediation and earthworks across the remainder of the site are known.

This CEMP must be read in conjunction with the Backfill Protocol (ENAUABTF00751AA\_R02\_Rev06, dated 25 September 2015), which stipulates the requirements for the environmental quality of the imported soil and geotechnical considerations.



## 2. Responsibilities and Hierarchy of Documents

This CEMP must be complied with by all persons involved in works associated with the development of the site to which this CEMP applies. The table presented below summarises the parties responsible for the implementation and maintenance of this CEMP. Please note that these responsibilities include but are not limited to:

**Table 2.1 – Table of Responsibilities**

Position / Title	Responsibility
Site Owner / Principal	<ul style="list-style-type: none"> <li>- Preparation of the CEMP (or delegation to Environmental Assessor).</li> <li>- Appointing site management personnel and supporting consultancies including the Environmental Consultant and Geotechnical Consultant.</li> <li>- Provision of the Environmental Management Plan (and Backfill Protocol) to any contractors engaged to import fill material to the site, prior to fill being imported to the site.</li> </ul>
Principal Contractor / Site Manager	<ul style="list-style-type: none"> <li>- Induction and training of personnel and other sub-contractors working at site in regards to requirements of the CEMP.</li> <li>- Overseeing logistics for soil access, importation and placement of material to the site.</li> <li>- Preparation of earthworks and drainage works in compliance with the applicable regulations.</li> <li>- Implementation of overall CEMP.</li> <li>- Maintenance of work process documentation including activity records, job safety analysis (JSAs), health and safety plan etc.</li> <li>- Overseeing of site activities and provision of regular progress reports.</li> <li>- Compliance with the Backfill Protocol.</li> <li>- Ultimate responsibility for management of the site in accordance with this CEMP.</li> <li>- Overall implementation of this CEMP including allocation and identification of resources to meet the requirements.</li> <li>- Implementation of a Quality Assurance Plan.</li> <li>- Undertaking site inspections and dust and noise monitoring.</li> <li>- Completion and maintenance of reports and documentation.</li> <li>- Identification of environmental risks.</li> <li>- Investigation of complaints and ensure effective resolution.</li> <li>- Communication with personnel and subcontractors on compliance with this CEMP.</li> <li>- Appropriate training of all personnel (including subcontractors) and documentation of training.</li> <li>- Modification of environmental controls where dust, gas, noise, runoff etc. are unacceptable.</li> <li>- Allowing the Environmental Auditor, Environmental Consultant and Geotechnical Consultant access to the site with reasonable notice for progress inspections, sampling and testing for the purpose of quality assurance.</li> </ul>

Position / Title	Responsibility
Principal Contractor's Employees	<ul style="list-style-type: none"> <li>- Notifying the Site Manager/Principal Contractor of any situation that may represent a potential health risk</li> <li>- Notifying the Site Manager/Principal Contractor of any potential environmental risk</li> <li>- Reporting incidents and near misses to the Site Manager</li> <li>- Following the directions of the Site Manager and this CEMP.</li> </ul>
Sub-Contractors	<ul style="list-style-type: none"> <li>- Contractual obligations to comply with this CEMP</li> <li>- Attendance at site inductions, where appropriate</li> <li>- Reviewing this CEMP and adding supplemental control procedures, where necessary</li> <li>- Preparation of job safety analysis for specific work activities.</li> </ul>
Project Manager/Superintendent	<ul style="list-style-type: none"> <li>- Supervision of the implementation of the requirements of this CEMP and prioritisation of environmental and OH&amp;S management alongside construction management</li> <li>- Ensuring the preparation of job safety analysis for specific tasks</li> <li>- Ensuring the preparation of a Quality Assurance Plan</li> <li>- Reviewing reports prepared by the environmental and geotechnical consultant</li> <li>- Managing community relations issues and concerns including implementing and maintaining a record of complaints</li> </ul>
EPA Accredited Environmental Auditor	<ul style="list-style-type: none"> <li>- Reviewing any documentation or issues that may have an effect on the final condition of the land at the site. This is considered to be generally related to the quality of the fill material (as detailed in the Backfill Protocol), however this may also extend to environmental issues, if they arise, during the site backfilling operations (such as offsite impacts from stormwater discharge, sediment etc.)</li> <li>- Reviewing all aspects concerning the quality of design and construction work in the context of environmental management of the site including implementation of the CEMP.</li> <li>- Notifying EPA of any 'Imminent Environmental Hazard' arising as a result of the soil stockpiling or backfilling works.</li> </ul>
Environmental Consultant	<ul style="list-style-type: none"> <li>- Providing water quality testing data and advice for the management of surface water discharge (including from the quarry void).</li> <li>- Providing advice on the management of existing soils and sediments within the quarry void, prior to backfilling.</li> <li>- Reviewing of material tracking system.</li> <li>- Reviewing the contractor's compliance with the provisions of the CEMP.</li> </ul>
Geotechnical Consultant	<ul style="list-style-type: none"> <li>- Conducting geotechnical investigations and assessment of the site including geotechnical advice regarding the design of the backfill of Zone 4, as well as the management of Zones 1, 2, 3 and 5 with regard to future development.</li> <li>- Providing Level 1 supervision during site preparation and placement of the fill including visual confirmation of adherence to the environmental criteria.</li> <li>- Undertaking settlement monitoring and prepare a report when the settlement criteria is achieved to permit development on the site</li> <li>- Providing a level 1 compliance report following completion of the backfilling operations.</li> </ul>

## 2.1 Hierarchy of Documents

The CEMP sits within a hierarchy of documents for the site, which govern the Owner's rights and responsibilities to backfill the Zone 4 quarry void and the balance of the site. The hierarchy of these documents is presented as follows:

1. Planning Permit for stockpiling across the Special Use Zone part of the site, and Planning Permit for the backfilling of the quarry pit.
2. Site Backfill Protocol (ENAUABTF00751AA\_R02\_Rev06): this Backfill Protocol provides guidance in assessing the environmental and geotechnical suitability of fill for the backfilling of Zone 4. In doing so, it is intended that the document will provide a specification for the environmental and geotechnical quality of materials proposed for backfill and surety for the appointed Auditor that materials accepted for backfilling are compatible with the proposed end use of the site.
3. Section 173 Agreement: this agreement is between the Council and the Landholder.

### 3. Background Information

The site was formerly used as a sand quarry that comprised several quarry pits. Over the years all but one of the quarry pits have been backfilled with uncontrolled fill (including landfill) and/or soft clay slimes, which are a by-product of sand mining operations.

The site has been divided into five separate zones; designated Zones 1 to 5, which we note generally represent various former quarry pits. These areas are described in the following Table 3.1 and shown in Figure 2.

**Table 3.1: Site Zones**

Zone	Description
Zone 1	A grassed surface with several stockpiles of soil is present in this area. Beneath, Zone 1 comprises a former sand pit that has been used as landfill (generally uncontrolled fill and landfill materials).
Zone 2	This area comprises a former sand pits that has been backfilled with remnant slimes from the former sand mining operations. The surface is generally grassed with some waste over the surface of Zone 2, primarily building rubble and scrap metal.
Zone 3	This area comprises a former sand pit that has been backfilled with poor quality fill (with some timber, concrete, bricks, wire, plastic, tyres etc.) over remnant slimes from the former sand mining operations.
Zone 4	This area is the remaining quarry hole at the site. Backfilling was commenced in the north east portion of the pit using soil stockpiled in Zone 1. It also comprises a quarry lake which has been dewatered for several years in order to irrigate the neighbouring golf course.
Zone 5	This area formerly supported the plant used as part of the sand mining operations It should be noted that uncontrolled fill (with some timber, concrete, bricks, wire etc.) and slimes exist within Zone 5.

*Shaded rows indicate area where stockpiling and backfilling will occur and for which this CEMP has been devised.*

#### 3.1 Surrounding Area

The site is surrounded by Dawles Reserve with an athletics track to the north, residential housing to the east, an Aged Care Centre and Talbot Park Reserve (former landfill site) to the south and the Huntingdale Golf Course to the west of the site and Huntingdale Road.

#### 3.2 Site-Specific Geology

The general geological profile for the site is summarised in Table 3.2. It should be noted however that due to the historical quarrying and filling activities at the site, the site specific geology is highly variable.

**Table 3.2: Site Specific Geology**

Geological Description	Approximate Thickness	Zones
<b>Fill materials</b>		
General soil Fill: variable fill overlying backfilled areas and naturally occurring Brighton Group Formation.	Up to 8 m	All
Slimes: are a waste product generated when the fine sand, clay and silt fractions are washed from natural sands during sand mining operations. Typically, the slimes are stored in a saturated state in former quarry pits, and comprise very soft clays and silts and very loose sands. The slimes are highly compressible, with in-situ moisture contents higher than their liquid limit, giving the slimes fluid properties.	Up to 15 m	Predominantly Zones 2, 3 and 4, with some slimes in Zones 1 and 5*
Landfill/putrescible waste: domestic and solid inert waste was disposed of in Zone 1, and possibly Zone 2 (solid inert waste).	Up to 15 m	Predominantly Zone 1 and Zone 2
<b>Natural soils</b>		
Sand: medium grained, minor gravels, dark brown to orange, organic	1 m	All
Sandy Clay: grey/brown, low plasticity clay with medium to coarse grained sand	> 2 m	All
Clay: grey/brown, moderate plasticity clay, harder and dryer with depth	8 – 12 m	All

\*Refer to Figure 15 from Coffey Geotechnics report (GEOTABTF09257AA-AD\_19 July 2013) in **Appendix B**.

### 3.3 Site-Specific Hydrogeology

The following description of site specific hydrogeology is based on review of existing reports and previous investigation works.

