This Volume 2 contains supporting documents, reports, guidelines and plans forming part of the Development Plan approved by Council pursuant to Schedule 11 to the Development Plan Overlay under the Yarra Planning Scheme (Development Plan). At its meeting on 2 December 2015 (Resolution), Council resolved to approve the Development Plan subject to certain further amendments being made to Volume 1 of the Development Plan. Council's CEO approved the further amended Volume 1 and endorsed the Development Plan on 27 May 2016.

The contents of this Volume 2 must be read subject to the Resolution and the contents of Volume 1 of the Development Plan. To the extent of any inconsistency between this Volume 2 and the Resolution and/or Volume 1, the Resolution and/or Volume 1 will prevail as applicable.
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# Appendices

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1. **Introduction**

GHD Pty Ltd (GHD) has been engaged by Alphington Developments Pty Ltd (Alphington Developments) to provide environmental consulting services for the redevelopment of the former AMCOR Paper Mill in Alphington (herein referred to as the Site). The Site has been acquired by a consortium consisting of Alphington Developments Pty Ltd and Alpha APM No.2 Pty Ltd (the Proponent). As part of the development plan, the Proponent is required to submit a Remediation Strategy to Yarra City Council.

The remediation strategy will involve the use of existing information with supplementary data infill combined with a risk based approach to inform the need for remediation based on the protection of beneficial uses defined by each of the proposed land uses and to drive the scope of work consistent with the principles of relevant guidelines.

This Remediation Strategy has been prepared based on the results of over six environmental reports completed for the site including a detailed site investigation and our understanding of site conditions. Where material changes to that information or that understanding are identified through the assessment and audit process, those changes will be communicated to Council as appropriate and the Remediation Strategy amended accordingly.

This report is the Site Remediation Strategy prepared by GHD on behalf of the Proponent.

1.1 **Background**

The Site is 16.5 hectares and is located at 626 Heidelberg Road, Alphington. The Site was previously known as the AMCOR Paper Mill and was in operation from 1921 to 2012.

The Site has been vacated by AMCOR following cessation of paper milling and recycling operations in late 2012 and subsequently sold to The Proponent. The Development is to comprise mixed uses including low, medium and high density residential, commercial and public open spaces.

In 2009, the former Minister for Planning introduced new planning controls over the Site resulting in the rezoning from an Industrial 1 Zone to a Mixed Use Zone with an Incorporated Plan Overlay and an Environmental Audit Overlay applied. The Site was also affected by a Heritage Overlay, with the southern portion of the land along the Yarra River covered by a Design and Development Overlay, Environmental Significance Overlay and a Land Subject to Inundation Overlay.

In July 2013, the Victorian Planning Minister, Mr Matthew Guy approved amendments to the Yarra Planning Scheme (schedule 11) to allow for major residential and commercial redevelopment of the Site.

In accordance with clause 3.0 of schedule 11 to the Development Plan Overlay (DPO) “a Certificate or Statement of Environmental Audit for the land covered by the Environmental Audit Overlay will be required to be prepared by a suitably qualified environmental auditor before any construction associated with a sensitive use can commence.”

Accordingly, the Proponent has appointed GHD as its environmental consultant, and Mr Ken Mival of URS Australia Pty Ltd (URS) as the Environmental Auditor (appointed pursuant to the Environment Act, 1970) and who is responsible for the completion of the environmental audit for the Site.

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1. Reasons for decision to exercise power of intervention under section 20(4) of the Planning and Environment Act 1987, Yarra Planning Scheme Amendment C200, Minister for Planning, Mathew Guy 28 June 2013.

1.2 Purpose of this report

The purpose of this report is to outline the general approach to the assessment and remediation of potential soil and groundwater contamination at the Site and to address the requirements of the DPO to prepare a Remediation Strategy.

1.3 Objectives

The objective of this Remediation Strategy is to address the following requirements of the DPO:

1. Potential impacts of any land or groundwater contamination (including the potential for vapour intrusion or gas migration) on the proposed land use, the arrangement of land use across the land and any particular design requirement the development may be subject to (refer to section 4 and Appendix A);

2. Heritage issues relevant to the remediation strategy (refer to section 5.3.2);

3. Options and a preferred approach to the testing and remediation of soil and groundwater (refer to section 4.3, 5.2 and 5.3);

4. Proposed pattern of land uses across the Site (refer to Appendix A);

5. Targeted condition of the site as required and specified by the Auditor to suit the proposed range of land uses or development (refer to section 4.3 and 5.5);

6. An indicative site map showing locations across the site of any identified contamination and any proposed clean-up work (refer to section 5.2, please note that the specific areas of contamination and proposed clean-up work is currently being assessed and will be documented in the ESA and RAP to be provided to the Environmental Auditor);

7. Options for remediation technologies taking into account logistics, technology options currently available and likely effectiveness (refer to section 5);

8. A schedule of proposed remediation activities (refer to section 6);

9. Expected pattern/staging and indicative timeframes for signed Certificates or Statements of Environmental Audit across the site following the clean-up of the site (refer to section 5.5 and 6);

10. Indicative site management and monitoring controls that will be necessary following each clean up activity (refer to section 5.6); and

11. Identifying the parties responsible for key activities and for subsequent site management and monitoring (refer to section 2 and section 5.6).

1.4 Scope and limitations

This report: has been prepared by GHD for Alphington Developments Pty Ltd and may only be used and relied on by Alphington Developments Pty Ltd for the purpose agreed between GHD and the Alphington Developments Pty Ltd as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Alphington Developments Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no
responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in section 1.4 and throughout this report. GHD disclaims liability arising from any of the assumptions being incorrect.

1.5 Assumptions

In preparing this document, it has been assumed that the assessment and remediation of the Site will follow standard approaches as defined in the National Environment Protection (Assessment of site contamination) Measure, NEPC 1999, as amended in 2013.
## 2. Roles and responsibilities

The following table provides a list of relevant roles and responsibilities for the remediation works to be completed at the Site.

