Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project application referred to in schedule 1, subject to the conditions in schedules 2 to 4.

These conditions are required to:

- prevent and/or minimise adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Frank Sartor MP
Minister for Planning

Sydney 4 Oct 2007

SCHEDULE 1

Application No:	07_0021
Proponent:	Shoalhaven Starches Pty Ltd
Approval Authority:	Minister for Planning
Land:	Lot 1, Deposited Plan 838753, 160 Bolong Road, Bomaderry
Project:	Shoalhaven Starches Flour Mill Project

DEFINITIONS

BCA	Building Code of Australia
Council	Shoalhaven City Council
Day	The period from 7am to 6pm Monday to Saturday, and 8am to 6pm Sunday and Public Holidays
DECC	Department of Environment and Climate Change
Department	Department of Planning
Director-General	Director-General of the Department (or delegate)
DWE	Department of Water and Energy
EA	*Environmental Assessment Report Proposed Flour Mill,* Cowman Stoddart, June 2007
Environmental Farm	Land owned by Shoalhaven Starches north of Bolong Road utilised for irrigation of wastewater from the factory
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environmental Protection Licence issued under the *Protection of the Environment Operations Act 1997*
Evening	The period from 6pm to 10pm
Minister	Minister for Planning
Night	The period from 10pm to 7am Monday to Saturday, and 10pm to 8am Sunday
Project	Construction and operation of a flour mill and associated grain silos on site
Proponent	Shoalhaven Starches Pty Ltd
Site	Land to which application applies (see schedule 1)
Statement of Commitments	The Proponent's commitments in Appendix B

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction and/or operation of the project.

Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
   a) EA;
   b) statement of commitments (shown in Appendix B); and
   c) conditions of this approval.

   Note: The layout of the project is shown in Appendix A.

3. If there is any inconsistency between the above, then the conditions of this approval shall prevail to the extent of the inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   a) any reports, plans, strategies or programs that are submitted in accordance with this approval; and
   b) the implementation of any actions or measures contained in these reports, plans, strategies or programs.

Limits on Production

5. The Proponent shall ensure that the flour mill does not produce more than 265,000 tonnes of industrial grade flour a year.

Structural Adequacy

6. The Proponent shall ensure that any new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

   Notes:

   - *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for any building works.*
   - *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

Demolition

7. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

Protection of Public Infrastructure

8. Prior to the commencement of demolition, the Proponent shall:
   a) prepare a dilapidation report of the public infrastructure in the vicinity of the site (including roads, gutters, footpaths, etc) in consultation with Council; and
   b) submit a copy of this report to the Director-General.

9. The Proponent shall:
   a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
   b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Operation of Plant and Equipment

10. The Proponent shall ensure that all plant and equipment used on the site is:
    a) maintained in a proper and efficient condition; and
    b) operated in a proper and efficient manner.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

ODOUR

1. The Proponent shall ensure that the project complies with Section 129 of the *Protection of the Environment Operations Act, 1997*.

   Notes:
   - *Section 129 of the Protection of the Environment Operations Act 1997, provides that the Proponent must not cause or permit the emission of any offensive odour from the site, but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.*

2. The Proponent shall install low mist nozzles on all pivot irrigators on the Environmental Farm to reduce odour emissions, prior to commencement of operation of the flour mill.

AIR QUALITY

3. During the life of the project, the Proponent shall carry out all reasonable and feasible measures to minimise the dust generated by the project.

4. The Proponent shall undertake testing of the flour mill and associated grain silos to assess compliance with the *Protection of the Environment Operations (Clean Air) Regulation 2002*, particularly in relation to total suspended particulates (TSP) and particulate matter (PM_{10}). A monitoring report shall be provided to the Department and the DECC within 3 months of operation commencing.

SOIL AND WATER

Soil and Water Management Plan

5. The Proponent shall prepare and implement a Soil and Water Management Plan for the site to the satisfaction of the Director-General. The Plan shall:
   a) be submitted to the Director-General for approval prior to commencement of construction;
   b) include:
      - a **flood hazard and structural assessment** to assess the risk to the flour mill and grain silos during flood events, describe management measures for protection of these structures and detail evacuation procedures. The study shall be prepared in consultation with Council;
      - details of **erosion and sediment controls** to be implemented during construction, as described in the Statement of Commitments;
      - details of **river bank stabilisation works** to be undertaken prior to commencement of construction of the flour mill and silos. The works shall be undertaken in consultation with the DWE and shall include measures to protect and re-establish native vegetation along the river bank and avoid disturbance of Acid Sulphate Soils. Re-vegetation works shall be integrated with the Landscape and Re-vegetation Plan;
      - a **Landscape and Re-vegetation Plan** providing details of revegetation to occur along the southern boundary of the site along the Shoalhaven River. The plan shall include a program for implementation.

Operating Conditions

6. Except as may be expressly provided in an EPL for the project, the Proponent shall comply with Section 120 of the *Protection of the Environment Operations Act 1997*.

7. Over the life of the project, the Proponent shall monitor the river bank adjoining the site below the Mean High Water level, to assess the risk of bank failure and determine the need for further bank stabilisation works.

NOISE

Noise Limits

8. The Proponent shall ensure that noise from the whole factory, including the flour mill, does not exceed the noise limits presented in Table 1.

