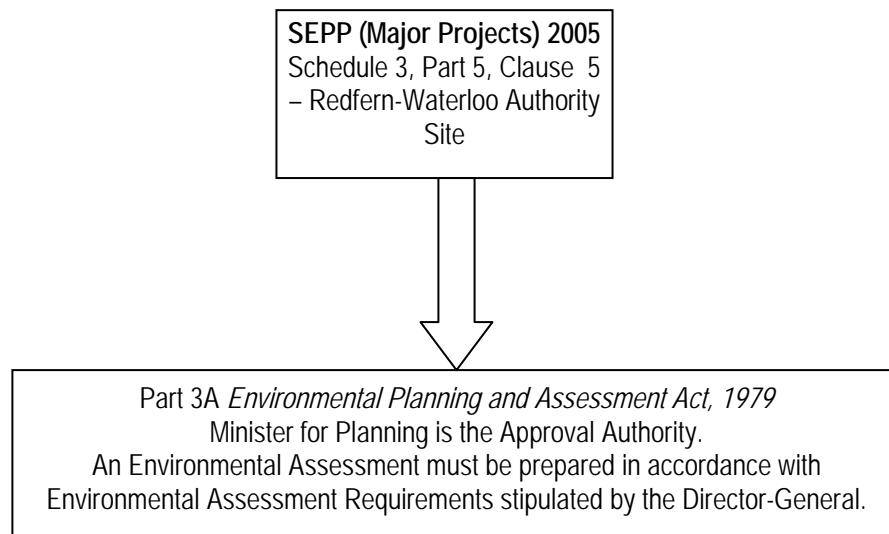


- Division 8 of Part 6 of the Heritage Act 1977, which addresses controlling harm to buildings, works and relics not listed on the State Heritage Register.

Approval is no longer required to carry out development works under these Acts. The Minister for Planning will forward the Development Application and Preliminary Environmental Assessment to the Ministers administering these Acts for comment and recommendations for Environmental Assessment Requirement (EAR).

Figure A – Application of Part 3A



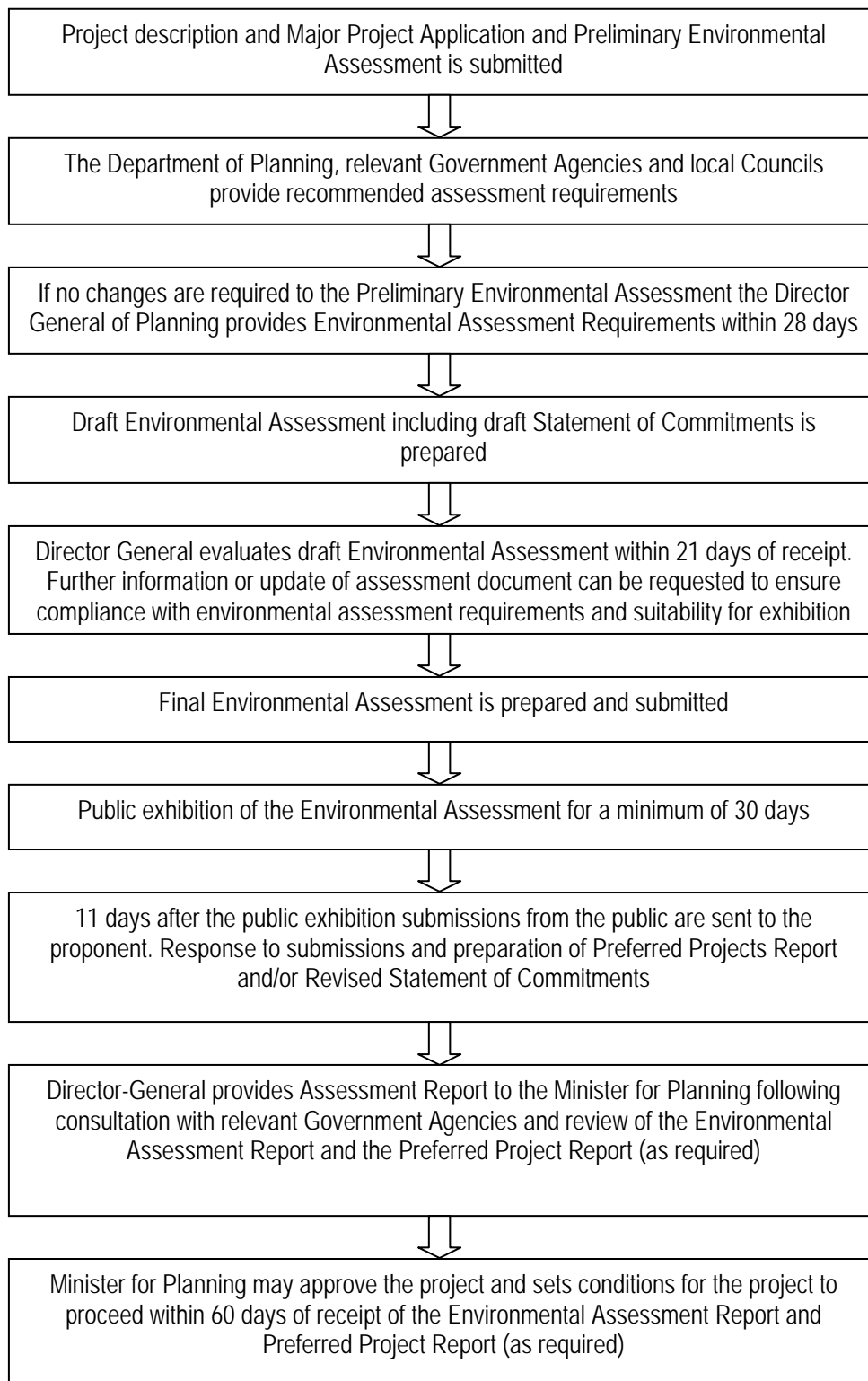
6.3.1 Environmental Planning and Assessment Regulation