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Role</th>
<th>Representative &amp; Title</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Proponent</td>
<td>Site Owner and Developer</td>
<td>Dean Gold, Development Manager</td>
<td>Site Developer</td>
</tr>
<tr>
<td>GHD</td>
<td>Environmental Consultant</td>
<td>Sherri Sibio, Project Director</td>
<td>To undertake environmental assessment works for the Site to support the completion of and environmental audit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anne Whincup, Project Manager</td>
<td></td>
</tr>
<tr>
<td>URS</td>
<td>Environmental Auditor, appointed pursuant to S53s of the Environment Protection Act 1970</td>
<td>Mr Ken Mival, Environmental Auditor</td>
<td>To review the environmental assessment completed by the Environmental Consultant and evaluate the environmental condition of the Site to form an opinion regarding the suitability of the site to the proposed use and prepare an environmental audit report.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mark Davidson, Auditors Assistant</td>
<td></td>
</tr>
<tr>
<td>EPA</td>
<td>Referral authority for environmental audit</td>
<td>Environmental Audit Unit</td>
<td>To administer the environmental audit system and provide guidance to the Environmental Auditor as required.</td>
</tr>
<tr>
<td>Yarra City Council</td>
<td>Responsible planning authority</td>
<td>David Walmsley, Manager City Strategy</td>
<td>To satisfy themselves that any conditions of the environmental audit are acceptable and able to be implemented.</td>
</tr>
<tr>
<td>Montlaur Project Services</td>
<td>Project Managers</td>
<td>Leon Lachal, Executive Director</td>
<td>Superintendent/Project Managers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Christian Gunnersen, Senior Project Manager</td>
<td></td>
</tr>
<tr>
<td>Remediation and Civil works Contractor</td>
<td>TBC</td>
<td>TBC</td>
<td>Remediation of site as required to satisfy the requirements of the environmental audit</td>
</tr>
</tbody>
</table>
3. Environmental audit and regulatory framework

3.1 Environmental audit overview

The Environment Protection Authority (EPA) is responsible for maintaining the environmental audit system and providing policy and guidelines for the completion of environmental audits. The environmental audit system allows for an environmental auditor (appointed pursuant to the Environment Protection Act 1970) to complete an independent assessment of the condition of land at the site regarding its suitability for the proposed use. The environmental audit of land is designed to assist the planning authority to make informed decisions regarding the environmental condition of the site and its suitability for use in accordance with Ministerial Direction No.1 *Potentially Contaminated Land* issued under Section 12 (2) (a) of the Planning and Environment Act 1987.

Figure 1 below has been reproduced from EPA Publication 759.1 *Environmental auditor (contaminated land) – Guidelines for issue of certificates and statements of environmental audit* and provides an outline of the environmental audit process that will be followed for this Site.
The assessment works may be undertaken by the auditor or a separate site assessor/contractor. Where the assessment work is undertaken by the auditor the assessment work must be conducted as part of the audit and the auditor must not be responsible for the design and/or implementation of the remediation/clean-up works.

In accordance with the above flow chart, the following steps will be undertaken to support the remediation and environmental audit process. These will generally be as follows:

- Review of previous reports and data gap assessment;
- Confirmation of contaminants or areas of concern and preparation of Sampling and Analytical Plan (SAP) for auditor review;
• Data-infill works and completion of a Human health risk assessment (HRA) and Environmental Site Assessment report (ESA);
• Preparation of Remediation action plan (RAP) for auditor review;
• Site remediation works;
• Site validation works and preparation of Site Validation Report for auditor review; and
• Auditor sign off and completion of Audit Report being a Certificate or Statement of Environmental Audit as required for the Site either as a whole or in sub-portions based on land use zones.

The environmental assessment commenced in December 2013 with the review of previous reports and the preparation of a data-infill sampling and analytical plan (SAP). A schedule of proposed remediation activities is provided in is provided in section 6.

3.2 Regulatory framework

The assessment of site contamination will be undertaken with reference to the following State environment protection policies (SEPPs).

Land

The Victorian Government, State Environmental Protection Policy (Prevention and Management of Contaminated Land), June 2002 (Land SEPP) (as varied) applies to all land in the State of Victoria and is enforceable under Section 16 of the Environmental Protection Act 1970.

The Land SEPP provides beneficial use categories for uses of land to be protected under a number of different land use scenarios, and provides indicators and objectives for the protection of land. The Land SEPP refers to the National Environment Protection (Assessment of Site Contamination) Measure (ASC Measure) as the key guidance document for the assessment of indicators and objectives for the protection of identified beneficial uses.

The ASC Measure was first issued by the Commonwealth Government in 1999 and was subsequently amended in May 2013, incorporating (among other things) updated and expanded health investigation levels, new framework for assessment of volatiles, new health and ecological screening levels for petroleum hydrocarbons, new ecological risk assessment methodology, updated ecological and groundwater investigation levels and new guidance on assessment of asbestos.

The Land SEPP was updated in September 2013 to make reference to the amended National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No.1) (NEPM 2013) and relevant schedule and this is investigation will be assessed accordingly.

The Land SEPP provides a framework for deciding which beneficial uses need to be protected, having regard for the existing and intended uses of a site. Based on proposed development plans the Site is proposed to consist of a large area of low density housing, with areas of medium and high density housing and public open space as well as a commercial/ mixed use zone including child care centre and a school.

In accordance with these land use categories, the relevant beneficial uses to be protected are as follows:

• Maintenance of ecosystems (modified and highly modified ecosystems);
• Human health;
• Buildings and structures;
• Aesthetics; and
• Production of food, flora and fibre.

**Groundwater**

The State environment protection policy Groundwaters of Victoria 1997 (Groundwater SEPP), prescribes beneficial uses and objectives that are to be met to protect the various segments of the environment. The beneficial uses to be protected for each of the groundwater segments are defined in Table 2 of the Groundwater SEPP.

The Site has been characterised as Segment B of the protected beneficial uses of groundwater. On this basis the protected beneficial uses for groundwater at the Site are expected to be the following:

• Maintenance of Ecosystems;
• Potable Mineral Water Supply;
• Agriculture, parks and gardens;
• Stock Watering;
• Industrial Water Use;
• Primary Contact Recreation; and
• Buildings and Structures.

According to the Visualising Victoria’s Groundwater Government website and the South Western Victoria Aquifer Map; mineral springs have not been identified in the Alphington area as such potable mineral water supply has not been considered as a potential beneficial use that requires protection. Although stock watering, agriculture and industrial water use will be assessed it is not considered likely that these beneficial uses will be realised at the Site under the proposed development.