**Table 3.3: Site Specific Hydrogeology**

Item	Description
Depth to Groundwater	<p>Groundwater has previously been intercepted at between 4.5 m depth within the perched groundwater in the slimes, and 9m depth within the natural sands.</p> <p>Historically, stabilised groundwater levels have varied between approximately 1.5m and 12 m depth, depending upon the proximity to fill material, slimes and the quarry void in Zone 4. Recent gauging of available groundwater bores recorded groundwater levels of between 1.4m depth (slimes) and 11.0 m depth (Brighton Group).</p>
Groundwater Occurrence	<p>Shallow groundwater has previously been identified in the slimes present in Zones 1, 2 and 3. The July 2013 monitoring works confirmed the presence of shallow (mounded) groundwater in Zones 1, 2 and 3. It is considered that the shallow groundwater in Zone 1 is more likely to be associated with the landfilled waste, than the slimes in this area.</p> <p>The uppermost regional groundwater has been identified in the Brighton Group aquifer.</p>
Gradient and Groundwater Flow Direction	<p>The direction of groundwater flow is significantly influenced by site controls, including:</p> <ul style="list-style-type: none"> <li>• The former landfill in Zone 1, which has created a groundwater mound (and possibly leachate mound) within the more permeable waste materials.</li> <li>• The existing quarry void in Zone 4, which is acting as a discharge point for groundwater from the site and surrounds. This groundwater depression would have been historically exacerbated due to pumping the water out for use on the Huntingdale Golf Course.</li> <li>• The slime materials, which due to their low permeability have created groundwater mounds with low flow velocities, where present.</li> <li>• The former landfill offsite to the south-east (Talbot Park) may be acting as a groundwater mound; however no groundwater monitoring data within this former landfill has been conducted.</li> </ul>
Hydraulic Conductivity	<p>Previous testing of hydraulic conductivity on site by HLA in 2004 reported a Hydraulic Conductivity range within the Brighton Group aquifer of 0.019 m/day to 0.057 m/day. The published range (Leonard, 1992) for hydraulic conductivity in the Brighton Group is 0.2 to 2.5 m/day which is one to two orders of magnitude greater than the site specific results.</p> <p>The slimes are expected to have a significantly lower hydraulic conductivity than the Brighton Group, as they consist of the fine silt fractions of the Brighton Group.</p>

Item	Description
Aquifer Chemistry	Natural aquifer chemistry within the Brighton Group Formation is expected to be characterised by aerobic conditions. The majority of Brighton Group Formation bores have previously been reported to be sodium chloride rich, which is typical of unimpacted groundwater in Victoria. The pH within the Brighton Group aquifer has previously been reported in the range of 4.6 to 7.5. The lower pH may be reflective of acid producing potential of the black sands of the Brighton Group.

### 3.4 Topography and Surface Water Drainage

The topography of the area generally slopes to south-west with surface elevations generally between 56 m and 64 m AHD. The site topography has been altered significantly by the presence of a quarry void in the south-west portion of the site (Zone 4), and the presence of numerous large soil stockpiles across the remainder of the site.

Stormwater drainage from the site is likely to be to the south-west; however it appears that the majority of the stormwater at the site currently drains to the quarry void low point in the south-eastern portion of the site. It is uncertain whether stormwater from Zone 2 (the proposed temporary stockpiling area) currently drains into the Zone 4 quarry void. The Principal Contractor (Earthworks contractor) is to ensure that all stormwater is managed in accordance with the requirements of Section 5.6.

### 3.5 Contaminants of Potential Concern (COPCs)

Based on the information contained in previous reports for the site, a list of Contaminants of Potential Concern (COPCs) has been prepared. Although it is not expected that disruption of this materials will occur as part of this works, we consider it appropriate that site workers are made aware of the potential contaminates at the site. A list of COPCs in soil, groundwater and soil-vapour are listed in the following Table 3.4.

Table 3.4 – Chemicals of Potential Concern

Chemical of Potential Concern	Possibly Sources and Zones	Environmental Media
Petroleum Hydrocarbons: benzene, toluene, ethyl-benzene and xylenes (BTEX), total petroleum hydrocarbons (TPH)	<ul style="list-style-type: none"> <li>Quarrying activities (all Zones)</li> <li>Concrete batching plant (Zone 5)</li> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> </ul>	Soil Groundwater Gas
Arsenic	<ul style="list-style-type: none"> <li>Naturally occurring</li> </ul>	Soil Groundwater
Cadmium	<ul style="list-style-type: none"> <li>Imported fill (Zone 1)</li> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> <li>Background (groundwater)</li> </ul>	Soil Groundwater

Chemical of Potential Concern	Possibly Sources and Zones	Environmental Media
Copper	<ul style="list-style-type: none"> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> <li>Naturally occurring</li> </ul>	Groundwater
Mercury	<ul style="list-style-type: none"> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> </ul>	Groundwater Soil
Lead	<ul style="list-style-type: none"> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> <li>Concrete batching plant and/or imported Fill (Zone 5)</li> </ul>	Soil
Nickel	<ul style="list-style-type: none"> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> <li>Naturally occurring</li> </ul>	Soil Groundwater
Zinc	<ul style="list-style-type: none"> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> <li>Naturally occurring</li> </ul>	Soil Groundwater
Other metals: beryllium, chromium, vanadium	<ul style="list-style-type: none"> <li>Unknown<sup>1</sup></li> </ul>	Soil
PAHs and phenols	<ul style="list-style-type: none"> <li>Foundry sands potentially imported to site.</li> <li>Landfilling putrescible waste (Zone 1)</li> <li>Landfilling solid inert and other solid wastes (Zones 2 and 3)</li> </ul>	Soil
Pesticides (DDT, DDE, dieldrin)	<ul style="list-style-type: none"> <li>Market gardens: Zone 4</li> </ul>	Lake Sediment <sup>1</sup>
Ammonia	<ul style="list-style-type: none"> <li>Landfill (Zone 1)</li> <li>Landfill (Talbot Park)</li> </ul>	Groundwater
Nitrate and TKN	<ul style="list-style-type: none"> <li>Landfill (Zone 1)</li> <li>Landfill (Talbot Park)</li> <li>Background</li> </ul>	Groundwater
Landfill gases: methane and carbon dioxide	<ul style="list-style-type: none"> <li>Landfill (Zone 1)</li> <li>Landfill (Talbot Park)</li> <li>Landfill/Fill material (Zone 2)</li> </ul>	Gas Ambient air

1. Referred to in Lane Piper presentation (2010), however relevant reports not available.



Low level chlorinated hydrocarbons were reported in the HLA 2005 groundwater investigation, however all concentrations were below the adopted criteria, therefore these chemicals were not considered to represent a significant contaminant of potential concern for the site. ~~DB~~

### 3.6 Landfill Gas

Victorian EPA Publication 788.1 sets action levels of 1 %v/v methane and 1.5 %v/v carbon dioxide (above background) in the subsurface geology at the landfill boundary and in services on and adjacent to the site. Results from the recent landfill gas monitoring event conducted in April 2014 reported methane concentrations above the 1%v/v action level in the following locations (please refer to Figure 3 for borehole locations): ~~DB~~

- Adjacent to Talbot Park former landfill at GB05;
- Along the northern boundary in Zone 1 at GB15, GB32 and GB37;
- Along the western boundary of Zone 1 at GB47;
- Within the former landfill in Zone 1 at GB23;
- Along the Zone 1 and Zone 4 boundary at GB54B, GB55, and GB56; and
- Within fill in Zone 3 at GB28.

### 3.7 Current Site Conditions

As detailed in Table 3.1 and shown on Figures 2 and 3 (Appendix A), there are different zones and hazards across the site which site workers need to be aware of. These hazards include:

- Uncontrolled fill across the site.
- Landfill materials within Zones 1 and 2.
- Slimes from former sand mining operations across the site (refer to Appendix B).
- Quarry lake within Zone 4.
- Various stockpiles across the site.

The Principal Contractor (Earthworks contractor) must consider these issues and associated risks in conducting the prescribed works.

#### 4. Environmental Regulatory Requirements

Key regulations, legislation and policies considered most applicable to environmental management during excavation and construction works include:

- Construction Techniques for Sediment and Pollution Control, EPA Publication 275, Environment Protection Authority Victoria (May, 1991).
- Department of Sustainability and Environment (DSE) General Practice Note – Potentially Contaminated Land (June 2005);
- Environmental Guidelines for Major Construction Sites, Publication No. 480, Environment Protection Authority Victoria (February, 1996);
- Environment Protection Act 1970;
- Industry Standard Contaminated Construction Sites, Worksafe (2005);
- Industrial Waste Management Policy (Prescribed Industrial Waste) No. S183, Environment Protection Authority Victoria (2000);
- Industrial Waste and Resource Guideline ‘Soil Hazard Categorisation and Management’, Publication No. IWRG 621, Environment Protection Authority Victoria (July 2009);
- Industrial Waste and Resource Guideline ‘Solid Industrial Waste Hazard Categorisation and Management’, Publication No. IWRG 631, Environment Protection Authority Victoria (June 2009);
- Industrial Waste and Resource Guideline ‘Asbestos Transport and Disposal’, Publication No. IWRG 611.1, Environment Protection Authority Victoria (July 2009);
- Industrial Waste and Resource Guidelines ‘Soils Sampling’, Publication No.702, Environment Protection Authority, June 2009;
- Industrial Waste Fact Sheet, Publication No. 1436-1442, Environment Protection Authority Victoria (February 2012);
- National Environment Protection (Assessment of Site Contamination) Measure, National Environment Protection Council (2013);
- Noise Control Guidelines, Publication No. 1254, Environment Protection Authority Victoria (October 2008);
- State Environment Protection Policy (Prevention and Management of Contamination of Land) No. S95, Environment Protection Authority of Victoria, (2002);
- State Environment Protection Policy (Waters of Victoria), No. S107, Environment Protection Authority Victoria (2003);
- State Environment Protection Policy (Groundwaters of Victoria), Environment Protection Authority Victoria (1997);
- Waste Categorization, Publication No. IWRG 600.2, Environment Protection Authority Victoria (December 2010);
- State Environment Protection Policy (Ambient Air Quality), Environmental Protection Authority, No. S19, Gazette 9/2/1999;

Construction Environmental Management Plan – Backfilling Works (CEMP)  
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- State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade), Environmental Protection Authority, No. S183, Gazette 31/10/2001;
- Occupational Health and Safety (Asbestos) Regulations 2003, S.R. No. 16/2003;
- Australian Standard (AS 1940-1993) (The Storage and Handling of Flammable and Combustible Liquids.);
- Dangerous Goods Storage and Handling Regulations (2000); and
- Litter Act 1987 and the Environment Protection Act 1970.

