MDW
ENVIRONMENTAL SERVICES

Appendix C – Hazelmere Site Remediation Works Agreement & Site Management Plan

LOT 20 ADELAIDE ST, HAZELEMERE
SITE REMEDIATION WORKS AGREEMENT AND
SITE MANAGEMENT PLAN

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Project name: Adelaide Street Remediation (**ASR**)

Project number: 6045

Project leader: Peter Moltoni

Client name: Hazelland Pty Ltd

Client contact: David Aylmore

Contractor Wasterock Pty Ltd

Revision	Revision Type	Issue Date	Prepared By		Approved By	
			Name	Signature	Name	Signature
0	Draft	12/08/2009	E. Barkman		R. Moltoni	
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2	Draft	02/04/2013	P. Moltoni		P. Moltoni	
3	Final	17/03/2014	M. Waite		P. Moltoni	
4	Final	08/05/2014	M Bulmer		P. Moltoni	

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1 INTRODUCTION

1.1 BACKGROUND

Lot 20 Adelaide St, Hazelmere (Site) (Appendix 1) had been operated as a licensed inert landfill from 1987 to 1997, after first being mined for sand down to the clay substrate. From time to time during the land-filling period, a number of non-inert wastes were dumped on site, with the knowledge of the regulating authorities (Parsons Brinckerhoff, 2006).

A number of studies which took place between 1992 and 2006 (Appendix 2) identified varying levels of contamination primarily caused by Total Petroleum Hydrocarbons (TPH's), Monocyclic Aromatic Hydrocarbons (MAH's), Asbestos and Heavy Metals. Based on these findings, the (then) Department of Environment and Conservation (DEC) issued a site classification of 'Possibly Contaminated – Investigation Required' on 27 April 2007 (VDM, 2008).

Current site owners Hazelland Pty. Ltd (Owner) subcontracted Wasterock Pty Ltd (WRK) to undertake the required remediation work in order to make the Site developable in the future. This document presents detailed information on the scope of the agreement reached between the Owner and WRK, in addition to a draft Environemntal Management Plan (EMP) highlighting the procedures which will be undertaken during the remediation works, including the basis and justifications of mitigation measures and corrective actions.

1.2 SITE INFORMATION

The Site fronts onto Adelaide Street, Hazelmere and comprises a single lot that is irregularly shaped. The Site measures approximately 565m in length and 300m in width with a total combined area of approximately 16.9 ha. The non-landfilled site surface appears to have a generally flat topography, which ranges between approximately 27m Australian Height Datum (AHD) in the southwest corner, sloping gently upwards to approximately 33m AHD in the south eastern corner. The original surface levels have been altered due to historic sand mining and landfill at the site (Parsons Brinkerhoff, 2006).

Table 1 below, provides a brief summary of the site identification information (Parsons Brinkerhoff, 2006).

Table 1: Summary of General Site Identification Information

Site Address	Lot 20 Adelaide St, Hazelmere WA
Site Name	Adelaide Street Remediation **ASR**
Site Owner	Hazelland Pty Ltd
Title Identification Details	Lot 20 on Diagram 76128, Vol. 2054 Fol. 299
Local Authority	City of Swan
Zoning	General Rural zone TPS No. 9, City of Swan

General land use around the site includes residential dwellings on semi-rural properties containing disused market gardens and horse trotting tracks to the north, medium density residential development and residential dwellings on semi-rural properties across the separating road to the south and an ice works and old residential dwellings on semi-rural properties to the immediate west. The site is bound by Roe Hwy and a small sand quarry on the east (Parsons Brinkerhoff, 2006).

There are no surface water bodies in close proximity to the site. According to the on-line Perth Groundwater Atlas (Department of Water, 2009) the average groundwater table is at 15m AHD and flowing from south-east to north-west.

1.3 ENVIRONMENTAL ISSUES

The Site has been used for sand mining (between 1978 and 1982), up to 4m below natural ground. This was followed by subsequent landfilling with inert building wastes to a level of up to 8 m above ground up to 1990. However, car bodies and drums including asbestos sheets, recycling sludge's containing hydrocarbons and emulsion factory wastes, drums of kerosene, bitumen, pesticide contaminated soils and hospital wastes have also been reported (Parsons Brinkerhoff, 2006). A number of studies carried out between 1992 and 2006 (Appendix 2) identified varying levels of contamination, primarily caused by Total Petroleum Hydrocarbons (TPH's), Monocyclic Aromatic Hydrocarbons (MAH's), Asbestos and Heavy Metals.

It is estimated that the site contains some 1.1 million m^3 of wastes covered by soils (WSP, 2007). Some 0.7 million m^3 needs to be removed and/or processed during remediation works.

1.4 SCOPE OF WORKS

The scope of remediation works agreed by the Owner and WRK are provided below. The owner will appoint WRK as the site manager. WRK will:

- Excavate the uncontrolled fill and process it by;
    1. Removal of timber, brick, concrete and ferrous and non-ferrous metals for recycling.
    2. Removal of various contaminants including soils and hazardous wastes that might contain elements which could leach into the groundwater, or be harmful to the environment or the general public;
    3. Placement of stable non-leaching processed waste as engineered fill in a deep fill cell created over the entire Site. This will include asbestos fragments, as asbestos contaminates the entire Site;
    4. Management of any bulk asbestos pockets identified during the works (such as loads of old sheeting) as being specific areas of asbestos contaminated materials (ACM) requiring special attention. Such asbestos will be saturated with water and continue to be wet down during the mechanical loading process and taken directly to a cell on site and placed a minimum of 3 metres below Final Finished Level (FFL) - preferably in a public open space location or below designated future roadways. Compaction of the placed asbestos will be done using impact/dynamic compaction, *afte*r a cover of 1 metre of clean fill has been placed over the asbestos. The area is to be kept wet at all times during the works
    5. Recovering and crushing brick and concrete material for use in the barrier layer at 1.5 metres below finished surface, or for other site uses (roads and hardstand) to reduce the volume by up to 50 % and deliver FFL ‘s as close as practicable to surrounding land contours. Retaining walls of agreed and appropriate height will be constructed where necessary to accommodate future land use, but are not included in the rehabilitation works
    6. Recovering sand from the soil amendment and soil recycling processes, to be used for the capping layer of clean sand, which is placed over the deep fill and barrier layer to a depth of 1.5m.
- Be responsible for the day to day management of the site works
- Be responsible for the sourcing approvals to carry out the remediation works, including, but not limited to, the importation of clean fill to the site, including the establishment of a Category 62 – Solid Waste Depot, as a ‘Resource Recovery Facility’.
- Ensure all waste recovery and processing activities are designed to meet the regulatory authority requirements for dust and noise control and State sustainability objectives

- Be responsible for completion of the remediation and bulk earthworks, including sand capping, to practical completion.
- Cover the Site with 1.5 m of clean fill on completion of the remediation works. Sourcing, cost and placement of the clean fill will be the sole responsibility of WRK;
- Issue to the owners a 'certificate of practical completion', on practical completion of the remediation and bulk earthworks and sand capping.
- Employ suitably qualified environmental and geotechnical consultants to monitor the works. The consultants will report on the ongoing status of the project and deliver a Final Report to certify the site as "remediated, fit for use".
- Be responsible for the delivery of the Final Report, within 6 months of the works achieving Practical Completion.

The Owner will:

- Appoint Greg Rowe and Associates as project coordinator for the remediation phase of the works;
- Appoint NEWCO as project manager for the development of the site;
- Provide The Manager with a master plan for the development of the site prior to the commencement of the Remedial bulk earthworks on site, such that The Manager can execute the earthworks to accommodate the needs of the future development of the site.
- Assist WRK as and where possible with all approvals.

All parties will share in the cost of the approvals and development on a pro-rata basis.

2 SITE MANAGEMENT PLAN

2.1 DOCUMENT CONTROL

This Site Management Plan (SMP) is subject to a document control procedure, to ensure that all SMP holders only have up-to-date document versions. This initial (draft) version of the document is designated as Revision 0. As the SMP is updated or supplemented, replacement pages will be inserted and the complete document will be designated as Revisions 1, 2, 3, etc. Old pages will be removed and stored. A record of the up-to-date version of the document will be maintained using the format below. The Site Manager is responsible for ensuring that the SMP is kept up-to-date and will sign the record to confirm, whenever replacement or new pages have been incorporated into the SMP.