**Surface Water**

The Yarra River has been identified as a receiving water body from the site as such reference will be made to the State environment protection policy Waters of Victoria (WoV) as varied by Schedule F7. Waters of the Yarra Catchment (Gazette No. S89 1999).

The Yarra River is classified as the Urban Waterways Segment under Schedule F7 which has the following beneficial uses to be protected:

• Modified ecosystems;
• Passage of Indigenous Fish;
• Maintenance of indigenous Riparian Vegetation;
• Water Based recreation including:
  – Primary Contact;
  – Secondary Contact;
  – Aesthetic Enjoyment;
• Agricultural water supply including:
  – Stock Water;
  – Irrigation (including parks and gardens); and
• Industrial Water Use.
Beneficial uses will be assessed using Australian Water Quality Guidelines for Fresh and Marine Waters, published by the Australian and New Zealand Environment and Conservation Council (ANZECC).

Any potential on-going discharge of contamination to the Yarra River either via groundwater or via the still active site drainage/trade waste pond will be assessed as part of the environmental Audit. Further to this, measures will be implemented when removing site drainage or effluent infrastructures to ensure that any residual contaminated sediments or residue in the pipes is not flushed/discharged into the Yarra River.
4. **Understanding of contamination and areas of concern**

4.1 **Review of previous reports and data gap assessment**

The Site has been used as a paper mill since the early 1920s and through this time, has been exposed to historic activities and work practices that have contributed to soil and groundwater contamination.

A number of previous investigations have been completed by a number of environmental consultants up until 2011, including a comprehensive site history review by GHD in 2003 and subsequent intrusive investigations comprising the collection of soil samples from over 300 locations on an approximate 30 m grid and the installation of and sampling from eighteen groundwater wells.

The previous work has spanned over a decade with each assessment identifying a number of areas that will likely require further assessment, remediation or active management in order to achieve the master plan objectives and a commensurate audit outcome.

The most recent investigation was completed in 2011 by Ramsey and Associates which listed the following previous reports:

- Fairfield Mill, Victoria – Contamination Plan, prepared by GHD for Amcor Fibre Packaging (Australia) Pty Ltd, May 2003;
- Environmental audit of Fairfield Mill, Alphington, Victoria, prepared by Parsons Brinkerhoff Australia Pty Limited for Amcor Australasia Pty Ltd, February 2008;
- Draft Phase 1 Environmental Site Assessment for Latrobe Avenue, Alphington, Victoria prepared by Parsons Brinkerhoff Australia Pty Limited for Amcor Australia Pty Ltd December 2008;
- Phase 2 Environmental Site Assessment – Fairfield Mill, Alphington, Victoria, prepared by Parsons Brinkerhoff Australia Pty Limited for Amcor Australasia Pty Ltd, January 2009; and

Results from the 2011 Ramsey report indicated that there was no evidence of significant widespread contamination but rather hotspots in specific areas and around former and existing infrastructure.

The general potential areas of contamination were summarised as follows:

- underground petroleum storage systems and above ground bulk storage systems;
- chemical storage areas;
- substations and transformers;
- Triple interceptor pits and waste water pits
- Miscellaneous facilities including underground workshop, machinery pits, vehicle inspection pit, No.2 and No. 3 machine rooms and acid unloading bay;
- Localised groundwater impacts in northern portion of the Site; and
• Imported fill material, buried wastes or illegal dumping on vacant former residential area of site.

4.2 Contamination status

Based on previous investigations at the site, soil samples have been collected from over 300 locations on an approximate 30 m grid across the Site with groundwater samples collected from eighteen groundwater wells. This sampling density was in accordance with the minimum sample density as prescribed by the Australian Standard “Guide to the investigation and sampling of contaminated soil” AS 4482.1. Given the density of sampling completed at the Site as part of previous investigations, it was considered that sufficient grid based sampling had been completed however there was a need for further data infill as detailed below.

4.3 Data infill works

The results of previous investigations were reviewed by GHD and identified the following data gaps to be addressed as part of further investigation and data infill works,

• Refusal on hard fill which precluded the assessment of all fill material and underlying natural material;
  – Beneath the No.6 Waste Paper Plant building,
  – Beneath the southern part of the former rail corridor in the vicinity of the Tippler building and southern end of the pulp substitution plant; and
  – Southern portion of the Site in the vicinity of the trade waste pond, the mill pump house, substation and mechanics workshop.

• Further characterisation to support the completion of the HRA associated with:
  – TRH impacts from leaking transformers;
  – PAH impacts along the eastern side of Latrobe Avenue;
  – Lead impacts in the vacant former residential area;
  – PAH impacts identified in the Recycling Centre
  – Lead and possible phthalate impacts in the vicinity of the trade waste ponds in the southern portion of the site.

• Insufficient sampling density within the following areas:
  – railway corridor
  – substation and mechanics workshop including ramp;
  – river pump house and trade waste pond;
  – former dam area within the water treatment recycling area;
  – Tippler building;
  – heritage precinct (Boiler Houses, Turbine Room, Power Plant workshop); and
  – Various chemical store areas.

• Inadequate laboratory analysis in areas of the site including:
  – persistent pesticides in the visitor car park, which has been historically used as orchard;
  – Analysis for organic contaminants in workshops, triple interceptor traps and bunded chemical stores;
  – Phenols and naphthalene in areas impacted by transformer oil;
  – Acid overflow collection pit in the eastern side of the Recycling Centre fronting Latrobe Avenue.
• General site contaminants including Fluoride, Cyanide, Sulphate and pH
• Inadequate assessment to determine if infilling and onsite disposal or burial of machinery, building wastes and industrial waste in Zone 5 and Zone 6 and the Wet Lap building;
• Changes to site conditions in the vacant former residential area since the Ramsey 2011 investigation, particularly with regard to potential for uncontrolled dumping of waste.
• Pre-existing groundwater wells MW1, GW16 and GW18 in the northwest portion of the Site which may be screened across two aquifers. However only MW1 has historically reported contamination and therefore requires decommissioning and replacement with two nested wells, one in each aquifer.
• Further investigation of previously identified petroleum hydrocarbon impacts in the basement area of the southern portion of the Recycling centre and the potential to impact the underlying groundwater
• Potential site source of low concentrations of TCE in groundwater which has not yet been definitively identified.

