

Landscape Management Plan

**Illawarra International Health Precinct (MP
08_0156)
at
22 Avondale Road,
Penrose**

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1. Background

Scope of this plan

This document defines the requirements for the maintenance of the re-established vegetation cover over the areas to be subject to disturbance by the relocation of the stockpile on the site.

Approval was granted to project application No 08_0156 determined by the Minister on 31 January 2010 ("project approval"). The project approval was for subdivision of the site and development of Stage 1 of the Illawarra Health Precinct, a SurgiCentre with 2 storeys of basement parking and associated infrastructure.

The site to which the approval relates is Lot 200 in DP6077550 located at Avondale Road, Penrose.

The works proposed to be undertaken by the proponent are as follows:

- Dry Rock Retaining Wall – The dry rock retaining wall and the fill material behind the retaining wall are to be removed from their present position. The surface will be restored generally to pre-existing site levels in the south eastern part of the site for a distance of approximately 120 metres from the western side boundary of Nos 36 and 40 Goolagong Street and the removal of the fill from this area. The project approval envisages some fill in this area. The return of any fill required for the construction of buildings, access roads and pedestrian pathways as approved under the concept plan approval would be now determined as part of the project application.
- Reshaping the stockpile by removing material from the top of the stockpile to return views of the escarpment. The amount of fill to be removed to restore some escarpment views has been determined by detailed analysis of site levels and heights from view points taken at the kerb level in front of a number of key properties identified during the mediation and including No 37 Goolagong Street. The analysis indicated the future stockpile levels necessary to retain some view of the escarpment.
- The removal of the stockpile also sought to reduce the dominance of the stockpile adjacent to No 36 and 40 Goolagong Street and provide the opportunity for effective stormwater management for the stockpiled material and to improve pre-existing drainage problems experienced by the adjoining landowners.
- The removed material will be relocated to the western and north western edge of the stockpile in the following manner:
- The dry rock retaining wall will be relocated partly along the south western side and partly along the north western side of the stockpile to act as a retaining wall for excavated material.
- This retaining wall would be parallel to and adjacent to the gas easement shown on the drawings and to the south of the existing excavation.

The fill to be removed and the material to be removed from reshaping the top of the stockpile will be relocated a short distance to behind the new retaining walls and on the western side of the stockpile. In essence the southern part of the stockpile and the fill adjacent to no 36 and 40 Goolagong will be removed and the top of the stockpile relocated to a position away from residents and out of view on the western side of the stockpile.

2. Scope of the Management Works

Landscape management activities include grass monitoring, weed control, mowing and feral animal control.

The landscape maintenance will be undertaken by the proponent.

3. Hydromulching

Hydromulching was used to grass seed the existing stockpile and has proven to be an effective method of revegetating disturbed areas.

The hydromulching mix would consist of a slurry of water, seed, fertiliser and a mulch material agitated and kept in suspension until the operator is ready to spray the mix onto the work area.

The mulch acts as a cover for the seed to help retain moisture around the seed for even germination and growth, and to shield the bare ground from the impact of raindrops until the vegetative cover is established.

The main elements of hydromulching are seed selection, mulch selection, fertiliser selection, binder selection and seed selection.

The **seeds** will be selected to suite local conditions and will comprise a number of species. Rye grass will be used because of its fast growth and resilient qualities.

The purpose of the **mulch** in the hydromulching process is to act as a cover for the seed, and to help retain moisture around the seed which is important for even germination and growth. The mulch also shields the bare ground against the impact of raindrops until the

vegetative cover is established. The mulch material also links the soil particles together and helps prevent them from being dislodged by wind and stormwater.

The choice of **fertiliser** would be based on soil analysis from the actual site.

Prior to germination of the plants, the soil is very susceptible to erosion by wind and water. The addition of a **tackifier** to the hydromulch mix will adhere the wood fibre to the soil surface much more readily, and help with even germination of the plants.

4. Grass Monitoring

Grass seeded areas will be regularly monitored until well established. Monitoring will include transects across the seeded areas to identify:

- Areas of dead grass;
- Areas of visible soil erosion;
- Proliferation of weeds.

Remedial action will be taken in areas where there has been grass die off. This will include re seeding and watering.