Table 1: Project Noise Limits

Location	At all Times $L_{A10\ (15\ minute)}$ dB(A)
Locations in Terara on the south side of the Shoalhaven River	38
Locations in Nowra on the south side of the Shoalhaven River	38
Locations in Meroo Street, Bomaderry	42
At other residential locations in Bomaderry	40

Notes:

- *Noise from the premises is to be measured at any point within 1 metre of any residential boundary or other noise sensitive areas in the vicinity of the premises to determine compliance with the $L_{A10(15\ minute)}$ noise limits in the above table.*
- *Where it can be demonstrated that direct measurement of noise from the development is impractical, the Department and the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*
- *The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.*
- *The noise limits identified in Table 1 apply under the following meteorological conditions:*
  - *wind speeds up to 3 m/s at 10 metres above the ground level; or*
  - *temperature inversion conditions up to 3°C/100m and wind speeds up to 2 m/s at 10 metres above ground level.*

Design

9. The Proponent shall ensure that the following noise control measures are implemented and that monitoring is undertaken to determine their effectiveness. A report on the effectiveness of these measures shall be provided to the Director-General within 3 months of operation commencing. The noise control measures shall include, but not be limited to:
   a) enclosing blowers within a concrete room;
   b) installing silencers on blowers;
   c) limiting the sound power emission levels on fan discharges; and
   d) constructing the roof to have a weighted noise reduction of not less than 40.

Hours of Work

10. Unless otherwise agreed with the Director-General, the Proponent shall comply with the construction and operation hours in Table 2.

Table 2: Construction and Operation Hours for the Project

Activity	Day	Time
Construction	Monday – Friday	7:00am to 6:00pm
	Saturday	8:00am to 1:00pm
	Sunday and Public Holidays	Nil
Operation	All days	Any time

Notes:

- *Construction activities may be conducted outside the hours in Table 2 provided that the activities are not audible at any residence beyond the boundary of the site.*

Operational Noise Monitoring

11. The Proponent shall monitor noise from operation of the flour mill to evaluate compliance with the project noise limits in Table 1. Noise monitoring shall be undertaken in accordance with the existing noise compliance monitoring procedure required for the whole factory under DA 223-7-2002, condition 3.26 (for Pollution Reduction Program No. 7).

TRANSPORT

Design

12. Prior to commencement of construction, the Proponent shall, to the satisfaction of the Director-General:
   a) Upgrade the three site accesses (eastern, central and western) to a safe and appropriate level as determined in consultation with the RTA and Council; and
   b) Provide a safe pedestrian linkage between the factory and the office buildings to ensure that pedestrians do not use the verge of Bolong Road to move between the factory and the offices. Design of the pedestrian access is to be agreed with the RTA and Council.

Operating Conditions

13. The Proponent shall ensure that:
    a) the internal road network and parking on site complies with Australian Standards *AS 2890.1:2004* and *AS 2890.2:2002*; and
    b) site related vehicles do not queue on any public roads.

Construction Traffic Management Plan

14. The Proponent shall implement a **Construction Traffic Management Plan**, to the satisfaction of the Director-General and in consultation with the RTA and Council. The Plan shall be submitted to the Director-General prior to demolition and construction commencing and must include:
    a) a description of the access and parking arrangements for the site during construction;
    b) traffic control measures to ensure that no vehicles park or queue along Bolong Road in the vicinity of the site;
    c) details of traffic routes for construction vehicles and measures to enforce the use of designated routes; and
    d) procedures for notifying residents of construction traffic routes and potential disruptions to routes and access.

HAZARDS

Pre-construction

15. At least one month prior to construction, the Proponent shall submit for the approval of the Director General, the following studies:
    a) **Construction Safety Study** - prepared in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety Study Guidelines';
    b) **Fire Safety Study** - An update of the existing 'Fire Safety Study' for the site to include the project. This study shall cover the relevant aspects of the Department of Planning's Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines' and the New South Wales Government's 'Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'. The study shall also be submitted for approval, to the NSW Fire Brigade.

Pre-commissioning

16. The Proponent shall update/develop and implement the plans and systems set out below no later than two months prior to commissioning. The Proponent shall submit for the approval of the Director General documentation describing those plans and systems. Commissioning shall not commence until approval has been given by the Director General.
    a) **Emergency Plan** - An update of the Emergency Plan and procedures for the existing site to incorporate the project. This plan shall include detailed procedures for the safety of all people outside of the project who may be at risk from the project. The plan shall be in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 1, 'Industry Emergency Planning Guidelines';
    b) **Safety Management System** - An update of the Safety Management System, covering all on-site operations including the project. The updated document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records shall be kept on-site and shall be available for inspection by the Director General upon request. The Safety Management System or an update shall be developed in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'.

WASTE

17. The Proponent shall ensure that all waste generated on the site during demolition and construction of the project is classified in accordance with the DECC's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes.*

SCHEDULE 4
ENVIRONMENTAL MANAGEMENT AND MONITORING

AUDITING

Compliance Audit

18. Prior to commissioning the flour mill, the Proponent shall submit work as executed plans to the Department for all development associated with the project. These plans must be prepared by a suitably qualified and experienced expert, and must include plans showing the work as executed plans laid over the approved plans to demonstrate that the development has been carried out in accordance with the approved plans.

Hazard Audit

19. Twelve months after the commencement of operations of the flour mill, the Proponent shall carry out a comprehensive Hazard Audit of the project and within one month of the audit submit a report to the Director General.

    The audit shall be carried out at the Proponent's expense by a duly qualified independent person or team approved by the Director General prior to commencement of the audit. Second and subsequent audits should be incorporated into the audits required every two years under condition 27 of the consent dated 25.5.1994 for DA 7/94. Hazard Audits shall be carried out in accordance with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'.

Environmental Audit

20. The Proponent shall include an assessment of the environmental performance of the flour mill and silos as part of the Annual Environmental Audit required under DA 223-7-2002 (for Pollution Reduction Program No. 7).

REPORTING

21. The Proponent shall include an assessment of the environmental performance of the flour mill and silos as part of the Annual Environmental Management Report detailed under DA 223-7-2002 (for Pollution Reduction Program No. 7).