Other data gaps will be resolved at the remediation stage including the trade waste pond, clarifiers in the water treatment and recycling area and further assessment of heritage features that are to be retained.

In addition it appears that due to the retention of the western brick boundary wall for heritage value, one of the USTs in the Chandler Bunker Highway will not be able to be decommissioned ex-situ but will be decommissioned in-situ in accordance with relevant standards and guidelines. This is not considered to pose a risk to the proposed development as previous investigations of soil and groundwater in the vicinity of the Chandler Highway bunker have not reported impacts to the soil or groundwater associated with the USTs. This approach will be reviewed and ratified by the auditor prior to implementation.

These data gaps have been presented to the environmental auditor for review together with a Sampling and Analytical Plan (SAP) to undertake further investigations to address the identified data gaps. The SAP was reviewed and endorsed in principal by the environmental auditor with some further investigation works having already been completed and the remainder to be completed once portions of the site are made accessible through demolition of relevant buildings and structures. It has been acknowledged and agreed with the environmental auditor that some of the further investigation works will need to be undertaken as part of site remediation activities.

These further works will be assessed in consultation with the project Heritage consultant such that sampling does not compromise the heritage value of buildings and structures with recognised significance.

The approach to testing of soil has been through the use of machinery fitted with buckets for excavating test pits and the use of drilling rigs to drill soil bores to aid in the collection of samples. Testing of groundwater has involved gauging and sampling existing wells, and installation of new groundwater wells with sampling completed using low flow sampling techniques. These works have primarily been completed on an opportunistic basis, where access to desired locations is achievable without compromising existing site infrastructure or the preferred sample location. In addition, and as required by the auditor, validation testing of soil will be undertaken following demolition of nominated buildings and removal of in-ground infrastructure to confirm soil quality.

Soil and groundwater sampling was conducted using GHD Quality Assurance and Quality Control (QA/QC) procedures, which are in accordance with NEPC (1999) as amended, ANZECC/NHMRC (1992) and AS4482.1 2005 guidelines.
Each of the soil bores was located using a hand held GPS and the wells surveyed for Australian Height Datum (mAHD) and/or Relative Height Datum and Map Grid of Australia (MGA) to collect relative elevation and location to allow assessment of groundwater flow direction.

A plan of the Site showing areas of further works is included in Appendix B.

### 4.3.1 Identified areas of contamination

In accordance with the objectives of the relevant State environment protection policies, the following areas of potential contamination have been identified:

- Lead contamination in surface soils across the former residential area;
- TRH and PAH, in particular BaP, impacts along the eastern side of Latrobe Avenue;
- PAH impacts, in particular BaP, in fill material near the Finishing Room of the South Mill complex
- Trade waste pond adjacent to Yarra River Riparian zone, includes an area to the south where sludge from the ponds may have been disposed causing localised lead and possibly BaP and phthalate impacts
- Ex-situ decommission of USTs where practicable on-site (one UST in Chandler Bunker to be decommissioned in-situ). Any localised impacts to soils surrounding the USTs will be removed, however impacts to soil or groundwater from leaking USTs has not been identified to date.
- TRH impacts associated with leaking transformers:
  - Substation 12 and 15 in the No. 6 Machine Building;
  - TX59 adjacent to the No.6 Waste Paper Plant;
  - TX81 located in the southeast corner of Recycling Centre;
  - TX51 and TX4 adjacent to Power plant workshop;
  - Transformer inside the Mill pump house;
  - TX52 and TX53, located on external elevated platforms on Boiler House B and Turbine Room.
- Soil impacts adjacent to:
  - Triple interceptor associated with the North Mill Workshop
  - Triple interceptor trap north of Tippler and Pulp Sub Plant
  - Triple interceptor trap associated with the Mechanics Workshop
  - Possibly the waste water pit, south of Boiler House B, south west of Turbine Room.

Groundwater quality and potential for off-site migration is currently being investigated and will be delineated as part of proposed and ongoing works.

At this stage it is not proposed to assess the current status of sediments in the Yarra River as a clear link between any contamination identified and historic discharge from the Site is unlikely to be established considering that this stretch of the Yarra River:

- had numerous industries discharging into the Yarra River in the 20th Century; and
- there have been large recorded floods that likely scoured most of the historic impacted sediment into Port Phillip Bay.
5. Remedial works

5.1 Establishment of remediation objectives

Remediation objectives will be established for the Site taking into account the objectives of the State environment protection policies and the land use plan in Appendix A. Human health and ecological risk assessments will be undertaken to assess the risk associated with the identified contaminants of concern and the proposed land uses and to develop Site specific remediation objectives to facilitate an environmentally sustainable approach to remediation.

The risk assessment will be both quantitative by establishing Site specific remediation goals, that reflect the human health and environmental risks associated with the proposal land uses and qualitative by focussing on areas of higher risk such as lower density land uses, previously identified elevated concentrations, and identifying gaps in existing data in order to provide a comprehensive assessment to achieve pragmatic and environmentally sustainable solutions and auditor sign off.

The human health and ecological risk assessment would be presented to the appointed environmental auditor for review and approval prior to finalisation of the Site specific remediation objectives.

In general, the remediation objectives will include:

- Restoring beneficial use of land and meeting auditor expectations
- Limiting the need for on-site treatment of contaminated soil material and off-site disposal of contaminated soil; and
- Retention of identified heritage features.

At this stage based on the identified areas of contamination in section 4.3.1, a detailed assessment of remediation technologies taking into account logistics, technology options and likely effectiveness is not considered to be warranted.

5.2 Remediation action plan

Previous investigations (in addition to other supporting documents such as the Conservation Management Plan) have culminated in a thorough understanding of the Site history, operations and activities that have occurred at the Site that may have contributed to soil and/or groundwater contamination. As such, the potential for soil and/or groundwater contamination at the Site is well understood allowing for a robust strategy for remediation in order to achieve the objectives of the Development Plan.