Clause 8B of Part 1A of the EP&A Regulation, 2000 sets out the matters that must be considered by the Minister for Planning when making a determination under Part 3A of the EP&A Act. These matters include:

- An assessment of the environmental impact of the project;
- Any aspect of the public interest that the Director General for Planning considers relevant to the project; and
- Copies of submissions received by the Director General for Planning in connection with public consultation.

Part 1A of the EP&A Regulation also sets out the timing and time limits for the assessment process under Part 3A of the EP&A Act. These have been incorporated into **Figure B** below (Part 3A Planning Process).

Figure B - Part 3A Planning Process



6.3.2 Other Legislative and Regulatory Requirements

The assessment of the remediation via the Part 3A process, with the Minister for Planning being the approval body, means that while Sydney City Council will be asked to provide recommendations for the EARs, a number of local environmental planning instrument (EPI) provisions will not be applicable. These include:

- Sydney Regional Environment Plan No. 26 – City West;
- Sydney Local Environment Plan 2005;
- City of Sydney Contaminated Land Development Control Plan 2004; and
- Redfern-Waterloo Authority Act 2004, which grants power to the Redfern-Waterloo Authority to make determinations under Part 4 of the EP&A Act.

6.4 Contaminated Land Management Act

The object of the Contaminated Land Management (CLM) Act, 1997 is to establish a process for investigating and remediating land areas where contamination presents a significant risk of harm (SRoH) to human health or some other aspect of the environment. The CLM Act gives the EPA (now DECC) the power to direct a public authority to investigate or remediate contaminated land. The CLM Act also provides for the voluntary investigation and remediation of land.

The Site is currently the subject of a Voluntary Investigation Proposal 19013 (VIP), which was issued 22 May 2002. Investigations have been carried out in accordance with the VIP, with results and conclusions provided in the previous investigations listed in **Section 1.6**.

Section 26 of the CLM Act provides for voluntary remediation proposals by agreement (Voluntary Remediation Agreement - VRA) with the EPA. This allows a person to furnish the EPA with a proposal to remediate land that is considered to be contaminated. The EPA may agree to the voluntary remediation if they believe that the terms of the proposal are appropriate. Should the EPA agree to the terms of the proposed remediation, the EPA will not issue a remediation order against the parties to the voluntary remediation proposal.

An independent Site Auditor accredited by the NSW EPA will oversee the process in order to secure compliance with the VRA. The Site Auditor must produce a Site Audit Report, containing a critical review of the information collected during the audit. The auditor must furnish the EPA with a Site Audit Statement containing the findings of the audit.

The site audit is to be carried out, and a site audit report and site audit statement are to be prepared and furnished, by an accredited site auditor:

- in compliance with the provisions of this Act and the regulations;
- in accordance with the guidelines; and
- having regard to the effects of Part 3A EP&A Act.

6.4.1 Voluntary Remediation Agreement Process

One of the purposes of this RAP is to provide RailCorp with a basis to enter into a VRA with the NSW DECC. The process by which the VRA will be made between RailCorp and the NSW DECC follows the provisions in the Contaminated Land Management Act, 1997, Division 3, Subsection 26.

The process for establishing a VRA shall be to furnish the NSW DECC with a proposal to remediate the land. The NSW DECC is to agree to the proposal and also agree not to issue a remediation order provided the terms of the proposal are appropriate. The terms are required to qualify remediation strategies and plans, timeframes and milestones, provision of notices and reporting. The VRA must be in writing and shall be issued to RailCorp.