## **5. Minimisation of Potential Environmental Impacts**

To minimise potential environmental impacts, all work should be conducted in accordance with relevant EPA legislation, regulations and guidelines and the guidance set out in this CEMP.

### **5.1 Staff Training Requirements**

All site workers should be inducted by the Principal Contractor and must understand their obligations under the Environment Protection Act 1970 (EPA) Regulations, Guidelines and Fact Sheets.

All site workers should be inducted and aware of this CEMP and their obligations prior to undertaking any works onsite. Details of this induction documentation should be documented and retained at the offices of the Site Owner/Principal.

The Principal Contractor/Site Manager shall be responsible for communicating the responsibilities of this CEMP to all personnel, including their sub-contractors. The induction training shall ensure that all site personnel are aware of this CEMP and the environmental issues and controls outlined within this CEMP. Personnel must sign an induction registry prior to commencing work. An induction registry shall be located on site.

Additional training including knowledge, skills and awareness shall be provided to personnel to ensure impact to the environment is minimised.

### **5.2 Community Engagement**

To minimise disruptions to the local community (such as loss of services, traffic, alterations to footpaths etc.) and to limit any complaints received, the following measures should be taken:

- As a minimum, no works shall be conducted before 7 am and after 6 pm Monday to Friday and before 8 am and after 12 pm on Saturdays (or as per operating hours stipulated within planning/building permits). No work will be permitted on Sundays or public holidays.
- Complaints should be handled efficiently and effectively. The Principal Contractor should have a Complaints Handling Process in place which will document, assess, investigate and respond to the complainants in a timely manner. All complaints must be reported to the Project Manager/Superintendent within 1 hour of being received.

### **5.3 Traffic Management**

A Traffic Management Plan (TMP) is required to be supplied and implemented by the Principal Contractor. The TMP should comply with VicRoads and Council requirements and be approved by the Responsible Authorities.

### **5.4 Fill Material Acceptance and Soil Backfilling Protocol**

Please refer to the Site Backfilling Protocol (ENAUABTF00751AA\_R02\_Rev06, dated 25 September 2015). This document outlines in detail the following:

- Soil acceptance criteria.
- Process of soil assessment and acceptance.
  - Source site identification and screening

- Phase 1 source site history assessment
- Soil sampling and assessment regime
- Assessment of source site for acceptance of material
- Soil importation and validation regimes
- In-situ validation sampling.
- Geotechnical requirements.
  - Site preparation
  - Importing fill materials
  - Placement and compaction of fill materials
- Reporting requirements.

Please note that backfilling of Zone 4 will also need to be undertaken in accordance with the site specific Geotechnical Specifications within the Backfill Design Report (ref. GEOTABTF09257AA-AQ dated 25 September 2015).

## 5.5 Surface Water Management

The existing quarry void in Zone 4 contains significant volumes of surface water. In order to allow backfilling, the existing surface water will need to be removed from site prior to earthworks commencing. It is essential that the relevant regulations and approvals are obtained prior to removal. Based on further site specific assessment of the receiving environments, the surface water in Zone 4 quarry void may be suitable for:

- Irrigation to the Huntingdale Golf Course.
- Stormwater discharge from site.
- Discharge to sewer.
- Dust suppression.

Water quality testing and approval from the Environmental Consultant must be obtained before use of the surface water from the quarry void for any of these options is commenced.

## 5.6 Stormwater, Erosion and Sediment Control

Soil eroded during land disturbance and vegetation removal can wash away and contaminate stormwater. If contaminated stormwater enters a drainage line or stormwater drainage system it will eventually discharge into an adjacent waterway and pollute it. These contaminants, attached to soil particles, can ultimately be transferred to waterways through sedimentation of stormwater.

Measures to minimise the potential for stormwater sedimentation include the following:

- Keep land clearance to a minimum. Revegetate and mulch the cleared land as soon as possible, especially in areas of steep slope and /or highly erodible soils which are prone to wind and water erosion.
- Install a stormwater drainage system prior to any land disturbance activities commence.

- Install rock structures, hay bales, geofabric on the site to retard water flows (where high water flows are expected) and reduce erosion and runoff.
- Place sediment control devices (like geotextile fences and straw bales) around stormwater drains and stockpiles.
- Use sediment detention dams, ponds or basins to hold sediment contaminated run-off long enough for suspended sediment to settle. Any water to be discharged offsite would need to meet the appropriate EPA and State Environmental Protection Policy (SEPP, Water of Victoria) guidelines.
- Ensure vehicles are free from excess soil when leaving the site, to avoid tracking soil off-site.
- Clean up any soil spilt on roads adjoining the site.
- Establish a vehicle wash down area, if necessary.
- Avoid conducting vehicle or machinery maintenance on-site, where feasible.
- Ensure any fuel, oil or other chemicals are stored safely and securely and are prevented from leaking. Only store chemicals on site if absolutely necessary, and if unavoidable, prior approval from the Site Owner is required, along with provision of Material Safety Data Sheets (MSDS).
- Repair or remove any leaking containers or machinery from the site.
- Clean up any spilt fuel, oil or other chemicals.
- Check sediment control measures regularly (at least daily) and clean and maintain as necessary.
- Inspect sediment control measures more frequently during rain periods, to ensure they are adequate.
- Use of designated haul roads for vehicular traffic. Ensure that haul roads are stabilised with gravel or similar all weather material and are positioned away from sensitive receivers.
- As outlined in Section 5.11 (Noise Control), soil mounds will act as an additional sediment control measure. Please refer to Section 5.11 and Figure 4 (Appendix A) for further details on the location and extent of these soil mounds.

## 5.7 Stockpile and Batter Management

The following measures should be taken to reduce the potential source of dust and sediment runoff from stockpiles. These measures should be read in conjunction with the stockpile management measures for the site as outlined in the Site Backfilling Protocol (ENAUABTF00751AA\_R02\_Rev06, dated 25 September 2015):

- Prior to the stockpiling of the imported materials, the stockpile locations should be stripped of any vegetation or unsuitable materials to reduce the potential for contamination of the stockpiles with unsuitable materials. Unsuitable materials which are stripped off this area must be stockpiled in an area outside of Zone 2 in an area designated by the Environmental Consultant or Geotechnical Consultant.
- The revised ground level must be surveyed by a licensed surveyor prior to importing materials for stockpiling.
- Stockpiles should be located away from drainage lines and waterways, and in an area where they are protected by wind.

- Surround stockpiles with silt fences or drainage systems that will collect and correctly dispose of contaminated water.
- Segregate stockpiles of different materials to prevent inconsistent mixing of materials.
- The final stockpile extent must be surveyed by a licensed surveyor, and the calculated volume of soil provided to the Site Owner.
- Ensure that slimes are securely cordoned off and appropriate signs are in place to warn of potential hazards.
- The stockpiled material should be placed in accordance with the height restrictions of 3 m height. Batter slopes on the stockpiles should be no steeper than 1V:1.5H.
- Under the Section 173 Agreement (condition 4.2.8), it states that if reasonably requested to do so by any affected resident having a line a sight from his or her property to the stockpiles on site, screening of such stockpiles from view by shade cloth or similar means is required. If such a request is made by a resident, then this requirement must be implemented in consultation with the Site Owner or Project Manager/Superintendent.
- Stockpiling of soil across the site is expected to be temporary.

Please refer to Figure 4 (Appendix A) for details of designated buffer zones, stockpiling and backfilling areas. Existing site contours (at the time of surveying) and existing vegetation are shown on Figure 5 (Appendix A).

## 5.8 Road Cleaning \*

Where it is required that vehicles move on and off site regularly, it is possible that these vehicles will transport soil off the site and deposit it on adjacent roads. This can lead to increased dust created by other vehicles driving over deposited soil, sedimentation of stormwater from the roads and contamination of other vehicles using the road. To minimise the incidence of soil being tracked onto surrounding roads, the following options should be considered:

- Install wheel washes and rumble grids at all main exits from the site.
- Ensure that roads are swept at least once per day on uncontrolled road crossings when construction vehicles are travelling off the site.
- Install litter traps lined with filter cloth in all road drainage in proximity to road crossings.
- Cover all loads of soil being taken off-site.

## 5.9 Dust Control

During all site works, the following measures should be taken to protect surrounding residents and the health of employees:

- Minimise the movement and speed of vehicles on the site.
- Ensure the main haul roads are covered with rock and/or gravel.
- Minimise movement of soils during importation of clean fill, stockpiling and backfilling.
- Use a water spray to dampen vehicle tracks, if excess dust is generated.
- Use a water spray to dampen soil prior to and during movement, if excessive dust is generated.

\* Street sweeping is to be undertaken upon request & to the satisfaction of the City of Monash & Vic Roads. Cleaning & maintaining of the adjacent main roads will require Vic Roads approval.

- Where stockpiles of clean fill will not be active for 28 days or longer consideration should be given to revegetation.
- A temporary concrete crusher will be employed to crush concrete for use in the base on the Zone 4 quarry void. The operation of the concrete crusher should be conducted within the quarry void to minimise dust generation to surrounding areas. Concrete crushing will be completed within 3 months of commencement of the project.

Please note that if additives in the water are used (to enhance dust suppression), the additives used should have no adverse environmental impacts.