APPENDIX A: SITE LAYOUT PLAN

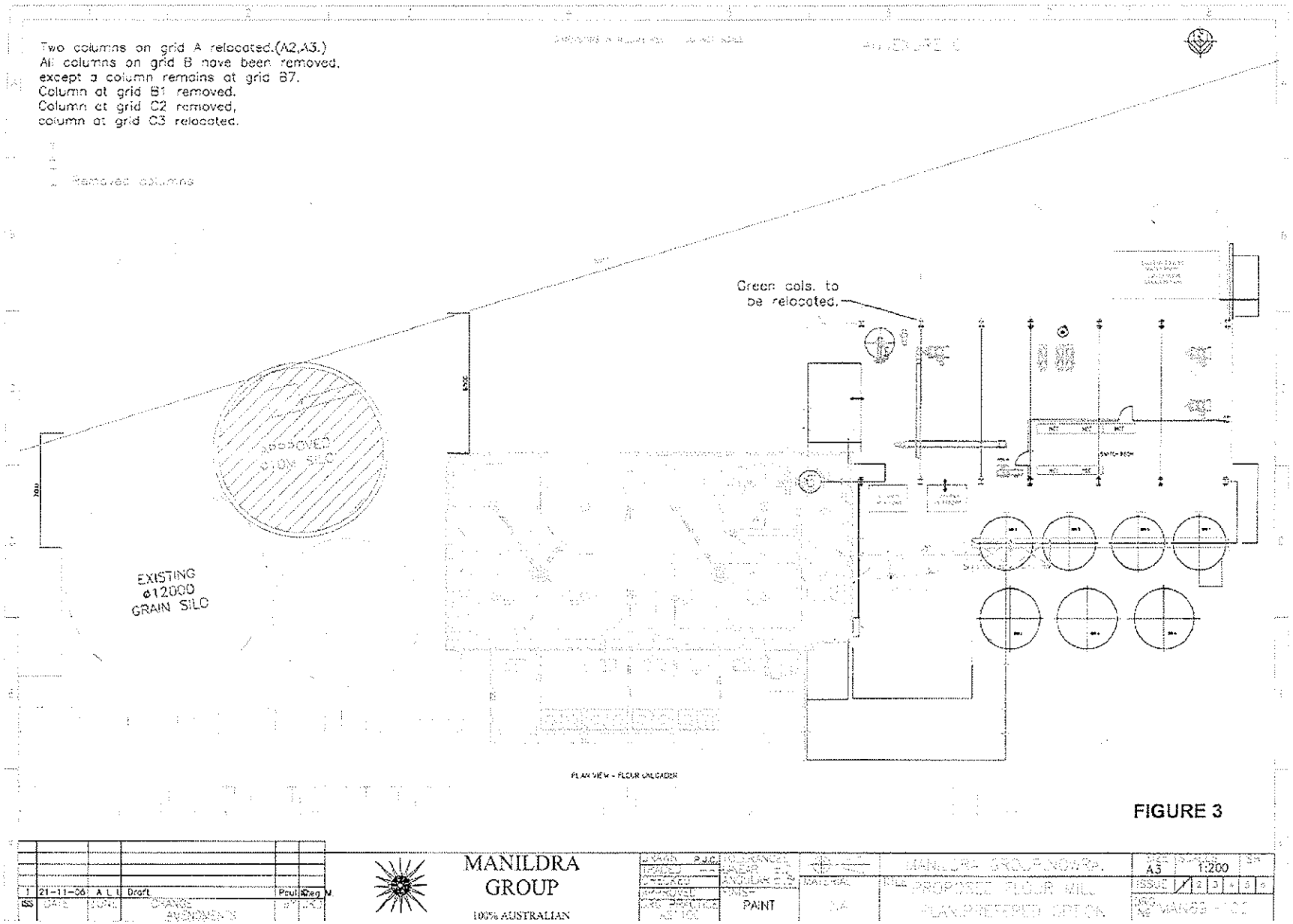

FIGURE 3

Figure 1: Proposed Layout of the Facility

APPENDIX B: STATEMENT OF COMMITMENTS

9.0 Statement of commitments – environmental management

This section of the EA provides a Statement of Commitments agreed to by Shoalhaven Starches Pty Ltd outlining environmental management, mitigation and monitoring measures to be implemented to minimise potential impacts associated with this proposal and having regard to the findings of the assessment of Key Issues as outlined in Section 8.0 of this EA. The following is a Statement of Commitments as proposed by this EA, and agreed to by Shoalhaven Starches:

9.1 Legislative Requirements

All activities carried out on the site, and in relation to the project, would comply with the relevant provisions of all relevant legislation and regulations, and would also comply with relevant policies and guidelines relating to the construction and operation of the project including, but not limited to, those detailed in Sections 9.1.1 and 9.1.2.

9.1.1 Legislation and Regulations

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984.*
- *Contaminated Land Management Act 1997.*
- *Dangerous Goods Act 1975.*
- *Environment Protection and Biodiversity Conservation Act 1999.*
- *Environmental Planning and Assessment Act 1979.*
- *Environmental Planning and Assessment Regulations 2000.*
- *Environmentally Hazardous Chemicals Act 1985.*
- *Fisheries Management Act 1994.*
- *Fisheries Management Amendment Act 2001.*
- *Heritage Act 1977.*
- *Heritage Amendment Act 1998.*
- *Local Government Act 1993.*
- *National Parks and Wildlife Act 1974.*
- *National Parks and Wildlife Amendment Act 2002.*
- *Native Vegetation Act 2003.*
- *Native Vegetation Conservation Act 1997.*
- *Noxious Weeds Act 1993.*
- *Occupational Health and Safety Act 2000.*
- *Ozone Protection Act 1989.*
- *Pesticides Act 1999.*
- *Protection of the Environment Operations Act 1997.*
- *Protection of the Environment Administration Act 1997.*
- *Rivers and Foreshores Improvement Act 1984.*
- *Roads Act 1993.*
- *Rural Fires Act 1997.*
- *Soil Conservation Act 1938.*
- *Threatened Species Conservation Act 1995.*
- *Threatened Species Conservation Amendment Act 2002.*
- *Waste Avoidance and Resource Recovery Act 2001.*
- *Waste Recycling and Processing Corporation Act 2001.*
- *Water Act 1912; and*
- *Water Management Act 2000.*

9.1.2 Policies and Guidelines

- Managing Urban Stormwater: Soils and Construction, NSW Department of Housing (1998).
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand Environment and Conservation Council, and the Agriculture and Resource Management Council of Australia and New Zealand (2000).