Table 2: Document Control Format

Revision	Revision Type	Issue Date	Prepared By		Approved By	
			Name	Signature	Name	Signature
0	Draft	24/07/2009	E. Barkman			
1	Draft	10/09/2012	P. Moltoni			

2.2 RESPONSIBLE PARTIES

WRK is the responsible party for the implementation and management of the SMP.

2.3 OBJECTIVES

The objectives of the SMP are to:

- Provide evidence of practical and achievable plans for the management of the Site to ensure compliance with environmental requirements;
- Set out control measures and contingency arrangements required to minimise adverse environmental and human health effects from the remediation operation, both on and off the site;
- Outline the responsibilities of the various parties and procedures to be followed in preparing the site for future use;

- Provide WRK with a framework which will confirm compliance with relevant policies and requirements; and
- Provide the community with evidence that the project is being managed in an environmentally acceptable manner.

The SMP will be reviewed and periodically updated, if necessary, to reflect knowledge gained during the course of operations. Changes to the SMP will be implemented in consultation with the relevant authorities where necessary.

2.4 ROLES AND RESPONSIBILITIES

2.4.1 Project Manager

The WRK Project Manager has overall responsibility for the management of environmental issues at the Site, ensuring the SMP is implemented and maintained and conducting periodic reviews of site personnel.

2.4.2 Site Manager

WRK, as the Site Manager is responsible for the remediation activities at the Site, will be responsible for the implementation of the SMP for all aspects of this work.

The Site Manager will ensure that:

- The SMP is maintained within the framework of the document control procedure;
- The SMP is current and accurate, by conducting risk assessments for new environmental hazards and developing appropriate environmental actions when new issues arise;
- The management measures identified in the SMP are carried out;
- Inspection and monitoring requirements and environmental incident and complaints handling procedures are implemented;
- All construction site workers and external contractors are made aware of the SMP and adhere to its requirements;
- Periodic audits are carried out to ensure that the SMP is being implemented at the site;
- The SMP is periodically reviewed by the project coordinator and the site manager and updated to reflect changes in operations at the site; and
- All documentation associated with the SMP is maintained and all inspection and monitoring records are available for review, as and when required.

2.5 SITE SPECIFIC TRAINING

2.5.1 Induction

The contents of this SMP will be addressed as part of a site induction, so that site employees and contractors are aware and informed of the site issues and the management procedures associated with them. A site-specific induction regime will be implemented and maintained by the Site manager.

2.5.2 Suitable Remediation & Waste Management Training for On-Site Contractors

It will be the responsibility of the Site Manager to ensure that all site employees and contractors are aware of the SMP, its contents and impact on their work methods, before work is commenced. The most appropriate method of achieving this will be determined, depending on the eventual site activities and staff structure. However, induction training, prior to commencement of site works, will ensure that the requirements specified in the SMP are known and further training sessions will be conducted if changes have been made. Any revised procedure updates will be incorporated into the Site Management Plan..

The exact training content and schedule will be developed as the need arises. The training will, however, include the following as a minimum:

- The role of the SMP in managing human and environmental impacts;
- Health and Safety requirements for all onsite personnel and anyone entering the site.
- Roles and responsibilities of all site personnel as they relate to the environment;
- Personal responsibilities for environmental management; and
- Emergency procedures, including the use of a chemical spill control/clean-up kits (if fuel is kept on-site).

2.5.3 First Aid

WRK will provide a comprehensive First Aid kit, which will be kept on Site. It is expected that at least one of the field personnel on site for the work will be qualified to perform emergency first aid.

2.6 RELEVANT SITE CONTACT INFORMATION

Table 3 below contains the relevant site contact information.

Table 3: Relevant Site Contact Information

Title	Contact Name	Contact Number
Project Manager	TBA	TBA
Site Manager	TBA	TBA
Environmental Consultants	TBA	TBA
Auditor	TBA	TBA
Emergency Services	N/A	000
DEC – Information	N/A	6467 5000
DEC – Emergency Pollution Response	N/A	1300 784 782
City of Swan	N/A	9267 9000
Work Safe	N/A	1300 30 78 77
Royal Perth Hospital	N/A	9224 2244
Fire Services North Metro Region	N/A	9374 2700
Midland Police Station	TBA	9250 0333

3. SITE MANAGEMENT PLAN COMPONENTS

Each of the key matters identified by WRK has been addressed in the following sections of the SMP:

- Section 3.3 Soil tracking management.
- Section 3.3.1 On-site soil tracking management
- Section 3.3.2 Off-site soil tracking management
- Section 3.3.3 Excavation management
- Section 3.4 Soil handling management.
- Section 3.4.1 On-site soil handling management
- Section 3.4.2 Off-site soil handling management
- Section 3.5 Asbestos management.
- Section 3.6 Trucking movement management
- Section 3.7 Water contamination management
- Section 3.8 Air quality, dust and emissions management
- Section 3.9 Noise management
- Section 3.10 General waste management
- Section 3.11 Chemicals and dangerous goods management
- Section 3.12 Occupational health and safety
- Section 3.13 Incidents and complaints management

Each of the above sections deals with the following issues in relation to the respective matter:

- Environmental objectives;
- Targets;
- Actions required;
- Review and monitoring; and
- Corrective actions.

The relevant forms are located within Appendix 1.

3.1 SOIL MANAGEMENT PLAN

In order to manage the environmental and social issues specifically applicable to the relocation of contaminated material across the site, a Soil Management Plan has been prepared and is covered within Sections 3.3-3.5. The purpose of this Soil Management Plan is to detail how imported, excavated clean and excavated contaminated soil will be relocated and the

environmental protocols for managing temporary stockpiles of such materials before they are relocated.

3.2 MANAGEMENT OF REMEDIAL WORKS

Specific procedures have been prepared which will be followed by the Project Manager and the Site Manager to ensure all site works are undertaken in a safe and effective manner and in accordance with the environmental approvals given. These are outlined below:

- A Soil Tracking Form (STF) will ensure all the imported and excavated material is accounted for and relocated to its appropriate location as designated in the site classification plan, as well as the sampling program employed for each type of material and the allocated material ID;
- Internal Waste Handling procedures for management of the excavation, stockpiling, spreading, sampling and covering of the imported and excavated materials;
- Off-site Waste Disposal procedures for the transportation and disposal of waste material off-site;
- Importation of clean fill where required due to a shortage of clean fill materials on site to ensure only suitable material is used as fill and cover; and
- Environmental Incident Report forms to keep record of environmental incidents and resulting remediation plans determined by the Project Manager after such an event occurs.

Each procedure will address the objectives and provide actions to achieve the objectives, targets, monitoring programs and potential corrective actions to remediate the issue specified should a problem arise.

Specific management of visible asbestos waste is described separately in the asbestos waste management section of the SMP.

3.3 SOIL TRACKING MANAGEMENT

3.3.1 On-site soil tracking management

Objective: To facilitate the remediation of the Site, all material being brought into the Site or moved around the Site will be monitored. Any excavated, potentially contaminated soil will be relocated to a designated stockpile area, unless the material has previously been validated, whereby it will be relocated to a designated deposition area, as determined by the Site Classification Plan. The site classification plan depicting such relocation positions will be maintained by

the Project Manager prior to commencement of site works and will be monitored by the Site Auditor.

Target: To account for the relocation or movement of all material either being brought into or moved around the site, clean or remediated ground will not inadvertently be covered by contaminated material as part of the relocation exercises. Such areas (clean and contaminated) will be designated within the Site Classification Plan prior to commencement of site works to prevent this from occurring.

Actions: The STF (soil tracking form) will be used to manage and monitor the movement and placement of all material being brought into or moved on site. The STF will:

- Record and document the internal transfer of each soil load denoting approximate volumes being moved and notations of the origin and destination.
- Monitor movement of materials being brought into the site. Record of each soil load denoting approximate volumes being moved and notations of the destination will be noted. They will be placed:
    - In a sorting area if the load is mixed or requires treatment;
    - In a holding area if treatment or validation sampling is needed before movement,
    - To the appropriate area as designated by the Site Classification Plan if validated prior to delivery to site and noted as clean by visual assessment on arrival.

