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SYDNEY ADVENTIST HOSPITAL REDEVELOPMENT

WASTE MANAGEMENT REPORT

8 July 2010
Issue A

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1. INTRODUCTION

The proposed demolition and regrading works to the Sydney Adventist Hospital at 185 Fox Valley Road, Wahroonga are to be carried out as shown on the drawing *Demolition Site Plan 10001 A/EA-8*. In order to manage the environmental and social issues specifically applicable to the demolition of the Shannon Building, the Concourse and stairs, the Male Nurses Residence, the Workshop, the tennis courts, three existing houses, regrading of existing roads and carparking and the relocation of the Museum across the site, a Waste Management Plan (WMP) has been prepared. The purpose of this WMP is to detail how demolition waste material will be deployed and relocated, how waste material will be handled during construction and the environmental protocols for managing the material.

The plan includes and addresses the following specific items.

- Outline of the design details for the waste material from the demolition work
- Reuse and recycling of building materials for the demolition works
- A Waste Tracking System (WTS) to ensure all the demolition material is accounted for and relocated to its appropriate location;
- Management requirements for demolition, excavating, transporting, stockpiling, reuse and consolidation of waste material;
- Identifying transport routes for shifting material off-site; and
- Managing surface runoff from demolition activities.

2. PROPOSED DEMOLITION APPROACH

2.1 DEMOLITION APPROACH

The demolition of various buildings and areas will produce a number of stockpiles of materials suitable for reuse or recycling within the proposed development. It is proposed that the Shannon Building in particular, contribute a large proportion of the demolished material for reuse within the development. Bricks are to be cleaned and stockpiled for reuse as retaining walls, planter boxes and planting borders. Demolition materials will be separated, cleaned, stockpiled and covered where necessary on site in designated areas. Separate bins are to be located for the separation of various metals and other materials such as tiles, paints, plastics, PVC tubing and cardboard for recycling. Materials that cannot be reused will be removed from site and sent to either recycling centres or for off-site landfill at licensed facilities.

The Carpark areas that are to be regraded are to reuse the road material as fill where possible. Basecourse and surface material are to be separated, stockpiled, tested and reused as required and where permissible.

2.2 DEMOLITION

Demolition will produce quantities of the following materials and they are to be treated in the following manner:

- Reuse of excavated material on-site where possible and disposal of any excess to an approved site
- Concrete to be crushed and reused on-site where possible and disposal of any excess to an approved site
- Steelwork to be recycled off-site
- Green waste mulched and reused in landscaping either on site or off-site
- Bricks and tiles reused on-site as appropriate or recycled off-site
- Plasterboard reused in landscaping on-site or returned to supplier for recycling
- Framing timber reused on-site or recycled elsewhere
- Windows, doors and joinery recycled off-site
- All asbestos, hazardous materials and/or intractable wastes to be disposed of in accordance with Workcover Authority and EPA requirements to licensed off-site facilities
- Locations of on-site storage facilities for material to be reused on-site or separated for recycling off-site to be accessible to each of the demolition areas, and
- Destination and transport routes of all materials to be either recycled or disposed off-site to be nominated by the contractor,

These items all require management to ensure that the potential for waste minimisation is achieved in this development.

2.3 DEMOLITION PLAN

The demolition contractors are required to prepare a Demolition Plan as to how the demolition is to be programmed. This is to take into account how the process can be managed in order to maximise the separation of the various building component so that they may be put into basic groups for stockpiling and /or into bins for recycling.

2.4 RECYCLING

Bins are to be strategically located and moved as required so that they are readily available for recycling when and where the various buildings and areas are being demolished. Stockpile locations are to be determined by the contractors so as to be suitable for the storage until the time of reuse in the building process or being transported off-site to a licensed facility.

2.5 EXCAVATION

On completion of the demolition, existing filled ground is to be reviewed according to the Coffey Contamination Report that states that 'the fill soils are classified as general solid waste for off-site landfill disposal to a licensed facility". These soils have a low likelihood of contamination after investigations by Coffey.