- National Environment Protection Measures (NEPM) for Ambient Air Quality, NEPC (1998); and
- Industrial Noise Policy, DEC (1999).

9.2 Approvals, Permits and Licences

All necessary approvals, permits and licences required by NSW legislation must be obtained prior to construction commencing. Approvals, permits and licences that may be necessary may include, but are not necessarily limited to:

- The Contractor and the Proponent are obliged to notify DEC when a pollution incident occurs that causes or threatens 'material harm' to the environment, under the Protection of the Environment Operations Act, 1997.

The Contractor and Proponent shall liaise with relevant government agencies to ensure that all their requirements are met in relation to approvals, permits and licences. The relevant government agencies include, but may not be limited to:

- NSW Department of Environment and Conservation (water, air, noise, waste, pollution, flora, fauna, and aboriginal heritage issues); and
- NSW Department of Natural Resources (works in or near waterways).

All necessary licences, approvals and permits obtained by the Contractor and/or Proponent must be complied with, maintained and renewed as necessary throughout the duration of the works.

9.3 Construction Environmental Management Plan

The Contractor/Proponent would prepare a Construction Environmental Management Plan (CEMP). The CEMP would be prepared generally in accordance with the framework, principles and requirements detailed in AS/NZS ISO 14001:2004: Environmental management systems – Specification with guidance for use.

The CEMP would be developed prior to site activities commencing, and would be fully implemented, maintained, reviewed, audited and updated throughout the construction phase as may be required by the Conditions of Approval, or as otherwise directed.

In addition to the generic requirements of ISO/NZS 14001 the CEMP would address and/or develop:

- All relevant Conditions of Approval and environmental requirements.
- All other environmental control measures, actions, procedures and activities required to address all relevant legislation, regulations, guidelines and policies.
- Environmental monitoring programs, including the identification of monitoring locations, equipment, methodologies, analytical requirements, quality trigger levels/thresholds, and reporting mechanisms.
- Roles and responsibilities for the environmental management of the works.
- Environmental training requirements, procedures, and documentation; and
- A complaints management and community consultation/notification process.

The CEMP would document the key environmental management measures associated with the construction phase of the project, which would include, but not necessarily be limited to:

- General environmental management measures;
- Erosion and sediment control;
- Air quality (dust);
- Noise; and
- Waste and chemical management.

Further details on each key issue are provided in Sections 9.3.1 to 9.3.5. Appropriate environmental mitigation and control measures for each key issue are detailed in Table 19 to Table 23.

9.3.1 General Environmental Management

General environmental mitigation measures for the project are detailed in Table 19.

Table 19

Environmental Management Framework
All safeguard measures detailed in the Environmental Assessment would be applied to the project. Environmental awareness training would be provided to all personnel (including all labourers/ plant operators/ supervisors and engineers), and would address, but not be limited to: • Sedimentation and erosion control; • Water quality control; • Pollution control; and • DEC requirements. The training would commence at the start of construction and would continue as new personnel are engaged. A register of environmental awareness training shall be established and maintained at the site. The register shall contain details of the type of training, personnel trained, training dates and qualifications of the trainer. All necessary approvals, permits and licences required by NSW legislation would be obtained prior to construction commencing. These approvals, permits and licences would be maintained and complied with during the construction period. Liaison would occur with the: • Department of Environment and Conservation (water, air, noise, waste, pollution, flora, fauna, and aboriginal heritage issues); • Department of Natural Resources (works near waterways); and • Heritage Office of NSW (non-indigenous heritage issues). to ensure all their requirements are met in relation to approvals, permits and licences. All wastes would be transported by licensed waste management contractors and would be disposed of to an appropriately licensed waste management facility. A register of public complaints shall be established at time of construction commencing and maintained for the full duration of construction. The register shall record details of complaints, complainant contact information and action taken to address complaints. Any complaints received shall be recorded and attended to promptly. On receiving a complaint, works shall be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback shall be provided to the complainant explaining what outcomes resulted.

9.3.2 Soil and Water Management

The potential impacts of construction activities on soil and water resources are generally associated with the erosion of soils and subsequent discharge of sediments or turbid runoff to watercourses, together with pollution associated with the spillage of fuels, chemicals, and other materials into waterways.

The location of the construction activities immediately adjacent to the banks of the Shoalhaven River increases the risk of potential impacts to the river occurring, although the site stormwater management system would collect all runoff from the construction area and convey it to the Environmental Farm for treatment and irrigation. However, additional environmental control measures have been developed to further minimise the risk of discharges to the Shoalhaven River, as detailed in Table 20.

Acid Sulphate Soils (ASS) are not expected to be encountered on site; however are considered separately.