  If double handling is required both the initial and final locations will be noted.
- Provide a record of accidental placement of contaminated material on natural or remediated ground. This includes soil movement as well as chemical or waste spills on-site. The corrective action undertaken (as described below) is to be reported in an Environmental Incident Report form.

The following actions will be used to effectively manage the movement of material across and into the site:

- The Site will be classified using a grid format system. The grids will be given relative numbers with the numbers relating to origin and destination of the material being stated on the STF when soil is excavated or moved or brought onto site.
- There will be an initial site induction for all personnel involved with the movement and relocation of the waste. They will be informed of the

site/location of waste and transport routes to be used, as well as the grid system and how this applies to different types of material.

- The boundary of the old landfill (as mapped out in the site classification plan) will be identified at regular 10m intervals by survey pegs, this will ensure clean and remediated ground is not inadvertently covered with waste by nominating specific areas as 'yet to be processed' areas.

Each incoming load is to be checked by the Site Manager or his representative to classify material prior to deposition of material at the site. Note: This process is discussed in the Environmental Site Management Plan.

Specific unloading instructions are described below:

- Once the material has been classified as 'clean fill' material or needing further processing, it will be moved to the appropriate area, as designated by the Site Classification Plan. 'Origin', 'destination', 'classification' and' amount of material being imported' should be noted on the STF.
- Trucks are to use an internal track which is to be wide enough to allow the safe passing of vehicles, the track is to be clearly defined with signage where required and be kept damp to prevent nuisance dust.
- A speed limit of 30 Km/h will apply to all traffic on tracks and 10 Km/h for machinery operating off-track.

Monitoring and Reporting:

Monitoring and reporting will include:

- All STF's are to be summarised at the completion of the remediation phase for inclusion into the Remediation and Validation Report.
- Any accidental placement of waste fill on natural and remediated ground will be noted on the STF. The corrective action undertaken will be detailed and reported in an Environmental Incident Report form.
- Routine random checks of the STF's will be undertaken by the Project Manager to ensure all details are being completed and that material is being relocated to the appropriate areas as stated on the STF.

Corrective Action:

Where material has been accidentally placed on natural ground or ground that has been previously been validated as not requiring further remediation, the Site Manager will be required to remove the material as described in Section 3.4.1.

Any subsequent movement of the soil should be noted on the STF and an Environmental Incident Report form completed, to ensure location of the contaminated soil is known and remediation can be completed.

3.4 SOIL HANDLING MANAGEMENT

3.4.1 On-site soil handling management

Objective: To ensure that the handling of all soil materials on-site is undertaken in a safe and environmentally responsible manner.

Actions: The following actions are to be used to ensure that all soil materials are being handled in a safe and environmentally responsible manner:

- Training of relevant personnel and implementation of safe work practices for minimizing the risk of spillage and cross-contamination when soil is being moved around the site.
- Induction of employees, suppliers and contractors in their environmental protection responsibilities.
- All workers will undergo a site induction, which informs them of the dangers of asbestos, how to recognise asbestos products and the procedures to follow should asbestos be uncovered.
- Remediation of newly or previously contaminated land will be undertaken using the most appropriate method available, as designated by the Project Manager, to achieve required commercial/industrial guideline validation results.
- All old landfill material will be considered as being potentially asbestos impacted, and will be handled according to the asbestos management procedure described in Section 3.5.

The following actions are to be used for managing the excavation, processing and transfer onto and around the Site, stockpiling and sampling of excavated material. Soils being brought into the site shall be processed in designated areas according to the approved SAMP procedures.

- Excavations (should be numbered and movement of material should be noted on the STF)
    - All material being excavated will be initially assessed for contamination using visual and olfactory methods. The material will

be relocated to areas specified on the site classification map based on this initial assessment. The base is to be sampled for validation purposes and will remain open with appropriate fencing where required until it is validated by the laboratory as suitable to receive backfill. A visual/photographic log will be maintained. Each excavation, and the resulting stockpiled material, will be given a specific label as well as the grid notation to further facilitate the soil tracking process.

  - Once the excavation area has been validated, as stated above, it will be filled with engineered fill produced from the processing of the old landfill materials, then capped. The STF will be used to monitor relocation of such materials.
  - Information related to sampling of the excavation areas, excavated materials and clean fill materials brought onto site will be noted on the STF. The Project Manager or his representative will conduct the sampling of such materials.
  - Processed landfill material will be transferred to the relocation area as designated by the Site Classification Plan (including any stockpiling) or, if unsuitable, removed to a designated landfill.

- Stockpiles
  - The Project Manager or his representative will identify stockpile locations for imported clean fill material (if needed) prior to commencement of works in the Site Classification Plan. Stockpile locations will be identified by signage as to the status (type of fill) so that relocation to appropriate positions as specified in the Site Classification Plan is easy to implement.
  - The Project Manager or his representative will identify stockpile locations for suspected contaminated material prior to commencement of works in the Site Classification Plan. Stockpile locations will be identified by signage as to the status (i.e. for on-site or off-site disposal) as well as the grid id associated with the origin of the material.
  - Material that is odorous or aesthetically unappealing will be stockpiled in designated areas as depicted in the Site Classification Plan so that classification can be performed and remediation or disposal plan determined by the Project Manager. Remediation of

such material on site will be in accordance the agreed SAMP procedures.

- Runoff from the stockpiled material is to be managed in accordance with the Water Contamination Management Plan described below.
- Dust suppression techniques are to be used on the temporary and long-term stockpiles in accordance with the Air Quality Management Plan.

- Spreading
  - All old landfill processed materials, classified as suitable to use as engineered fill material or being remediated in a designated area are to be spread in a damp condition to reduce the potential for dust generation as per the requirements of the Air Quality Management Plan.
  - Clean fill material that is being used as capping will be spread evenly over the engineered fill, covering it completely to a depth of 1.5 metres
  - Machinery operating in the excavation exclusion zone will be thoroughly cleaned with a high pressure hose at a dedicated wash-down area prior to leaving the zone.
- Sampling
  - All excavated or imported material that is being moved around the site is required to be sampled for classification purposes. All excavations are required to be validated by sampling of the base before they can be back filled.
  - The STF will be used to record the information related to sampling of the excavated materials and clean fill materials brought onto site. Sampling will be the responsibility of the Project Manager or his representative, and will include a laboratory analysis suite of date, time, sample id and requested turn around times for the receipt of results. Sampling incidence will be determined according to the amount of material and required frequency, as stated in the (then) DEC guidelines.
  - All sampling is to be performed by a suitably trained employee as designated by the Project Manager. Appropriate sampling procedures will be employed with attention to appropriate PPE from potentially contaminated material.
- Cover

- If excavated material is particularly odorous it will be stockpiled in areas designated for bioremediation or disposed of as depicted in the Site Classification Plan. Following sampling and after laboratory results are received, the material will be processed or sent for disposal as deemed necessary by the environmental consultant. Once the results are received, the Project Manager will decide whether it can be re-used or remediated on site, or whether it requires off-site disposal.
- If awaiting laboratory results for material that is particularly odorous, the excavation from whence the material originated will also be sampled and covered with a minimum 300 mm layer of non-odorous landfill material to prevent further exposure to the unknown contaminants, until validation of the area has been confirmed.

- Unsuitable /uncertified soil placed on validated clean ground
  - Where such material has been accidentally placed on natural ground or ground that has been previously been validated as not requiring further remediation, the Project Manager will be required to remove the material, including the underlying 0.1m of ground beneath the fill. The Project Manager or his representative will collect samples from the natural ground beneath the misplaced soil and test for contamination to ensure levels are below the environmental guidelines. Sampling frequency is to be performed in accordance with the landfill guidelines.
  - Once this material has been excavated, it should be transported to its original intended location, with any new material removed with it. Both intermediate and final locations will be noted on the STF.

Monitoring and Reporting:

Monitoring and reporting will include:

- Any accidents involving the spillage of contaminated material from trucks or the accidental placement of unsuitable/ uncertified soil on natural or clean ground. The corrective action undertaken for each situation will be reported in an Environmental Incident Report form.
- Earthmoving and traffic accidents will be reported verbally and in writing directly to the Site Manager, immediately following the incident.