Following the completion of the data-infill sampling and human health and ecological risk assessments, an assessment will be made as to the need for further soil and groundwater characterisation prior to commencing remediation works. Once it is determined that remediation is appropriate to commence, a remediation action plan (RAP) will be prepared to document the proposed works and will include a site plan showing locations across the Site of identified contamination and proposed remediation works.

It is expected that the RAP will commence once the Site has been demolished to ground level. The RAP will include guidance on remediation methodology, estimated volumes, validation sampling requirements, preliminary waste classification or methods for re-sampling, roles and responsibilities, material tracking, environmental controls and contingency plans.

Remediation will follow the principals of the EPA waste hierarchy as follows:
The RAP will be reviewed and approved by the environmental auditor prior to commencement of remediation works.

The Proponent is proposing to re-use soil where possible within the Site, generally as fill to existing deep basement areas. This approach has been agreed with the Auditor. Where soil is identified that requires either remediation as the concentrations exceed the adopted criteria for the proposed land use, or excavation due to proposed development requirements, the soil will be characterised either in-situ (using existing and or additional samples) or ex-situ in stockpile and assessed against site specific criteria. Soil will be re-used onsite in preference to off-site disposal. All soil management will be subject to site Environmental Management Plans and environmental controls in accordance with relevant guidelines.

5.3 Site remediation works

5.3.1 General

Upon completion and approval of the RAP, site remediation works will commence. The nature of remediation works may involve excavation of soils and stockpiling of soils for further characterisation prior to remediation, re-use on site or off-site disposal.

All remediation works will be undertaken in accordance with relevant EPA environmental guidelines to minimise impacts to the Site and surrounding environments.

A suitably experienced contractor will undertake the work in accordance with an environmental management plan which meets relevant industry guidelines in particular EPA Publication 480 Best Practice Environmental Management – Environmental Guidelines for Major Construction Sites.

5.3.2 Heritage buildings

A comprehensive Cultural Heritage study has been completed by Lovell Chen which provides details on buildings of significance as follows:

- Power plant (c1920 Boiler House) in south west portion of site;
- Turbine house (c 1954 Boiler House) in south west portion of site adjacent to above Power Plant;
- River pump house;
- Sewer basin (water processing plant);
• River water overflow tower;
• No.6 machine house;
• Waste paper plant; and
• Water tower.

In addition, the proponent has identified the following additional buildings which it intends to maintain and convert as part of the development.
• Wet lab;
• Tippler building; and
• Admin building (part).

Further investigations across the site are continuing and due to some access restrictions, some areas have not yet been investigated, and may not be accessible until other parts of the site have been demolished.

The available options for remediation around these buildings will depend on the results of further investigation, the type, extent and degree of contamination, the proposed use of the building, and the heritage constraint. Any decisions will require consultation with relevant stakeholders, the auditor and with consideration of the Conservation Management Plan. Remediation measures may include engineered controls, modifications to the building and or changes to the proposed use.

5.3.3 Groundwater

If groundwater contamination is identified or confirmed, there may be a need to complete a Clean-up to the Extent Practicable (CUTEP) submission to the Environmental Protection Authority. This will be subject to the outcome of further groundwater investigations and determination that the presence of groundwater contamination represents ‘pollution’ in accordance with the Environmental Protection Act 1970.

Where groundwater pollution is determined, and depending on the contamination identified, it may be necessary to undertake remediation. It is not possible at this stage to provide an indication of what groundwater remediation may be required as the methods for remediation can be wide and varied, however if a CUTEP report is required, this will be prepared by GHD for review and approval by the appointed environmental auditor.

5.4 Site validation

During remediation works, all excavations and environmental works will be validated by the collection of soil samples to confirm the sufficient removal of contaminated soil to demonstrate that the final site condition meets the requirements of the proposed land uses and will satisfy the objectives of the environmental audit.

Following completion of remediation works, a remediation validation report will be prepared to document the works completed and confirm the final condition of the Site which will be provided to the auditor for review.

The validation report will generally include the following:

• Summary of validation works completed;
• Details of samples collected, analysis undertaken and results compared against adopted criteria;
• Site plans showing excavations and locations of validation samples and finished levels representing final site condition;
• An assessment of the final condition of land and the proposed development land uses in accordance with the relevant State environment protection policies.

5.5 Auditor sign-off

Following the successful completion of remediation of the Site, the appointed environmental auditor will undertake an independent review of the condition of the Site and form an opinion regarding its suitability for use.

The outcome of the review will be the preparation of an environmental audit report with accompanying Certificate or Statement of Environmental Audit. The audit report may be in a form that provides multiple certificates or statements of environmental audit that cover the Site. This will be determined based on the need to portion the Site to support development or other needs.

Depending on the progress of the project the site may be broken into several separate Audit Areas which will allow for the issue of Certificates of Environmental audit, where possible, and in accordance with the Land SEPP, however it is noted that this may not be achievable for all areas. As such, there is a reasonable expectation that Statements of Environmental Audit (SoEA) will need to be issued. The SoEA will likely be associated with Commercial, Mixed use, and Medium and High density uses.

5.6 On-going site management

At the completion of environmental audit, there may be a need for ongoing site management. If required, these will be documented in a site management plan which will summarise the remediation work completed and necessary controls, procedures and guidelines to manage the Site during construction such that the audited site is not compromised throughout development. This report will be subject to review and approval by the environmental auditor.

The work to determine the need, or requirements for long term site management or monitoring is currently in progress. It is not possible at this stage to accurately determine the details of such management requirements (if at all).

It is possible and likely, that if long term management or monitoring is required, that it will be managed in similar ways to the many other sites which are currently undergoing similar assessment, remediation and redevelopment. These may include requirements under body corporate entities, section 173 agreements and or restrictions under a Groundwater Quality Restricted Use Zone (GQRUZ), Site Management Plans, and Environmental Management Plans etc. all of which will be considered by the auditor following review of the entire assessment.

5.7 Suitability of the site for development

Based on the results presented in the previous reports referred to above, there is no evidence that suggests the Site is subject to significant wide spread contamination but rather hotspots in specific areas and around former and exiting infrastructure.