By drying the slimes to a moisture content of approximately 25%, dust production will be kept to a relatively low level. Should adverse weather conditions for dust production occur (hot and windy for a period of days; e.g. days predicted to be in excess of 35°C or with a strong wind direction change) then some dust suppression by means of watering will be applied. Facilities to apply water to the slimes will be available on site; comprising either a water cart or a temporary reticulated spray system. Figure 4 (Appendix A) shows the designated bunded slimes drying area.

### 5.10 Odour Control

This CEMP is for the importation and backfill of clean fill material only. However, in the event that odorous soils are encountered onsite, the following measures can be taken to assist in minimising the generation of odour:

- Discontinue works until the odours have dissipated.
- Spray a suitable vapour suppressant, if required.
- Avoid extended stockpiling of odorous soils on site.
- Cover stockpiles of odorous soils with clean soil or plastic sheeting.

### 5.11 Noise Control

The Principal Contractor should provide adequate hearing protection for all site personnel in accordance with the relevant guidelines and as outlined in the site specific health and safety plan. Measures that can be taken to assist in minimising the generation of noise beyond the site boundaries include:

- All plant and equipment should be serviced by a qualified mechanic and maintained in full working order.
- Minimise the duration of loud activities such as the use of excavators, construction equipment and vehicles.
- Ensure that all noise emissions comply with relevant guidelines such as those required in the Section 173 Agreement (SEPP N-1 (Control of Noise from Industry, Commerce and Trade)).
- As a minimum, works shall not be conducted before 7 am and after 6 pm Monday to Friday and before 8 am and after 12 pm on Saturdays in compliance with SEPP N-1. No work will be permitted on Sundays or public holidays.
- A temporary concrete crusher will be employed to crush concrete for use in the base on the Zone 4 quarry void. Concrete crushing will be completed within 3 months of commencement of the project. The operation of the concrete crusher should be conducted within the quarry void to minimise noise.



impact on adjacent residents and to surrounding areas. The quarry walls will act as a barrier and minimise noise transport to off-site areas. \*

- As an additional noise control measure, soil mounds (sediment and noise barriers) are present or will be constructed along all residential boundaries (as a minimum) and are to be 2 to 3m in height. Where there are existing amenity mounds closer to the boundary, they will be retained. The existing amenity mounds on the eastern boundary will be made continuous along the existing alignment. New amenity mounds will be setback 30 m from the site boundaries to the apex of the mound. The soil mounds will extend along the northern boundary of Zones 1 and 3. There will be no amenity mounds facing Talbot Park or along the western boundary of Zone 4 as shown in Figure 4, Appendix A.

### 5.12 Site Security and Fencing

The Principal Contactor is responsible for ensuring that regular evaluation of the site security is undertaken. To prevent unauthorised personnel accessing the site and unauthorised dumping on the site please ensure that appropriate fences and barriers are erected prior to any works being undertaken.

### 5.13 Chemical and Hazardous Material Management

It is possible that limited quantities of dangerous goods may need to be temporarily stored onsite for site operations. Storage and handling of dangerous goods shall be in accordance with relevant Australian Standards and state legislation and guidelines. To manage dangerous goods, one or more of the following may be implemented:

- The required signs and placards are appropriately displayed.
- Material Safety Data Sheets maintained for dangerous goods brought onto the site.
- No dangerous goods are to enter the site without prior advice and until suitable storage facilities are provided.
- Transport of dangerous goods off site is only undertaken by licensed contractors and relevant permits and approvals will be obtained for transport off site and disposal.
- Only staff that are suitably qualified in the handling and storage of dangerous goods will have access and permission to use and store dangerous goods.
- Store within housing, bunding or covering to prevent exposure to the elements and to reduce potential for disturbance, rainwater infiltration, spills, solubilisation and overflow.
- Chemicals shall be stored so they do not pose a threat to the environment, local flora and fauna or human health.

If any of the following is encountered on or the near the site, the Environmental Consultant should be notified immediately:

- Asbestos or asbestos containing material (ACM). It is noted that an existing ACM fence is located on the western boundary of Zone 4, as detailed in the clients Site Safety Induction handbook (April 2013). This area must be avoided whilst working in the Zone 4 area, until such time as the fencing is removed and an asbestos clearance certificate issued. These works are beyond the scope of this CEMP.
- Contaminated, toxic or infective material.

\* Council is to be notified in writing upon commencement of use of the concrete crusher.

- Flammable or explosive liquids, gases or chemicals.
- Storage tanks or containers which have stored contaminated, explosive, flammable, toxic or infective substances.
- Radioactive materials.

### **5.14 Environmental Monitoring**

Regular monitoring of air and water is required to assess whether standards are being complied with and sensitive receptors of the environment are not being impacted. The following should also be undertaken:

- Prepare and implement an inspection, monitoring and audit program.
- Regular independent audits of the stormwater management system and environmental performance should be completed.
- Any environmental incidents are to be reported to the Principal Contractors Management Director and the Site Owner or Site Owner's representative. An 'Environmental Incident Report' should be documented and investigated appropriately. The Environmental Incident Report should include the following details (as a minimum):
  - Date and time of incident;
  - Persons involved and any witnesses;
  - Potential environmental impact; and
  - Investigation, outcomes and recommendations.
- Where any offsite disposal of soil, sediment or surface water is to be conducted, environmental monitoring and laboratory analysis is to be completed in conjunction with the Environmental Assessor. This must be done prior to offsite disposal, and during offsite disposal as required by any relevant permits (e.g. for sewer or stormwater disposal of quarry water).

### **5.15 Vibration Control**

Vibration control measures may need to be implemented during the instillation of piles and possibly while compacting engineered fill. The following measures should be undertaken:

- Baseline vibration monitoring should be undertaken prior to construction works, to assess any impact during construction works.
- Select appropriately sized machinery and equipment and design procedures for use in order to comply with vibration emission limits where practicable.
- Ensure equipment is operated and maintained in accordance with the manufacturer's instructions including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines and shutting down equipment not in use.

## 5.16 Litter Control

To manage litter generated during construction works, the following may be implemented:

- Provide bins for general waste at prominent waste generation areas within the site (e.g. Lunch rooms, on-site offices).
- Use mesh bins for larger items such as cardboard boxes, plastic wrapping and polystyrene.
- Empty litter bin regularly and don't allow overflow.
- If possible, provide clearly labelled segregated bins for recyclable materials.
- Ensure all litter is handled according to the Litter Act 1987 and the Environment Protection Act 1970.
- Ensure that litter is not left where it can be washed or blown off-site and ensure litter does not end up in nearby waterways.
- Provide fencing around site to capture floating materials.
- Clean litter from key areas of the site daily and the entire site at least weekly.
- Dispose or recycle construction material packaging as soon as possible.
- Bag sweepings and cover skips if necessary to prevent litter from exiting the site by the actions of wind, vermin, wildlife or trespassers.
- Provide visible educational materials about the importance of litter management.

## 5.17 Buffer Zones, Vegetation and Existing Site Levels

The following buffer zones must be maintained, as shown on Figures 4 and 6 attached:

- Retention of all existing soil mounds within 40 m of the site boundary;
- All works within the site setback a minimum of 30 m from the boundary of the land, unless specific approval has been granted by council;
- Retention of existing grassed areas and vegetation within 30 m from the boundary of the land, unless specific approval has been granted by council. Existing vegetation is shown on Figure 5 attached;
- Staff parking and site sheds setback a minimum of 30 m from the boundary of the land;
- The setback of the concrete crusher within the existing quarry pit 50 m from the boundary of the land; and
- Stockpiles are to be no higher than 3 m above the natural ground level immediately adjacent to site boundaries. Existing site contours are shown on Figure 5 attached.

## 6. Minimisation of Potential Risk to Health of Site Workers

Work conducted on the site must comply with relevant sections of the Victorian Occupational Health and Safety (OH&S) Regulations. The Contractor shall ensure OH&S measures are implemented and that all site workers (including those employed / engaged by sub-contractors) are aware of OH&S issues at the site. The Principal Contractor is responsible for providing the induction briefing to all personnel working on the site.

The site induction should include reference to this CEMP. It is noted that excavation of contaminated material is not expected to occur as part of this works.

Subcontractors shall prepare their own site specific OH&S plan and appropriate Safe Work Method Statements (SWMSs) or similar, to include the controls described in this plan.

Potential pathways for site workers' contact with the potential contaminants during site works include:

- Ingestion of contaminated soil.
- Inhalation of dust.
- Inhalation of organic vapours.
- Dermal (skin) contact.

During earth works onsite, visitors who do not complete the induction briefing must be accompanied at all times by a nominated site representative (e.g. project manager).

Measures to manage exposure of site workers to potential soil contaminants (to be enacted by nominated contractor) during construction on site include the following:

### 6.1 Administration Measures

- Each employee on site (including sub-contractor's employees / engaged workers) is to undergo the site induction.
- Unnecessary personnel shall be excluded from entering work areas where contaminated soil is present.
- Signage shall be placed at the entrance/s to work areas to clearly limit access to designated personnel and to define the personal protective equipment (PPE) requirements for designated personnel to enter and work in the area.

### 6.2 Hygiene Measures

- Avoid handling of potentially contaminated soil.
- Adequate on-site hand washing facilities should be provided – workers should wash hands and face before eating, drinking or smoking.
- Avoid activities that may introduce soil to the mouth, such as nail biting.
- A designated clean area for storage and consumption of food and drink should be provided - all food and drink should be stored and consumed within this designated "clean" area.
- Store personal protective equipment, such as respirators, in a clean place to avoid contamination.

- Soiled clothing and footwear should be removed before leaving the site.

### 6.3 Personal Protective Equipment

- Use personal protective equipment (PPE) as required. In addition to standard construction site PPE, (e.g. hard hats, safety boots, safety glasses and hearing protection) the following may include:
  - Impermeable (latex or nitrile) gloves, if handling potentially contaminated soil or water.
  - Long sleeved shirt and long trousers.
  - Respirators – P3 cartridge and ABEK1 including organics filters.

