Part Four

DRAFT STATEMENT OF COMMITMENTS

4.1 Introduction

This part of the Environmental Assessment provides a draft Statement of Commitments which outlines the measures which Hodgson Quarries and Plant would undertake in respect of the environmental management of the Site. Those commitments would be in addition to those which are currently in place as part of the conditions of consent which direct the existing extraction on the Site.

4.2 General

(a) The proposed modification would be undertaken in accordance with the Environmental Assessment prepared by Nexus Environmental Planning Pty Ltd, including Appendices.

(b) The continued extraction of material from Lots 1 & 2, DP 228308 and Lot 2, DP 312327 would be undertaken in accordance with the modified conditions of Development Consent No.267-11-99.

4.3 Groundwater

The modified conditions of Development Consent No.267-11-99 require that the depth of extraction be limited to 186.08m AHD such that extraction does not impact on the regional groundwater table.

Hodgson Quarries and Plant is committed to the continued monitoring to ensure that suitable data are obtained with regard to the behaviour of groundwater as per the current licensing requirements. The following commitments are made with regard to groundwater.

4.3.1 Groundwater Management Strategy

The strategy for groundwater management is to minimise groundwater inflows from the Maroota Tertiary Sands Groundwater Source (**MTSGS**) to the open cut and preservation of groundwater quality. It involves maintaining the depth of mining at or above RL 186.08m AHD. A series of survey stations will be established on the Site to enable monitoring of the depth of extraction.

Aspects assessed to be at risk have been previously assessed by Woodward-Clyde (1999) and summarised in Section 3 of the AGT Report at **Appendix 16**. Mitigation measures have been proposed for each potential impact including predicted and unpredicted impacts. As such, the groundwater monitoring program specifically deals with:

- A mechanism for ensuring the project is compliant with the rules of the Water Sharing Policy (**WSP**) and NSW Aquifer Interference Policy (**AIP**).

- Unforseen impacts on groundwater levels on neighbouring properties and on any users of groundwater.

- Unforseen impacts of the development on groundwater quality such as around storages.

- Periodical monitoring for changes and local and regional impacts of the quarry on groundwater levels and quality during the project and on a reduced basis for at least five (5) years post extraction.

Information gained from the monitoring program will ensure the pit floor remains at or above RL 186.08m AHD, thereby mitigating any drawdown impact to the MTSGS.

Ongoing groundwater monitoring serves to notify changes to the groundwater, quality or unforeseen discharges into the pit. Monitoring is necessary to indicate that abnormal conditions relating to quarrying have developed, as well as compliance with the rules of the WSP and AIP.

A Trigger Action Response Plan (**TARP**) for groundwater will be developed to focus upon appropriate trigger and response actions for the management or mitigation of impacts. The baseline monitoring program which is in place will have established triggers, which will be used to indicate levels of impact and trigger an appropriate response. The fundamental means of determining the magnitude of any impact and the need for further monitoring and/or remedial actions is based upon the impact assessment criteria detailed in Table 6 of the AGT Report, a copy of which is reproduced below.

The responses (actions) documented in the table are proposed to ensure the timely and adequate management of impacts outside of the established trigger levels.

Table 6: Trigger Action and Response Plan

Impact	Observation	Strategy for Mitigation	Monitoring	Monitoring Action	Response
Groundwater level	Less than or equal to 10% cumulative variation in the water table, allowing for typical climatic "post-water sharing plan" variations, 40 m from any: (a) high priority groundwater dependent ecosystem; or (b) high priority culturally significant site; listed in the schedule of the water sharing plan.	Baseline GWL data has been used to ensure depth of mining remains above the Maroota Tertiary Sands Groundwater Source. Regular review of monitoring data to ensure mining is maintained above the elevation of the regional water table.	PT84MW-6	**Water level**: If water level monitoring indicates increasing trends or confirmed pit inflows, increase monitoring frequency to weekly to establish trend	Investigate potential contributing factors: -Confirm trends or anomalies by repeating water level or quality sampling as required -Compare exceedance with climatic conditions -Engage a hydrogeologist to undertake a preliminary investigation and report on any identified changes. Where investigations determine that impacts are the result of Hodgsons Quarry operations or may potentially impact on adjacent bores or surface water users implement Section 6.2 of this report, which may include: Modify mine plan or obtain groundwater licence to offset impact;
Groundwater quality	Any change in the groundwater quality should not lower the beneficial use category of the groundwater source beyond 40 m from the activity.	Ensure all spillages are contained, diversion of dirty water into settling ponds, maintenance of machinery to be undertaken in work shop areas. Monitoring of pit will be undertaken as a first line of defence to detect & control the risk of groundwater contamination	PT84MW-6, In-pit surface expressions	**Water Quality**: Repeat sampling of bore and in pit water to confirm contamination event.	
Groundwater users	Reported decrease in yield or GWL outside of climatic variations. Reported decrease in water quality parameter outside of baseline variation	Baseline GWL data has been used to ensure depth of mining remains above the Maroota Tertiary Sands Groundwater Source. Regular review of monitoring data to ensure mining is maintained above the elevation of the regional water table.	PT84MW-6	**Water level**: Increase monitoring frequency to weekly to establish trend	
Pit inflows	Observed seepages from pit wall	Regular review of monitoring data to ensure mining is maintained above the elevation of the Maroota Tertiary Sands Groundwater Source. Monitoring of water quality in pit will be undertaken as a first line of defence to control the risk of groundwater contamination	PT84MW-6	**Water level**: Increase monitoring of bores to weekly to establish trend. **Water quality:** obtain comprehensive analysis from pit seepages. **Volume:** weekly record of pit seepages	