Table 20

Soil and Water Management Measures
A site-specific Erosion and Sediment Control Plan (ESCP) has been developed for the project (refer **Figure 11**). The ESCP identifies appropriate control measures and practices to prevent soil and erosion impacts, and discharges of turbid site runoff to the Shoalhaven River.
All erosion and sediment control measures detailed in the ESCP would be implemented on site prior to construction commencing.
All sediment and erosion controls would be inspected by the Contractor/Proponent at a minimum of weekly intervals and within 24 hours of all rainfall events exceeding 10 mm in a 24-hour period.
Regular routine maintenance would be undertaken to de-silt sediment basins and traps, replace damaged sediment control fences and other structures. A register of these inspections, maintenance and rainfall levels would be maintained. One person would have overall responsibility on site for erosion and sediment control issues.
Loss of suspended solids and sediment to the Shoalhaven River would be prevented by using temporary or reverse super elevation for any excavations, constructing berms along the edge of the site to prevent runoff to the river and installing silt fences along the property boundary with the river.
A silt fence would be installed between the site and the Shoalhaven River, along the entire perimeter of the construction area, to prevent suspended solids being transported off-site. The silt fence would be constructed in accordance with Standard Drawing SD 6-7, from the publication Managing Urban Stormwater: Soils and Construction, NSW Department of Housing (1998).
All site runoff would be collected and diverted to the site stormwater management system, which would then convey it to the Environmental Farm for treatment and irrigation, thereby preventing any off-site impacts.
The inlet grates of the site stormwater management system would be covered with geotextile to provide initial filtering of gross sediment pollutants before conveyance to the Environmental Farm.
Alternatively, the grates could be protected by implementing the control measure detailed in Standard Drawing SD 6-9, from the publication Managing Urban Stormwater: Soils and Construction, NSW Department of Housing (1998).
Works relating to drainage and sediment control would be completed promptly to minimise exposure time of disturbed areas.
Exposed areas of erodible material would be limited to those areas being actively worked. Any material stockpiles on site would be designed and located to prevent any loss of sediment, or other materials, to the Shoalhaven River in the event of heavy or prolonged rainfall
Temporary sediment control fences would be installed below any stockpiles.
Stockpiles would not be located within 50 m of a watercourse, in accordance with NSW Fisheries requirements.
In the event of a spillage of potentially harmful chemicals, fuels, oils or materials, the DEC would be contacted immediately, and contaminants would be immediately contained, removed, treated (if necessary) and disposed of in accordance with DEC requirements.
An incident/emergency spill plan would be developed. This would include measures to avoid spillages of fuels, chemicals, and fluids onto the floodplain and/or into any waterways. All personnel would be made aware of these measures. An emergency spill kit would be kept onsite at all times.
All fuels, chemicals, and liquids would be stored at least 50 m away from any waterways or drainage lines within an impervious bunded area.
All erosion and sediment control structures would be removed only after adequate stabilisation of disturbed surfaces is achieved.
Any wastewater generated from construction processes would be contained onsite and directed to the site stormwater management system for conveyance to the Environmental Farm for treatment and irrigation. The discharge of water into waterways would be prohibited.
The refuelling of plant and maintenance of machinery would be undertaken within impervious bunded areas within the compound sites. Vehicle wash downs and/or cement washouts would be undertaken within a designated bunded area with impervious surfaces.

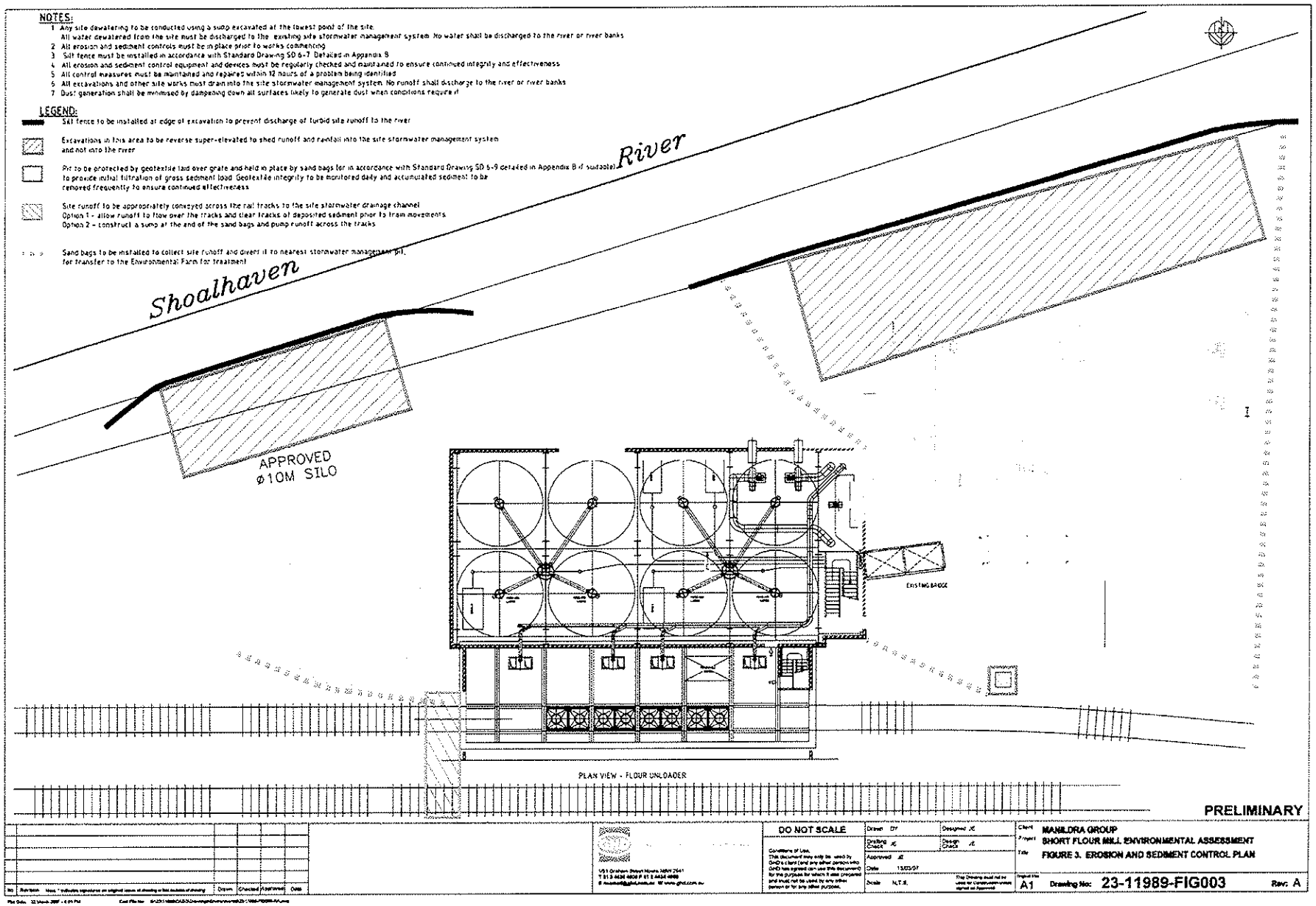
NOTES:
1 Any site dewatering to be conducted using a sump excavated at the lowest point of the site.
All water dewatered from the site must be discharged to the existing site stormwater management system. No water shall be discharged to the river or river banks
2 All erosion and sediment controls must be in place prior to works commencing
3 Silt fence must be installed in accordance with Standard Drawing SD 6-7. Detailed in Appendix B
4 All erosion and sediment control equipment and devices must be regularly checked and maintained to ensure continued integrity and effectiveness
5 All control measures must be maintained and repaired within 12 hours of a problem being identified
6 All excavations and other site works must drain into the site stormwater management system. No runoff shall discharge to the river or river banks
7 Dust generation shall be minimised by dampening down all surfaces likely to generate dust when conditions require it
LEGEND:
Silt fence to be installed at edge of excavation to prevent discharge of turbid site runoff to the river
Excavations in this area to be reverse super-elevated to shed runoff and rainfall into the site stormwater management system and not into the river
Pit to be protected by geotextile laid over grate and held in place by sand bags for in accordance with Standard Drawing SD 6-9 detailed in Appendix B of suitable) to provide initial filtration of gross sediment load. Geotextile integrity to be monitored daily and accumulated sediment to be removed frequently to ensure continued effectiveness
Site runoff to be appropriately conveyed across the rail tracks to the site stormwater drainage channel
Option 1 – allow runoff to flow over the tracks and clear tracks of deposited sediment prior to train movements
Option 2 – construct a sump at the end of the sand bags and pump runoff across the tracks
Sand bags to be installed to collect site runoff and divert it to nearest stormwater management pit, for transfer to the Environmental Farm for treatment
Shoalhaven River
APPROVED
ø10M SILO
EXISTING BRIDGE
PLAN VIEW - FLOUR UNLOADER
PRELIMINARY
DO NOT SCALE
MANILDRA GROUP
SHORT FLOUR MILL ENVIRONMENTAL ASSESSMENT
FIGURE 3. EROSION AND SEDIMENT CONTROL PLAN
A1
Drawing No: 23-11989-FIG003
Rev: A