3. MANAGEMENT OF DEMOLITION WORKS

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

- Waste Tracking System (WTS) to ensue all the excavated waste fill is accounted for and relocated to its appropriate location;
- Internal Waste Handling for managing the excavation, transportation, stockpiling and spreading of waste material;
- Off-site Waste Disposal for the transportation and disposal of waste material off-site;
- Importation of Clean Fill to ensure only suitable fill is used as the cover; and
- Surface Runoff Management to prevent erosion of waste material and clean soil from entering the stormwater system.
- Stockpiling to store material for reuse at a later stage.
- Bin Location for storage and recycling.

Each procedure will address the objective and provide actions to achieve the objectives, performance indicators, monitoring programs and potential corrective actions.

4. WASTE TRACKING SYSTEM PROCEDURE

4.1 OBJECTIVE

The objective of the Waste Tracking System (WTS) is to account for the relocation of all excavated material and any other waste material from the demolition brought into the works from stockpiles generated on the site. Visible asbestos products are managed separately.

4.2 CONTROLS

The WTS will be used to manage and monitor the movement and placement of the waste material to either recycling centres or licensed landfill facilities.

The WTS will:

- Record and document the internal transfer of each waste load using a logging sheet of estimated

volumes leaving the site and a notation of the destination;

- Record and document the off-site disposal of waste material using a docket system and the DEP permit system for removal of controlled waste from premises, and

- Provide corrective actions to rectify any accidental misplacement or spillage of waste.

4.4 ACTIONS

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

- An initial site induction for all personnel involved with the movement and relocation of the waste and stockpiles. They will be informed of the site/location of waste and transport routes to be used;
- The boundary of the stockpiles on the site will be identified at regular 10m intervals by surveyed steel pegs;
- The Demolition Contractor will provide an inspector prior to vehicles leaving the site who will use a Tracking Log Sheet (TLS) to identify the source of the waste, relocation destination, estimated load volume, vehicle identity and time. A new sheet is to be used for each day of activity that is to be completed and provided to the Superintendent the following day;
- Each truck is to be checked by the inspector prior to leaving the site to ensure loads are covered;
- Material that is to be transported off-site is to be accompanied using a docket system that details the source, vehicle registration, time, check of load, landfill destination and volume of waste.
- Each TLS is to be signed off by the Demolition Contractor's representative at the last shift of each working day. All off-site dockets are to be provided on a summary sheet once the original copy has been received back from the landfill operator; and

4.5 KEY PERFORMANCE INDICATORS

Key performance indicators for the effective performance of the WTS are:

- All loads are identified and accounted for; and
- All off-site waste is disposed to the appropriate class of landfill.

4.6 MONITORING AND REPORTING

Monitoring and reporting will include:

- All TLS and landfill dockets are to be summarised at the completion of the Demolition phase for inclusion into a Report;
- Accidental placement of waste on natural ground and the corrective action undertaken;

- Routine random checks of the WTS will be undertaken by the Environmental Supervisor to ensure all details are being completed and that material is being relocated in conformance to the WTS.

5. OFF-SITE WASTE DISPOSAL PROCEDURE

5.1 BACKGROUND

Any material that cannot be recycled or reused during the demoliton phase or stockpiled for later reuse will need to be disposed to an approved landfill facility if it cannot be accommodated on-site.

5.2 OBJECTIVE

The objective of this procedure is to ensure that the material is transported off-site to an appropriate class of landfill in a safe and environmentally responsible manner.

5.3 CONTROLS

This procedure will be used to control the following tasks and items:

- Characterisation of the material for class of landfill;
- Movement of material off-site; and
- Transport route to landfill.

5.4 ACTIONS

The following actions are to be followed for managing the off-site disposal of any waste fill:

- Stockpiles of material for off-site disposal will be characterised in accordance with the *Guidelines for Acceptance of Solid Waste to Landfill* (DEP, 2001).
- Material will be transported off-site once approval has been provided by the landfill operator;
- Application for a *Permit to Remove Controlled Waste from Premises* to be approved by the DEP;
- All movement of material offsite is to be recorded using the WTS;
- Trucks are to be roadworthy and operated in accordance with transport regulations;
- Two-way radios or mobile phone to be provided in all trucks in case of emergency;
- Truck loads are to be covered with tarpaulins prior to leaving the Site to prevent dust emissions whilst in transit;
- All truck loads are to be within legal weight limits;
- Trucks to exit through a vehicle shakedown area to remove any material that may be adhering to tyres and wheels. The shakedown will be self contained with a sealed

base to prevent leaching into the soil;

- Off-site transport routes will be determined so that travel is along the major arterial roads to the landfill facility; and
- The Demolition Contractor will continuously monitor the road condition at the entrance/exit to the work site and sweep/wash as necessary.