6.5 Protection of the Environment Operations Act

The Protection of the Environment Operations Act, 1997 (POEO Act) commenced operation on July 1 1999. Chapter 3 of the POEO Act provides for a single licensing arrangement to replace the different licenses and approvals that were required under separate Acts relating to air pollution, water pollution, noise pollution and waste management. Under the POEO Act, the NSW EPA is made the regulatory authority for activities carried out by State or public authorities, activities that require a license under Schedule 1 of the POEO Act and other activities for which a license regulating water pollution is required.

A review of the scheduled activities requiring an Environment Protection Licence (EPL) under the POEO Act found that the scheduled activity that is relevant to the remediation project is “contaminated soil treatment works”. The listing applies to contaminated soil treatment works that handle contaminated soil originating exclusively from the Site on which the works are located and that treats (other than by incineration) and stores more than 30,000 m³ of contaminated soil or disturbs an aggregated area of impacted soil in excess of 3 hectares. The current site is not likely to meet these criteria, thus it is unlikely that an EPL will be required under the POEO Act for the site.

The listing also applies to treatment works that handle more than 1,000m³ per year of contaminated soil not originating from the Site on which the works are located. Treatment of the contaminated soil on the Site is limited by the available site area and consideration of an alternative treatment site should be made. RailCorp may be required to obtain a licence under the POEO Act for the treatment of the contaminated soil at an alternative treatment site, if the treatment activities at the alternative site will process more than 1,000m³ in any one year.

An application for a licence under the POEO Act should be made in accordance with the DEC’s Guide to Licensing under the Protection of the Environment Operations Act 1997 (1999). Section 45 of the POEO Act lists factors to be considered when deciding if a licence is to be granted. These factors include:

- Any Protection of the Environment Policies (PEPs);
- The objectives of the EPA as listed in section 6 of the Protection of the Environment Administration Act, 1991;

- The impact on the environment of any pollution likely to be caused by the activity or work; and
- Any relevant environmental impact statement received under the Environmental Planning and Assessment Act, 1979.

A licence may be granted with conditions (Section 63, POEO Act), which may include requirements to monitor, to provide certification of compliance with a licence, to undertake and comply with a mandatory environmental audit program and pollution studies, reduction programs and financial assurances (Sections 65-76, POEO Act).

The Protection of the Environment Operations (General) Regulation 1998 (POEO GR) provides for the payment of licence and administrative fees.

Part 2 of Schedule 1 of the POEO Act also lists transporting of hazardous, industrial, Group A, Group B or Group C wastes in loads exceeding 200kg. Therefore, transport of the contaminated soil from the Site to a landfill facility or an alternative treatment site will also require a licence under the POEO Act.

6.6 Environment Protection and Biodiversity Act

The Environment Protection and Biodiversity (EPBC) Act, 1999 commenced in July 2000. The EPBC Act requires approval from the Commonwealth Minister for the Environment for actions which have, may have, or are likely to have a significant impact on Matters of National Environmental Significance (MNES). The Act identifies seven MNES:

- World Heritage properties;
- National heritage places;
- Wetlands of international importance (Ramsar wetlands);
- Threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas; and
- Nuclear actions (including uranium mining).

A search of the EPBC Register revealed no MNES within the site area. The search disclosed a number of species listed as threatened within the City of Sydney Local Government Area; however, the disturbed nature of the Site means that it is unlikely that MNES will arise during the remediation process.

6.7 Environmentally Hazardous Chemicals Act, 1985

The NSW DEC controls prescribed activities relating to chemicals and declared chemical waste by making Chemical Control Orders (CCOs) under the Environmentally Hazardous Chemicals Act 1985, in relation to the chemical or declared chemical waste. A CCO may:

- Prohibit or control the carrying out of prescribed activities (for example manufacturing, processing, keeping, distributing, conveying, using, selling and disposing or any related act) in relation to a chemical or chemical waste; and
- As a condition of the order require that any prescribed activity be only carried out under the authority of a licence issued by the DEC.

The following is a list of the current CCOs sourced from the DEC website:

- Dioxin Contaminated Waste Materials
- Aluminium Smelter Wastes
- Organotin Waste Materials
- PCB Wastes
- Scheduled Chemical Wastes.

Previous investigations carried out on the Site found no detection of chemicals that are subject to CCOs, therefore this Act would not apply.

6.8 Heritage Act

The New South Wales Heritage Act, 1977 provides protection for natural and cultural heritage by providing for the listing of heritage items or places on the State Heritage Register and providing for the making of interim heritage orders for the protection of heritage items or places.