- Routine random checks on the waste handling practices will be undertaken by the Project Manager to ensure implementation and conformance to these procedures is being completed.

Corrective Action:

Minor traffic accidents are to be assessed and changes made to controls if applicable. Major accidents causing injury or death are to be reported to both 'Worksafe' and the Police.

3.4.2 Off-site soil handling management

Objective: To ensure that the transportation and handling of all soil materials off-site is undertaken in a safe and environmentally responsible manner. All transport and documentation will be kept for the duration of the project and for the purpose of reporting. All transportation dockets from site will be reported in a Site Remediation and Validation Report or similar. The material tracking program will accurately repot of all imported and exported material from the site.

Actions: The following actions are to be used for managing the off-site disposal of any material.

- Record and document the location of material that is deemed as requiring disposal off-Site. Such material will be stockpiled in designated areas as depicted in the Environmental Site Management Plan (EMSP) so that classification can be performed and remediation or disposal plan determined. If classified as needing disposal transportation will be arranged.
- Stockpiles of material designated for off-site disposal, as determined by the Project Manager or his representative, will be classified in accordance with Landfill Waste Classifications and Waste Definitions 1996 (As Amended) (Department of Environment, 2005). The environmental consultant will ensure compliance with the ESMP.
- Material being loaded into trucks for off-site disposal will be verified and confirmed by the Project Manager or his representative as the material specified on the disposal forms, prior to removal from Site.
- All contaminated material is to be removed from Site in a damp condition to reduce the potential for dust generation and adverse air quality, as per the requirements of the Air Quality Management Plan detailed below.

- All truck loads are to be within legal weight limits when removed from site. Trucks are to be road worthy and operated in accordance with transport regulations.
- Roadways are to be kept clean and clear of soil and debris
- The Site Manager will continuously monitor the road condition at the entrance/exit to the work site and sweep/wash as deemed necessary.

Monitoring and Reporting:

Monitoring and reporting will include:

- With accidents involving the spillage of material from trucks, the corrective action undertaken will be reported in an Environmental Incident Report form.
- Traffic accidents are to be reported to the Police as well as verbally and in writing to the Site Manager immediately following the accident.
- Routine random checks of truck loading and security of material will be performed by the Site Manager to ensure conformance with procedures designated above. Such events will be noted in the site monitoring log book.

Corrective Action:

Contaminated Material that has been spilt off-site is to be cordoned off. A spill response team will be used to recover material immediately. Relevant authorities to be notified as soon as possible

3.5 ASBESTOS MANAGEMENT

Objective: To manage **all materials on-Site** as potentially containing asbestos or impacted with asbestos, as well as to prevent any incidents of unsafe contact with asbestos during work activities occurring on Site.

Target: Containment of asbestos materials and zero unsafe contact with potential asbestos containing / contaminated material by workers at the Site and residents beyond the Site.

Actions: Strategies for the prevention of asbestos contact and the containment of asbestos material will include:

- An assumption that the entire landfill rehabilitation area is potentially impacted with asbestos.

- All asbestos and asbestos-impacted soils are to be placed on-Site as deep fill to limit exposure opportunities and eliminate risks associated with offsite disposal
- Daily checking of excavation areas by the Project Manager to confirm the presence / absence of asbestos, so as to ensure adequate asbestos controls are being initiated.
- All workers will undergo a site induction, which informs them of the dangers of asbestos, how to recognise asbestos products and the procedures to follow should asbestos be uncovered.
- Asbestos fibre monitoring will be conducted in the Site vicinity, in accordance with the approved dust monitoring procedures established for the Site works
- Prevent dust emissions by constant wetting of the work area.
- Where asbestos is visibly encountered during remedial activities, the asbestos will be wet down, with dust-free excavation and handling and placement as deep fill on Site.

The following actions are to be undertaken to prevent the release of asbestos fibres:

- Soil will be wet with large volumes of low-pressure water and/or a suitable wetting agent for dust suppression. Any exposed asbestos will be covered with a suitable crushed rock barrier after placement in the deep fill area.
- The work area being excavated (recovery), will be cordoned off and declared as an exclusion zone at all times. A physical boundary surrounding the work area will be constructed with physical barriers and coloured warning tape defining the restricted entry status of the work area. The barriers will be at least 10m away from the location of any other active excavations, with warning signs placed at the boundary of the exclusion zone.
- Only personnel with the appropriate PPE and training will be allowed to work inside the exclusion zone. Any bulk asbestos sheeting encountered will be disposed on-Site in a nominated asbestos cell in accordance with the relevant guidelines. Asbestos fragments will be managed with the recycled materials as deep fill
- A decontamination facility is to be provided for personnel that may come into contact with asbestos contaminated material to provide wash-down and ensure safe removal of their PPE.

<u>Monitoring and Reporting</u>:

Monitoring and reporting will include:

- The presence of asbestos fibres will be monitored during all earthwork activities on site. Additional monitoring at the boundary of specified asbestos exclusion zones will be performed to ensure personnel working outside of the asbestos exclusion zone are not being exposed to levels in excess of the capacity of their PPE.
- All site personnel must inform the Project Manager immediately if works are not being undertaken according to the management plan and may have a likelihood of leading to an asbestos exposure incident at the site. The Project Manager will maintain records of any contamination incidents or discovery of any other contaminants, as well as the containment and remediation procedures employed.

Corrective Action:

The following is to be classified as an incident or failure to comply in relation to_asbestos contamination management:

- Failure to report a departure from the management plan which could lead to a potential asbestos exposure.
- Incorrect use of PPE in areas designated as asbestos exclusion zones.
- Other breaches of the management plan as detailed above.

3.6 TRUCKING MOVEMENT MANAGEMENT

Objective: To manage trucking movements during Site works and to minimise their impacts on the environment and possible sensitive receptors.

Target: No local complaints, no environmental damage and zero road accidents.

Actions: It is anticipated that up to 50 two-way truck movements could be expected each day of operation, with rigid and semi-trailer vehicles.

- Truck access to the site will be limited to the approved entrance at the commencement of site works with further entrances added in the future if site access in other areas is required. The speed of vehicles will be limited to 30 Km/h on Site tracks.
- Users of the Site will be notified in writing of these requirements. Any offending groups or individuals, after reasonable warning, will be banned from further use of the facility on a three strike warning basis. Warning signs

alerting motorists that trucks are entering the road system will be erected at the adjoining road intersections.

- In accordance with Australian Safety Standards, all reversing vehicles are required to be fitted with audible warning signals.
- The hours of operation of the site will be 7.00 am to 5.30 pm Monday to Friday and 8.00 am to 4.00 pm Saturdays. Maintenance and cleaning of equipment is carried out between the hours of 7.00 am to 5.30 pm on Saturdays. The Site will not be open on Sundays and public holidays.

Monitoring and Reporting:

Monitoring and reporting will include:

- WRK will conduct regular internal auditing (weekly) of the site's trucking operations.
- The OHS Representative will report to the Project Manager on a weekly basis on any trucking movements that need to be addressed. External complaints will be dealt with *immediately* on a case by case basis.

3.7 WATER CONTAMINATION MANAGEMENT

Objective: The objective of water contamination management is to monitor water (ground and storm) quality to ensure that Site works are not impacting the environment through these receptors.

Target: To prevent the direct or indirect release of contaminated materials into the water receptors surrounding and included in the Site. The elimination or containment of any potential contamination sources created by the activities occurring on the site.

Actions: Actions relating specifically to water contamination management are:

- An earth bund will be constructed to the perimeter of the site to
  - prevent site storm water and litter from leaving the site
  - limit visual impact of the works on the adjoining properties
  - reduce noise and dust impacts on the adjacent community
- A groundwater monitoring program will be implemented to assess the groundwater quality prior to, during and post Site works. The monitoring will also be undertaken on a bi-annual basis following commencement of site works.

- Training of relevant personnel and implementation of safe work practices to minimize the risk of fuel, oil and hazardous goods spillage.
- Training of relevant personnel to include spill management and clean up procedures.
- Induction of employees, suppliers and contractors in their environmental protection responsibilities.

Should unacceptable groundwater quality be detected the following actions will be undertaken:

- Re-sampling of the particular well/wells identified as unacceptable to confirm initial result.
- Re-sampling of the well in 3 months time to confirm initial rounds of sampling.