FIGURE 11

9.3.3 Noise and Vibration Management

The construction process would generate both noise vibration from heavy plant and equipment. However, the levels of noise and vibration would be likely to be similar to existing background levels associated with the existing plant. This notwithstanding, the Proponent/Contractor would implement appropriate noise and vibration management measures as detailed in the Environmental Assessment (EA) and as may be required by the Conditions of Approval.

The noise and vibration mitigation management measures would include the appropriate siting of plant, equipment, compounds, and machinery to minimise noise impacts and construction noise monitoring, as detailed in Table 21.

The potential effects of operational noise have been addressed in the design of the facility and are outside the scope of this assessment.

Table 21

Noise and Vibration Management Measures

Appropriate noise and vibration mitigation measures would be developed and implemented throughout the construction process, including all commitments made in the EA and required by the Conditions of Approval.

Unless otherwise agreed with the Director-General, construction and operation of the proposed flour mill shall be as outlined as follows:

Activity	Day	Time
Construction	Monday – Friday	7:00am to 6:00pm
	Saturday	8:00am to 1:00pm
	Sunday and Public Holidays	Nil
Operation	All days	Any time

Notes:

- *Construction activities may be conducted outside the hours in Table 2 provided that the activities are not audible at any residence beyond the boundary of the site.*

Construction activities would be managed to comply with the Construction Site Noise Guidelines set out in Chapter 171 of the Environmental Noise Control Manual (ENCM) as follows:

> *The $L_{A10,T}$ noise levels emanating from the construction site shall not exceed the background levels by the following criteria, in the interval specified:*
> - *20 dB(A) for construction activity period up to 4 weeks*
> - *10 dB(A) for construction activity period over 4 weeks and up to 26 weeks.*
> - *5 dB(A) for construction activity period over 26 weeks.*

Plant and equipment would be selected and operated with appropriate mufflers and noise controls and where practical work practices and plant selection would be considered so as to minimise noise impacts in accordance with Chapter 171 of the ENCM .

High efficiency mufflers would be used on all construction equipment and manufacturer's noise control equipment would remain intact. All construction equipment would be well maintained and serviced.

9.3.4 Air Quality Management

Construction activities have the potential to generate dust. The Proponent/Contractor would manage potential dust and air quality issues during construction by implementing appropriate control measures, including those detailed in Table 22.