4.3.2 Hodgson Quarries and Plant Responsible Impacts Procedure

Where investigations detailed in the TARP determine that groundwater impacts are the

result of Hodgson Quarries and Plant operations, or may potentially impact on adjacent bores, the following procedure would be actioned:

- Inform landholders adjacent to streams and/or private bore owners, and the NSW Office of Water of preliminary investigation outcomes, as appropriate.
- Undertake a detailed investigation and assess possible mitigation measures in consultation with the landowner and the NSW Office of Water, as appropriate.
- If deemed necessary, prepare and implement a site mitigation/action plan to the satisfaction of DPI, in consultation with the landowner and the NSW Office of Water, as appropriate.
- Conduct a review of results from the follow up investigation.
- Further, the timing of the above includes, but is not limited to:
    - Results of preliminary investigation reported within one week of completion.
    - Commence preparation of detailed investigation including assessment of possible mitigation measures immediately.
    - Commence preparation of mitigation/action within one week of the need being identified.

4.3.3 Notification of Significant Impact

Where a significant, confirmed impact to the environment or private landowner has occurred according to the TARP, relevant agencies will be contacted immediately.

4.4 Rehabilitation

After the completion of the specified rehabilitation works, vegetated areas will be subject to a minimum landscape works period of 12 months. During this time the landscape contractor will make good all defects which may occur for whatever reason.

Consolidation and maintenance will mean the care and maintenance of all areas undergoing rehabilitation in accordance with the rehabilitation report at **Appendix 11** and associated plans, ensuring that a satisfactory result occurs for these areas with regard to germination and establishment.

The maintenance shall include, but not be limited to, the following items where and as required:

- Watering all landscaped areas
- Monitoring germination, replacement planting and re-hydromulching
- Weed Control
- Make good areas of soil subsidence or erosion
- Topping up of mulched areas
- Spray / treatment for insect and disease control
- Monitoring and controlling rabbits.

All areas which have been hydromulched or pocket planted will be watered in thoroughly following initial works, and will be watered a minimum 3 times per week during winter, and 4 times per week during summer. Watering will be done by hand, utilising dam water on site.

Frequency of watering may be adjusted based on whether conditions, with the objective to ensure the maximum percentage of successful established plant stock.

Areas undergoing rehabilitation will be continually monitored until well established, with failures being replaced in line with the report at **Appendix 11** and landscape specification, and failed hydromulching re-sprayed.

All replacements will be to specification, and of a size equivalent to similar healthy species surrounding the rejected plant, or, in the case of mature trees, to the original size and quality, as a minimum.

Weed removal will be conducted regularly, with hand removal of all top growth roots, rhizomes and stolons of unwanted vegetation. The regular control of all weeds is essential. The applications of pre-emergent sprays are acceptable with approved chemicals applied in strict accordance with manufacturer directions. Any spraying will be done during calm days, to avoid winds blowing herbicides onto native planting.

The landscape contractor will become familiar with the healthy appearance of the plant material and constantly monitor it for damage or pest infestations. When either of these become evident the contractor will immediately apply the necessary control measures.

If newly planted areas are becoming subject to rabbit attack, it may be necessary to install approved rabbit-proof fencing to the area of rehabilitation, to ensure minimal damage is done.

4.5 Flora and Fauna

The proposed modification would not result in the removal of vegetation outside that which has been approved.

4.6 Soil and Water Management

The proposed modification would be undertaken in accordance with the revised Soil and Water Management Plan contained in **Appendix 19**.