Eveleigh Railway Workshops and Eveleigh Railway Workshops Machinery are listed on the State Heritage Register. Section 57 of the Heritage Act prohibits a person from undertaking certain activities without an approval from the Heritage Council. However, as remediation of the Site will fall under Part 3A of the EP&A Act it will not be necessary to obtain approval under the *Heritage Act*.

Section 8.4 of this RAP provides further detail for provisions of heritage items during the site remediation work.

6.9 Transport Administration Act

Part 2 of the Transport Administration Act, 1988 (TA Act) establishes RailCorp as a State owned corporation. One of the objectives of RailCorp under the TA Act is to conduct its operations in compliance with the principles of ecologically sustainable development where its activities affect the environment.

The remediation of contaminated land for the safe use of the present and future land users satisfies the principles of ecologically sustainable development and provides for inter and intra-generational equity, the precautionary principle and the conservation of biological diversity. The TA Act does not contain any provisions relating to planning approvals.

7 Remediation Planning and Permits

This section provides information on the required regulatory permits and approvals to undertake work tasks as part of the remediation.

7.1 Transportation of Materials and Equipment

According to the City of Sydney Contaminated Land Development Control Plan (DCP), 2004, all haulage routes for trucks transporting soil, materials, equipment or machinery to and from the Site shall be selected to meet the following objectives:

- must comply with all road traffic rules;
- must aim to minimise noise, vibration and odour to adjacent premises; and
- must utilise State roads and minimise use of local roads.

The information provided in **Section 8.5** should be followed in this regard.

Section 6.5 (POEO Act) provides information for the requirement to obtain a license to transport particular materials. Tar materials are considered hazardous, therefore a license to transport this material will be required.

7.2 Materials Containing Asbestos

Work consisting of remediation of materials containing asbestos must be conducted in accordance with the *Occupational Health and Safety Regulation 2001* made under the *Occupational Health and Safety Act 2000* and this requires an application for a work permit from WorkCover at least 7 days prior to the work commencing.

All asbestos remediation work conducted on the Site must be undertaken by a licensed contractor that holds a current WorkCover AS1 Friable Asbestos Licence.

Monitoring of the ambient air must be undertaken continuously during all works consisting of asbestos remediation. This work must be conducted by a qualified Industrial Hygienist or consulting firm qualified to undertake such work.

All asbestos waste materials are required to be disposed off site at a NSW EPA approved landfill facility.

7.3 Excavations

7.3.1 Western Boundary Sewer Line

An operational sewer line runs the length of the western boundary that services the neighbouring residential properties. At this stage it is unknown which residential properties are serviced by the sewer line. Excavations in this area could impact the integrity of this service.

Information obtained from the utility owner (Sydney Water) sourced from their Quick Check Agent indicated that two options were available for this service line, either protection or deviation. Further discussions with a Water Service Co-ordinator showed that deviation was the likely option given the proposed extent of excavations proximal to the sewer line. To follow this process a Water Service Coordinator would be engaged to undertake the following:

- Lodge an application with Sydney Water to deviate the sewer, and include a design for the deviation;
- Gain three quotes for the construction, and pay a bond to Sydney Water;
- Gain approval for the works to commence;
- Complete works to deviate and reinstate the sewer, requiring certification by Sydney Water; and
- Once certified, the bond will be returned.

This work should be conducted by a certified Hydraulic Engineer or equally qualified plumber. Also, there will need to be liaison and agreement with the affected property owners prior to undertaking such works.

7.3.2 Rail Services

Currently there exist railway services contained within an aboveground concrete trough that runs the length of the western boundary, then underground existing the northern boundary. The services are likely to contain communications and signalling cables.

Reference is made to the RailCorp document “Guide to Working in and around the Rail Corridor”. This guide provides specific detail, which will be required when undertaking excavation proximal to rail services. Approval from RailCorp will be required prior to excavation near rail services.

7.3.3 Shoring and Piling

Given that rail tracks are present to the south (Illawarra rail line) and to the north (Stabling Yard) of the gasworks site, a geotechnical assessment must be performed, and methods for stabilising excavations must be approved by RailCorp prior to commencement of excavation works. This will ensure there is no impact on the adjacent rail lines during excavation works.

7.4 Discharge of Water

Dewatering of excavation areas is likely to be required during the remediation works. The known contamination impacts to site groundwater are likely to preclude any excavation pit water being discharged directly to stormwater.

The options for the disposal of excavation pit water include:

- onsite treatment (if required) and discharge to sewer, requiring a permit and approval from Sydney Water utilising their Trade Waste option; or
- collection and off-site disposal by a liquid waste contractor for treatment/disposal to an appropriate waste treatment/processing facility.

Discharging to sewer under Sydney Water approval needs to comply with Acceptance Standards which often requires waste streams to undergo some preliminary treatment (pre-treatment) before discharging to the sewer. The equipment used to pretreat the wastewater may also require a permit.