### 6.4 Monitoring

#### 6.4.1 Dust

Dust suppression measures should be employed at all times when it is considered likely that airborne dust will be generated (e.g. when dry topsoils are being worked). The presence of airborne dust should be monitored visually and if suspected to be elevated, formal monitoring may be required. In the event of formal monitoring being considered necessary, action should be taken according to the table below.

#### Action Levels: Dust / Particulates

0 to 5 mg/m <sup>3</sup>	No additional PPE required
6 to 15 mg/m <sup>3</sup>	Half face with P3 cartridge respirator
Above 15 mg/m <sup>3</sup>	<u>Immediately</u> withdraw from area and contact project manager for further advice.

#### 6.4.2 Breathable Air Quality

Should evidence of contaminants such as volatile hydrocarbons be noted, continuous breathable air quality monitoring (with a Photo-ionisation detector (PID) or lower explosive limit (LEL)) should be conducted. Please contact an Environmental Consultant for further instructions if this is required.

## 7. Protecting the existing Environmental Monitoring Network

There are numerous groundwater monitoring wells and gas bores which have been installed across the site to monitor groundwater, soil and air quality to ensure that it is not impacting on the health of site users or the environment. All locations are to be retained in a serviceable condition (such that samples can be collected). Please refer to Figure 3 (Appendix A) for bore locations requiring protection.

The Principal Contractor is responsible for ensuring that monitoring wells and gas bores are not damaged and if any damage to wells/bores or gatics does occur, it should be rectified as soon as practicable in consultation with the Site Owner, Site Owner's representative and the Environmental Assessor.

If a monitoring well requires relocation due to being irreparable, the location of the proposed new well is to be as close as possible to the existing well and the location is to be approved by the Environmental Auditor/Environmental consultant (as detailed in the table of responsibilities). The damaged monitoring well need to be decommissioned in accordance with the license conditions under which it was installed. Please note, it is an offence under the *Water Act 1989* to install, alter or decommission a groundwater monitoring well without the appropriate license (and only by driller licensed to undertake such works). Where a monitoring well is re-located, the gatic cover must be appropriate and the monitoring well is to be surveyed to AMG and AHD co-ordinates.

It is the responsibility of the site owner (who may delegate this responsibility to construction contractors) to ensure the monitoring well and gas bore network is maintained. Should a location require re-installation, it will be the responsibility of the site owner (or delegates) to commission such works.

## **8. CEMP Surveillance, Revision and reporting**

### **8.1 Surveillance**

It is recommended that a mechanism for surveillance and internal reporting of CEMP compliance performance by all stakeholders be implemented by the site owners for site works. This may include the following components:

- Appointment of a representative (e.g. project manager or site foreman) who has responsibility for controlling all works at the site.
- Maintaining a log that records any breaches of the requirements of the CEMP and outlines actions taken to prevent recurrence of the breach.
- Maintain a record of site inspections by the site owner and site contractor to confirm compliance with the requirements of the CEMP by site workers.

### **8.2 Review**

It is recommended that this CEMP is reviewed by a competent person prior to the commencement of works and after any changes in site conditions, work requirements, legislation, environmental conditions and other relevant factors. The CEMP should be revised to reflect any changes and provide adequate procedures for ensuring continued public and environmental safety and compliance with legislation.

### **8.3 Time Frame and Revision**

It is anticipated that this CEMP will remain in effect during the completion of all works associated with the importation and temporary stockpiling of fill material to the site and backfilling of the Zone 4 quarry and the balance of the site. The CEMP will be required to be updated for further bulk earthworks, remediation works, or subsequent construction works associated with the development of the site.

### **8.4 Reporting**

It is recommended that the site owners (and/or delegates) maintain documentation demonstrating that the requirements of this CEMP have been met. Such documentation is likely to include records of Material Tracking documentation, Environmental Incident Forms, Fill Receipt Books, Site Inspection Forms and Complaint Forms in accordance with EPAV requirements.

## 9. Limitations

The details in this CEMP are relevant to works including the importation of fill material, temporary stockpiling of material in Zone 2 and backfilling of Zone 4 quarry and the balance of the site. The CEMP does not take into consideration potential remedial works and excavation of soils across the site. This CEMP is relevant to conditions of the site and applicable legislation at the time of reporting and does not take into consideration potential for changes in the future.

This report should be read in conjunction with 'Important Information about Coffey Environmental Report'.



## 10. References

The following references were used in this report.

**Australian Standard AS12895.1.1 – 2003.** *Methods of testing soils for engineering purposes - Soil compaction and density tests - Determination of the dry density or moisture content relation of a soil using modified compactive effort.*

**Australian Standard AS12895.4.1 – 2007.** *Methods of testing soils for engineering purposes - Soil compaction and density tests - Compaction control test - Dry density ratio, moisture variation and moisture ratio.*

**Australian Standard AS3798-2007:** *'Guidelines on Earthworks for Commercial and Residential Developments'*

**Coffey Environments (2015), R02 Rev06 – Site Backfilling Protocol, 1221-1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria. ( 25 September 2015).**

**Coffey Environments (2013), R01 Rev02 –Issues Summary Report, 1221-1149 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria. (17 June 2014).**

**Environment Protection Act (1970).** State of Victoria.

**Environment Protection Authority Victoria (1996)** *Environmental Guidelines for Major Construction Sites*, Publication No. 480.

**Environment Protection Authority Victoria (1998a)** *Environment Protection (Prescribed Waste) Regulations.*

**Environment Protection Authority Victoria (2009)** *Industrial Waste and Resource Guideline 'Soil Hazard Categorisation and Management'*, Publication No. 621.

**Environment Protection Authority Victoria (2009)** *Industrial Waste and Resource Guidelines 'Soils Sampling'*, Publication No.702.

**Environment Protection Authority Victoria (2009)** *Industrial Waste and Resource Guidelines 'Soils Sampling'*, Publication No.703.

**Environment Protection Authority Victoria (2000)** *Industrial Waste Management Policy (Prescribed Industrial Waste)* No. S183.

**Environment Protection Authority Victoria (2012)** *Industrial Waste and Resource Fact Sheets No. 1436-1442.*

**Environment Protection Authority Victoria (2008)** *Noise Control Guidelines*, Publication No. 1254.

**NEPM (2013).** *National Environment Protection (Assessment of Site Contamination) Measure, National Environment Protection Council, December 1999.*

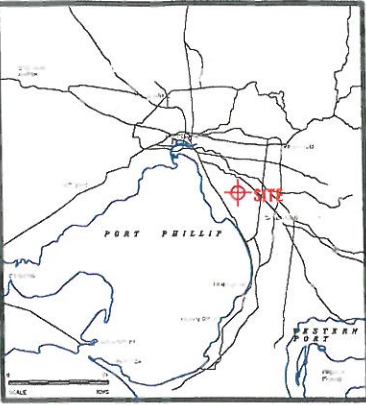
**Department of Sustainability and Environment (2005)** *Potentially Contaminated Land, General Practice Notice.*

**State Environment Protection Policy (Prevention and Management of Contamination of Land).** S95, 4th June 2002. Environment Protection Authority Victoria.

**State Environment Protection Policy (Waters of Victoria),** No. S107, Environment Protection Authority Victoria (2003).

# Appendix A

## Figures



GENERAL AREA MAP

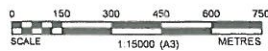


REGIONAL AREA MAP

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DRAWN BY: P. RYAN; CHECKED BY: P. RYAN; DATE: 30.04.15; PROJECT: TALBOT ROAD FINANCE PTY LTD; DRAWING: SITE LOCALITY PLAN

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Client:  
**TALBOT ROAD FINANCE  
 PTY LTD**

Project:  
**CONSTRUCTION ENVIRONMENTAL  
 MANAGEMENT PLAN**

Drawing Title:  
**SITE LOCALITY PLAN**

Rev	Date	Revision Details	Drn
1	30.04.15	ISSUE	HU

Location:  
 1221-1249 CENTRE ROAD & 22 TALBOT AVENUE  
 OAKLEIGH SOUTH, VICTORIA

Drawn HU	Date 30.04.15
Project - Drawing No. ENAUJ8TF00751AA-R03-D02	Figure No. Rev. 1 A



**LEGEND**

- TITLE PEG
- ▲ T.B.M.
- Ⓜ CAMERA LOCATION & PHOTO NUMBER
- 🌳 SINGLE TREE
- ⚡ GATE
- ⚡ STAY FOR POLE
- Ⓜ TELECOMMUNICATIONS PIT
- ⚡ VENT POLE
- 🔥 FIRE HYDRANT
- Ⓜ SETBACK FROM FENCELINE

- TITLE
- DCHB LINEWORK
- FENCE
- TOP OF BANK
- TOE OF BANK
- CONCRETE KERB AND CHANNEL
- DRAINAGE INVERT
- PLANNING ZONE BOUNDARY

**AREAS NOT SAFE TO SURVEY**

- CONCRETE
- BITUMEN
- GROUP OF TREES
- BUILDINGS
- DAM
- SOIL EMBANKMENTS
- SOIL STOCKPILE
- FILL PLATFORM

- S SEWERAGE
- D DRAINAGE
- T TELECOMMUNICATIONS
- G GAS
- W WATER
- E ELECTRICITY
- OVERHEAD ELECTRICITY

SOURCE: TAYLORS DETAIL SURVEY PLAN (REF 1808/5, REV A, 12/06/13)

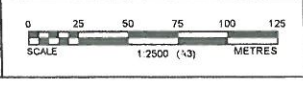
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**TALBOT ROAD FINANCE  
 PTY LTD**

Project:  
**CONSTRUCTION ENVIRONMENTAL  
 MANAGEMENT PLAN**

Drawing Title:  
**SITE ZONES & KEY FEATURES**

Rev	Date	Revision Details	Drn
A	25.09.14	ISSUE	HU



Location:  
 1221-1249 CENTRE ROAD & 22 TALBOT AVENUE  
 OAKLEIGH SOUTH, VICTORIA

Drawn HU	Date 25.09.14
Project - Drawing No. ENAUABTF00751AA-R03-D02	Figure No. 2
	Rev. A