GHD has considered the Land Use Plan (Appendix A) prepared by The Proponent and concludes that based on the results of the previous investigations and additional infill sampling, the Site can be made suitable for the land uses proposed in the Land Use Plan by applying standard industry practice remediation techniques in accordance with the relevant guidelines.
6. **Schedule of proposed remediation activities**

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Appendices
Appendix A – Land use plan
Appendix B – Identified areas of concern (as of April 2014)
Areas of Identified Contamination

1 - Isolated lead impacts in surface soils.
2 - Isolated TRH and PAH impacts in surface soils.
3 - PAH impacts associated with fill material.
4 - Isolated lead and BaP impacts associated with the Trade Waste Pond.
5 - USTs to be decommissioned.
6A - TRH impacts associated with Substation 12 and 15.
6B - TRH impacts associated with TX59, adjacent to the No. 6 Paper Plant.
6C - TRH impacts associated with TX81, in the Recycling Centre.
6D - TRH impacts associated with the TX51, in the Power Plant Workshop.
6E - TRH impacts associated with the transformer inside the Mill Pump House.
6F - TRH impacts associated with Boiler House B and the Turbine Room.
7A - Soil impacts associated with the TIT adjacent to the North Mill Workshop.
7B - Soil impacts associated with the TIT adjacent to the Tippler and Pulp Station Plant.
7C - Soil impacts associated with the TIT adjacent to the Mechanics Workshop.
7D - Soil Impacts associated with the waste water pit, south of Bolder house B.
29 October 2014

Dear Dean

Former Amcor Paper Mill, Alphington Addendum to Remediation Strategy

GHD Pty Ltd (GHD) has been engaged by Alphington Developments Pty Ltd (Alphington Developments) to provide environmental consulting services for the redevelopment of the former AMCOR Paper Mill in Alphington (herein referred to as the Site). The Site has been acquired by a consortium consisting of Alphington Developments Pty Ltd and Alpha APM No.2 Pty Ltd (the Proponent). As part of the development plan, the Proponent has previously submitted a Remediation Strategy to Yarra City Council (May 2014, Document reference 3130961/228226_Rev2).

This letter has been provided for the purposes of providing an update of works completed since the issue of the Remediation Strategy, specifically Section 4.3 Understanding of contamination and areas of concern- Data infill Works.

1 Progress since May 2014

1.1 Soil

Section 4.3 of the Remediation Strategy identified a number of data gaps in the investigation works conducted to that date.

The following investigation and data infill works have been completed since then to address some of the identified data gaps at the Site. Data gaps that still remain are discussed further in Section 3.2 of this letter:

- Further characterisation to support the completion of the -Health Risk Assessment (HRA) associated with:
  - Total recoverable hydrocarbon (TRH) impacts from leaking transformers;
  - Polycyclic aromatic hydrocarbon (PAH) impacts along the eastern side of Latrobe Avenue;
  - Lead impacts in the vacant former residential area;
  - PAH impacts identified in the Recycling Centre
  - Lead and possible phthalate impacts in the vicinity of the trade waste ponds in the southern portion of the site.
• Additional sampling to increase site coverage and sampling density within the following areas:
  – railway corridor
  – substation and mechanics workshop including ramp;
  – former dam area within the water treatment recycling area;
  – Tippler building; and
  – Chemical store area at the eastern end of the No. 6 Machine Building.

• Additional sampling for expanded laboratory analytical suite in areas of the site including:
  – persistent pesticides in the visitor car park, which has been historically used as orchard;
  – Analysis for organic contaminants in workshops, triple interceptor traps and the bunded chemical
    store at the eastern end of the No. 6 Machine Building;
  – Phenols, naphthalene and chlorinated hydrocarbons in areas impacted by transformer oil;

• Expanded analytical suite in sampling undertaken to include general site contaminants including
  Fluoride, Cyanide, Sulphate and pH;

• Additional test pitting in Zone 5 an Zone 6 to determine if infilling and onsite disposal or burial of
  machinery, building wastes and industrial waste occurred in these areas;

• Changes to site conditions in the vacant former residential area since the Ramsey 2011
  investigation, particularly with regard to potential for uncontrolled dumping of waste;

• Further investigation of previously identified petroleum hydrocarbon impacts in the basement area of
  the southern portion of the Recycling centre and the potential to impact the underlying groundwater;

• Potential site sources of low concentrations of chlorinated hydrocarbons in groundwater which has
  not yet been definitively identified; and

• Sampling in Clarifiers in the water treatment area.

1.2 Groundwater

Since the issue of the Remediation Strategy groundwater well MW1, in the northwest portion of the Site, has been decommissioned and replaced with two nested wells, MW01A located in the upper Basalt aquifer and MW01B located in the deeper aquifer. MW1 was screened across two aquifers. An additional groundwater well (GW19) was installed in the basement area of the Recycling centre to evaluate if petroleum hydrocarbon impacts in the soil from a leaking transformer had migrated to groundwater.

A groundwater monitoring event (GME) was conducted on all existing and newly installed groundwater wells in March 2014 and the results reported in the Data Infill Environmental Site Assessment Report (October 2014, 3130961/232213_FINAL). A second GME was conducted in late September 2014 prior to remediation and bulk earthworks which reported results consistent with the March GME and previous GME conducted by PB (2009) and Ramsey and Associates (2010).

Results of the most recent GME and any further subsequent GMEs will be formally reported in the Validation report, which will be audited by the Environmental Auditor. Prior to then, the results of each GME will be informally reviewed by both the client and the Auditor within a few weeks of each GME.
2 Identified areas of contamination

In accordance with the objectives of the relevant State environment protection policies, the following areas of contamination that require remediation have been identified:

- Lead contamination in surface soils across the former residential area (refer to Item 1 in Figure 1 attached);
- Isolated lead impacts adjacent to the Wet Lap, near the No 6 Machine building and near the Trade waste pond (refer to Item 1 in Figure 1 attached);
- TRH and PAH, in particular Benzo(a)Pyrene (BaP), impacts along the eastern side of Latrobe Avenue (refer to Item 2 in Figure 1 attached);
- PAH impacts, in particular BaP, in fill material near the Finishing Room of the South Mill complex, the Recycling centre; and adjacent to the Chandler Highway Bunker (refer to Item 3 in Figure 1 attached);
- Ex-situ decommissioning of all underground storage tanks (USTs) where practicable on-site. Any localised impacts to soil surrounding the USTs will be removed, however impacts to soil or groundwater from leaking USTs has not been identified to date (refer to Item 5 in Figure 1 attached).
- TRH impacts associated with leaking transformers (refer to Item 6 in Figure 1 attached):
  - Substation 12 and 15 in the No. 6 Machine Building (Item 6A);
  - TX59 adjacent to the No.6 Waste Paper Plant (Item 6B);
  - TX81 located in the southeast corner of Recycling Centre (Item 6C);
  - TX51 and TX4 adjacent to Power plant workshop (Item 6D);
  - TX52 and TX53, located on external elevated platforms on Boiler House B and Turbine Room (Item 6E).
- Removal of subsurface waste water pits, triple interceptor traps etc. and validation of resulting excavation. Any localised impacts to surrounding soils will be removed, however significant impacts to soil requiring remediation or to groundwater from these structures has not been identified to date. Structures include:
  - Triple interceptor trap associated with the North Mill Workshop (Item 7A);
  - Waste water pit in pulp storage area;
  - Triple intercept trap between North Mill Workshop and Roller Grinder Room;
  - Triple interceptor trap north of Tippler and Pulp Sub Plant (Item 7B);
  - Triple interceptor trap associated with the Mechanics Workshop;
  - Possibly the waste water pit, south of Boiler House B, south west of Turbine Room;
  - Trade waste pond (refer to Item 4 in Figure 1 attached); and
- Asbestos impacted soil in the switchyard and Mechanics workshop, and a small area adjacent to trade waste pond (refer to Item 8 in Figure 1 attached).
3 Next steps

3.1 Heritage buildings
Some of the buildings with heritage values that are to be retained on-site have not been fully assessed due to access issues. Discussions with the Environmental Auditor are currently underway to determine further assessment requirements based on the proposed land use for each of the following structures:

- Heritage precinct (Boiler Houses, Turbine Room, Power Plant workshop);
- River pump house;
- Wet Lap;
- No.6 Waste Paper Plant building.

3.2 Demolition and remediation works
The remaining data gaps will be resolved during the demolition and remediation stages of works including:

- trade waste pond;
- basement level of Tippler building;
- North mill Pump house and the South Mill Pump house;
- triple interceptor traps, triple interceptor pits and waste water pits; and
- areas where refusal on hard fill occurred including:
  - Beneath the southern part of the former rail corridor in the vicinity of the Tippler building and southern end of the pulp substitution plant;
  - Southern portion of the Site in the vicinity of the trade waste pond, the mill pump house, substation and mechanics workshop; and
  - Solid waste recycling area – suspected concrete liner of former water holding dam in this area.

3.2.1 Underground storage tanks
It was originally thought that there was one UST within the Chandler Highway bunker and this UST was previously proposed to be decommissioned in-situ due to the requirement to retain the brick boundary wall. The UST actually consists of one light oil tank nested inside a heavy oil tank within the Chandler Highway bunker. In addition the brick wall is now proposed to be demolished, therefore the two nested USTs within the Chandler Highway bunker can now be decommissioned ex-situ and removed from Site, along with all other USTs on-site in accordance with relevant standards and guidelines.

3.2.2 Off-site disposal of soil
Although the majority of contaminated soil on-site will be re-used in less sensitive areas, it has been decided that the asbestos impacted soils identified in the switchyard and Mechanics workshop, and a small area adjacent to trade waste pond (Item 8 in Figure 1) are to be excavated and disposed of off-site to an appropriate licenced landfill rather than being retained on-site.
3.3 Groundwater Investigation

Groundwater investigation, including additional bore installation and further GMEs, will continue once demolition and soil remediation has been completed with the following actions/objectives:

- Investigate whether groundwater intersects with proposed basement levels;
- Installation of several additional groundwater wells to:
  - confirm groundwater flow direction in the eastern portion of the site; and
  - address potential on or off-site sources of the trace concentrations of chlorinated hydrocarbons.
- Confirm that remediation and demolition works have not impacted the groundwater;
- Provide sufficient monitoring data so the Auditor can satisfy himself as to the condition of the groundwater.

Yours sincerely

Frank Mollica
Manager - Contamination Assessment and Remediation
(03) 8687 8706

Attachments:
Attachment 1 – Figure 1: Identified Areas of Contamination
Attachment 2 – Land Use Plan
Attachment 3 – Remediation Program
Attachment 1

Figure 1: Identified Areas of Contamination
Areas of Identified Contamination

1 - Isolated lead impacts in surface soils.
2 - Isolated TRH and PAH impacts in surface soils.
3 - PAH impacts associated with fill material.
4 - Trade Waste Pond.
5 - USTs to be decommissioned.
6A - TRH impacts associated with Substation 12 and 15.
6B - TRH impacts associated with TX59, adjacent to the No. 6 Paper Plant.
6C - TRH impacts associated with TX81, in the Recycling Centre.
6D - TRH impacts associated with the TX51, in the Power Plant Workshop.
6E - TRH impacts associated with Boiler House B and the Turbine Room.
6F - TRH impacts associated with the transformer near transformer in basement of machine building.
7A - Soil impacts associated with the TIP adjacent to the North Mill Workshop.
7B - Soil impacts associated with the TIP adjacent to the Tippler and Pulp Station Plant.
8 - Soil impacted with asbestos associated with Swithyard and Mechanics Workshop.

Identified Areas of Concern

Figure 1

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Data source: Aerial Imagery - Google Earth Pro, 2014 (Captured 28/02/2014); Groundwater wells- Melbourne Water, GHD, 2014; Site layout and GHD Sampling Locations, GHD, 2014; Site Created by: spaleri.
Attachment 2

Land Use Plan
Attachment 3

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This Volume 2 contains supporting documents, reports, guidelines and plans forming part of the Development Plan approved by Council pursuant to Schedule 11 to the Development Plan Overlay under the Yarra Planning Scheme (Development Plan). At its meeting on 2 December 2015 (Resolution), Council resolved to approve the Development Plan subject to certain further amendments being made to Volume 1 of the Development Plan. Council’s CEO approved the further amended Volume 1 and endorsed the Development Plan on 27 May 2016.