Actions relating specifically to stormwater contamination management are:

- All stormwater will be retained on Site
- In order to ensure that the stormwater collection and treatment systems are achieving their objectives, an earth bund will be constructed to the perimeter of the site to contain all storm water within the site boundaries

Actions relating to all forms of water contamination management are:

- Provide bunded storage areas for fuels and dangerous goods required for construction equipment with spill cleanup kits in accordance with the requirements of AS 1940:1993 and AS 3780:1994.
- Implement controls to ensure all transfer of fuels and chemicals is managed to prevent spillage. Should a spill occur, it will be contained within the bunded areas.
- Diversion bunds or sediment traps will be installed downstream of all work areas draining to temporary storm water sumps on site
- Areas requiring such actions will be designated within the Site Classification Plan. Areas containing water receptors will be appropriately managed by depicting them within the site classification plan as “sensitive”, restricting environmental harmful activities from occurring within the direct vicinity and constructing appropriate treatment systems around them.

Corrective Action:

The following is to be classified as an incident or failure to comply in relation to water contamination management:

- Any breach in the integrity of ponds, bunds or drains, including discharge of contaminated runoff; spilled fuel or wastes enter the stormwater drainage system, sedimentation ponds demonstrating significantly reduced available volume, insufficient general housekeeping to prevent general rubbish and contaminants entering the stormwater runoff from the site.
- Elevated contaminant levels identified above the adopted site assessment guidelines, separate from contamination levels identified prior to site works, that result from an incident related to demolition and construction works.

Such incidences should be remediated according to the following:

- Repair stormwater controls (e.g. ponds, bunds and drains). Contain and remediate or dispose of contaminated material/contaminants. Treat or dispose of contaminated stormwater. Clean out the sedimentation ponds. Undertake additional general housekeeping to minimise rubbish and contaminants entering the stormwater.
- If the elevated contaminant concentrations have been deemed as a direct result of works occurring on site, an appropriate remediation plan will be developed and implemented by the Project Manager.

Monitoring and Reporting:

Monitoring and reporting will include:

- The Project Manager will monitor water contamination levels continually until the completion of the site works. he will also monitor the proper prevention of contamination procedures related to water sources, thereby ensuring that environmental harm to water receptors is prevented.
- The results of each monitoring event are to be reported within three months of completion, with a full comprehensive report prepared after the competition of Site works.
- Any spills or suspected contamination near water receptors should be reported to the Project Manager immediately.

3.8 AIR QUALITY, DUST AND EMISSIONS MANAGEMENT

Objective: To minimise the release of dust and emissions to air from areas where Site works are occurring.

Target: In accordance with the draft - *Guideline for the Development and Implementation of a Dust Management Program* (Dec, 2008), dust management at the site will address dust from operations areas, access roads, stockpiles, cleared areas and the overall Site in accord with the approved Dust Management Plan.

Actions: Actions to be undertaken to control air quality during site works include the following:

- Reschedule earthworks to periods of low wind and/or employ other dust suppression techniques if visible dust is blowing off the site.
- Regular watering or other treatment of haul roads and exposed construction areas, subject to vehicle and machinery movements.
- Ensure that vehicles and equipment are appropriately maintained to minimise air emissions. All machinery operating at the site will have exhaust systems that comply with the appropriate Australian Standard(s).
- All machines operating on the site will have appropriate filtration systems for the air-conditioning system to meet asbestos filtration requirements
- Vehicle speeds in remediation areas will be limited to a maximum of 30 km/h.
- No open burning of wastes to be undertaken.
- Topsoil stockpiles will be stabilised with an appropriate surface cover. Other exposed surfaces and stockpiles will also be watered or sprayed as required.
- Water sprays will be used (as required) across work zones and unsealed areas to suppress dust. The water will be applied to ground surfaces whenever the surface has the potential to generate excessive levels of dust.
- Exposed areas will be minimised through progressive rehabilitation as soon as practicable.
- Major traffic routes into and around the site will be paved with either bitumen or crushed concrete to minimise dust and noise.

Monitoring and Reporting:

Monitoring and reporting will include:

- Visual inspections will be undertaken by the Site Manager to check for evidence of excessive dust generation.
- The Project Manager will prepare reports of dust and air emissions produced by construction activities.

Corrective Actions:

The following would constitute an incident or failure to comply in regards to air quality management:

- Proposed dust mitigation strategies not being implemented resulting in an observation of excessive dust levels generated on site
- Emission concentrations exceeding guideline levels.
- Receipt of a justifiable complaint about emissions or dust from site personnel or surrounding residents.

Should an incident or failure to comply occur, the Project Manager will:

- Identify the causes of the excessive air or dust emissions and implement the necessary procedures to control/reduce the emissions to an acceptable level as designated by the guidelines and, in the event that the complaint was from an external source, liaise with the source of the complaint to ensure good public relations

3.9 NOISE MANAGEMENT

Objective: To minimise the generation of noise emissions during the site works and to prevent any potential noise impacts that would result from exposure to noise emissions.

Target: Noise levels from site activities do not exceed 60 dB(A) at offsite locations. No personnel injuries to Site personnel relating to exposure to high levels of noise emissions from Site activities all generally in accord with the site Noise Management Plan.

Action: The following strategies will be implemented to aid in noise management throughout site works:

- Where possible, every effort will be made to minimize nuisance noise by restricting site activities to the following working hours: Monday to Friday between 07:00 and 17:30 hours, Saturday between 8:00 and 16:00. The site will not operate on Sundays or public holidays.
- Machinery will be maintained and operated in a manner that limits noise emissions. The Project Manager, will arrange to use properly maintained low noise emitting equipment to prevent noise emissions while completing site works. As well, turning equipment off when not in use and lowering throttle

settings where possible will also help in reducing the amount of noise produced on site.

- Wherever possible the construction laydown area and designated site entrances will be located away from noise sensitive locations, such as residential areas. In general, the instance and duration of noisy works will be minimized and the layout will be arranged to limit the need for truck reversing on site.
- An area away from residential dwellings will be nominated for offsite truck parking when vehicles arrive before site opening hours and thereby limit the exposure of nearby residents to noise outside the normal works hours.

Monitoring and Reporting:

Monitoring and reporting will include:

- Should justifiable noise complaints be received, sample testing will be carried out. If there is evidence of a need for ongoing monitoring, an appropriately designed monitoring program will be implemented by the Project Manager.

Corrective Actions:

The following represents an incident or failure to comply:

- Noise complaint received;
- Excessive noise levels at the site boundary; or
- Non-compliance with the above control actions.

Should a failure to comply occur, the following steps will be taken:

- Site activities will be investigated to determine the cause of the problem;
- Control measures will be reviewed to prevent recurrences and, where necessary, additional control and mitigation measures will be investigated and installed; or
- A permanent noise monitoring program will be considered if continual complaints are occurring.

3.10 RESOURCE RECOVERY AND GENERAL WASTE MANAGEMENT

Objective: Efficient use of resources and minimization of wastes requiring off-site disposal.

Target: Achieving cost effective and environmentally sustainable waste management by:

- Maximising resource recovery and re-use from old landfill waste and incoming recyclables;
- Maximising recycling, particularly of concrete brick and sand;
- Minimising waste generation and offsite disposal; and
- Safe management and disposal of all unsuitable and non-recyclables.

Actions:

The following resource recovery initiatives will be implemented:

- Identify and implement appropriate waste reduction strategies.
- Ensure appropriate re-use, storing, recycling and/or disposal of the following materials:
    - Concrete, Brick, sand, ferrous and non ferrous metals
    - Waste oil will be collected for transport and disposal off-site;
    - Batteries will be collected and transported off-site for disposal; and
    - Tyres will be stockpiled for regular disposal to a suitable facility.
- Identify and categorize all wastes produced across the site and designate specific storage areas, for each category of recovered resource or waste produced. Ensure appropriate maintenance of these designated areas to prevent unnecessary environmental harm due to exposure to potentially hazardous substances.
- Perform risk assessments on all storage, transport and disposal of all waste produced.