5.5 KEY PERFORMANCE INDICATORS

Key Performance indicators for this procedure are:

- All loads are disposed at the approved landfill facility or recycling centre;
- No visible dust emissions from the truck loads;
- No spillage of material; and
- No traffic accidents.

5.6 MONITORING AND REPORTING

Monitoring and reporting will include:

- Accidents involving the spillage of material from trucks and the corrective action undertaken is to be reported in an Environmental Incident Report form;
- Traffic accidents are to be reported to the Police, and verbally and in writing directly to the Superintendent immediately following the incident; and
- Routine random checks will be undertaken by the Environmental Supervisor of securing of loads to ensure conformance to this procedure. These will be noted in the *Environmental Field Activity Report Sheet* that is completed for each day of environmental site attendance.

5.7 CORRECTIVE ACTIONS

The following corrective actions may need to be implemented:

- If material does not comply with the *Guidelines for Acceptance of Solid Waste to Landfill* (DEP, 2001), treat it with immobilisation agents to reduce contaminant leachability;
- 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.

6. SURFACE RUNOFF MANAGEMENT PROCEDURE

6.1 BACKGROUND

Surface runoff in excess of the infiltration capacity of the ground may be generated during extreme rainfall events. Runoff could however potentially occur from the fill demolition site areas.

The runoff has the potential to collect waste fill material and transport them onto clean ground. Also storm events could lead to erosion of the cover and transport of clean soil.

6.2 OBJECTIVES

The objective of this procedure is to prevent soil erosion of disturbed ground surfaces and potentially contaminated runoff from entering waterways.

6.3 CONTROLS

This procedure will be used to control the following issues:

- Prevent surface runoff leaving the demolition site areas; and
- Prevent erosion of the soil cover.

6.4 ACTIONS

The following actions are to be followed for managing surface runoff from demolished site areas.

- All stormwater inlets servicing the project area are to sealed to prevent ingress of any runoff;
- Disturbed sections of the site will be surrounded with a small bund of clean earth to capture eroded material and surface runoff in the event of an intense rainfall event. Once completed the embankment will be immediately covered with the geofabric warning barrier which will stabilise the surface; and
- A dust suppressant comprising seed will be applied over the clean soil cover following placement to stabilise the ground surface.

6.5 KEY PERFORMANCE INDICATORS

Key Performance indicators for this procedure include:

- No discharges from the waste fill area into the stormwater system;
- No surface runoff from exposed surfaces of the waste fill areas; and

No runoff directed into the Helena River.

6.6 MONITORING AND REPORTING

- Monitoring and reporting will include:

- Routine random checks will be undertaken by the Environmental Supervisor of the stormwater system and any bunding to ensure conformance to this procedure; and
- Should there be any uncontrolled surface runoff or uncontained erosion of waste fill, the incident and any corrective action undertaken is to be reported in an Environmental Incident Report Form

7. LONG TERM MANAGEMENT OF SITE

The long-term management of the site during the construction stage will be by the Head Contractor. The Head Contractor will prepare operating plans that will identify the following:

- Environmental objectives;
- Control systems supporting each objective;
- Maintenance requirements for each control system;
- Routine monitoring requirements for each control system;
- Range of acceptable values for monitored parameters;
- Action levels which trigger intervention in response to monitoring observation;
- A documentation protocol to record maintenance activities, monitoring results, non-conformances, and actions to rectify any non-conformance; and
- A reporting procedure to ensure effective communication of information.
- These procedures will continue into the full construction phase of the proposed development.

7.1 SPECIFIC MANAGEMENT MEASURES

The Sydney Adventist Hospital has a specific Waste Management Manual which goes into a the detail regarding the ongoing waste segregation, disposal, types, etc of the hospital processes and is outside the scope of this plan.

8. ATTACHMENTS

DEMOLITION SITE PLAN