Table 22

Air Quality Management Measures
Appropriate air quality mitigation measures would be developed and implemented throughout the construction process, including all commitments made in the EA, and required by the Conditions of Approval. Regular on-site watering of dust-generating materials would be used to control dust generation during construction. Adequate dust suppression resources would be available on site to reduce dust emissions. Additional measures implemented to reduce dust emissions during construction would include: Alternative timing of dust generating activities; Stopping of construction activities in very high wind conditions; Consideration of quickening of work in problem areas; Use of wind direction to advantage; Ensuring trucks are covered at all times when transporting or storing materials; Stabilisation of exposed areas as quickly as possible or within 14 days after completion of works; Confining vehicle movements to designated areas; and Appropriately located stockpile and compound sites. The extent of exposed and unprotected areas would be limited by preserving existing groundcover (through staged clearing), and all disturbed areas would be stabilised as soon as possible. Loads with the potential to generate dust, which are to be carried on public streets, would be covered during transportation. Exhaust systems of construction plant, vehicles and machinery would be maintained in accordance with manufacturer's specifications and the exhaust emissions would comply with the requirements of relevant legislation. No open fires would be permitted on the project. Stockpiles would be kept to a minimum. Where practicable, specific areas of the construction site (e.g. stockpiles) would be fenced with shade-cloth to minimise wind erosion and the transport of dust beyond the site boundary. Any stockpiles with the capacity to cause dust would be dampened to suppress dust. When dust is visually detected, the frequency of watering would be increased. Dust generating activities would be reprogrammed to avoid periods of high wind velocity. If works are creating high levels of dust that are likely to cause discomfort to local residents or a safety hazard to work personnel, the works would be modified or stopped until the dust hazard is eliminated or has been reduced to an acceptable level. Tailgates would be secured during the operation of trucks and utes. All haulage vehicle loads would be covered while transporting material to and from the work area. Construction traffic would be restricted to designated areas, which would be covered with a gravel/bitumen surface where practicable and subjected to regular dust suppression (e.g. water cart). Vehicular speeds would be limited to 25 km / hour on areas of unconsolidated or un-vegetated soil associated with the project area. All vehicles would be maintained in a serviceable condition such that exhaust emissions are reduced to typical levels. Machinery would be turned off, rather then left idling for long periods.

9.3.5 Waste and Chemical Management

The potential environmental impacts associated with spillages of chemicals, fuels and oils to both water and soils would be minimised through the implementation of detailed control measures designed to minimise the risk of such spillages occurring. In addition, appropriate waste management measures would be implemented to ensure that waste is avoided, minimised or recycled wherever possible, or responsibly disposed of.

Appropriate mitigation and management measures are detailed in Table 23.

Table 23

Waste and Chemical Management Measures
An incident emergency spill plan would be developed and implemented as required. This would include measures to avoid spillages of fuels, chemicals, and fluids into any waterways. All personnel would be made aware of these measures. An emergency spill kit would be kept onsite at all times.
Storage areas for fuels, oils and chemicals would be surrounded by impervious bund walls to contain any spillage. Storage areas would not be located within 50 metres of any waterway, on slopes above 10%, or near areas of native vegetation. All precautions would be taken to eliminate fuel or other spills.
Storage areas for fuels, oils and chemical used in construction would be surrounded by bund walls to retain any spills. The bund would contain at least 110% of the volume of the largest container.
The storage of chemicals on site would comply with the requirements of relevant authorities (DEC and Workcover).
A schedule of all hazardous materials in use on the works shall be maintained and recorded for the duration of the construction.
Refuelling operations would not be left unattended whilst refuelling is in progress. Refuelling of plant and maintenance would not occur within 50 m of waterways or sensitive areas.
The refuelling of plant, and maintenance of machinery, would be undertaken within impervious bunded areas.
Should any spillage of fuels, oils, chemicals or other potentially hazardous/polluting materials occur during construction the DEC would be contacted immediately, and contaminants would be immediately contained, removed, treated (if necessary) and disposed of in accordance with DEC requirements.
All wastes would be transported by licensed waste management contractors and would be disposed of to an appropriately licensed waste management facility.
The construction site would be maintained in a clean and tidy condition. Covered bins would be provided for waste disposal.
The Resource Management Hierarchy principles of the WARR Act would be adopted as follows: Avoid unnecessary resource consumption as a priority; Avoidance would be followed by resource recovery (including reuse of materials, reprocessing, recycling, and energy recovery); and Disposal would be undertaken as a last resort.
Measures to avoid, reduce, re-use and recycle waste products including soil, pavement materials, concrete, and oils would be implemented.
If concrete agitator trucks are to be washed out on site, an impermeable bunded area would be constructed to contain wash out water and allow the concrete residue to settle. The concrete residue would be incorporated into the works or disposed of at a licensed waste depot.
All construction materials, surplus soils and wastes generated from the site would be stockpiled and stored at the site prior to reuse, recycling or disposal. Measures would be implemented to prevent any scouring or loss of stockpiled materials during flood events.
Wastes would not be stored for long periods during construction of the site. Empty drums of fuels, oils or chemicals and fluids would not be stored on site during construction.
Materials or equipment that fall into or adjacent to the Shoalhaven River would be recovered immediately.
Waste material generated would be reused or recycled where possible.

9.3.6 Hazard and Risk Management

All possible safeguards would be employed to ensure that the potential for deflagration of wheat and / or flour is minimised.

Table 24 outlines recommended management procedures and design considerations that would be implemented and incorporated into practices that would prevent risk scenarios occurring.

Table 24

Hazard & Risk Management Measures
Minimising build-up of combustible materials on-site.
Minimising dust cloud formation.
Ensuring all silos and the Flour Mill are electrically earthed.
Locating plant within lightweight building, which acts as explosion relief.
Enclosing plant to prevent the escape and accumulation of dust in the building.
Fitting silos and dust collection systems with explosion relief.
Using antistatic bags in the bag houses.
Providing dust protection to all electricity supply.
Zoning areas appropriately to limit ignition sources associated with electricity supply (zone 20, 21and 22 according to Australian Standards).
Designing the plant to prevent dust explosions.
Implementing a monitoring and maintenance program.
Installing a suitable fire protection system

Mitigation measures are practices that control the impact after a risk scenario has occurred. It is recommended that emergency management procedures be developed for response to fire and explosion that may be initiated from either on-site or off-site sources.

The risks posed by the deflagration of wheat dust or flour poses an on-site risk. It should therefore be examined in more detail during the design and construction phase of the project.

9.3.7 Flooding

Detailed consideration needs to be given to flood hazard and structural assessment of (with regard to velocity of floodwaters and impact by flood debris) the proposed development.

In quantifying the flood hazard, Table 25 identifies the issues that need to be considered as part of detailed engineering design prior to the issue of a construction certificate for the development.