The contents of this Volume 2 must be read subject to the Resolution and the contents of Volume 1 of the Development Plan. To the extent of any inconsistency between this Volume 2 and the Resolution and/or Volume 1, the Resolution and/or Volume 1 will prevail as applicable.

17 August 2015

Travers Nuttall
Alphington Developments Pty Ltd
840 Dandenong Road
CAULFIELD VIC 3145

Dear Travers

Former Amcor Paper Mill, Alphington
Addendum 2 to Remediation Strategy

GHD Pty Ltd (GHD) has been engaged by Alphington Developments Pty Ltd (Alphington Developments) to provide environmental consulting services for the redevelopment of the former AMCOR Paper Mill in Alphington (herein referred to as the Site). The Site has been acquired by a consortium consisting of Alphington Developments Pty Ltd and Alpha APM No. 2 Pty Ltd (the Proponent). As part of the development plan, the Proponent has previously submitted a Remediation Strategy to Yarra City Council (May 2014, Document reference 3130961/228226_Rev2). Subsequently, an Addendum was issued to provide an update of works completed since the issue of the Remediation Strategy (29 October 2014, Document Reference 3130961/238217).

This letter has been provided as a second Addendum for the purposes of providing a second update of works completed since the issue of the Remediation Strategy. The same assumptions and limitations as provided in Sections 1.4 and 1.5 of the May 2014 Remediation Strategy apply to this Addendum.

1 Additional identified areas of contamination soil

Since the first Addendum letter was issued, significant progress has been made in the demolition of existing structures at the site. As demolition occurs, areas of the site become accessible and allow for further environmental assessment. This is being progressively undertaken. Further sampling since the last Addendum has identified a few additional areas of contamination in soil as outlined in the following Sections 1.1-1.3.

1.1 Soil remediation

Soil remediation has identified presence of localised asbestos below some of the former paper mill buildings, these include:

- Bonded asbestos in the form of underground services (drainage pipes and electrical conduits) and waste fragments within various locations on the site; and

- Asbestos originating from lagging and insulation material and weathered bonded material which is present in the southern portion of the site during various stages of development.

GHD Pty Ltd
Level 8, 180 Lansdale Street Melbourne VIC 3000 Australia
T. 61 3 8687 8000 F. 61 3 8687 8111 E. memail@ghd.com W. www.ghd.com
These findings are in previously inaccessible areas i.e. below structures and as such were not known at the time of the Site Remediation Strategy Report (May 2014). When encountered these soils are processed in accordance with the appropriate regulations and guidelines including:

- Victorian Occupational Health and Safety Regulations 2007 (OH&S regulations) and relevant Worksafe Victoria Compliance Codes and publications;
- Environment Protection Act 1970 and relevant State Environmental Protection Policies; and

The strategy of site re-use of material onsite remains consistent with the previously adopted strategy, however soils with asbestos are to be excavated and remediated and removed offsite to an appropriate licenced landfill rather than being retained on-site. Soil impacted with bonded asbestos only is being abated (removing visible fragments of bonded asbestos as far as practicable) prior to being disposed of off-site as abated fill.

These works are being conducted by the Demolition contractor during the demolition stage rather than the remediation stage due to Worksafe Victoria requirements and to increase efficiencies, decrease overall costs and avoid onerous conditions for future civil works by completing with demolition in one integrated streamlined process.

1.2 Foundry sands
A relatively small volume of waste foundry sand from the former brass foundry has been identified buried in the southern part of the Site. This material is unsuitable to remain on-site due to its high metal content so it has been securely stored on-site temporarily, while negotiations with EPA to reclassify the material for off-site disposal are ongoing.

1.3 Machine pits/sumps
During the demolition of slabs and footings, two concrete pits, which are thought to possibly be former machine pits or sumps, have been uncovered. Both pits were filled with oily water and surrounding soils were also confirmed to have localised hydrocarbon impacts. The water has been removed from site by an appropriately licensed liquid waste contractor and the surrounding impacted soil has been managed in accordance with the soil re-use strategy and asbestos management protocols established at the site.

2 Groundwater
An additional five groundwater wells (GW20-GW24) have been installed in April-May 2015 at the request of the Environmental Auditor to increase site coverage of the groundwater monitoring well network. A groundwater monitoring event (GME) was subsequently conducted on all existing and newly installed groundwater wells in June 2015, which reported results consistent with previous GMEs. Another final GME will be scheduled later in 2015.
3 Remaining data gaps

The remaining data gaps will be resolved during further demolition stages of works including:

- Lower section of the trade waste pond;
- Basement level of Tippler building;
- North mill Pump house;
- Remaining triple interceptor traps, triple interceptor pits and waste water pits; and
- Areas where refusal on hard fill occurred beneath the southern part of the former rail corridor in the vicinity of the Tippler building and southern end of the Pulp Substitution Plant.

Yours sincerely

Frank Mollica
Manager - Contamination Assessment and Remediation
(03) 8687 8706

Attachments:
Attachment 1 – Figure 1: Identified Areas of Contamination
Attachment 2 – Land Use Plan
Attachment 3 – Remediation Program
Attachment 1

Figure 1: Identified Areas of Contamination
Areas of identified Contamination:

1. - Isolated lead impacts in surface soil
2. - Isolated TRH and PAH impacts in surface soils
3. - PAH impacts associated with fill material
4. - Trade Waste Pond area
5. - USTs to be decommissioned
6A - TRH impacts associated with Substation 12 and 15
6B - TRH impacts associated with TX59 (adjacent to the No 6 Waste Paper Plant)
6C - TRH impacts associated with TX81 (in the Recycling Centre)
6D - TRH impacts associated with TX51 (in the Power Plant Workshop)
6E - TRH impacts associated with the 1954 Boiler House and Turbine Room
6F - TRH impacts associated with the transformer near No.2 Machine Pit
7A - Soil impacts associated with the TIT adjacent to the Typer and Pulp Substitution Plant
7B - Soil impacts associated with the TIT adjacent to the Typer and Pulp Substitution Plant

Figure 1

Job Number 31-30961
Revision 0
Date 17 Aug 2015

Identified Areas of Concern

Alphington Developments
Alphington Paper Mill - Remediation Strategy
Attachment 3

Remediation Program
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Project: Alphington Paper Mill - V
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