Monitoring and Reporting:

Monitoring and reporting will include:

- The following resource recovery initiatives will be measured and reported:
    - Resource recovery and re-use from old landfill wastes.
    - On-site soil amendment / remediation of various waste streams.
    - Waste disposal, including the off-site facilities receiving Site generated wastes.
    - Resource recovery from incoming industrial waste.
- During site works the Site Manager will report at quarterly intervals to the Project Manager on the results of the resource recovery monitoring program and other relevant waste management issues.

Corrective Actions:

The following constitute incidences or failures to comply in relation to waste management policies:

- Excessive volumes of waste being sent for offsite disposal.
- Wastes being disposed of rather than reused or recycled where possible.
- Other non-compliances with the waste management plan.

Should an incident or failure to comply occur, the Project Manager will:

- Take the necessary actions to identify the causes of non-conformance with the Resource Recovery Plan performance requirements and rectify the problem.
- Implement all actions necessary to ensure compliance.

3.11 CHEMICALS AND DANGEROUS GOODS MANAGEMENT

Objectives: To safely manage, purchase, store, handle and dispose of fuels and chemicals used on site and to prevent the uncontrolled release of chemicals into the environment.

Targets: Compliance with relevant Australian Standards (e.g. for the storage and handling of flammable and combustible liquids and dangerous goods) including:

- AS 4452 The Storage and Handling of Toxic Substances;
- AS 1940 The Storage and Handling of Flammable and Combustible Liquids; and
- AS 3740 The Storage and Handling of Corrosive Substances.

No spills of chemicals or release of chemicals to the environment.

Actions: The following actions will be implemented for chemical and dangerous goods management:

- Material Safety Data Sheets (MSDSs) of all chemicals used on site will be kept in an on-Site register by the Project Manager as well as records of the existing inventory, storage location, personnel training and disposal of waste instructions for all chemical and dangerous goods used on-site.
- The Project Manager will have procedures in place regarding emergencies relating to chemicals and dangerous goods consistent with WRK's Safety Management System and will implement controls to ensure all transfers of

fuels and chemicals are managed to prevent spillage and, should any spill occur, that it is contained within a bunded area.

- All relevant construction and Site workers will be trained in appropriate handling, storage and containment practices for relevant chemicals and dangerous goods and chemicals that they may be in contact with on Site.
- All fuels and chemicals will be stored in accordance with the requirements of the relevant Australian Standard.
- Provide bunded storage areas for fuels and dangerous goods required for construction equipment with spill cleanup kits.
- Any spills to be cleaned up immediately. Contaminated runoff and contaminated soil will be collected and remediated or disposed of at a licensed facility as designated in the soils handling management procedures.

Monitoring and Reporting:

Monitoring and reporting will include:

- Inspections of storages tanks, bulk containers and the integrity of bunded areas, pavement and associated containment systems will be conducted on a monthly basis.
- The Project Manger will record and sign off on monthly inspections of containers, bund integrity, valves and storage and handling areas. Spills will be reported to the Project Manager including actions taken to minimise the impacts immediately.

Corrective Actions:

The following constitute an incident or failure to comply in relation to fuels and dangerous goods management:

- A fuel or chemical spill and possible release of fuel or chemicals to the environment.
- Storage areas not meeting Australian Standards.
- Storage areas not being suitably bunded.

Should an incident occur, a selection of the following corrective actions will be undertaken, as appropriate:

- Contain and clean up spilt material immediately and remediate or appropriately dispose of contaminated material. The Project Manager will determine the remediation plan following assessment of materials spilt.
- Repair containment systems.

- Relocate fuel or chemicals to appropriately bunded or approved storage areas.

3.12 OCCUPATIONAL HEALTH AND SAFETY

Objective: To ensure that the operation does not adversely affect the health of the employees, contractors or the general public.

Target: Zero reportable injuries and work-related illnesses.

Actions: The following actions will be implemented for health and safety management:

- Safety training will be implemented through both general Site safety induction as well as area-specific inductions.
- The Site will be fenced along the northern, eastern and southern sides, prior to commencement of operations. The fencing will restrict pedestrian and public access to the Site, in the interests of public safety. Fencing will be maintained at all times and incorporate lockable gates.
- Site workers access to the Site will be restricted by the time restrictions, site fencing, landscaping and designated points of entry as specified in the site plan.
- Signage on the roads approaching the Site entrances will be erected to warn other vehicles of entering and slow moving trucks in the area.
- Speed limits on Site will be restricted to 30 km per hour on tracks and 10 KPH elsewhere, with all other Western Australian traffic road rules to be adhered to when driving within the Site boundary.
- Authority to drive road vehicles on-Site is to be provided by the site supervisor or project manager.
- Job Safety Analyses (JSA) will be undertaken as required for specific tasks associated with the site and will be used to develop Standard Operating Procedures to ensure compliance with the Moltoni standards and site personnel safety.
- Health and Hygiene Programs and Illness and Injury Management Systems will be developed.

The list below details some of the site requirements to consider when completing a JSA:

- Personal protection equipment: wearing high visibility clothing, protective foot wear and glasses at all time whilst on site.
- Familiarisation with and adherence to site activities and site OHS procedures.
- Isolation and tagging, manual handling, confined spaces, and height safety.

Procedures that should be followed on site to ensure personal safety include:

- Inform the Site safety contact of proposed Site activities and barricade and sign work areas if necessary. Observe access authorisation/permission conditions and familiarisation self with emergency alarm system and procedures.
- Observe caution by carrying relevant MSDS when working on Site and avoiding exposure to soil and groundwater wherever possible.
- Ensure mobile phones are not used in the vicinity of on-Site flash points.
- Personnel should be instructed to report the presence of noxious or hydrocarbon/petroleum odours within soils or other materials on site to the Project Manager if identified.

All personnel are required to ensure that they maintain a high standard of hygiene maintenance at the Site. This includes:

- Avoiding contact with soils and removal of excess soils from clothing and boots should contact occur.
- Washing of hands prior to leaving site and or the consumption of food and drink.

Monitoring and Reporting:

Monitoring and reporting will include:

- The Project Manager will conduct regular internal auditing (weekly) of the site's health and safety health systems.
- Fencing will be regularly assessed (weekly) to monitor the need for repair.
- The OHS construction representative will report to the Project Manager on a weekly basis on any health and safety issues that need to be addressed. The results of all health and safety audits will be reported to the General Manager.

Corrective Actions:

The Project Manger and Wasterock Pty Ltd will investigate, respond to and take appropriate corrective action and preventive action following health and safety incident.

3.13 INCIDENTS AND COMPLAINTS

Objective: To manage environmental or social incidents and complaints.

Target: Immediate action undertaken as soon as possible and within 24 hours of receipt of a complaint. Investigations completed within 7 days of receipt of a complaint. All corrective actions implemented by the agreed due date.

Actions: The Project Manager will manage all incidents or complaints about either environmental or social issues. The following points must be followed up on complaint receipt:

- Take any necessary immediate action.
- Report the incident or complaint (including to Government if necessary).
- Undertake an investigation.
- Determine root causes.

This procedure requires the following actions to be undertaken:

- Undertake any necessary corrective or preventative actions.
- Monitor action implementation.
- Audit effectiveness of action.

Monitoring and Reporting:

Monitoring and reporting will include:

- The Project Manager shall monitor compliance against the targets.
- The Project Manager will record all incidents and complaints. Reports of all incidents and complaints will be submitted to Wasterock Pty Ltd. The complainant will be advised of what action, if any, is taken as a result of the complaint.

Corrective Actions:

Should further incidents occur or complaints be received in relation to previous occurrences, an appropriate selection of the following corrective actions will be undertaken:

- Additional environmental awareness training of the workforce with respect to the procedures to be followed for environmental incidents or complaints.
- Investigation into why the incident/complaint was not addressed within the specified time frame.
- Undertake incident/complaint follow-up according to the results of the investigation.

4 SMP REVIEW

The Project Manager along with the Site manager will review the SMP quarterly or following a failure of compliance, as detailed in the above tables, to ensure that it is:

- Up-to-date with design and associated, potential environmental impacts.
- Current with other organisational changes, such as changes to the construction contractor team.

Amendments to the SMP must be carried out in accordance with the document control procedure discussed in *Chapter 2*.

The owner and the manager may periodically audit the SMP in relation to any contemplated or current site construction. Such a review may result in a requirement for the Project Manager to initiate a review and update of the SMP.