Table 25

Flood Hazard
In quantifying the flood hazard, some important issues for consideration include: • Damage to the plant, including as a result of flood debris or structural failure; • damage to the plant due to the possible buoyancy of equipment; • malfunction of the plant (or any services on which the plant relies for operation) as a result of inundation and the associated risk of such malfunction or other uses of the floodplain; • access and evacuation of workers from the site during floods.

9.3.8 Riverbank Stability

The sites for the proposed silos are close to the river bank and the one nearest the bank is closer to the river than most other permanent buildings in the plant. We understand that no other sites for the silos were suitable. The development of the silos in the positions proposed will involve some risk to the long term performance of the structures. The proposed Flour Mill is set back further from the bank and is located partly within the site of the structure that is to be demolished.

The following measures outlined in Table 26 are recommended to reduce the risk of river bank failure affecting the proposed structures close to the river bank:

Table 26

Riverbank Stability
• Continue the recent rock revetment along the river bank using large rocks. The rocks are only to be considered as a lining to reduce the risk of undercutting or oversteepening of the bank and do not act as a retaining wall. The rock lining should extend from the recent works upstream to the jetty. Additional strengthening of the rock lining and erosion protection (eg. using concrete) and concrete apron around the base of the silo nearest the river may be required. Construction of the rock lining would involve removal of vegetation from the banks. This should be carried out in stages (say 10 m to 15 m at a time) as the rock lining advances and should not significantly disturb or loosen the soils in the bank. Large rocks should not be stockpiled on any part of the bank during this work. Rocks should also not be concentrated in any one part of the river bank, as this could result in localised failure occurring.
• The new structures should be founded on piles to rock. The silo nearest the river bank should be supported on stiffer piles that allow for possible loss of lateral soil support through the upper 5 m to 6 m. We would not expect the piles to resist a large deep seated failure of the bank, however in the event of gradual undercutting of the soil below the silo, the stiffer piles could support the silo until remedial works were carried out to restore eroded or failed sections of the bank.

9.3.9 Visual Amenity

It is considered that the proposed works will not create a significant adverse visual impact due principally to the existing significant industrial development on the site. There are however measures as outlined in Table 27 that can be implemented to assist in screening and further minimising visual impacts.

Table 27

Visual Impact Mitigation Measures
• The existing screening vegetation around the site is effective, particularly along the river bank, however additional supplementary plantings of dense bands of native trees and shrubs along the southern boundary of the site with the river (particularly between the river and the proposed evaporator columns) would further reduce the visibility of the development. In this regard a landscape and revegetation plan should be prepared for that portion of the river bank in the vicinity of the development site.
• Where planting has already been established, measures should be taken to protect existing vegetation during the construction phase.
• In addition to landscaping, new structures can be constructed and treated to reduce visual impact. Where appropriate and possible, buildings and structures should be constructed of similar materials as those previously used on the site and be of a non-reflective nature. Colours should blend with existing structures on the site to ensure visual harmony. In this regard special consideration should be given to the proposed cladding of the evaporators. Consideration should be given to incorporating a cladding colour which will blend with the surrounding locality.

9.3.10 Site Contamination and Acid Sulphate Soils

The results of the preliminary study did not indicate concentrations of a suite of potential chemicals of concern above the adopted soil investigation levels for an industrial land use setting within the soil profile tested. Based on these results it appears that there is a low likelihood of widespread contamination in the soil that would adversely affect the proposed redevelopment works.

Access to the levee/river bank was poor at the time of the fieldwork and only surface soil samples could be collected. Based on the history of this area and the results of the surface samples it appears that there is a low likelihood that these soils would be contaminated.

Acid sulphate soil risk maps suggest that the area being assessed is in an area with a low probability of acid sulphate soil occurrence. Field screening results also suggested that the soils within the upper 2 m of were unlikely to be acid sulphate soils. It is probable that acid sulphate soils could occur at depths beyond those assessed in this study. The proposed development is unlikely to disturb soils below the existing pavements and some fill materials on the levee/river bank and is therefore unlikely to disturb acid sulphate soil.

Should the proposed depth of disturbance change or different soils be encountered, then this would need to be re-assessed.

In relation to the proposed river bank erosion protection works, Coffey's recommend the following preliminary management measures:

- Disturbance of soils below a depth of about 2 m should be avoided where possible;
- If natural soils below about 2 m depth require disturbance, observations should be made of these soils by an experienced environmental consultant for evidence that they may be ASS. As a guide, natural soils which differ in appearance to soils found in the upper 2 m, such as soils that have a softer consistency, are sandier or darker in colour, could suggest the potential presence of ASS.
- If different natural soils are encountered or have similar characteristics as those described above, these soils should be stockpiled separately and an experienced environmental consultant notified to collect samples to assess if they are ASS and require management;
- If ASS are identified and require management, this is likely to comprise the following:
  - Initially checking procedures to see if the disturbance of ASS can be avoided;
  - Burial of the ASS below a permanent water table (this may not be practicable in this instance);
  - Neutralisation of the soils with a neutralising agent such as fine powdered agricultural lime using appropriate controls. Following neutralisation and validation, soils may be re-used on site if appropriate or disposed offsite to a landfill licensed to accept the soils.

9.3.11 Aboriginal Heritage

The proposed Flour Mill and its associated facilities are to be sited amidst existing industrial infrastructure and buildings. The potential for any Aboriginal Heritage evidence to survive is virtually negligible.

However, in the event that Aboriginal objects were to be identified during construction, work in the immediate vicinity of those items must cease promptly and the finds be reported to the Department of Environment and Conservation and advice sought as to the appropriate course of action. Under the terms of the National parks and Wildlife Act 1974 it is an offence to knowingly destroy, damage or deface an Aboriginal object without obtaining the prior written permission of the Director-General of the Department of Environment and Conservation (NSW).