All excavation pit water must be analysed for suspended solid concentrations, pH and any contaminants of concern identified during previous contamination site investigation.

An experienced environmental consultant should be engaged to undertake treatment, monitoring and sampling of any discharge from the Site.

7.4.1 Connection of Water Service

For a permanent water connection to service the Site, approval must be sought through Sydney Water by applying for a Section 73 Compliance Certificate.

7.5 Removal of Trees

No special consideration from Council is required to remove trees from the Site. Approval to conduct such works will be covered under the Part 3A approvals process.

7.6 Operation of a Treatment Facility

According to the POEO Act, 1997, a license is required to be issued by the NSW EPA for contaminated soil treatment works for on-site or off-site treatment that:

- handle more than 1,000m³ per year of contaminated soil not originating from the site on which the works are located, or
- handle contaminated soil originating exclusively from the site on which the works are located and:
 1. incinerate more than 1,000m³ per year of contaminated soil; or
 2. treat otherwise than by incineration and store more than 30,000m³ of contaminated soil; or
 3. disturb more than an aggregate area of 3 hectares of contaminated soil.

For the purposes of soil treatment, scheduled activities using a mobile plant require a license to be issued by the NSW EPA, and is determined as the carrying on of any activity referred to above by mobile plant. Also, mobile waste processing is determined as being the treatment or processing of hazardous waste, industrial waste or Group A⁷ waste (or any combination of those types of waste) by mobile plant and that is carried on for business or commercial purposes.

7.7 Waste Classification, Immobilisation and Disposal

According to the City of Sydney Contaminated Land Development Control Plan (DCP), 2004, hazardous and/or intractable wastes arising from the remediation work shall be removed and disposed of in accordance with the requirements of the NSW EPA and WorkCover Authority, together with the relevant legislation, namely:

- New South Wales Occupational Health and Safety Act 2000;

⁷ Group A waste are liquid waste types as defined in NSW EPA Environmental Guidelines: Assessment, Classification & Management of Liquid and Non-Liquid Wastes, 1999.

- Occupational Health and Safety Regulation 2001;
- Contaminated Land Management Act and Regulations; and
- Environmentally Hazardous Chemicals Act 1985 and Regulations.

Classification of wastes must be conducted in accordance with the NSW EPA (1999) Environmental Guidelines (and revisions). Waste classification must be undertaken by an experienced environmental consultant.

The NSW DEC provide general approvals of immobilisation for specific contaminants of concern. Two general approvals can be applied to the waste materials at the Site. These are:

- Ash, ash-contaminated natural excavated materials or coal-contaminated natural excavated materials (Approval # 1999/05); and
- Coal tar contaminated soil from former gasworks sites, which has been treated (Approval # 2005/14).

The disposal of contaminated soil shall have regard to the provision of both the POEO Act and Regulations, relevant immobilisation approvals (provided by the NSW EPA) and any relevant EPA guidelines such as the NSW EPA Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes (1999).

An experienced environmental consultant should be engaged to undertake monitoring, sampling and waste classification of all waste materials being disposed from the Site. Also, the environmental consultant is required to implement the specific requirements of the general approvals for immobilisation.

7.8 Rail Industry Safety Inductions (RISI)

The gasworks site is considered to be part of the “rail corridor”, however because it is not operational and is separated from the rail tracks by continuous fencelines, RailCorp may consider issuing a waiver to remediation personnel so that they do not require RISI training. It should be noted however, that any work within the “operational” areas of the rail corridor, such as the Illawarra Line tracks to the south, or the stabling yard to the north, will require stringent access agreements and OH&S requirements.

7.9 Confined Spaces

The existence of toxic volatile substances in the Site soils and the requirement to extend excavations into deep soil layers to remove source material, may give rise to the need for specific worker training for confined space entry. This may also include training in specific OH&S hazardous work zones, including supplied air activities.

8 Remediation Management

This section provides an overview of the requirements for the management of the Site during the remedial works. It also provides the mechanisms to limit or control the remedial constraints identified in Table 5.1.

8.1 Health and Safety

The legislative obligations relating to OH&S management on the Site will entail:

- the remediation work will be classified as “High risk construction work” under Clause 209 of the OH&S Regulations;
- the remediation contractor will need to be appointed as the “Principal Contractor”; and
- the Principal Contractor is required to fulfil various requirements under the OH&S Regulations, including the production of site specific OH&S documentation, as per Clause 226 of the Regulations.