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LEGEND	
	EXISTING GAS BORE
	STORMWATER PIT
	TELSTRA PIT
	ELECTRICAL PIT
	FIRE HYDRANT
	UNKNOWN
	PROPOSED GAS BORE (NEW)
	GAS BORE (REPLACEMENT)

P:\SITE 7 - 1212-1249 CENTRE ROAD - TALBOT AVENUE - OAKLEIGH SOUTH - VIC 3166.DWG

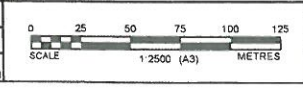
**coffey**  
 L1, 436 Johnston Street  
 Abbotsford VIC 3067  
 Ph: (03) 9290 7000  
 Fax: (03) 9290 7499

Client:  
**TALBOT ROAD FINANCE  
 PTY LTD**

Project:  
**CONSTRUCTION ENVIRONMENTAL  
 MANAGEMENT PLAN**

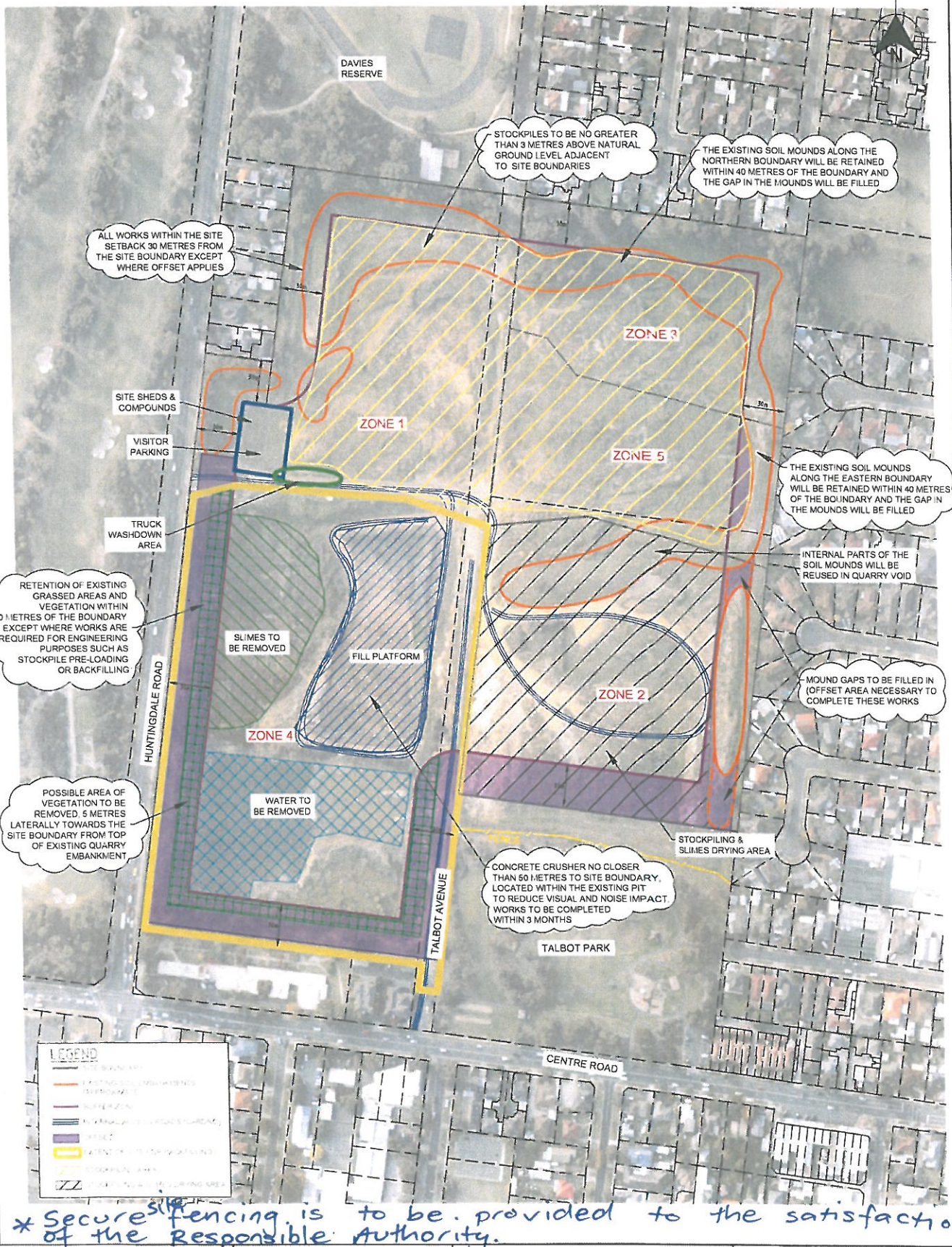
Drawing Title:  
**EXISTING & PROPOSED LANDFILL  
 GAS BORES & UTILITY PITS**

Rev	Date	Revision Details	Drn
B	27.11.14	AMENDS	HU
A	25.09.14	ISSUE	HU

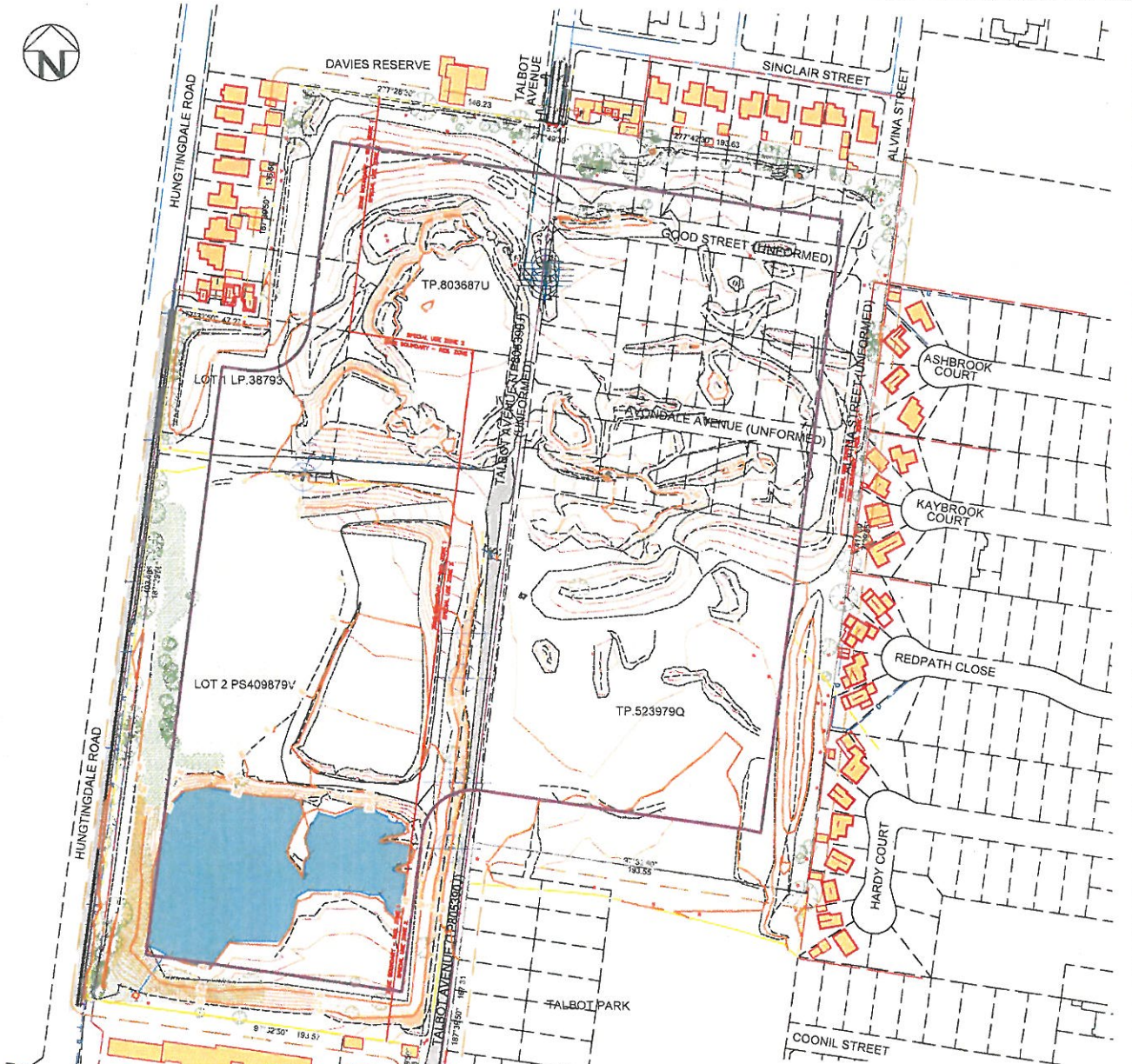


Location:  
 1221-1249 CENTRE ROAD & 22 TALBOT AVENUE  
 OAKLEIGH SOUTH, VICTORIA

Drawn	Date
HU	27.11.14
Project - Drawing No.	Figure No.
ENAUABTF00751AA-R03-D02	3
	Rev.
	B



		L1, 436 Johnston Street Abbotsford VIC 3067 Ph: (05) 9290 7000 Fax: (03) 9290 7499	Client: <b>TALBOT ROAD FINANCE          PTY LTD</b>	Project: <b>CONSTRUCTION ENVIRONMENTAL          MANAGEMENT PLAN</b>	Drawing Title: <b>EXTENT OF SITE FOR          BACKFILLING AND STOCKPILING</b>	
E 23.09.15 D 22.09.15 Rev	AMENDS AMENDS Date Revision Details	HU HU Dn		Location: 1221-1249 CENTRE ROAD & 22 TALBOT AVENUE OAKLEIGH SOUTH, VICTORIA	Drawn HU Project - Drawing No. ENAUABTF00751AA-R03-002	Date 23.09.15 Figure No. 4 Rev. E