5. Use of Pesticides

Weed control will be undertaken in accordance with rural land use practices. This will include:

- Regular site inspections to identify areas of weed infestation;
- Developing a treatment plan for weeds identified.

Application of Pesticides within landscape areas to control noxious weeds will be carried out strictly in accordance with the Noxious Weeds Act 1993 and Pesticides Act 1999.

Pesticides application records will be maintained.

6. Mowing

The proponent will regularly mow the site as has been the practice in the past. Mowing will occur as required and at least quarterly.

All mowing equipment will access the site from Avondale Road.

7. Feral Animal Control

Feral animal control will take place in consultation with Rural Lands Protection Board and neighbouring rural landowners.



NOTE:

1. CONTOUR INTERVAL 0.5m MINOR AND 1m MAJOR
2. ONLY VISIBLE SERVICES HAVE BEEN SURVEYED
REFER TO DIAL BEFORE YOU DIG
3. BOUNDARY POSITIONS ARE APPROXIMATE ONLY
AND SHOULD BE VERIFIED BY A CADASTRAL SURVEY
4. A TITLE SEARCH HAS NOT BEEN DONE TO DETERMINE
ANY AFFECTING EASEMENTS OR RESTRICTIONS
5. SURVEY ROTATED ONTO MGA USING PM 36965 AND GSN 114678

- A. RIGHT OF CARRIAGEWAY VARIABLE WIDTH
B. RIGHT OF ACCESS 3.0 WIDE
C. EASEMENT FOR BATTER (DP 607750)
D. EASEMENT FOR TRANSMISSION LINE 30.48 WIDE (DP 607750)
E. EASEMENT FOR PIPELINE 5 AND 20 WIDE (DP 1019608)

PROPOSED STOCKPILE
FOR EXCESS EXCAVATED
MATERIAL (8,800 cm)
TO BE REMOVED OFF SITE
DURING CONSTRUCTION

STOCKPILE IN EXCAVATION
(1,000 cm)
TO BE REMOVED OFF SITE
DURING CONSTRUCTION

EXISTING BASIN

OUTLINE OF EXISTING
EXCAVATION

PROPOSED STOCKPILE
FOR EXCESS EXCAVATED
MATERIAL (1,000 cm)
TO BE REMOVED OFF SITE
DURING CONSTRUCTION

200
1.18 ha

202
36.19 ha

201
8.25 ha

RETAIN EXISTING
VEGETATED MOUND

DISTURBED AREAS TO BE
HYDROMULCHED IN
STAGES TO MANAGE
DUST EMISSIONS

EXISTING STREET
VEGETATION TO REMAIN

NOTES:

- VIEW LINES - OBSERVATIONS ARE FROM 1.8 METRES
ABOVE KERB LEVEL. (SEE ANNEXURE 'A').
- CONTOURS SHOWN OVER THE SITE ARE ORIGINAL
SURFACE LEVELS EXCEPT FOR THE RESHAPED STOCKPILE
AND ACOUSTIC MOUND.
- PROPOSED LEVELS AND CONTOURS ARE SHOWN FOR
THE RESHAPED STOCKPILE.
- EXISTING ACOUSTIC MOUND CONTOURS SHOWN.
- PROPOSED SEDIMENT BASIN - SEE DETAIL IN PLANS
PREPARED BY VALARIE AND ASSOCIATES.

AREA TO BE RETURNED TO NATURAL
SURFACE (WITH SEDIMENTATION BASIN)

CEH CRAVEN, ELLISTON & HAYES (DAPTO) PTY. LTD.
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"THE LINK" 44 BAAN BAAN STREET DAPTO NSW 2530
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BSI
BSI ISO 9001

RESHAPED STOCKPILE
LOTS 200, 201 & 202 DP 1156078 & LOT 4 DP 258024
CNR HUNTLEY AND AVONDALE RD'S

DATE	14/11/2011	AMENDMENTS	SURVEY FILE: D208150-SPile-Reshaped-ver 2
SURVEYOR	L.C.		DWG FILE: D208150-SPile-Reshaped-ver 2
DRAWN	B.E.S.		
CHECKED	B.E.S.		

DRAWING No.
A1-D208150 SPile Reshaped
SCALE 1:1000
Sheet 1 of 1 Sheets