The Remediation Contractor will be required to produce the following OH&S documentation:

- A Project Safety Management Plan (PSMP) to describe the specific safety resources, consultation arrangements, risk management processes, responsibilities, procedures and practices for the project. The PSMP is also to include the following documents;
 - Site-Specific Safety Management Plans (SSMP) to identify the hazards and risk control measures and the proposed scope of work;
 - Work plans relating to specific hazardous activities, including but not limited to the removal of asbestos materials, excavation and shoring works, and hazardous waste handling and/or treatment; and
 - Safe Work Method Statements (SWMS) for particular construction-related activities.

The SSMP will be required to document the health and safety requirements and protection procedures to minimise the potential for exposure and injuries to site personnel. The SSMP will be used to convey important information to all site personnel including:

- Project specific objectives and performance measures;
- Project contacts, personnel responsibilities and details;
- Conduct standards;
- Incident/near miss reports and procedures;
- Hazards and hazard controls;
- Project specific SWMS;
- Project specific contaminants and exposure scenarios;

- Project specific Personal Protective Equipment (PPE) – based on appraisal of specific work tasks;
- Decontamination procedures;
- Safety training and site inductions; and
- Emergency response details.

Importantly, any new personnel arriving to the Site, including subcontractors and visitors, will be inducted into the Site with the information provided in the SSMP. A register of personnel and compliance should be included in the SSMP.

The H&S hazards would include, but not limited to, the following broad categories:

- Excavation activities;
- Hazardous chemicals and contaminated substances;
- Confined spaces;
- Vehicle operation and movement;
- Manual handling and lifting;
- Heat stress and sunburn;
- Noise, dust and odour;
- Slips, trips and falls;
- Emergencies and unexpected finds; and
- Biological hazards – snakes, spiders, blood-borne pathogens.

8.1.1 Soil Vapour

Exposure standards for the occupational workplace published by the WorkCover Authority of NSW (WorkCover) are considered the most relevant vapour criteria to be adopted for the remediation of the Site. These criteria provide protection to onsite workers against compounds at concentrations that produce adverse effects on health, safety or well being.

Table 8.1 provides the criteria for the volatile contaminants at the Site.

Table 8.1 – Vapour Criteria				
	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
Benzene	1	16	-	-
Ethylbenzene	100	434	125	543
Toluene	50	191	150	574
Xylenes (total)	80	350	150	655
Naphthalene	10	52	15	79
Phenol	1	4	-	-
Cresol	5	22	-	-

Notes: TWA - Time Weighted Average; STEL - Short Term Exposure Limit
Cresol - Includes the isomers 2, 3 & 4 methylphenol

8.2 Community Consultation

A Community Liaison Plan (CLP) will be required to document the procedures to manage the community relations during the remedial works. Specifically the CLP should address the sensitivity of the Burren Street residential premises adjoining the western boundary of the Site, but should also consider the greater Macdonaldtown/Erskineville neighbourhood.

The main objectives of the CLP will be to:

- Document the ways the community are provided information on the remediation work and facilitate avenues for feedback;
- To manage complaint issues and ultimately minimise community concern over the remediation;
- Provide key project contacts and identify key stakeholders.

The remedial activities that may impact the community will include noise, dust, odours and vibrations. These activities and their potential impacts are required to be documented in a project specific Environmental Management Plan (EMP), as outlined in **Section 8.8**. The greater community of Macdonaldtown/Erskineville may also be affected by other activities such as heavy vehicle movement through transport routes. These activities should also be documented in a project specific Traffic Management Plan (TMP), as outlined in **Section 8.5**.

8.3 Site Establishment

The requirements for site establishment include access points, security, site facilities, utilities, site work hours, heavy vehicle movements, which would similarly apply to possible off site treatment areas.

8.3.1 Site Access

Construction work conducted on the northern adjoining Stabling Yards required the construction of an entry gate off Erskineville Road. This point is shown on **Figure 5**. It is proposed that this would also be the most appropriate entry for access to the Site. Entrance/exit to this point is right turn in and left turn out onto Erskineville Road to ensure all heavy vehicles utilise the Swanson Street arterial road.

At the completion of the construction work on the Stabling Yard, the entry point was to be reinstated to its former condition (i.e. paved footpath), in accordance with the conditions of approval for the stabling yard construction (under Part 5 EP&A Act). RailCorp is currently in the process of lodging a Development Application with the City of Sydney Council (under Part 4 EP&A Act) in order to maintain this roadway as a permanent access point to the rail corridor, which would also facilitate access for the gasworks remediation project.

From this entry gate, access to the Site follows an access road that runs parallel to the rail corridor. The most appropriate site entry point is from the eastern corner, where a turning circle should be maintained to enable large vehicle access/egress to the access road. These areas are shown on **Figure 5**.

Site entry from this point is likely to be one way given the available space and the likely sizes of transport vehicles.