- DISCLAIMER NOTE:**
- DATA ON THIS PLAN MAY ONLY BE MANIPULATED WITH THE PERMISSION OF TALBOTS DEVELOPMENT STRATEGISTS PTY LTD.
  - ACCURACY OF DETAIL: 1:1000
  - COORDINATE SYSTEM: AUSTRALIAN NATIONAL GRID (AGD84)
  - LEVEL DATUM: AUSTRALIAN MEAN SEA LEVEL (AMSL)
  - CONTIGUOUS AREAS: AS SHOWN ON THE PLAN
  - ANALYTICAL EFFORT HAS BEEN MADE TO LOCATE ALL FEATURES AND SERVICES WITHIN THE SHOWN AREA
  - UNDERGROUND SERVICE LINES HAVE BEEN DERIVED FROM PLANS PROVIDED BY THE UTILITY AUTHORITIES AND ARE ONLY SHOWN AS APPROXIMATE LOCATIONS
  - THIS IS A PRELIMINARY PLAN AND SHOULD BE USED AS A GUIDE ONLY
  - ONLY SIGNIFICANT TREES WITH A DBH GREATER THAN 100MM (10cm) ARE SHOWN
  - TREE TRUNKS ARE SHOWN AS APPROXIMATE LOCATIONS
  - THE LOCATION OF FEATURES IN ADJOINING PROPERTIES IS APPROXIMATE ONLY
  - THE LEVELS OF ANY SERVICES SHOWN ARE APPROXIMATE ONLY
  - THE DATA HAS BEEN CHECKED FOR CLARITY. SEE DIGITAL VERSION OF THIS PLAN FOR FURTHER DETAILS.

**SYMBOL DESCRIPTION**

- TITLE PEG
- T.B.M.
- CAMERA LOCATION & PHOTO NUMBER
- SINGLE TREE
- DATE
- ELECTRICITY POLE
- STAY FOR POLE
- TELECOMMUNICATIONS PIT
- VENT POLE
- FIRE HYDRANT
- SETBACK FROM FENCE LINE

**LEGEND OF LINES**

- TITLE
- DCMB LINEWORK
- FENCE
- TOP OF BANK
- TOE OF BANK
- CONCRETE KERB AND CHANNEL
- DRAINAGE DRAIN PIT
- TREE DRAINAGE
- PLANNING CONTROL BOUNDARY

**LEGEND OF HATCHING**

- AREAS NOT SAFE TO STAY
- CONCRETE
- BITUMEN
- GROUP OF TREES
- BUILDING
- CLAM
- HABITABLE INCLUDE

**LEGEND OF SERVICE LINES**

LINE	DESCRIPTION	ORIGIN
[Red dashed line]	SEWERAGE	UP-TO-DATE
[Blue dashed line]	WATER	UP-TO-DATE
[Green dashed line]	ELECTRICITY	UP-TO-DATE
[Yellow dashed line]	TELEPHONE	UP-TO-DATE
[Purple dashed line]	COAXIAL	UP-TO-DATE
[Orange dashed line]	TELEPHONE	UP-TO-DATE
[Light blue dashed line]	TELEPHONE	UP-TO-DATE
[Light green dashed line]	TELEPHONE	UP-TO-DATE
[Light purple dashed line]	TELEPHONE	UP-TO-DATE
[Light orange dashed line]	TELEPHONE	UP-TO-DATE
[Light pink dashed line]	TELEPHONE	UP-TO-DATE

SOURCE: TAYLORS, DETAILED SITE PLAN (12/06/13)

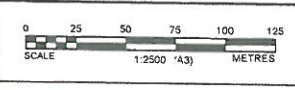


Client: **TALBOT ROAD FINANCE PTY LTD**

Project: **CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN**

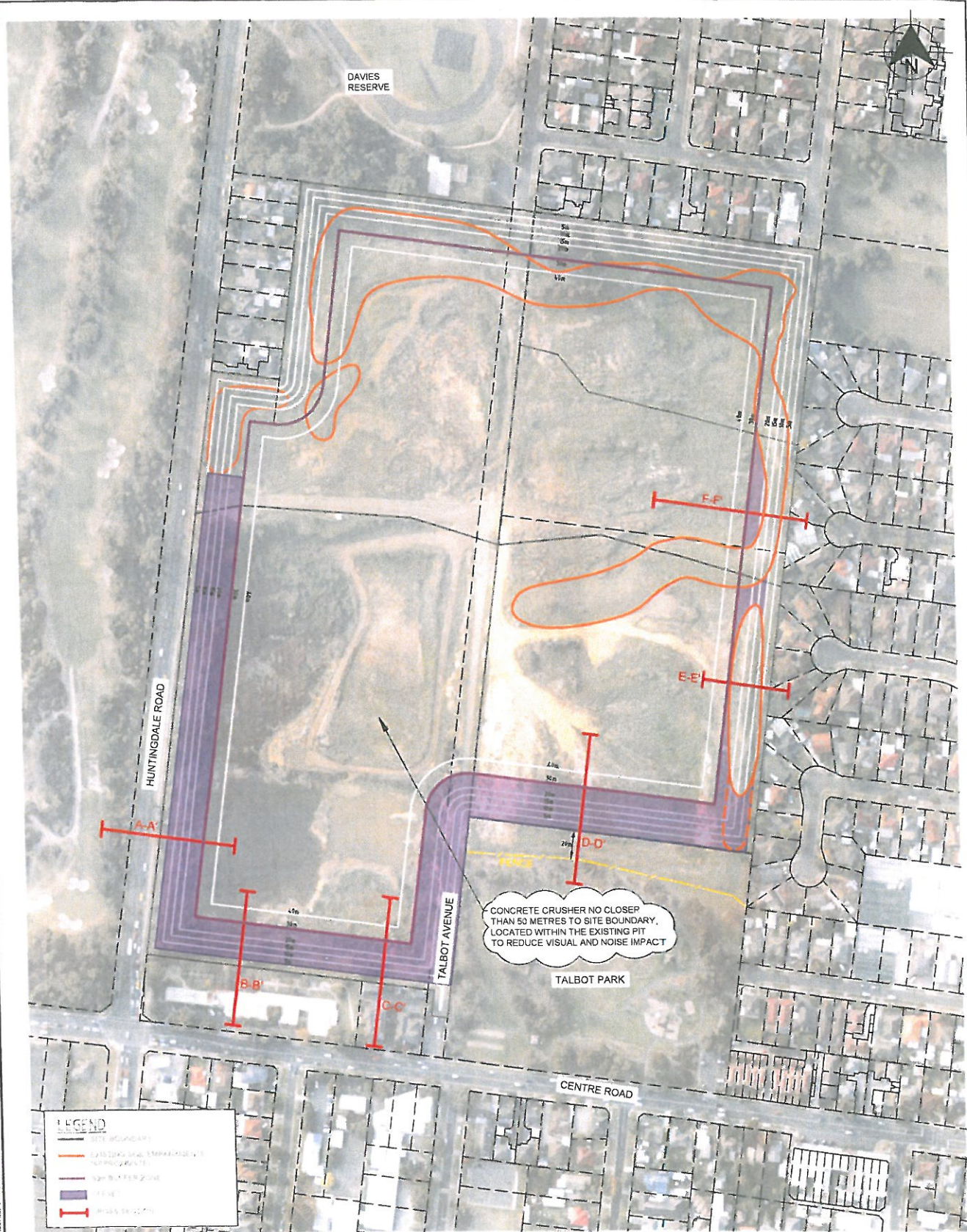
Drawing Title: **EXISTING SITE LEVELS AND VEGETATION**

Rev	Date	Revision Details	Dwn
B	22.09.15	AMENDS	HU
A	06.05.15	ISSUE	HU



Location: **1221-1249 CENTRE ROAD & 22 TALBOT AVENUE OAKLEIGH SOUTH, VICTORIA**

Drawn	Date	Figure No.	Rev.
HU	22.09.15	5	B
Project - Drawing No. ENAUBTF00751AA-R03-D03			



LEGEND	
	EXISTING BOUNDARY
	PROPOSED BUFFER ZONE
	PROPOSED BUFFER ZONE
	SECTION LINE

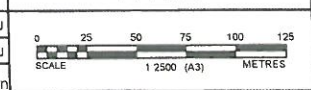
**coffey** L1, 436 Johnston Street  
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 Fax. (03) 9290 7499