5 REFERENCES

Relevant legislations, guidelines and standards used or referred to in preparation of the SMP are:

- *Environmental Protection Regulations 1987*
- *Environmental Protection (Noise) Regulations 1997*
- *Environmental Protection (Controlled Waste) Regulations 2004*
- Guidance Statement for Remediation Hierarchy for Contaminated Land (Environmental Protection Authority, 2000)
- The Use of Risk Assessment in Contaminated Site Assessment and Management (Department of Environment and Conservation, 2006)
- Development of Sampling and Analysis Programs (Department of Environmental Protection, 2001)
- Assessment Levels for Soil, Sediment and Water (Department of Environment, 2003)
- Reporting of Site Assessments (Department of Environmental Protection, 2001)
- Community Consultation Guideline (Department of Environment and Conservation, 2006)
- Landfill Waste Classifications and Waste Definitions 1996 (As Amended) (Department of Environment, 2005)
- Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites In Western Australia (Department of Health, 2009)
- Draft - A Guideline for the Development and Implementation of a Dust Management Program (Department of Environment and Conservation, 2008)
- Occupational Safety and Health Management and Contaminated Sites Work (Commission of Occupational Safety and Health, 2005)
- Australian Standard AS/NZS 4801-2001 Occupational health and safety management systems - Specification with guidance for use
- Australian Standard AS 1319-1994 Safety signs for the occupational environment
- Australian Standard AS 1940-2004 The storage and handling of flammable and combustible liquids
- Australian Standard AS 3780-2008 The storage and handling of corrosive substances

6. APPENDIX 1

NAME OF ORGANISATION PREPARING SHEET

Date: _____
Job No: _____

Project: _____

Owner: _____

Constructor: _____

Superintendent: _____

Level of engagement of geotechnical testing authority (see Appendix B, Paragraph B2)

_____

Prior usage of project site: _____

_____

Purpose of present development: _____

_____

_____

_____

_____

Broad description of earthworks undertaken, extent of fill, etc.: _____

_____

_____

_____

_____

_____

_____

Observations on stripping and site preparation: _____

_____

_____

_____

_____

_____

_____

Observations of fill materials: _____

Testing: Refer to attached result certificates, location plans, etc. _____

Location on site and type of earthworks	Estimated volume, m^3	Number of Tests				
		Material Quality		Field Density		Compaction
		Total	'Failed'	Total	'Failed'	

Action taken where tests failed.

Remarks – (Note: Unless engaged at Level 1 (see Appendix B, Paragraph B2), this authority is not in a position to express an opinion as to whether the works comply with the drawings or specification or are suitable for a particular purpose.)

Signed: _____ (For G.T.A.)

wasterock
RESOURCE RECOVERY & REMEDIATION

DATE: _____ **PROJECT NO:** _____

CLIENT: _____

PROJECT: _____ **LOCATION:** _____

	OUTPUT

wasterock
RESOURCE RECOVERY & REMEDIATION

Business Management System

Form No: MIT-036	Rev. No:

PROJECT: **Hazelmere Remediation & Regeneration Project - 20 Adelaide Street, Hazelmere**

DOCUMENT N^{0}:_____ **DATE:**____/____/_____

BULK MATERIALS TRACKING FORM

(For tracking movement of bulk materials only)

2.0 Destination Details *(Wasterock Supervisor to complete)*

1.0 Source Details *(Wasterock Supervisor to complete)*

Area…… Select from Below		**Bulk Material Code:……** Select from Below			*(See page 3 for definitions)*	
A1	**A2**	**SOIL - ASS**	**OFF SITE CL I**	**LIMESTONE**	**Other:**	
A3	**A4**	**SOIL - HI**	**OFF SITE CL II**	**CRUSH ROCK**	**Other:**	
A5	**A6**	**TOPSOIL**	**OFF SITE CL III**	**CON – LRG**	**Other:**	
A7	**A8**	**RSAND**	**OFF SITE CL IV**	**CON – SML**	**Other:**	
A9	**A10**	**ASBMIX**		**CON - REO**	**Other:**	
SAAF				**RB**	**Other:**	
RRRF					**Other:**	
					Other:	

1.1 Source Description *[e.g. Area #, Location, type etc.]*

Wasterock Supervisor:		Phone:	

2.1 Off Site Destination *[Must be pre-approved]*

Company Name:	
Company Address:	
Further information:	

2.2 On Site Destination

Stockpile ID:									
A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
SAAF		RRRF							

Special Instruction:

3.0 Transportation Information

Bulk Materials Tracking Form

Page 2 of 1

wasterock
RESOURCE RECOVERY & REMEDIATION

Business Management System

Form No:	**MIT-036**	**Rev. No:**	

The following sections MUST be completed by the driver and returned to WASTEROCK within 24hrs of shift completion **By Hand: Designated In-Tray or WASTEROCK Supervisor** **Email: PeterM@wasterock.com.au** **MINIMUM ONE FORM PER DRIVER, PER SOURCE, PER SHIFT**			
Vehicle Registration Number:			
Truck Driver Name:			
Vehicle Type:		**Vehicle Capacity:**	M^3

Departure						Arrival	
Approximate Load *(Please Circle Load)*				Departure Date	Departure Time	Arrival Time	Destination Number or Initial
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
¼	½	¾	F	/ /	: AM / PM	: AM / PM	
Driver Signature:							
Gateway Signature:							

Bulk Materials *(Source Codes)*

Type	Bulk Code Name	Name	Description and Alternate Names	Approved Use

wasterock
RESOURCE RECOVERY & REMEDIATION

Business Management System

Form No:	**MIT-036**	**Rev. No:**

SOIL (Sand / Silt Clay)	**ASS-SOIL**	Acid Sulfate Soils	Natural Sands that require ASS treatment before use on Site	Geotechnically suitable for direct use as select fill for capping.
	HI - SOIL	Hydrocarbon Impacted Soils	Natural Sands that require treatment and remediation for Hydrocarbons before use on Site	Geotechnically suitable for direct use as select fill for capping.
Topsoil	**TOPSOIL**	Topsoil	Topsoil contains no weeds (Good and Excellent)	Direct Use: Landscaping
Recycled Soil	**RSOIL**	Screened Soil	Sands that have been screened for use on Site used as part of the remediation of the Site Project	Direct Use: Deep Engineered Cell
Asbestos	**ASBMIX**	Asbestos Containing Soils	Screened Asbestos containing soils for use on Site.	Direct Use: Deep Engineered Cell
Limestone	**Limestone**	Limestone	Limestone encountered within the Landfill	Direct us within the Barrier Layer
Crushed Rock	**Crushed Rock – A**	Natural Crushed Rock	Rock encountered on site which is natural	Direct us within the Barrier Layer
	Crushed Rock – B	Recycled Crushed Rock	Rock encountered on site which is recycled	Direct us within the Barrier Layer
Concrete	**Con - Lrg**	Concrete Large	Block of concrete >1m diameter	Direct us within the Barrier Layer
	Con - Sml	Concrete Small	Block of Concrete >1m diameter	Direct us within the Barrier Layer
	Con - Reo	Concrete with Reo	Concrete containing any steel reinforcement	Direct us within the Barrier Layer
Road Base	**RB – G1**	G1 Recycled Road Base	Grade 1 Recycled Road Base	Direct us within the Barrier Layer
	RB	Recycled Road Base	Recycled Road Base	Direct us within the Barrier Layer
Steel	**Steel**	Steel	Steel encountered during site remediation	Off Site Disposal
Off Site Disposal	**OFFSITE CL1**	Landfill Class I *(Inert Waste)*	Class I Landfill (unlined) - Non-Hazardous, non-biodegradable inert wastes, Includes clean but geotechnically unsuitable Soil (Clays, Silts, Sands)	Off Site Disposal
	OFFSITE CL2	Landfill Class II	Class II Landfill (unlined) – concentration hydrocarbon and metals. Putrescible / Biodegradable mixed material containing degraded mulch, litter, illegally dumped material, paper cardboard inert waste	Off Site Disposal
	OFFSITE CL3	Landfill Class III	Class III Landfill (Lined with leachate collection) – concentration hydrocarbon (Oils Petroleum) and metals. Putrescible / Biodegradable missed material containing degraded mulch, litter, illegally dumped material, paper cardboard Contaminated soils.	Off Site Disposal
	OFF SITE CL4	Landfill Class IV	Class IV Landfill (Double Lined with leachate collection)) – Secure Landfill concentration hydrocarbon and metals contaminated class IV soils and sludge's.	Off Site Disposal

wasterock
RESOURCE RECOVERY & REMEDIATION

Business Management System

Form No: MIT-037	Rev. No:

PROJECT: Hazelmere Remediation & Regeneration Project - 20 Adelaide Street, Hazelmere
DOCUMENT N^{0}:_____ **DATE:**_____

Remember: Take immediate temporary control to minimise the impact of the incident

1.0 Accident / Incident Category

☐	CATEGORY 1	Incident resulting in Lost Time Injury **LTI** *(one or more shifts lost as a result of injuries from incident)*
☐	CATEGORY 2	Incident resulting in Restricted Work Case **RWI** *(injured person unable to return to normal duties)*
☐	CATEGORY 3	Incident resulting in Medically Treated Injury **MTI** *(resulted in injury requiring medical treatment)*
☐	CATEGORY 4	Incident resulting in First Aid Injury **FAI** *(resulted in injury requiring first aid treatment)*
☐	CATEGORY 5	Incident resulting in Environmental Impact **EI** *(resulted environmental impact)*
☐	CATEGORY 6	Incident resulting in Property Damage **PD** *(resulted damage to property)*
☐	CATEGORY 7	Near Hit Incident **NHI** *(incident had potential to cause injury or damage, but did not)*

2.0 Accident / Incident Details

Reported by:			**Occupation:**		
Incident Location:			**Responsible Supervisor:**		
Date incident occurred:	/ /		**Date incident reported:**	/ /	
Time incident occurred:	:	**AM / PM**	**Time incident reported:**	:	**AM / PM**

Witness Details (if applicable)

Name:	**Phone:**
Witness Description of Incident:	

3.0 Contributing Factors

Safety		
☐ Machinery (plant, mechanical)	☐ Thermal (Hot Pipes etc)	☐ Welding (Slag, Flash etc.)
☐ Windblown dust	☐ Fumes / Chemicals	☐ Natural Event
☐ Fire	☐ Work Environment	☐ Other
☐ Electrical (Shock Failure)	☐ Objects Falling	Specify:
Environment		
☐Emissions to air	☐Process Water Spill (ash reclaim water, slurry)	☐Waste generation (regulated waste)
☐Spread of pests or weeds	☐Inefficient energy use / release greenhouse gas	☐Waste disposal (waste tracking)
☐Chemical spill (acids, caustic, etc.)	☐Disturbance / removal of plants or animals	☐Potential for fire
☐Noise / vibrations / light (offsite impacts)	☐Hydrocarbon spill (oil, solvents, grease etc.)	☐Emissions to air
☐Existence of Cultural / European heritage	☐Erosion, sedimentation	☐Water pollution / contamination
☐Disturbance of Acid Sulfate Soil	☐Wildlife injury	☐Other (specify):

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Quality		
☐Non-standard procedure/form in use	☐No procedure / form in place	☐Skills / resources not adequate
☐Procedure / form not followed	☐Procedure/form incorrect or out of date	☐Inadequate maintenance
☐Procedure/ form/ other doc not communicated to staff adequately	☐Equipment not calibrated	☐Other (specify):
Nature of Environmental / Quality Impacts / Potential Impacts (If relevant)		
☐Climate Change	☐Habitat / ecological disturbance	☐Contained spill
☐Air pollution	☐Pollution of surface water / storm water	☐Contamination of groundwater
☐Nuisance	☐Land degradation (includes erosion / sedimentation)	☐Contamination of land
☐Non-conformance	☐Depletion of natural resources (water, fuel, materials)	☐Plant / equipment damage or failure
☐Rework	☐Disturbance of Cultural / European Heritage	☐Water depletion
☐Additional cost	☐Delays in Maintenance / Operations	☐Other (specify):
Conditions		
☐Poor house keeping	☐Traffic conditions	☐Weather Factors (complete below)
☐Close clearance	☐Poor lighting	☐Other (specify):
Weather Conditions (specify):		

4.0 Spill Details (If relevant)

Spilled Material:	Quantity spilled (Litres):
Area affected (m2):	Total Response Time:
Safety Officer time spent cleaning up:	

Surface type:	☐Asphalt / Bitumen	☐Grass	☐Gravel	☐Soil
	☐Concrete	☐Pavers	☐Sand	☐Other

Did the spill go into a waterway?	☐Yes ☐No	Details:
Was a CAPL/MAPL Spill Response kit used?	☐Yes (Complete Section 5)	☐No

5.0 CAPL / MAPL Spill Resonse Kits (If relevant)

Quantity used i.e. 10kg absorbent material, 1 absorbent sock:		
Was the contaminated waste placed into disposal bags?	☐ Yes	☐ No
Was the bagged wasted placed into the Disposal Bin?	☐ Yes	☐ No

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6.0 Injury Details (If relevant)

Nature of Injury	
☐ Contusion	☐ Crush
☐ Laceration	☐ Dislocation
☐ Sprain/Strain	☐ Concussion
☐ Burn	☐ Fracture
☐ Foreign Body	☐ Internal Injury
☐ Dermatitis	☐ Internal Injury
☐ Occupational Disease	☐ Other:
Location of Injury	
☐ Head	☐ Eye
☐ Arm/Hand	☐ Shoulder
☐ Back	☐ Trunk (other than back)
☐ Hip	☐ Leg/Foot
☐ Internal	☐ Other

7.0 Sketch of Incident

Photos / Drawings attached: ☐Yes ☐No

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8.0 Follow Up Actions

(if required – eg. investigation, engineering fix, training, procedures)

Corrective (to fix the problem):	**Workgroup / Designated person**	**By when**	**Date Action Completed**
Preventative (to prevent it from happening again):			

9.0 Sign off (where appropriate)

	Print Name	**Sign Name**	**Date**
Reported by			/ /
Person/s involved			/ /
Supervisor			/ /
Coordinator			/ /
HSEQ Department			/ /
Insurance Officer			/ /
Site Manager			/ /
Does this incident require further investigation ☐Yes ☐No			

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Form Title	Form Number	Revision Number of Form					Author
Project Cost Report	MIT - 001	10/03	08/05				PM
Project Tender Template	MIT –002	10/03	08/05				PM
PPI	MIT - 003	10/03	08/05				PM
Project Lease Payment Calc	MIT - 004	10/03	08/05				PM
Commitment Summary	MIT - 005	10/03	08/05				PM
Minor Works Sub-contract	MIT - 006	10/03	08/05				PM
Major Sub-contract	MIT -007	11/03	08/05				PM
PSA	MIT - 008	11/03	08/05				PM
Labour Forecast Sheet	MIT - 009	12/03	08/05				PM
Purchase Order Template	MIT - 010						
Limits of Authority	MIT - 011						
Variation Calculation Sheet	MIT - 012		08/05				PM
Variation Authority	MIT - 013		08/05				PM
Progress Claim Schedule Template	MIT - 014						
Conversion Authority	MIT - 015						
Delivery Authority	MIT - 016						
Design Review Checklist	MIT - 017		08/05				WN
Project Review Summary	MIT - 018						
RFI	MIT - 019		08/05				WN
SI	MIT - 020		08/05				WN
CVI	MIT - 021		08/05				WN
Submission Review	MIT - 022						
Tender Review	MIT - 023						
Validation & Commissioning Check List	MIT - 024						
Handover Checklist	MIT - 025		08/05				WN
Order Amendment	MIT - 026		08/05				PM
Creditor Invoice Schedule	MIT - 027		08/05				PM

File Note	MIT - 028						NN
Calculation Sheet	MIT - 029						NN
Calculation Summary	MIT - 030						NN
Standard Conditions of Engagement	MIT - 031						NN
List of forms	MIT - 032						NN
Fax Form	MIT - 033						NN
Confirmation of Verbal Instruction	MIT - 034						NN
Employee Wage Record	MIT - 035						NN
Soil Tracking Form	MIT - 036						MB
Incident Report	MIT - 037						MB

List of Forms
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Form No: MIT - 032	Rev. No: 10/03