8.3.2 Site Security

Security of the Site should include chain wire mesh fencing around the perimeter of the Site boundary and a security guard at the Swanson Street Entry gate. The security guard should man the entry gate through the period of site operating hours for the duration of the project. For non-operational hours, gates should be locked. The need for after hours security may also need to be considered.

8.3.3 Site Facilities

Sheds

It is envisaged that the location for site sheds (including offices, amenities and personnel decontamination units) would be in the Northeast area of the Site along the northern boundary. This area is not constrained by the need for deep excavations, nor are there any trees within this area. However, it may be necessary to assess other possible locations, including the Western Lot area.

Consideration should be given to excavate contamination impacts in the selected area prior to establishing site sheds. This would include excavation of Retaining Wall and ash/coke surface fill materials, and stockpiling onsite. Consideration should be given to install temporary facilities to enable these preliminary works to occur.

Decontamination

A wheel-wash and rumble bar should be installed inside the Site adjacent to the Site entry point (eastern end). This area should be a designated decontamination zone for vehicles and may also require a high pressure wash spray.

Water Treatment

A small scale water treatment unit will be required to treat wastewater from the vehicle decontamination unit and water from dewatering activities from excavated zones. The location of this unit should be adjacent to the decontamination area along the southeast site boundary.

Water treatment is expected to be greater at the beginning of earthworks as shallow perched water discharges into open excavations. The quantity of water stored in the perched aquifer is likely to be limited and discontinuous and is expected to discharge rapidly upon commencement of excavations. Discharge will reduce to seepage once the perched water has discharged completely. Seepage rates are expected to be within the range of 1 – 5L per minute from deeper excavations.

As discussed in **Section 7.4**, wastewater may be collected and disposed off site by a licensed facilitator or a Trade Waste Licence may be obtained that enables treated wastewater to be discharged into the sewer network. Residues from water treatment, including activated granulated carbon, should be disposed off site at a waste landfill facility. In this regard, a general approval of immobilisation provided by the NSW DECC (#1999/04) can apply to activated granulated carbon wastes for off site disposal.

8.3.4 Decommissioning Existing Groundwater Wells

The majority of existing groundwater monitoring wells on the Site will be destroyed during remediation works. Therefore prior to undertaking any excavation work, all wells should be decommissioned and deregistered (if already registered).

The procedures for decommissioning wells are provided in the Land and Water Biodiversity Committee *Minimum Construction Requirements for Water Bores in Australia*, 2003.

Deregistration of wells can be conducted through the DNR.

8.3.5 Utilities

Important to the remedial works is the installation of critical services considering there are no available services existing on the Site. These would include water, electricity and communications. These should be installed in accordance with appropriate WorkCover standards for construction sites and by appropriately certified tradesmen.

There may be a need to install a permanent service for water during the remediation and post remediation to facilitate maintenance of site vegetation. Approval should be sought through Sydney Water as outlined in **Section 7.4.1**.

8.3.6 Hours of Operation

In general, the hours of operation at the Site during remediation works are likely to be limited to:

- Monday to Friday – 7am to 6pm; and
- Saturday – 8am to 1pm.

It is unlikely that work will be permitted outside these hours or on Sundays or Public Holidays, with the exception of those works given special permission by the regulatory authority for work that requires special delivery times or is requested by the Police department or other authority or emergency work. These exceptions should be documented in the approval conditions for the remedial works. It is possible that working hours may change depending on the outcome of community liaison and/or development approval conditions.

8.3.7 Alternative Treatment Site

The area required to treat impacted soils by implementing the preferred options for treatment and disposal, is estimated to be approximately 3,000m² to 5,000m². The space required would not only accommodate a stabilisation or thermal desorption treatment unit, but would also need space for:

- stockpiling excavated material;
- pre-treatment facilities for material to be treated;
- stockpiling treated material (for curing purposes);
- stockpiling classified materials (for off site disposal, re-use or additional treatment); and
- construction of a containment building/tent to control and treat vapour emissions.

Given the necessary space required to treat soils, the available space on the Site is unlikely to accommodate an onsite treatment facility considering:

- The extent of the required excavation to remove impacted soils is approximately 3,500m²;
- The requirement to remove source material at depth would require over-excavation to accommodate benches to prevent collapse as well as ramps for excavation equipment and other vehicle access/egress;
- The majority of the entire site surface would require removal of ash/coke fill material;
- The requirement to protect the existing Southern Gasholder from structural damage; and
- The remaining available space would have to accommodate all remedial works infrastructure including stockpiling areas, truck routes, parking, site sheds, a truck wash, a decontamination unit and a water treatment unit.

Additionally, the sensitive nature of the neighbouring residents adjoining the western boundary is likely to preclude any treatment facility from operating onsite.