Client:  
**TALBOT ROAD FINANCE  
 PTY LTD**

Project:  
 CONSTRUCTION ENVIRONMENTAL  
 MANAGEMENT PLAN

Drawing Title:  
**PROPOSED WORKS WITHIN BOUNDARY  
 BUFFER ZONE**

Rev	Date	Revision Details	Drn
B	23.09.15	AMENDS	HU
A	22.09.15	ISSUE	HU

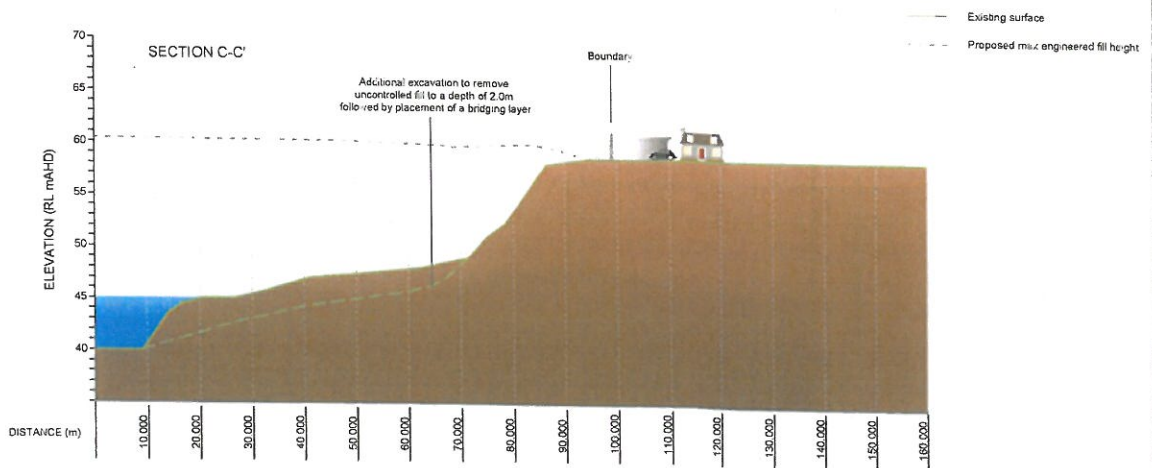
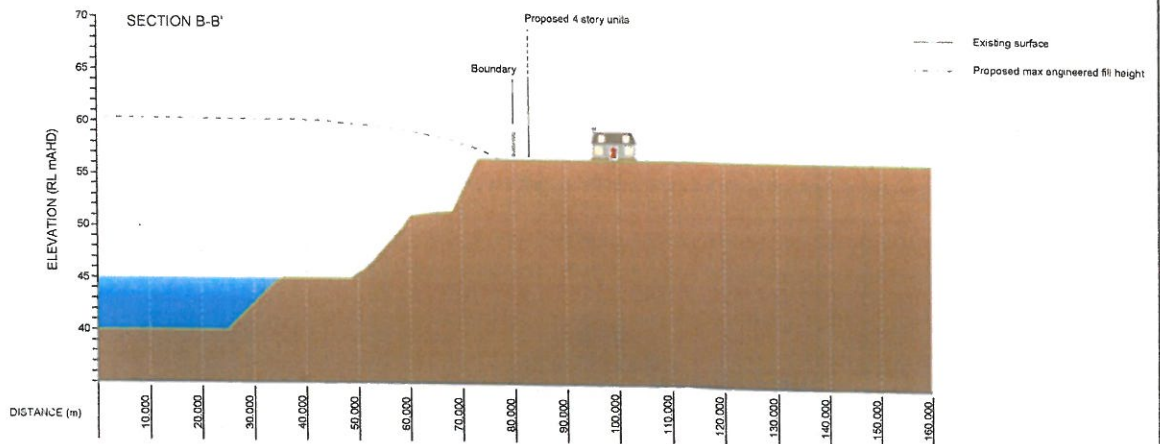
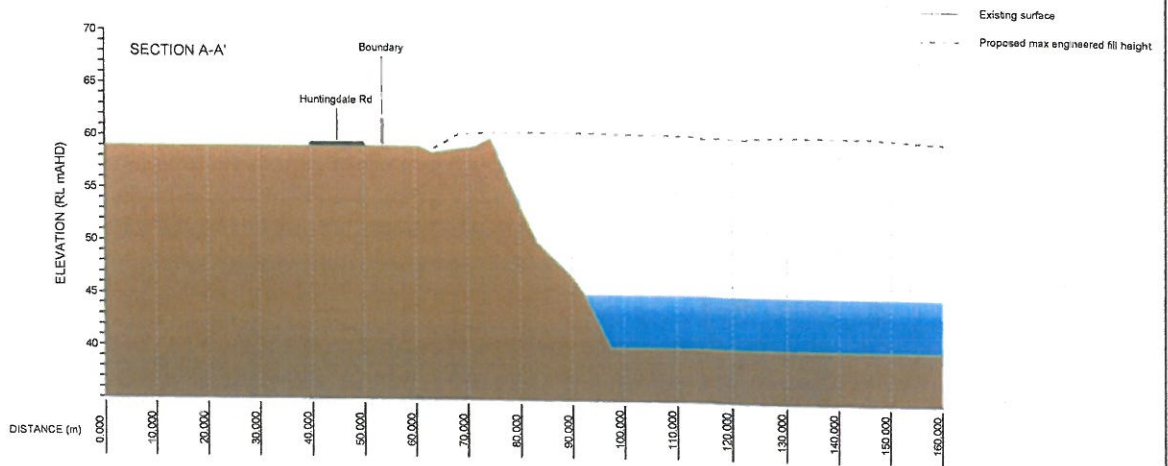


Location:  
 1221-1249 CENTRE ROAD & 22 TALBOT AVENUE  
 OAKLEIGH SOUTH, VICTORIA

Drawn	Date
HU	23.09.15
Project - Drawing No.	Figure No.
ENAUABTF00751AA-R03-002	6
Rev.	B

COFFEEY CONSULTANTS PTY LTD, 1221-1249 CENTRE ROAD, OAKLEIGH SOUTH, VICTORIA 3166, AUSTRALIA. TEL: (03) 9290 7000. FAX: (03) 9290 7499. WWW.COFFEEY.COM.AU

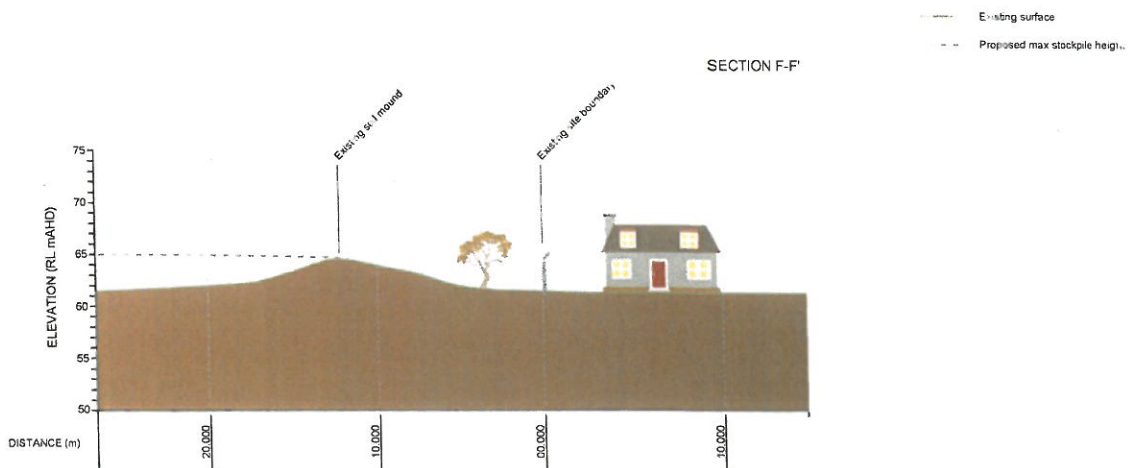
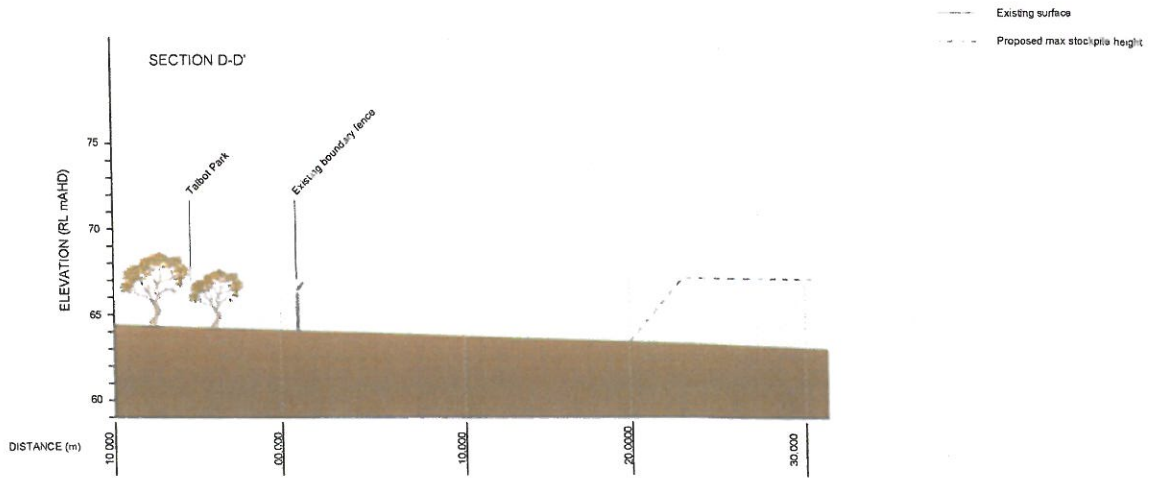




drawn	GL
approved	DA
date	23/09/15
scale	AS SHOWN
original size	A3



client:	TALBOT ROAD FINANCE PTY LTD	
project:	ZONE 4 BACKFILL DESIGN HUNTINGDALE ESTATE, OAKLEIGH SOUTH	
title:	SECTION AA' BB' AND CC'	
project no:	GEOTABTF09257AA-BC	figure no: FIGURE 1
rev:	B	



drawn	GL
approved	DA
date	23/09/15
scale	AS SHOWN
original size	A3



client: TALBOT ROAD FINANCE PTY LTD

project: ZONE 4 BACKFILL DESIGN  
HUNTINGDALE ESTATE, OAKLEIGH SOUTH

title: SECTION DD' EE' AND FF'

project no: GEOTABTF09257AA-BC figure no: FIGURE 2 rev: B

Appendix B  
Extent of Slimes



SOURCE: TAYLORS DEVELOPMENT STRATEGISTS, DETAIL SURVEY PLAN, 1221 OAKLEIGH ROAD, REF: 1808/S, REV A, 12/06/2013

revision	description	drawn	approved	date	drawn	MS/KJ
					approved	-
				date	12/07/2013	
				scale	1:2000	
				original size	A3	

**coffey geotechnics**  
SPECIALISTS MANAGING THE EARTH

client:	TALBOT ROAD FINANCE PTY LTD	
project:	GEOTECHNICAL INVESTIGATION HUNTINGDALE ESTATE, OAKLEIGH SOUTH	
title:	SLIMES THICKNESS PLAN	
project no:	GEOTABT09257AA	figure no: FIGURE 15