Considering the above points, it is considered appropriate to utilise an alternative treatment site to treat impacted soils prior to landfill disposal. The establishment of an alternative site for treatment would require all necessary approvals, licences, management, controls and services as presented in this section and previous sections of this RAP. This RAP has been prepared under the assumption that the remediation strategy includes the use of an alternate treatment site for treating soils excavated from the Site.

8.4 Heritage

A qualified heritage consultant should have the responsibility of monitoring excavation works during remediation to ensure that impacts to heritage items are mitigated or minimised. The remediation work shall consider those recommendations provided in the report prepared by Heritage Concepts, November 2006. This report provides a number of recommendations that shall be undertaken, which include:

1. Retention and conservation of the Southern Gasholder and its existing fabric;
2. Undertaking a program of archaeological monitoring during the remediation program;
3. Offering the Connection Shed documents to the Powerhouse Museum;
4. All workers and contractors are subject to a Heritage Induction to be conducted by the heritage consultant prior to the commencement of any remediation works; and
5. An interpretation of all retained gasworks elements should be incorporated into the final redevelopment design of the Site, also to include appropriate signage and historical importance.

Other recommendations provided in the Heritage Concept (2006) report should be considered, however retention/protection of some items does not address the level of contamination in the soils and therefore does not address the unacceptable health risks posed by the contamination to human health and the

environment. Therefore the benefit of removing some of these structures outweighs their historical value.

In consideration of these recommendations and the levels of contamination at the Site, it is expected that the following items will be retained at the Site:

- The Southern Gasholder.

It is expected that the following items will be removed as a result of significant contamination:

- Remaining brick annulus of the Northern Gasholder;
- Connection Shed;
- Remaining brick layers and foundation footings of the Retort floor;
- Remains of the Retaining Wall;
- Tar Wells; and
- Condensate Pit.

8.5 Traffic

The Director General's requirements under Part 3A approvals process will be made in consultation with the RTA and it is likely that they will require the consideration of traffic issues. Therefore the following measures should be undertaken during the remediation work:

- a Traffic Management Plan (TMP) should be developed to clearly identify route corridors to be used when accessing the Site. This would incorporate measures to minimise the use of local streets and would be approved by the RTA and City of Sydney Council;
- scheduling of deliveries to times outside of the peak commuter hours;
- transportation of any 'over-sized' or 'over-mass' equipment will be done at appropriate times (outside peak hours) with appropriate signage and escorts in accordance with RTA regulations (refer to **Section 8.5.1**);
- incident response procedures to cover vehicle breakdowns, accidents and load spillage for haulage vehicles. All heavy vehicle drivers will be made aware of TMP requirements and incident response procedures;
- staging would allow for all plant and equipment to remain onsite until no longer required whenever possible. Plant and equipment would not continuously be removed and brought back to the Site;
- traffic control is to be provided at the intersection of the temporary construction access and Erskineville Road;
- pedestrian control measures to be provided at the site entrance to warn of entering vehicles and minimise the possibility of vehicle pedestrian conflict;
- all staff would be given a detailed induction into the operation of the Site and the requirements under the TMP.

The TMP should be developed considering Council and RTA requirements for the movement of heavy vehicle traffic. The RTA website provides designated heavy vehicle routes for B Double vehicles.

8.5.1 Oversize Vehicles

Floating heavy machinery to and from the Site will be limited to the hours outside of peak traffic times. Floating of heavy machinery must not be done between the following times:

- Sunrise - 7am and 9am;
- Sunset - 4pm and 6pm.

Further details on road travel can be found in the *“Operators Guide to Oversize and Overmass Vehicle Movements”*, Roads and Traffic Authority, 2002.

8.5.2 Construction Works Impacting Transport Routes

Consideration should be given to any planned major roadworks or infrastructure upgrades that may impact preferred transport routes. In this regard, contact should be made with the City of Sydney Council, the RTA and RailCorp to identify these works.

It is known that upgrade works are planned for the Newtown Station Bridge between April 2008 and June 2008.

8.6 Excavation Works

8.6.1 Vegetation

The City of Sydney Council has in place an Urban Tree Management Policy that provides a tool for tree management in the Council area. This document should be considered when determining the establishment or preservation of vegetation on the Site. In particular, the document provides guidance for future site use for:

- Tree protection;
- Tree planting and selection;
- Tree asset management;
- Tree replacement and removal; and
- Community consultation and involvement.

8.6.2 Excavation Restrictions

The extent to which excavations can be continued will be restricted by the following features on the Site:

Heritage and Potential Heritage Items – this includes the Southern Gasholder and Condensate Pit, the Retort brick paving floor and any other unknown that may be uncovered during excavation work. Previous archaeological assessments provide guidance to protecting these items and a protocol for monitoring and documenting items of potential heritage significance during the remediation project. Further information is provided in **Section 8.4**.